Tencent Real-Time Communication Integration (UI Included)

Product Documentation

Contents

- Beauty Effects
  - Flutter
- Custom Ringtone
  - Android
  - iOS
  - Web&H5
  - uni-app (Anroid&iOS)
  - Flutter
- Monitoring Call Status
  - Android&iOS&Flutter
  - Web&H5
  - uni-app（Android & iOS）

Client APIs (TUICallKit)

- Android
  - API Overview
  - TUICallKit
  - TUICallEngine
  - TUICallObserver
  - Type Definition
- iOS
  - API Overview
  - TUICallKit
  - TUICallEngine
  - TUICallObserver
  - Type Definition
- Web
  - API Overview
  - TUICallKit
  - TUICallEngine
  - TUICallEvent
- Flutter
  - API Overview
  - TUICallKit
  - TUICallEngine
  - TUICallObserver
  - Type Definition
- uniapp（Android&iOS）
  - API Overview

Integration (UI Included)
TUIKit Overview

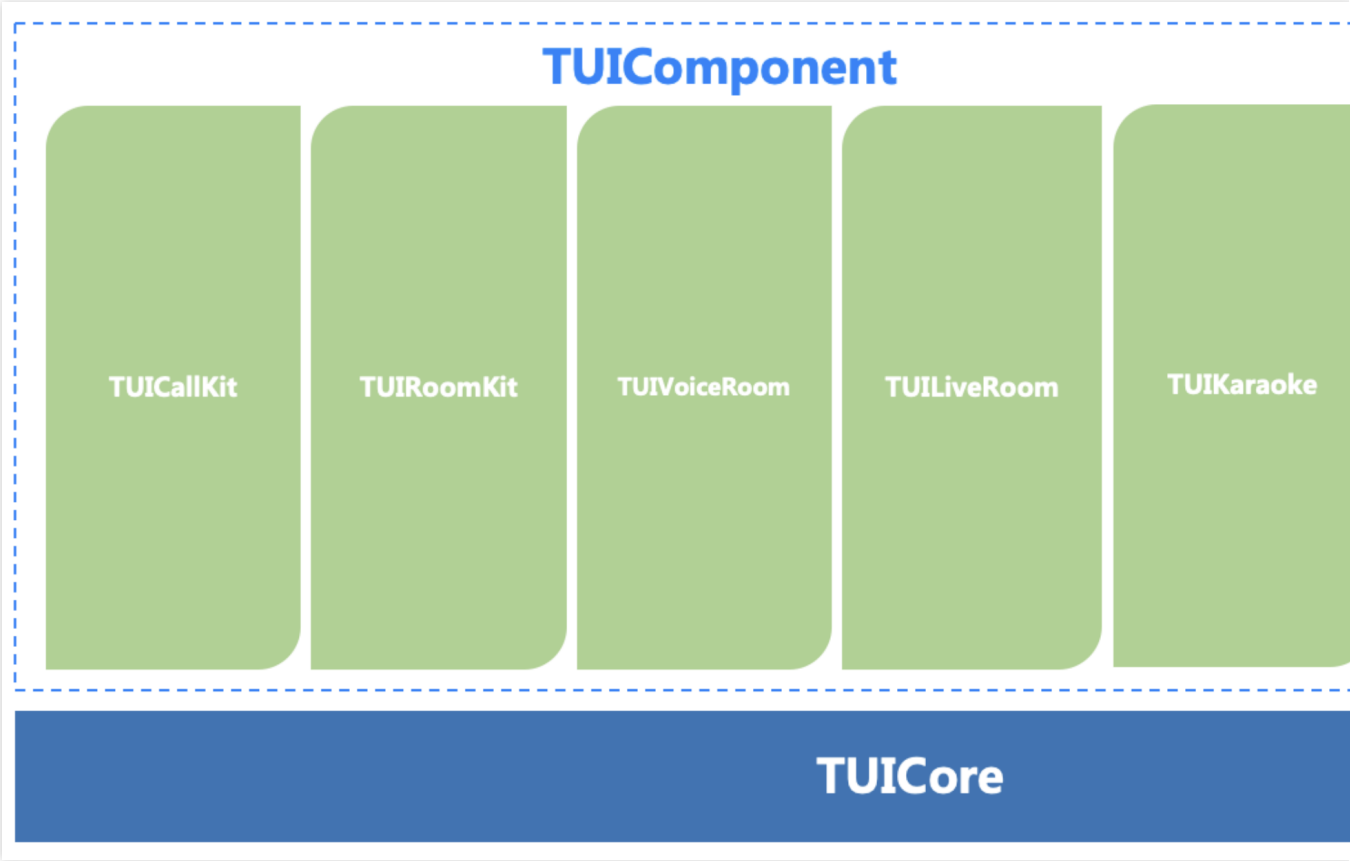
Last updated：2024-03-06 15:48:15

TUIKit is an open-source solution developed by Tencent Cloud's Audio/Video Team based on its experience serving over 5,000 customers in major audio/video scenarios. It comes with multiple client components for applications such as video call, live streaming, and video room to help you quickly build services for call, customer service, live streaming, audio chat, and education scenarios.

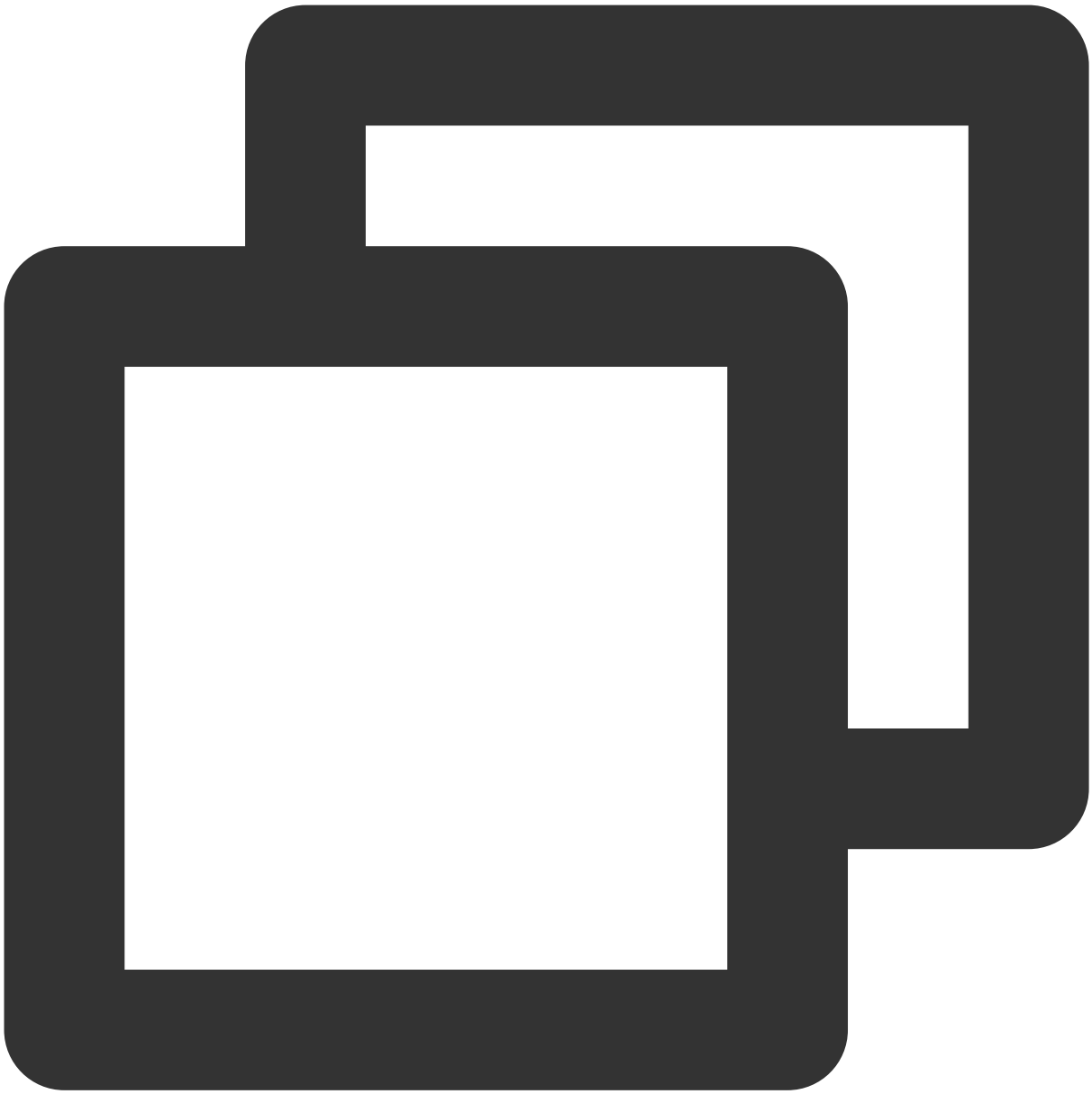
Note

All components of TUIKit use two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, Chat and the trial edition of the Chat SDK (which supports up to 100 DAUs) will be activated automatically. For the billing details of Chat services, see Pricing.

TUIKit Panorama



TUIKit is classified as `TUICompenont` and `TUIWidget` components.



```
├── TUIComponent
│   ├── TUICallKit     // Call component, which is similar to the call feature of W
│   ├── TUIRoomKit     // Group video room component, which can be used in audio/vi
│   ├── TUIVoiceRoom   // Voice chat component, which can be used in audio scenario
│   ├── TUILiveRoom    // Video interactive live streaming component, which has fea
│   ├── TUIKaroke      // Karaoke component, an innovative component which you can
├── TUIWidget
│   ├── TUIBeauty      // Beauty filter widget
│   ├── TUIAudioEffect // Sound effect widget
```

```
|   ├── TUIBarrage      // On-screen commenting widget
|   ├── TUIGift         // Gift widget
```

Questions & Feedback

If you have any questions or feedback, please contact info_rtc@tencent.com.

Audio/Video Call Overview (TUICallKit)

Last updated：2024-04-03 17:23:11

Component Overview

TUICallKit is an audio and video call UI component launched by Tencent Cloud. By integrating this component, you only need to write a few lines of code to add audio and video call features to your application.

Supported Platform

Platform	Android	iOS	Web	Uni-app	Flutter	Uni-	WeChat

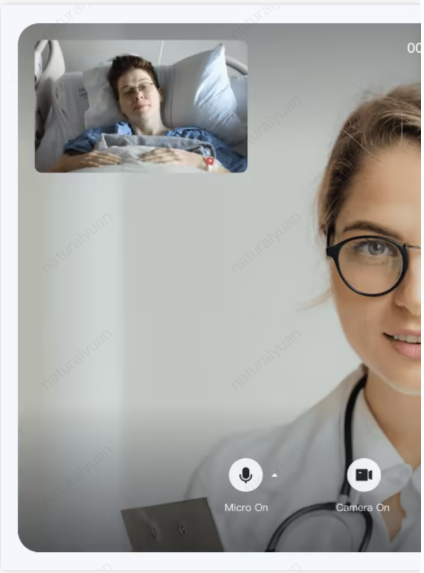
				Mini Program		app Client	Mini Prograr
Supported							
Supported Languages/Frameworks	Kotlin Java	Swift Objective-C	Vue3 Vue2 React	Vue3 Vue2	Dart	Vue3 Vue2	

Description of the Feature

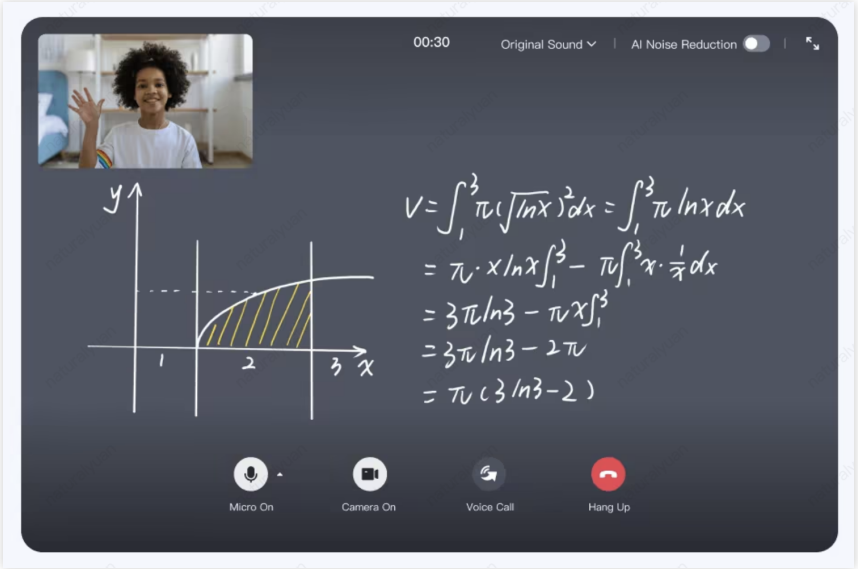
Basic Feature	Advanced Feature	Feature Advantages
1v1 Voice/Video Call **Group Call**, Invite Others Mid-call, Join Mid-call Customize Incoming Call Ringtone Customize Nickname, Avatar **Enable/Disable Floating Window** Toggle On/Off the ringtone for incoming calls	**Offline Push** **Virtual Background** On-cloud recording AI Noise Reduction Global Interconnectivity Weak Network Jitter Optimization Call Records	**Comprehensive UI Interaction** **Cross-platform Interconnection Support** **Multi-device Login Support**

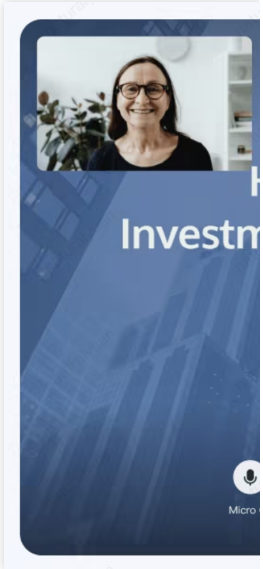
Applicable Scenario

Online Social Interaction	Online Consultation



Online Education	Online Sales





Trying It Online

Platform	Web	Android	iOS	Others
Online Experience				/

Demo Integration	Github: web	Github: Andorid	Github: iOS	Github: TUICallKit Demo

Exchange and Feedback

If you have any requirements or feedback, you can contact: info_rtc@tencent.com.

Activate the Service（TUICallKit）

Last updated：2024-04-03 18:02:21

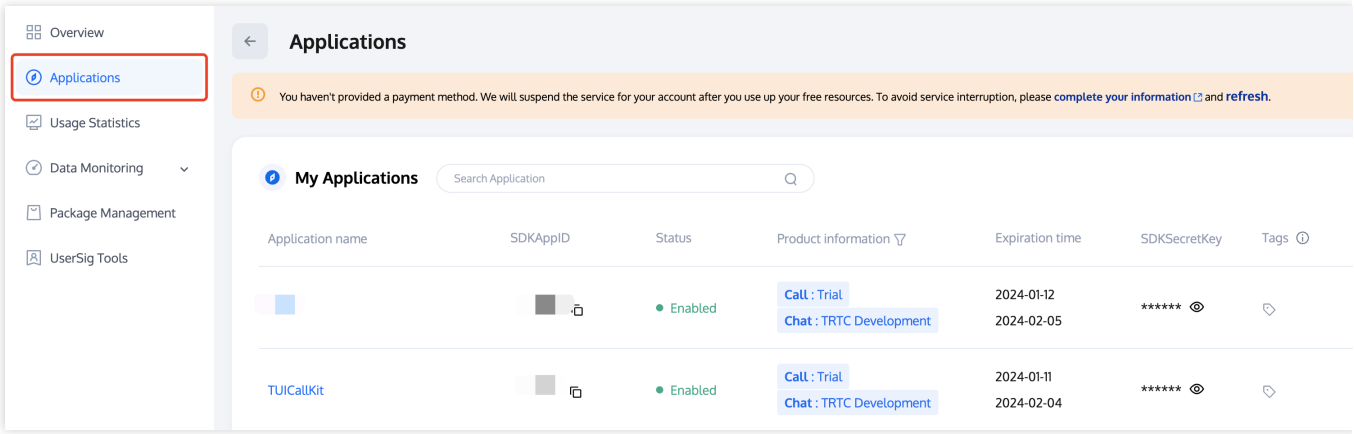
Activate and purchase guide

Free trial

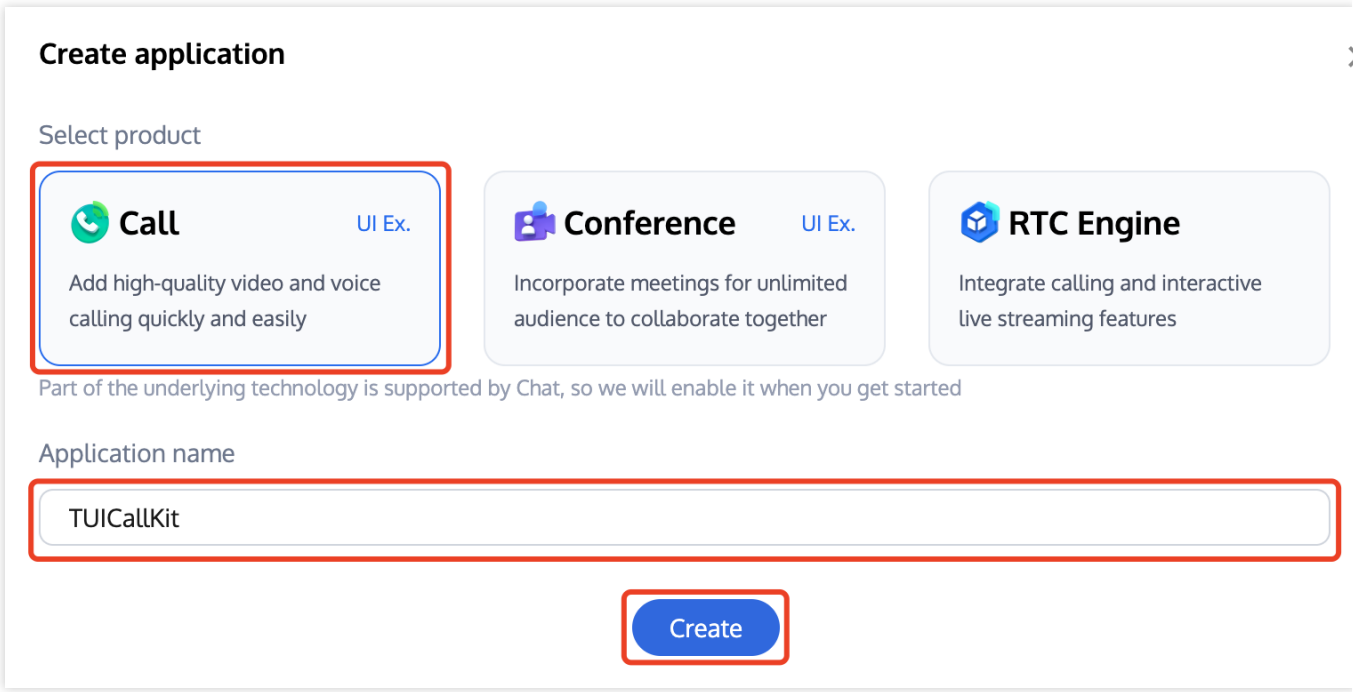
In order for you to better experience the Call features, we provide a 7-day Call trial edition for free, including free feature usage rights and 10,000 free minutes. Each `SDKAppID` can be tried twice for free with a 7-day validity period for each trial, and up to 10 `SDKAppID` can be tried under one account.

You can refer to the following guidelines to activate the trial edition of Call.

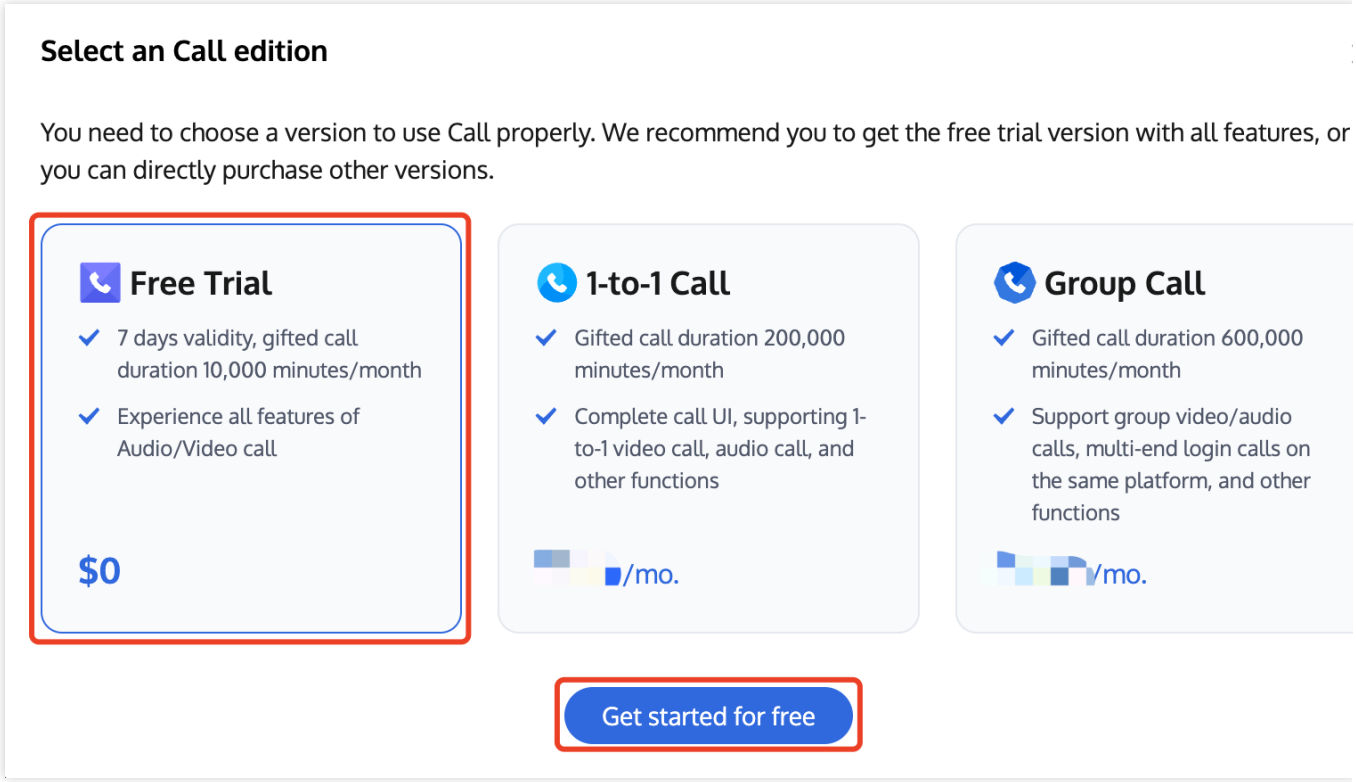
1. Visit TRTC Console > Applications, select **Create application**.



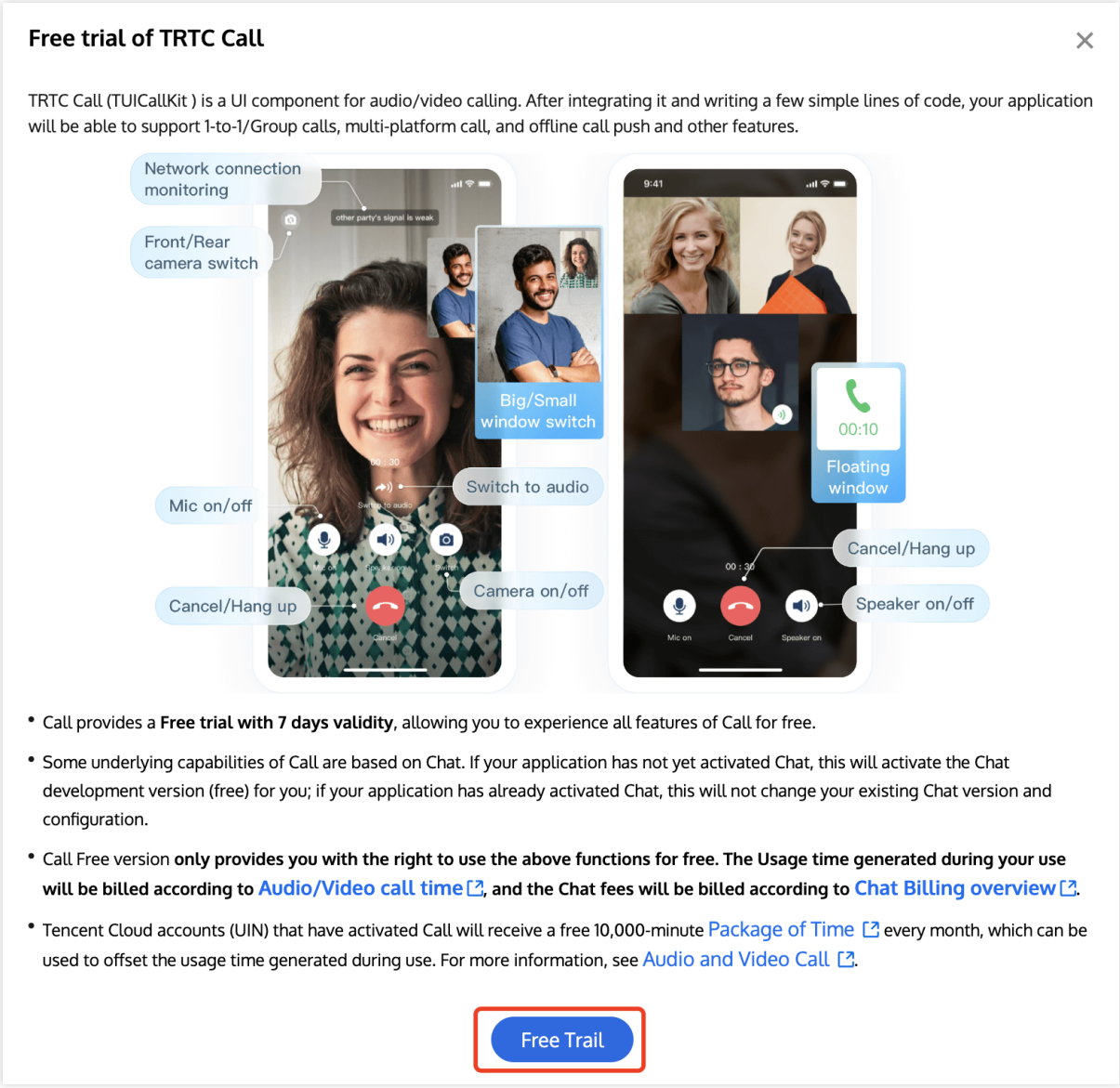
2. In the Create application pop-up, select **Call** and enter the application name, click **Create**.



3. After completing the application creation, you will default entry to the application details page, select the **Free Trail** in the floating window, and click to **Get started for free**.

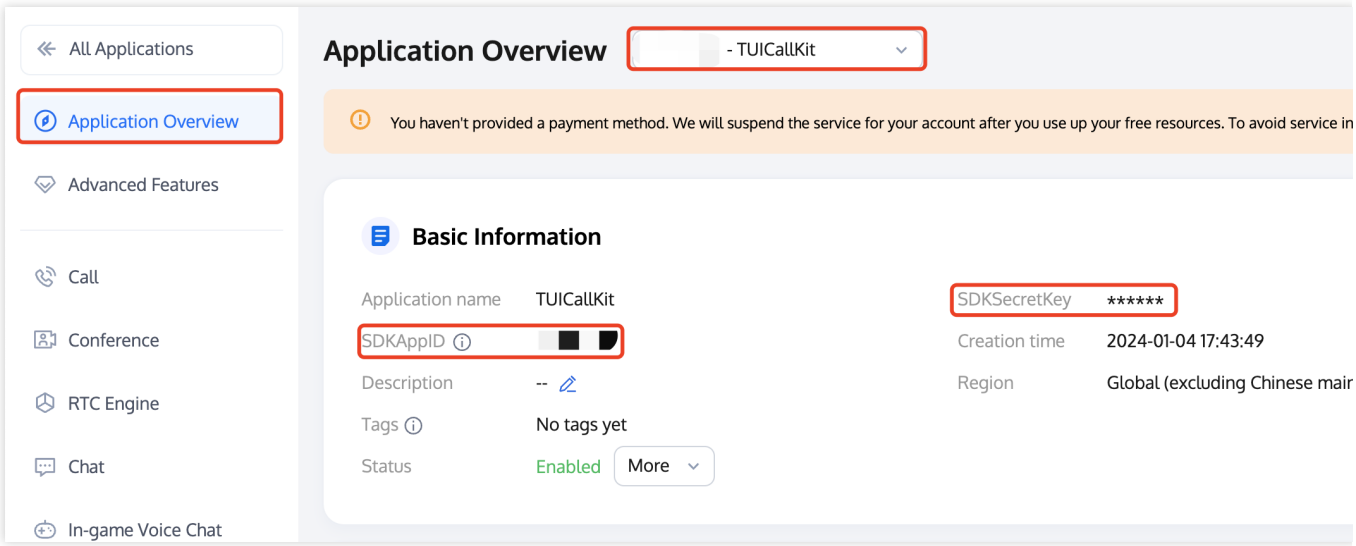


4. Confirm the pop-up content, click to **Free Trail**, and you can successfully activate the Call Trail edition.



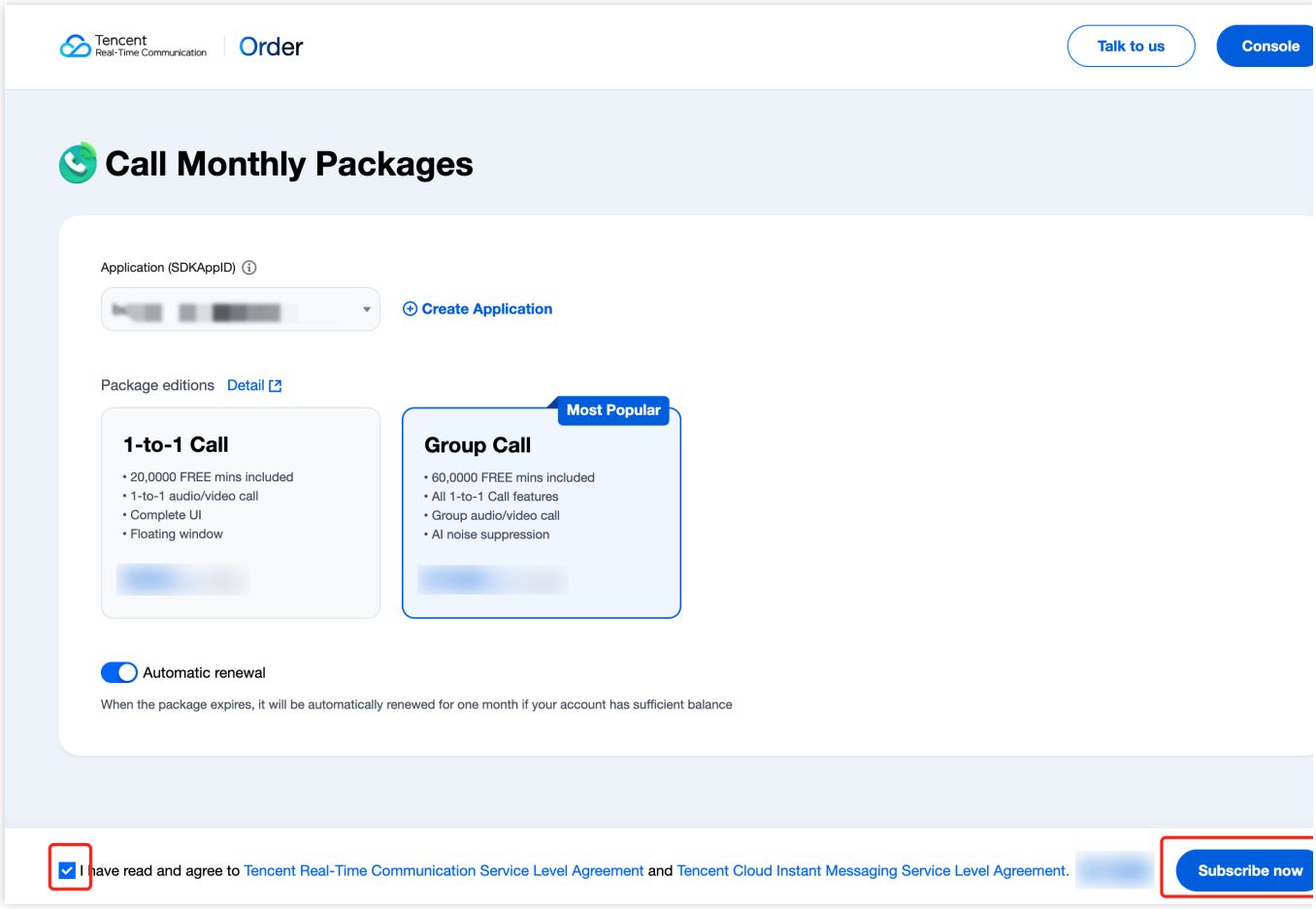
5. After the activation is completed, you can view the edition information on the current page and refer to the integration guide for integration.

The `SDKAppID` and `SDKSecretKey` here will be used in the integration guide.

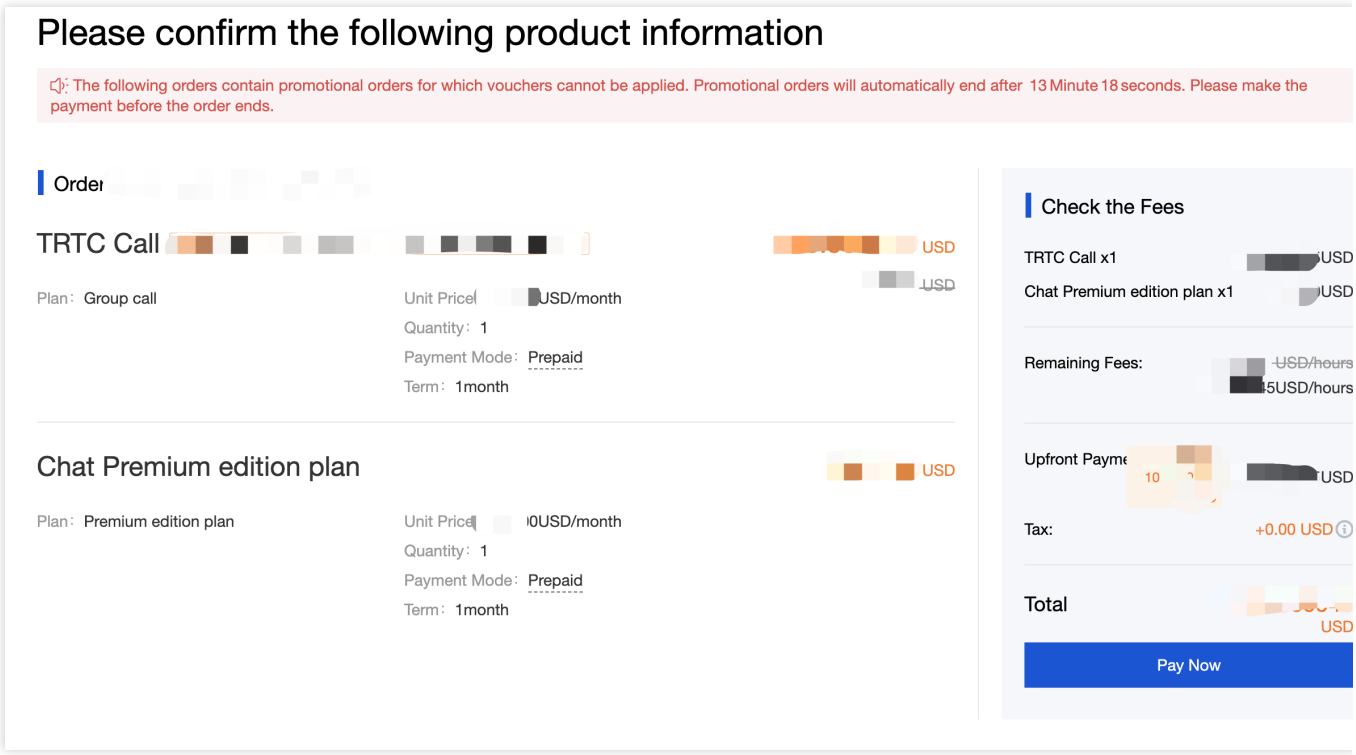


Purchase the official editions of Call

1. Visit the TRTC Call Purchase page, select the Application (SDKAppID) and Call Package you want to purchase. At the same time, we recommend you to enable Auto-renewal to avoid affecting business use. After Confirming purchase information and agreeing to the relevant agreement, check the agreement content and click **Subscribe now**.



2. Go to the order confirmation page to confirm product information. The underlying capabilities of TRTC Call rely on the Chat service. Therefore, a TRTC Call monthly package is purchased together with a Chat plan by default, and the order will include 2 types of products (as shown below).



3. Go to the payment page to complete the payment. After the purchase is completed, you can go to the TRTC Console > Call to view application edition information, and refer to the Integration guide for integration.

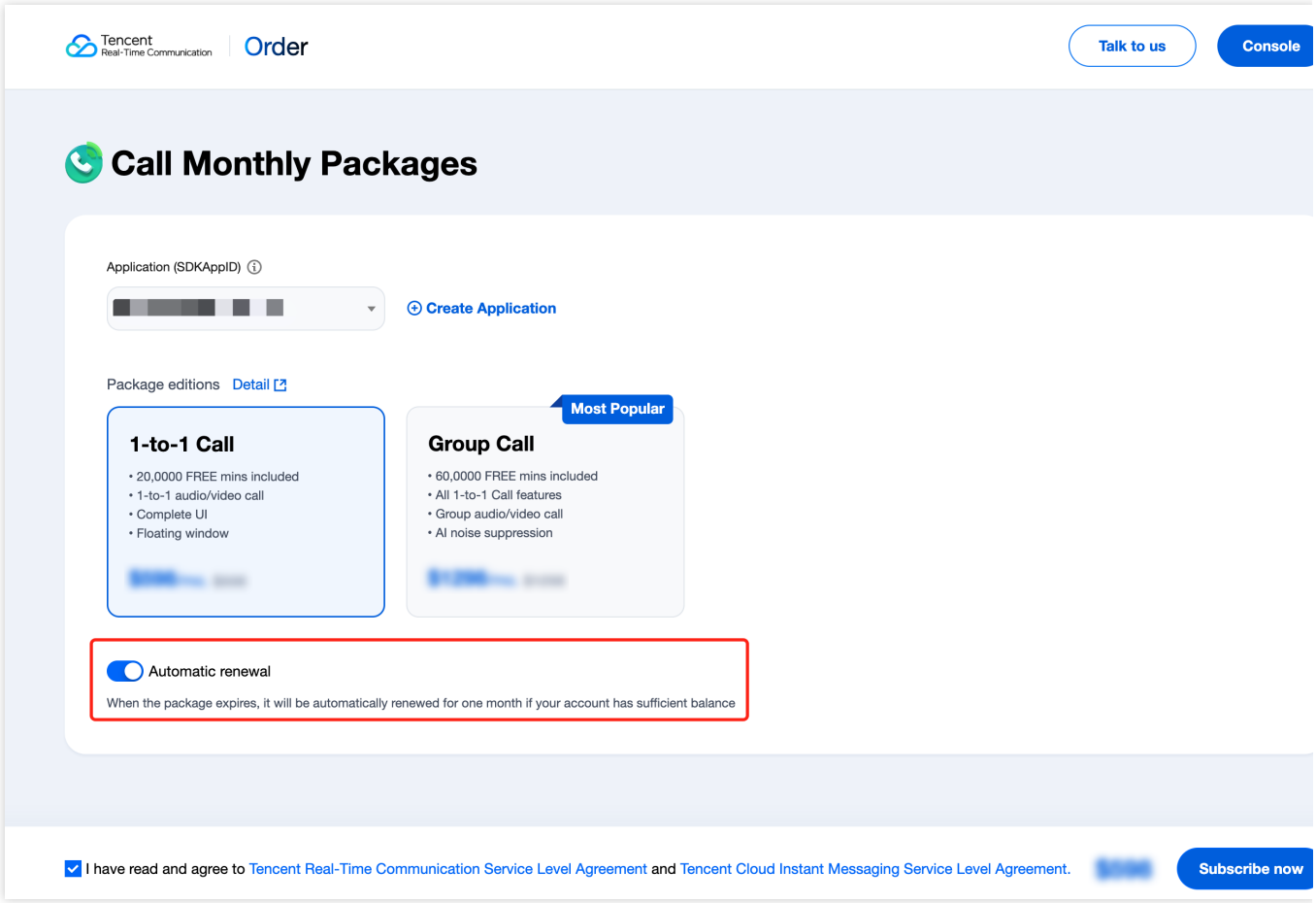
Note：

If you have already created an application in Chat and purchased the paid edition of Chat, Please refer to Chat documentation to learn **how to purchase and use TRTC Call**.

Renew the official edition

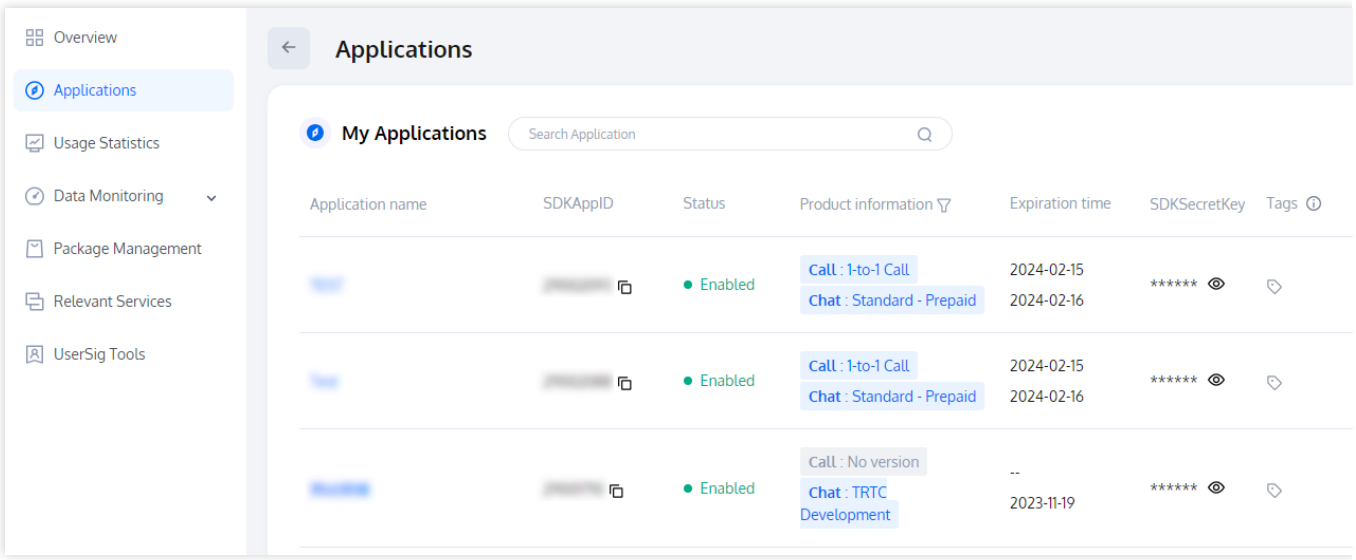
Refer to the Purchasing the official edition of Call and purchase the same edition of the Call monthly package again to complete the renewal.

It is recommended that you renew Call by enabling auto-renewal. **When the account balance is sufficient, it will automatically renew monthly after expiration.** Since some underlying services of Call are supported by Chat, auto-renewal for both Call and Chat will be enabled simultaneously. You can enable auto-renewal when purchasing or enable it in the console after the purchase is completed.

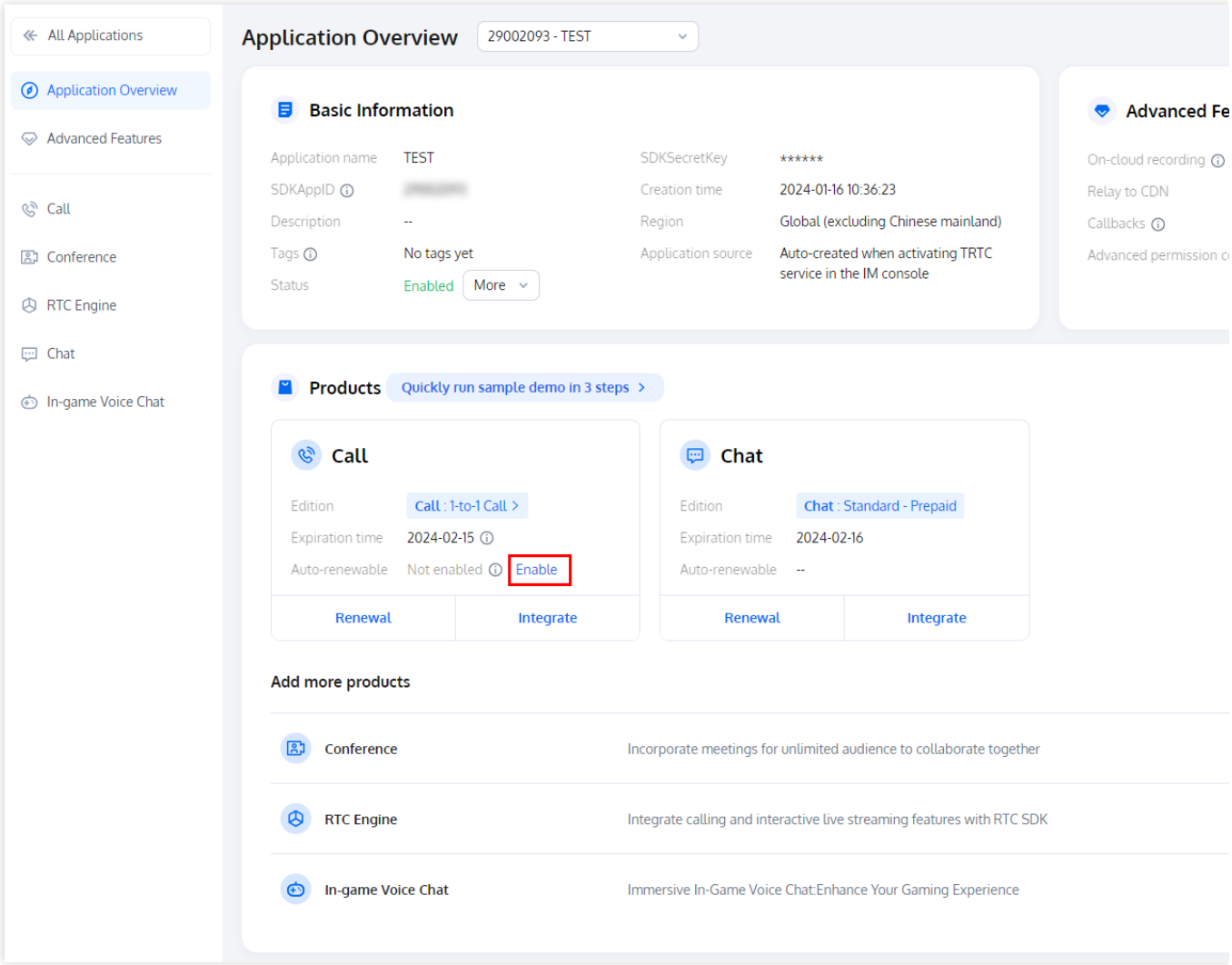


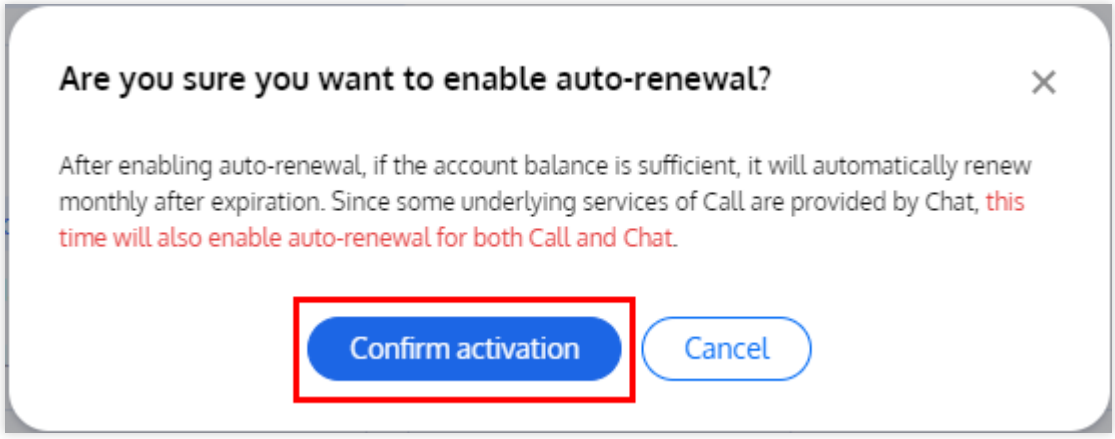
The specific steps to enable auto-renewal in the console are as follows:

1. Access the TRTC Console > Applications, find the application and click **manage** to enter the application details page.



2. In the Call product information, click the **Enable auto-renewal** button, a confirmation pop-up will appear, click **Confirm activation**.





Features and Pricing of TRTC Call

TUICallKit is supported by Tencent Real-Time Communication TRTC and Instant Messaging at the underlying technical level. **You need to purchase a specific plan to use TUICallKit,** with the method to activate the free trial version available at Activate TUICallKit Trial Version.

The table below shows the recommended packages for TUICallKit in terms of features and prices. You can also freely combine TRTC Monthly Packages and IM versions to get the corresponding version of TUICallKit. The Basic version of TRTC when combined with Professional or Enterprise Editions of IM can utilize the 1v1 Call Version of TUICallKit; The Deluxe and Enterprise Editions of TRTC combined with Professional or Enterprise Editions of IM can utilize the Group Call Version of TUICallKit.

Recommended Package		Trial Edition	1V1 Call Version	Group Call Version 380,000 minutes	Group Call Version 1.4 million minutes
Price		Free for 7 days	Buy Now	Buy Now	Buy Now
Includes Package Version		TRTC Trial Version + IM Any Version	TRTC Basic Version + IM Professional Version	TRTC Deluxe Version + IM Enterprise Edition	TRTC Enterprise Edition + IM Enterprise Edition
Free Resources (Post-paid beyond threshold)	Call duration	-	110,000 minutes/month	380,000 minutes/month	1,400,000 minutes/month
	DAUs	Depends on IM Version	10,000 DAU	10,000 DAU	10,000 DAU
	Peak group count	Depends on IM Version	100,000 per month	100,000 per month	100,000 per month
TUICallKit reserved feature	1v1 Video, Audio Call	✓	✓	✓	✓
	WeChat-like UI Design	✓	✓	✓	✓
	Call Status Display	✓	✓	✓	✓
	Offline Push	✓	✓	✓	✓

(Even when the application is not open, users can receive audio and video ring calls through message push)				
Call Floating Window (After the call interface is collapsed, it can float above the application interface in a floating window style)	✓	✓	✓	✓
Custom Call Ringtone	✓	✓	✓	✓
Call/Answer/Reject/Hang Up	✓	✓	✓	✓
Switch from Video Call to Voice Call	✓	✓	✓	✓
Group call	✓	-	✓	✓
Mid-call/Join a three-way call	✓	-	✓	✓
Call Records (Kanban + API)	✓	-	✓	✓
Mini Program Call Acceleration (Supports Mini Program End Call and Mini Program Room Entry Call Acceleration Optimization, Ensuring Call Quality)	✓	-	✓	✓
Multi-client Sign in Call (Answer on any platform, automatically stop access requests from other clients)	✓	-	✓	✓
Cross-platform multi-client Sign in Call	✓ (For use with IM	-	✓	✓

	(Supports the same platform, such as multiple iOS device Sign in, after receiving a call, any device answers, automatically stops the access requests from other devices)	flagship version only)			
	AI Noise Reduction (Effectively filter background noise and restore call quality with AI capabilities)	✓	-	✓	✓
	Weak Network Call Lagging Optimization (Optimizes lagging rate in outdoor and other weak network environments for faster instantaneous loading speed)	✓	-	✓	✓
Instant Messaging feature		Depends on IM Version See IM feature	See IM Professional Version feature	See IM Ultimate Edition feature	See IM Ultimate Edition feature
Tencent Real-Time Communication TRTC feature		See TRTC Trial Version feature	See TRTC Basic Version feature	See TRTC Premium Version feature	See TRTC Flagship Version feature
Post-paid for the part exceeding the free resources		For post-paid prices of call durations, see Audio and Video Duration Billing Explanation, For DAU and peak group numbers' post-paid prices, see IM Billing Explanation			
Supported Platforms		iOS, Android, Web, **WeChat Mini Program (only supported by the trial and group call versions)**, uni-app, Flutter			

Notes:

Includes Package Versions: TUICallKit is jointly provided by TRTC and IM. To use TUICallKit, you must purchase both TRTC monthy packages and IM basic packages. Different versions offer distinct TUICallKit features.
DAU: Each individual user who signs in to Instant Messaging is counted as 1 DAU for that day. DAUs are not incremented for repeated sign-ins by the same user.
Peak Group Count: The sum of all groups created and joined by users under a single application (SDKAppID), with billing based on the highest peak value during a calendar month.

Integration (TUICallKit)
Android

Last updated：2024-04-03 17:23:11

This document describes how to quickly integrate the `TUICallKit` component. Performing the following key steps generally takes about ten minutes after which you can implement the video call feature with complete UIs.

Environment Preparations

Android 5.0 (SDK API level 21) or later.
Gradle 4.2.1 or later
Mobile phone on Android 5.0 or later.

Step 1. Activate the service

Before using the Audio and Video Services provided by Tencent Cloud, you need to go to the Console and activate the service for your application. For detailed steps, refer to Activate Service.

Step 2. Download and import the component

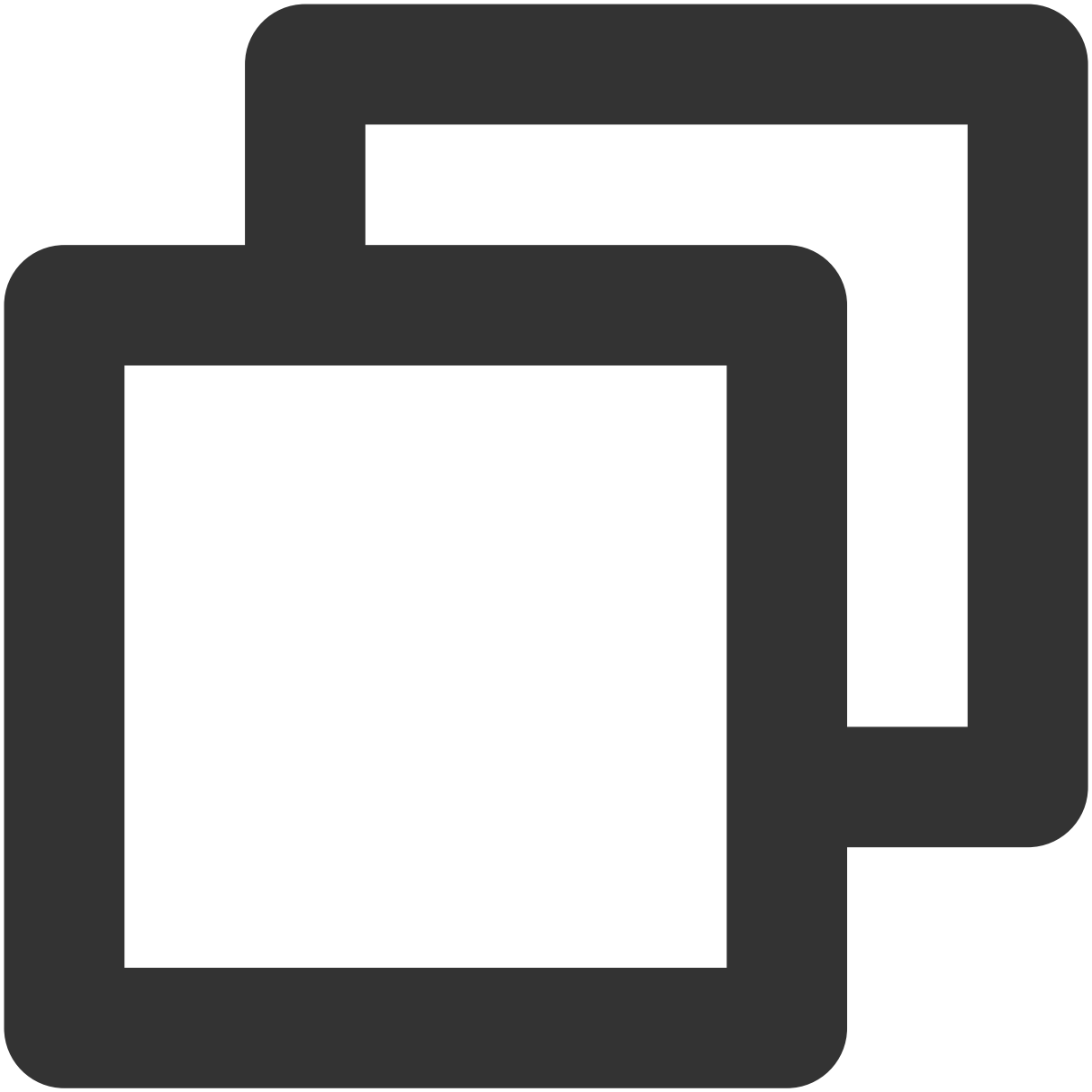
Go to GitHub, clone or download the code, and copy the `tuicallkit-kt` subdirectory in the `Android` directory to the directory at the same level as `app` in your current project, as shown below:

Step 3. Configure the project

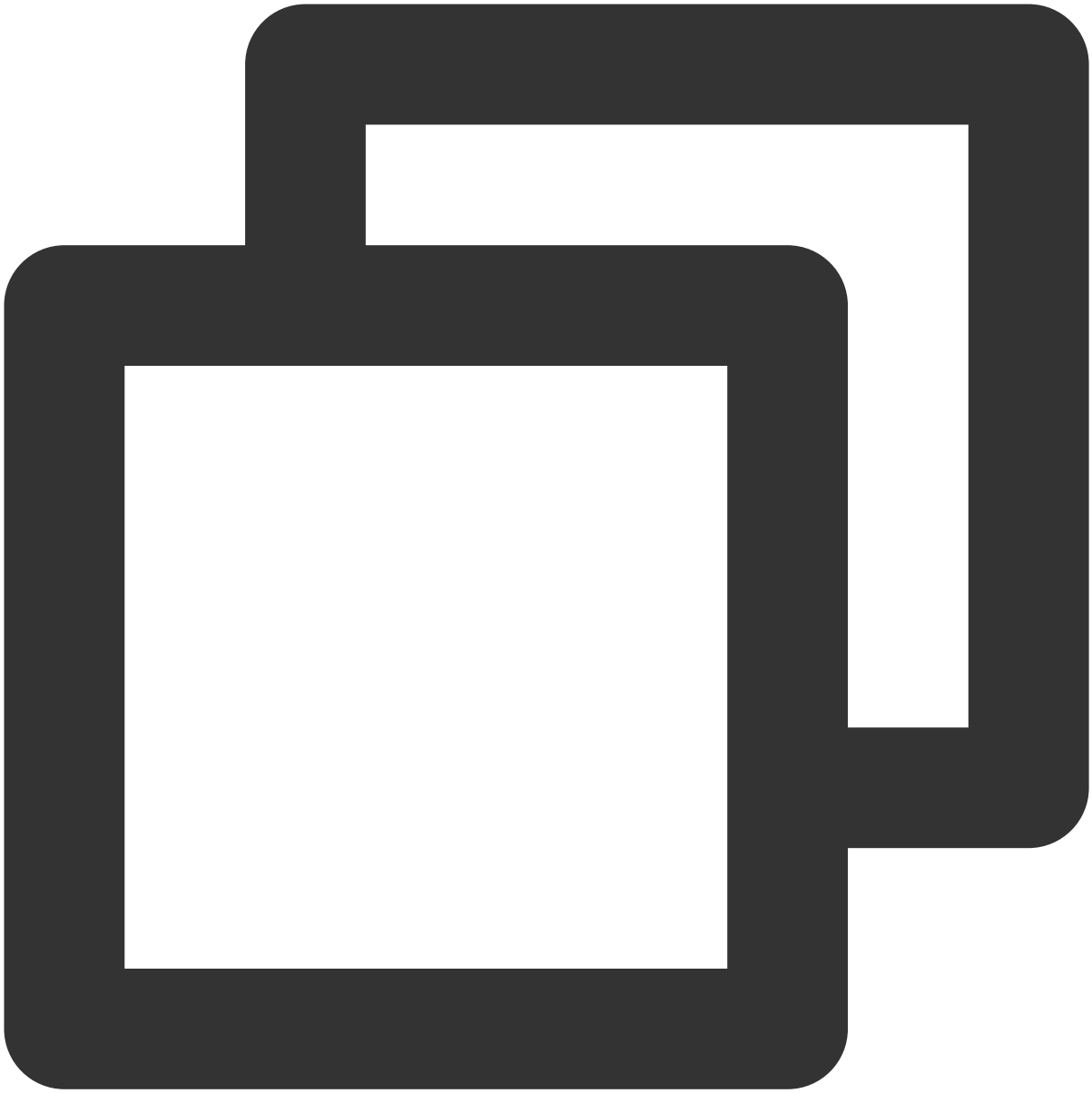
1. Find the `settings.gradle(or settings.gradle.kts)` file in the project root directory and add the following code to import the component downloaded in step 2 to your current project:

settings.gradle

settings.gradle.kts



```
include ':tuicallkit-kt'
```

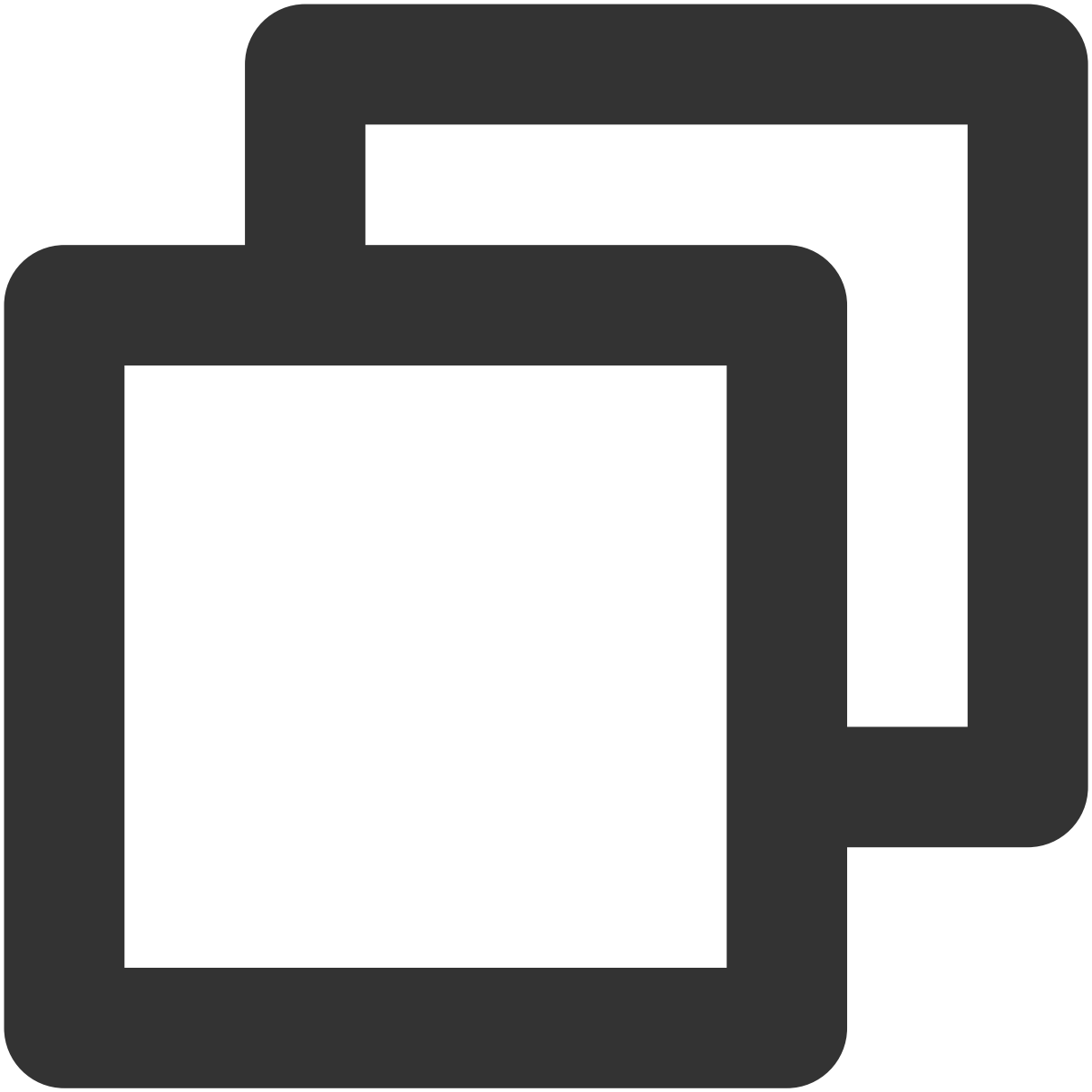


```
include(":tuicallkit-kt")
```

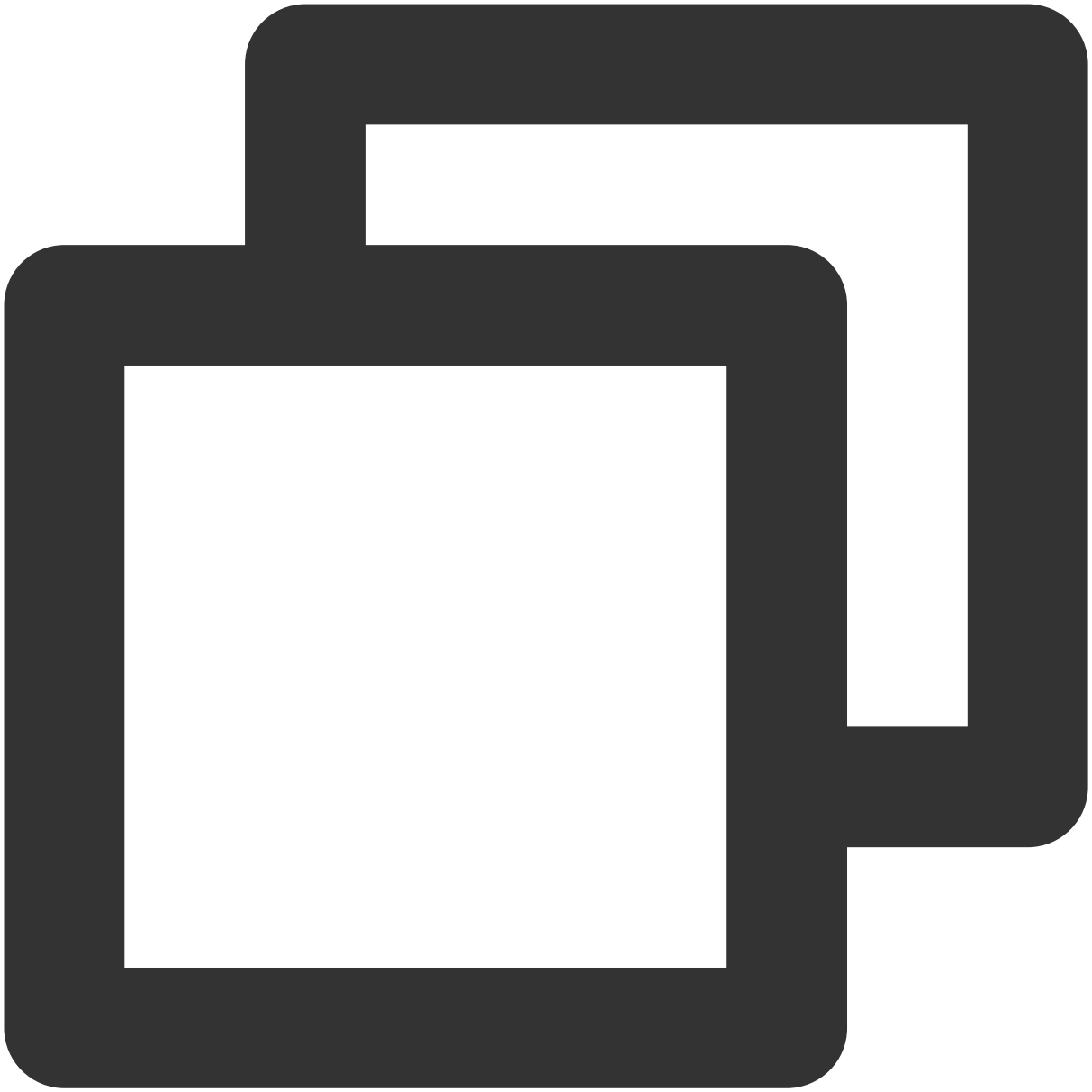
2. Find the `build.gradle(or build.gradle.kts)` file in the `app` directory and add the following code to declare the dependencies of the current application on the component just added:

build.gradle

build.gradle.kts



```
api project(':tuicallkit-kt')
```

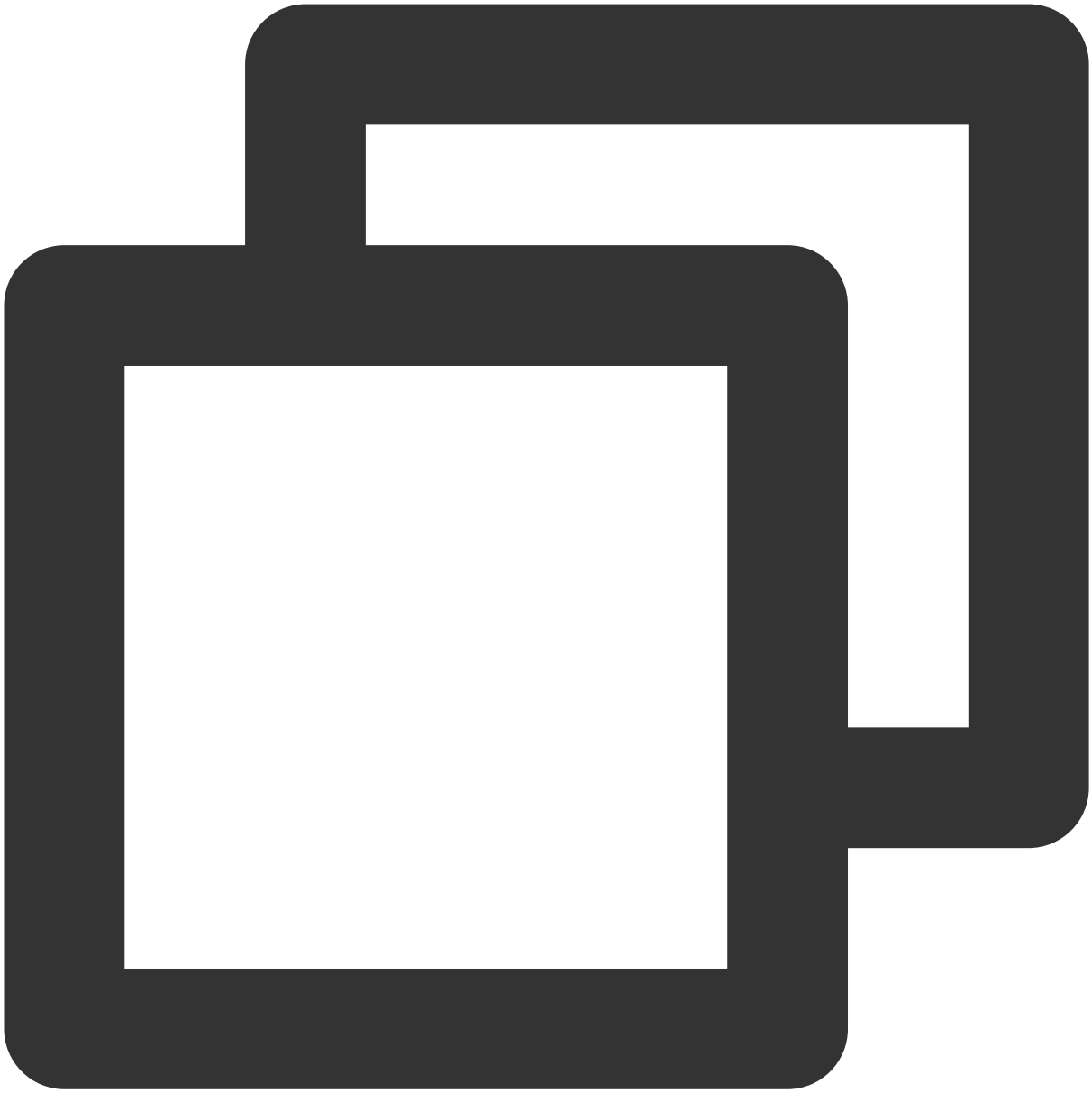


```
api(project(":tuicallkit-kt"))
```

Note

The `TUICallKit` project depends on `TRTC SDK`, `Chat SDK`, `tuicallengine`, and the `tuicore` public library internally by default with no need of additional configuration. To upgrade the version, modify the version in `tuicallkit-kt/build.gradle` file.

3. As the SDK uses Java's reflection feature internally, you need to add certain classes in the SDK to the obfuscation allowlist by adding the following code to the `proguard-rules.pro` file:



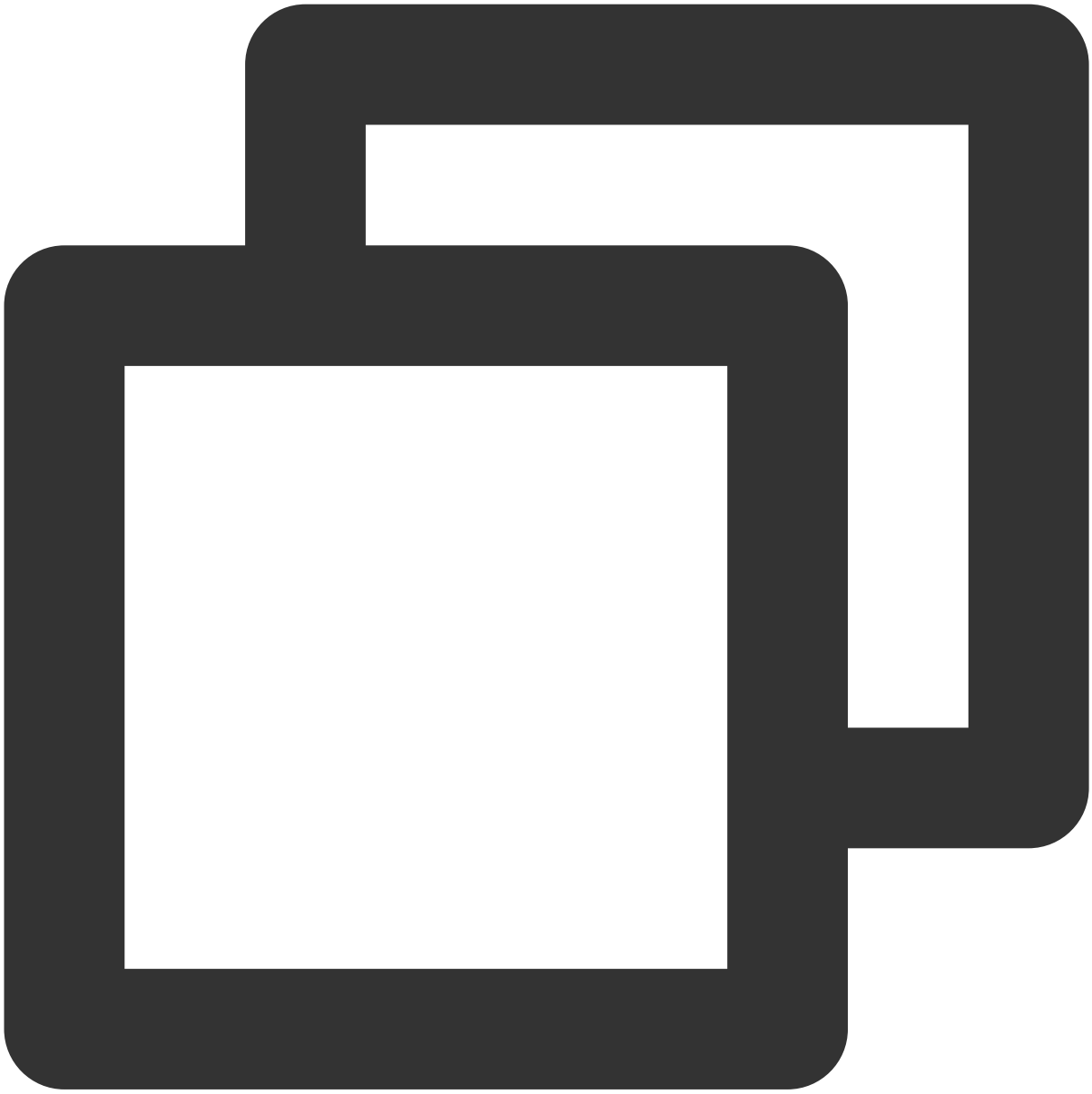
```
-keep class com.tencent.** { *; }
```

Note

`TUICallKit` helps you apply for camera, mic, and bluetooth permissions internally. If you need more or fewer permissions based on your actual business conditions, you can modify `tuicallkit-kt/src/main/AndroidManifest.xml` .

Step 4. Log in to the `TUICallKit` component

Add the following code to your project to call the relevant APIs in `TUICore` to log in to the `TUICallKit` component. This step is very important, as the user can use the component features properly only after a successful login. Carefully check whether the relevant parameters are correctly configured:



```
TUILogin.login(context,
    1400000001,     // Replace it with the `SDKAppID` obtained in step 1.
    "denny",        // Replace it with your `UserID`.
    "xxxxxxxxxxx",  // You can calculate a `UserSig` in the console and enter it he
    object : TUICallback() {
      override fun onSuccess() {
      }
```

```
        override fun onError(errorCode: Int, errorMessage: String) {
        }
    })
}
```

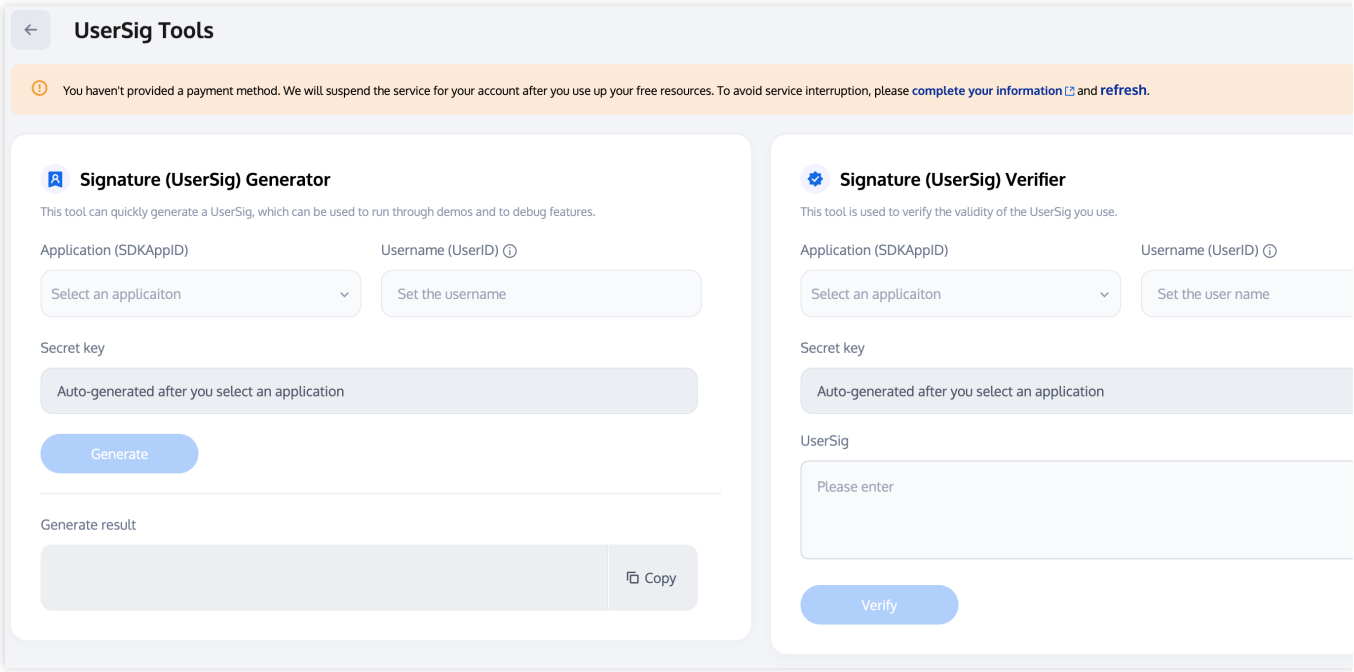
Parameter description:

The key parameters used by the `login` function are as detailed below:

SDKAppID: Obtained in the last step in step 1 and not detailed here.

UserID: The ID of the current user, which is a string that can contain only letters (a–z and A–Z), digits (0–9), hyphens (-), or underscores (_).

UserSig: The authentication credential used by Tencent Cloud to verify whether the current user is allowed to use the TRTC service. You can get it by using the `SDKSecretKey` to encrypt the information such as `SDKAppID` and `UserID`. You can generate a temporary `UserSig` by clicking the UserSig Generate button in the console.



For more information, see UserSig.

Note

Many developers have contacted us with many questions regarding this step. Below are some of the frequently encountered problems:

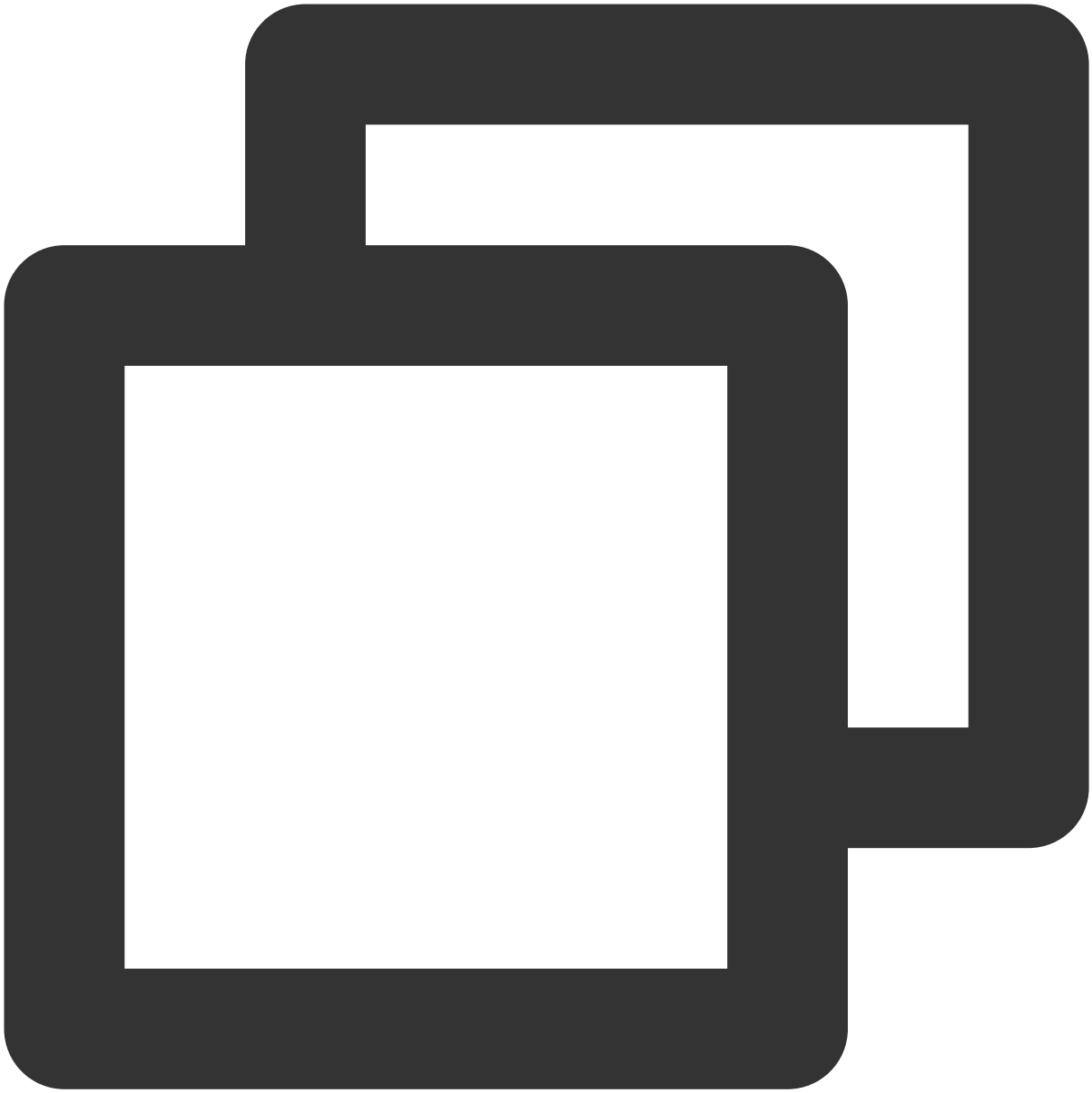
SDKAppID is invalid.

userSig is set to the value of Secretkey mistakenly. The userSig is generated by using the SecretKey for the purpose of encrypting information such as sdkAppId, userId, and the expiration time. But the value of the userSig that is required cannot be directly substituted with the value of the SecretKey.

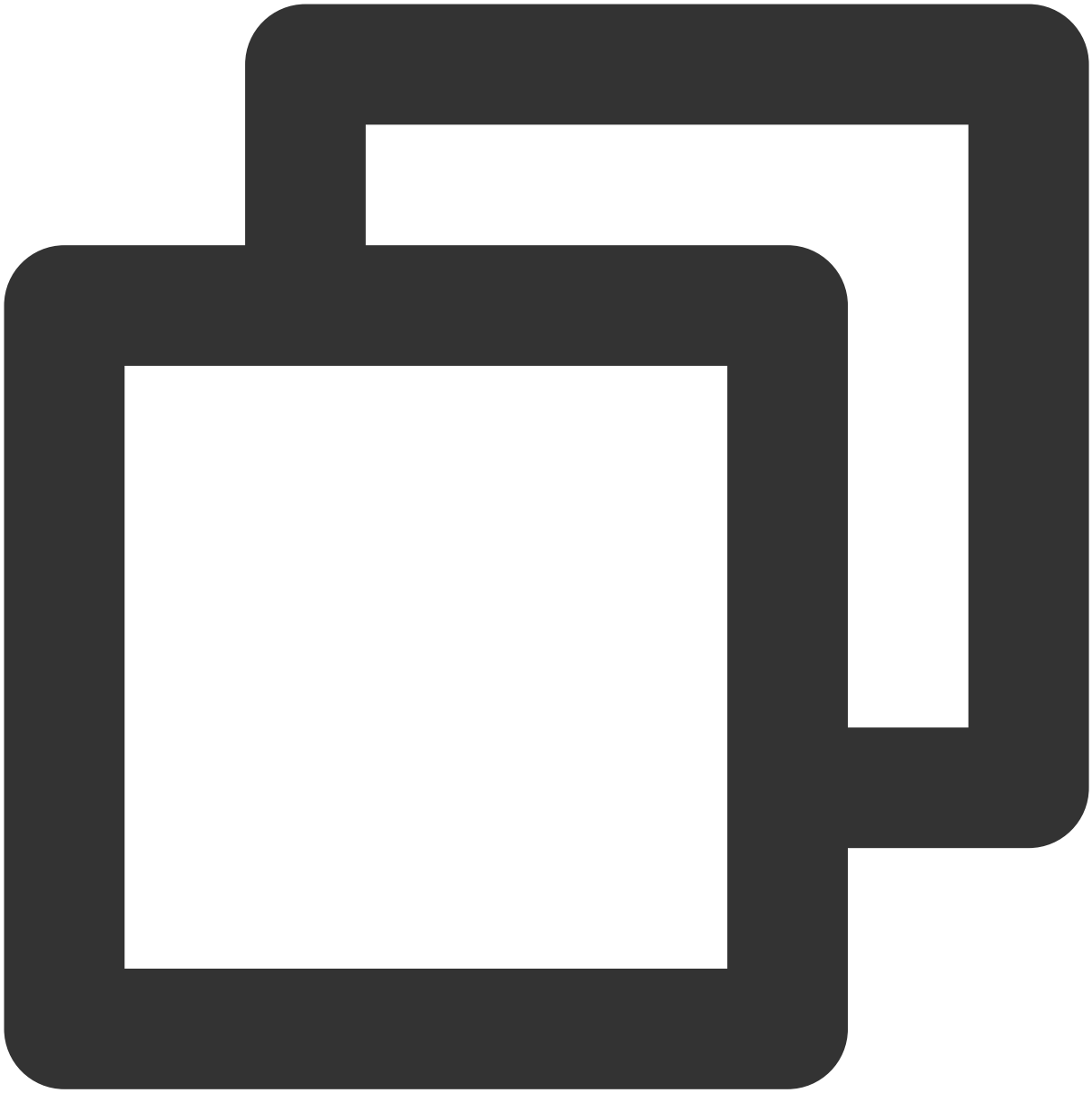
userId is set to a simple string such as 1, 123, or 111, and your colleague may be using the same userId while working on a project simultaneously. In this case, login will fail as TRTC doesn't support login on multiple terminals with the same UserID. Therefore, we recommend you use some distinguishable userId values during debugging.
The sample code on GitHub uses the `genTestUserSig` function to calculate `UserSig` locally, so as to help you complete the current integration process more quickly. However, this scheme exposes your `SecretKey` in the application code, which makes it difficult for you to upgrade and protect your `SecretKey` subsequently. Therefore, we strongly recommend you run the `UserSig` calculation logic on the server and make the application request the `UserSig` calculated in real time every time the application uses the `TUICallKit` component from the server.

Step 5. Make your first phone call

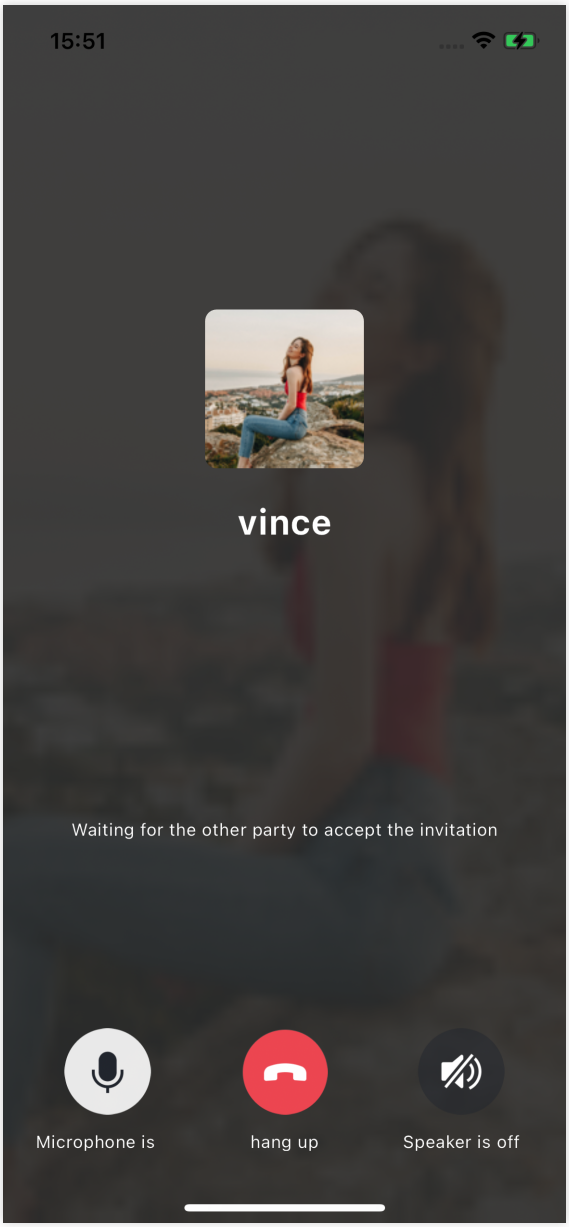
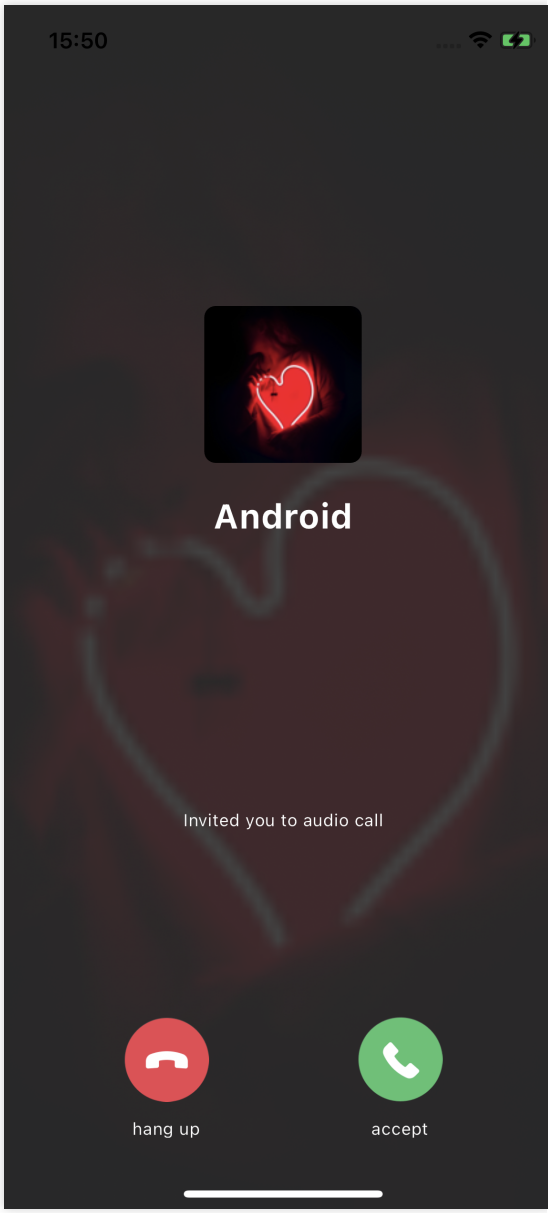
After both the caller and callee have successfully signed in, the caller can initiate an audio or video call by calling the TUICallKit's call method and specifying the call type and the callee's userId. At this point, the callee will receive an incoming call invitation.
Kotlin
Java



```
// Initiate a one-to-one video call (assuming UserID is mike)
TUICallKit.createInstance(context).call("mike", TUICallDefine.MediaType.Video)
```



```
// Initiate a one-to-one video call (assuming UserID is mike)
TUICallKit.createInstance(context).call("mike", TUICallDefine.MediaType.Video);
```

	
Caller	Callee

Additional Features

Customize Interface
Offline Push
Group Call
Floating Window
Custom Ringtone
Call Status Monitoring
Cloud Recording

FAQs

If you encounter any issues during integration and use, please refer to Frequently Asked Questions.

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

iOS

Last updated：2024-04-15 10:45:42

This document describes how to quickly integrate the `TUICallKit` component. Performing the following key steps generally takes about an hour, after which you can implement the video call feature with complete UIs.

Environment Preparations

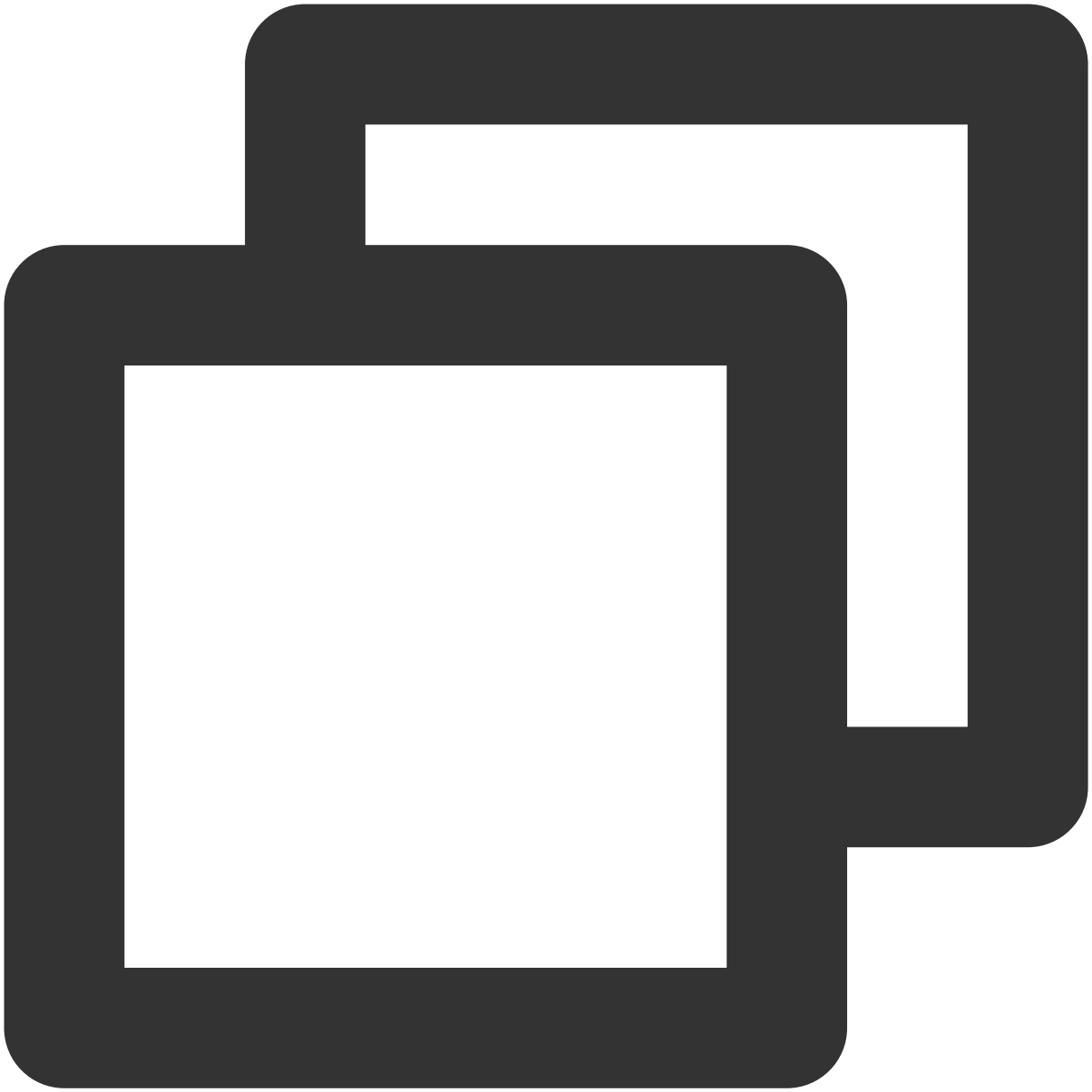
Xcode 13 or later
iOS 12.0 or later

Step 1. Activate the service

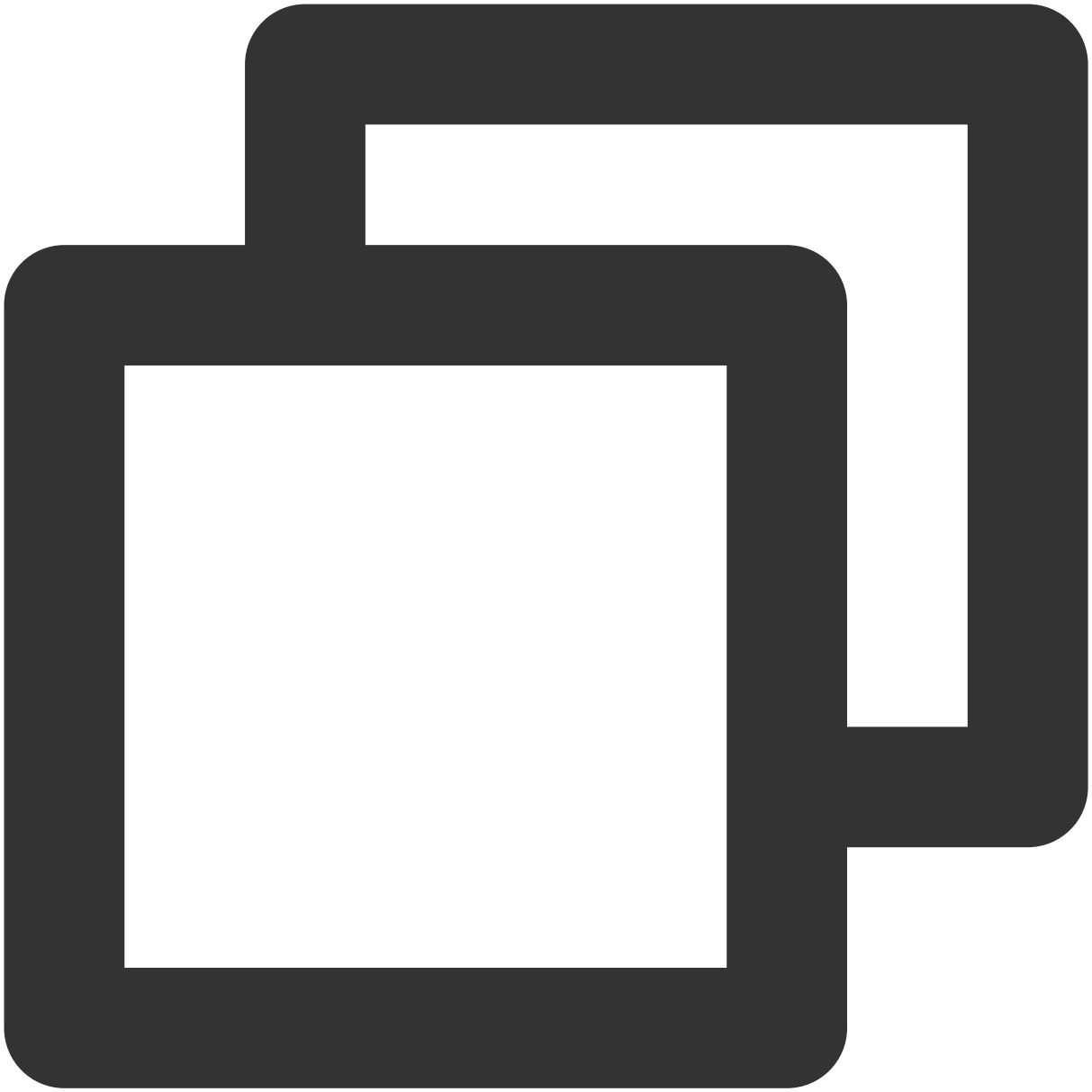
Before using the Audio and Video Services provided by Tencent Cloud, you need to go to the Console and activate the service for your application. For detailed steps, refer to Activate Service.

Step 2. Import the component

Use CocoaPods to import the component as follows:
1. Add the following dependency to your `Podfile` .
Swift
Objective-C

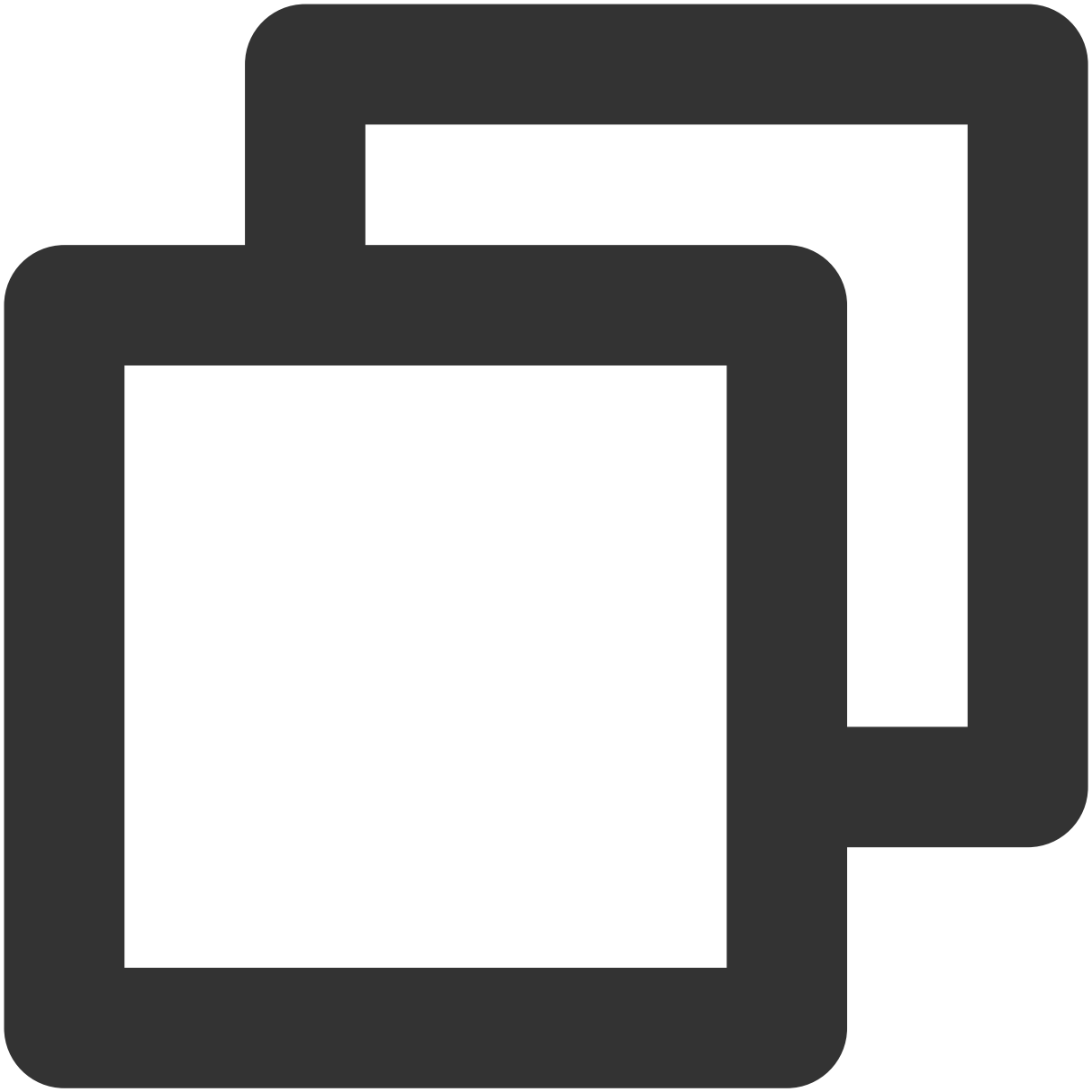


```
pod 'TUICallKit_Swift'
```



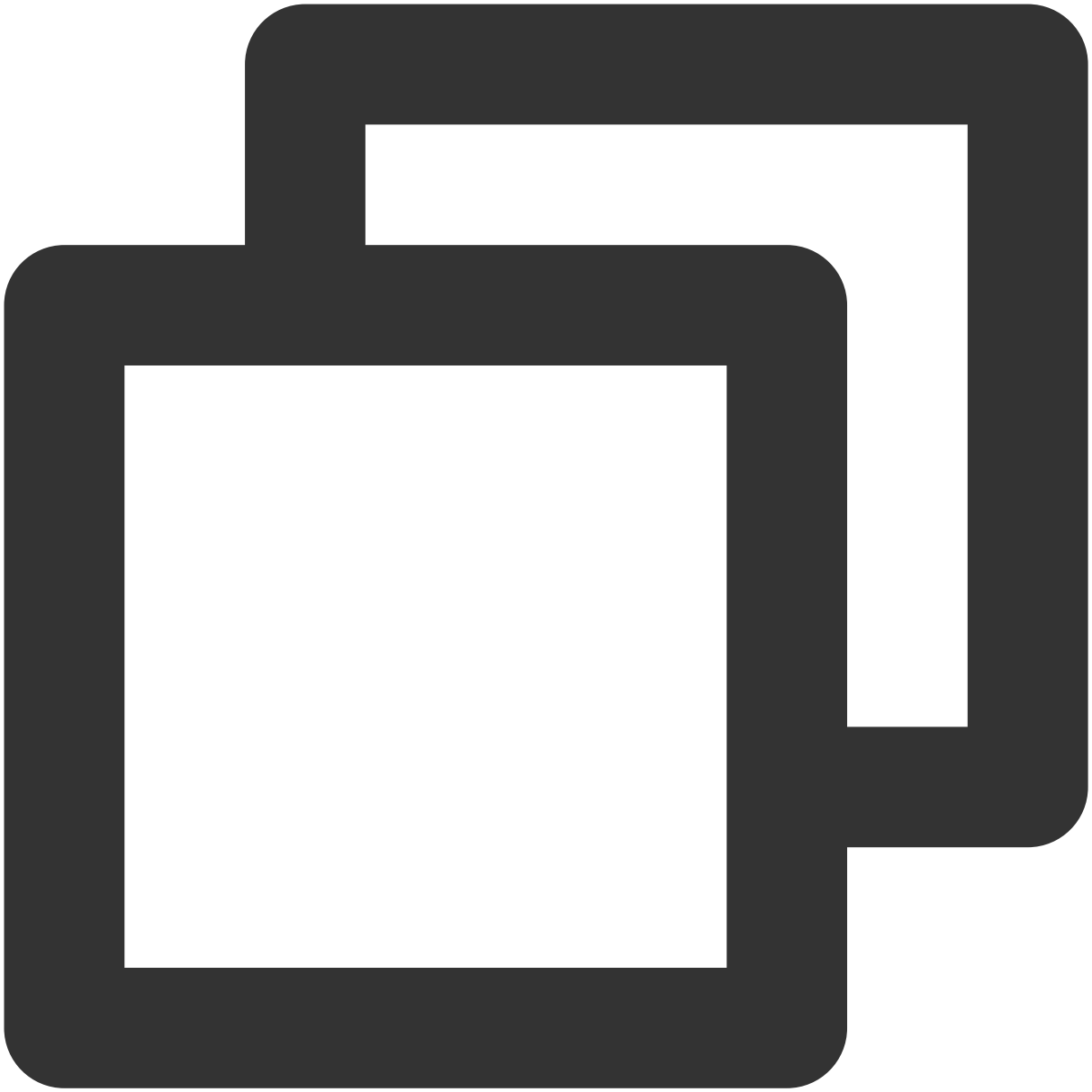
```
pod 'TUICallKit'
```

2. Run the following command to install the component:



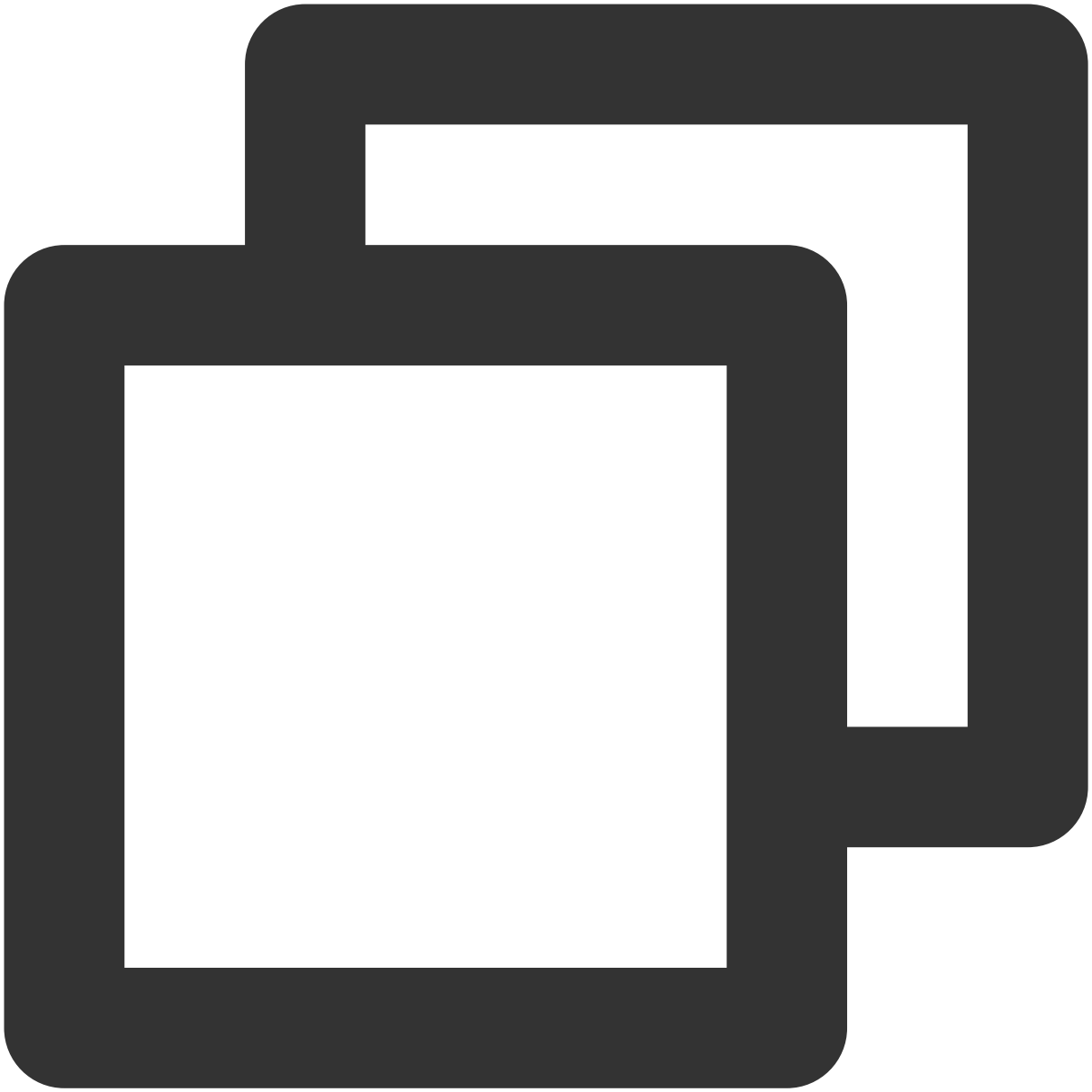
```
pod install
```

If the latest version of `TUICallKit` cannot be installed, run the following command to update the local CocoaPods repository list:



```
pod repo update
```

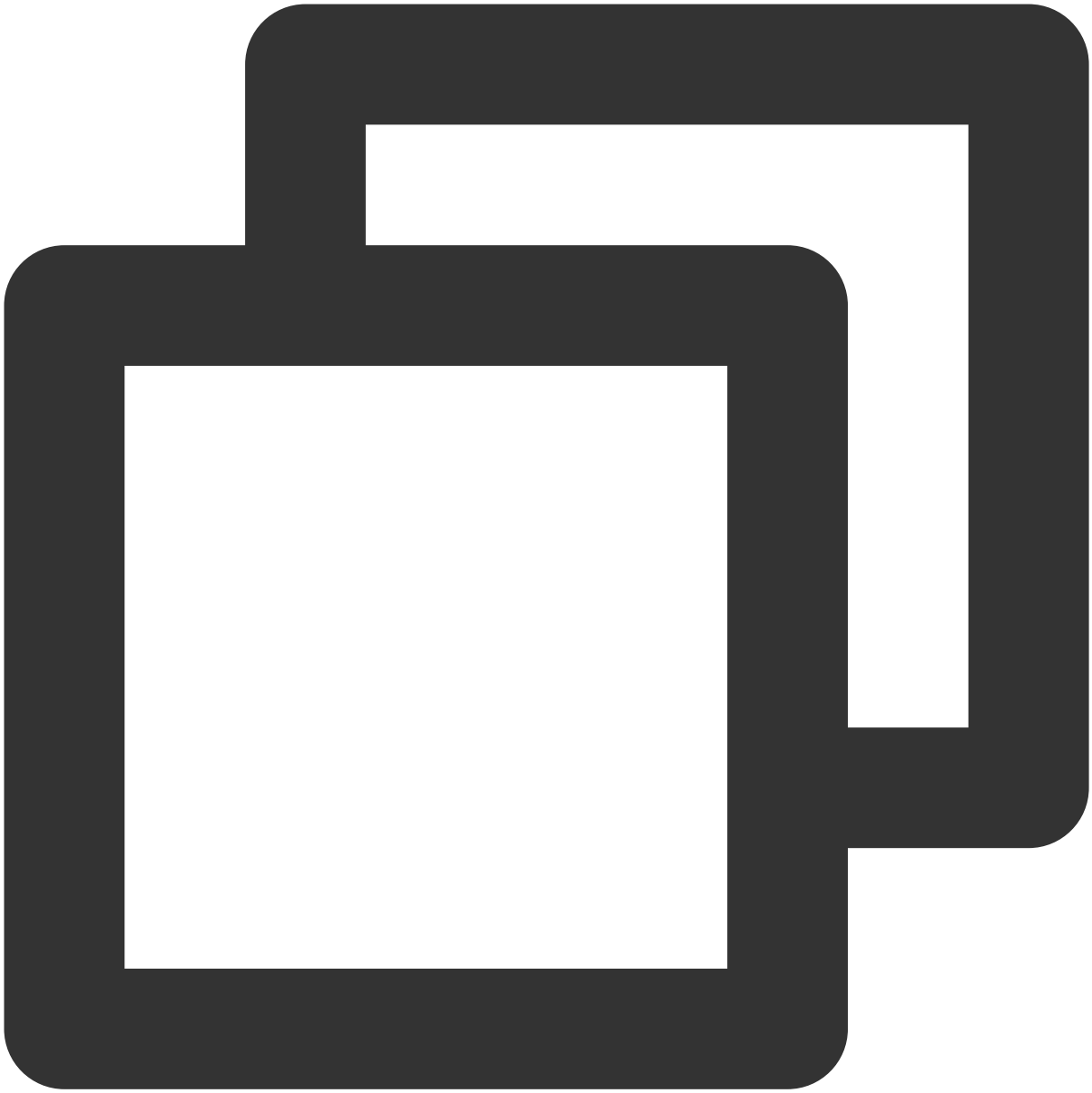
Afterwards, execute the following command to update the Pod version of the component library.



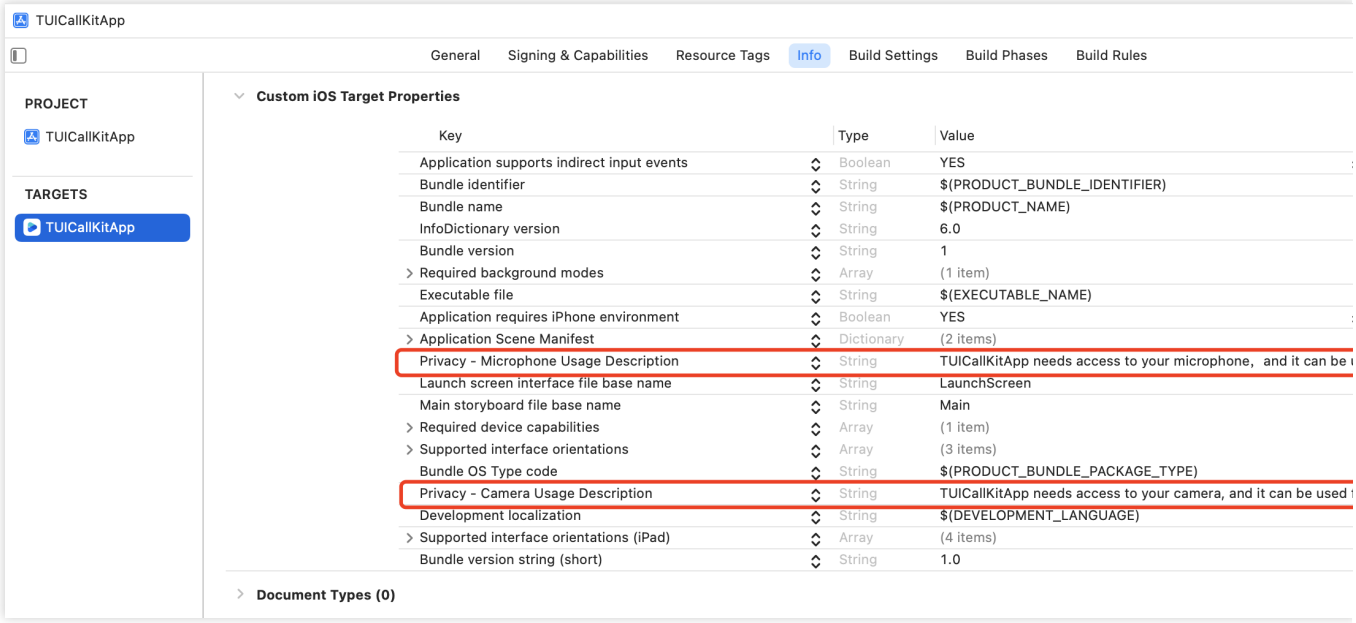
```
pod update
```

Step 3. Configure the project

Your app needs mic and camera permissions to implement audio/video communication. Add the two items below to `Info.plist` of your app. Their content is what users see in the mic and camera access pop-up windows.



```
<key>NSCameraUsageDescription</key>
<string>CallingApp needs to access your camera to capture video.</string>
<key>NSMicrophoneUsageDescription</key>
<string>CallingApp needs to access your mic to capture audio.</string>
```

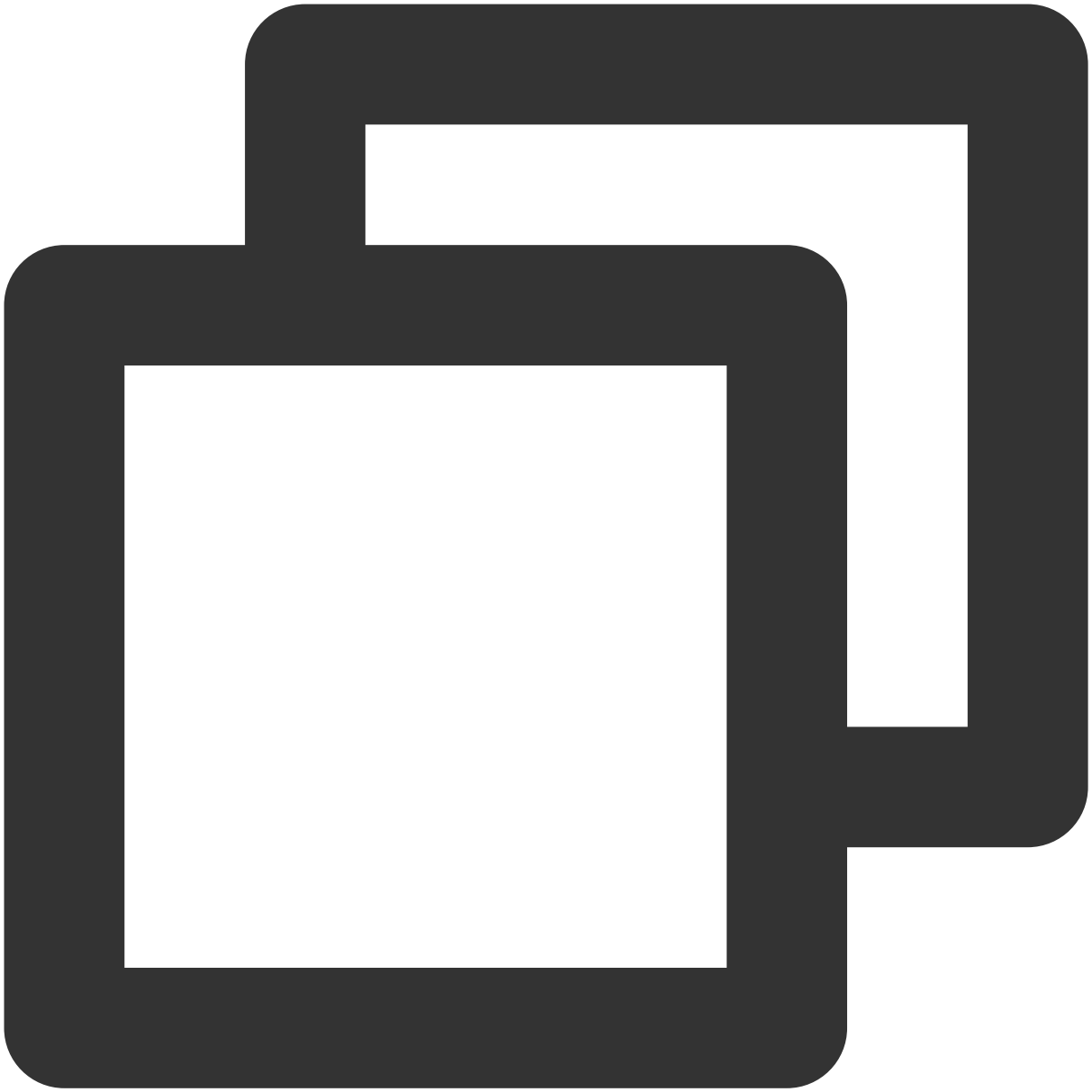


Step 4. Log in to the `TUICallKit` component

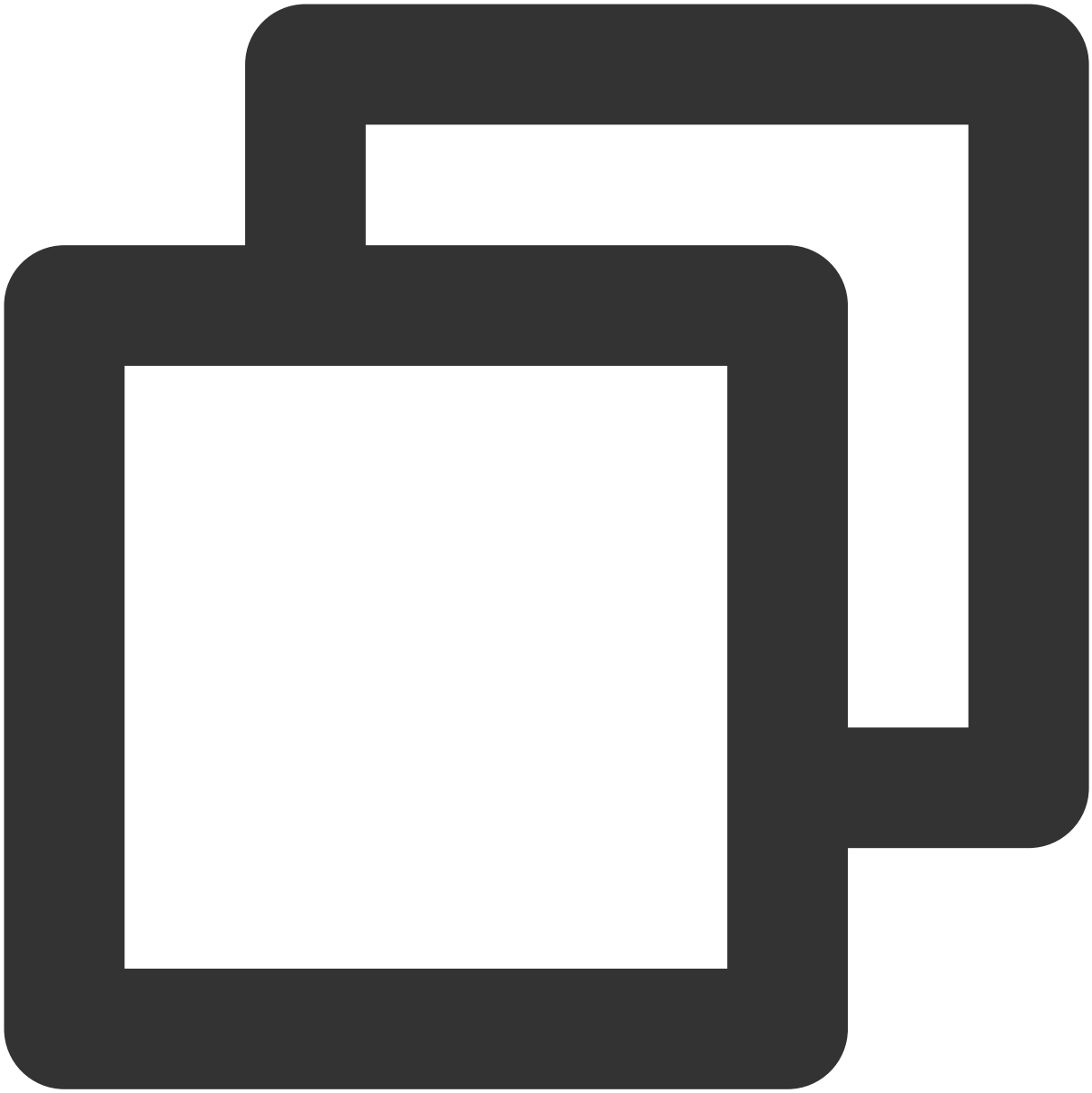
Add the following code to your project to call the relevant APIs in `TUICore` to log in to the `TUICallKit` component. This step is very important, as the user can use the component features properly only after a successful login. Carefully check whether the relevant parameters are correctly configured:

Swift

Objective-C



```
import TUICore

TUILogin.login(1400000001,                    // Replace it with the `SDKAppID` obta
            userID: "denny",                  // Replace it with your `UserID`.
            userSig: "xxxxxxxxxxx") {         // You can calculate a `UserSig` in th
    print("login success")
} fail: { (code, message) in
    print("login failed, code: \\(code), error: \\(message ?? "nil")")
}
```



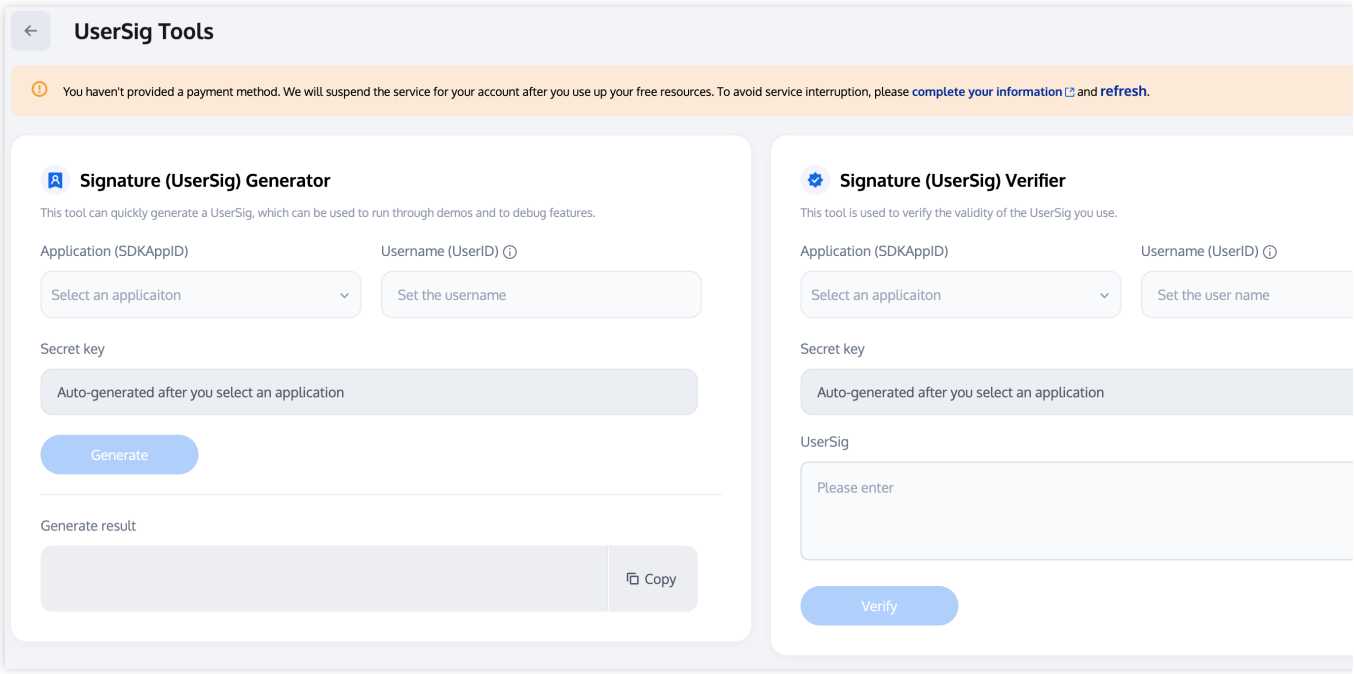
```
#import <TUICore/TUILogin.h>

[TUILogin login:1400000001           // Replace it with the `SDKAppID` obtained in
         userID:@"denny"             // Replace it with your `UserID`.
        userSig:@"xxxxxxxxxxx"       // You can calculate a `UserSig` in the consol
           succ:^{
    NSLog(@"login success");
} fail:^(int code, NSString *msg) {
    NSLog(@"login failed, code: %d, error: %@", code, msg);
}
```

Parameter description: The key parameters used by the `login` function are as detailed below:

SDKAppID: Obtained in the last step in step 1 and not detailed here.

UserID: The ID of the current user, which is a string that can contain only letters (a–z and A–Z), digits (0–9), hyphens (-), or underscores (_).

UserSig: The authentication credential used by Tencent Cloud to verify whether the current user is allowed to use the TRTC service. You can get it by using the `SDKSecretKey` to encrypt the information such as `SDKAppID` and `UserID`. You can generate a temporary `UserSig` by clicking the UserSig Generate button in the console.



For more information, see UserSig.

Note

Many developers have contacted us with many questions regarding this step. Below are some of the frequently encountered problems:

SDKAppID is invalid.

userSig is set to the value of Secretkey mistakenly. The userSig is generated by using the SecretKey for the purpose of encrypting information such as sdkAppId, userId, and the expiration time. But the value of the userSig that is required cannot be directly substituted with the value of the SecretKey.

userId is set to a simple string such as 1, 123, or 111, and your colleague may be using the same userId while working on a project simultaneously. In this case, login will fail as TRTC doesn't support login on multiple terminals with the same UserID. Therefore, we recommend you use some distinguishable userId values during debugging.

The sample code on GitHub uses the `genTestUserSig` function to calculate `UserSig` locally, so as to help you complete the current integration process more quickly. However, this scheme exposes your `SecretKey` in the application code, which makes it difficult for you to upgrade and protect your `SecretKey` subsequently. Therefore,

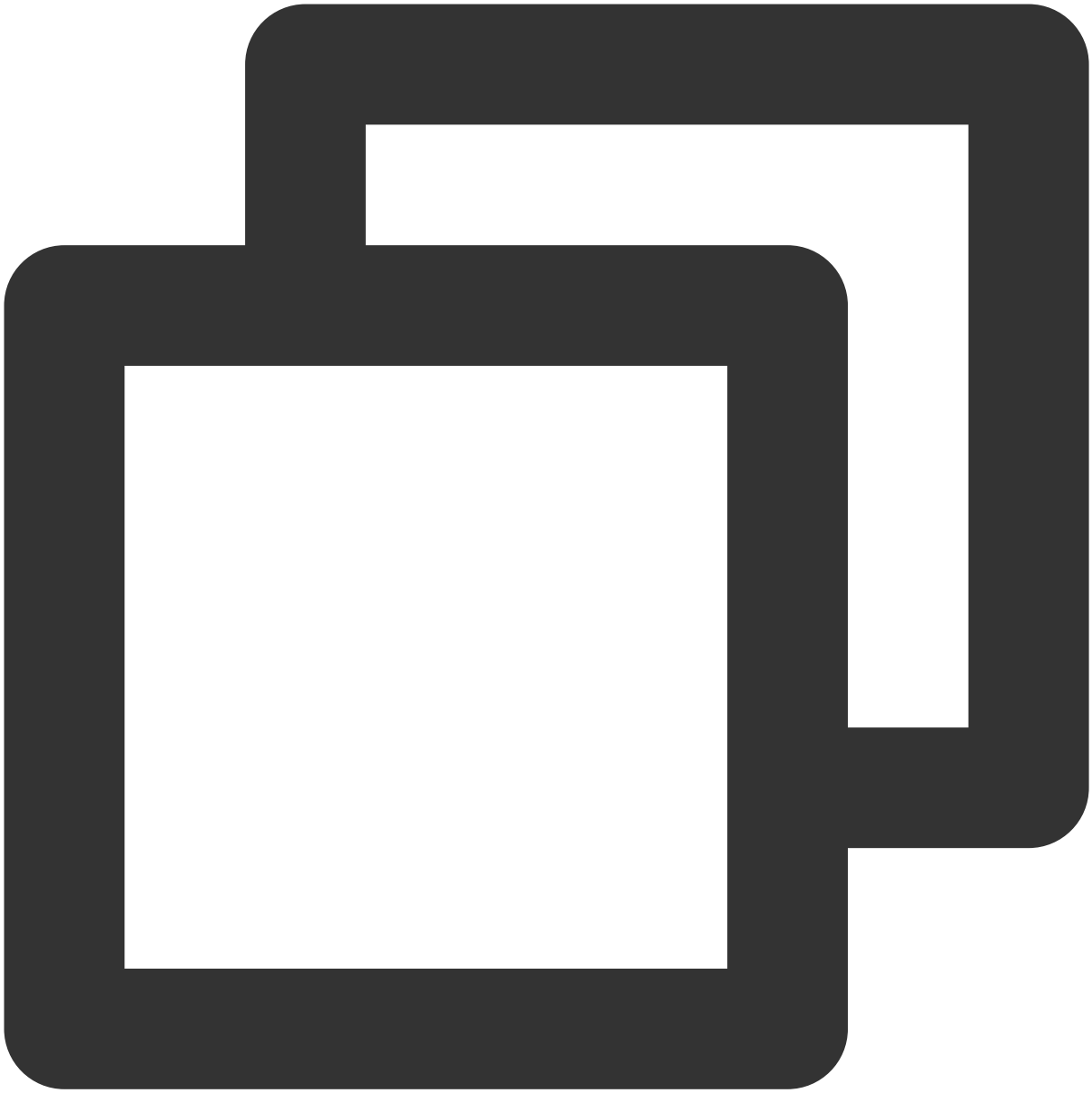
we strongly recommend you run the `UserSig` calculation logic on the server and make the application request the `UserSig` calculated in real time every time the application uses the `TUICallKit` component from the server.

Step 5. Make your first phone call

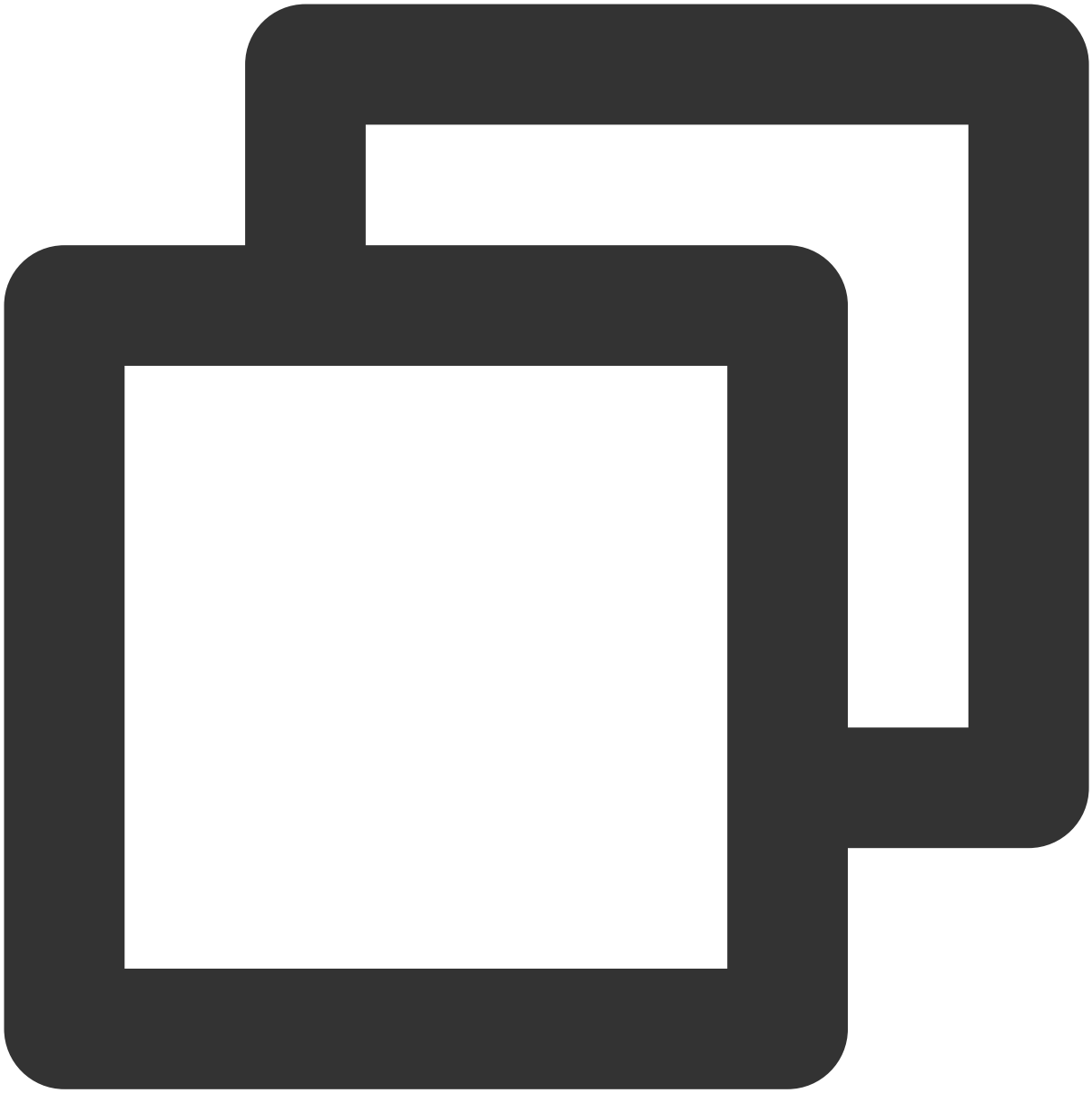
After both the caller and callee have successfully signed in, the caller can initiate an audio or video call by calling the TUICallKit's call method and specifying the call type and the callee's userId. At this point, the callee will receive an incoming call invitation.

Swift

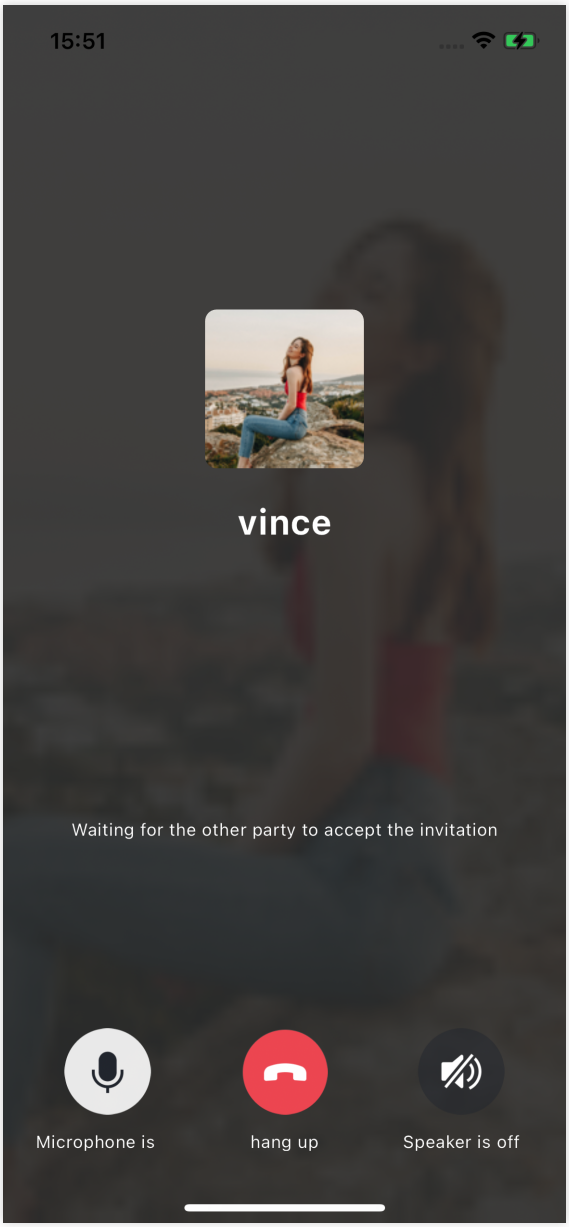
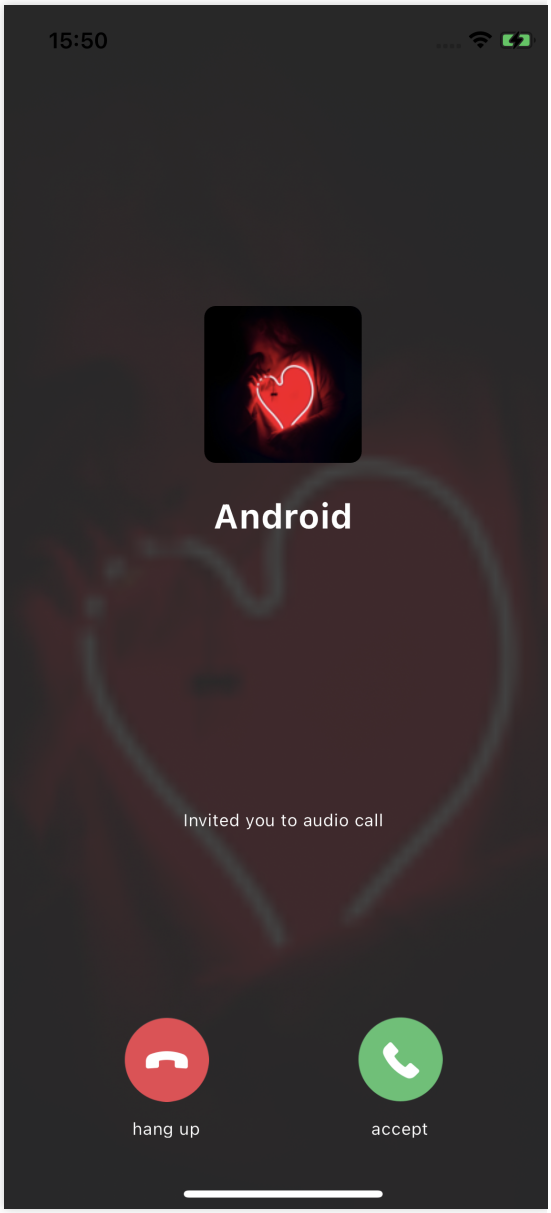
Objective-C



```
import TUICallKit

TUICallKit.createInstance().call(userId: "mike", callMediaType: .video)
```



```
#import <TUICallKit/TUICallKit.h>

[[TUICallKit createInstance] call:@"mike" callMediaType:TUICallMediaTypeVideo];
```

	
Caller	Callee

Additional Features

Customize Interface
Offline Push
Group Call
Floating Window
Custom Ringtone
Call Status Monitoring
Cloud Recording

FAQs

If you encounter any issues during integration and use, please refer to Frequently Asked Questions.

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

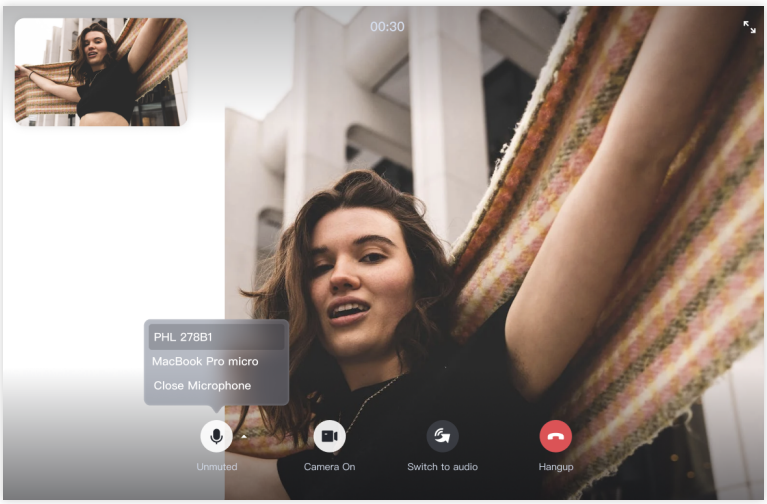
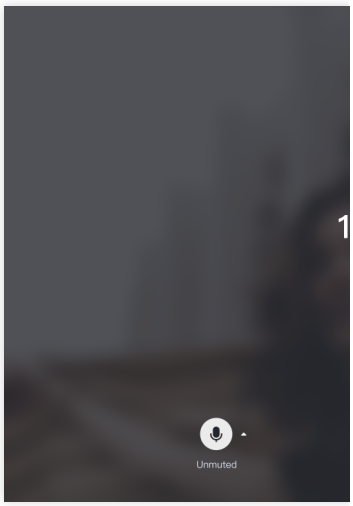
Web&H5 (React)

Last updated：2024-04-03 17:23:11

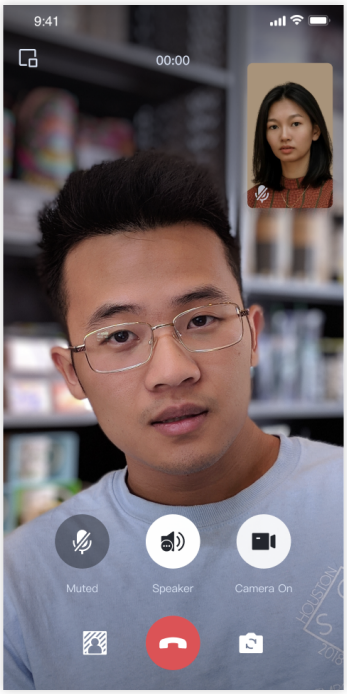
This article will guide you through the quick integration of the TUICallKit component. You will complete several key steps within 10 minutes, ultimately obtaining a video call feature with a complete UI interface.

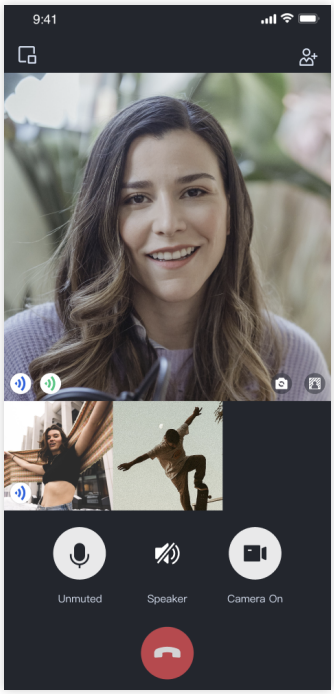
Desktop Version

Mobile Version

Video Call	Audio Call
	

One-on-one call	Group call





TUICallKit Demo Experience

If you want to directly try out audio and video calling,please enter the Demo experience page.
If you want to quickly implement a new project, directly read Web Demo Quick Start.

Environment preparations

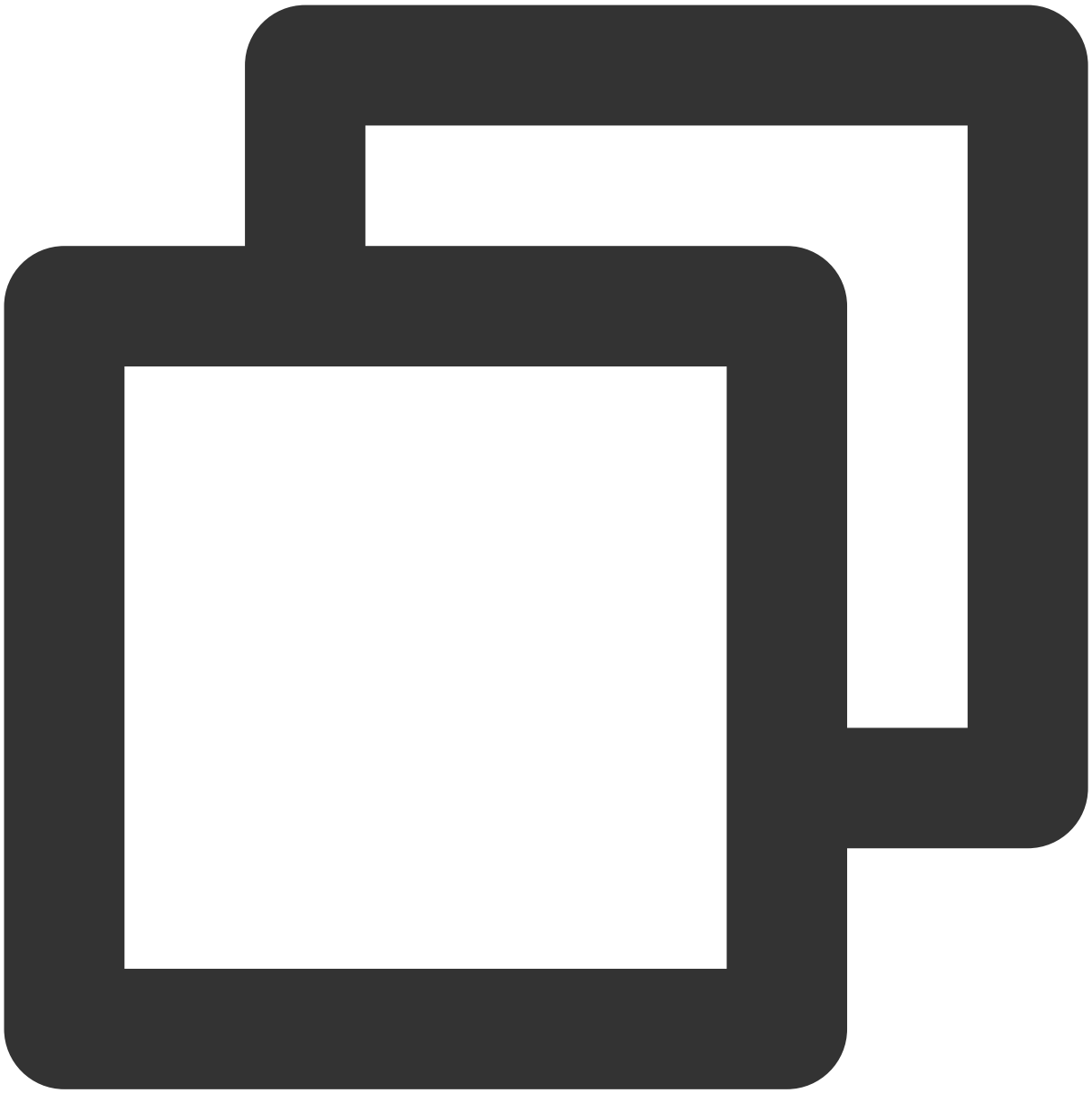
React ≥ v18.0.
Node.js Version: Node.js ≥ v12.13.0 (the official LTS version is recommended, please ensure that the npm version matches the node version).
Modern browser, supporting WebRTC APIs.

Step 1. Activate the service

Before using the Audio and Video Services provided by Tencent Cloud, you need to go to the Console and activate the service for your application. For detailed steps, refer to Activate Service.

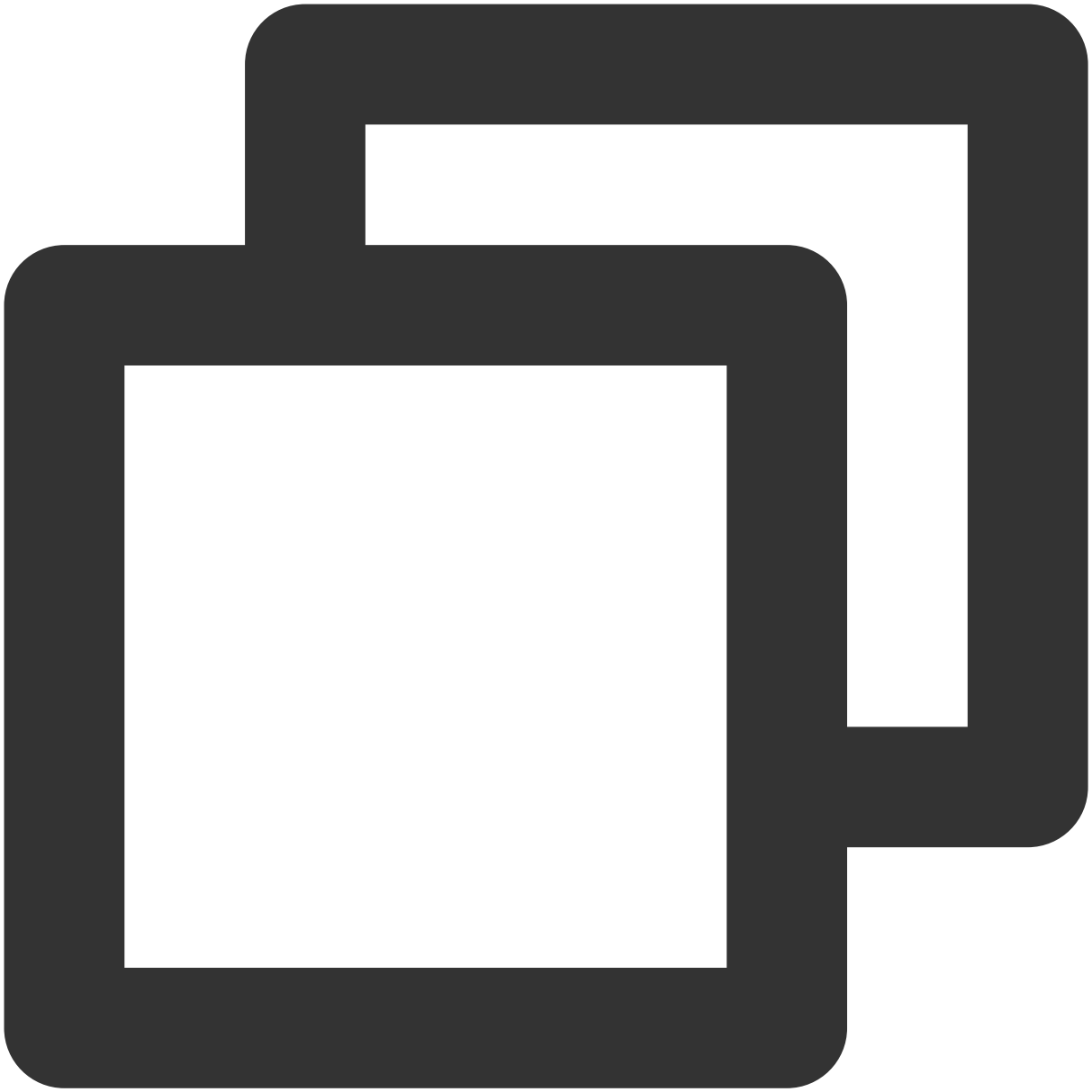
Step Two: Establish a React Project

1. If you have not installed create-react-app yet, you can do so in the terminal or cmd using the following method:



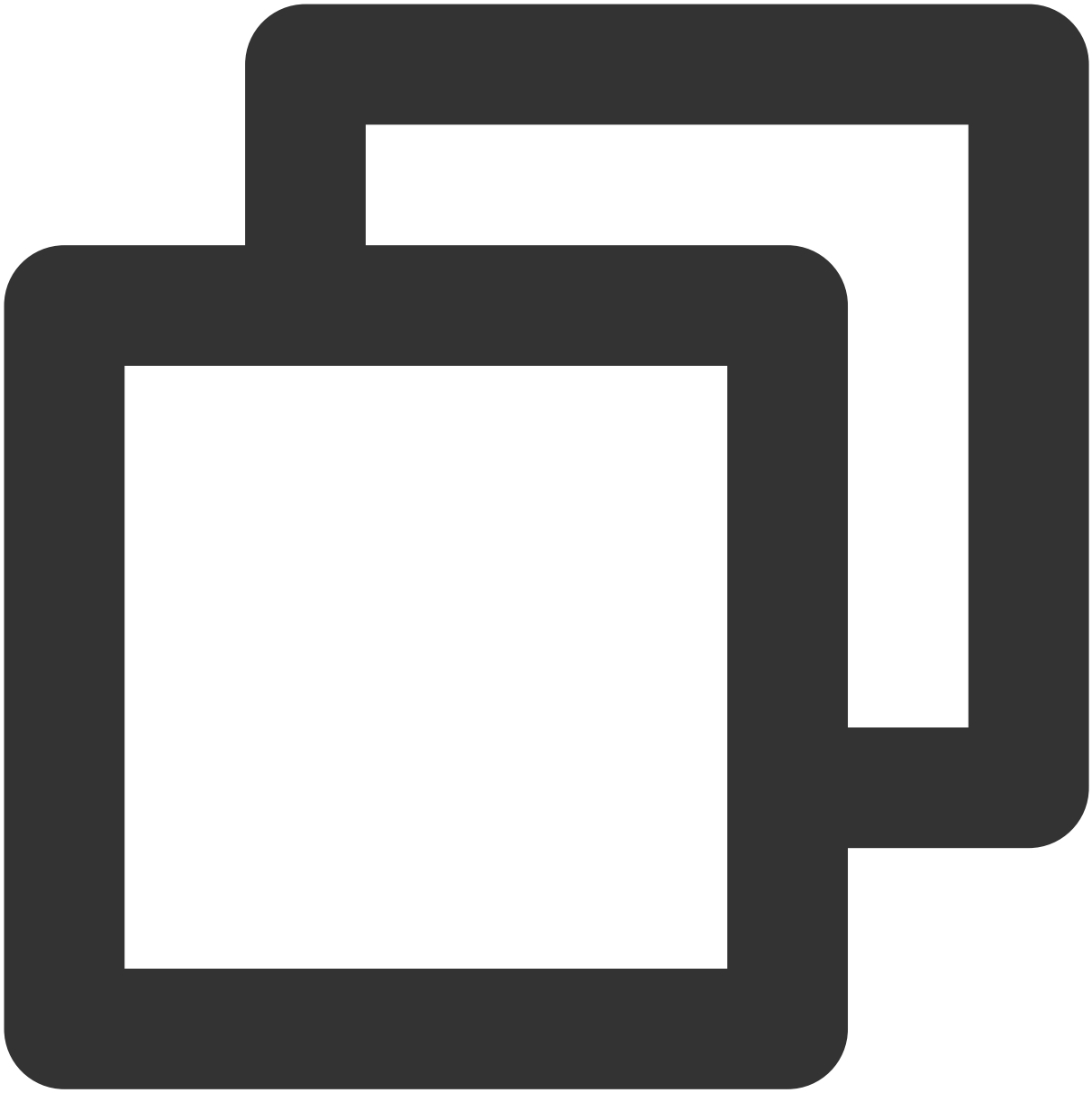
```
npm install -g create-react-app
```

2. Create a fresh React project. It is at your discretion whether to employ a 'ts' template or not.



```
npx create-react-app tuicallkit-demo --template typescript
```

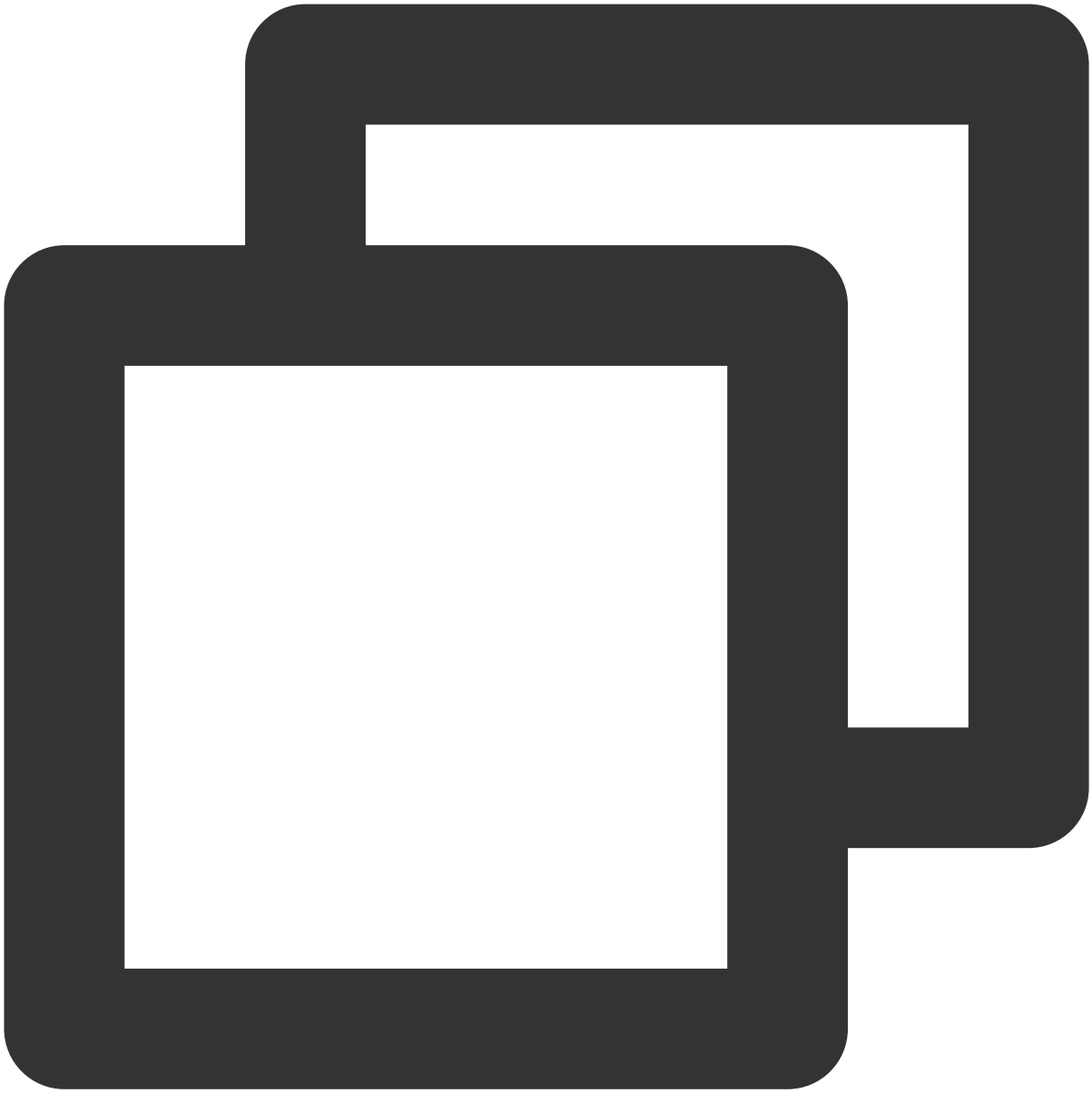
3. After the project is created, go to the project directory.



```
cd tuicallkit-demo
```

Step Three: Download the TUICallKit Component

1. Download the @tencentcloud/call-uikit-react component via npm and use it in your project.

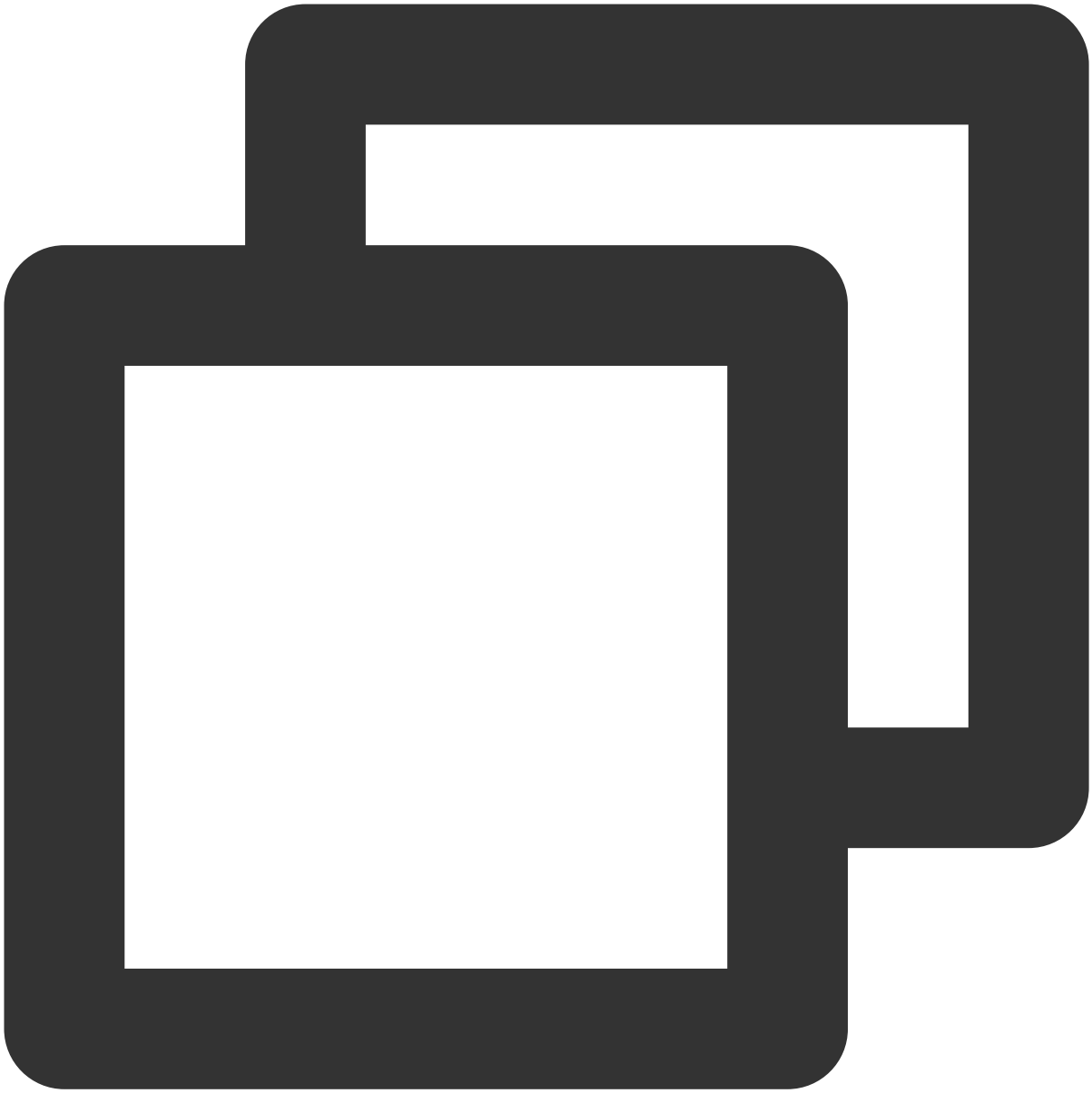


```
npm install @tencentcloud/call-uikit-react
```

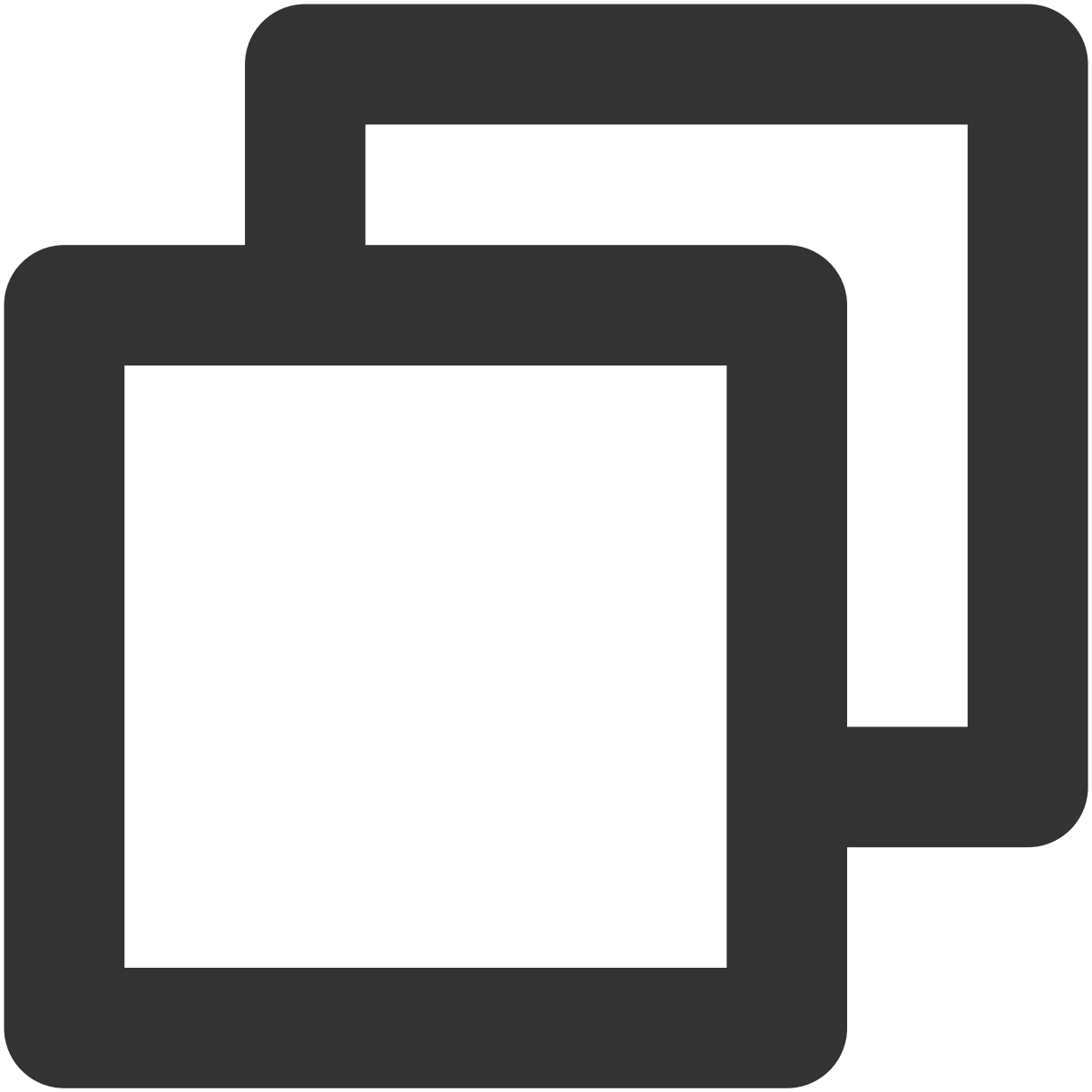
2. Copy the debug directory to your project directory, `tuicallkit-demo/src` .

MacOS

Windows



```
cp -r node_modules/@tencentcloud/call-uikit-react/debug ./src
```

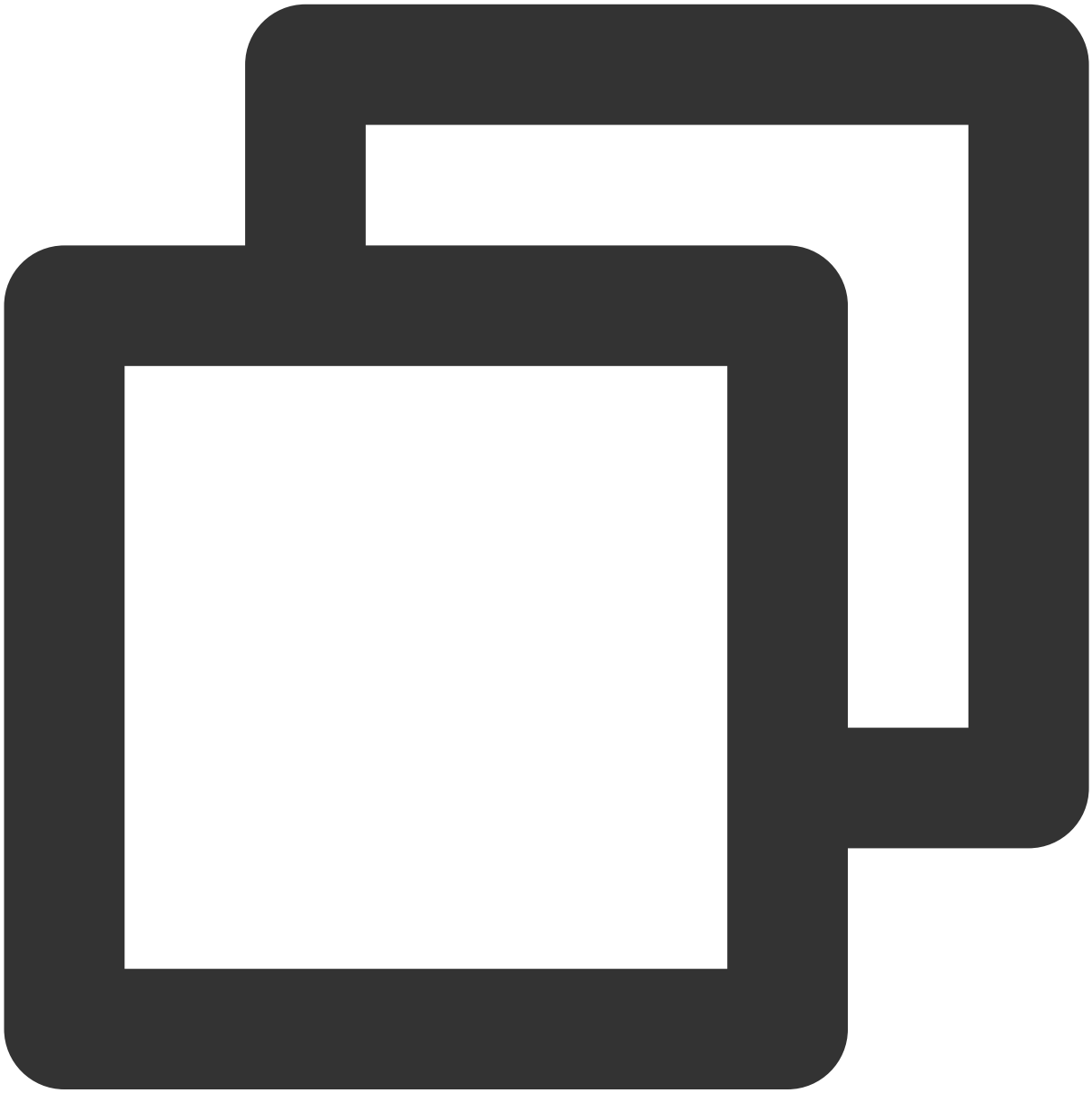


```
xcopy node_modules\\@tencentcloud\\call-uikit-react\\debug .\\src\\debug /i /e
```

Step Four: Include the TUICallKit Component

1. The following code example includes four parameters: SDKAppID, SDKSecretKey, userID, and callUserID.
SDKAppID: The Audio and Video Application's SDKAppID created in Tencent Cloud, refer to Activate the Service.
SDKSecretKey: User Signature, refer to Activate the Service.

userID: The caller's userID. It's a string type that can only include English letters (a to z and A to Z), numbers (0 to 9), hyphens (-), and underscores (_).
callUserID: The called party's userID which must already exist for initialisation. (Within the demo, input the callUserID if there is a callee, otherwise if there isn't a callee it can be left blank).
2. Incorporate the following code in `tuicallkit-demo/src/App.tsx` .



```
import React, { useState, useMemo } from "react";
// @ts-ignore
import { TUICallKit, TUICallKitServer, TUIGlobal } from "@tencentcloud/call-uikit-r
import * as GenerateTestUserSig from "./debug/GenerateTestUserSig-es";
```

```
function App() {
  const [userData, setUserData] = useState({
    userID: "",
    callUserID: "",
    SDKAppID: 0,         // Replace with your SDKAppID
    SDKSecretKey: "",    // Replace with your SDKSecretKey
    isLogin: false,
  });
  const init = async () => {
    const { SDKAppID, SDKSecretKey, userID } = userData;
    if (SDKAppID && SDKSecretKey && userID) {
      try {
        await login(SDKAppID, SDKSecretKey, userID);
        setUserData((prevState) => ({
          ...prevState,
          isLogin: true as boolean,
        }));
        alert("[TUICallKit] login success.");
      } catch (error) {
        console.error(error);
      }
    } else {
      alert("[TUICallKit] Please fill in the SDKAppID, userID and SecretKey.");
    }
  };
  const login = async (SDKAppID: any, SecretKey: any, userId: any) => {
    const { userSig } = GenerateTestUserSig.genTestUserSig({
      userID: userId,
      SDKAppID: Number(SDKAppID),
      SecretKey: SecretKey,
    });
    await TUICallKitServer.init({ //[1]Initialize the TUICallKit component
      userID: userId,
      userSig,
      SDKAppID: Number(SDKAppID),
    });
  };
  const call = async () => {
    await TUICallKitServer.call({ userID: userData.callUserID, type: 2 }); //[2]Mak
  };
  const callKitStyle = useMemo(() => {
    if (TUIGlobal.isPC) {
      return { width: '960px', height: '630px', margin: '0 auto' };
    }
    return { width: '100%', height: window.innerHeight };
  }, [TUIGlobal.isPC]);
```

```
  return (
    <>
      <TUICallKit style={callKitStyle}></TUICallKit>
      <div style={{ width: 350, margin: '0 auto' }}>
        <h4> {userData.isLogin ? "Call Panel" : "Login Panel"} </h4>
        <input
          value={userData.isLogin ? userData.callUserID : userData.userID}
          onChange={(value) => {
            const key = userData.isLogin ? "callUserID" : "userID";
            setUserData((prevState) => ({
              ...prevState,
              [key]: value.target.value,
            }));
          }}
          style={{ width: 230, margin: '0 auto' }}
          placeholder={
            userData.isLogin ? "Please enter callee's userID" : "Please enter your
          }
        />
        <button onClick={userData.isLogin ? call : init}> {userData.isLogin ? "call
        <p style={{margin: '10'}}> {userData.isLogin ? `Your userID:  ${userData.us
      </div>
    </>
  );
}

export default App;
```

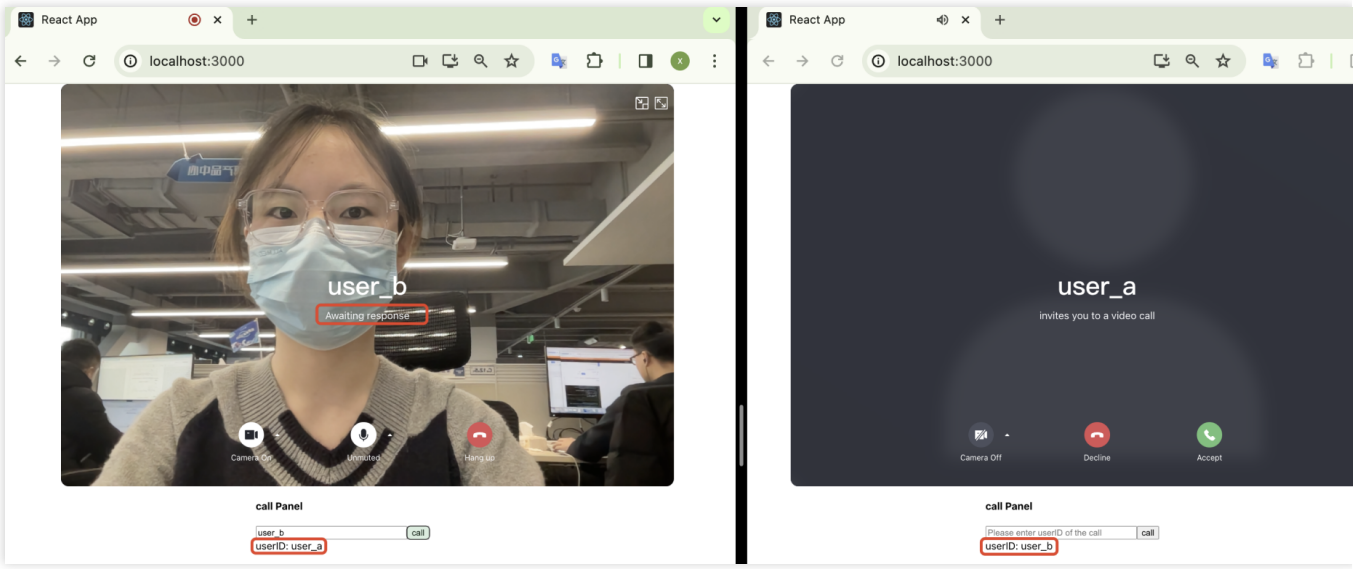
Step Five: Make your first phone call

1. Execute `npm run start` in the terminal to run tuicallkit-demo.

Alert: Visit locally through localhost protocol, for details refer to Network access protocol description.

2. Enter the userID for login, click the login button, 'login success' pop-up indicates successful initialization.

3. Enter the recipient's userID, click the call button, initiate a 1v1 video call.



Additional Features

Setting Nickname, Avatar

Group Call

Floating Window

Custom Ringtone

Call Status Monitoring, Component Callback Event

Setting Resolution, Fill Pattern

Customize Interface

FAQs

If you encounter any issues during integration and use, please refer to Frequently Asked Questions.

Technical Consultation

If you have any requirements or feedback, you can contact: info_rtc@tencent.com.

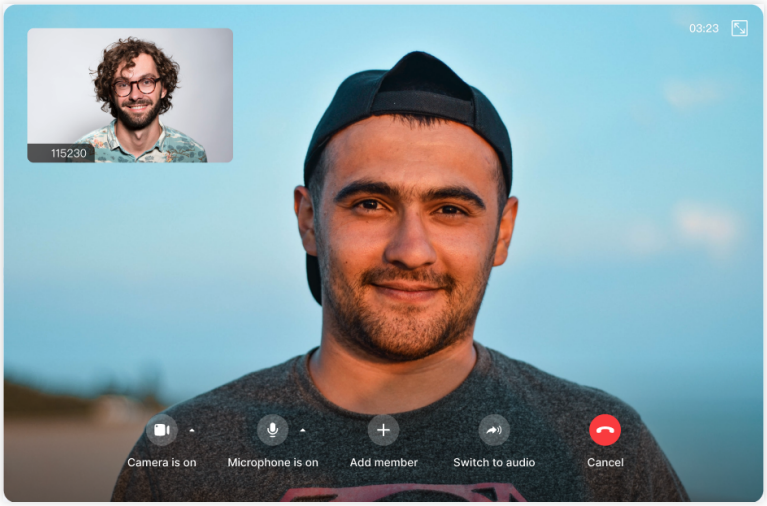
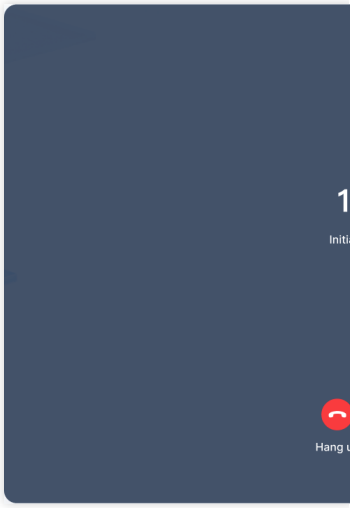
Web&H5 (Vue3)

Last updated：2024-04-03 17:23:11

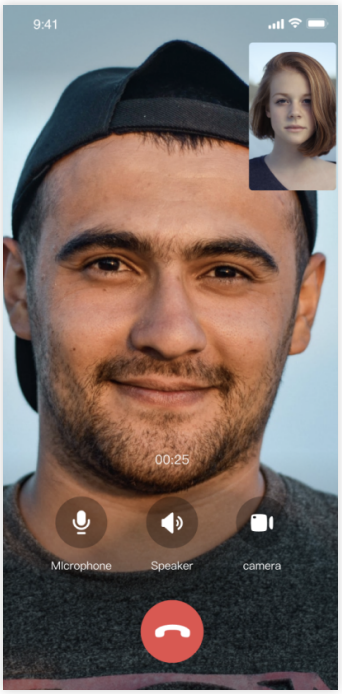
This document elucidates the rapid integration of the TUICallKit component. Within a mere span of ten minutes, you will accomplish several pivotal steps, culminating in a comprehensive User Interface with video call functionality.

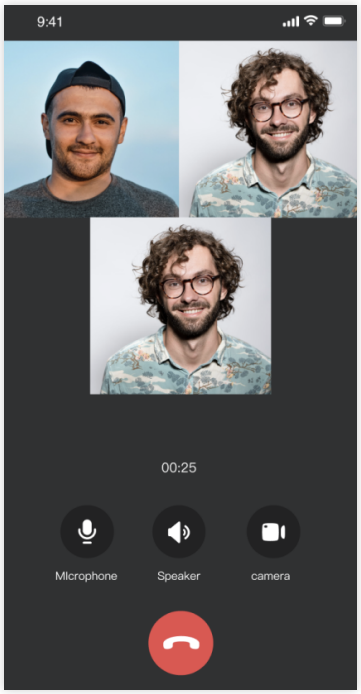
Desktop Version

Mobile Version

Video Call	Audio Call
	

One-to-One Call	Group call





TUICallKit Demo Experience

If you want to directly try out audio and video calling,please enter the Demo experience page.
If you want to quickly implement a new project, directly read Web Demo Quick Start.

Environment preparations

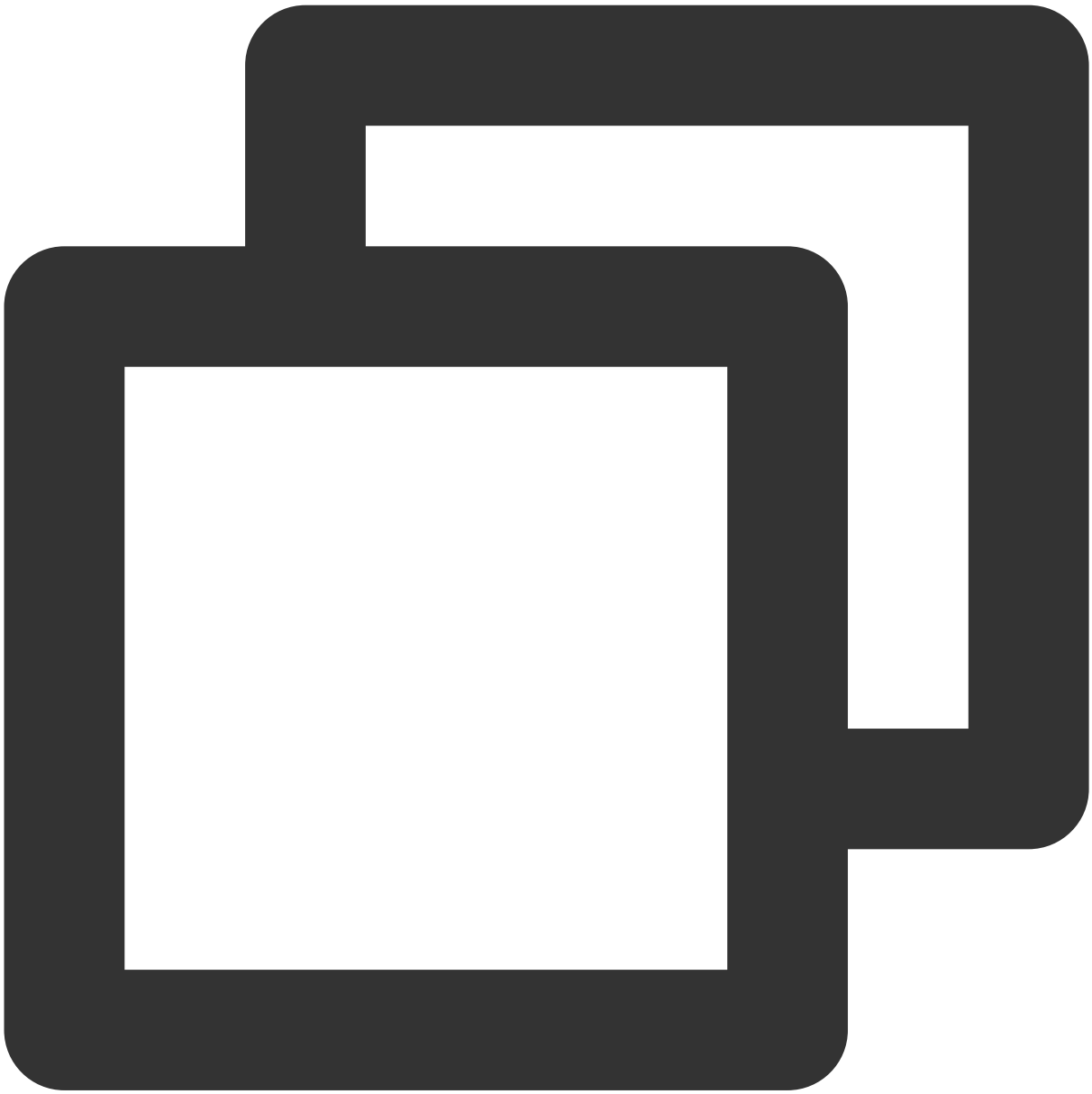
Node.js Version: Node.js ≥ v12.13.0 (the official LTS version is recommended, please ensure that the npm version matches the node version).
Modern browser, supporting WebRTC APIs.

Step 1. Activate the service

Before using the Audio and Video Services provided by Tencent Cloud, you need to go to the Console and activate the service for your application. For detailed steps, refer to Activate Service.

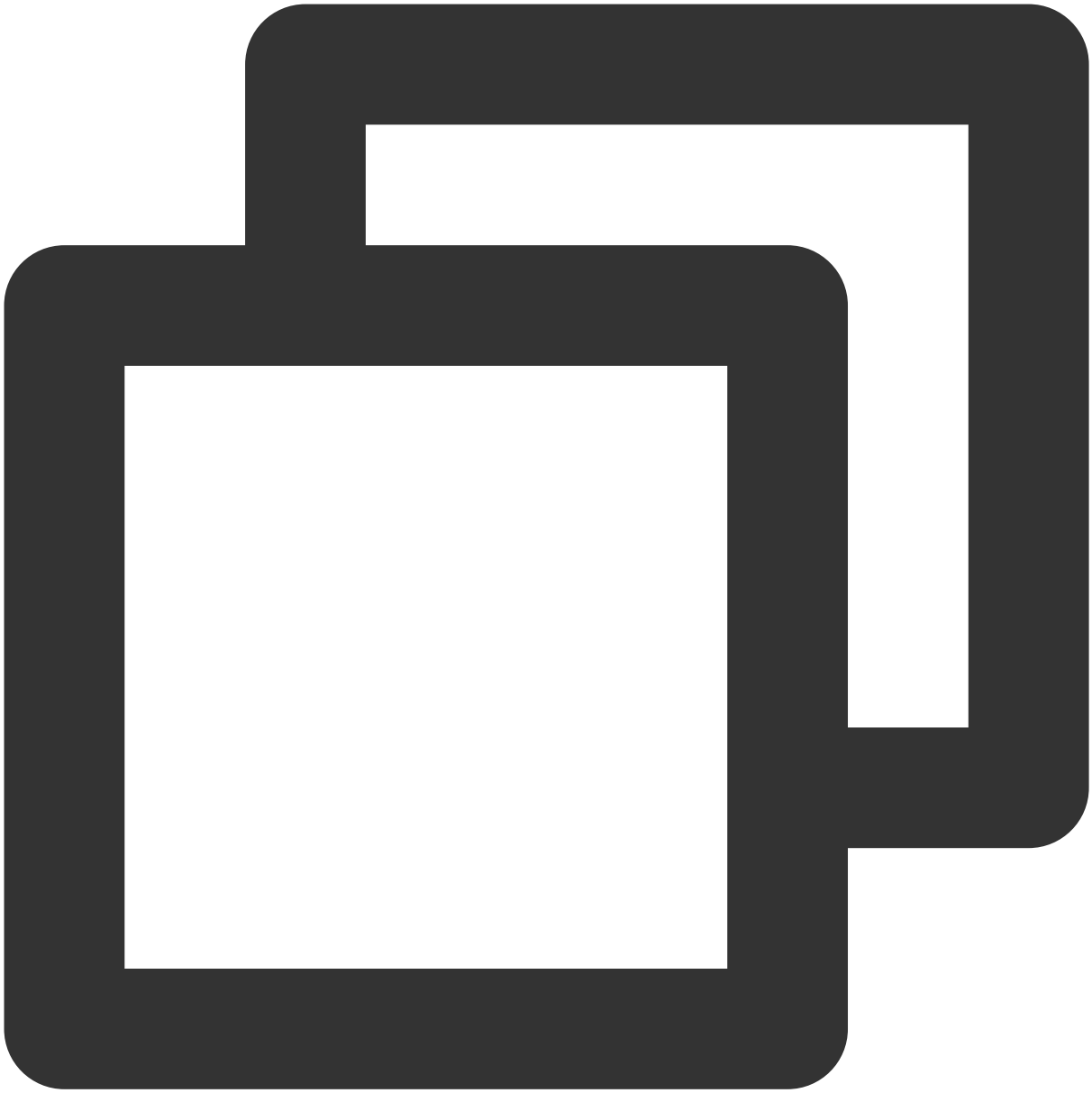
Step Two: Create a Vue3 Project

1. If you haven't installed Vue CLI yet, you can install it in the terminal or cmd as follows:

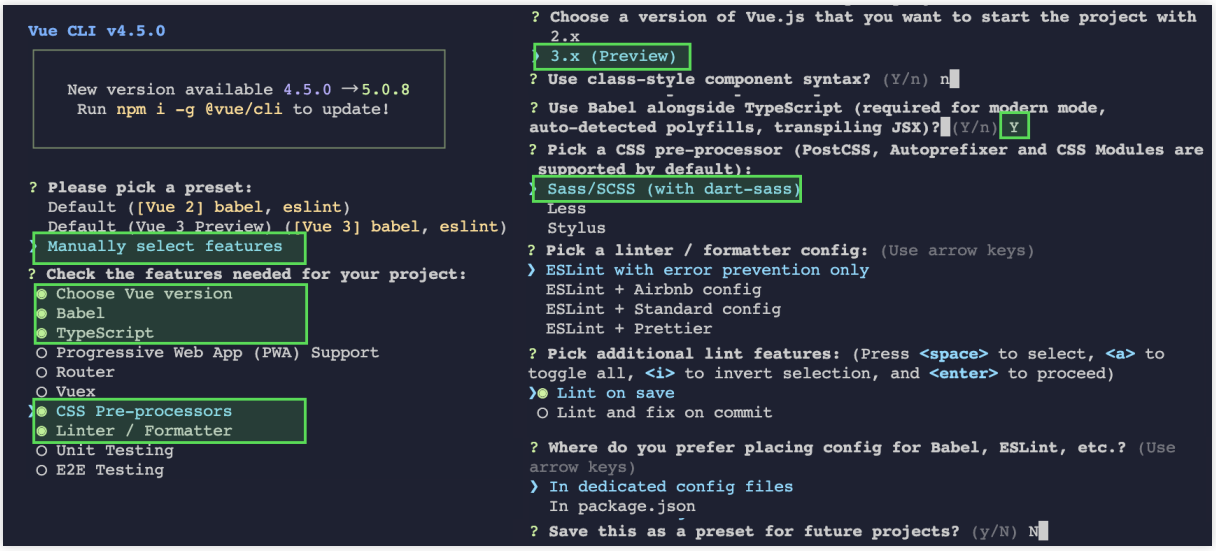


```
npm install -g @vue/cli
```

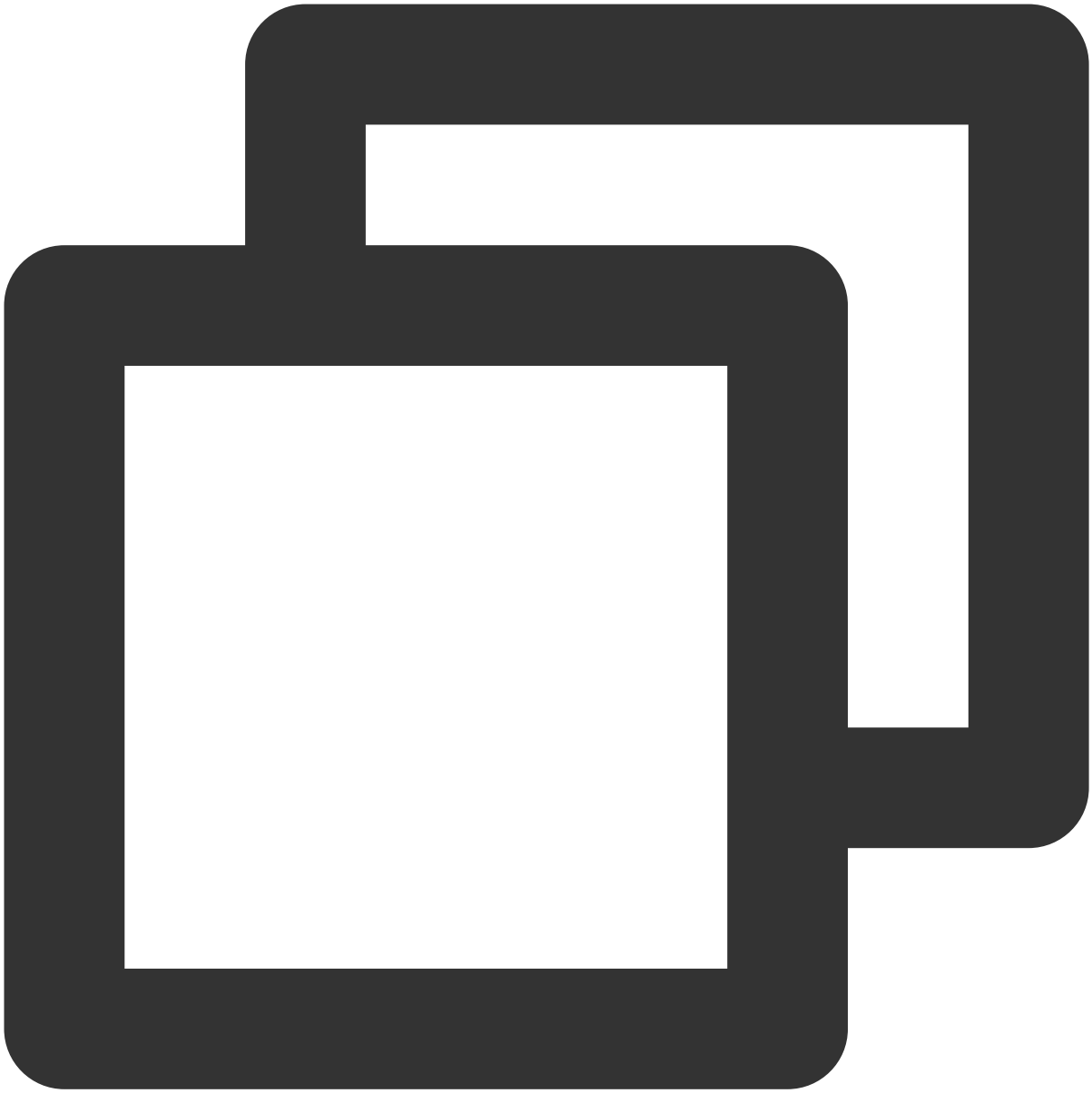
2. Create a project through Vue CLI and select the configuration items depicted below.



```
vue create tuicallkit-demo
```



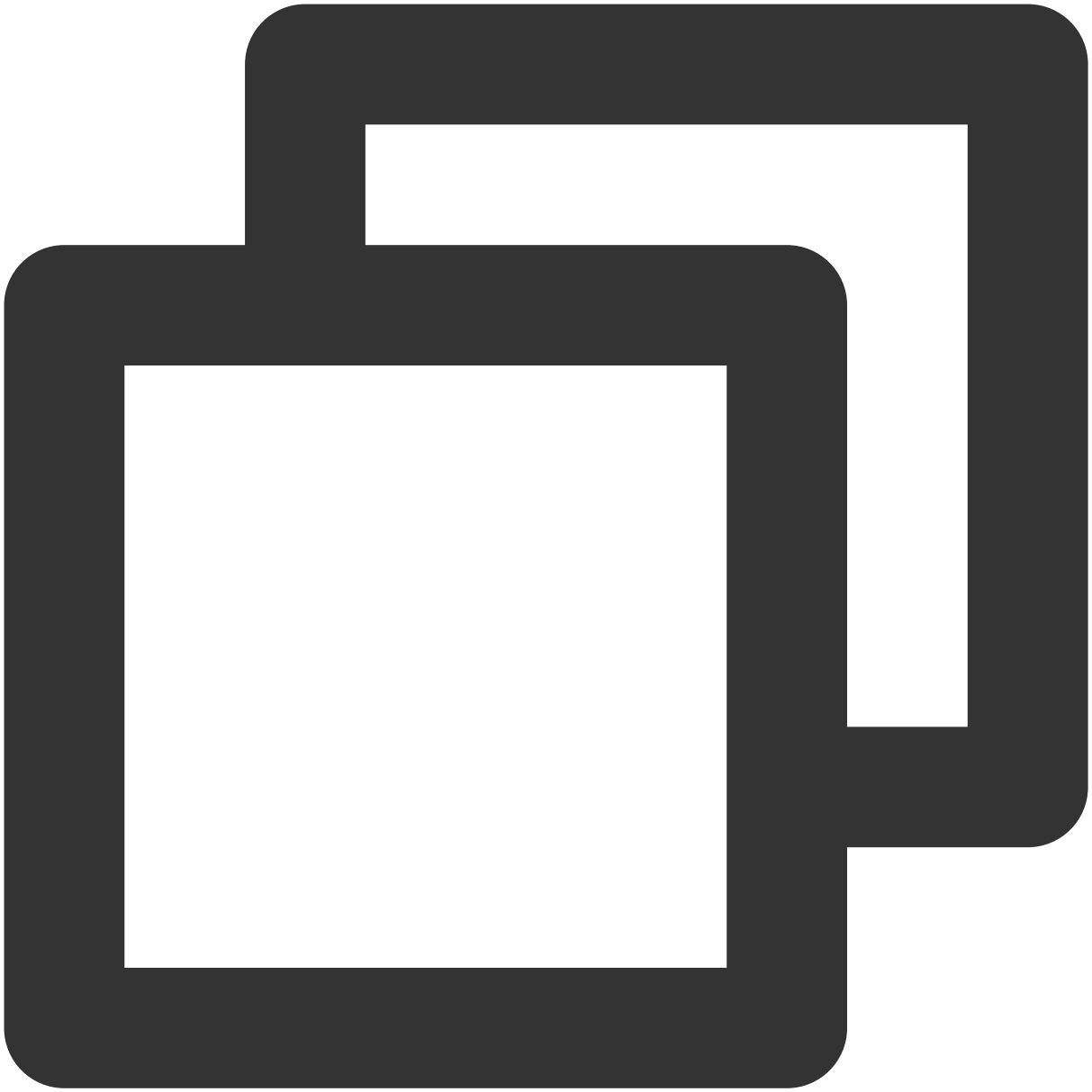
3. After completing the project creation, switch to the project directory.



```
cd tuicallkit-demo
```

Step Three: Download the TUICallKit Component

1. Download the @tencentcloud/call-uikit-vue component via npm and use it in your project.

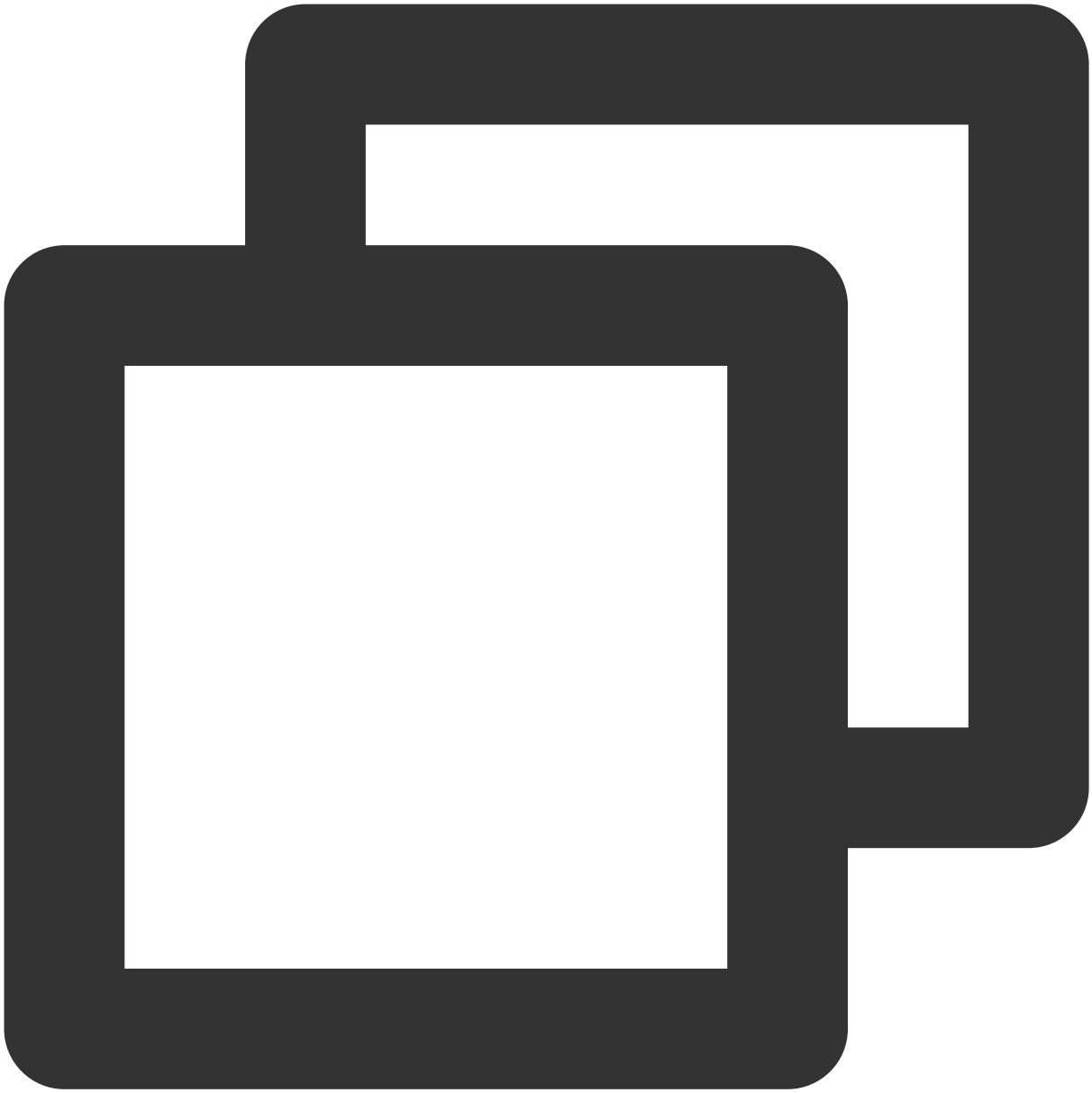


```
npm install @tencentcloud/call-uikit-vue
```

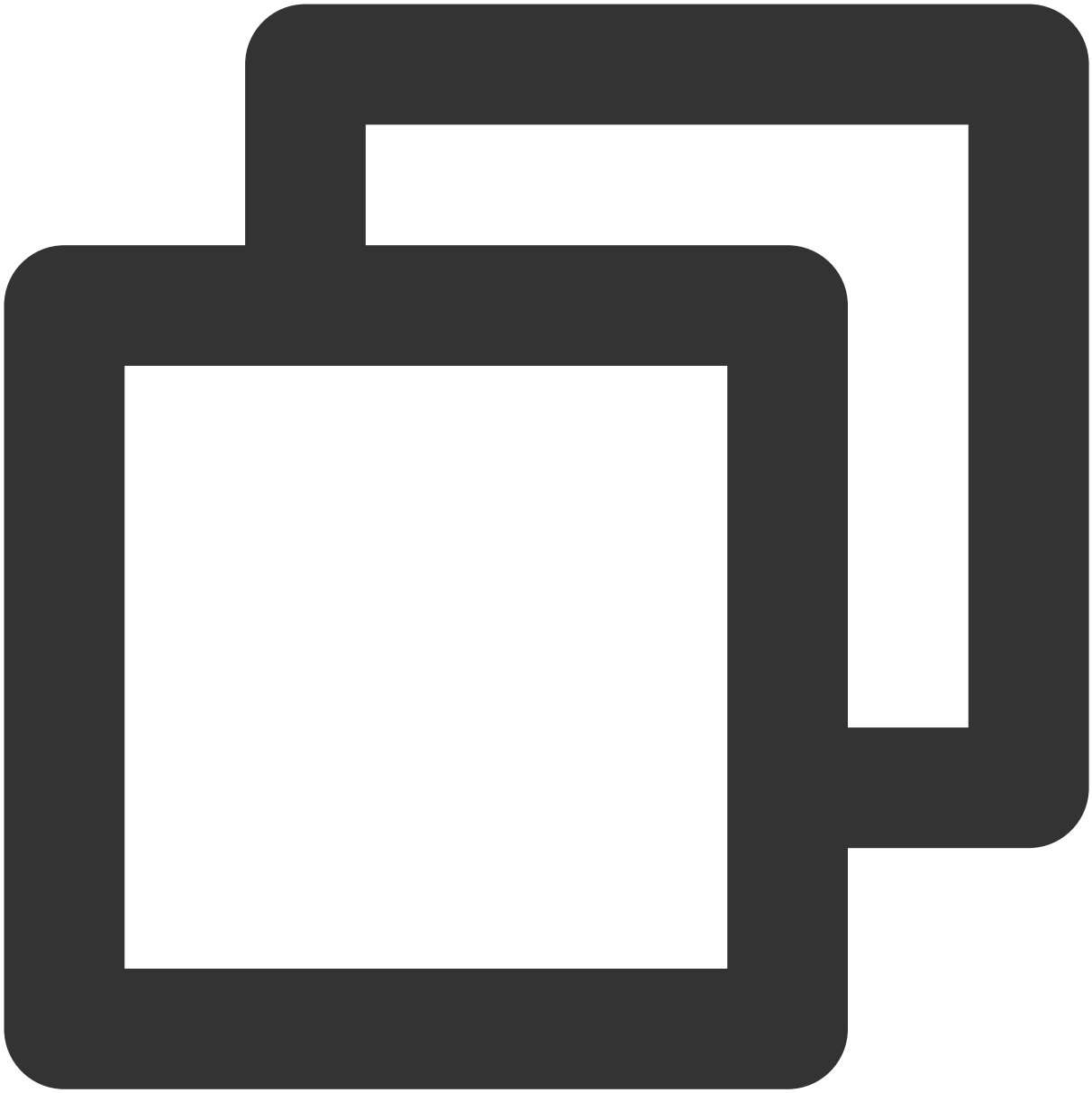
2. Copy the debug directory to your project.

MacOS

Windows



```
cp -r node_modules/@tencentcloud/call-uikit-vue/debug ./src
```

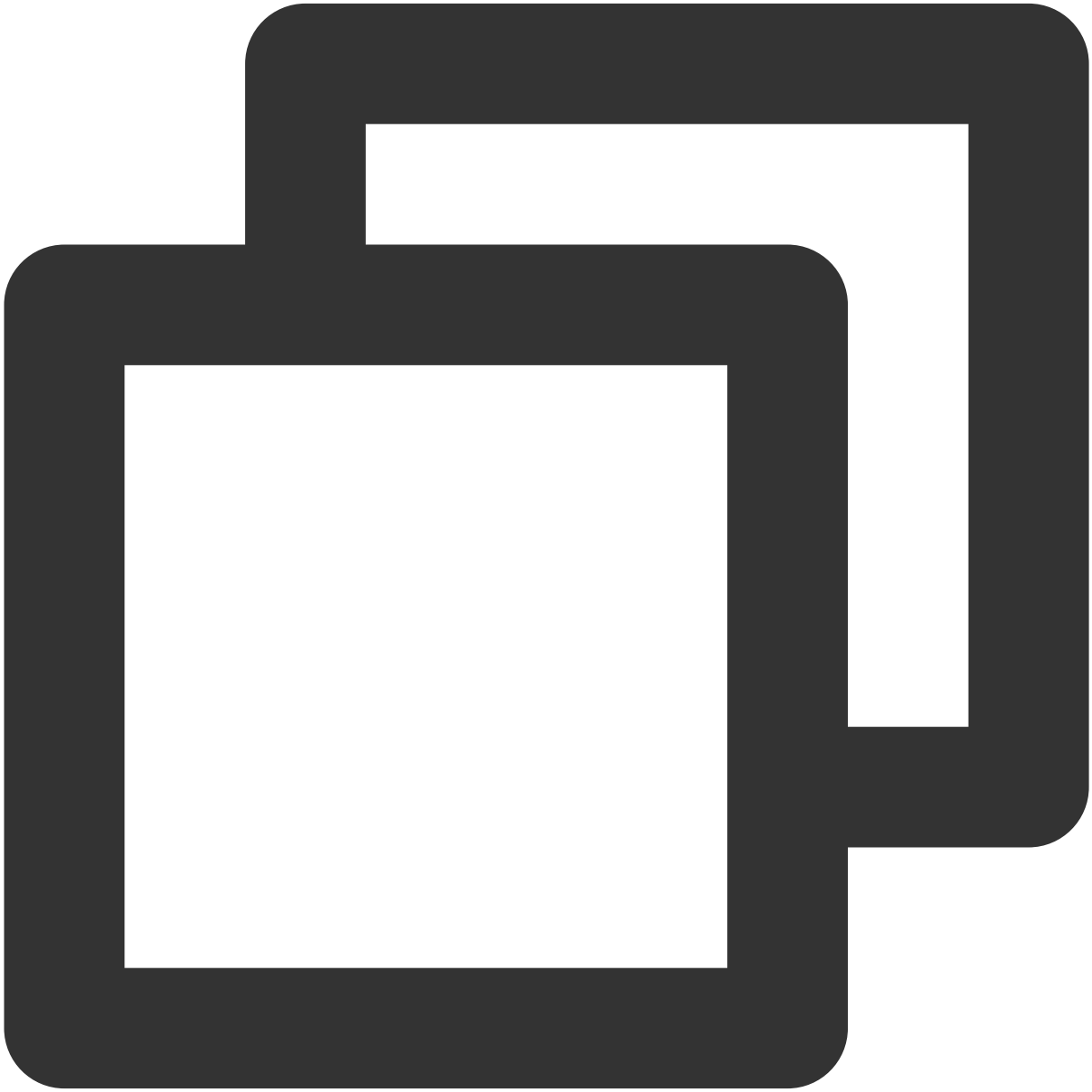


```
xcopy node_modules\\@tencentcloud\\call-uikit-vue\\debug .\\src\\debug /i /e
```

Step Four: Include the TUICallKit Component

1. The following code example includes four parameters: SDKAppID, SDKSecretKey, userID, and callUserID.
SDKAppID: The Audio and Video Application's SDKAppID created in Tencent Cloud, refer to Activate the Service.
SDKSecretKey: User Signature, refer to Activate the Service.

userID: The caller's userID. It's a string type that can only include English letters (a to z and A to Z), numbers (0 to 9), hyphens (-), and underscores (_).
callUserID: The called party's userID which must already exist for initialisation. (Within the demo, input the callUserID if there is a callee, otherwise if there isn't a callee it can be left blank).
2. In `tuicallkit-demo/App.vue` , include the following code.
Note: The TUICallKit component needs to be placed inside a DOM node to display and control the position, width, height, and other styles of the TUICallKit.



```
<template>
  <div style="padding: 20px 0 0 20px">
```

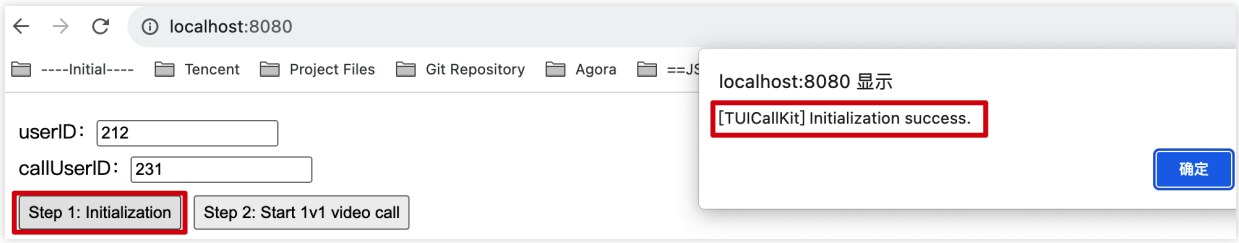
```
    <div><span>userID:</span><input type="text" v-model="userID" /></div>
    <div style="margin-top: 6px;"><span>callUserID:</span><input type="text" v-mode
    <button @click="init()" style="margin: 10px 10px 10px 0; height: 28px;"> Step 1
    <button @click="call()" style="margin: 10px 10px 10px 0; height: 28px;"> Step 2
    <div style="width: 50rem; height: 35rem; border: 1px solid salmon;">
      <TUICallKit />
    </div>
  </div>
</template>
<script lang="ts" setup>
import { ref } from 'vue';
import { TUICallKit, TUICallKitServer, TUICallType } from "@tencentcloud/call-uikit
import * as GenerateTestUserSig from "./debug/GenerateTestUserSig-es";

const userID = ref('');
const callUserID = ref('');
const SDKAppID = 0;       // Replace with your SDKAppID
const SDKSecretKey = '';  // Replace with your SDKSecretKey

async function init() {
  try {
    const { userSig } = GenerateTestUserSig.genTestUserSig({
      userID: userID.value,
      SDKAppID: SDKAppID,
      SecretKey: SDKSecretKey,
    });
    await TUICallKitServer.init({  //[1]Initialize the TUICallKit component
      SDKAppID,
      userID: userID.value,
      userSig,
    });
    alert("[TUICallKit] Initialization success.");
  } catch (error: any) {
    alert(`[TUICallKit] Initialization failed. Reason: ${error}`);
  }
}
async function call() {  //[2]Make a 1v1 video call
  try {
    await TUICallKitServer.call({ userID: callUserID.value, type: TUICallType.VIDEO
  } catch (error: any) {
    alert(`[TUICallKit] Call failed. Reason: ${error}`);
  }
}
</script>
```

Step Five: Make your first phone call

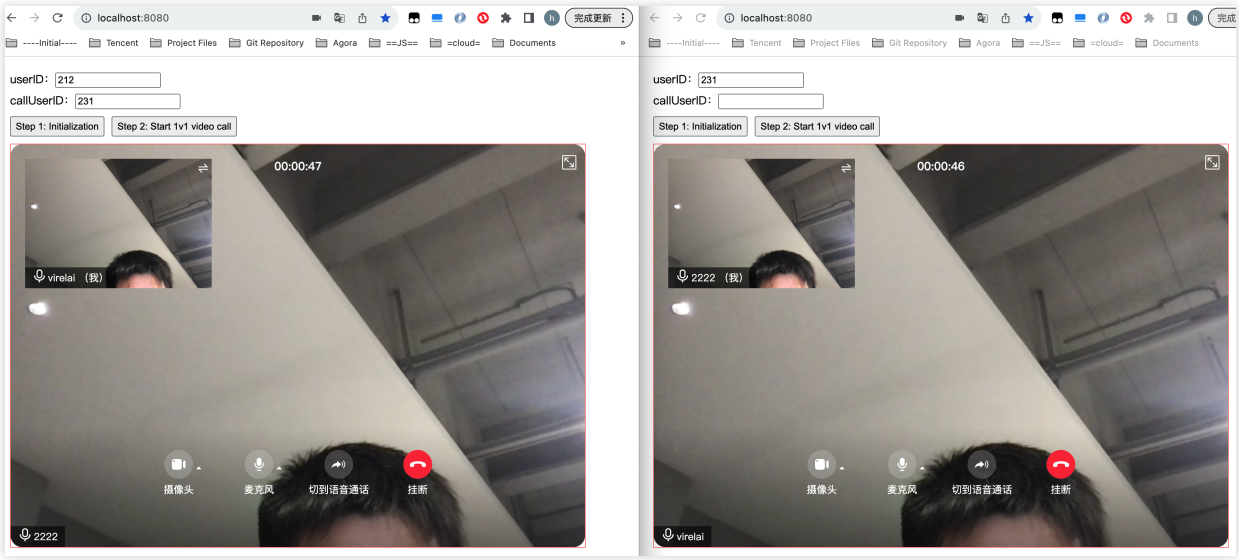
In the terminal, input `npm run serve` to run tuicallkit-demo.

Alert: Visit locally through localhost protocol, for details refer to Network access protocol description.

Press the `Step 1: Initialization` button, the pop-up **Initialization successful** indicates the successful initialization.



Click on `Step 2: Start 1v1 video call` to initiate a 1v1 video call, the actual effect is demonstrated in the following image.



Additional Features

Setting Nickname, Avatar

Group Call

Floating Window

Custom Ringtone

Call Status Monitoring, Component Callback Event
Setting Resolution, Fill Pattern
Customize Interface

FAQs

If you encounter any issues during integration and use, please refer to Frequently Asked Questions.

Technical Consultation

If you have any requirements or feedback, you can contact: info_rtc@tencent.com.

Flutter

Last updated：2024-04-03 17:23:11

This document describes how to quickly integrate the TUICallKit component. Performing the following key steps generally takes about 10 minutes, after which you can implement the audio and video call feature with complete UIs.

Environment Preparations

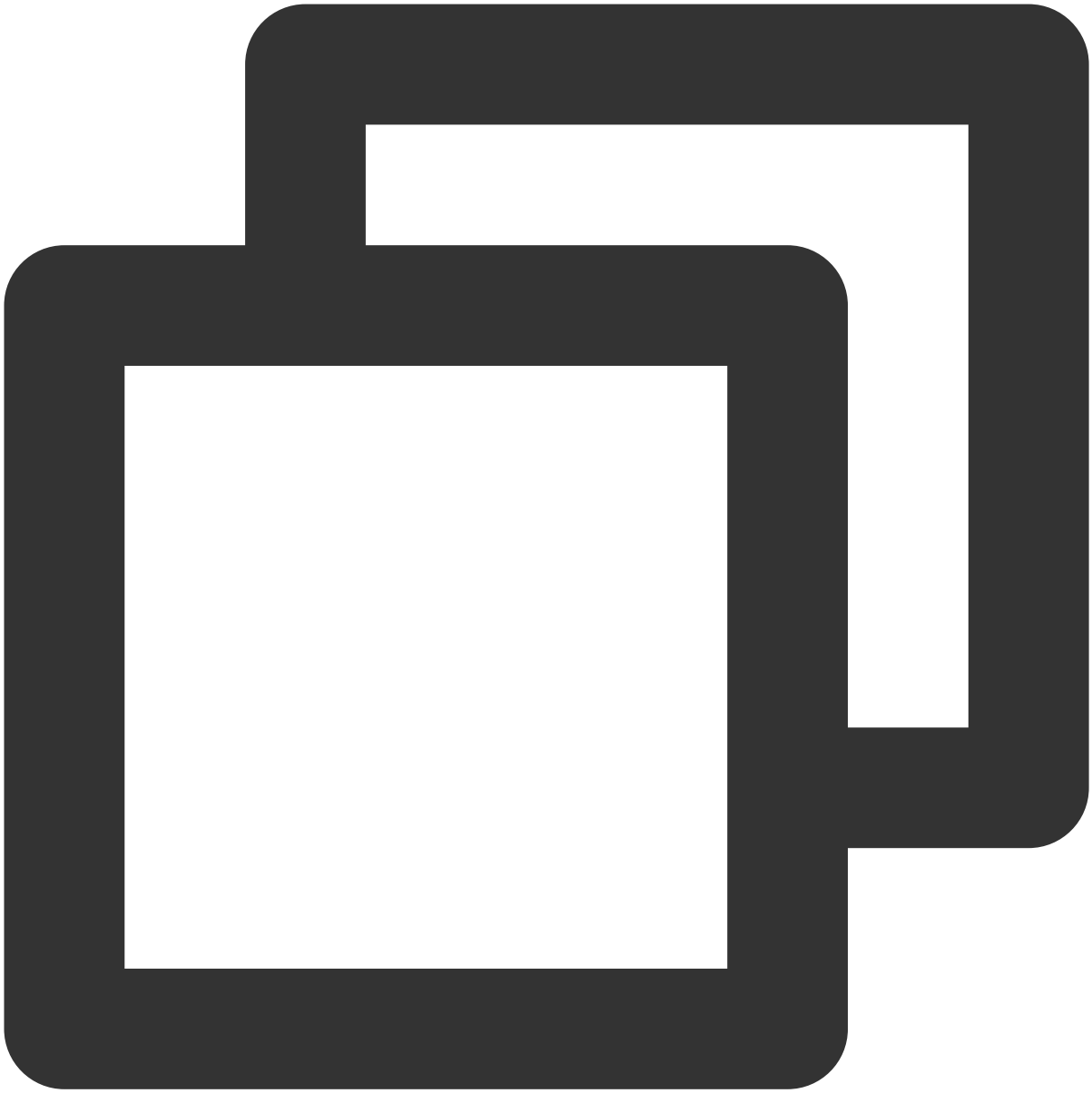
Flutter 3.0 or higher version.

Step 1. Activate the service

Before using the Audio and Video Services provided by Tencent Cloud, you need to go to the Console and activate the service for your application. For detailed steps, refer to Activate Service.

Step 2. Import the component

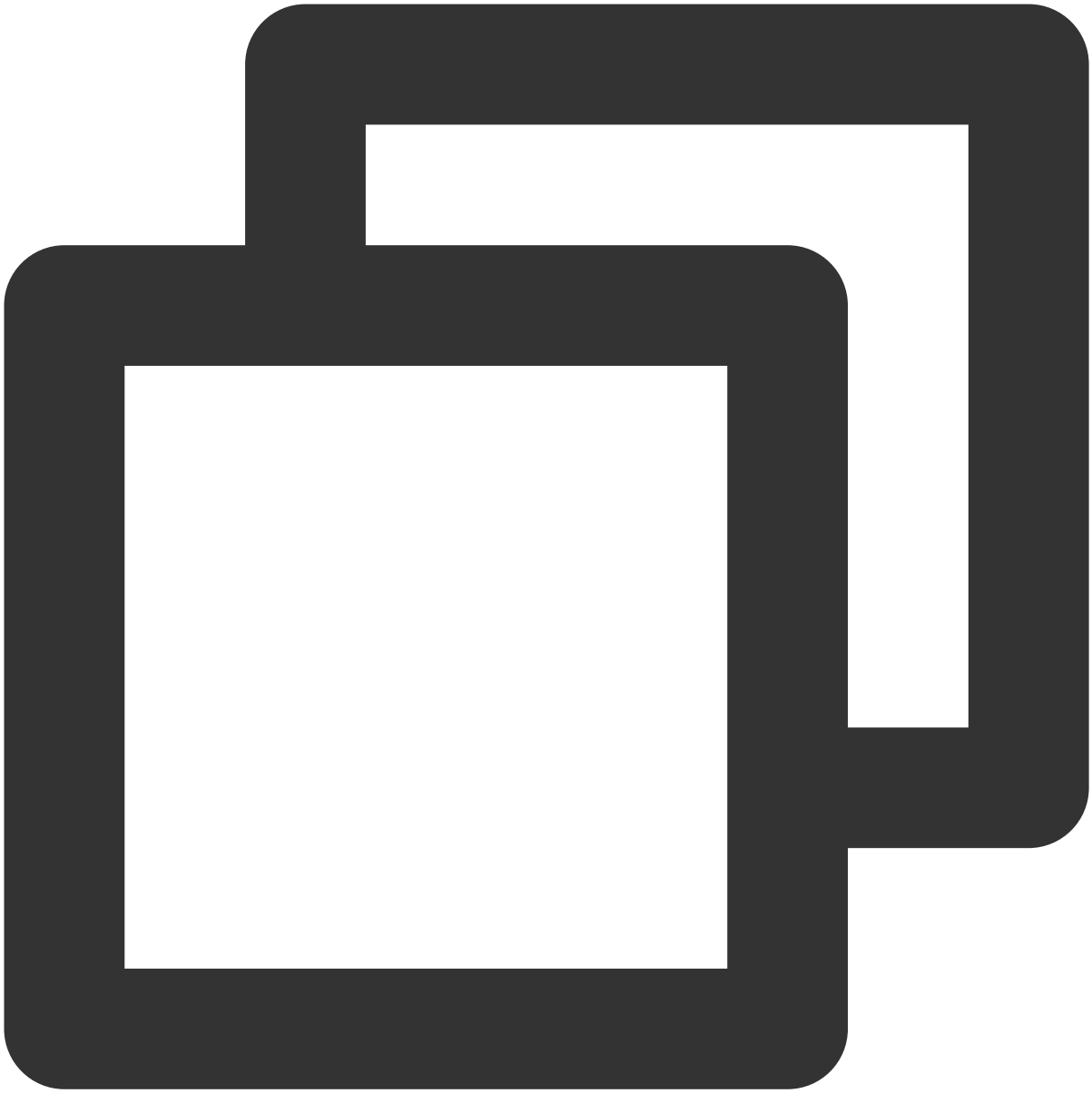
Execute the following command in the command line to install the tencent_calls_uikit plugin.



```
flutter pub add tencent_calls_uikit
```

Step 3. Configure the project

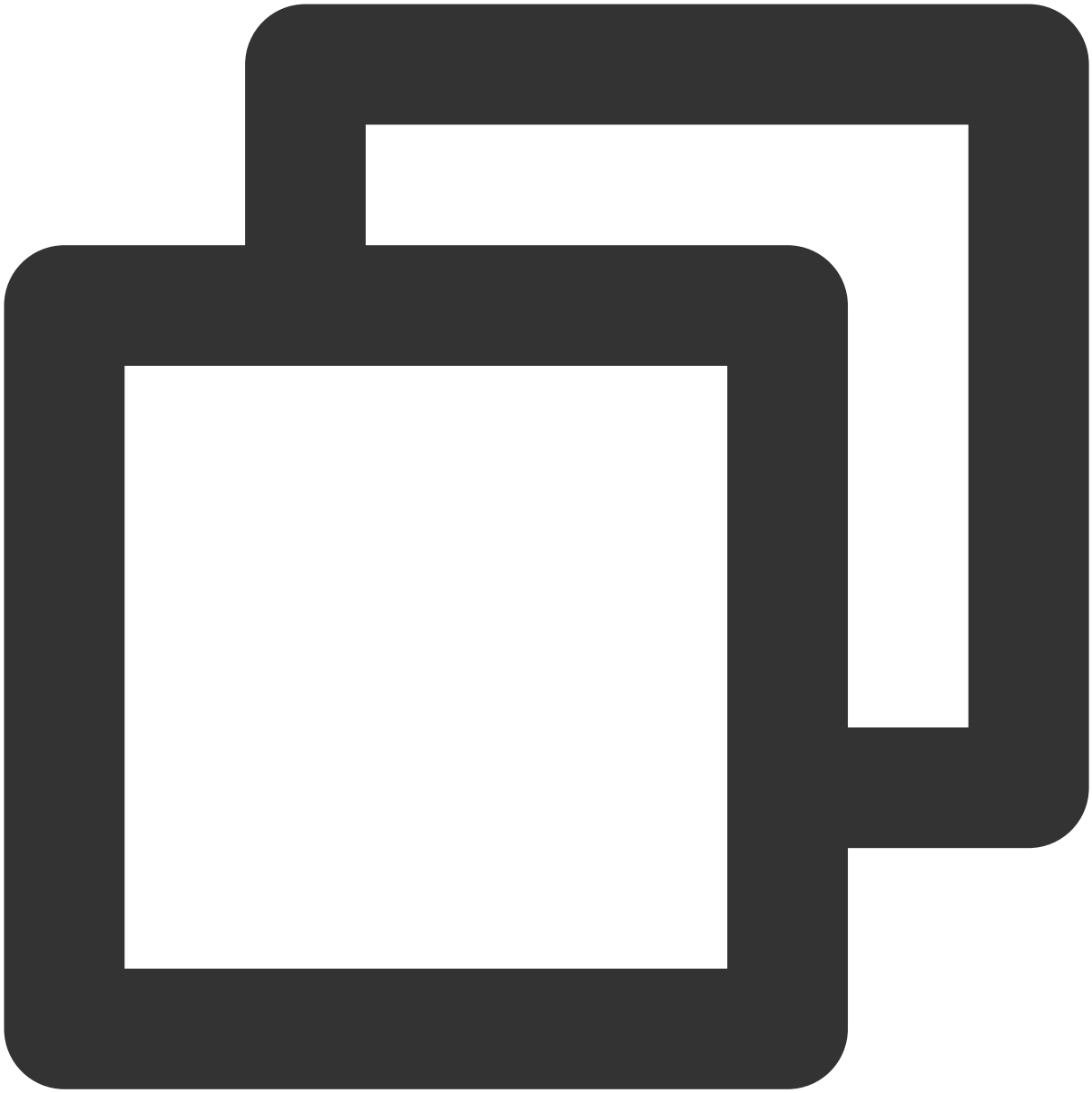
1. Add the navigatorObserver of TUICallKit to the App component, taking MateriaApp as an example, the code is as follows:



```
import 'package:tencent_calls_uikit/tuicall_kit.dart';

MaterialApp (
     navigatorObservers：[TUICallKit.navigatorObserver],
     ...
)
```

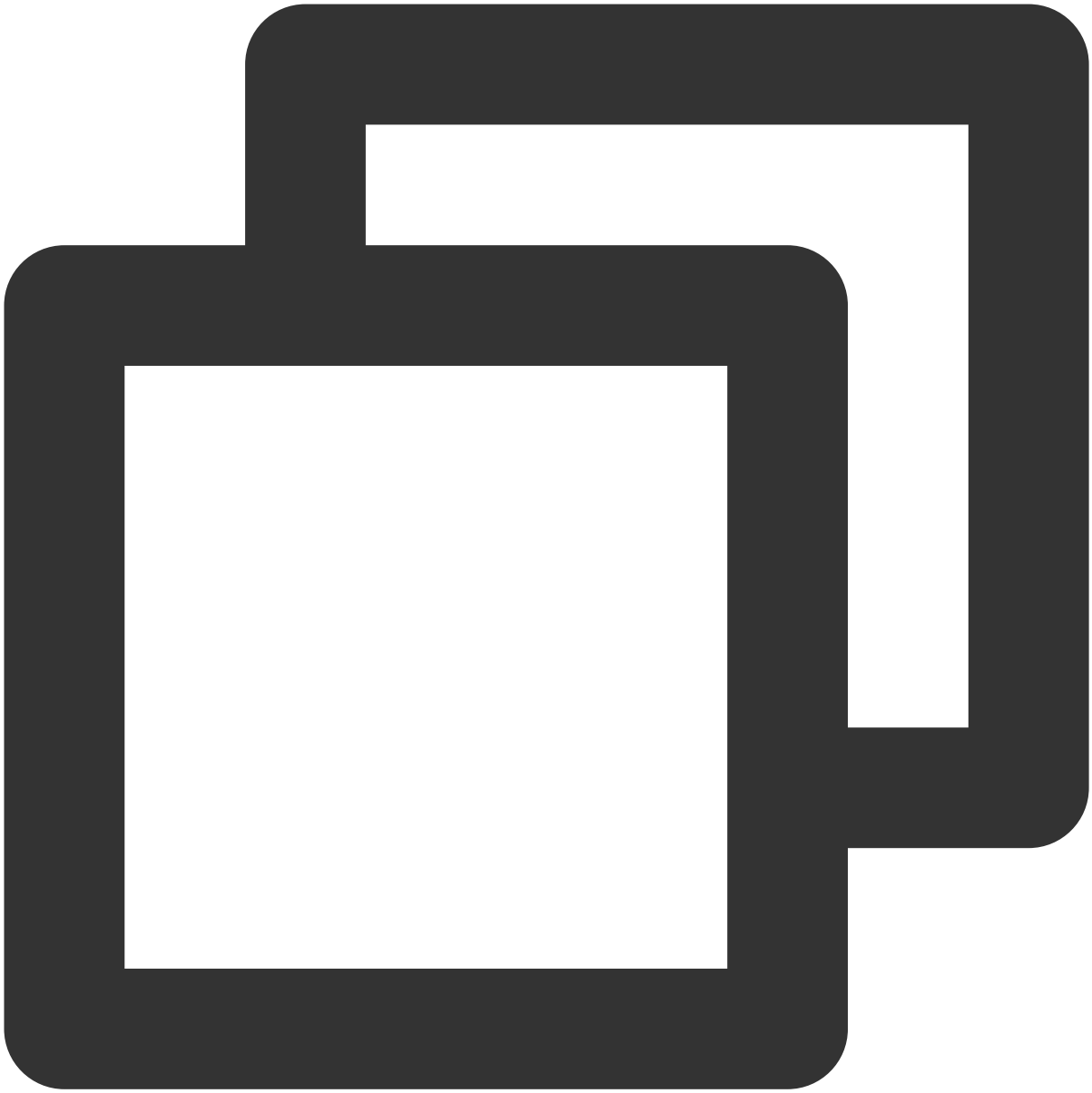
2. If you need to compile and run on the Android platform, since the SDK uses Java's reflection feature internally, certain classes in the SDK must be added to the non-aliasing list.

Firstly, you need to enable aliasing rules by configuring them in the build.gradle file under the app directory:



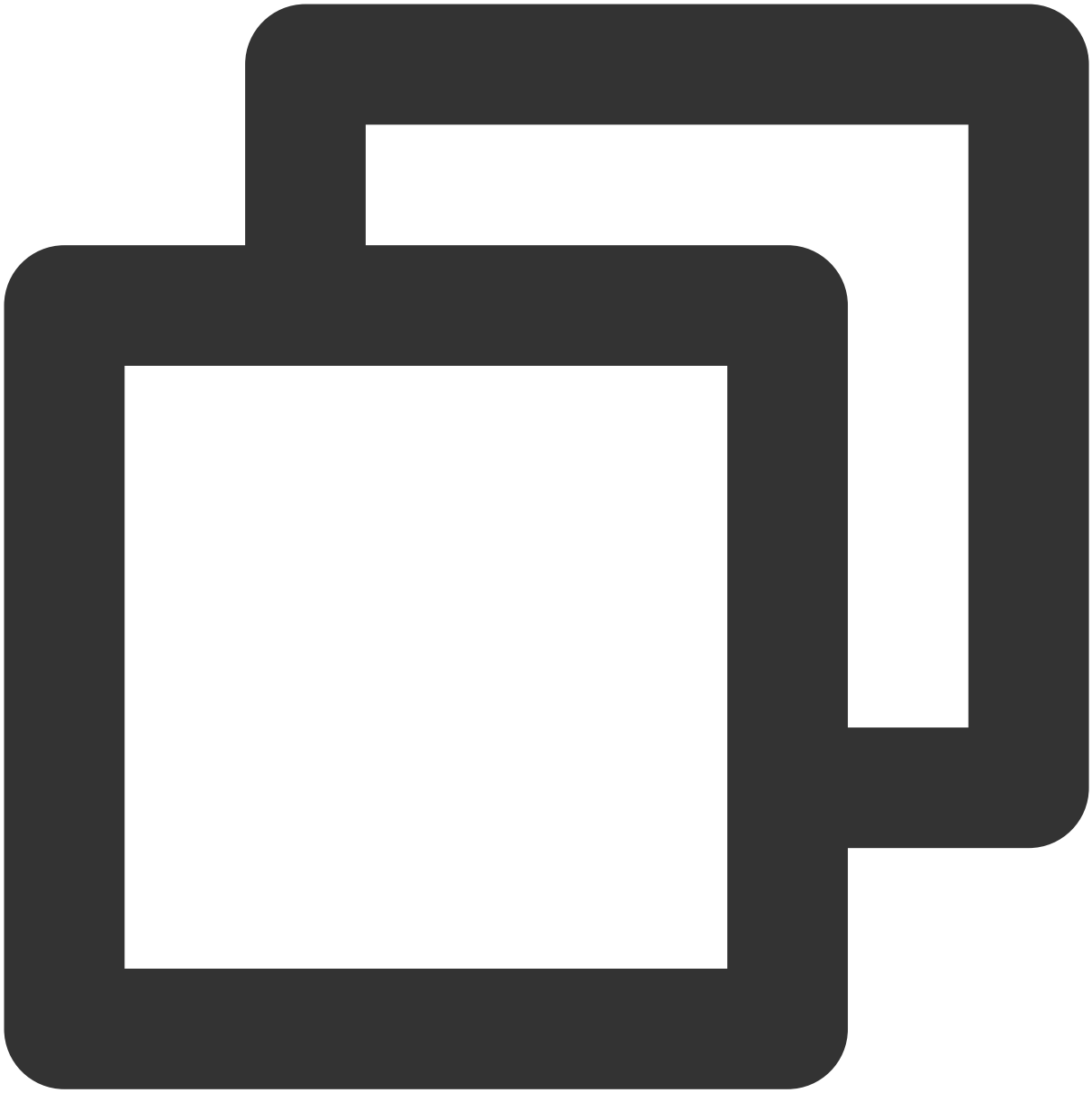
```
  android {
    ...
    buildTypes {
        release {
            minifyEnabled true
            proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard
        }
    }
}
```

Then add the following code to the proguard-rules.pro file:



```
-keep class com.tencent.** { *; }
```

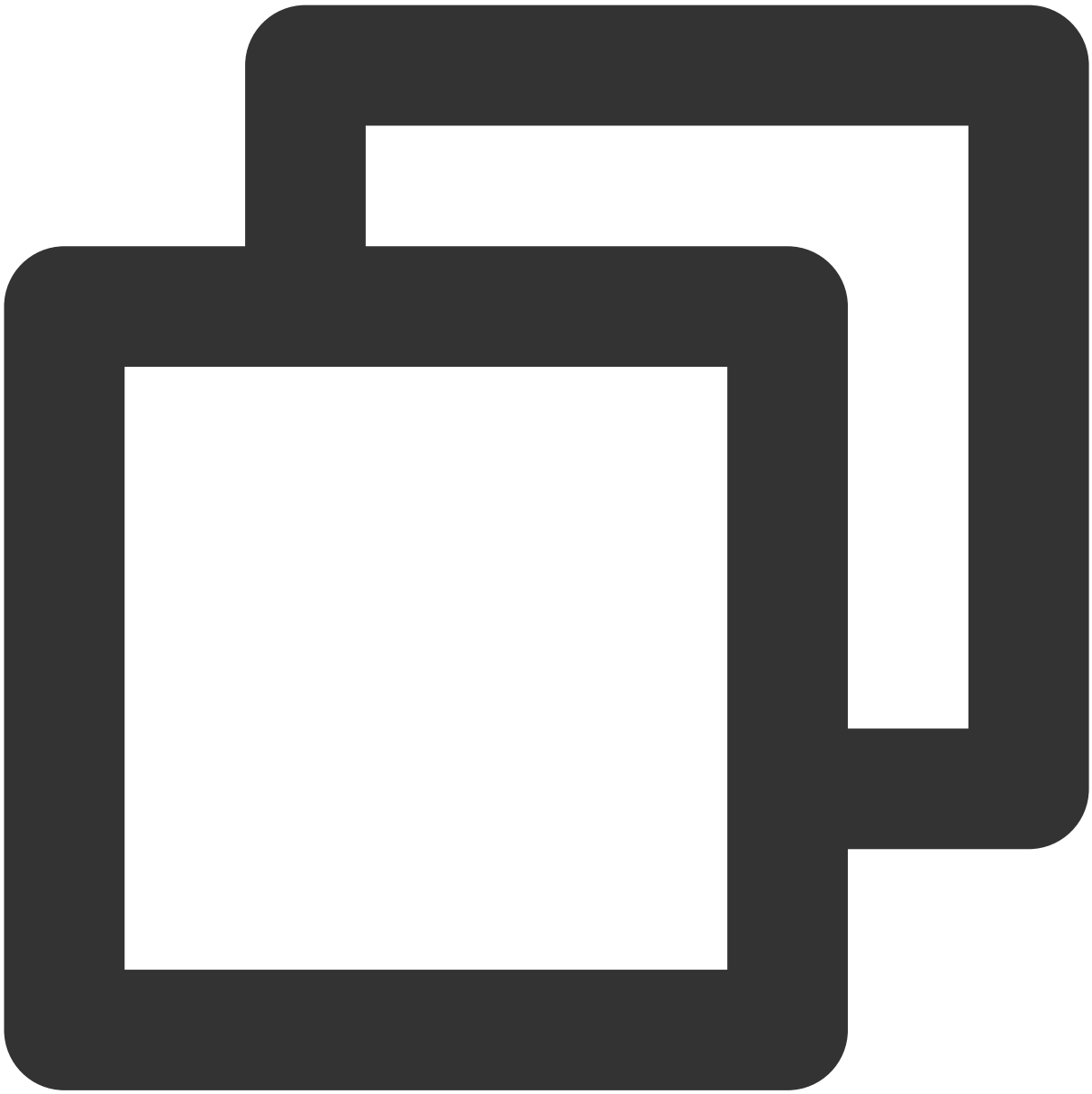
3. If your project needs to be debugged on the iOS simulator, you need to add the following code to the project's `/ios/Podfile` :



```
post_install do |installer|
  installer.pods_project.targets.each do |target|
    flutter_additional_ios_build_settings(target)
    target.build_configurations.each do |config|
      config.build_settings['VALID_ARCHS'] = 'arm64 arm64e x86_64'
      config.build_settings['VALID_ARCHS[sdk=iphonesimulator*]'] = 'x86_64'
    end
  end
end
```

4. If you need to use the audio and video feature on iOS, you need authorization for microphone and camera usage.

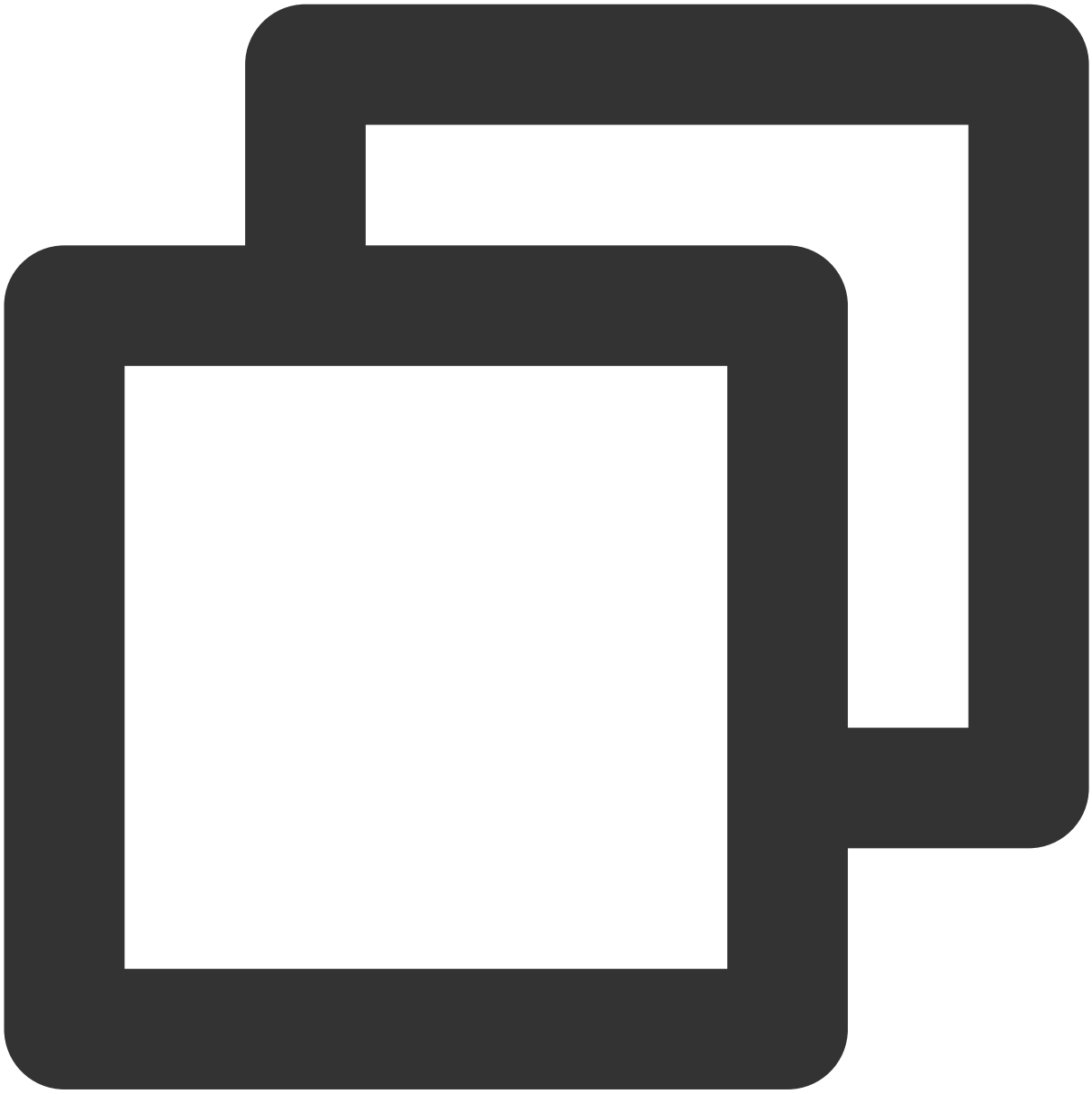
Authorization method: Add the following two items in your iOS project's Info.plist, corresponding to the prompt messages for the microphone and camera when the system pops up the authorization dialogue.



```
<key>NSCameraUsageDescription</key>
<string>CallingApp needs to access your camera to capture video.</string>
<key>NSMicrophoneUsageDescription</key>
<string>CallingApp needs to access your microphone to capture voice.</string>
```

Step 4. Log in to the `TUICallKit` component

Add the following code to your project to call the relevant APIs in `TUICore` to log in to the `TUICallKit` component. This step is very important, as the user can use the component features properly only after a successful login. Carefully check whether the relevant parameters are correctly configured:

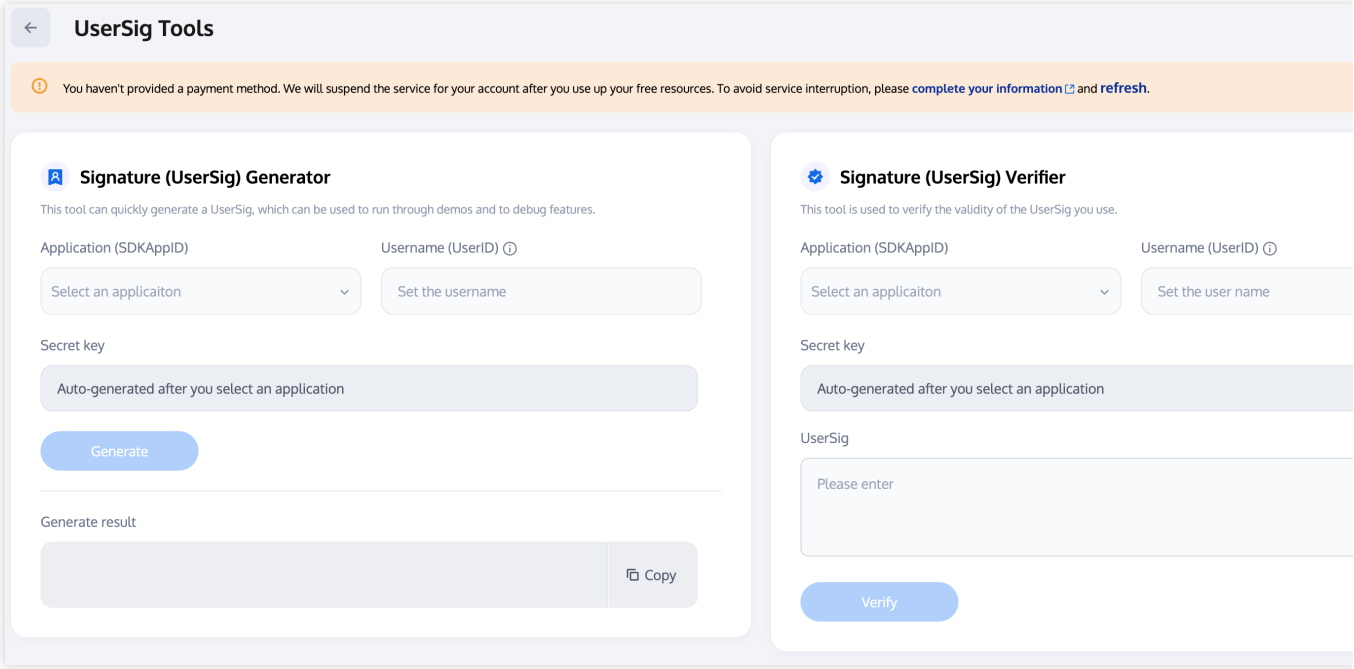


```
TUIResult result = TUICallKit.instance.login(SDKAppID,     // Please replace it wit
                                             'userId',       // Please replace with
                                             'userSig');     // You can get a UserS
```

Parameter description: The key parameters used by the `login` function are as detailed below:

SDKAppID: Obtained in the last step in step 1 and not detailed here.

UserID: The ID of the current user, which is a string that can contain only letters (a–z and A–Z), digits (0–9), hyphens (-), or underscores (_).
UserSig: The authentication credential used by Tencent Cloud to verify whether the current user is allowed to use the TRTC service. You can get it by using the `SDKSecretKey` to encrypt the information such as `SDKAppID` and `UserID`. You can generate a temporary `UserSig` by clicking the UserSig Generate button in the console.



For more information, see UserSig.

Note

Many developers have contacted us with many questions regarding this step. Below are some of the frequently encountered problems:

SDKAppID is invalid.

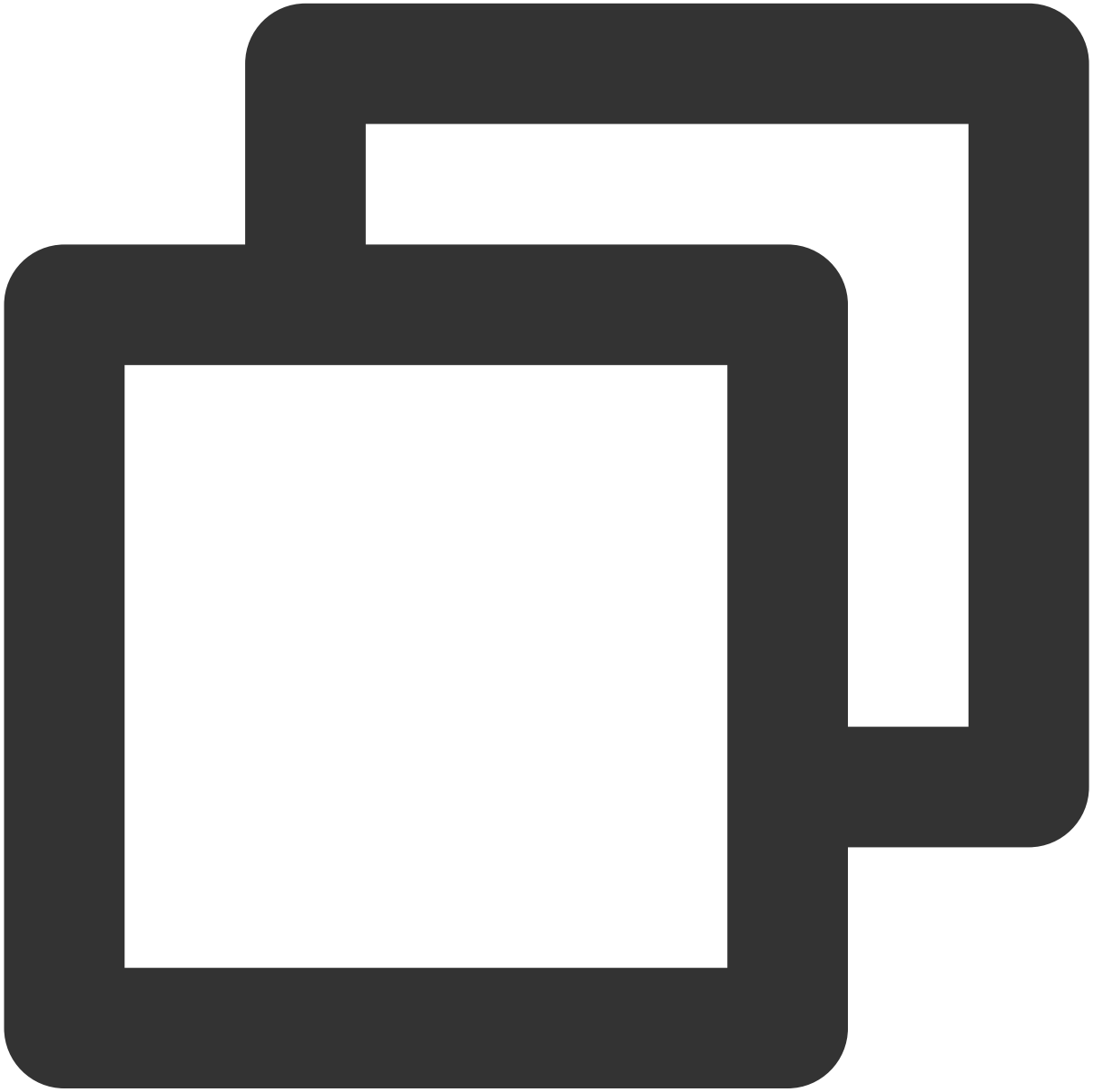
userSig is set to the value of Secretkey mistakenly. The userSig is generated by using the SecretKey for the purpose of encrypting information such as sdkAppId, userId, and the expiration time. But the value of the userSig that is required cannot be directly substituted with the value of the SecretKey.

userId is set to a simple string such as 1, 123, or 111, and your colleague may be using the same userId while working on a project simultaneously. In this case, login will fail as TRTC doesn't support login on multiple terminals with the same UserID. Therefore, we recommend you use some distinguishable userId values during debugging.

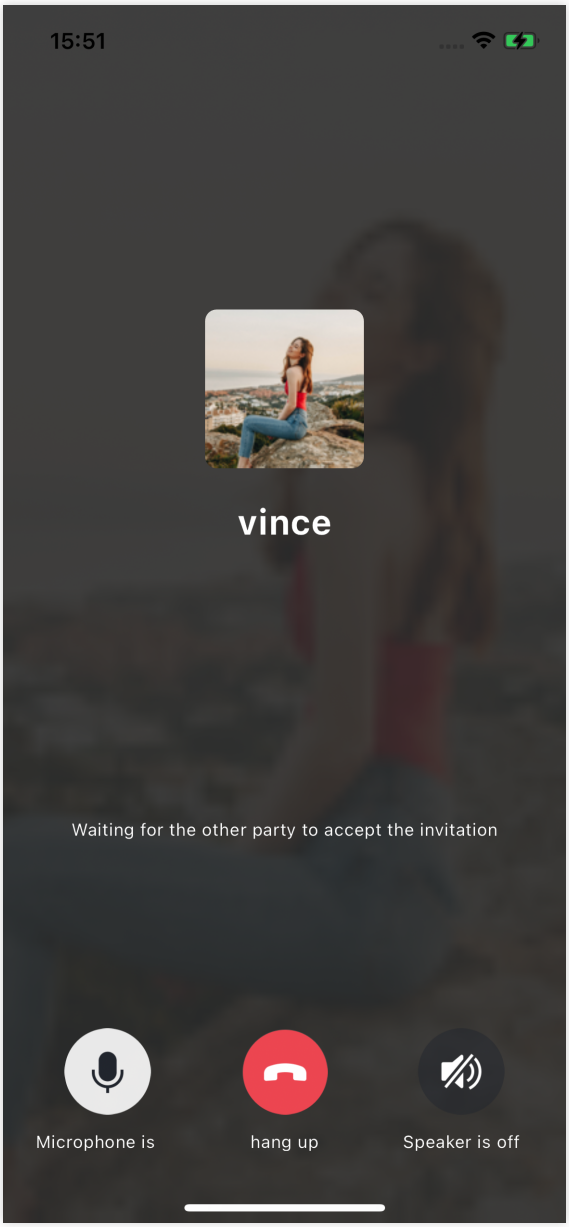
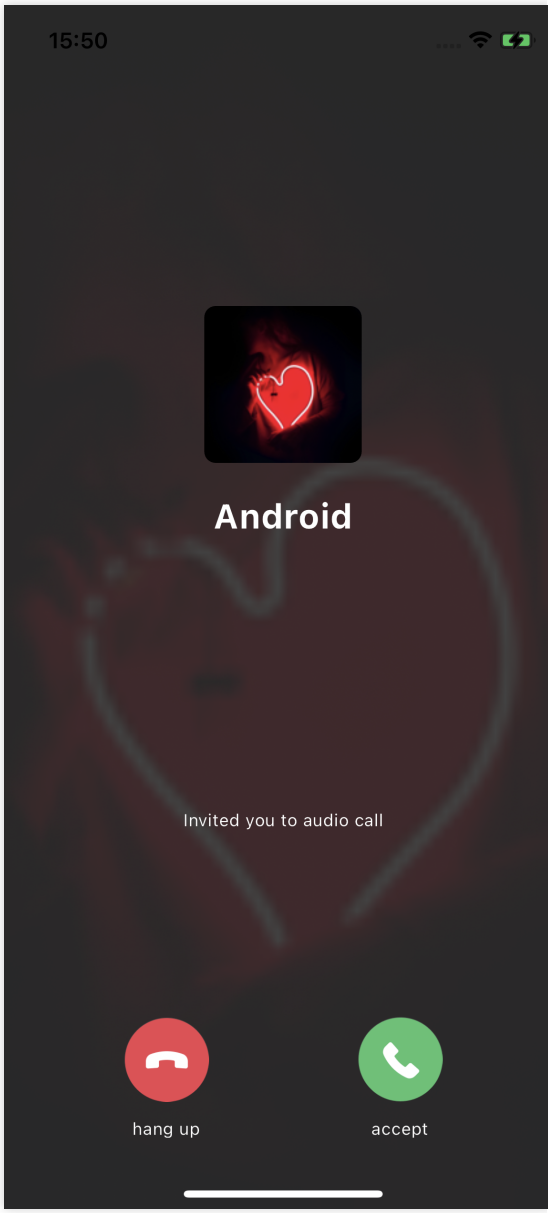
The sample code on GitHub uses the `genTestUserSig` function to calculate `UserSig` locally, so as to help you complete the current integration process more quickly. However, this scheme exposes your `SecretKey` in the application code, which makes it difficult for you to upgrade and protect your `SecretKey` subsequently. Therefore, we strongly recommend you run the `UserSig` calculation logic on the server and make the application request the `UserSig` calculated in real time every time the application uses the `TUICallKit` component from the server.

Step 5. Make your first phone call

After both the caller and callee have successfully signed in, the caller can initiate an audio or video call by calling the TUICallKit's call method and specifying the call type and the callee's userId. At this point, the callee will receive an incoming call invitation.



```
TUICallKit.instance.call('mike', TUICallMediaType.video);
```

	
Caller	Callee

Additional Features

Customize Interface
Offline Push
Group Call
Floating Window
Custom Ringtone
Call Status Monitoring
Cloud Recording

Beauty Effects

FAQs

If you encounter any issues during integration and use, please refer to Frequently Asked Questions.

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

uniapp（Android&iOS）

Last updated：2024-04-03 17:23:11

This article will guide you through the quick integration of the TUICallKit component. You will complete several key steps within 10 minutes, ultimately obtaining a video call feature with a complete UI interface.

TUICallKit Demo Experience

TUICallKit Plugin Address: TUICallKit Plugin Link .
If you want to quickly run a new project, please read uni-app Demo Quick Start directly.

Environment Requirements

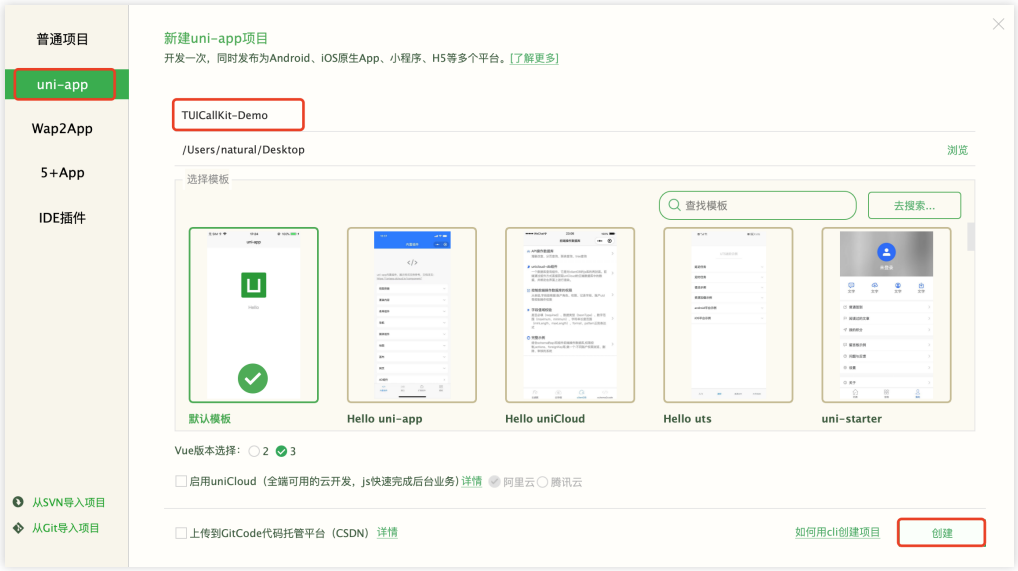
Development Tool Notes: It is recommended to use the latest version of the HBuilderX editor.
Plugin Debugging Notes: Native plugins do not currently support simulator debugging.
iOS Device Requirements: iOS system ≥ 9.0, supports audio and video calls on actual devices.
Android Device Requirements: Android system ≥ 5.0 (SDK API Level 21), supports audio and video calls on actual devices, Allow USB Debugging.

Step 1. Activate the service

Before using the Audio and Video Services provided by Tencent Cloud, you need to go to the Console and activate the service for your application. For detailed steps, refer to Activate Service.

Step 2: Create a uni-app Project

Open HBuilderX development tool, click to create a new uni-app project: Project Name (TUICallKit-Demo).



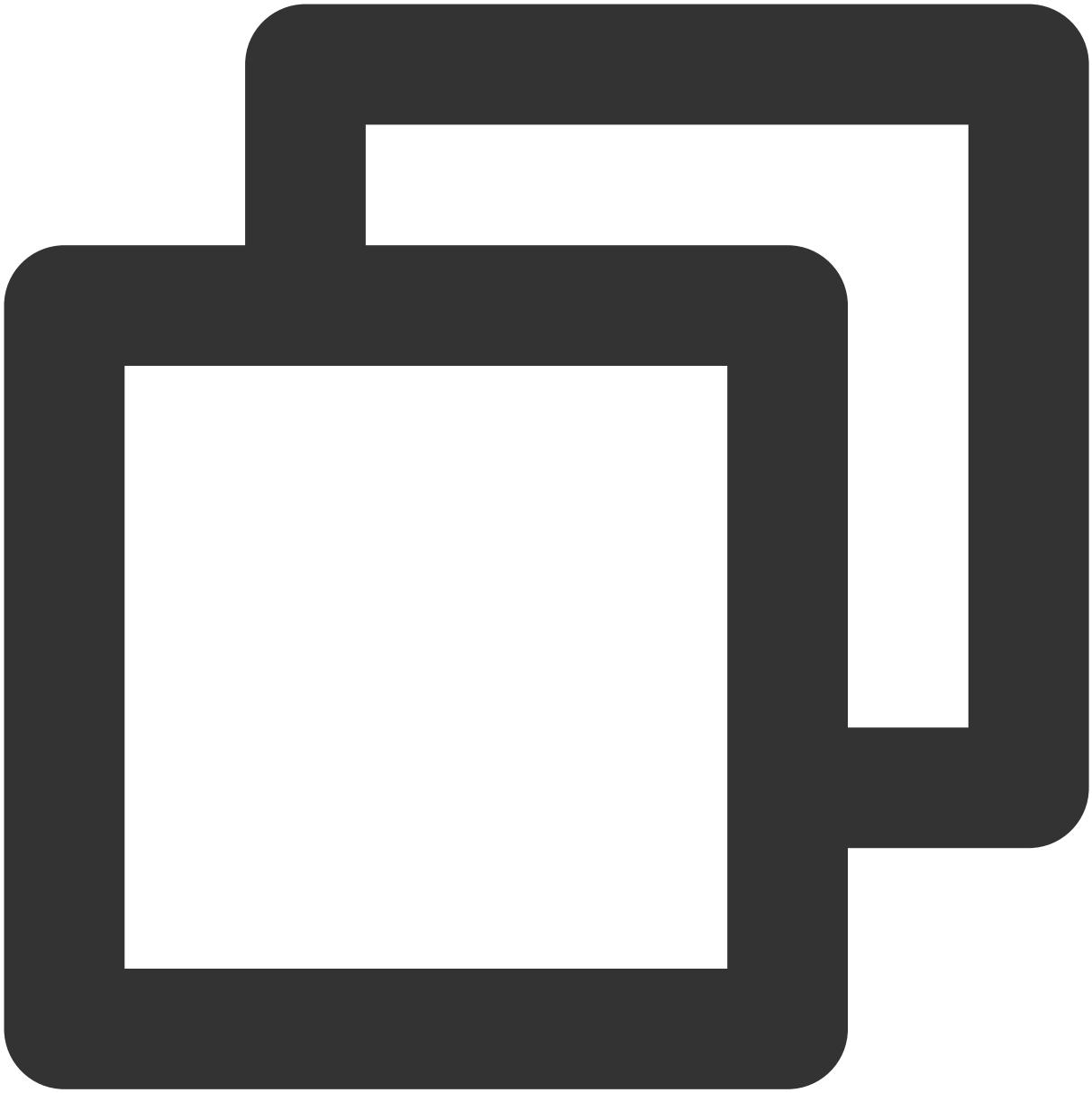
Step 3: Download and import the TUICallKit Plugin

1. Visit TencentCloud-TUICallKit Plugin, purchase the plugin on the plugin detail page, and select the corresponding AppID, ensuring the package name is correct.

2. Import the plugin in the `TUICallKit-Demo project` .

Step 4: Use the TUICallKit Plugin

1. Import the following code in `TUICallKit-Demo/pages/index/index.vue` .



```
<template>
        <view class="container">
                <input type="text" v-model="inputID" :placeholder=" isLogin ? 'plea
                <text v-show="isLogin"> your userID: {{ userID }} </text>
                <button v-show="!isLogin" @click="handleLogin"> Login </button>
                <button v-show="isLogin" @click="handleCall"> start call </button>
        </view>
</template>
<script>
        const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit'); //[1
        uni.$TUICallKit = TUICallKit;
```

```
        import { genTestUserSig } from '../../debug/GenerateTestUserSig.js'
        export default {
                data() {
                        return {
                                inputID: '',
                                isLogin: false,
                                userID: '',
                        }
                },
                methods: {
                        handleLogin() {
                                this.userID = this.inputID;
                                const { userSig, sdkAppID: SDKAppID } = genTestUser
                                const loginParams = { SDKAppID, userID: this.userID
                //[2]Login
                                uni.$TUICallKit.login( loginParams, res => {
                                                if (res.code === 0) {
                                                        this.isLogin = true;
                                                        this.inputID = '';
                                                        console.log('[TUICallKit] l
                                                } else {
                                    console.error('[TUICallKit] login failed, failed messag
                                                }
                                        }
                                );
                        },
                        handleCall() {
                                try {
                                        const callParams = {
                                                userID: this.inputID,
                                                callMediaType: 2,   // 1 -- audio c
                                                callParams: { roomID: 234, strRoomI
                                        };
                    //[3]start 1v1 video call
                                        uni.$TUICallKit.call( callParams, res => {
                                                        console.log('[TUICallKit] c
                                                }
                                        );
                                        this.inputID = '';
                                } catch (error) {
                                        console.log('[TUICallKit] call error: ', er
                                }
                        }
                }
        }
</script>
<style>
```

```
.container {
        margin: 30px;
}
.container input {
        height: 50px;
        border: 1px solid;
}
.container button {
        margin-top: 30px;
}
</style>
```

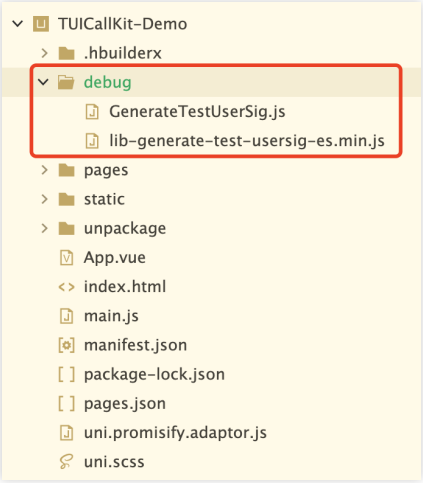
2. Enter the SDKAppID, SDKSecretKey, and userSig parameters.

Client-side userSig generation

Console-generated userSig

Due to the time sensitivity of UserSig, **in a testing environment, it is recommended to use this method**.

1. Click to download the debug folder, and copy the debug directory to your project, as shown below:

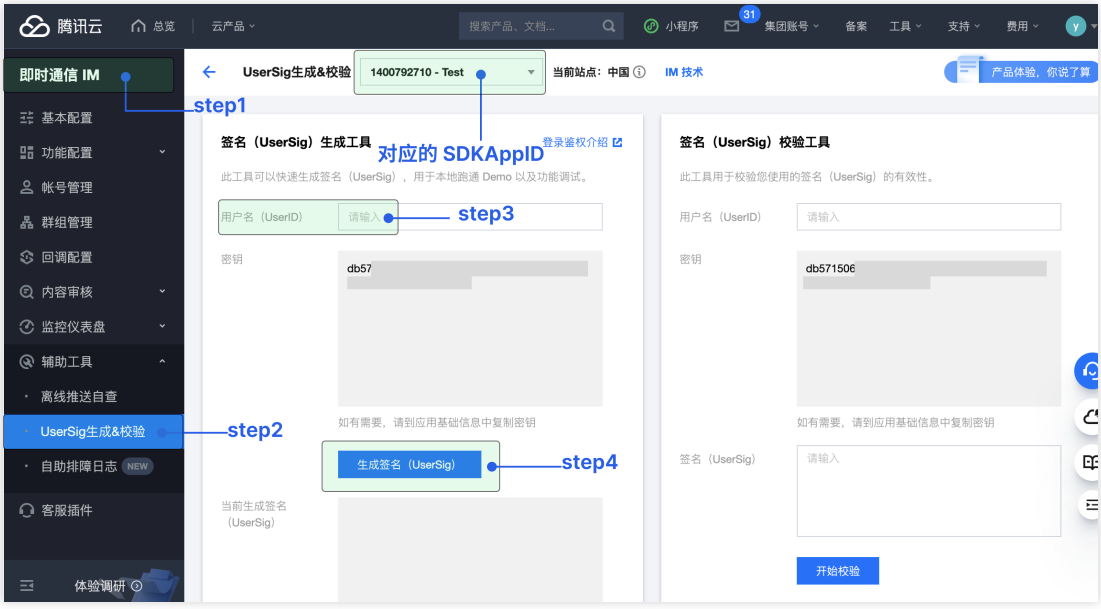


2. Fill in the `TUICallKit-Demo/debug/GenerateTestUserSig.js` file with `SDKAppID` and `SDKSecretKey` (refer to Activate Service)

GenerateTestUserSig.js

```
import LibGenerateTestUserSig from './lib-generate-test-usersig-es.min.js';
/** ... */

const SDKAPPID = 0;
/** ... */

const EXPIRETIME = 604800;
/** ... */

const SECRETKEY = '';
/* ... */

export function genTestUserSig(userID) {
  const generator = new LibGenerateTestUserSig(SDKAPPID, SECRETKEY, EXPIRETIME);
  const userSig = generator.genTestUserSig(userID);

  return {
    sdkAppID: SDKAPPID,
    userSig,
  };
}
```

If you want to quickly experience TUICallKit, you can generate a temporary UserSig available through the **Auxiliary Tools** in the console.



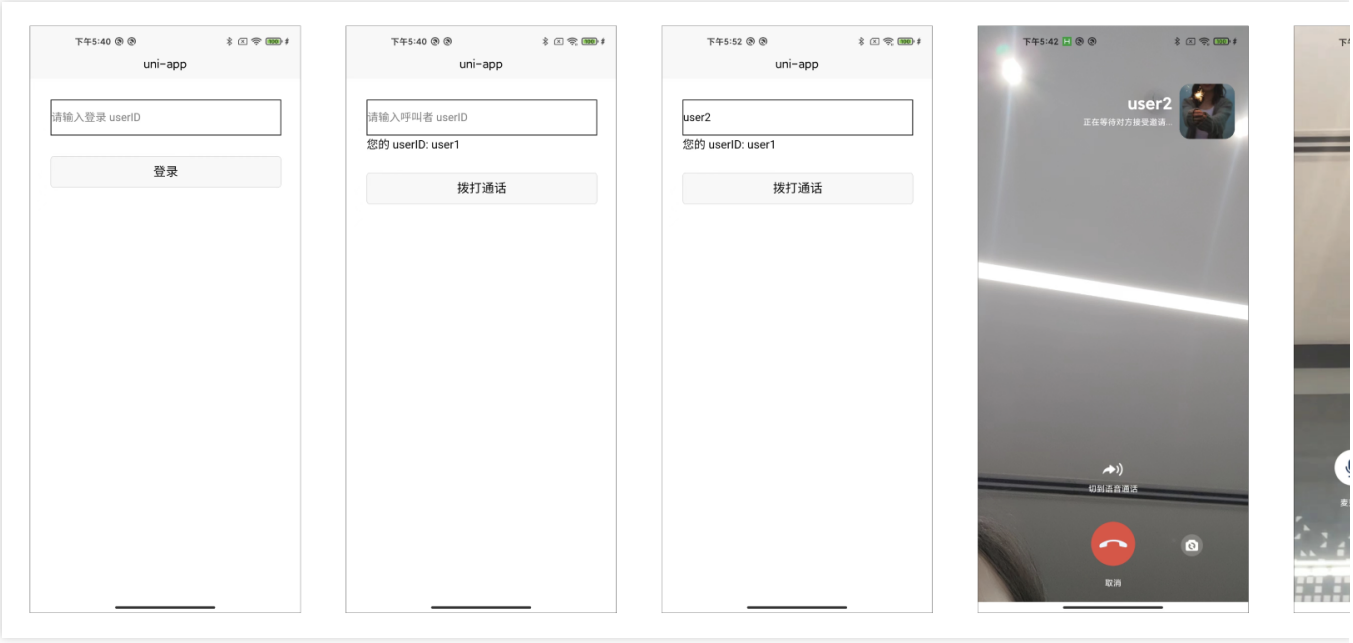
If you are using **Console Generation**, you will need to assign the `SDKAppID, userSig` values in the `TUICallKit-Demo/pages/index/index.vue` file.

Step Five: Make your first phone call

1. To create a custom debugging base, please use the **Traditional Packaging** method.

2. After successfully creating the custom debugging base, **run the project Using Custom Base**.

3. The specific effect of making a 1v1 video call is shown in the figure.



Additional Features

Setting Nickname, Avatar

Group Call

Floating Window

Custom Definition Ringtone

Call Status Monitoring

FAQs

If you encounter any issues during integration and use, please refer to Frequently Asked Questions.

Related Case - Online Customer Service Scenario

We provide the source code related to the **Online Customer Service Scenario**. We recommend you download the Online Customer Service Scenario and integrate it for the experience. This scenario provides a basic template with sample customer groups + sample friends, featuring:

Support for sending text messages, image messages, Voice Message Service, and video messages.

Supports two-person voice and video call features.

Supports creating group chat sessions, group member management, etc.

Technical Consultation

If you have any requirements or feedback, you can contact: info_rtc@tencent.com.

UI Customization (TUICallKit)
Android

Last updated：2024-01-18 12:08:17

This document describes how to customize the UI of `TUICallKit` and provides two schemes for customization: **slight UI adjustment** and **custom UI implementation**.

Scheme 1. Slight UI Adjustment

You can adjust the UI of `TUICallKit` by directly modifying the UI source code in the `Android/tuicallkit` folder in tencentyun/TUICallKit.

Replacing icons

You can directly replace the icons in the `res\\drawable-xxhdpi` folder to customize the color tone and style of all the icons in your application. When you replace an icon, make sure the filename is the same as the original icon.

Replacing ringtones

You can replace ringtones by replacing the three audio files in the `res\\raw` folder.

Filename	Description
phone_dialing.mp3	The sound of making a call

phone_hangup.mp3	The sound of being hung up
phone_ringing.mp3	The ringtone for incoming calls

Replacing text

You can modify the strings on the video call UI by modifying the `strings.xml` file in `values-zh` and `values-e` .

Scheme 2. Custom UI Implementation

The entire call feature of `TUICallKit` is implemented based on the UI-less component `TUICallEngine` . You can delete the `tuicallkit` folder and implement your own UIs based entirely on `TUICallEngine` .

TUICallEngine

`TUICallEngine` is the underlying API of the entire `TUICallKit` component. It provides key APIs such as APIs for making, answering, declining, and hanging up one-to-one audio/video and group calls and device operations.

API	Description
createInstance	Creates a `TUICallEngine` instance (singleton).
destroyInstance	Terminates a `TUICallEngine` instance (singleton).
init	Completes the authentication of basic audio/video call capabilities.
addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Answers a call.
reject	Declines a call.
hangup	Hangs up a call.
ignore	Ignores a call.
inviteUser	Invites a user during a group call.
joinInGroupCall	Joins the current group call actively.

switchCallMediaType	Switches the call media type, such as from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.
openCamera	Enables the camera.
closeCamera	Disables the camera.
switchCamera	Switches between the front and rear cameras.
openMicrophone	Enables the mic.
closeMicrophone	Disables the mic.
selectAudioPlaybackDevice	Selects the audio playback device (receiver/speaker on the device).
setSelfInfo	Sets the user nickname and profile photo.
enableMultiDeviceAbility	Enables/Disables the multi-device login mode of `TUICallEngine` (supported by the premium plan).

TUICallObserver

`TUICallObserver` is the callback even class of `TUICallEngine`. You can use it to listen on the desired callback events.

API	Description
onError	An error occurred during the call.
onCallReceived	A call was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call media type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.

onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.

Definitions of Key Types

API	Description
TUICallDefine.MediaType	The call media type. Enumeration: Video call and audio call.
TUICallDefine.Role	The call role. Enumeration: Caller and callee.
TUICallDefine.Status	The call status. Enumeration: Idle, waiting, and answering.
TUICommonDefine.RoomId	The audio/video room ID, which can be a number or string.
TUICommonDefine.Camera	The camera type. Enumeration: Front camera and rear camera.
TUICommonDefine.AudioPlaybackDevice	The audio playback device type. Enumeration: Speaker and receiver.
TUICommonDefine.NetworkQualityInfo	The information of the current network quality.

iOS

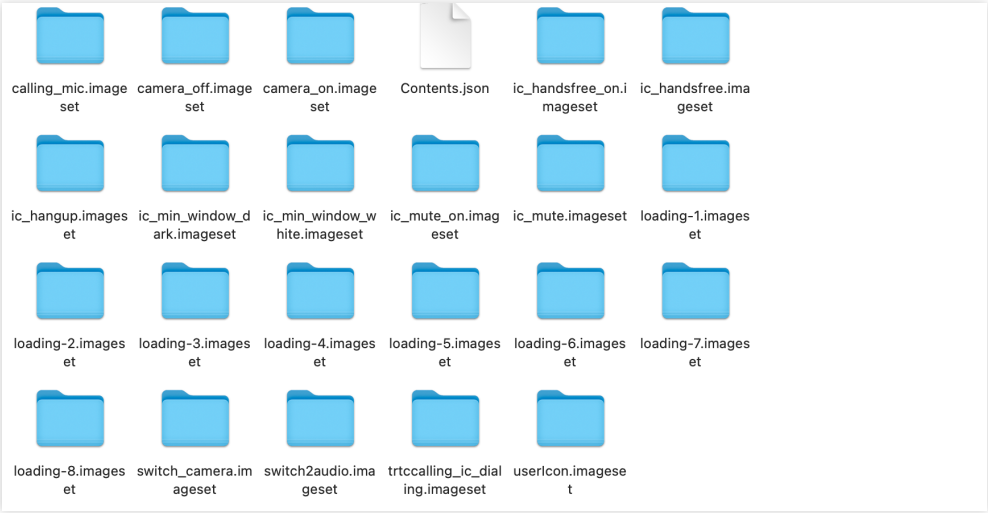
Last updated：2023-09-19 14:45:50

This document describes how to customize the UI of `TUICallKit` and provides two schemes for customization: **slight UI adjustment** and **custom UI implementation**.

Scheme 1. Slight UI Adjustment

You can adjust the UI of `TUICallKit` by directly modifying the UI source code in the `iOS/TUICallKit` folder in tencentyun/TUICallKit.

Replacing icons: You can directly replace the icons in the `Resources\\Calling.xcassets` folder to customize the color tone and style of all the icons in your application. When you replace an icon, make sure the filename is the same as the original icon.



Replacing ringtones: You can replace ringtones by replacing the three audio files in the `Resources\\AudioFile` folder.

Filename	Description
phone_dialing.m4a	The sound of making a call.
phone_hangup.mp3	The sound of being hung up.
phone_ringing.flac	The ringtone for incoming calls.

Replacing text: You can modify the strings on the video call UI by modifying the `CallingLocalized.strings` file in `zh-Hans.lproj` and `en.lproj`.

Scheme 2. Custom UI Implementation

The entire call feature of `TUICallKit` is implemented based on the UI-less component `TUICallEngine`. You can delete the `tuicallkit` folder and implement your own UIs based entirely on `TUICallEngine`.

TUICallEngine

`TUICallEngine` is the underlying API of the entire `TUICallKit` component. It provides key APIs such as APIs for making, answering, declining, and hanging up one-to-one audio/video and group calls and device operations.

API	Description
createInstance	Creates a `TUICallEngine` instance (singleton).
destroyInstance	Terminates a `TUICallEngine` instance (singleton).
init	Completes the authentication of basic audio/video call capabilities.
addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Answers a call.
reject	Declines a call.
hangup	Hangs up a call.
ignore	Ignores a call.
inviteUser	Invites a user during a group call.
joinInGroupCall	Joins the current group call actively.
switchCallMediaType	Switches the call media type, such as from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.

openCamera	Enables the camera.
closeCamera	Disables the camera.
switchCamera	Switches between the front and rear cameras.
openMicrophone	Enables the mic.
closeMicrophone	Disables the mic.
selectAudioPlaybackDevice	Selects the audio playback device (receiver/speaker).
setSelfInfo	Sets the user nickname and profile photo.
enableMultiDeviceAbility	Enables/Disables the multi-device login mode of `TUICallEngine` (supported by the premium plan).

TUICallObserver

`TUICallObserver` is the callback even class of `TUICallEngine`. You can use it to listen on the desired callback events.

API	Description
onError	An error occurred during the call.
onCallReceived	A call was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call media type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.

onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.

Definitions of key classes

API	Description
TUICallMediaType	The call media type. Enumeration: Video call and audio call.
TUICallRole	The call role. Enumeration: Caller and callee.
TUICallStatus	The call status. Enumeration: Idle, waiting, and answering.
TUIRoomId	The audio/video room ID, which can be a number or string.
TUICamera	The camera type. Enumeration: Front camera and rear camera.
TUIAudioPlaybackDevice	The audio playback device type. Enumeration: Speaker and receiver.
TUINetworkQualityInfo	The information of the current network quality.

Web

Last updated：2023-09-19 14:47:18

TUICallKit UI Customization Guide

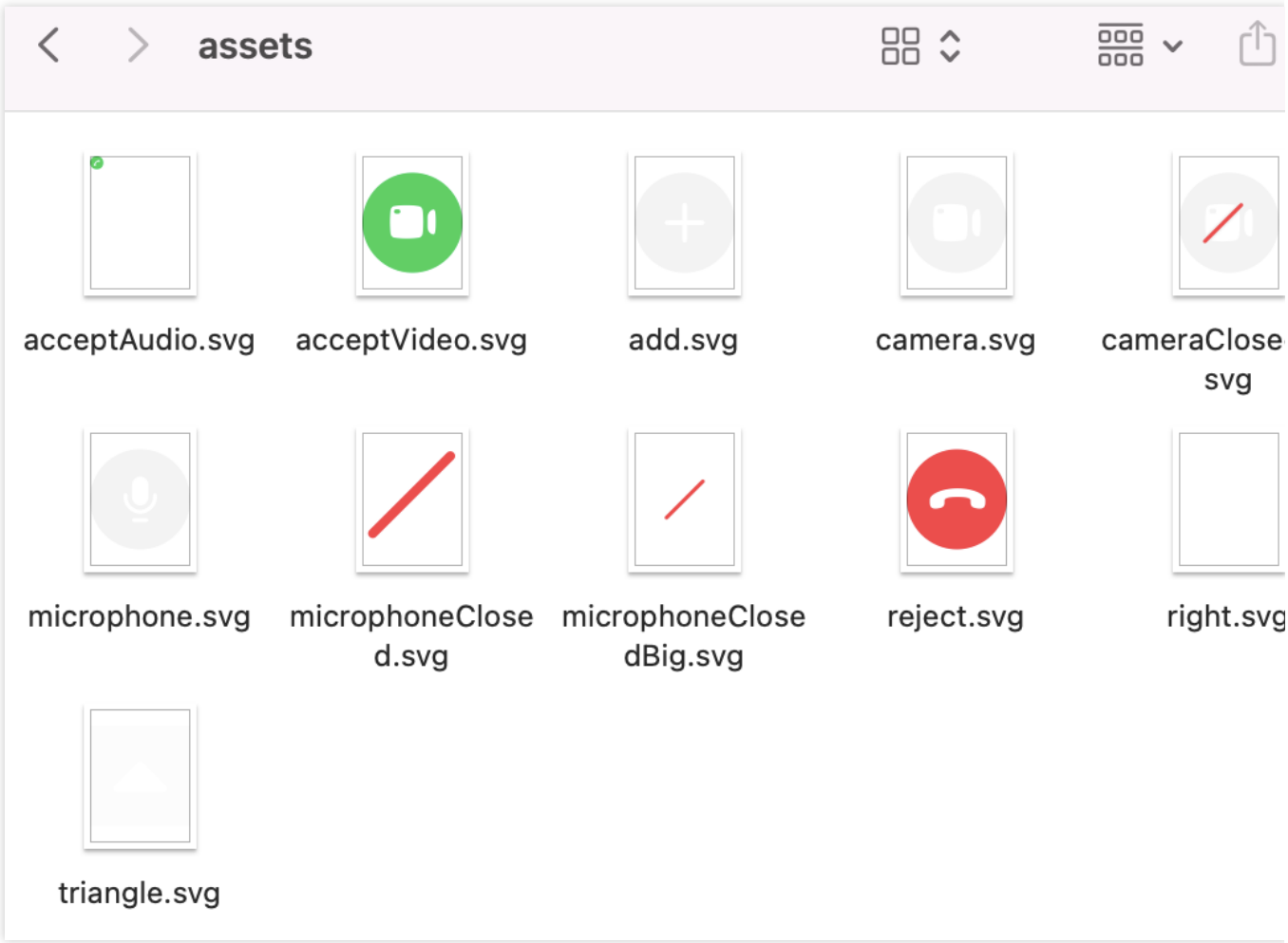
This document describes how to customize the UI of `TUICallKit`. We provide two schemes. You can either make minor modifications to the UI source code we provide or implement your own UI.

Scheme 1: Using our UI source code

You can modify the UI source code to make minor changes to the ready-made UI we provide. The UI source code is in the `Web/` directory of the TUICallKit project.

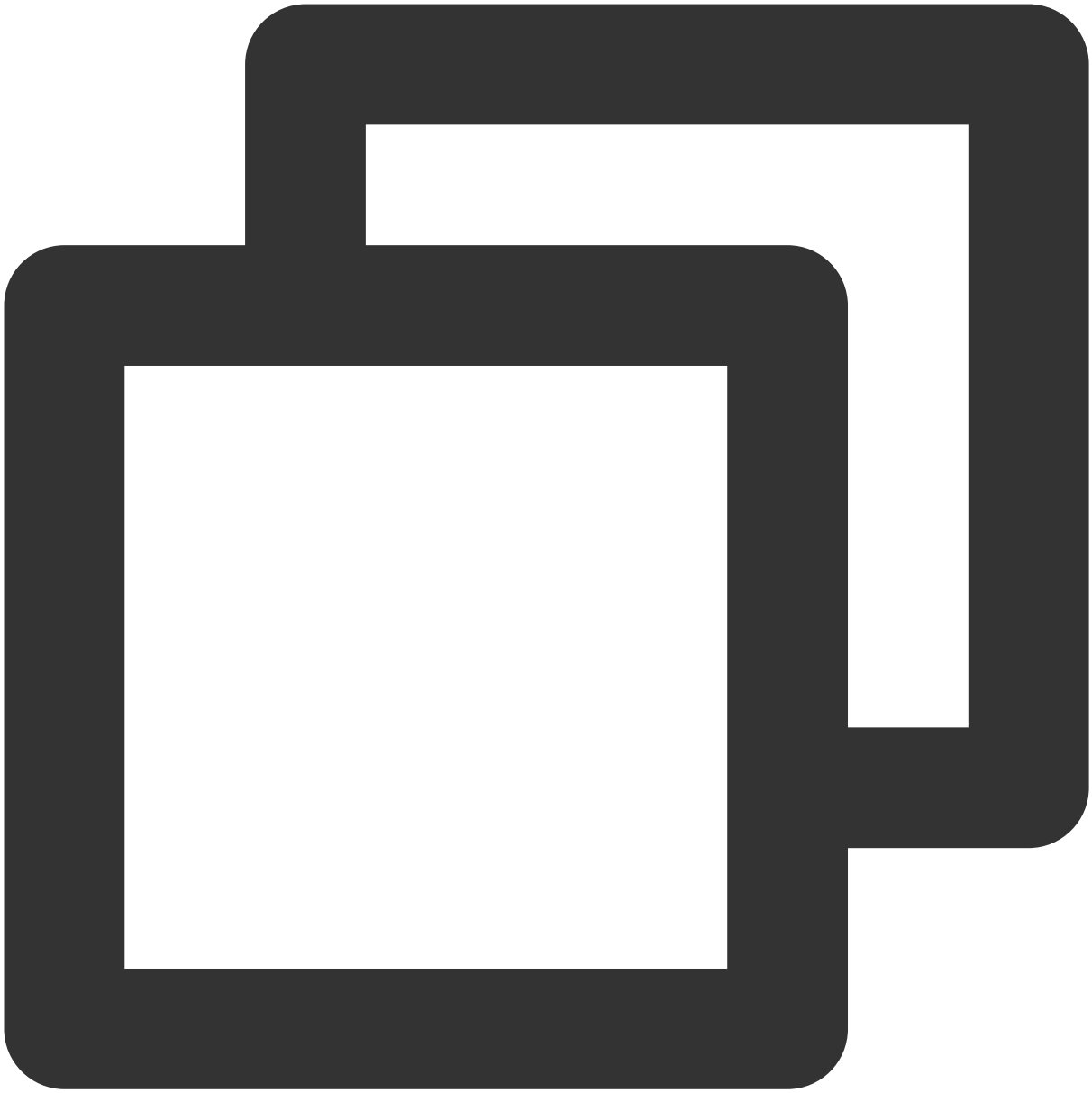
Replacing icons

You can replace the icons in the `src/icons` folder to customize the color tone and style of the icons in your application. Make sure you do not change the filenames. To preview icons, go to `src/assets`.



Changing the layout

You can modify the views in the `src/components/` folder to change the call UI.



```
- components/
    - Calling-C2CVideo.vue          One-to-one video call
    - Calling-Group.Vue             Group audio/video call
    - ControlPanel.vue              The control panel
    - ControlPanelItem.vue          Control panel items
    - Dialing.vue                   The call making UI, incoming call UI, and one-t
    - MicrophoneIcon.vue            The mic icon that can display changes in the vo
    - TUICallKit.vue                The overall `TUICallKit` component
```

Changing the style

The style file is `src/style.css` . You can adjust it to implement your desired UI style.

Scheme 2: Implementing your own UI

The features of `TUICallKit` are implemented based on the `TUICallEngine` SDK, which does not include UI elements. You can use `TUICallEngine` to implement your own UI. For detailed directions, refer to the documents below:

TUICallEngine integration guide

TUICallEngine APIs

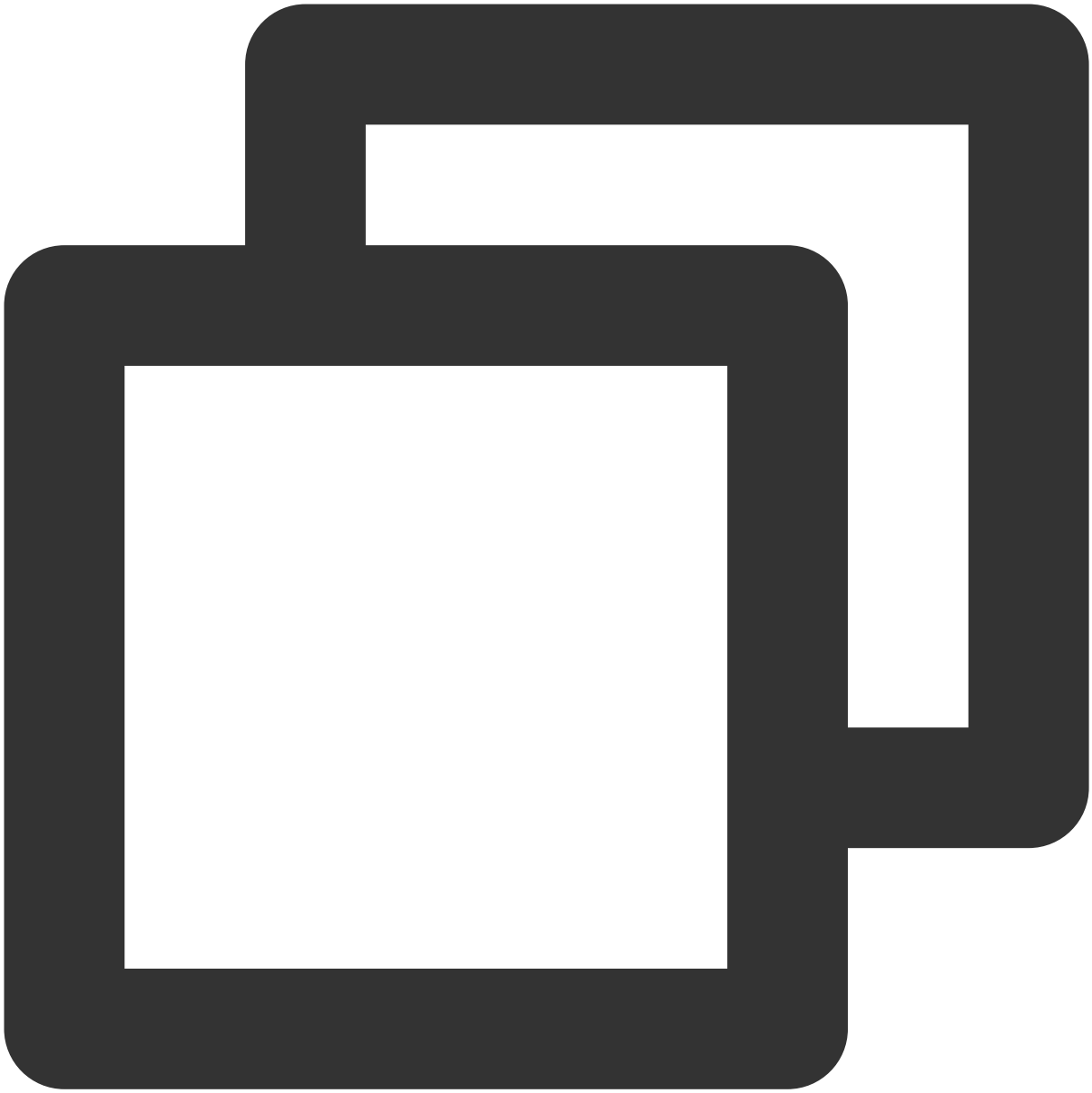
Flutter

Last updated：2024-03-12 14:51:07

This article will introduce how to customize the user interface of TUICallKit. We provide two solutions for you to choose: **interface fine-tuning solution** and **self-implementation UI** solution.
Note: The page customization solution needs to use the tencent_calls_uikit plugin version 1.8.0 or later.

Scheme 1. Slight UI Adjustment

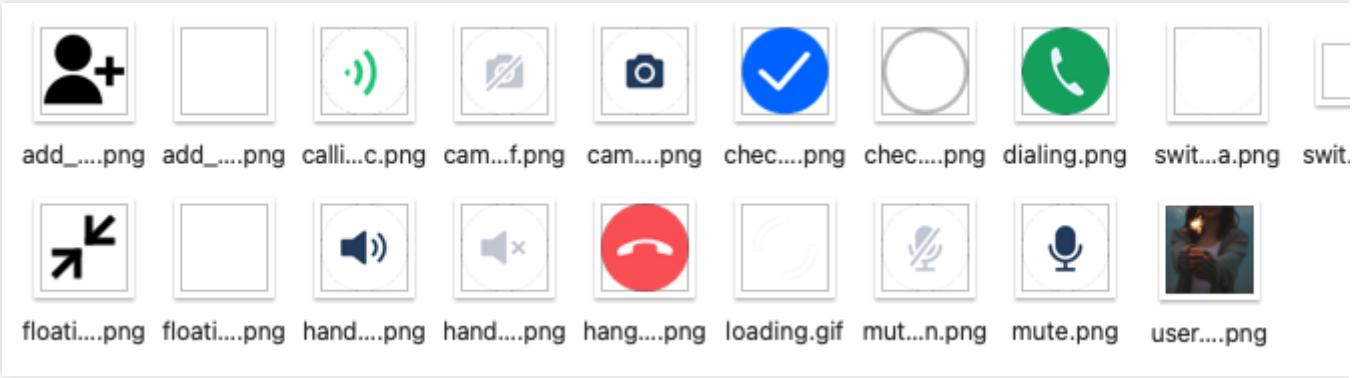
You can download the latest version of the tencent_calls_uikit plugin locally, and then use the local dependency method to access the plugin in your project. The local dependency method is as follows:
Under the **dependencies** node in the project **pubspec.yaml** file, add the **tencent_calls_uikit** plugin dependency, as shown below:



```
dependencies:
    tencent_calls_uikit:
      path: your file path
```

replace icon

You can directly replace the icons under the **assets\\images** folder to ensure that the color tone of the icons in the entire app is consistent. Please keep the name of the icon file unchanged when replacing.



replace ringtone

You can replace the three audio files in the **assets\\audios** folder to achieve the purpose of replacing the ringtone:

Name	Purpose
phone_dialing.mp3	The sound of making a call
phone_hangup.mp3	The sound of being hung up
phone_ringing.mp3	The ringtone for incoming calls

Replacing text

You can modify the string content in the video call interface by modifying the strings in the **strings.g.dart** file in the **lib\\src\\i18n** directory.

Scheme 2. Custom UI Implementation

The entire call feature of `TUICallKit` is implemented based on the UI-less component `TUICallEngine`. You can delete the `tuicallkit` folder and implement your own UIs based entirely on `TUICallEngine`.

TUICallEngine

TUICallEngine is the underlying API of the entire `TUICallKit` component. It provides key APIs such as APIs for making, answering, declining, and hanging up one-to-one audio/video and group calls and device operations.

TUICallObserver

TUICallObserver is the callback even class of `TUICallEngine`. You can use it to listen on the desired callback events.

Offline Call Push (TUICallKit)
iOS
VoIP

Last updated：2024-01-17 11:58:53

VoIP (Voice over IP) Push is a notification mechanism provided by Apple for responding to VoIP calls. Combining Apple's PushKit.framework and CallKit.framework can achieve system-level call effects. Currently, VoIP Push only supports push notifications when offline.

Note：

Apple requires that VoIP Push be used in conjunction with the CallKit.framework starting with iOS 13.0; otherwise, the app will crash after running.

VoIP Push cannot reuse the general APNs push certificates, so a separate VoIP Push certificate needs to be applied for on the Apple Developer website.

Configuring VoIP Push

To receive VoIP Push notifications, follow these steps:

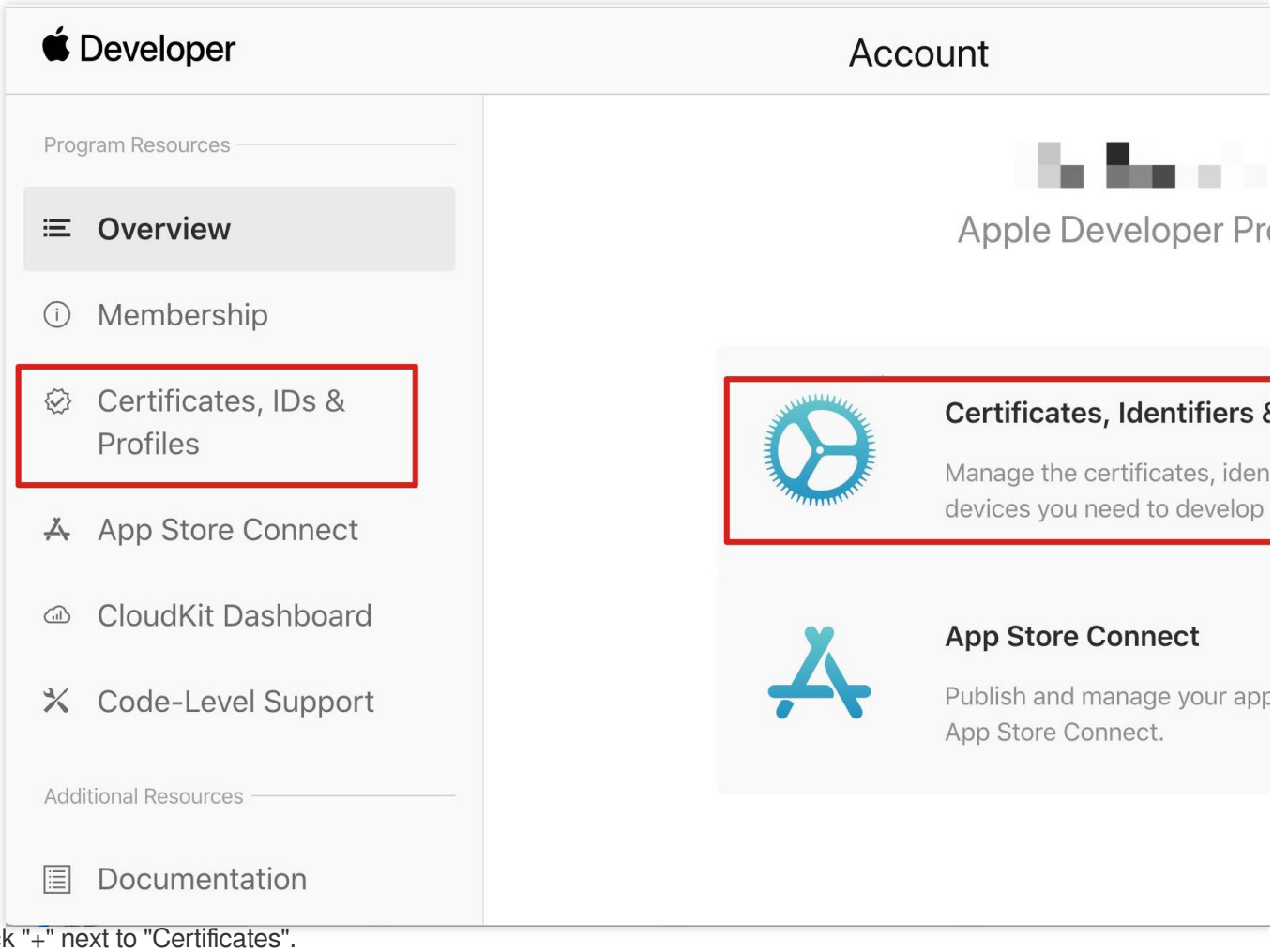
1. Apply for a VoIP Push certificate.
2. Upload the certificate to the IM console.
3. Complete the project configuration.
4. Integrate the TUICallKitVoIPExtension component.

Step 1: Apply for a VoIP Push certificate

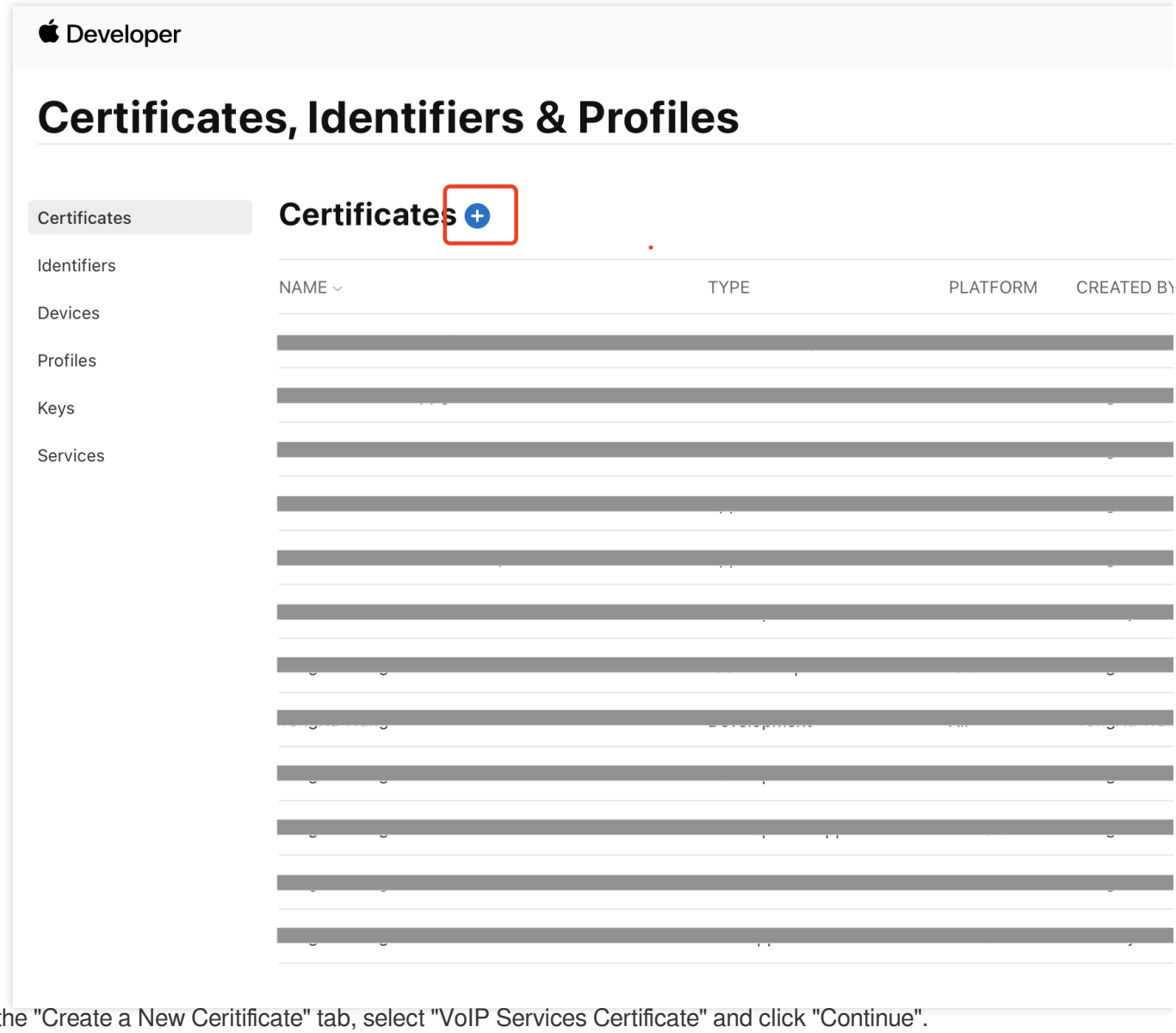
Before applying for a VoIP Push certificate, log in to the Apple Developer Center, enable your app's remote push capabilities.

Once your AppID has Push Notification capabilities, follow these steps to apply for and configure a VoIP Push certificate:

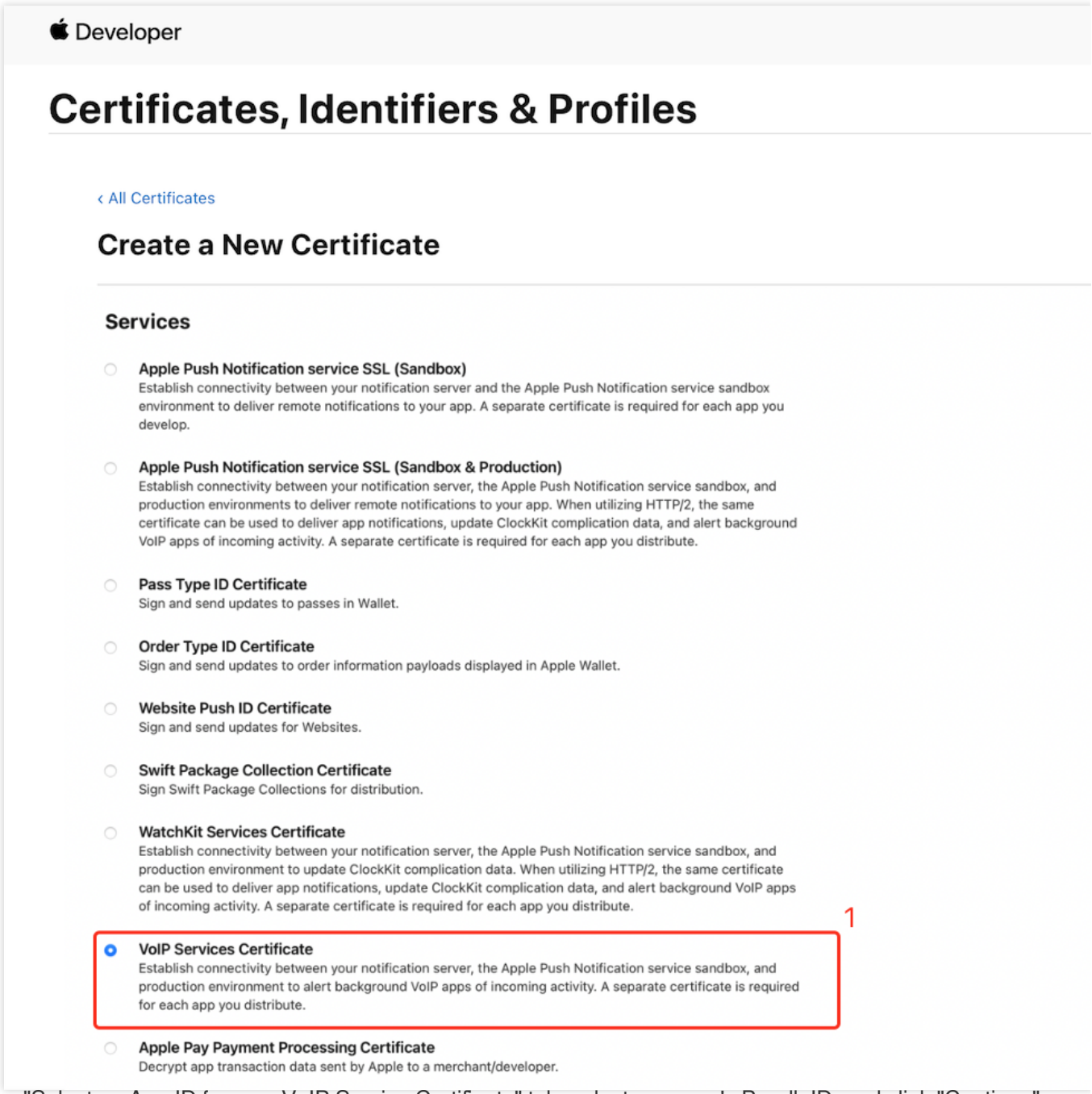
1. Log in to the Apple Developer Center website, click "Certificates, Identifiers & Profiles" in the sidebar, and go to the "Certificates, IDS & Profiles" page.



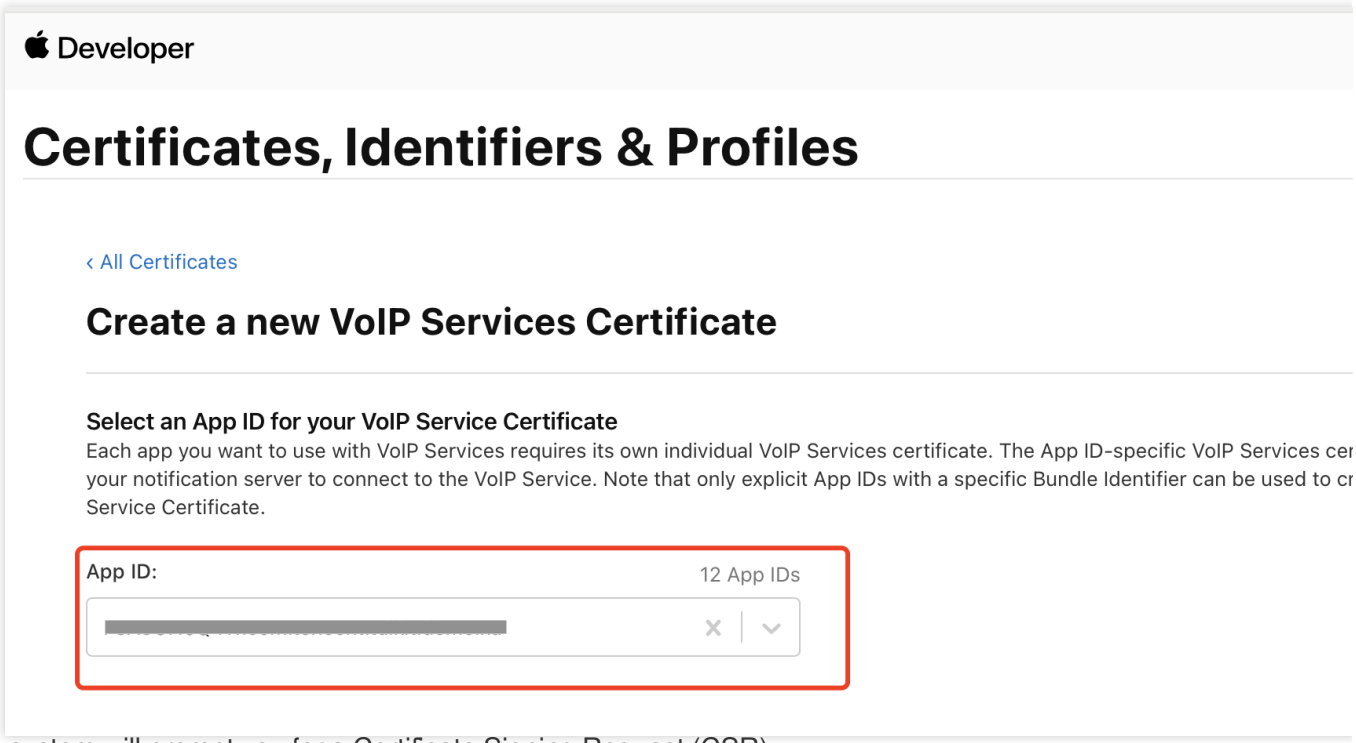
2. Click "+" next to "Certificates".



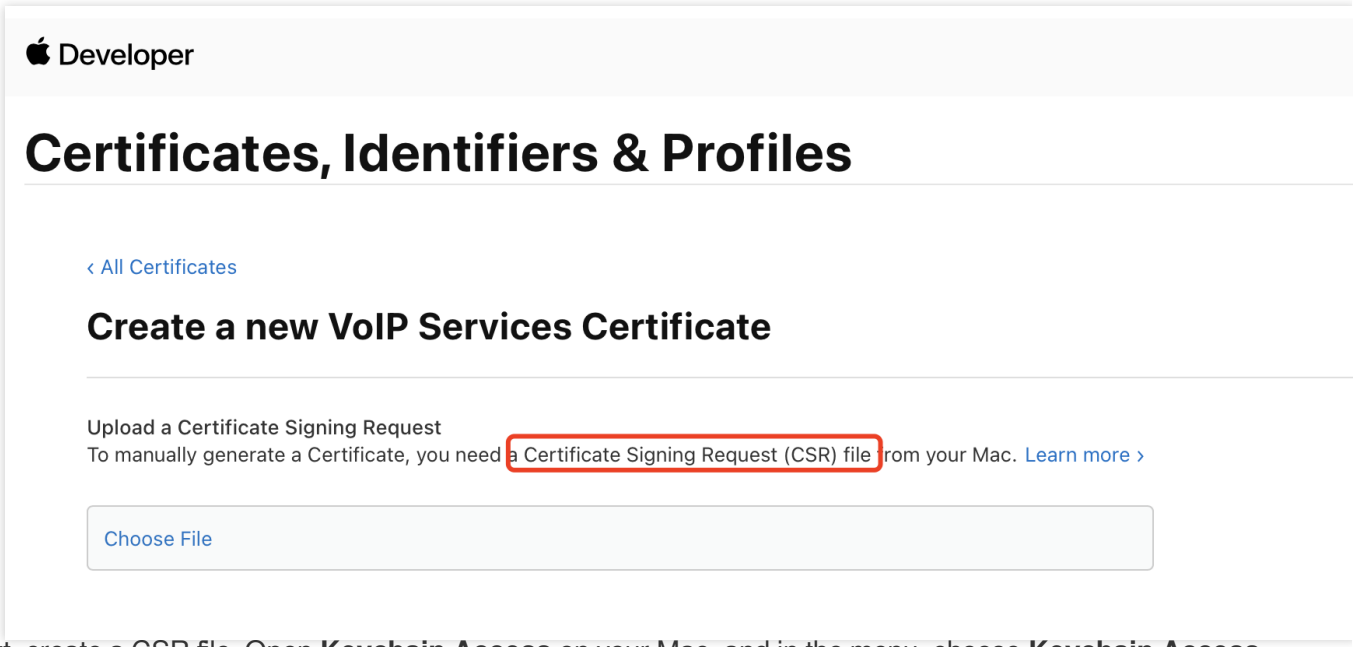
3. In the "Create a New Ceritificate" tab, select "VoIP Services Certificate" and click "Continue".



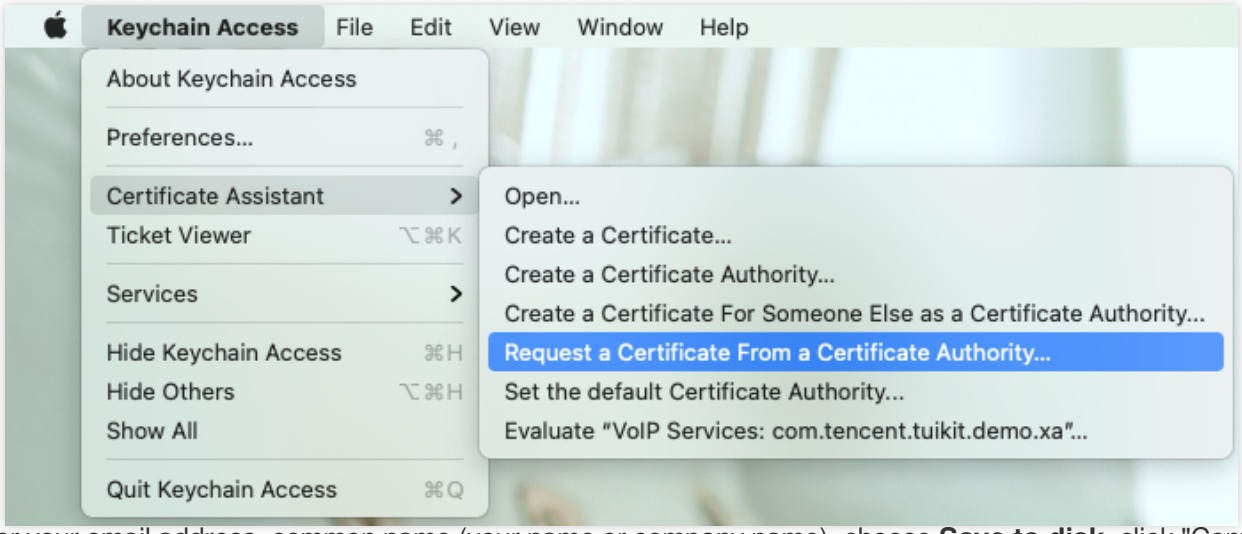
4. In the "Select an App ID for your VoIP Service Certificate" tab, select your app's BundleID, and click "Continue".



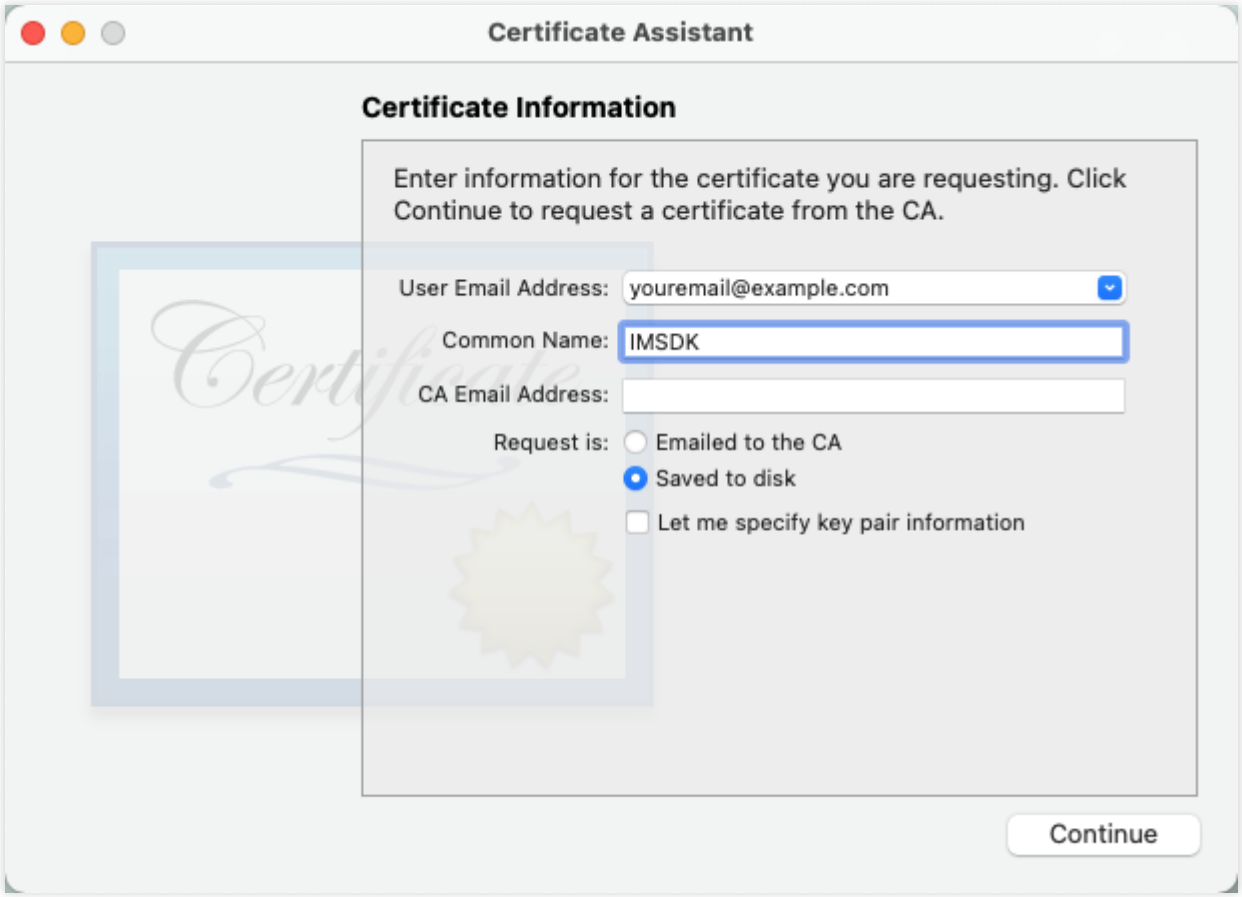
5. The system will prompt you for a Certificate Signing Request (CSR).



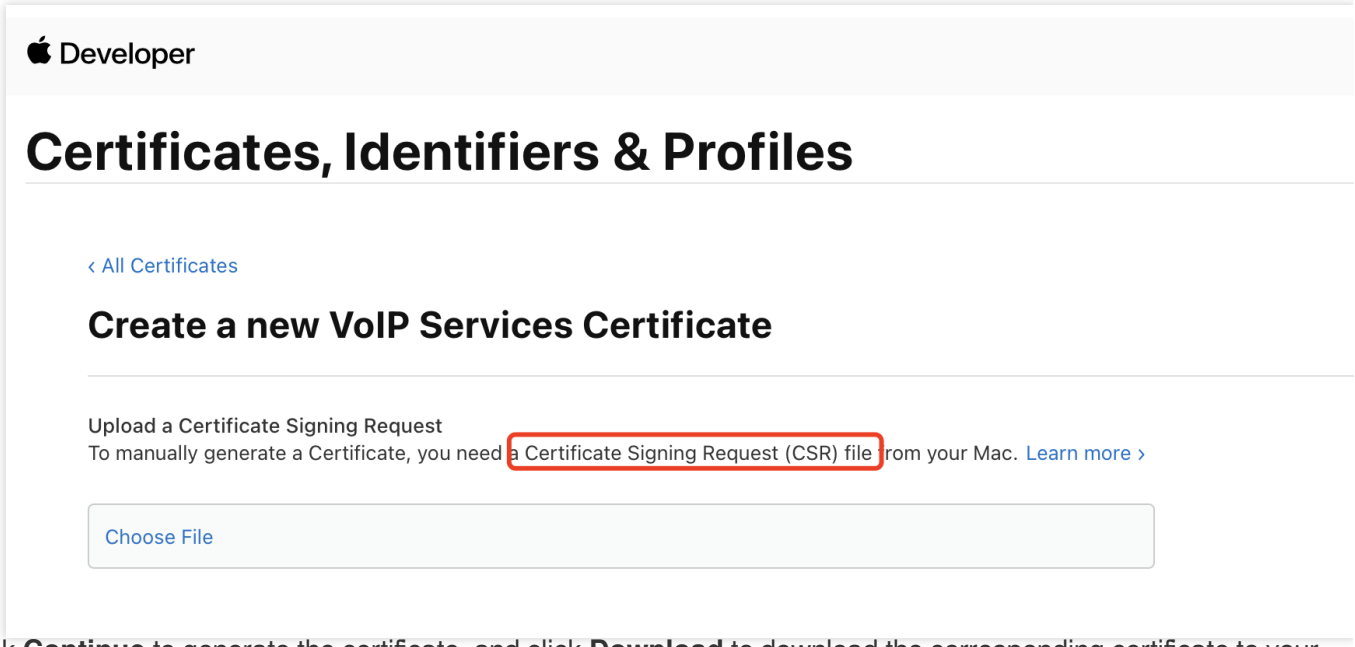
6. Next, create a CSR file. Open **Keychain Access** on your Mac, and in the menu, choose **Keychain Access** - **Certificate Assistant** - **Request a Certificate From a Certificate Authority**.



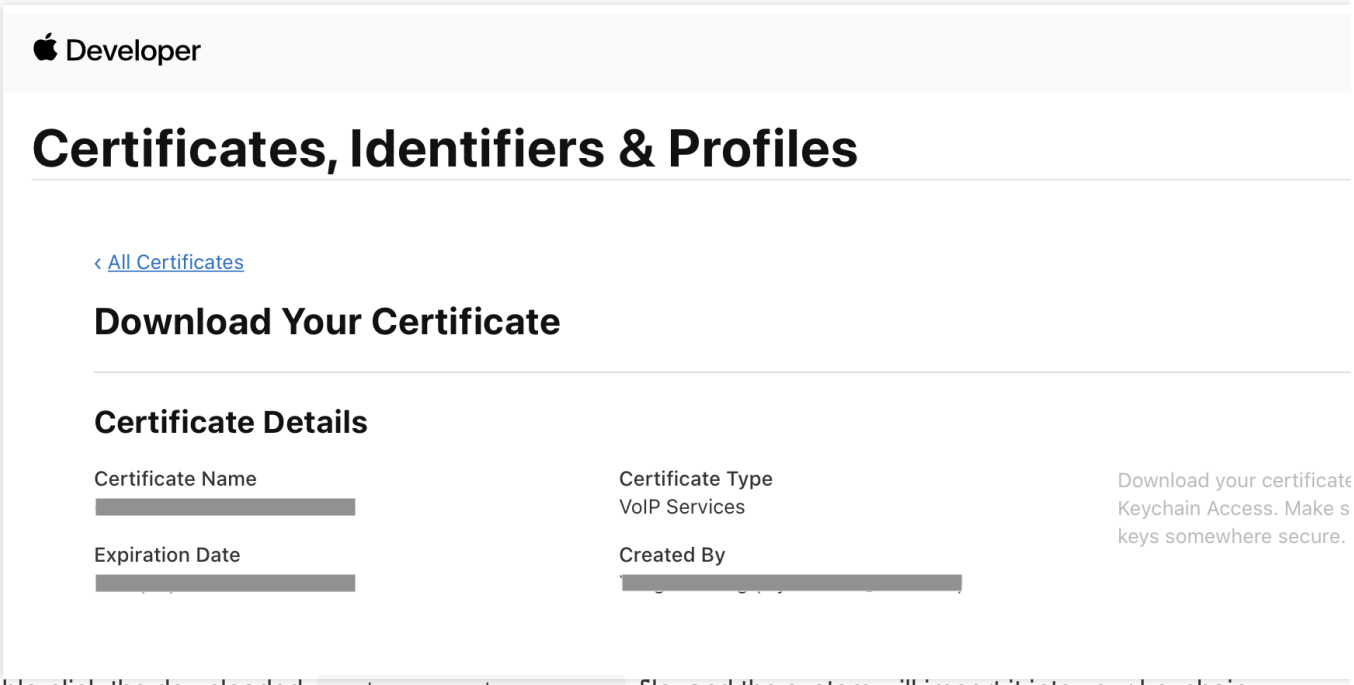
7. Enter your email address, common name (your name or company name), choose **Save to disk**, click "Continue", and the system will generate a `*.certSigningRequest` file.



Go back to the Apple Developer website in **Step5** , click "Choose File" and upload the generated *.certSigningRequest file.



8. Click **Continue** to generate the certificate, and click **Download** to download the corresponding certificate to your local device.

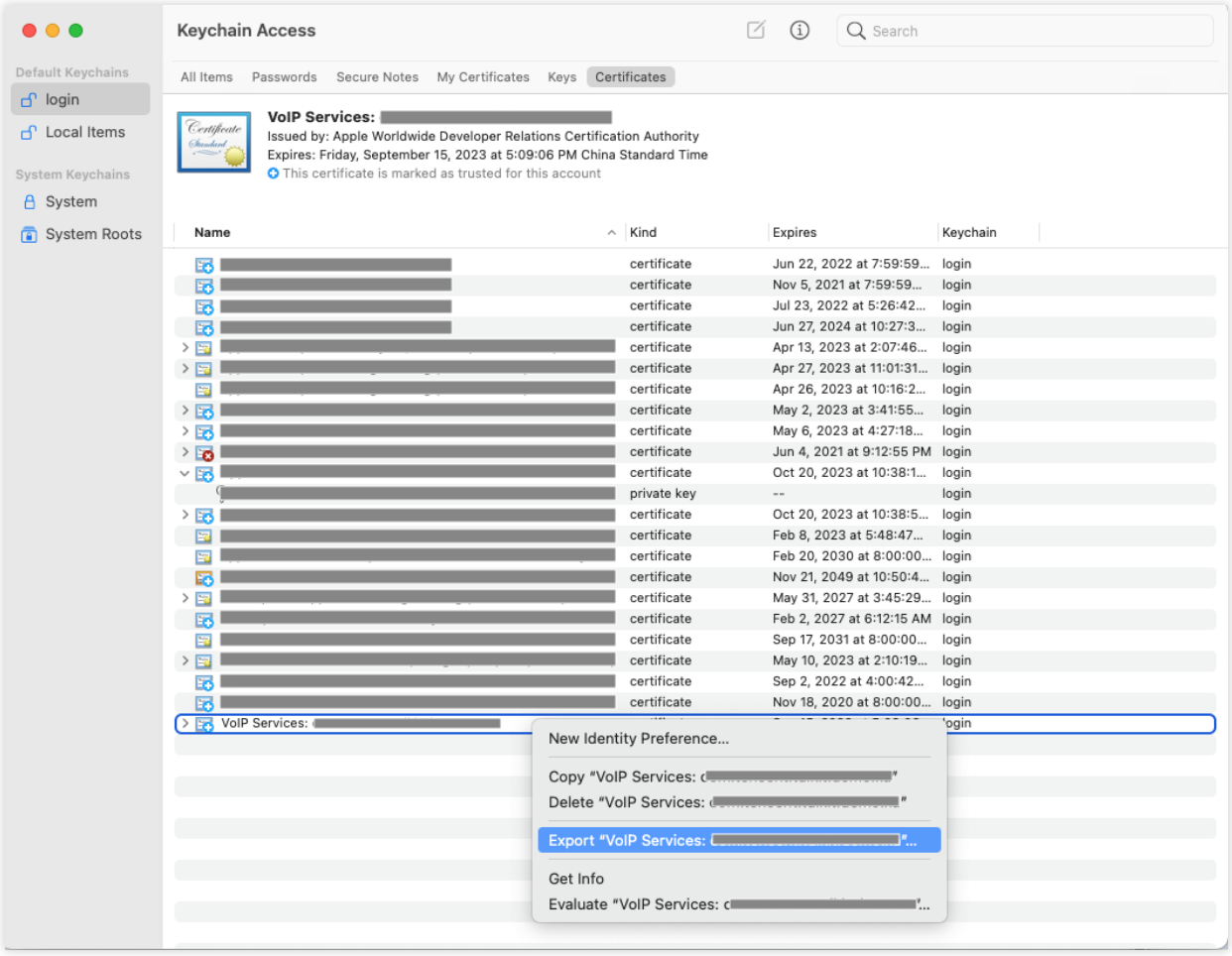


9. Double-click the downloaded `voip_services.cer` file, and the system will import it into your keychain.

10. Open the Keychain app, under **Login** > **My Certificates**, right-click on the created VoIP Services certificate.

Note：

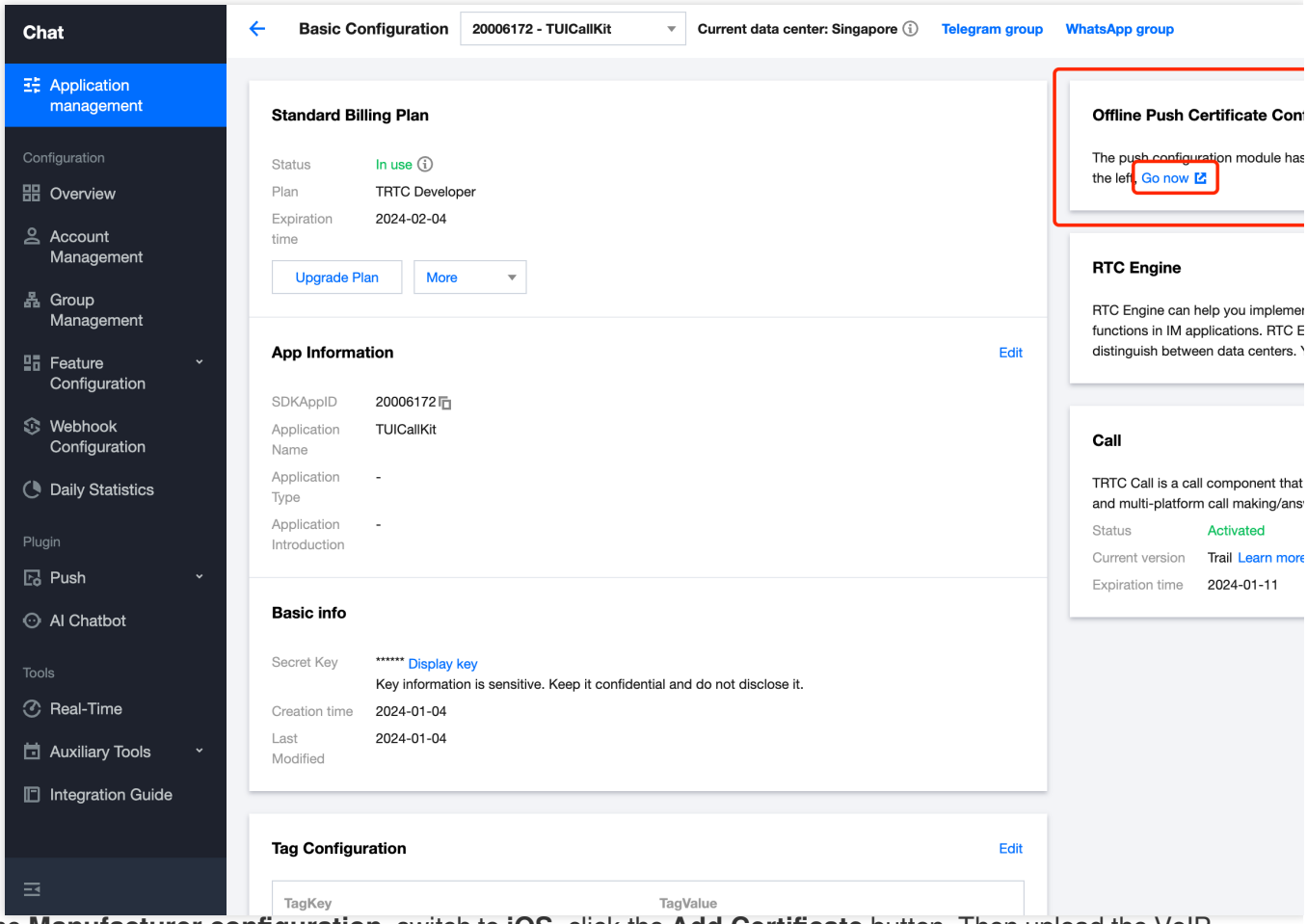
When saving the `P12` file, be sure to set a password for it.



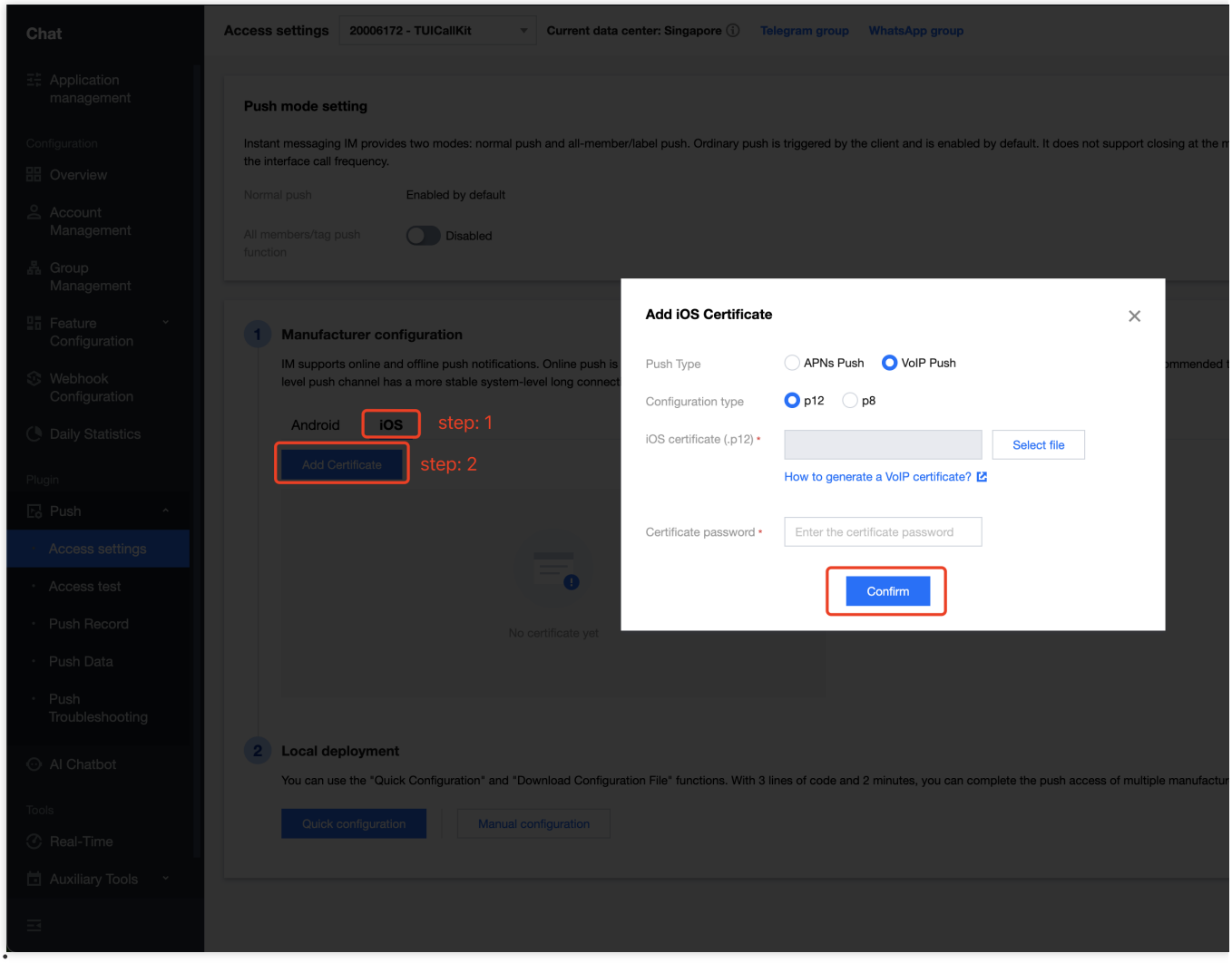
Step 2: Upload certificates to the IM Console

Open the IM Console, select your created IM application, and follow the steps below to upload your certificates:

1. Choose your IM application, click **Go new** under the **Offline Push Certificate Configuration** tab.



2. In the **Manufacturer configuration**, switch to **iOS**, click the **Add Certificate** button. Then upload the VoIP certificates for both the production and development environments.



Note：

The VoIP Push Certificate itself does not distinguish between production and testing environments. Both environments use the same VoIP Push Certificate.

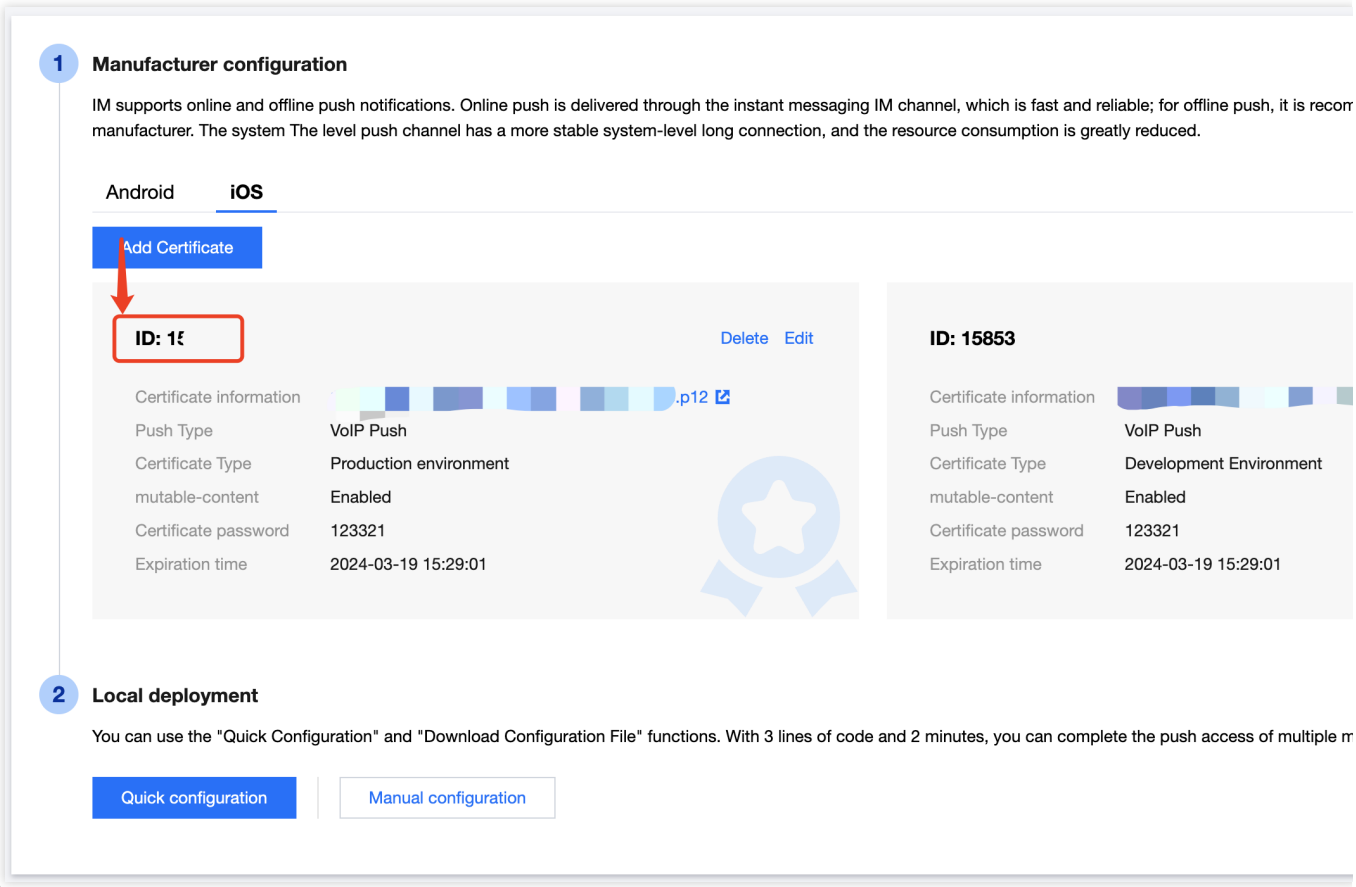
The uploaded certificate name should be in English (especially avoiding brackets and other special characters).

The uploaded certificate must have a password set, or the push notification won't be received.

The certificate for publishing to the App Store needs to be set to the production environment; otherwise, the push notification won't be received.

The p12 certificate you upload must be a valid and genuinely applied certificate.

3. After the upload is completed, record the certificate ID for different environments.

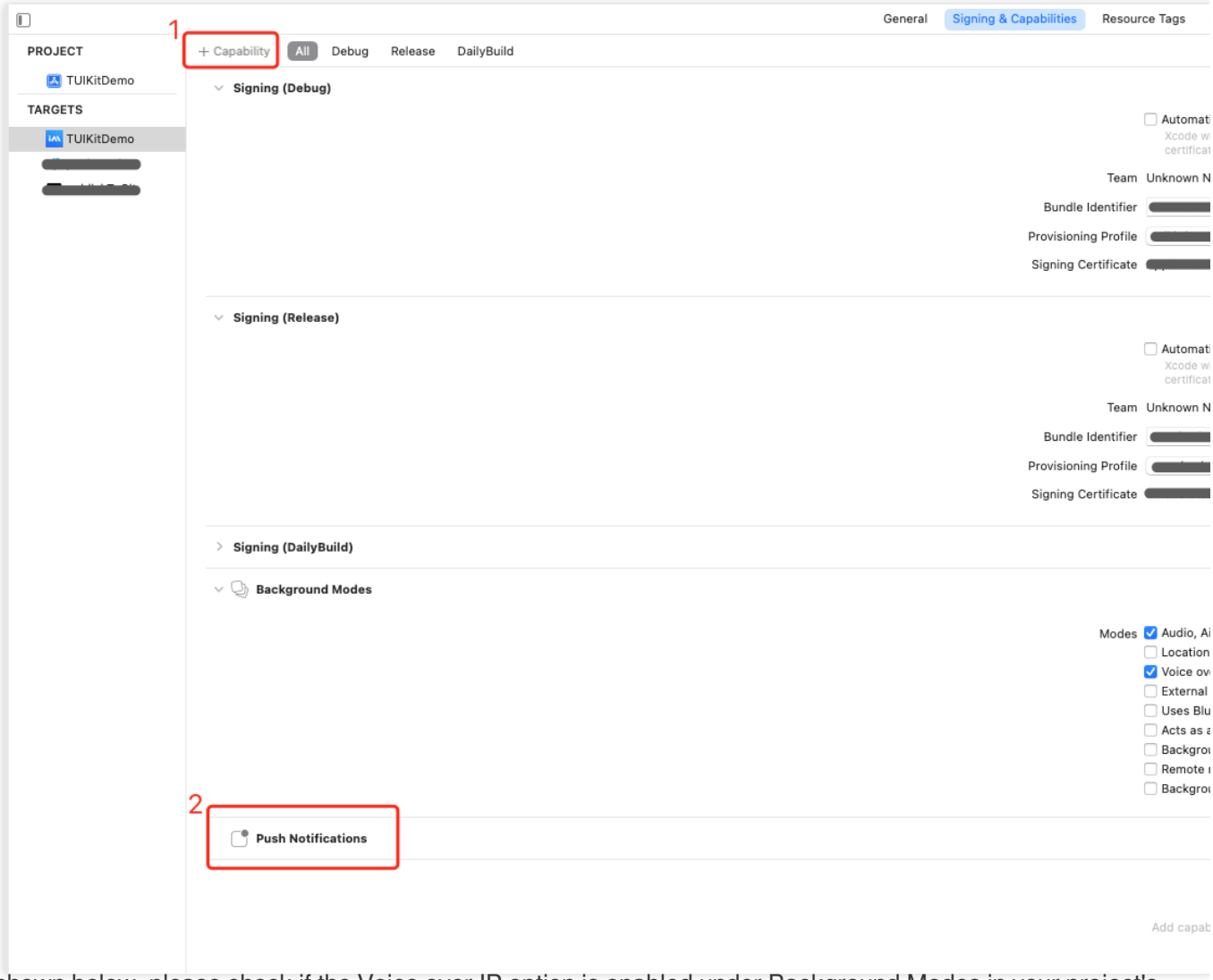


Note：

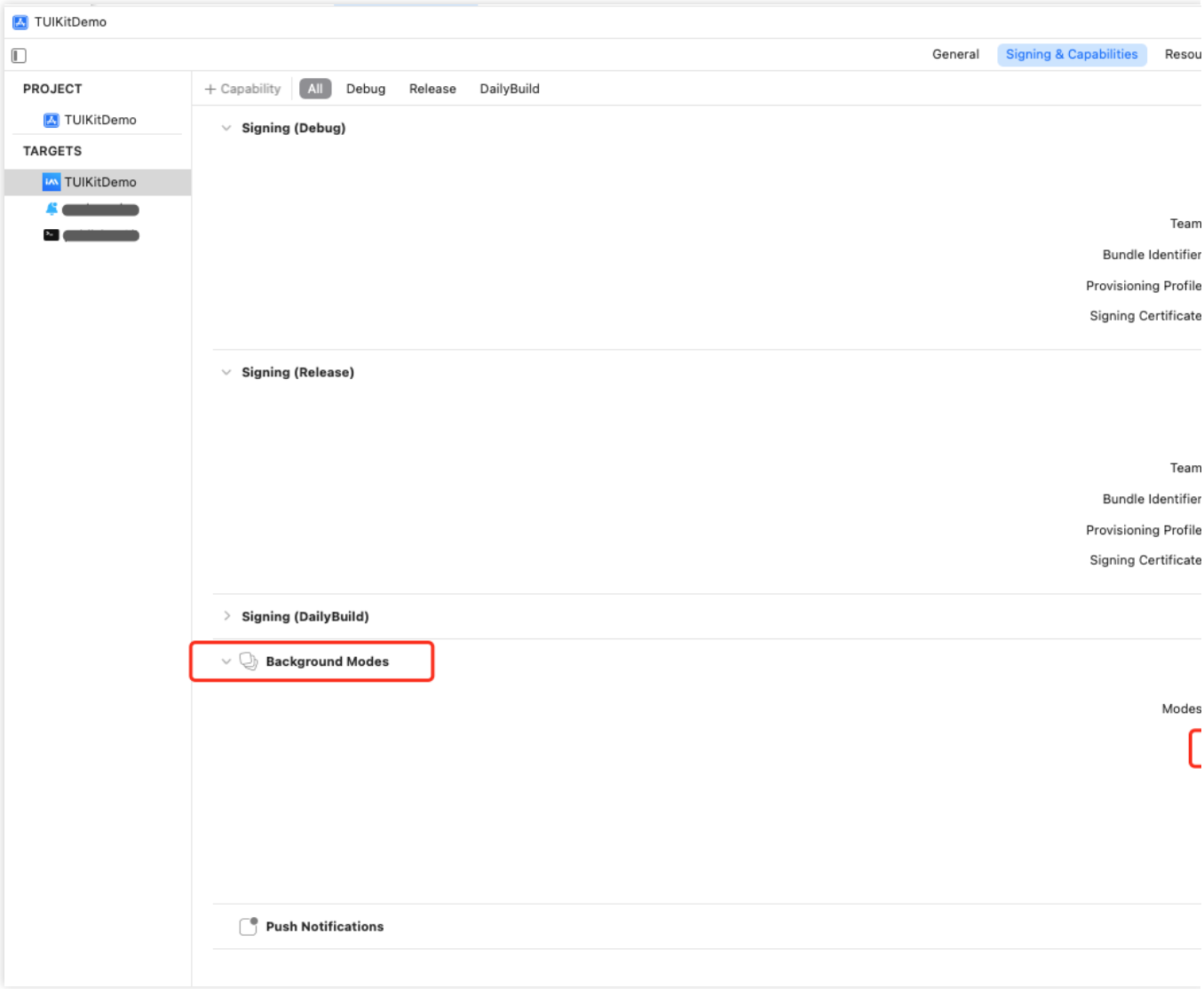
The certificate IDs for the development and production environments must be strictly distinguished and filled in according to the actual environment in Step 4: Integrate the TUICallKitVoIPExtension component.。

Step 3: Complete the project configuration

1. As shown below, confirm whether the Push Notification capability has been added to your project's capabilities.



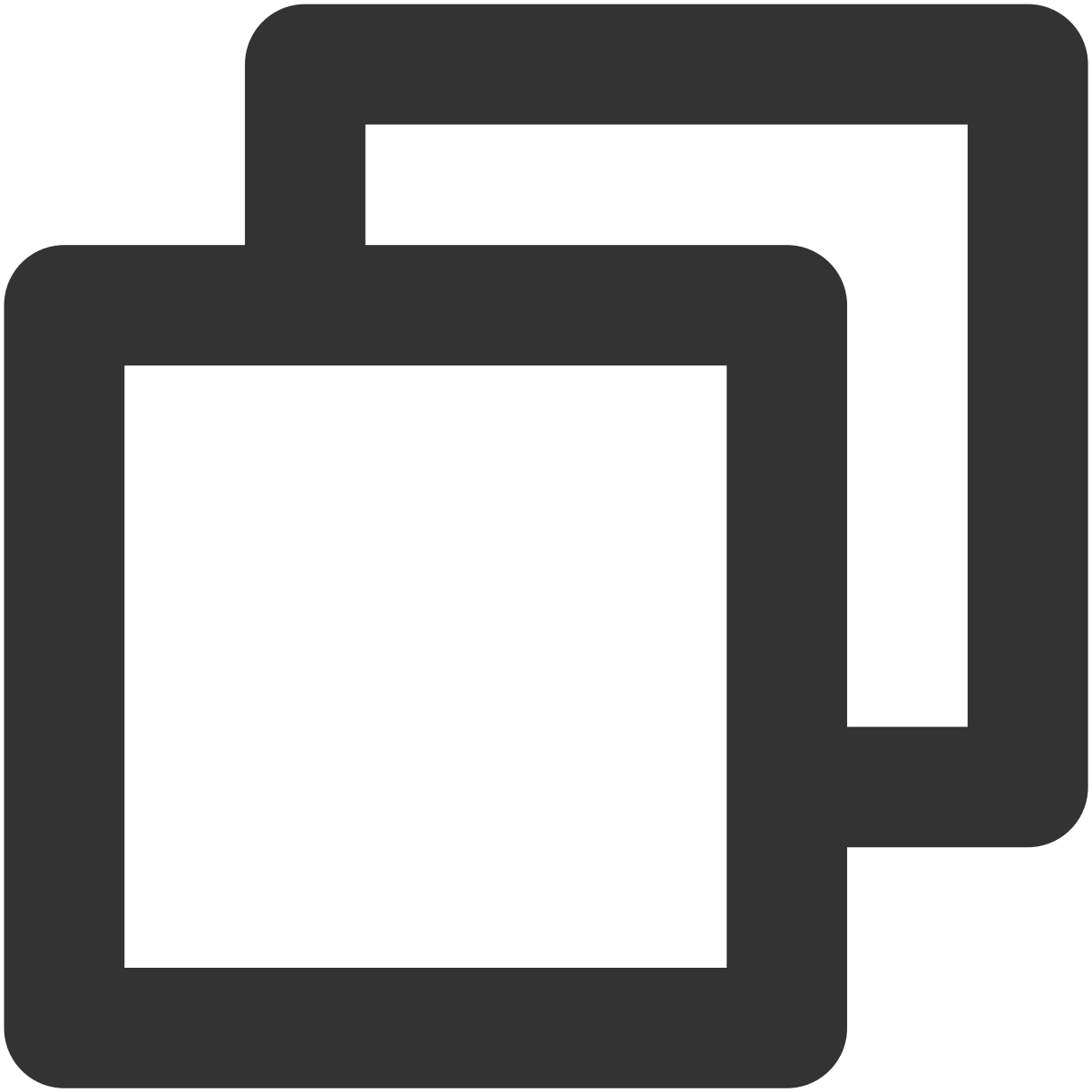
2. As shown below, please check if the Voice over IP option is enabled under Background Modes in your project's capabilities.



Step 4: Integrate the TUICallKitVoIPExtension component

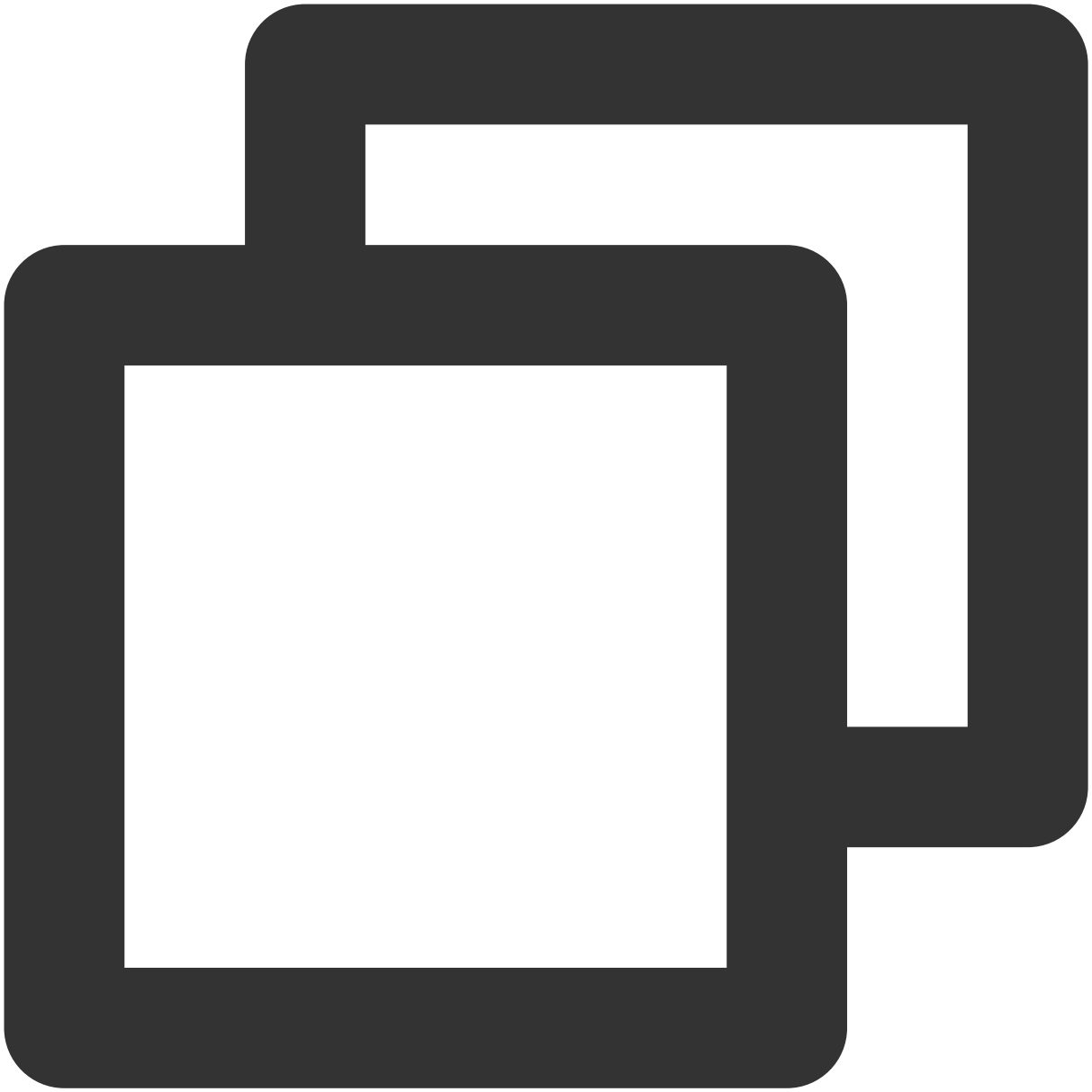
Use CocoaPods to import the component, following these steps:

1. Add the following dependency to your `Podfile`.



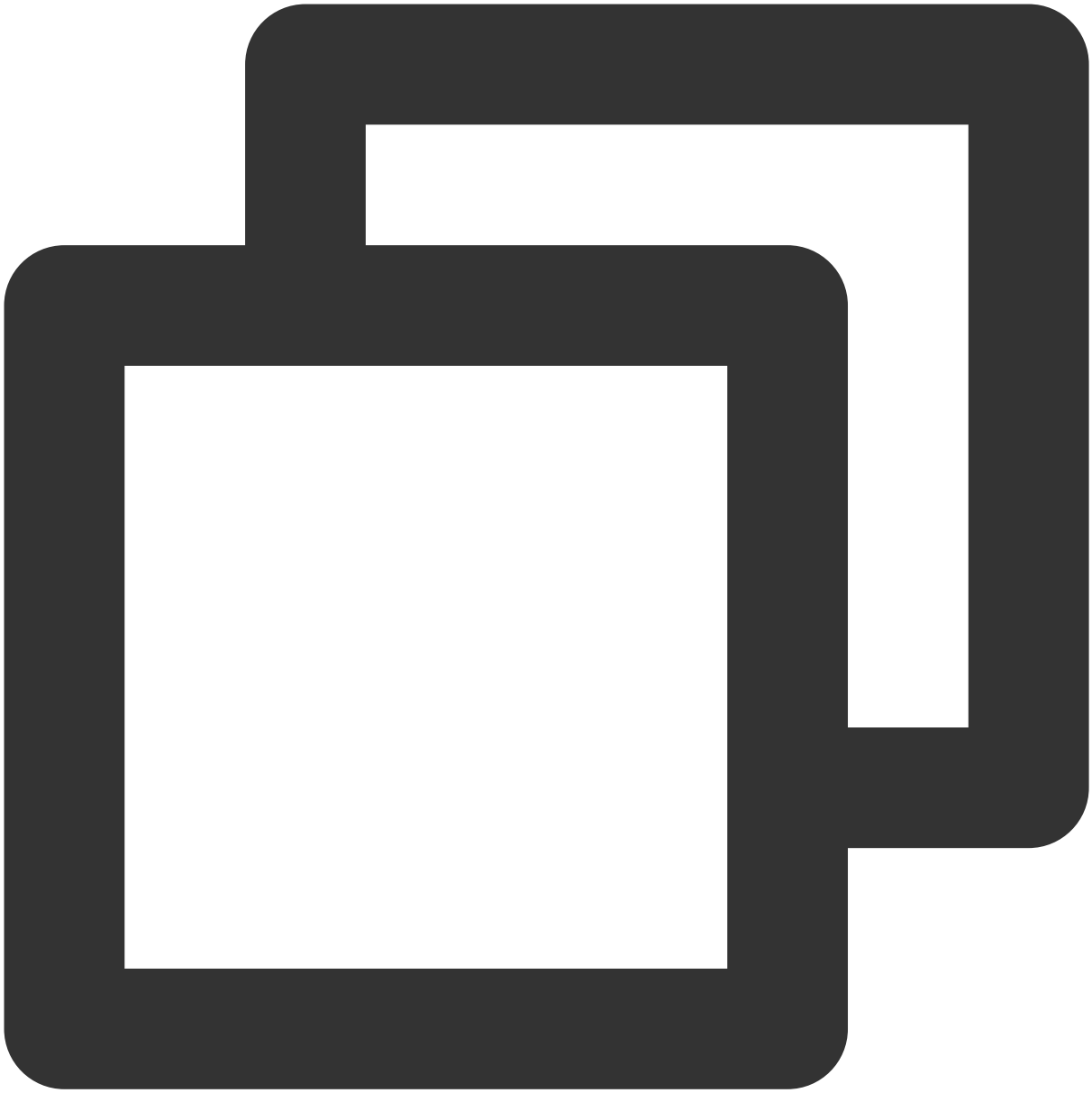
```
pod 'TUICallKitVoIPExtension'
```

2. Execute the command below to install the component.



```
pod install
```

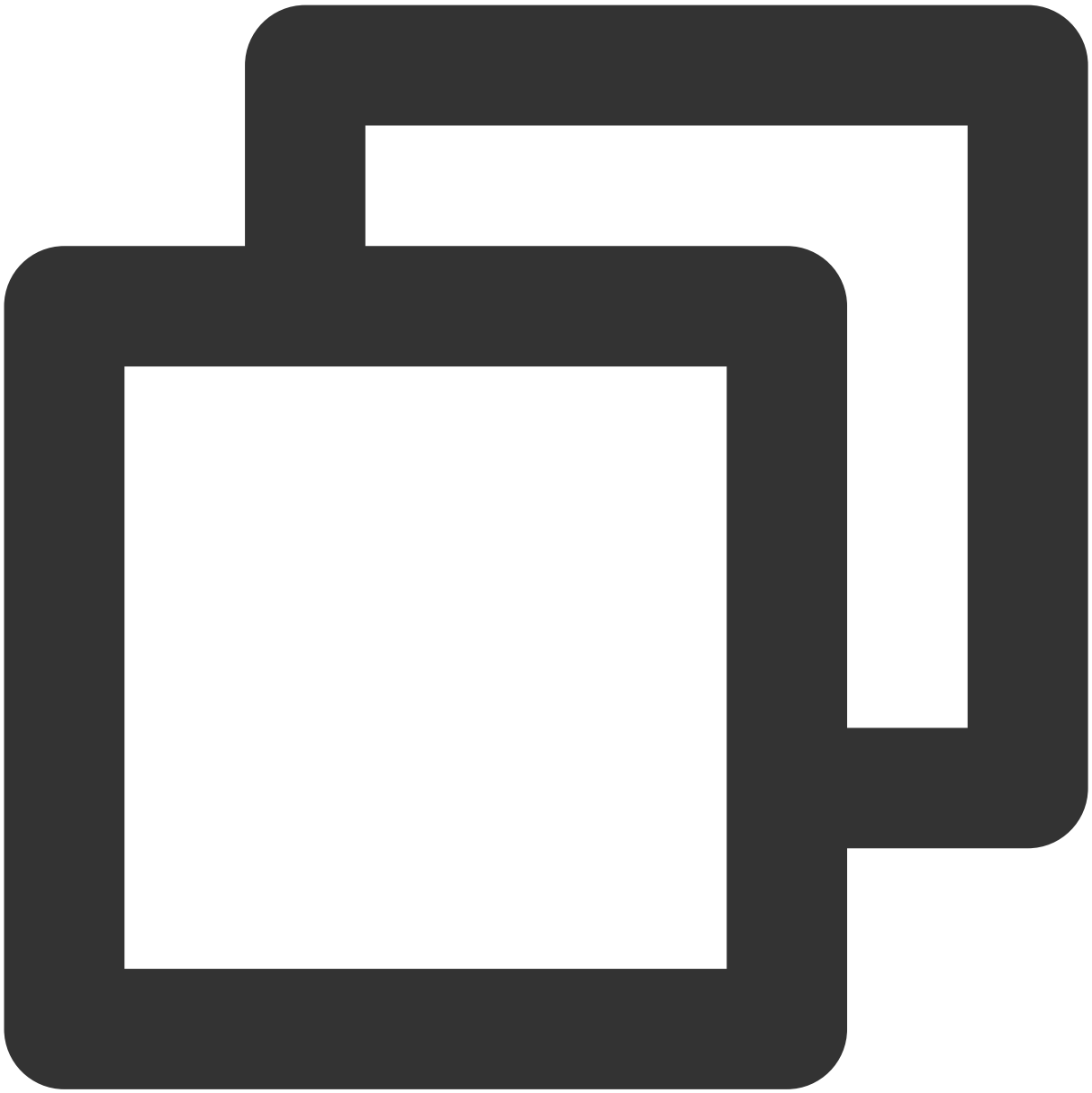
3. Report the Certificate ID recorded in Step 2.



```
func application(_ application: UIApplication, didFinishLaunchingWithOptions launch
        // Override point for customization after application launch.
        // Report Certificate ID
        TUICallKitVoIPExtension.setCertificateID(CertificateID)
        return true
    }
```

Note：

If you cannot install the latest version of TUICallKit, execute the command below to update your local CocoaPods repository list.



```
pod repo update
```

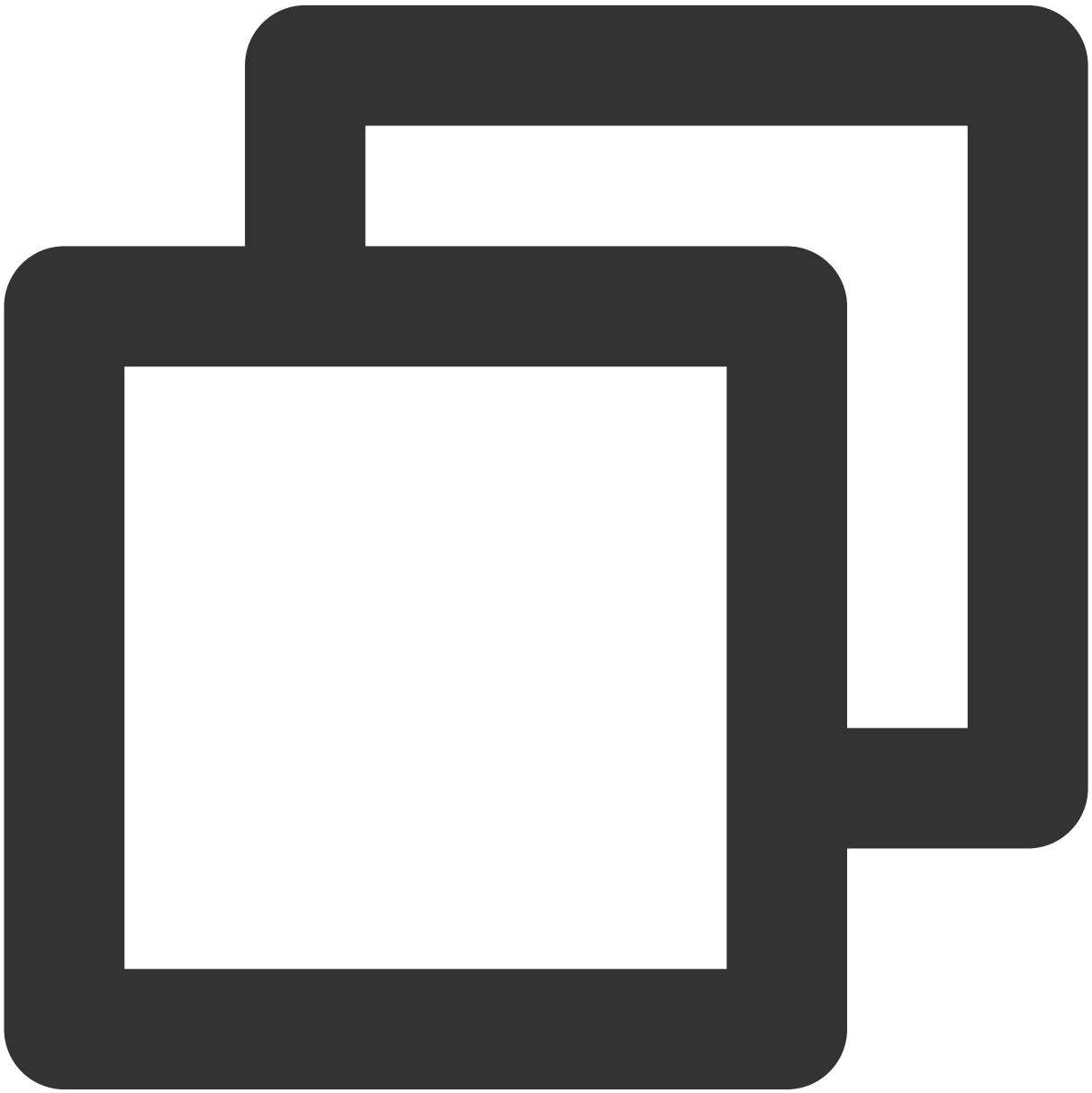
Make a VoIP call

If you need to make a VoIP call, you need to set the iOSPushType field of the OfflinePushInfo to `TUICallIOSOfflinePushTypeVoIP` when calling call. The default value is `TUICallIOSOfflinePushTypeAPNs` .

Objective-C

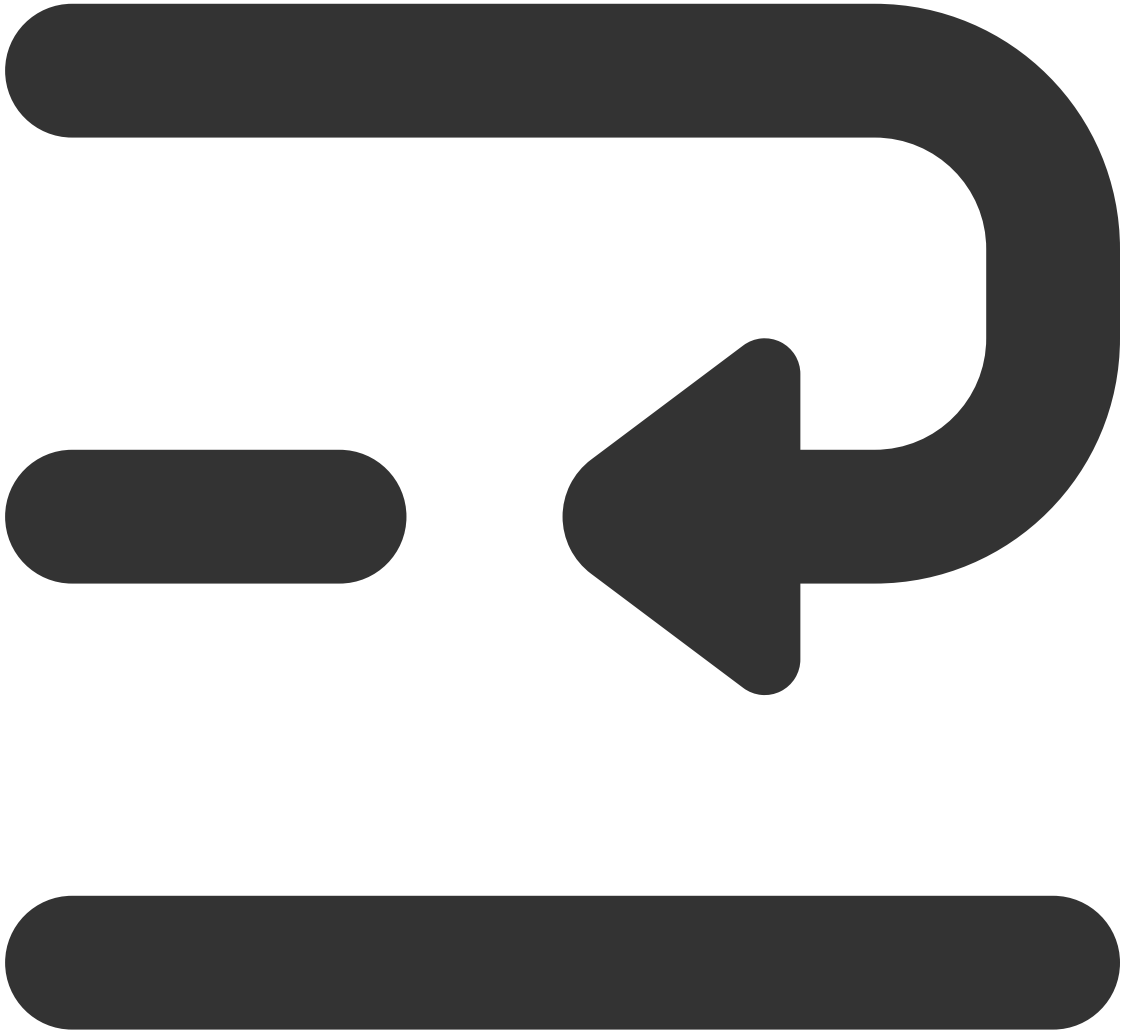
Java

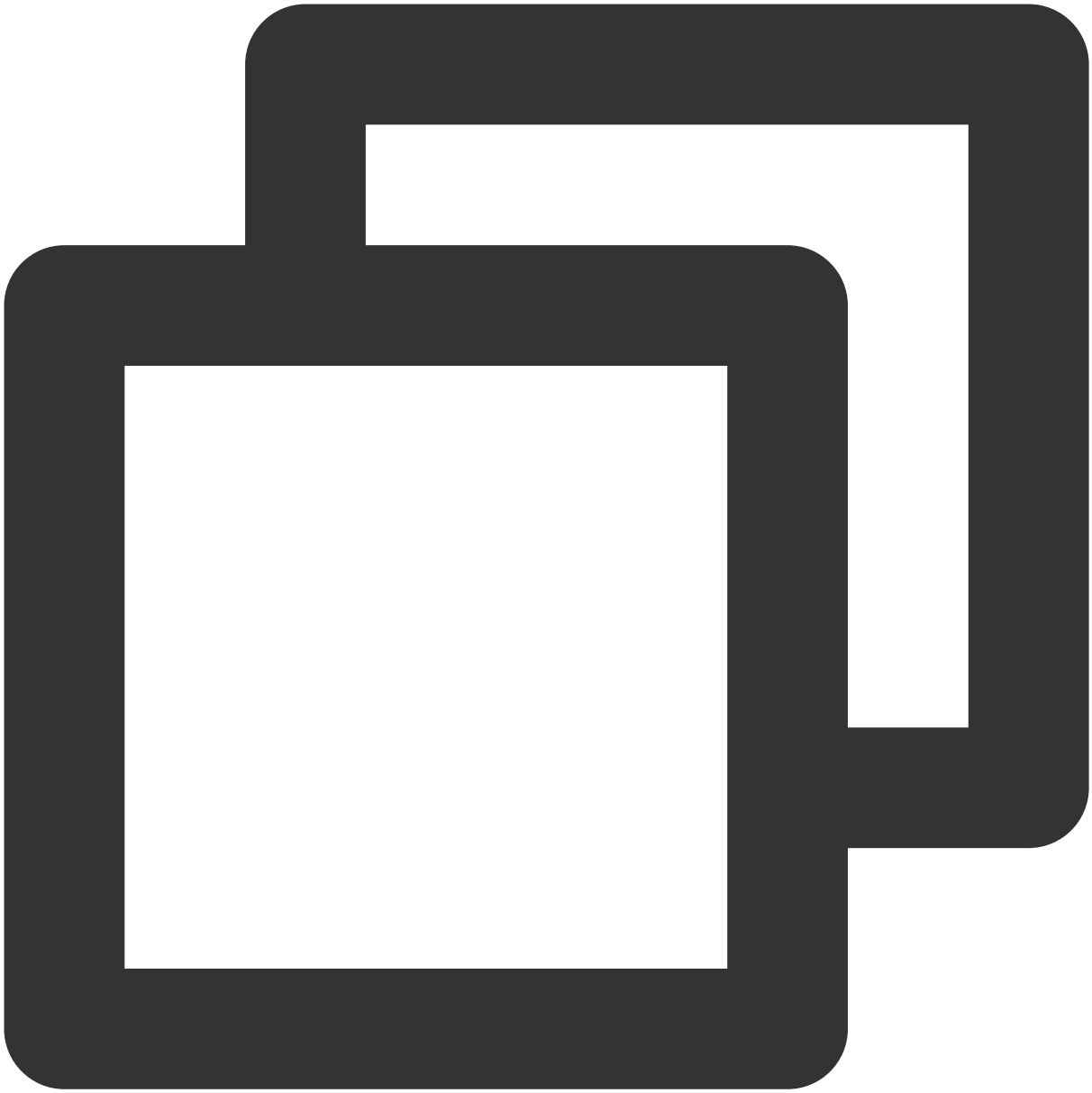
Dart



```
- (TUICallParams *)getCallParams {
    TUIOfflinePushInfo *offlinePushInfo = [self createOfflinePushInfo];
    TUICallParams *callParams = [TUICallParams new];
```

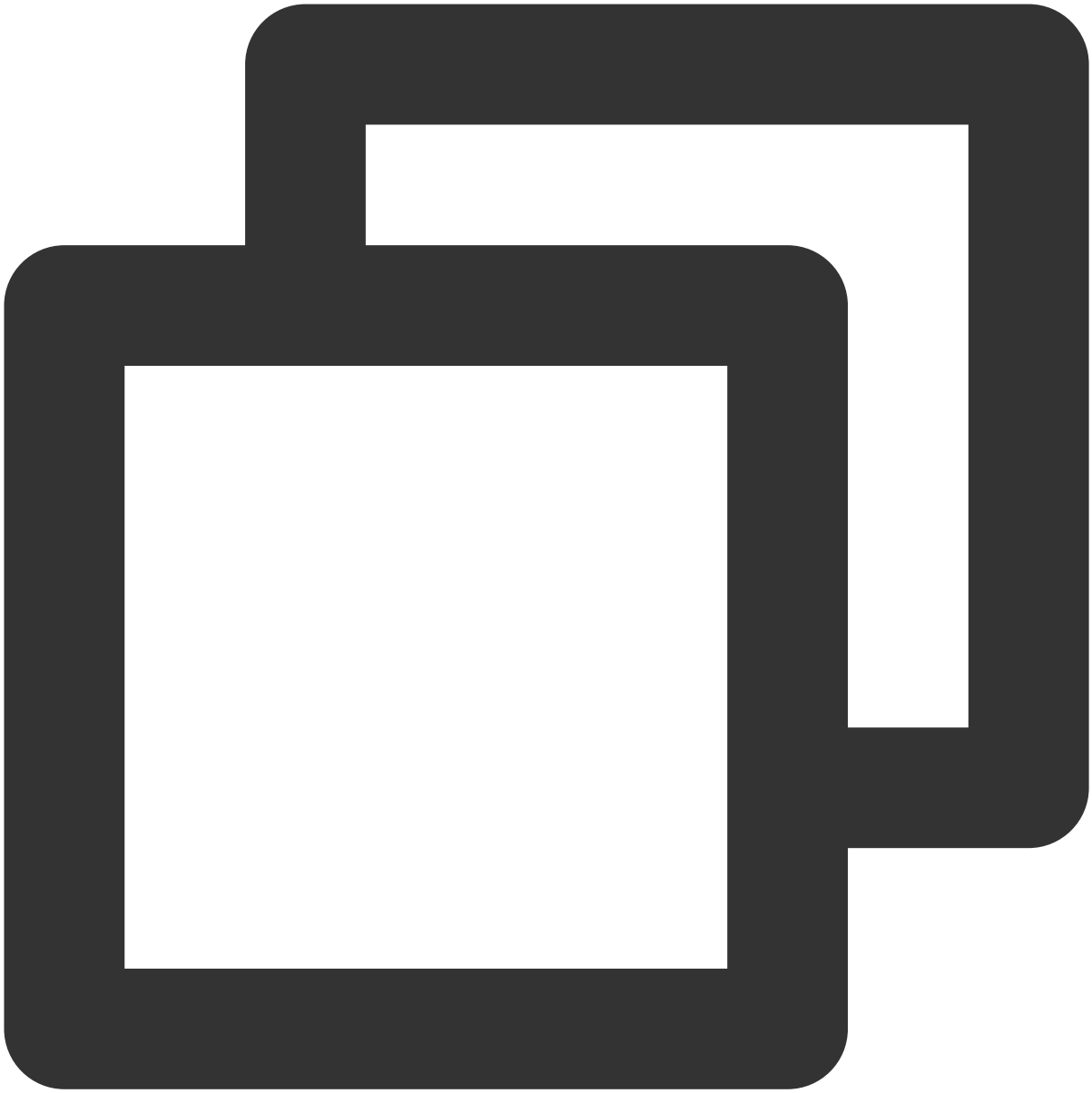
```
    callParams.offlinePushInfo = offlinePushInfo;
    callParams.timeout = 30;
    return callParams;
}

- (TUIOfflinePushInfo *)createOfflinePushInfo {
    TUIOfflinePushInfo *pushInfo = [TUIOfflinePushInfo new];
    pushInfo.title = @"";
    pushInfo.desc = @"You have a new call";
    // iOS push type: if you want user VoIP, please modify type to TUICallIOSOfflin
    pushInfo.iOSPushType = TUICallIOSOfflinePushTypeVoIP;
    pushInfo.ignoreIOSBadge = NO;
    pushInfo.iOSSound = @"phone_ringing.mp3";
    pushInfo.AndroidSound = @"phone_ringing";
    // OPPO must set a ChannelID to receive push messages. This channelID needs to
    pushInfo.AndroidOPPOChannelID = @"tuikit";
    // FCM channel ID, you need change PrivateConstants.java and set "fcmPushChanne
    pushInfo.AndroidFCMChannelID = @"fcm_push_channel";
    // VIVO message type: 0-push message, 1-System message(have a higher delivery r
    pushInfo.AndroidVIVOClassification = 1;
    // HuaWei message type: https://developer.huawei.com/consumer/cn/doc/developmen
    pushInfo.AndroidHuaWeiCategory = @"IM";
    return pushInfo;
}

[[TUICallKit createInstance] call:@"Mike's ID" params:[self getCallParams] callMedi
```





```
TUICallDefine.OfflinePushInfo offlinePushInfo = new TUICallDefine.OfflinePushInfo()
offlinePushInfo.setTitle("");
offlinePushInfo.setDesc("You have receive a new call");
// OPPO must set a ChannelID to receive push messages. This channelID needs to be t
offlinePushInfo.setAndroidOPPOChannelID("tuikit");
offlinePushInfo.setIgnoreIOSBadge(false);
offlinePushInfo.setIOSSound("phone_ringing.mp3");
offlinePushInfo.setAndroidSound("phone_ringing"); // Note：don't add suffix
// VIVO message type: 0-push message, 1-System message(have a higher delivery rate)
offlinePushInfo.setAndroidVIVOClassification(1);
// FCM channel ID, you need change PrivateConstants.java and set "fcmPushChannelId"
```

```
offlinePushInfo.setAndroidFCMChannelID("fcm_push_channel");
// Huawei message type
offlinePushInfo.setAndroidHuaWeiCategory("IM");
// IOS push type: if you want user VoIP, please modify type to TUICallDefine.IOSOff
offlinePushInfo.setIOSPushType(TUICallDefine.IOSOfflinePushType.VoIP);

TUICallDefine.CallParams params = new TUICallDefine.CallParams();
params.offlinePushInfo = offlinePushInfo;

TUICallKit.createInstance(context).call("mike", TUICallDefine.MediaType.Video, para
```



```
TUIOfflinePushInfo offlinePushInfo = TUIOfflinePushInfo();
 offlinePushInfo.title = "Flutter TUICallKit";
 offlinePushInfo.desc = "This is an incoming call from Flutter TUICallkit";
 offlinePushInfo.ignoreIOSBadge = false;
 offlinePushInfo.iOSSound = "phone_ringing.mp3";
 offlinePushInfo.androidSound = "phone_ringing";
 offlinePushInfo.androidOPPOChannelID = "Flutter TUICallKit";
 offlinePushInfo.androidVIVOClassification = 1;
 offlinePushInfo.androidFCMChannelID = "fcm_push_channel";
 offlinePushInfo.androidHuaWeiCategory = "Flutter TUICallKit";
 offlinePushInfo.iOSPushType = TUICallIOSOfflinePushType.VoIP;
```

```
TUICallParams params = TUICallParams(offlinePushInfo: offlinePushInfo);

TUICallKit.instance.call(callUserId, TUICallMediaType.audio, params);
```

Call from the system call log

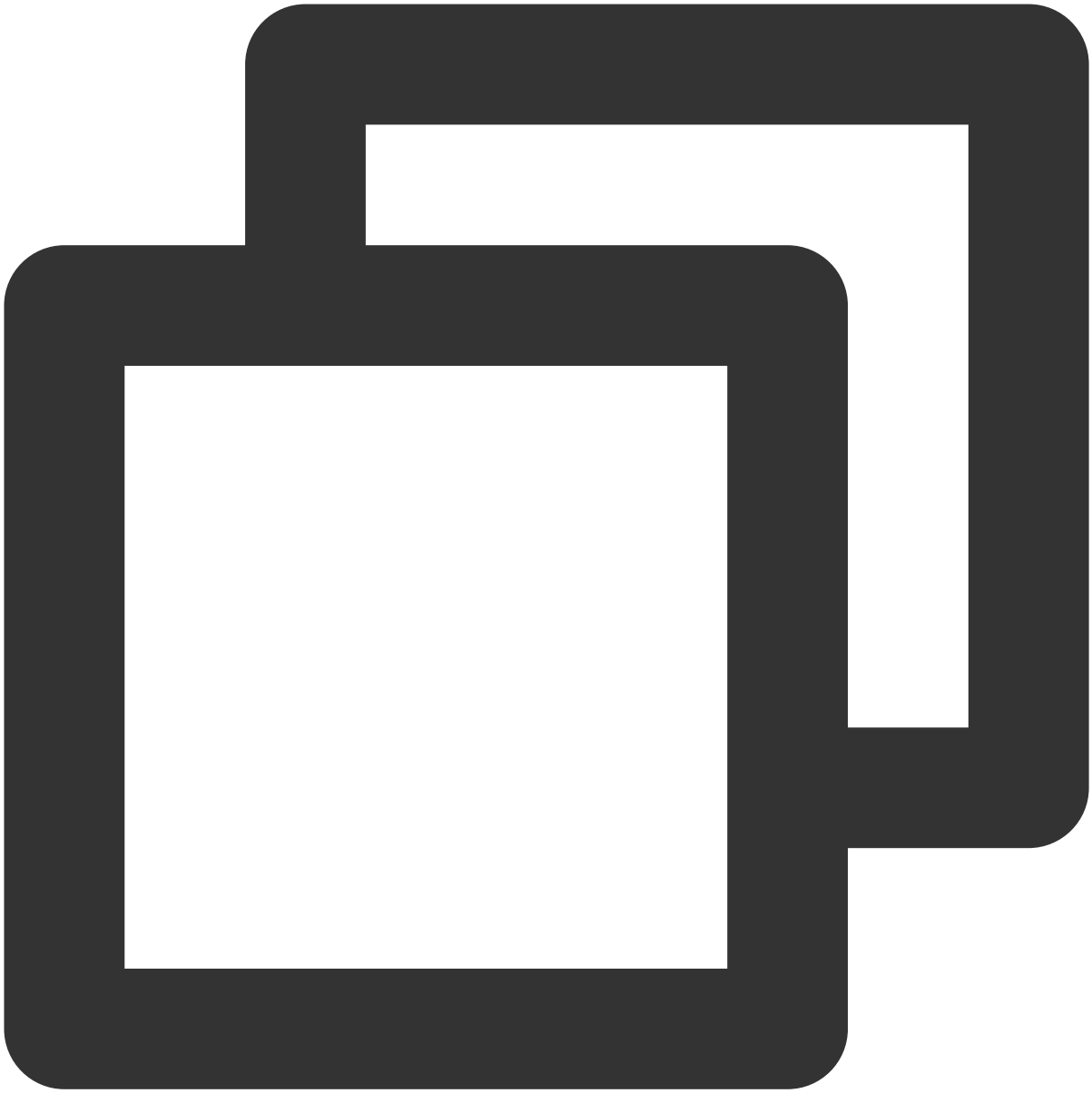
If you want to initiate a one-on-one audio or video call directly by clicking the call record in the **System Phone - Recent Calls** list, you need to use the **callWith** method in the **TUICallKitVoIPExtension** component in the Application lifecycle callback function. Here's an example:

Note：

Only supports dialing one-on-one audio and video calls directly.

The logged-in account must be the same account.

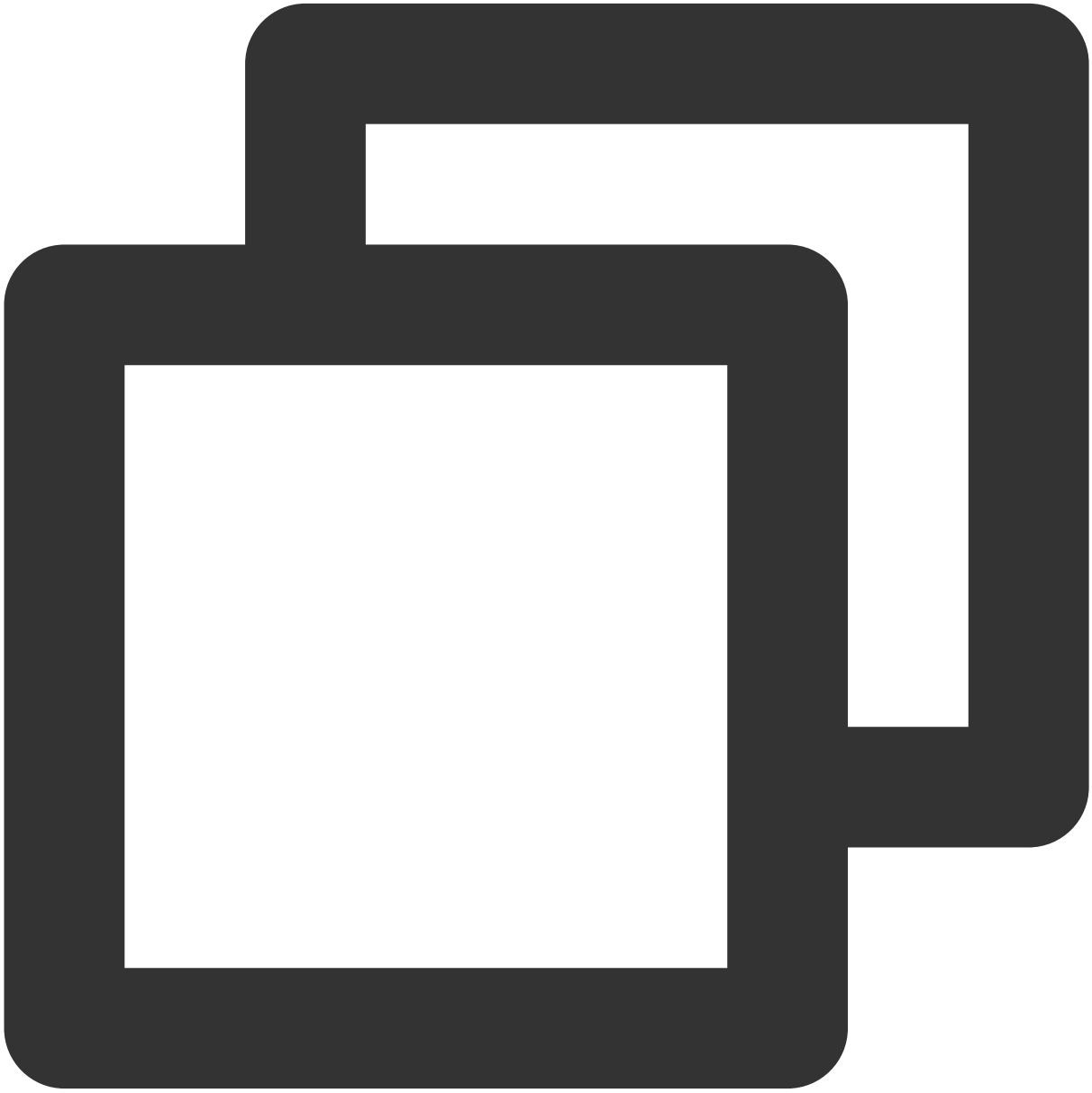
1. On iOS 13 (and later versions) with SceneDelegate support, and with a minimum compatibility version prior to iOS 13, you need to implement the following methods in AppDelegate and SceneDelegate respectively.



```
// Implementation in AppDelegate for handling versions before iOS 13
- (BOOL)application:(UIApplication *)application continueUserActivity:(nonnull NSUs
    [TUICallKitVoIPExtension callWith:userActivity];
    return YES;
}

// Implementation in SceneDelegate
- (void)scene:(UIScene *)scene willConnectToSession:(UISceneSession *)session optio
    [connectionOptions.userActivities enumerateObjectsUsingBlock:^(NSUserActivity *
        [TUICallKitVoIPExtension callWith:userActivity];
    }];
```

```
}

- (void)scene:(UIScene *)scene continueUserActivity:(NSUserActivity *)userActivity
    [TUICallKitVoIPExtension callWith:userActivity];
}
```

2. On iOS 13 (and later versions) without **SceneDelegate**, you only need to implement the following method in **AppDelegate**.



```
- (BOOL)application:(UIApplication *)application continueUserActivity:(nonnull NSUs
    [TUICallKitVoIPExtension callWith:userActivity];
```

```
    return YES;
}
```

Frequently Asked Questions

Can't receive VoIP Push

1. First, check if the App's running environment and the certificate environment are consistent, and if the certificate ID matches. If they are inconsistent, you won't be able to receive push notifications.
2. Please make sure your currently logged-in account is offline: press the home key to switch to the background, or log in and then manually kill the process to exit. VoIP Push currently only supports push notifications in offline mode.
3. Check if Step 3: Complete the Project Configuration is done correctly.
4. Try restarting the test phone to clear the system cache and memory.

APNs

Last updated：2024-01-18 11:07:30

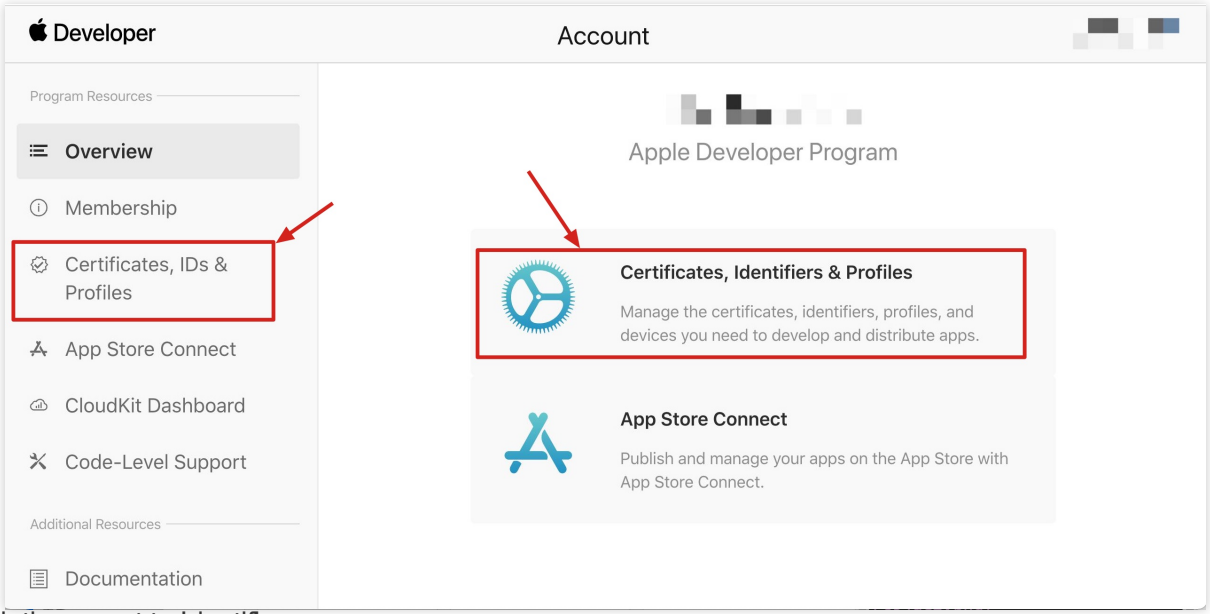
The offline wake-up function allows your app to receive audio and video call alerts even when it is running in the background or in an offline state. TUICallKit uses Apple's system-level push channel (APNs) for message notifications.

Configure Offline Push

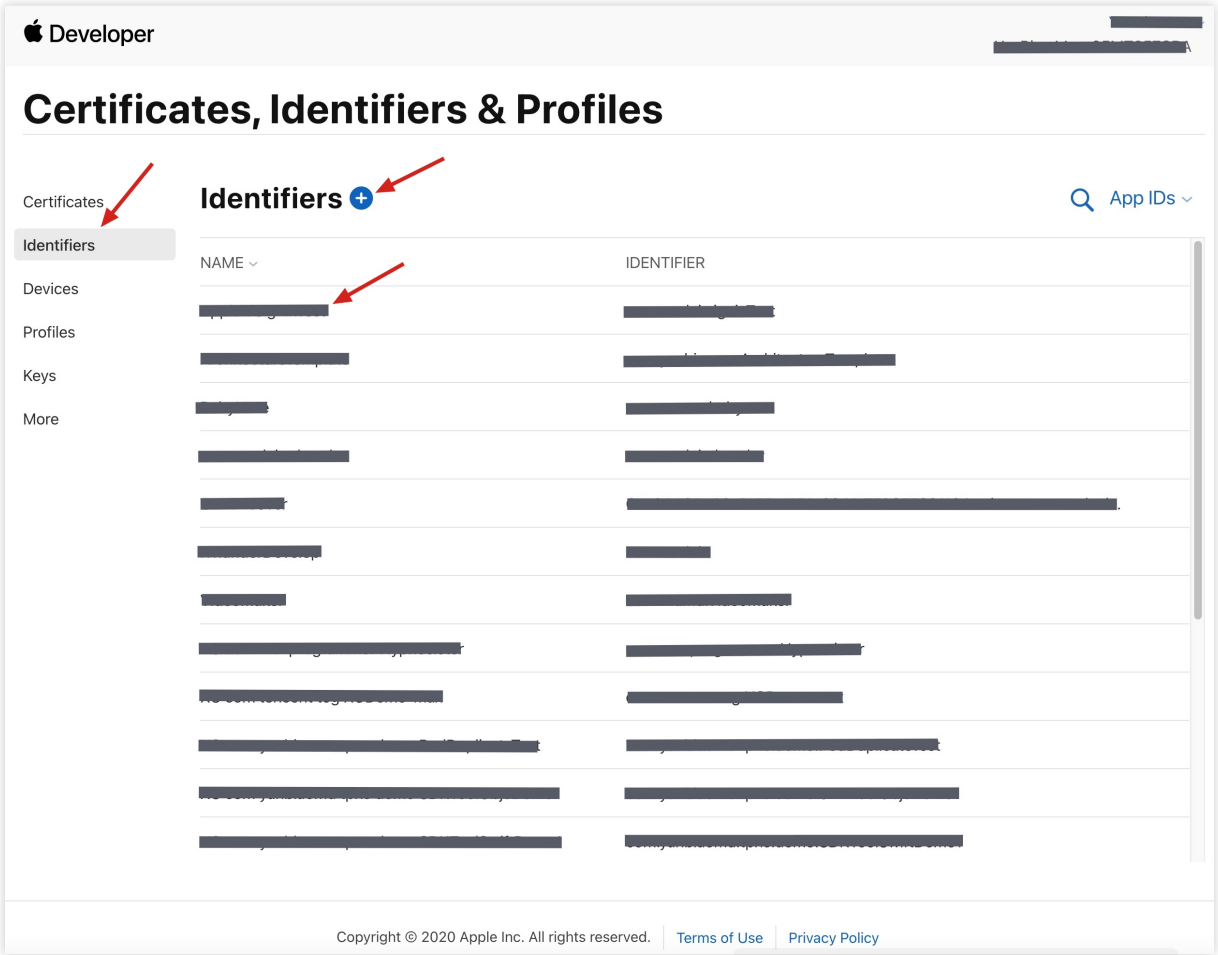
1. Enable APP remote push.
2. Generate Push Certificate.
3. Upload Certificate to IM Console.
4. Complete Project Configuration.
5. Obtain deviceToken from Apple on each App login.。
6. Call setAPNS interface to report it to the IM backend.。

Step 1: Enable App Remote Push

1. Log in to the Apple Developer Center website, and click on Certificates, Identifiers & Profiles or Certificates, IDs & Profiles in the sidebar to enter the Certificates, IDs & Profiles page.



2. Click the + next to Identifiers.

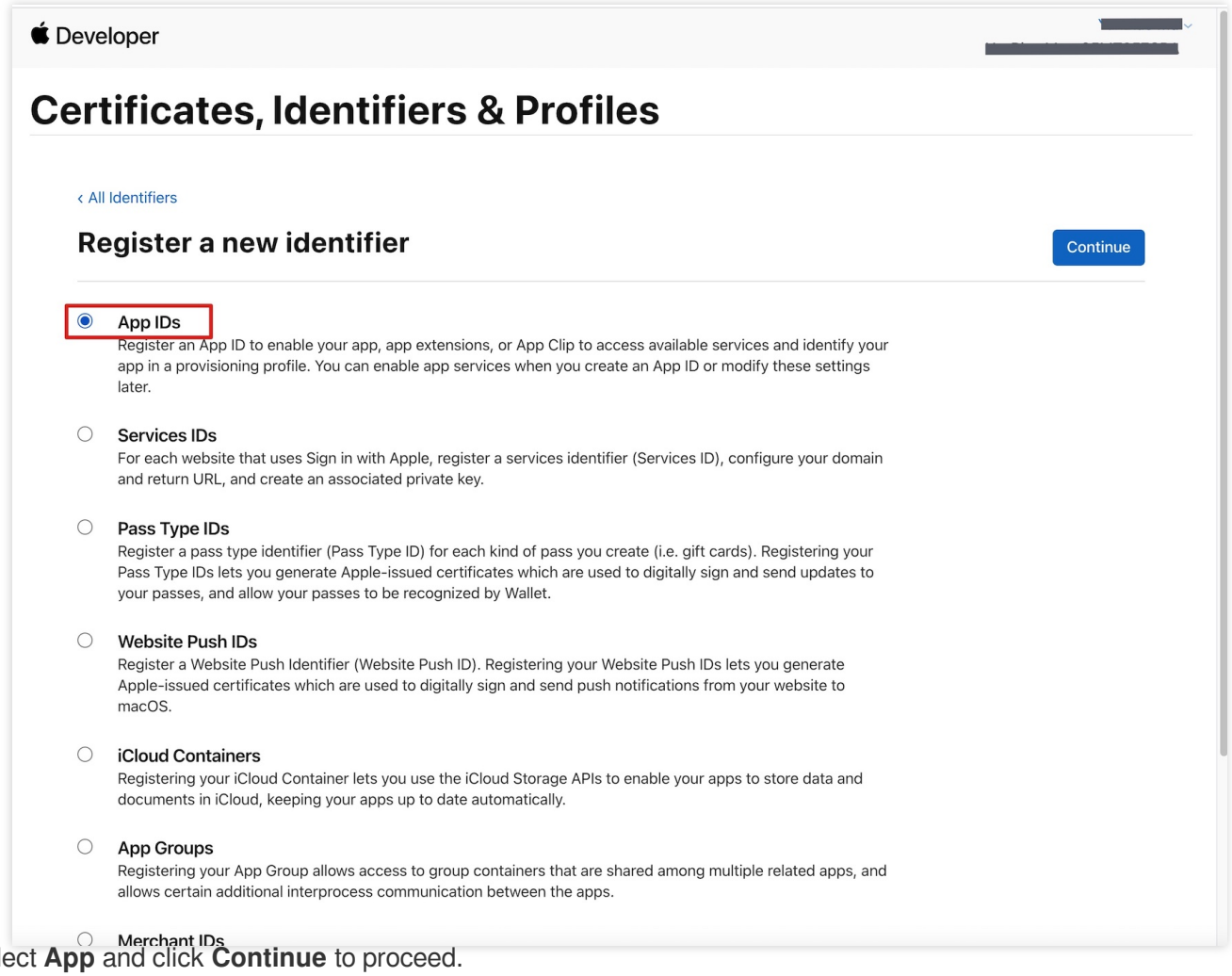


3. You can follow the steps below to create a new AppID, or add a `Push Notification Service` to your existing AppID.

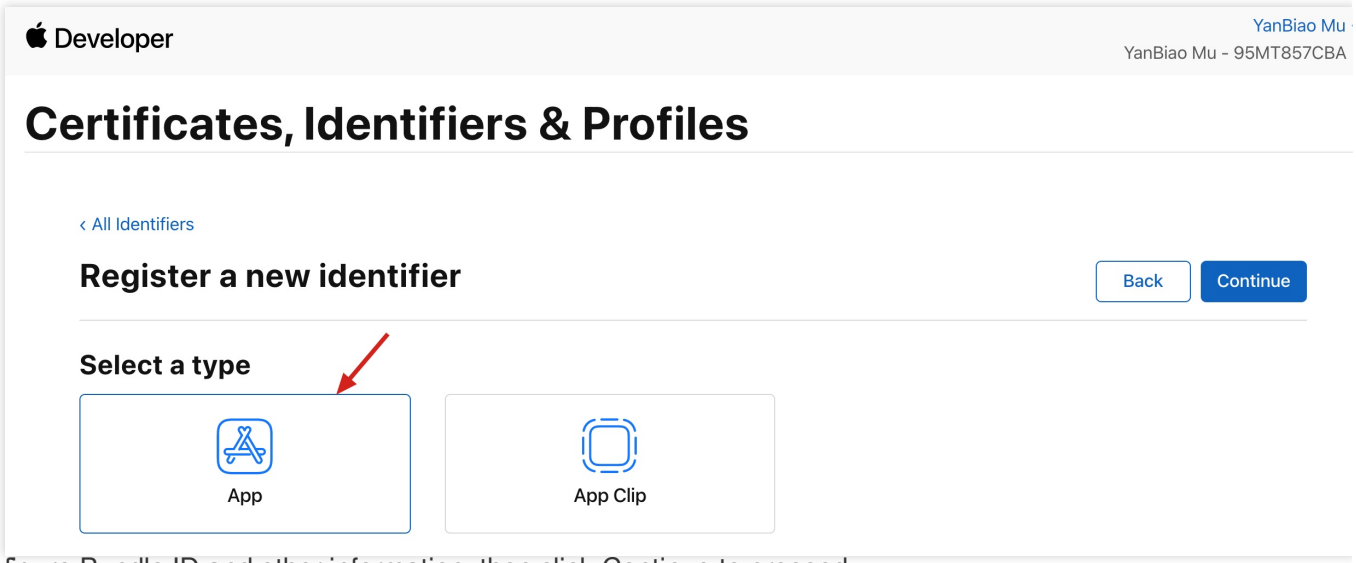
Note：

Please note that the Bundle ID of your App cannot use the wildcard *, otherwise the remote push service cannot be used.

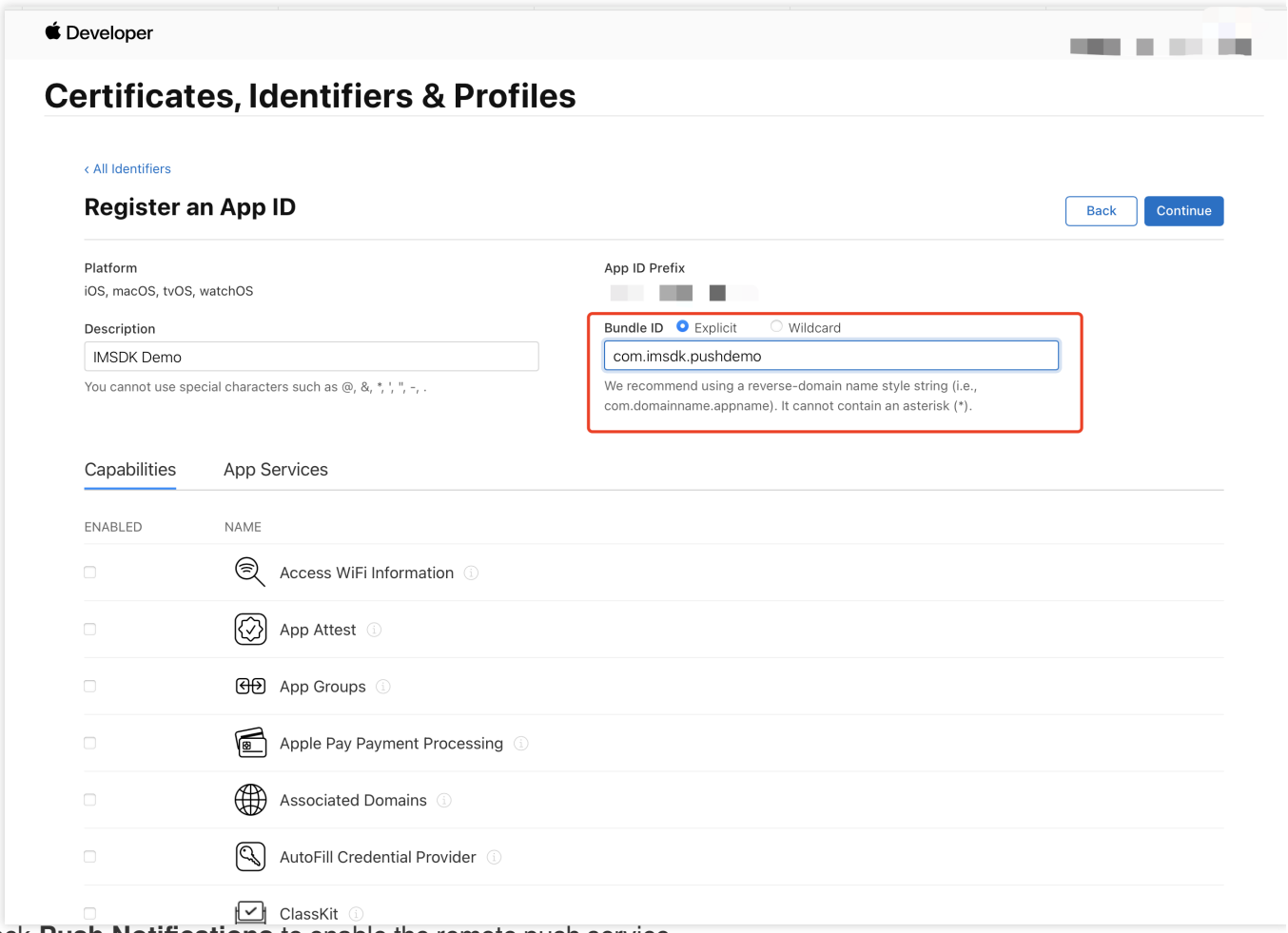
4. Check **App IDs**, click **Continue** to proceed.



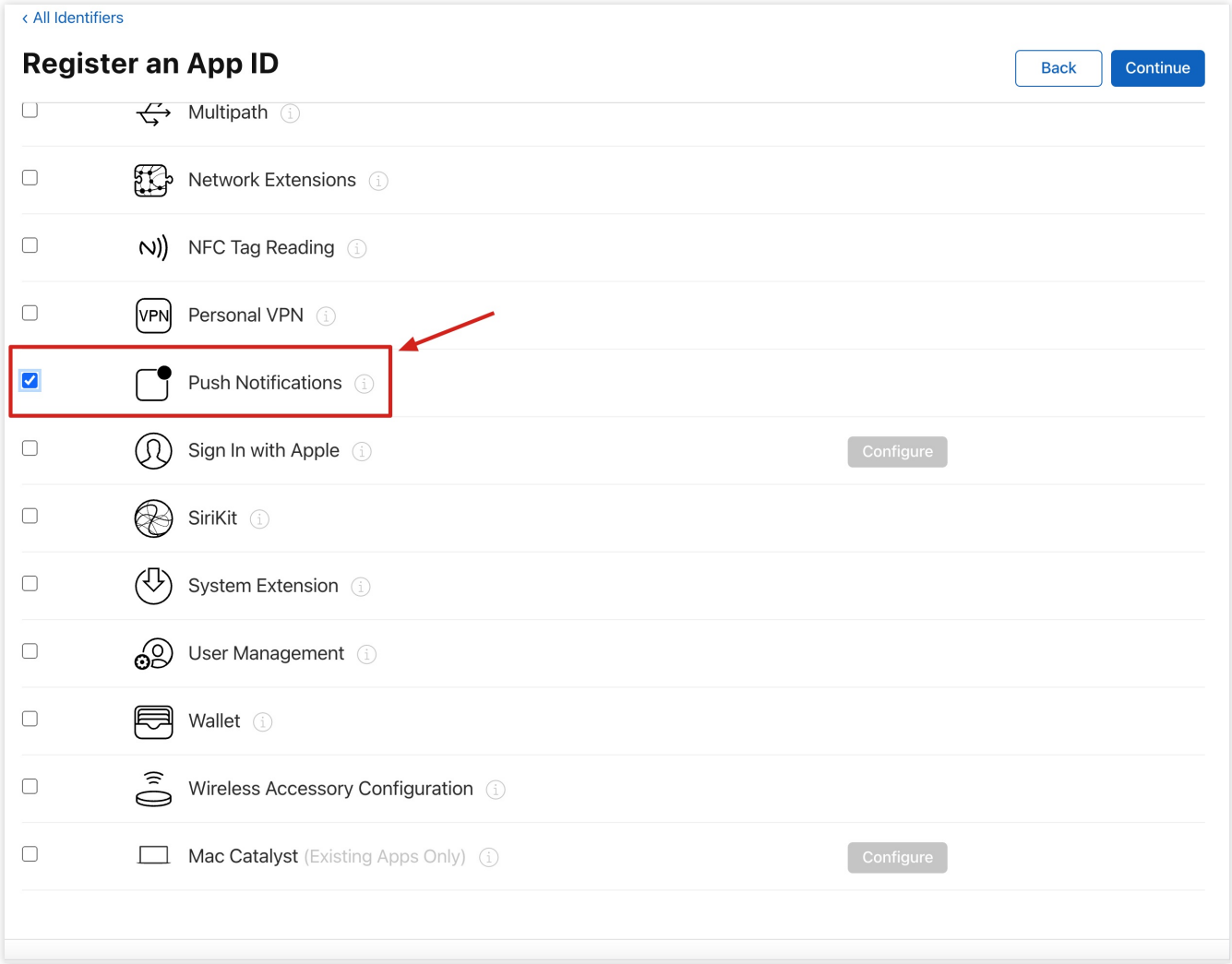
5. Select **App** and click **Continue** to proceed.



6. Configure Bundle ID and other information, then click Continue to proceed.

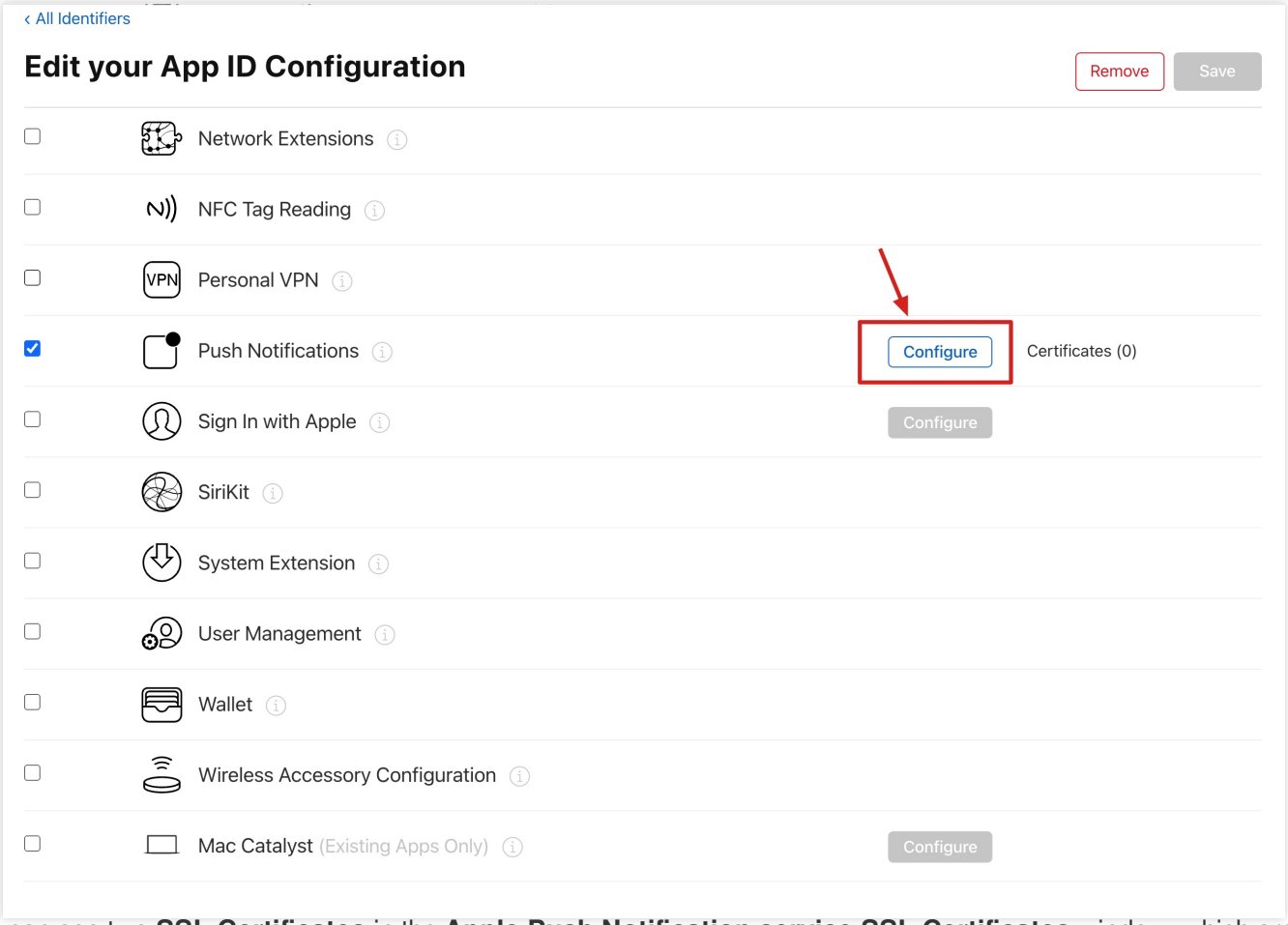


7. Check **Push Notifications** to enable the remote push service.

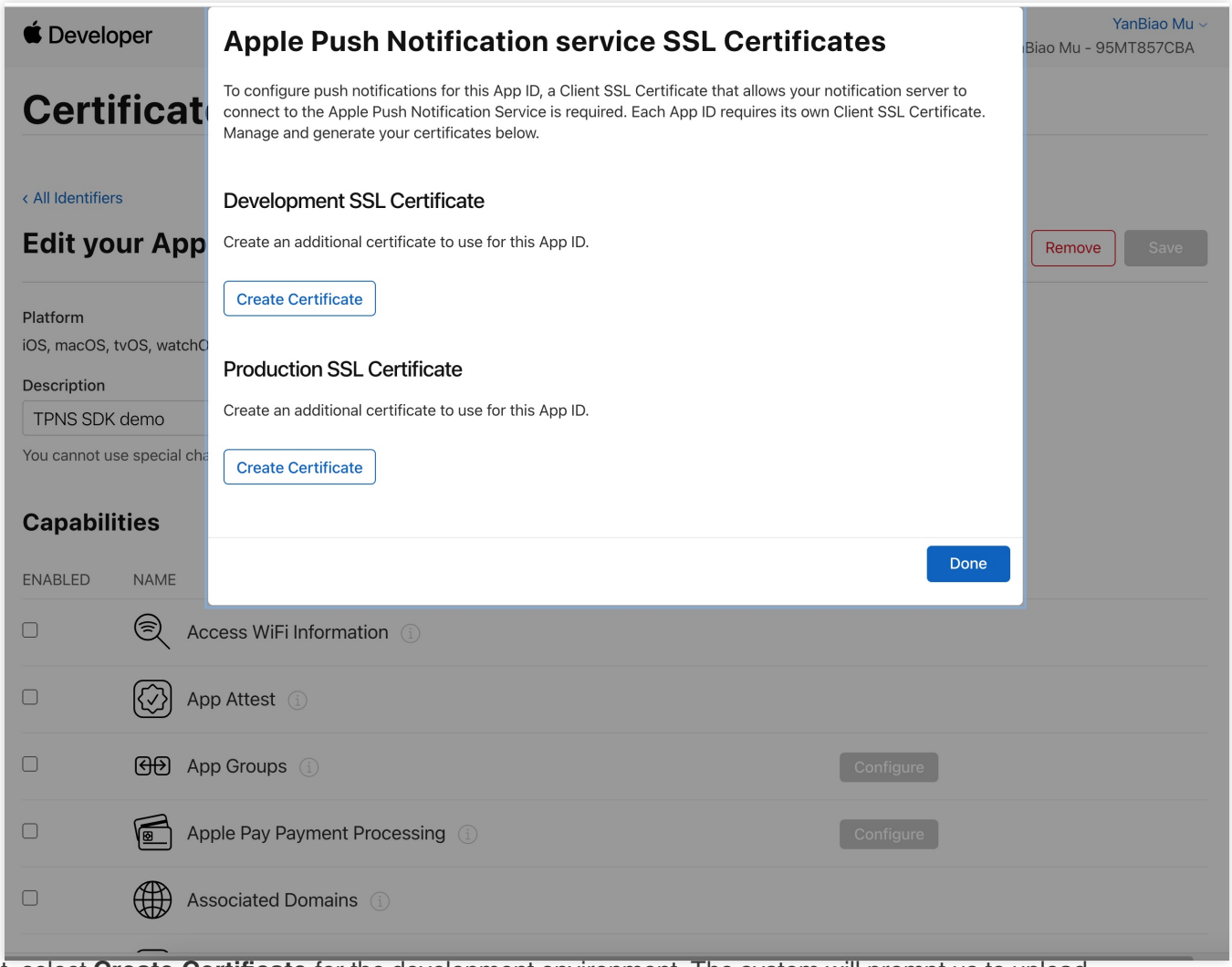


Step 2: Generate Push Certificates

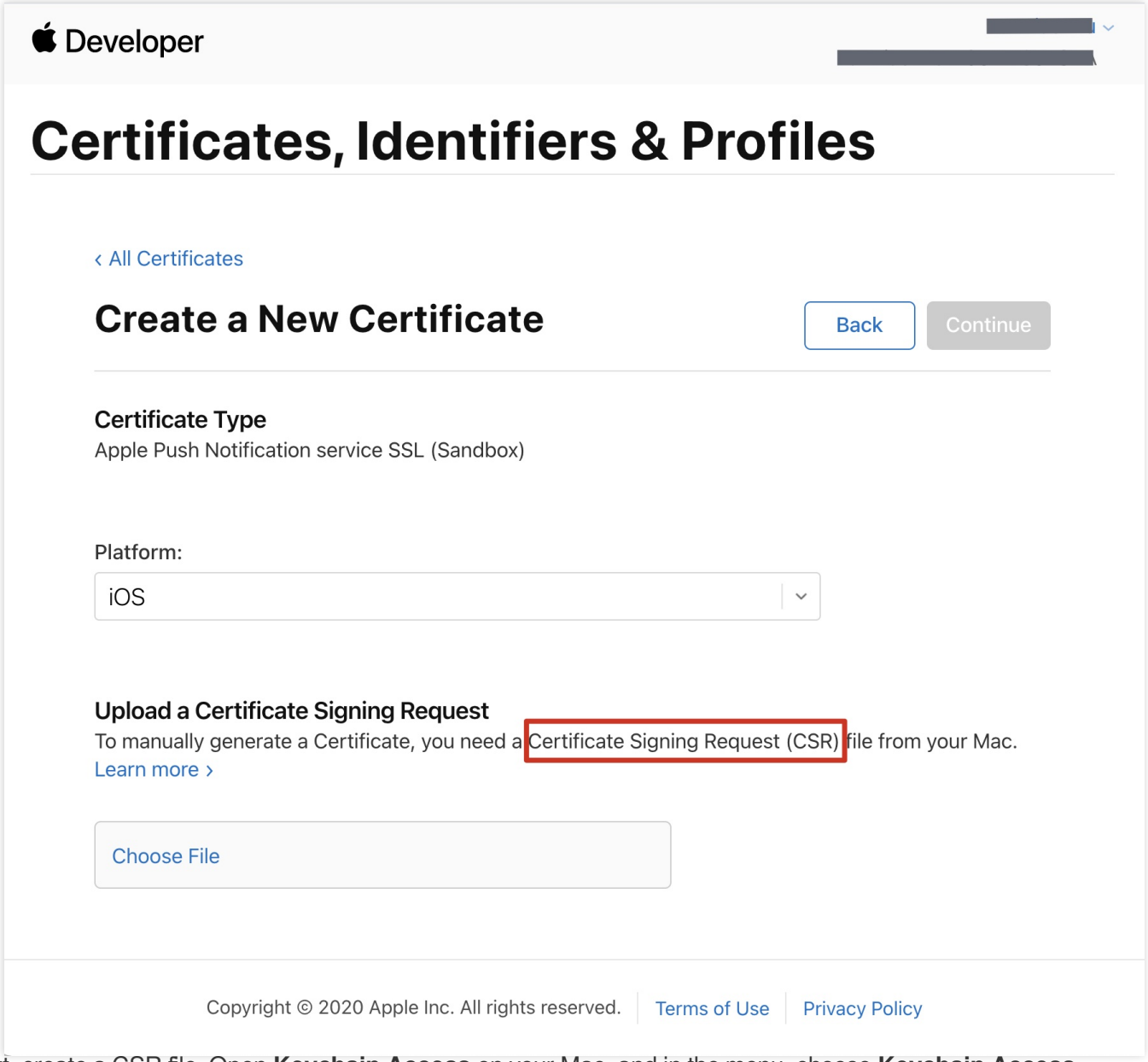
1. Select your AppID, and click **Configure**.



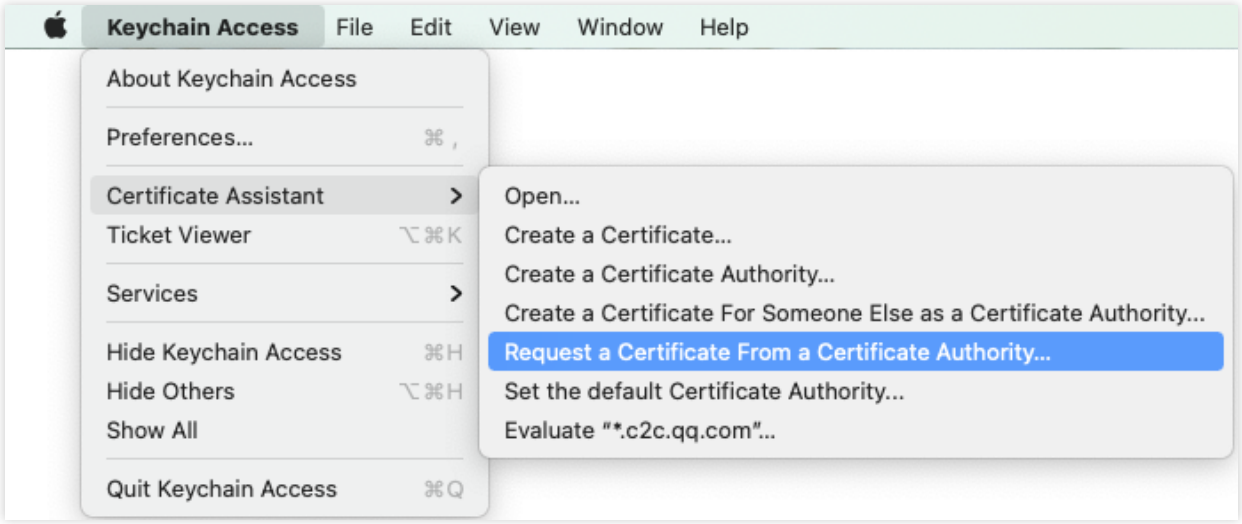
2. You can see two **SSL Certificates** in the **Apple Push Notification service SSL Certificates** window, which are used for the remote push certificates of the development environment and production environment, as shown in the picture below:



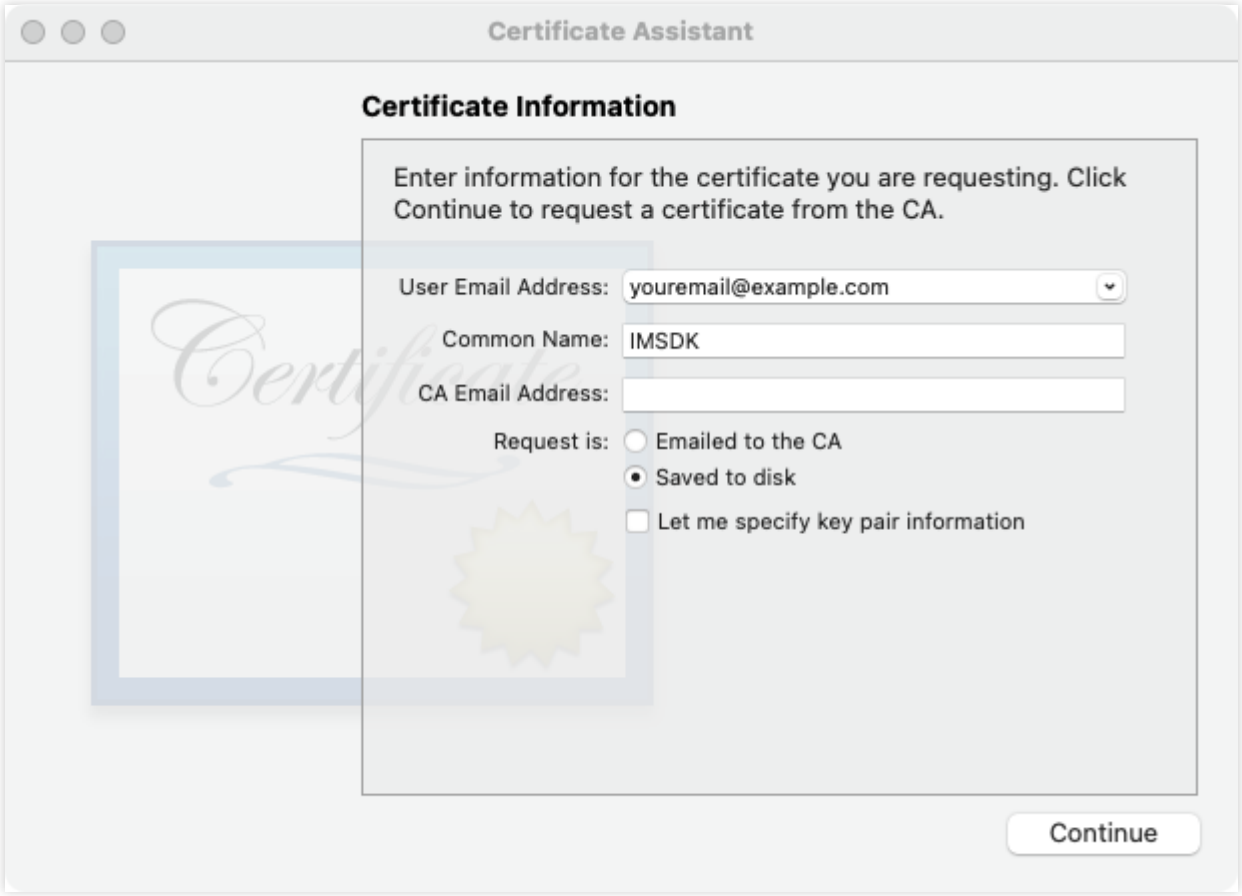
3. First, select **Create Certificate** for the development environment. The system will prompt us to upload a **Certificate Signing Request (CSR)**.



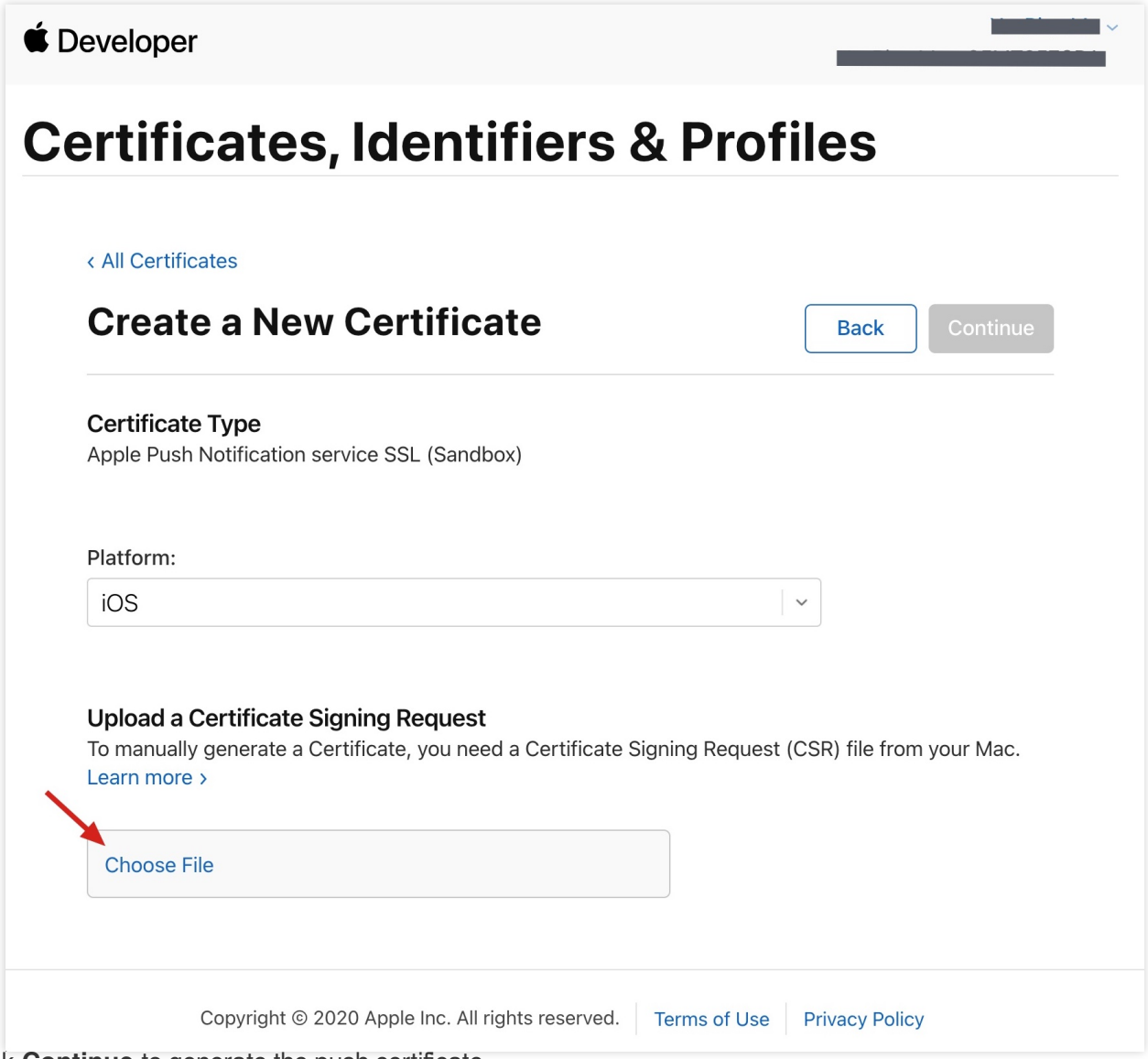
4. Next, create a CSR file. Open **Keychain Access** on your Mac, and in the menu, choose **Keychain Access** - **Certificate Assistant** - **Request a Certificate From a Certificate Authority**.



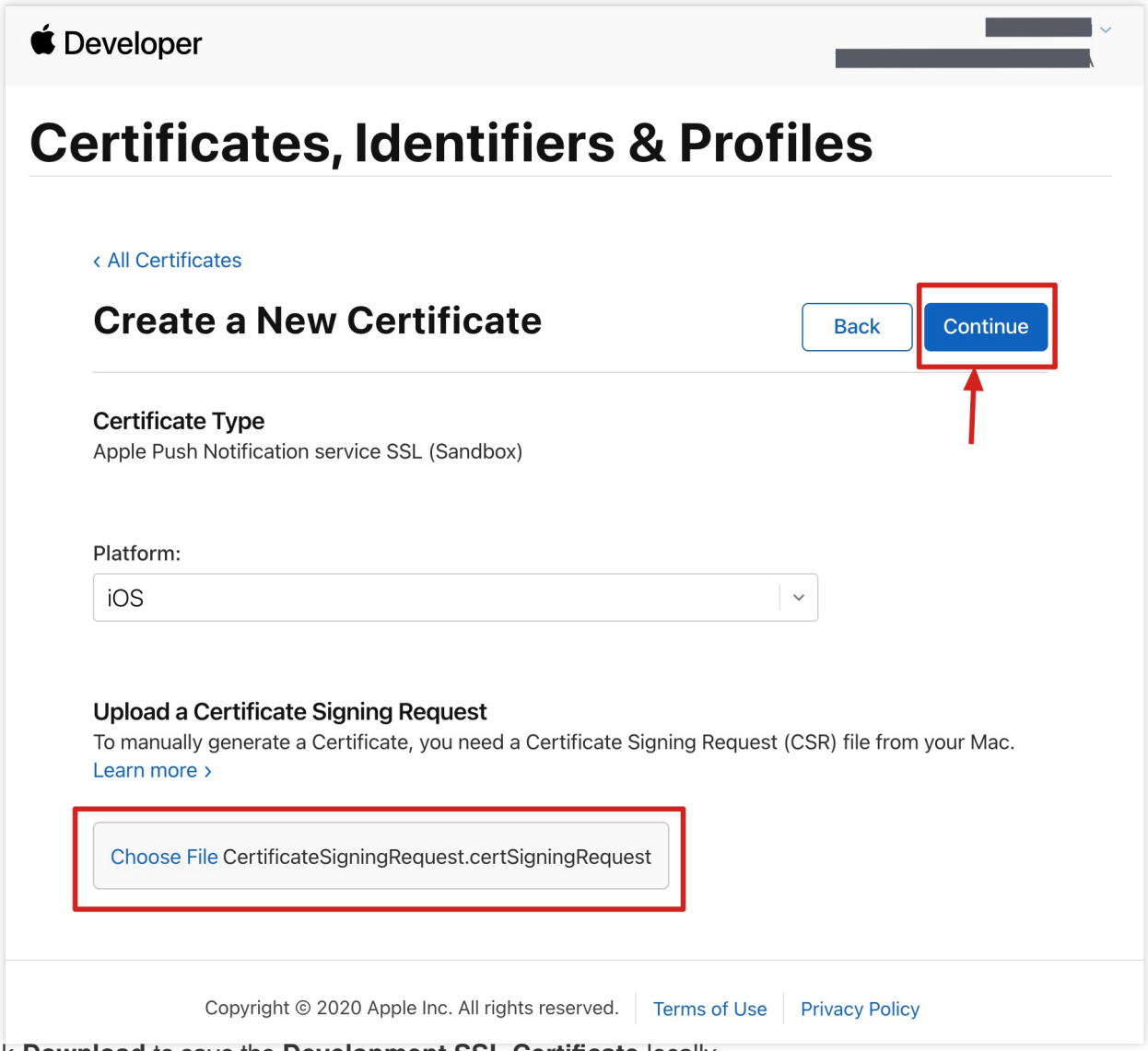
5. Enter your email address, common name (your name or company name), choose **Save to disk**, click "Continue", and the system will generate a `*.certSigningRequest` file.



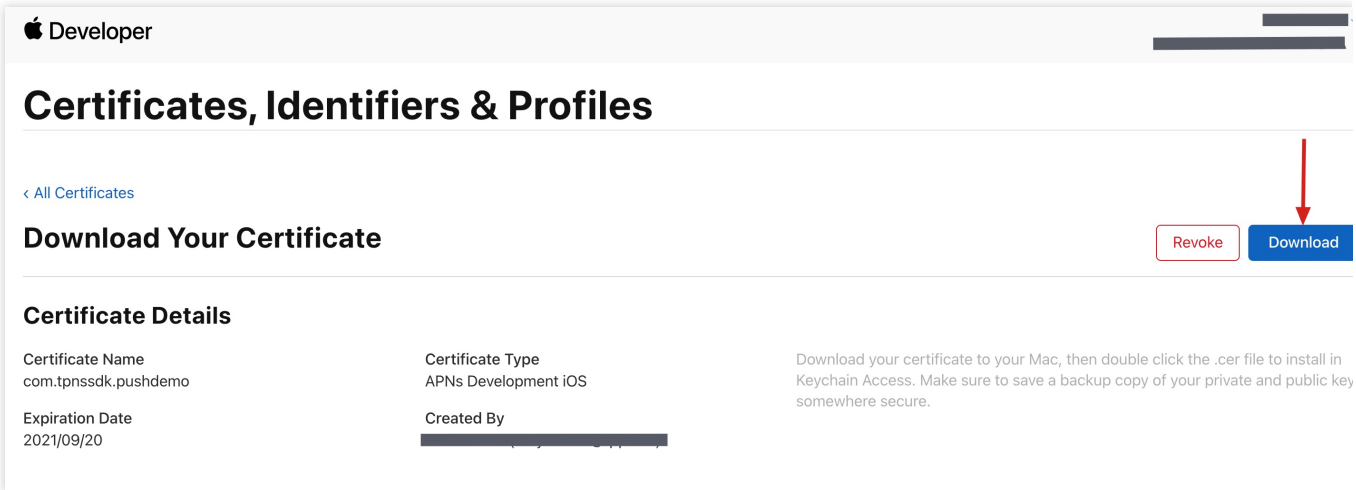
6. Go back to the Apple Developer website in **Step3** , click "Choose File" and upload the generated *.certSigningRequest file.



7. Click **Continue** to generate the push certificate.



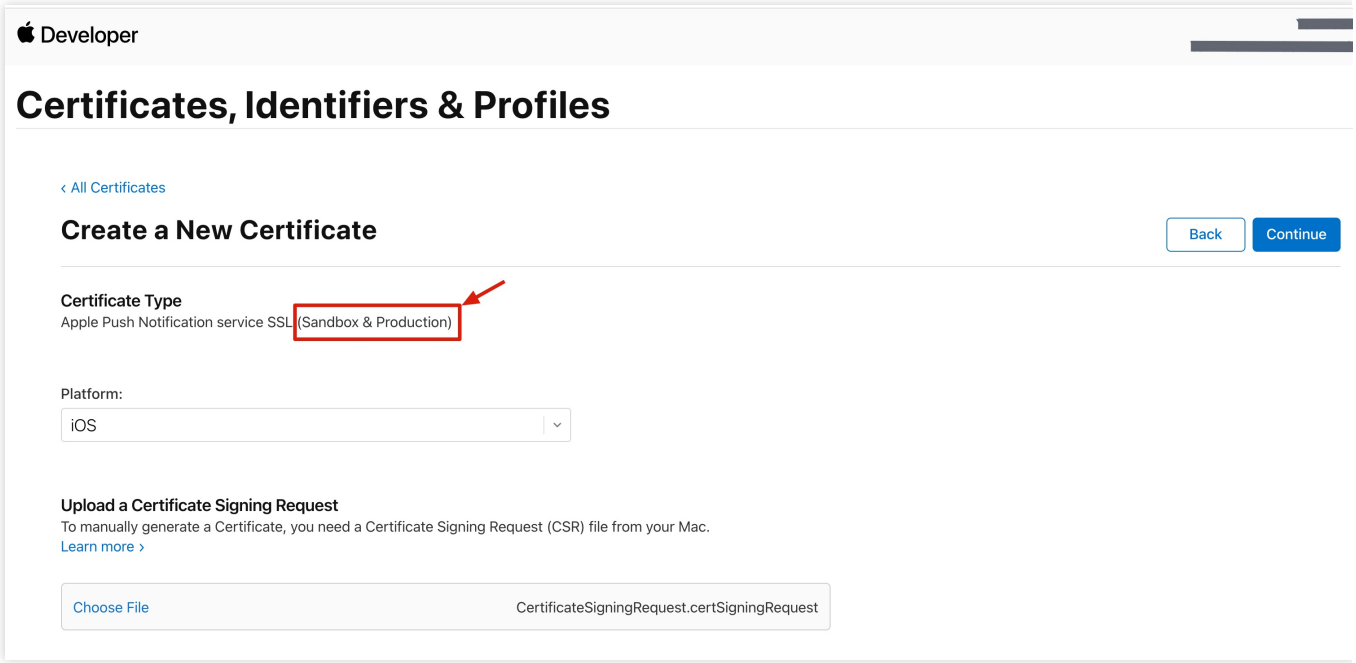
8. Click **Download** to save the **Development SSL Certificate** locally.

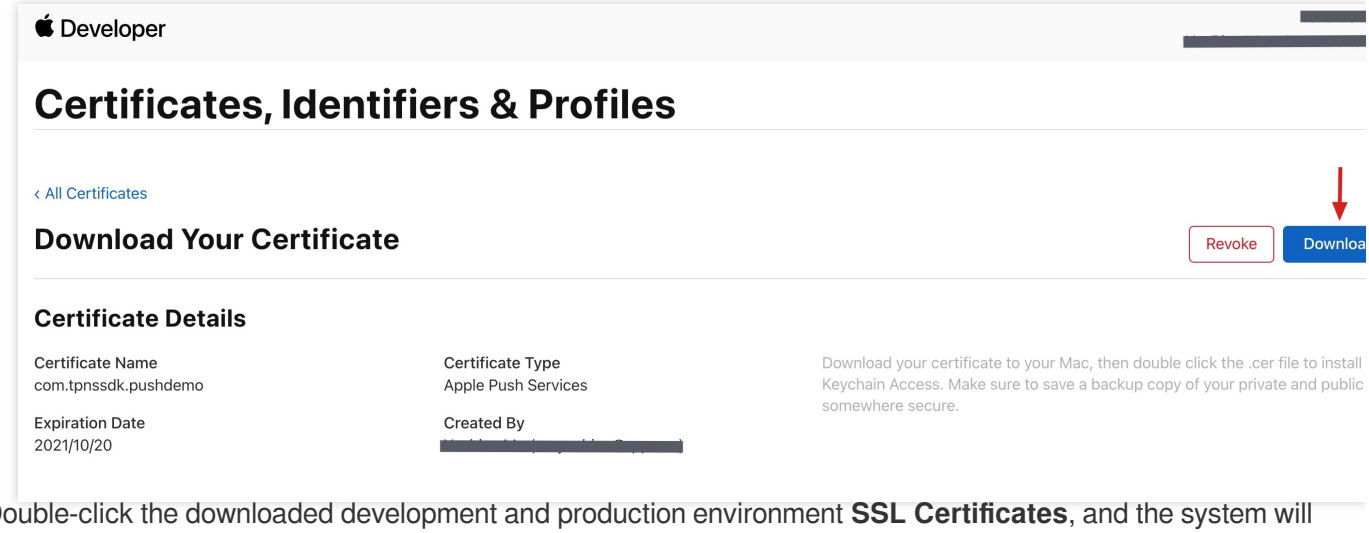


9. Repeat steps 1 to 8 to download the **Production SSL Certificate** for the production environment.

Note：

The production environment certificate is actually a combined certificate of development (Sandbox) and production (Production) environments, which can be used as certificates for both development and production environments.





10. Double-click the downloaded development and production environment **SSL Certificates**, and the system will import them into the keychain.

11. Open the Keychain app, under **Login** > **My Certificates**, right-click on the created VoIP Services certificate.

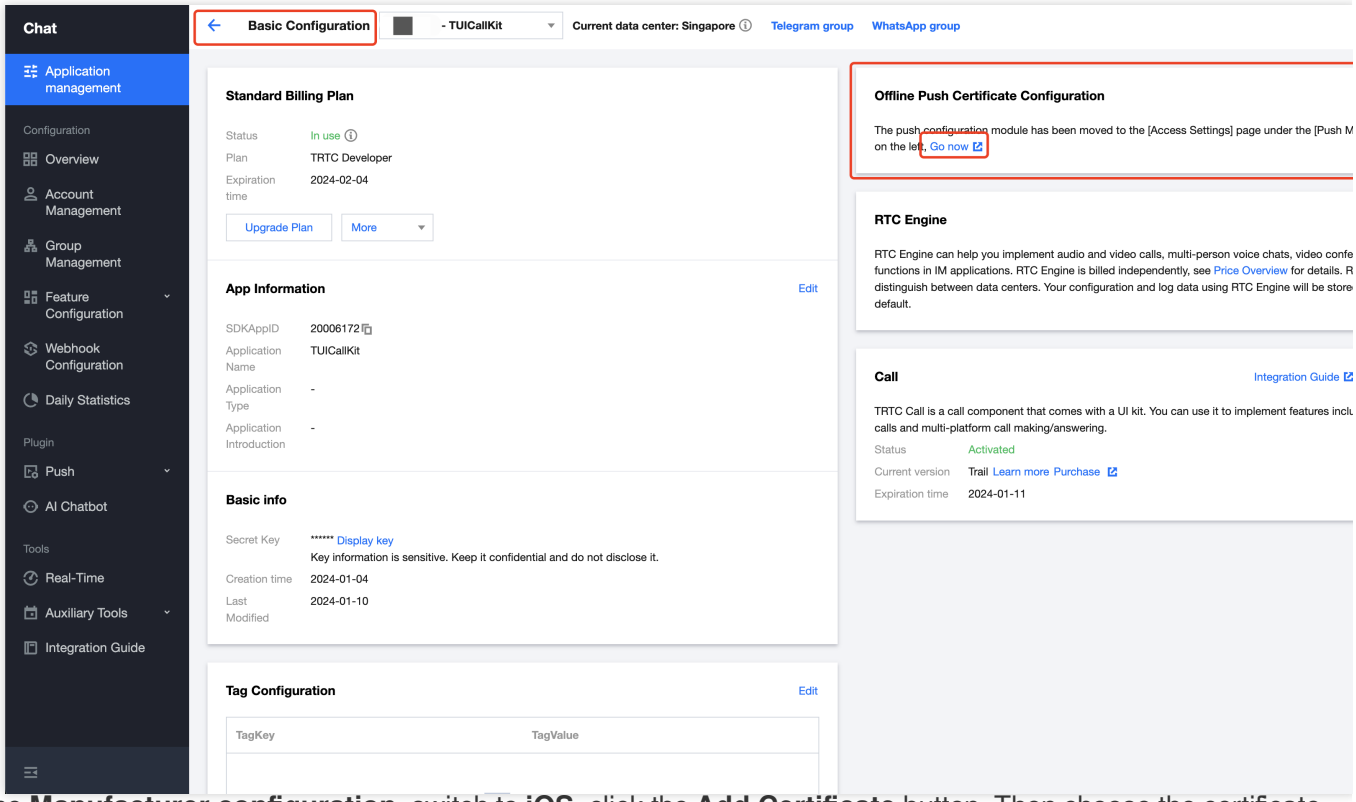
Note：

When saving the `P12` file, please be sure to set a password for it.

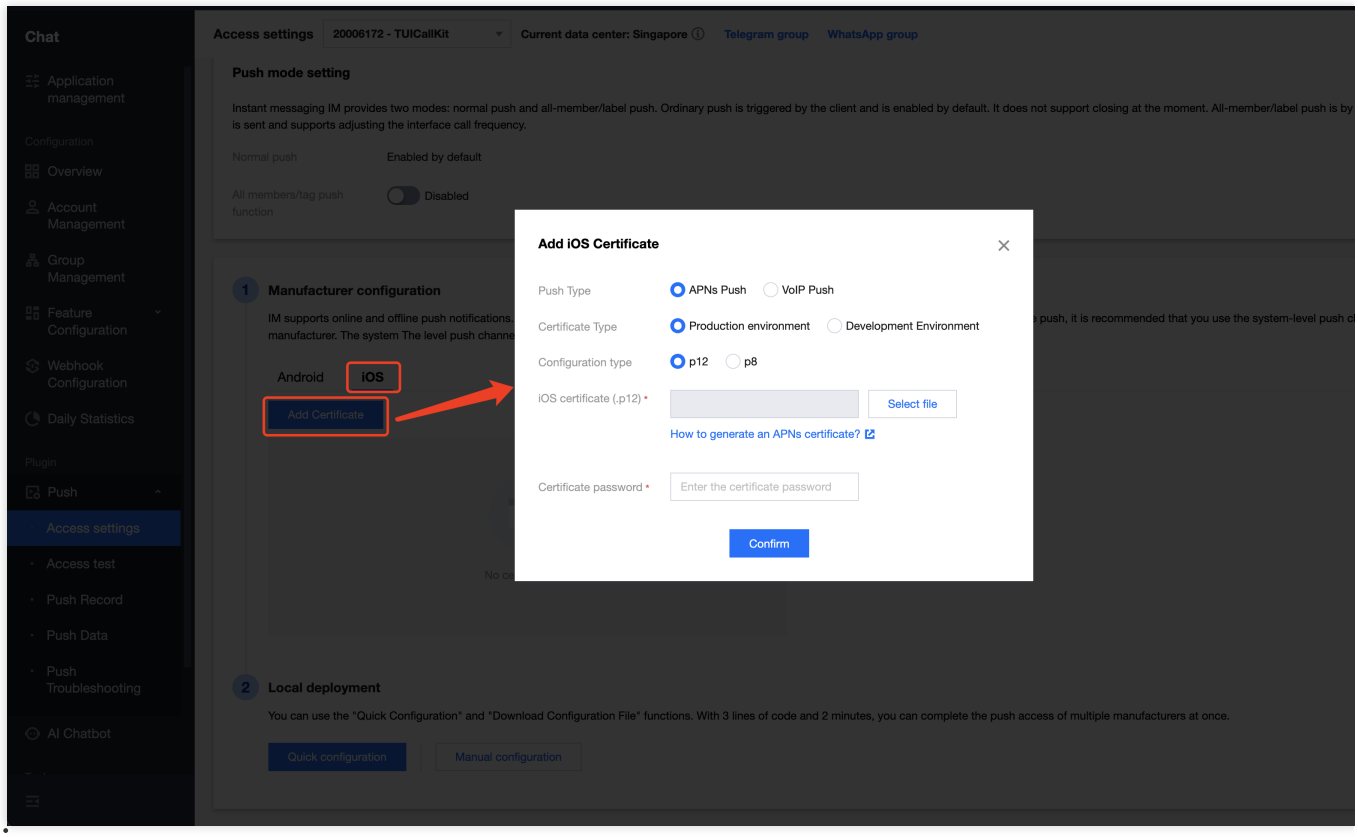
Step3：Upload certificates to the IM Console

1. Log in to the IM Console.

2. Choose your IM application, click **Go new** under the **Offline Push Certificate Configuration** tab.



3. In the **Manufacturer configuration**, switch to **iOS**, click the **Add Certificate** button. Then choose the certificate type, upload the iOS Certificate (p.12), set the certificate password, and click **Confirm**.



Note：

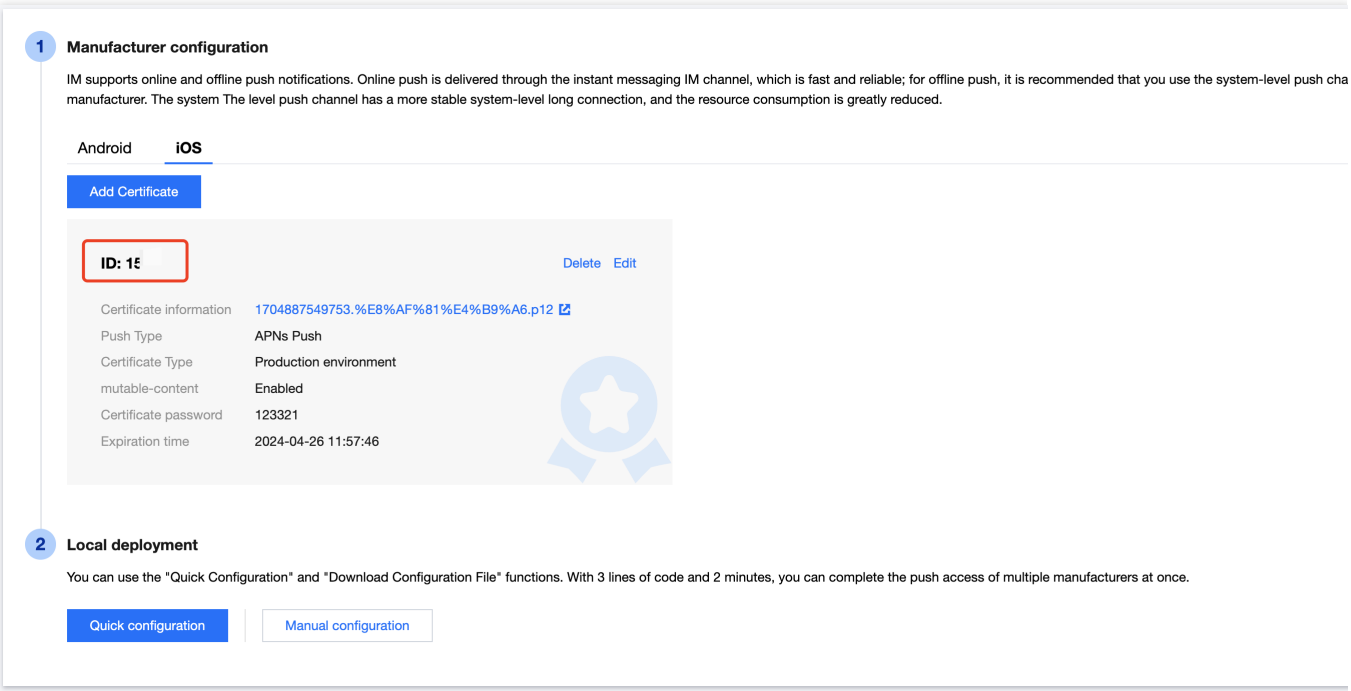
The uploaded certificate name should preferably be in English (especially without special characters like parentheses).

A password is required when uploading a certificate; without a password, you won't receive push notifications.

For App Store release certificates, set the environment to production, otherwise, you won't receive push notifications.

The uploaded p12 certificate must be a genuine and valid certificate that you applied for.

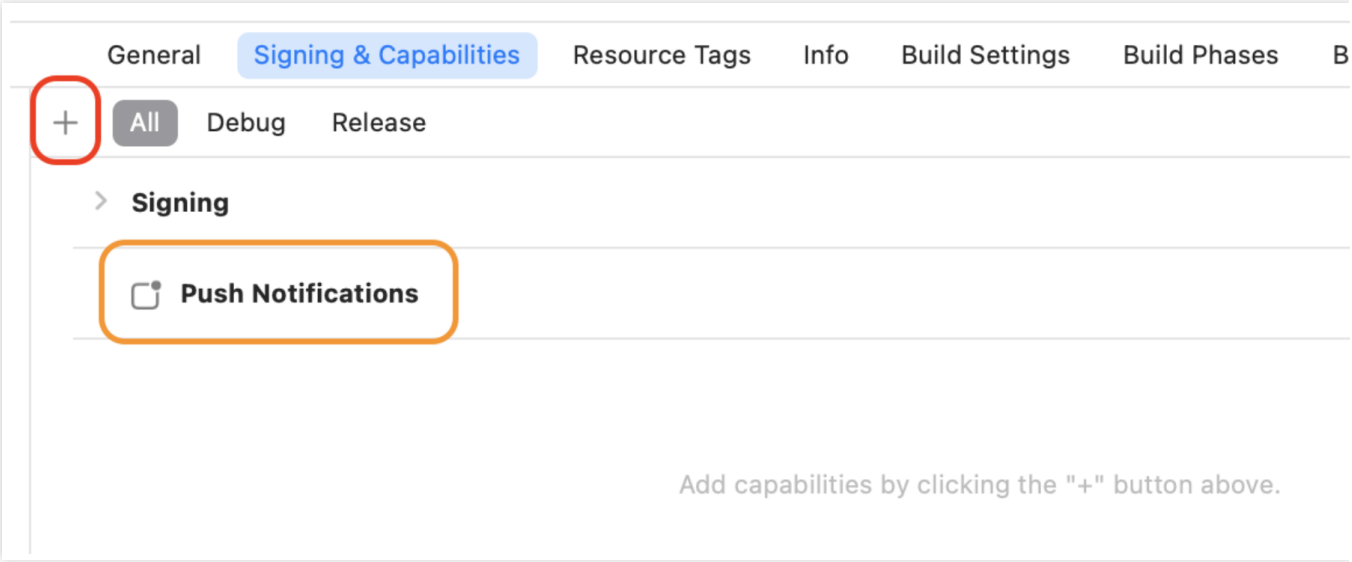
4. Once the push certificate information is generated, record the certificate ID.



Step4：Complete Project Configuration

To add the required permissions in your application, enable push notification functionality in your Xcode project.

Open your **Xcode** project, go to **Project > Target > Capabilities**, click the plus button in the red frame, and select and add **Push Notifications**. The added result is shown in the yellow frame in the image below:

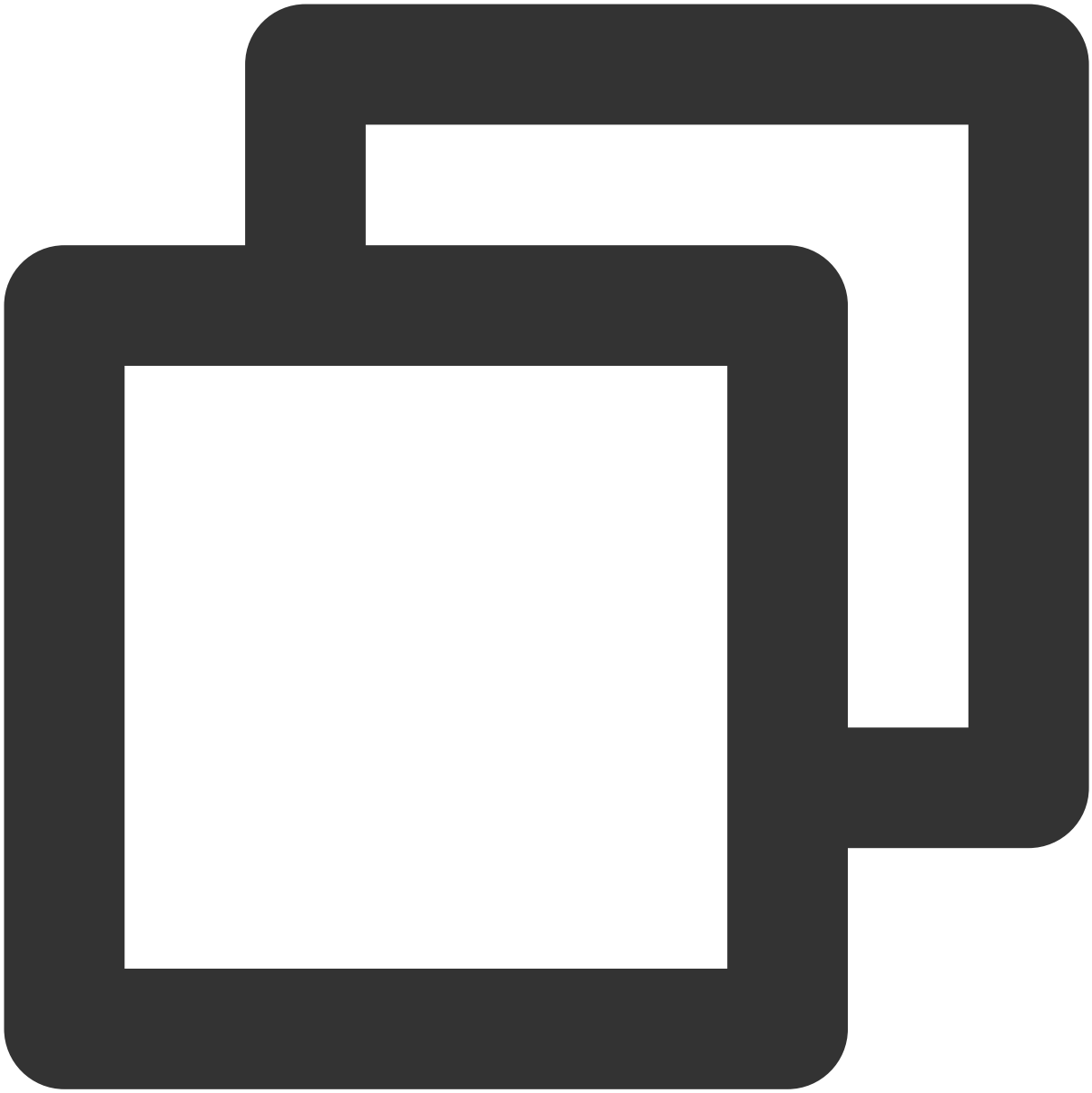


Step 5: Obtain the deviceToken from Apple every time the App logs in

You can add the following code to your App to request the deviceToken from Apple's backend server:

Note：

To ensure compliance, it is recommended to request the deviceToken from Apple only after the user has agreed to the privacy policy.

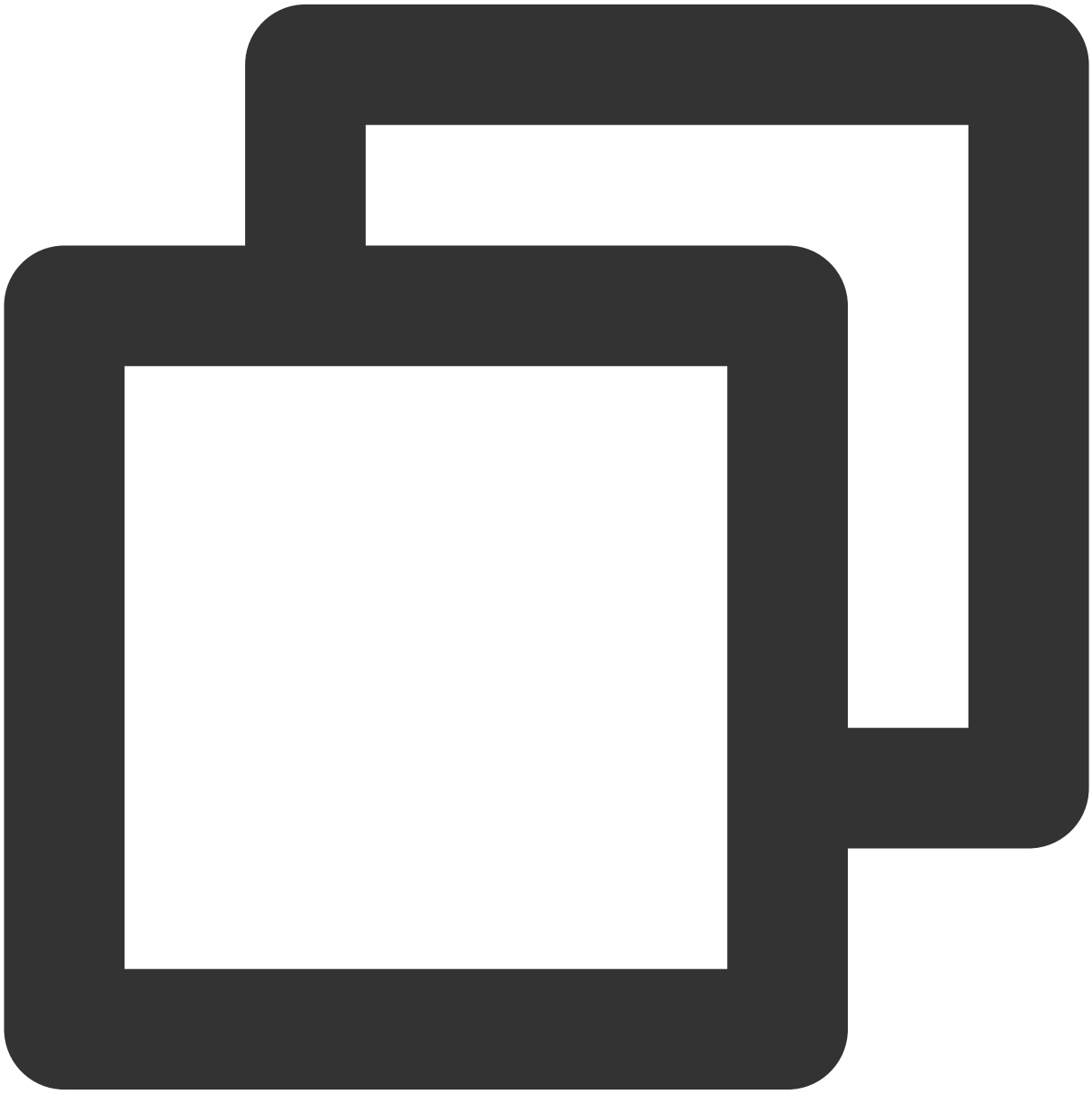


```
// Request DeviceToken from Apple's backend
- (void)registerNotification {
    [[UIApplication sharedApplication] registerUserNotificationSettings:
              [UIUserNotificationSettings settingsForTypes:
              (UIUserNotificationTypeSound | UIUserNotificationTypeAlert | UIUserNo
              categories:nil]];
    [[UIApplication sharedApplication] registerForRemoteNotifications];
}

// The deviceToken returned in the AppDelegate's callback needs to be reported to T
-(void)application:(UIApplication *)app didRegisterForRemoteNotificationsWithDevice
```

```
    // Record the deviceToken returned by Apple
    _deviceToken = deviceToken;
}
```

Step 6: Call the API to report it to the IM backend

Once the IM SDK has successfully logged in, you can call the setAPNS API to upload the deviceToken obtained in Step 5 to Tencent Cloud backend. The sample code is as follows:



```
- (void)pushRegisterIfLogined {
  if (self.deviceToken) {
```

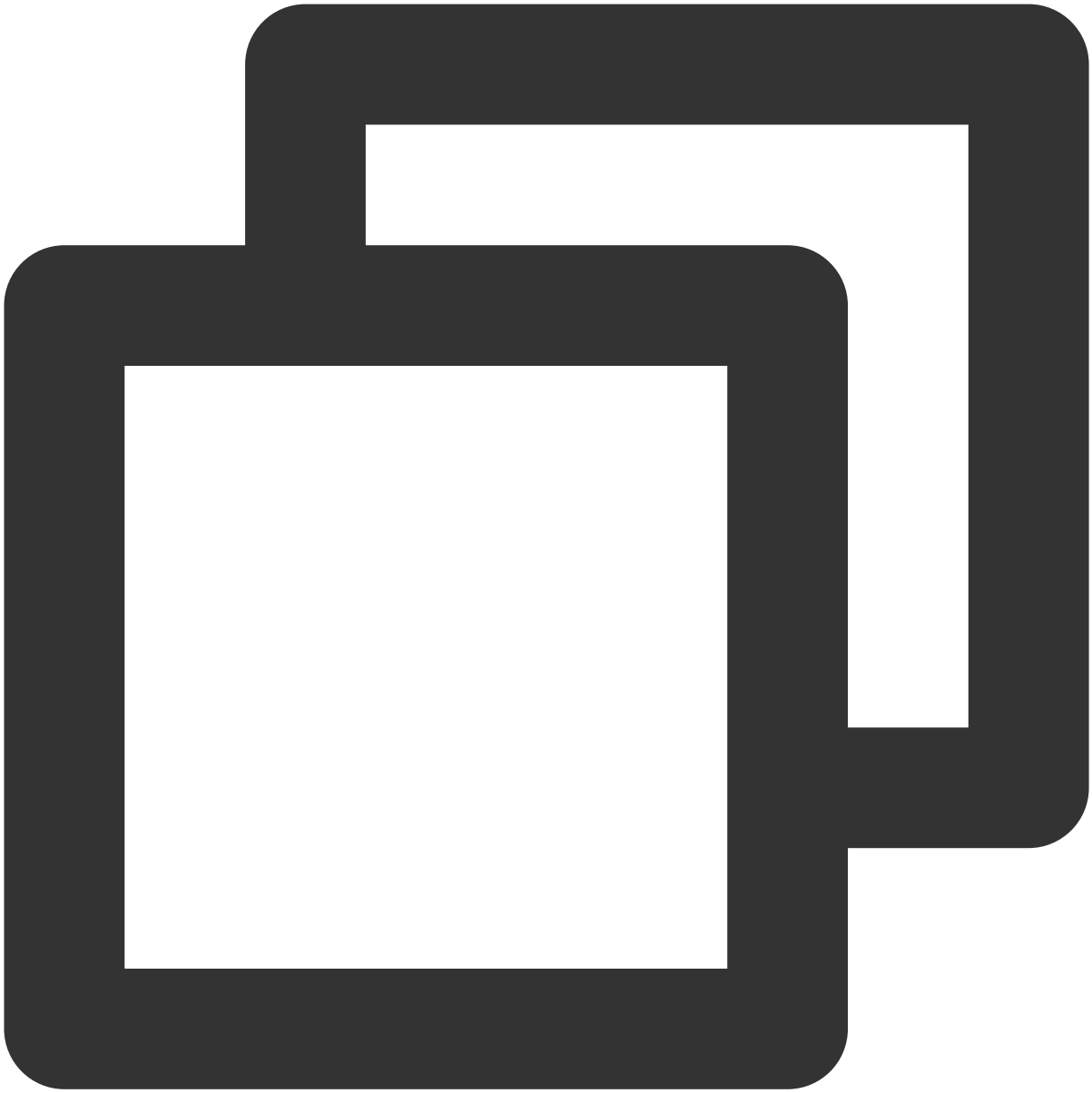
```
        V2TIMAPNSConfig *config = [[V2TIMAPNSConfig alloc] init];
        // Users register their Apple developer certificate, download, and generate t
        // Pass the generated p12 file to the Tencent Certificate Management Console,
        // Pass the generated certificate ID to the businessID parameter below.
        config.businessID = sdkBusiId;
        // Value of deviceToken obtained from Apple's backend server
        config.token = self.deviceToken;
        [[V2TIMManager sharedInstance] setAPNS:config succ:^{
             NSLog(@"%s, succ", __func__");
        } fail:^(int code, NSString *msg) {
             NSLog(@"%s, fail, %d, %@", __func__, code, msg);
        }];
    }
    // ...
}
```

Customize Offline Ringtone

To set the iOSSound field in the offlinePushInfo of the params, please call the call method while dialing and pass the audio file name to iOSSound.

Note：

Offline push sound settings (effective for iOS only). If you want to customize iOSSound, you need to link the audio file to the Xcode project first, and then set the audio file name (with extension) to iOSSound.



```
[[TUICallKit createInstance] call:@"mike's id" params:[self getCallParams] callMedi

- (TUICallParams *)getCallParams {
    TUIOfflinePushInfo *offlinePushInfo = [self createOfflinePushInfo];
    TUICallParams *callParams = [TUICallParams new];
    callParams.offlinePushInfo = offlinePushInfo;
    callParams.timeout = 30;
    return callParams;
}
```

```
+ (TUIOfflinePushInfo *)createOfflinePushInfo {
    TUIOfflinePushInfo *pushInfo = [TUIOfflinePushInfo new];
    pushInfo.title = @"";
    pushInfo.desc = TUICallingLocalize(@"TUICallKit.have.new.invitation");
    // iOS push type: if you want user VoIP, please modify type to TUICallIOSOfflin
    pushInfo.iOSPushType = TUICallIOSOfflinePushTypeAPNs;
    pushInfo.ignoreIOSBadge = NO;
    pushInfo.iOSSound = @"phone_ringing.mp3";
    pushInfo.AndroidSound = @"phone_ringing";
    // OPPO must set a ChannelID to receive push messages. This channelID needs to
    pushInfo.AndroidOPPOChannelID = @"tuikit";
    // FCM channel ID, you need change PrivateConstants.java and set "fcmPushChanne
    pushInfo.AndroidFCMChannelID = @"fcm_push_channel";
    // VIVO message type: 0-push message, 1-System message(have a higher delivery r
    pushInfo.AndroidVIVOClassification = 1;
    // HuaWei message type: https://developer.huawei.com/consumer/cn/doc/developmen
    pushInfo.AndroidHuaWeiCategory = @"IM";
    return pushInfo;
}
```

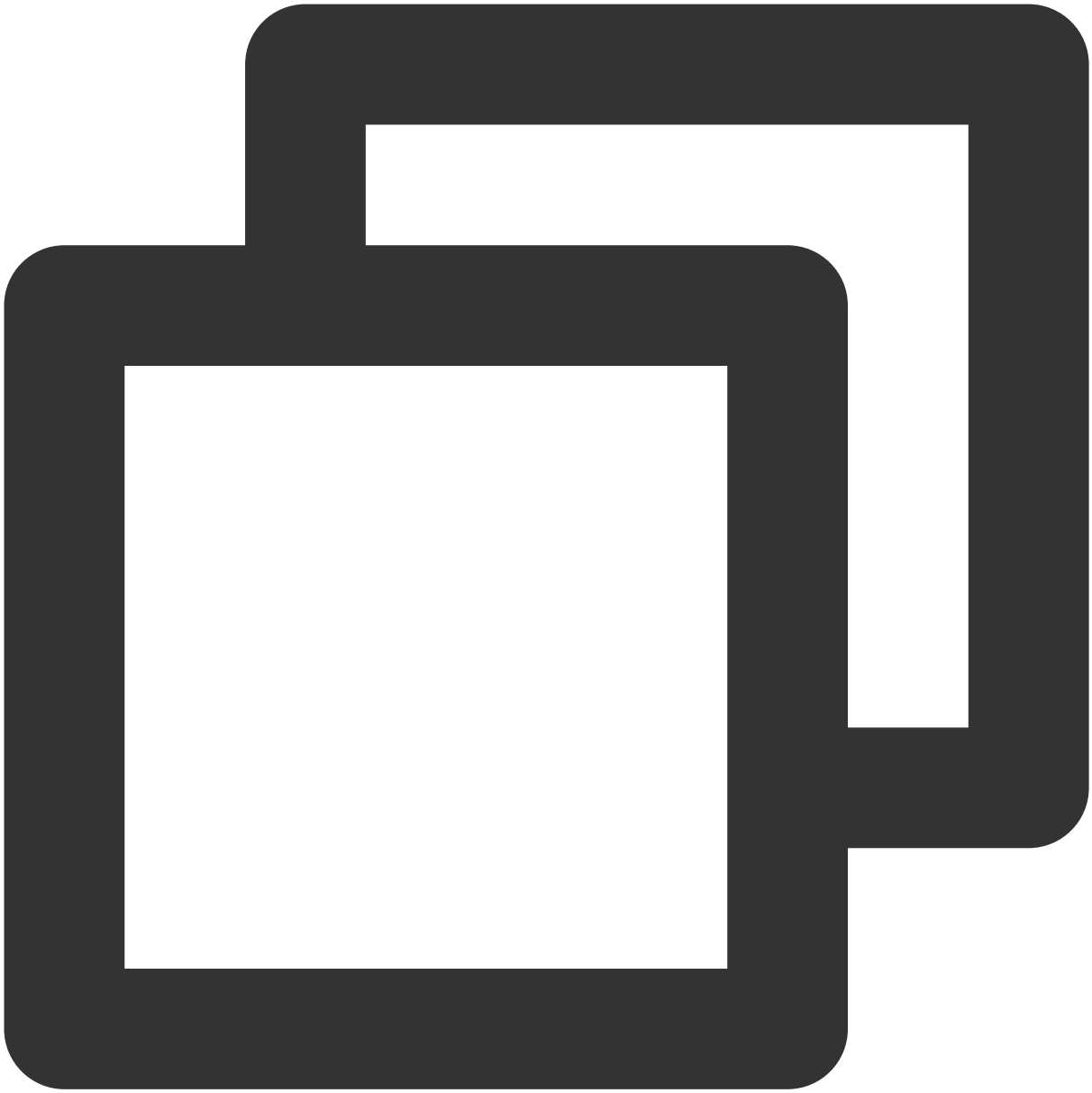
Frequently Asked Questions

1、Can't receive push notifications and backend reports bad deviceToken error?

The Apple deviceToken is related to the current compilation environment. If the certificate ID used for uploading the deviceToken to Tencent Cloud after logging in to IMSDK and the token are inconsistent, an error will be reported.

If you are using a Release environment for compilation, the `-application:didRegisterForRemoteNotificationsWithDeviceToken:` callback returns the production environment token. In this case, the businessID needs to be set to the production environment Certificate ID.

If you are using a Debug environment for compilation, the `-application:didRegisterForRemoteNotificationsWithDeviceToken:` callback returns the development environment token. In this case, the businessID needs to be set to the development environment certificate ID.



```
V2TIMAPNSConfig *confg = [[V2TIMAPNSConfig alloc] init];
/* Pass the generated p12 file to the Tencent Certificate Management Console, and t
// Push certificate ID
confg.businessID = sdkBusiId;
confg.token = self.deviceToken;
[[V2TIMManager sharedInstance] setAPNS:confg succ:^{

} fail:^(int code, NSString *msg) {

}];
```

2、Occasionally, iOS development environment does not return deviceToken or prompts APNs to request token failure?

This problem is caused by the instability of APNs service. You can try the following solutions:

1. Insert a SIM card in your phone and test using 4G network.
2. Test after uninstalling and reinstalling the app, restarting the app, or restarting the device.
3. Test with a package under the production environment.
4. Test with other iOS system phones.

Android

Last updated：2023-09-21 15:37:01

The offline call push feature enables your application to receive audio/video calls even if it runs in the background or is offline. `TUICallKit` integrates the `TUIOfflinePush` component to implement the offline call push feature. This document describes how to integrate the `TUIOfflinePush` component in your audio/video call project.

Preparations

1. Register your application on vendors' push platforms. The offline push feature relies on the vendors' own channels. You need to register your application on the vendors' push platforms to get parameters such as `APPID` and `APPKEY` .

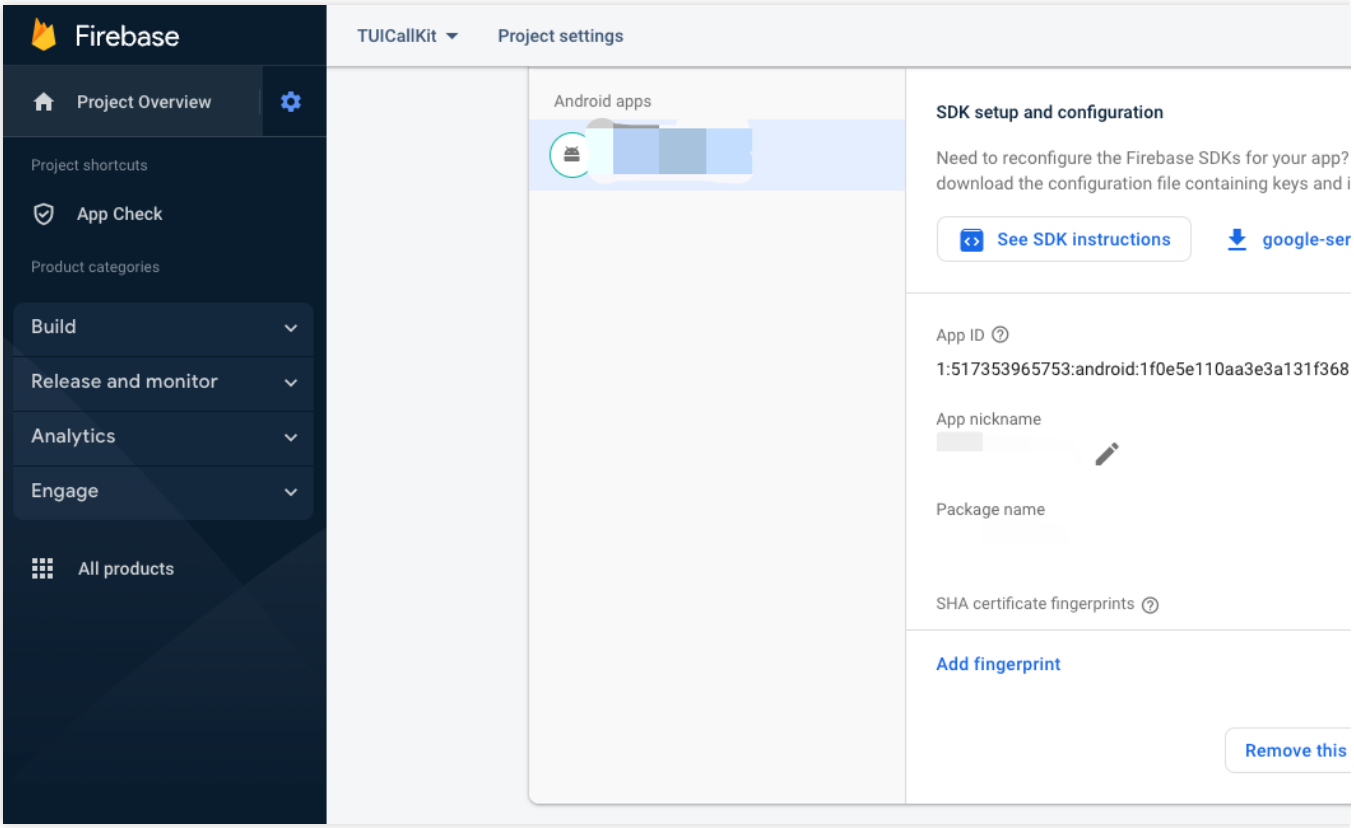
Note

The following two files will be used in subsequent steps:

When registering on Huawei Push, download and save the `agconnect-services.json` file.

When registering on Google FCM, download and save the `google-services.json` file.

Google FCM：

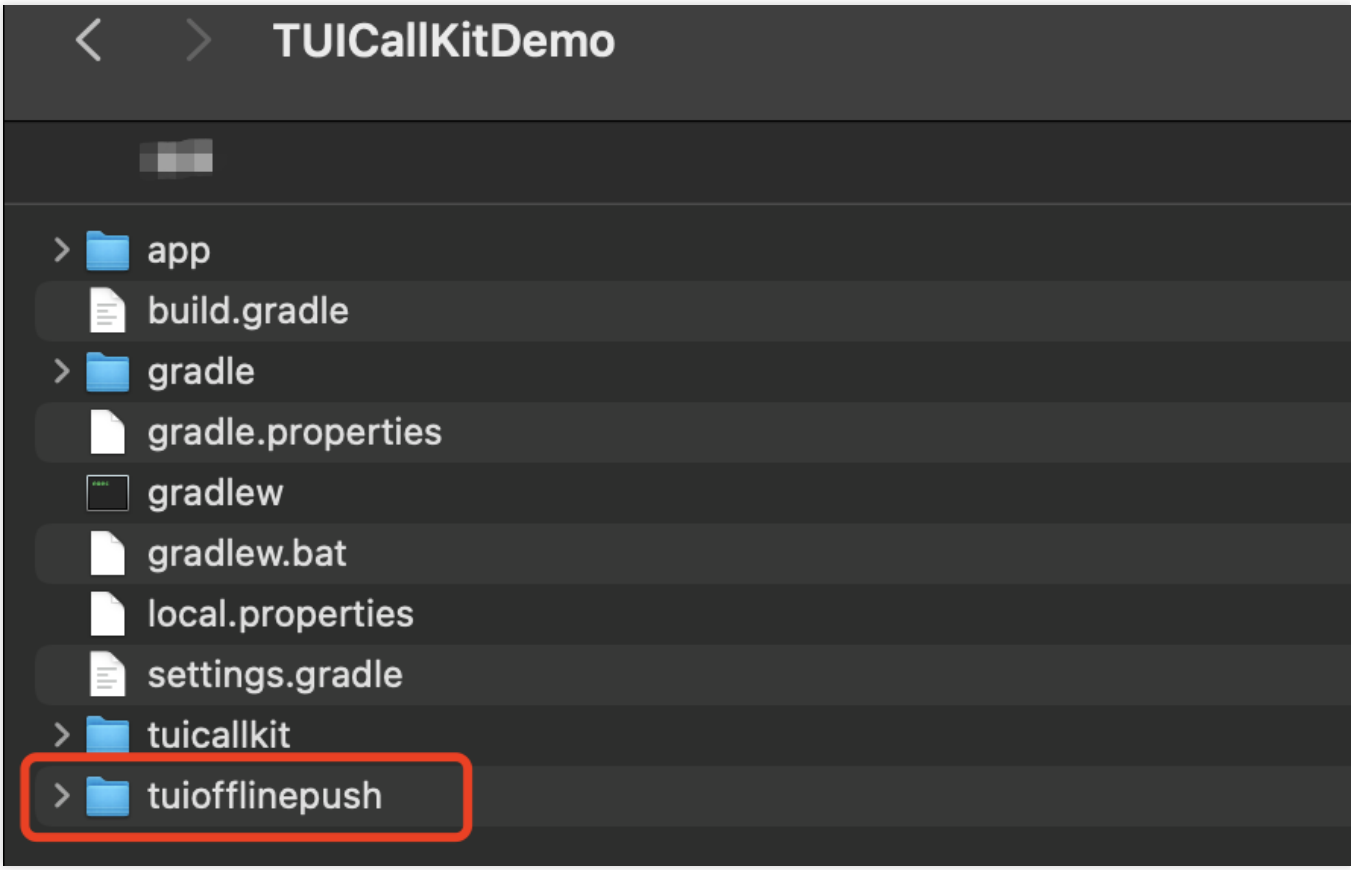


2. Configure in the Chat console

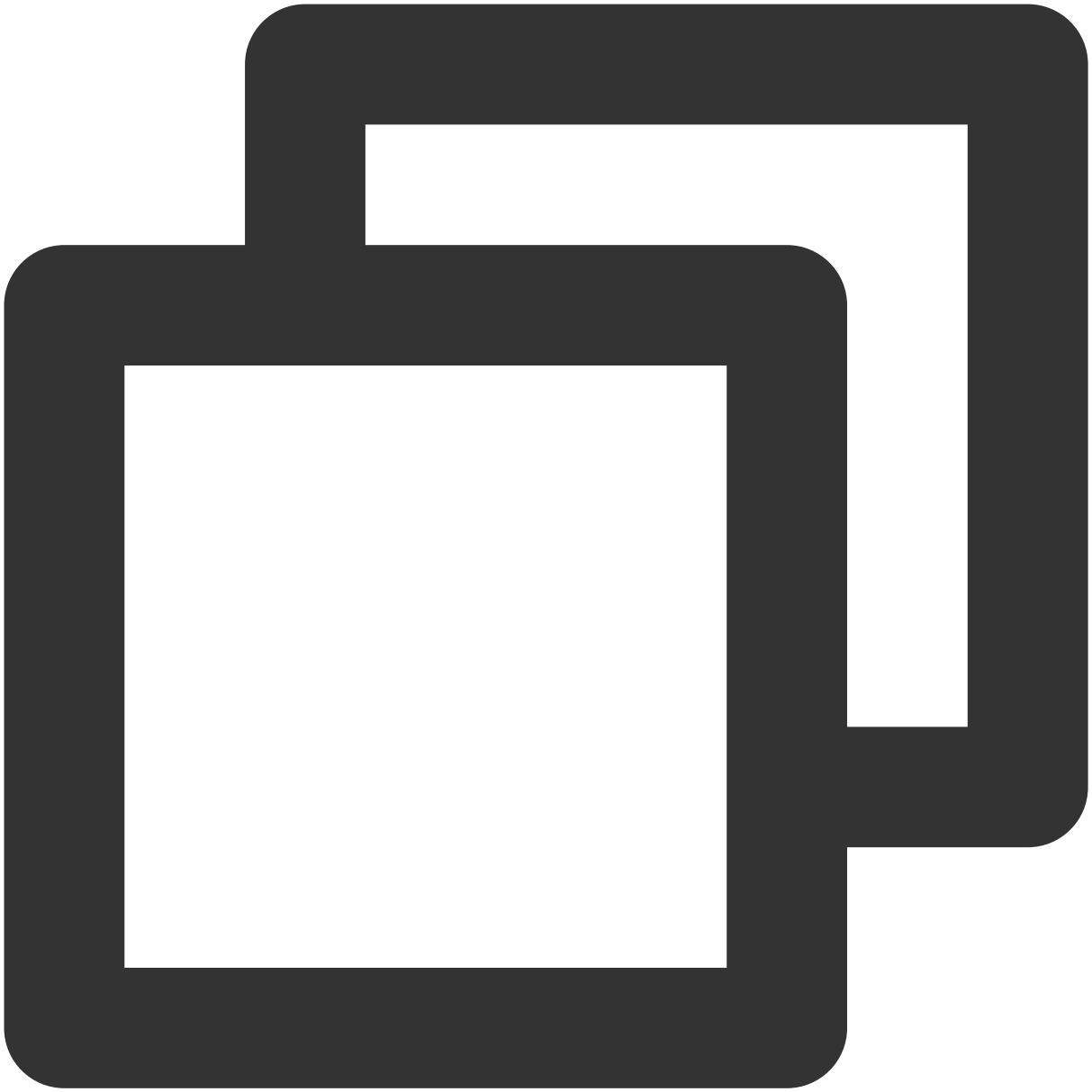
You need to enter the same package name when registering on each vendor channel for message interconnection. Record the generated ID, `APPID`, and `APPKEY`, which will be used in subsequent steps.

Step 1. Download and import the component

1. Go to GitHub, clone or download the code, and copy the `tuiofflinepush` subdirectory in the `Android` directory to the same directory as `app` in your project, as shown below.

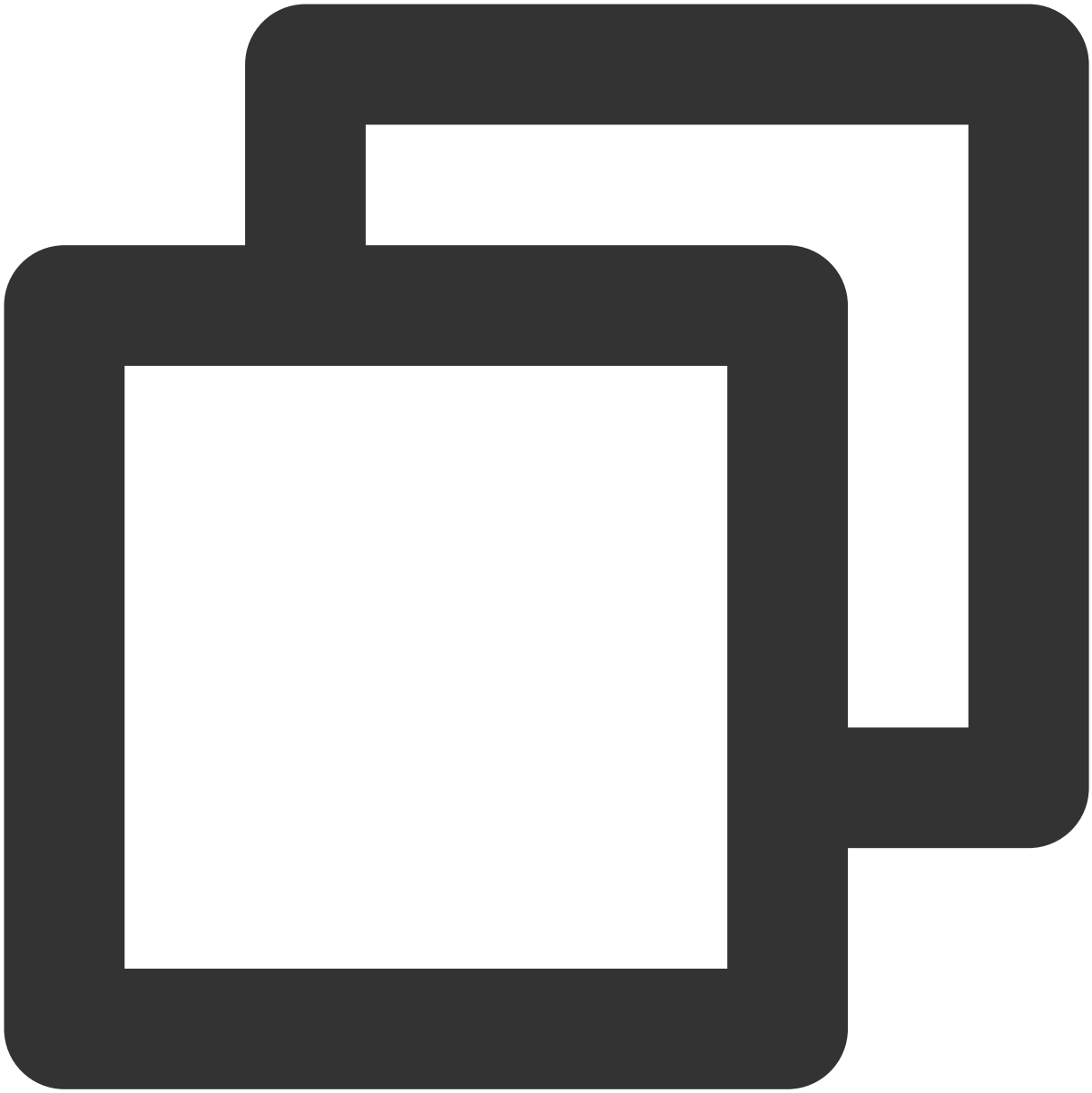


2. Find the `settings.gradle` file in the project root directory and add the following code:



```
include ':tuiofflinepush'
```

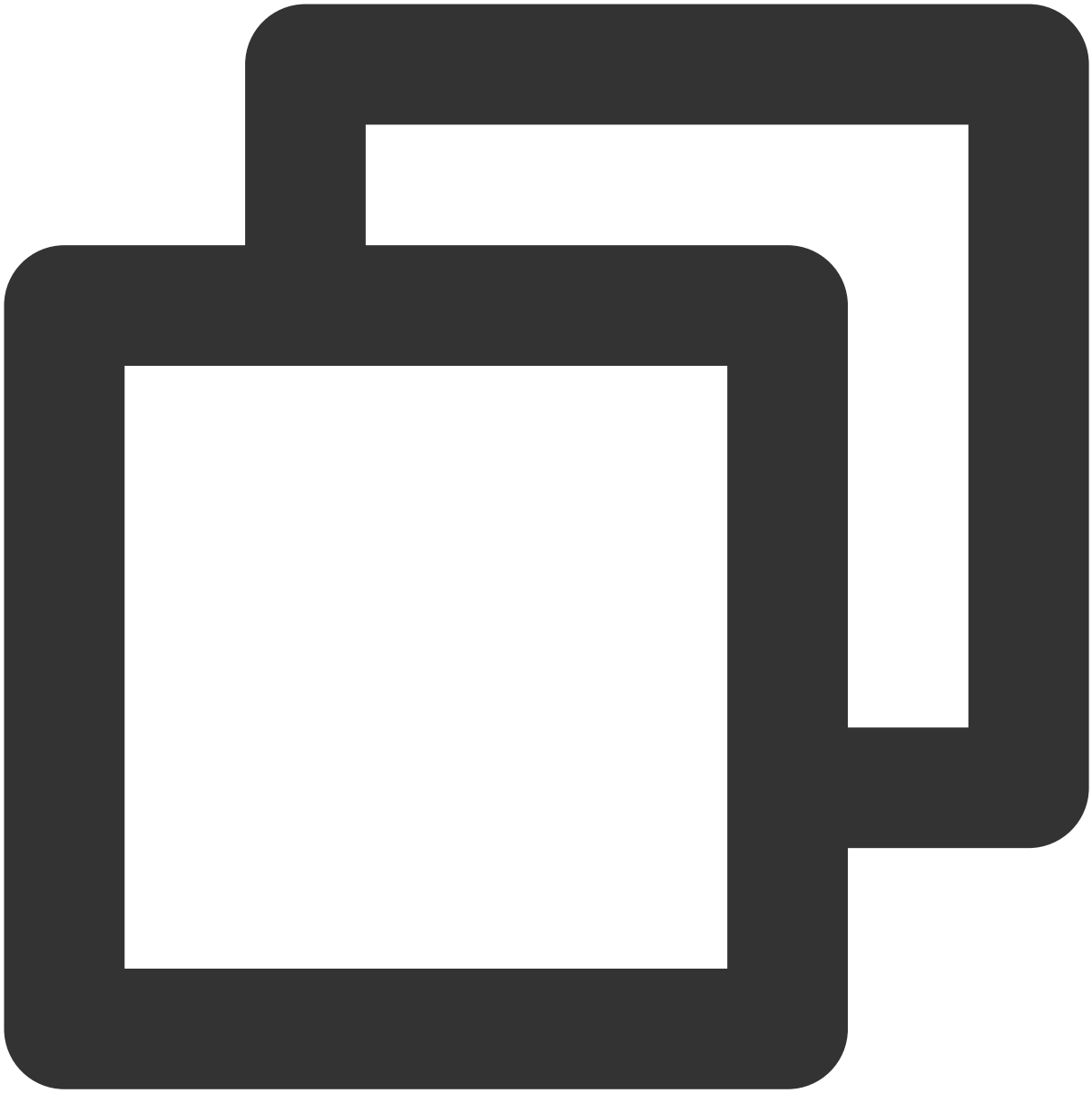
3. Find the `build.gradle` file in the `app` directory and add the following code to declare the dependencies of the current application on the `TUIOfflinePush` component just added:



```
api project(':tuiofflinepush')
```

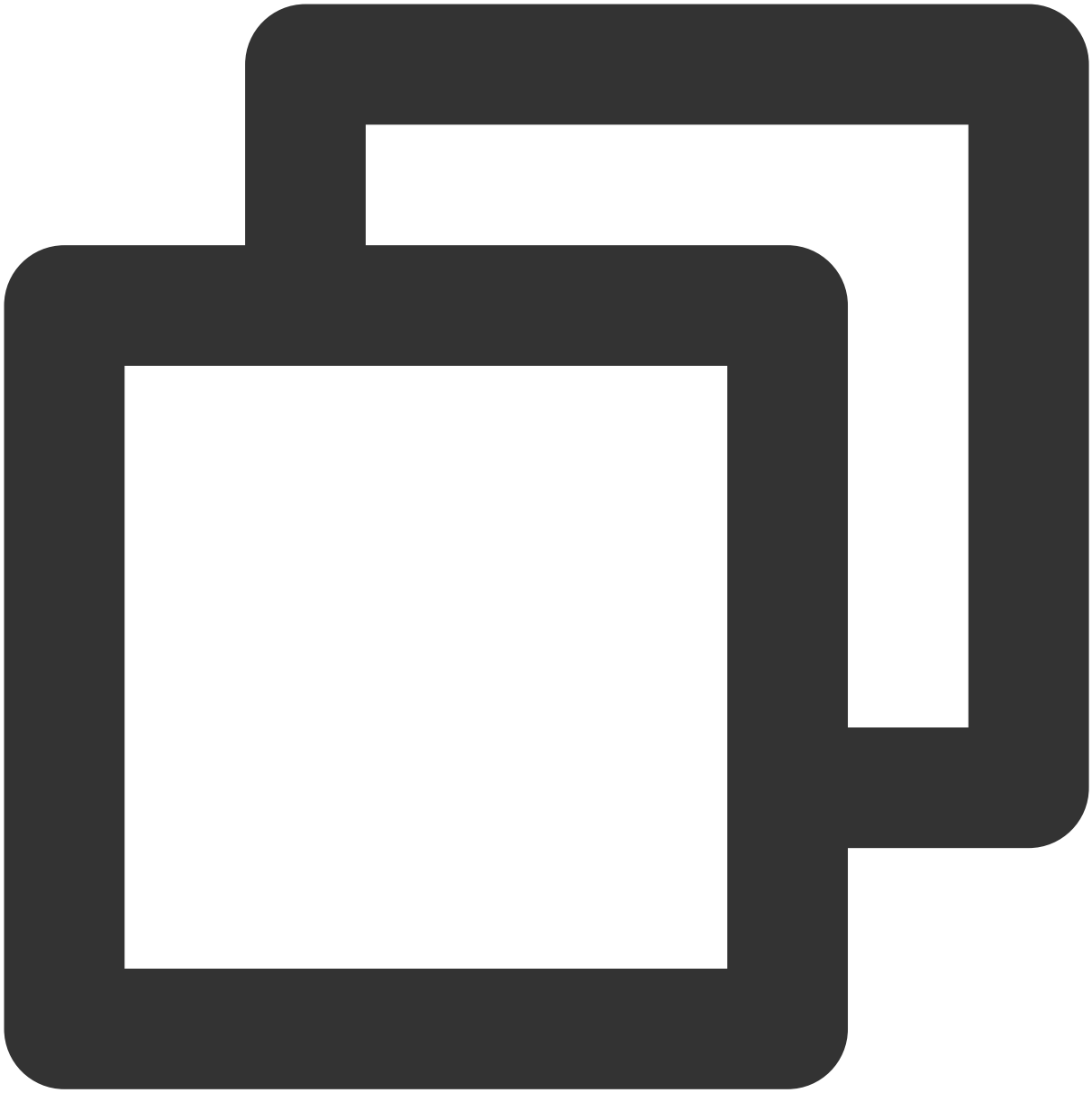
Step 2. Configure the project

1. In the `app` directory, find the `build.gradle` file and rename the application package as needed.



```
applicationId 'com.****.trtc'
```

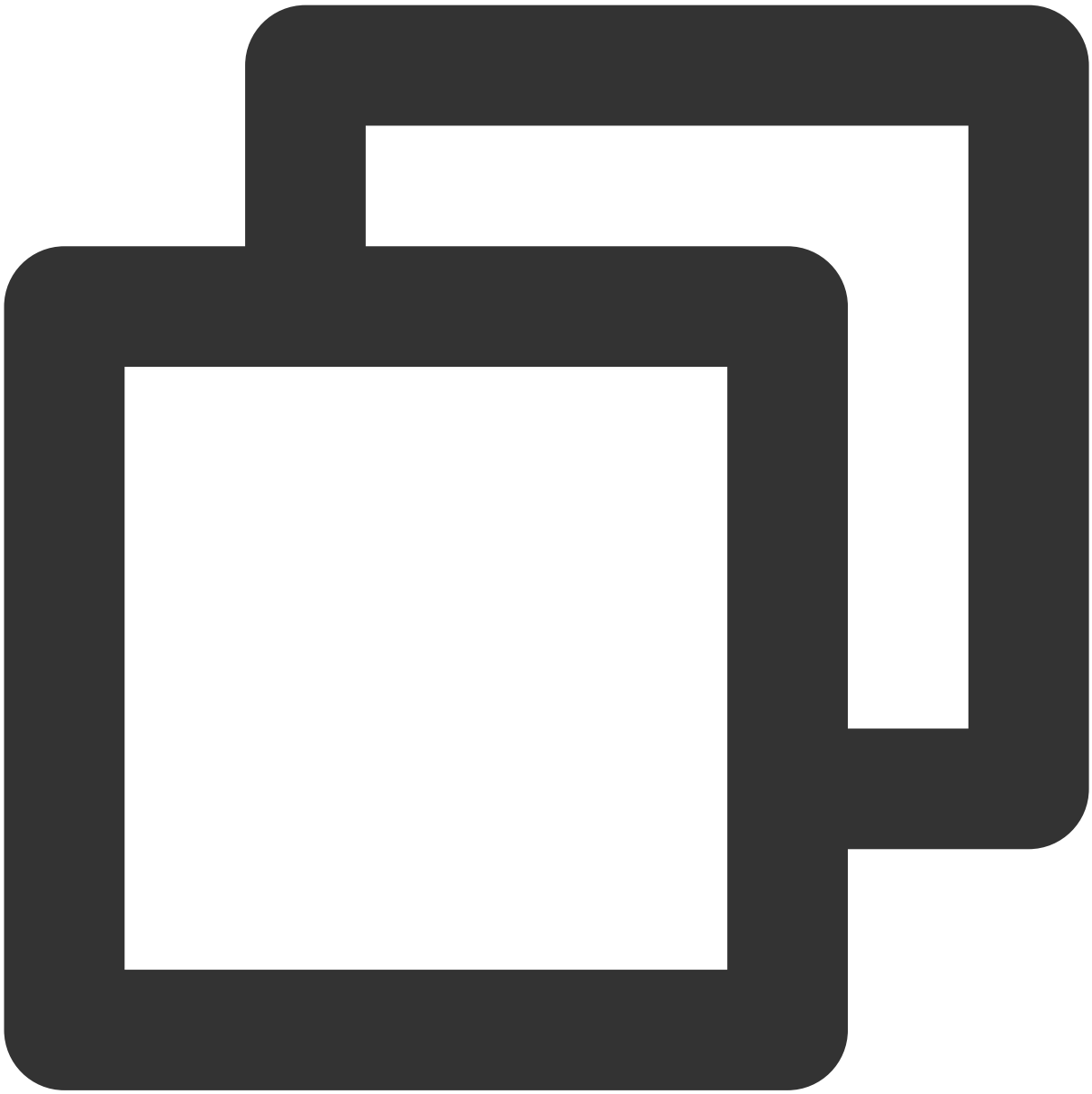
2. In the `app` directory, find the `build.gradle` file and set `ViVo` access parameters `VIVO_APPKEY`, `VIVO_APPID`, and `HONOR_APPID` to avoid compilation or execution errors.



```
manifestPlaceholders = [
    "VIVO_APPKEY": "PLACEHOLDER",
    "VIVO_APPID" : "PLACEHOLDER",
    "HONOR_APPID": "PLACEHOLDER"
]
```

3. Configure the files for Huawei and Google push platforms: In the `app` directory, replace the `google-services.json` file, which is the one saved when you registered on Google FCM during Preparations. In the `app` directory, add the `agconnect-services.json` file, which is the one saved when you registered on Huawei Push during Preparations.

4. Enter the ID, `APPID` , `APPKEY` recorded during Preparations in the `PrivateConstants` file and check whether the parameter configuration is correct. Enter the following parameters:



```
public class PrivateConstants {
    /****** Mi offline push parameters start ******/
    // Certificate ID generated after uploading a third-party push certificate in t
    public static final long XM_PUSH_BUZID = ID of the certificate assigned to your
    // `APPID` and `APPKEY` assigned by the Mi open platform
    public static final String XM_PUSH_APPID = "`APPID` of the certificate assigned
    public static final String XM_PUSH_APPKEY = "`APPKEY` of the certificate assign
    /****** Mi offline push parameters end ******/
```

```
}
```

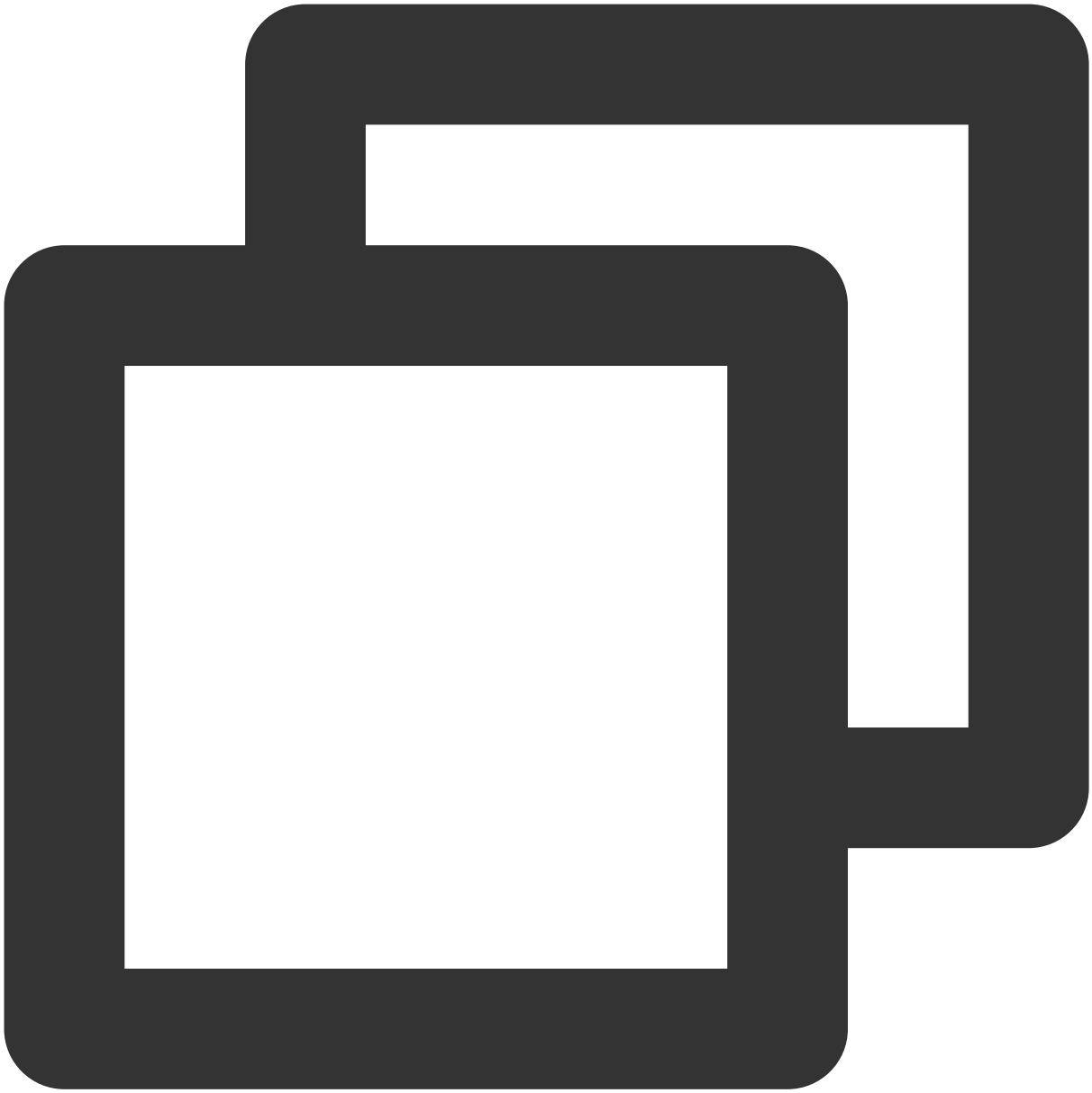
Caution

This step is very important. Carefully check whether the parameter configuration is correct.

After you complete the above steps, your project can use the offline call push feature of `TUICallKit` .

Step 3. Customize the offline notification content

`TUICallKit` provides the default notification format. However, if you want to customize the notification content, modify the OfflinePushInfoConfig.java file.

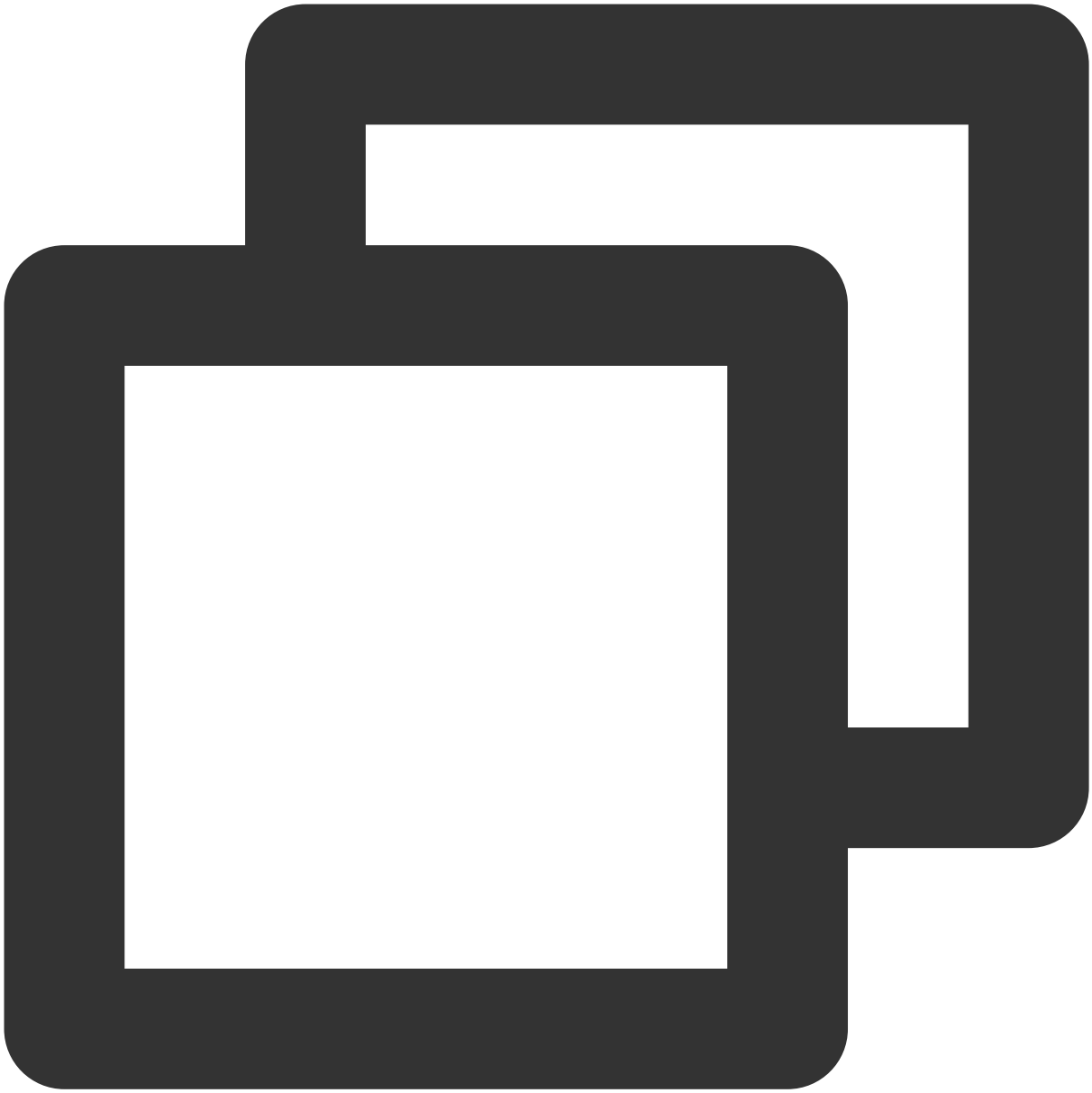


```
public static TUIOfflinePushInfo createOfflinePushInfo(Context context) {
   TUICallDefine.OfflinePushInfo pushInfo = new TUICallDefine.OfflinePushInfo();
    pushInfo.setTitle("mike");
    pushInfo.setDesc("You have receive a new call");
    //OPPO must set a ChannelID to receive push messages. This channelID needs to b
    pushInfo.setAndroidOPPOChannelID("tuikit");
    pushInfo.setIgnoreIOSBadge(false);
    pushInfo.setIOSSound("phone_ringing.mp3");
    pushInfo.setAndroidSound("phone_ringing"); //Note：don't add suffix
    //VIVO message type: 0-push message, 1-System message(have a higher delivery ra
    pushInfo.setAndroidVIVOClassification(1);
```

```
    //FCM channel ID, you need change PrivateConstants.java and set "fcmPushChannel
    pushInfo.setAndroidFCMChannelID("fcm_push_channel");
    //Huawei message type
    pushInfo.setAndroidHuaWeiCategory("IM");
    //IOS push type: if you want user VoIP, please modify type to TUICallDefine.IOS
    pushInfo.setIOSPushType(TUICallDefine.IOSOfflinePushType.APNs);
    return pushInfo;
}
```

Step 4. Customize the offline notification sound

Offline notification sound only supports customization for Huawei, Xiaomi, FCM and APNs. Other manufacturers such as OPPO, VIVO, Honor, etc. are not supported at the moment.
TUICallKit introduces the TUIOfflinePushPush component, which needs to call the following method at the start of the application to enable the ability to customize the ringtone for offline notifications.

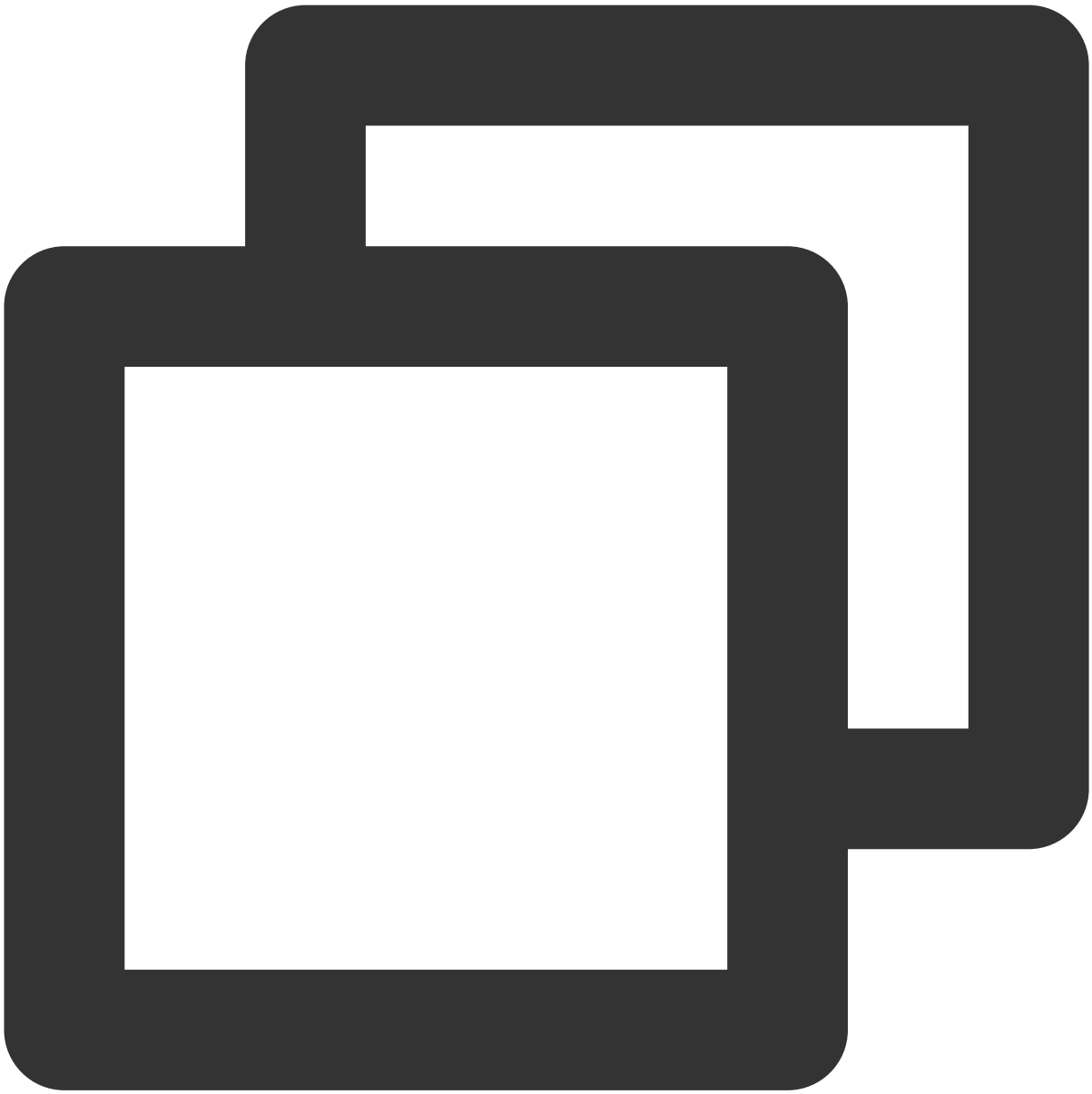


```
public class DemoApplication extends Application {
    @Override
    public void onCreate() {
        TUIOfflinePushConfig.getInstance().setAndroidPrivateRing(true);
    }
}
```

1. Huawei And APNs

Invoke the interfaces `setAndroidSound()` and `setIOSSound()` .

Customize the ringtone resource file and add it to the res/raw directory of the local Android Studio project. Refer to Step 3 to set ringtones.



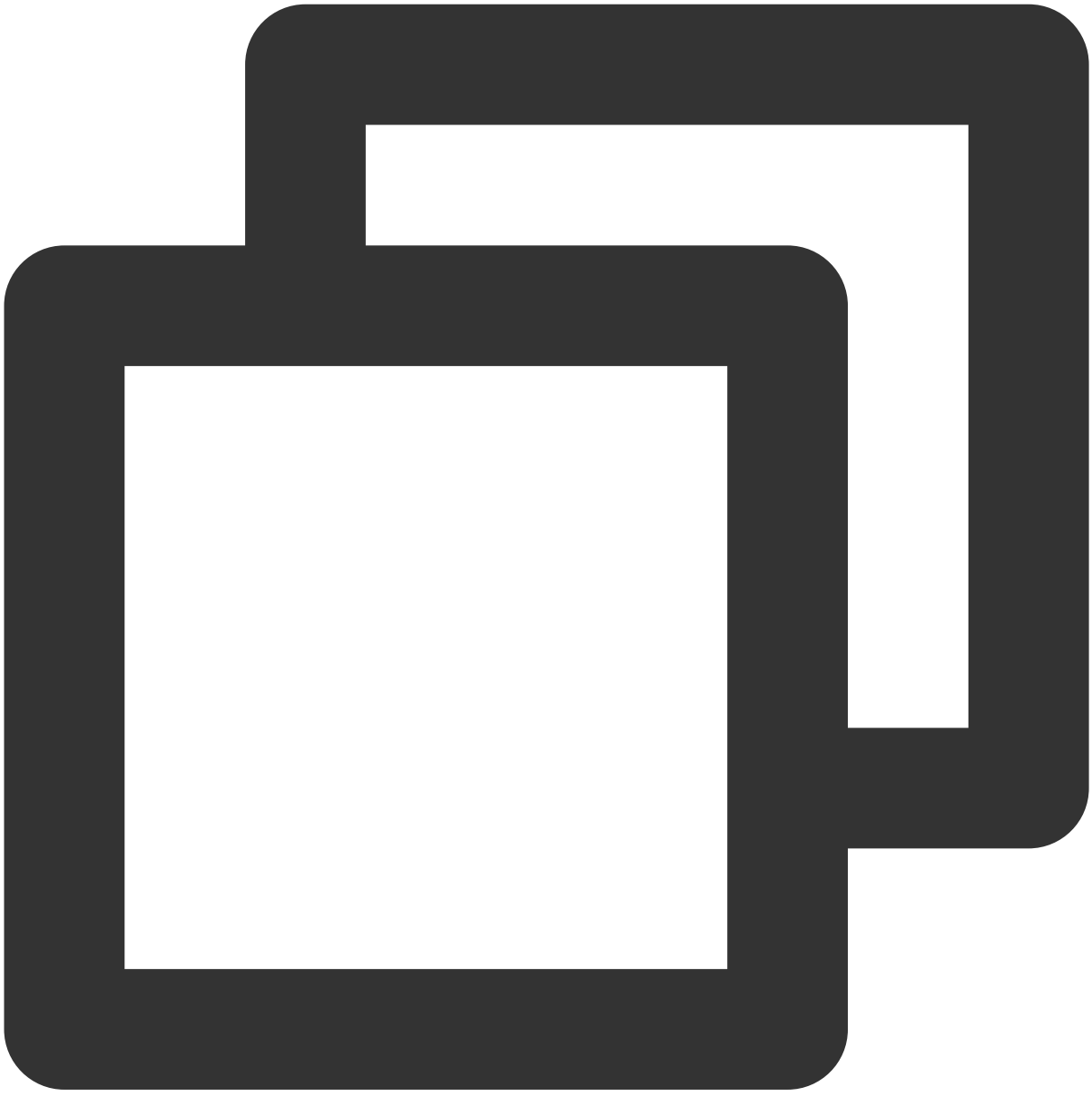
```
TUICallDefine.OfflinePushInfo pushInfo = new TUICallDefine.OfflinePushInfo();
pushInfo.setIOSSound("phone_ringing.mp3");
pushInfo.setAndroidSound("phone_ringing");
```

Note：

IMSDK 6.1.2155 and above versions are supported.

2. Xiaomi

(1) Before Android 8.0, invoke the interfaces `setAndroidSound()` and `setIOSSound()` . Customize the ringtone resource file and add it to the res/raw directory of the local Android Studio project(Refer to Huawei).
(2) After Android 8.0, you also need to log in to the Xiaomi vendor console and create a channel with proper configuration, and the ringtone file needs to be added to the local Android Studio project res/raw directory.



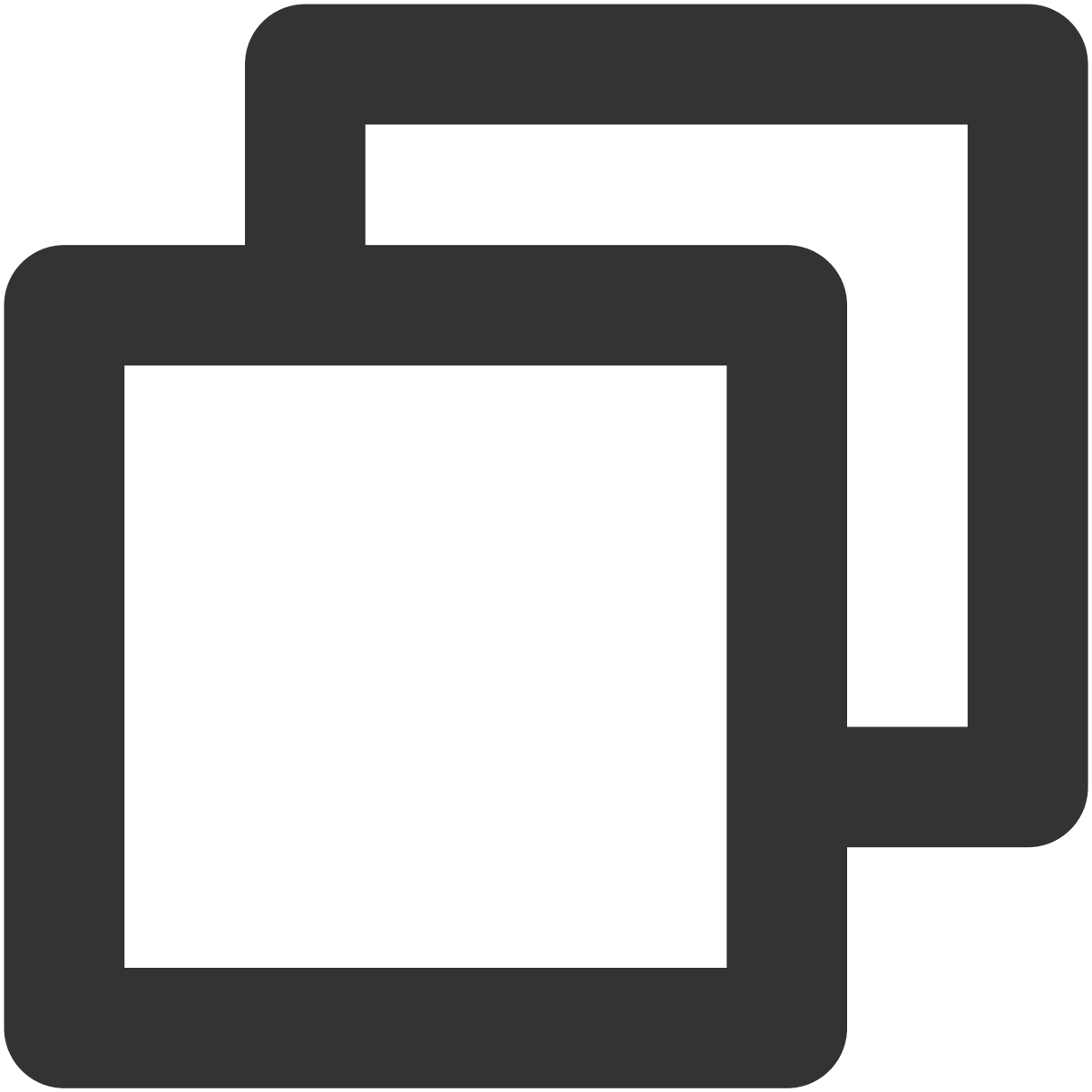
```
TUICallDefine.OfflinePushInfo pushInfo = new TUICallDefine.OfflinePushInfo();
pushInfo.setIOSSound("phone_ringing.mp3");
pushInfo.setAndroidSound("phone_ringing");
pushInfo.setAndroidXiaoMiChannelID("channelID");
```

Note：

The method Before Android 8.0, IMSDK 6.1.2155 and above versions are supported.
The method After Android 8.0, IMSDK 7.0.3754 and above versions are supported.

3. FCM

(1) Before Android 8.0, invoke the interfaces `setAndroidSound()` and `setIOSSound()` . Customize the ringtone resource file and add it to the res/raw directory of the local Android Studio project(Refer to Huawei).
(2) After Android 8.0, FCM needs to configure channelID and ringtone resources. TUIOfflinePush component has handled the playback of custom ringtones. The ringtone file needs to be added to the res/raw directory of your local Android Studio project and specify the name of the ringtone and the name of the channel ID, as shown in PrivateConstants.



```
public class PrivateConstants {
    // FCM: channel ID
    public static String fcmPushChannelId = "FCM ChannelID";
    // FCM: ringtone and don't add suffix
    public static String fcmPushChannelSoundName = "FCM ringtone";
}
```

Note：

The method Before Android 8.0, IMSDK 6.1.2155 and above versions are supported.

The method After Android 8.0, IMSDK 7.0.3754 and above versions are supported.

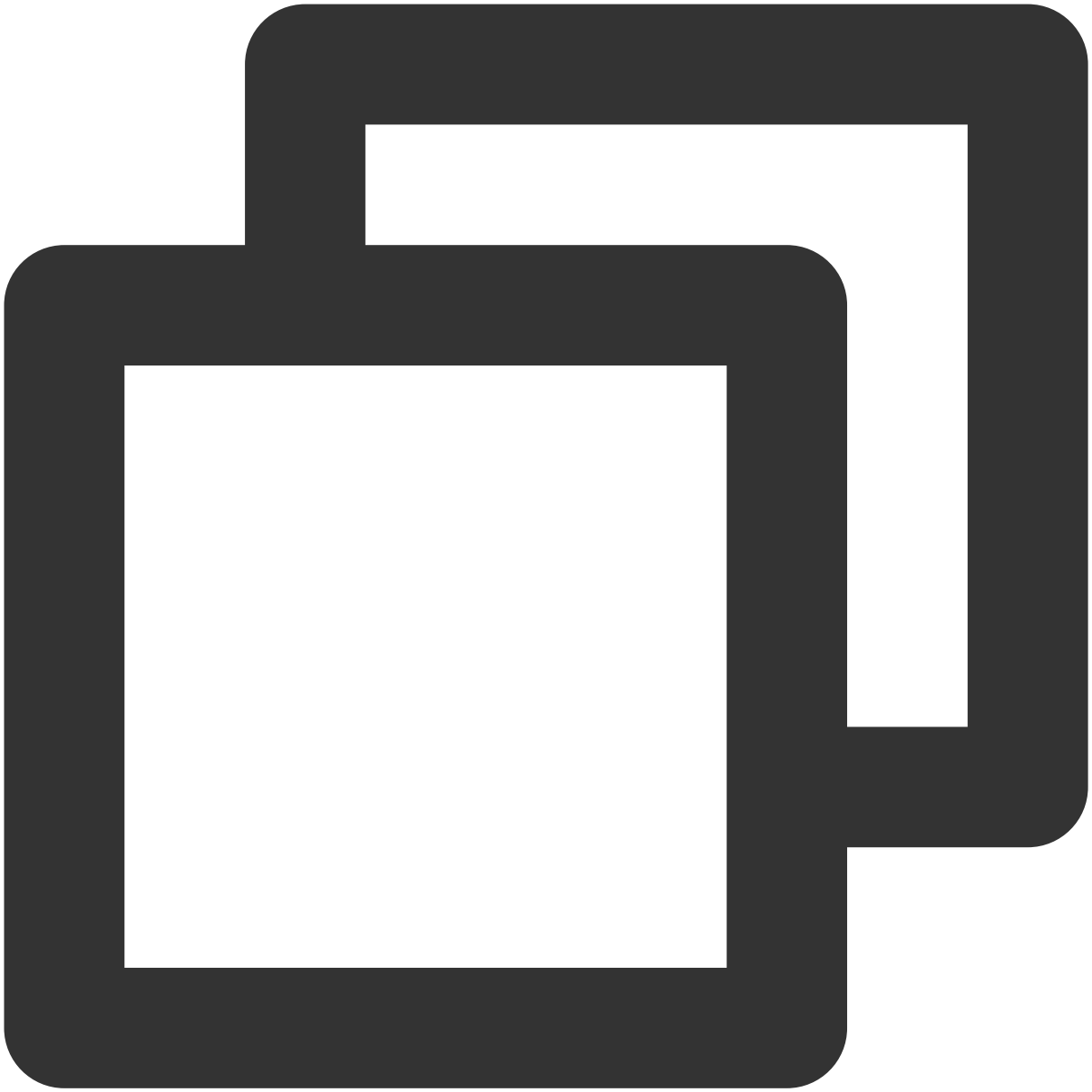
FCM only supports custom ringtones or setting channel ID in certificate mode.

FAQs

If users cannot receive offline push notifications, contact us for troubleshooting.

1. What should I do if notifications cannot be received?

Test the push service in the vendor console. If notifications can be pushed successfully, the vendor channel is normal. Then, check whether vendor parameters are configured correctly in the `TUIOfflinePush` console, and if not, enter the parameters as required. (As tested, you must configure the message type in the console for vivo X9).
Some phones will send notifications to the `Unimportant Notifications` folder. In this case, drag down the status bar and check whether the notifications are in the `Unimportant Notifications` folder.
Filter the following log to check whether `TUIOfflinePush` is registered successfully:



```
TUIOfflinePush
```

2. Why can't the locked screen turn on when a notification is received?

Due to restrictions imposed by the vendor and platform, Android phones require different permissions when their screen is locked. Troubleshoot as follows:
Check whether the system lock screen notification permission is enabled. Some vendors have imposed unified restrictions. For example, if a Mi phone doesn't turn on its screen when receiving offline notifications, select Settings > Lock screen and toggle on Wake Lock screen for notifications.

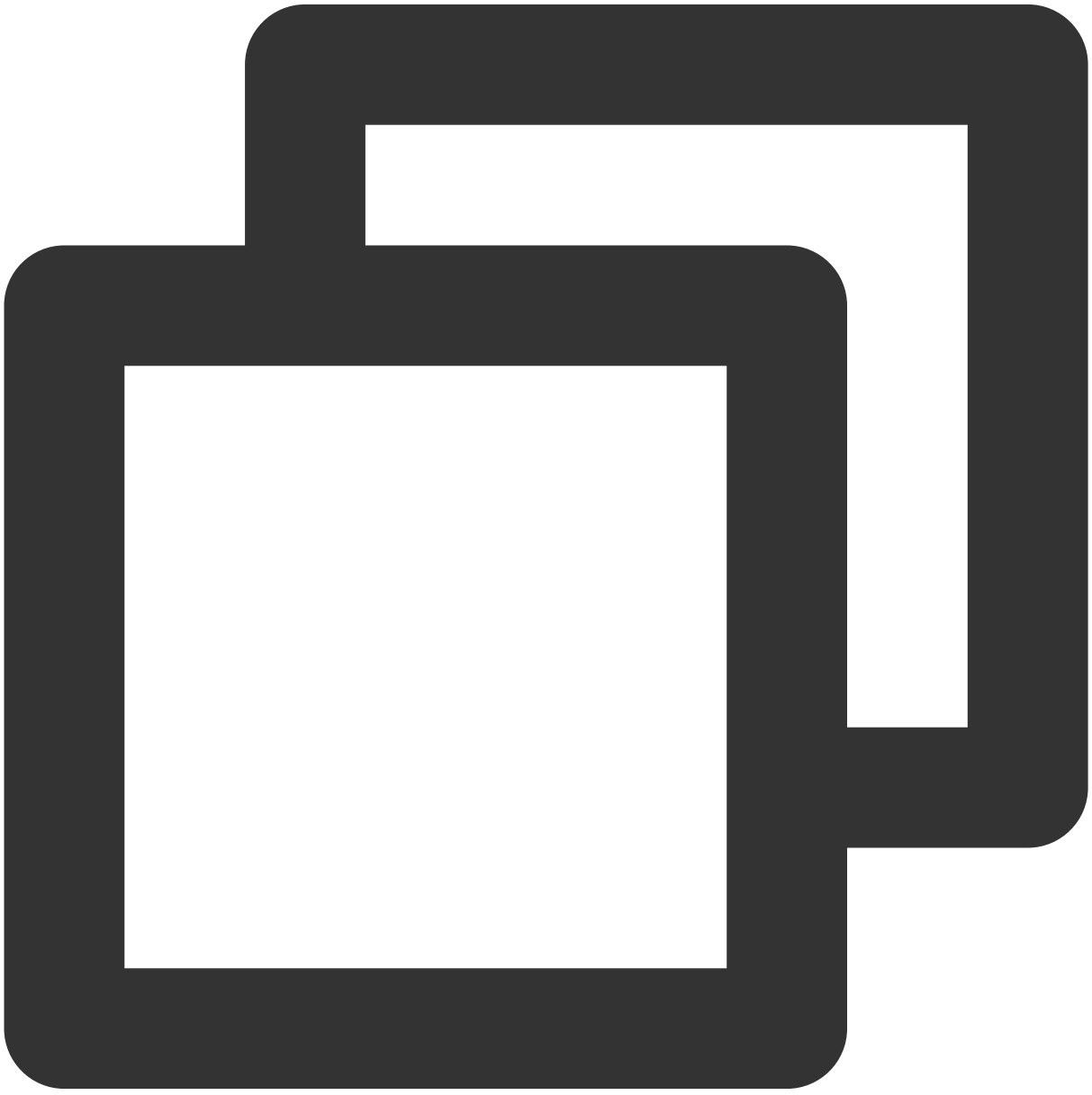
Check whether the lock screen notification permission of the application is enabled. For example, on a Mi phone, you need to toggle on Allow Lock screen notifications.

Note

If you need compatibility processing for this problem, contact us for assistance.

3. Why can't the call UI be pulled when I click an offline push notification?

Filter the following log to check whether the call request is detected:



```
onReceiveNewInvitation
```

4. Why can't the call UI be pulled to the foreground when the application is running in the background?

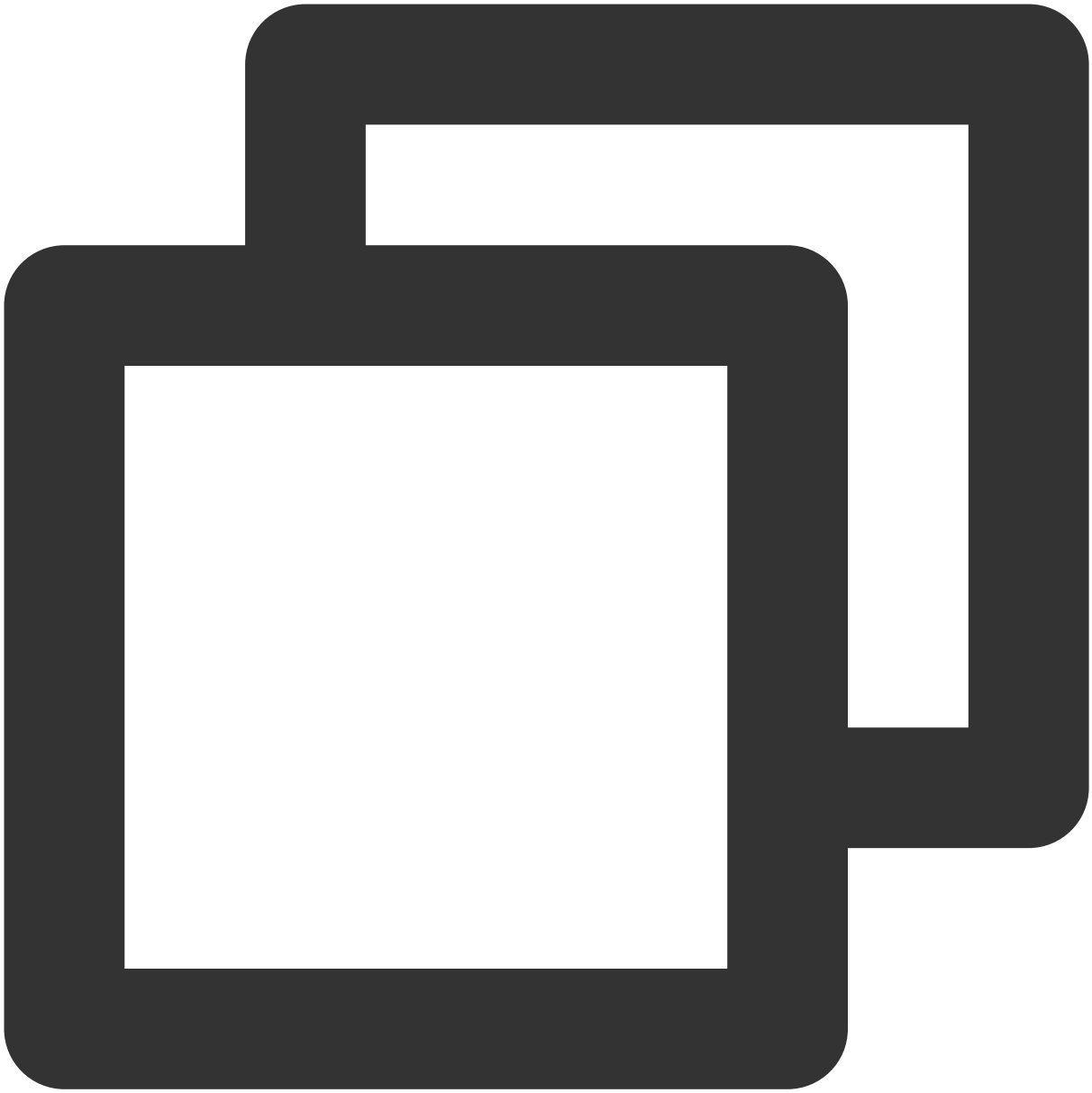
To automatically pull the application from the background to the foreground, it is necessary to check whether the "background autostart" or "floating window" permission is enabled on the application.
Note that different vendors or even different Android versions from the same vendor offers different permissions and permission names. For example, you only need to enable the background pop-up window permission for Mi 6, while you need to enable both the background pop-up window and floating window display permissions.

Note

If you have manually granted all the necessary permissions and still cannot move your application to the foreground, it may be a vendor compatibility issue.

5. Badge

Currently, only Huawei supports generating badges when receiving offline messages, and other manufacturers do not support it for now. For Huawei, please refer to its official documentation "Interface Description for Badging on Huawei Desktop.
In the introduced TUIOfflinePush component, this method is also called for setting badges:



```
public void updateBadge(final Context context, final int number) {
    if (BrandUtil.getInstanceType() != TUIOfflinePushConfig.BRAND_HUAWEI) {
        return;
    }
    try {
        Bundle extra = new Bundle();
        extra.putString("package", context.getPackageName());
        extra.putString("class", PrivateConstants.huaweiBadgeClassName); //huaweiBa
        extra.putInt("badgenumber", number);
        context.getContentResolver().call(Uri.parse("content://com.huawei.android.l
    } catch (Exception e) {
```

```
        }
    }
```

If you want to clear the badge, you can call this method at the appropriate time to set the badge to 0.

Flutter

Last updated：2024-03-12 14:51:07

The offline wake-up function allows your app to receive ringtone calls for audio and video calls while running in the background or in offline mode. TUICallKit Flutter relies on the push capabilities provided by manufacturers: Apple, Google, Vivo, and Xiaomi for message notifications.

Configure offline push

iOS

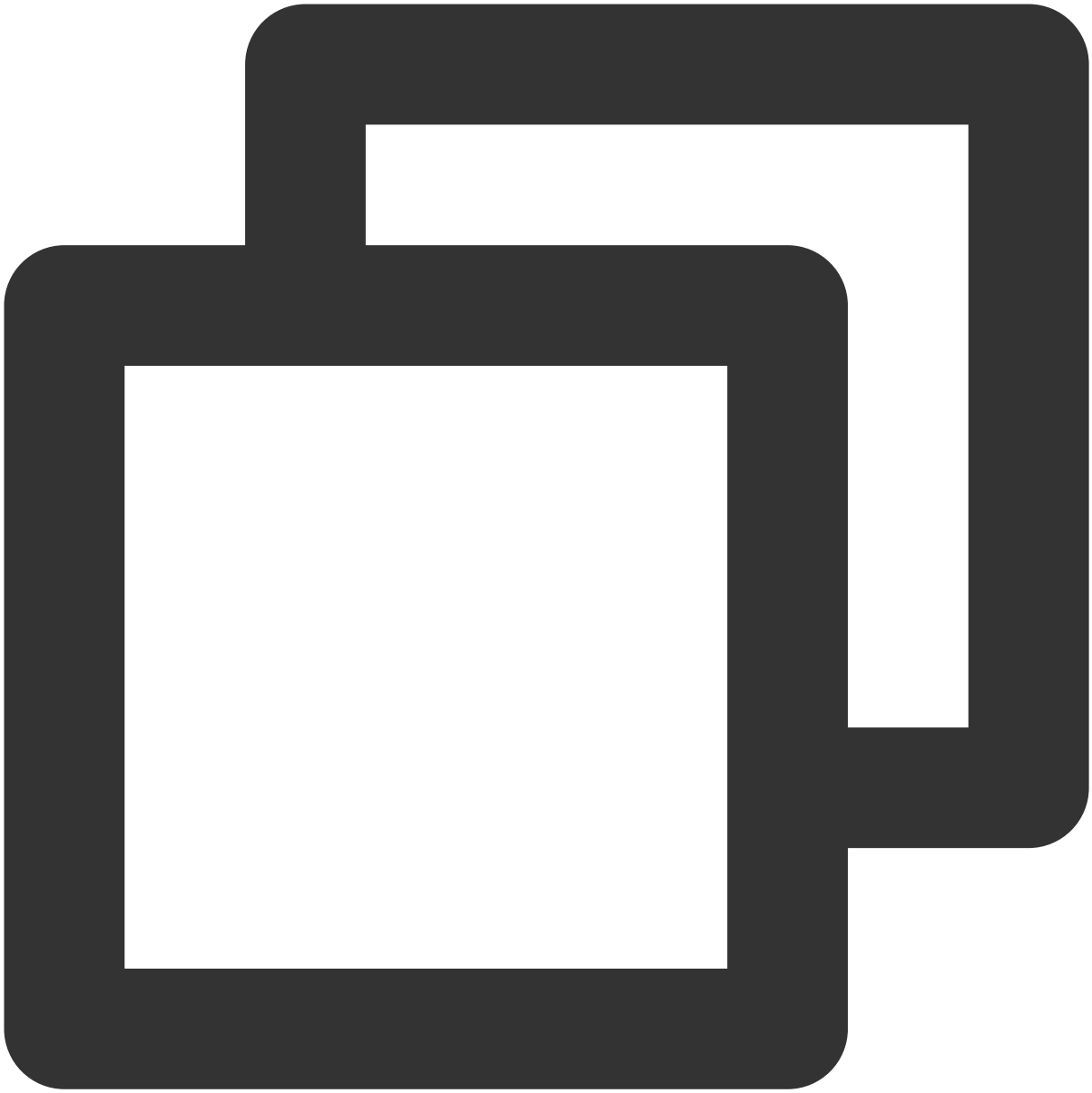
iOS platform's offline wake-up support for **APNs** and **VoIP**, please refer to the specific configuration process:
APNs offline wake-up configuration process
VoIP offline wake-up configuration process

Android

For the specific configuration process on the Android platform, please refer to: Offline Push (Flutter).

Customize offline message content

After the basic offline push configuration is successful, you can receive incoming call push notifications normally. If you need to customize the content of offline messages, you can use the params in the call and groupcall interfaces, and the TUIOfflinePushInfo to customize notification content, including title, content, and offline message ringtone. Specific usage as follows:



```
Future<void> call(String userId, TUICallMediaType callMediaType, [TUICallParams? pa

class TUICallParams {
    TUIOfflinePushInfo offlinePushInfo;
}

class TUIOfflinePushInfo {
    String? title;
    String? desc;
    bool? ignoreIOSBadge;
    String? iOSSound;
```

```
    String? androidSound;
    String? androidOPPOChannelID;
    int? androidVIVOClassification;
    String? androidXiaoMiChannelID;
    String? androidFCMChannelID;
    String? androidHuaWeiCategory;
    bool? isDisablePush;
    TUICallIOSOfflinePushType? iOSPushType;
}}

enum TUICallIOSOfflinePushType {
    APNs,
    VoIP,
}
```

Customize offline message ringtone

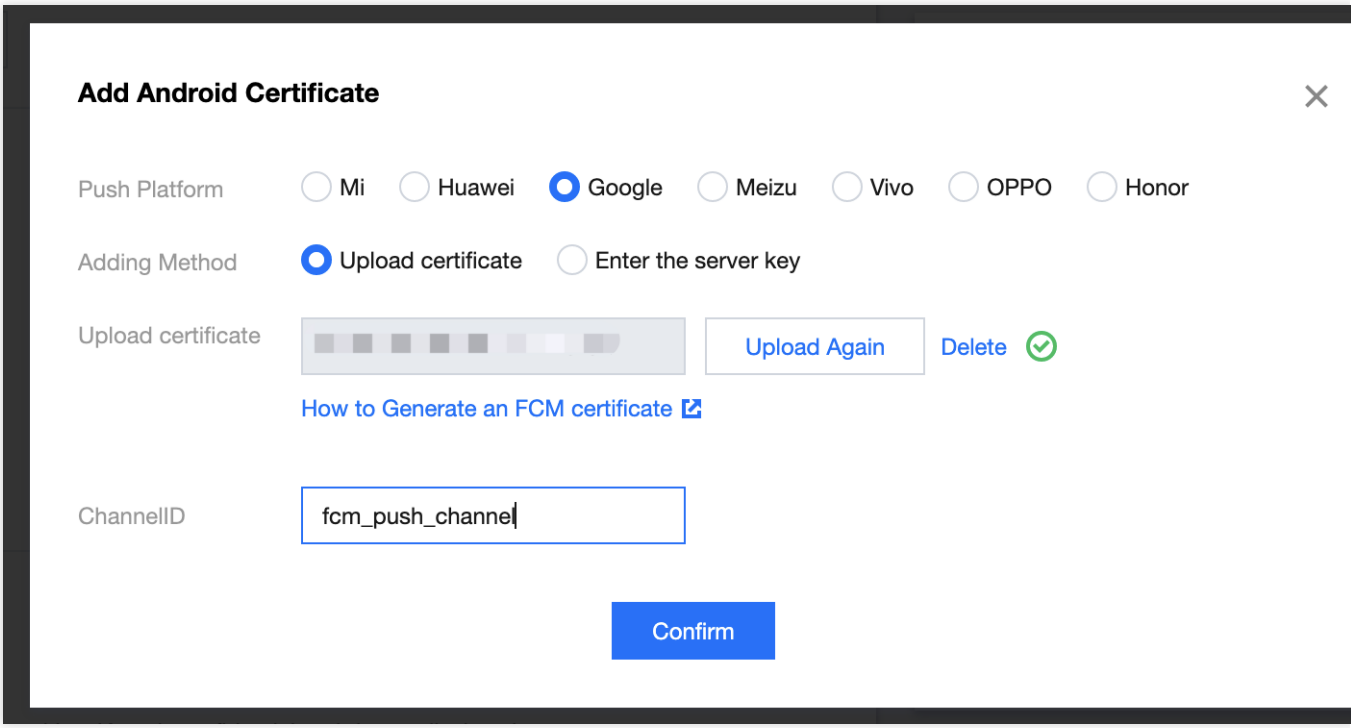
iOS

Modify the params in the call and groupcall interfaces, and set the TUIOfflinePushInfo.iOSSound for the offline message ringtone on the iOS platform.

Android

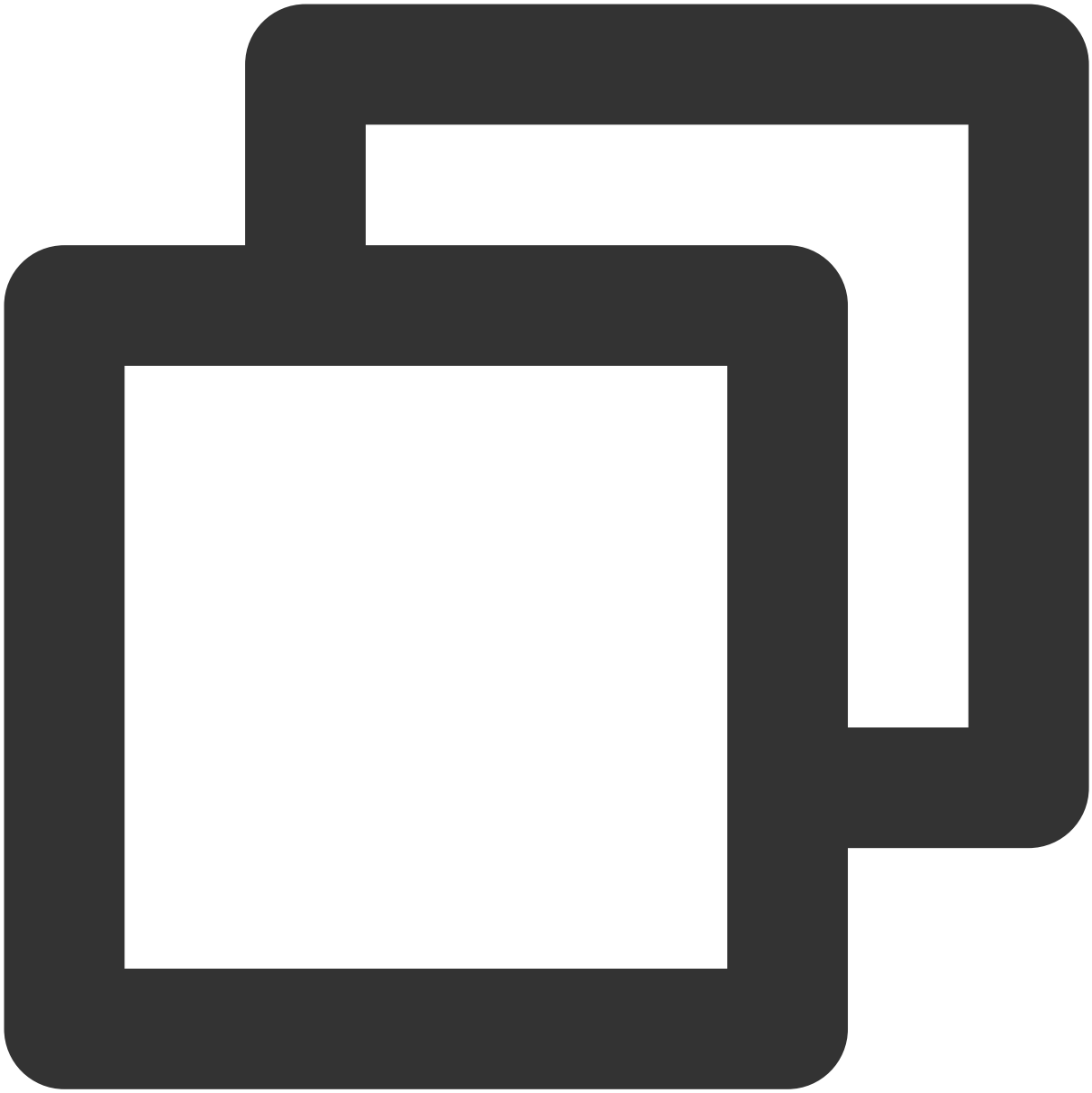
FCM

After completing step 1: Configure offline push, you can receive message push notifications even when offline, but it is the default ringtone. If you need to support custom ringtones, you need to perform the following operations.
1. In the IM console-basic configuration, select Android native offline push configuration > select Google certificate for editing, add ChannelID, as shown in the following figure:



2. Add custom ringtone files to the android/app/src/main/res/raw/ directory of your project, such as "incoming_call.mp3".

3. After a successful login, use the tim_ui_kit_push_plugin plugin to register a NotificationChannel for playing custom ringtones to the Android system. Sample code as follows:



```
void createNotificationChannel() {
  AndroidNotificationChannelGroup group = new AndroidNotificationChannelGroup("Grou
  AndroidFlutterLocalNotificationsPlugin plugin = AndroidFlutterLocalNotificationsP
  plugin.createNotificationChannelGroup(group);

  AndroidNotificationChannel channel = AndroidNotificationChannel(
      "fcm_push_channel", "ChannelName",
      groupId: "GroupID",
      importance: Importance.high,
      enableLights: true,
      enableVibration: true,
```

```
        sound: RawResourceAndroidNotificationSound("incoming_call")); // Note: Media
    plugin.createNotificationChannel(channel);
  }
```

On-Cloud Recording (TUICallKit)

Last updated：2024-04-03 17:23:11

This document describes how to enable on-cloud recording of `TUICallKit` to help you archive and review important calls. Here, two schemes are provided: automatic recording and RESTful API-based recording.

explain

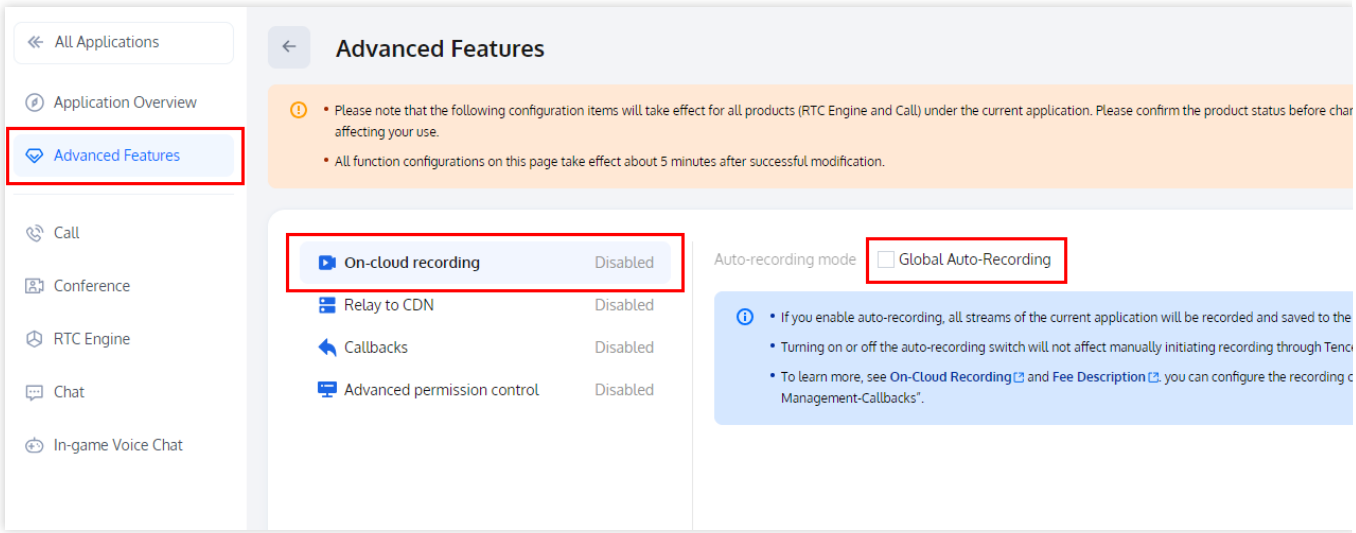
`TUICallKit` integrates multiple basic Tencent Cloud PaaS services, and its audio/video capabilities rely on TRTC. To use the on-cloud recording feature of `TUICallKit` , you need to configure it in the TRTC console .

Scheme 1. Automatic Recording (Recommended)

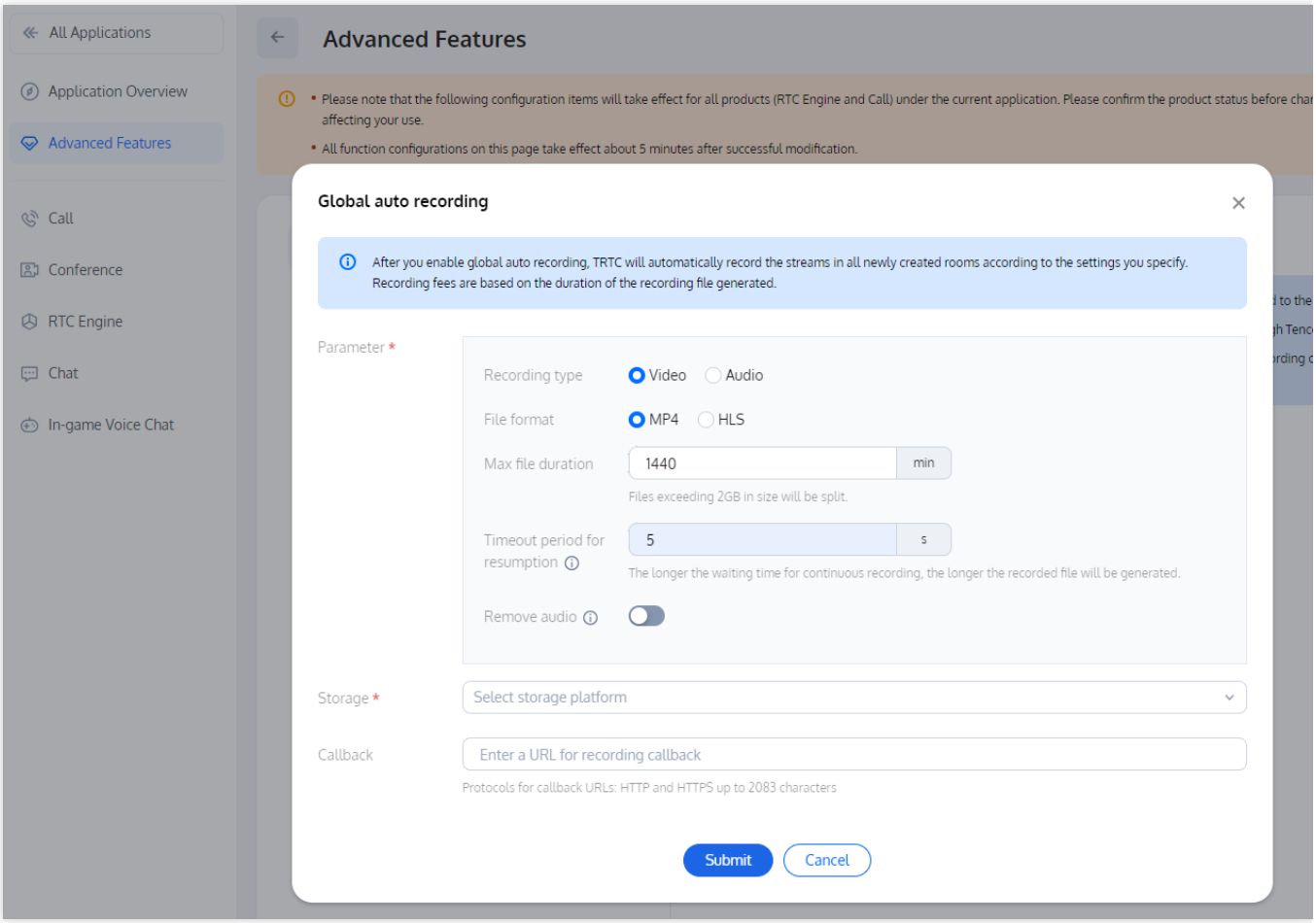
We recommend you use the automatic recording scheme. In this scheme, recording is not manually started or stopped by you. Instead, recording tasks are managed on the TRTC backend, and a call will be recorded automatically when there is an audio/video stream being upstreamed. You can integrate it quickly and easily as follows:

1. Find the application of the target `SDKAppId` in **Application Management** in the TRTC console and enter the **Advanced Feature** page.

2. In the **Advanced Function** configuration page, you can see the option for **On-cloud recording** configuration. Click on **Global Auto-Recording** to enter the configuration popup window.



3. We recommend the following configuration parameter settings for audio/video call business scenarios such as one-to-one and group calls. You can also customize the recording template as needed.



notice

Global recording can mix the streams of up to eight users. If a call involves more than eight users (including the local user), the stream of the last user cannot be recorded.

After the global automatic recording feature is enabled, when a call is answered and there is audio/video being upstreamed, a recording task will be triggered automatically, and recording will stop automatically when the call ends. If a user leaves the room due to poor network conditions or other exceptions, the recording backend will automatically stop the recording task based on the configured `MaxIdleTime` value (maximum idle time, which is five seconds by default) to avoid incurring unnecessary fees.

4. After the template is created, select **Global Auto-Recording**.

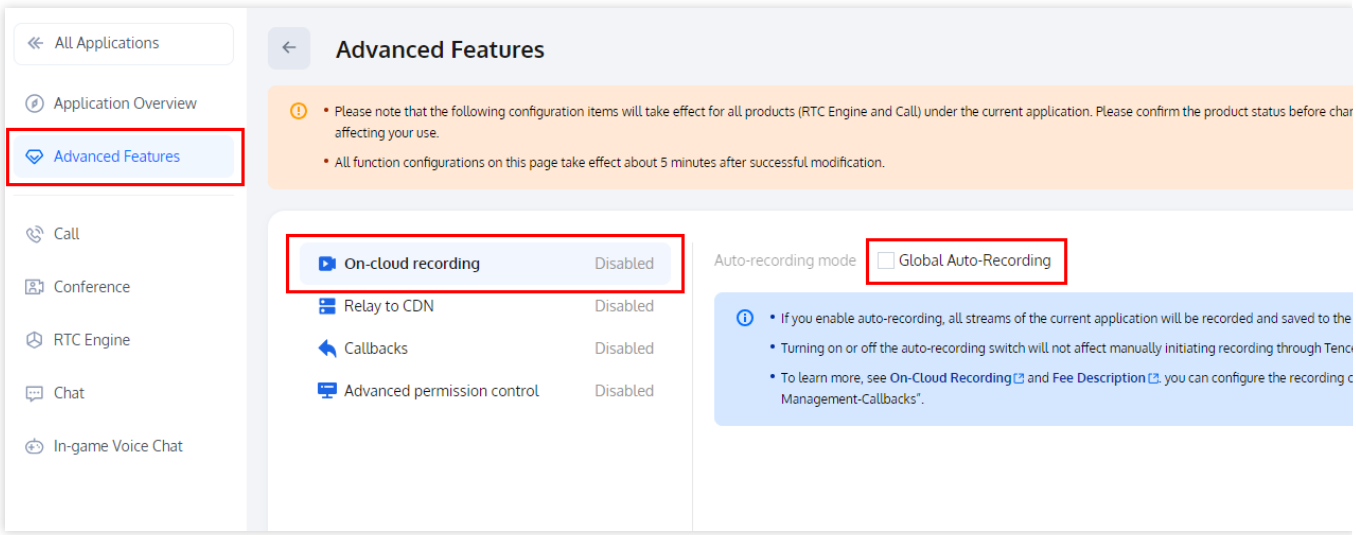
Scheme 2. RESTful API-Based Recording

If the automatic recording scheme doesn't meet your needs, you can also use the more flexible RESTful API-based recording scheme. In this scheme, you can record and subscribe to a specified anchor in the room, customize the layout of mixed streams, and update the layout and subscription during recording. However, **using its features**

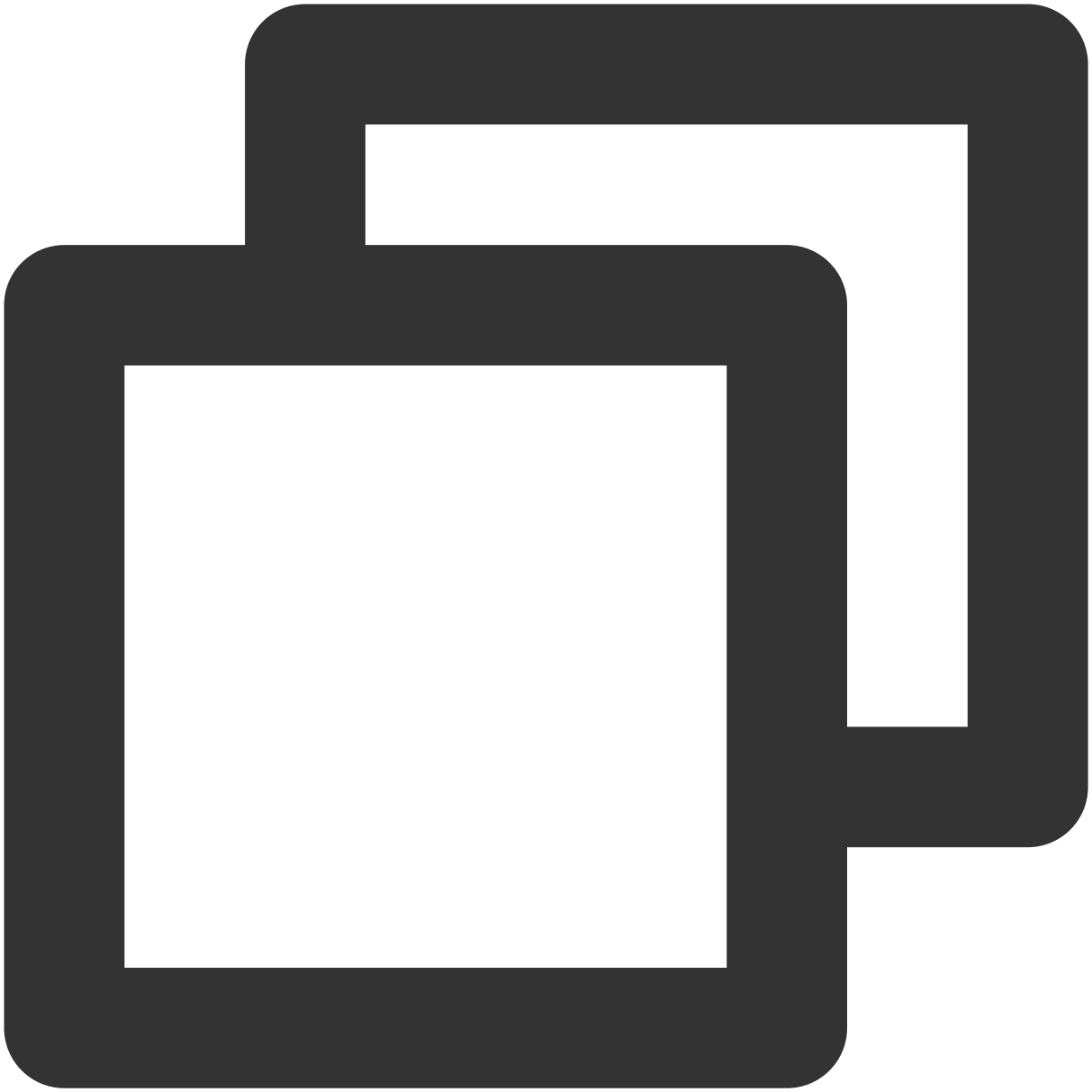
requires using it together with the business backend service and performing complex integration operations:

1. Find the application of the target `SDKAppId` in **Application Management** in the TRTC console and enter the **Advanced Feature** page.

2. In the **Advanced Function** configuration page, you can see the option for **On-cloud recording** configuration. Click on **Global Auto-Recording** to enter the configuration popup window. **Manual custom recording**, i.e., the RESTful API-based recording mode, is selected by default.



3. Then, you can call the RESTful API CreateCloudRecording to start on-cloud recording. Here, we recommend you listen on the notification event of TUICallObserver to start recording when an audio/video call starts. Below is the Java code sample:



```
TUICallEngine.createInstance(context).addObserver(new TUICallObserver() {
    @Override
    public void onCallBegin(TUICommonDefine.RoomId roomId, TUICallDefine.MediaType
        // Tell your business backend to start a recording task by using the releva
    }
});
```

4. Because a call may be hung up on the client due to an exception such as poor network conditions or process termination, to stop recording, we recommend you subscribe to the callback for the TRTC room status (for more

information, see Event Callbacks) and call the RESTful API DeleteCloudRecording to stop the on-cloud recording task when receiving the callback for TRTC room dismissal.

FAQs

1. How do I view the detailed recording durations?

You can view the detailed recording durations on the On-Cloud Recording page in the TRTC console.

2. How do I view recorded files?

Log in to the VOD console, select **Video/Audio Management** on the left sidebar, click **Search by prefix** above the list, select **Search by prefix**, and enter the keyword in the search box. The recording filenames are in the following formats:

The filename format of an MP4 single-stream recording file:

`<SdkAppId>_<RoomId>_UserId_s_<UserId>_UserId_e_<MediaId>_<Index>.mp4`

The filename format of an MP4 mixed-stream recording file: `<SdkAppId>_<RoomId>_<Index>.mp4`

Additional Features（TUICallKit）Configuring Nicknames and Avatars (All Platform)

Last updated：2024-04-03 17:23:11

This article explains how to set up a user's avatar and nickname.

Setting Avatar, Nickname

To customize the nickname or profile photo, use the following API for update:

Android（Kotlin）

Android（Java）

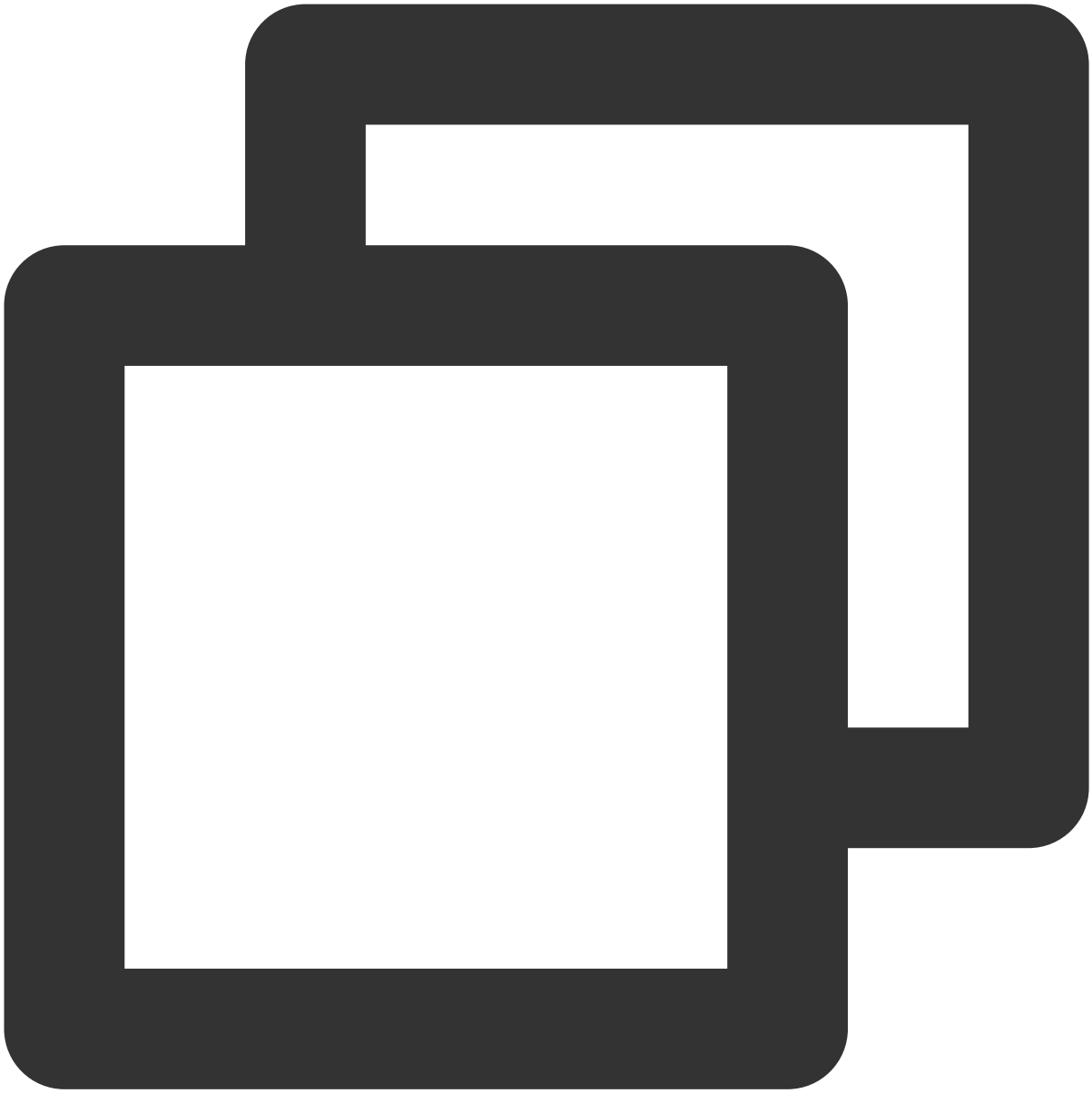
iOS（Objective-C）

iOS（Swift）

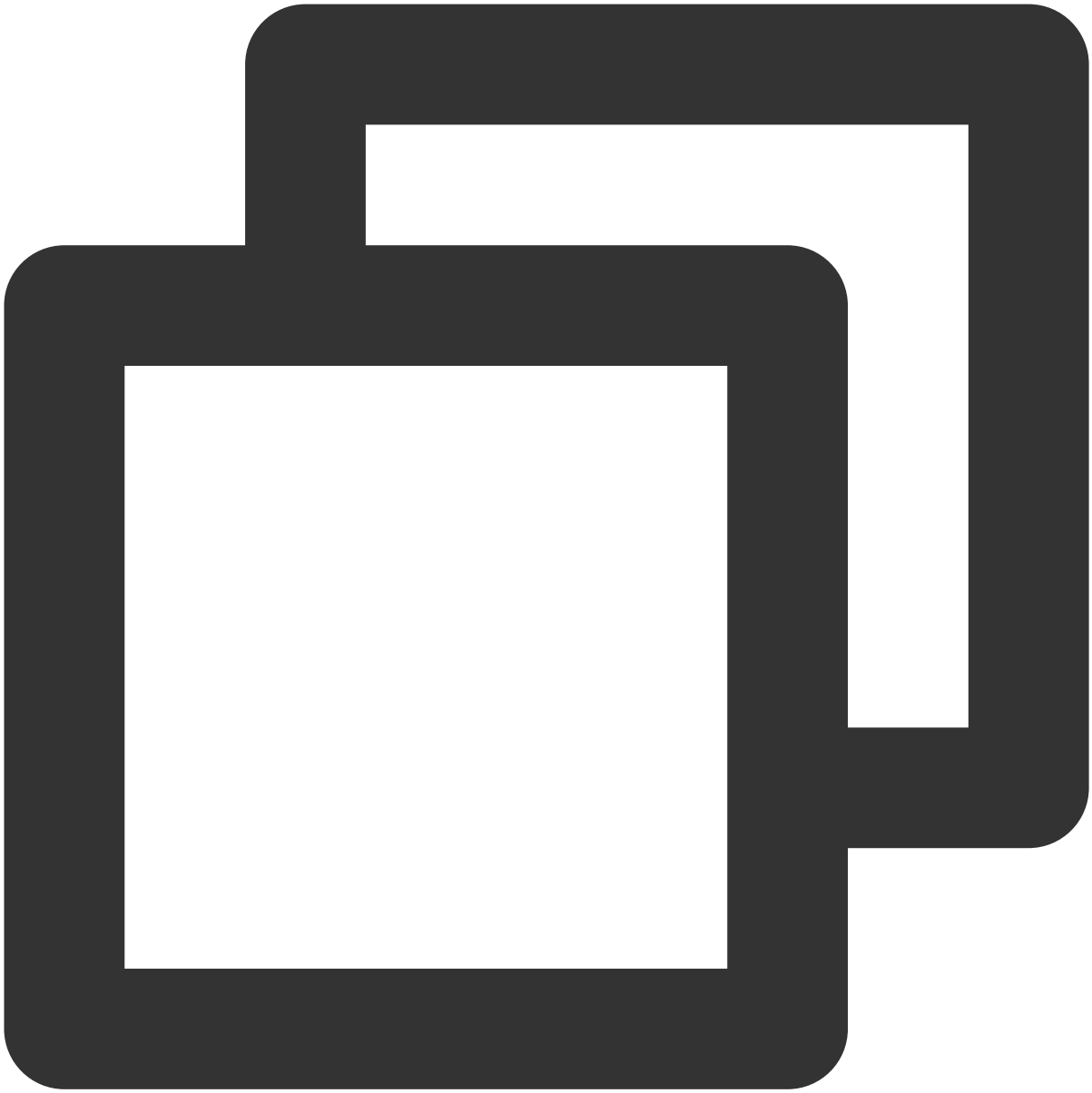
Flutter（Dart）

uni-app(Andorid&iOS)

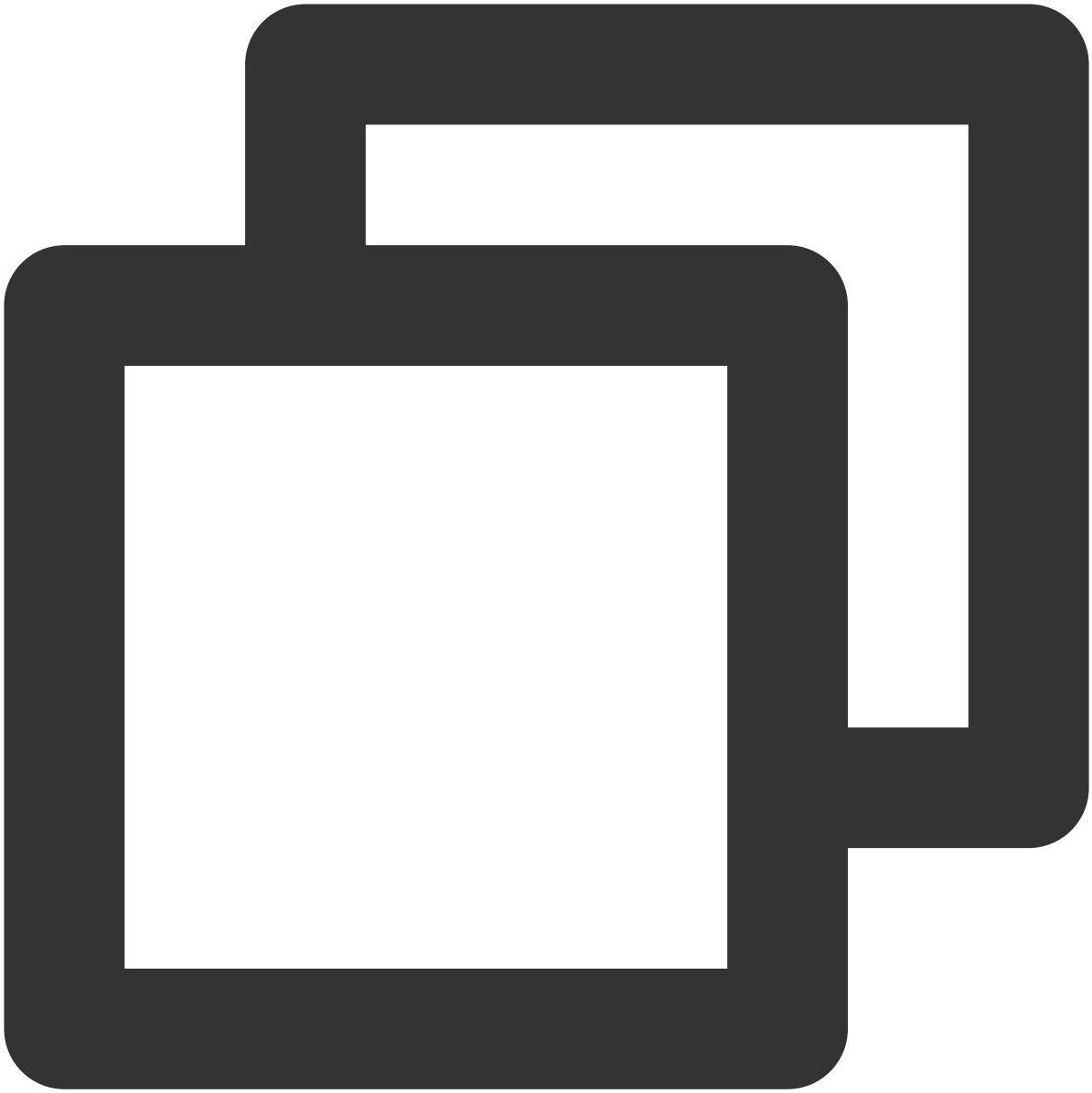
Web&H5



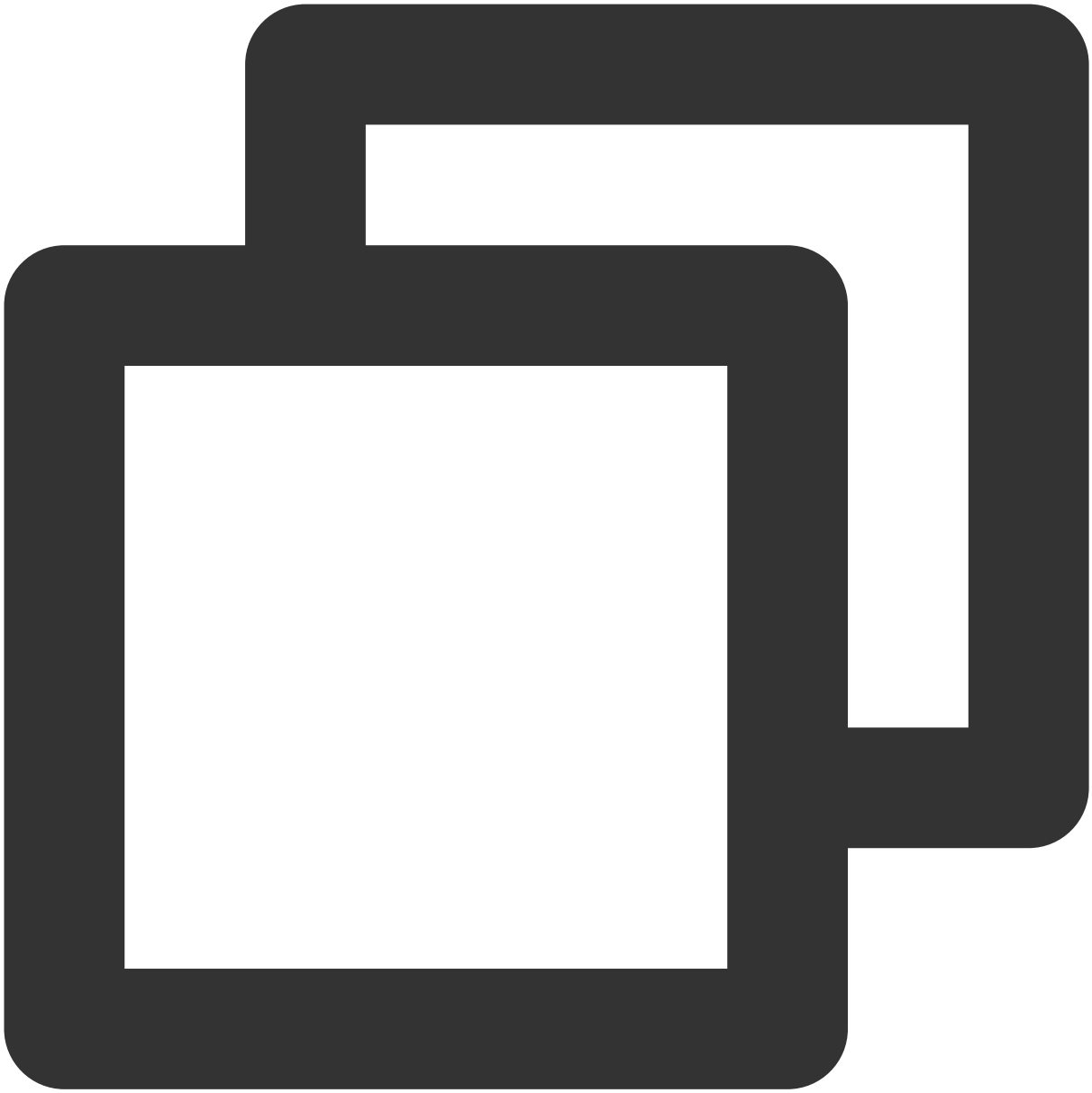
```
TUICallKit.createInstance(context).setSelfInfo("jack", "https:/****/user_avatar.png
```



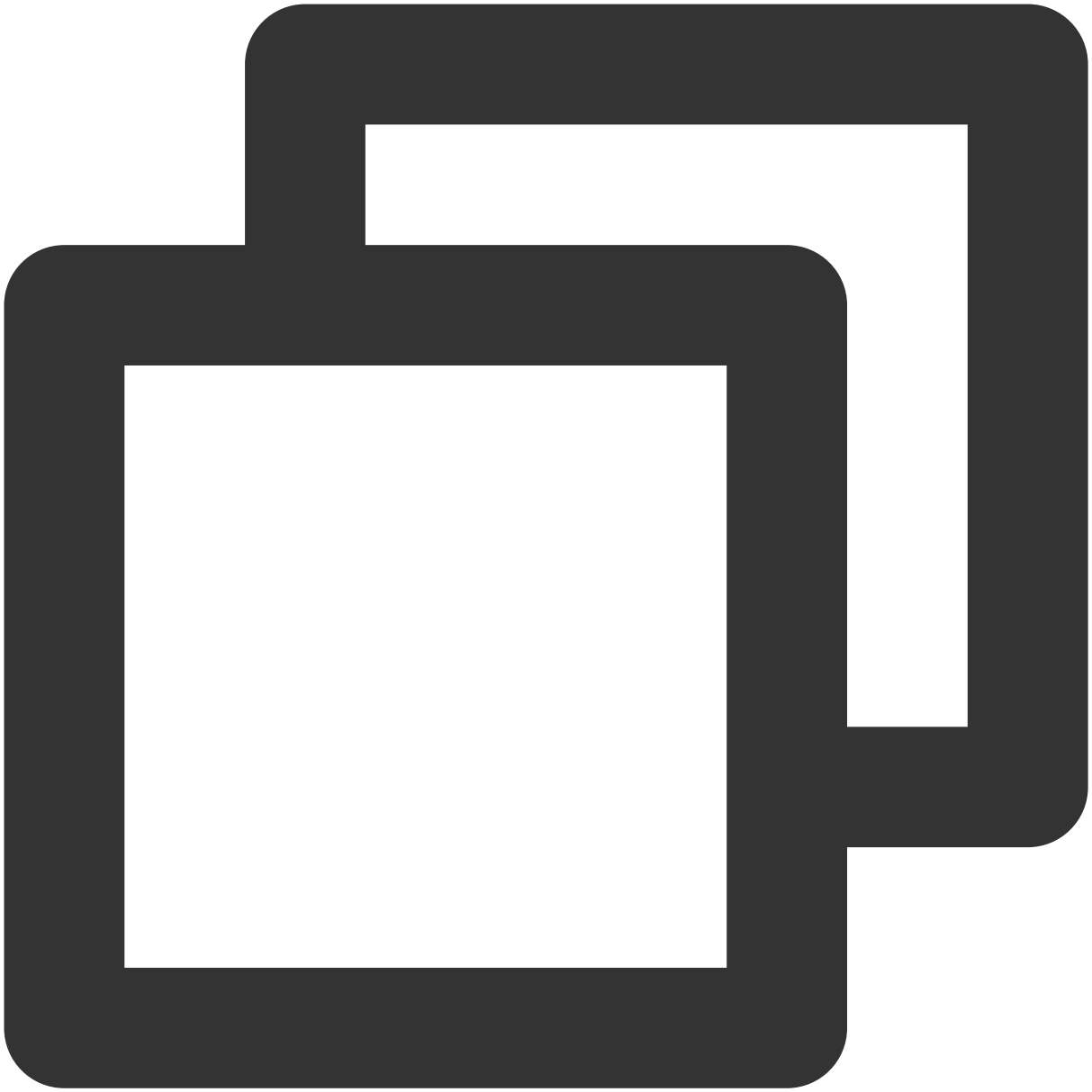
```
iTUICallKit.createInstance(context).setSelfInfo("jack", "https:/****/user_avatar.pn
```



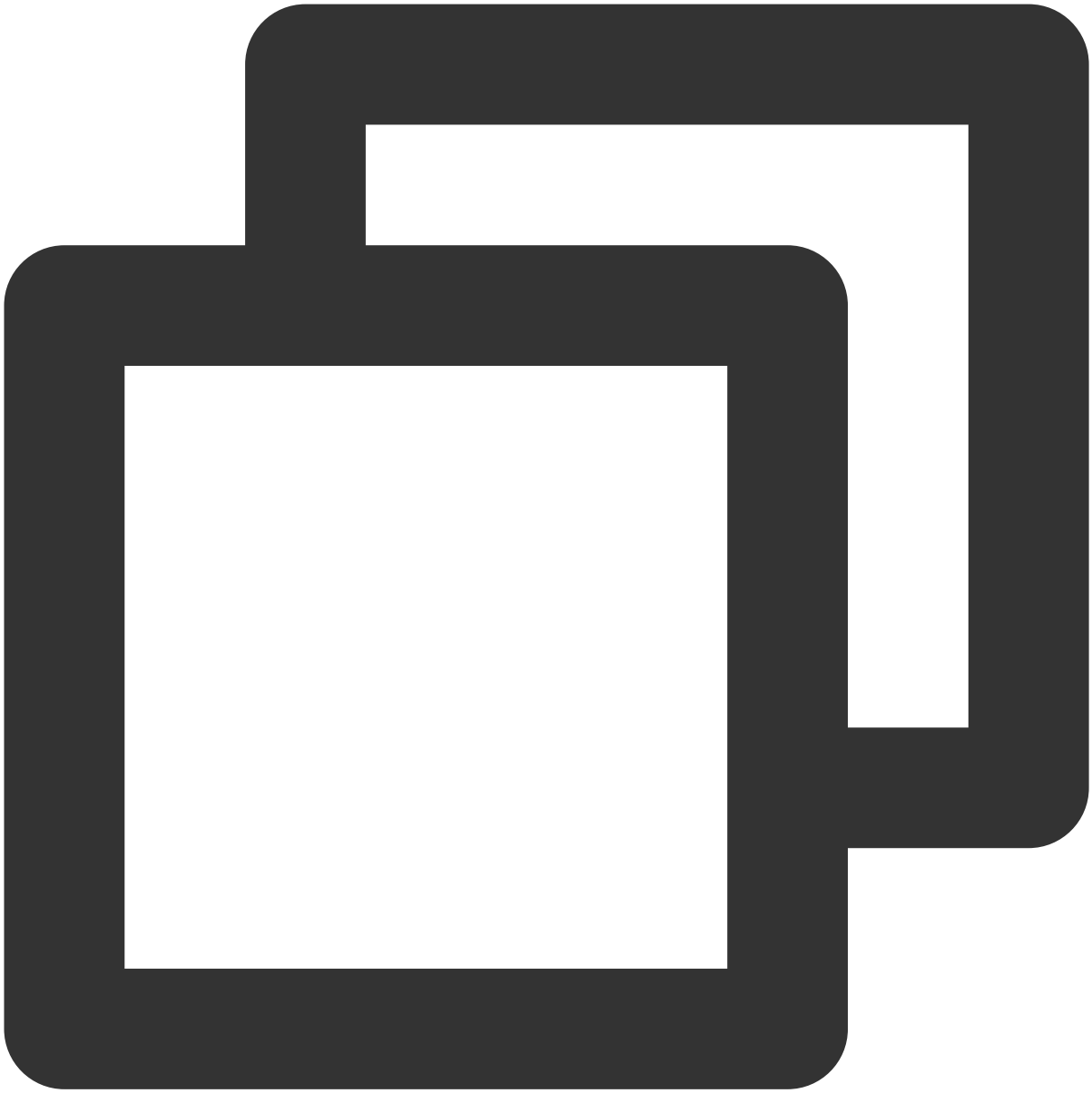
```
[[TUICallKit createInstance] setSelfInfo:@"" avatar:@"" succ:^{

} fail:^(int code, NSString *errMsg) {

}];
```



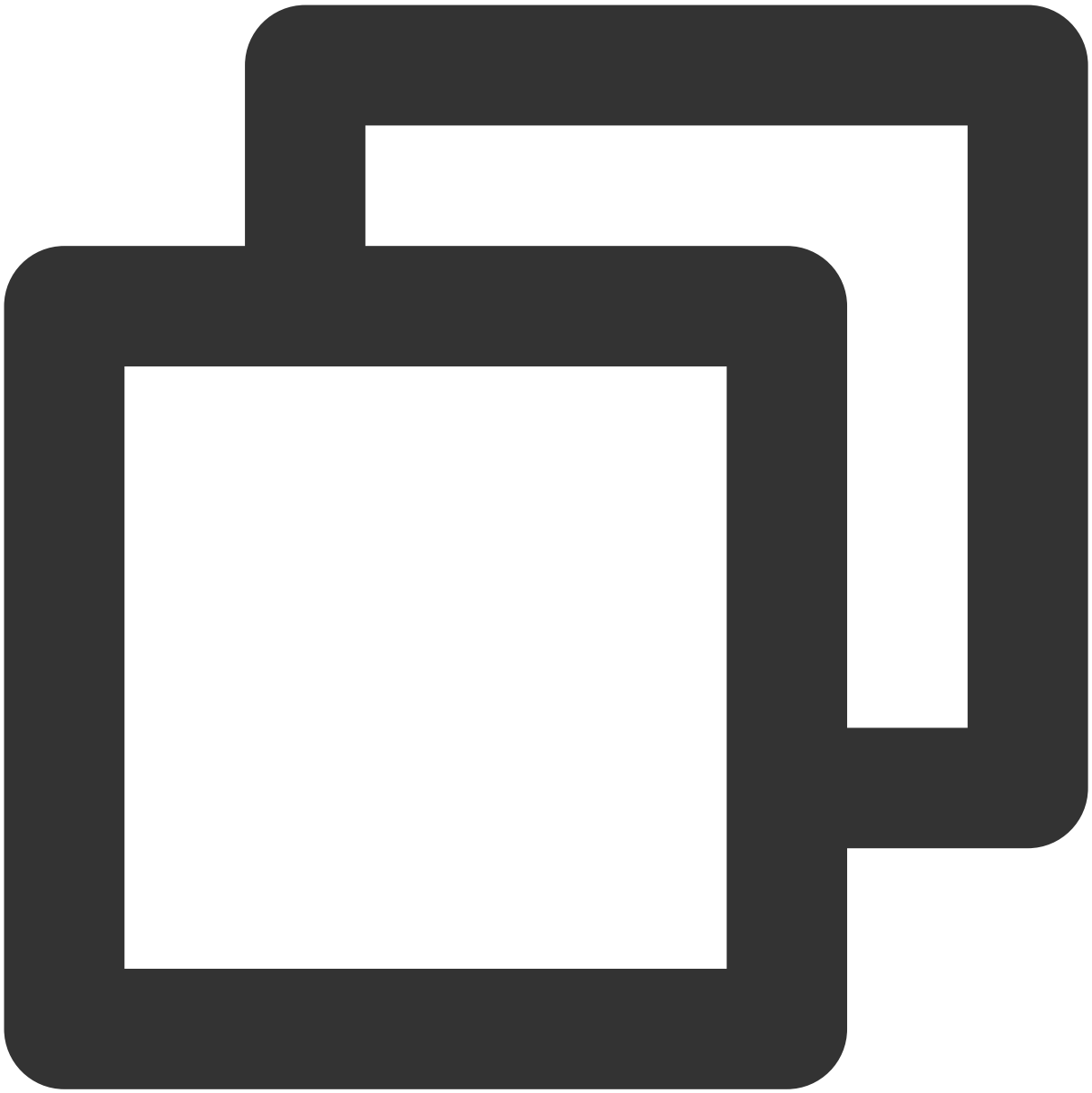
```
TUICallKit.createInstance().setSelfInfo(nickname: "", avatar: "") {

} fail: { code, message in

}
```



```
TUIResult result = TUICallKit.instance.setSelfInfo('userName', 'url:********');
```



```
const options = {
    nickName: 'jack',
    avatar: 'https:/****/user_avatar.png'
}
TUICallKit.setSelfInfo(options, (res) => {
    if (res.code === 0) {
        console.log('setSelfInfo success');
    } else {
        console.log(`setSelfInfo failed, error message = ${res.msg}`);
    }
});
```



```
try {
  await TUICallKitServer.setSelfInfo({ nickName: "jack", avatar: "http://xxx" });
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the setSelfInfo API. Reason: ${error}`);
}
```

Note

The update of the callee's nickname and profile photo may be delayed during a call between non-friend users due to the user privacy settings. After a call is made successfully, the information will also be updated properly in subsequent

calls.

Configure Resolution and Fill Mode (Web)

Last updated：2024-04-03 17:23:11

Introduction to how to set resolution, fill pattern.

Setting resolution, fill pattern

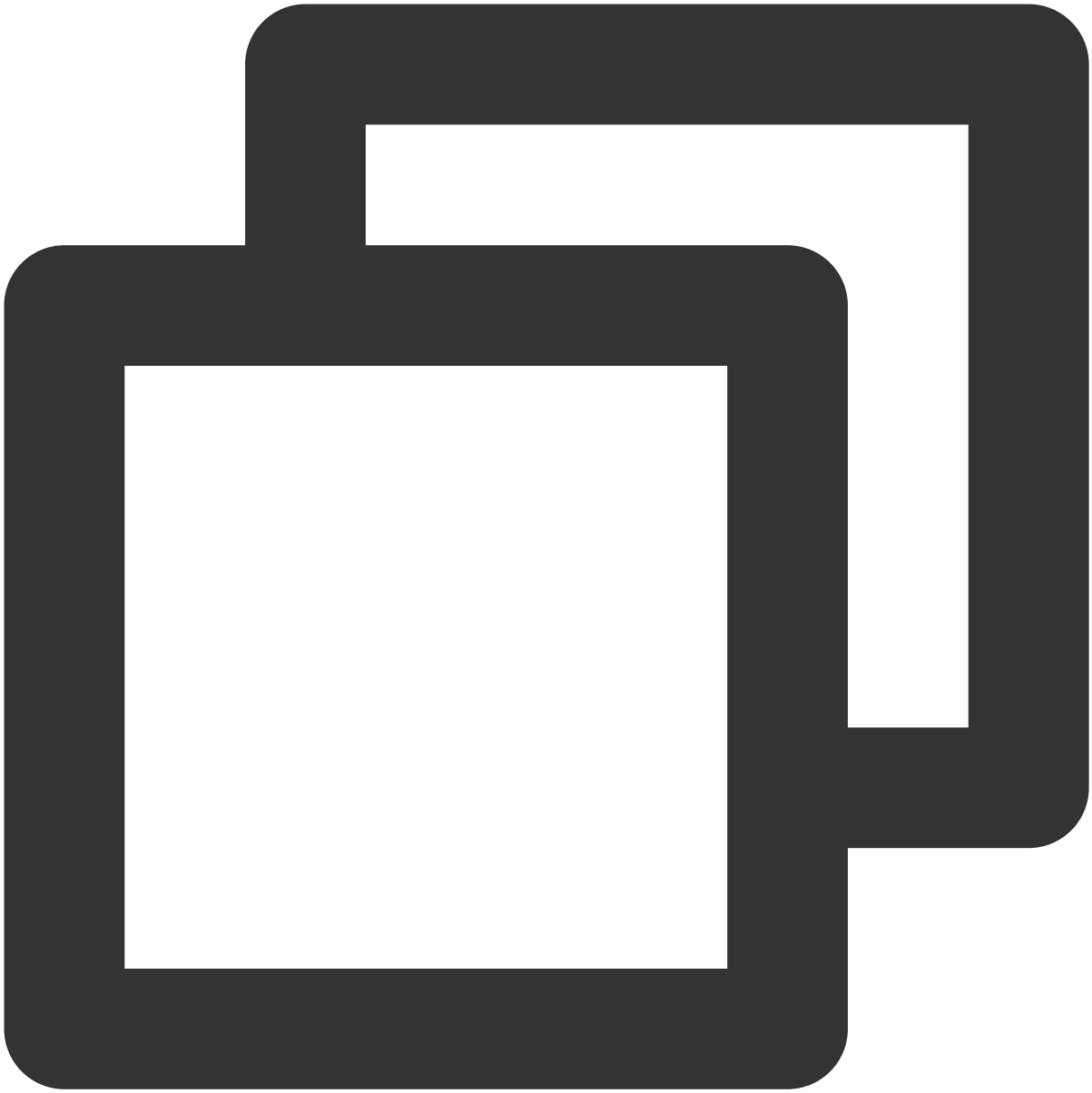
The TUICallKit component provides numerous feature switches, allowing for selective enabling or disabling as needed. For specifics, refer to Introduction to TUICallKit Attributes .

`VideoDisplayMode` : Display mode of the frame.

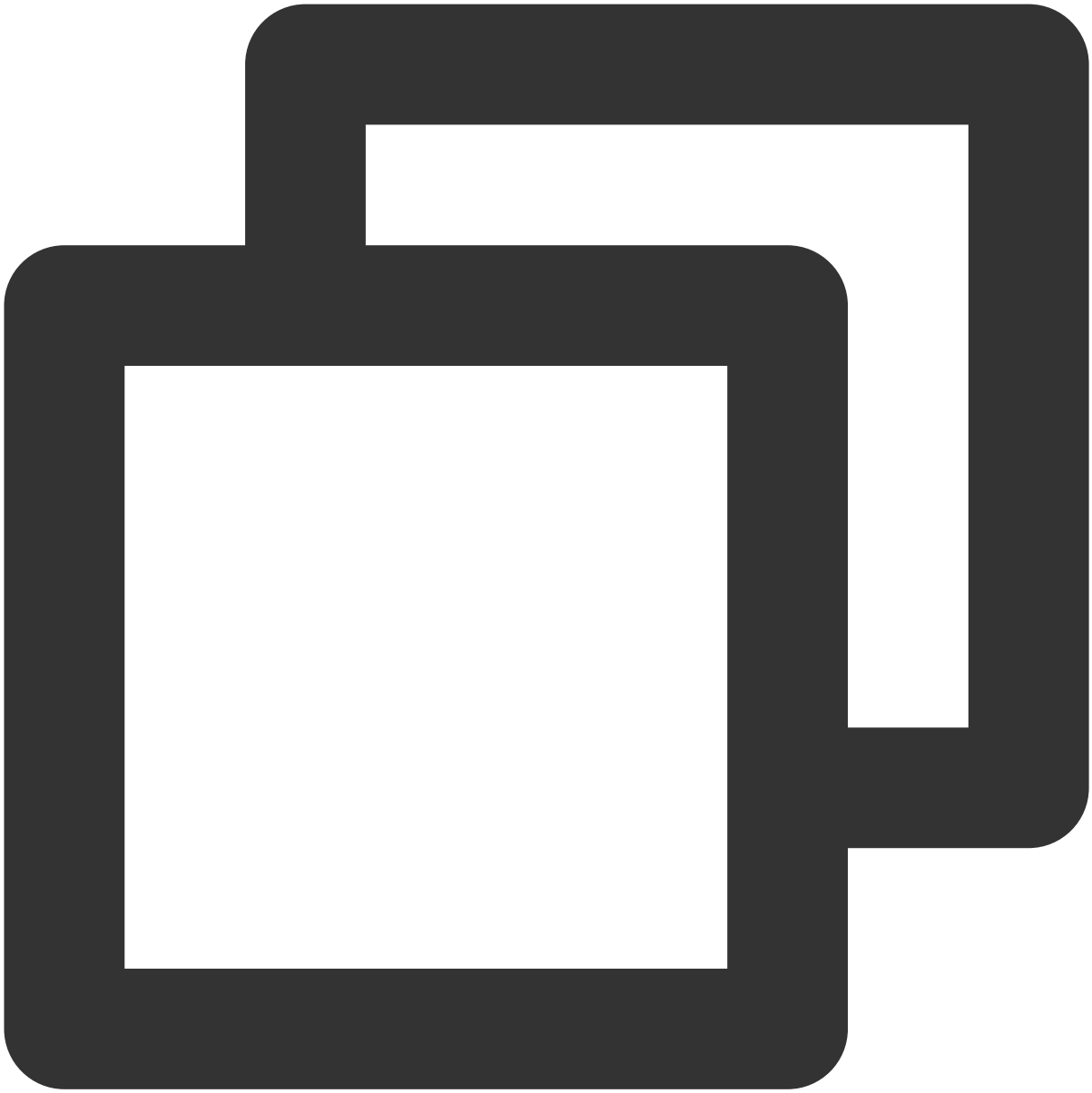
`VideoResolution` : Call resolution.

React

Vue



```
import { VideoDisplayMode, VideoResolution } from "@tencentcloud/call-uikit-react";

<TUICallKit
    videoDisplayMode={VideoDisplayMode.CONTAIN}
    videoResolution={VideoResolution.RESOLUTION_1080P} />
```



```
import { VideoDisplayMode, VideoResolution } from "@tencentcloud/call-uikit-vue";

<TUICallKit
    :videoDisplayMode="VideoDisplayMode.CONTAIN"
    :videoResolution="VideoResolution.RESOLUTION_1080P" />
```

videoDisplayMode

There are three values for the `videoDisplayMode` display mode:

`VideoDisplayMode.CONTAIN`

`VideoDisplayMode.COVER`

`VideoDisplayMode.FILL` , the default value is `VideoDisplayMode.COVER` .

Attribute	Value	Description
videoDisplayMode	VideoDisplayMode.CONTAIN	Ensuring the full display of video content is our top priority. The dimensions of the video are scaled proportionally until one side aligns with the frame of the viewing window. In case of discrepancy in sizes between the video and the display window, the video is scaled - on the premise of maintaining the aspect ratio - to fill the window, resulting in a black border around the scaled video.
	VideoDisplayMode.COVER	Priority is given to ensure that the viewing window is filled. The video size is scaled proportionally until the entire window is filled. If the video's dimensions are different from those of the display window, the video stream will be cropped or stretched to match the window's ratio.
	VideoDisplayMode.FILL	Ensuring that the entire video content is displayed while filling the window does not guarantee preservation of the original video's proportion. The dimensions of the video will be stretched to match those of the window.

videoResolution

The resolution `videoResolution` has three possible values:

`VideoResolution.RESOLUTION_480P`

`VideoResolution.RESOLUTION_720P`

`VideoResolution.RESOLUTION_1080P` , the default value is `VideoResolution.RESOLUTION_480P` .

Resolution Explanation:

Video Profile	Resolution (W x H)	Frame Rate (fps)	Bitrate (Kbps)
480p	640 × 480	15	900
720p	1280 × 720	15	1500
1080p	1920 × 1080	15	2000

Frequently Asked Questions:

iOS 13&14 does not support encoding videos higher than 720P. It is suggested to limit the highest collection to 720P on these two system versions. Refer to iOS Safari known issue case 12.

Firefox does not permit the customization of video frame rates (default is set to 30fps).

Due to the influence of system performance usage, camera collection capabilities, browser restrictions, and other factors, the actual values of video resolution, frame rate, and bit rate may not necessarily match the set values exactly. In such scenarios, the browser will automatically adjust the Profile to get as close to the set values as feasible.

Group Calls
Android&iOS&Flutter

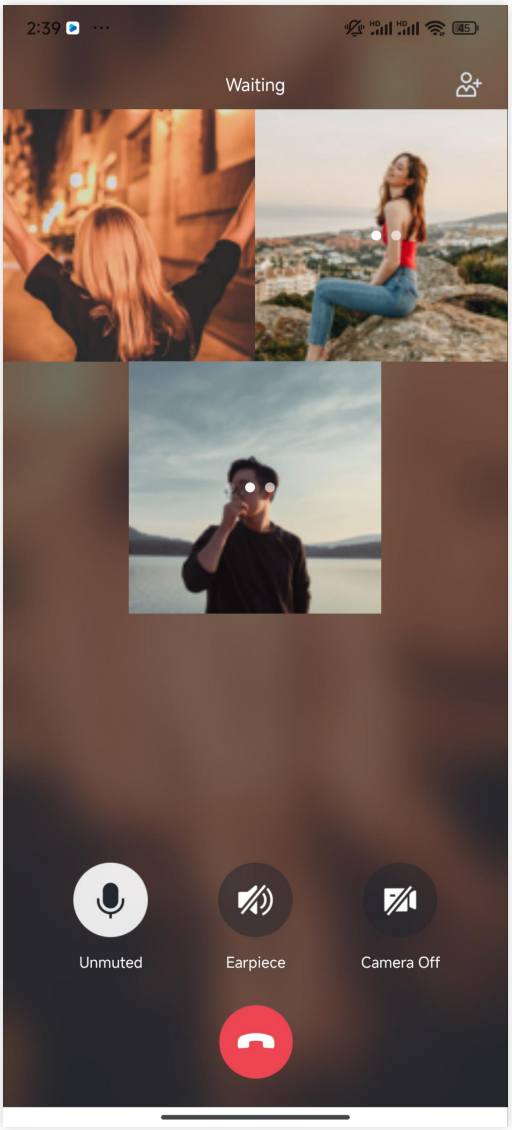
Last updated：2024-04-03 17:23:11

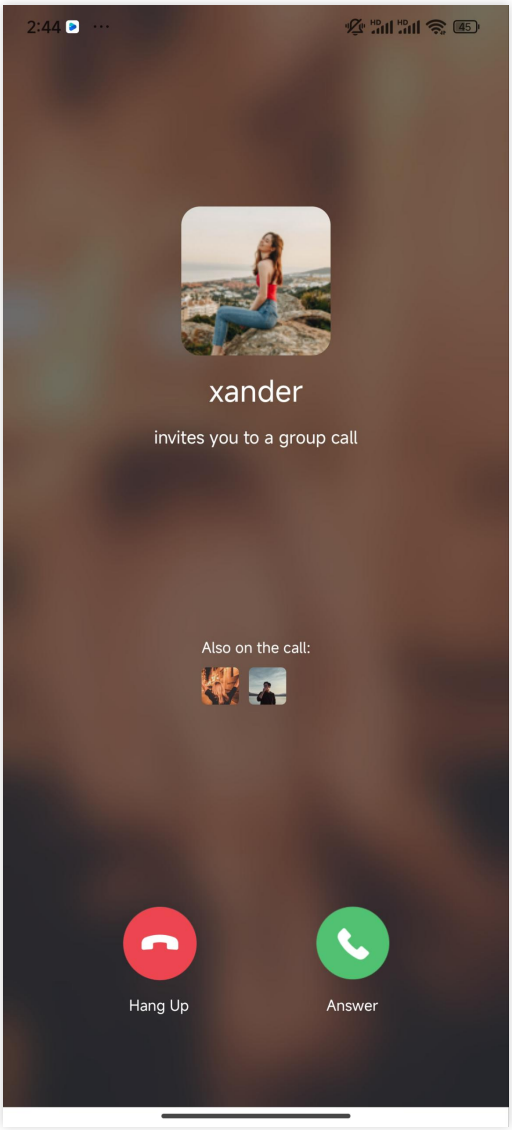
This article introduces the use of the group call feature, such as initiating a group call and joining a group call.

Expected outcome

TUICallKit supports group calls. The expected outcome is shown in the figure below.

Initiate a group call	Receive a group call request





Create groupID

Before using the group call feature, you need to create a group first and initiate a group call in an existing group.

Method one: Create a group by calling the IM API, see IM Group Management.

Method two: Create a group manually through the console, see Console group management.

Group call

Initiate a group call

Launch a group call using the groupCall API.

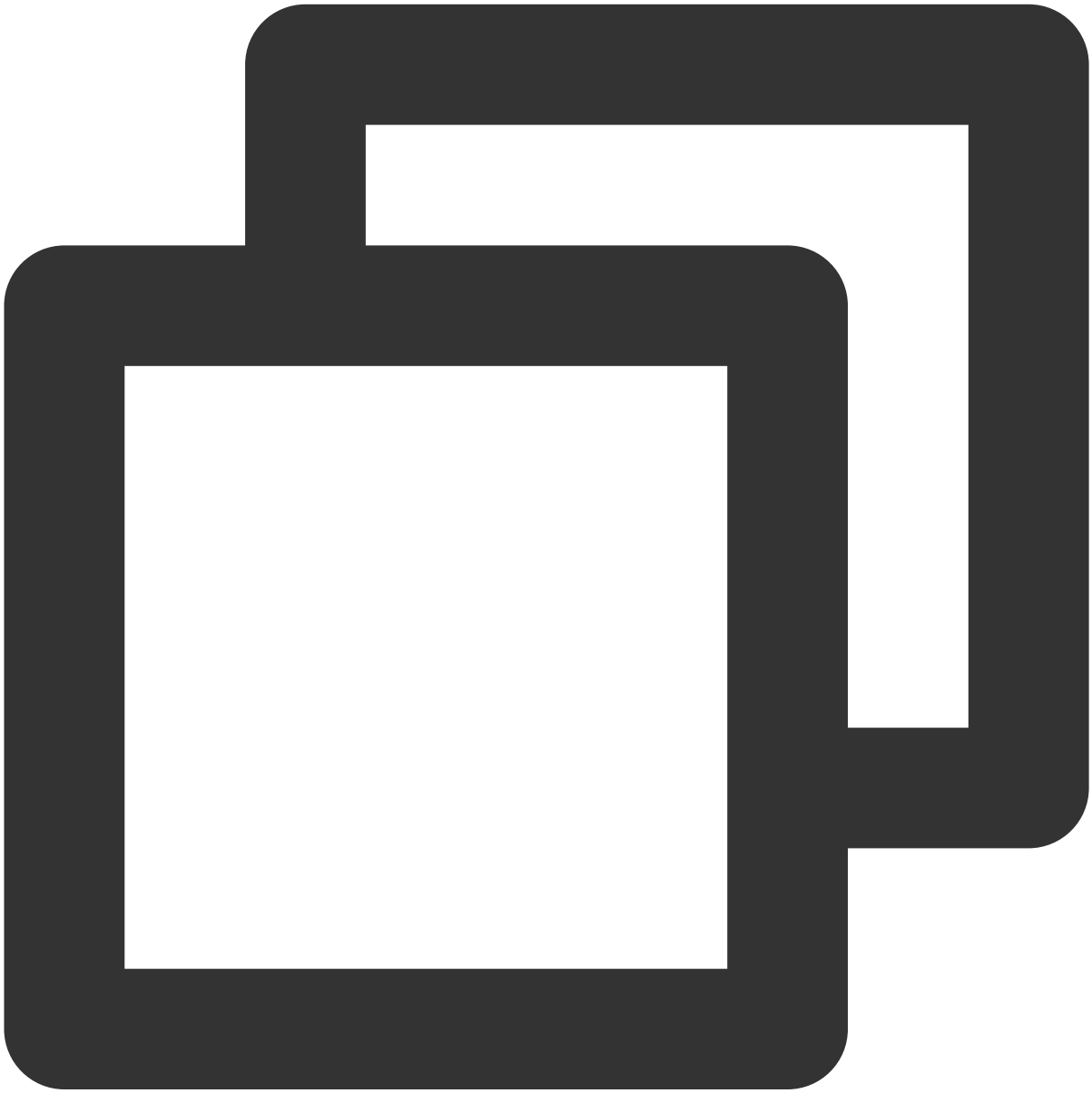
Android(Kotlin)

Android(Java)

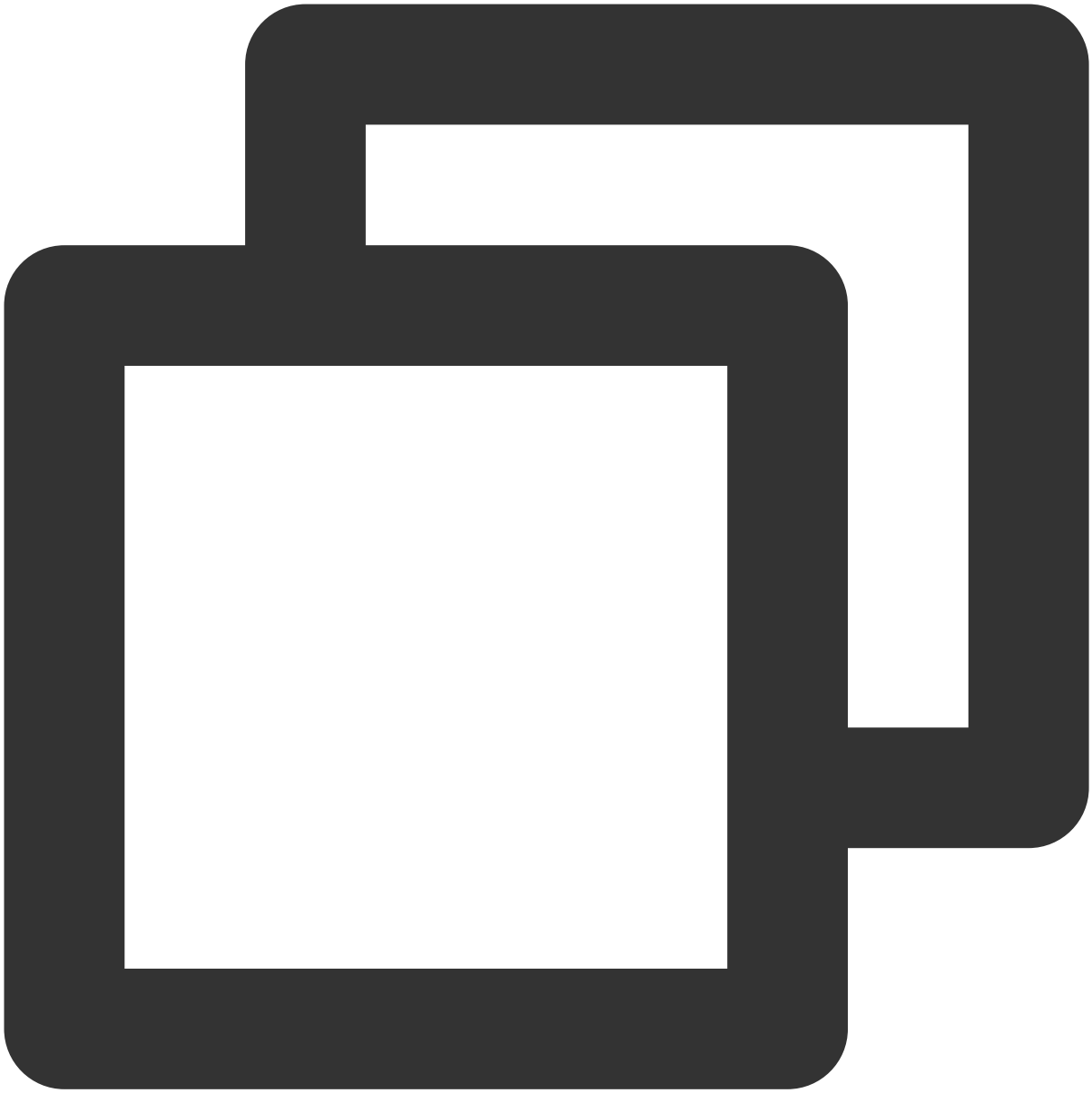
iOS(Swift)

iOS(Objective-C)

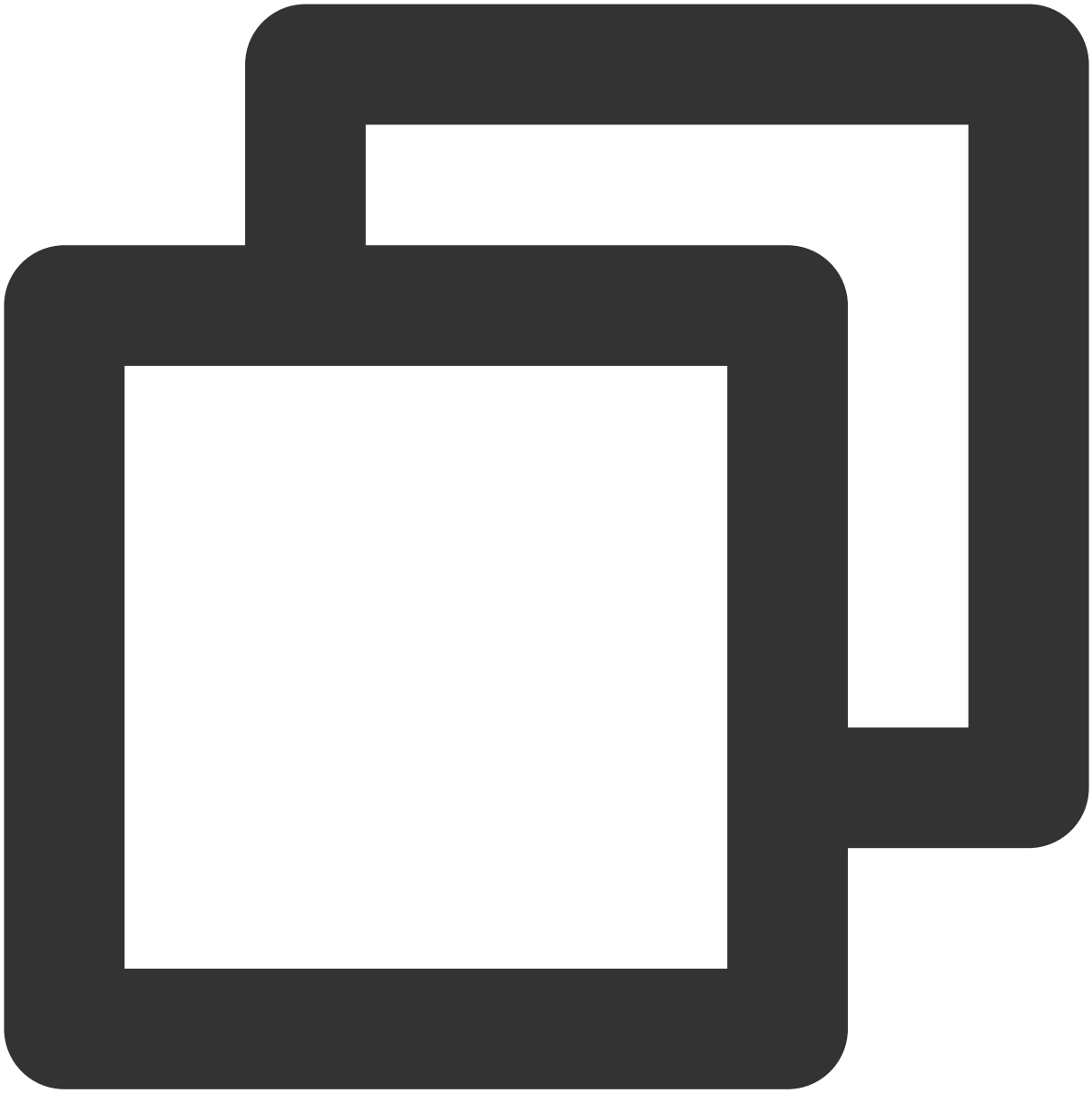
Flutter(Dart)



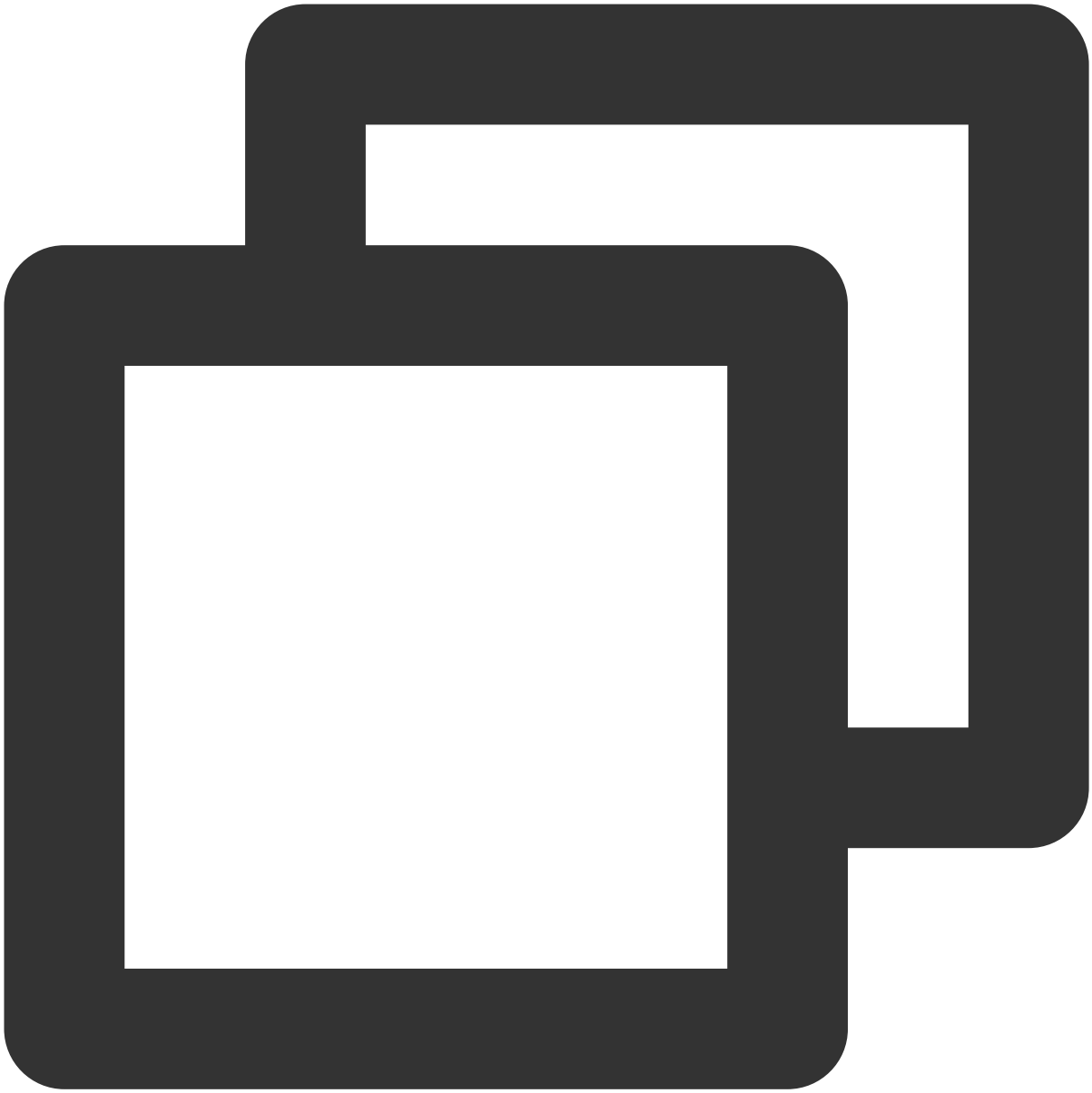
```
TUICallKit.createInstance(context).groupCall("12345678", Arrays.asList("jane", "mik
```



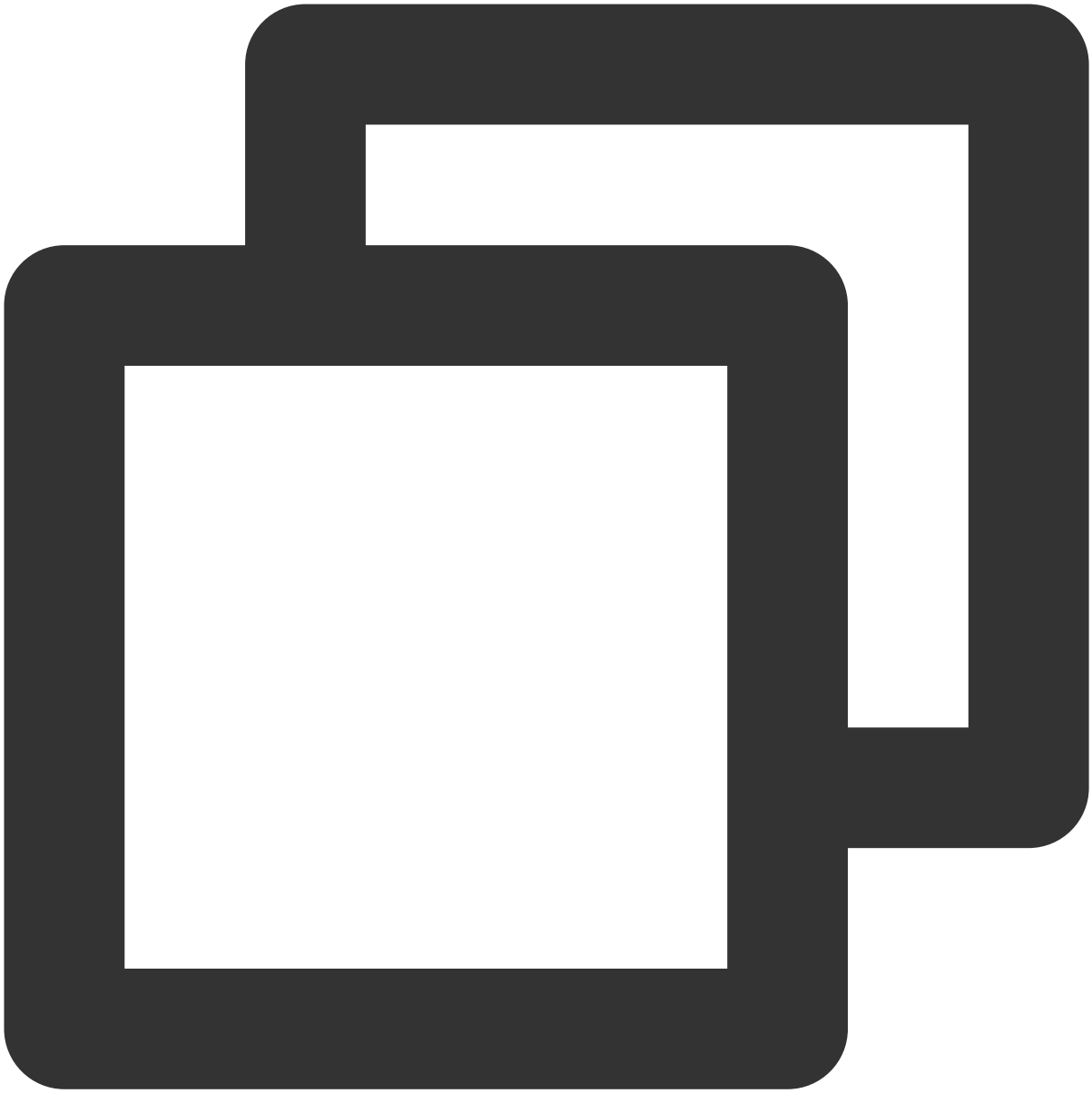
```
TUICallKit.createInstance(context).groupCall("12345678", Arrays.asList("jane", "mik
```



```
import TUICallKit

TUICallKit.createInstance().groupCall(groupId: "12345678",
                                       userIdList: ["denny", "mike", "tommy"],
                                       callMediaType: .video)
```



```
#import <TUICallKit/TUICallKit.h>

[[TUICallKit createInstance] groupCall:@"12345678"
                            userIdList:@[@"denny", @"mike", @"tommy"]
                         callMediaType:TUICallMediaTypeVideo];
```



```
TUICallKit.instance.groupCall('0001', ['denny', 'mike', 'tommy'], TUICallMediaType.
```

Join a group call

Actively join an existing audio and video call in the group by calling the joinInGroupCall API.

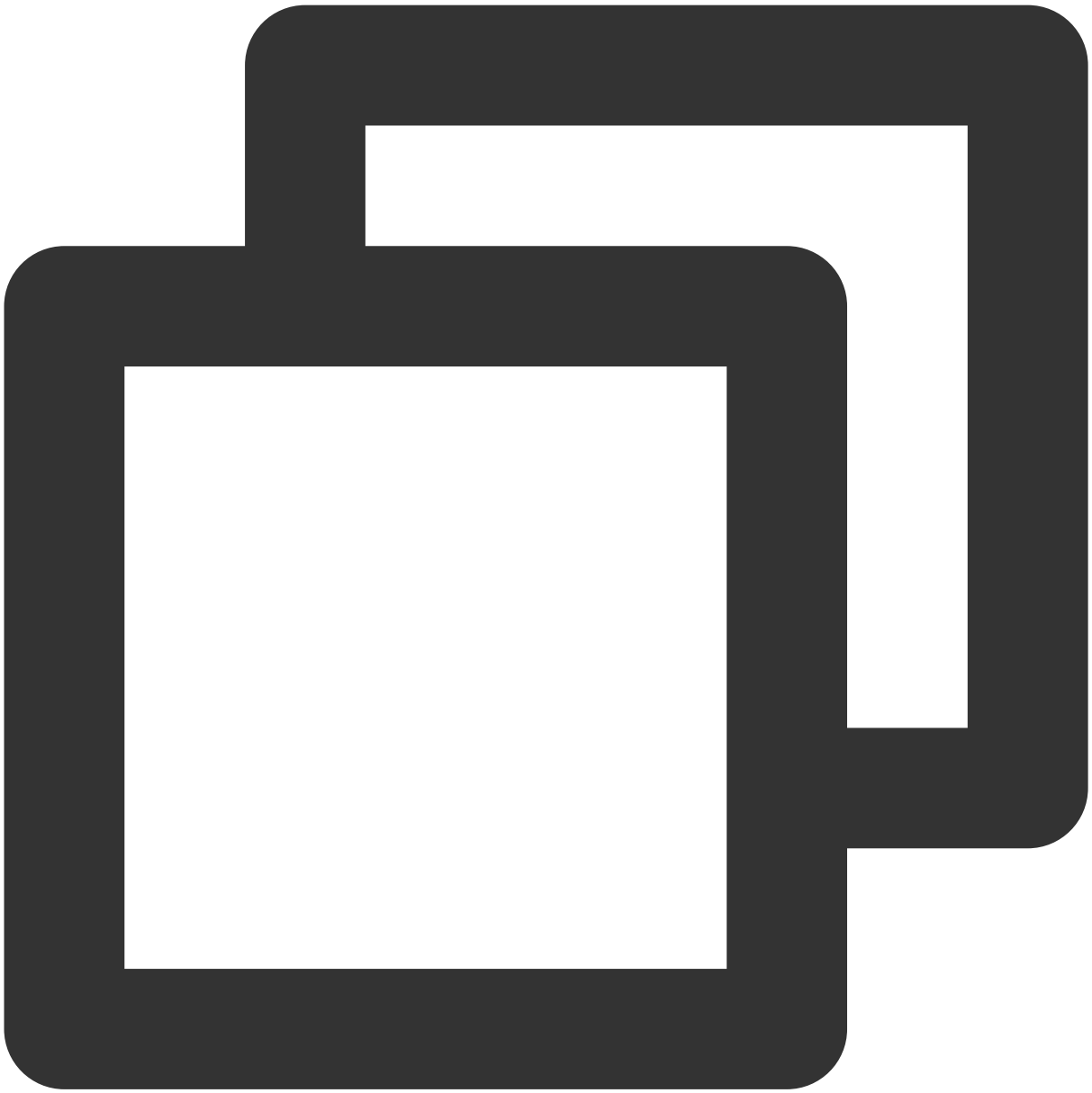
Android(Kotlin)

Android(Java)

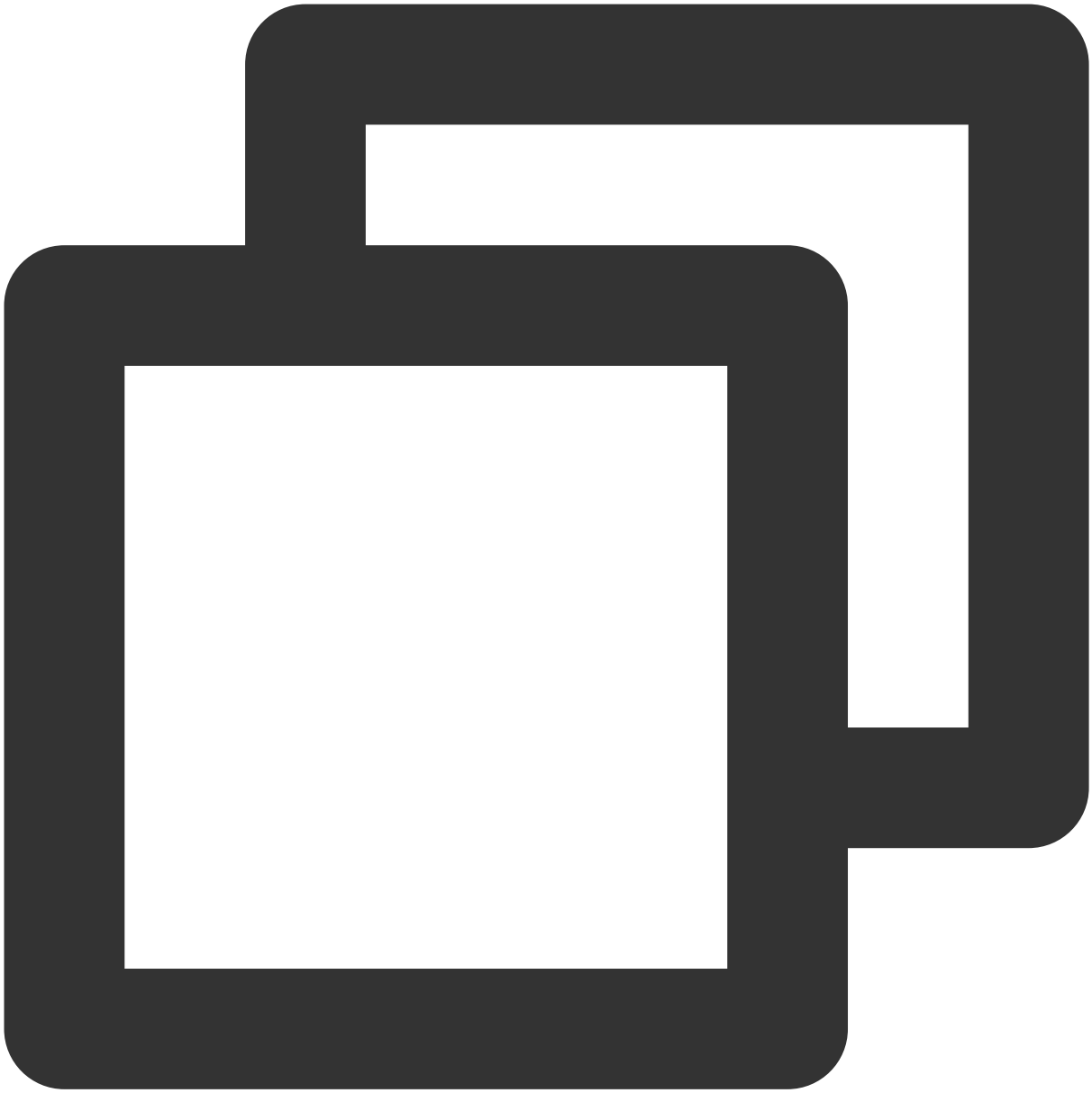
iOS(Swift)

iOS(Objective-C)

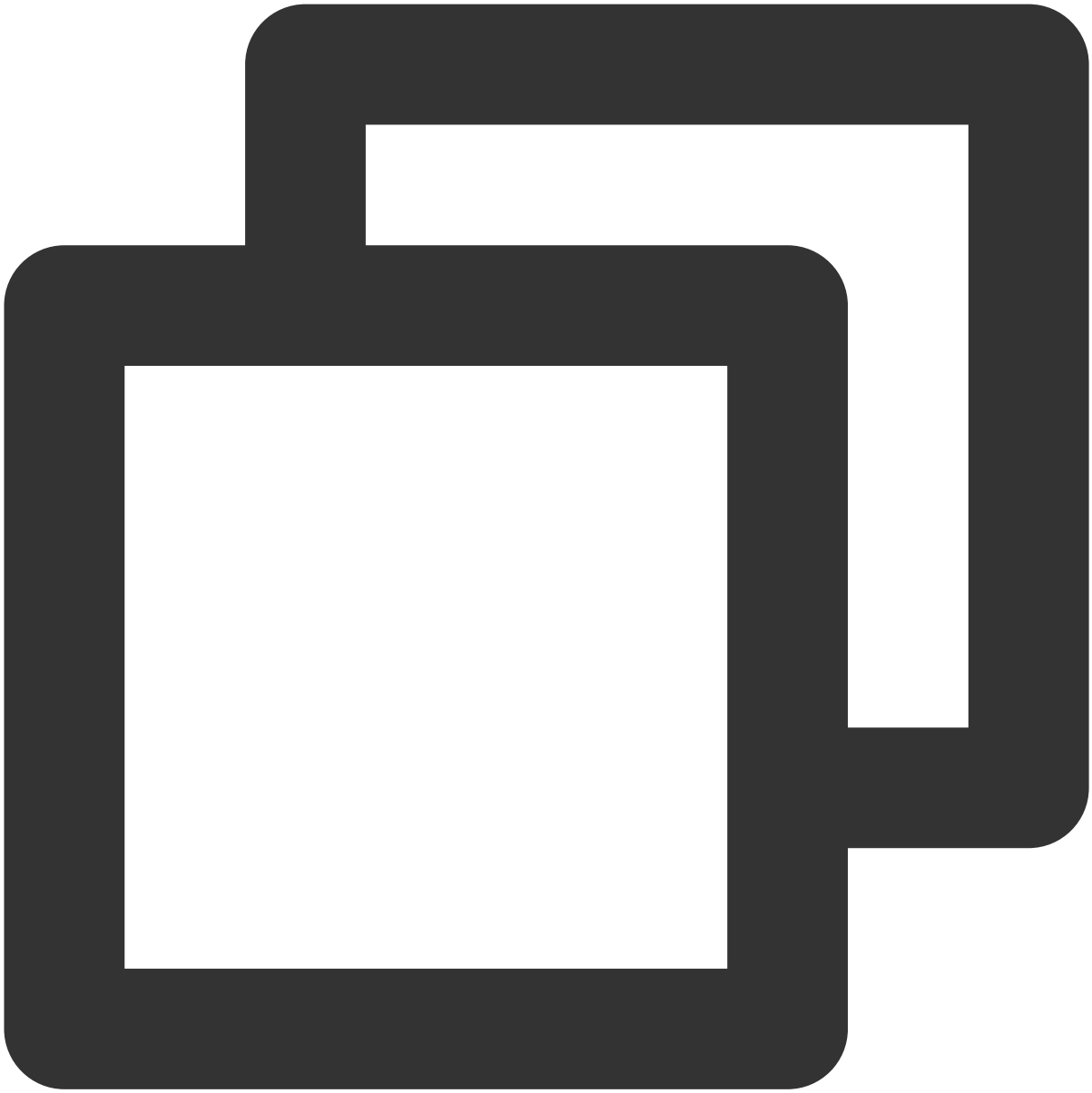
Flutter(Dart)



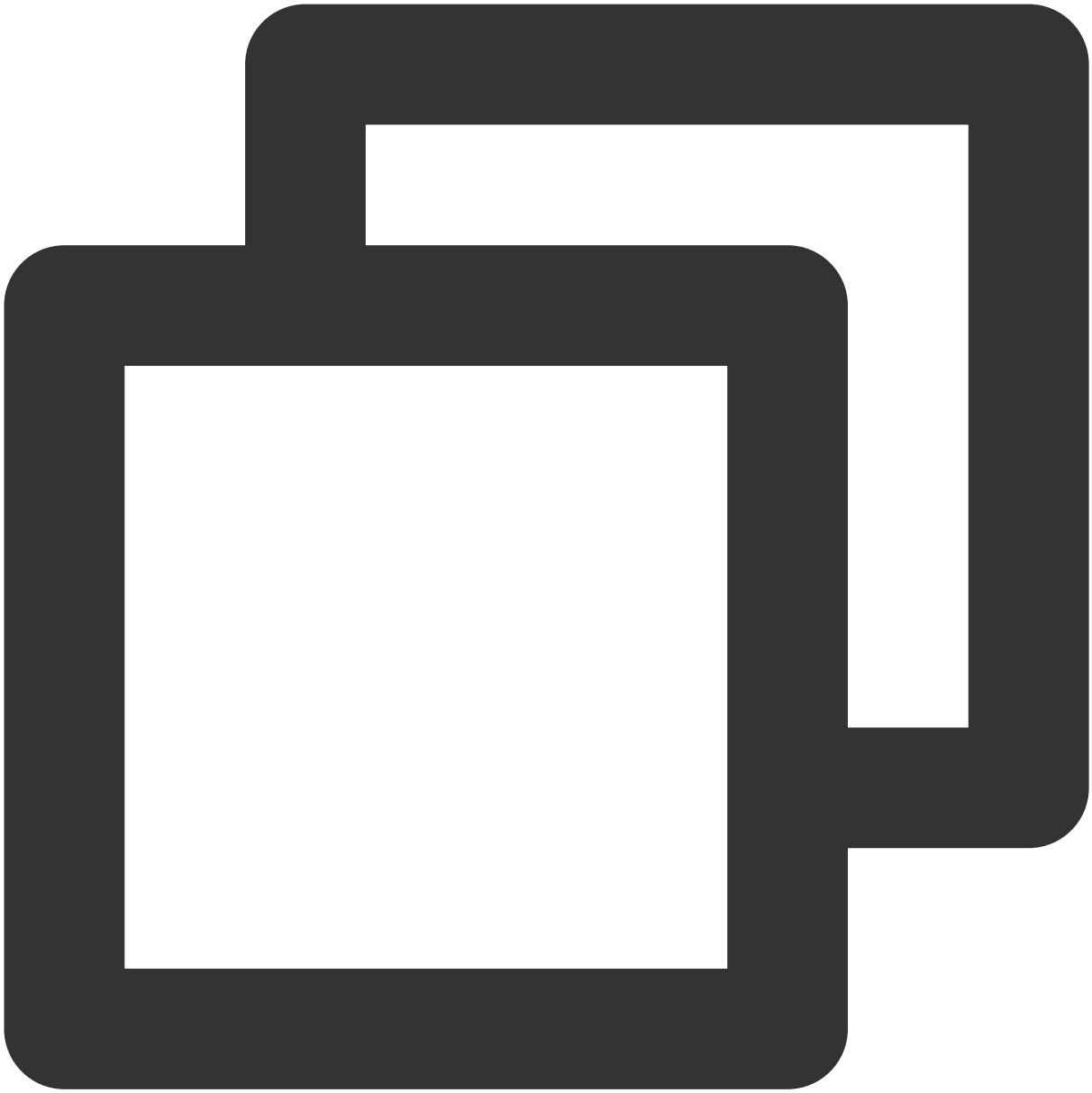
```
RoomId roomId = RoomId();
roomId.intRoomId = 123321;
TUICallKit.createInstance(context).joinInGroupCall(roomId, "12345678", TUICallDefin
```



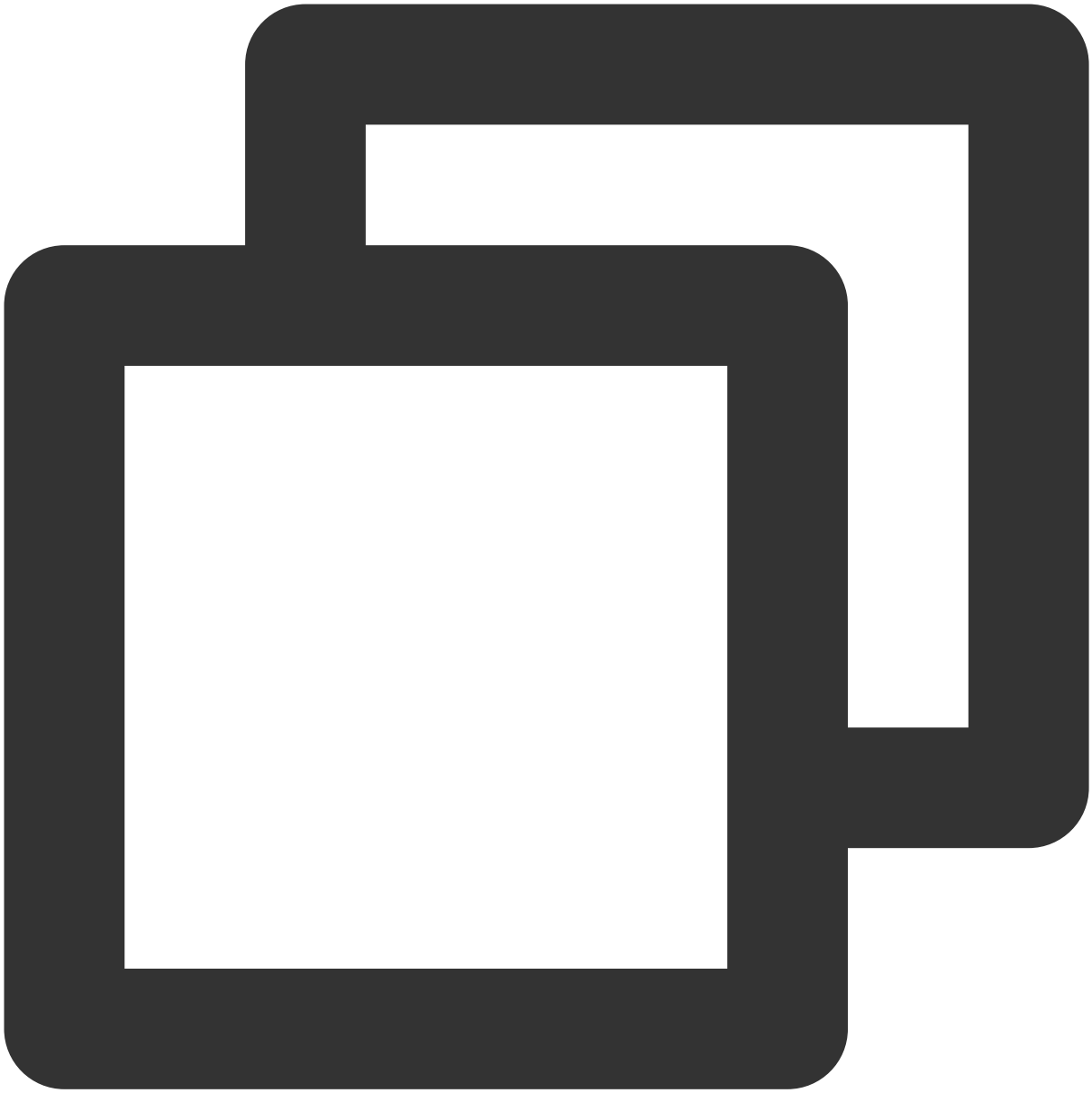
```
RoomId roomId = new RoomId();
roomId.intRoomId = 123321;
TUICallKit.createInstance(context).joinInGroupCall(roomId , "12345678", TUICallDefi
```



```
import TUICallKit
let roomId = TUIRoomId()
roomId.intRoomId = 123321
TUICallKit.createInstance().joinInGroupCall(roomId: roomId,
                                            groupId: "1234567",
                                            callMediaType: .video)
```



```
#import <TUICallKit/TUICallKit.h>

TUIRoomId *roomId = [[TUIRoomId alloc] init];
roomId.intRoomId = 123321;

[[TUICallKit createInstance] roomId: roomId
                            groupId:@"223344"
                      callMediaType:TUICallMediaTypeVideo];
```



```
TUIRoomId roomId = TUIRoomId()
roomId.intRoomId = 123321;
TUICallKit.instance.joinInGroupCall(roomId, '1234567', TUICallMediaType.video);
```

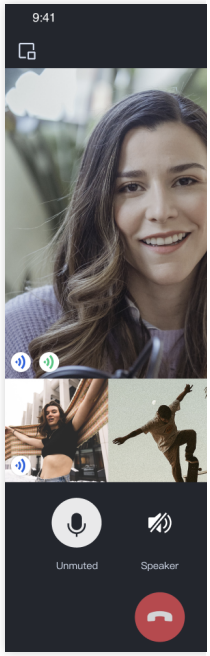
Web&H5

Last updated：2024-04-03 17:23:11

This article introduces the use of the group call feature, such as initiating a group call and joining a group call.

Expected outcome

TUICallKit supports group calls. The expected outcome is shown in the figure below.

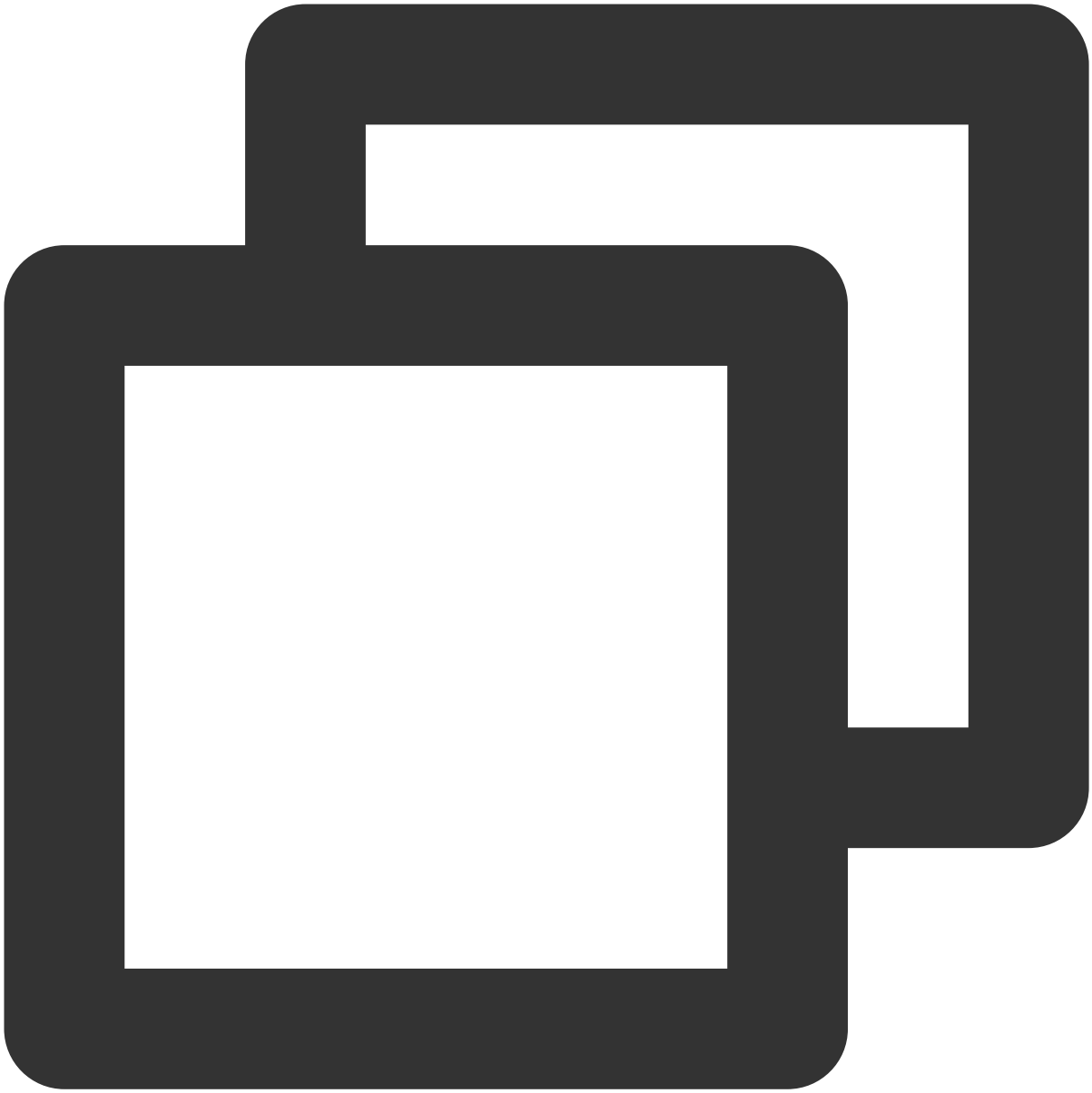
Web	Mobile Client
	

Create groupID

Before using the group call feature, you need to create a group first and initiate a group call in an existing group.

Method one: Create a group by calling the IM API, see IM Group Management for details.

Method two: Manually create a group through the console, see Console group management for details.



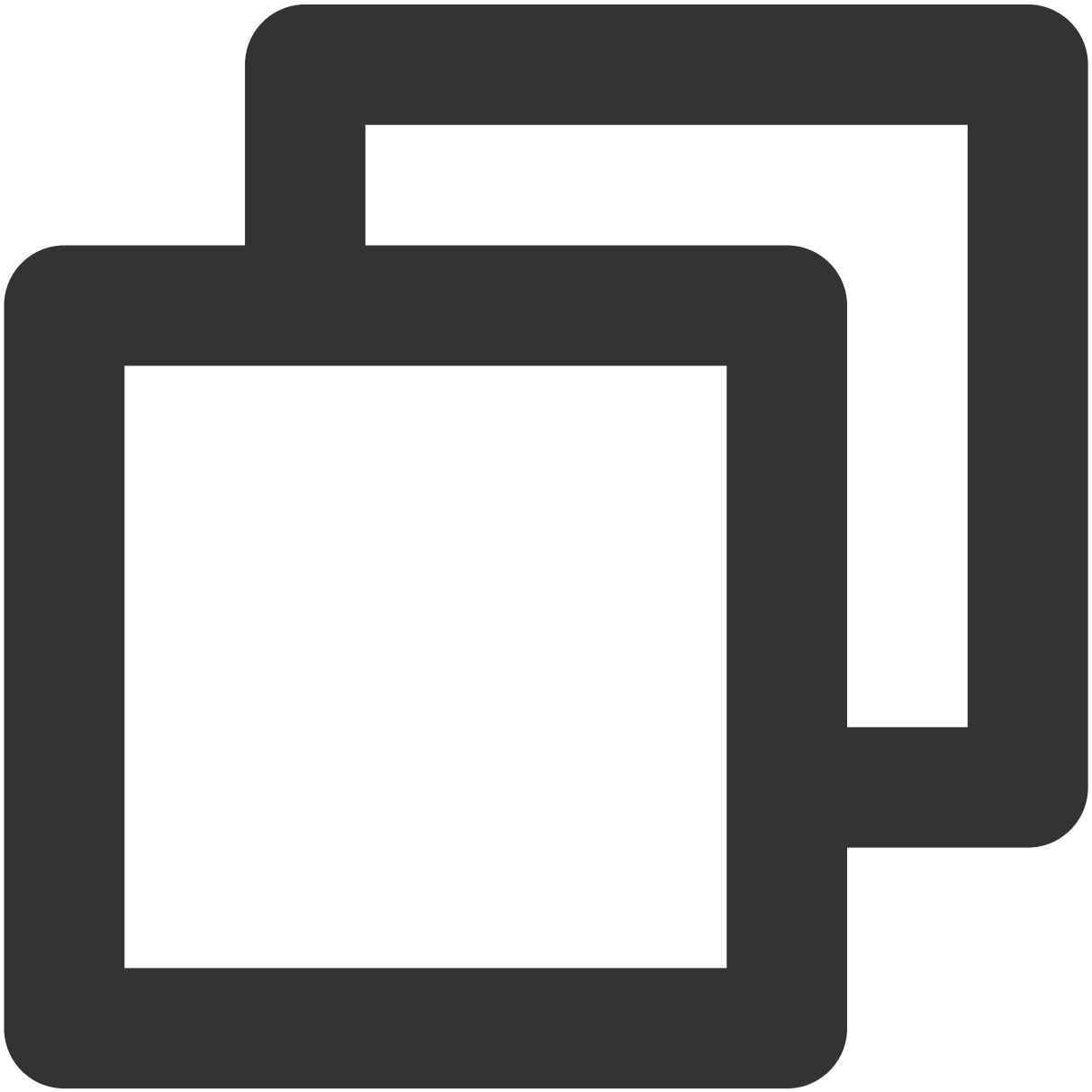
```
import TIM from "@tencentcloud/chat";   // npm i @tencentcloud/chat

const userIDList: string[] = ['user1', 'user2'];
async function createGroupID() {
  const tim = TIM.create({ SDKAppID });
  const memberList: any[] = userIDList.map(userId => ({ userID: userId }));
  const res = await tim.createGroup({
    type: TIM.TYPES.GRP_PUBLIC, // Must be a public group
    name: 'WebSDK',
    memberList
  });
```

```
    return res.data.group.groupID;
}
```

Group call

Initiate a group call

Initiate a group call by calling the `groupCall` API.

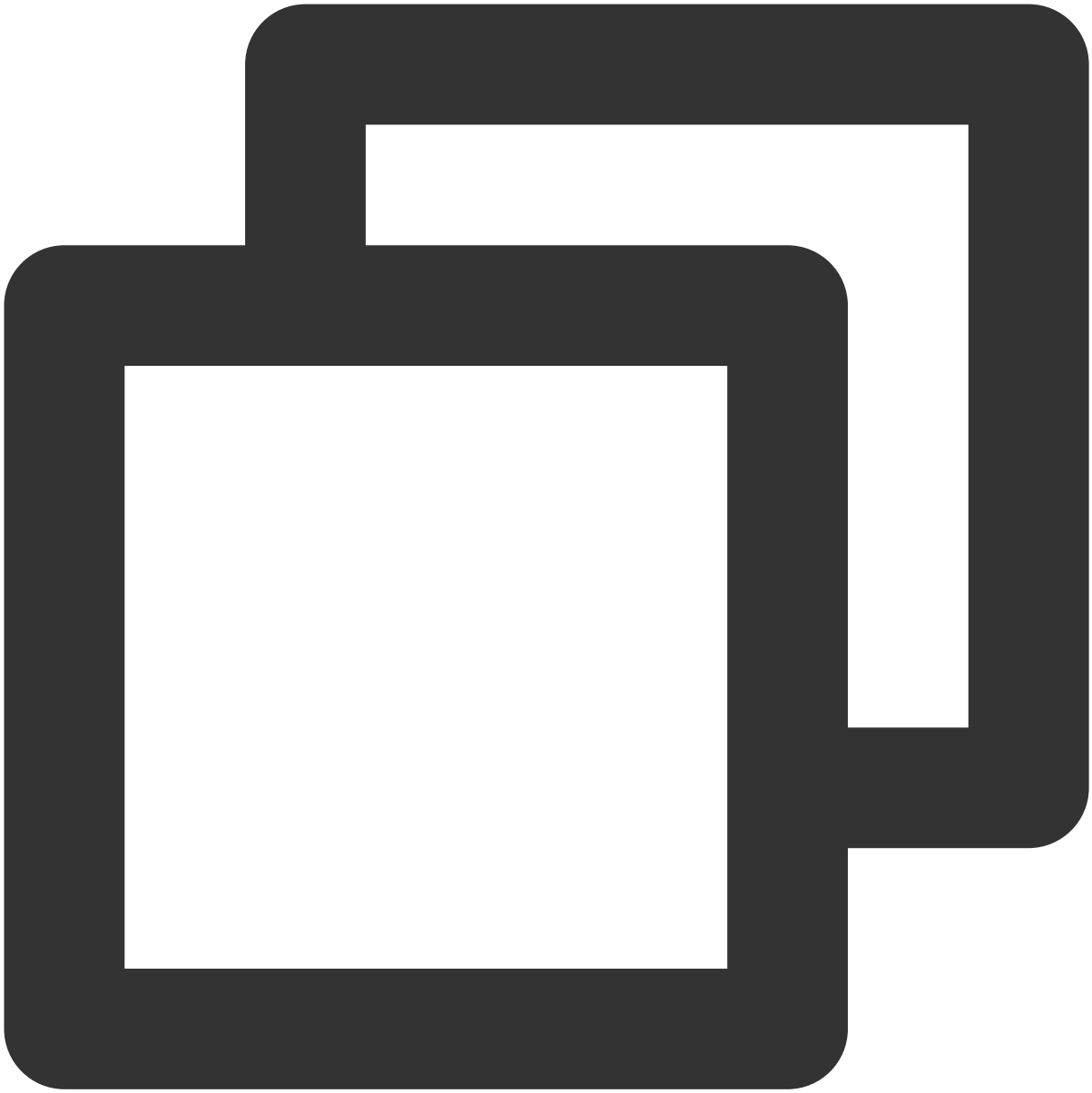


```
import { TUICallKitServer, TUICallType } from "@tencentcloud/call-uikit-react";
// Replace it with the call-uikit npm package you are currently using

try {
   const params = {
     userIDList: ['user1', 'user2'],
     groupID: 'xxx',
     type: TUICallType.VIDEO_CALL,
   }
  await TUICallKitServer.groupCall(params);
} catch (error: any) {
  alert(`[TUICallKit] groupCall failed. Reason:${error}`);
}
```

Join a group call

Join an existing audio and video call in the group by calling the `joinInGroupCall` API.

Note: Vue ≥ v3.1.2 is supported



```
import { TUICallKitServer, TUICallType } from "@tencentcloud/call-uikit-react";
// Replace it with the call-uikit npm package you are currently using

try {
  const params = {
    type: TUICallType.VIDEO_CALL,
    groupID: "xxx",
    roomID: 0,
  };
  await TUICallKitServer.joinInGroupCall(params);
} catch (error: any) {
```

```
    alert(`[TUICallKit] joinInGroupCall failed. Reason: ${error}`);
}
```

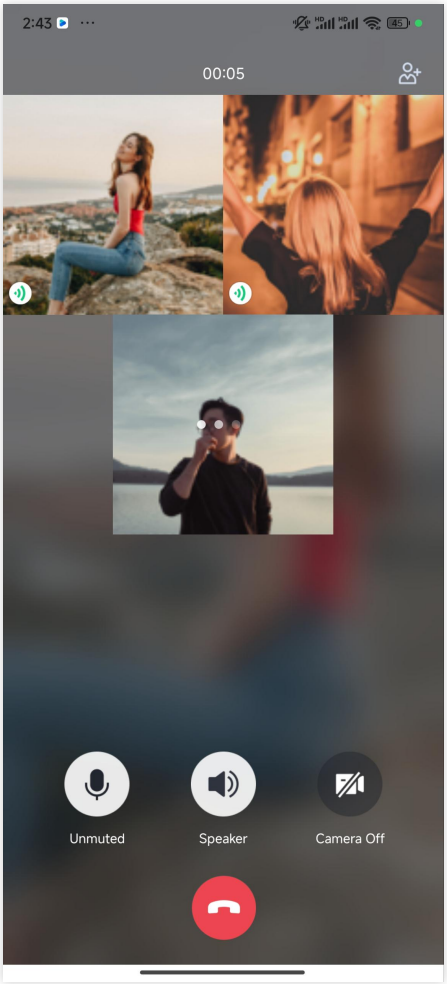
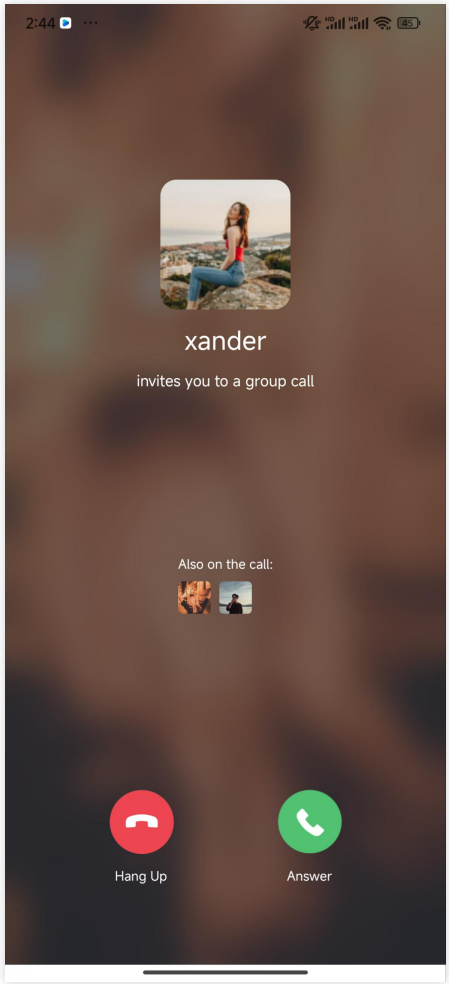
uni-app (Anroid&iOS)

Last updated：2024-04-03 17:23:11

This article introduces the use of the group call feature, such as initiating a group call and joining a group call.

Expected outcome

TUICallKit supports group calls. The expected outcome is shown in the figure below.

Initiate a group call	Received Group Call Invitation	Accept
		

Create groupID

Before using the group call feature, you need to create a group first and initiate a group call in an existing group.

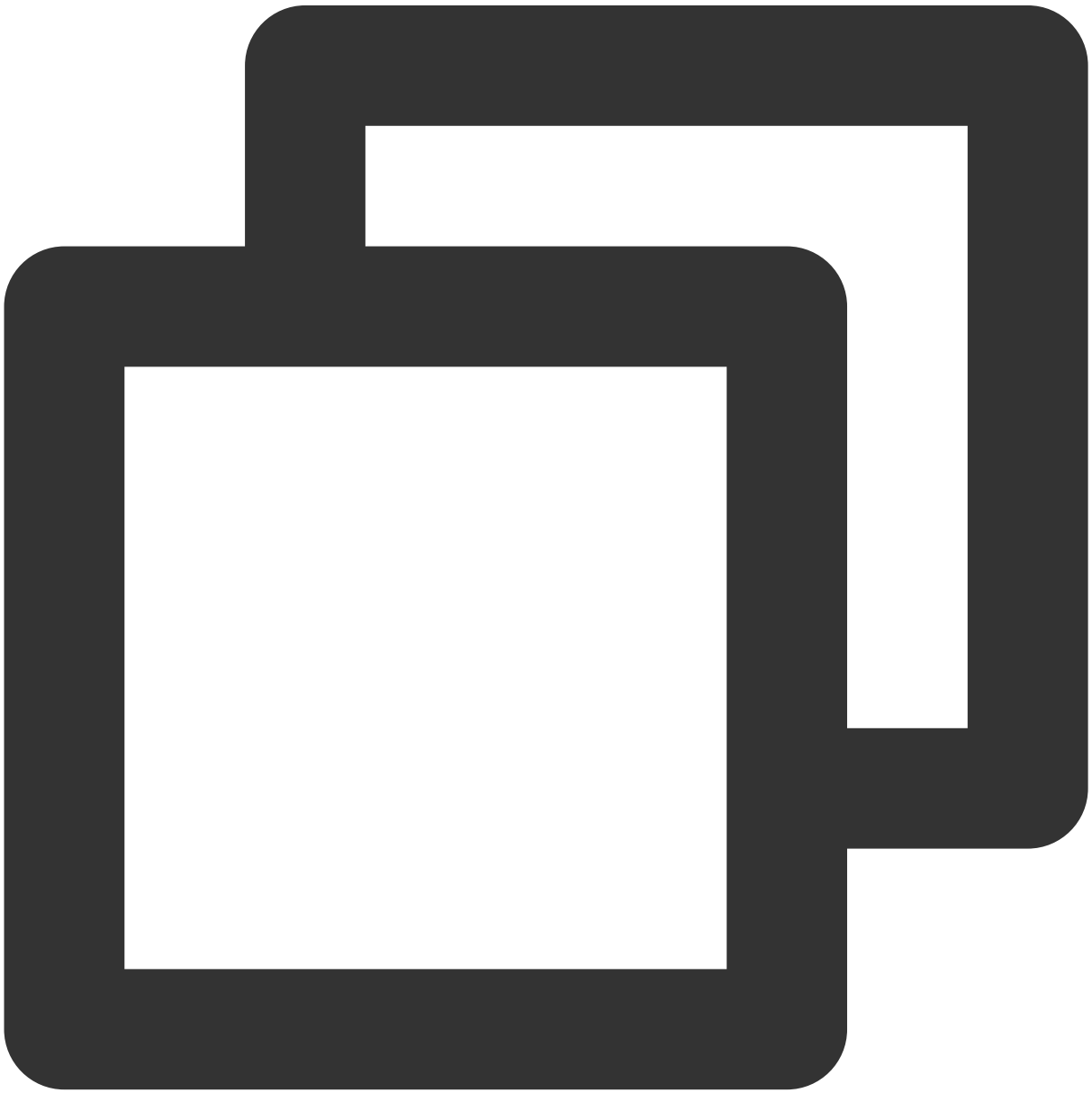
Method one: Create a group by calling the IM API, see IM Group Management for details.

Method two: Manually create a group through the console, see Console group management for details.

Group call

Initiate a group call

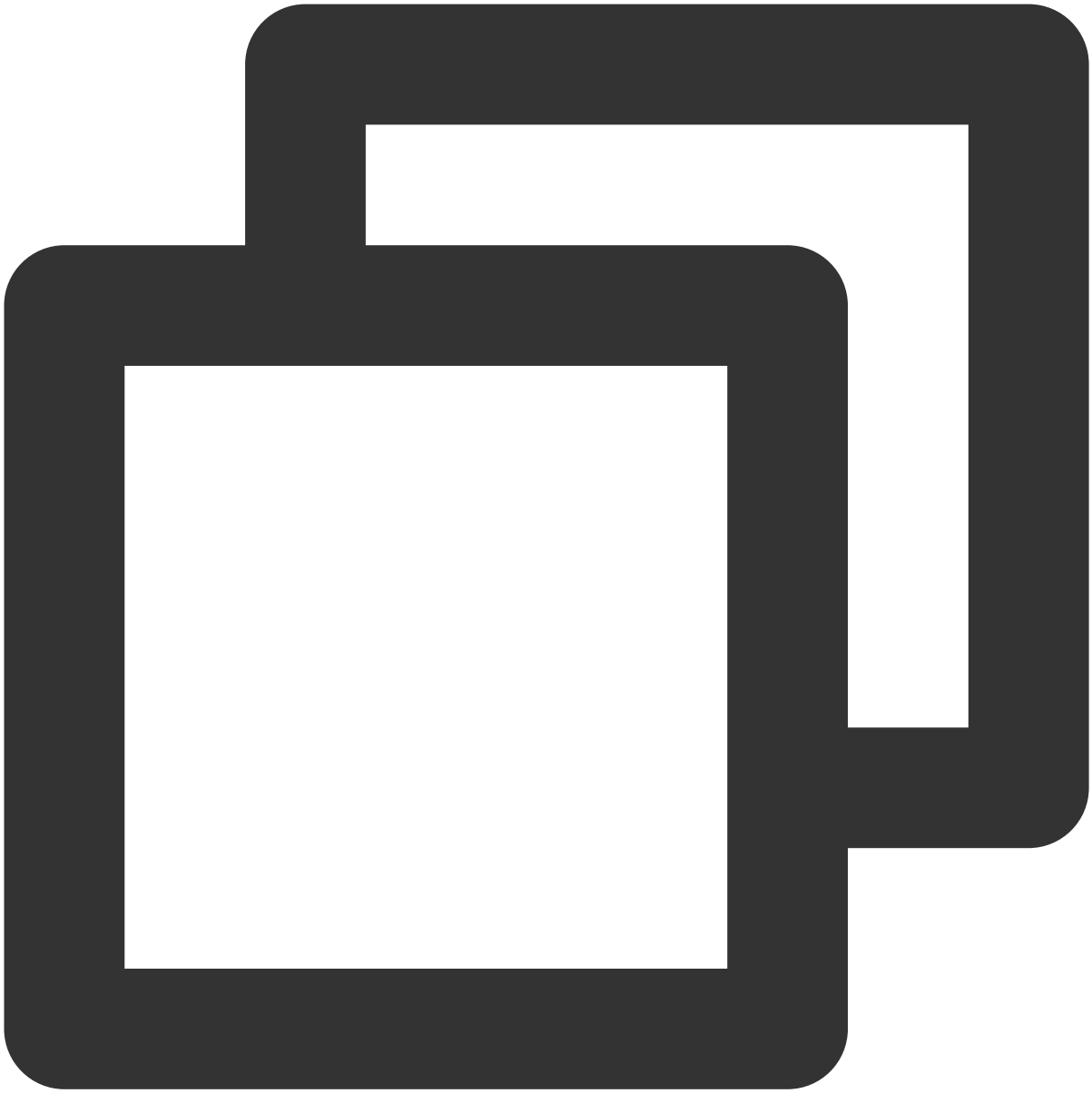
Launch a group call using the groupCall API.



```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  groupID: 'myGroup',
  userIDList: ['mike', 'tom'],
  callMediaType: 1, // voice call(callMediaType = 1),video call(callMediaType = 2)
};
TUICallKit.groupCall(options, (res) => {
  if (res.code === 0) {
    console.log('groupCall success');
  } else {
    console.log(`groupCall failed, error message = ${res.msg}`);
  }
});
```

Join a group call

Actively join an existing audio and video call in the group by calling the joinInGroupCall API.



```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  roomID: 9898,
  groupID: 'myGroup',
  callMediaType: 1, // voice call(callMediaType = 1),video call(callMediaType = 2)
};
TUICallKit.joinInGroupCall(options, (res) => {
  if (res.code === 0) {
    console.log('joinInGroupCall success');
  } else {
    console.log(`joinInGroupCall failed, error message = ${res.msg}`);
```

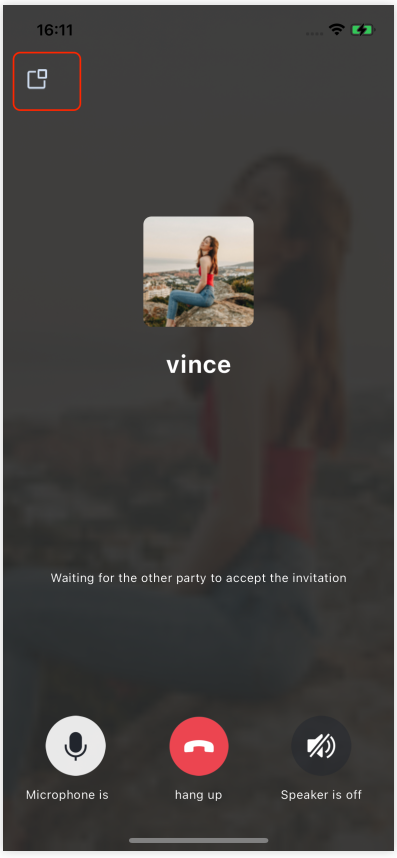
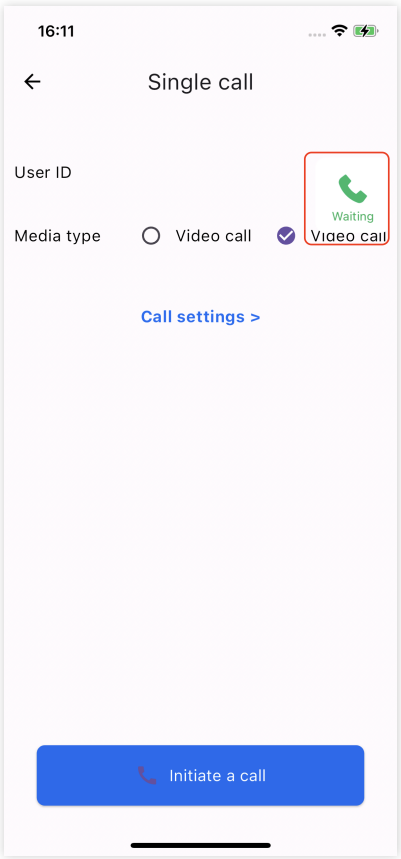
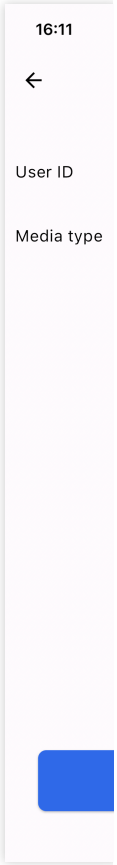
```
    }
});
```

Floating Window Android&iOS&Flutter

Last updated：2024-04-03 17:23:11

This article explains how to use the Floating Window feature.

Expected outcome

Activate floating button	Voice call floating window	Video call floa
		

Floating Window feature

TUICallKit allows users to minimize the call interface into a floating window using the floating window button at the top left corner of the call interface during a call.

If your business needs to enable this feature, you can use the enableFloatWindow method to activate this feature during the initialization of the TUICallKit component:

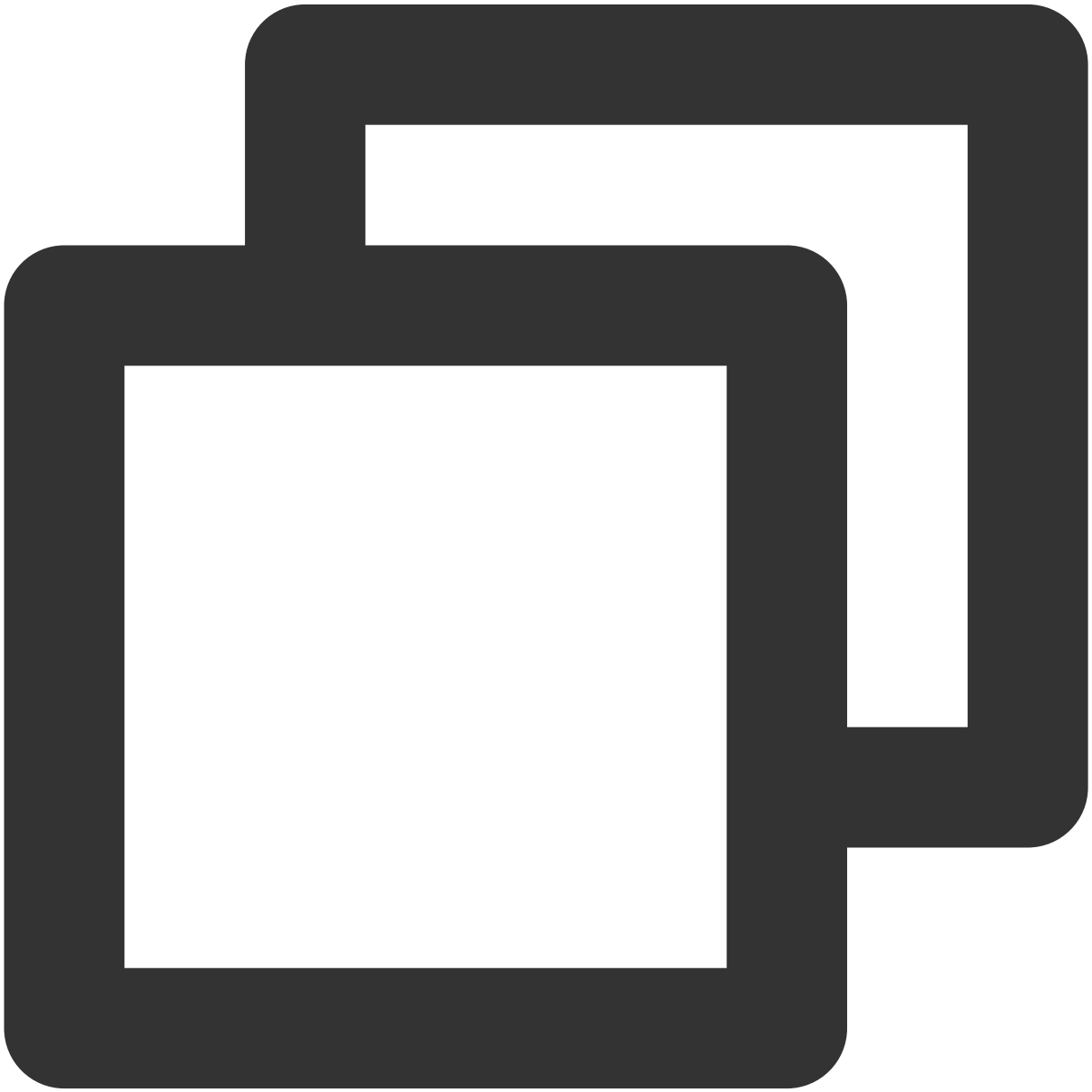
Android(Kotlin)

Android(Java)

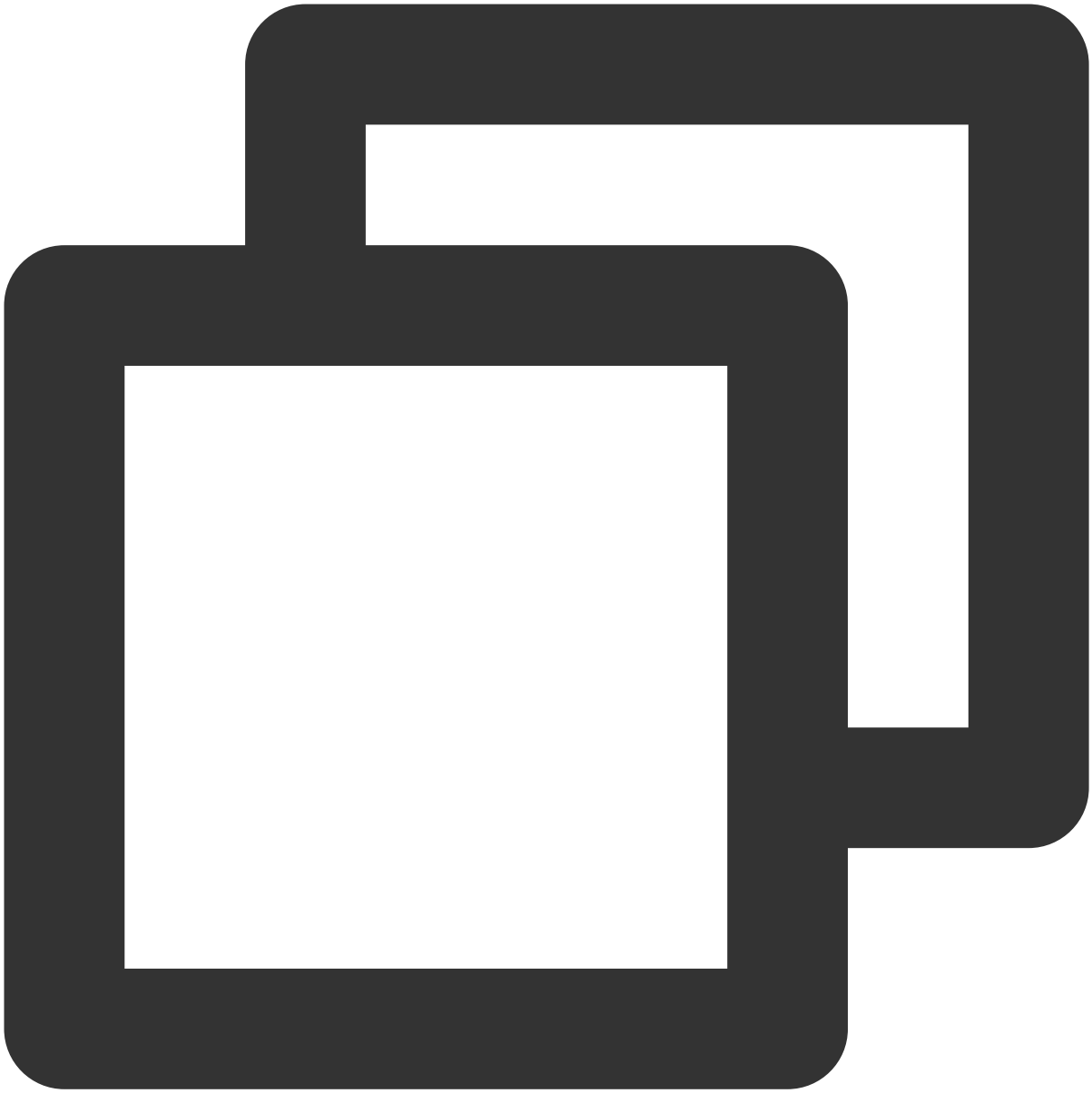
iOS(Swift)

iOS(Objective-C)

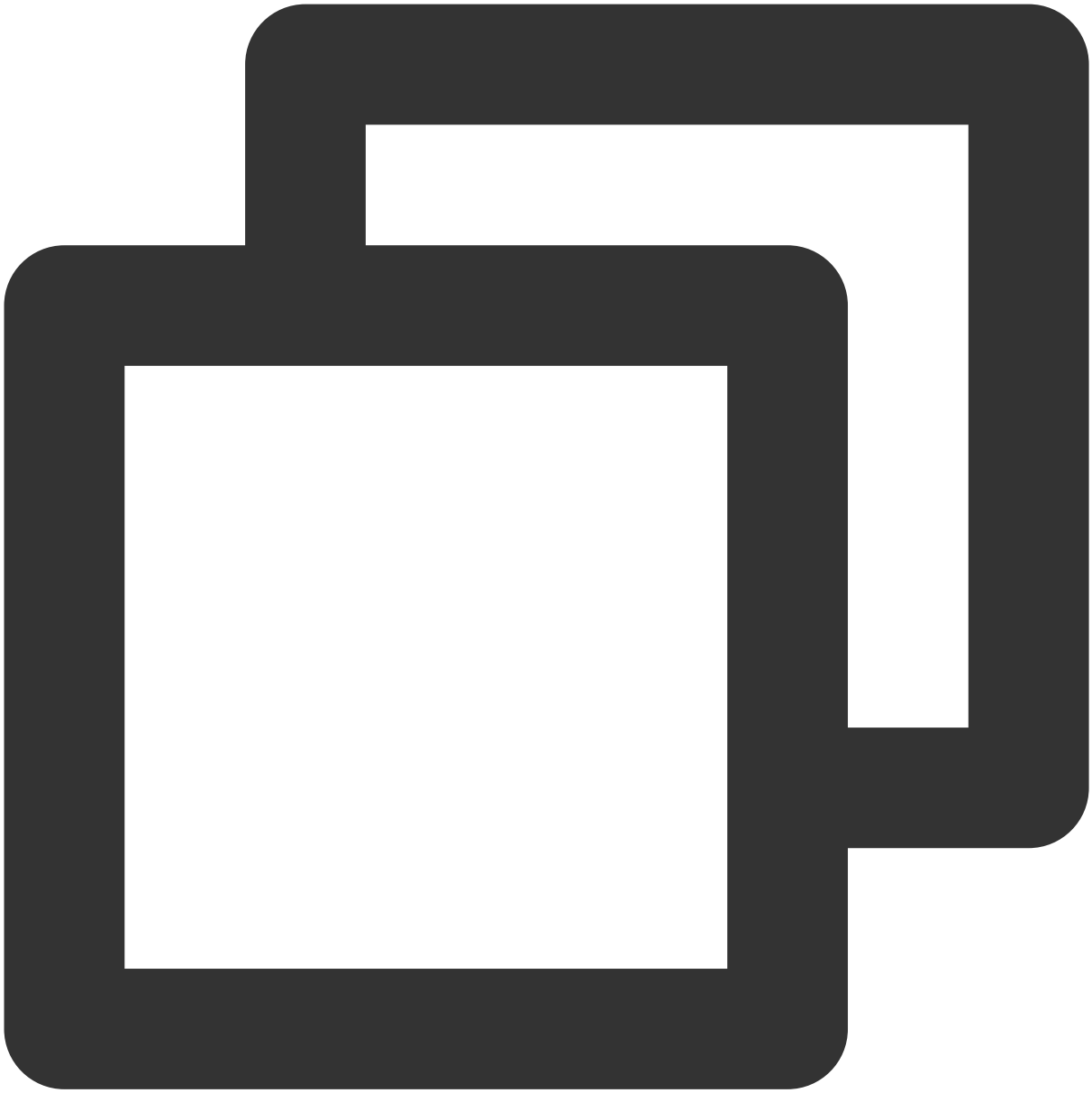
Flutter(Dart)



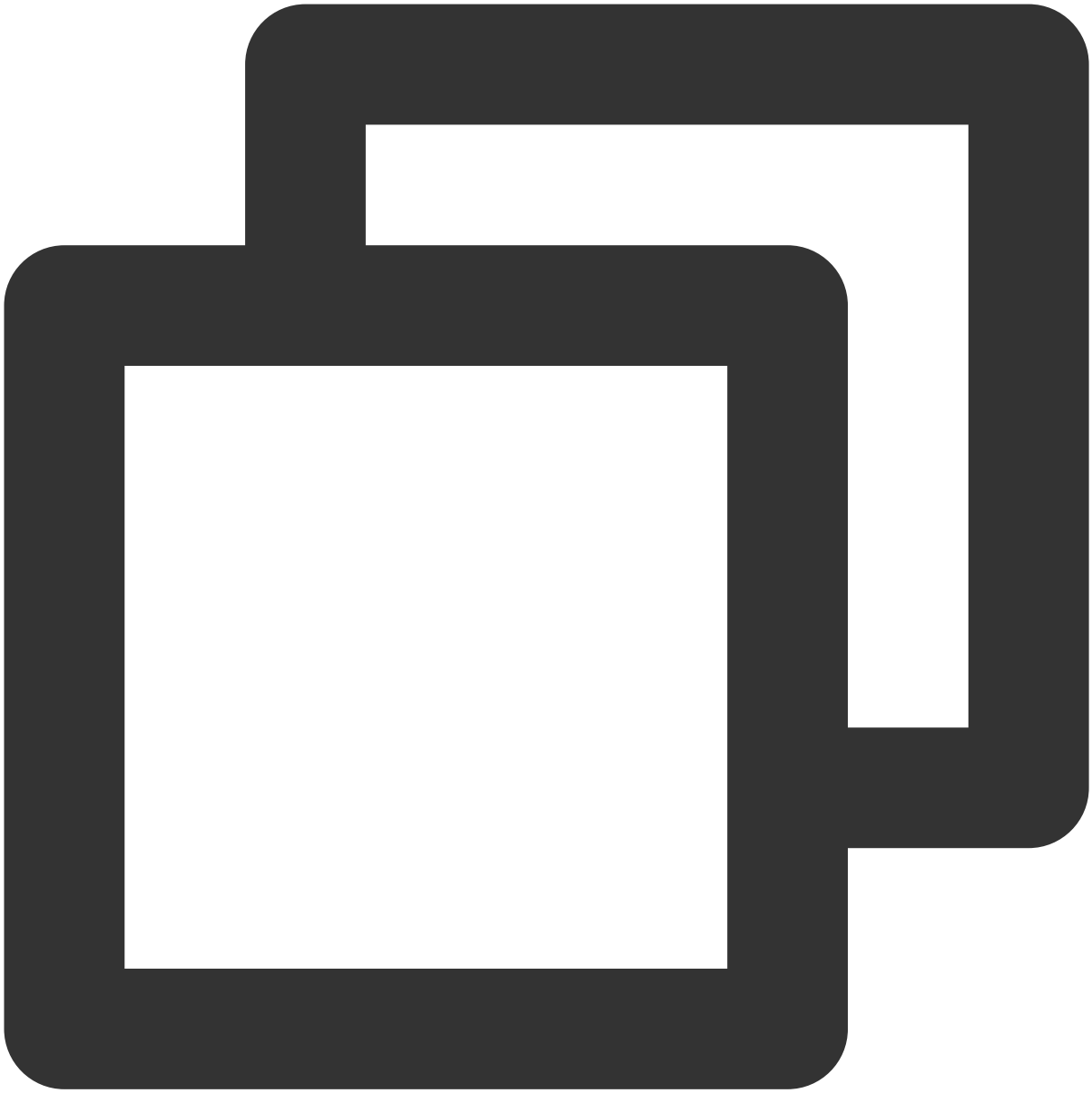
```
TUICallKit.createInstance(context).enableFloatWindow(true)
```



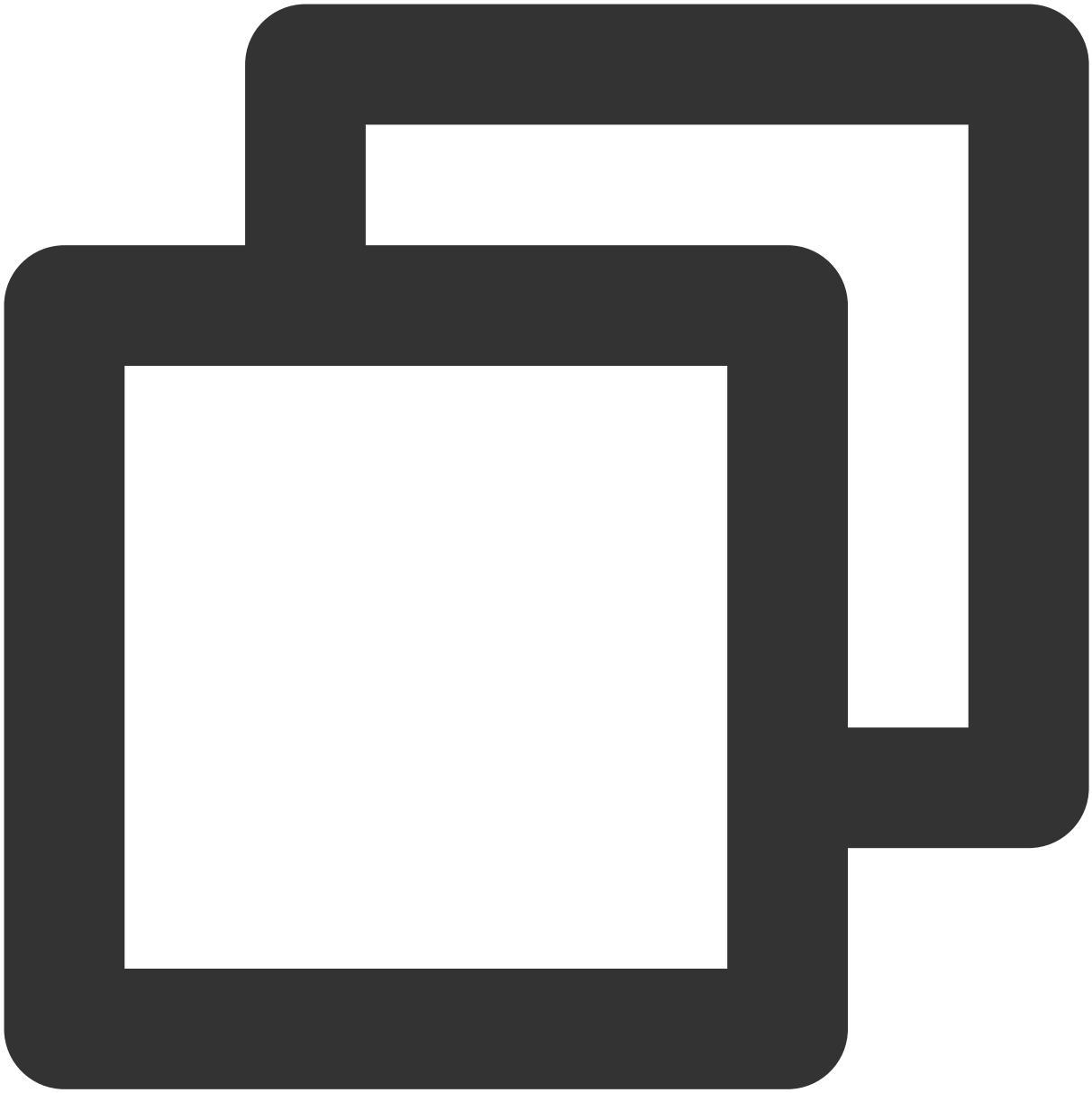
```
TUICallKit.createInstance(context).enableFloatWindow(true);
```



```
TUICallKit.createInstance().enableFloatWindow(true)
```



```
[[TUICallKit createInstance] enableFloatWindow:YES];
```



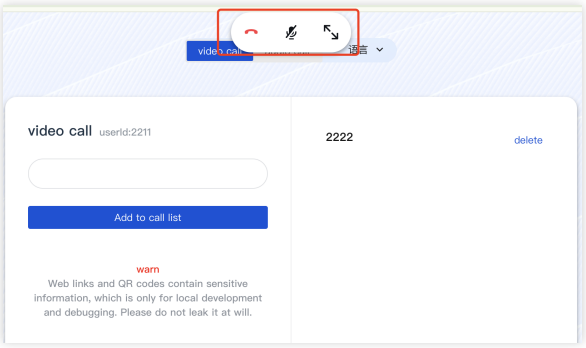
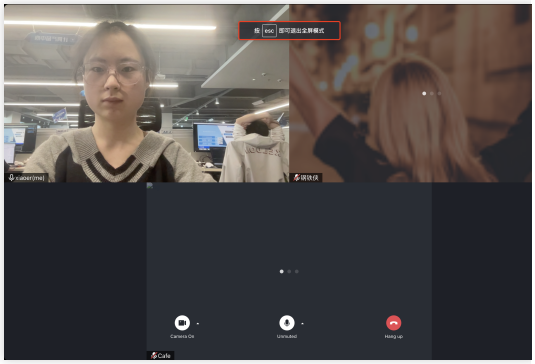
```
TUICallKit.instance.enableFloatWindow(true);
```

Web&H5

Last updated：2024-04-03 17:23:11

This article will introduce how to use the Floating Window feature.

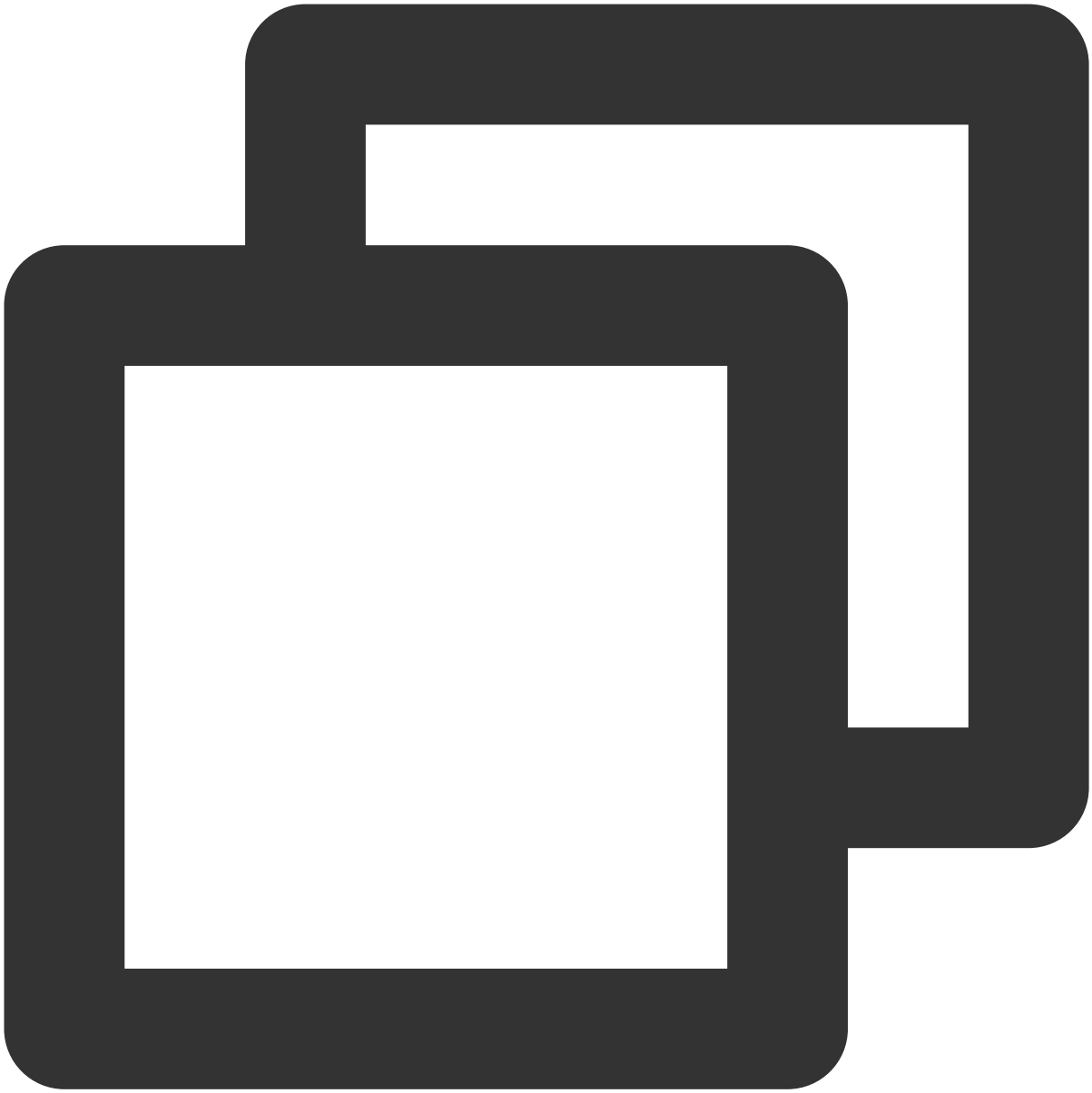
Expected outcome

Web Floating Window	Web Full Screen
	

Floating Window feature

Method 1: Use the `enableFloatWindow(enable: boolean)` API to enable/disable the Floating Window.

Note: Vue ≥ v3.1.0 is supported



```
try {
  await TUICallKitServer.enableFloatWindow(enable: Boolean)
} catch (error: any) {
  alert(`[TUICallKit] enableFloatWindow failed. Reason: ${error}`);
}
```

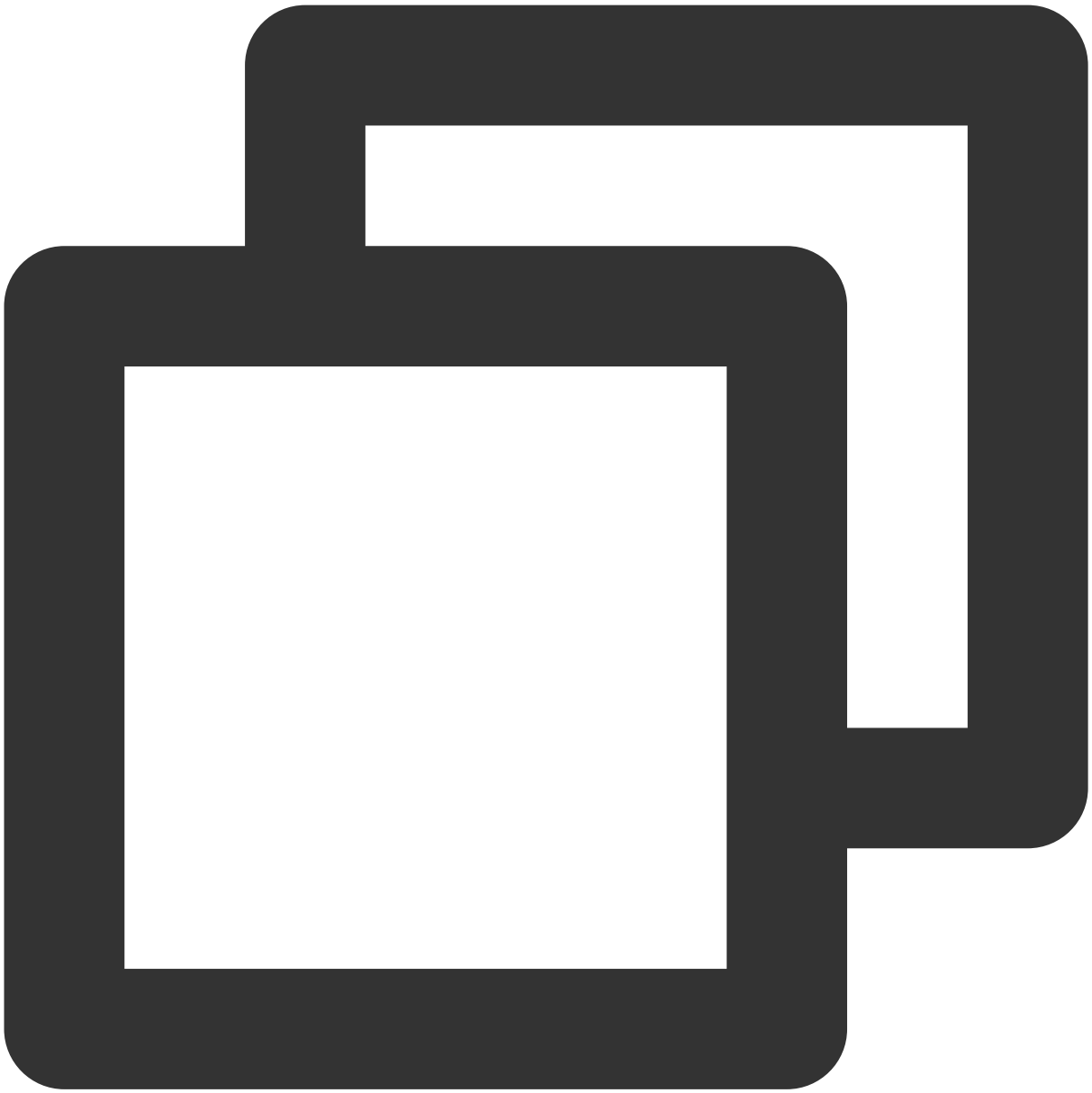
Method 2: Control the Floating Window and the Full Screen on/off through attribute control.

The `allowedMinimized` attribute controls the enabling/disabling of the Floating Window.

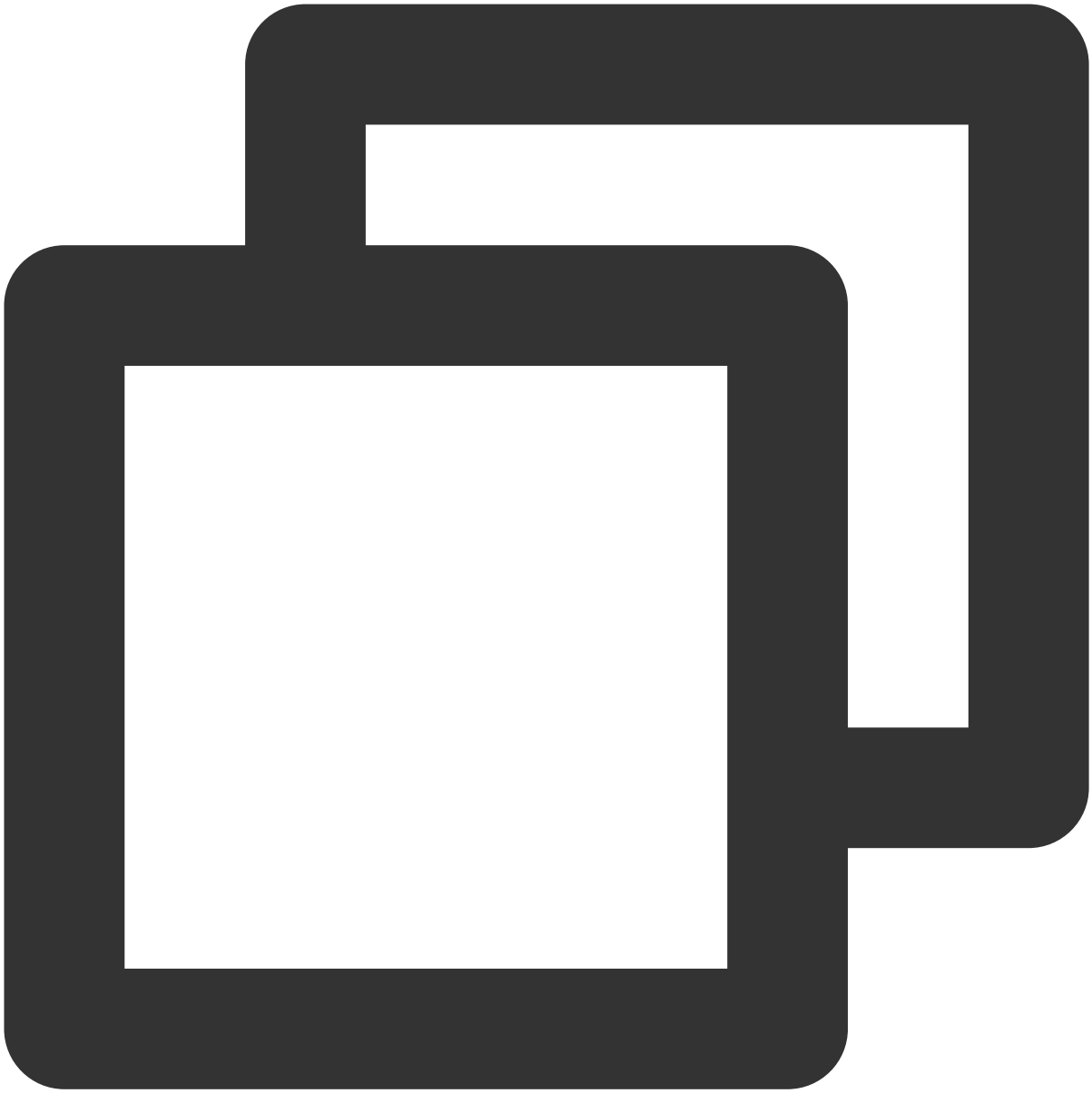
The `allowedMinimized` attribute controls the enabling/disabling of the Full Screen.

React

Vue



```
<TUICallKit
     allowedMinimized={true}
     allowedFullScree={true}
    />
```



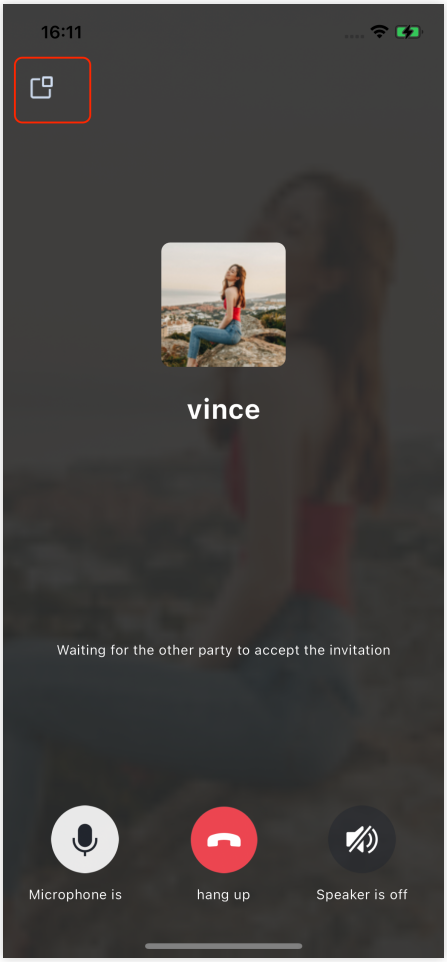
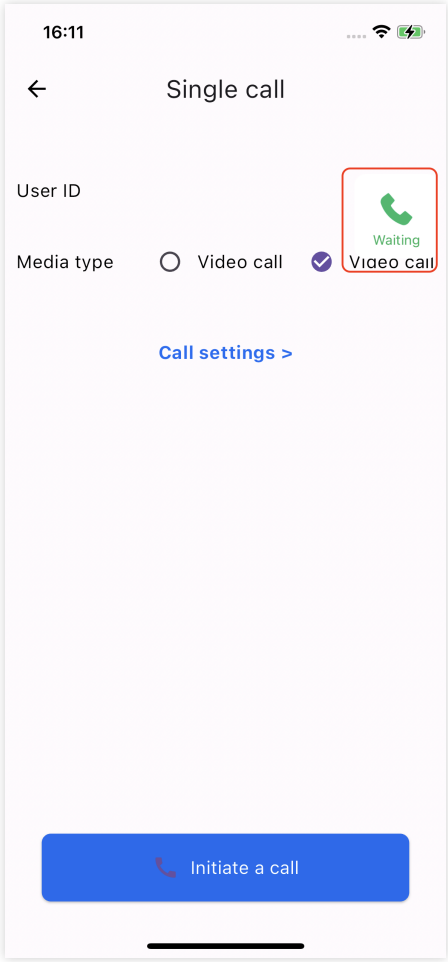
```
<TUICallKit
    :allowedMinimized="true"
    :allowedFullScreen="true"
   />
```

uni-app (Anroid&iOS)

Last updated：2024-04-03 17:23:11

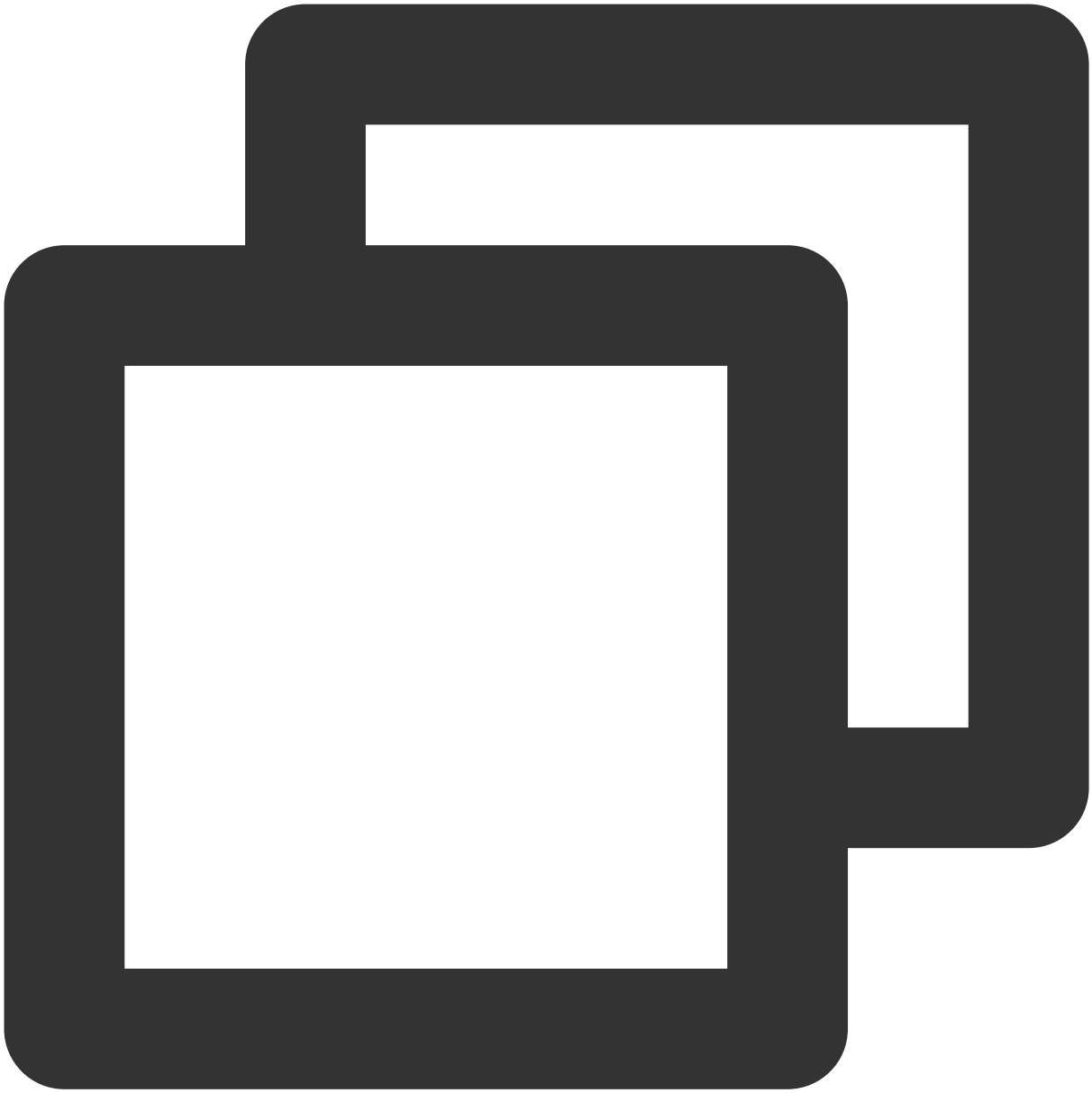
This article explains how to use the Floating Window feature.

Expected outcome

Activate floating button	Voice call floating window	Video
		

Floating Window feature

Invoke the `enableFloatWindow(enable: boolean)` API to enable/disable the floating window.

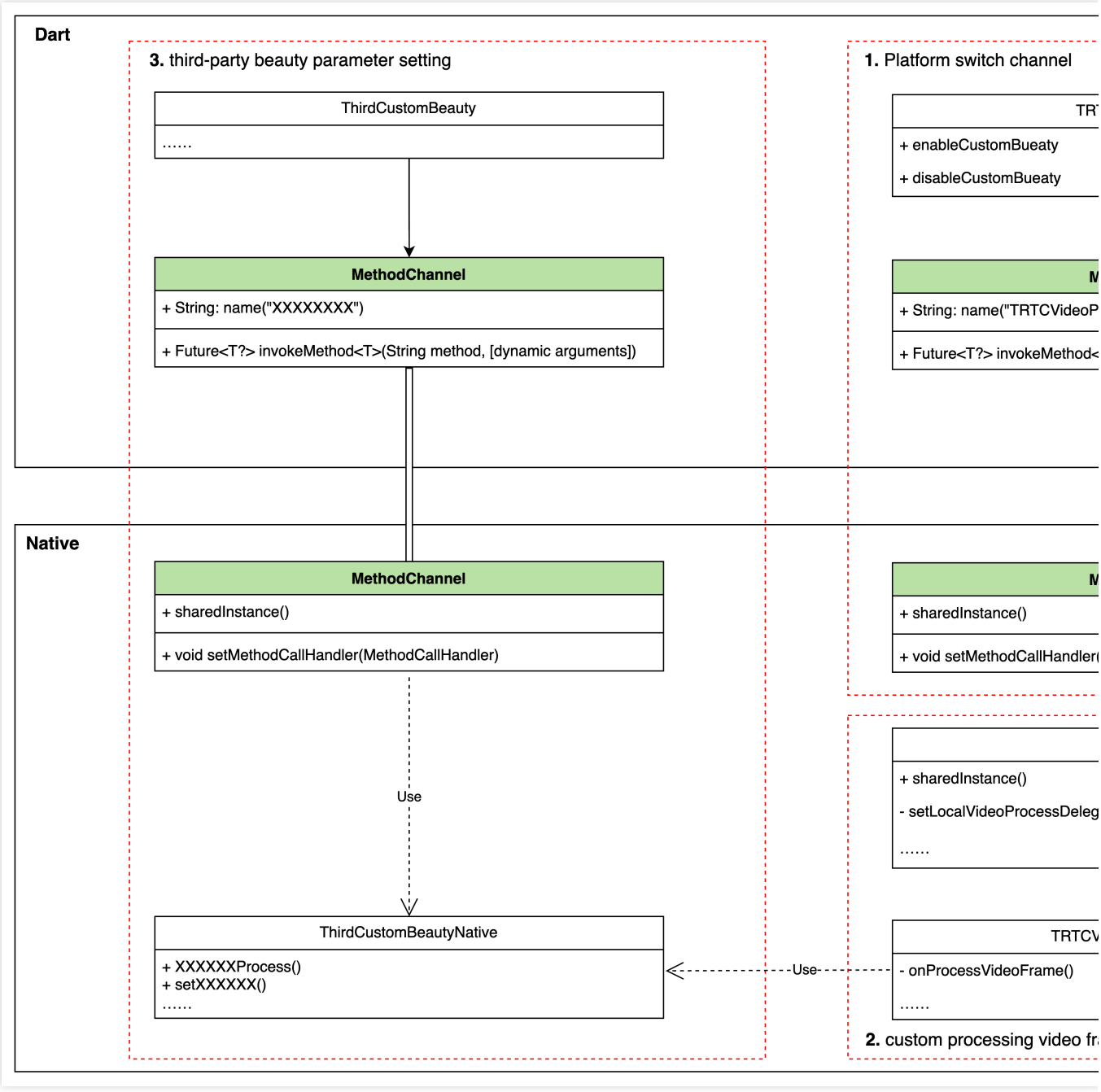


```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const enable = true;
TUICallKit.enableFloatWindow(enable);
```

Beauty Effects
Flutter

Last updated：2024-04-03 17:23:11

This document mainly introduces the method of integrating beauty effects in TUICallKit.
To complete custom beauty processing in Flutter, it needs to be done through TRTC custom video rendering. Due to Flutter's characteristics of not being good at handling a large amount of real-time data transmission, the part involving TRTC custom video rendering needs to be completed in the Native part. The specific plan is as follows:



The access plan is divided into 3 steps:

Step 1: Enable/disable TRTC custom rendering logic through the MethodChannel.

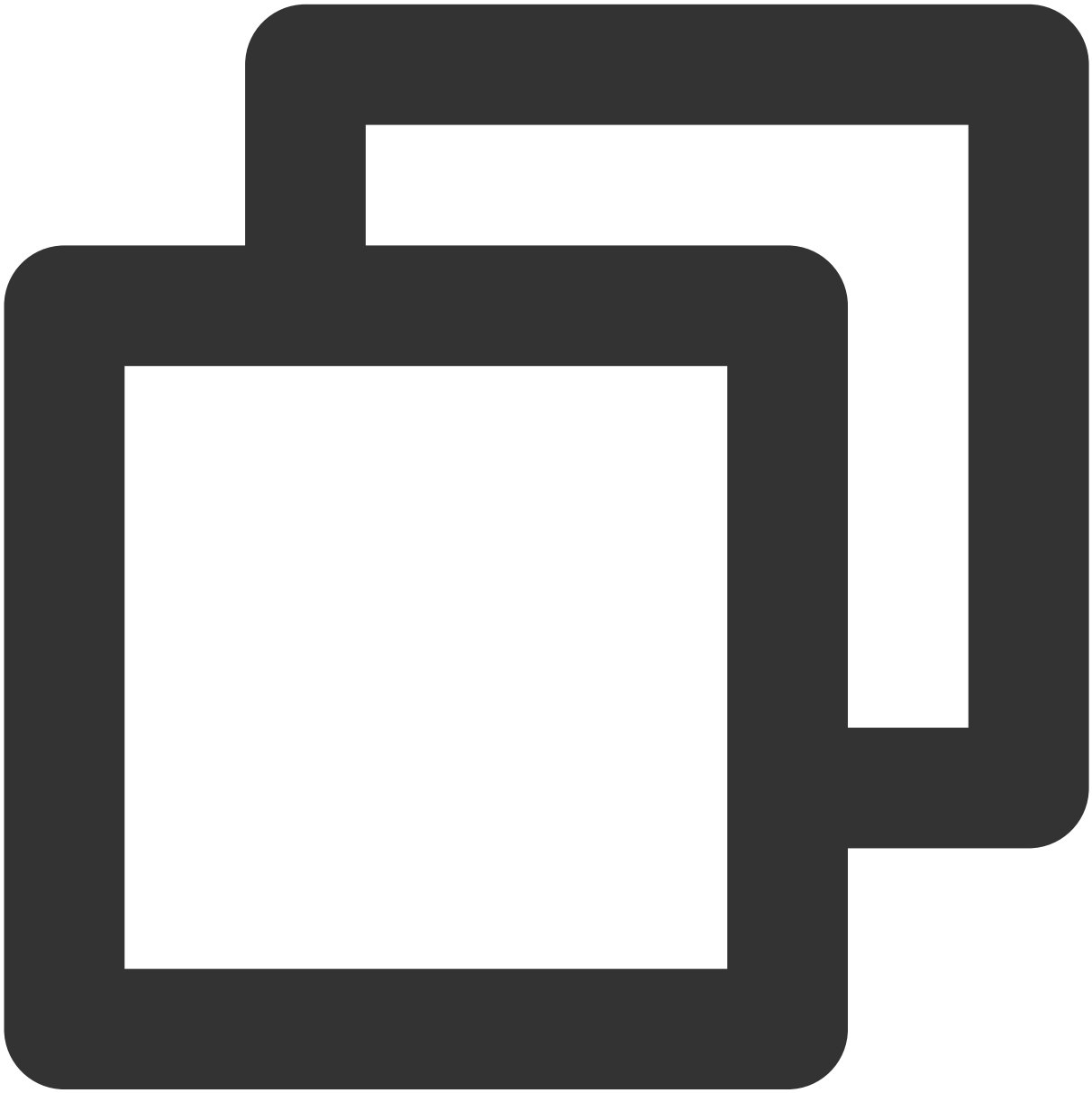
Step 2: Use the beauty processing module in TRTC's custom rendering processing logic onProcessVideoFrame() to process the original video frame.

Step 3: The customer's beauty processing module also needs to set the current beauty parameters through the interface in Dart. Customers can set beauty parameters through the MethodChannel method. This part can be customized by the customer according to their needs and the beauty they use.

Integrate third-party beauty effects

Step 1: Implement the start/end beauty control interface from Dart layer to Native

Implement Dart layer interface:



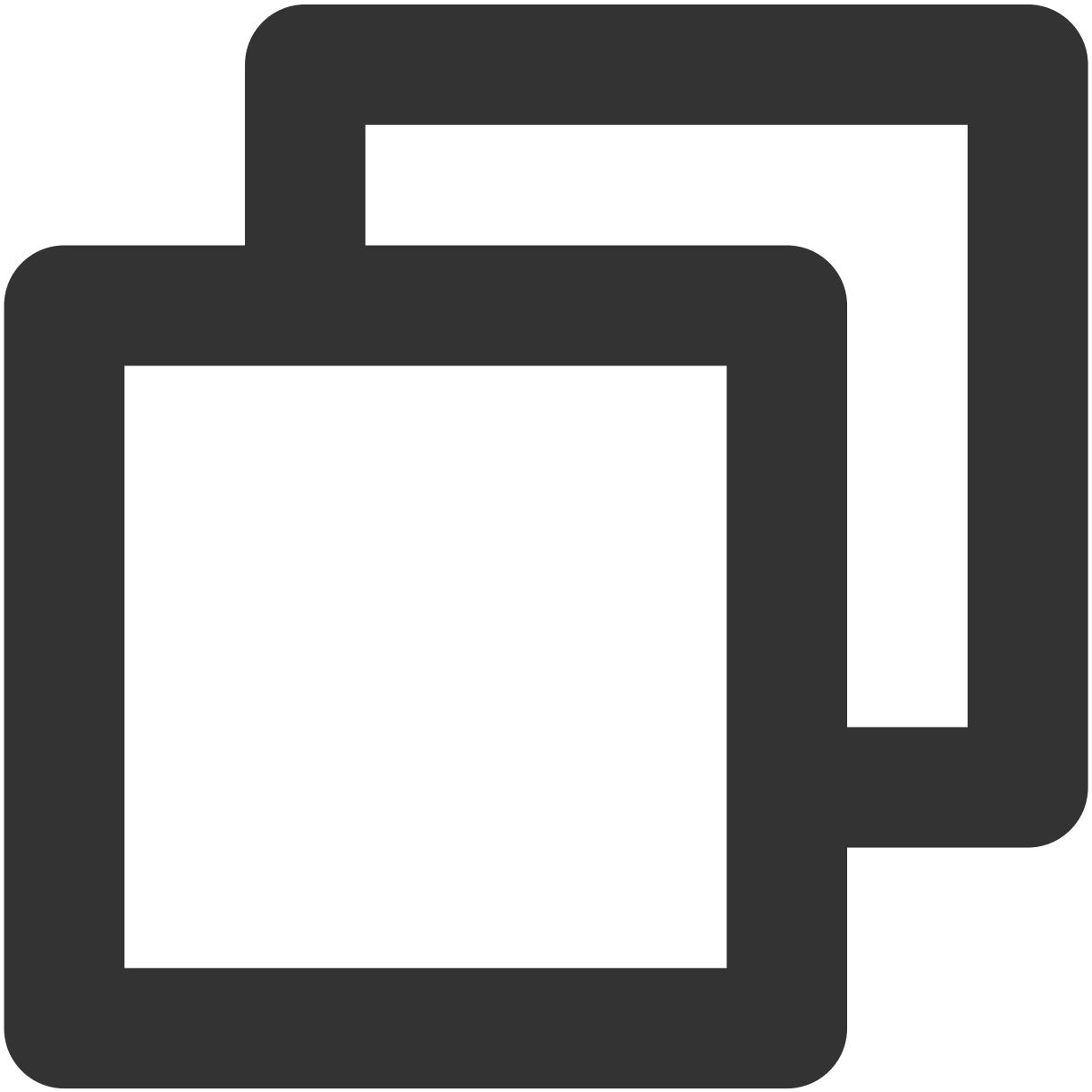
```
final channel = MethodChannel('TUICallKitCustomBeauty');

void enableTUICallKitCustomBeauty() async {
   await channel.invokeMethod('enableTUICallKitCustomBeauty');
}
```

```
void disableTUICallKitCustomBeauty() async {
   await channel.invokeMethod('disableTUICallKitCustomBeauty');
}
```

Implement the corresponding Native layer interface:

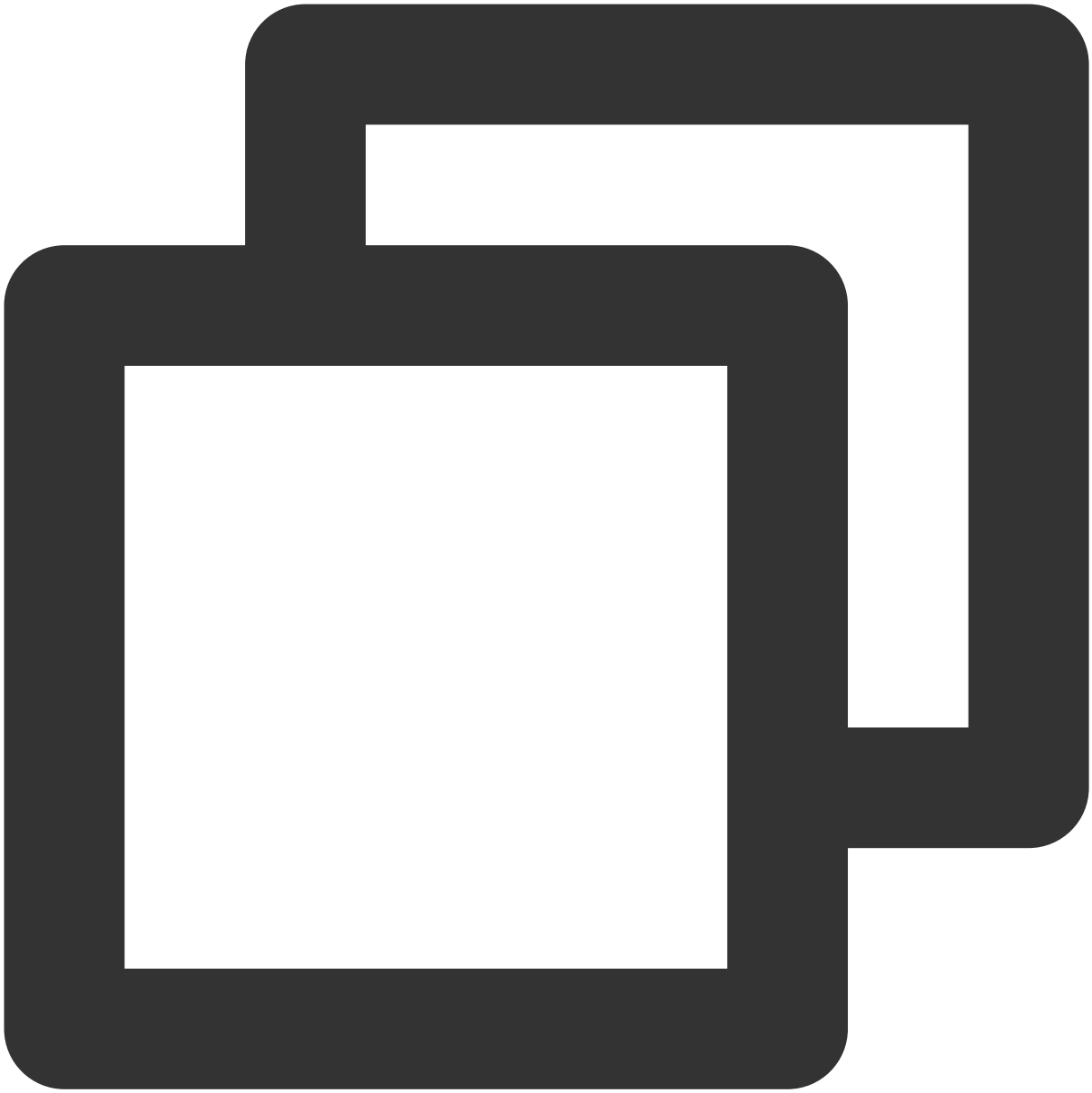
java

swift



```
public class MainActivity extends FlutterActivity {
    private static final String channelName = "TUICallKitCustomBeauty";
```

```
    private MethodChannel channel;

    @Override
    public void configureFlutterEngine(@NonNull FlutterEngine flutterEngine) {
        super.configureFlutterEngine(flutterEngine);

        channel = new MethodChannel(flutterEngine.getDartExecutor().getBinaryMessen
        channel.setMethodCallHandler(((call, result) -> {
            switch (call.method) {
                case "enableTUICallKitCustomBeauty":
                    enableTUICallKitCustomBeauty();
                    break;
                case "disableTUICallKitCustomBeauty":
                    disableTUICallKitCustomBeauty();
                    break;
                default:
                    break;
            }
            result.success("");
        }));
    }

    public void enableTUICallKitCustomBeauty() {

    }

    public void disableTUICallKitCustomBeauty() {

    }
}
```



```
@UIApplicationMain
@objc class AppDelegate: FlutterAppDelegate {
    var channel: FlutterMethodChannel?

    override func application(_ application: UIApplication,
                             didFinishLaunchingWithOptions launchOptions: [UIAppli
        GeneratedPluginRegistrant.register(with: self)

        guard let controller = window?.rootViewController as? FlutterViewController
            fatalError("Invalid root view controller")
        }
```

```
        channel = FlutterMethodChannel(name: "TUICallKitCustomBeauty", binaryMessen
        channel?.setMethodCallHandler({ [weak self] call, result in
            guard let self = self else { return }
            switch (call.method) {
            case "enableTUICallKitCustomBeauty":
                self.enableTUICallKitCustomBeauty()
                break
            case "disableTUICallKitCustomBeauty":
                self.disableTUICallKitCustomBeauty()
                break
            default:
                break
            }
        })
        result(nil)
        return super.application(application, didFinishLaunchingWithOptions: launch
    }

    func enableTUICallKitCustomBeauty() {

    }

    func disableTUICallKitCustomBeauty() {

    }
}
```

Step 2: Complete beauty processing in Native TRTC custom rendering logic

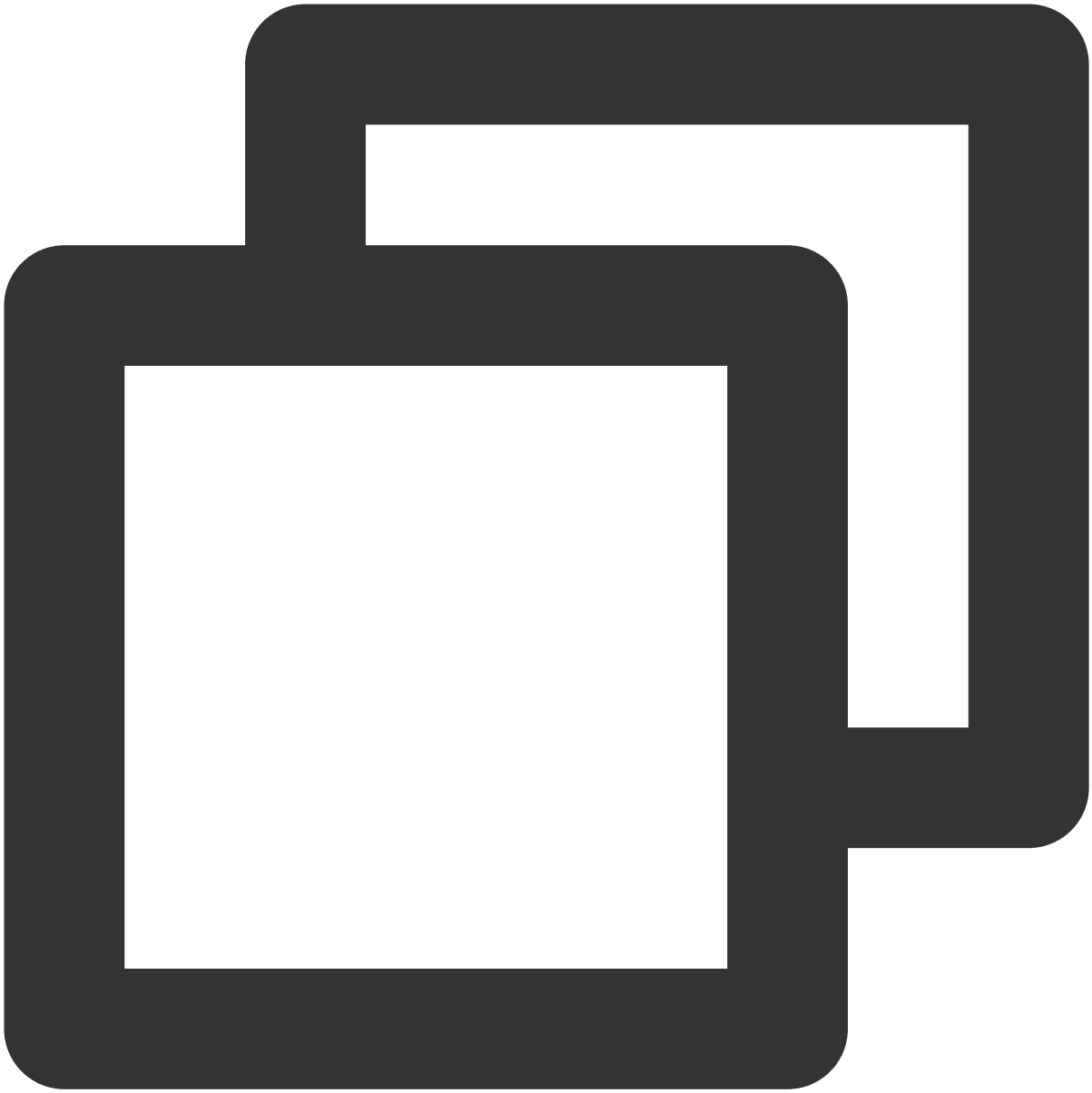
Note：

Android needs to rely on `LiteAVSDK_Professional` first when accessing beauty. Add the following dependencies in the `app/build.gradle` of the Android project:

```
dependencies{
    api "com.tencent.liteav:LiteAVSDK_Professional:latest.release"
}
```

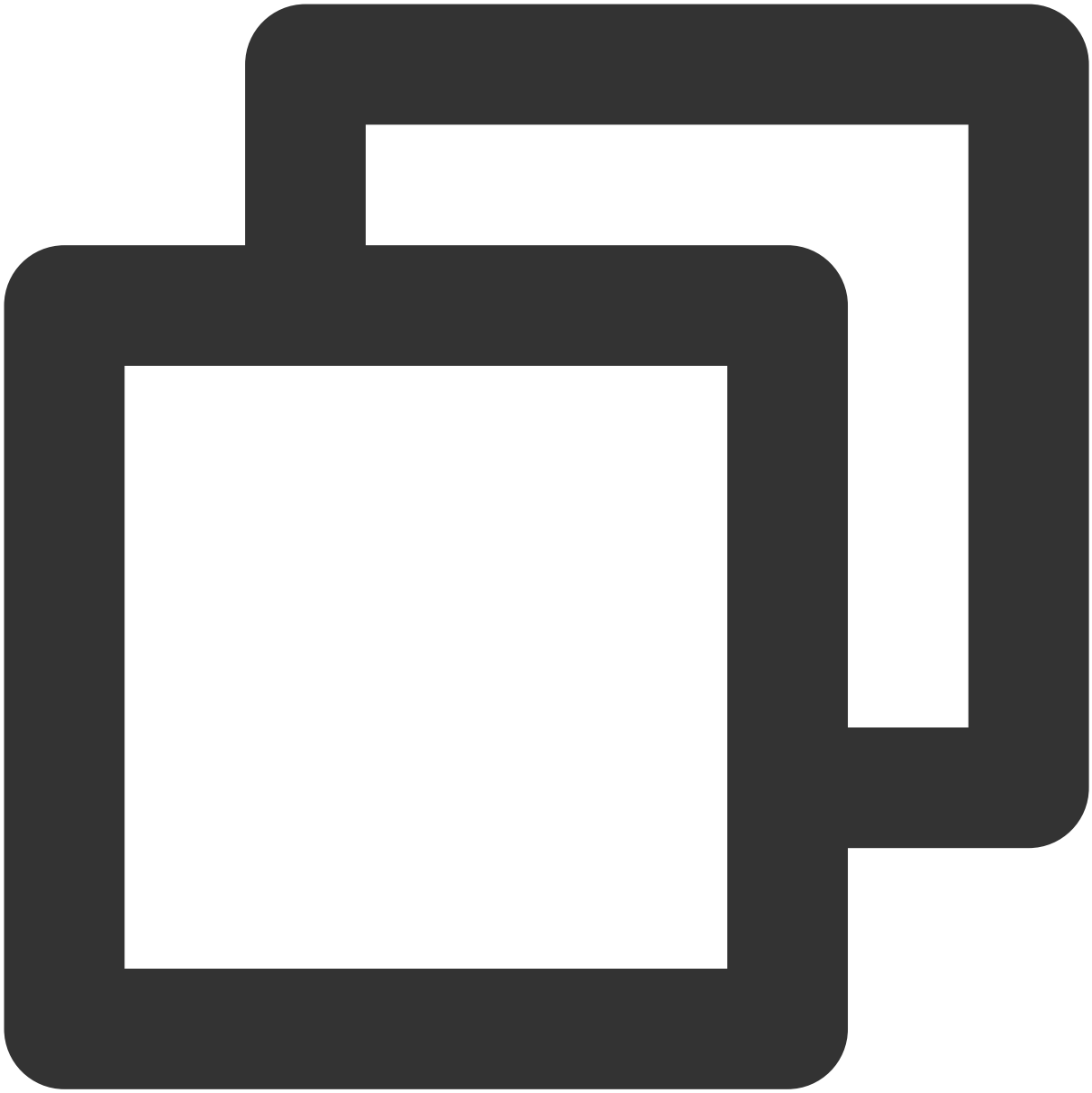
java

swift



```
void enableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance(getApplicationContext()).
                setLocalVideoProcessListener(TRTC_VIDEO_PIXEL_FORMAT_Texture_2D,
                        TRTC_VIDEO_BUFFER_TYPE_TEXTURE, new VideoFrameListerer());

}

void disableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance(getApplicationContext()).
                setLocalVideoProcessListener(TRTC_VIDEO_PIXEL_FORMAT_Texture_2D,
                        TRTC_VIDEO_BUFFER_TYPE_TEXTURE, null);
```

```
}

class VideoFrameListerer implements TRTCCloudListener.TRTCVideoFrameListener {
    private XXXBeautyModel  mBeautyModel = XXXBeautyModel.sharedInstance();

    @Override
    public int onProcessVideoFrame(TRTCCloudDef.TRTCVideoFrame trtcVideoFrame,
                                   TRTCCloudDef.TRTCVideoFrame trtcVideoFrame1) {
        // Beauty processing logic
        mBeautyModel.process(trtcVideoFrame, trtcVideoFrame1);
        ……

        return 0;
    }

    @Override
    public void onGLContextCreated() {
    }

    @Override
    public void onGLContextDestory() {
    }
}
```



```
let videoFrameListener: TRTCVideoFrameListener = TRTCVideoFrameListener()

func enableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance().setLocalVideoProcessDelegete(videoFrameListener, pix
}

func disableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance().setLocalVideoProcessDelegete(nil, pixelFormat: ._Tex
}

class TRTCVideoFrameListener: NSObject, TRTCVideoFrameDelegate {
```

```
    let bueutyModel = XXXXBeautyModel.shareIntance()
    func onProcessVideoFrame(_ srcFrame: TRTCVideoFrame, dstFrame: TRTCVideoFrame)
        // Beauty processing logic
        bueutyModel.onProcessVideoFrame(srcFrame, dstFrame)
        ……

        return 0
    }
}
```

Step 3: Customer-defined third-party beauty parameter control logic

In this part, customers can set beauty parameters according to their needs and the specific beauty module they use, referring to the implementation in step 1. The specific implementation depends on the specific usage.

Integrating Tencent Beauty Effects

The integration method of Tencent Beauty Effects also follows the above method. Now, taking Tencent Beauty Effects as an example, we will introduce the integration method in detail:

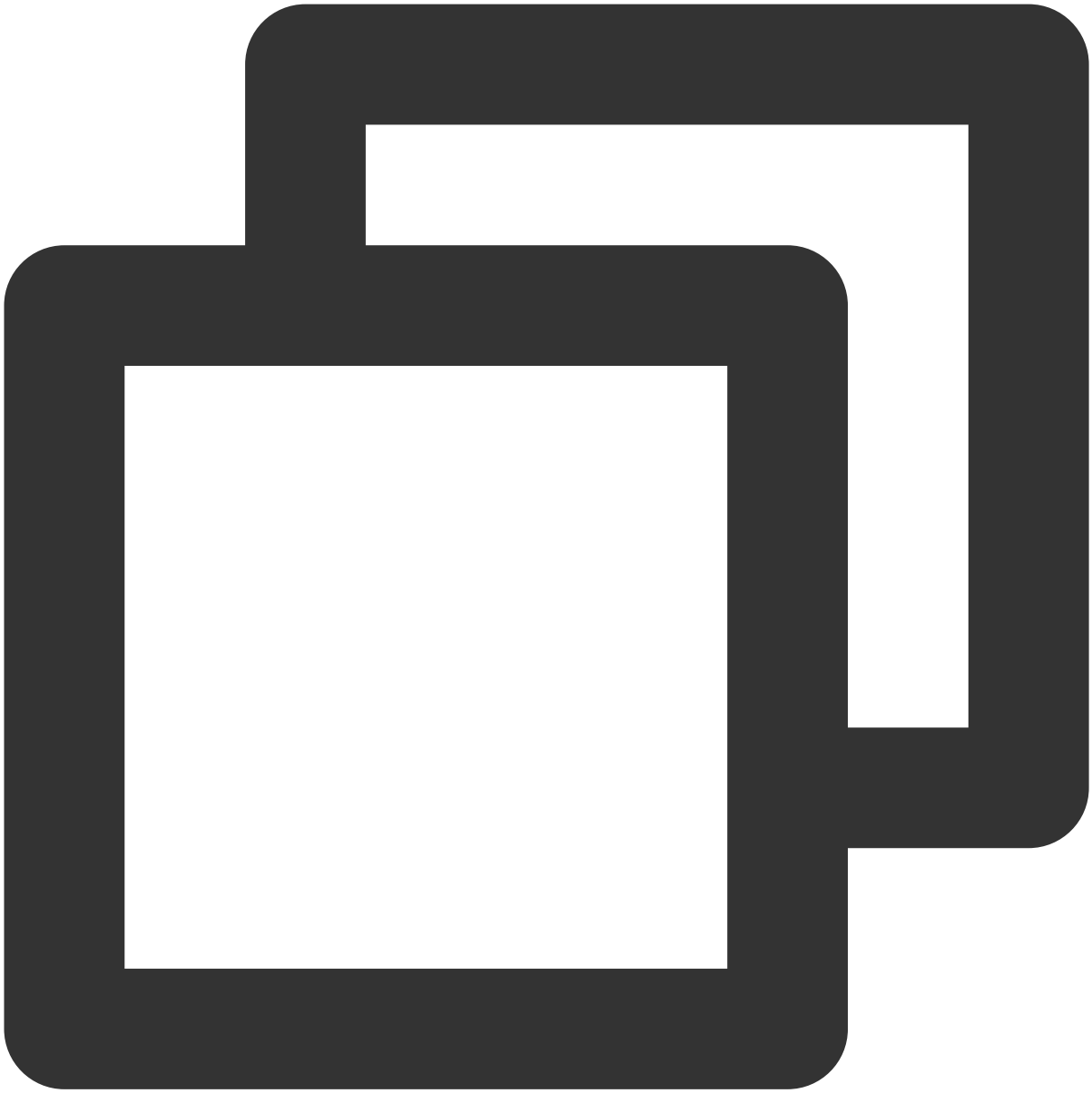
Step 1: Beauty resource download and integration

1. Download the SDK according to the package you purchased.
2. Add files to your project:

Android

iOS

1. Find the build.gradle file under the app module and add the maven reference address for your corresponding package. For example, if you choose the S1-04 package, add the following:

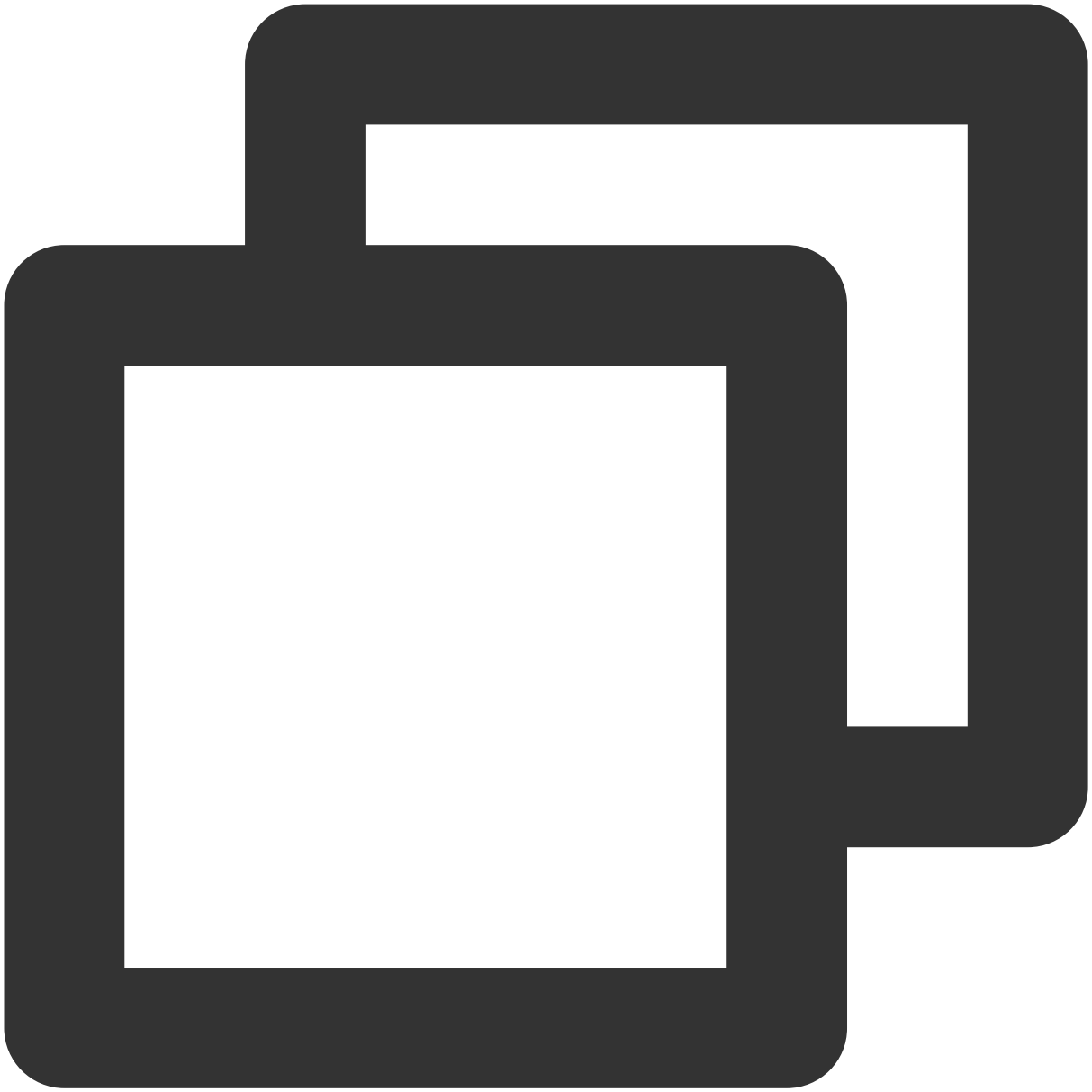


```
dependencies {
    implementation 'com.tencent.mediacloud:TencentEffect_S1-04:latest.release'
}
```

For the maven addresses corresponding to each package, please refer to the documentation.

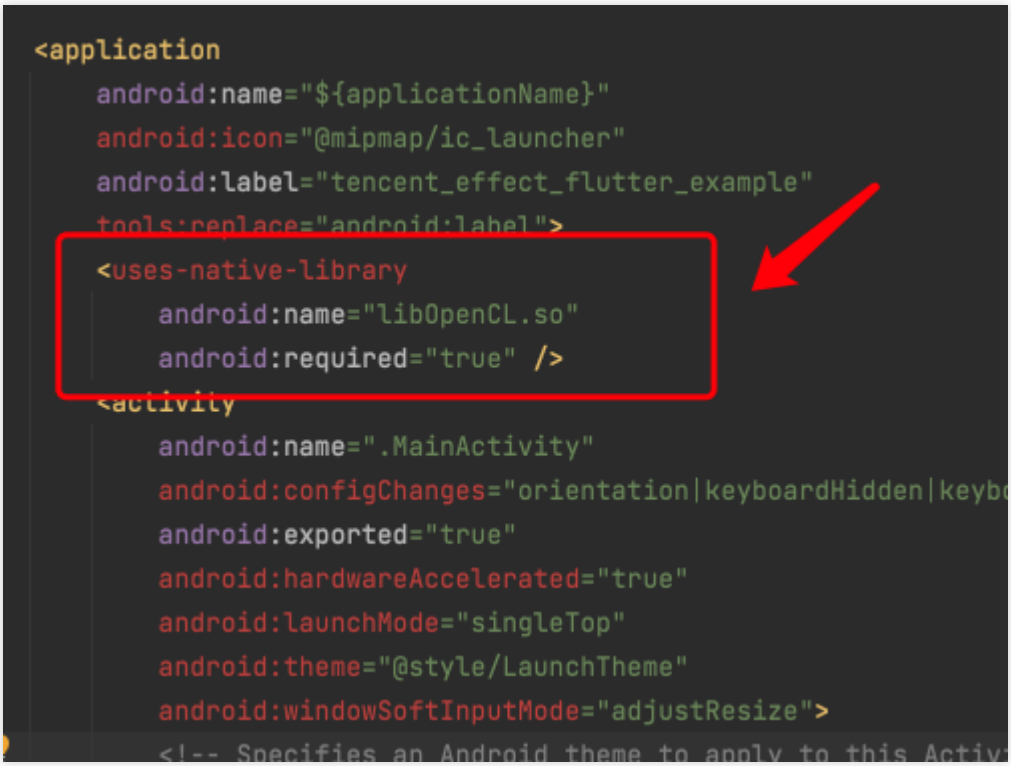
2. Find the src/main/assets folder under the app module. If it doesn't exist, create it. Check if there is a MotionRes folder in the downloaded SDK package. If so, copy this folder to the ../src/main/assets directory.

3. Find the AndroidManifest.xml file under the app module and add the following tag in the application form



```
<uses-native-library
       android:name="libOpenCL.so"
       android:required="true" />
       //The "true" here means that if this library is not present, the applicatio
        // "false" means that the application can use this library (if it exists)
        // Android official website introduction: https://developer.android.com/gu
```

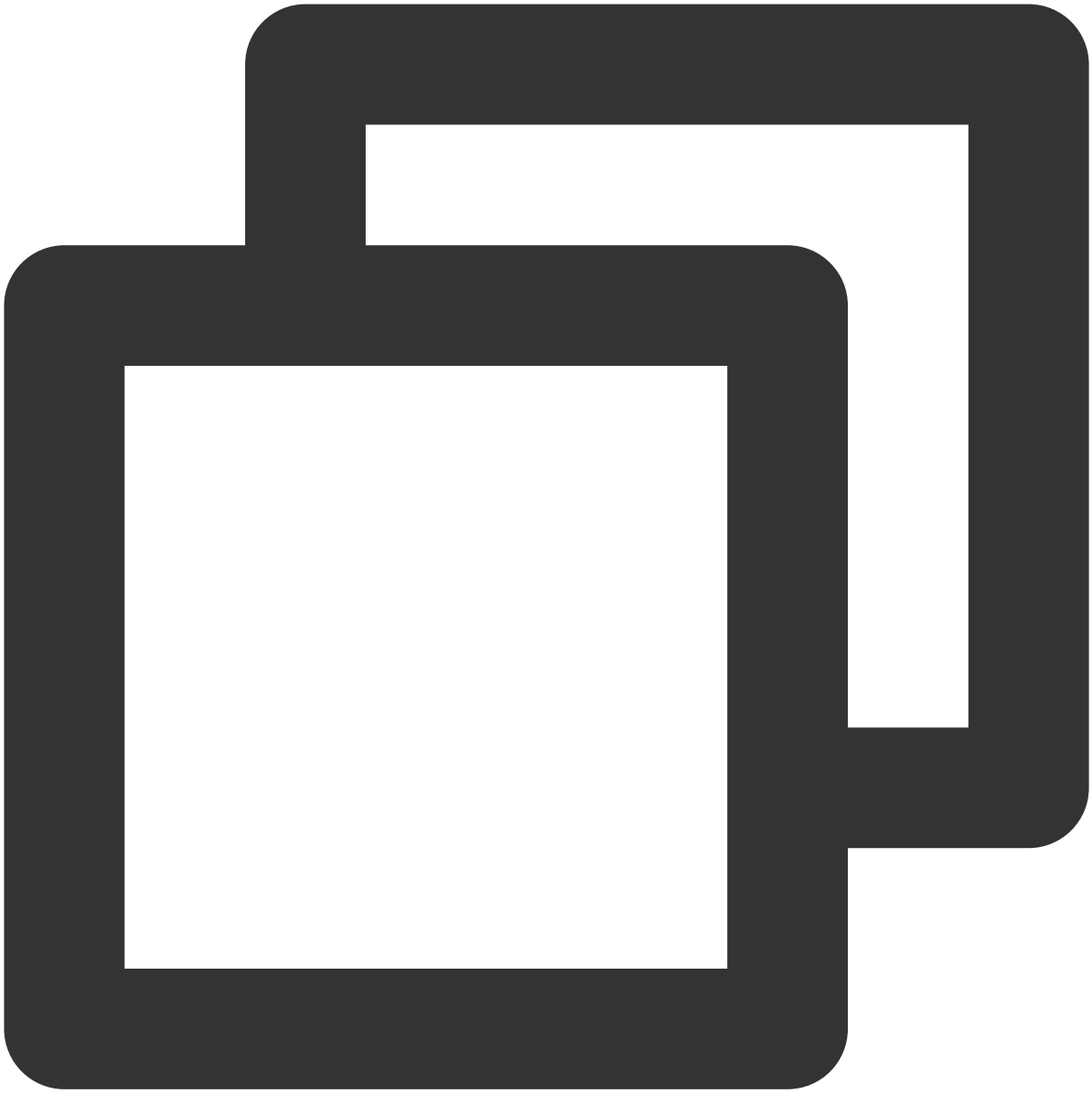
Add as shown in the following figure:



4. Obfuscation configuration

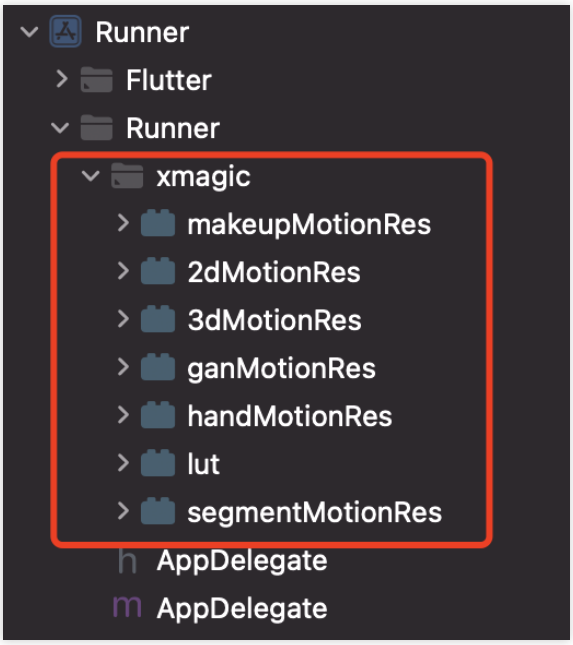
If you enable compile optimization when building a release package (set minifyEnabled to true), some code that is not called in the java layer will be cut off, and this code may be called by the native layer, causing a no xxx method exception.

If you enable such compile optimization, you need to add these keep rules to prevent xmagic code from being cut off:



```
-keep class com.tencent.xmagic.** { *;}
-keep class org.light.** { *;}
-keep class org.libpag.** { *;}
-keep class org.extra.** { *;}
-keep class com.gyailib.**{ *;}
-keep class com.tencent.cloud.iai.lib.** { *;}
-keep class com.tencent.beacon.** { *;}
-keep class com.tencent.qimei.** { *;}
-keep class androidx.exifinterface.** { *;}
```

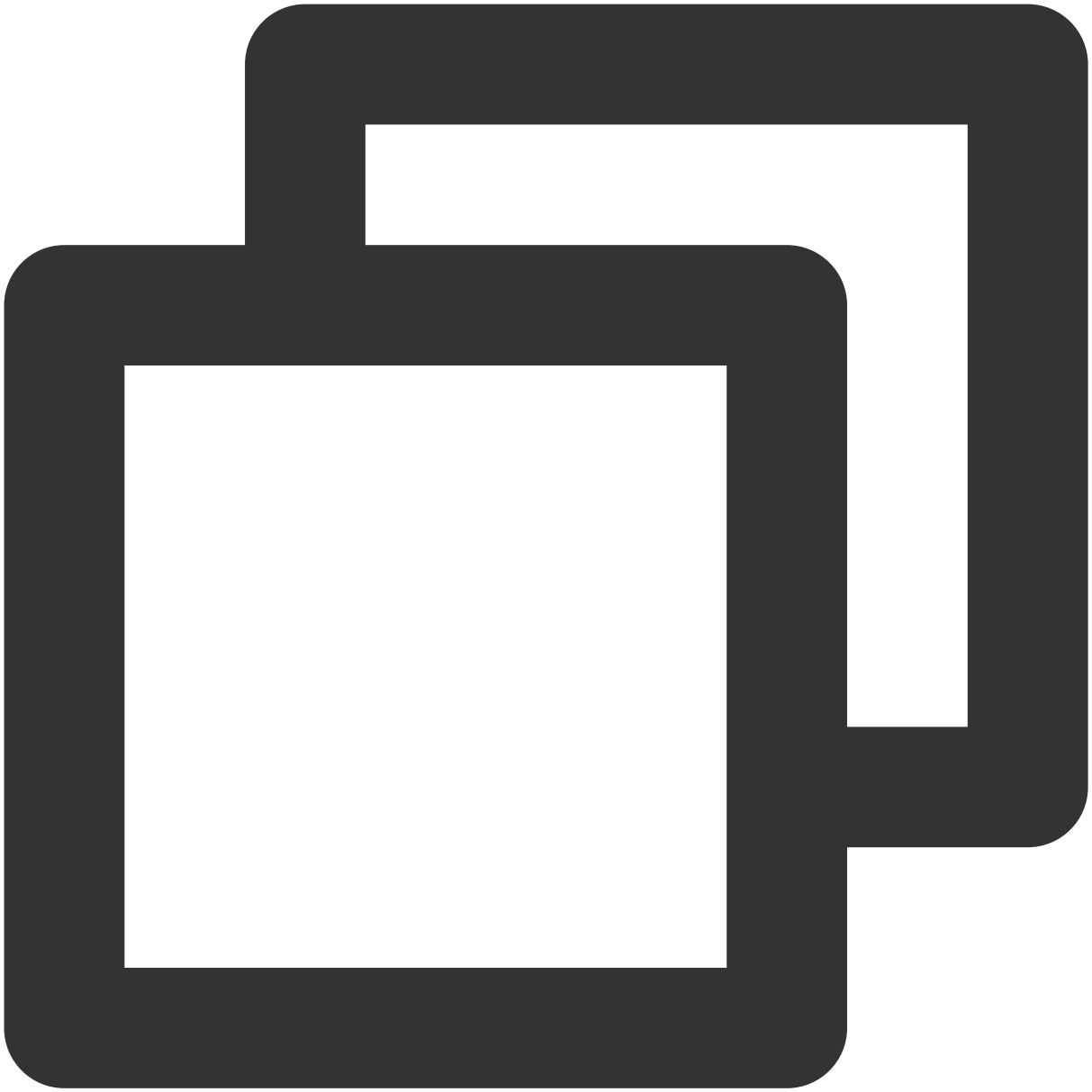
1. Add beauty resources to your project. After adding, it will be shown as in the following figure (the types of resources you have may not be exactly the same as in the figure):



2. In the demo, copy the 4 classes in demo/lib/producer: BeautyDataManager, BeautyPropertyProducer, BeautyPropertyProducerAndroid, and BeautyPropertyProducerIOS to your own Flutter project. These 4 classes are used to configure beauty resources and display beauty types on the beauty panel.

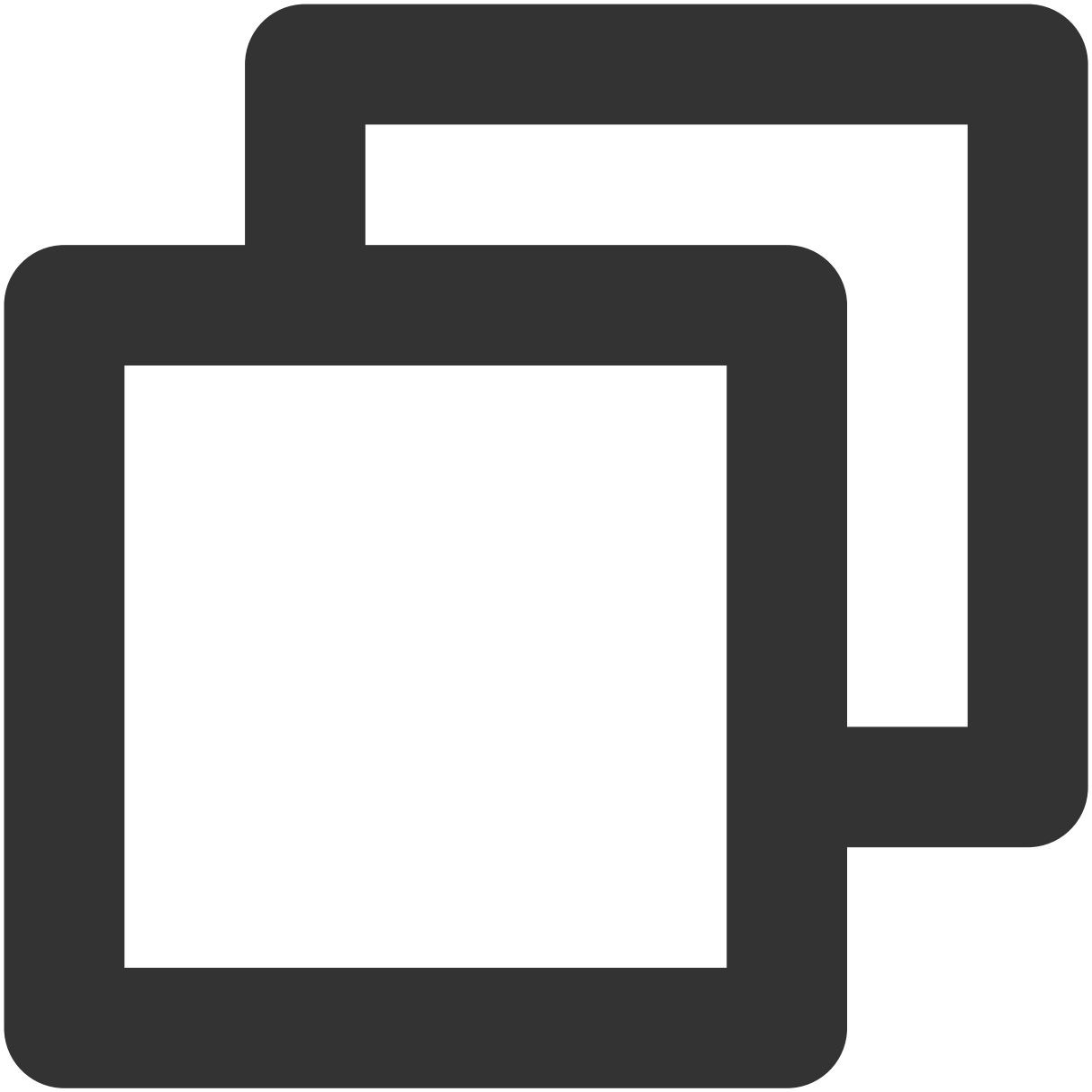
Step 2: Reference the Flutter version SDK

GitHub reference: Add the following reference to the project's pubspec.yaml file:



```
tencent_effect_flutter:
  git:
    url: https://github.com/TencentCloud/tencenteffect-sdk-flutter
```

Local reference: Download the latest version of tencent_effect_flutter from tencent_effect_flutter, and then add the folders android, ios, lib, and the files pubspec.yaml, tencent_effect_flutter.iml to the project directory. Then, add the following reference to the project's pubspec.yaml file (refer to the demo):



```
tencent_effect_flutter:
    path: ../
```

tencent_effect_flutter provides only a bridge, and the default version of the internally dependent XMagic is the latest. The real beauty effect is achieved by XMagic.

If you want to use the latest version of the beauty SDK, you can upgrade the SDK through the following steps:

Android

iOS

Execute the command `flutter pub upgrade` in the project directory, or click "`Pub upgrade`" in the upper right corner of the subspec.yaml page.
Execute the command `flutter pub upgrade` in the project directory, and then execute the command `pod update` in the iOS directory.

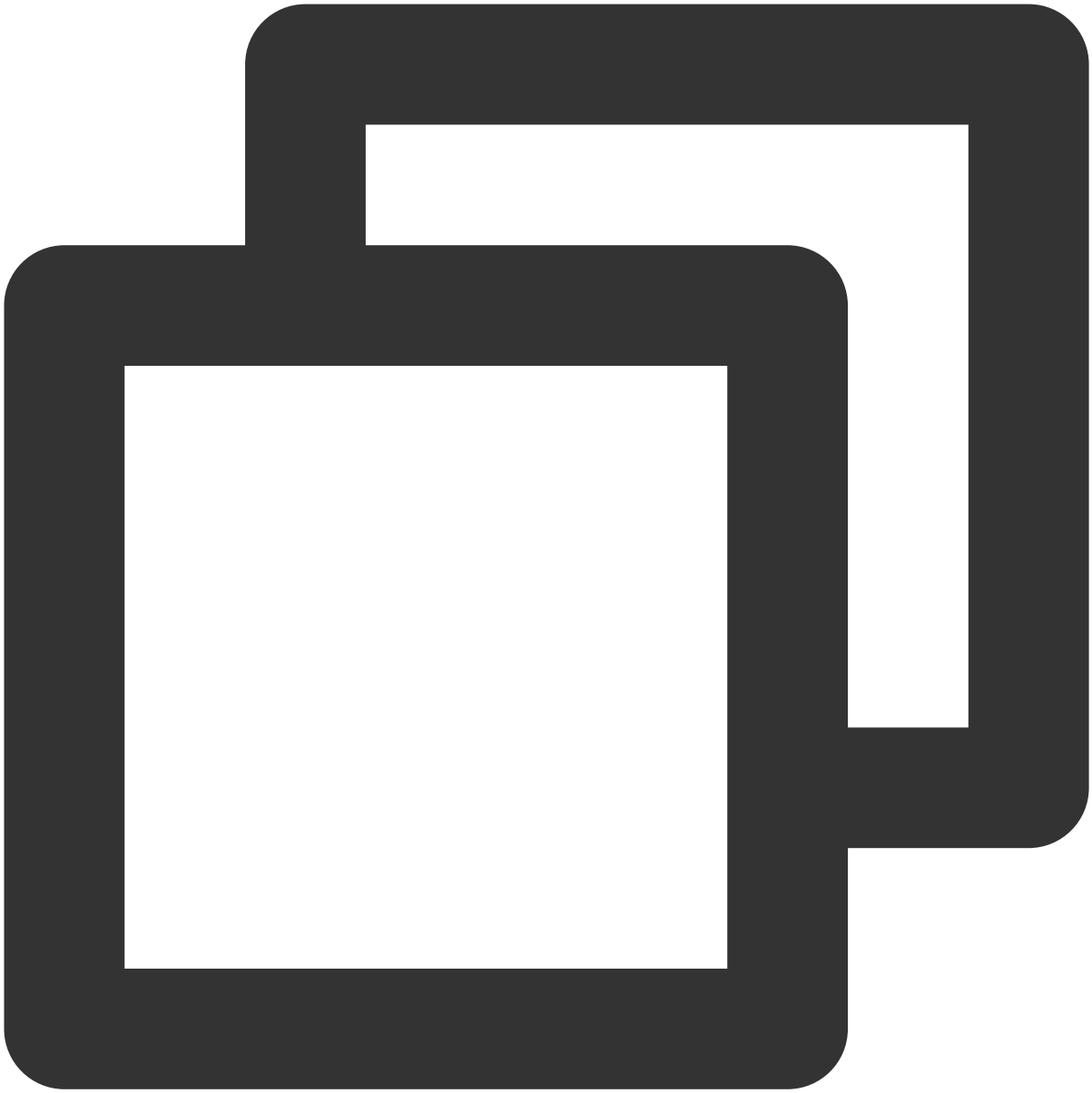
Step 3: Implement the Dart layer to Native beauty control interface start/end

This section can refer to Accessing third-party beauty effects/Step 1, and is not repeated here.

Step 4: Complete the beauty processing in the TRTC custom rendering logic of Native

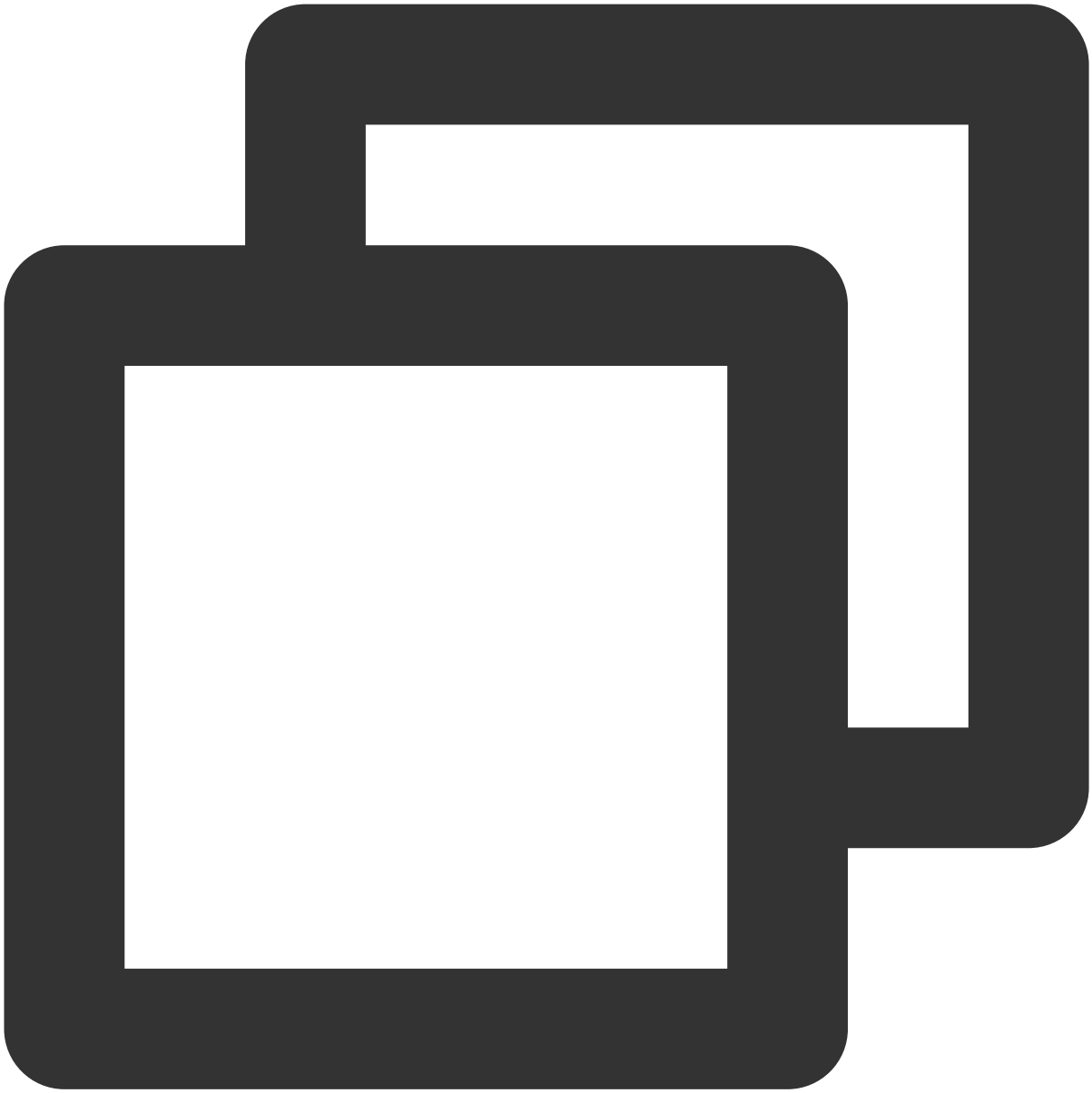
Android
iOS
Android needs to rely on `LiteAVSDK_Professional` first when accessing beauty. Add the following dependencies in the `app/build.gradle` of the Android project:

```
dependencies{
    api "com.tencent.liteav:LiteAVSDK_Professional:latest.release"
}
```



```
void enableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance(getApplicationContext()).
                setLocalVideoProcessListener(TRTC_VIDEO_PIXEL_FORMAT_Texture_2D,
                        TRTC_VIDEO_BUFFER_TYPE_TEXTURE, new VideoFrameListerer());

}

void disableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance(getApplicationContext()).
                setLocalVideoProcessListener(TRTC_VIDEO_PIXEL_FORMAT_Texture_2D,
                        TRTC_VIDEO_BUFFER_TYPE_TEXTURE, null);
```

```
}

class VideoFrameListerer implements TRTCCloudListener.TRTCVideoFrameListener {
    private XXXBeautyModel  mBeautyModel = XXXBeautyModel.sharedInstance();

    @Override
    public int onProcessVideoFrame(TRTCCloudDef.TRTCVideoFrame trtcVideoFrame,
                                   TRTCCloudDef.TRTCVideoFrame trtcVideoFrame1) {
       trtcVideoFrame1.texture.textureId = XmagicApiManager.getInstance()
        .process(trtcVideoFrame.texture.textureId, trtcVideoFrame.width, trtcVideoF
        return 0;
    }

    @Override
    public void onGLContextCreated() {
    }

    @Override
    public void onGLContextDestory() {
    }
}
```



```
import TXLiteAVSDK_Professional
import tencent_effect_flutter

let videoFrameListener: TRTCVideoFrameListener = TRTCVideoFrameListener()

func enableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance().setLocalVideoProcessDelegete(videoFrameListener, pix
}

func disableTUICallKitCustomBeauty() {
    TRTCCloud.sharedInstance().setLocalVideoProcessDelegete(nil, pixelFormat: ._Tex
```

```
}

class TRTCVideoFrameListener: NSObject, TRTCVideoFrameDelegate {
    func onProcessVideoFrame(_ srcFrame: TRTCVideoFrame, dstFrame: TRTCVideoFrame)
        dstFrame.textureId = GLuint(XmagicApiManager.shareSingleton().getTextureId(
        return 0
    }
}


public class ConvertBeautyFrame: NSObject {
    public static func convertToTRTCPixelFormat(beautyPixelFormat: ITXCustomBeautyP
        switch beautyPixelFormat {
        case .Unknown:
            return ._Unknown
        case .I420:
            return ._I420
        case .Texture2D:
            return ._Texture_2D
        case .BGRA:
            return ._32BGRA
        case .NV12:
            return ._NV12
        }
    }

    public static func convertTRTCVideoFrame(trtcVideoFrame: TRTCVideoFrame) -> ITX
        let beautyVideoFrame = ITXCustomBeautyVideoFrame()
        beautyVideoFrame.data = trtcVideoFrame.data
        beautyVideoFrame.pixelBuffer = trtcVideoFrame.pixelBuffer
        beautyVideoFrame.width = UInt(trtcVideoFrame.width)
        beautyVideoFrame.height = UInt(trtcVideoFrame.height)
        beautyVideoFrame.textureId = trtcVideoFrame.textureId
        switch trtcVideoFrame.rotation {
        case ._0:
            beautyVideoFrame.rotation = .rotation_0
        case ._90:
            beautyVideoFrame.rotation = .rotation_90
        case ._180:
            beautyVideoFrame.rotation = .rotation_180
        case ._270:
            beautyVideoFrame.rotation = .rotation_270
        default:
            beautyVideoFrame.rotation = .rotation_0
        }
        switch trtcVideoFrame.pixelFormat {
        case ._Unknown:
```

```
            beautyVideoFrame.pixelFormat = .Unknown
        case ._I420:
            beautyVideoFrame.pixelFormat = .I420
        case ._Texture_2D:
            beautyVideoFrame.pixelFormat = .Texture2D
        case ._32BGRA:
            beautyVideoFrame.pixelFormat = .BGRA
        case ._NV12:
            beautyVideoFrame.pixelFormat = .NV12
        default:
            beautyVideoFrame.pixelFormat = .Unknown
        }
        beautyVideoFrame.bufferType = ITXCustomBeautyBufferType(rawValue: trtcVideo
        beautyVideoFrame.timestamp = trtcVideoFrame.timestamp
        return beautyVideoFrame
    }
}
```

Step 5: Enable beauty and set beauty parameters

After completing the above configuration, you can enable/disable beauty through enableTUICallKitCustomBeauty()/disableTUICallKitCustomBeauty(). You can set beauty parameters through the Tencent beauty effects Flutter interface.

Custom Ringtone
Android

Last updated：2024-04-03 17:23:11

This article explains how to replace the incoming call ringtone in TUICallKit. The incoming call ringtone is divided into **application ringtone** and **offline push ringtone**.

Setting the application ringtone

There are two methods to set the application ringtone: replace ringtone audio, call Setting ringtone interface.

1. Replace Audio File

If you integrate the TUICallKit component via source code dependency, you can replace the three audio files in the `res\\raw` folder to achieve the goal of replacing the ringtone:

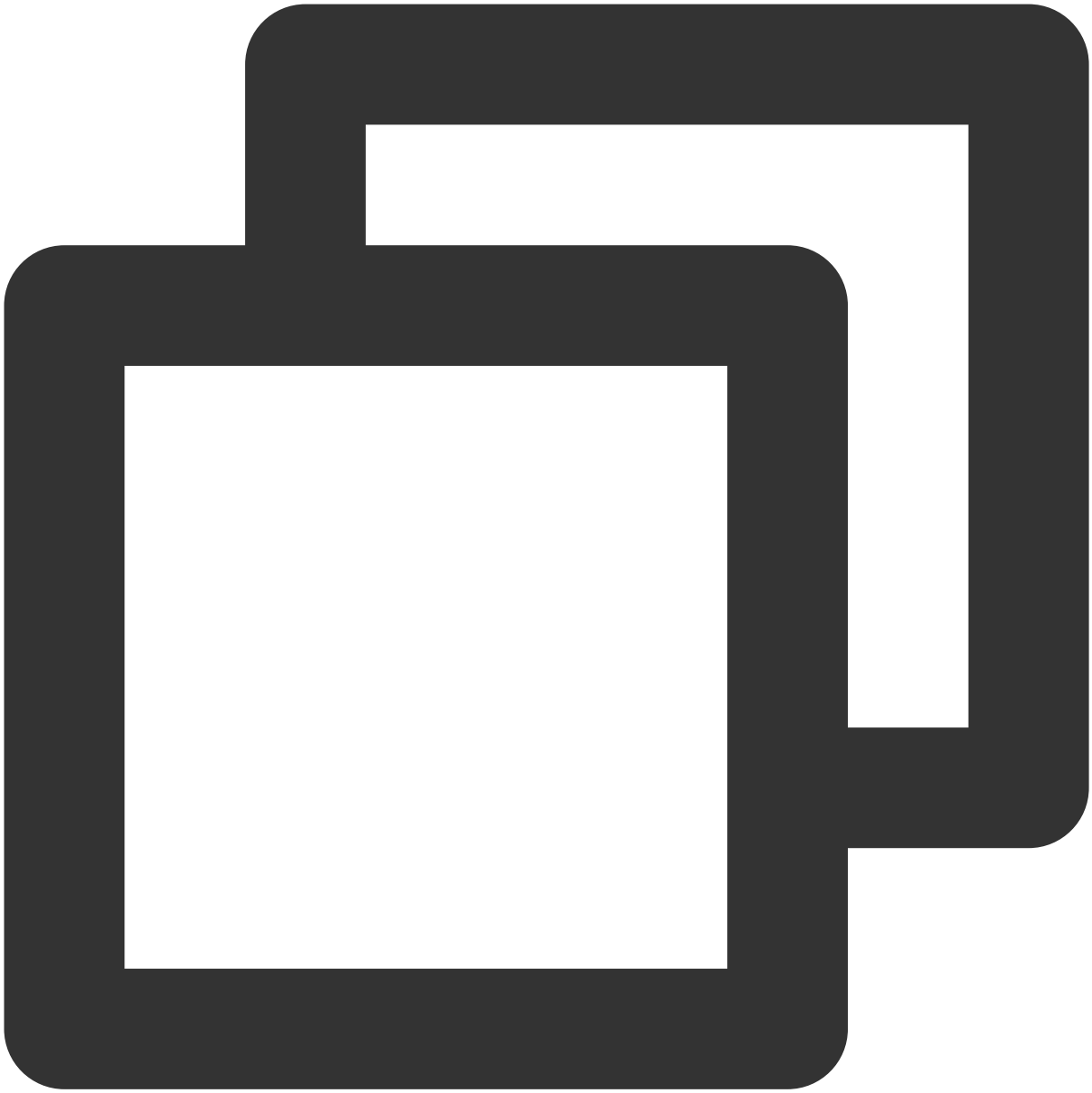
File Name	Use
phone_dialing.mp3	Ringtone when initiating a call
phone_hangup.mp3	Ringtone when the call is disconnected
phone_ringing.mp3	Ringtone when receiving a call

2. Setting Ringtone Interface

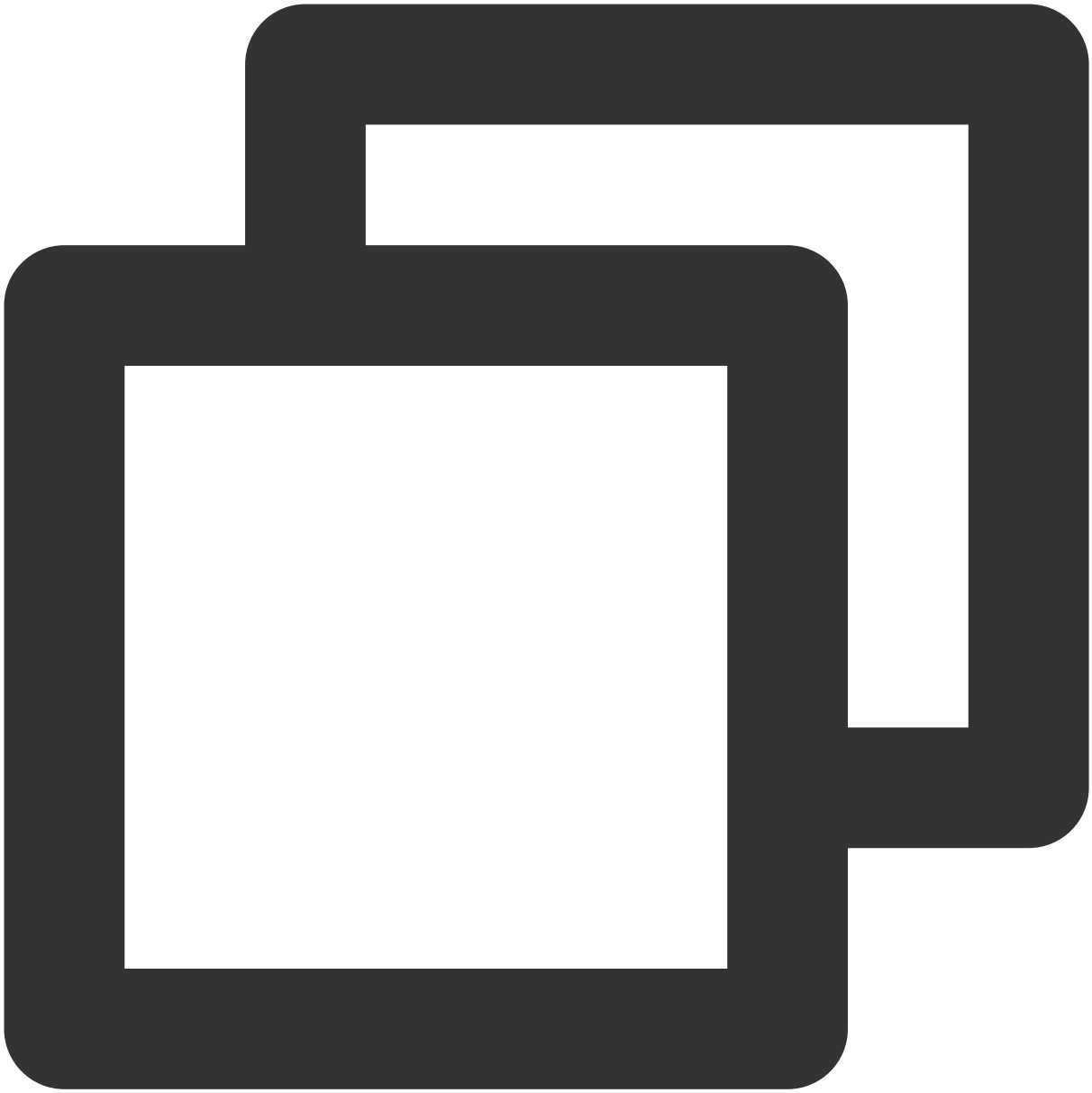
You can also customize the incoming call ringtone through the setCallingBell interface.

Kotlin

Java



```
TUICallKit.createInstance(context).setCallingBell(filePath)
```



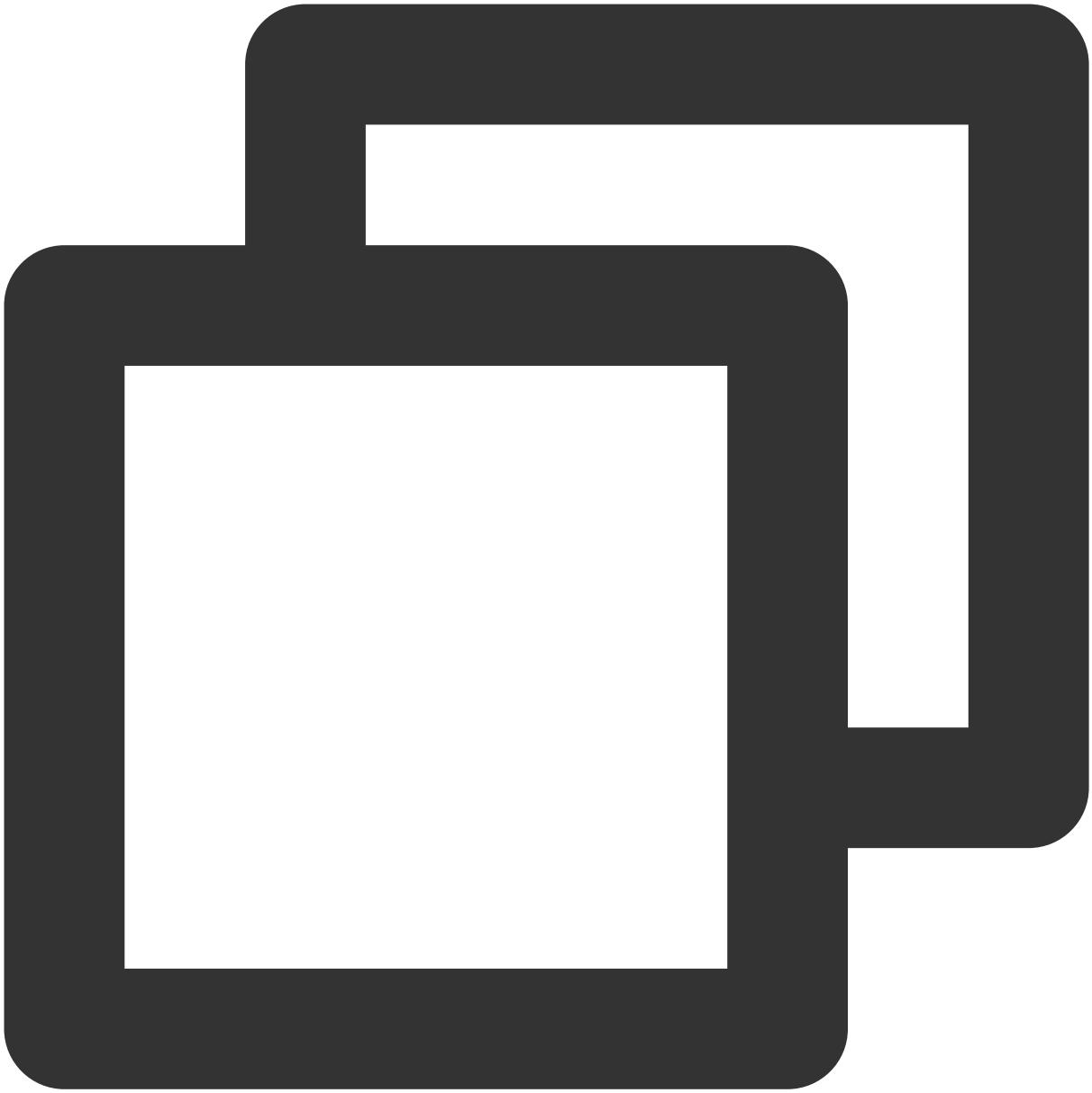
```
TUICallKit.createInstance(context).setCallingBell(filePath);
```

3. Setting Mute Mode

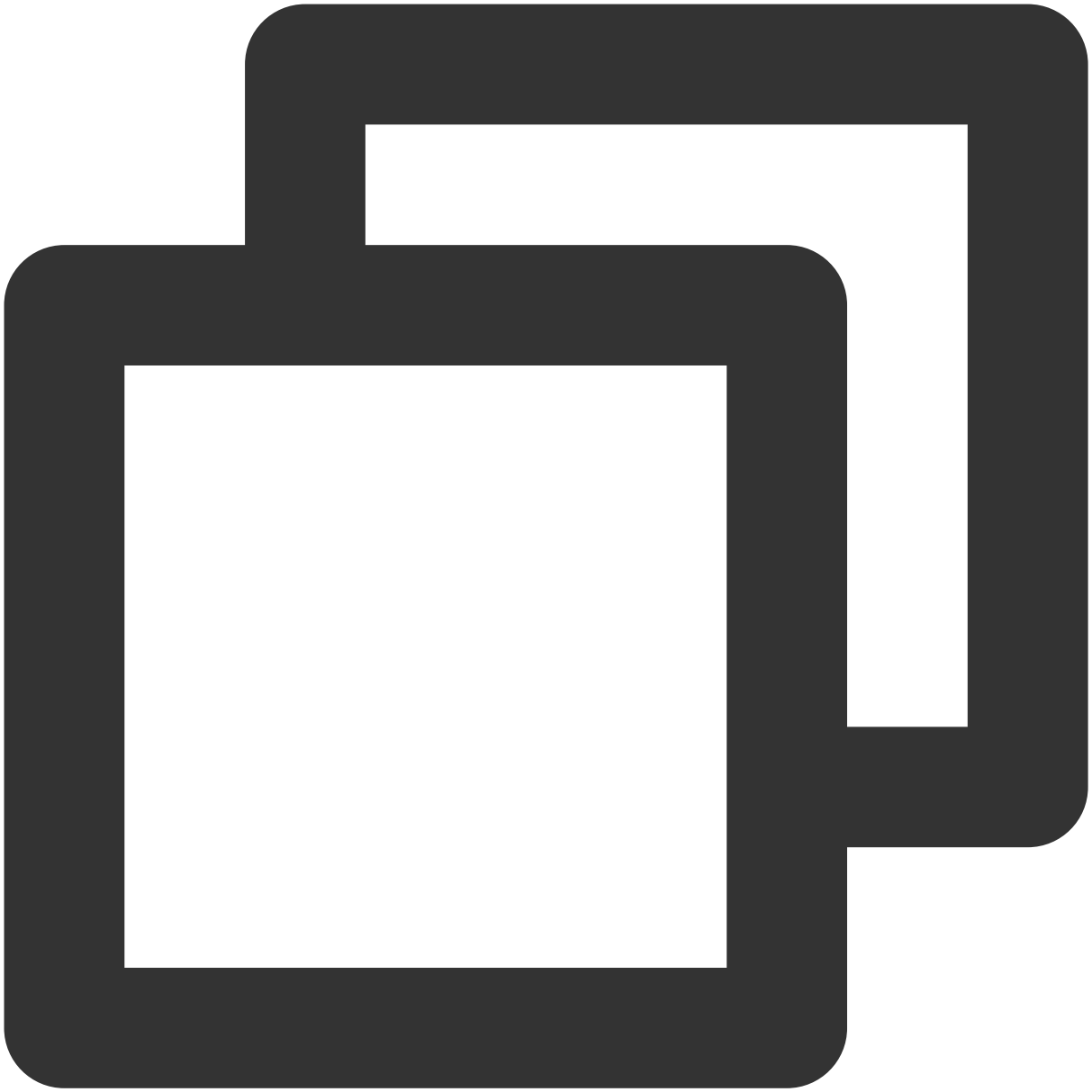
If you do not need the phone to ring, you can enable the mute mode using the enableMuteMode setting.

Kotlin

Java



```
TUICallKit.createInstance(context).enableMuteMode(true)
```



```
TUICallKit.createInstance(context).enableMuteMode(true);
```

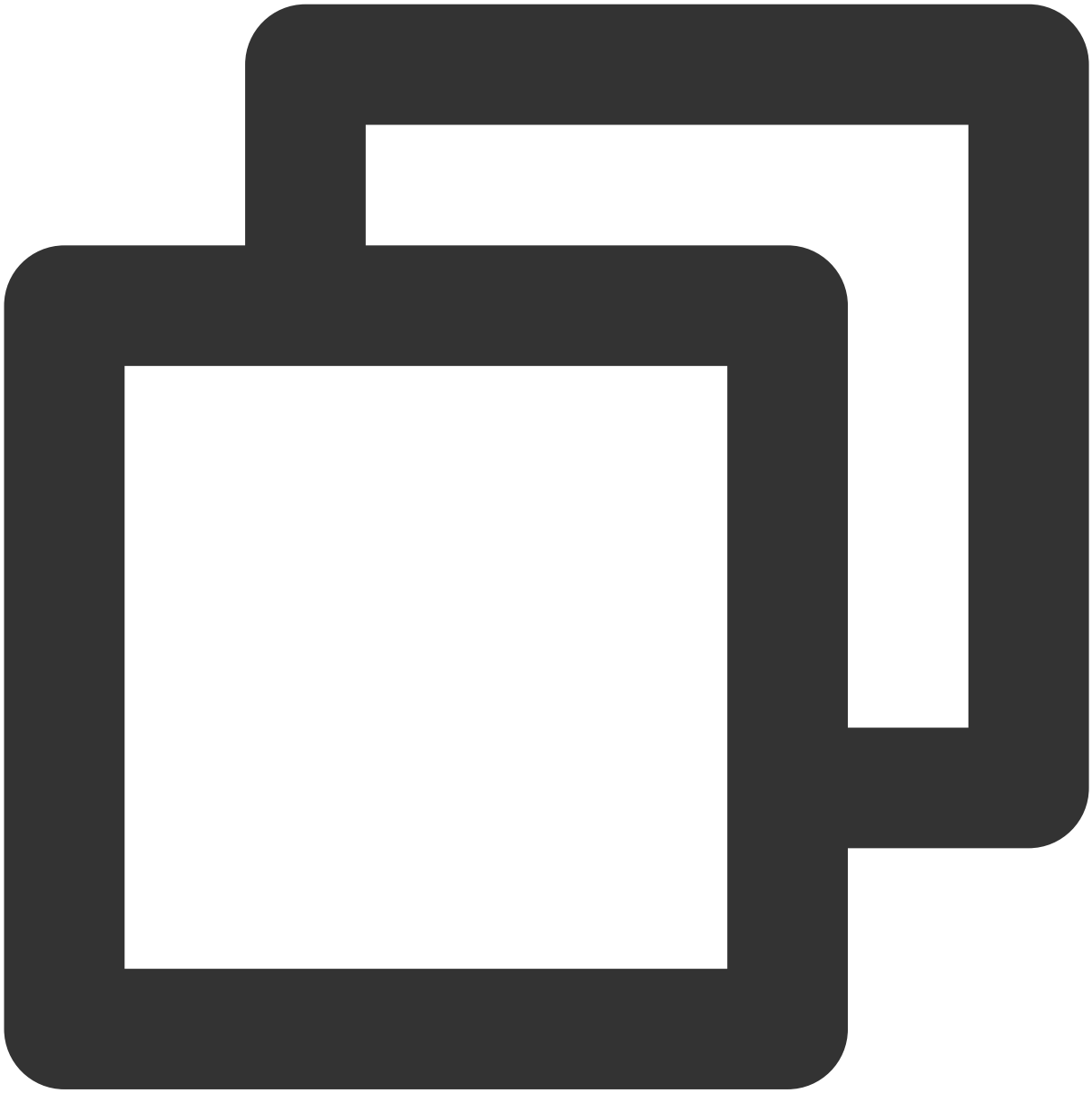
Setting Offline Push Ringtone

Offline notification ringtones only support the following manufacturers for custom definitions: **Huawei, Xiaomi, FCM, and APNs**; other manufacturers such as OPPO, VIVO, Honor, etc., are not supported currently.

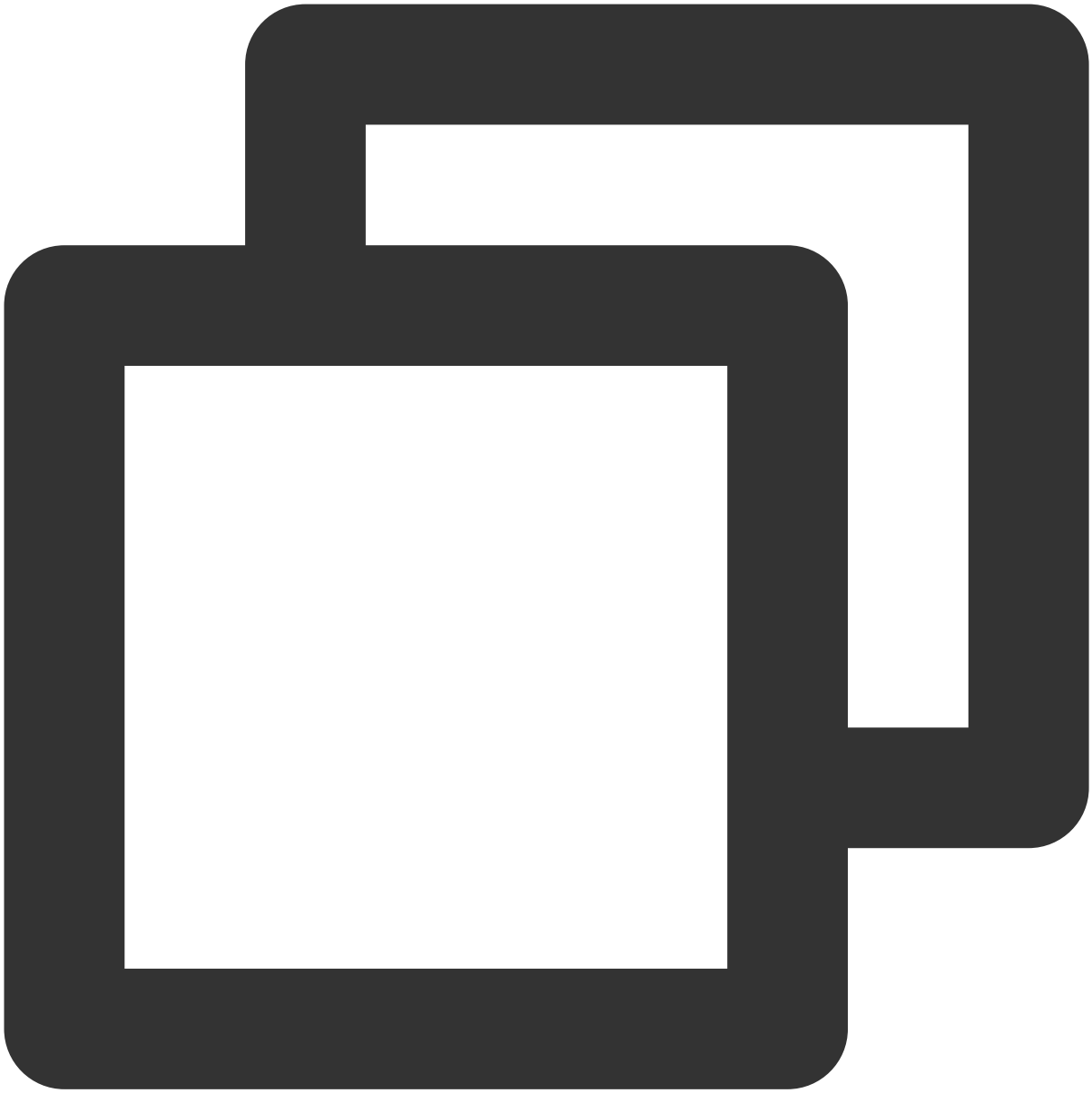
TUICallKit has introduced the TUIOfflinePush component. To enable offline notification custom ringtone capability, call the following method during application launch.

Kotlin

Java



```
class DemoApplication : Application() {
    override fun onCreate() {
        TUIOfflinePushConfig.getInstance().isAndroidPrivateRing = true
    }
}
```



```
public class DemoApplication extends Application {
    @Override
    public void onCreate() {
        TUIOfflinePushConfig.getInstance().setAndroidPrivateRing(true);
    }
}
```

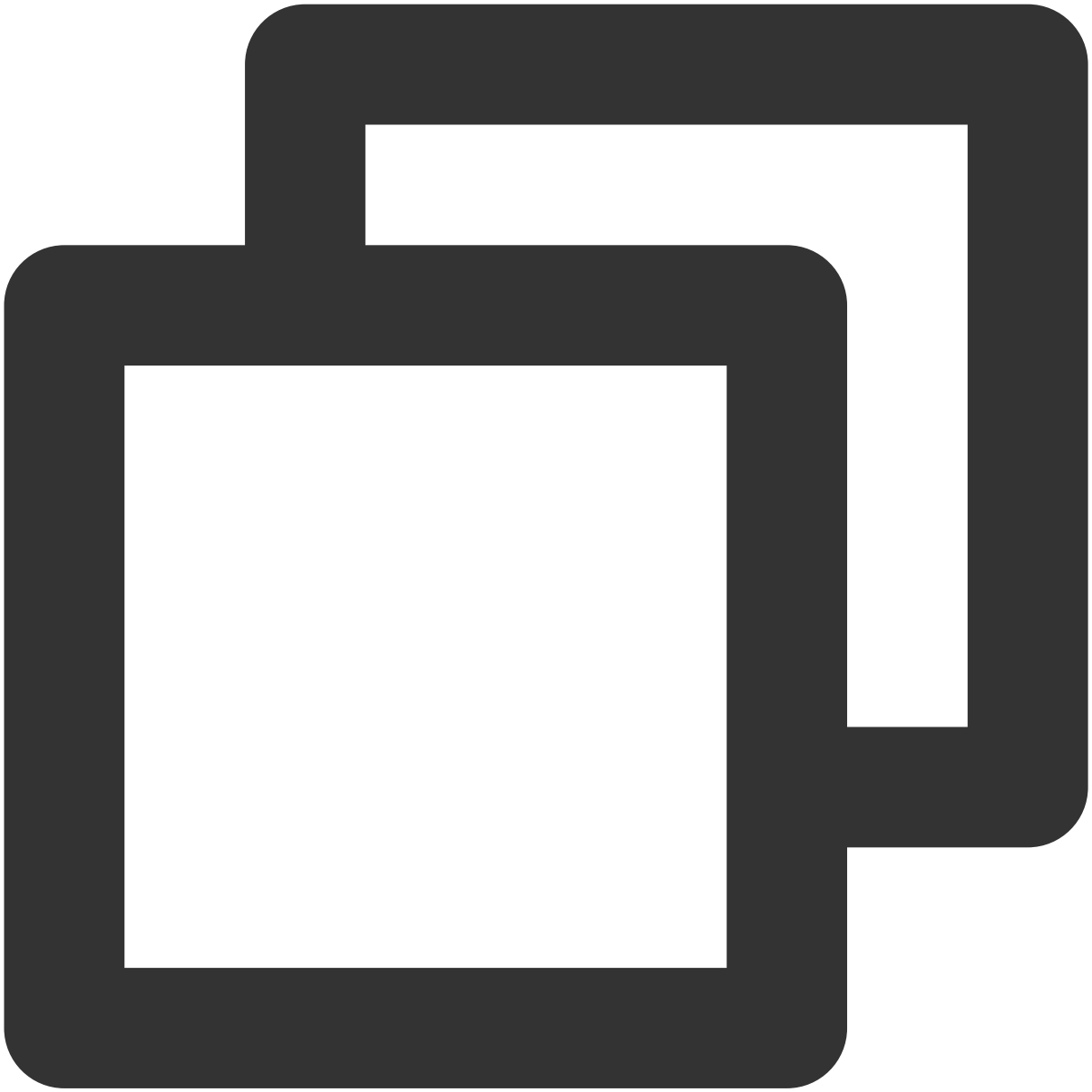
1. Huawei & APNs

Invoke the interfaces setAndroidSound() and setIOSSound().

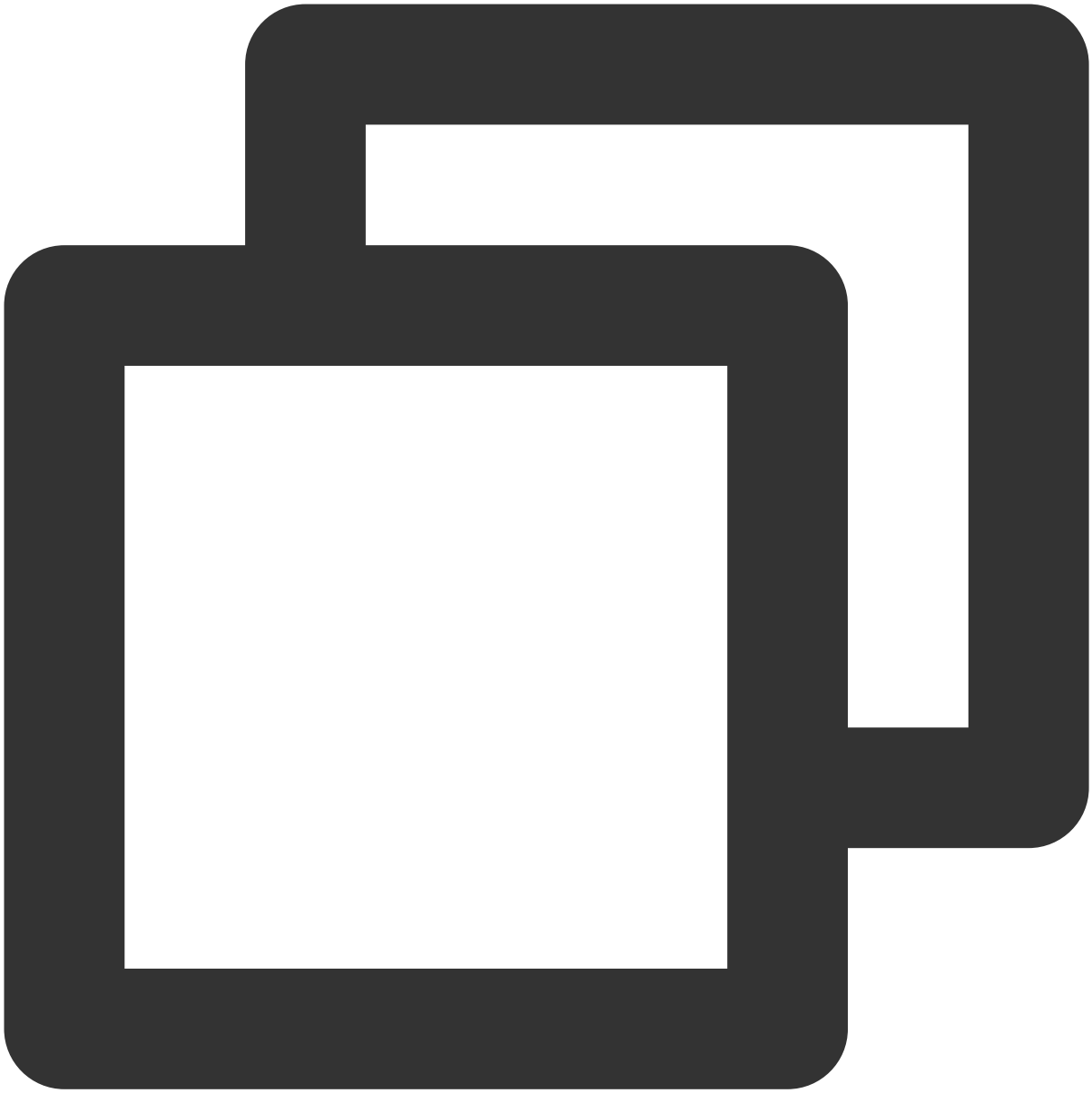
Customize the ringtone resource files, add the ringtone files to the local Android Studio project in the res/raw directory.

Kotlin

Java



```
val pushInfo = OfflinePushInfo()
pushInfo.iosSound = "ringtone name.mp3"
pushInfo.androidSound = "Ring Tone Name"
```



```
TUICallDefine.OfflinePushInfo pushInfo = new TUICallDefine.OfflinePushInfo();
pushInfo.setIOSSound("Ring Tone Name.mp3");
pushInfo.setAndroidSound("Ring Tone Name");
```

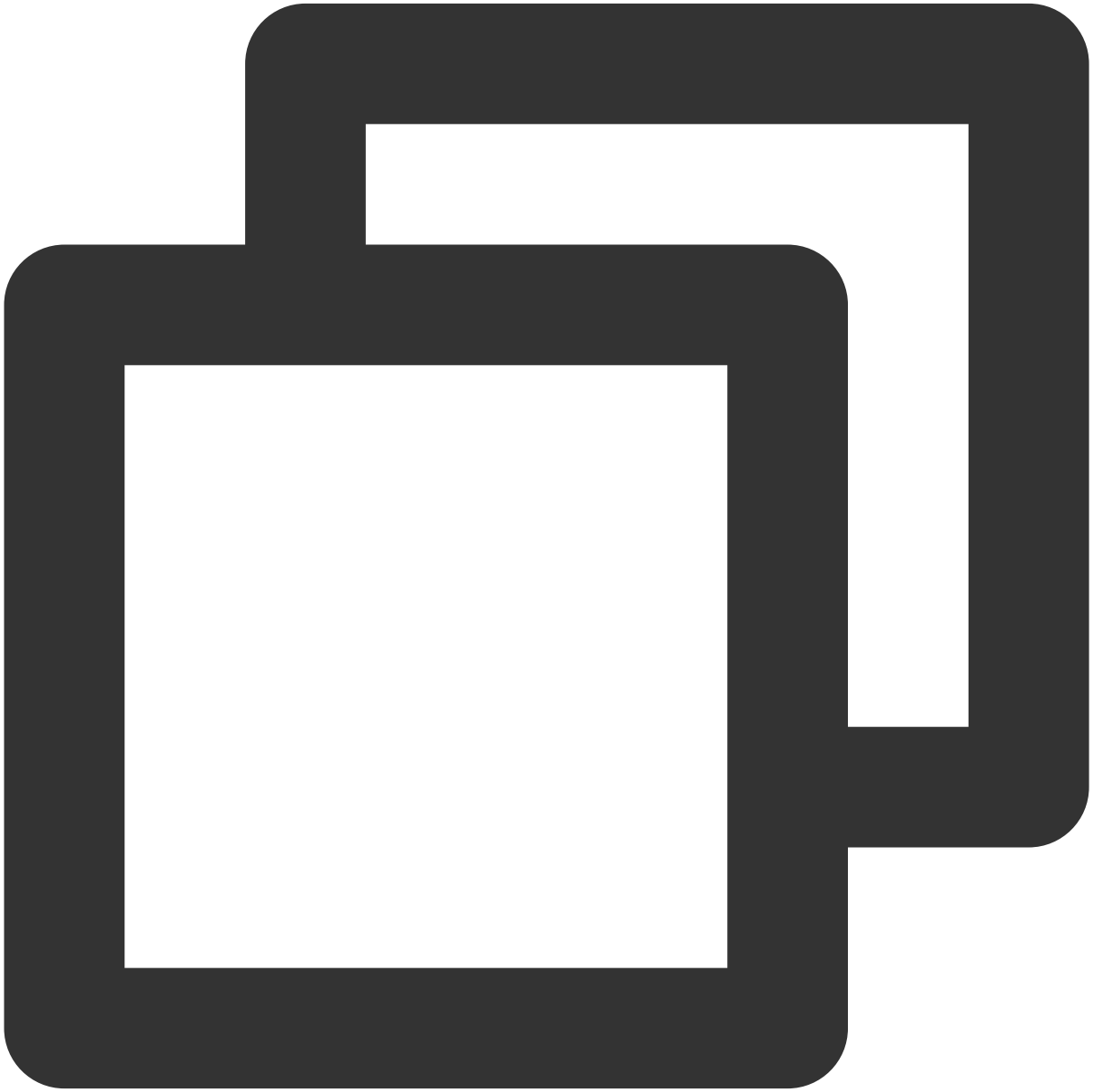
Note

The IMSDK version 6.1.2155 and subsequent versions are supported.

The ringtone of Huawei's push message corresponds to the ringtone when the notification channel is first created, and subsequent settings for other ringtones do not take effect. If you want to update the user-defined notification ringtone, the application must be uninstalled and reinstalled. For details, see: Custom Ringtones on Huawei.

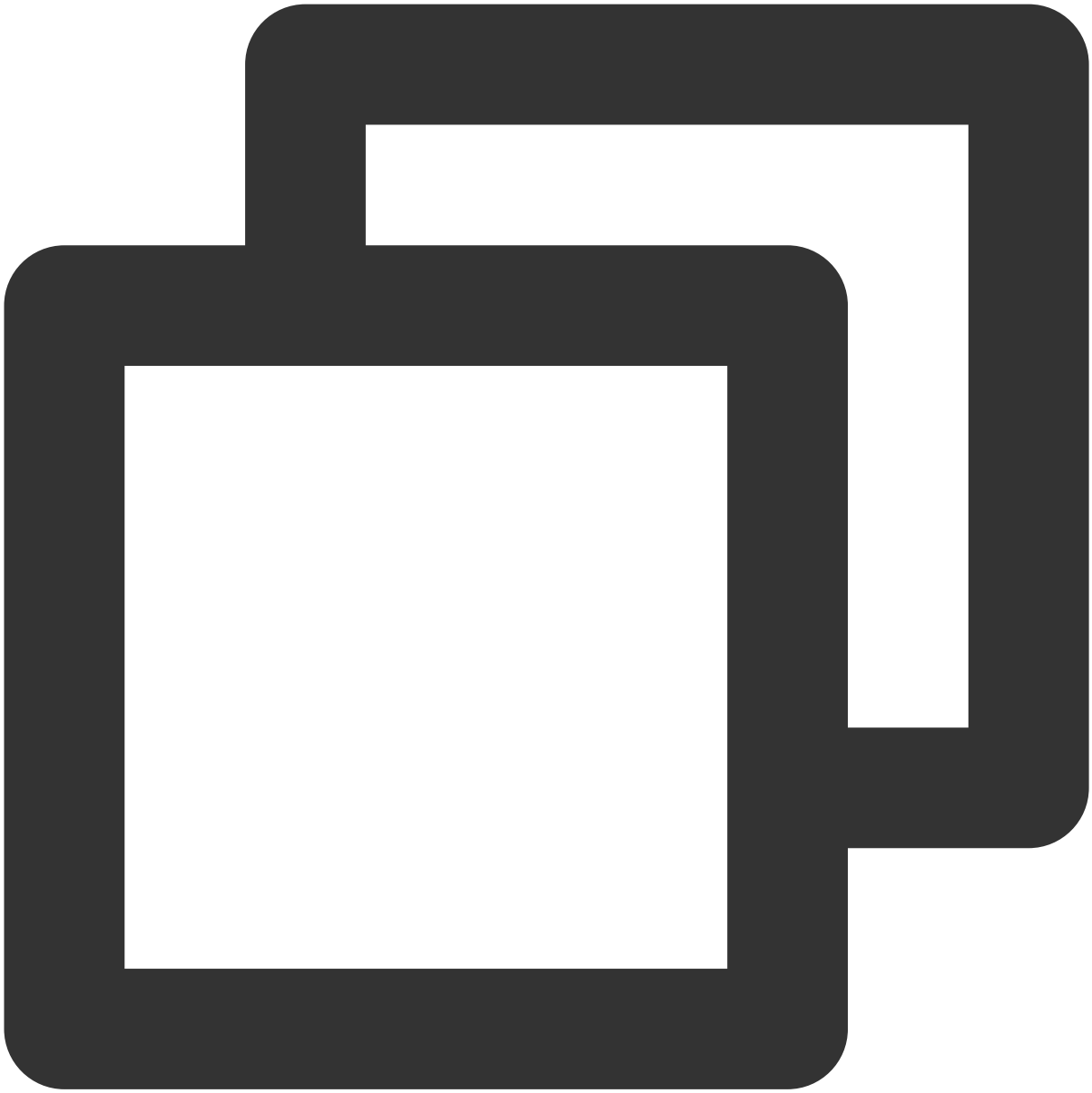
2. Xiaomi

(1) Before Android 8.0, use setAndroidSound() and setIOSSound() to customize the ringtone resource file by adding the ringtone file to the project's res/raw directory (refer to the Huawei invocation mentioned above).
(2) After Android 8.0, it's also necessary to sign in to the Mi Vendor Console and create a channel and configure it, where the ringtone file needs to be added to the res/raw directory of the local Android Studio project.
Kotlin
Java



```
val pushInfo = OfflinePushInfo()
pushInfo.iosSound = "ringtone name.mp3"
```

```
pushInfo.androidSound = "Ring Tone Name"
pushInfo.androidXiaoMiChannelID = "Vendor Requested Channel ID"
```



```
TUICallDefine.OfflinePushInfo pushInfo = new TUICallDefine.OfflinePushInfo();
pushInfo.setIOSSound("Ring Tone Name.mp3");
pushInfo.setAndroidSound("Ring Tone Name");
pushInfo.setAndroidXiaoMiChannelID("Vendor Requested Channel ID");
```

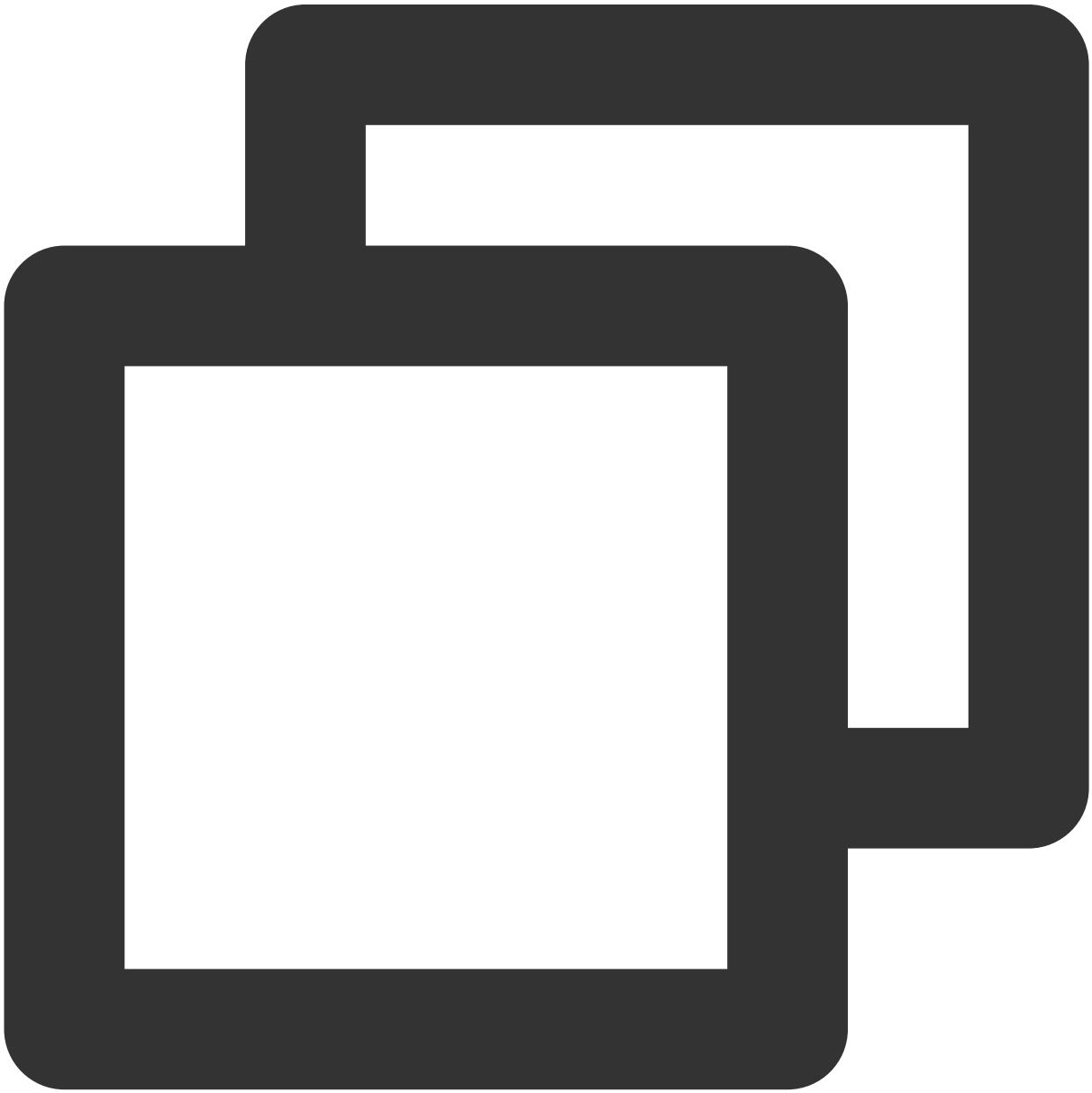
Note

For versions before Android 8.0, supported by IMSDK version 6.1.2155 and above.

For versions after Android 8.0, supported by IMSDK version 7.0.3754 and above.

3. FCM

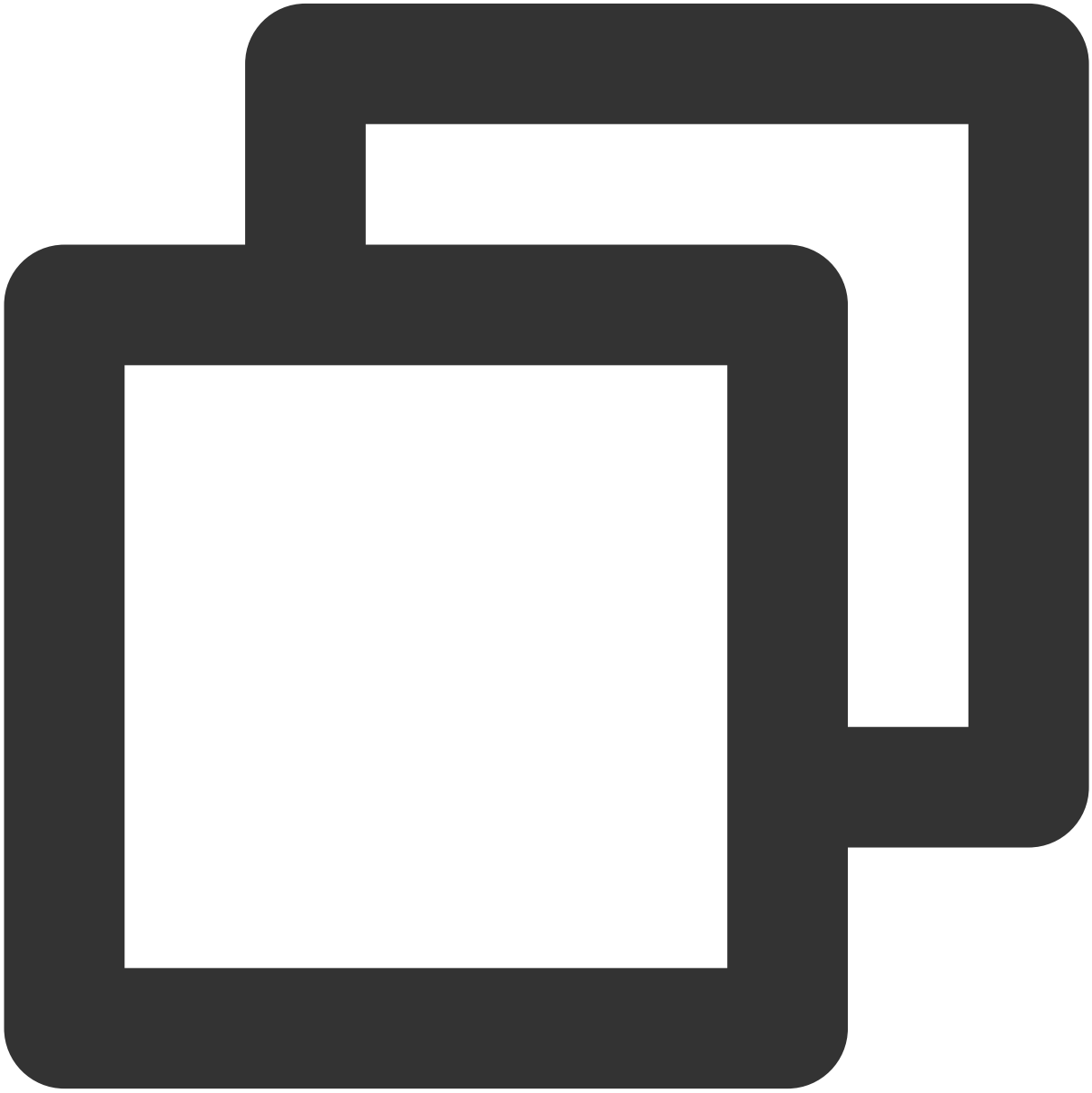
(1) Before Android 8.0, use setAndroidSound() and setIOSSound() to customize the ringtone resource file by adding the ringtone file to the project's res/raw directory (refer to the Huawei invocation mentioned above).
(2) After Android 8.0, FCM requires a configuration of channelID and ringtone resources. The tuiofflinepush component introduced by TUICallKit has already handled the playback of custom ringtones. The ringtone file needs to be added to the res/raw directory of your local Android Studio project, and the names of the ringtone and channel ID need to be specified. See PrivateConstants for more details.



```
public class PrivateConstants {
    // For FCM channel, specify the channel ID
    public static String fcmPushChannelId = "FCM ChannelID";
    // For FCM, specify the push ringtone name of the channel, which should be cons
    public static String fcmPushChannelSoundName = "ringtone name";
}
```

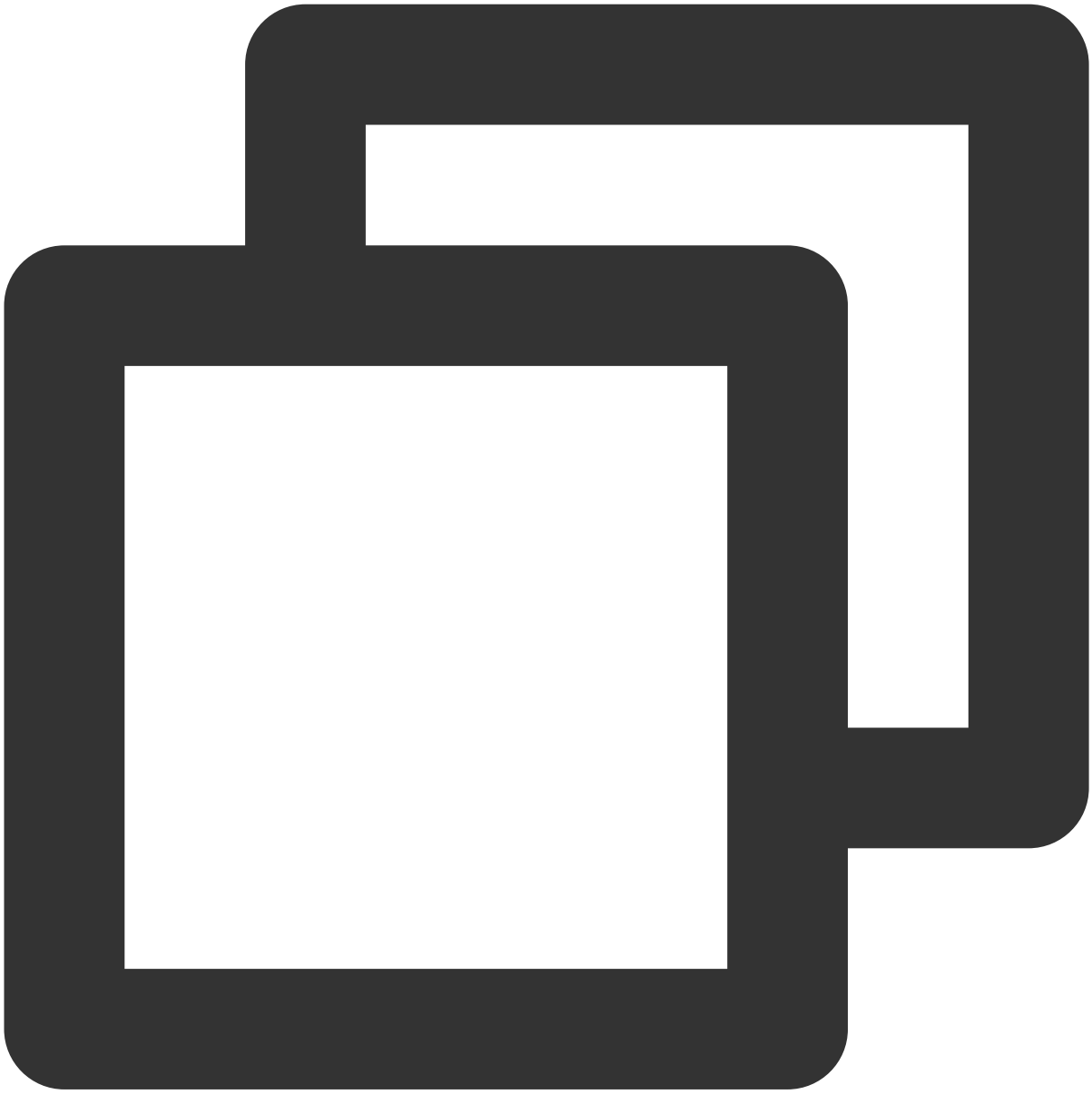
Kotlin

Java



```
val pushInfo = OfflinePushInfo()
```

```
pushInfo.iosSound = "ringtone name.mp3"
pushInfo.androidSound = "Ring Tone Name"
pushInfo.androidFCMChannelID = "Vendor Requested Channel ID"
```



```
TUICallDefine.OfflinePushInfo pushInfo = new TUICallDefine.OfflinePushInfo();
pushInfo.setIOSSound("Ring Tone Name.mp3");
pushInfo.setAndroidSound("Ring Tone Name");
pushInfo.setAndroidFCMChannelID("Vendor Requested Channel ID");
```

Note

For versions before Android 8.0, supported by IMSDK version 6.1.2155 and above.

For versions after Android 8.0, supported by IMSDK version 7.0.3754 and above.

FCM custom ringtone definition or setting channel id only supports certificate mode.

iOS

Last updated：2024-04-03 17:23:11

This article explains how to replace the incoming call ringtone for TUICallKit, which includes **application ringtone** and **offline push ringtone**.

Setting application Ringtone

There are two ways to set the application ringtone: replace the ringtone audio, and call the Setting ringtone interface.

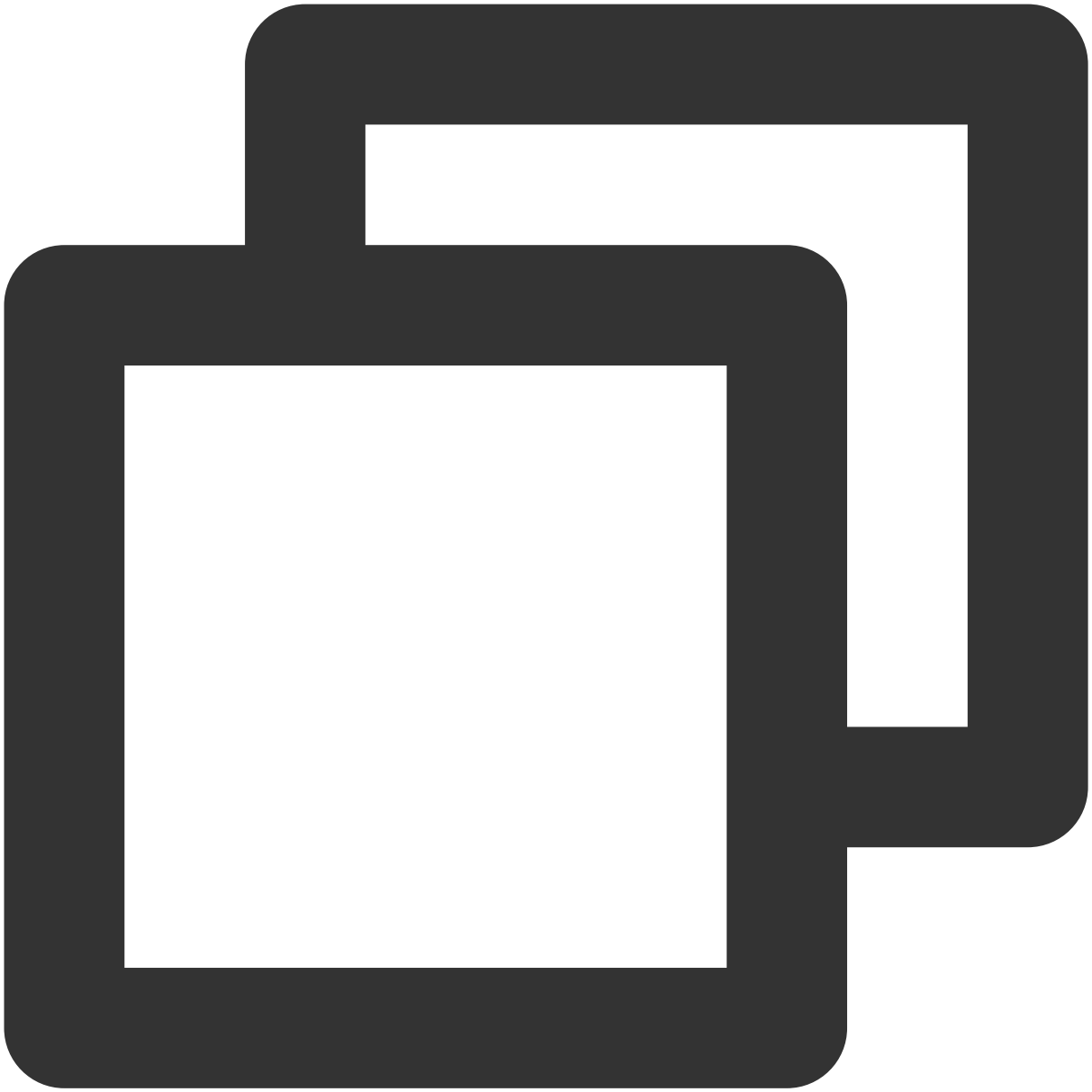
1. Replace Audio File

If you integrate the TUICallKit component via source code dependency, you can achieve the goal of replacing the ringtone by swapping out the three audio files under the `Resources\\AudioFile` folder:

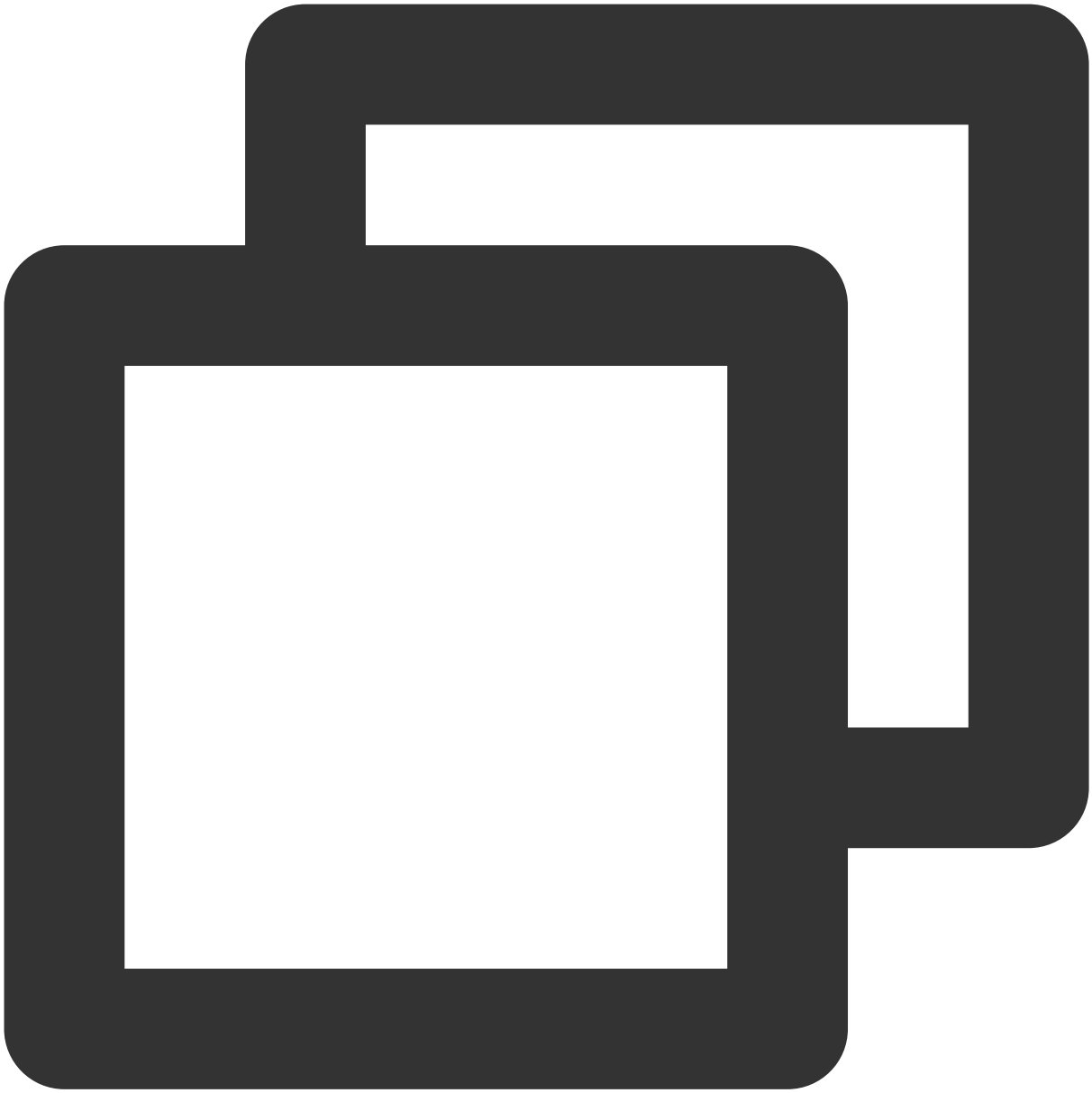
File Name	Use
phone_dialing.mp3	Ringtone when initiating a call
phone_hangup.mp3	Ringtone when the call is disconnected
phone_ringing.mp3	Ringtone when receiving a call

2. Set Ringtone Interface

You can also set the incoming call ringtone via the setCallingBell interface.
Swift
Objective-C



```
TUICallKit.createInstance().setCallingBell(filePath: " ")
```



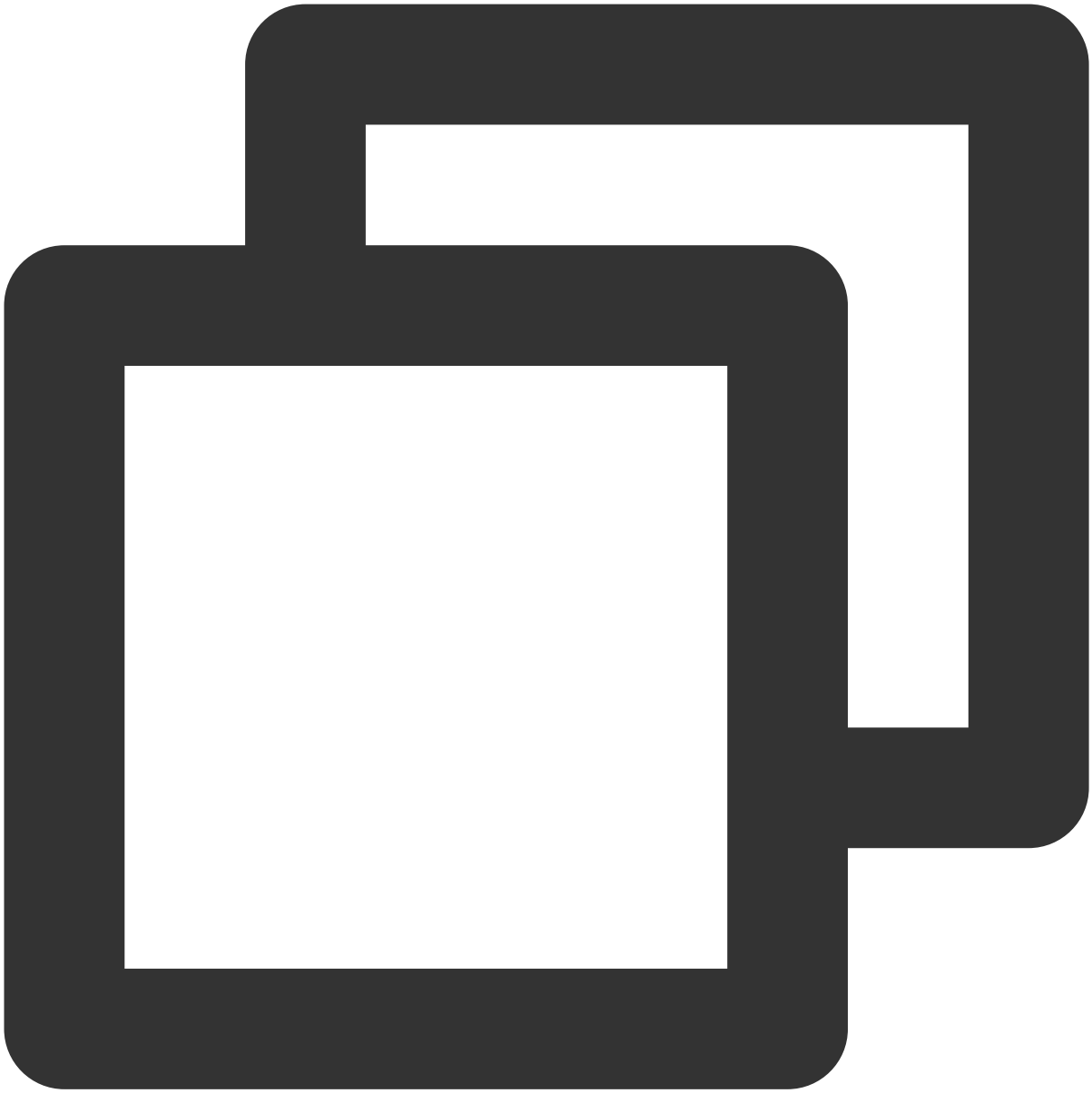
```
[[TUICallKit createInstance] setCallingBell:@" "];
```

3. Setting Mute Mode

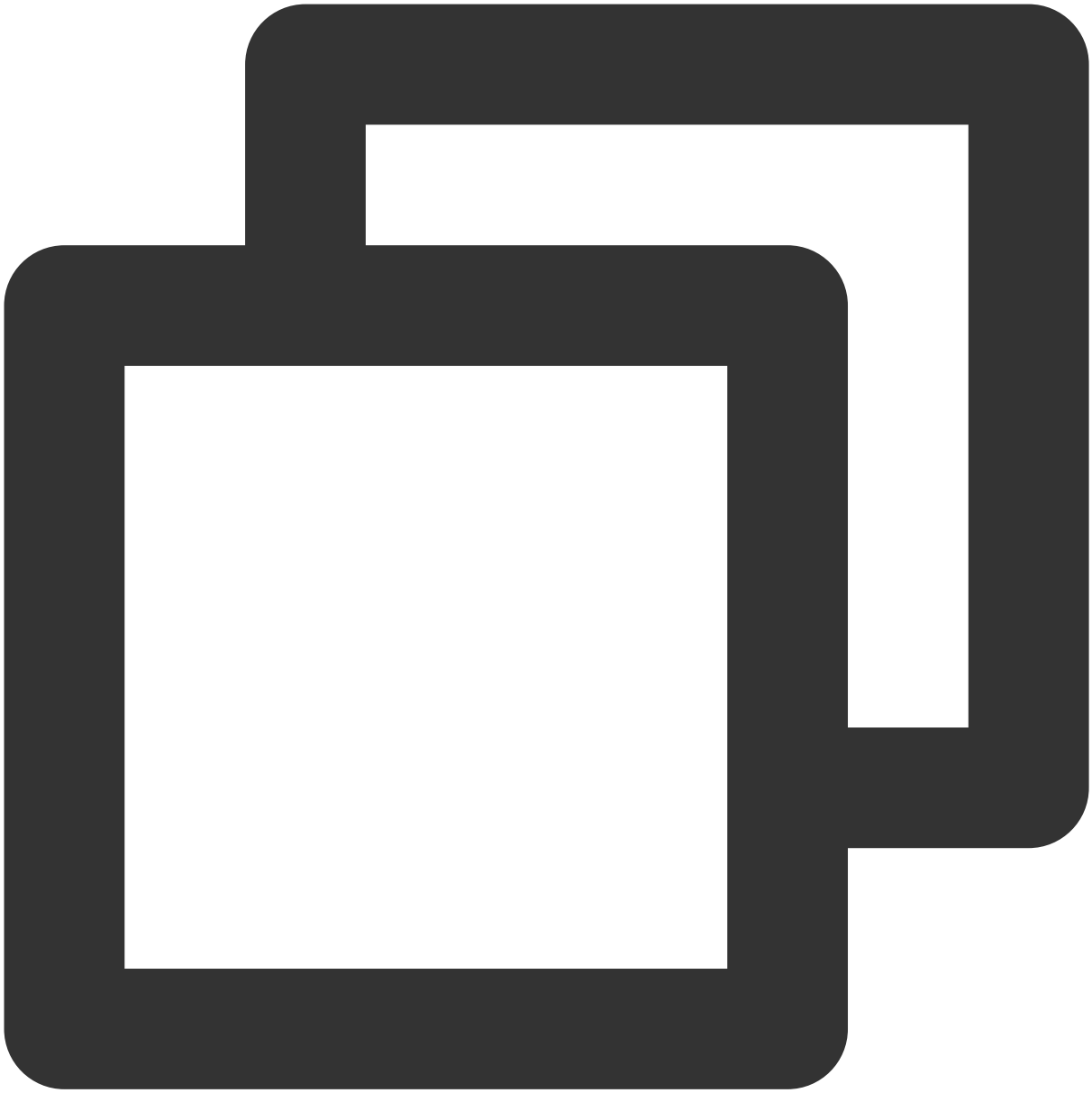
If you do not require a ringtone, you can set the mute mode via enableMuteMode.

Swift

Objective-C



```
TUICallKit.createInstance().setCallingBell(enable: true)
```



```
[[TUICallKit createInstance] enableMuteMode: YES];
```

Setting Offline Push Ringtone

VoIP push does not support custom push ringtones. APNs push can be set by specifying the iOSSound field in the offlinePushInfo params when making a call via the Call Interface. iOSSound should be passed the audio file name.

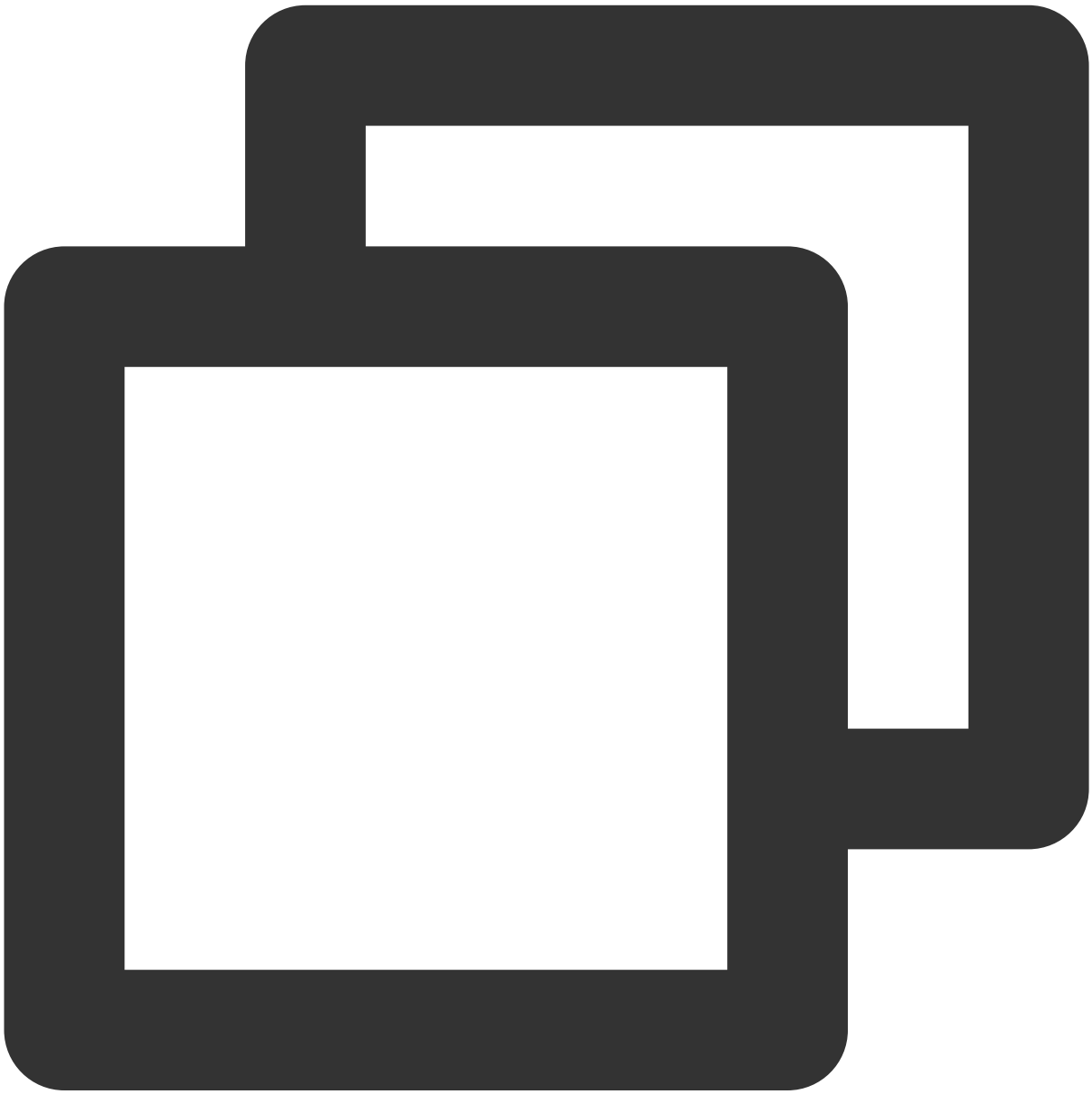
Note:

Offline push sound settings (only effective for iOS), to customize iOSSound, you first need to link the audio file into the Xcode project, then set the audio file name (with extension) to iOSSound.

Ringtone duration should be less than 30s.

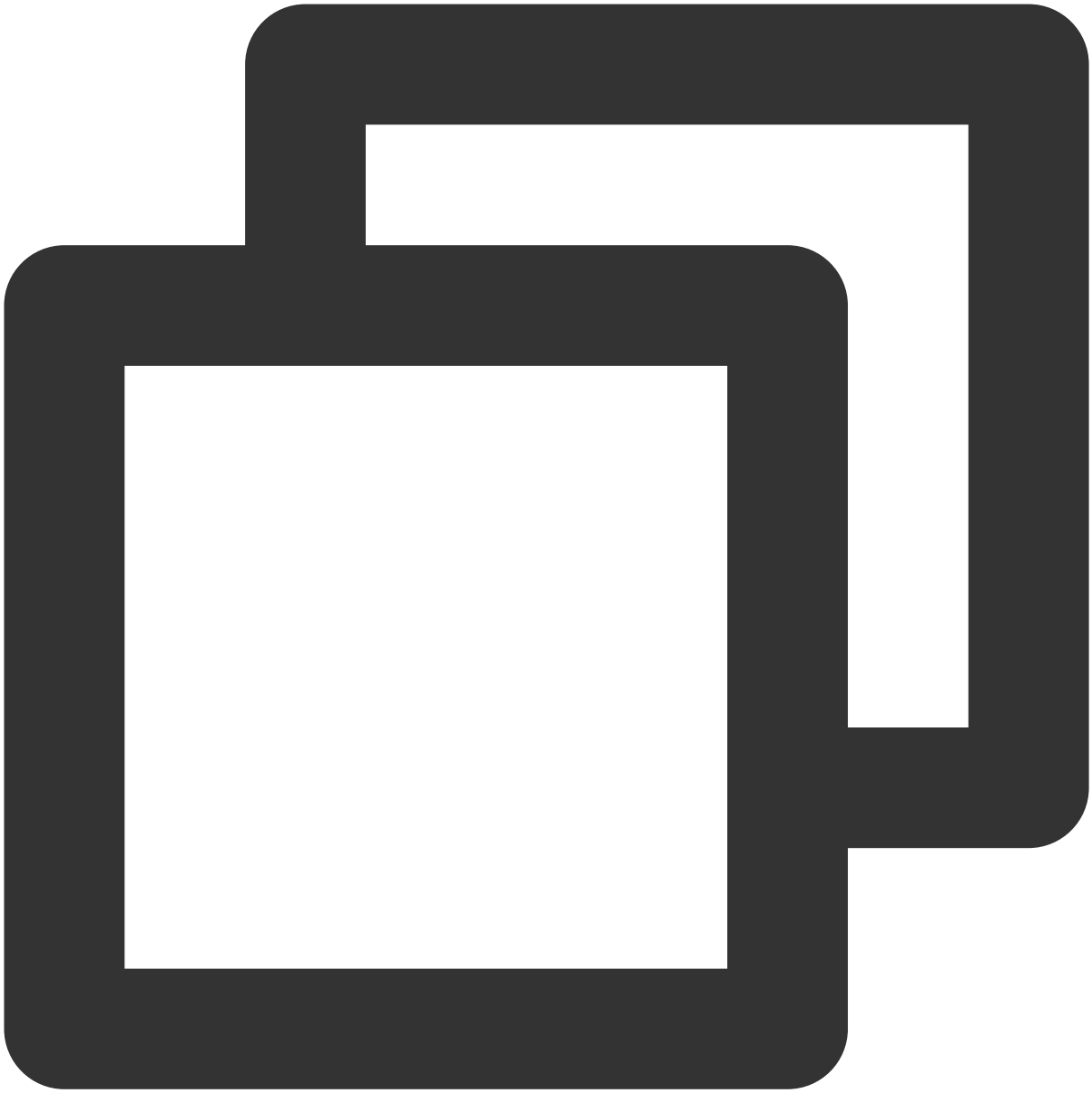
Objective-C

Swift



```
[[TUICallKit createInstance] call:@"mike's id" params:[self getCallParams] callMedi

- (TUICallParams *)getCallParams {
```

```
    TUIOfflinePushInfo *offlinePushInfo = [self createOfflinePushInfo];
    TUICallParams *callParams = [TUICallParams new];
    callParams.offlinePushInfo = offlinePushInfo;
    callParams.timeout = 30;
    return callParams;
}

+ (TUIOfflinePushInfo *)createOfflinePushInfo {
    TUIOfflinePushInfo *pushInfo = [TUIOfflinePushInfo new];
    pushInfo.title = @"";
    pushInfo.desc = TUICallingLocalize(@"TUICallKit.have.new.invitation");
    pushInfo.iOSPushType = TUICallIOSOfflinePushTypeAPNs;
    pushInfo.ignoreIOSBadge = NO;
    pushInfo.iOSSound = @"phone_ringing.mp3";
    pushInfo.AndroidSound = @"phone_ringing";
    // For OPPO, you must set the `ChannelID` to receive push messages. The `Channe
    // OPPO must set a ChannelID to receive push messages. This channelID needs to
    pushInfo.AndroidOPPOChannelID = @"tuikit";
    // FCM channel ID, you need change PrivateConstants.java and set "fcmPushChanne
    pushInfo.AndroidFCMChannelID = @"fcm_push_channel";
    // VIVO message type: 0-push message, 1-System message(have a higher delivery r
    pushInfo.AndroidVIVOClassification = 1;
    // HuaWei message type: https://developer.huawei.com/consumer/cn/doc/developmen
    pushInfo.AndroidHuaWeiCategory = @"IM";
    return pushInfo;
}
```



```
let params = TUICallParams()
let pushInfo: TUIOfflinePushInfo = TUIOfflinePushInfo()
pushInfo.title = "TUICallKit"
pushInfo.desc = "TUICallKit.have.new.invitation"
pushInfo.iOSPushType = .apns
pushInfo.ignoreIOSBadge = false
pushInfo.iOSSound = "phone_ringing.mp3"
pushInfo.androidSound = "phone_ringing"
// For OPPO, you must set the `ChannelID` to receive push messages. The `ChannelID`
// OPPO must set a ChannelID to receive push messages. This channelID needs to be t
pushInfo.androidOPPOChannelID = "tuikit"
```

```
// FCM channel ID, you need change PrivateConstants.java and set "fcmPushChannelId"
pushInfo.androidFCMChannelID = "fcm_push_channel"
// VIVO message type: 0-push message, 1-System message(have a higher delivery rate)
pushInfo.androidVIVOClassification = 1
// HuaWei message type: https://developer.huawei.com/consumer/cn/doc/development/HM
pushInfo.androidHuaWeiCategory = "IM"
params.userData = "User Data"
params.timeout = 30
params.offlinePushInfo = pushInfo
TUICallKit.createInstance().call(userId: "123456", callMediaType: .audio, params: p

} fail: {
    code, message in
}
```

Web&H5

Last updated：2024-04-03 17:23:11

This article introduces how to use the custom ringtone and silent incoming call ringtone feature from the definition.

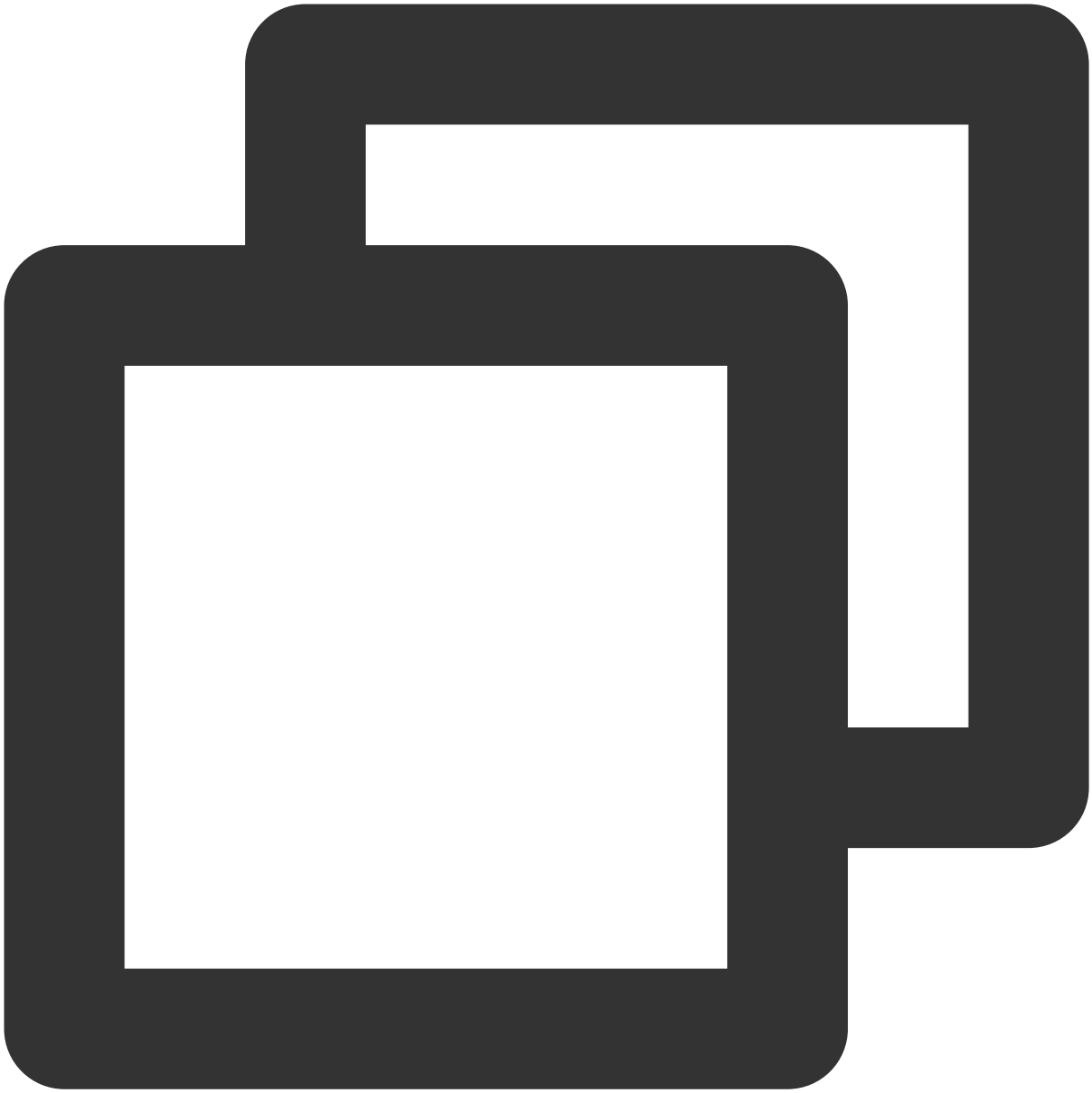
Setting incoming call ringtone

Only local MP3 format file addresses can be used, ensuring that the file is accessible.

To reset the ringtone, pass in an empty string for filePath.

Use the ES6 import method to import the ringtone file.

Note: Vue ≥ v3.0.0 supported



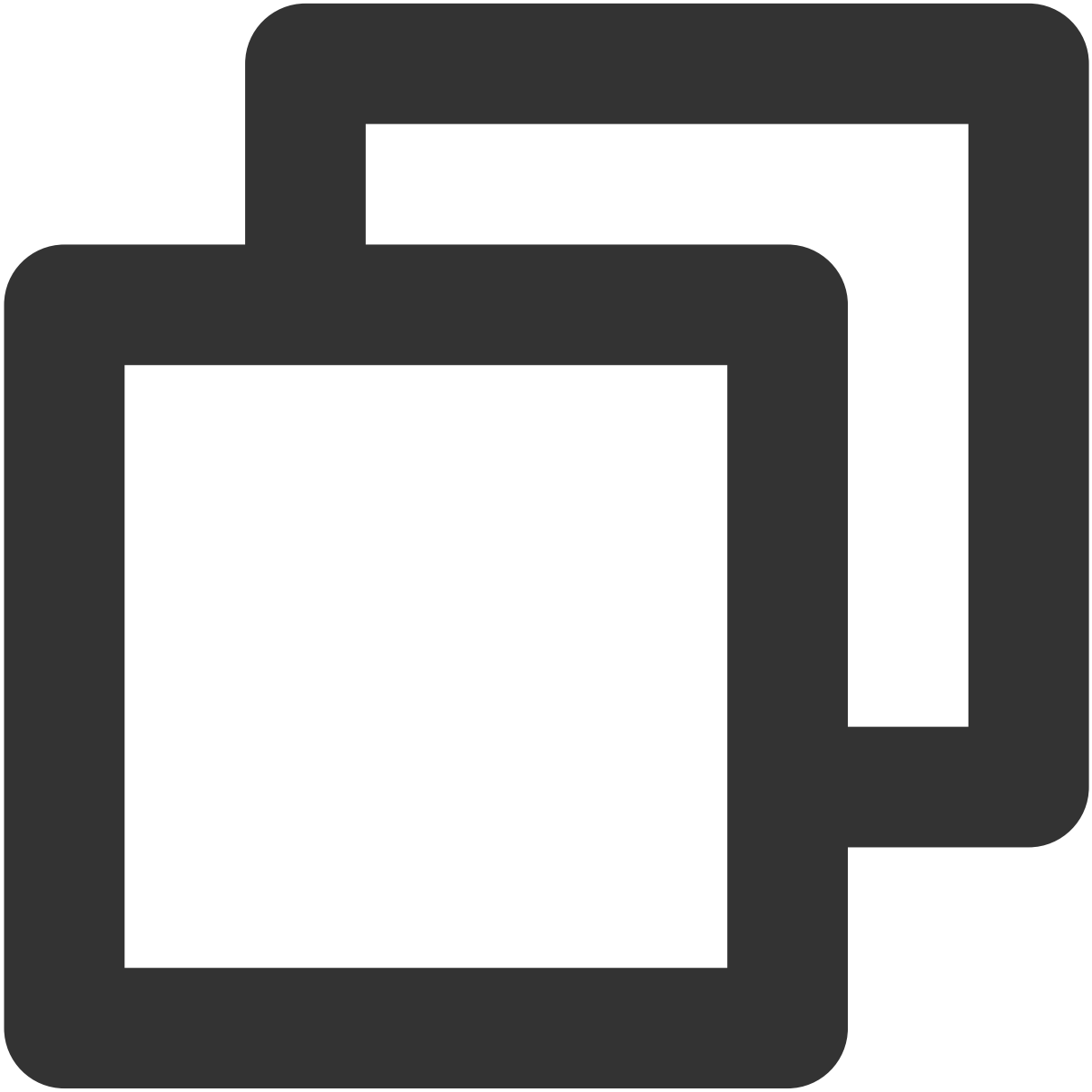
```
import filePath from '../public/ring.mp3';

try {
  await TUICallKitServer.setCallingBell(filePath?: string);
} catch (error: any) {
  alert(`[TUICallKit] setCallingBell API failed. Reason: ${error}`);
}
```

Silent incoming call ringtone

Enable/Disable incoming call ringtone.

After enabling, the incoming call ringtone will not be played when a call request is received.

Note: Vue ≥ v3.1.2 supported



```
try {
  await TUICallKitServer.enableMuteMode(enable: boolean);
} catch (error: any) {
  alert(`[TUICallKit] enableMuteMode API failed. Reason: ${error}`);
```

```
}
```

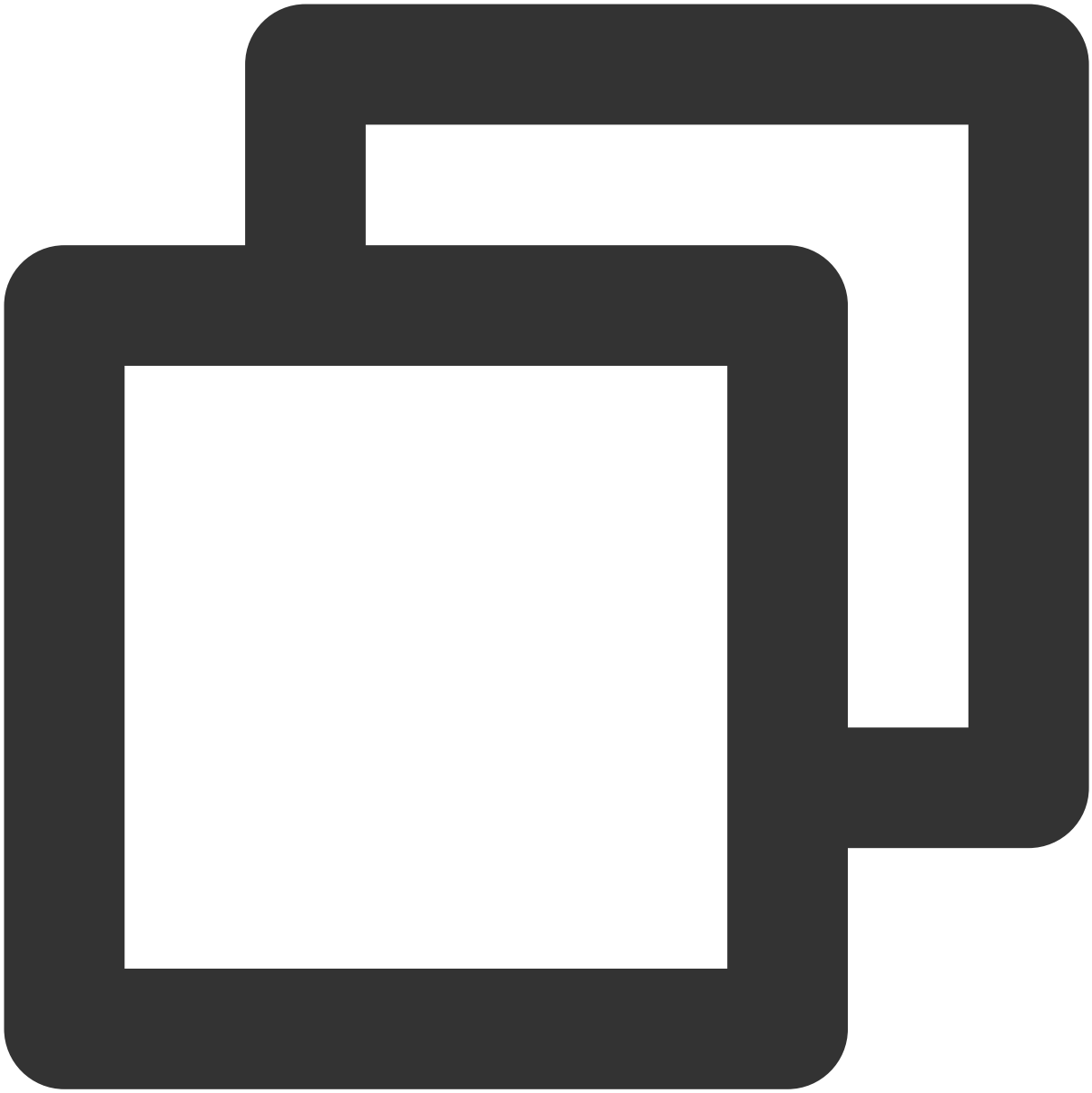
uni-app (Anroid&iOS)

Last updated：2024-04-03 17:23:11

This article introduces how to use the custom ringtone and silent incoming call ringtone feature from the definition.

Customize Incoming Call Ringtone

Setting Custom incoming call ringtone, here **only local file addresses can be passed in**, **it is required to ensure the file directory is accessible by the application**.



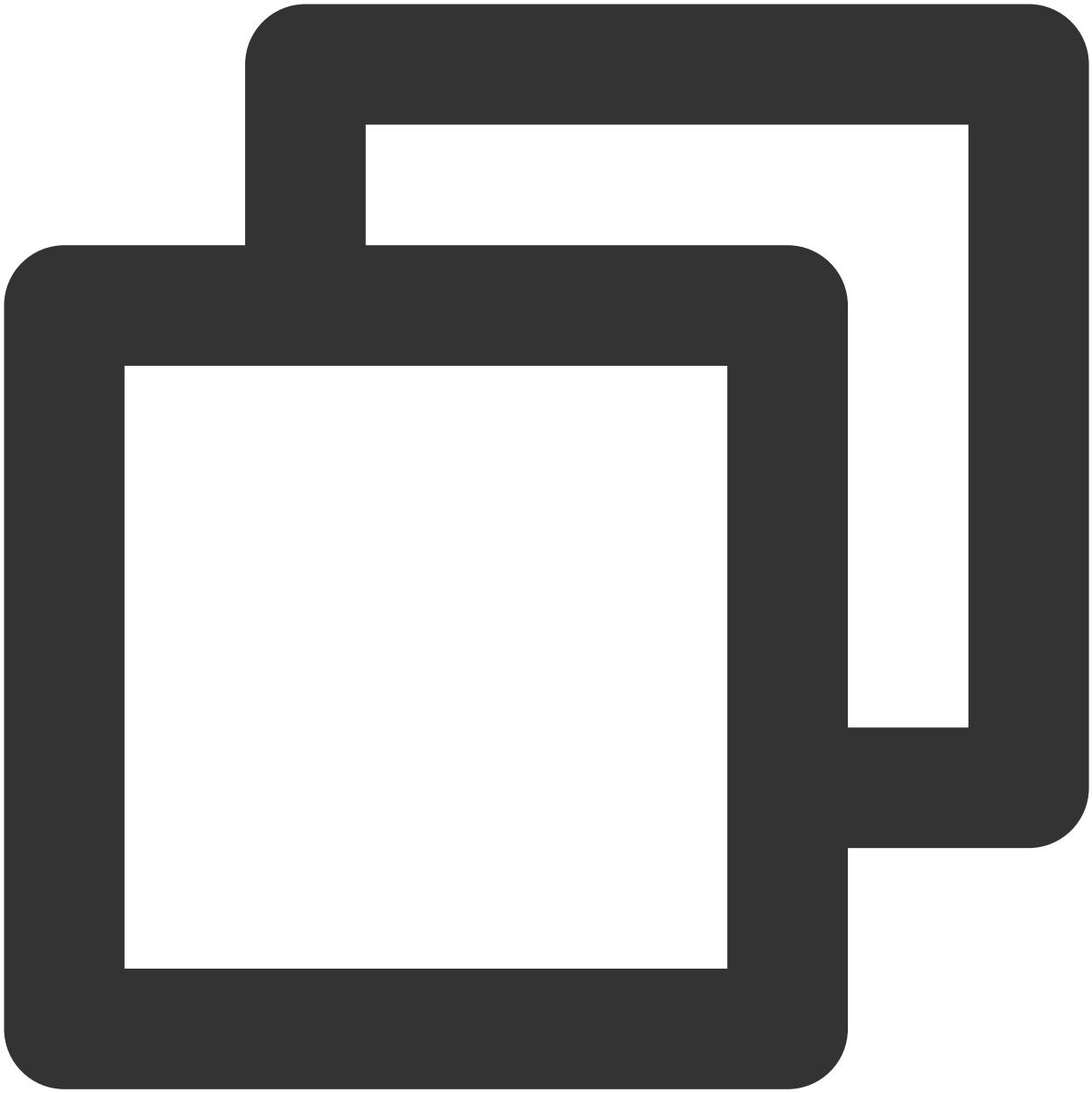
```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');

const tempFilePath = './static/rain.mp3'; // Locally stored audio files
let musicFilePath = '';
uni.saveFile({
  tempFilePath: tempFilePath,
  success: (res) => {
    console.warn(JSON.stringify(res));
    musicFilePath =  res.savedFilePath;

    musicFilePath = plus.io.convertLocalFileSystemURL(musicFilePath);
```

```
    // Set ringtone
    TUICallKit.setCallingBell(musicFilePath, (res) => {
      if (res.code === 0) {
        console.log('setCallingBell success');
      } else {
        console.log(`setCallingBell failed, error message = ${res.msg}`);
      }
    });
  },
  fail: (err) => {
    console.error(err);
  },
});
```

Silent incoming call ringtone

Enable/Disable incoming call ringtone.

After enabling, the incoming call ringtone will not be played when a call request is received.



```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const enable = true;
TUICallKit.enableMuteMode(enable);
```

Flutter

Last updated：2024-04-03 17:23:11

This article explains how to replace the incoming call ringtone of TUICallKit, which is divided into **application ringtone** and **offline push ringtone**.

Setting application ringtone

There are two ways to set an application ringtone: replace the ringtone audio or call the Setting ringtone interface.

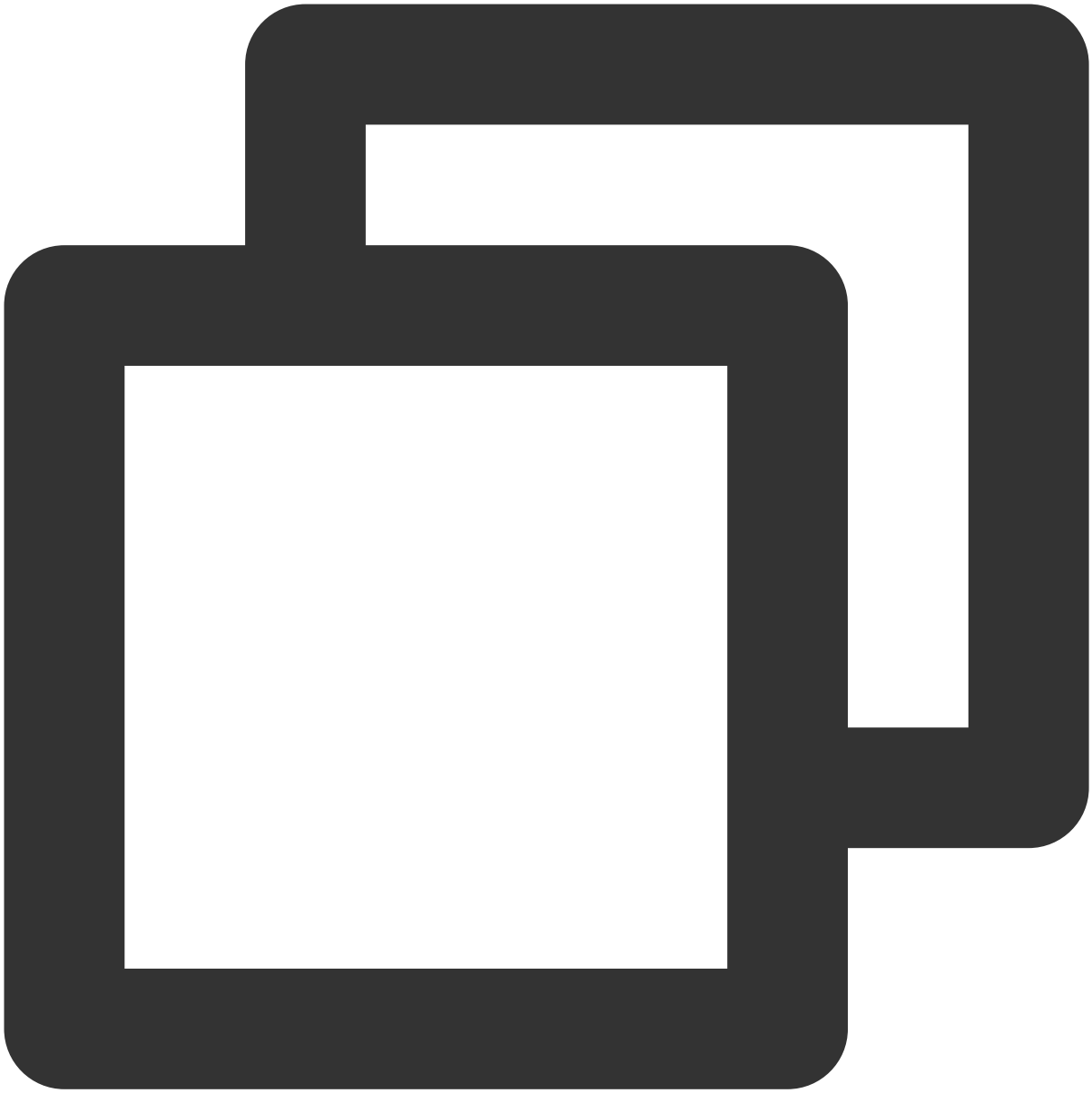
1. Replace Audio File

If you integrate the TUICallKit component via source code dependency, you can replace the three audio files in the **assets\\audios** folder to achieve the purpose of ringtone replacement:

File Name	Use
phone_dialing.mp3	Ringtone when initiating a call
phone_hangup.mp3	Ringtone when the call is disconnected
phone_ringing.mp3	Ringtone when receiving a call

2. Set Ringtone Interface

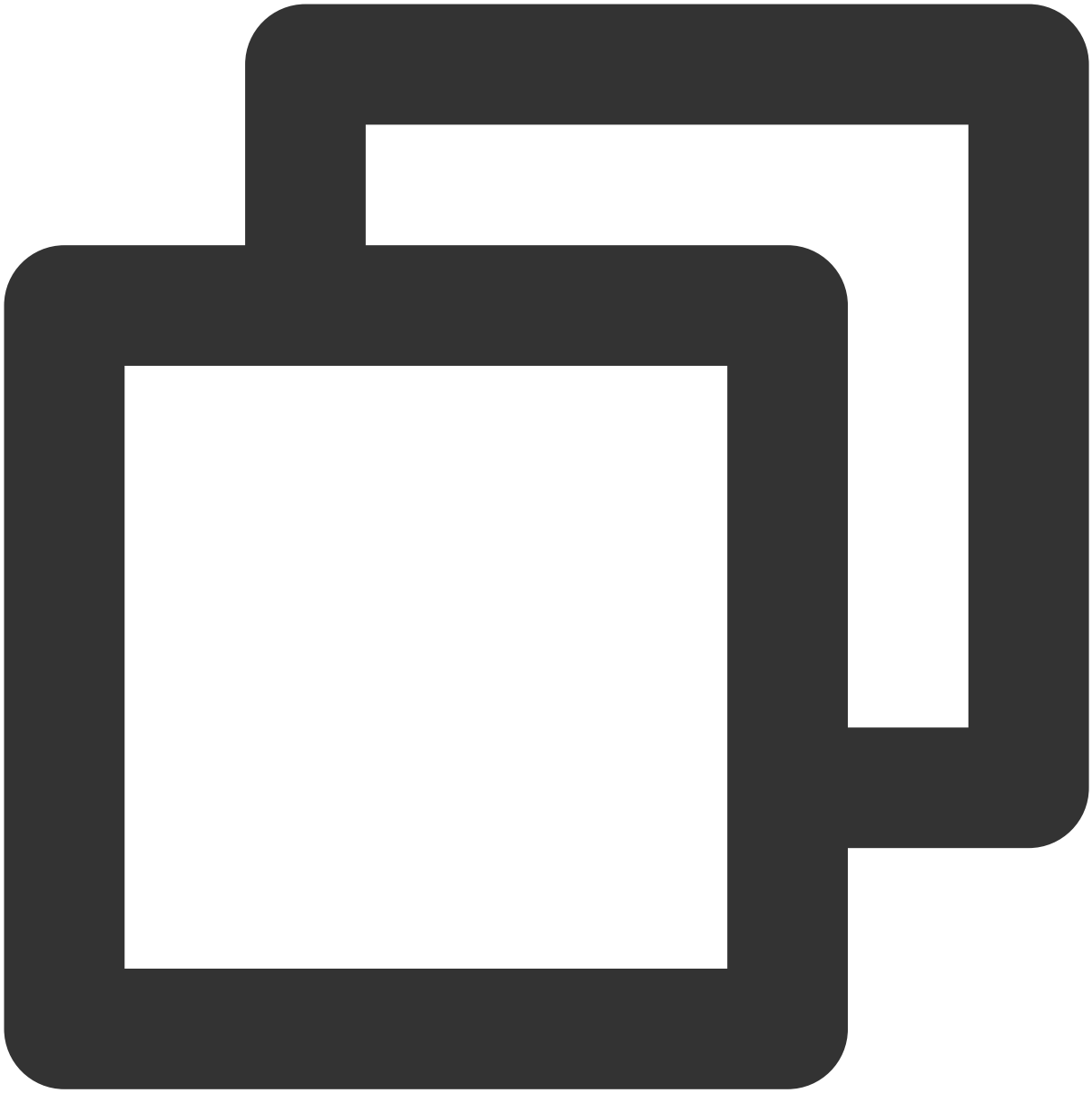
You can also set the incoming call ringtone through the setCallingBell interface.



```
TUICallKit.instance.setCallingBell('flie path');
```

3. Setting Silent Mode

If you do not need ringing, you can enable the silent mode through enableMuteMode.



```
TUICallKit.instance.enableMuteMode(true);
```

Setting Offline Push Ringtone

1. iOS

Voip push does not support custom Definition push ringtones. APNs push allows modifying the parameters `call` and `groupcall` in the interface `params` including `TUIOfflinePushInfo.iOSSound` Setting on the

`iOS` platform for offline message ringtones.

2. Android

Note:

The interface supports Huawei, Xiaomi, FCM, and APNs.

FCM's push ringtone is set as the application ringtone.

For Huawei, Xiaomi, and APNs push ringtone settings, please set the `TUIOfflinePushInfo.iOSSound` 's `iOSSound` and `androidSound` fields when calling Call and GroupCall.

Monitoring Call Status Android&iOS&Flutter

Last updated：2024-04-03 17:23:11

This article describes how to use call status callbacks with the TUICallKit component.

Call State Monitoring

If your business requires **monitoring call status**, such as the start and end of a call, and other events during the call, you can refer to the following code:

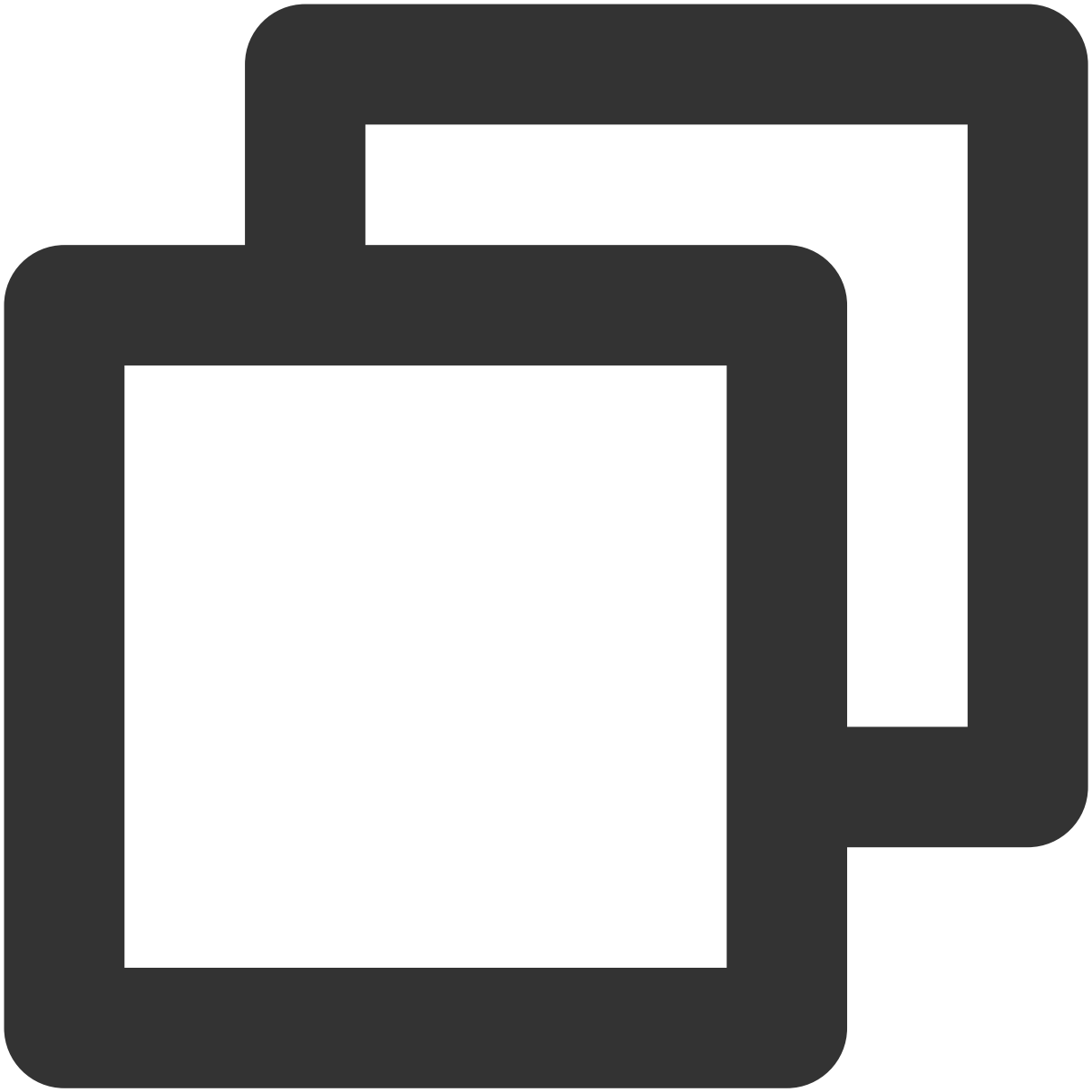
Android(Kotlin)

Android(Java)

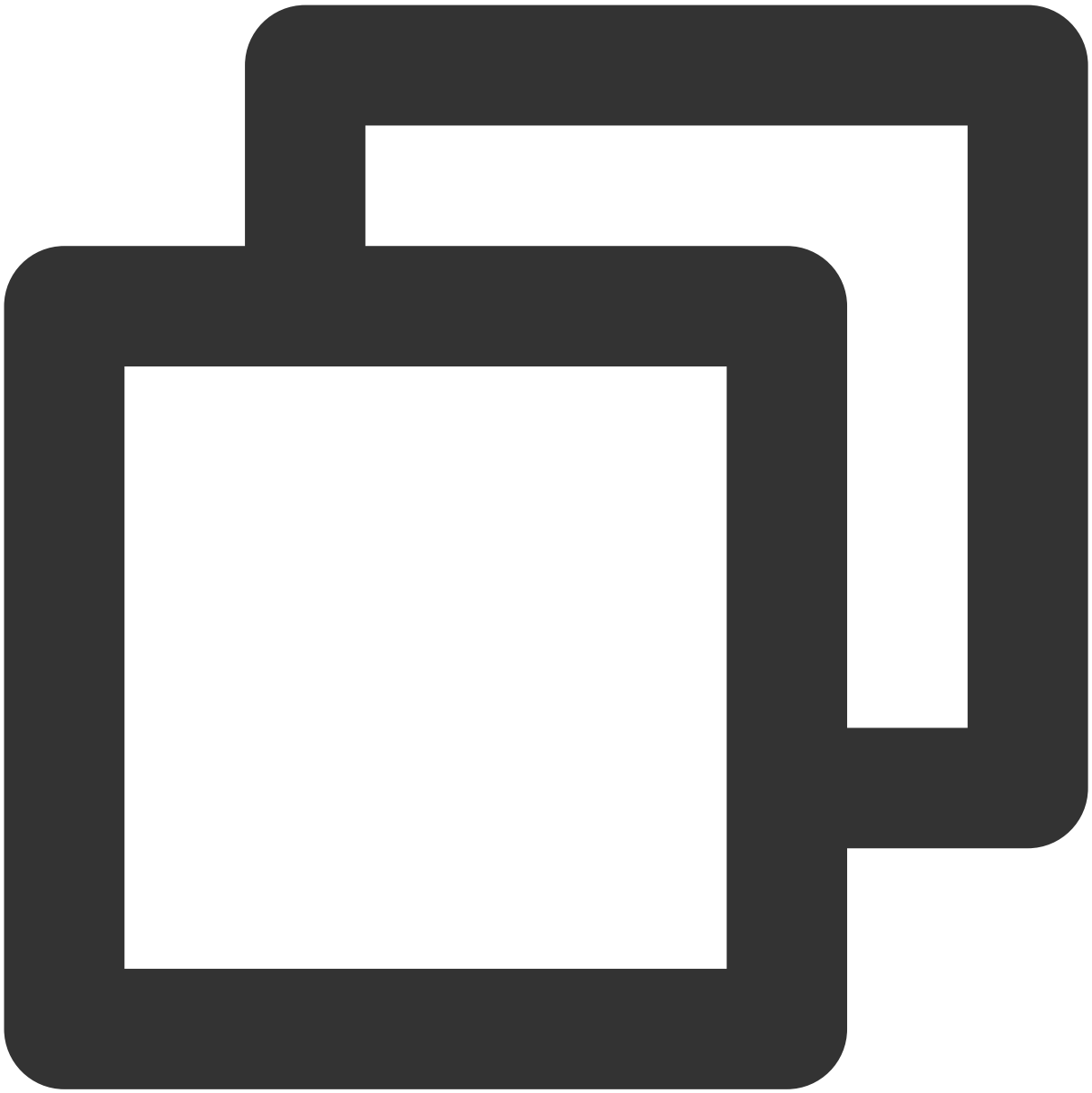
iOS(Swift)

iOS(Objective-C)

Flutter(Dart)

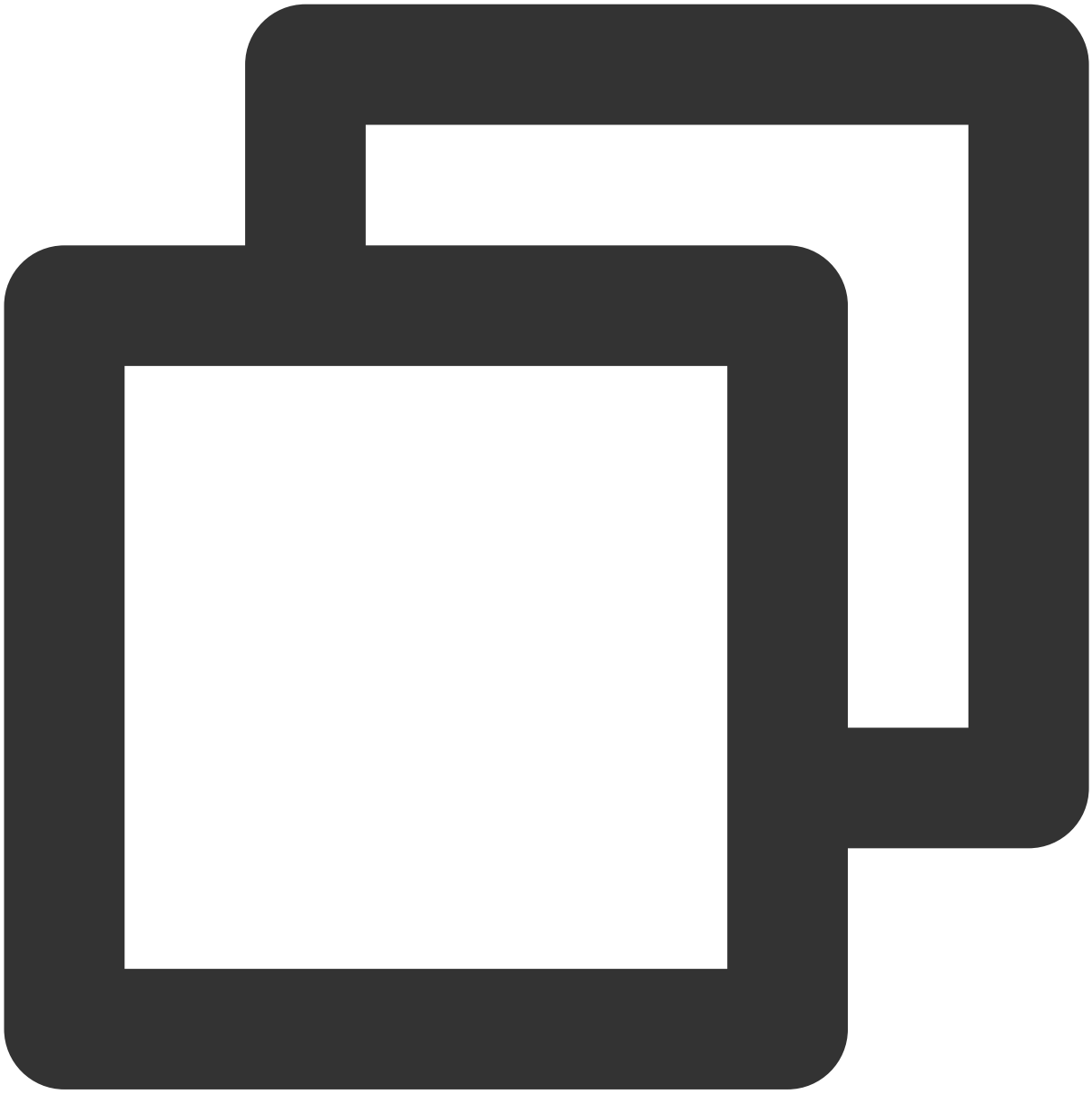


```
private val observer: TUICallObserver = object : TUICallObserver() {
    override fun onCallBegin(roomId: TUICommonDefine.RoomId?, callMediaType: TUICal
    }
    override fun onCallEnd(roomId: TUICommonDefine.RoomId?, callMediaType: TUICallD
    }
    override fun onUserNetworkQualityChanged(networkQualityList: MutableList<TUICom
    }
}
private fun initData() {
    TUICallEngine.createInstance(context).addObserver(observer)
}
```



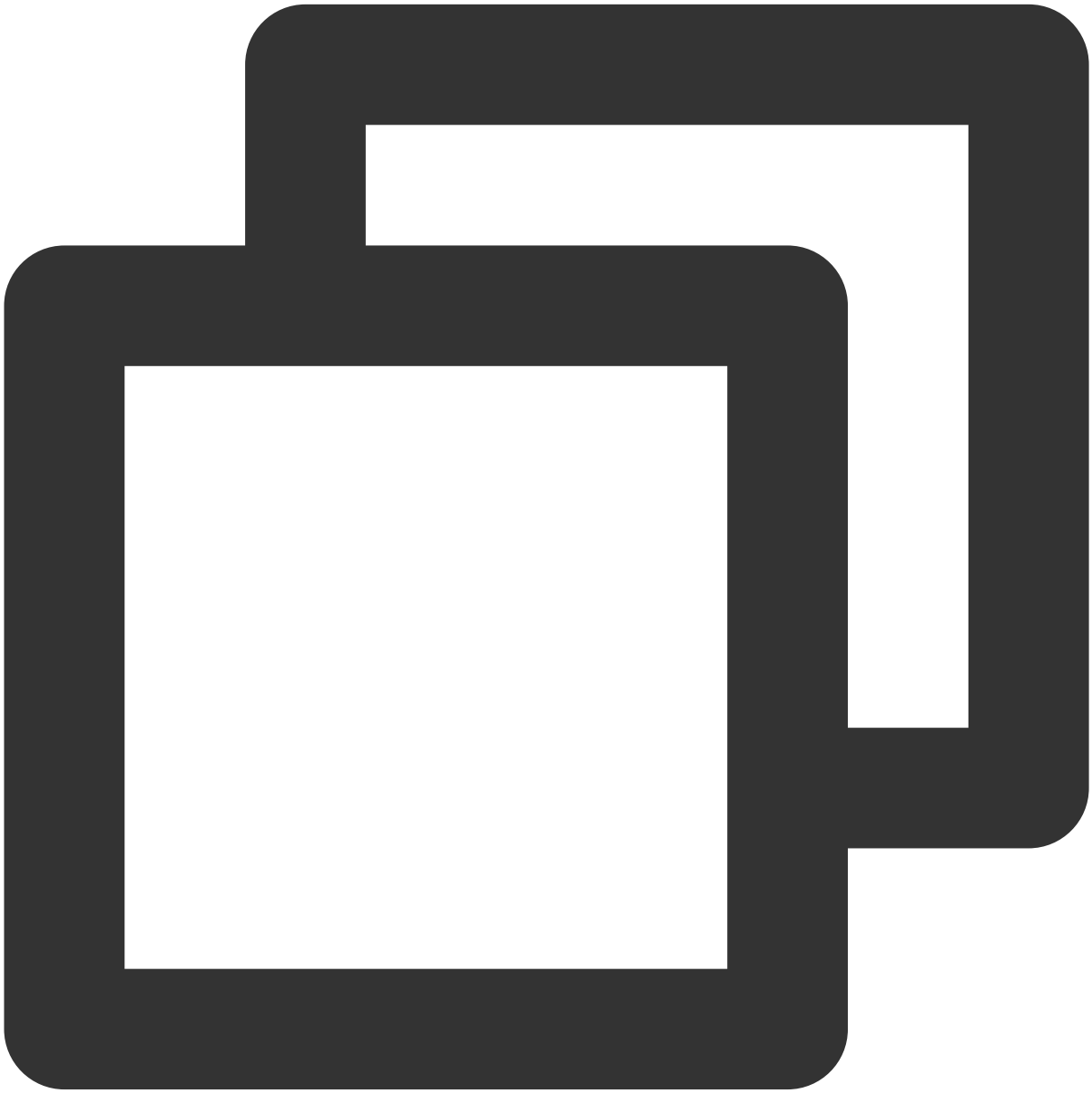
```
private TUICallObserver observer = new TUICallObserver() {
    @Override
    public void onCallBegin(TUICommonDefine.RoomId roomId, TUICallDefine.MediaType
    }
    public void onCallEnd(TUICommonDefine.RoomId roomId, TUICallDefine.MediaType ca
    }
    public void onUserNetworkQualityChanged(List<TUICommonDefine.NetworkQualityInfo
    }
};
```

```
private void initData(){
    TUICallEngine.createInstance(context).addObserver(observer);
}
```



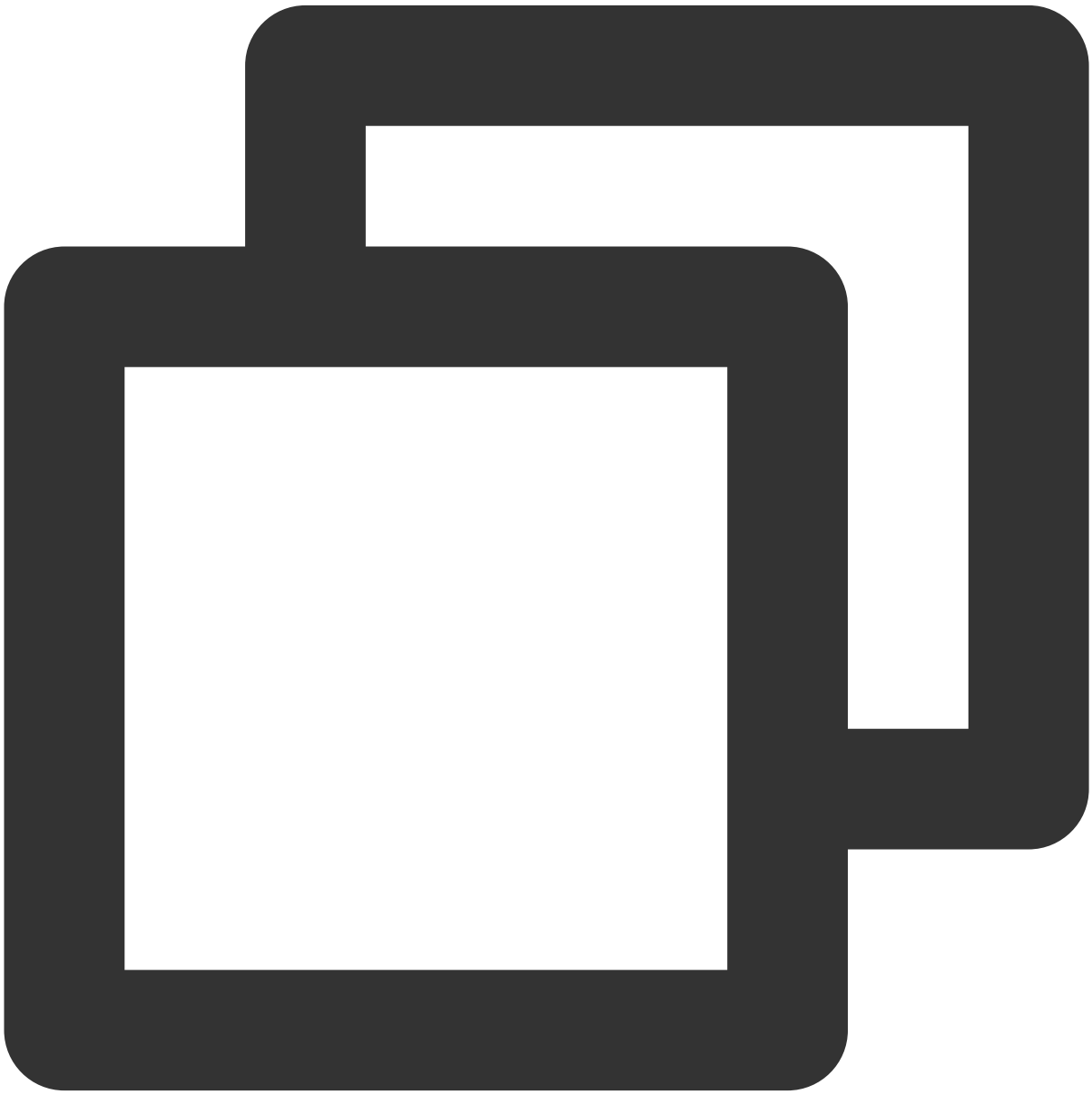
```
import TUICallEngine

TUICallEngine.createInstance().addObserver(self)

public func onCallBegin(roomId: TUIRoomId, callMediaType: TUICallMediaType, callRol

}
```

```
public func onCallEnd(roomId: TUIRoomId, callMediaType: TUICallMediaType, callRole:

}
public func onUserNetworkQualityChanged(networkQualityList: [TUINetworkQualityInfo]

}
```



```
#import <TUICallEngine/TUICallEngine.h>

[[TUICallEngine createInstance] addObserver:self];
```

```
- (void)onCallBegin:(TUIRoomId *)roomId callMediaType:(TUICallMediaType)callMediaTy

}
- (void)onCallEnd:(TUIRoomId *)roomId callMediaType:(TUICallMediaType)callMediaType

}
- (void)onUserNetworkQualityChanged:(NSArray<TUINetworkQualityInfo *> *)networkQual

}
```



```
TUICallObserver observer = TUICallObserver(
```

```
    onError: (int code, String message) {
      // Your callback handling logic
    }, onCallBegin: (TUIRoomId roomId, TUICallMediaType callMediaType, TUICallRole
      // Your callback handling logic
    }, onCallEnd: (TUIRoomId roomId, TUICallMediaType callMediaType, TUICallRole ca
      // Your callback handling logic
    },, onUserNetworkQualityChanged: (List<TUINetworkQualityInfo> networkQualityLis
      // Your callback handling logic
    }, onCallReceived: (String callerId, List<String> calleeIdList, String groupId,
      // Your callback handling logic
    }
    …
))

TUICallEngine.instance.addObserver(observer);
```

Note:

On the Android platform, when setting TUICallObserver to listen for callbacks, ensure that the class hosting the callback will not be cleared. For example, it is not recommended to add a listener in LoginActivity, as when LoginActivity is destroyed, the callback will also be cleared; it is suggested to listen in the application's Application class or the main application interface.

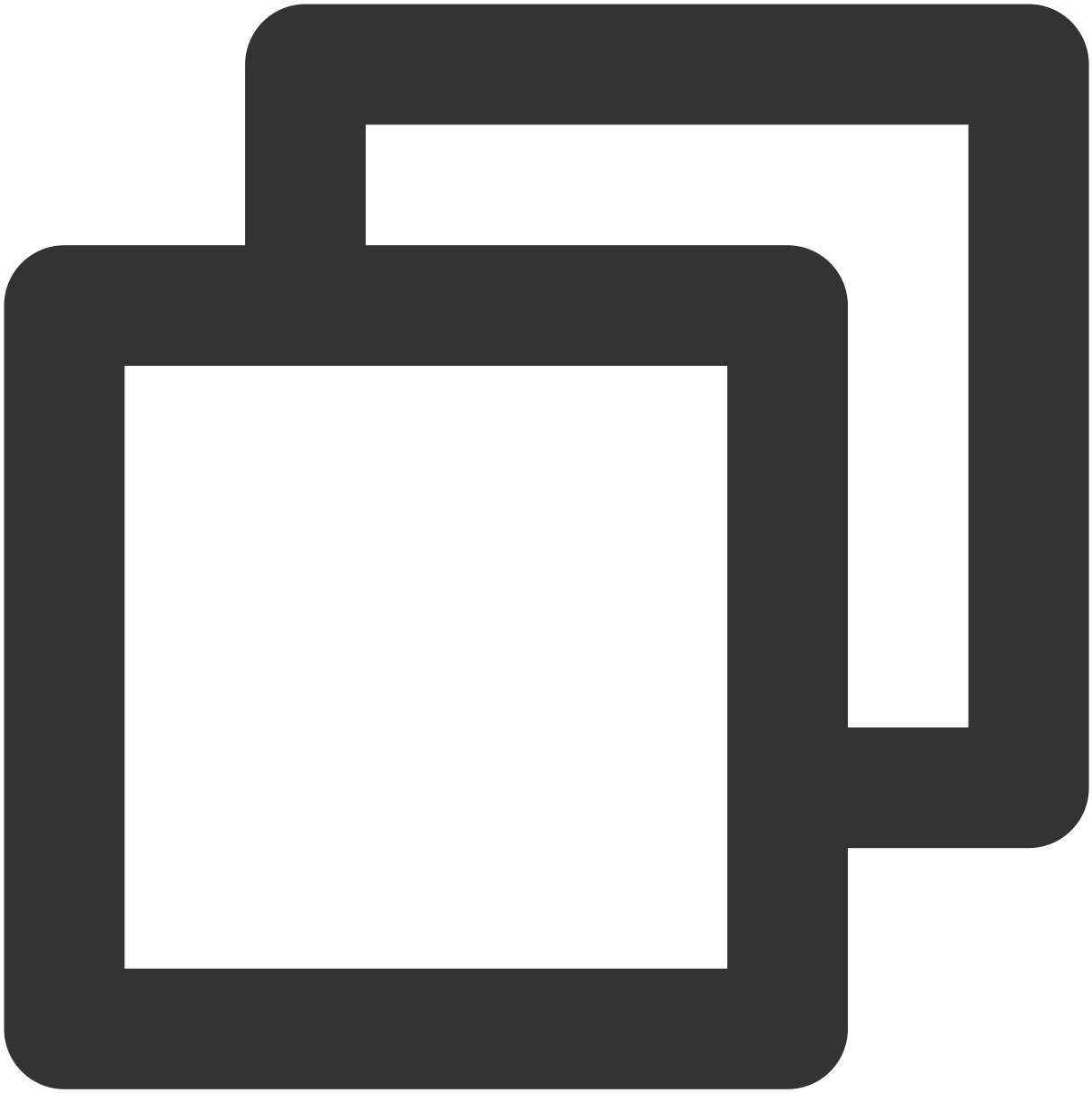
Web&H5

Last updated：2024-04-03 17:23:11

This article describes how to use call status callbacks with the TUICallKit component.

Call State Monitoring

If your business requires **monitoring the call status**, such as events during the call process (TUICallEvent for details), you can refer to the following code:



```
import { TUICallEvent } from 'tuicall-engine-webrtc';

let handleUserEnter = function(event) {
    console.log('TUICallEvent.USER_ENTER: ', event);
};

TUICallKitServer.getTUICallEngineInstance().on(TUICallEvent.USER_ENTER, handleUserE
TUICallKitServer.getTUICallEngineInstance().off(TUICallEvent.USER_ENTER, handleUser
```

Component Callback Event

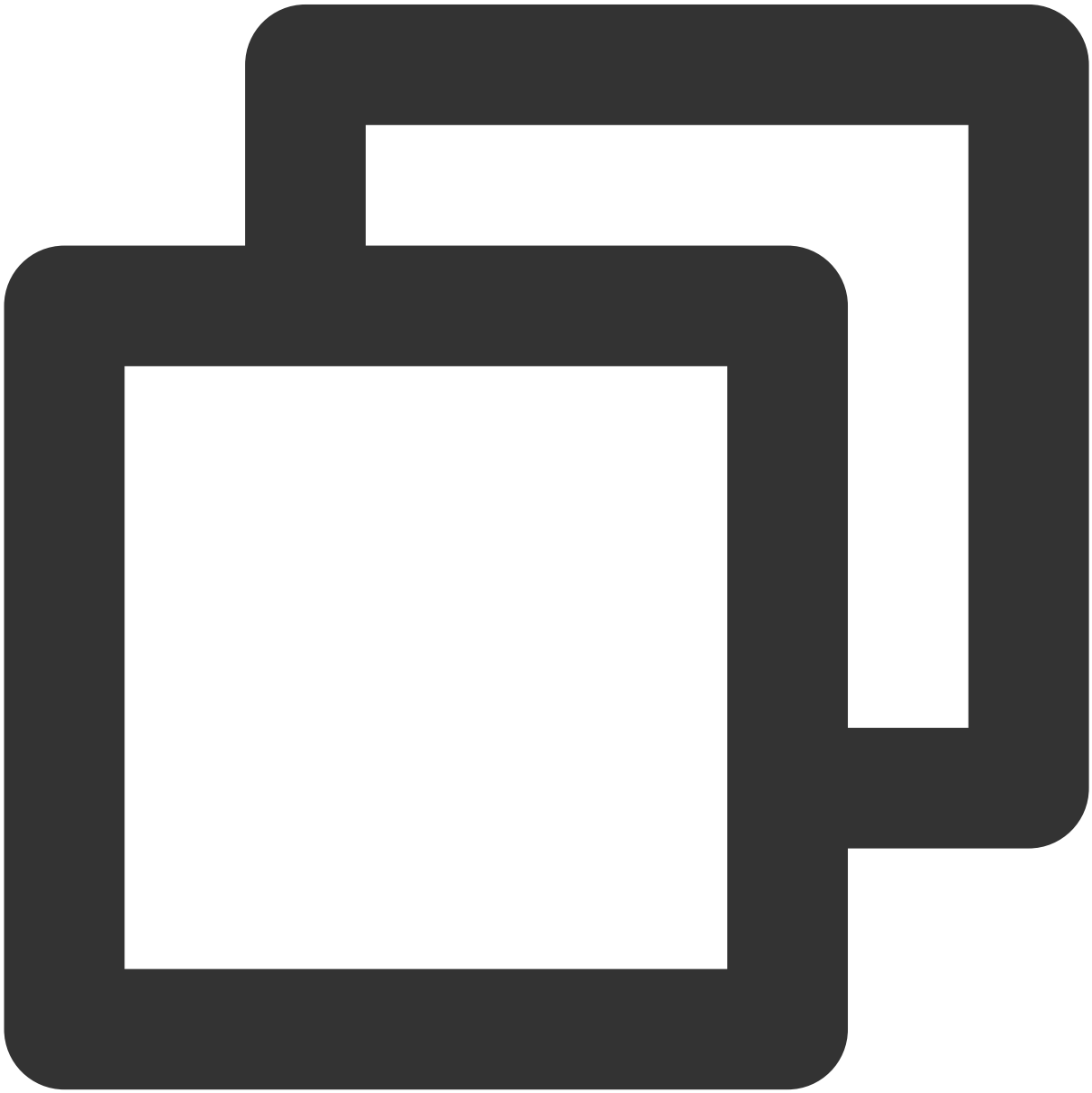
The TUICallKit component offers call status callbacks, which can be used to implement more interaction logic on the business side. Please refer to the TUICallKit Attribute Overview for more details.

`beforeCalling` : Executed prior to the commencement of the call.

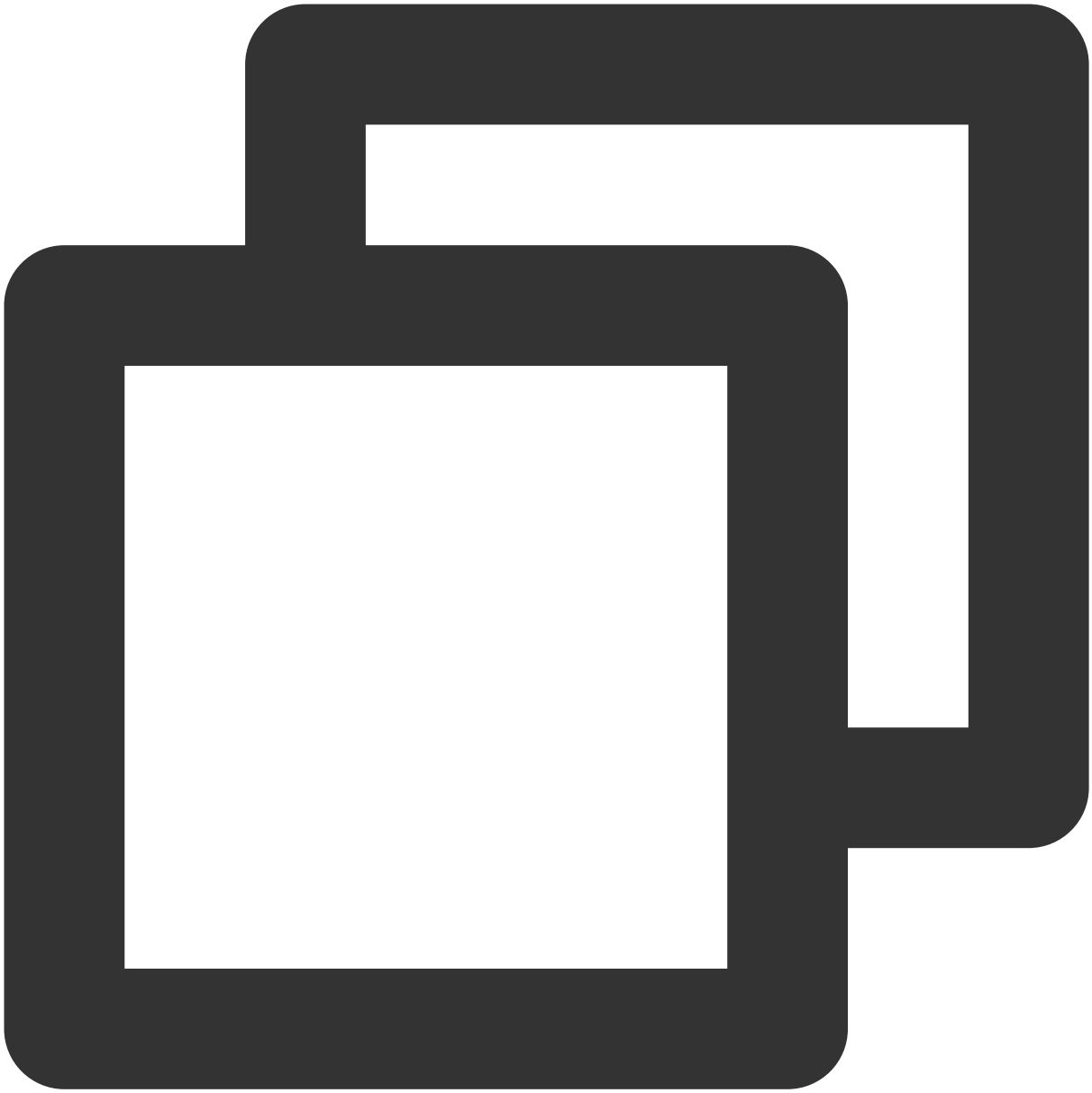
`afterCalling` : Executed upon the completion of the call.

React

Vue



```
function App() {
  const handleBeforeCalling = () => {
    console.log("[TUICallKit Demo] beforeCalling");
  };
  const handleAfterCalling = () => {
    console.log("[TUICallKit Demo] afterCalling");
  };
  return (
    <TUICallKit
      beforeCalling={handleBeforeCalling}
      afterCalling={handleAfterCalling} />
  )
}
```



```
<template>
  <TUICallKit
    :beforeCalling="handleBeforeCalling"
    :afterCalling="handleAfterCalling" />
</template>
<script setup>
function handleBeforeCalling() {
  console.log("[TUICallKit Demo] beforeCalling");
}
function handleAfterCalling() {
  console.log("[TUICallKit Demo] afterCalling");
```

```
}
</script>
```

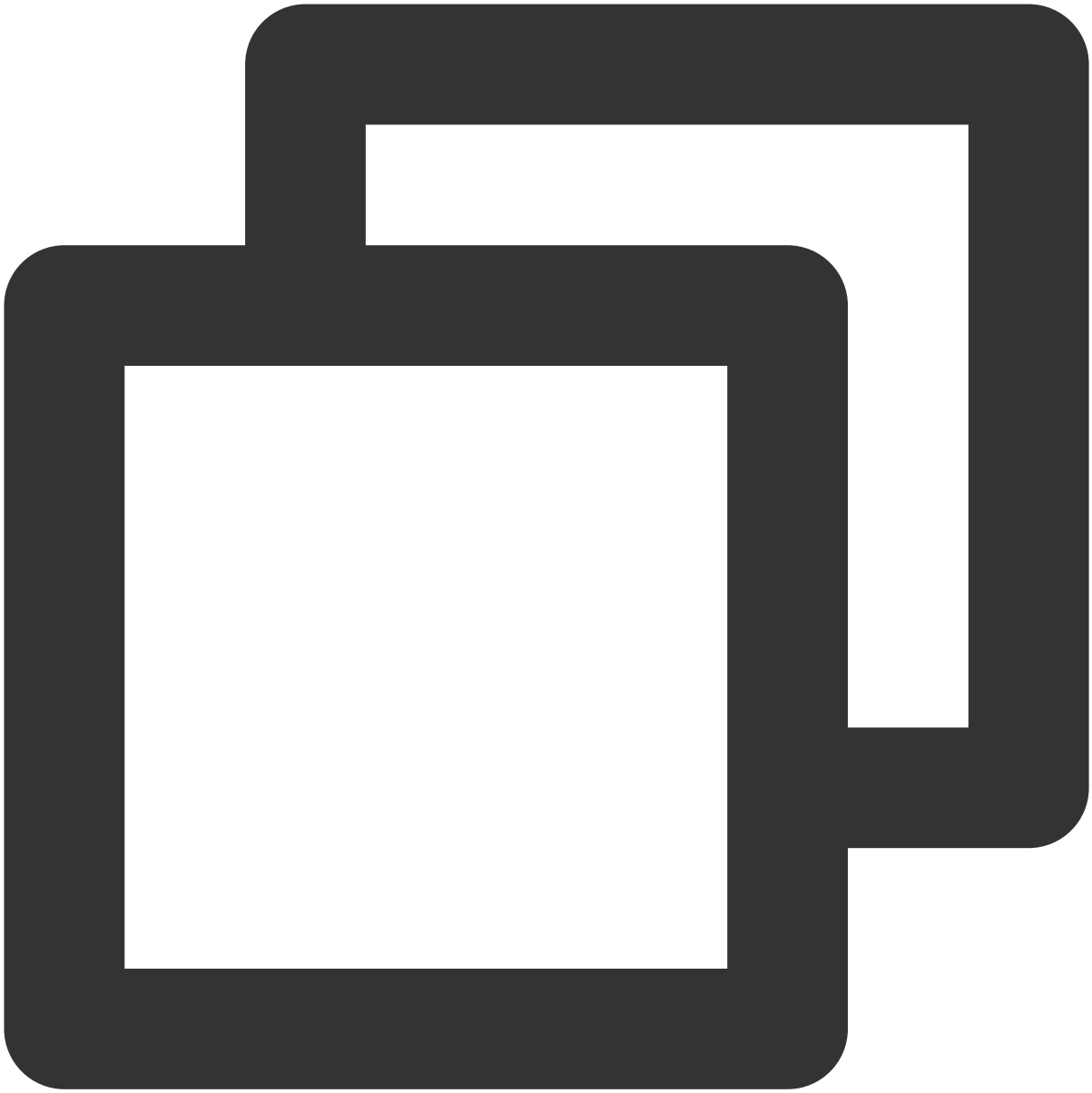
uni-app（Android & iOS）

Last updated：2024-04-03 17:23:11

This article describes how to use call status callbacks with the TUICallKit component.

Call State Monitoring

If your business requires **monitoring call status**, such as events that occur during a call like starting and ending (see Events for details), please refer to the following code.



```
const TUICallKitEvent = uni.requireNativePlugin('globalEvent');

function handleError(res) {
    console.log('onError', JSON.stringify(res);
}
TUICallKitEvent.addEventListener('onError', handleError);
TUICallKitEvent.removeEventListener('onError', handleError);
```

Client APIs (TUICallKit)
Android
API Overview

Last updated：2023-09-19 15:19:59

TUICallKit (UI Included)

TUICallKit is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat.

API	Description
createInstance	Creates a TUICallKit instance (singleton mode).
setSelfInfo	Sets the user nickname and profile photo.
call	Makes a one-to-one call.
groupCall	Makes a group call.
joinInGroupCall	Joins a group call.
setCallingBell	Sets the ringtone.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.

TUICallEngine (No UI)

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

API	Description
createInstance	Creates a `TUICallEngine` instance (singleton).
destroyInstance	Terminates a `TUICallEngine` instance (singleton).
init	Authenticates the basic audio/video call capabilities.

addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Answers a call.
reject	Declines a call.
hangup	Ends a call.
ignore	Ignores a call.
inviteUser	Invites users to the current group call.
joinInGroupCall	Joins a group call.
switchCallMediaType	Switches the call media type, such as from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.
openCamera	Turns the camera on.
closeCamera	Turns the camera off.
switchCamera	Switches the camera.
openMicrophone	Enables the mic.
closeMicrophone	Disables the mic.
selectAudioPlaybackDevice	Selects the audio playback device (receiver/speaker).
setSelfInfo	Sets the user nickname and profile photo.
enableMultiDeviceAbility	Sets whether to enable multi-device login for `TUICallEngine` (supported by the premium package).
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.
getTRTCCloudInstance	Advanced features.
setBeautyLevel	Set beauty level, support turning off default beauty.

TUICallObserver

`TUICallObserver` is the callback class of `TUICallEngine`. You can use it to listen for events.

API	Description
onError	An error occurred during the call.
onCallReceived	A call was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user has a video stream.
onUserAudioAvailable	Whether a user has an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user was kicked offline.
onUserSigExpired	The user sig is expired.

Definitions of Key Types

API	Description

TUICallDefine.MediaType	The call type. Enumeration: Video call and audio call.
TUICallDefine.Role	The call role. Enumeration: Caller and callee.
TUICallDefine.Status	The call status. Enumeration: Idle, waiting, and answering.
TUICommonDefine.RoomId	The room ID, which can be a number or string.
TUICommonDefine.Camera	The camera type. Enumeration: Front camera and rear camera.
TUICommonDefine.AudioPlaybackDevice	The audio playback device type. Enumeration: Speaker and receiver.
TUICommonDefine.NetworkQualityInfo	The current network quality.

TUICallKit

Last updated：2023-09-19 15:27:34

TUICallKit APIs

`TUICallKit` is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat. For directions on integration, see Integrating TUICallKit.

API Overview

API	Description
createInstance	Creates a `TUICallKit` instance (singleton mode).
setSelfInfo	Sets the alias and profile photo.
call	Makes a one-to-one call.
call	Makes a one-to-one call, Support for custom room ID, call timeout, offline push content, etc
groupCall	Makes a group call.
groupCall	Makes a group call, Support for custom room ID, call timeout, offline push content, etc
joinInGroupCall	Joins a group call.
setCallingBell	Sets the ringtone.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.

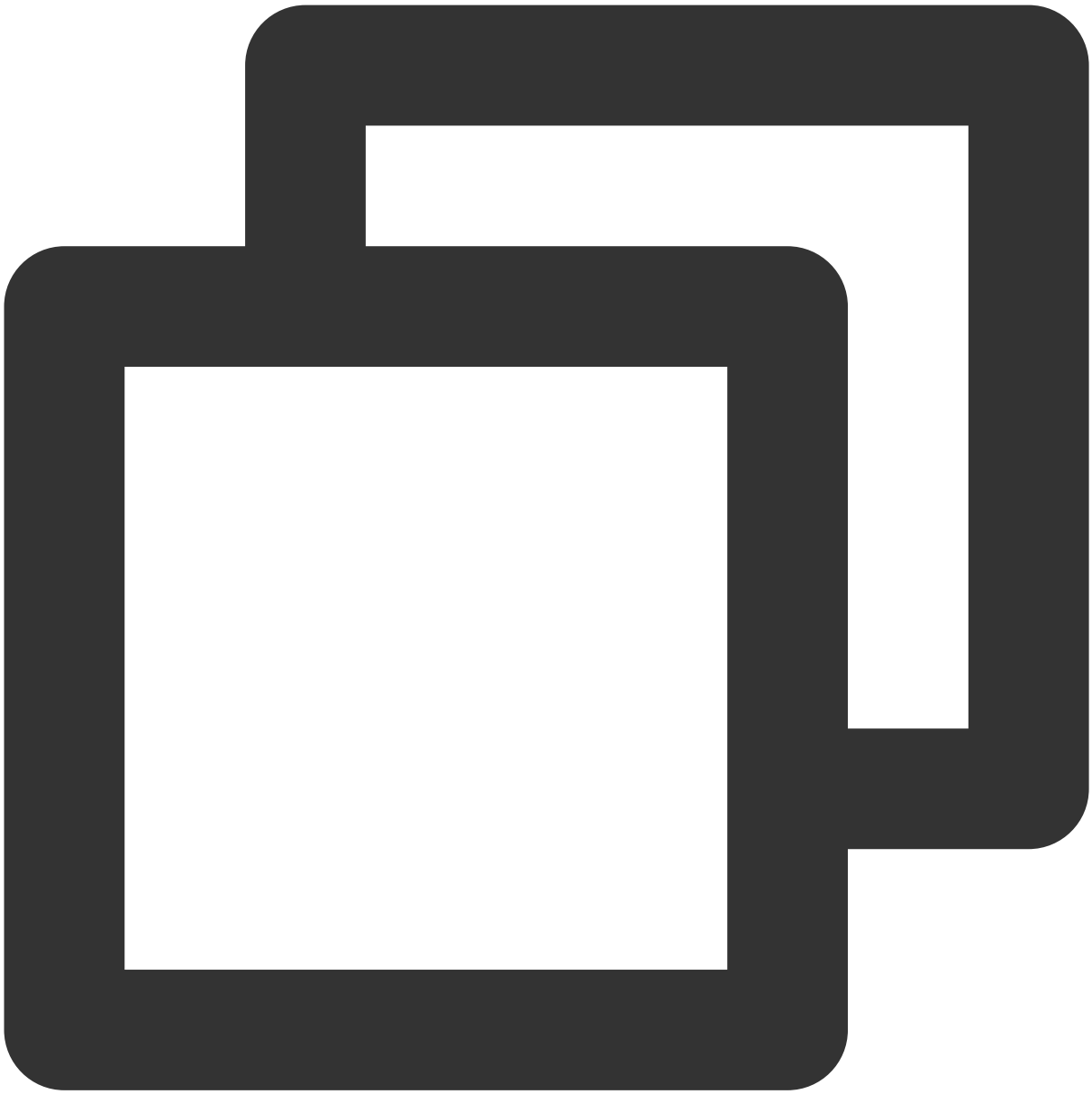
Details

createInstance

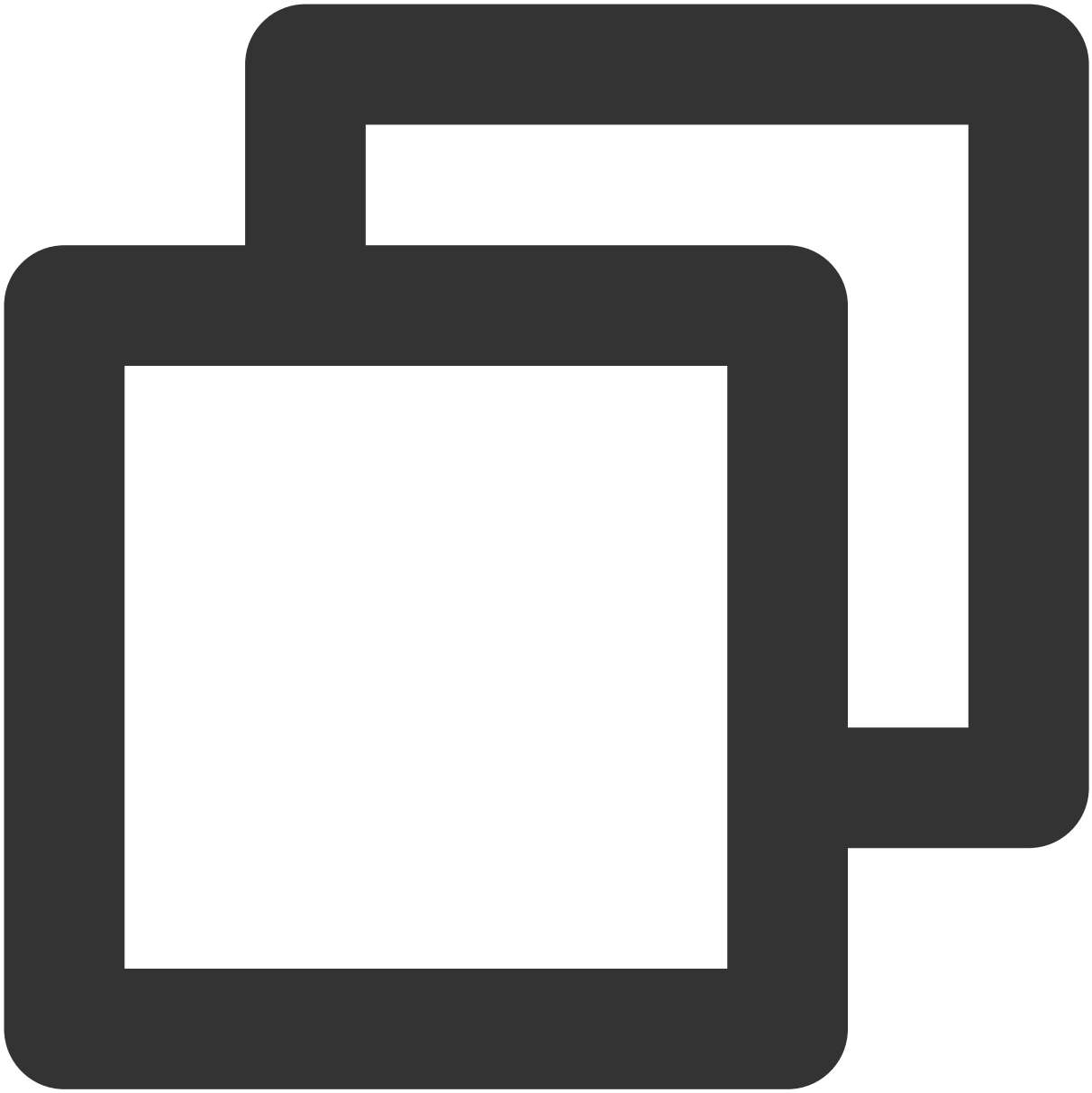
This API is used to create a `TUICallKit` singleton.

Kotlin

Java



```
fun createInstance(context: Context): TUICallKit
```



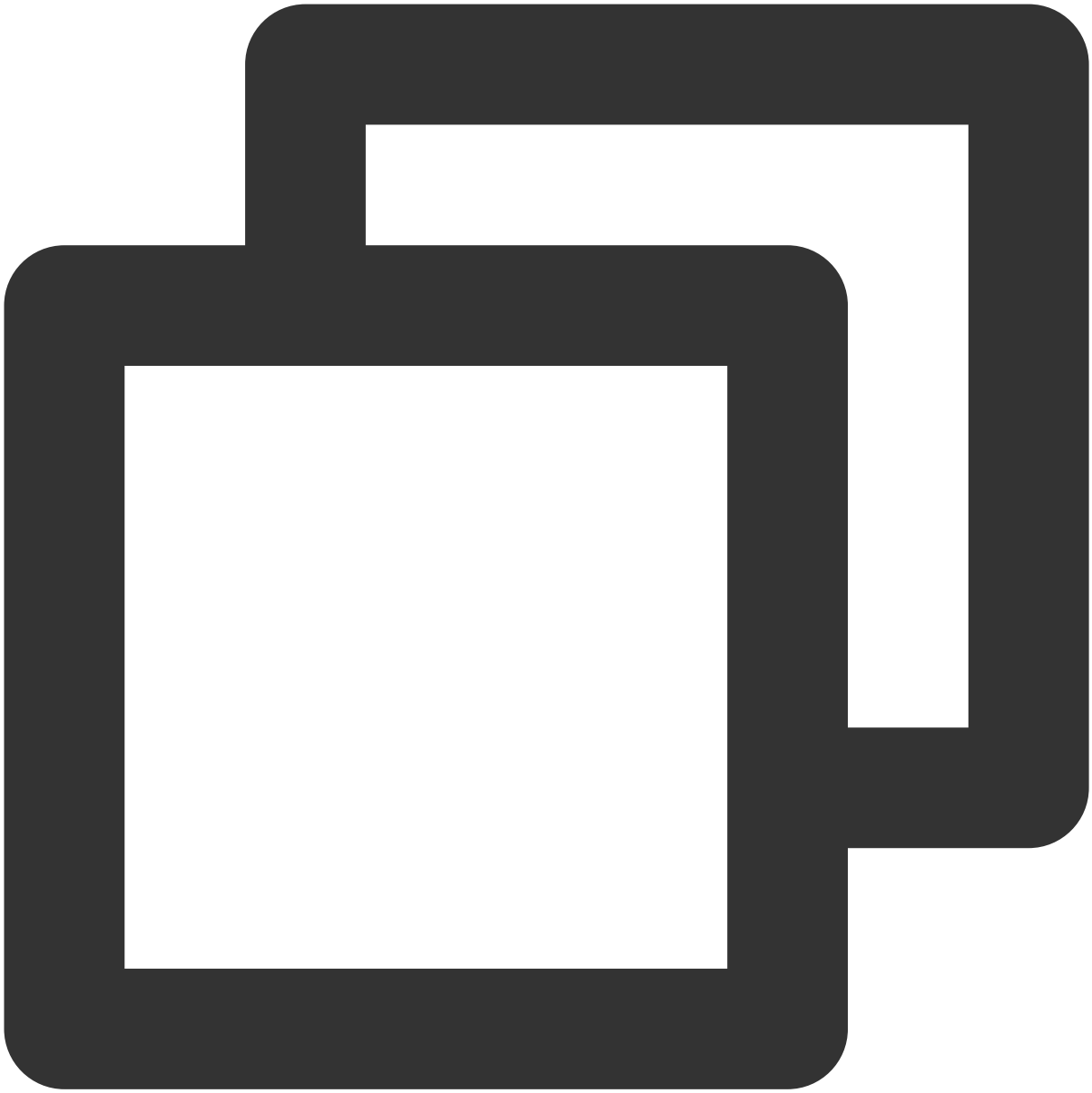
```
TUICallKit createInstance(Context context)
```

setSelfInfo

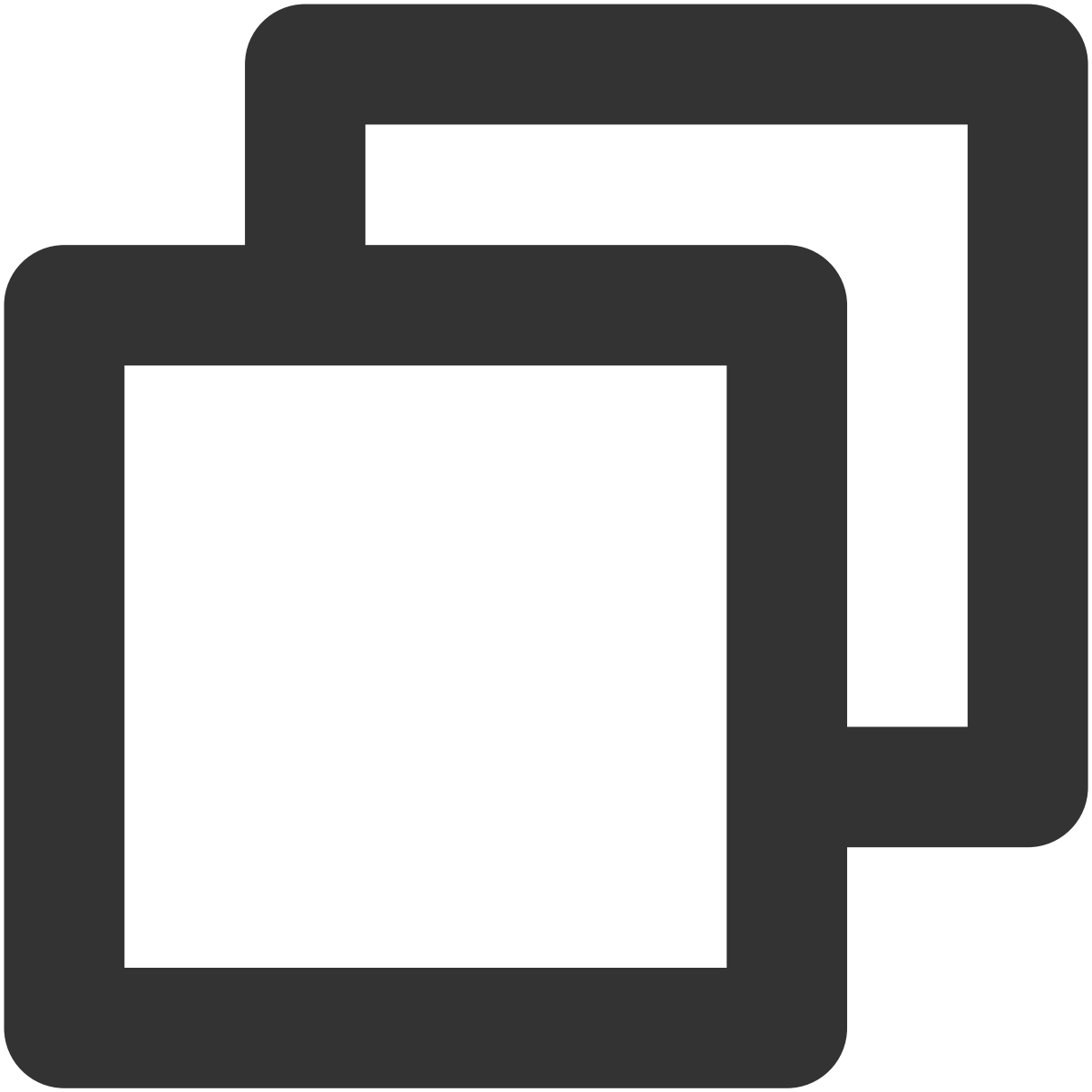
This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.

Kotlin

Java



```
fun setSelfInfo(nickname: String?, avatar: String?, callback: TUICommonDefine.Callb
```



```
void setSelfInfo(String nickname, String avatar, TUICommonDefine.Callback callback)
```

The parameters are described below:

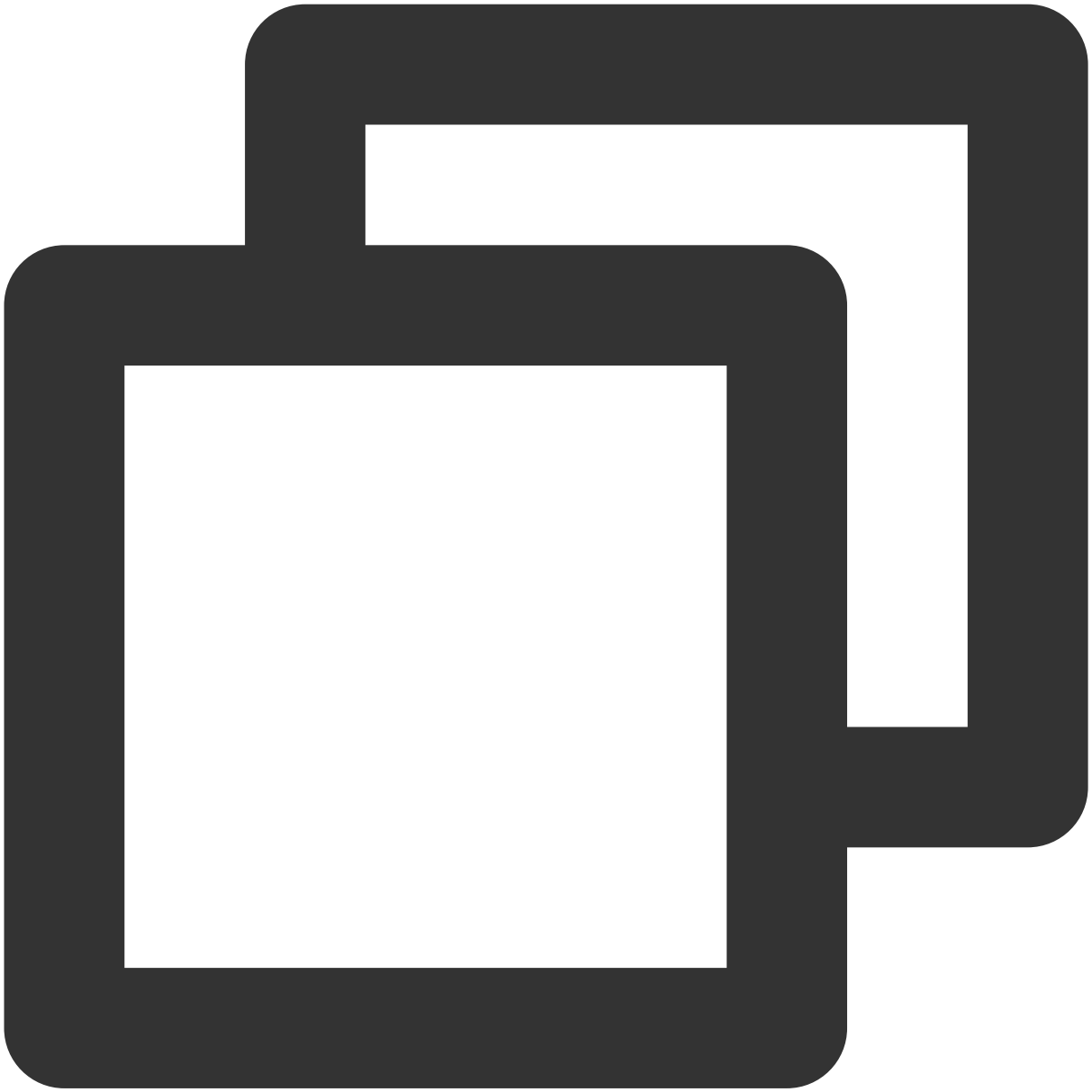
Parameter	Type	Description
nickname	String	The alias.
avatar	String	The profile photo.

call

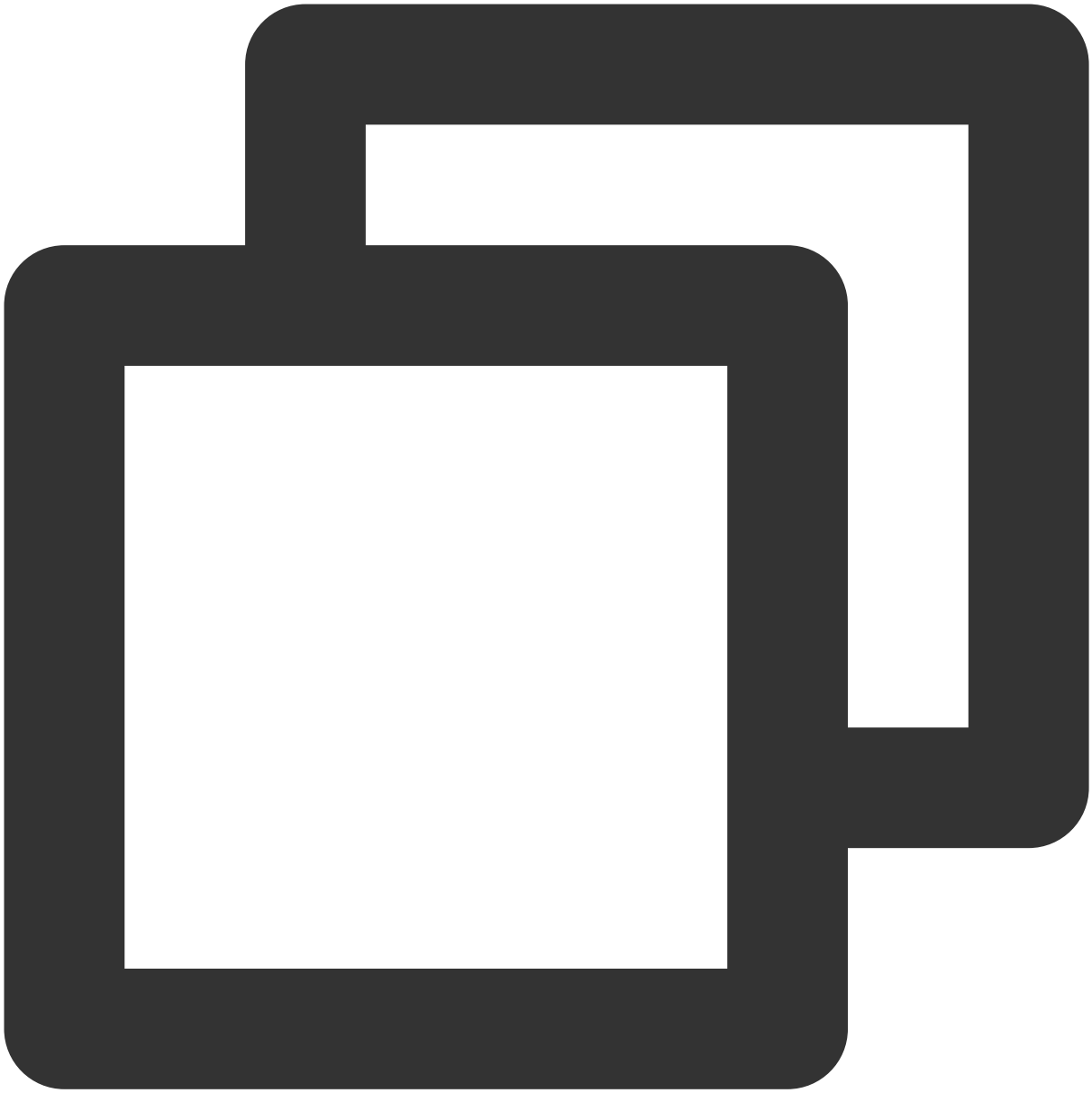
This API is used to make a (one-to-one) call.

Kotlin

Java



```
fun call(userId: String, callMediaType: TUICallDefine.MediaType)
```



```
void call(String userId, TUICallDefine.MediaType callMediaType)
```

The parameters are described below:

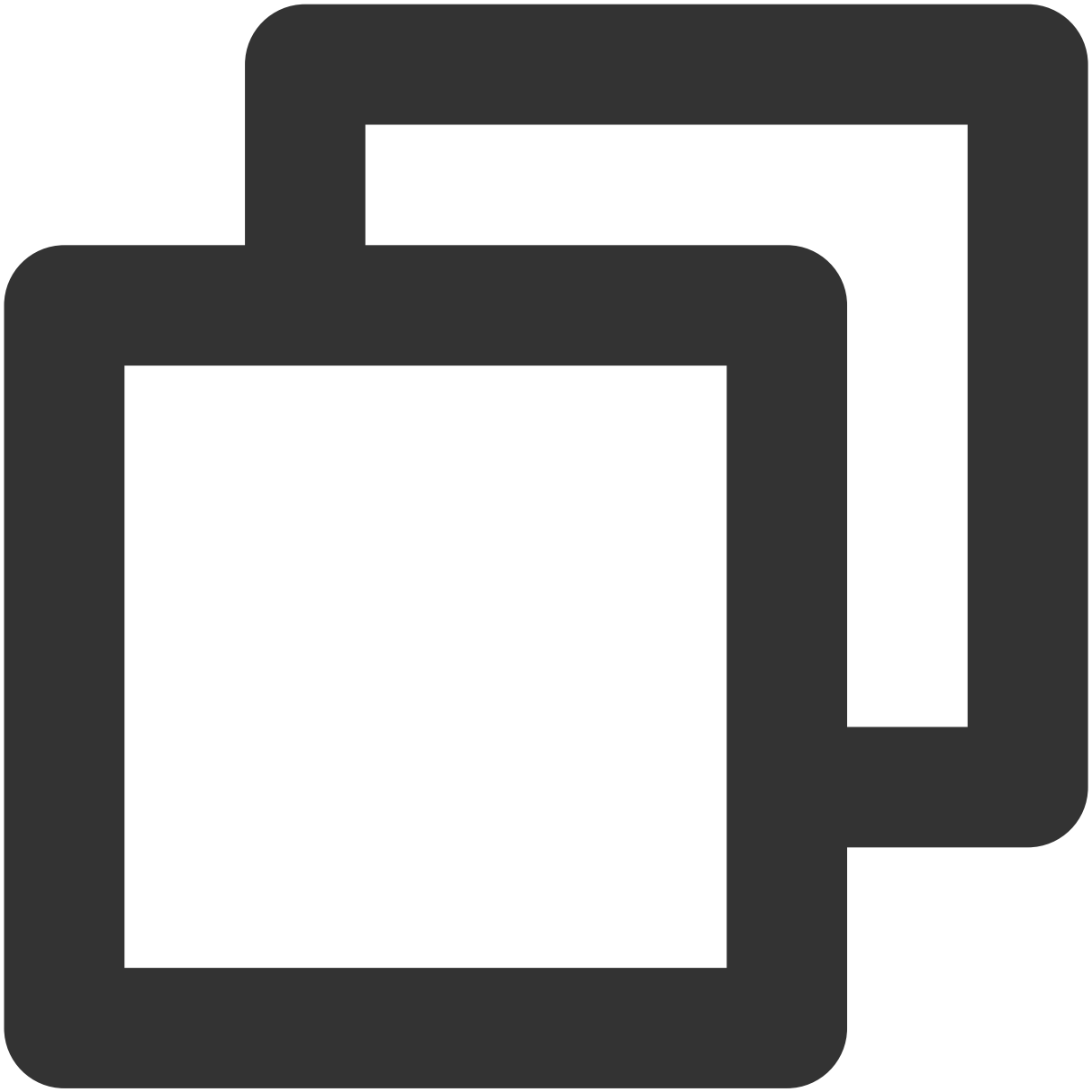
Parameter	Type	Description
userId	String	The target user ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

call

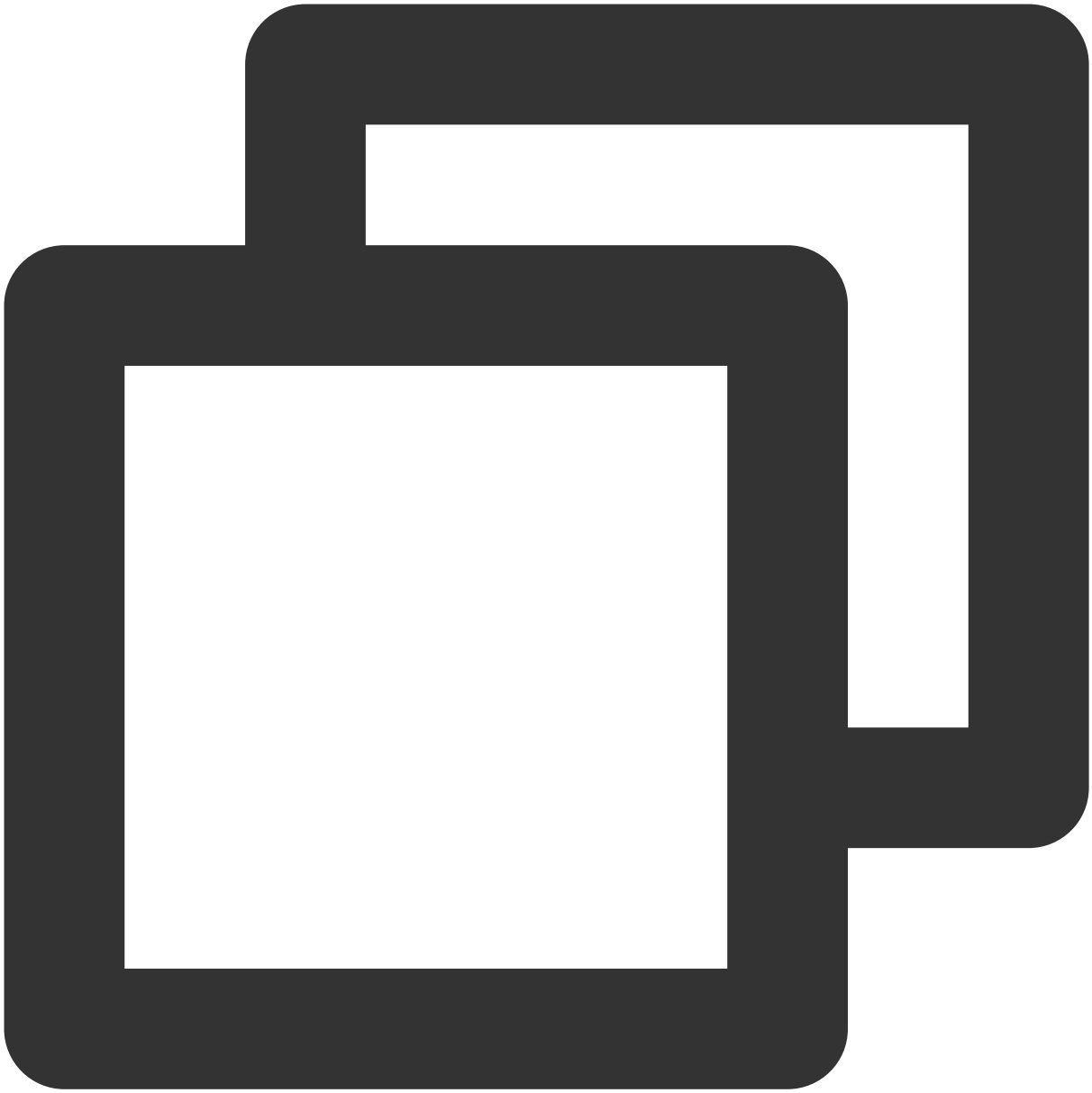
This API is used to make a (one-to-one) call, Support for custom room ID, call timeout, offline push content, etc.

Kotlin

Java



```
fun call(
    userId: String, callMediaType: TUICallDefine.MediaType,
    params: CallParams?, callback: TUICommonDefine.Callback?
)
```



```
void call(String userId, TUICallDefine.MediaType callMediaType,
          TUICallDefine.CallParams params, TUICommonDefine.Callback callback)
```

The parameters are described below:

Parameter	Type	Description
userId	String	The target user ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

params	TUICallDefine.CallParams	Call extension parameters, such as roomID, call timeout, offline push info,etc

groupCall

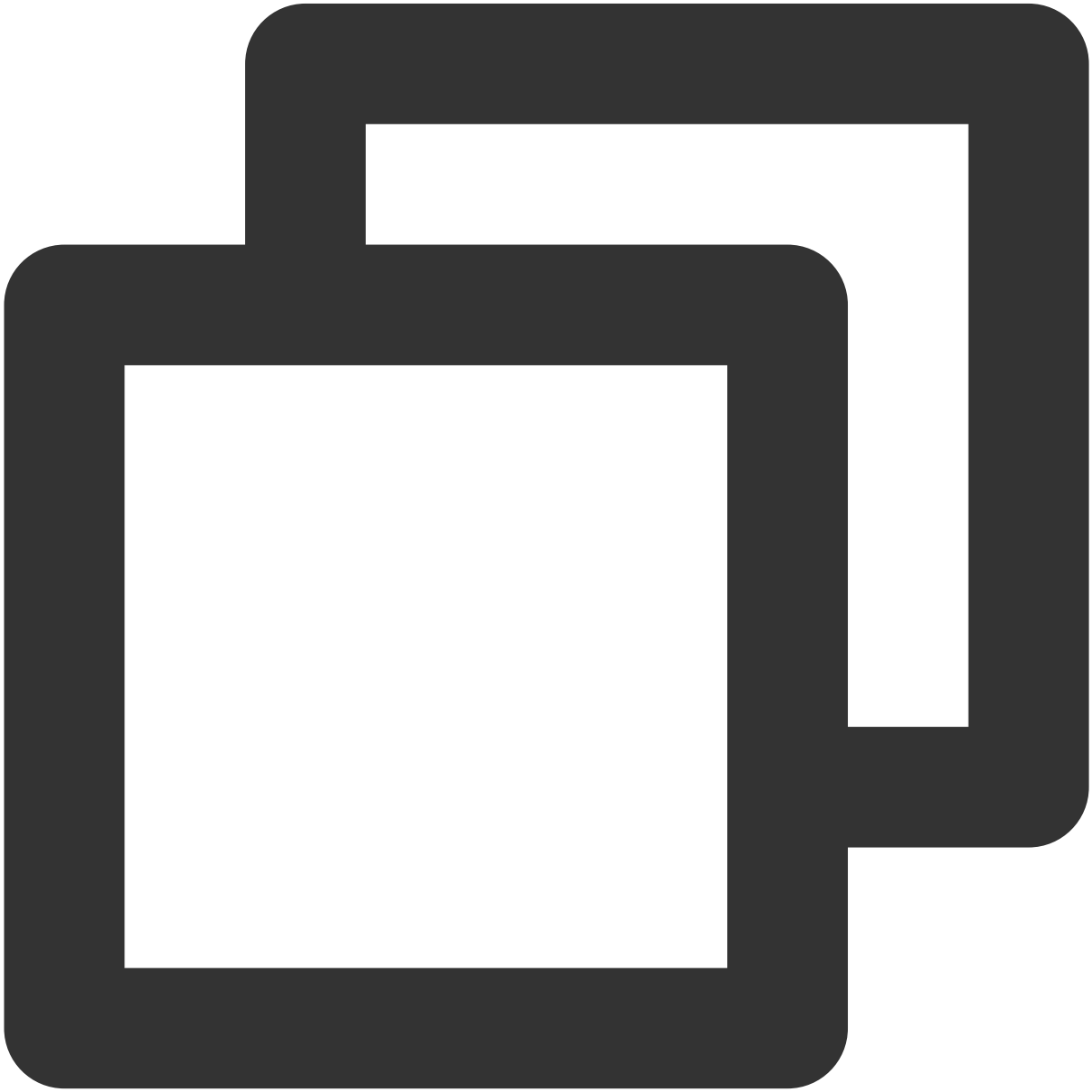
This API is used to make a group call.

Notice:

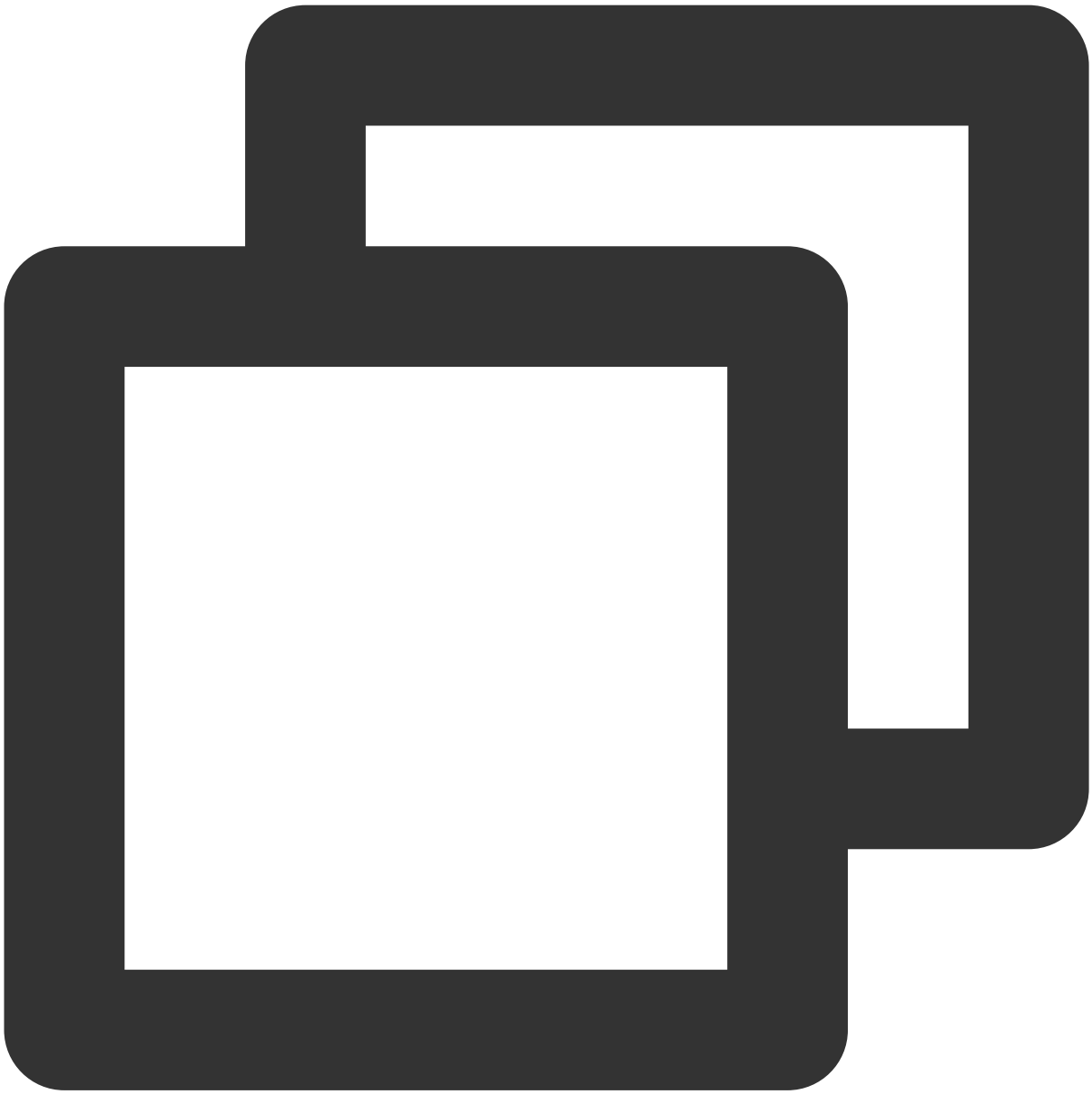
Before making a group call, you need to create an IM group first.

Kotlin

Java



```
fun groupCall(groupId: String, userIdList: List<String?>?, callMediaType: TUICallDe
```



```
void groupCall(String groupId, List<String> userIdList, TUICallDefine.MediaType cal
```

The parameters are described below:

Parameter	Type	Description
groupId	String	The group ID.
userIdList	List	The target user IDs.

callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

groupCall

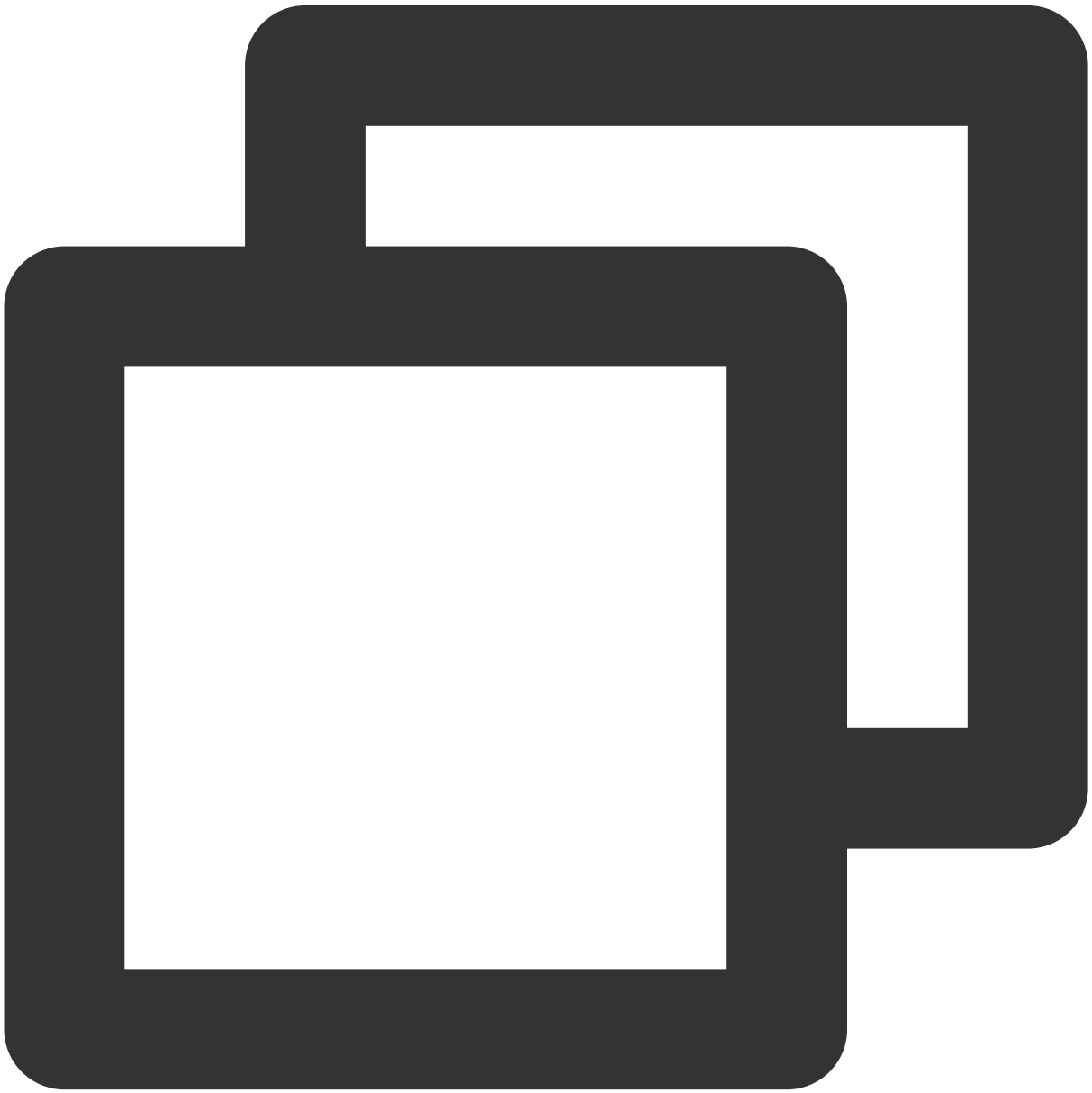
This API is used to make a group call, Support for custom room ID, call timeout, offline push content, etc.

Notice:

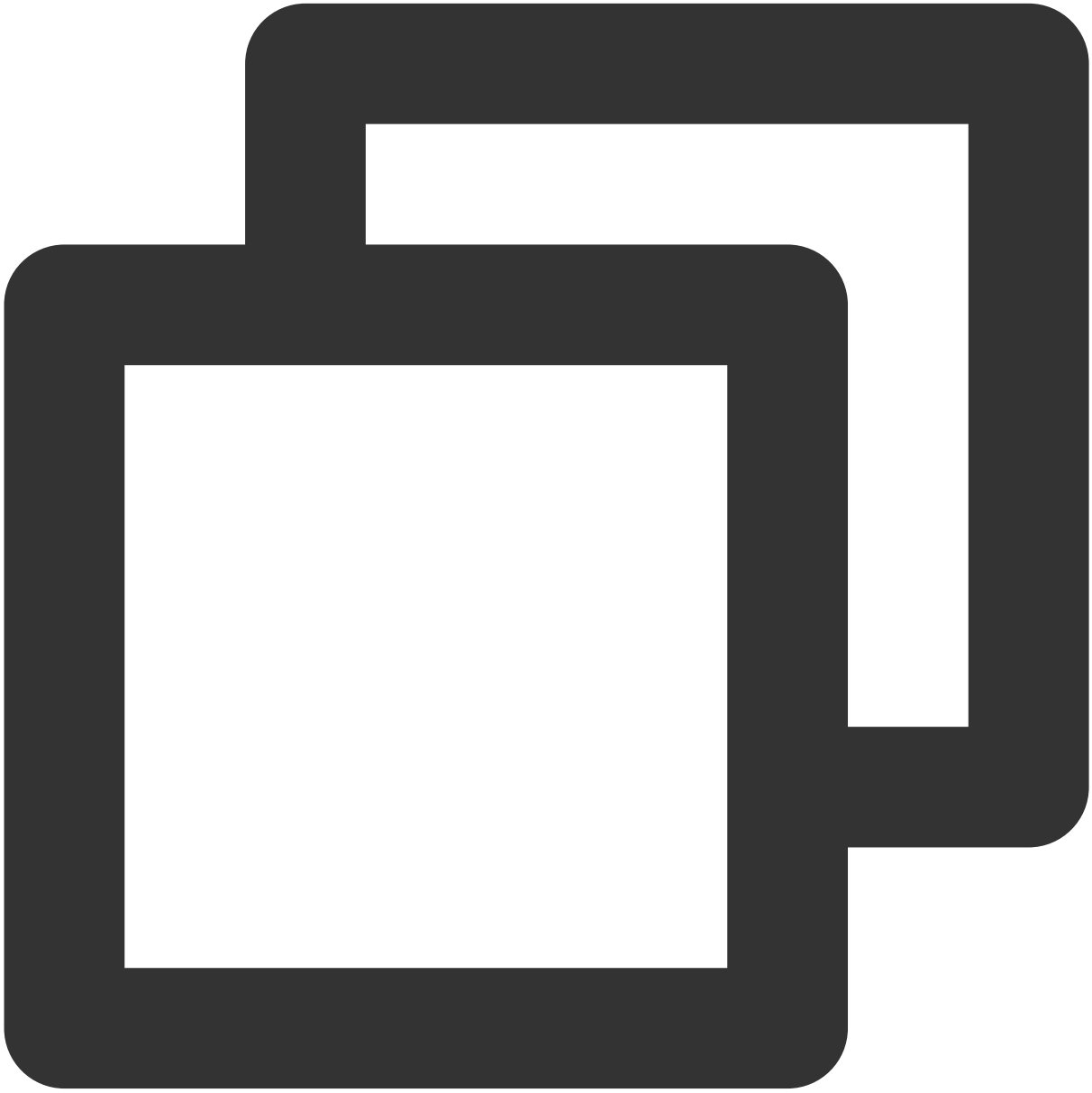
Before making a group call, you need to create an IM group first.

Kotlin

Java



```
fun groupCall(
    groupId: String, userIdList: List<String?>?,
    callMediaType: TUICallDefine.MediaType, params: CallParams?,
    callback: TUICommonDefine.Callback?
)
```



```
void groupCall(String groupId, List<String> userIdList, TUICallDefine.MediaType cal
               TUICallDefine.CallParams params, TUICommonDefine.Callback callback);
```

The parameters are described below:

Parameter	Type	Description
groupId	String	The group ID.
userIdList	List	The target user IDs.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.
params	TUICallDefine.CallParams	Call extension parameters, such as roomID, call timeout, offline push info,etc

joinInGroupCall

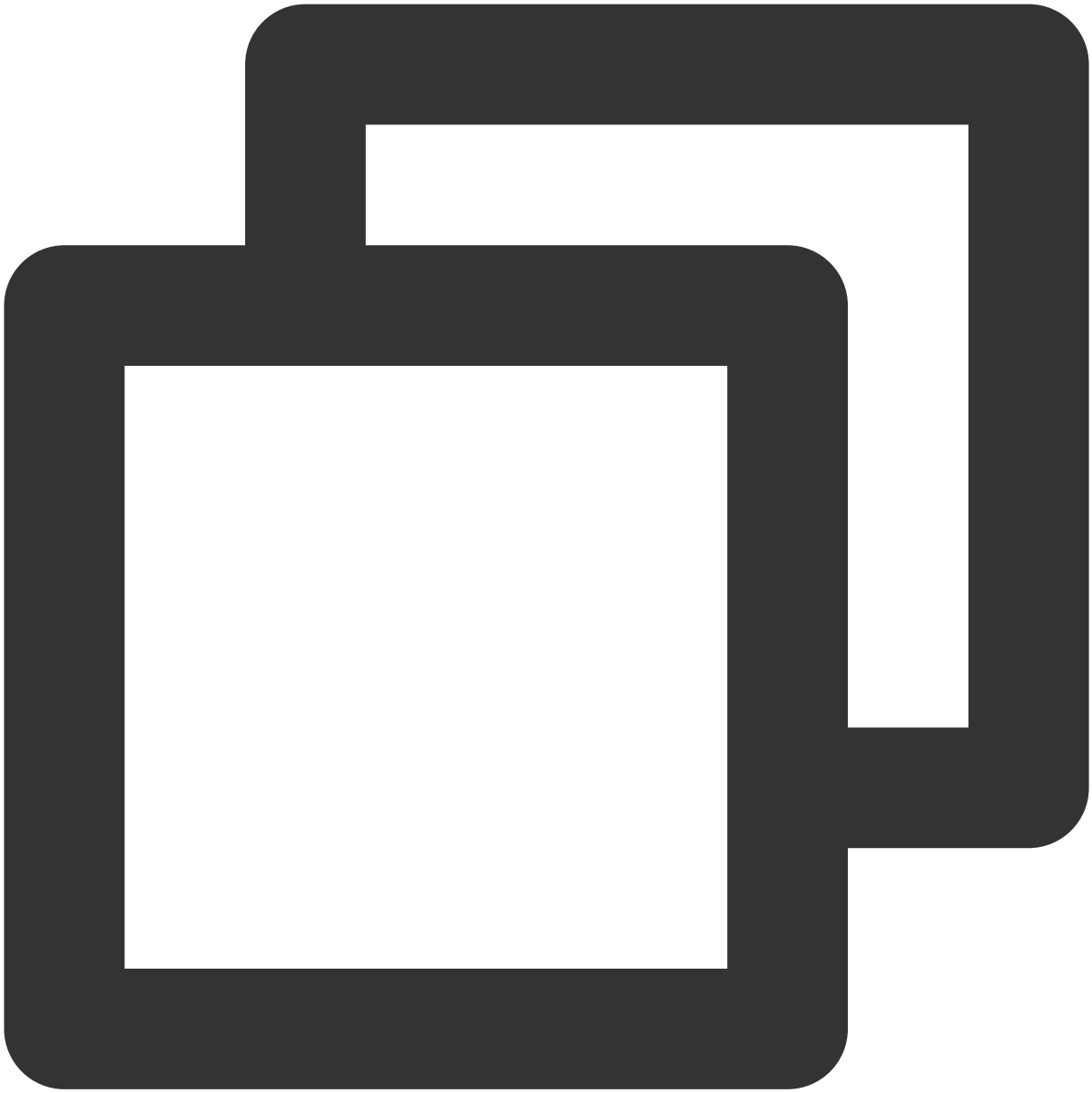
This API is used to join a group call.

Notice:

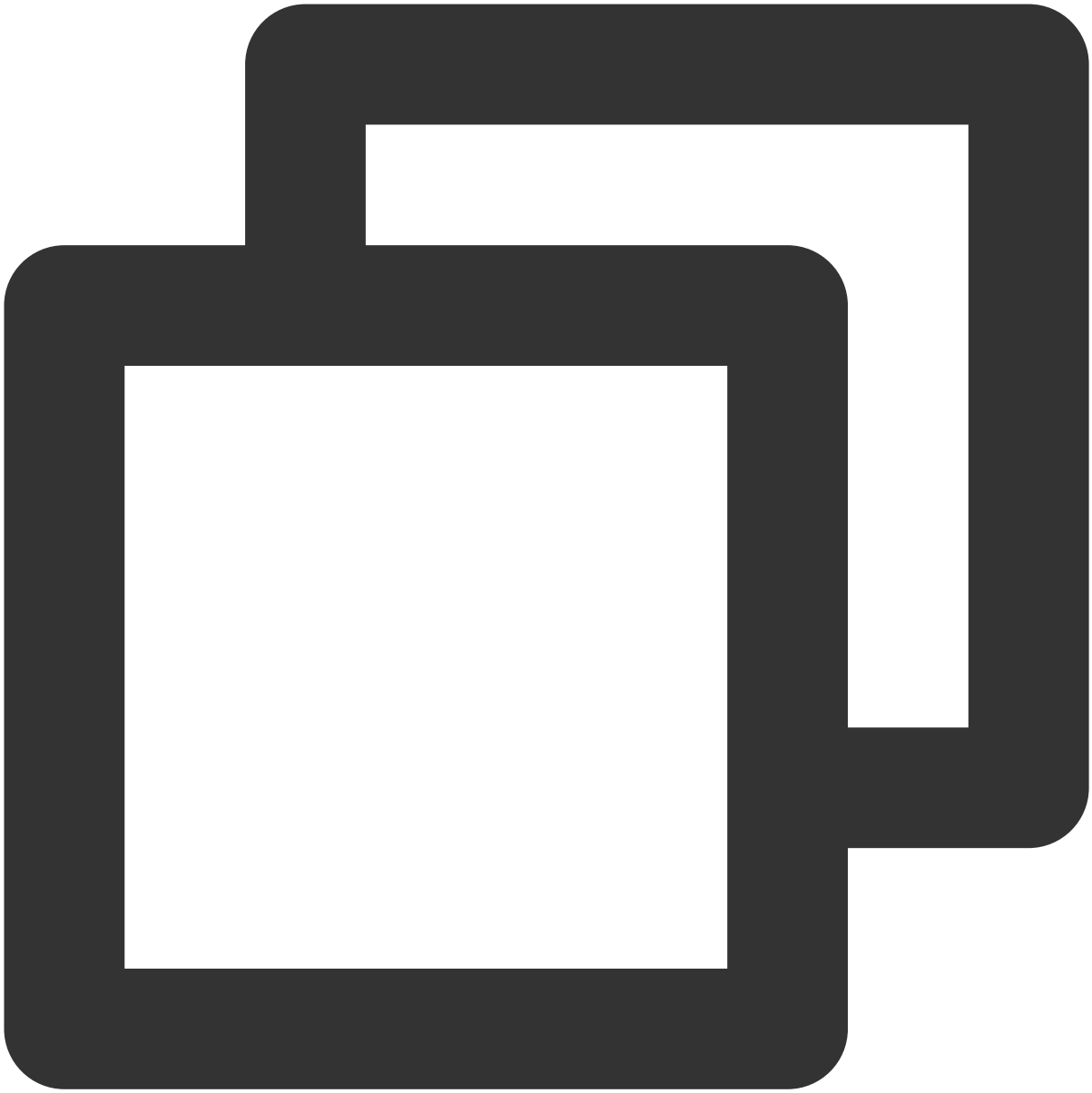
Before joining a group call, you need to create or join an IM group in advance, and there are already users in the group who are in the call.

Kotlin

Java



```
fun joinInGroupCall(roomId: RoomId?, groupId: String?, callMediaType: TUICallDefine
```



```
void joinInGroupCall(TUICommonDefine.RoomId roomId, String groupId, TUICallDefine.M
```

The parameters are described below:

Parameter	Type	Description
roomId	TUICommonDefine.RoomId	The room ID.
groupId	String	The group ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

setCallingBell

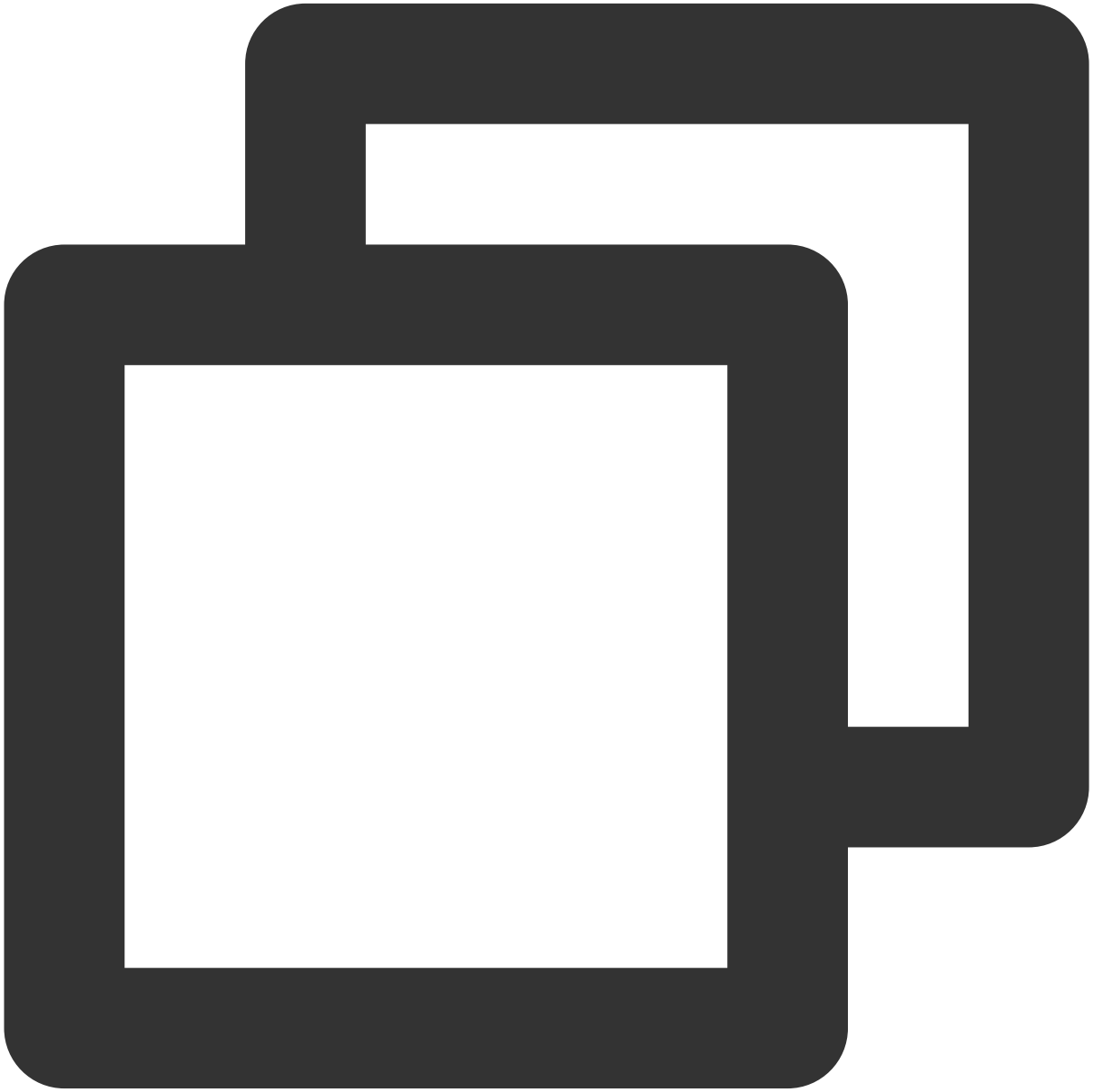
This API is used to set the ringtone. `filePath` must be an accessible local file URL.

The ringtone set is associated with the device and does not change with user.

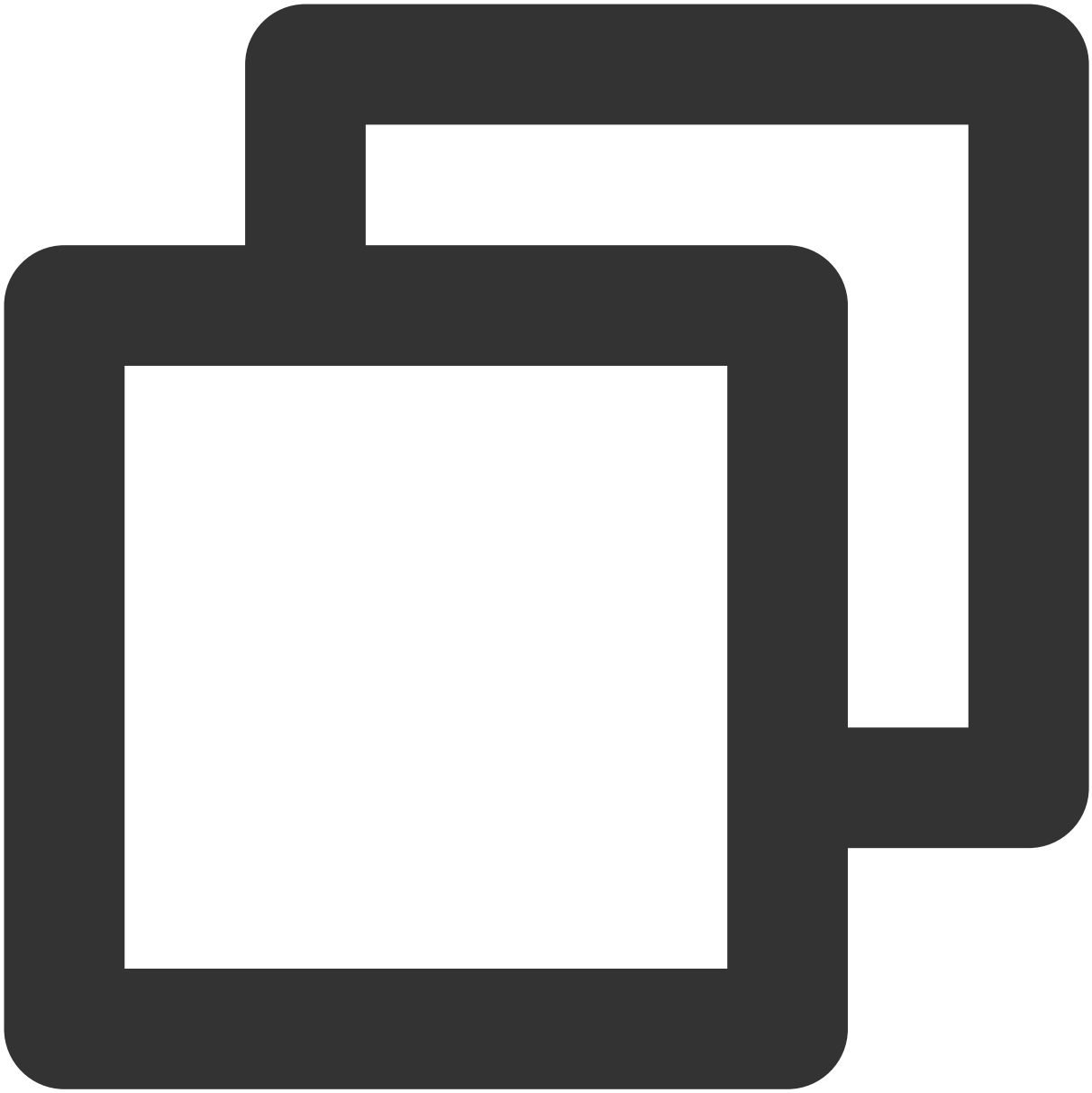
To reset the ringtone, pass in an empty string for `filePath` .

Kotlin

Java



```
fun setCallingBell(filePath: String?)
```



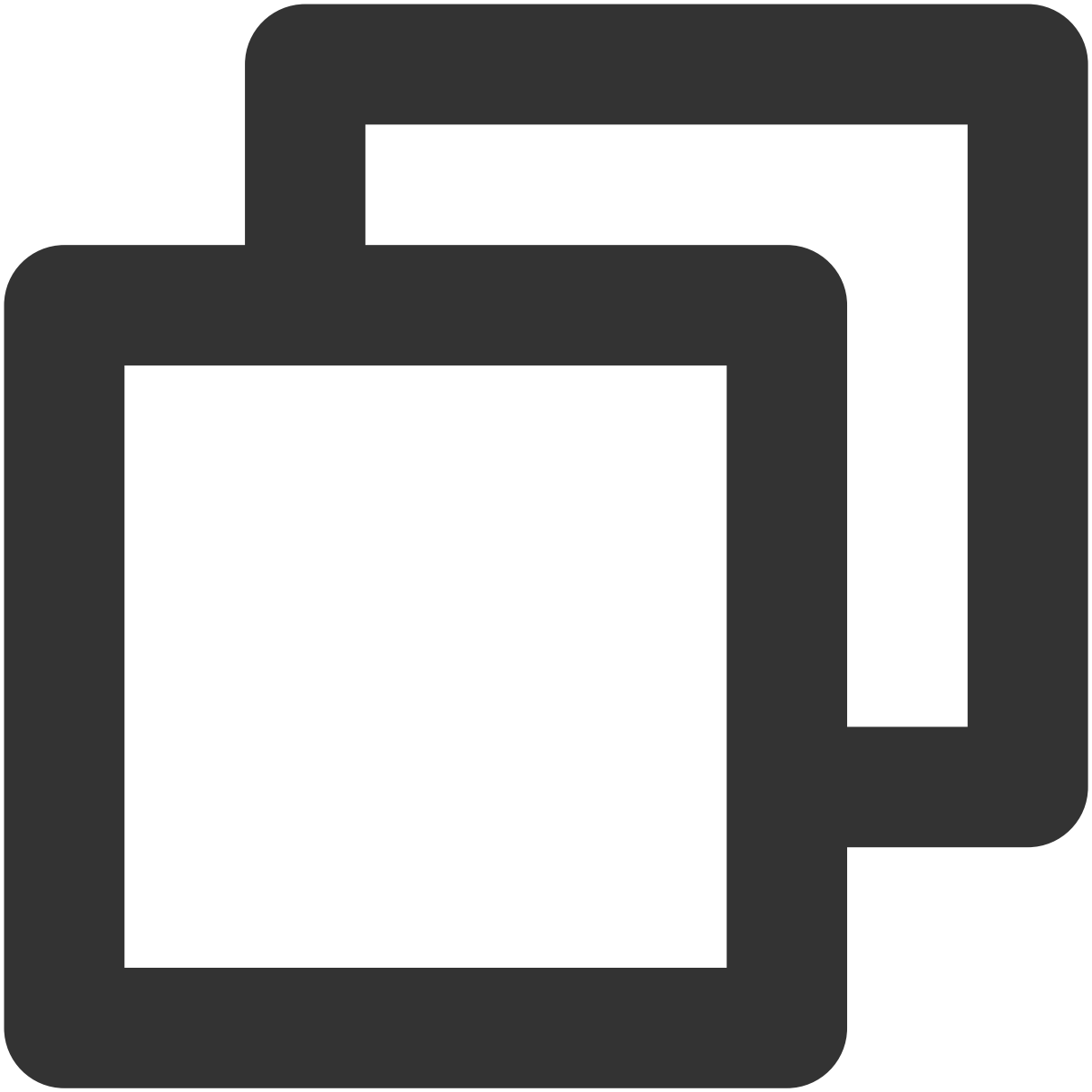
```
void setCallingBell(String filePath);
```

enableMuteMode

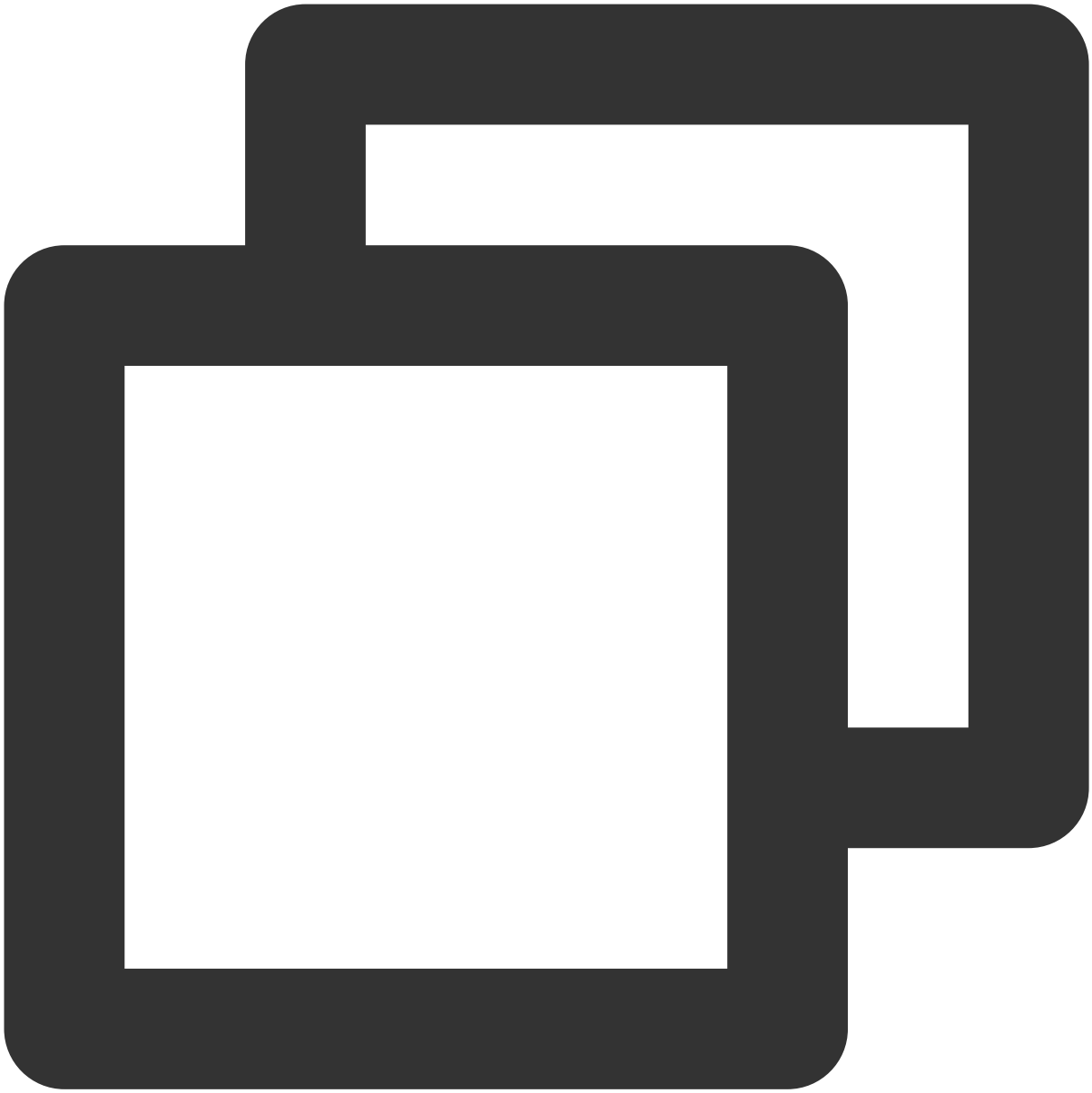
This API is used to set whether to turn on the mute mode.

Kotlin

Java



```
fun enableMuteMode(enable: Boolean)
```



```
void enableMuteMode(boolean enable);
```

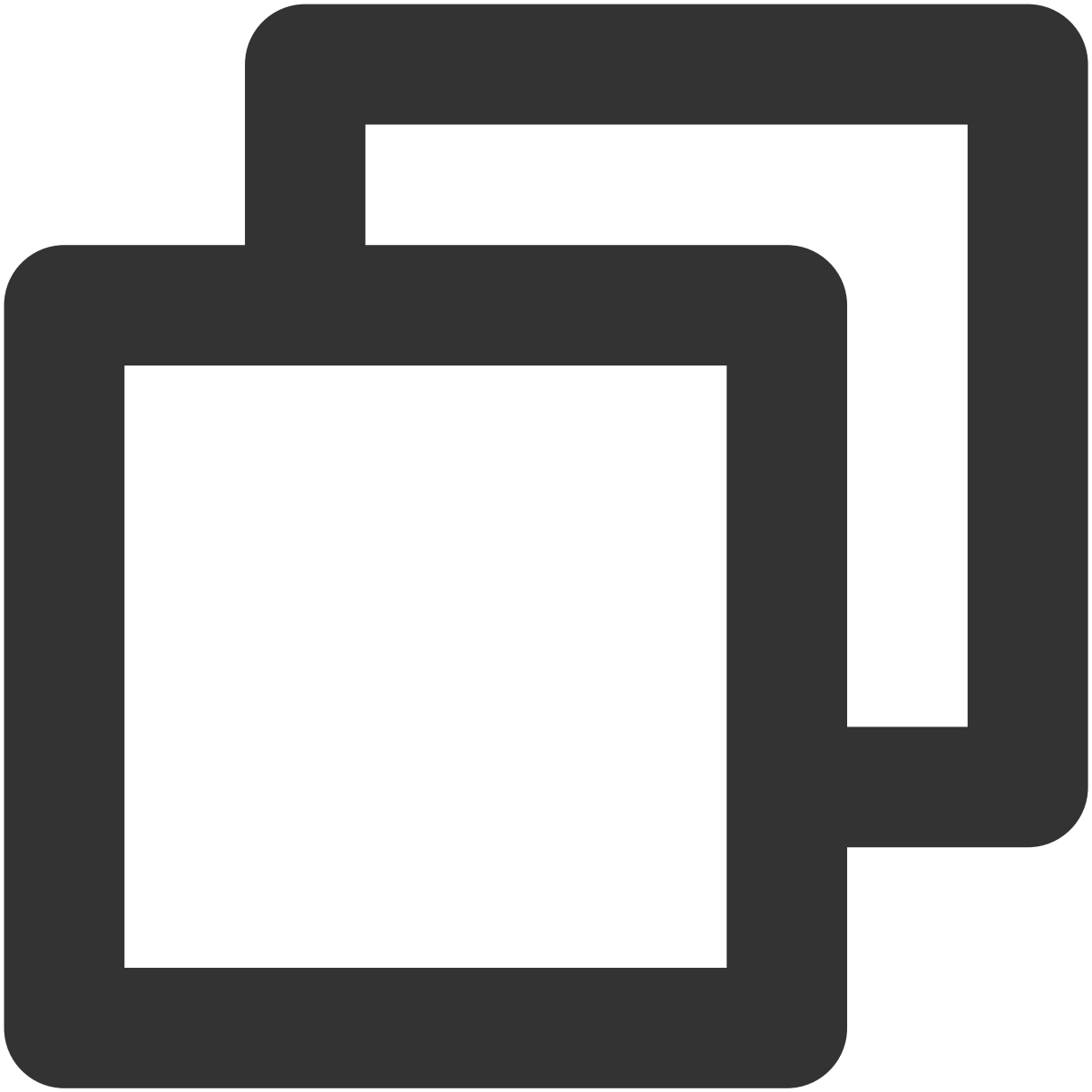
enableFloatWindow

This API is used to set whether to enable floating windows.

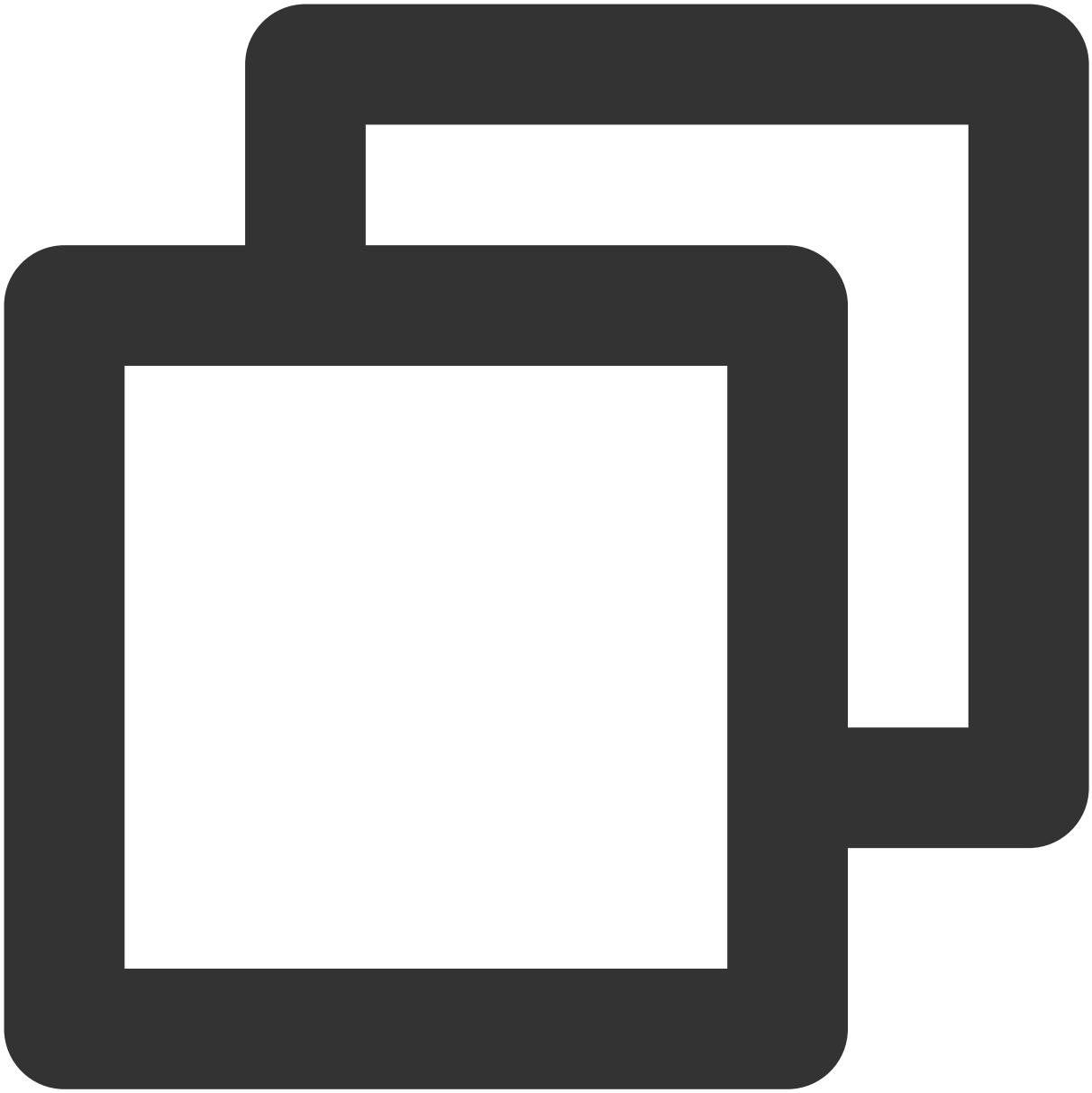
The default value is `false`, and the floating window button in the top left corner of the call view is hidden. If it is set to `true`, the button will become visible.

Kotlin

Java



```
fun enableFloatWindow(enable: Boolean)
```



```
void enableFloatWindow(boolean enable);
```

TUICallEngine

Last updated：2023-09-19 15:28:14

TUICallEngine APIs

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

Overview

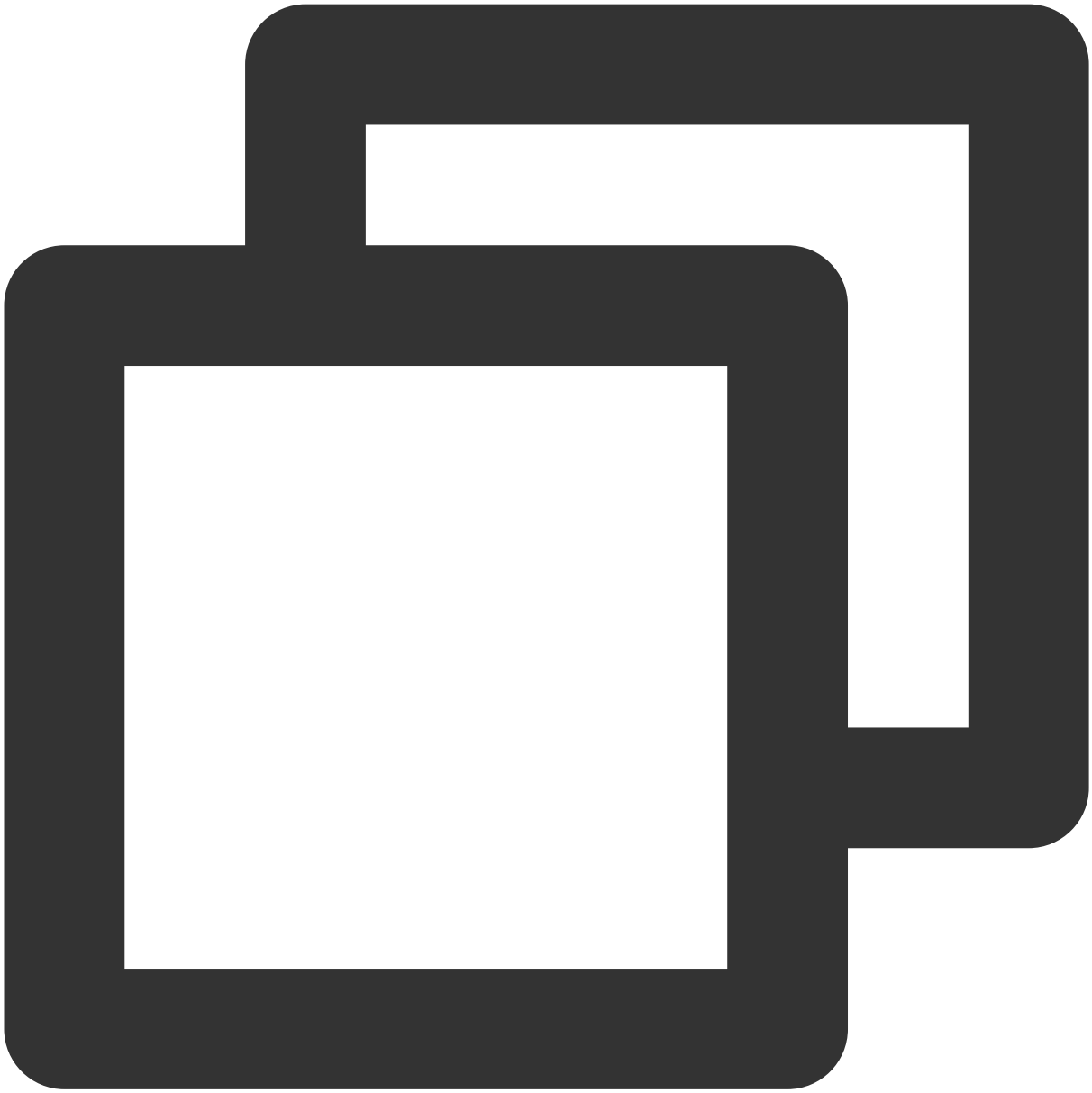
API	Description
createInstance	Creates a `TUICallEngine` instance (singleton mode).
destroyInstance	Terminates a `TUICallEngine` instance (singleton mode).
init	Authenticates the basic audio/video call capabilities.
addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Accepts a call.
reject	Rejects a call.
hangup	Ends a call.
ignore	Ignores a call.
inviteUser	Invites users to the current group call.
joinInGroupCall	Joins a group call.
switchCallMediaType	Changes the call type, for example, from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.

openCamera	Turns the camera on.
closeCamera	Turns the camera off.
switchCamera	Switches between the front and rear cameras.
openMicrophone	Turns the mic on.
closeMicrophone	Turns the mic off.
selectAudioPlaybackDevice	Selects the audio playback device (receiver or speaker).
setSelfInfo	Sets the alias and profile photo.
enableMultiDeviceAbility	Sets whether to enable multi-device login for `TUICallEngine` (supported by the premium package).
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.
getTRTCCloudInstance	Advanced features.
setBeautyLevel	Set beauty level, support turning off default beauty.

Details

createInstance

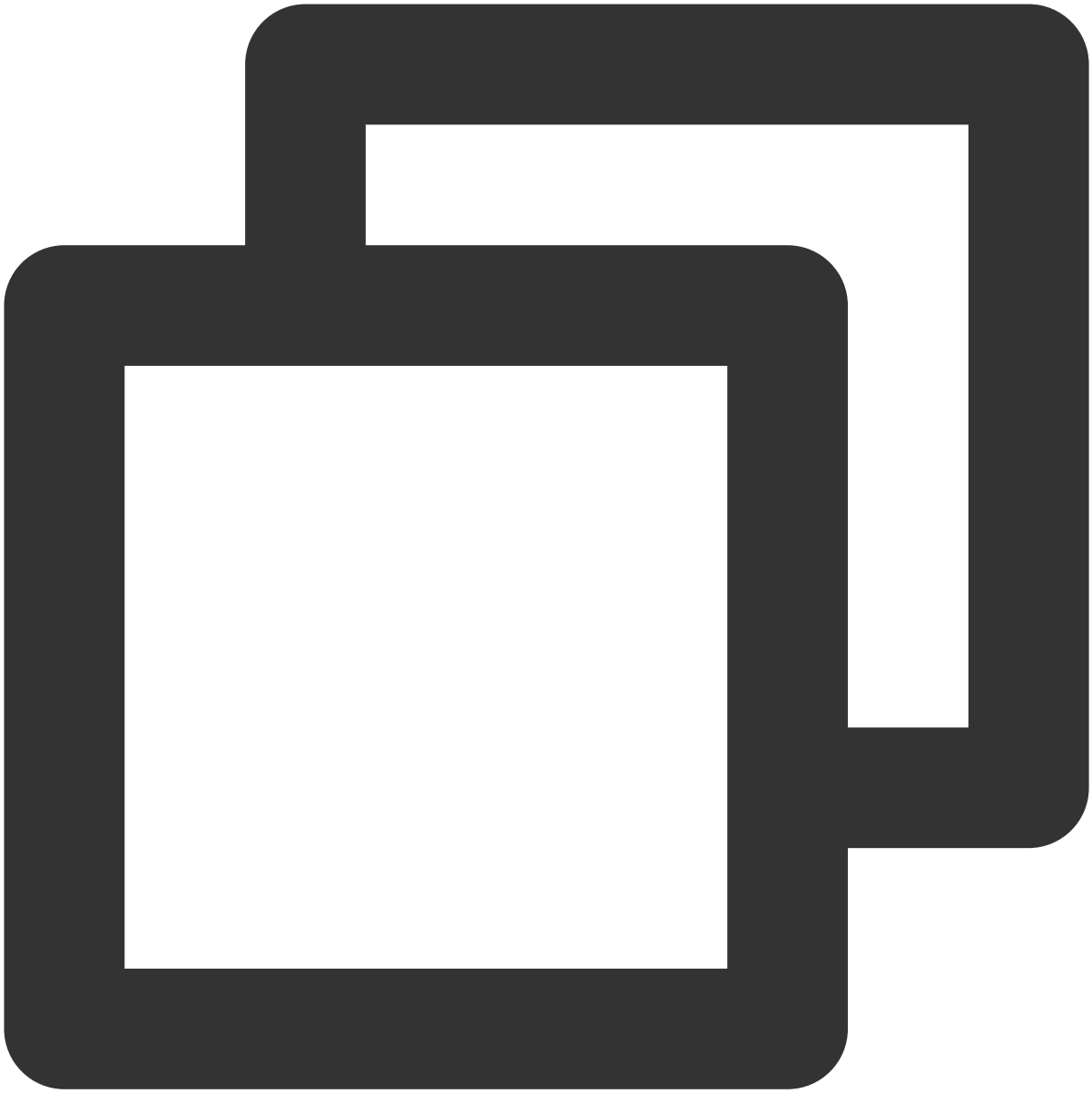
This API is used to create a `TUICallEngine` singleton.



```
TUICallEngine createInstance(Context context)
```

destroyInstance

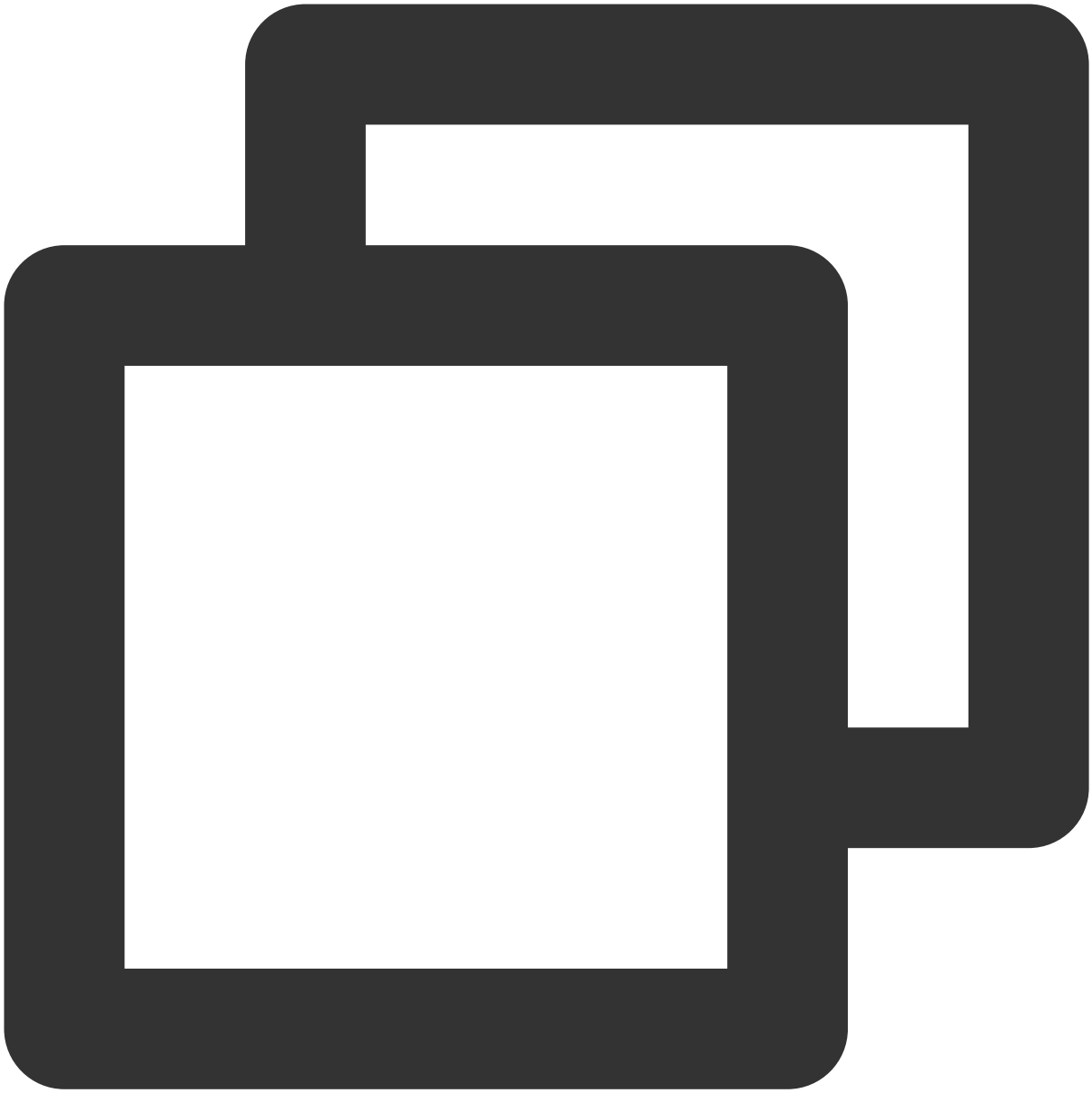
This API is used to terminate a `TUICallEngine` singleton.



```
void destroyInstance();
```

Init

This API is used to initialize `TUICallEngine` . Call it to authenticate the call service and perform other required actions before you call other APIs.



```
void init(int sdkAppId, String userId, String userSig, TUICommonDefine.Callback cal
```

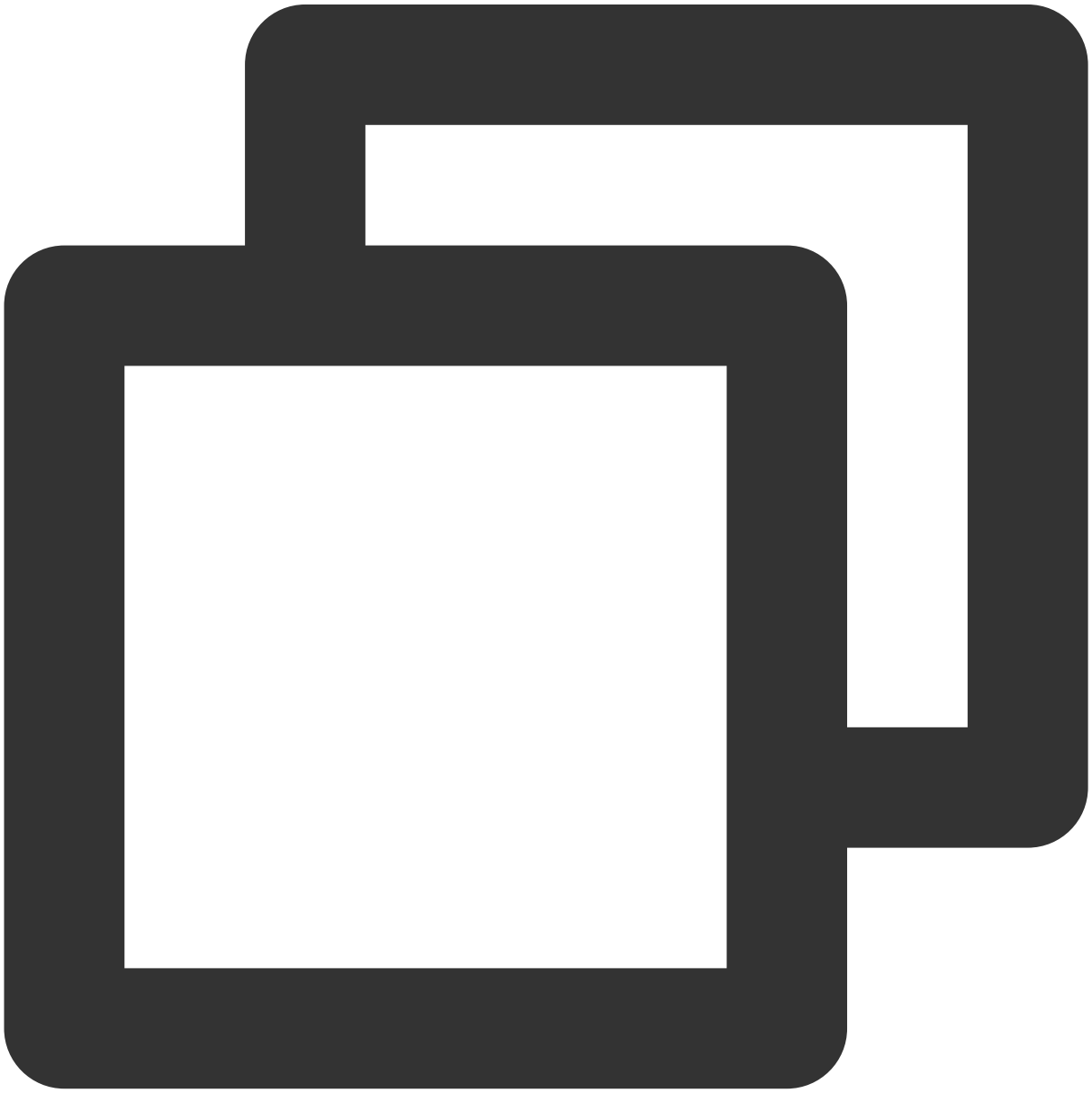
The parameters are described below:

Parameter	Type	Description
sdkAppId	int	You can view `SDKAppID` in Application Management > **Application Info** of the TRTC console.
userId	String	The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and

		underscores (_).
userSig	String	Tencent Cloud's proprietary security signature. For how to calculate and use it, see UserSig.
callback	TUICommonDefine.Callback	The initialization callback. `onSuccess` indicates initialization is successful.

addObserver

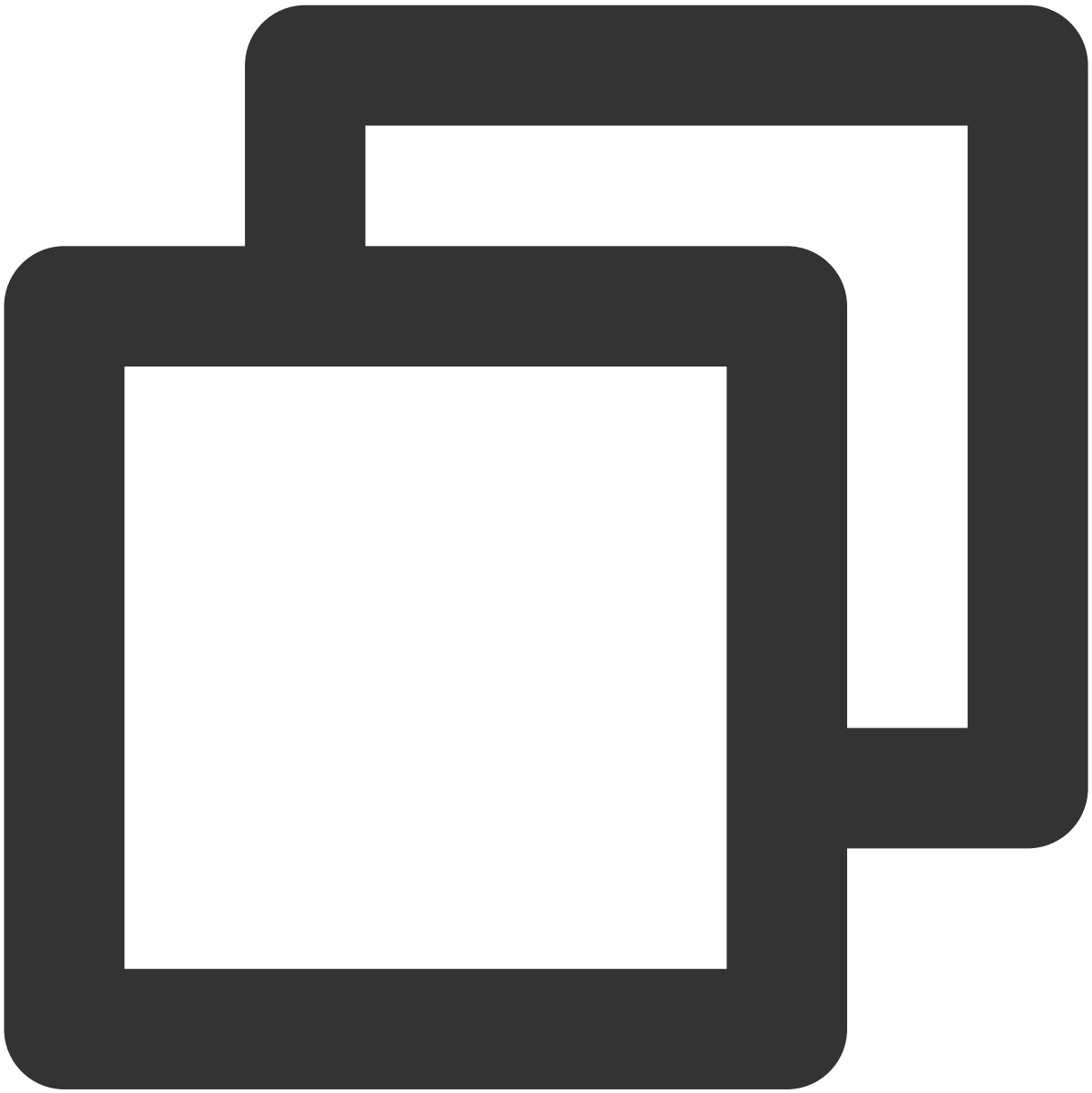
This API is used to register an event listener to listen for `TUICallObserver` events.



```
void addObserver(TUICallObserver observer);
```

removeObserver

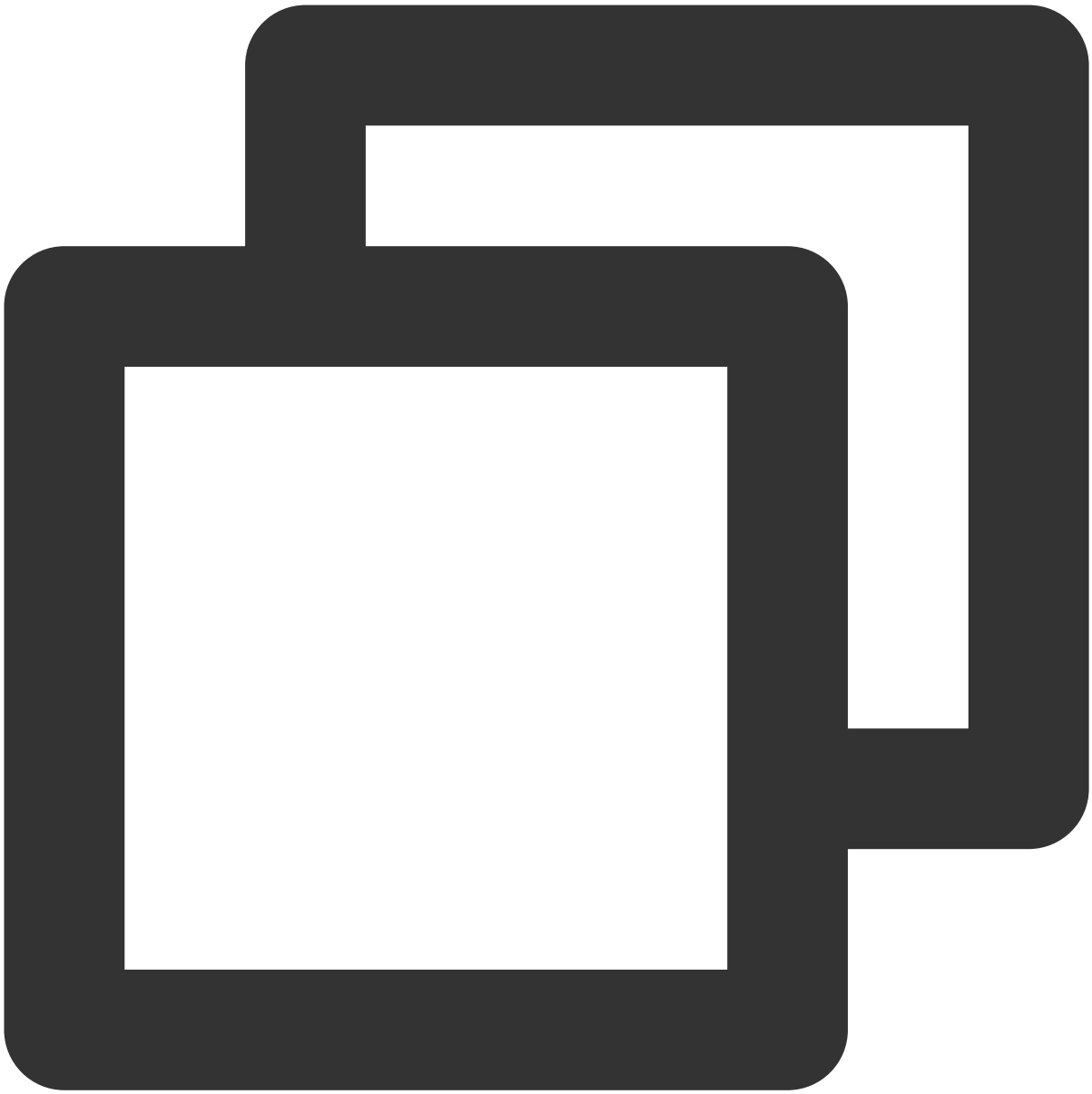
This API is used to unregister an event listener.



```
void removeObserver(TUICallObserver observer);
```

call

This API is used to make a (one-to-one) call.



```
void call(String userId, TUICallDefine.MediaType callMediaType,
          TUICallDefine.CallParams params, TUICommonDefine.Callback callback);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The target user ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

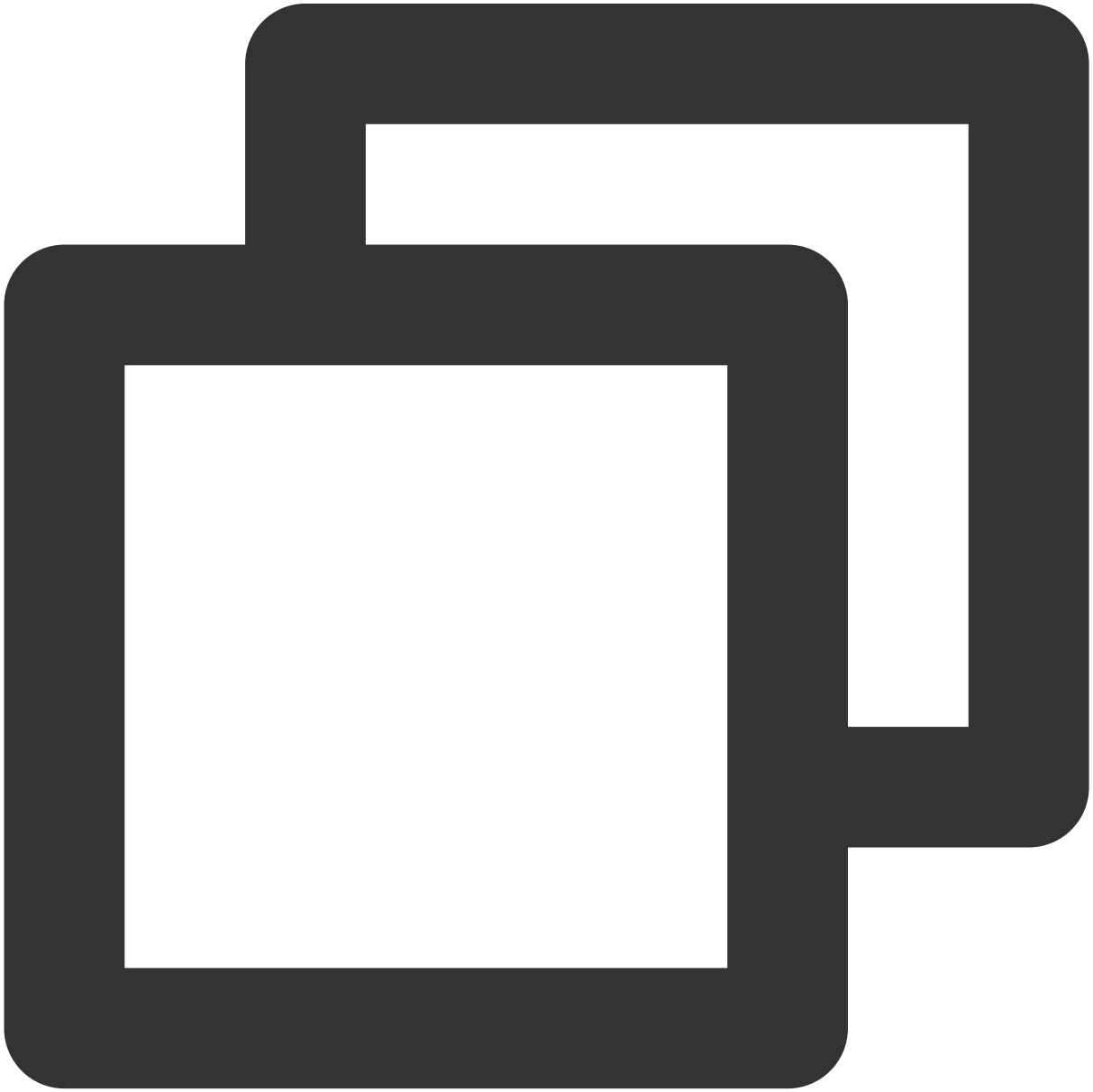
params	TUICallDefine.CallParams	An additional parameter, such as roomID, call timeout, offline push info,etc

groupCall

This API is used to make a group call.

Notice：

Before making a group call, you need to create an IM group first.



```
void groupCall(String groupId, List<String> userIdList, TUICallDefine.MediaType cal
```

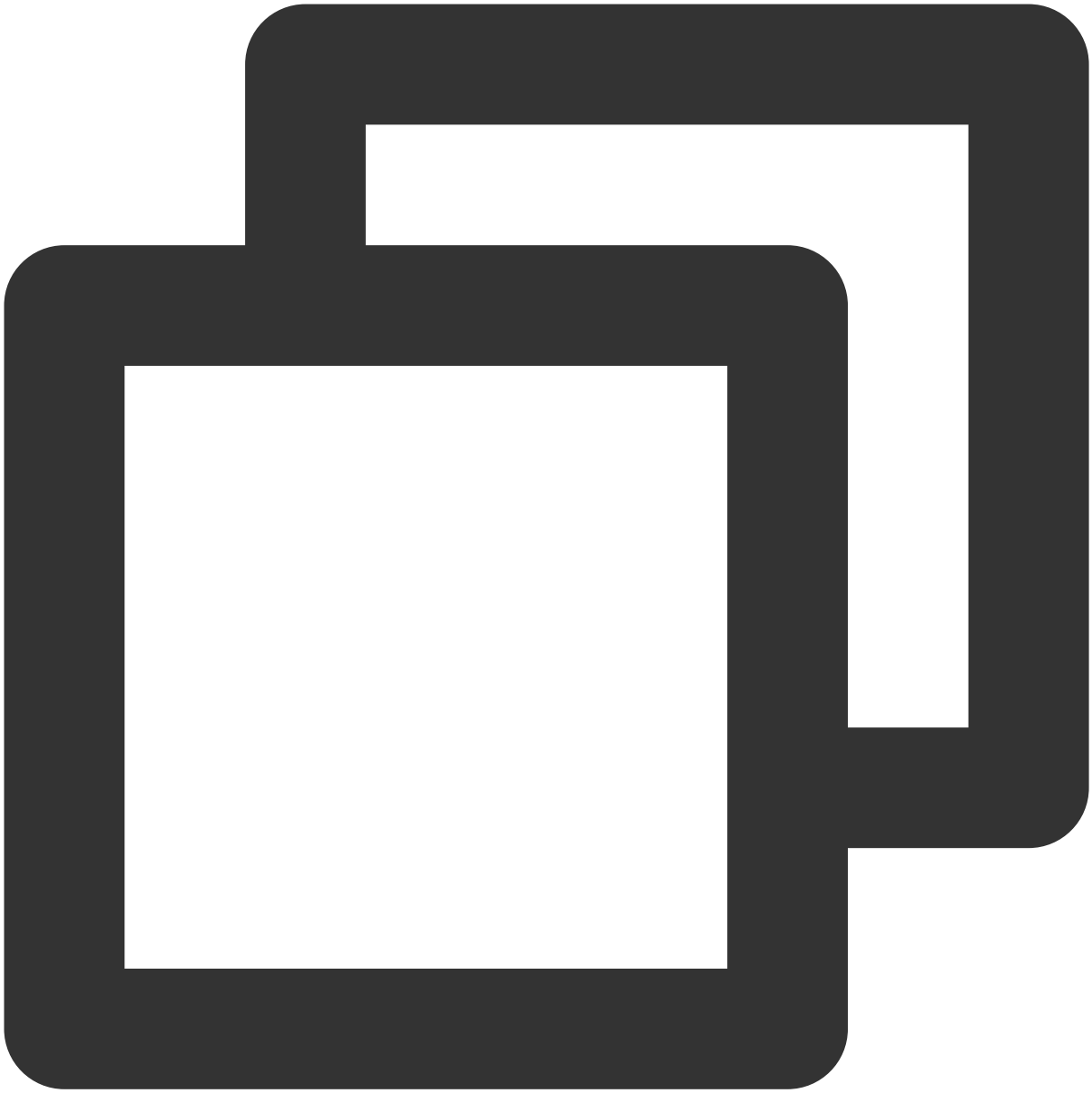
```
                TUICallDefine.CallParams params, TUICommonDefine.Callback callback);
```

The parameters are described below:

Parameter	Type	Description
groupId	String	The group ID.
userIdList	List	The target user IDs.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.
params	TUICallDefine.CallParams	An additional parameter. such as roomID, call timeout, offline push info,etc

accept

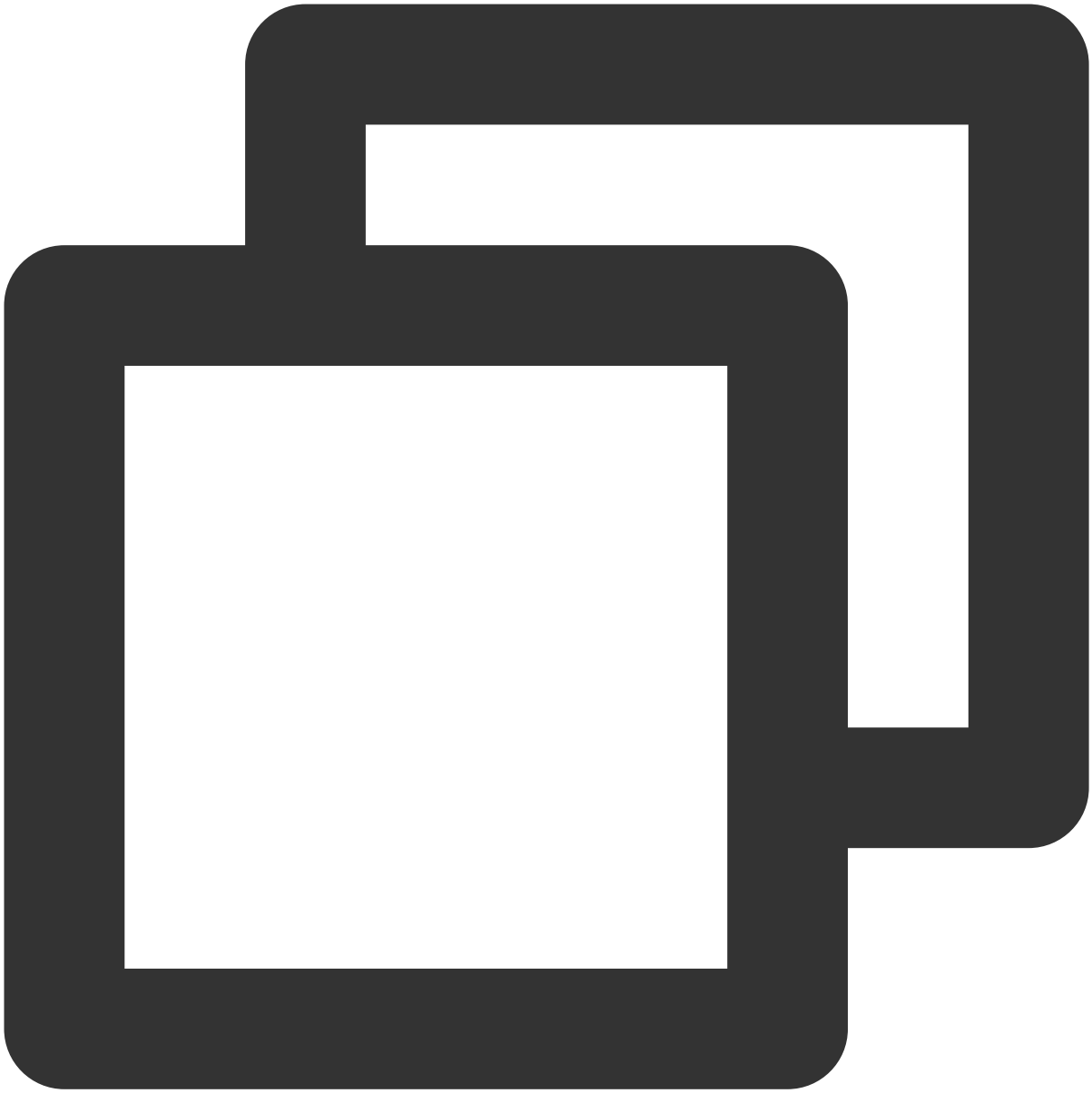
This API is used to accept a call. After receiving the `onCallReceived()` callback, you can call this API to accept the call.



```
void accept(TUICommonDefine.Callback callback);
```

reject

This API is used to reject a call. After receiving the `onCallReceived()` callback, you can call this API to reject the call.

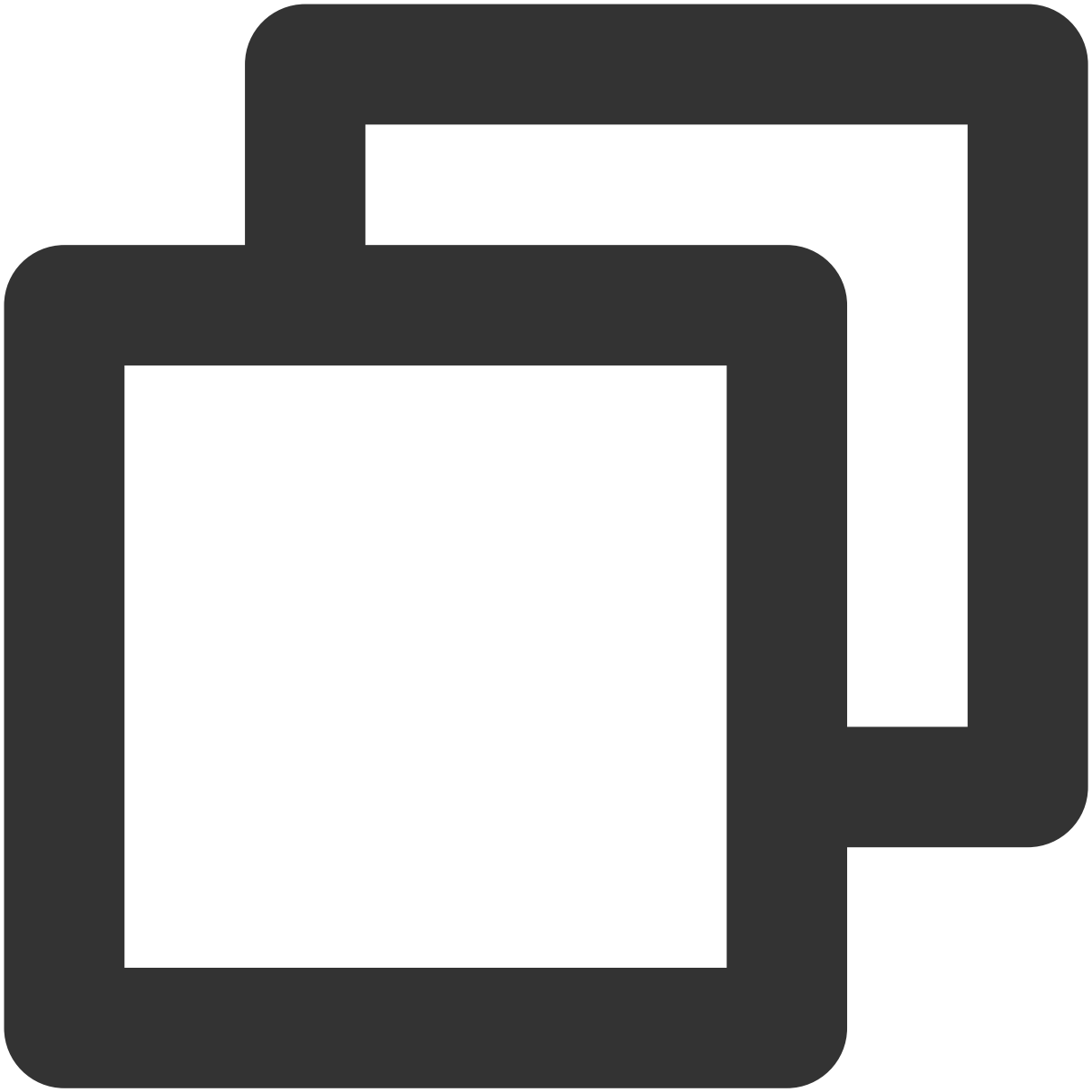


```
void reject(TUICommonDefine.Callback callback);
```

ignore

This API is used to ignore a call. After receiving the `onCallReceived()` , you can call this API to ignore the call. The caller will receive the `onUserLineBusy` callback.

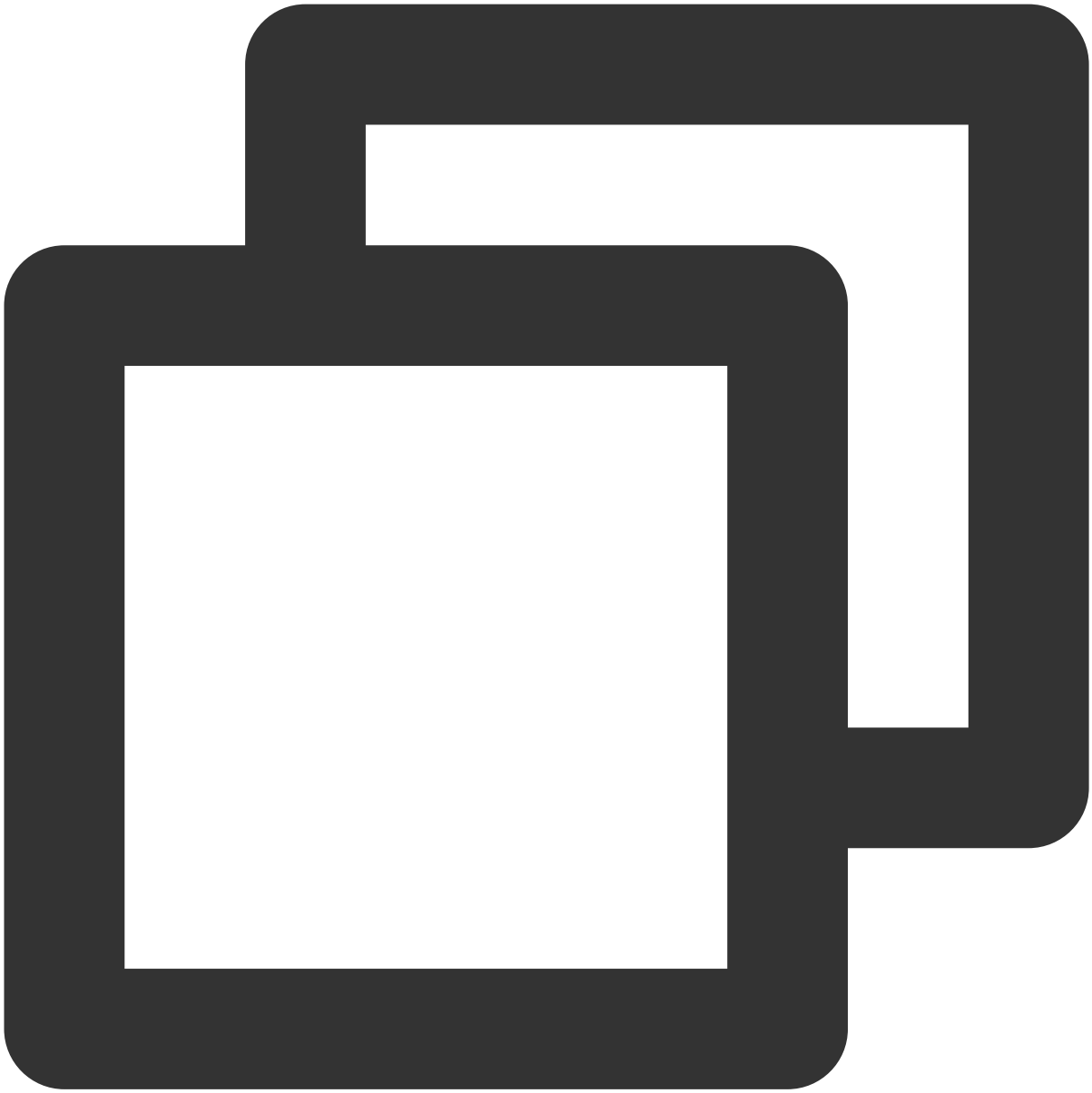
Note: If your project involves live streaming or conferencing, you can also use this API to implement the “in a meeting” or “on air” feature.



```
void ignore(TUICommonDefine.Callback callback);
```

hangup

This API is used to end a call.

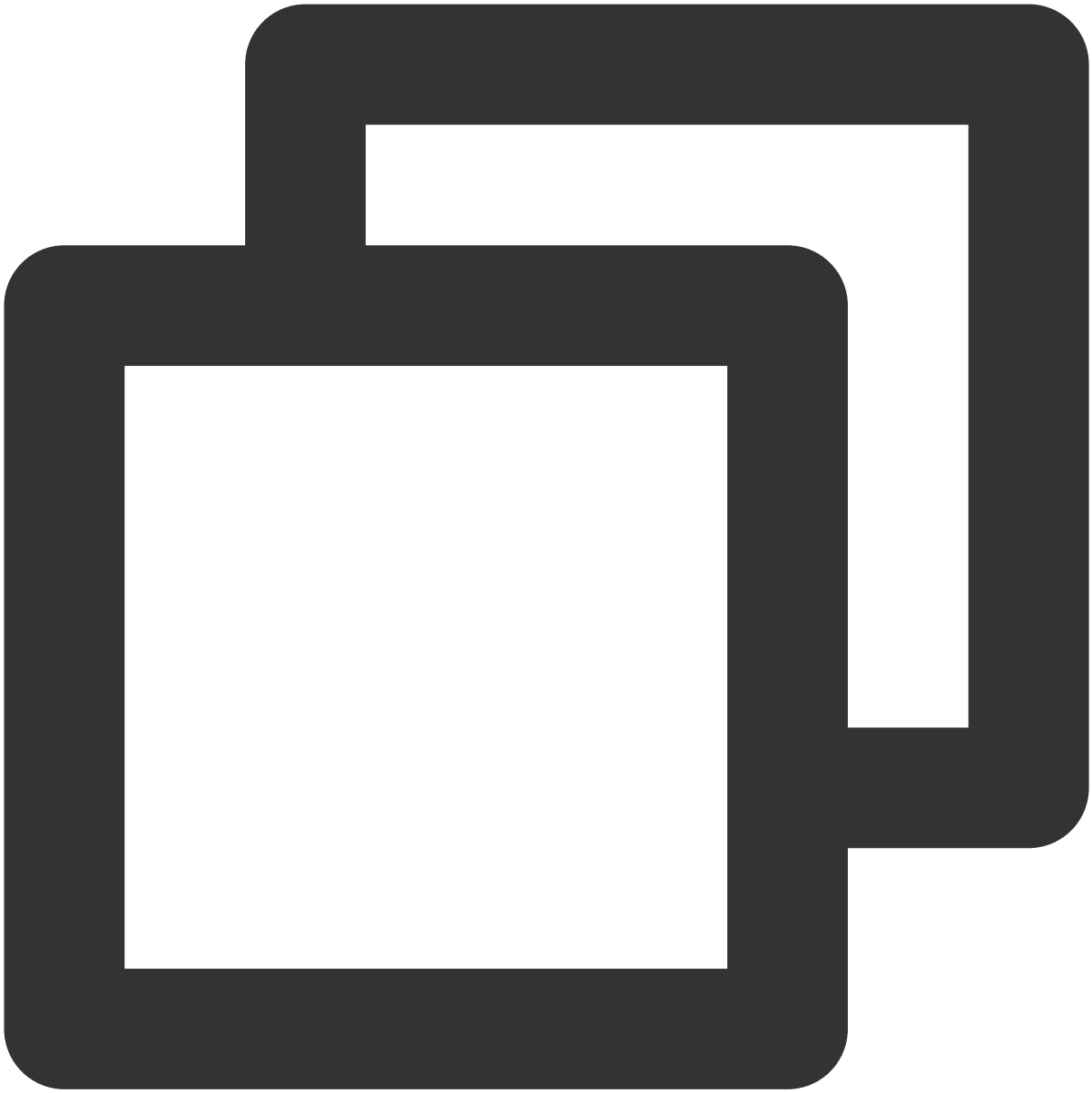


```
void hangup(TUICommonDefine.Callback callback);
```

inviteUser

This API is used to invite users to the current group call.

This API is called by a participant of a group call to invite new users.



```
void inviteUser(List<String> userIdList, TUICallDefine.CallParams params,
                TUICommonDefine.ValueCallback callback);
```

The parameters are described below:

Parameter	Type	Description
userIdList	List	The target user IDs.
params	TUICallDefine.CallParams	An additional parameter. such as roomID, call timeout, offline push info,etc

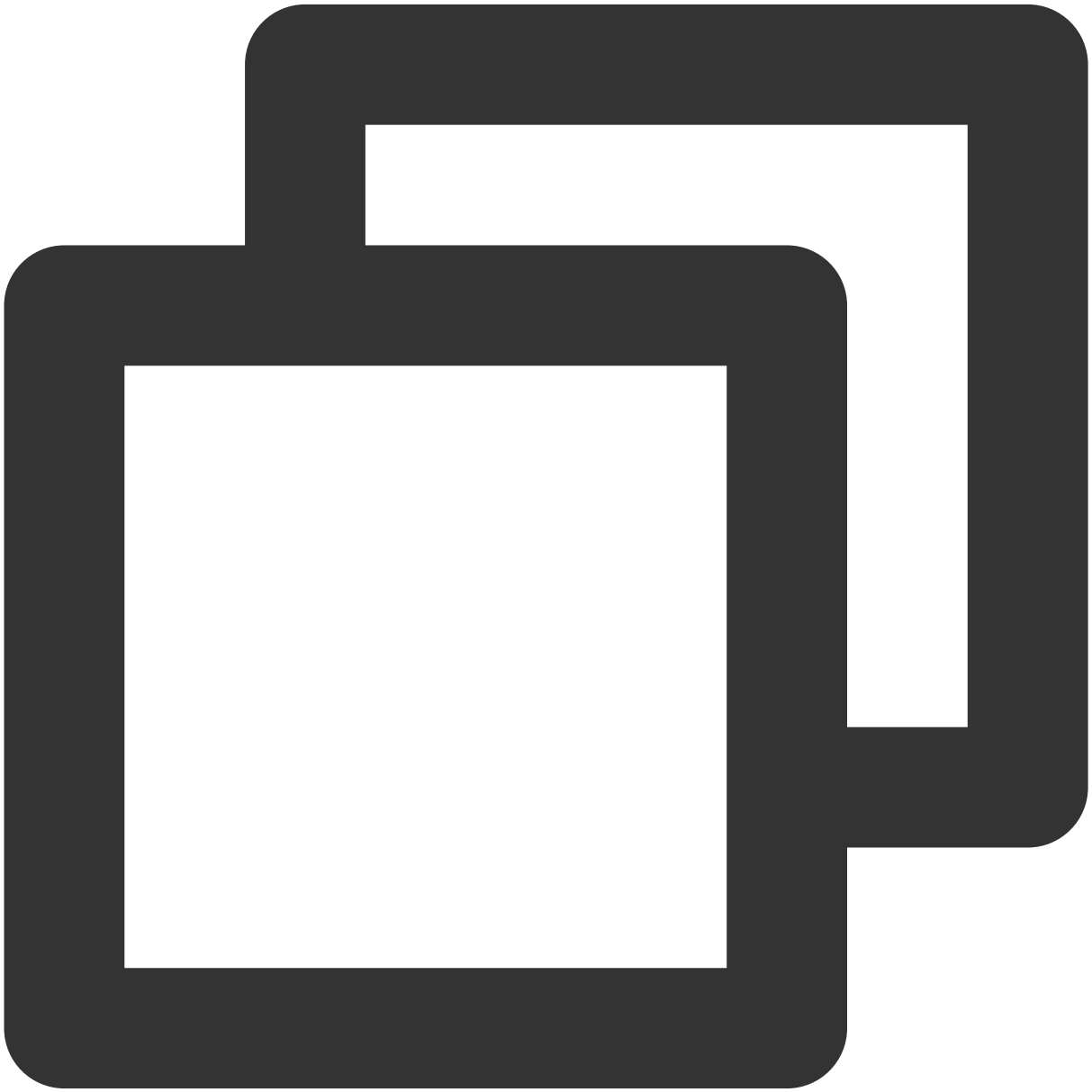
Notice：

In this case, the custom RoomId is invalid. The SDK will invite others to join the room where the inviter is currently located.

joinInGroupCall

This API is used to join a group call.

This API is called by a group member to join the group's call.



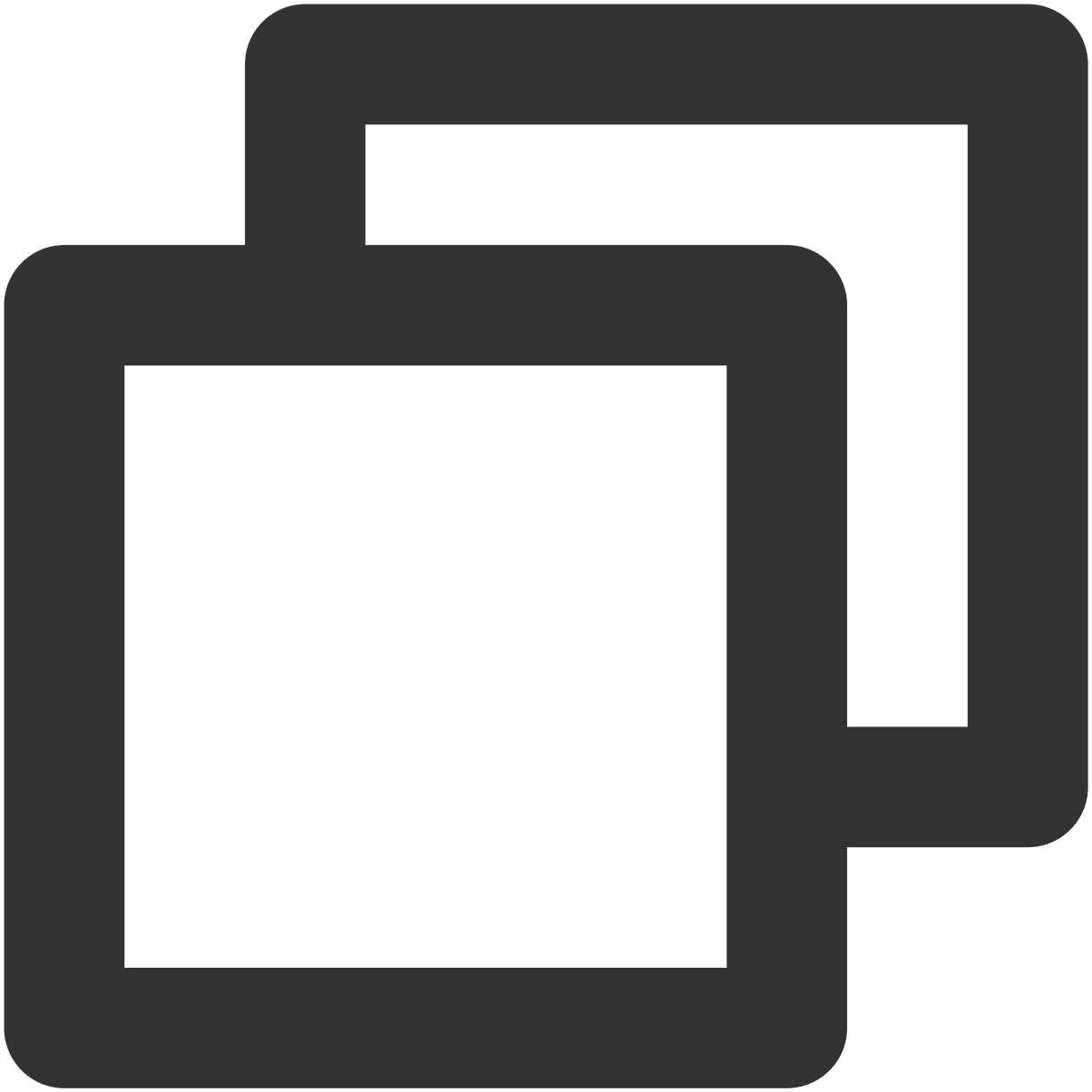
```
void joinInGroupCall(TUICommonDefine.RoomId roomId, String groupId,
                     TUICallDefine.MediaType callMediaType, TUICommonDefine.Callbac
```

The parameters are described below:

Parameter	Type	Description
roomId	TUICommonDefine.RoomId	The room ID.
groupId	String	The group ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

switchCallMediaType

This API is used to change the call type.



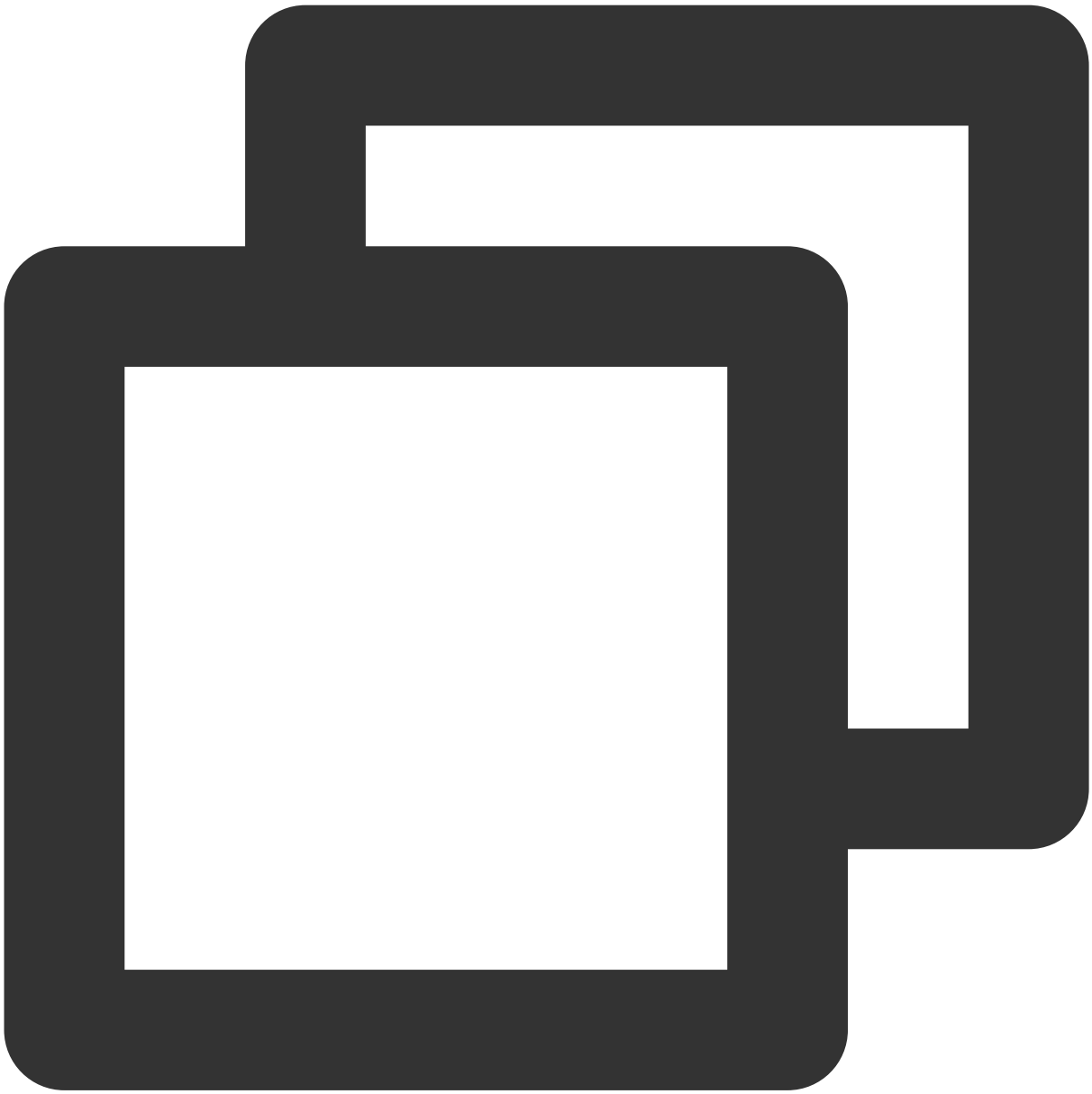
```
void switchCallMediaType(TUICallDefine.MediaType callMediaType);
```

The parameters are described below:

Parameter	Type	Description
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

startRemoteView

This API is used to subscribe to the video stream of a remote user. For it to work, make sure you call it after `setRenderView`.



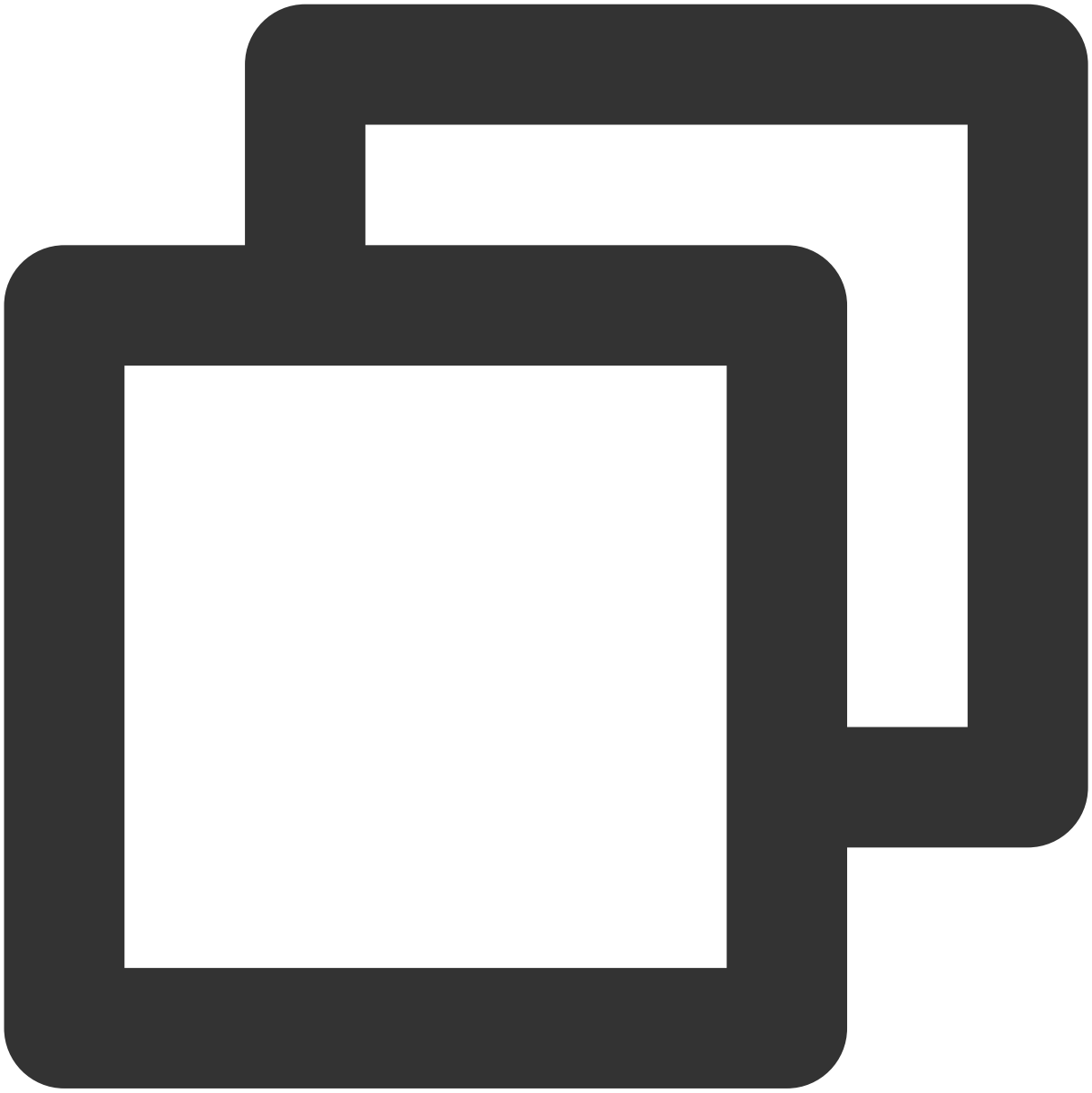
```
void startRemoteView(String userId, TUIVideoView videoView, TUICommonDefine.PlayCal
```

The parameters are described below:

Parameter	Type	Description
userId	String	The target user ID.
videoView	TUIVideoView	The view to be rendered.

stopRemoteView

This API is used to unsubscribe from the video stream of a remote user.



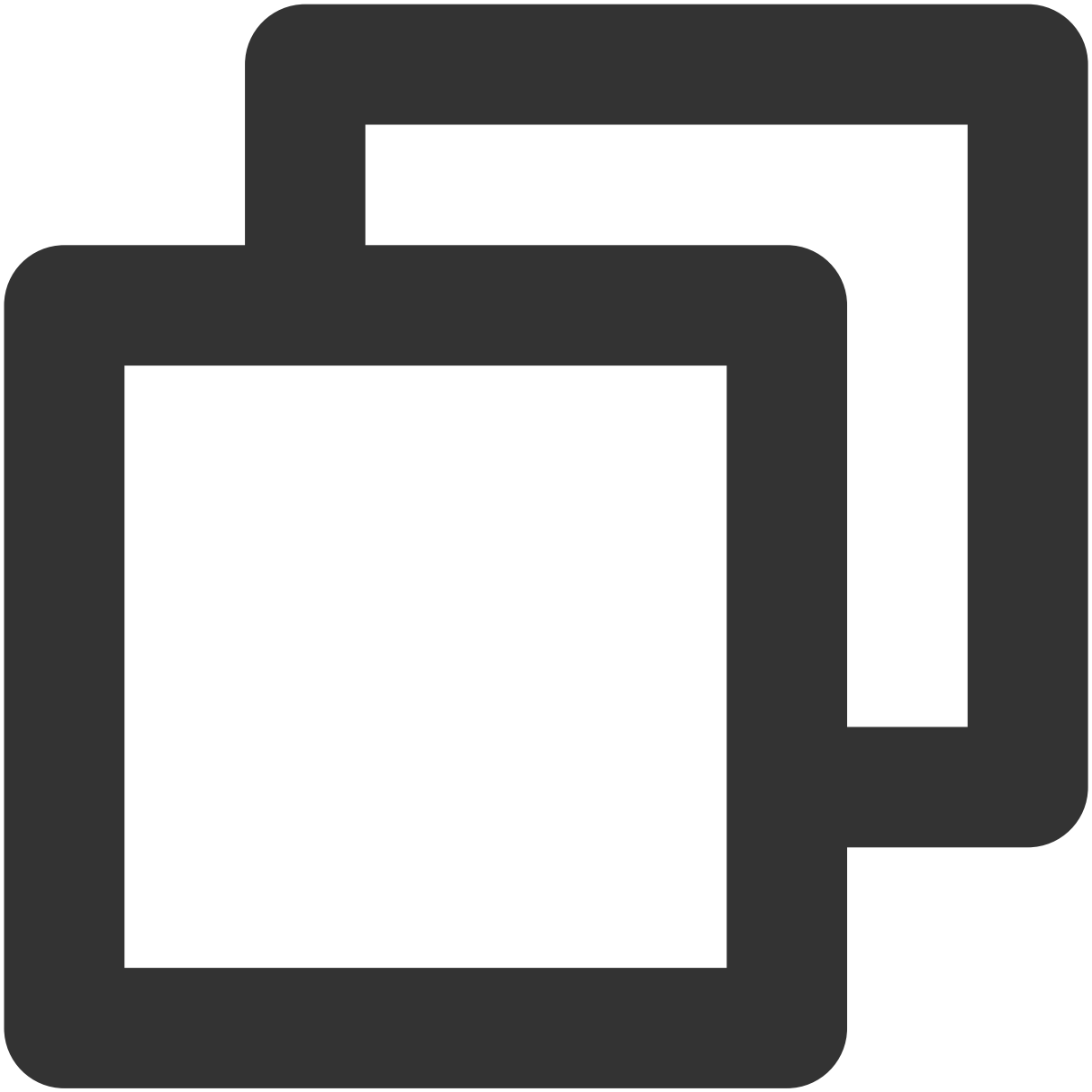
```
void stopRemoteView(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The target user ID.

openCamera

This API is used to turn the camera on.



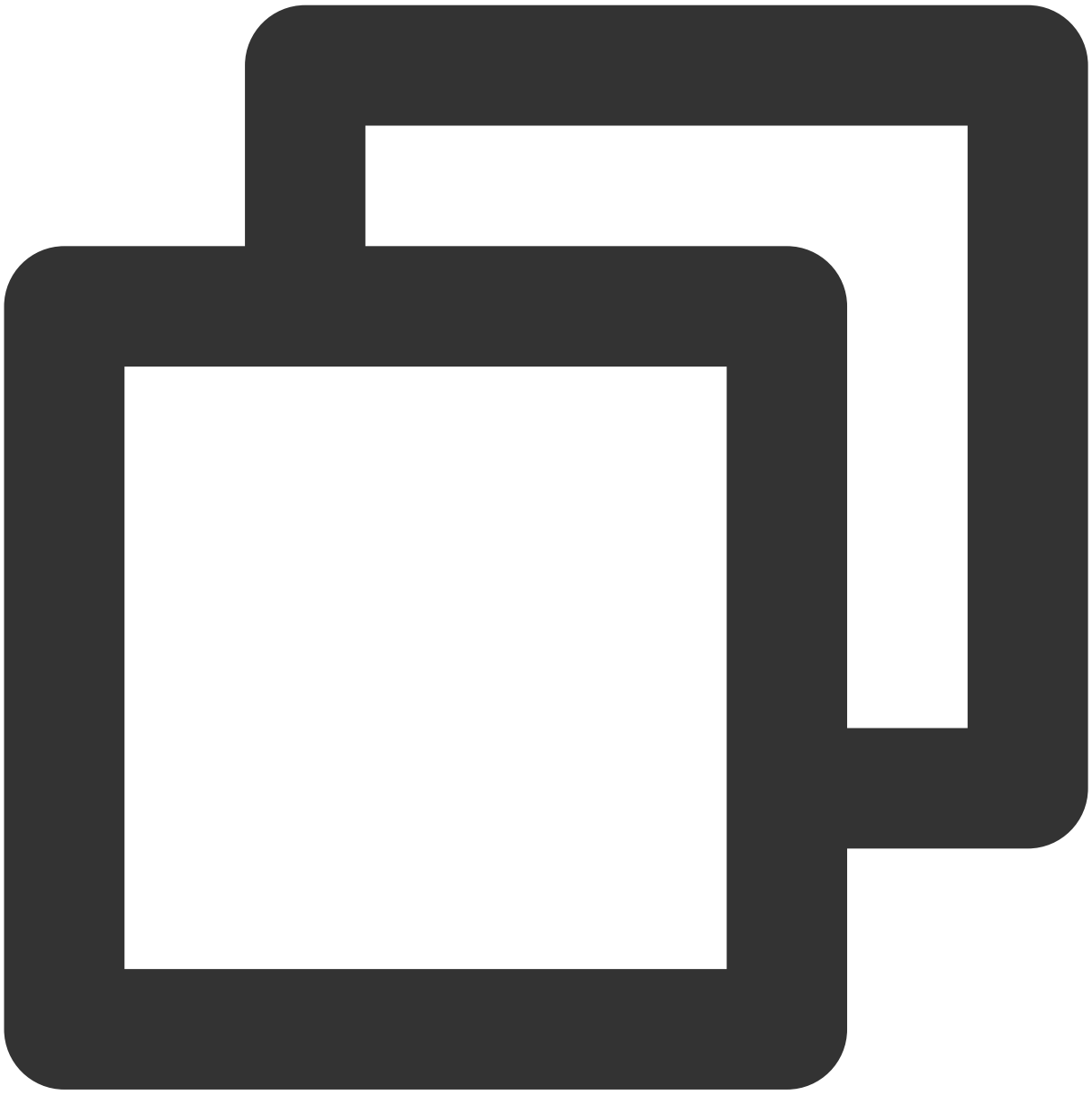
```
void openCamera(TUICommonDefine.Camera camera, TUIVideoView videoView, TUICommonDef
```

The parameters are described below:

Parameter	Type	Description
camera	TUICommonDefine.Camera	The front or rear camera.
videoView	TUIVideoView	The view to be rendered.

closeCamera

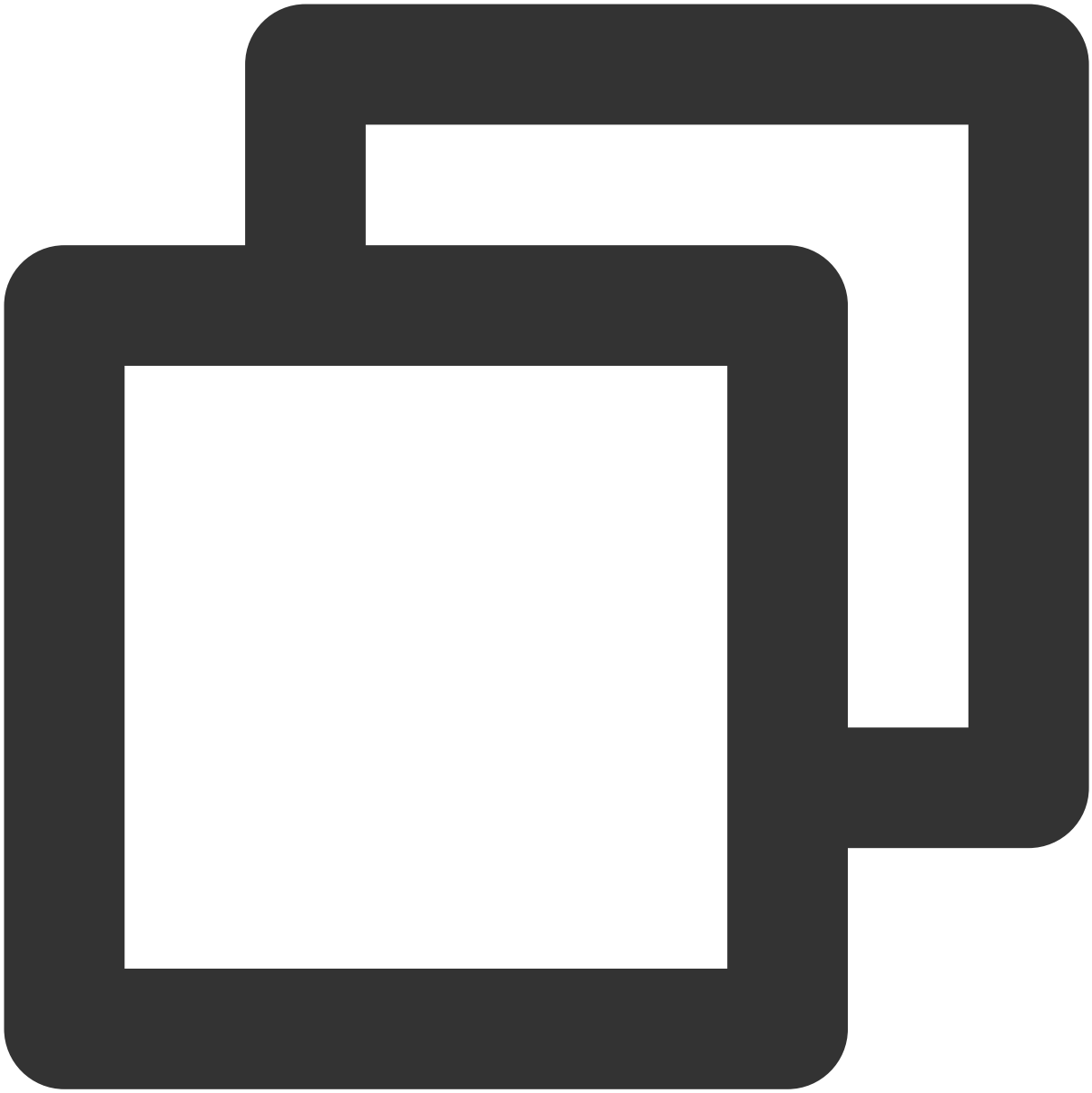
This API is used to turn the camera off.



```
void closeCamera();
```

switchCamera

This API is used to switch between the front and rear cameras.



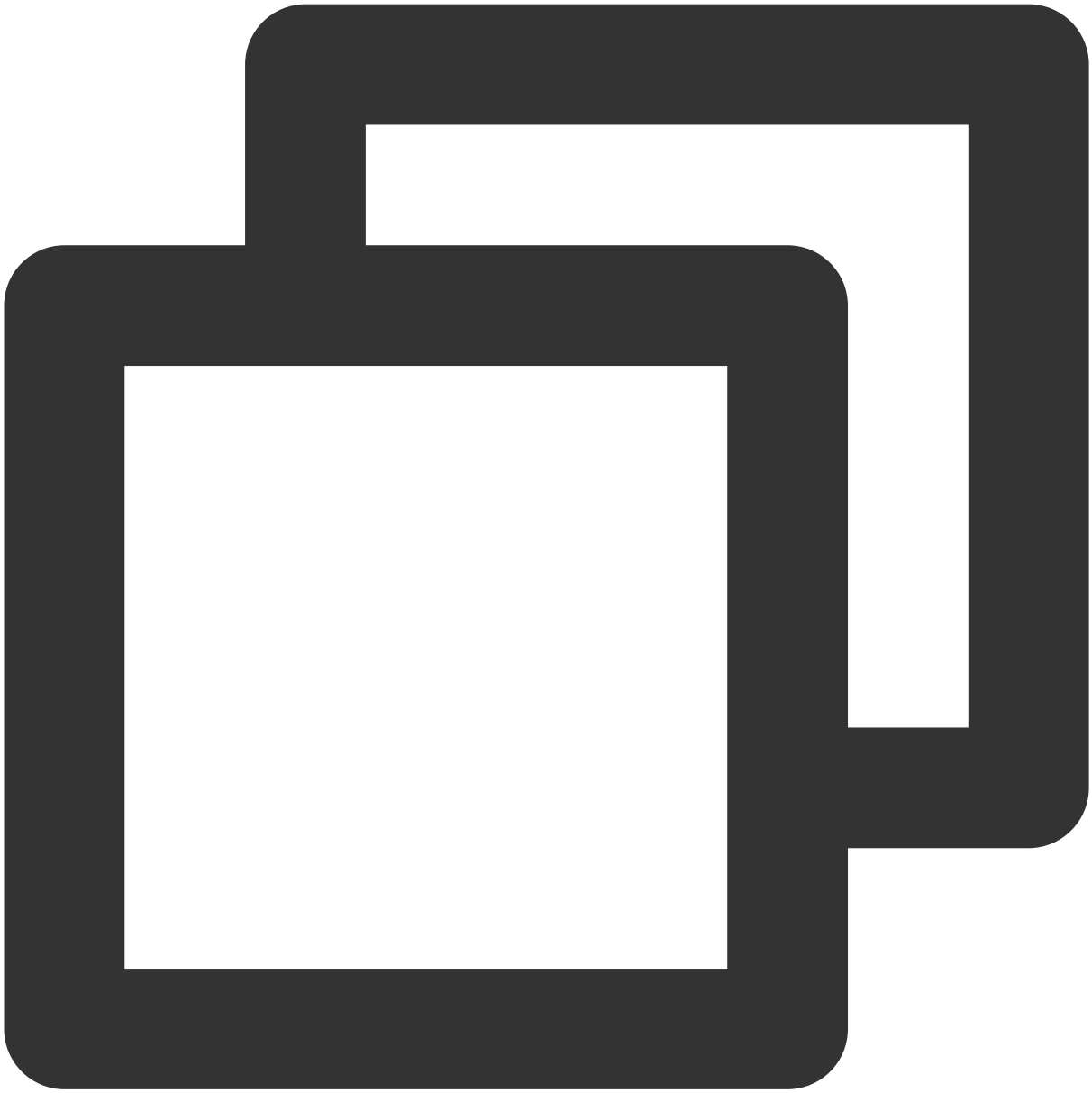
```
void switchCamera(TUICommonDefine.Camera camera);
```

The parameters are described below:

Parameter	Type	Description
camera	TUICommonDefine.Camera	The front or rear camera.

openMicrophone

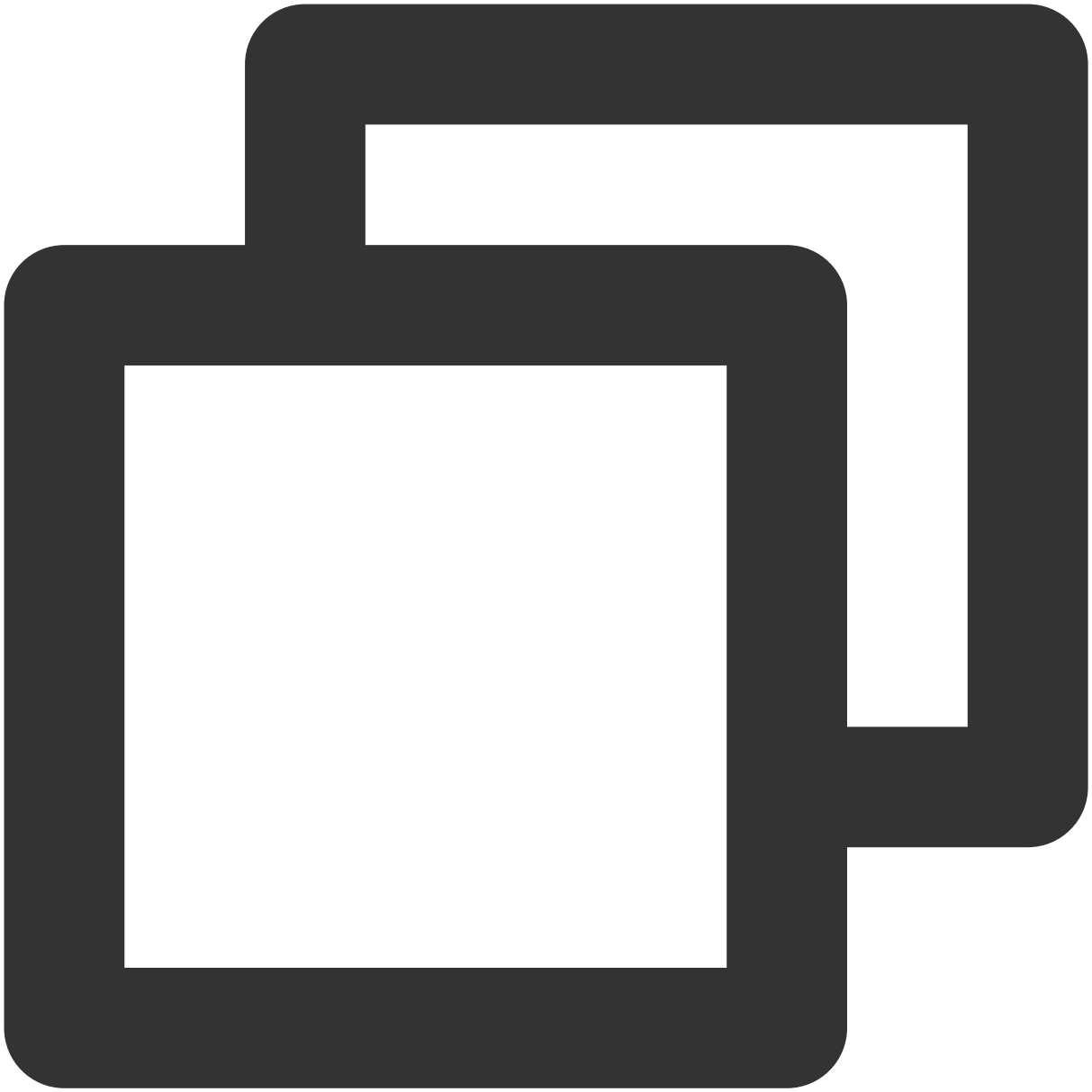
This API is used to turn the mic on.



```
void openMicrophone(TUICommonDefine.Callback callback);
```

closeMicrophone

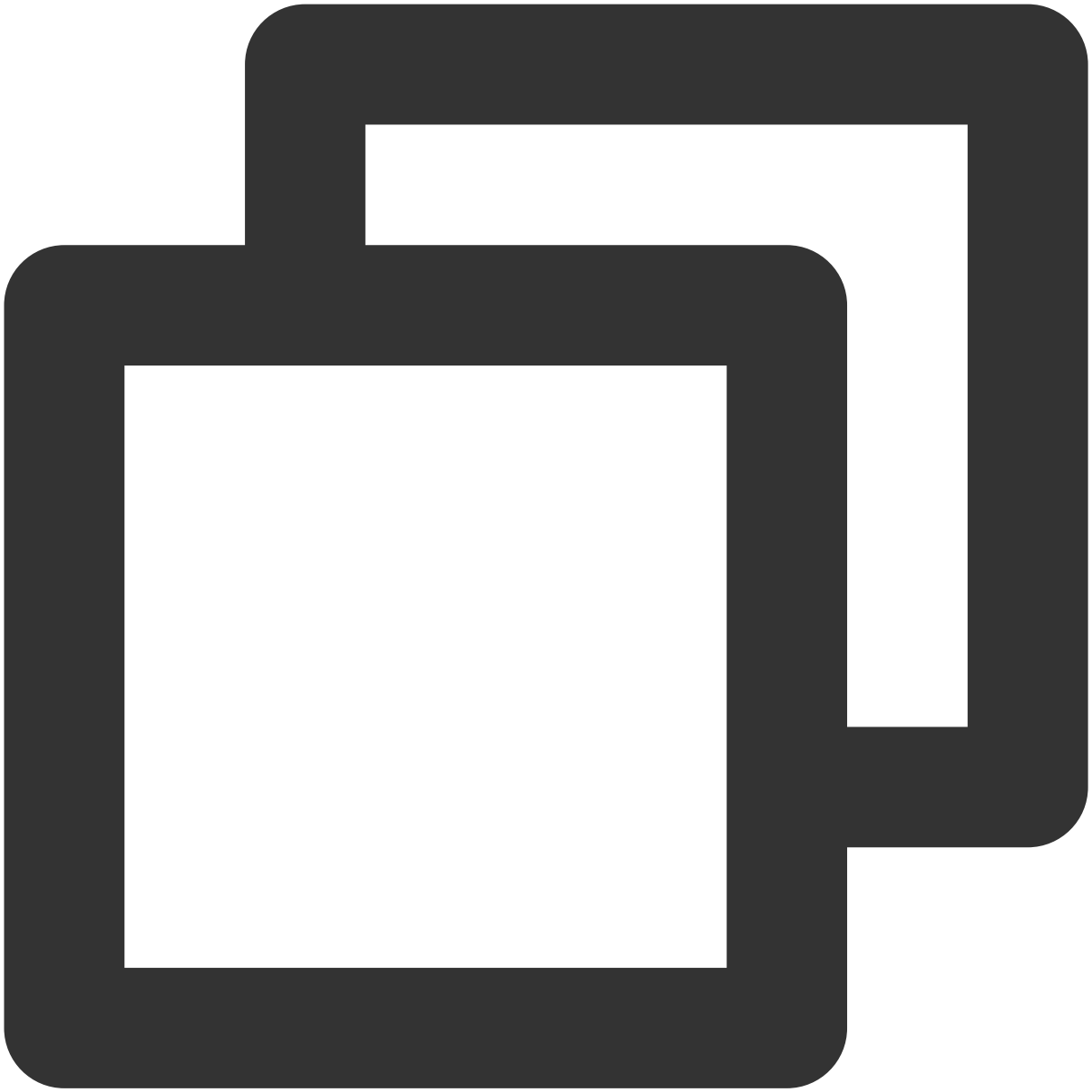
This API is used to turn the mic off.



```
void closeMicrophone();
```

selectAudioPlaybackDevice

This API is used to select the audio playback device (receiver or speaker). In call scenarios, you can use this API to turn on/off hands-free mode.



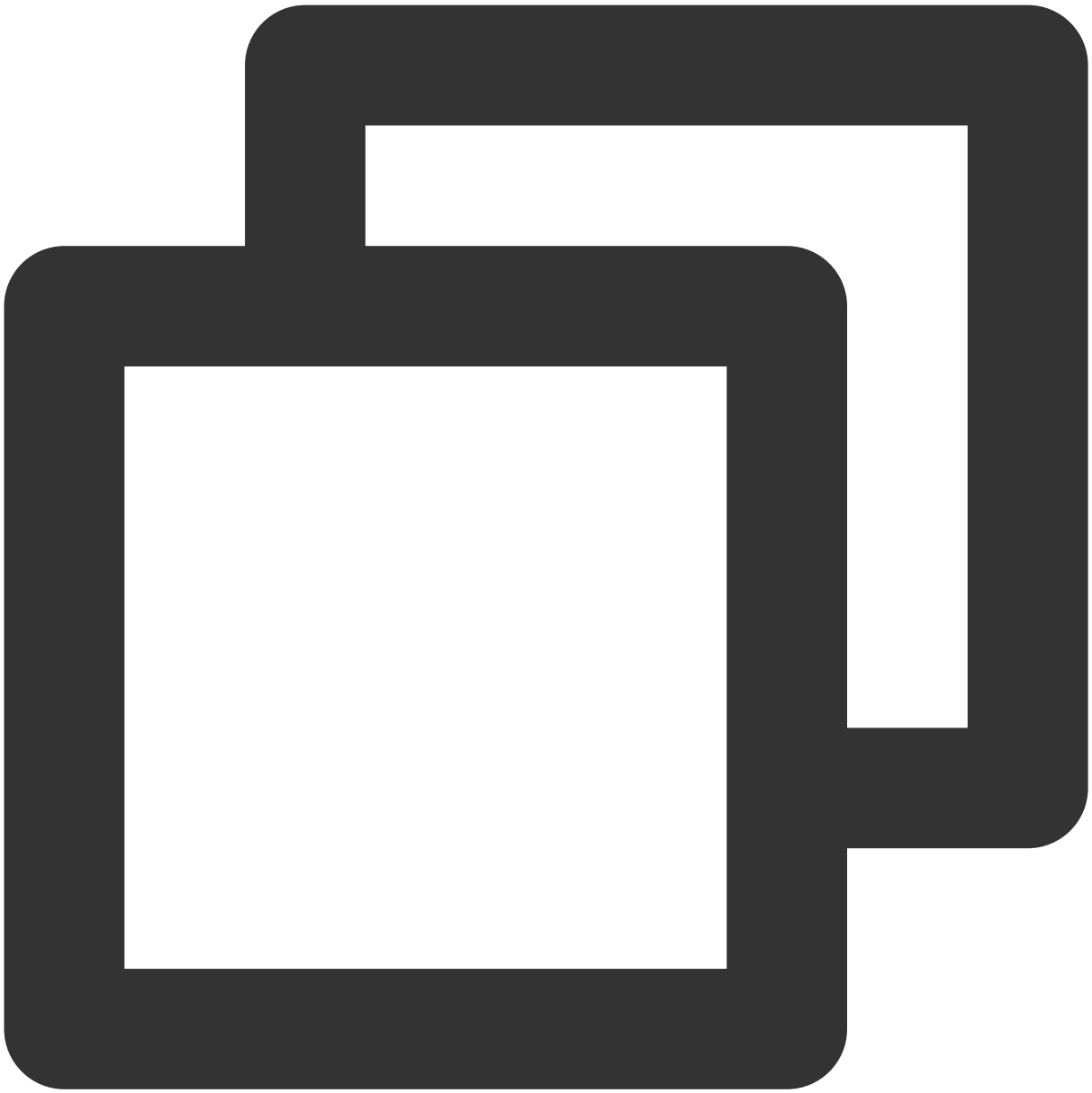
```
void selectAudioPlaybackDevice(TUICommonDefine.AudioPlaybackDevice device);
```

The parameters are described below:

Parameter	Type	Description
device	TUICommonDefine.AudioPlaybackDevice	The speaker or receiver.

setSelfInfo

This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.



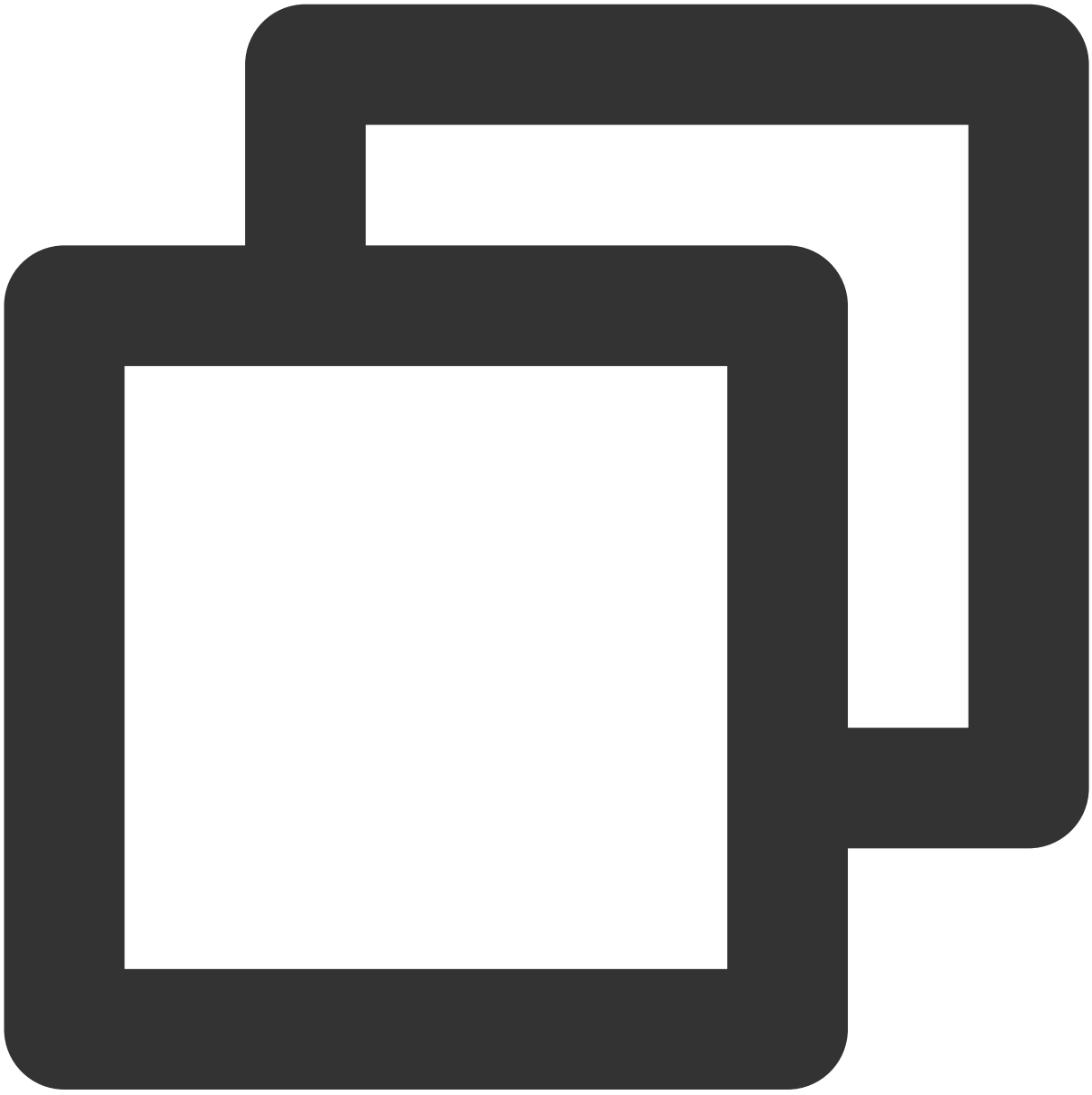
```
void setSelfInfo(String nickname, String avatar, TUICommonDefine.Callback callback)
```

The parameters are described below:

Parameter	Type	Description
nickname	String	The alias.
avatar	String	The URL of the profile photo.

enableMultiDeviceAbility

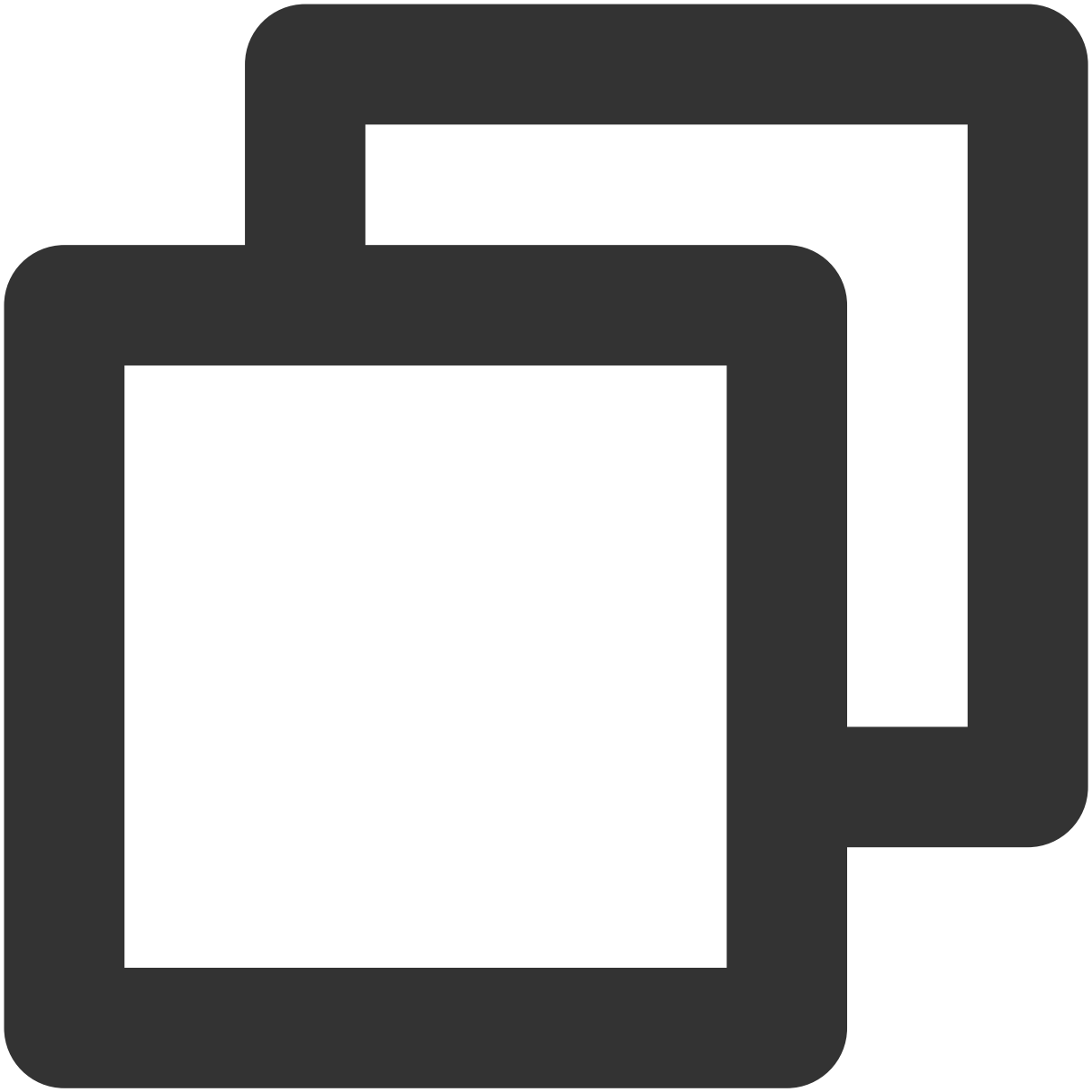
This API is used to set whether to enable multi-device login for `TUICallEngine` (supported by the premium package).



```
void enableMultiDeviceAbility(boolean enable, TUICommonDefine.Callback callback);
```

setVideoRenderParams

Set the rendering mode of video image.



```
void setVideoRenderParams(String userId, TUICommonDefine.VideoRenderParams params,
```

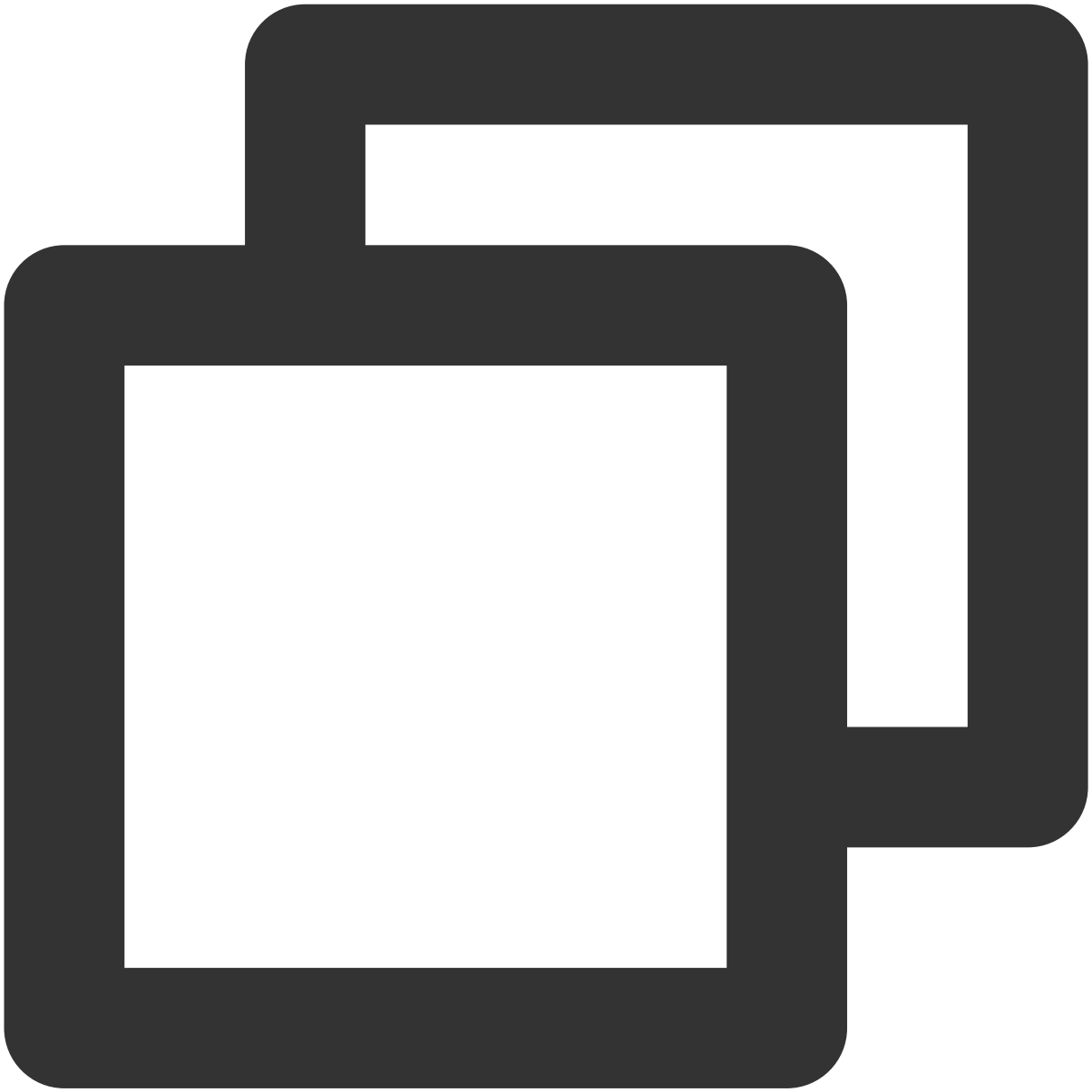
The parameters are described below:

Parameter	Type	Description
userId	String	The target user ID.
params	TUICommonDefine.VideoRenderParams	Video render parameters.

setVideoEncoderParams

Set the encoding parameters of video encoder.

This setting can determine the quality of image viewed by remote users, which is also the image quality of on-cloud recording files.



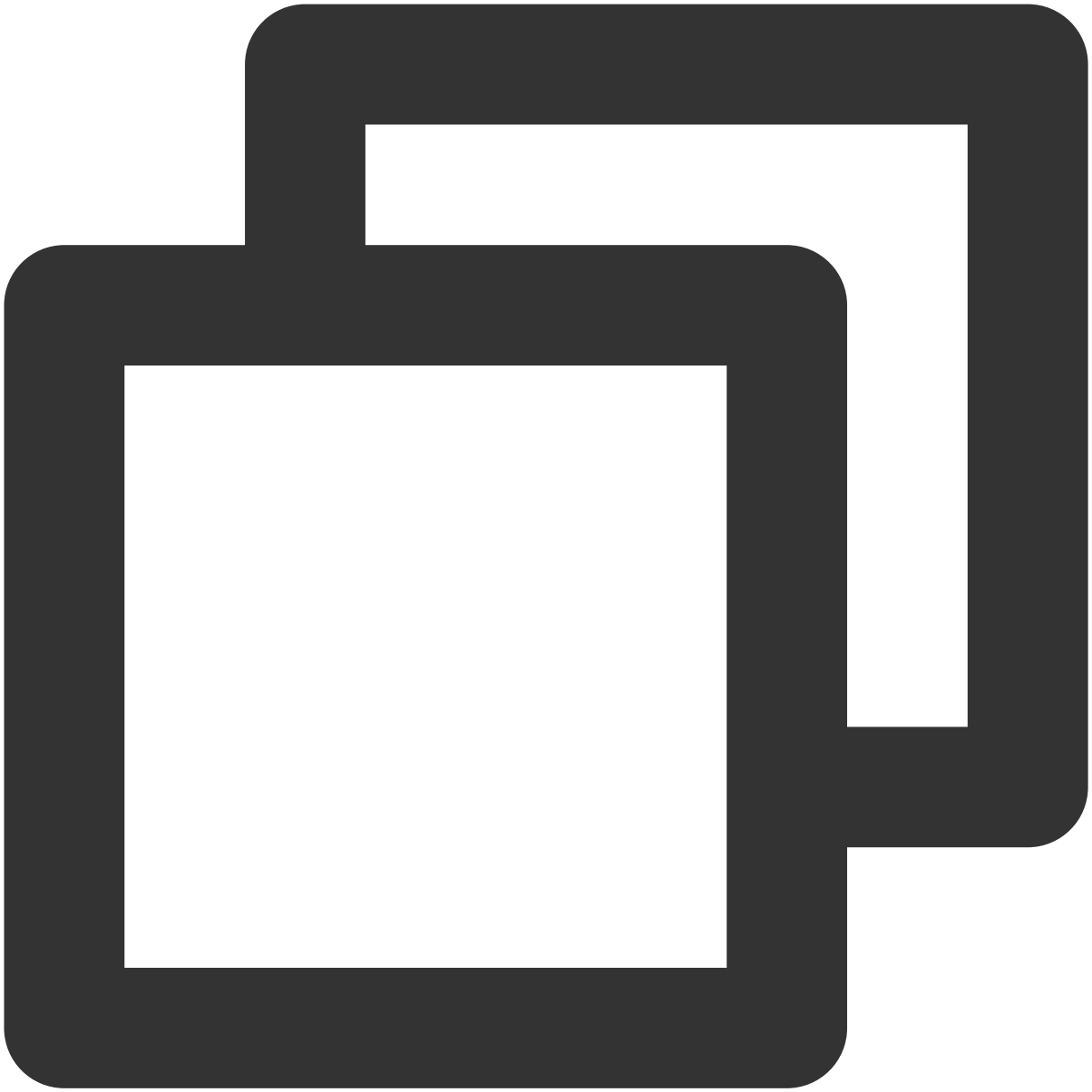
```
void setVideoEncoderParams(TUICommonDefine.VideoEncoderParams params, TUICommonDefi
```

The parameters are described below:

Parameter	Type	Description
params	TUICommonDefine.VideoEncoderParams	Video encoding parameters

getTRTCCloudInstance

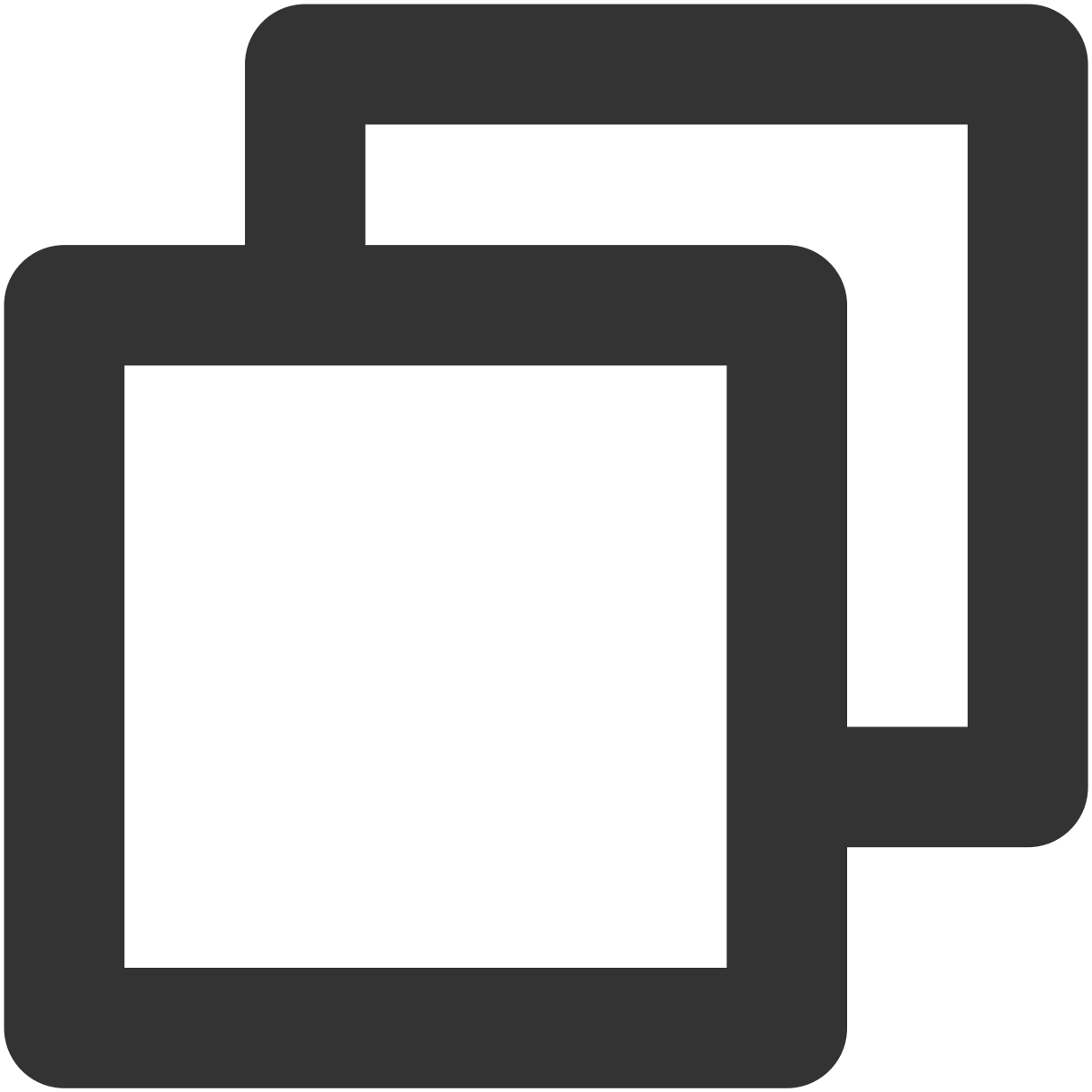
Advanced features.



```
TRTCCloud getTRTCCloudInstance();
```

setBeautyLevel

Set beauty level, support turning off default beauty.



```
void setBeautyLevel(float level, TUICommonDefine.Callback callback);
```

The parameters are described below:

Parameter	Type	Description
level	float	Beauty level, range: 0 - 9； 0 means turning off the effect, 9 means the most obvious effect.

TUICallObserver

Last updated：2024-01-17 11:58:53

TUICallObserver APIs

`TUICallObserver` is the callback class of `TUICallEngine`. You can use it to listen for events.

Overview

API	Description
onError	A call occurred during the call.
onCallReceived	A call invitation was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user was kicked offline.

onUserSigExpired	The user sig is expired.

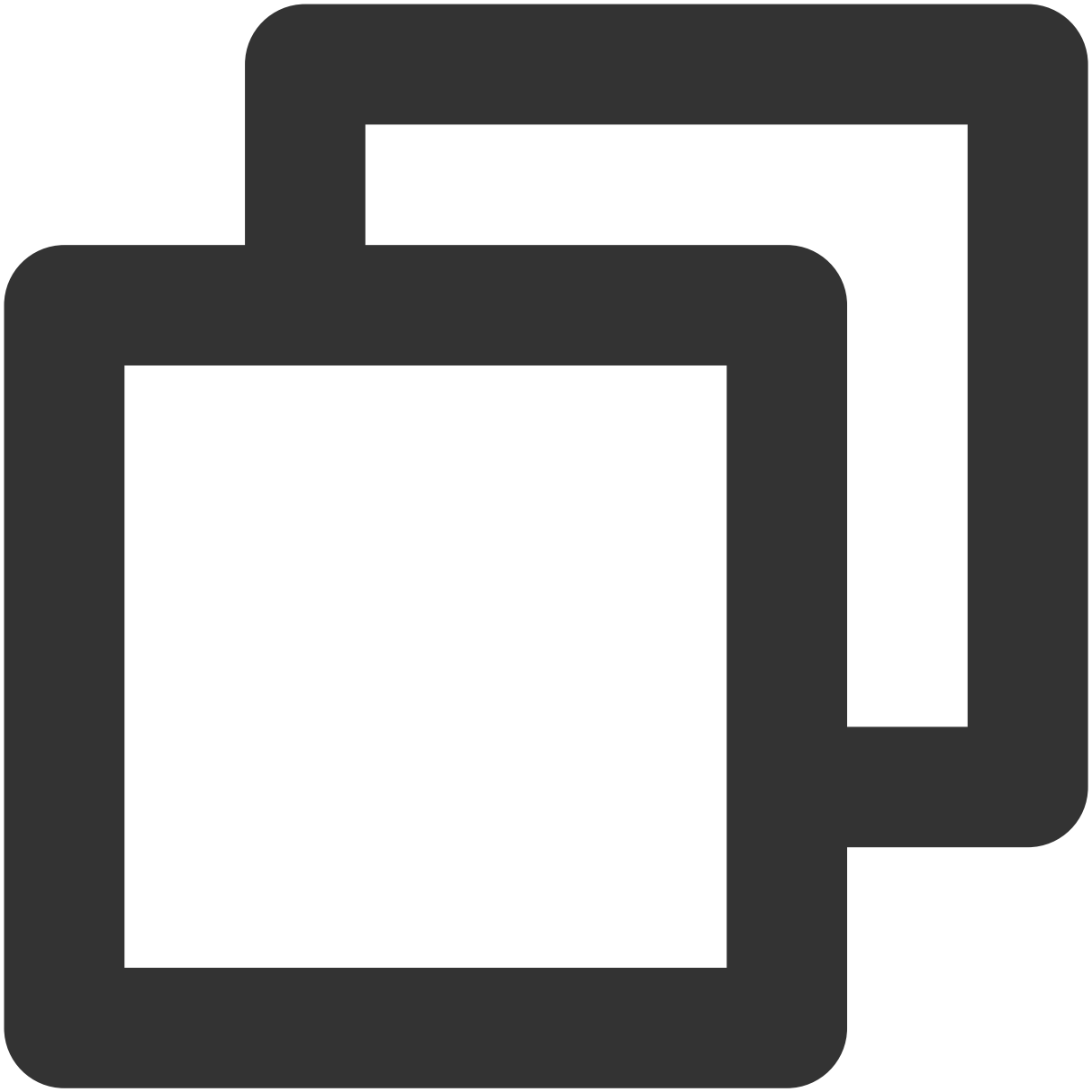
Details

onError

An error occurred.

Note

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users if necessary.



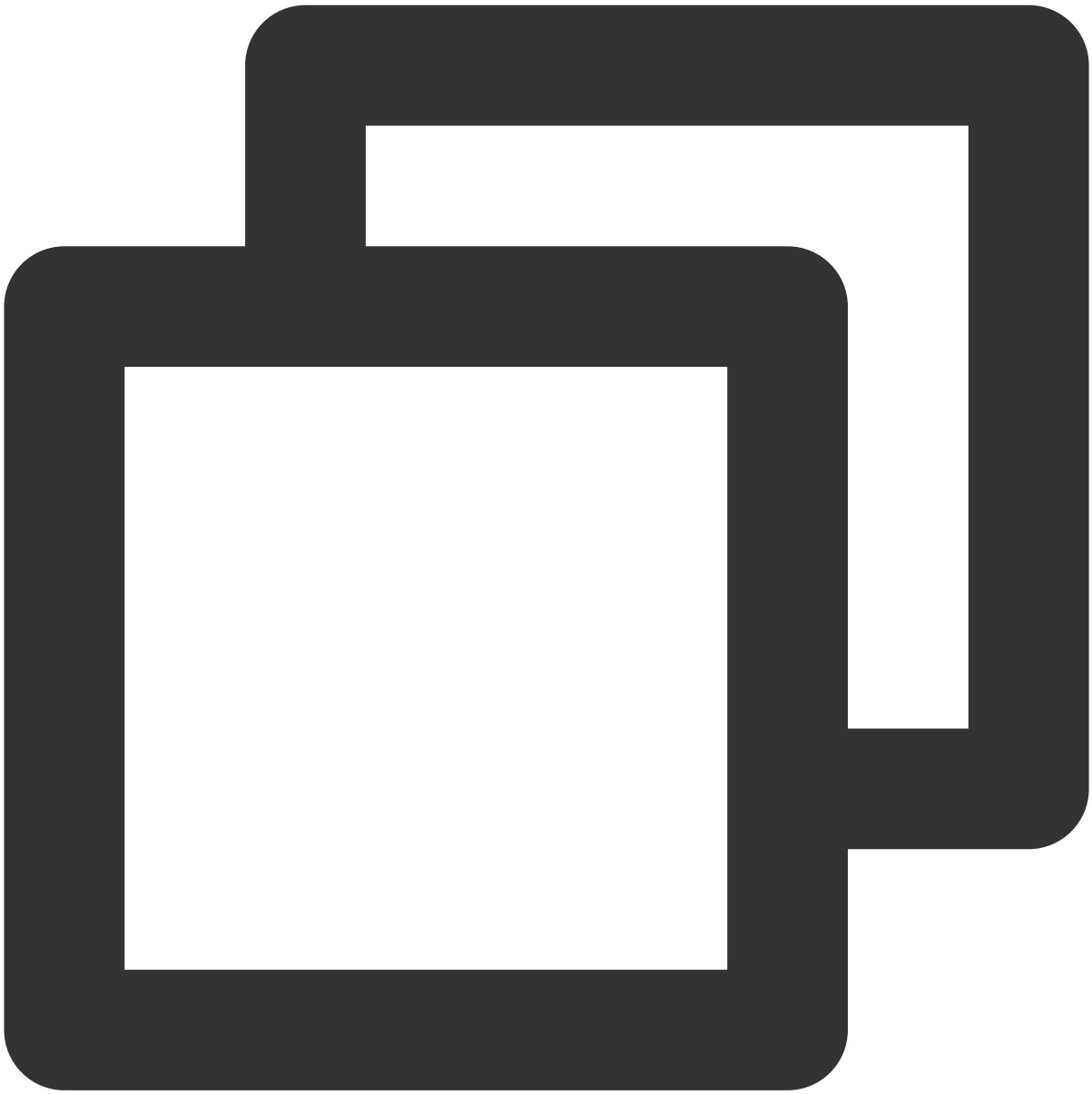
```
void onError(int code, String msg);
```

The parameters are described below:

Parameter	Type	Description
code	int	The error code.
msg	String	The error message.

onCallReceived

A call invitation was received. This callback is received by an invitee. You can listen for this event to determine whether to display the incoming call view.



```
void onCallReceived(String callerId, List<String> calleeIdList, String groupId,
                    TUICallDefine.MediaType callMediaType, String userData);
```

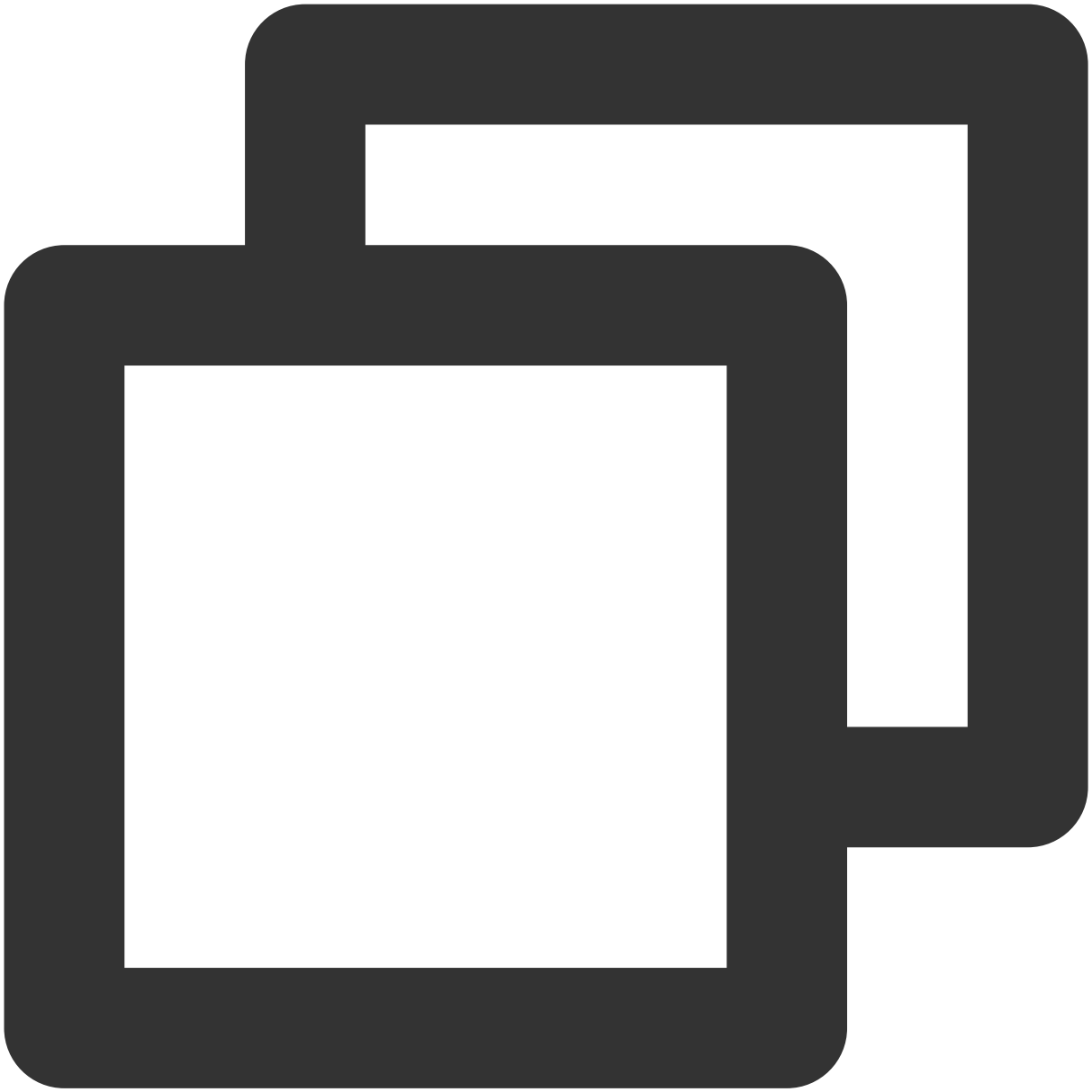
The parameters are described below:

Parameter	Type	Description
callerId	String	The user ID of the inviter.

calleeIdList	List	The invitee list.
groupId	String	The group ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.
userData	String	User-added extended fields., Please refer to: TUICallDefine.CallParams

onCallCancelled

The call was canceled by the inviter or timed out. This callback is received by an invitee. You can listen for this event to determine whether to show a missed call message.
This indicates that the call was canceled by the caller, timed out by the callee, rejected by the callee, or the callee was busy. There are multiple scenarios involved. You can listen to this event to achieve UI logic such as missed calls and resetting UI status.
Call cancellation by the caller: The caller receives the callback (userId is himself); the callee receives the callback (userId is the ID of the caller)
Callee timeout: the caller will simultaneously receive the onUserNoResponse and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID)
Callee rejection: The caller will simultaneously receive the onUserReject and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID)
Callee busy: The caller will simultaneously receive the onUserLineBusy and onCallCancelled callbacks (userId is his own ID);
Abnormal interruption: The callee failed to receive the call , he receives this callback (userId is his own ID).



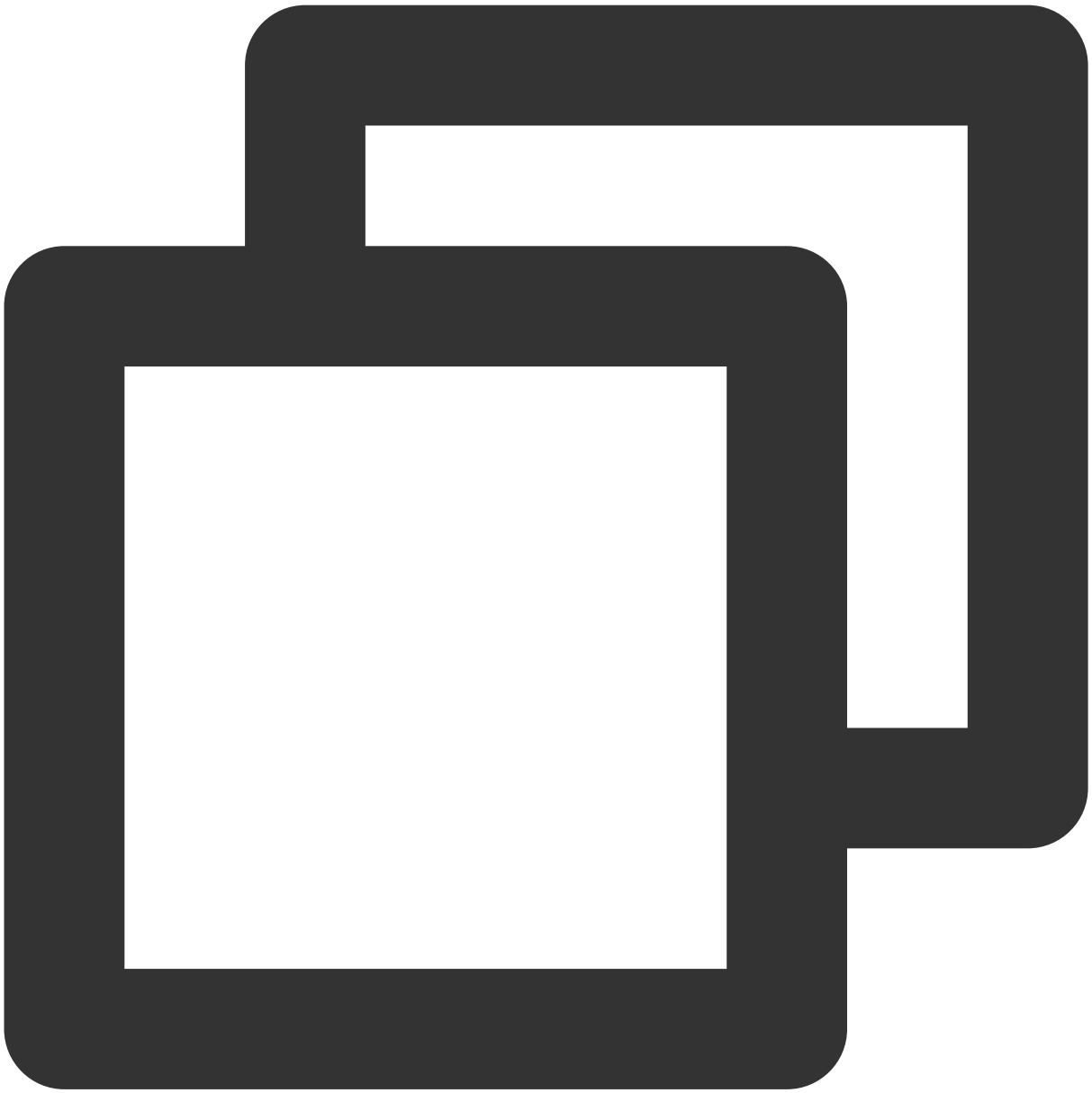
```
void onCallCancelled(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the inviter.

onCallBegin

The call was connected. This callback is received by both the inviter and invitees. You can listen for this event to determine whether to start on-cloud recording, content moderation, or other tasks.



```
void onCallBegin(TUICommonDefine.RoomId roomId, TUICallDefine.MediaType callMediaTy
```

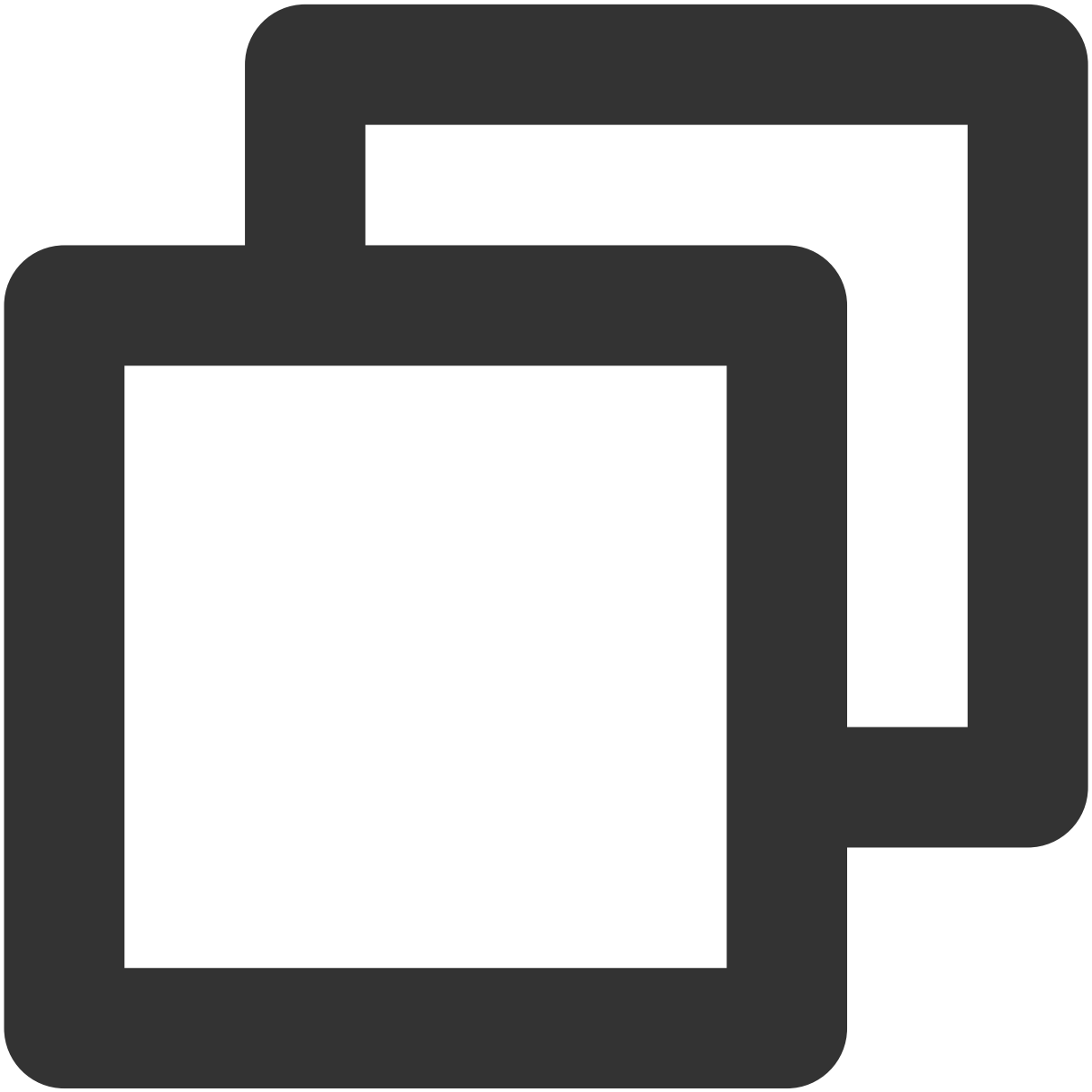
The parameters are described below:

Parameter	Type	Description
roomId	TUICommonDefine.RoomId	The room ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.

callRole	TUICallDefine.Role	The role, which can be caller or callee.

onCallEnd

The call ended. This callback is received by both the inviter and invitees. You can listen for this event to determine when to display call information such as call duration and call type, or stop on-cloud recording.



```
void onCallEnd(TUICommonDefine.RoomId roomId, TUICallDefine.MediaType callMediaType
```

The parameters are described below:

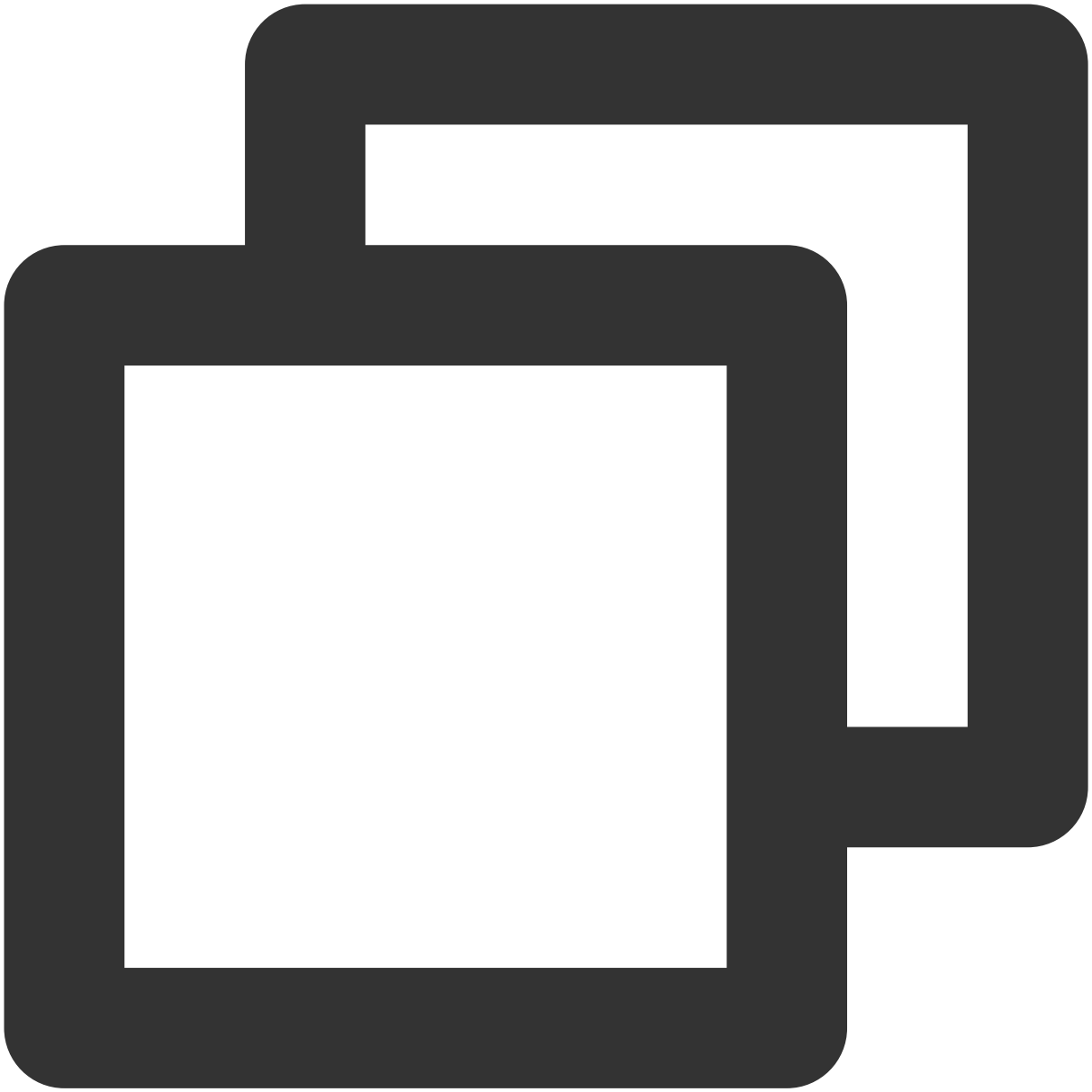
Parameter	Type	Description
roomId	TUICommonDefine.RoomId	The room ID.
callMediaType	TUICallDefine.MediaType	The call type, which can be video or audio.
callRole	TUICallDefine.Role	The role, which can be caller or callee.
totalTime	long	The call duration.

Note：

Client-side callbacks are often lost when errors occur, for example, when the process is closed. If you need to measure the duration of a call for billing or other purposes, we recommend you use the RESTful API.

onCallMediaTypeChanged

The call type changed.



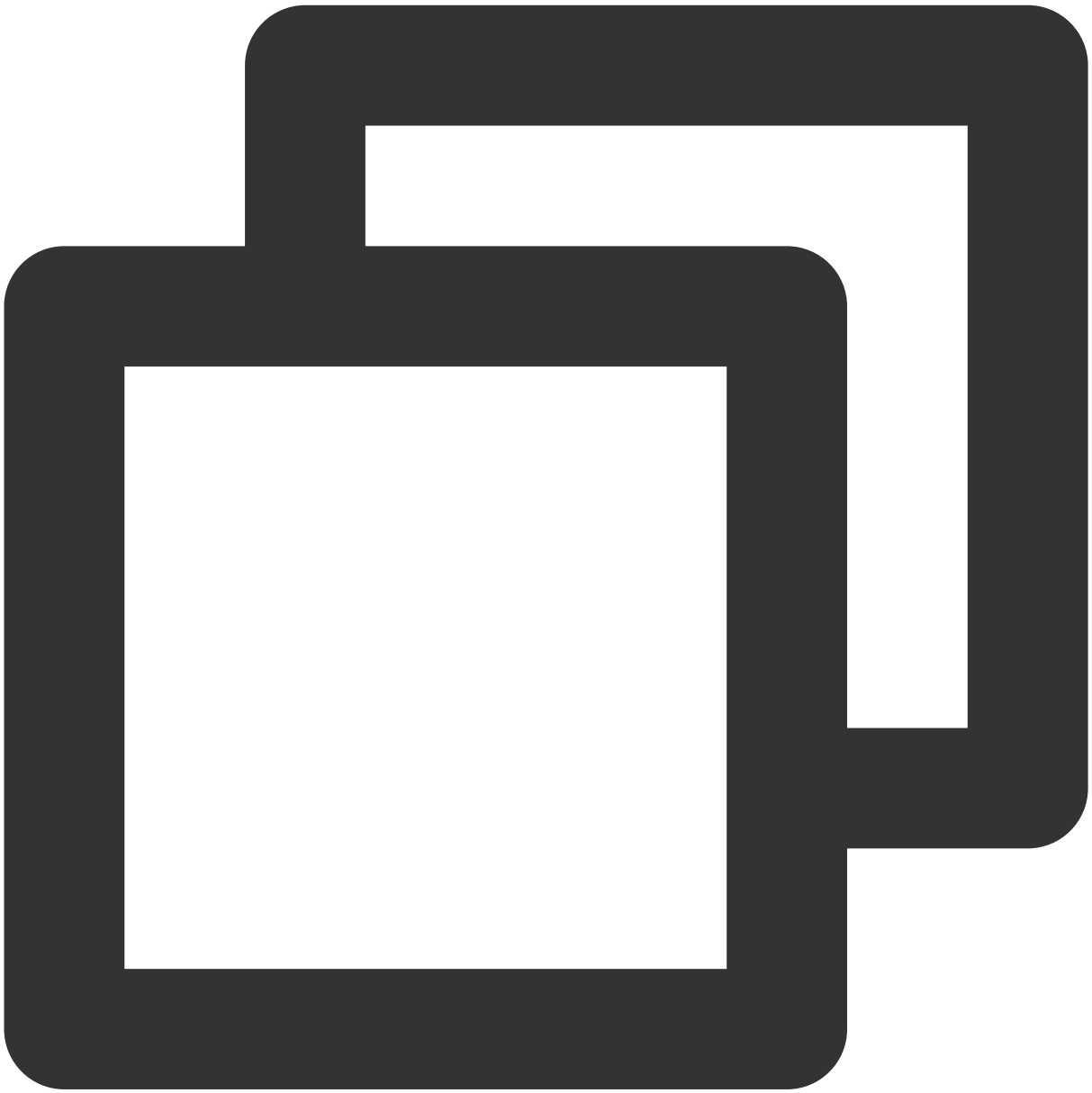
```
void onCallMediaTypeChanged(TUICallDefine.MediaType oldCallMediaType,TUICallDefine.
```

The parameters are described below:

Parameter	Type	Description
oldCallMediaType	TUICallDefine.MediaType	The call type before the change.
newCallMediaType	TUICallDefine.MediaType	The call type after the change.

onUserReject

The call was rejected. In a one-to-one call, only the inviter will receive this callback. In a group call, all invitees will receive this callback.



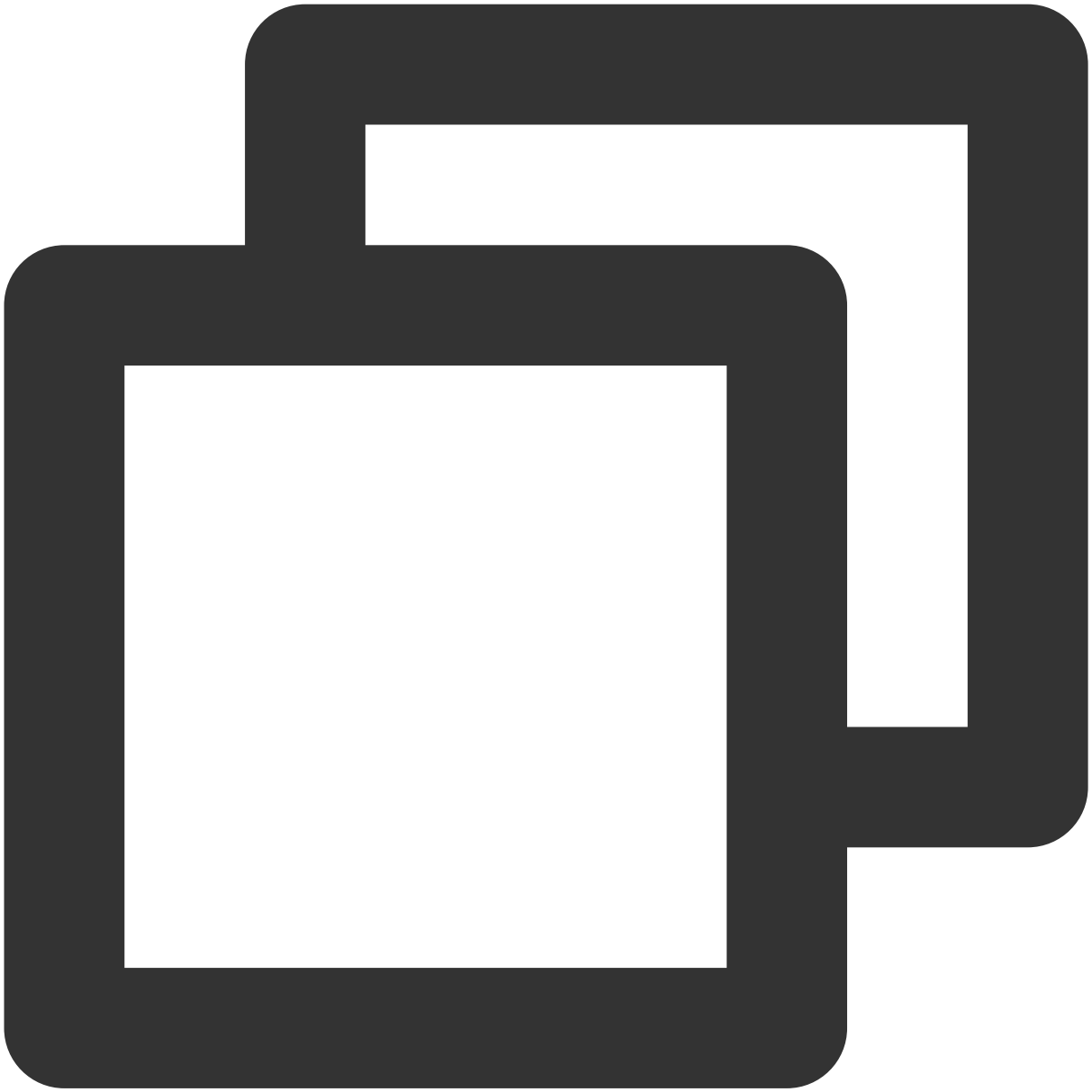
```
void onUserReject(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the invitee who rejected the call.

onUserNoResponse

A user did not respond.



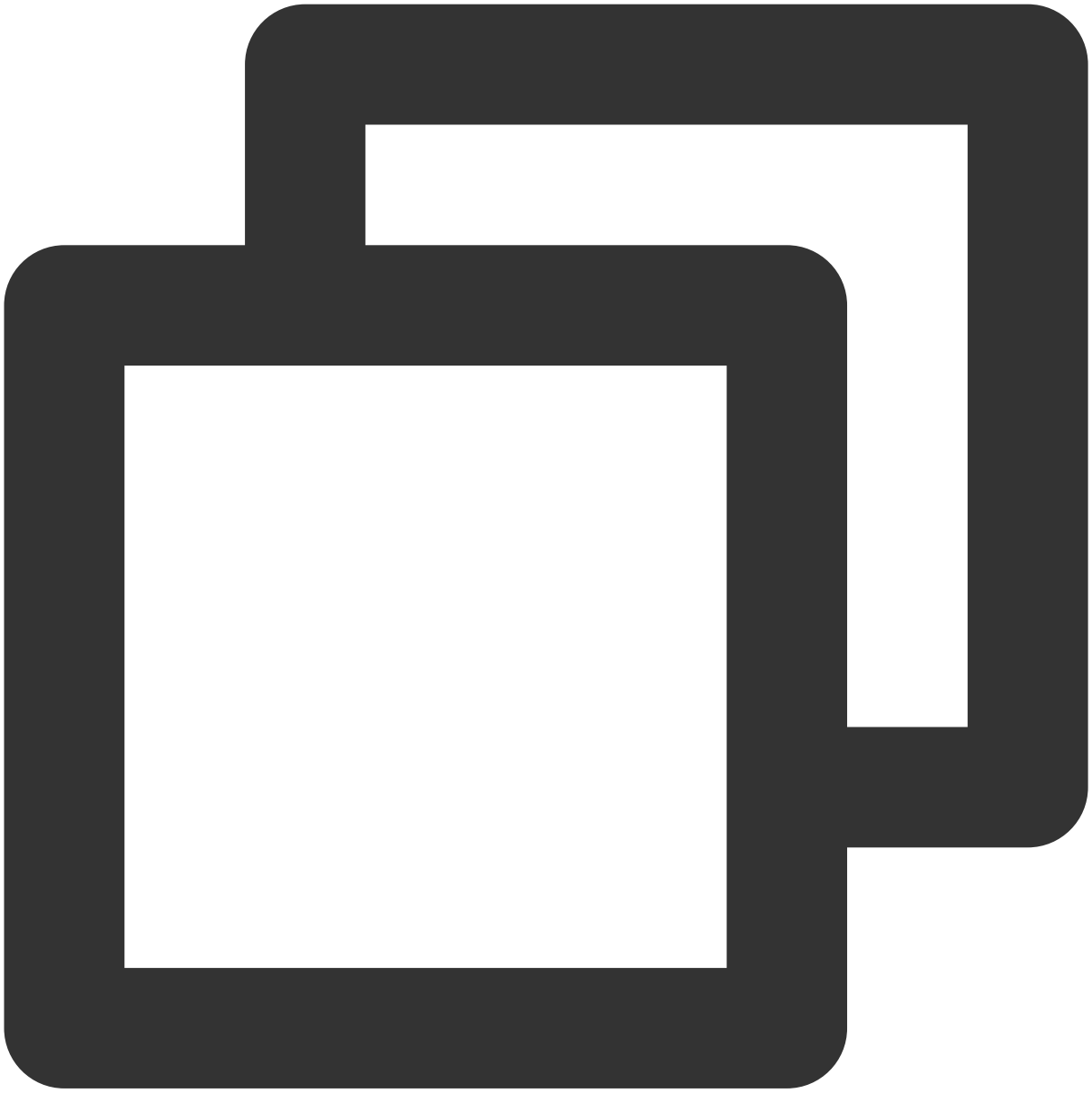
```
void onUserNoResponse(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the invitee who did not answer.

onUserLineBusy

A user is busy.



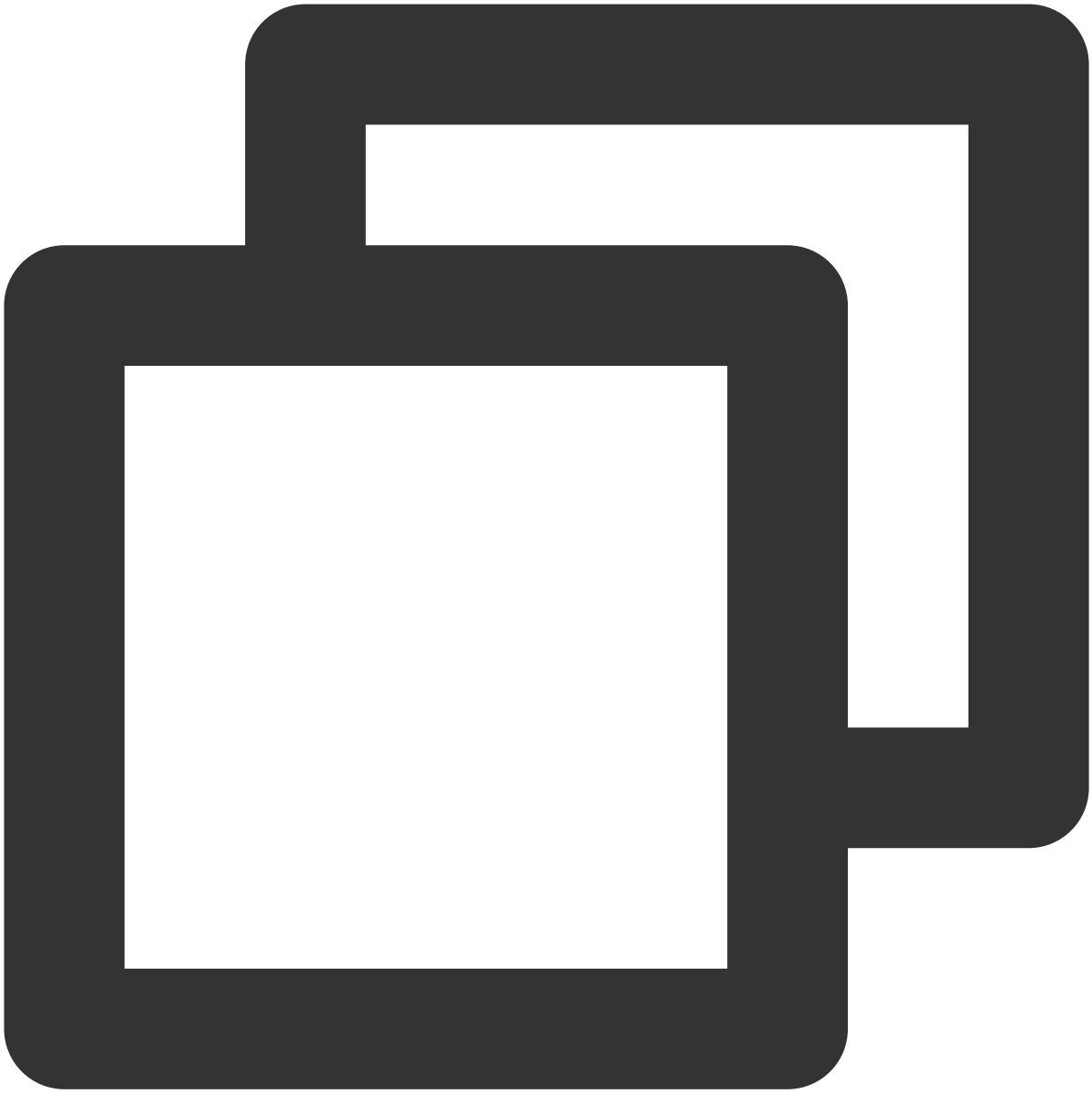
```
void onUserLineBusy(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the invitee who is busy.

onUserJoin

A user joined the call.



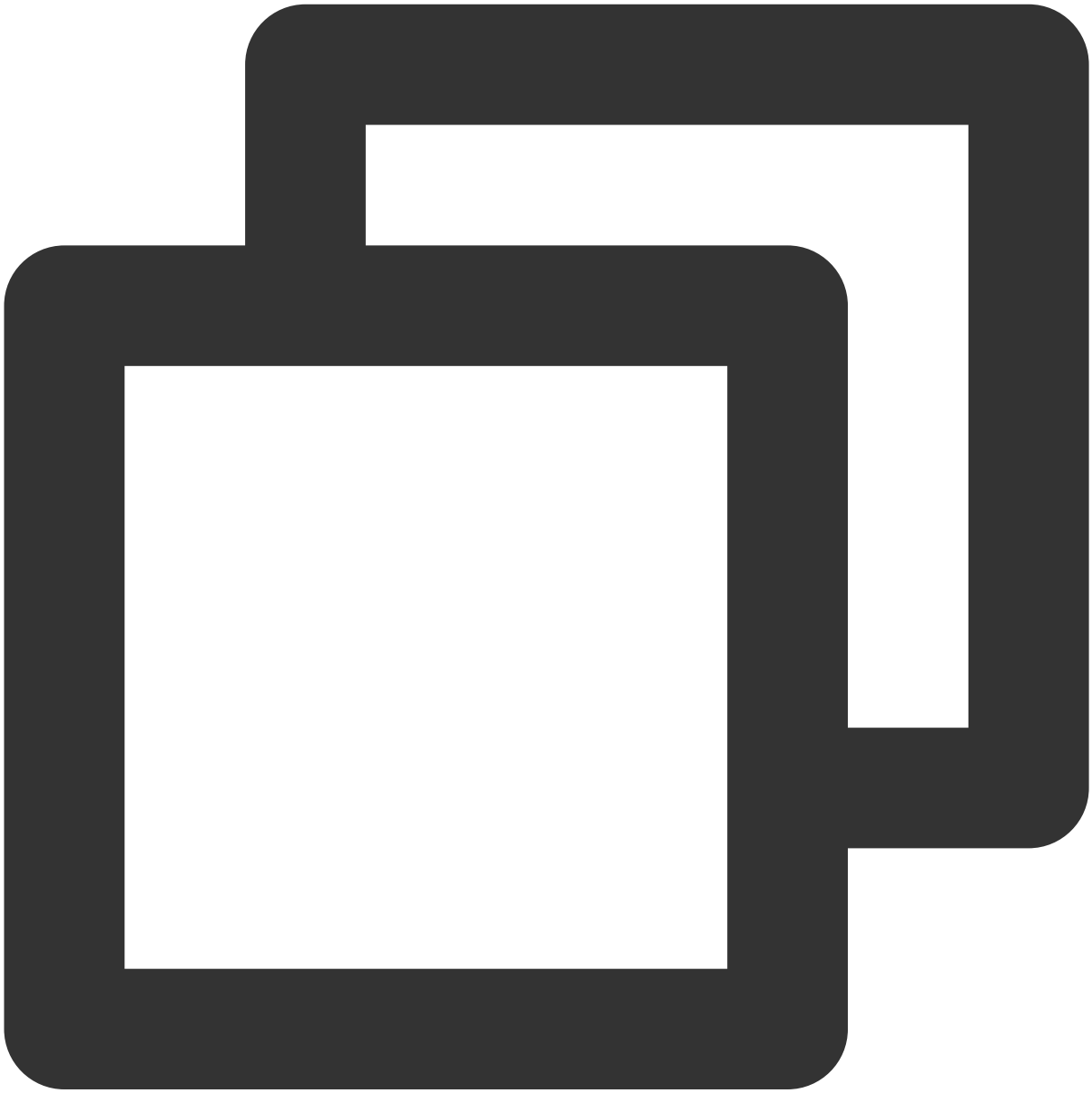
```
void onUserJoin(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The ID of the user who joined the call.

onUserLeave

A user left the call.



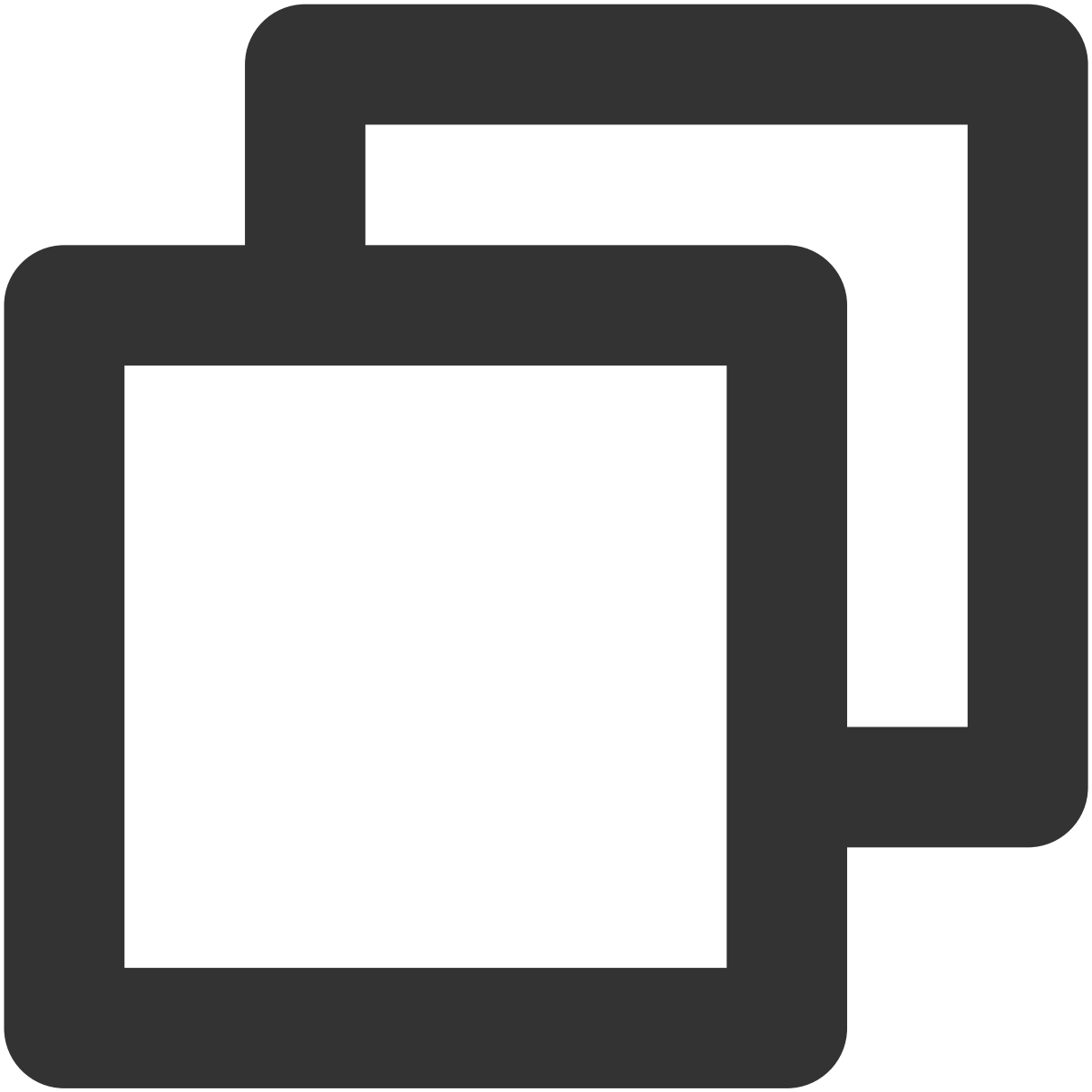
```
void onUserLeave(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The ID of the user who left the call.

onUserVideoAvailable

Whether a user is sending video.



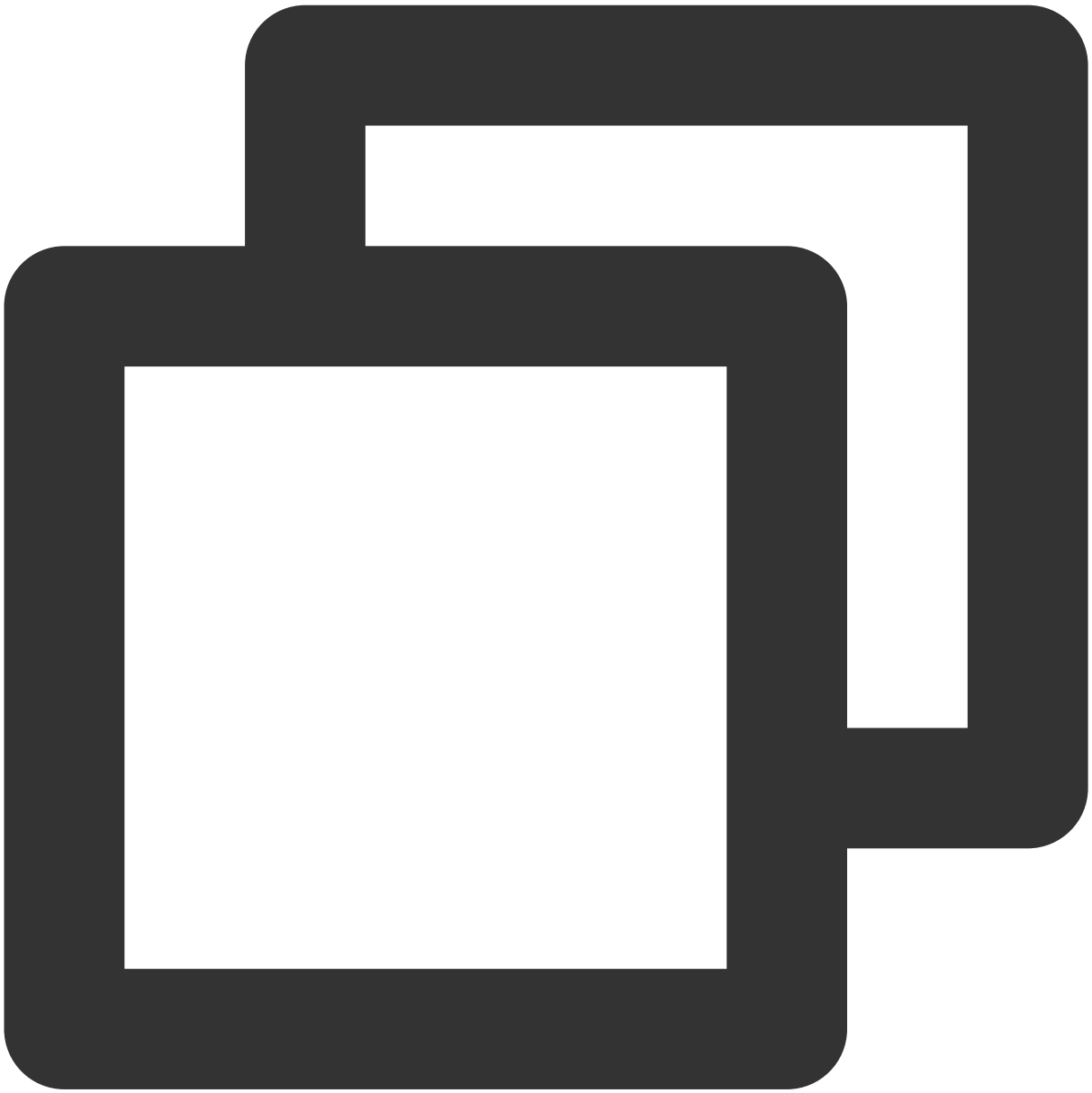
```
void onUserVideoAvailable(String userId, boolean isVideoAvailable);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.
isVideoAvailable	boolean	Whether the user has video.

onUserAudioAvailable

Whether a user is sending audio.



```
void onUserAudioAvailable(String userId, boolean isAudioAvailable);
```

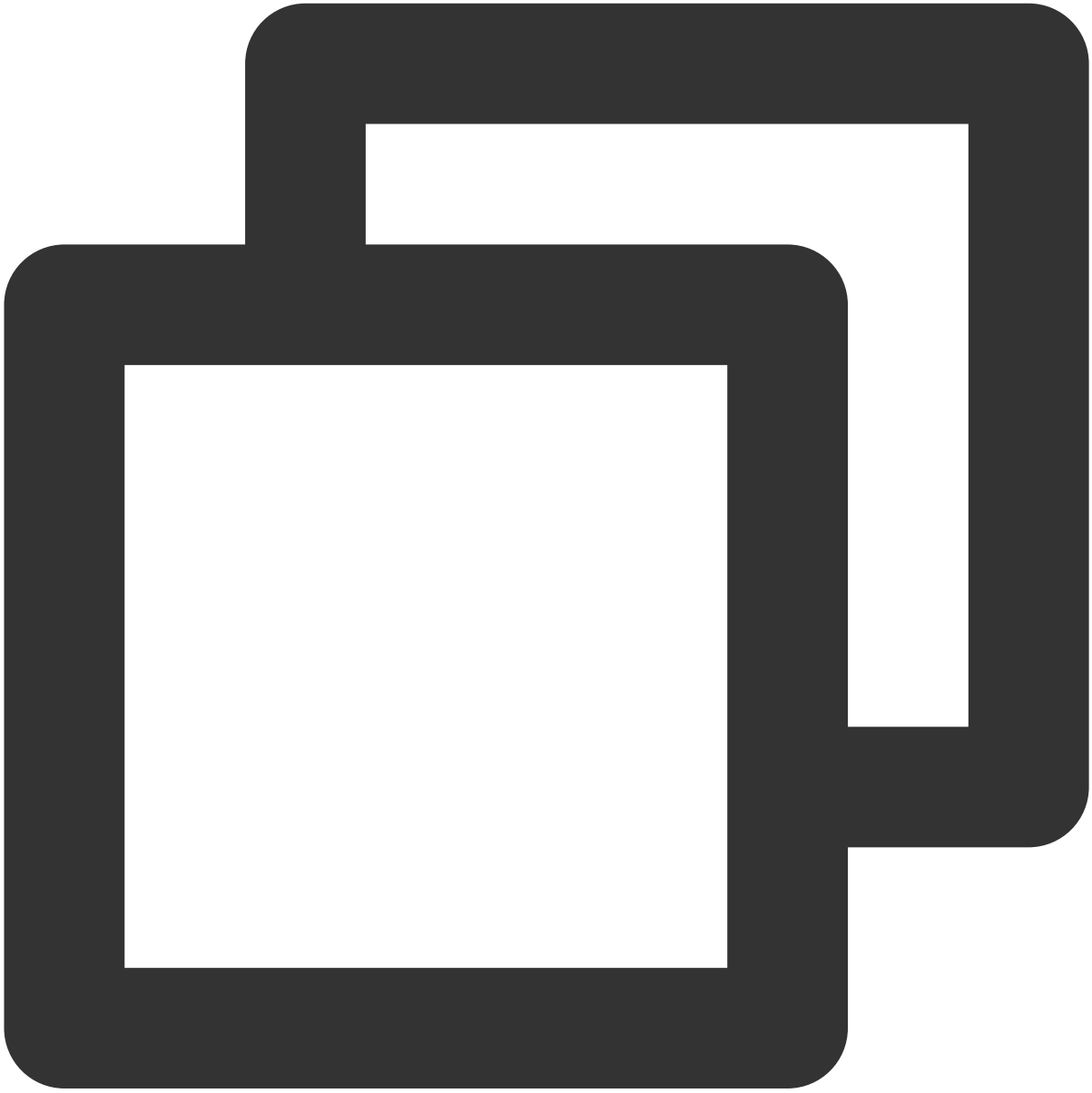
The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.

isAudioAvailable	boolean	Whether the user has audio.

onUserVoiceVolumeChanged

The volumes of all users.



```
void onUserVoiceVolumeChanged(Map<String, Integer> volumeMap);
```

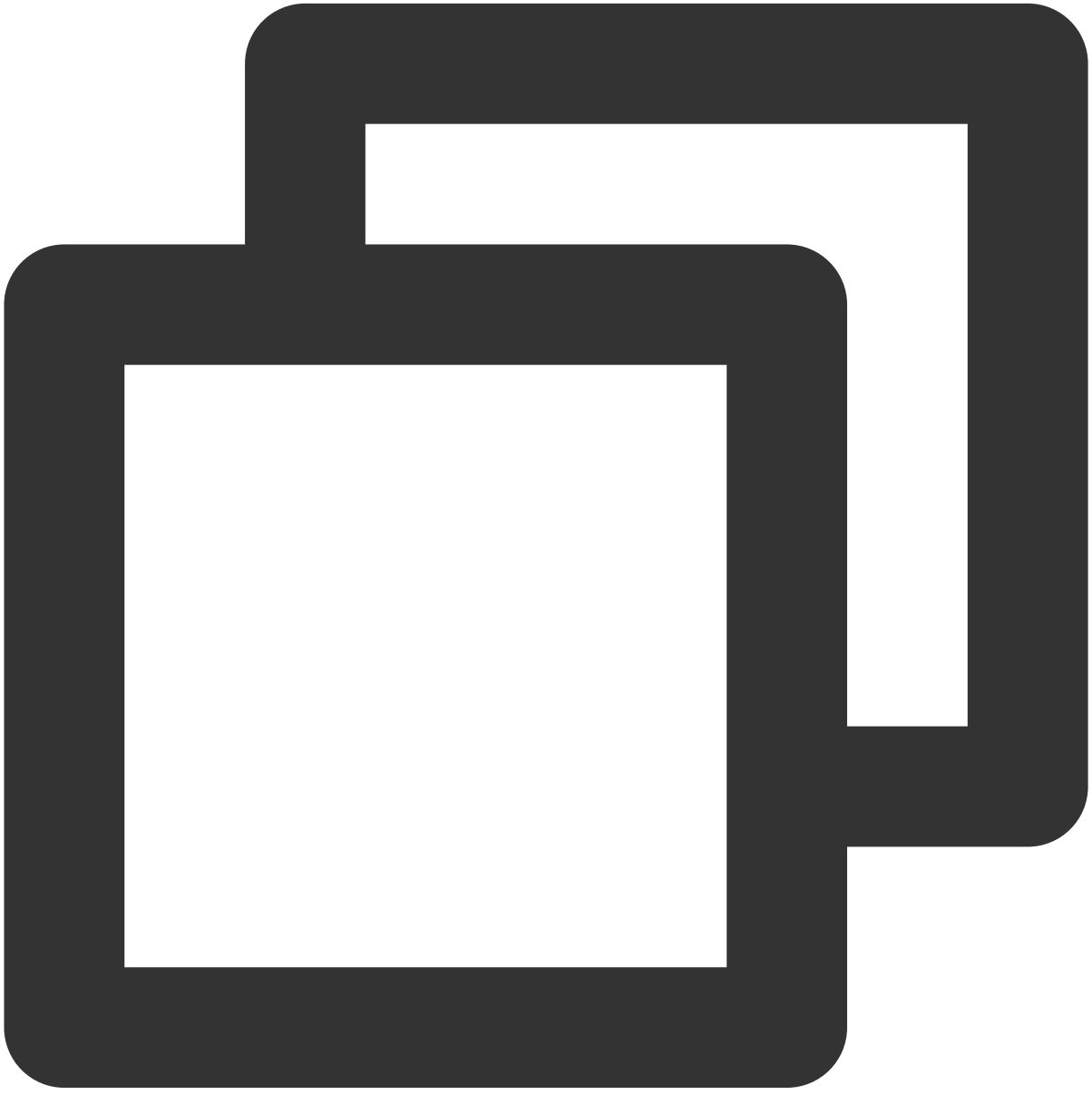
The parameters are described below:

Parameter	Type	Description

volumeMap	Map<String, Integer>	The volume table, which includes the volume of each user (`userId`). Value range: 0-100.

onUserNetworkQualityChanged

The network quality of all users.



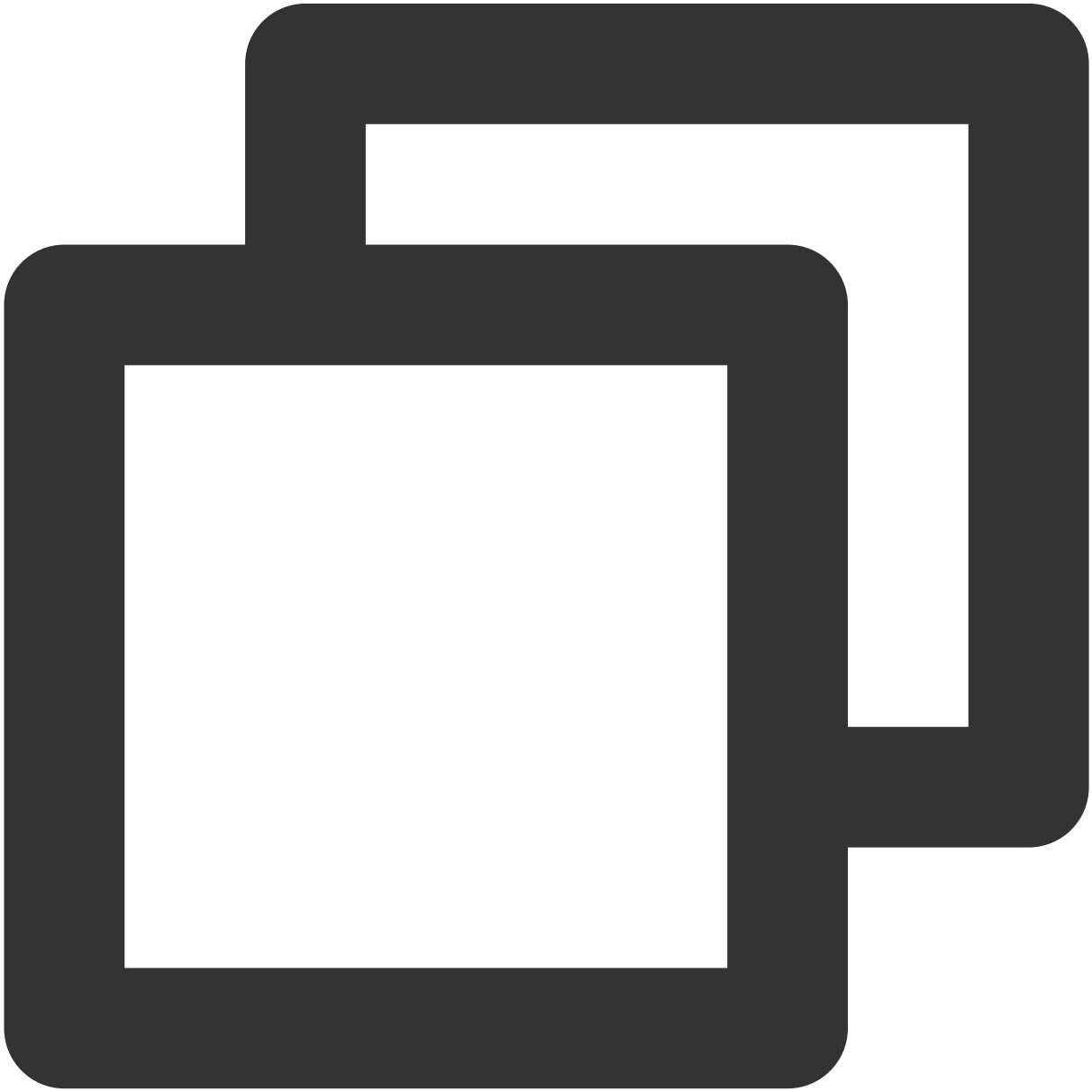
```
void onUserNetworkQualityChanged(List<TUICallDefine.NetworkQualityInfo> networkQual
```

The parameters are described below:

Parameter	Type	Description
networkQualityList	List	The current network conditions for all users (`userId`).

onKickedOffline

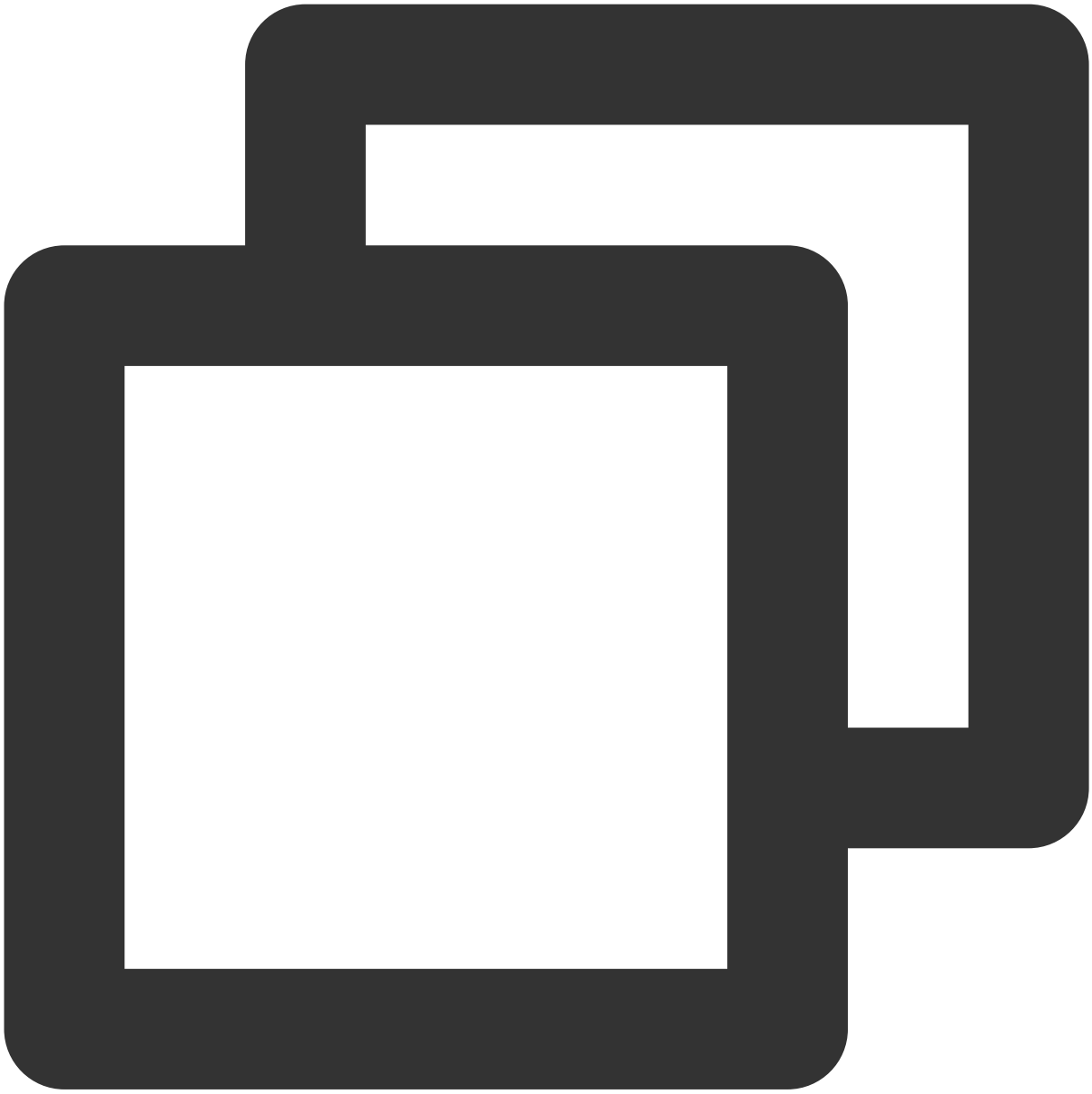
The current user was kicked offline：At this time, you can prompt the user with a UI message and then invoke `init` again.



```
void onKickedOffline();
```

onUserSigExpired

The user sig is expired：At this time, you need to generate a new `userSig` , and then invoke `init` again.



```
void onUserSigExpired();
```

Type Definition

Last updated：2023-09-19 15:29:26

Common structures

TUICallDefine

Type	Description
CallParams	An additional parameter.
OfflinePushInfo	Offline push vendor configuration information.

TUICommonDefine

Type	Description
RoomId	Room ID for audio and video in a call.
NetworkQualityInfo	Network quality information
VideoRenderParams	Video render parameters
VideoEncoderParams	Video encoding parameters

Enum definition

TUICallDefine

Type	Description
MediaType	Media type in a call
Role	Roles of individuals in a call.
Status	The call status
Scene	The call scene
IOSOfflinePushType	iOS offline push type

TUICommonDefine

Type	Description

AudioPlaybackDevice	Audio route
Camera	Camera type
NetworkQuality	Network quality
FillMode	Video image fill mode
Rotation	Video image rotation direction
ResolutionMode	Video aspect ratio mode
Resolution	Video resolution

CallParams

Call params

Value	Type	Description
offlinePushInfo	OfflinePushInfo	Offline push vendor configuration information.
timeout	int	Call timeout period, default: 30s, unit: seconds.
userData	String	An additional parameter. Callback when the callee receives onCallReceived

OfflinePushInfo

Offline push vendor configuration information, please refer to：Offline call push

Value	Type	Description
title	String	offlinepush notification title
desc	String	offlinepush notification description
ignoreIOSBadge	boolean	Ignore badge count for offline push (only for iOS), if set to true, the message will not increase the unread count of the app icon on the iOS receiver's side.
iOSSound	String	Offline push sound setting (only for iOS). When `sound = IOS_OFFLINE_PUSH_NO_SOUND`, there will be no sound played when the message is received. When `sound = IOS_OFFLINE_PUSH_DEFAULT_SOUND`, the system sound will be played when the message is received. If you want to customize the iOSSound, you need to link

		the audio file into the Xcode project first, and then set the audio file name (with extension) to the iOSSound.
androidSound	String	Offline push sound setting (only for Android, supported by IMSDK 6.1 and above). Only Huawei and Google phones support setting sound prompts. For Xiaomi phones, please refer to: Xiaomi custom ringtones. In addition, for Google phones, in order to set sound prompts for FCM push on Android 8.0 and above systems, you must call `setAndroidFCMChannelID` to set the channelID for it to take effect.
androidOPPOChannelID	String	Set the channel ID for OPPO phones with Android 8.0 and above systems.
androidVIVOClassification	int	Classification of VIVO push messages (deprecated interface, VIVO push service will optimize message classification rules on April 3, 2023. It is recommended to use setAndroidVIVOCategory to set the message category). 0: Operational messages, 1: System messages. The default value is 1.
androidXiaoMiChannelID	String	Set the channel ID for Xiaomi phones with Android 8.0 and above systems.
androidFCMChannelID	String	Set the channel ID for google phones with Android 8.0 and above systems.
androidHuaWeiCategory	String	Classification of Huawei push messages, please refer to: Huawei message classification standard.
isDisablePush	boolean	Whether to turn off push notifications (default is on).
iOSPushType	IOSOfflinePushType	iOS offline push type， default is APNs

RoomId

Room ID for audio and video in a call.

Note：

(1) `intRoomId` and `strRoomId` are mutually exclusive. If you choose to use `strRoomId`, `intRoomId` needs to be filled in as 0. If both are filled in, the SDK will prioritize `intRoomId`.

(2) Do not mix `intRoomId` and `strRoomId` because they are not interchangeable. For example, the number 123 and the string "123" represent two completely different rooms.

Value	Type	Description
intRoomId	int	Numeric room ID. **range**：1 - 2147483647(2^31-1)
strRoomId	String	String room ID. **range**： Limited to 64 bytes in length. The supported character set range is as follows (a total of 89 Lowercase and uppercase English letters.（a-zA-Z）； Number（0-9）； `Spaces`、`!`、`#`、`$`、`%`、`&`、`(`、`)`、`+`、`-`、`:`、`;`、`<` 。

Note：

Currently, string room number is only supported on Android and iOS platforms. Support for other platforms such as Web, Mini Programs, Flutter, and Uniapp will be available in the future. Please stay tuned!

NetworkQualityInfo

User network quality information

Value	Type	Description
userId	String	user ID
quality	NetworkQuality	network quality

VideoRenderParams

Video render parameters

Value	Type	Description
fillMode	VideoRenderParams.FillMode	Video image fill mode
rotation	VideoRenderParams.Rotation	Video image rotation direction

VideoEncoderParams

Video encoding parameters

Value	Type	Description
resolution	VideoEncoderParams.Resolution	Video resolution

resolutionMode	VideoEncoderParams.ResolutionMode	Video aspect ratio mode

MediaType

Call media type

Value	Type	Description
Unknown	0	Unknown
Audio	1	Audio call
Video	2	Video call

Role

Call role

Value	Type	Description
None	0	Unknown
Caller	1	Caller（inviter）
Called	2	Callee（invitee）

Status

Call status

Value	Type	Description
None	0	Unknown
Waiting	1	The call is currently waiting
Accept	2	The call has been accepted

Scene

Call scene

Value	Type	Description
GROUP_CALL	0	Group call
MULTI_CALL	1	Anonymous group calling (not supported at this moment, please stay tuned).

SINGLE_CALL	2	one to one call

IOSOfflinePushType

iOS offline push type

Type	Value	Description
APNs	0	APNs
VoIP	1	VoIP

AudioPlaybackDevice

Audio route

Type	Value	Description
Earpiece	0	Earpiece
Speakerphone	1	Speakerphone

Camera

Front/Back camera

Type	Value	Description
Front	0	Front camera
Back	1	Back camera

NetworkQuality

Network quality

Type	Value	Description
Unknown	0	Unknown
Excellent	1	Excellent
Good	2	Good
Poor	3	Poor
Bad	4	Bad
Vbad	5	Vbad

Down	6	Down

FillMode

If the aspect ratio of the video display area is not equal to that of the video image, you need to specify the fill mode:

Type	Value	Description
Fill	0	Fill mode: the video image will be centered and scaled to fill the entire display area, where parts that exceed the area will be cropped. The displayed image may be incomplete in this mode.
Fit	1	Fit mode: the video image will be scaled based on its long side to fit the display area, where the short side will be filled with black bars. The displayed image is complete in this mode, but there may be black bars.

Rotation

We provides rotation angle setting APIs for local and remote images. The following rotation angles are all clockwise.

Type	Value	Description
Rotation_0	0	No rotation
Rotation_90	1	Clockwise rotation by 90 degrees
Rotation_180	2	Clockwise rotation by 180 degrees
Rotation_270	3	Clockwise rotation by 0 degrees

ResolutionMode

Video aspect ratio mode

Type	Value	Description
Landscape	0	Landscape resolution, such as Resolution.Resolution_640_360 + ResolutionMode.Landscape = 640 × 360.
Portrait	1	Portrait resolution, such as Resolution.Resolution_640_360 + ResolutionMode.Portrait = 360 × 640.

Resolution

Video resolution

Type	Value	Description
Resolution_640_360	108	Aspect ratio: 16:9；resolution: 640x360；recommended bitrate: 500kbps
Resolution_640_480	62	Aspect ratio: 4:3；resolution: 640x480；recommended bitrate: 600kbps
Resolution_960_540	110	Aspect ratio: 16:9；resolution: 960x540；recommended bitrate: 850kbps
Resolution_960_720	64	Aspect ratio: 4:3；resolution: 960x720；recommended bitrate: 1000kbps
Resolution_1280_720	112	Aspect ratio: 16:9；resolution: 1280x720；recommended bitrate: 1200kbps
Resolution_1920_1080	114	Aspect ratio: 16:9；resolution: 1920x1080；recommended bitrate: 2000kbps

iOS
API Overview

Last updated：2023-12-18 17:46:13

TUICallKit (UI Included)

TUICallKit is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat.

API	Description
createInstance	Creates a `TUICallKit` instance (singleton mode).
setSelfInfo	Sets the user nickname and profile photo.
call	Makes a one-to-one call.
call	Makes a one-to-one call, Support for custom room ID, call timeout, offline push content, etc
groupCall	Makes a group call.
groupCall	Makes a group call, Support for custom room ID, call timeout, offline push content, etc
joinInGroupCall	Joins a group call.
setCallingBell	Sets the ringtone.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.

TUICallEngine (No UI)

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

API	Description
createInstance	Creates a `TUICallEngine` instance (singleton).

destroyInstance	Terminates a `TUICallEngine` instance (singleton).
init	Authenticates the basic audio/video call capabilities.
addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Answers a call.
reject	Declines a call.
hangup	Ends a call.
ignore	Ignores a call.
inviteUser	Invites users to the current group call.
joinInGroupCall	Joins a group call.
switchCallMediaType	Switches the call media type, such as from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.
openCamera	Turns the camera on.
closeCamera	Turns the camera off.
switchCamera	Switches the camera.
openMicrophone	Enables the mic.
closeMicrophone	Disables the mic.
selectAudioPlaybackDevice	Selects the audio playback device (receiver/speaker).
setSelfInfo	Sets the user nickname and profile photo.
enableMultiDeviceAbility	Sets whether to enable multi-device login for `TUICallEngine` (supported by the premium package).
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.

getTRTCCloudInstance	Advanced features.
setBeautyLevel	Set beauty level, support turning off default beauty.

TUICallObserver

`TUICallObserver` is the callback class of `TUICallEngine`. You can use it to listen for events.

API	Description
onError	An error occurred during the call.
onCallReceived	A call was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user was kicked offline.
onUserSigExpired	The user sig is expired.

Definitions of Key Types

API	Description
TUICallMediaType	The call type. Enumeration: Video call and audio call.
TUICallRole	The call role. Enumeration: Caller and callee.
TUICallStatus	The call status. Enumeration: Idle, waiting, and answering.
TUIRoomId	The room ID, which can be a number or string.
TUICallCamera	The camera type. Enumeration: Front camera and rear camera.
TUIAudioPlaybackDevice	The audio playback device type. Enumeration: Speaker and receiver.
TUINetworkQualityInfo	The current network quality.

TUICallKit

Last updated：2023-06-21 16:42:24

TUICallKit APIs

`TUICallKit` is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat. For directions on integration, see Integrating TUICallKit.

Overview

API	Description
createInstance	Creates a `TUICallKit` instance (singleton mode).
setSelfInfo	Sets the alias and profile photo.
call	Makes a one-to-one call.
call	Makes a one-to-one call, Support for custom room ID, call timeout, offline push content, etc
groupCall	Makes a group call.
groupCall	Makes a group call, Support for custom room ID, call timeout, offline push content, etc
joinInGroupCall	Joins a group call.
setCallingBell	Sets the ringtone.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.

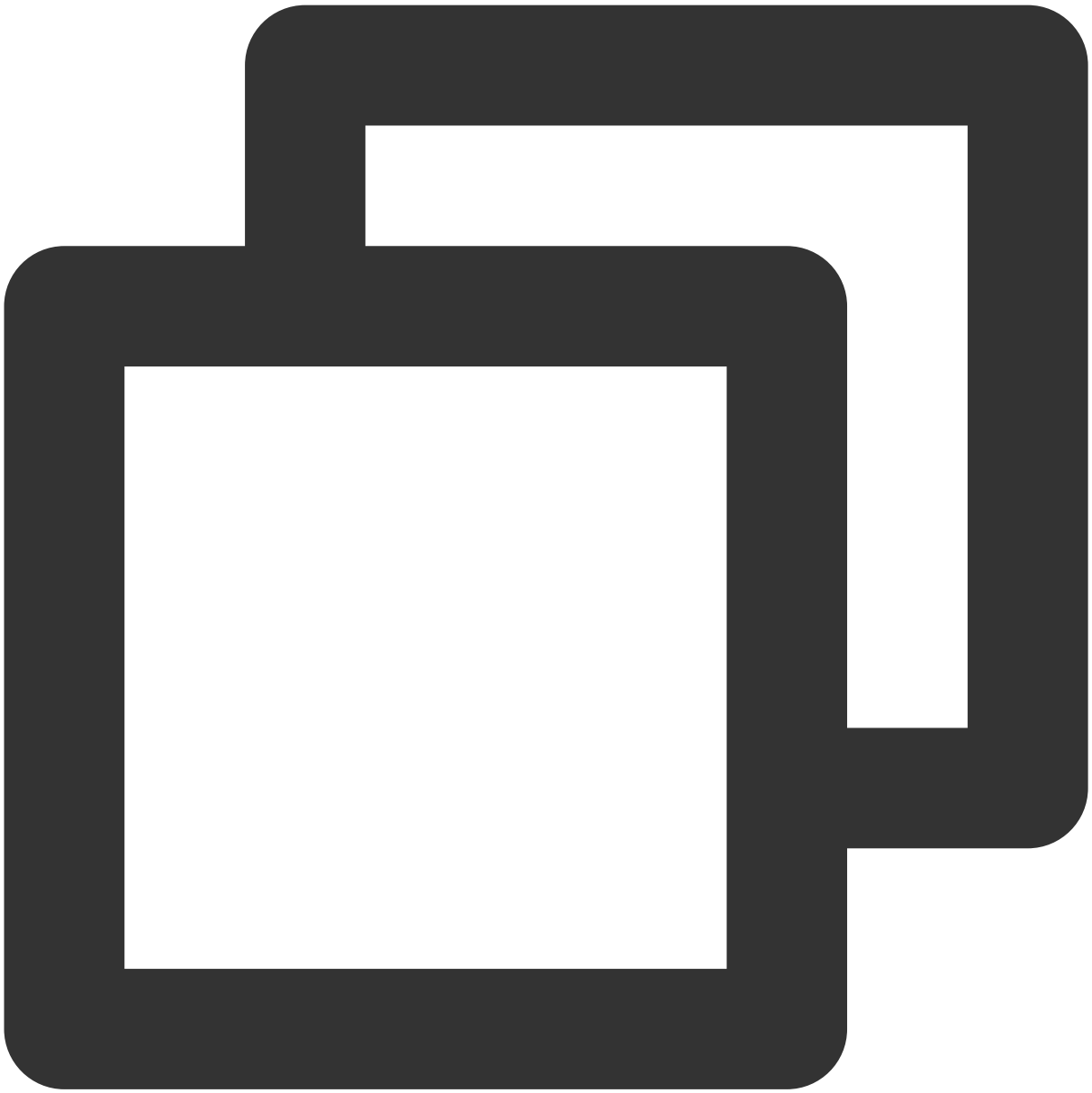
Details

createInstance

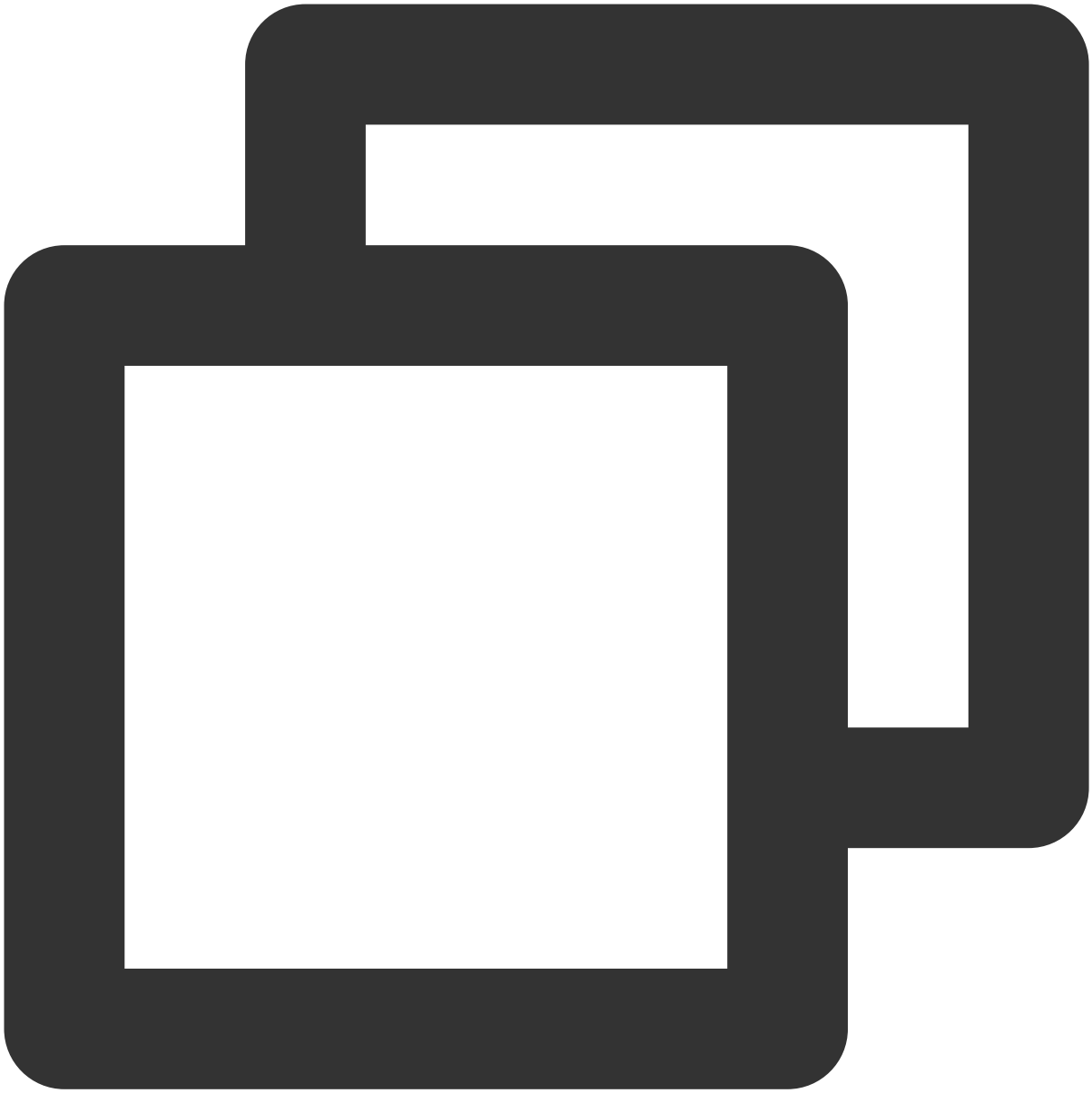
This API is used to create a `TUICallKit` singleton.

Objective-C

Swift



```
- (instancetype)createInstance;
```

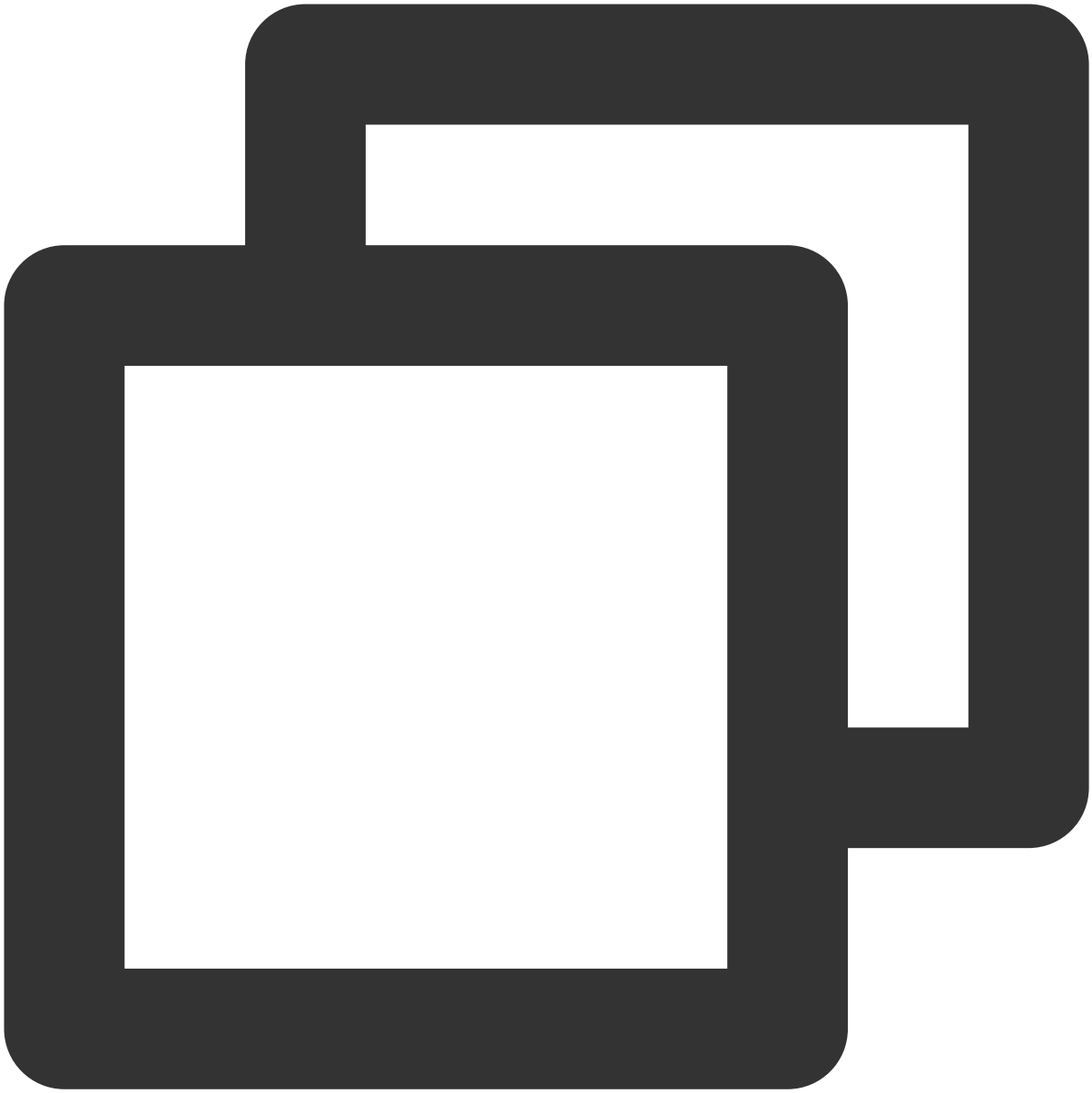


```
public static func createInstance() -> TUICallKit
```

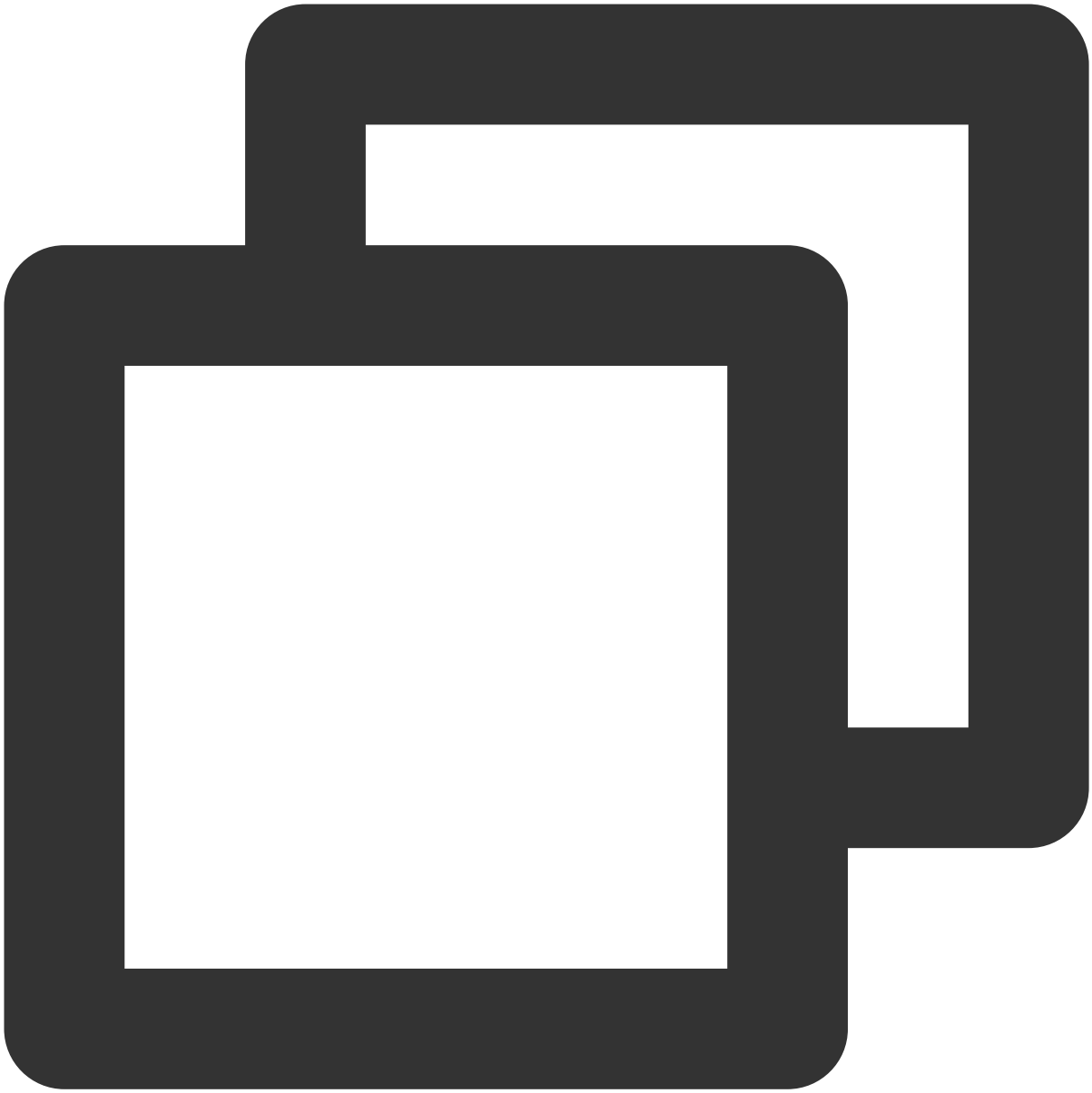
setSelfInfo

This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.

Objective-C
Swift



```
- (void)setSelfInfo:(NSString * _Nullable)nickname avatar:(NSString * _Nullable)ava
```



```
public func setSelfInfo(nickname: String, avatar: String, succ:@escaping TUICallSuc
```

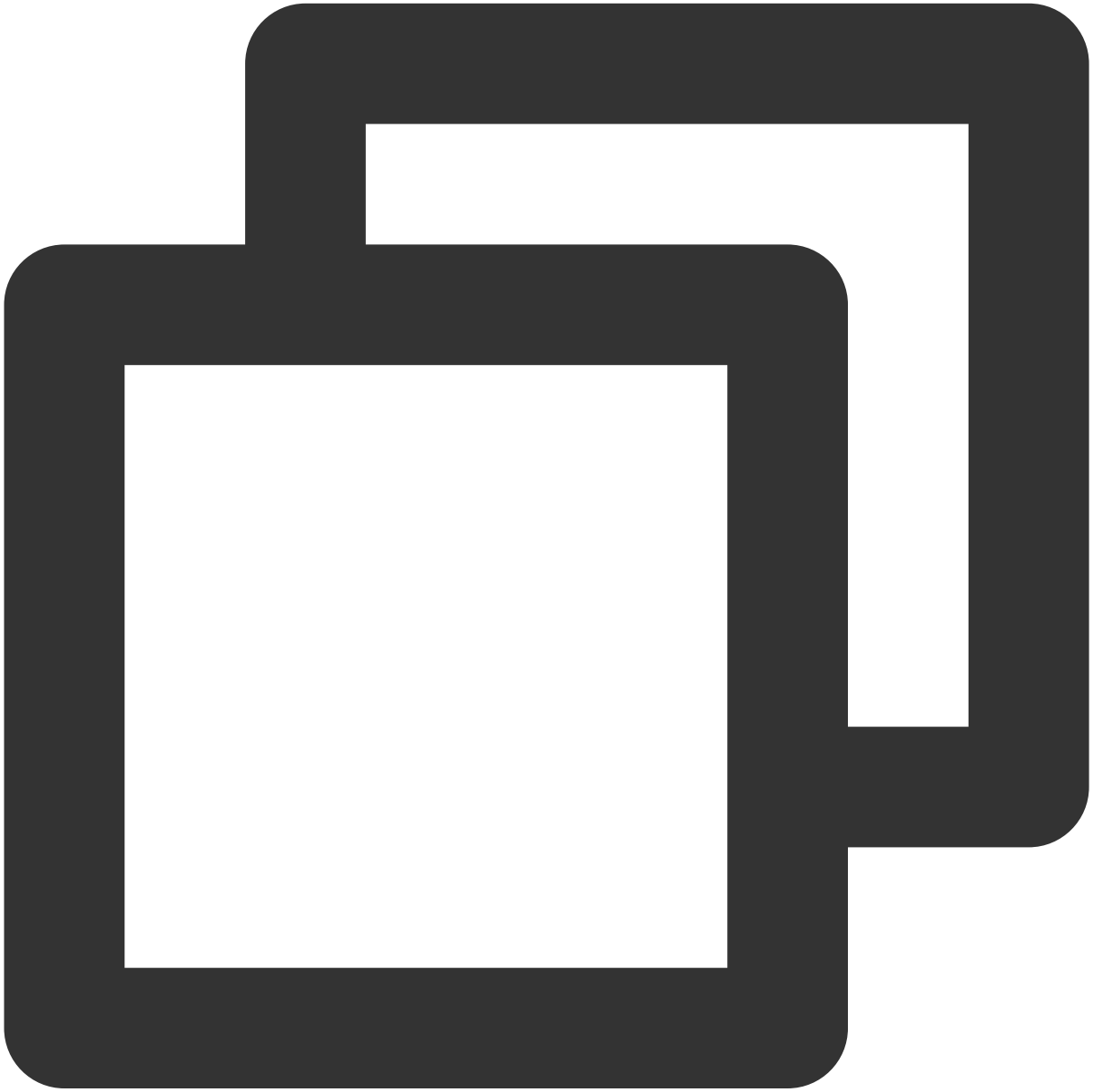
Parameter	Type	Description
nickName	NSString	The alias.
avatar	NSString	The profile photo.

call

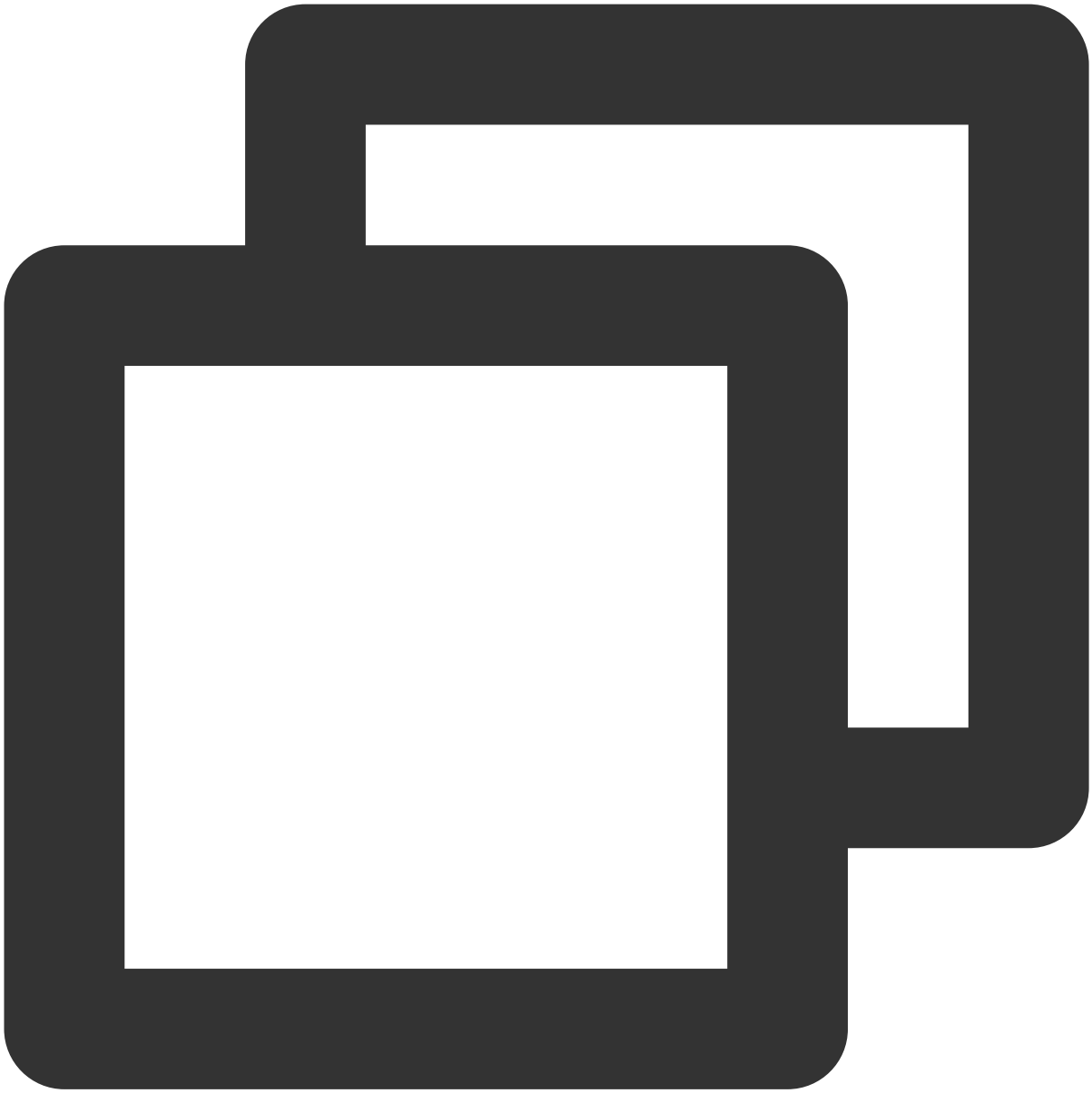
This API is used to make a (one-to-one) call.

Objective-C

Swift



```
- (void)call:(NSString *)userId callMediaType:(TUICallMediaType)callMediaType;
```



```
public func call(userId: String, callMediaType: TUICallMediaType)
```

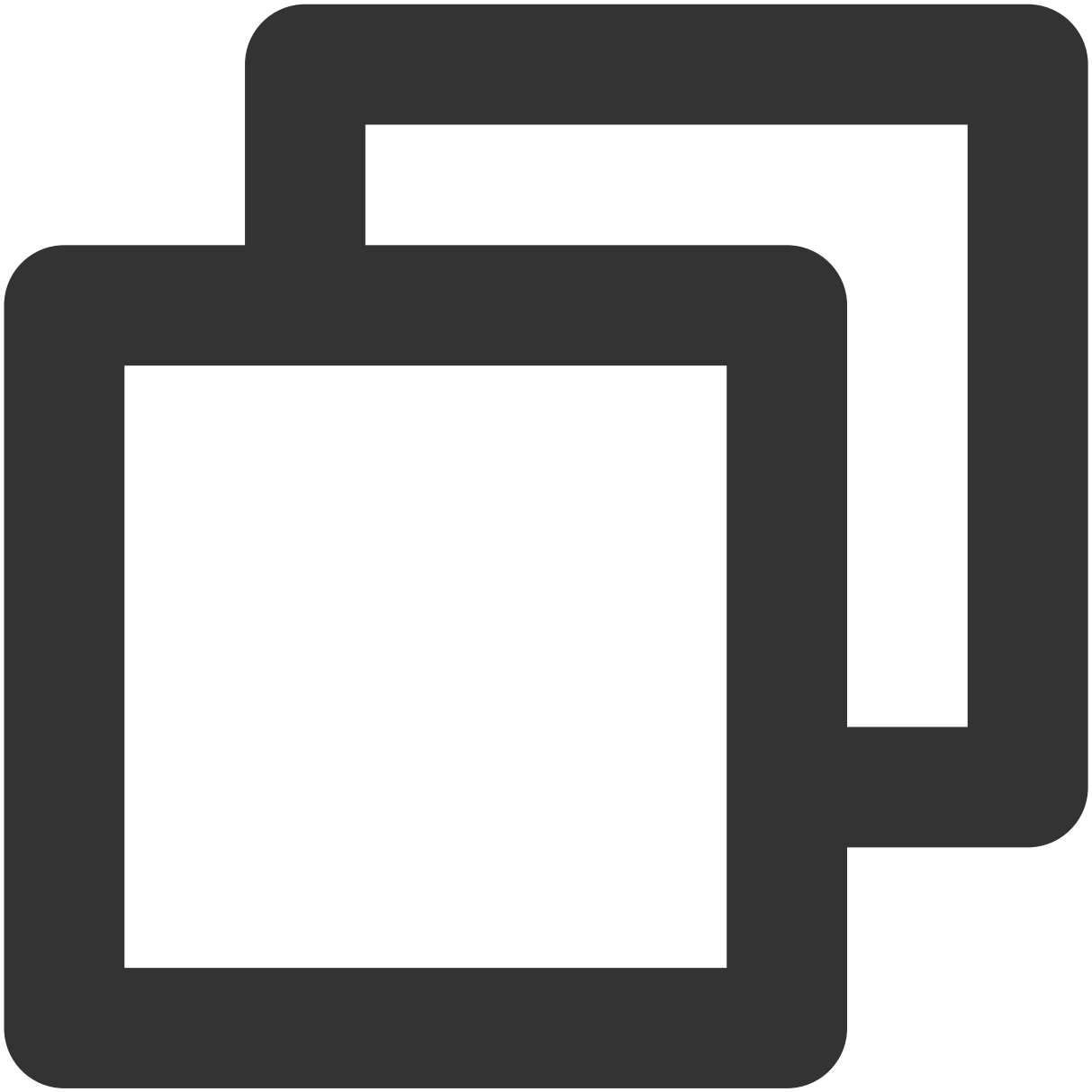
Parameter	Type	Description
userId	NSString	The target user ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.

call

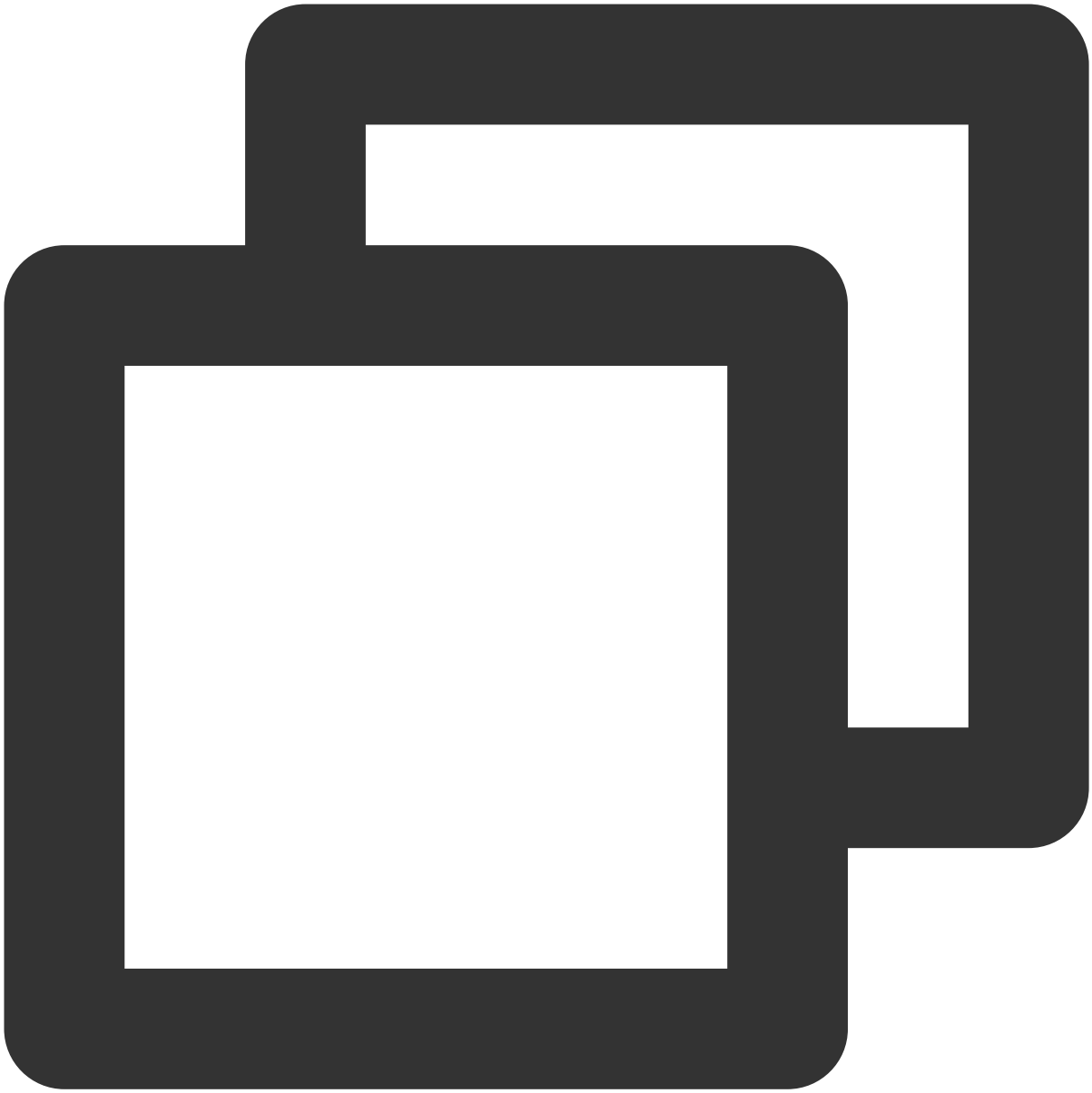
This API is used to make a (one-to-one) call, Support for custom room ID, call timeout, offline push content, etc.

Objective-C

Swift



```
- (void)call:(NSString *)userId callMediaType:(TUICallMediaType)callMediaType param
```



```
public func call(userId: String, callMediaType: TUICallMediaType, params: TUICallPa
                 succ: @escaping TUICallSucc, fail: @escaping TUICallFail)
```

Parameter	Type	Description
userId	NSString	The target user ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.
params	TUICallParams	Call extension parameters, such as roomID, call timeout, offline push info,etc

groupCall

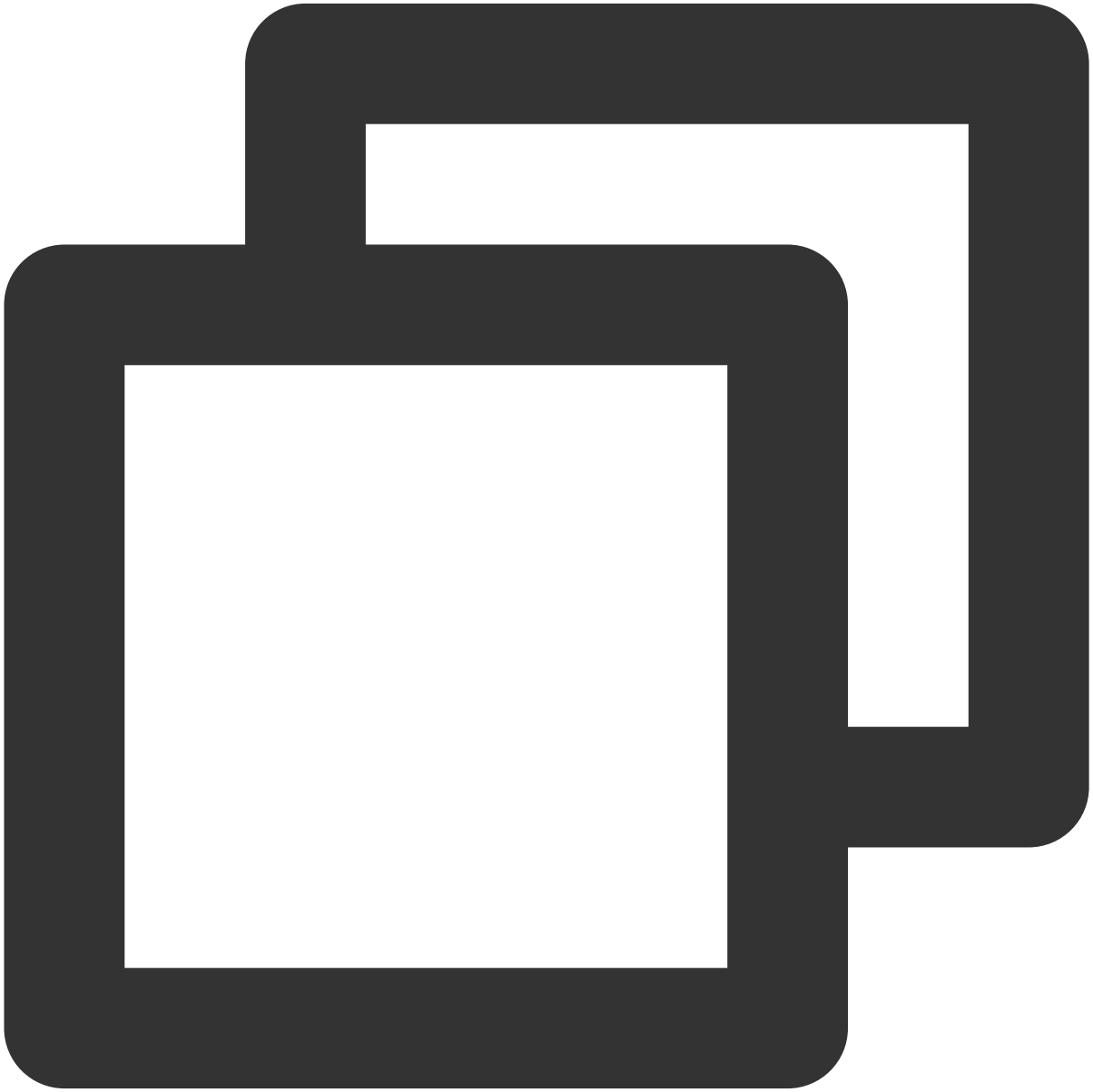
This API is used to make a group call.

注意：

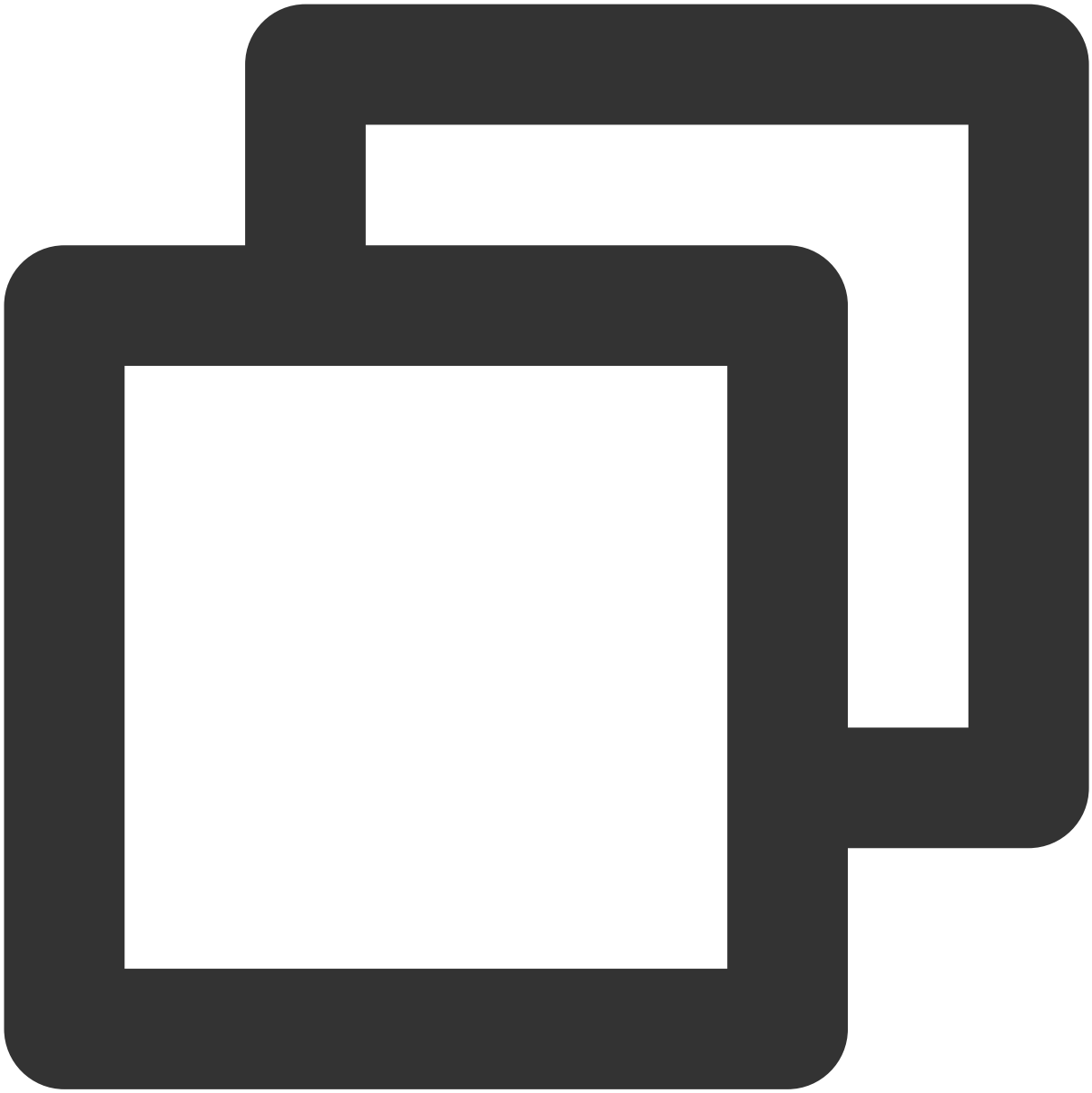
Before making a group call, you need to create an IM group first.

Objective-C

Swift



```
- (void)groupCall:(NSString *)groupId userIdList:(NSArray<NSString *> *)userIdList
```



```
public func groupCall(groupId: String, userIdList: [String], callMediaType: TUICall
```

Parameter	Type	Description
groupId	NSString	The group ID.
userIdList	NSArray	The target user IDs.
callMediaType	TUICallMediaType	The call type, which can be video or audio.

groupCall

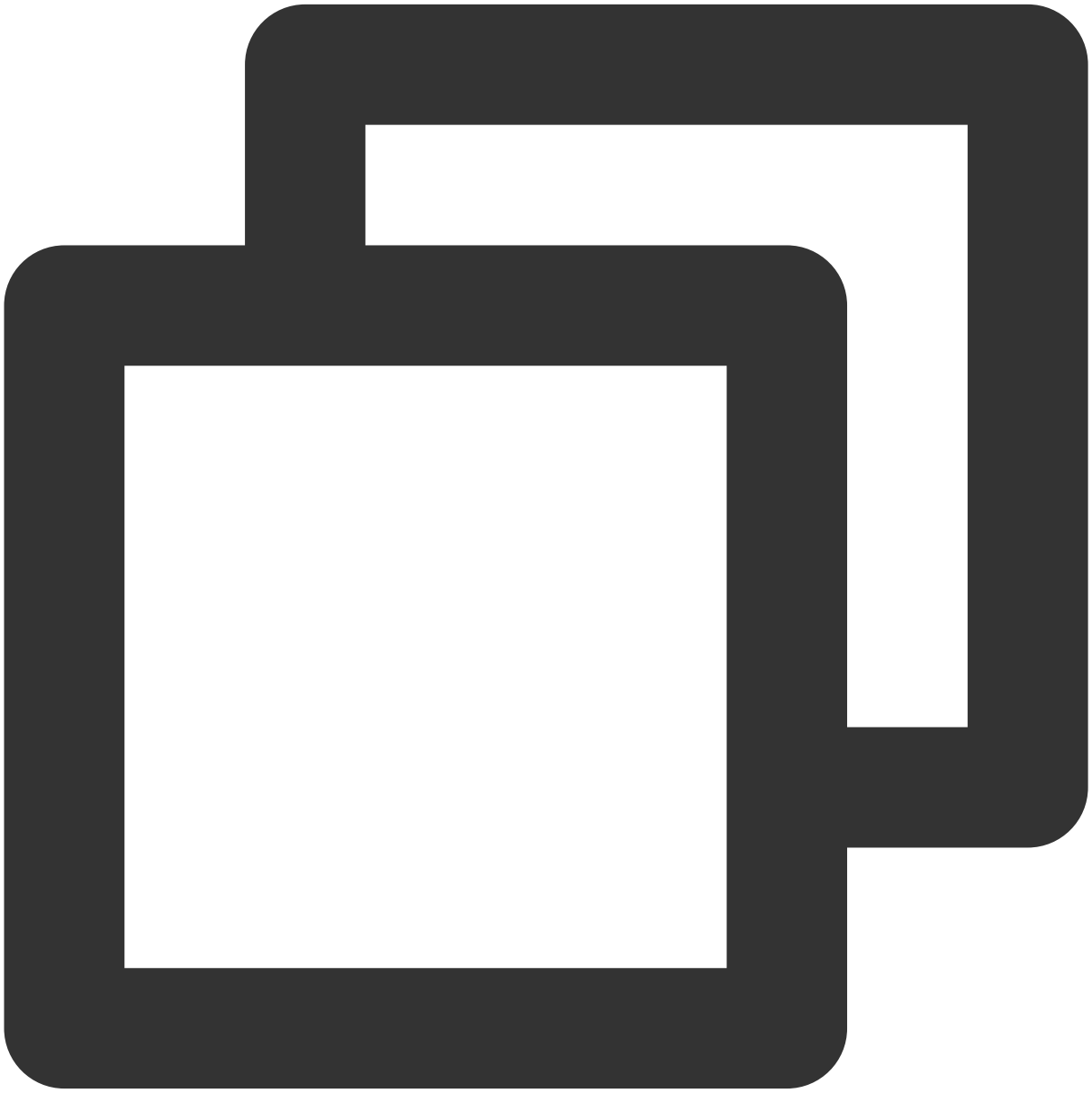
This API is used to make a group call, Support for custom room ID, call timeout, offline push content, etc.

Notice：

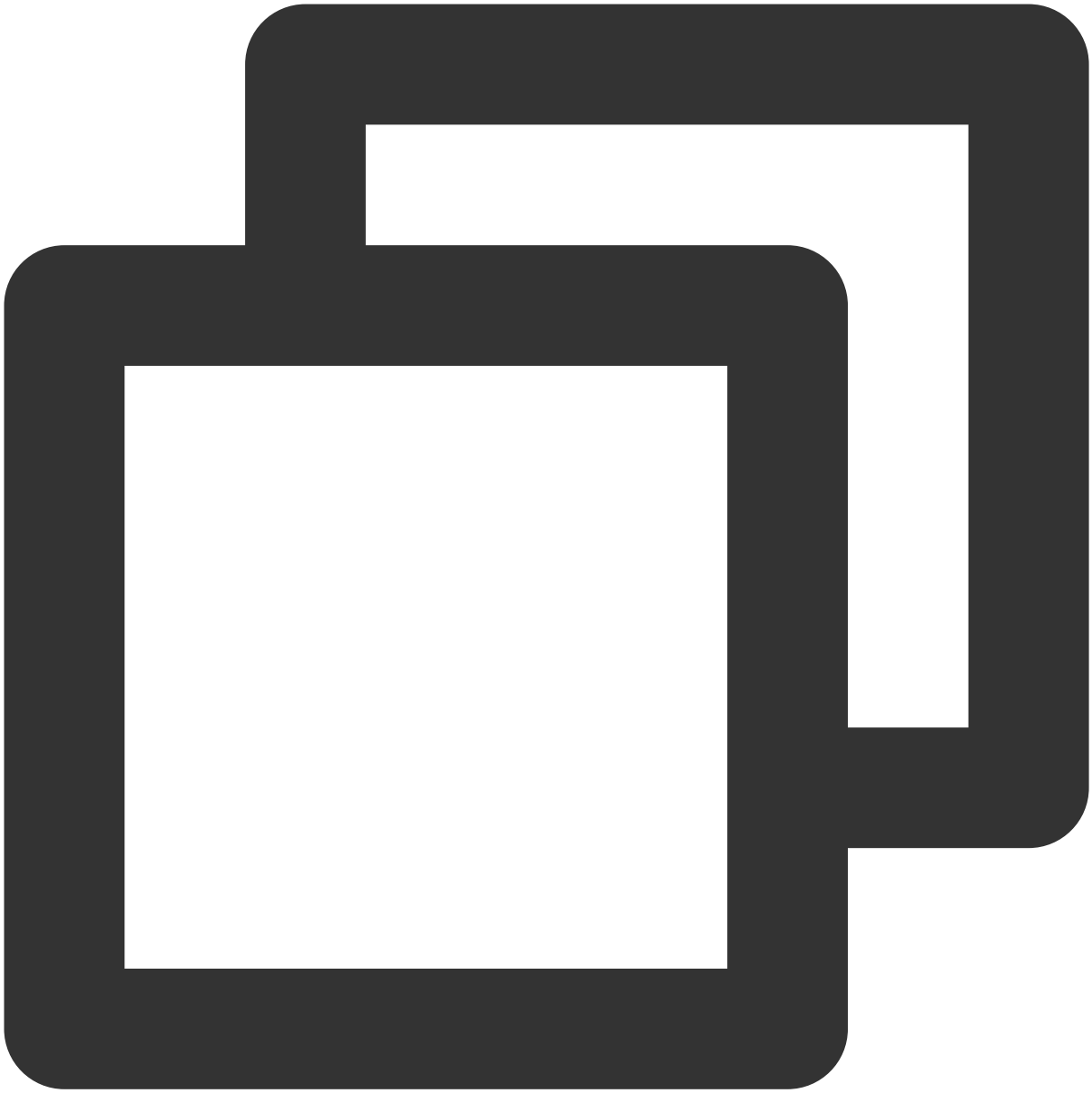
Before making a group call, you need to create an IM group first.

Objective-C

Swift



```
- (void)groupCall:(NSString *)groupId userIdList:(NSArray<NSString *> *)userIdList
```



```
public func groupCall(groupId: String, userIdList: [String], callMediaType: TUICall
```

Parameter	Type	Description
groupId	NSString	The group ID.
userIdList	NSArray	The target user IDs.
callMediaType	TUICallMediaType	The call type, which can be video or audio.
params	TUICallParams	Call extension parameters, such as roomID, call timeout, offline

		push info, etc

joinInGroupCall

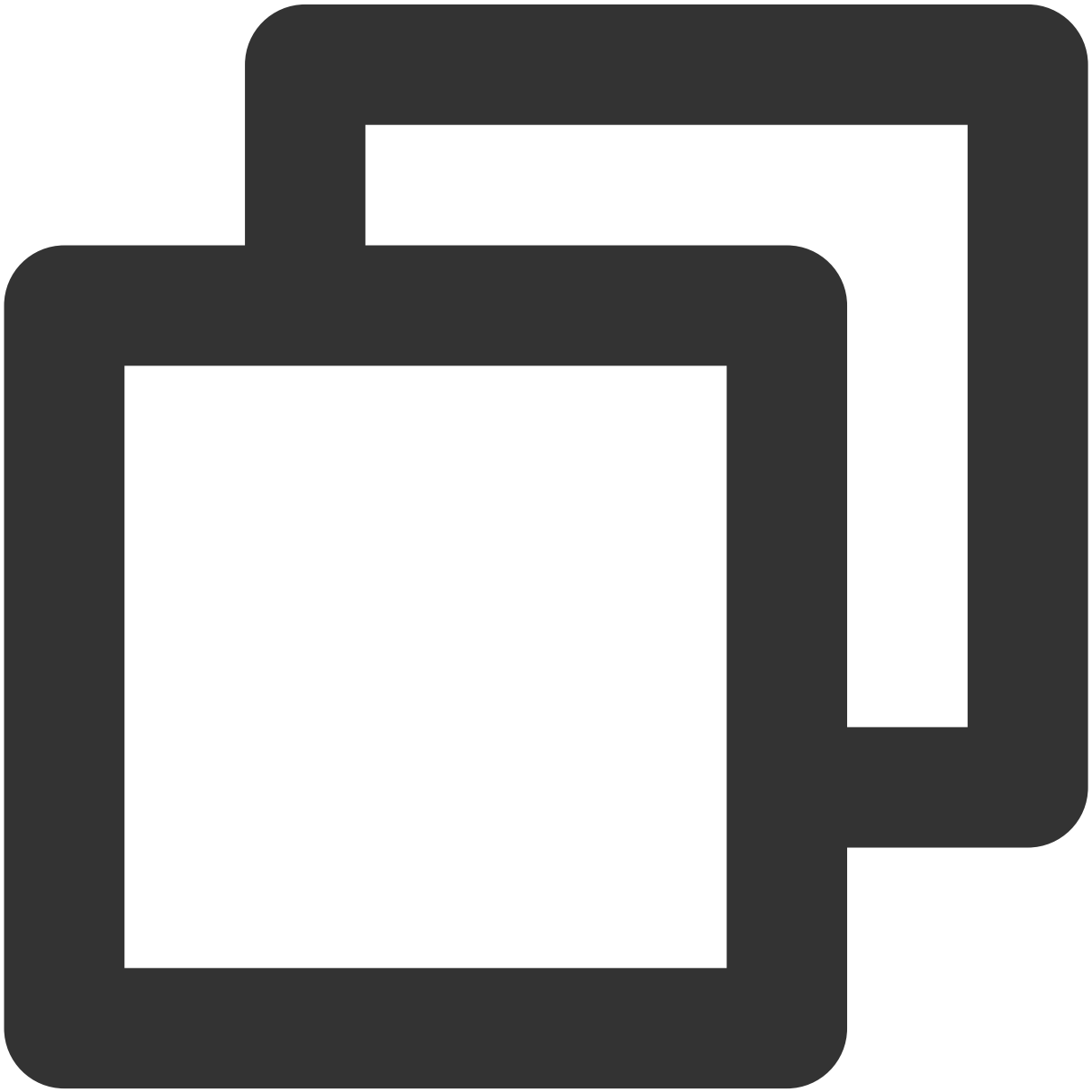
This API is used to join a group call.

Notice:

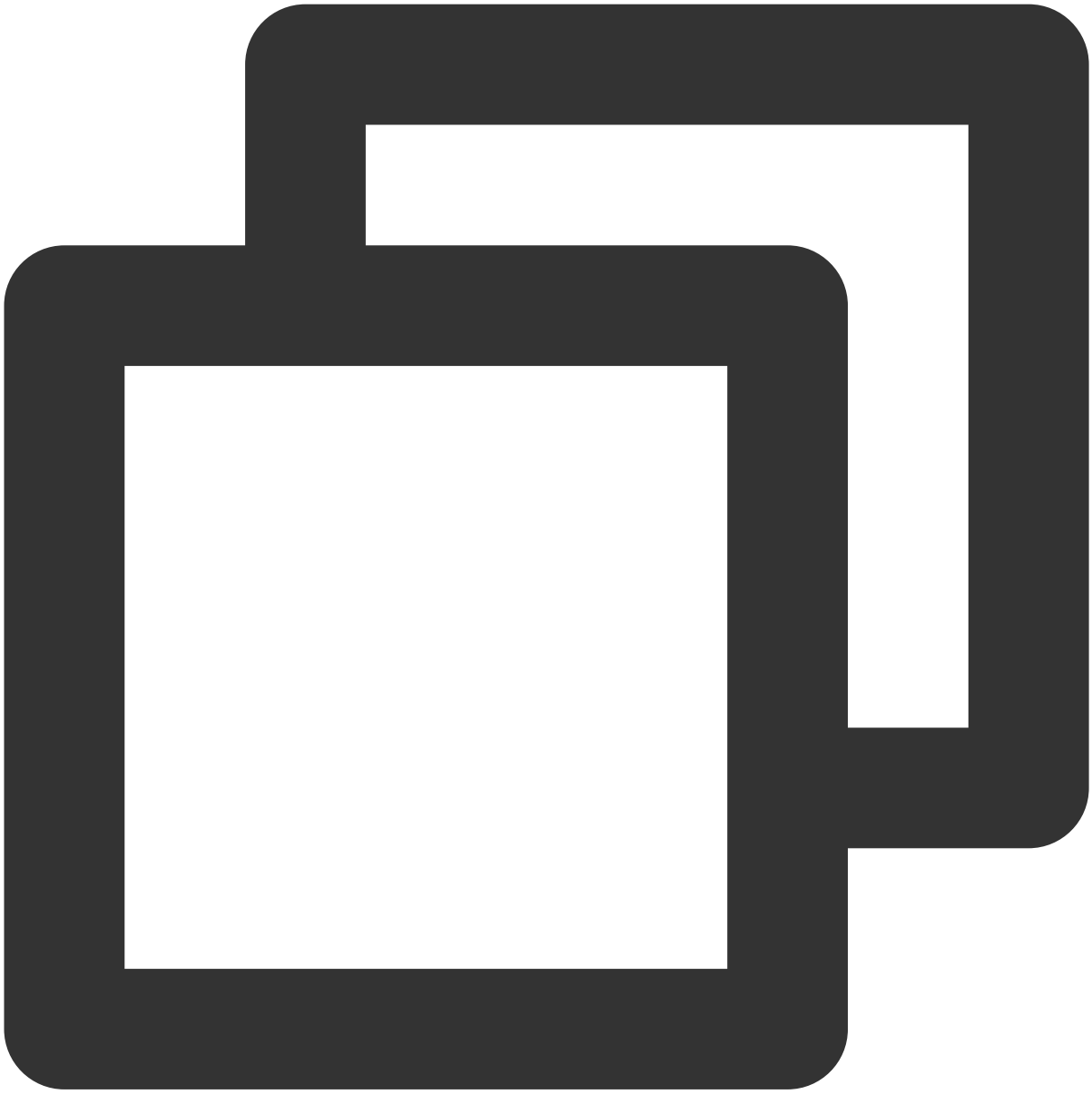
Before joining a group call, you need to create or join an IM group in advance, and there are already users in the group who are in the call.

Objective-C

Swift



```
- (void)joinInGroupCall:(TUIRoomId *)roomId groupId:(NSString *)groupId callMediaTy
```



```
public func joinInGroupCall(roomId: TUIRoomId, groupId: String, callMediaType: TUIC
```

Parameter	Type	Description
roomId	TUIRoomId	The room ID.
groupId	NSString	The group ID.

callMediaType	TUICallMediaType	The call type, which can be video or audio.

setCallingBell

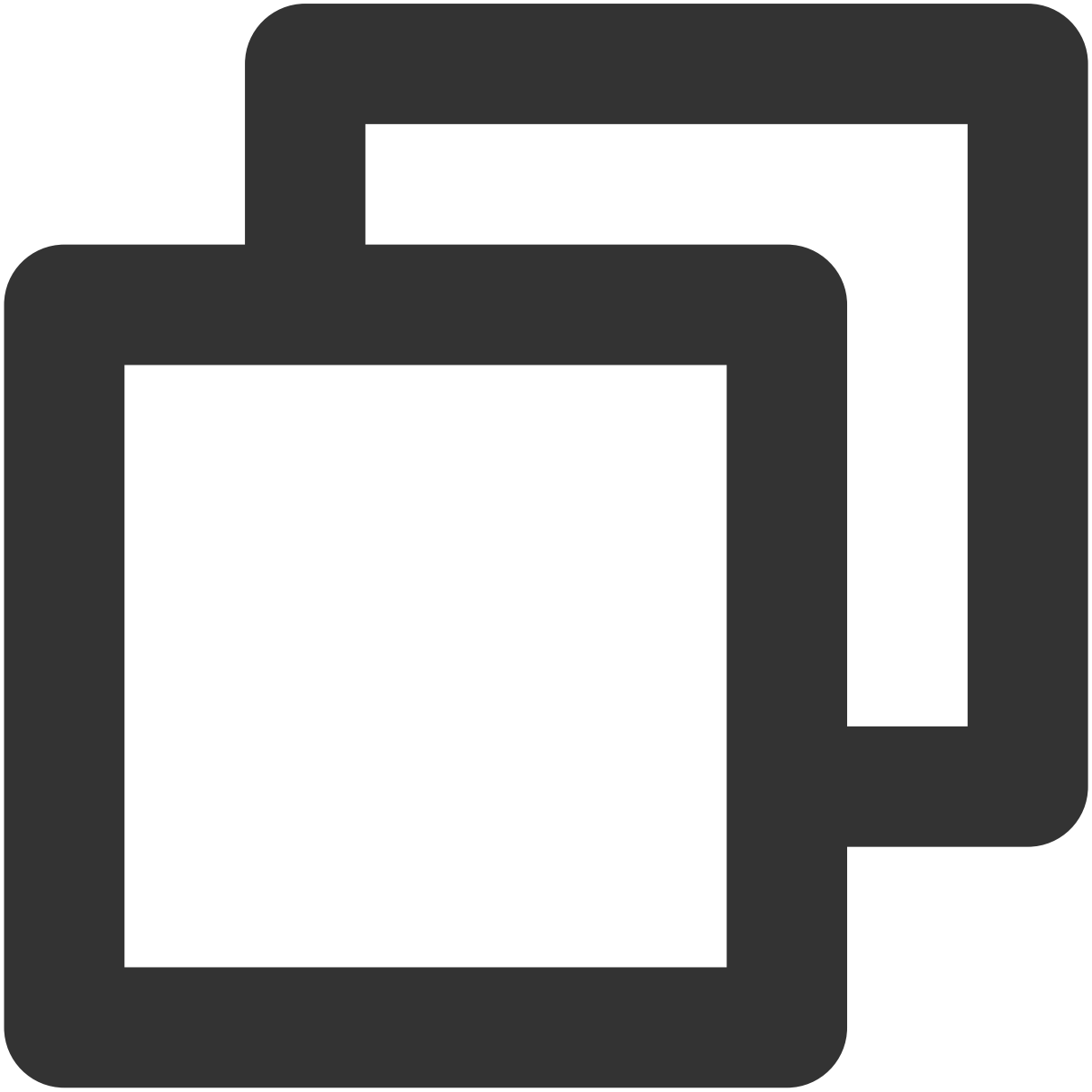
This API is used to set the ringtone. `filePath` must be an accessible local file URL.

The ringtone set is associated with the device and does not change with user.

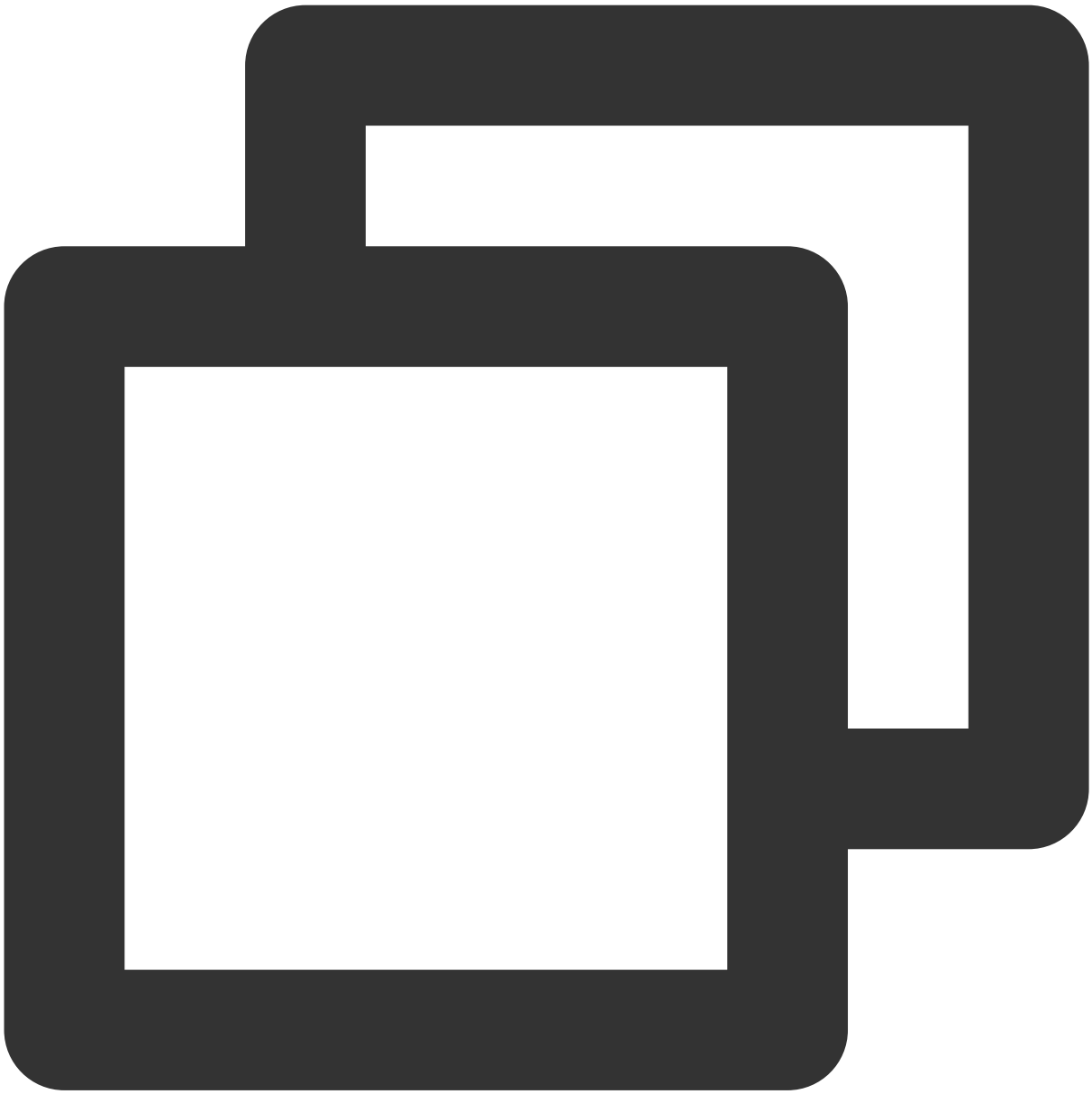
To reset the ringtone, pass in an empty string for `filePath` .

Objective-C

Swift



```
- (void)setCallingBell:(NSString *)filePath;
```



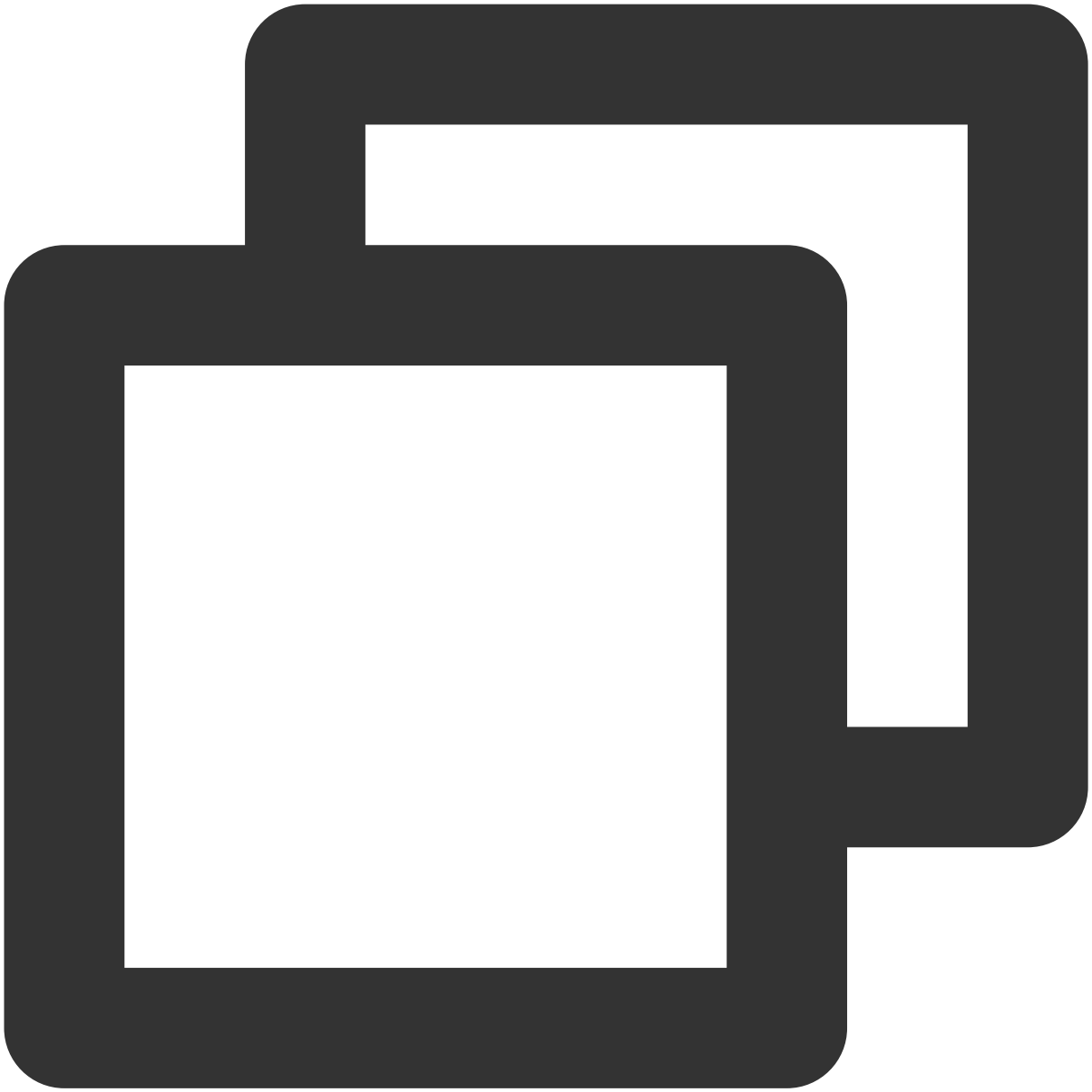
```
public func setCallingBell(filePath: String)
```

enableMuteMode

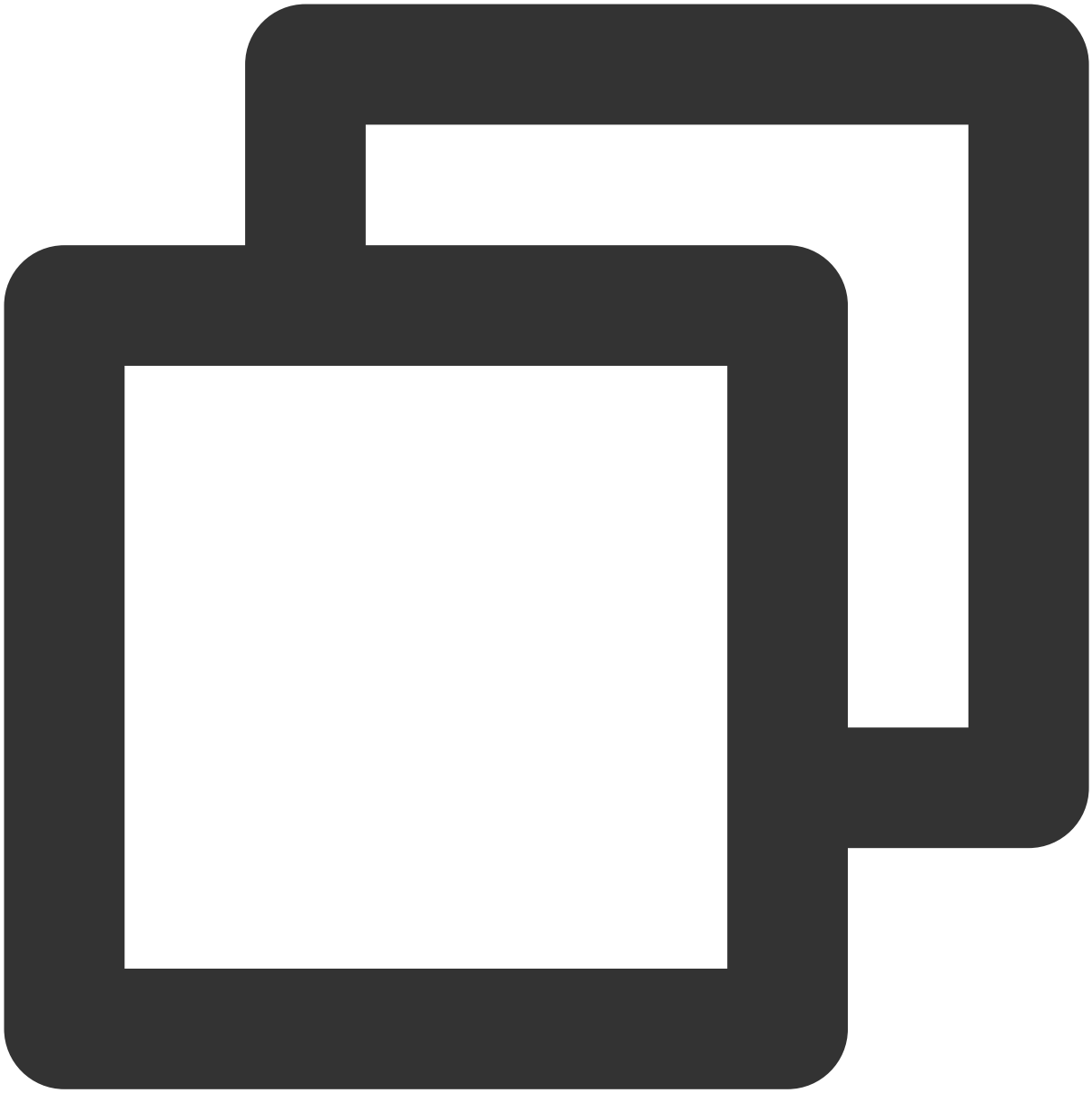
This API is used to set whether to turn on the mute mode.

Objective-C

Swift



```
- (void)enableMuteMode:(BOOL)enable;
```



```
public func enableMuteMode(enable: Bool)
```

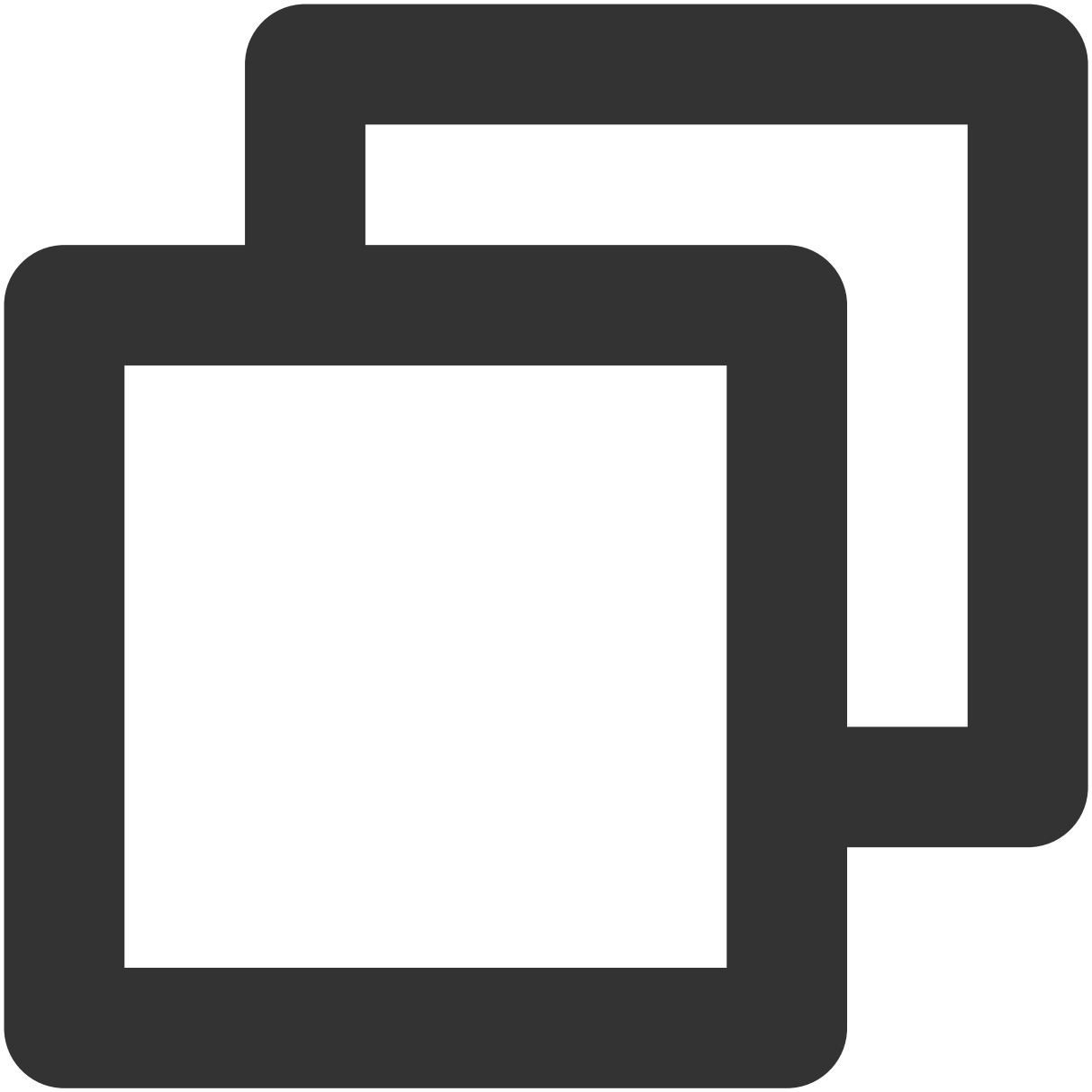
enableFloatWindow

This API is used to set whether to enable floating windows.

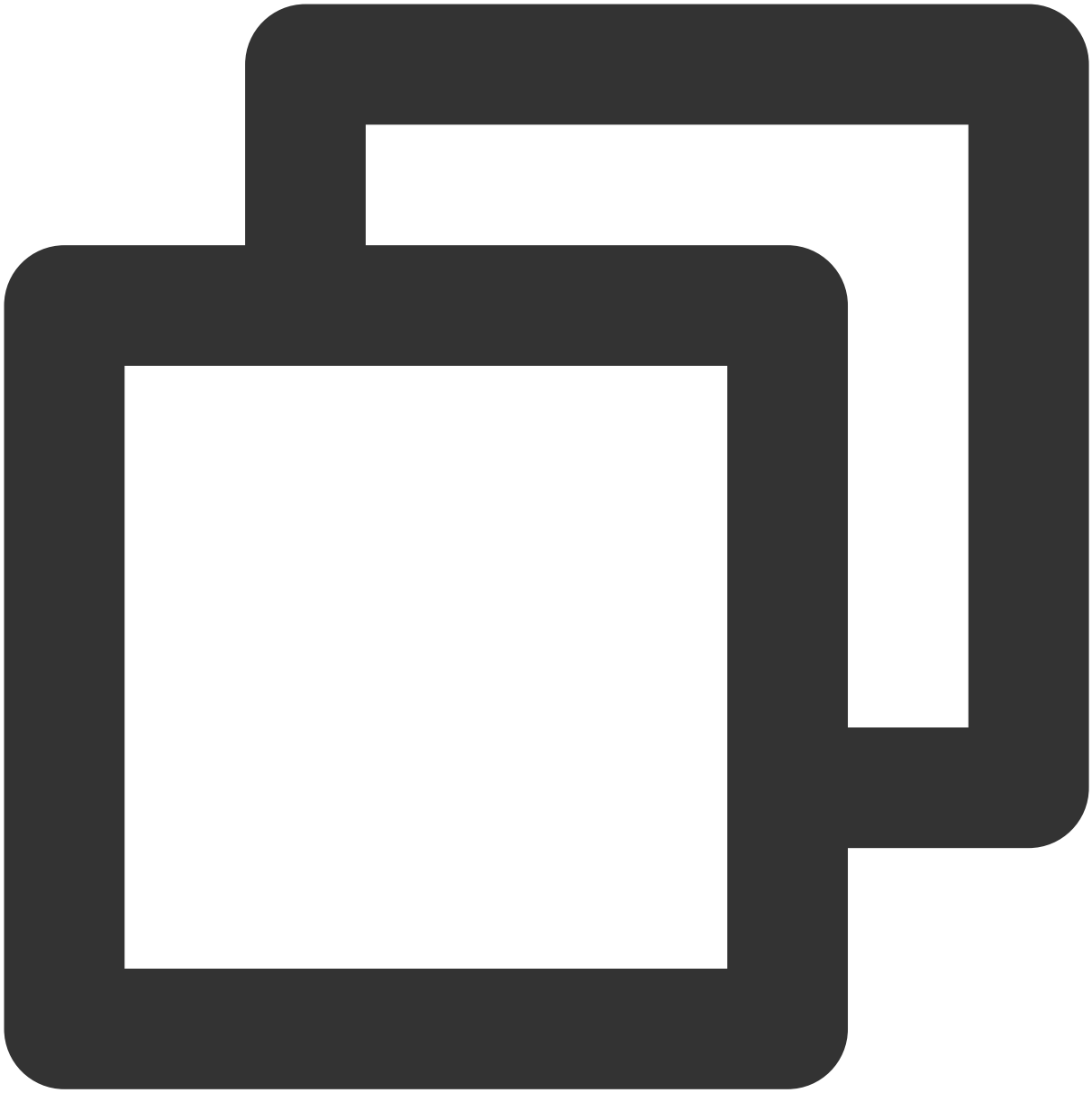
The default value is `false`, and the floating window button in the top left corner of the call view is hidden. If it is set to `true`, the button will become visible.

Objective-C

Swift



```
- (void)enableFloatWindow:(BOOL)enable;
```



```
public func enableFloatWindow(enable: Bool)
```

TUICallEngine

Last updated：2024-01-18 11:29:33

TUICallEngine APIs

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

Overview

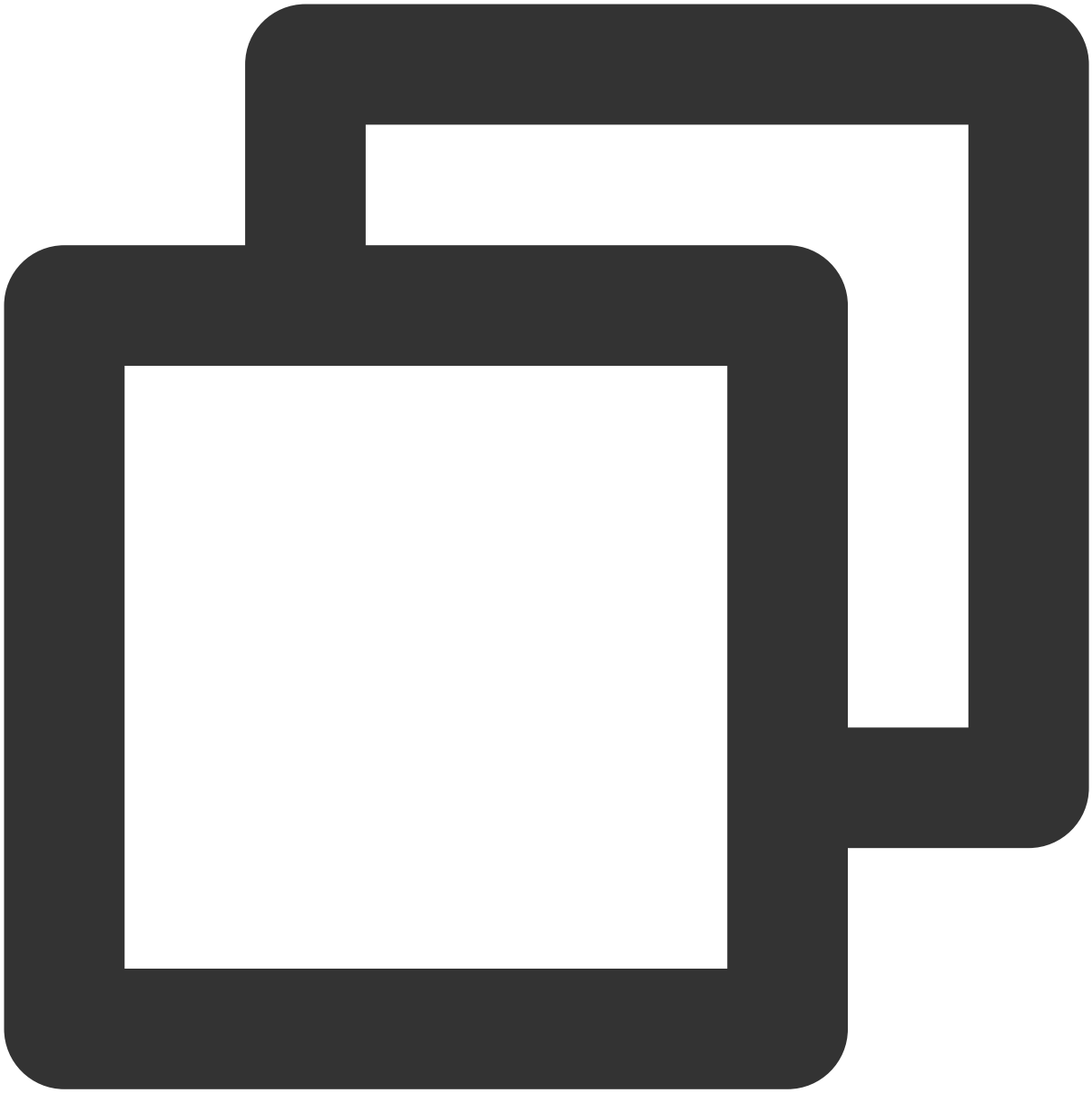
API	Description
createInstance	Creates a `TUICallEngine` instance (singleton mode).
destroyInstance	Terminates a `TUICallEngine` instance (singleton mode).
init	Authenticates the basic audio/video call capabilities.
addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Accepts a call.
reject	Rejects a call.
hangup	Ends a call.
ignore	Ignores a call.
inviteUser	Invites users to the current group call.
joinInGroupCall	Joins a group call.
switchCallMediaType	Changes the call type, for example, from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.

openCamera	Turns the camera on.
closeCamera	Turns the camera off.
switchCamera	Switches between the front and rear cameras.
openMicrophone	Turns the mic on.
closeMicrophone	Turns the mic off.
selectAudioPlaybackDevice	Selects the audio playback device (receiver or speaker).
setSelfInfo	Sets the alias and profile photo.
enableMultiDeviceAbility	Sets whether to enable multi-device login for `TUICallEngine` (supported by the premium package).
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.
getTRTCCloudInstance	Advanced features.
setBeautyLevel	Set beauty level, support turning off default beauty.

Details

createInstance

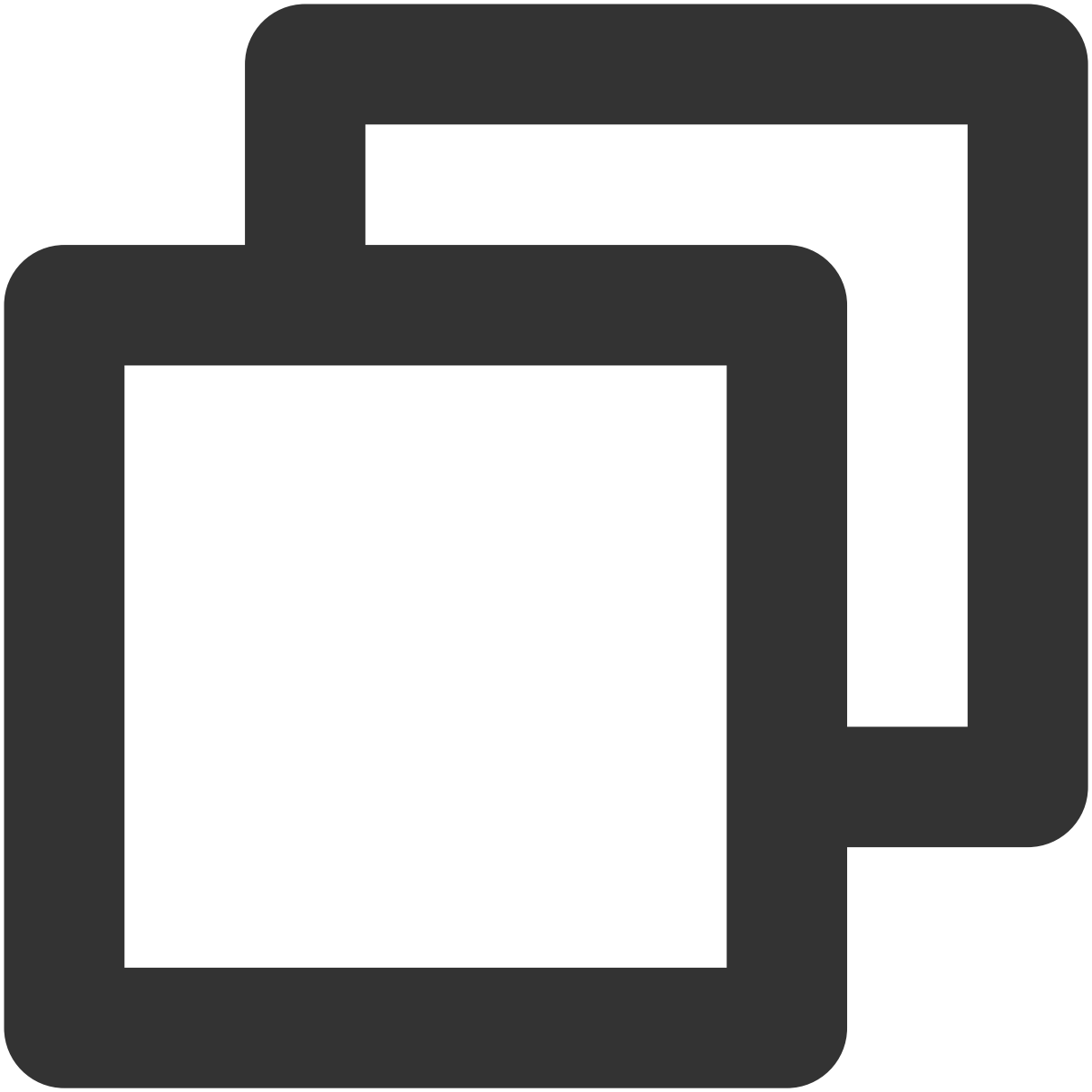
This API is used to create a `TUICallEngine` singleton.



```
- (TUICallEngine *)createInstance;
```

destroyInstance

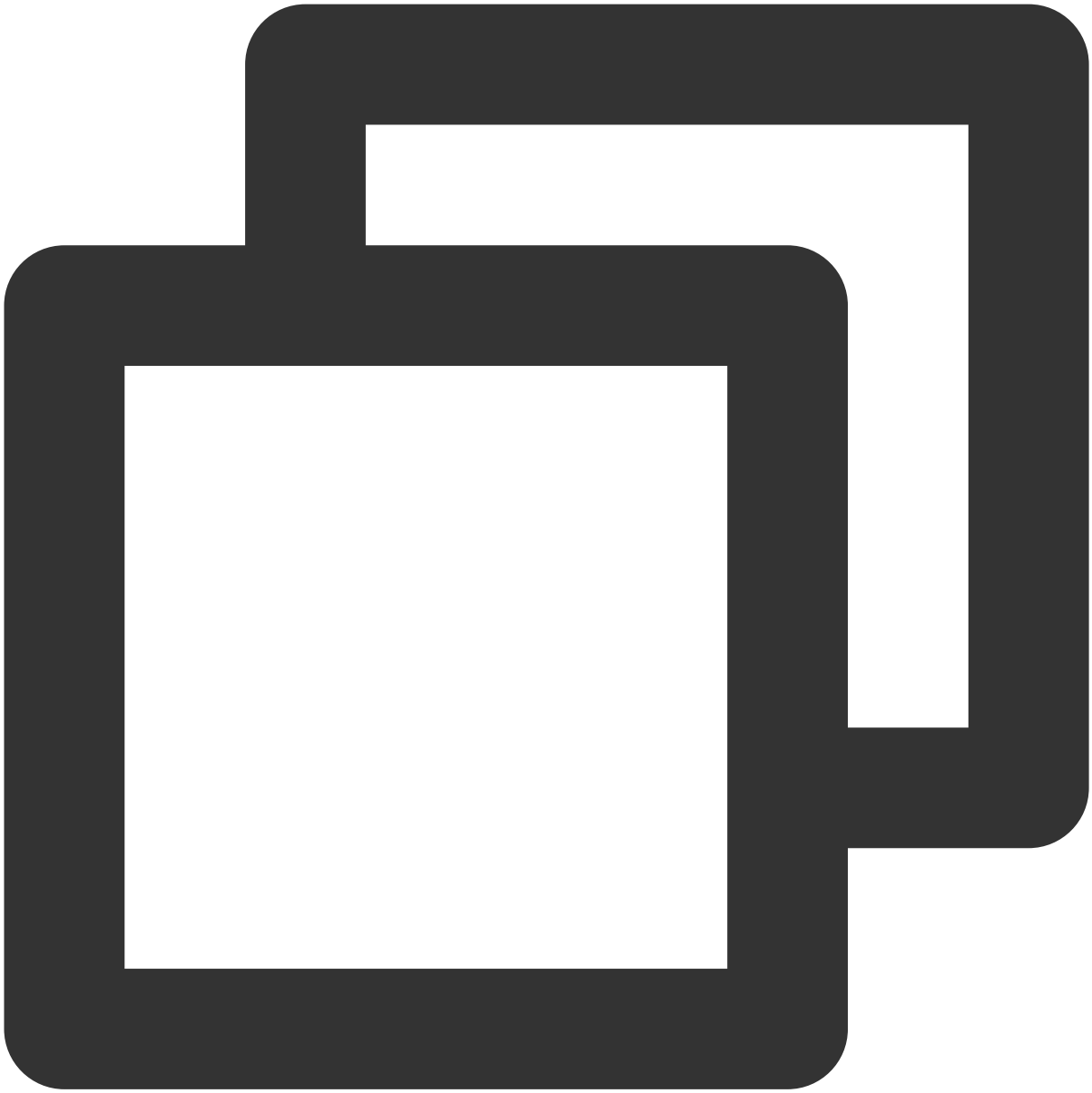
This API is used to terminate a `TUICallEngine` singleton.



```
- (void)destroyInstance;
```

Init

This API is used to initialize `TUICallEngine`. Call it to authenticate the call service and perform other required actions before you call other APIs.



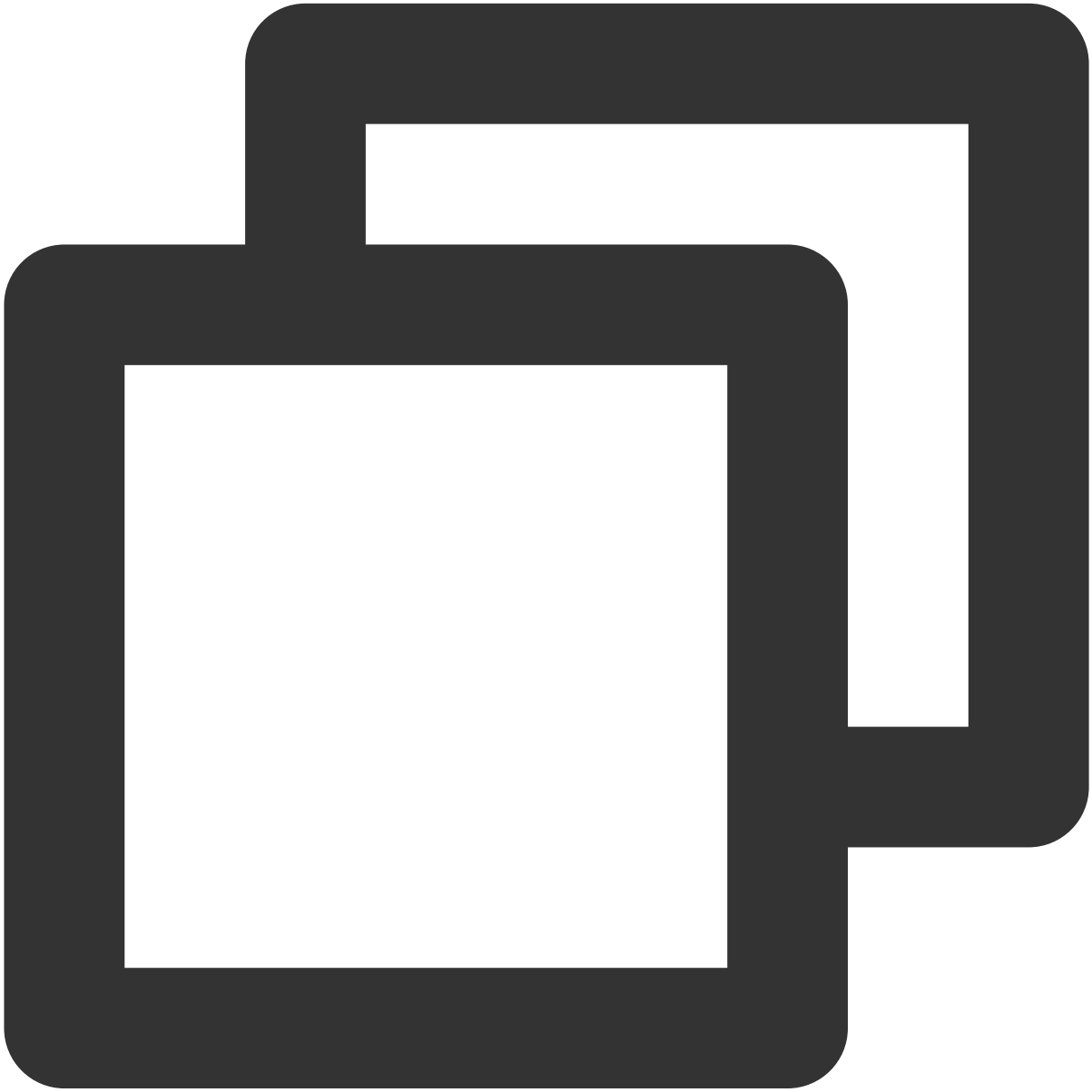
```
- (void)init:(NSString *)sdkAppID userId:(NSString *)userId userSig:(NSString *)use
```

Parameter	Type	Description
sdkAppID	NSString	You can view `SDKAppID` in Application Management > **Application Info** of the TRTC console.
userId	NSString	The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_).
userSig	NSString	Tencent Cloud's proprietary security signature. For how to calculate

		and use it, see UserSig.

addObserver

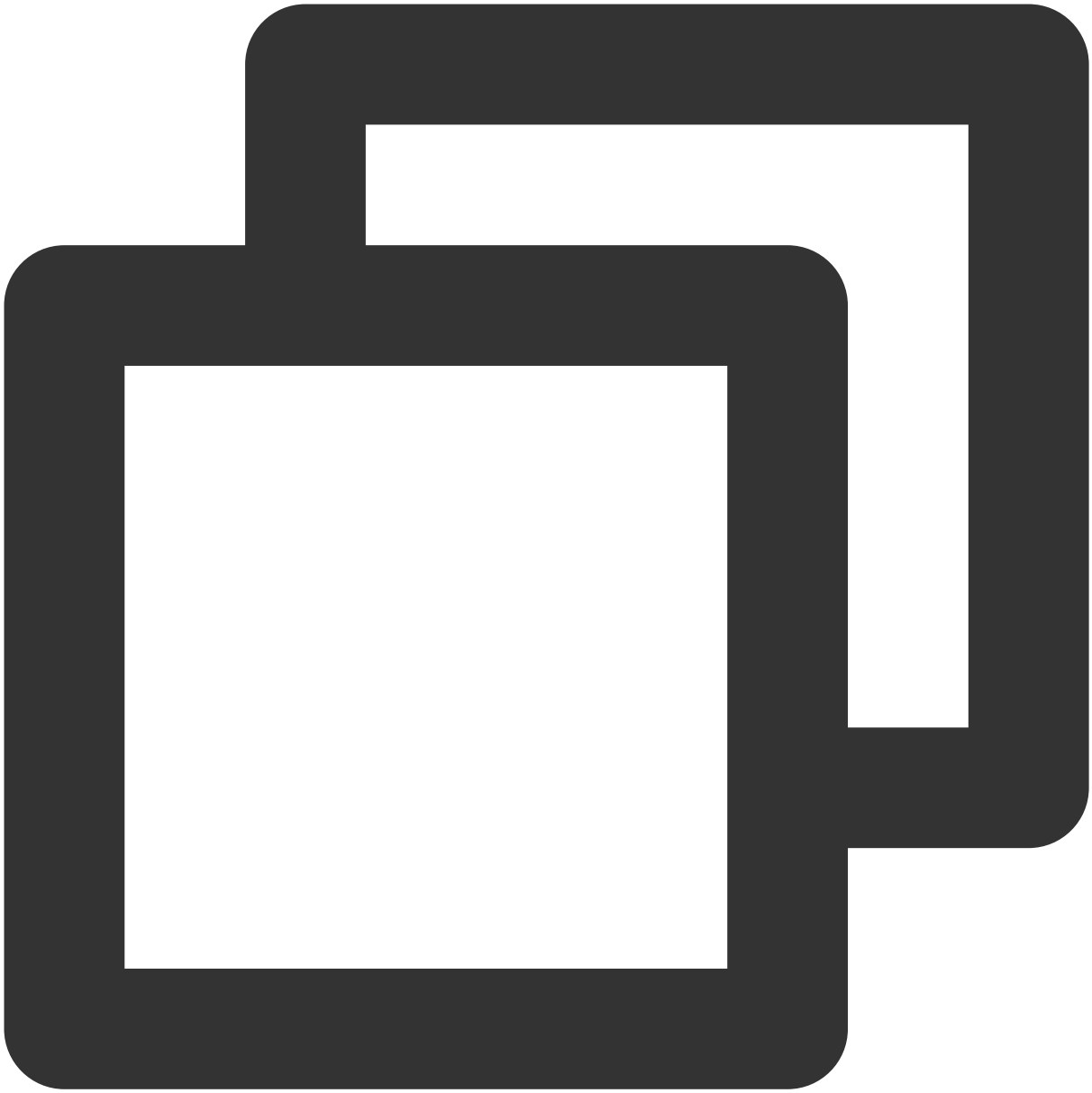
This API is used to register an event listener to listen for `TUICallObserver` events.



```
- (void)addObserver:(id<TUICallObserver>)observer;
```

removeObserver

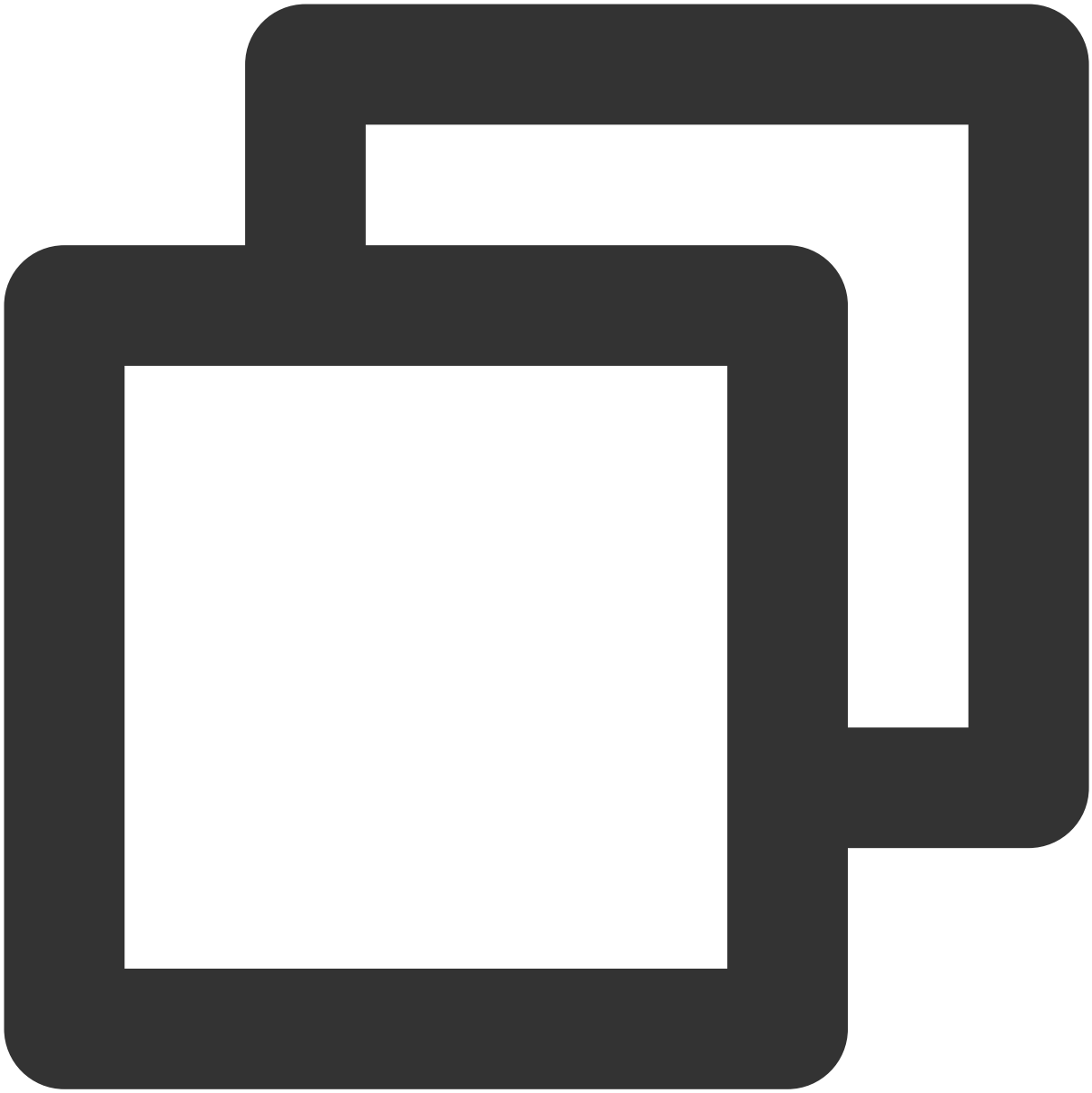
This API is used to unregister an event listener.



```
- (void)removeObserver:(id<TUICallObserver>)observer;
```

call

This API is used to make a (one-to-one) call.



```
- (void)call:(NSString *)userId callMediaType:(TUICallMediaType)callMediaType param
```

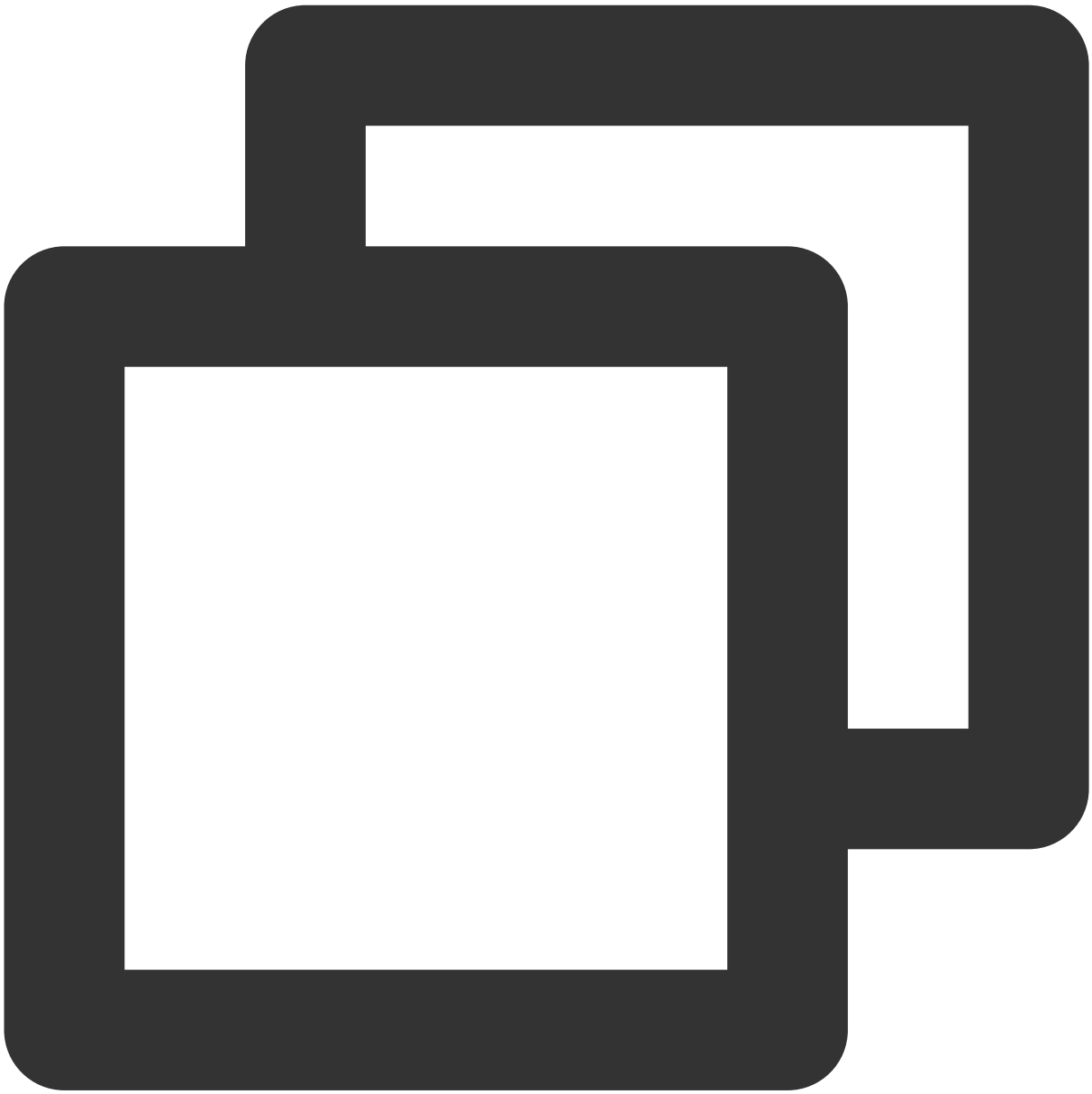
Parameter	Type	Description
userId	NSString	The target user ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.
params	TUICallParams	An additional parameter, such as roomID, call timeout, offline push info, etc

groupCall

This API is used to make a group call.

Notice：

Before making a group call, you need to create an IM group first.



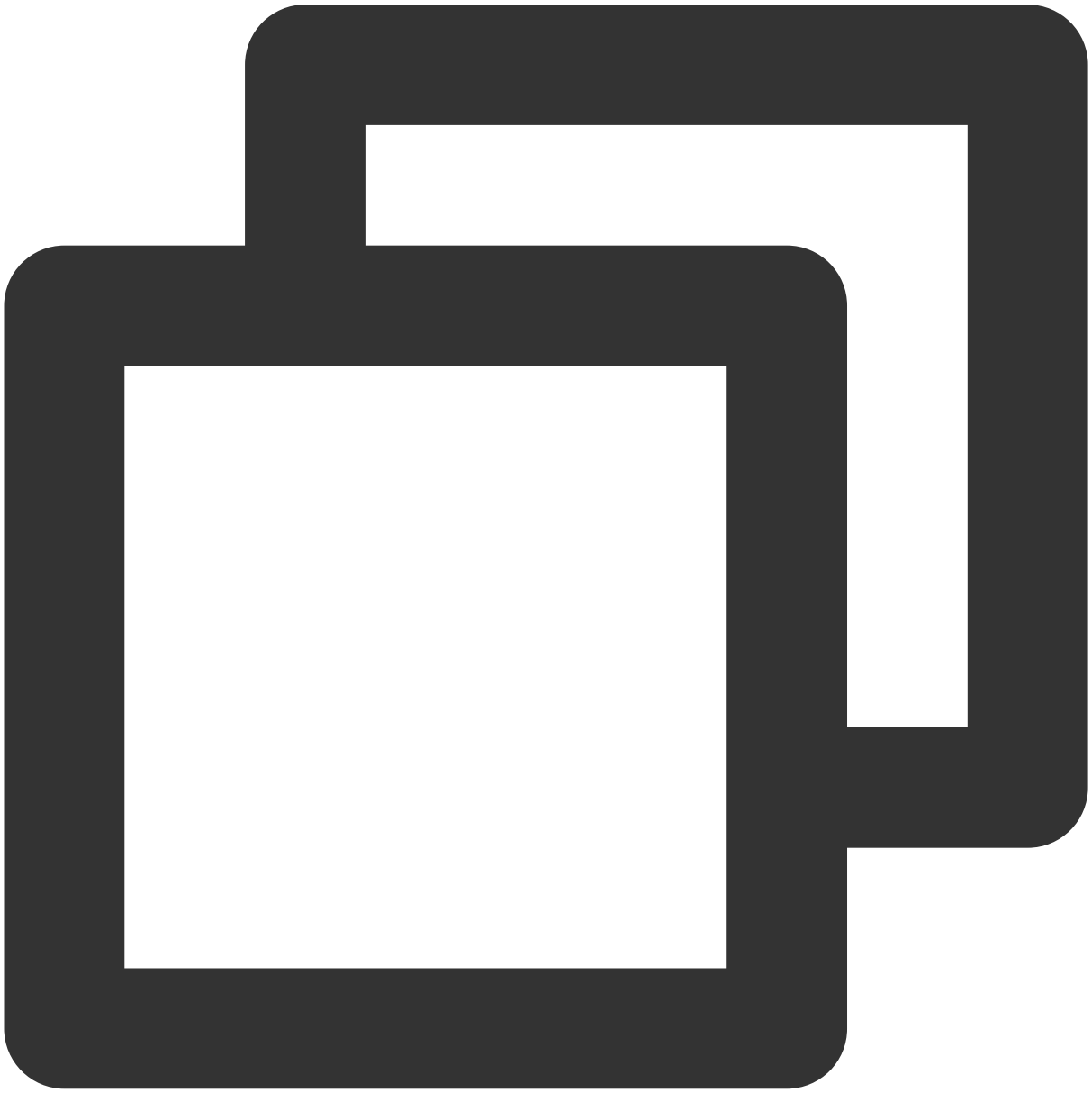
```
- (void)groupCall:(NSString *)groupId userIdList:(NSArray <NSString *> *)userIdList
```

Parameter	Type	Description
groupId	NSString	The group ID.

userIdList	NSArray	The target user IDs.
callMediaType	TUICallMediaType	The call type, which can be video or audio.
params	TUICallParams	An additional parameter. such as roomID, call timeout, offline push info, etc

accept

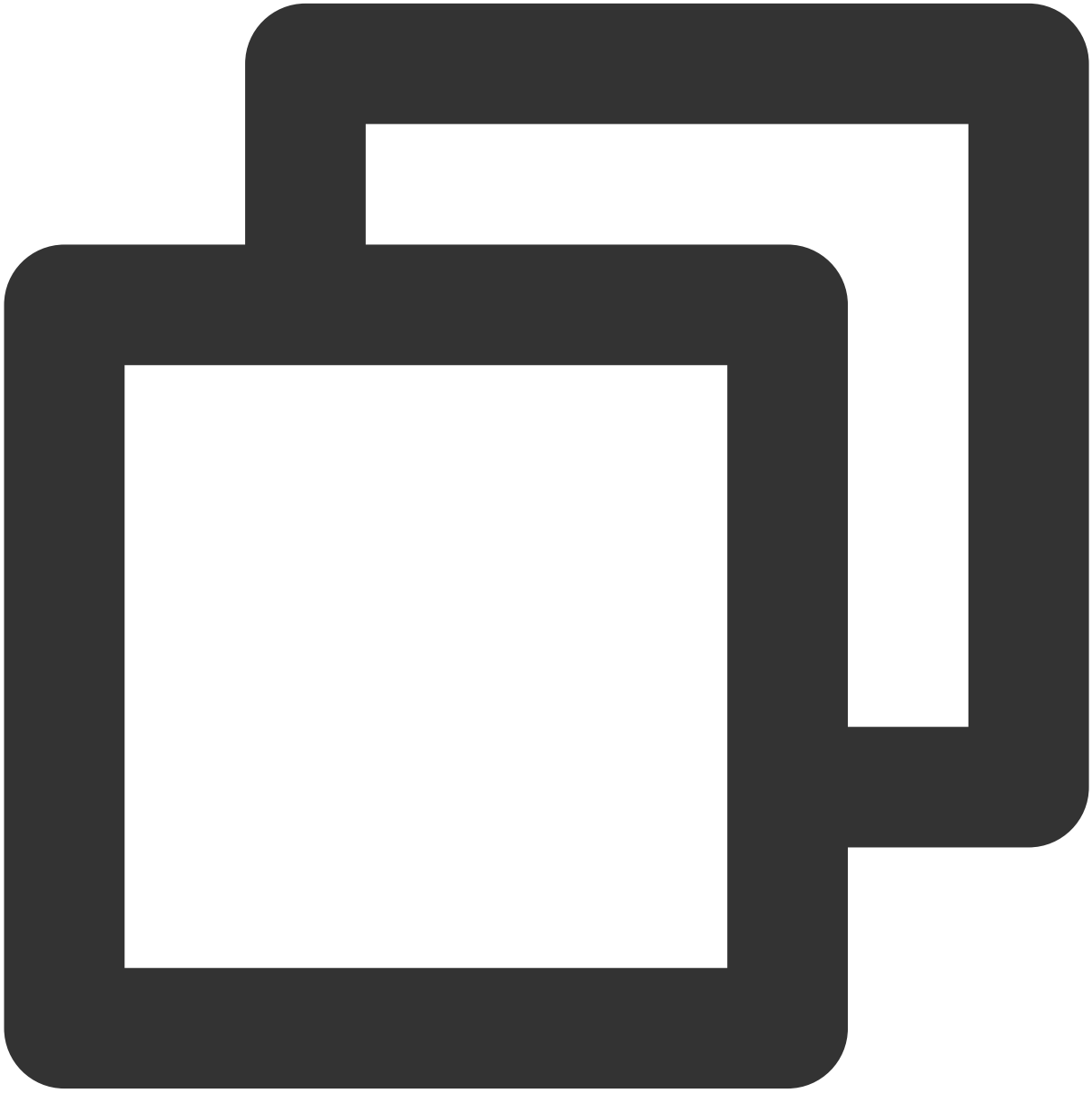
This API is used to accept a call. After receiving the `onCallReceived()` callback, you can call this API to accept the call.



```
- (void)accept:(TUICallSucc)succ fail:(TUICallFail)fail;
```

reject

This API is used to reject a call. After receiving the `onCallReceived()` callback, you can call this API to reject the call.

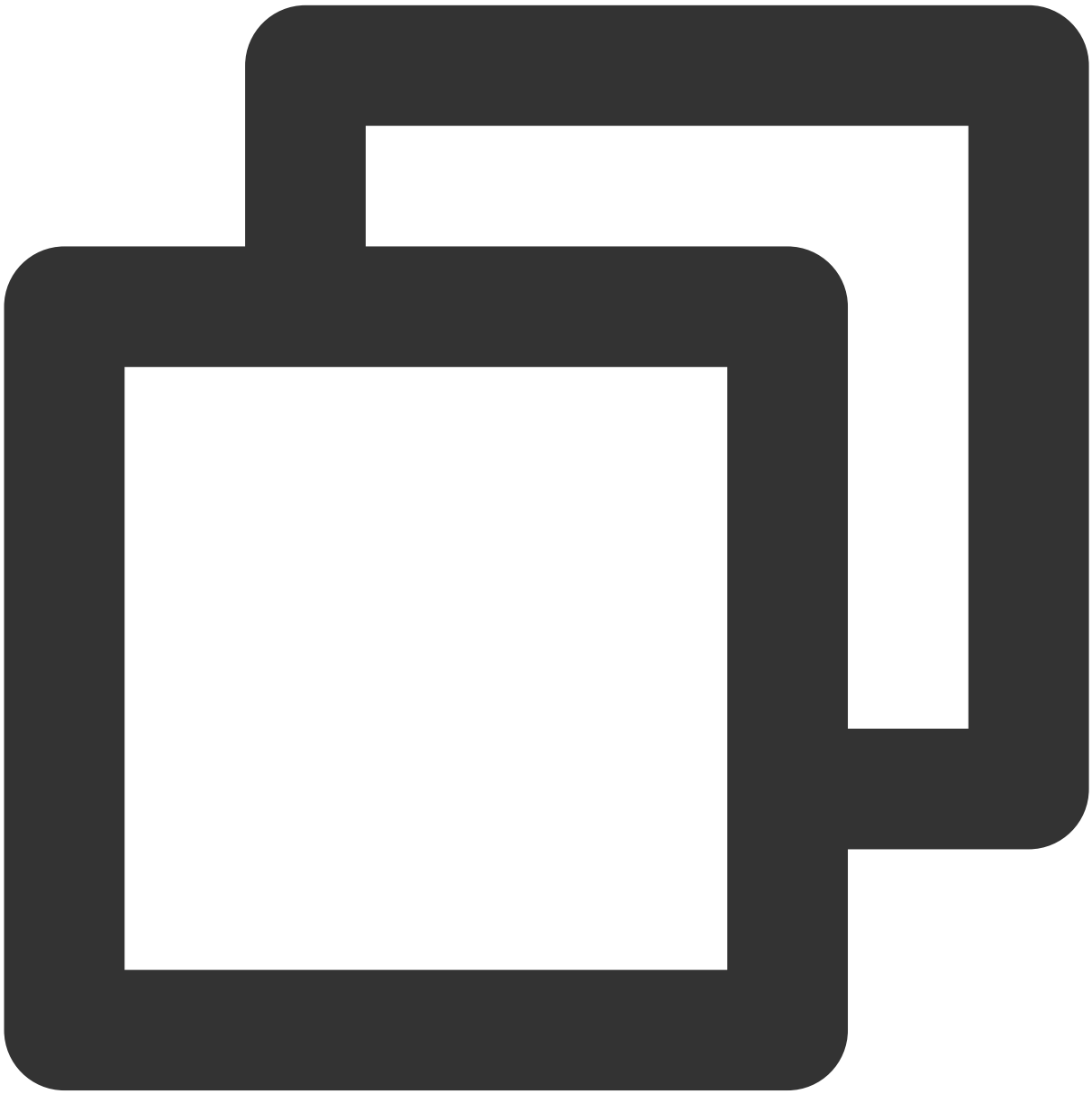


```
- (void)reject:(TUICallSucc)succ fail:(TUICallFail)fail;
```

ignore

This API is used to ignore a call. After receiving the `onCallReceived()` , you can call this API to ignore the call. The caller will receive the `onUserLineBusy` callback.

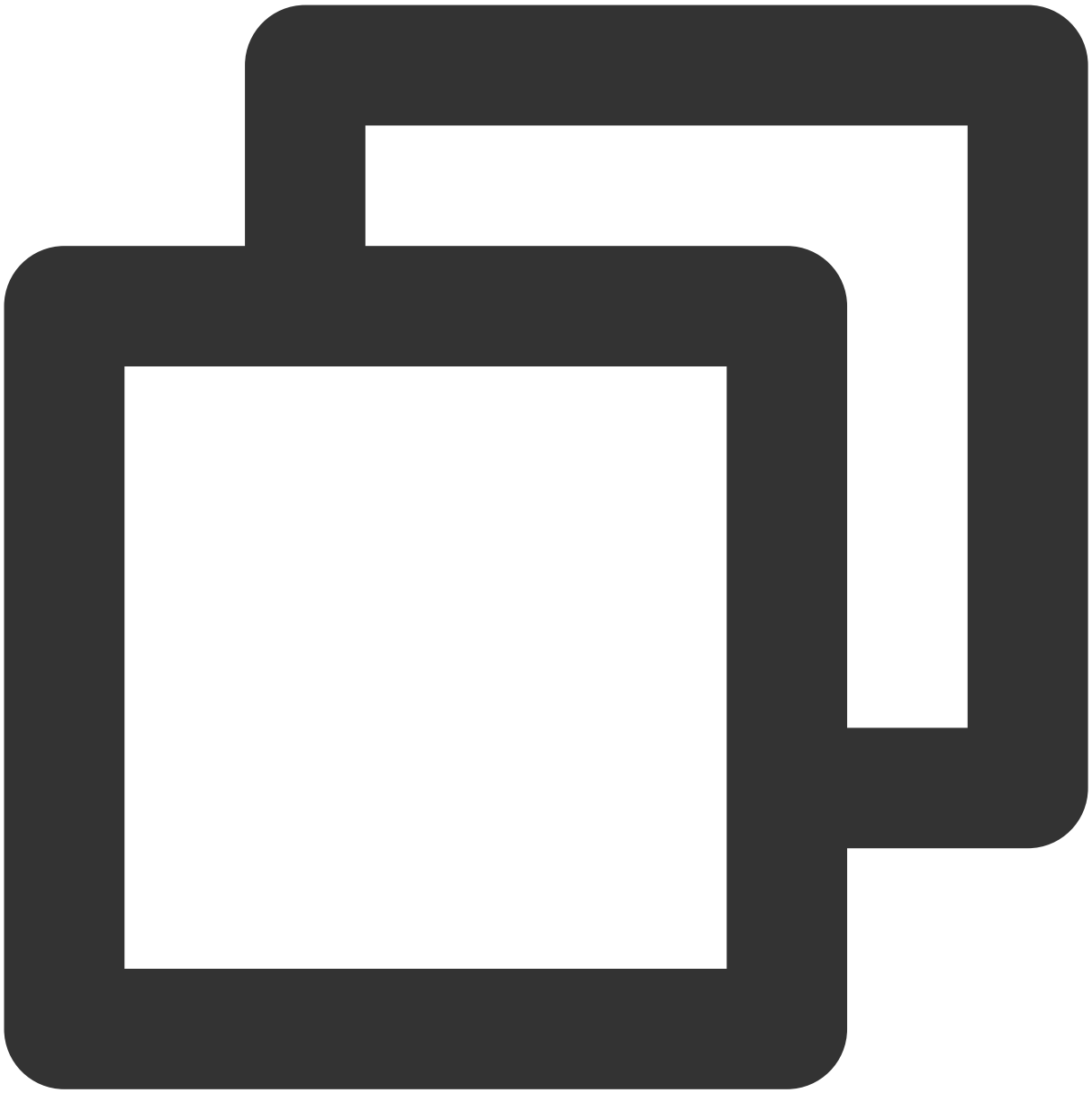
Note: If your project involves live streaming or conferencing, you can also use this API to implement the “in a meeting” or “on air” feature.



```
- (void)ignore:(TUICallSucc)succ fail:(TUICallFail)fail;
```

hangup

This API is used to end a call.

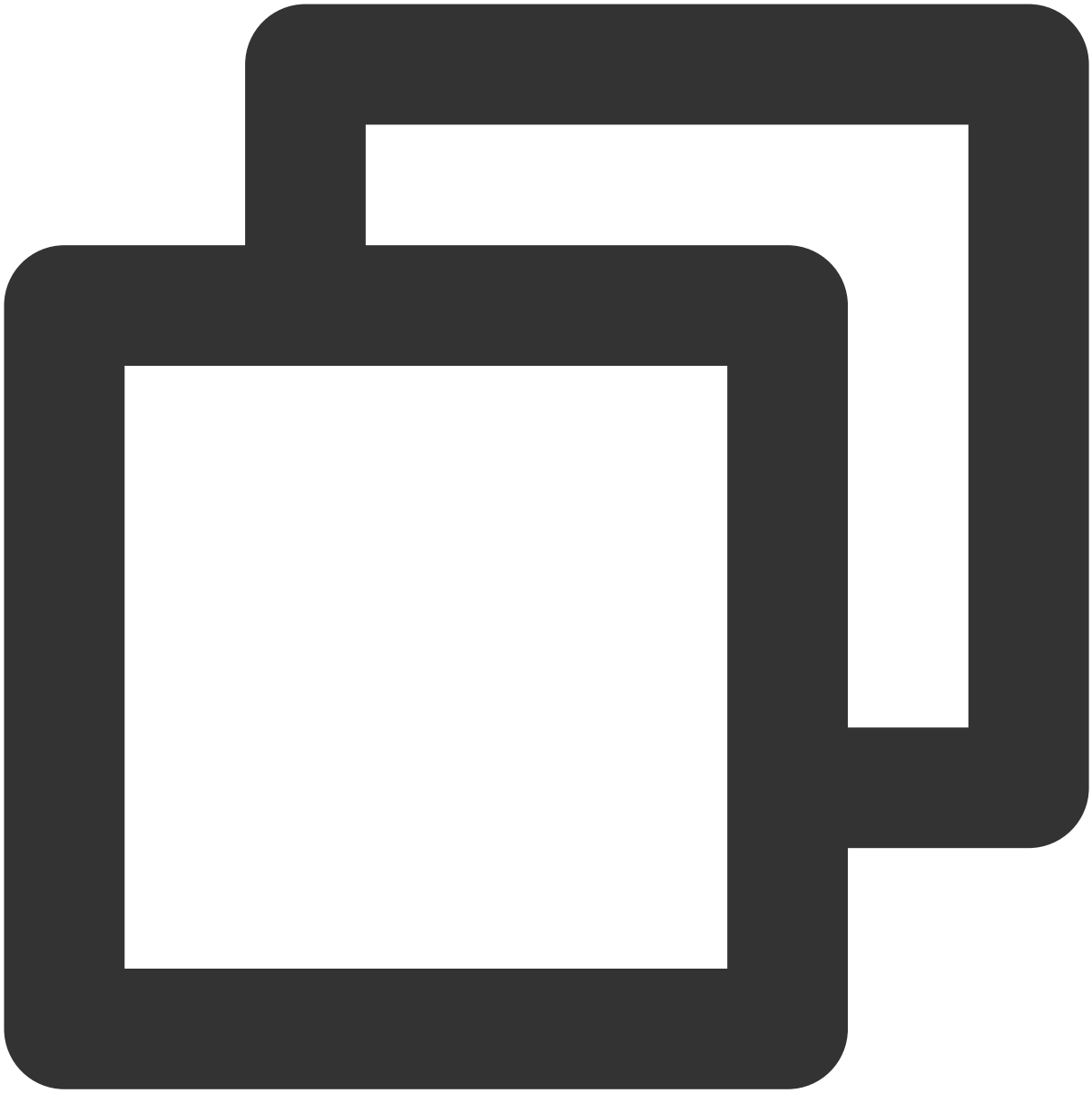


```
- (void)hangup:(TUICallSucc)succ fail:(TUICallFail)fail;
```

inviteUser

This API is used to invite users to the current group call.

This API is called by a participant of a group call to invite new users.



```
- (void)inviteUser:(NSArray<NSString *> *)userIdList params:(TUICallParams *)params
```

Parameter	Type	Description
userIdList	NSArray	The target user IDs.
params	TUICallParams	An additional parameter. such as roomID, call timeout, offline push info, etc

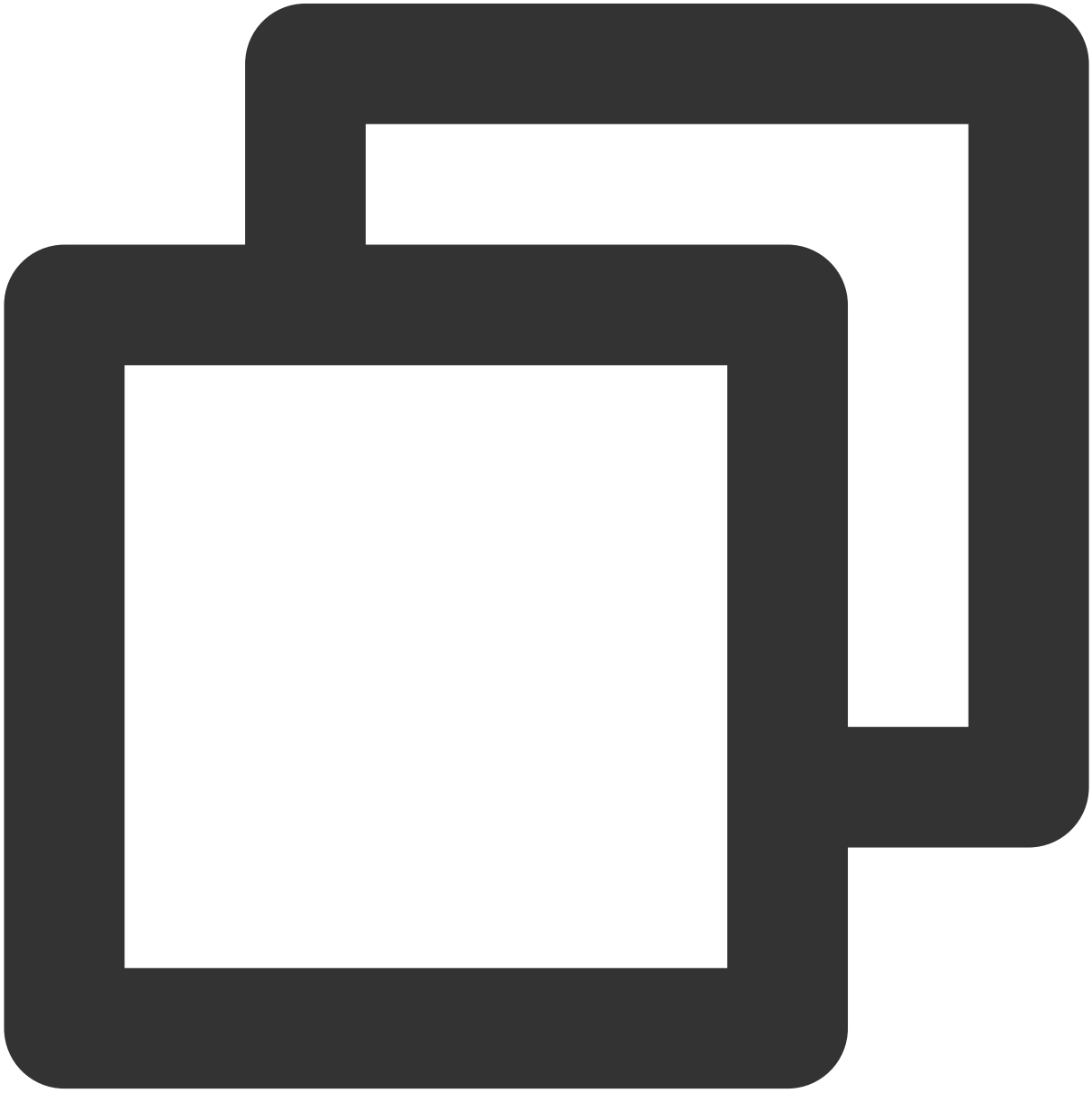
Notice：

In this case, the custom RoomId is invalid. The SDK will invite others to join the room where the inviter is currently located.

joinInGroupCall

This API is used to join a group call.

This API is called by a group member to join the group's call.



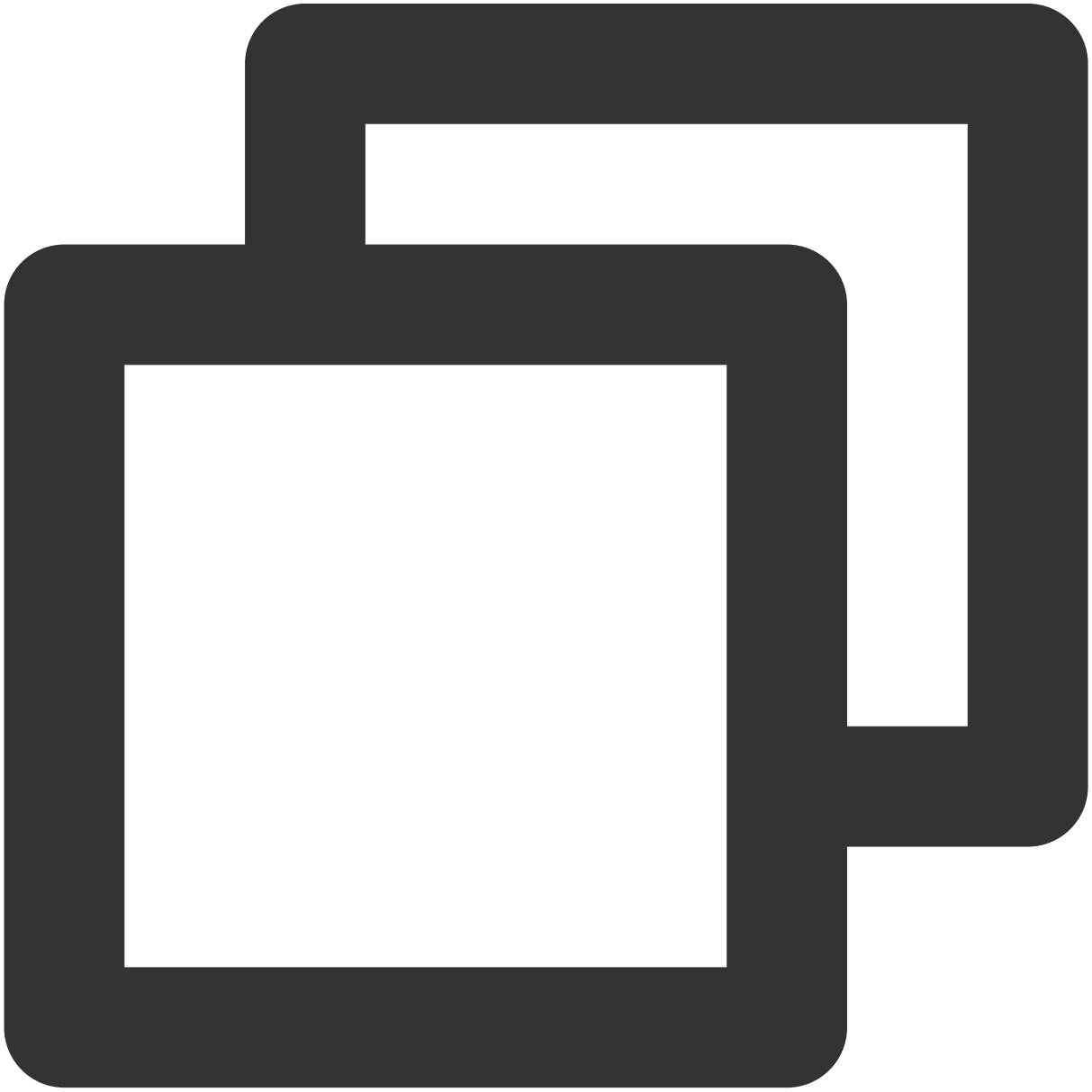
```
- (void)joinInGroupCall:(TUIRoomId *)roomId groupId:(NSString *)groupId callMediaTy
```

Parameter	Type	Description

roomId	TUIRoomId	The room ID.
groupId	NSString	The group ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.

switchCallMediaType

This API is used to change the call type.

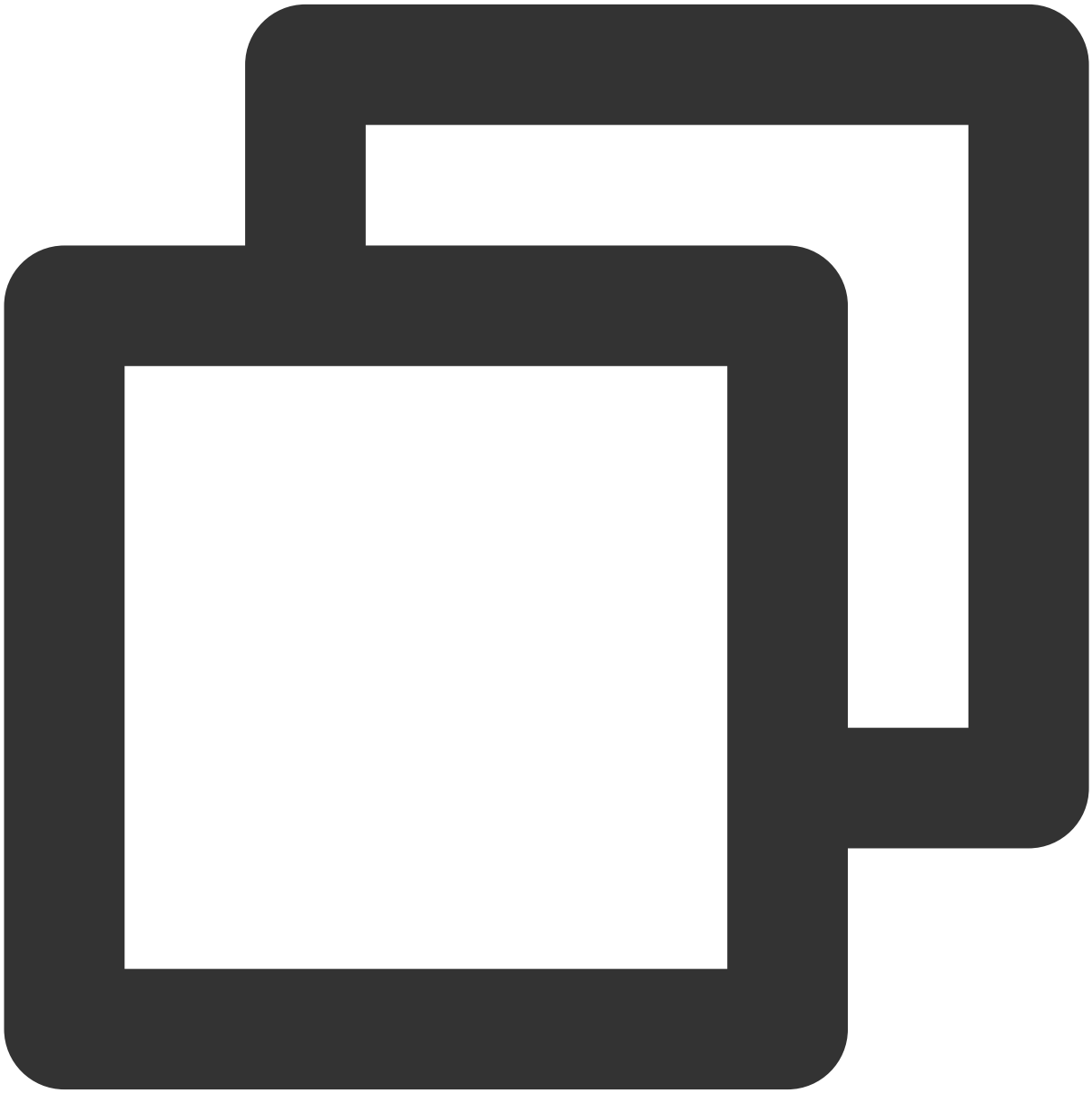


```
- (void)switchCallMediaType:(TUICallMediaType)newType;
```

Parameter	Type	Description
callMediaType	TUICallMediaType	The call type, which can be video or audio.

startRemoteView

This API is used to set the view object to display a remote video.

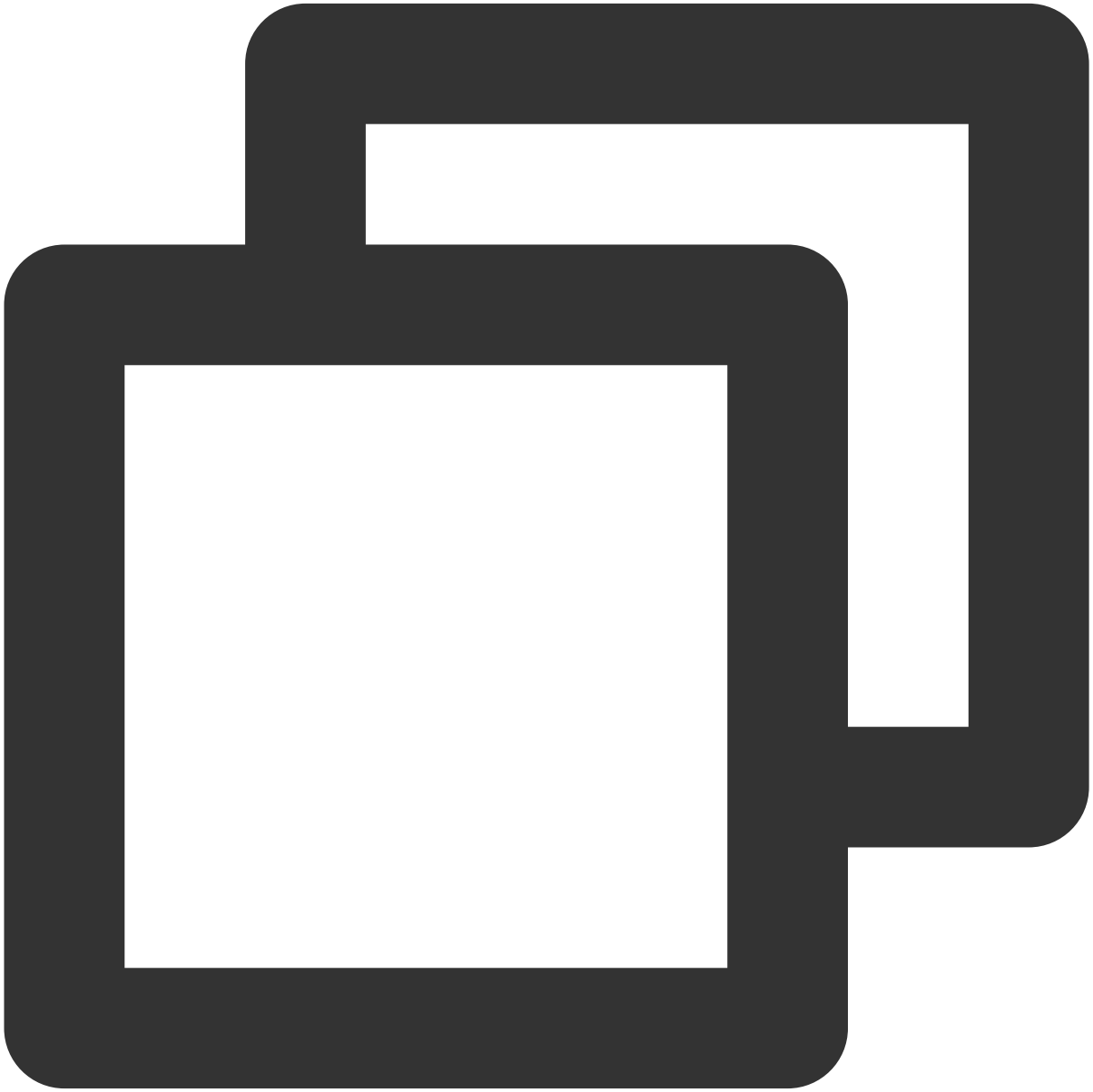


```
- (void)startRemoteView:(NSString *)userId videoView:(TUIVideoView *)videoView onPl
```


Parameter	Type	Description
userId	NSString	The target user ID.
videoView	TUIVideoView	The view to be rendered.

stopRemoteView

This API is used to unsubscribe from the video stream of a remote user.

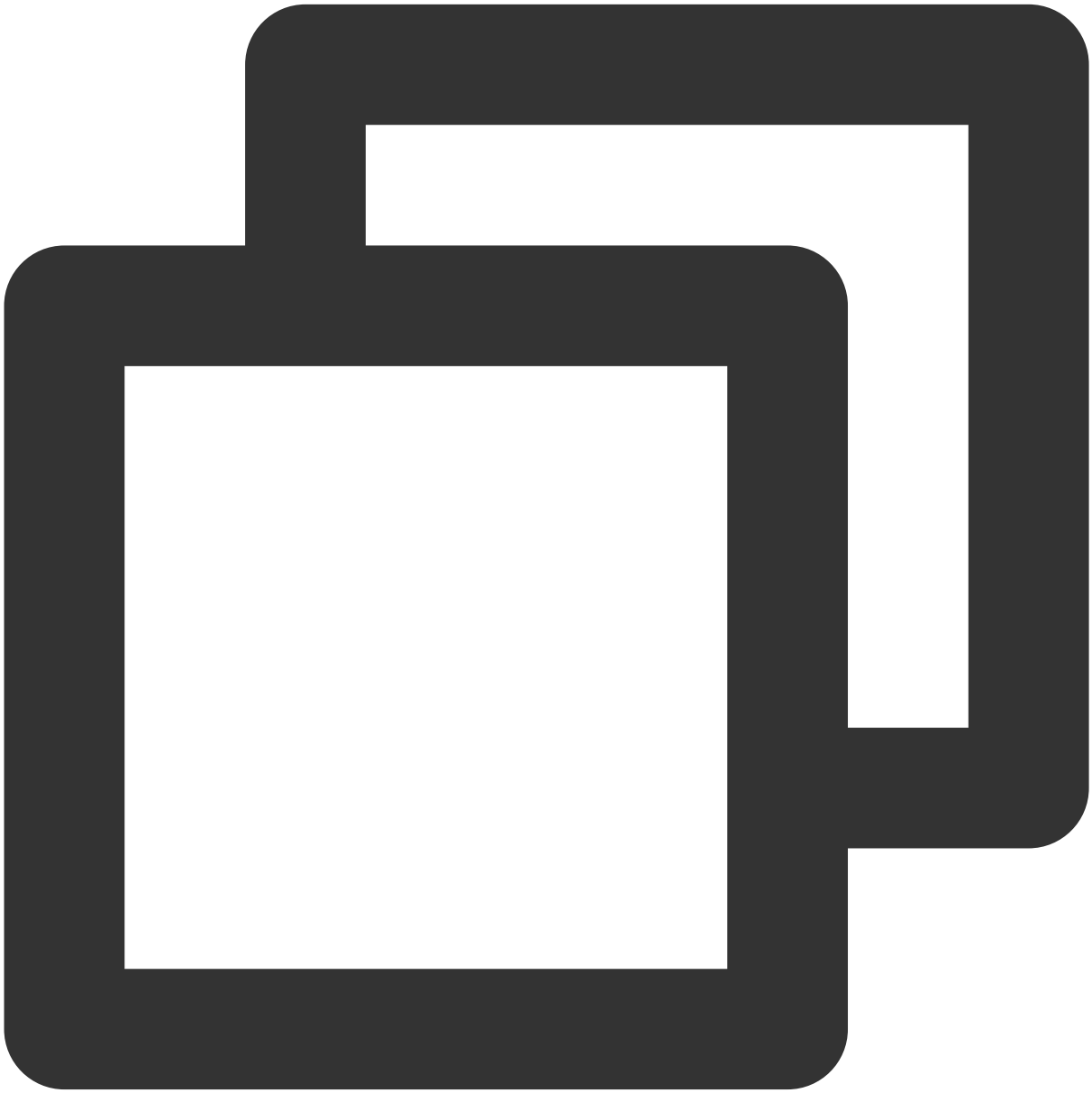


```
- (void)stopRemoteView:(NSString *)userId;
```

Parameter	Type	Description
userId	NSString	The target user ID.

openCamera

This API is used to turn the camera on.



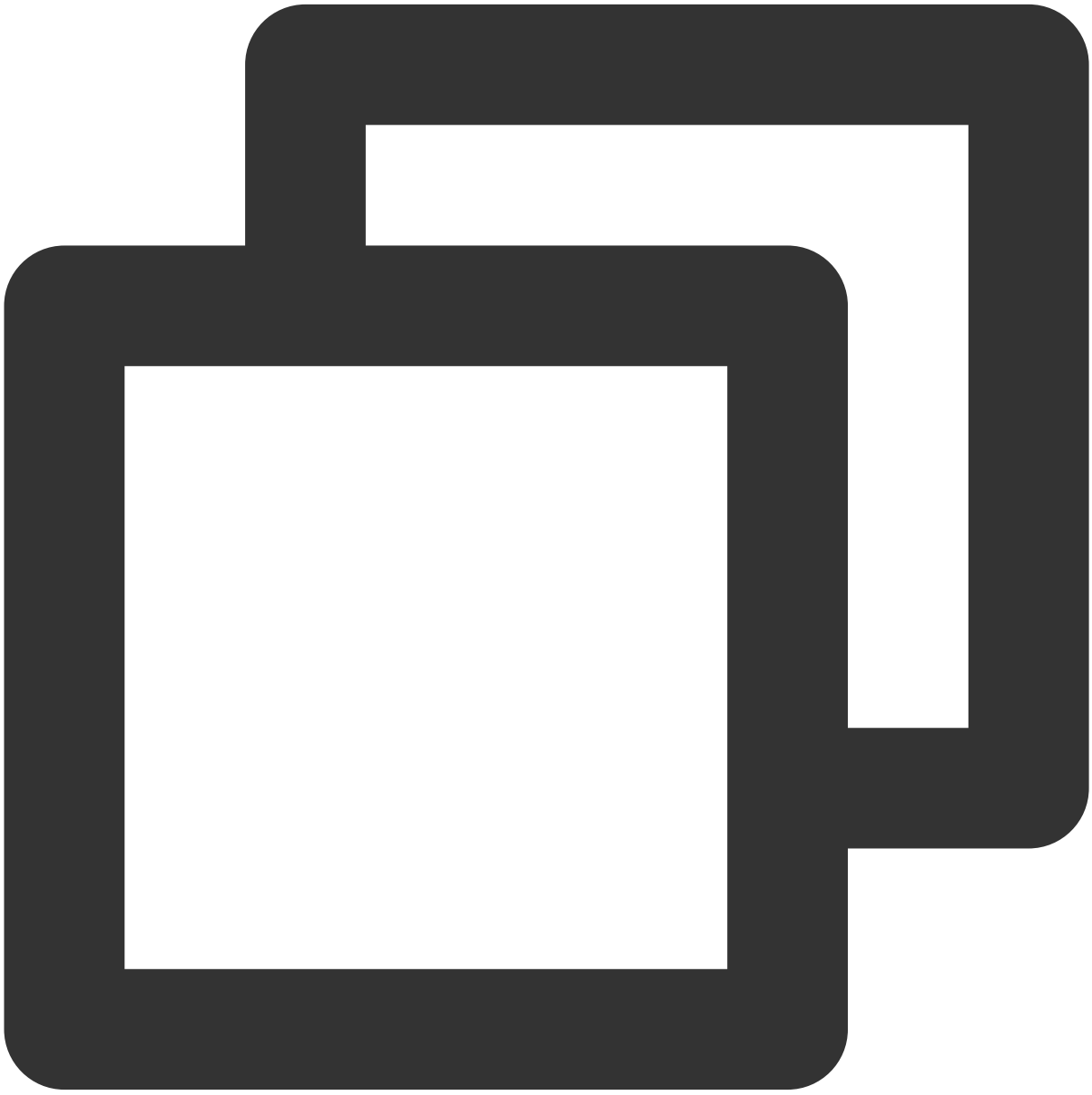
```
- (void)openCamera:(TUICamera)camera videoView:(TUIVideoView *)videoView succ:(TUIC
```

Parameter	Type	Description

camera	TUICamera	The front or rear camera.
videoView	TUIVideoView	The view to be rendered.

closeCamera

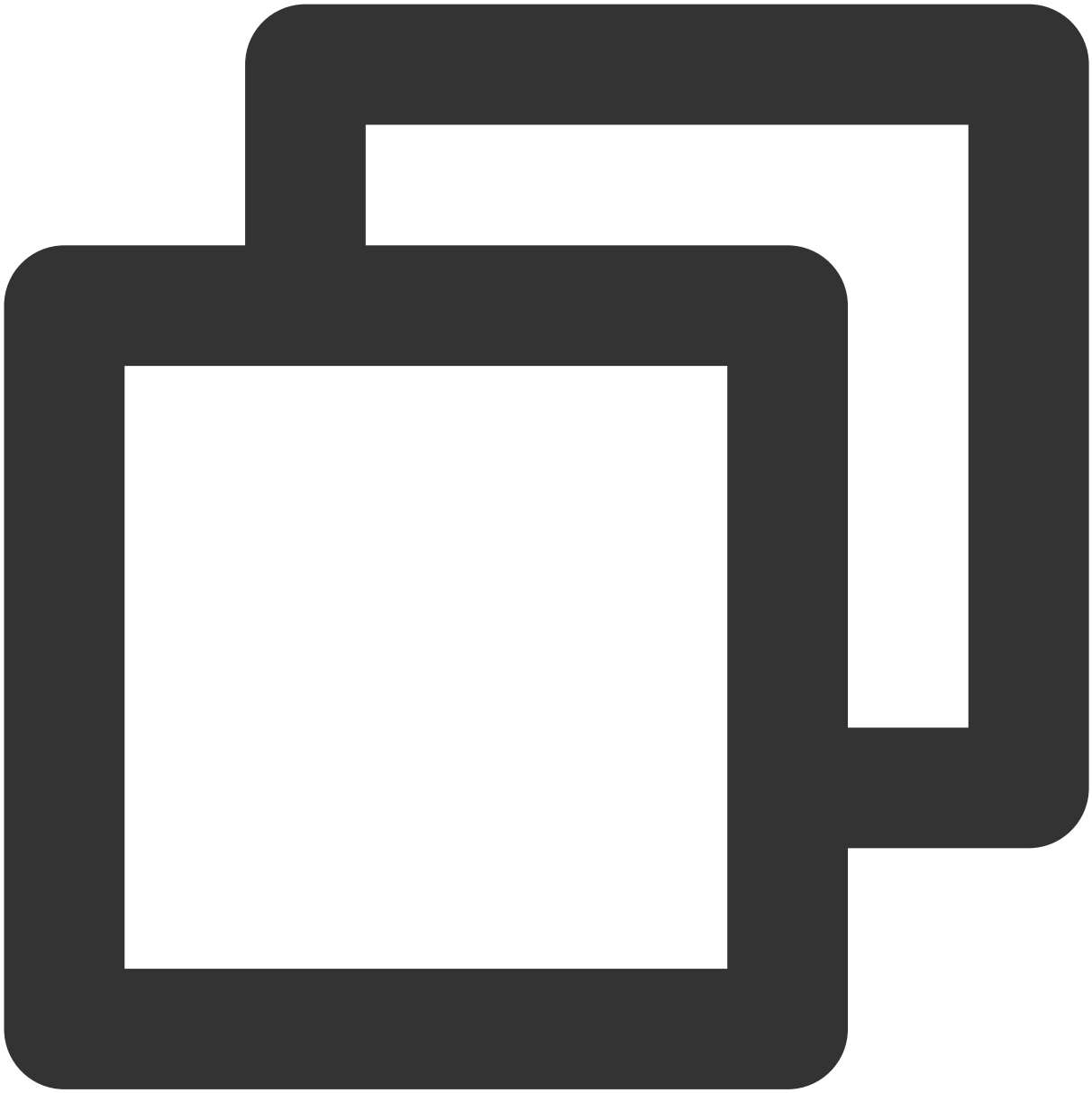
This API is used to turn the camera off.



```
- (void)closeCamera;
```

switchCamera

This API is used to switch between the front and rear cameras.

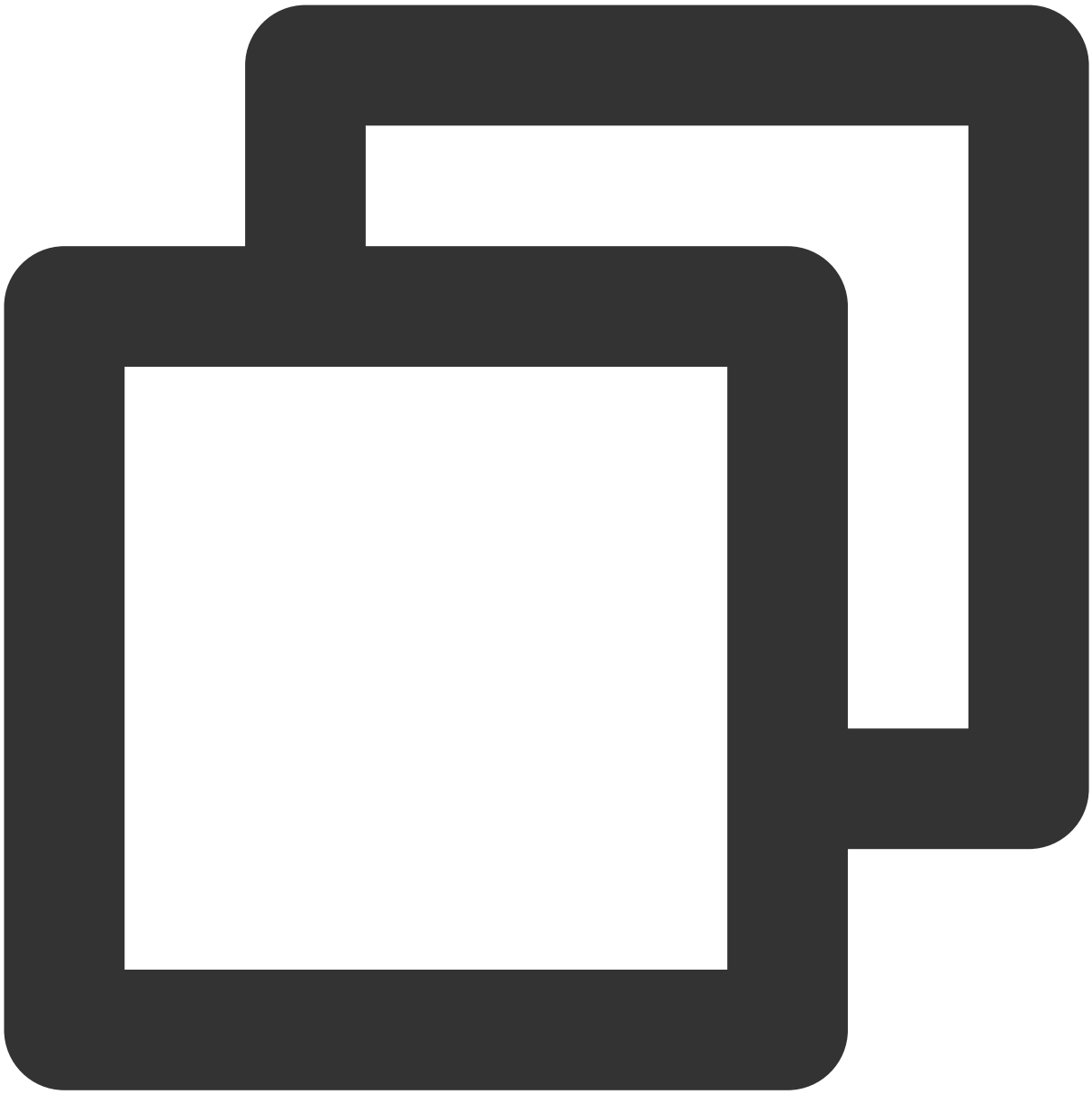


```
- (void)switchCamera:(TUICamera)camera;
```

Parameter	Type	Description
camera	TUICamera	The front or rear camera.

openMicrophone

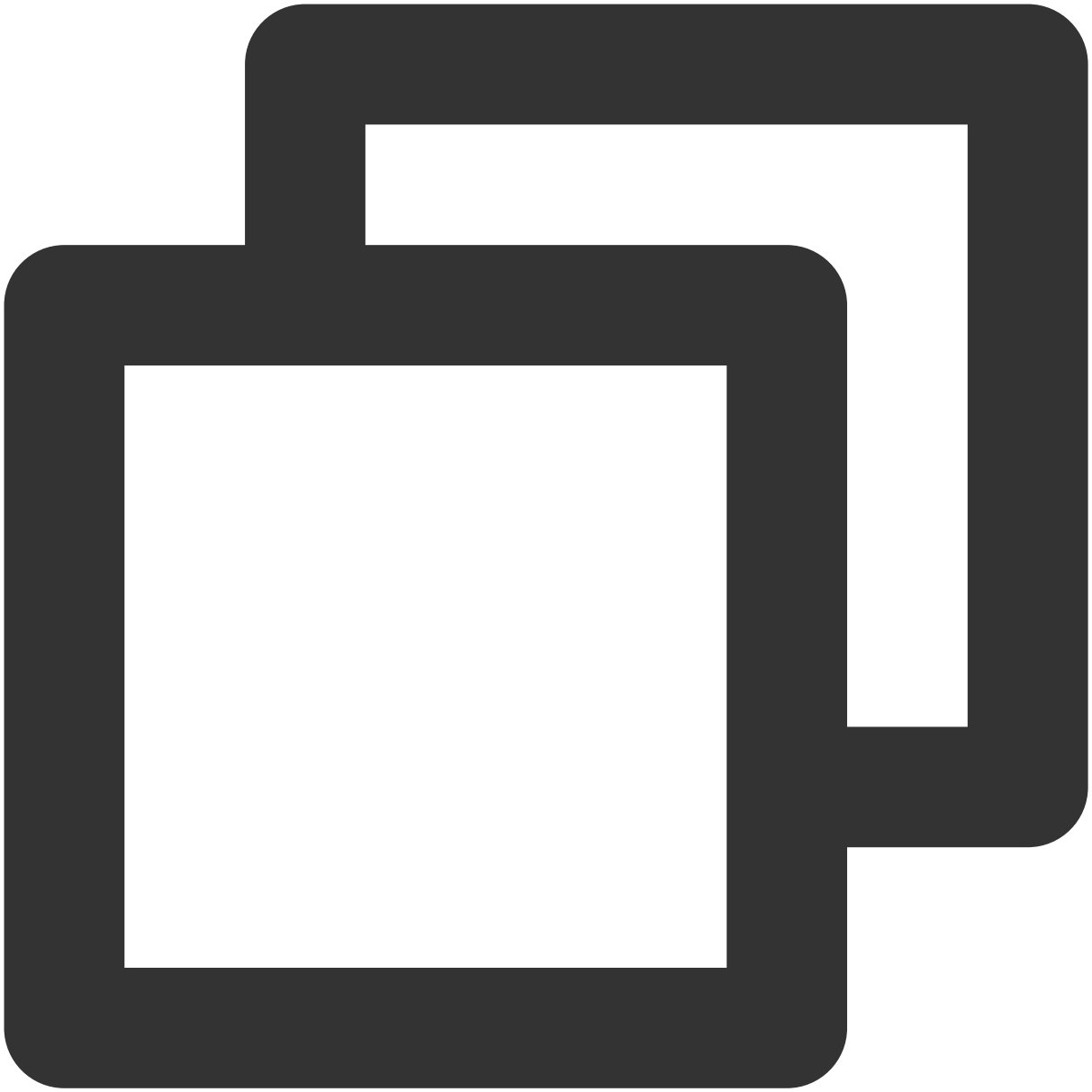
This API is used to turn the mic on.



```
- (void)openMicrophone:(TUICallSucc)succ fail:(TUICallFail)fail;
```

closeMicrophone

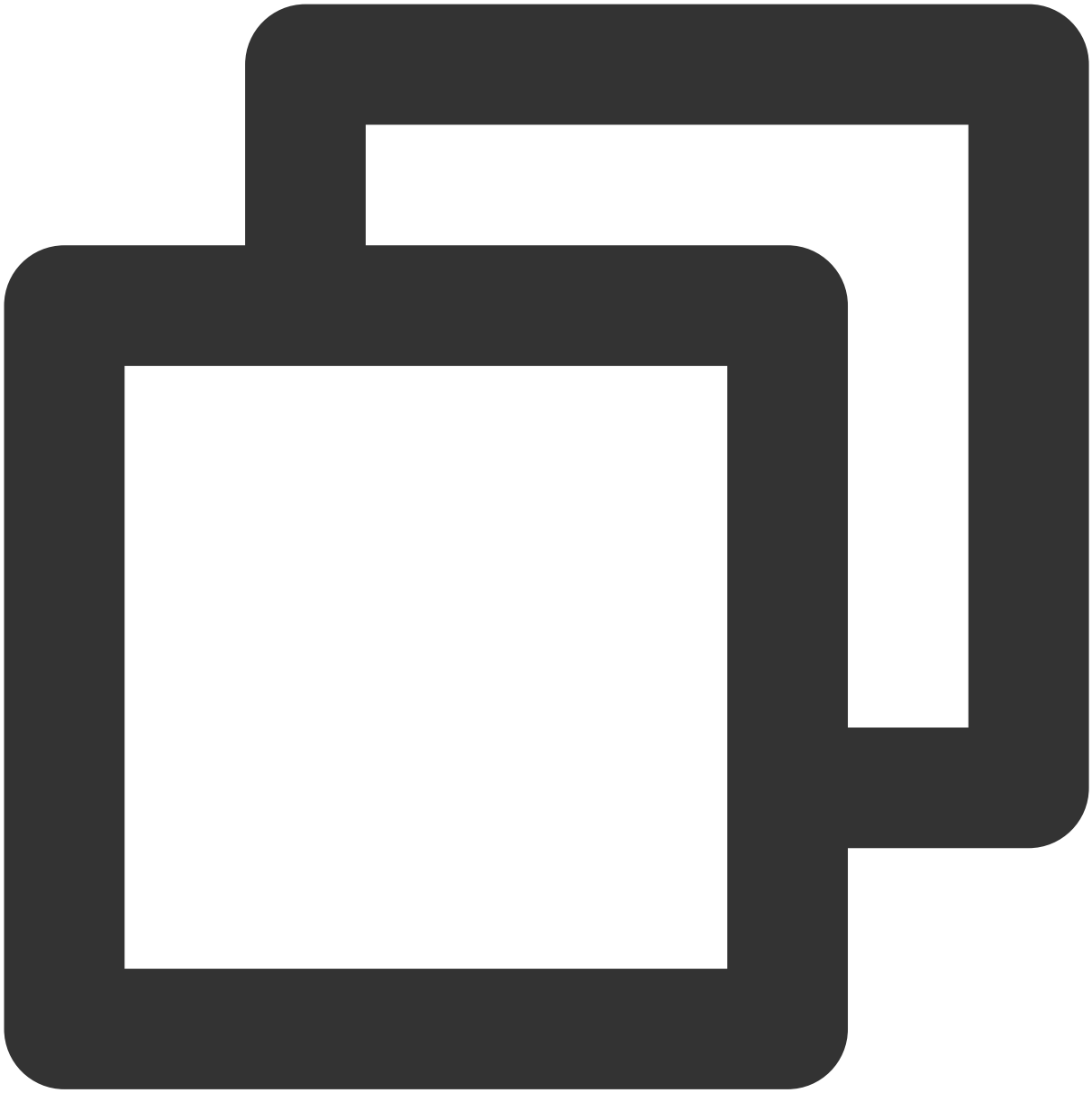
This API is used to turn the mic off.



```
- (void)closeMicrophone;
```

selectAudioPlaybackDevice

This API is used to select the audio playback device (receiver or speaker). In call scenarios, you can use this API to turn on/off hands-free mode.

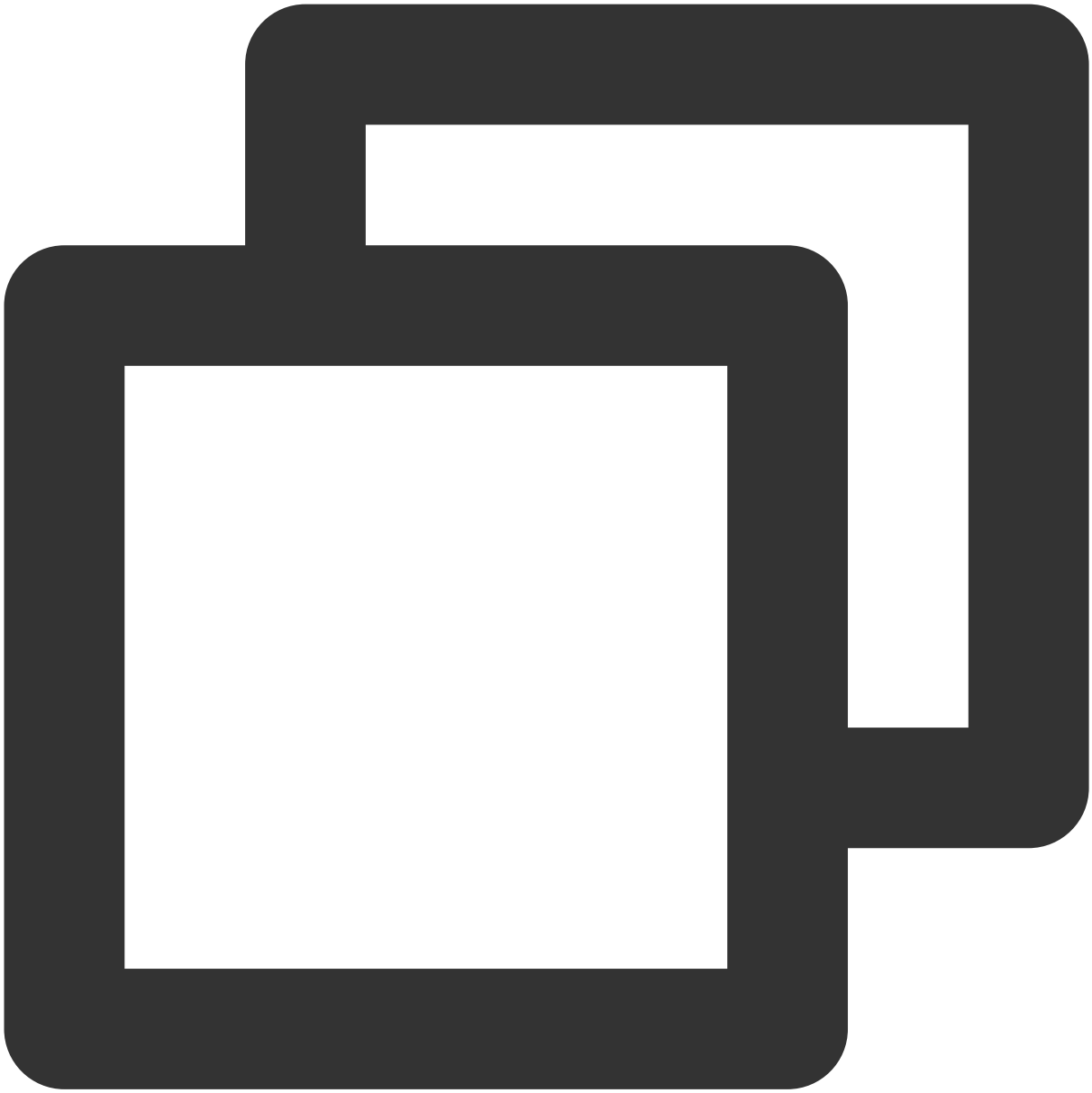


```
- (void)selectAudioPlaybackDevice:(TUIAudioPlaybackDevice)device;
```

Parameter	Type	Description
device	TUIAudioPlaybackDevice	The speaker or receiver.

setSelfInfo

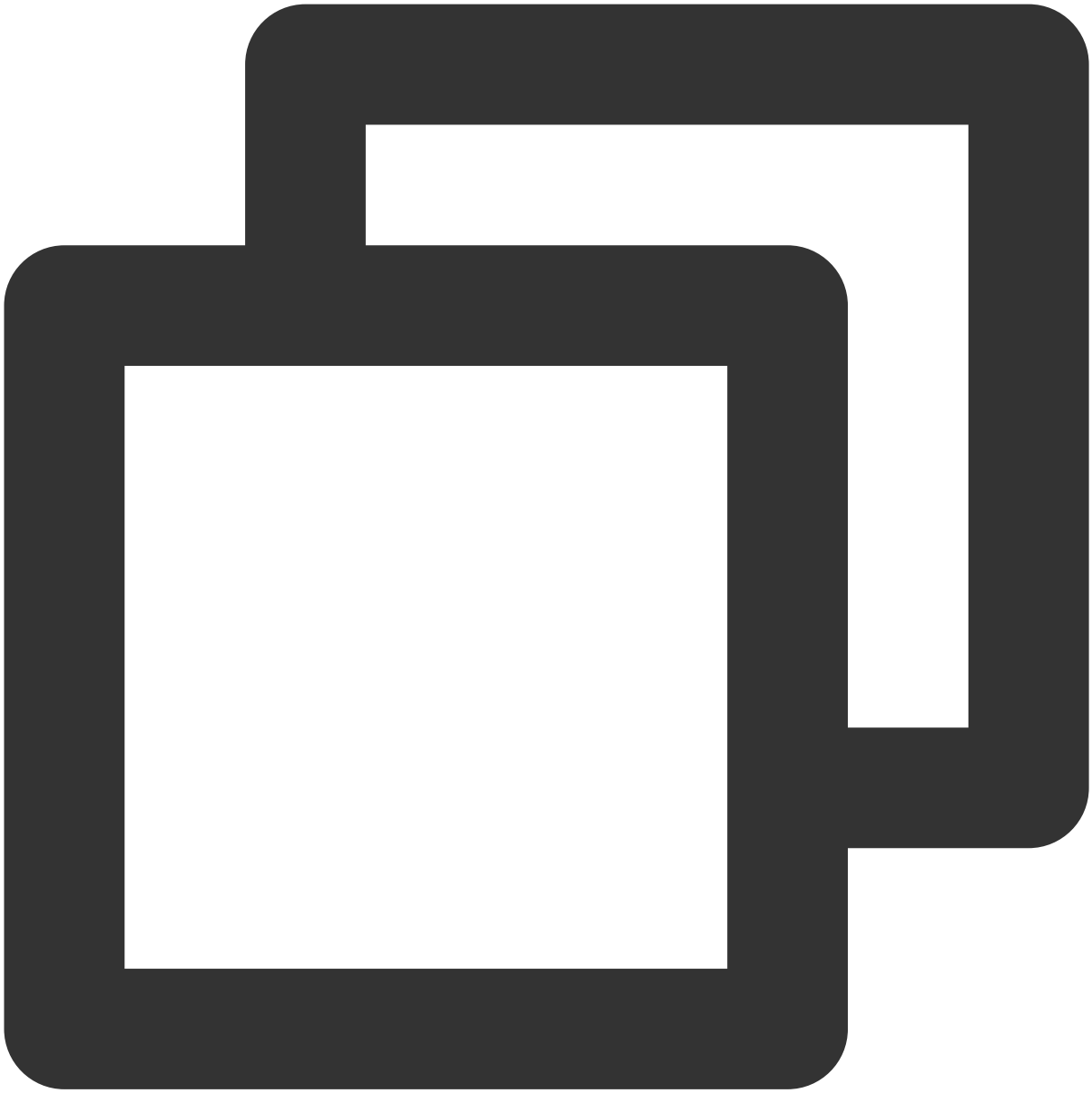
This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.



```
- (void)setSelfInfo:(NSString * _Nullable)nickName avatar:(NSString * _Nullable)ava
```

enableMultiDeviceAbility

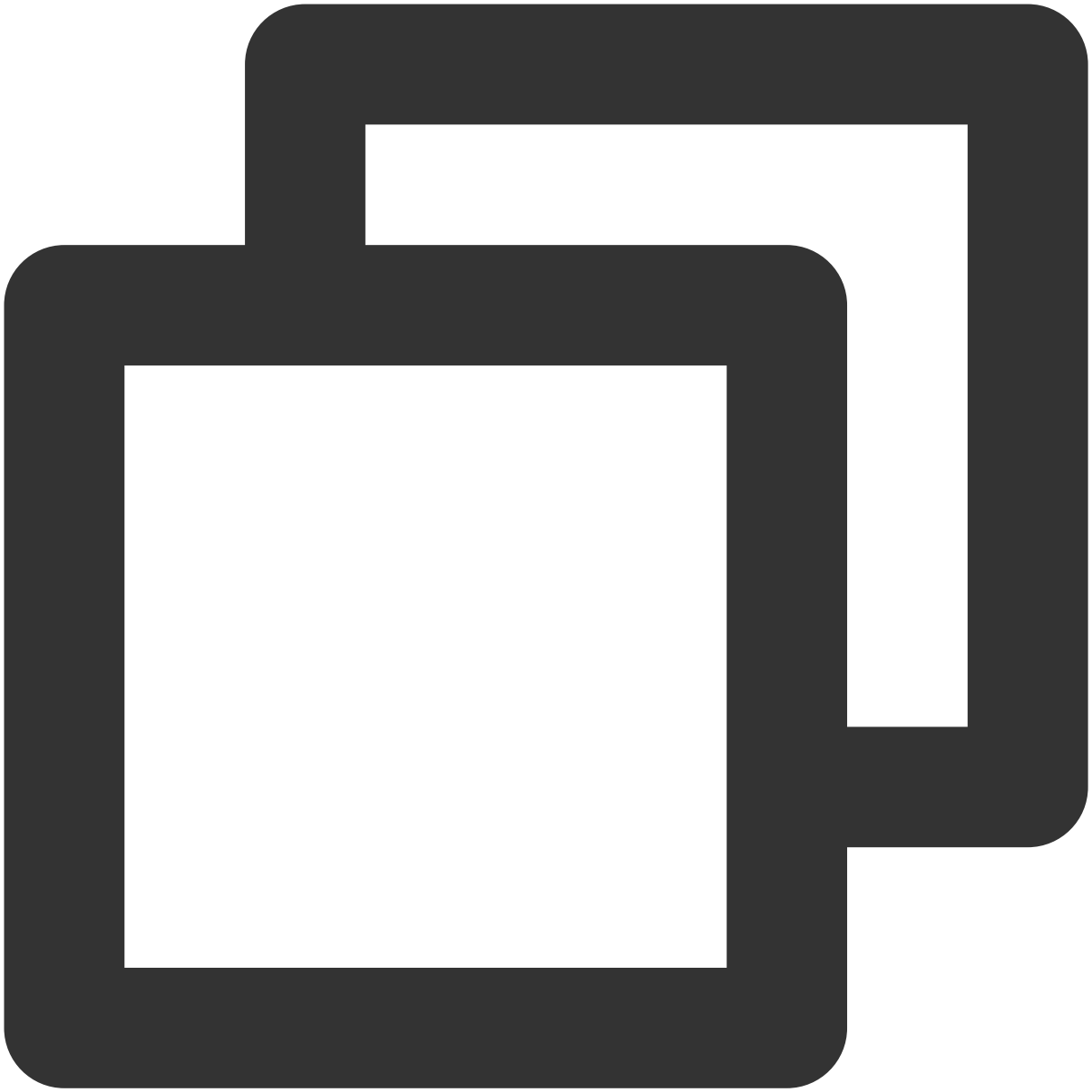
This API is used to set whether to enable multi-device login for `TUICallEngine` (supported by the premium package).



```
- (void)enableMultiDeviceAbility:(BOOL)enable succ:(TUICallSucc)succ fail:(TUICallF
```

setVideoRenderParams

Set the rendering mode of video image.

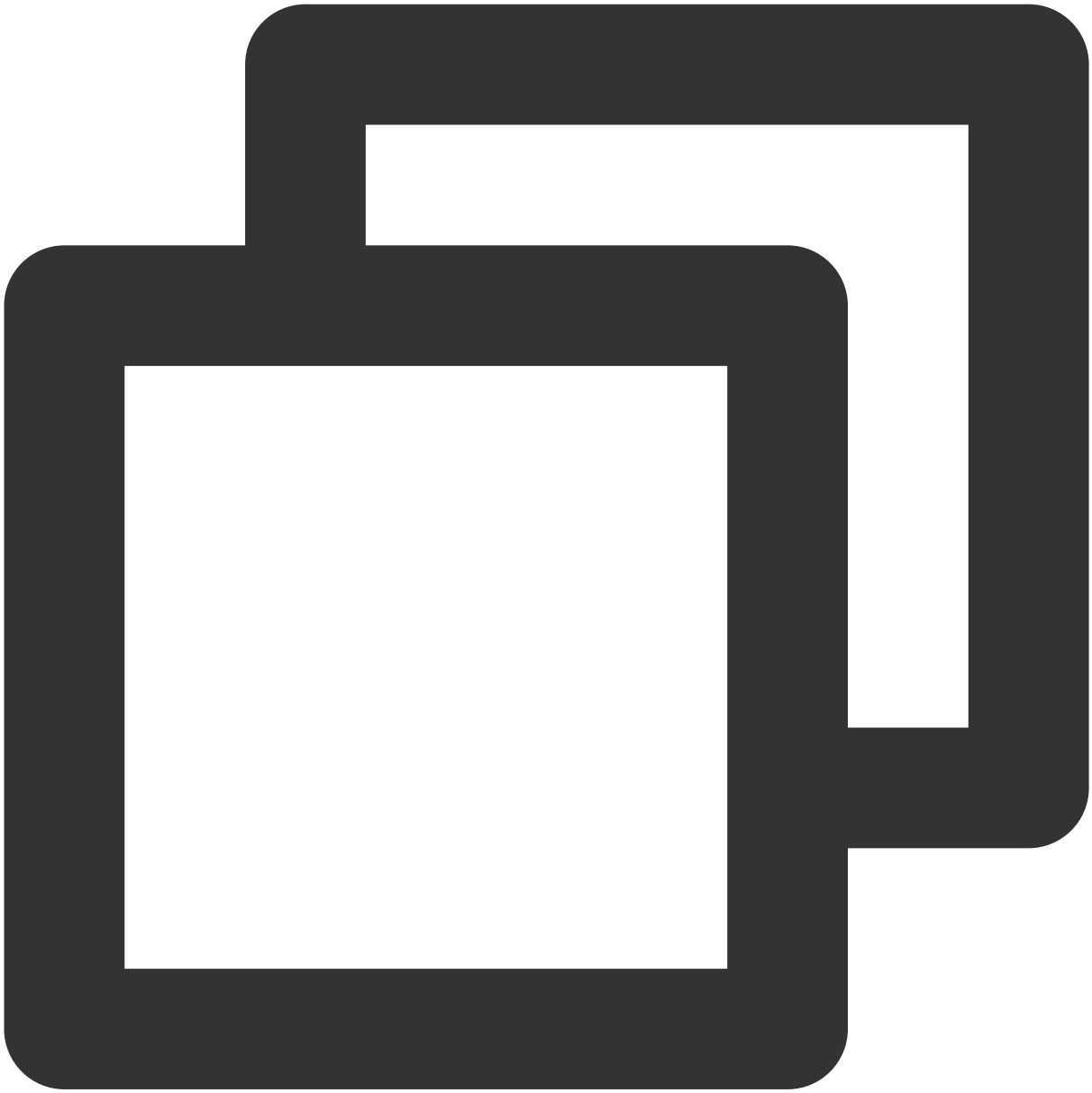


```
- (void)setVideoRenderParams:(NSString *)userId params:(TUIVideoRenderParams *)para
```

Parameter	Type	Description
userId	NSString	The target user ID.
params	TUIVideoRenderParams	Video render parameters.

setVideoEncoderParams

Set the encoding parameters of video encoder.
This setting can determine the quality of image viewed by remote users, which is also the image quality of on-cloud recording files.

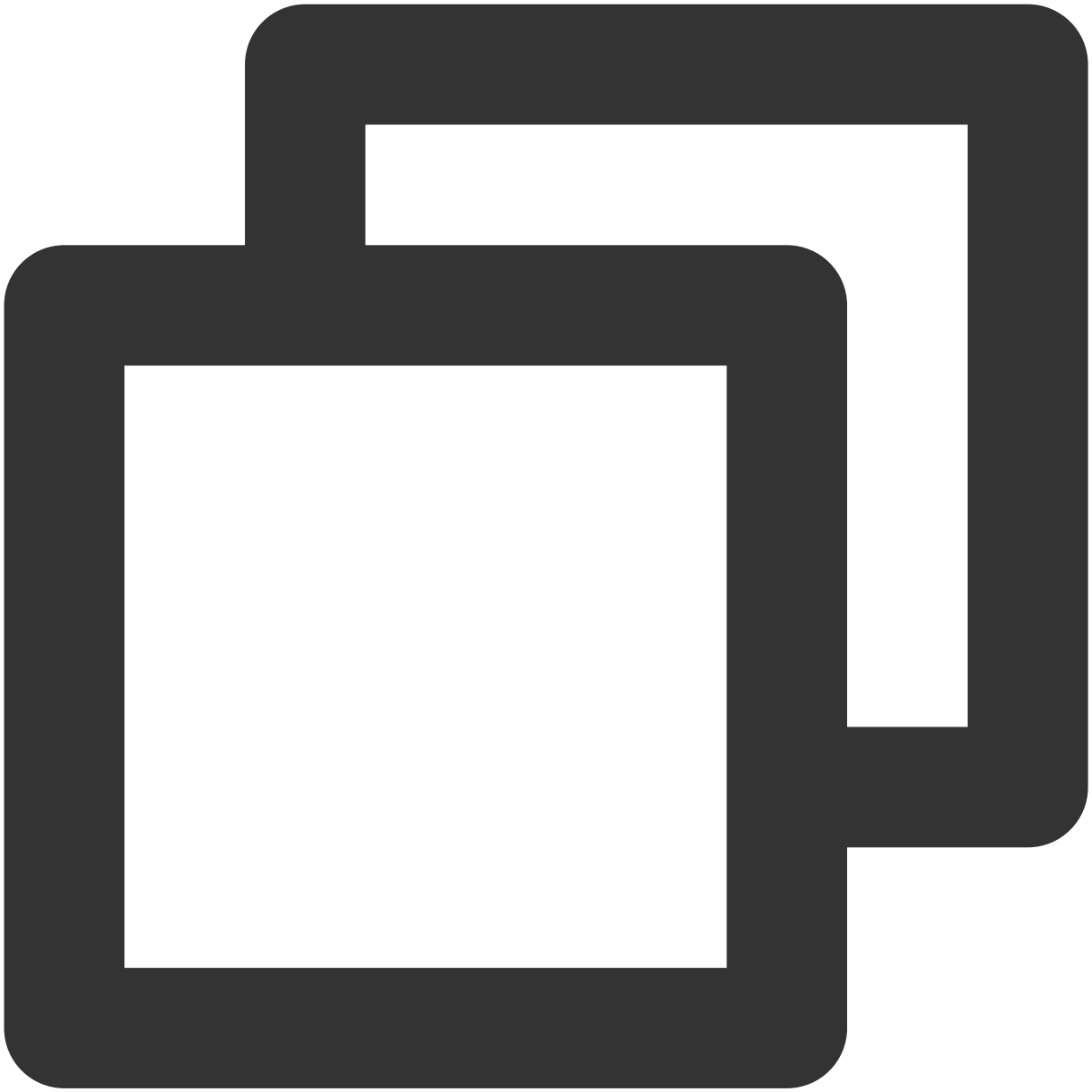


```
- (void)setVideoEncoderParams:(TUIVideoEncoderParams *)params succ:(TUICallSucc)suc
```

Parameter	Type	Description
params	TUIVideoEncoderParams	Video encoding parameters

getTRTCCloudInstance

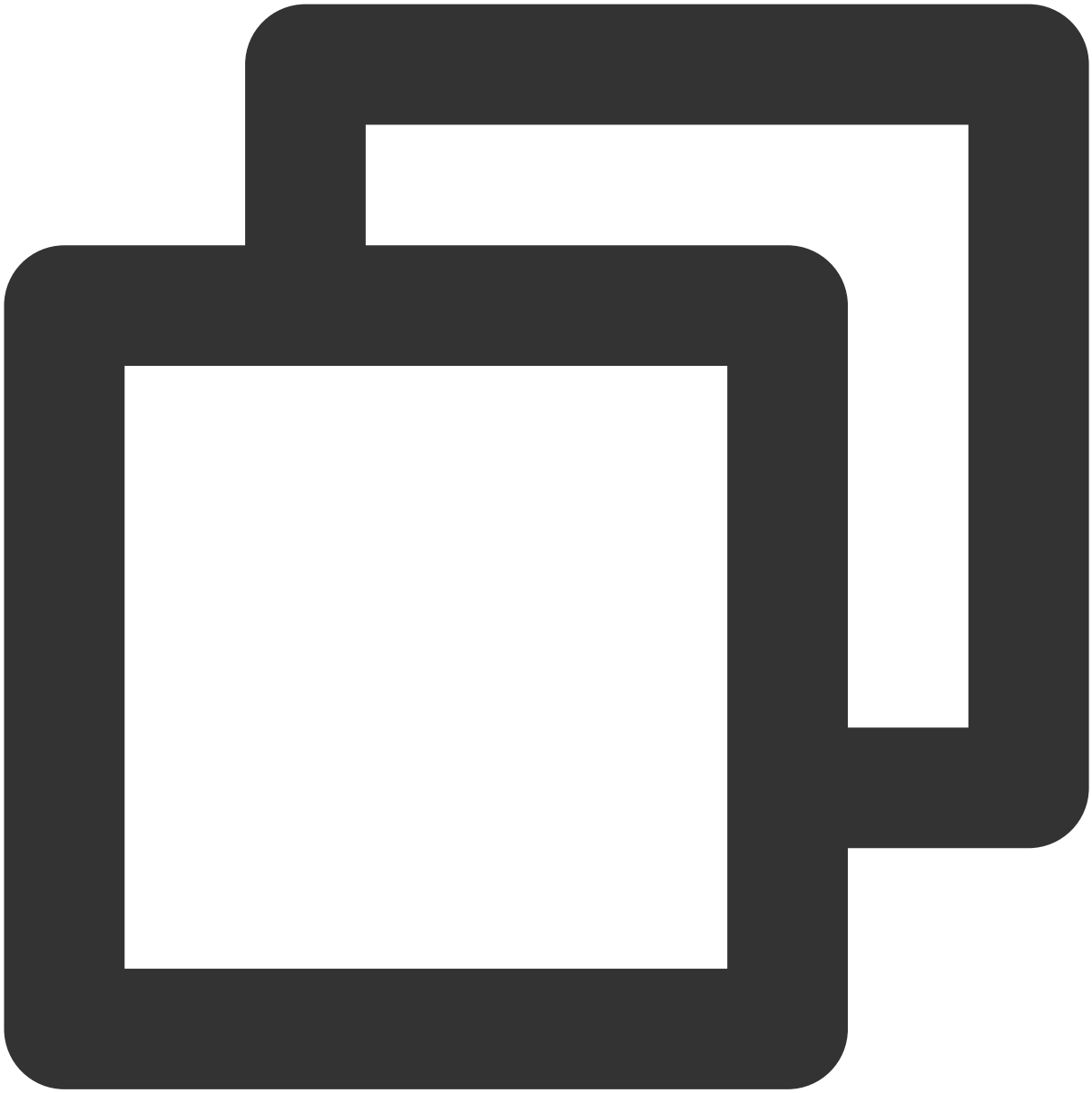
Advanced features.



```
- (TRTCCloud *)getTRTCCloudInstance;
```

setBeautyLevel

Set beauty level, support turning off default beauty.



```
- (void)setBeautyLevel:(CGFloat)level succ:(TUICallSucc)succ fail:(TUICallFail)fail
```

Parameter	Type	Description
level	CGFloat	Beauty level，range: 0 - 9； 0 means turning off the effect, 9 means the most obvious effect.

TUICallObserver

Last updated：2024-01-17 11:58:53

TUICallObserver APIs

`TUICallObserver` is the callback class of `TUICallEngine`. You can use it to listen for events.

Overview

API	Description
onError	A call occurred during the call.
onCallReceived	A call invitation was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.

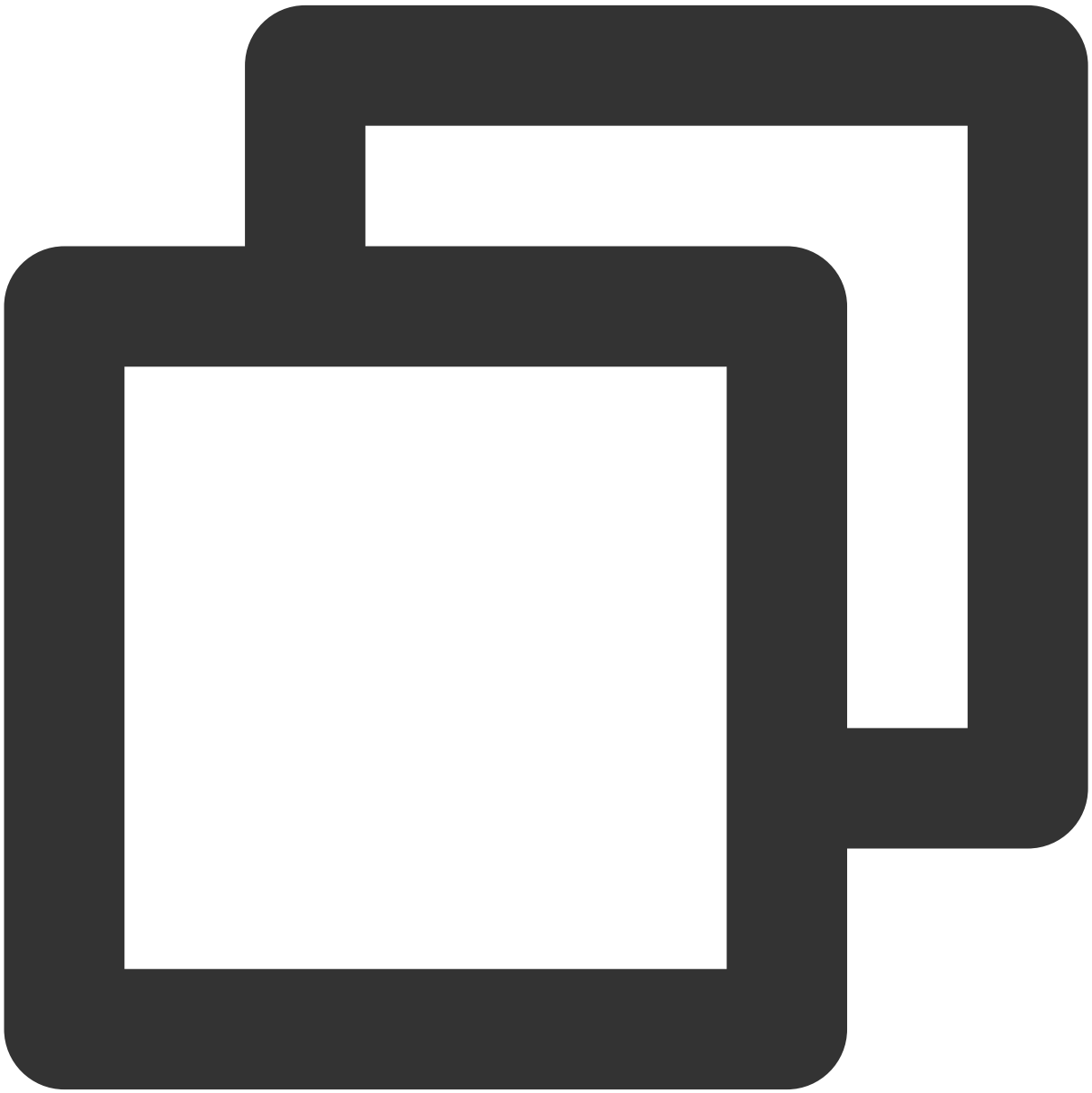
Details

onError

An error occurred.

Note

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users if necessary.



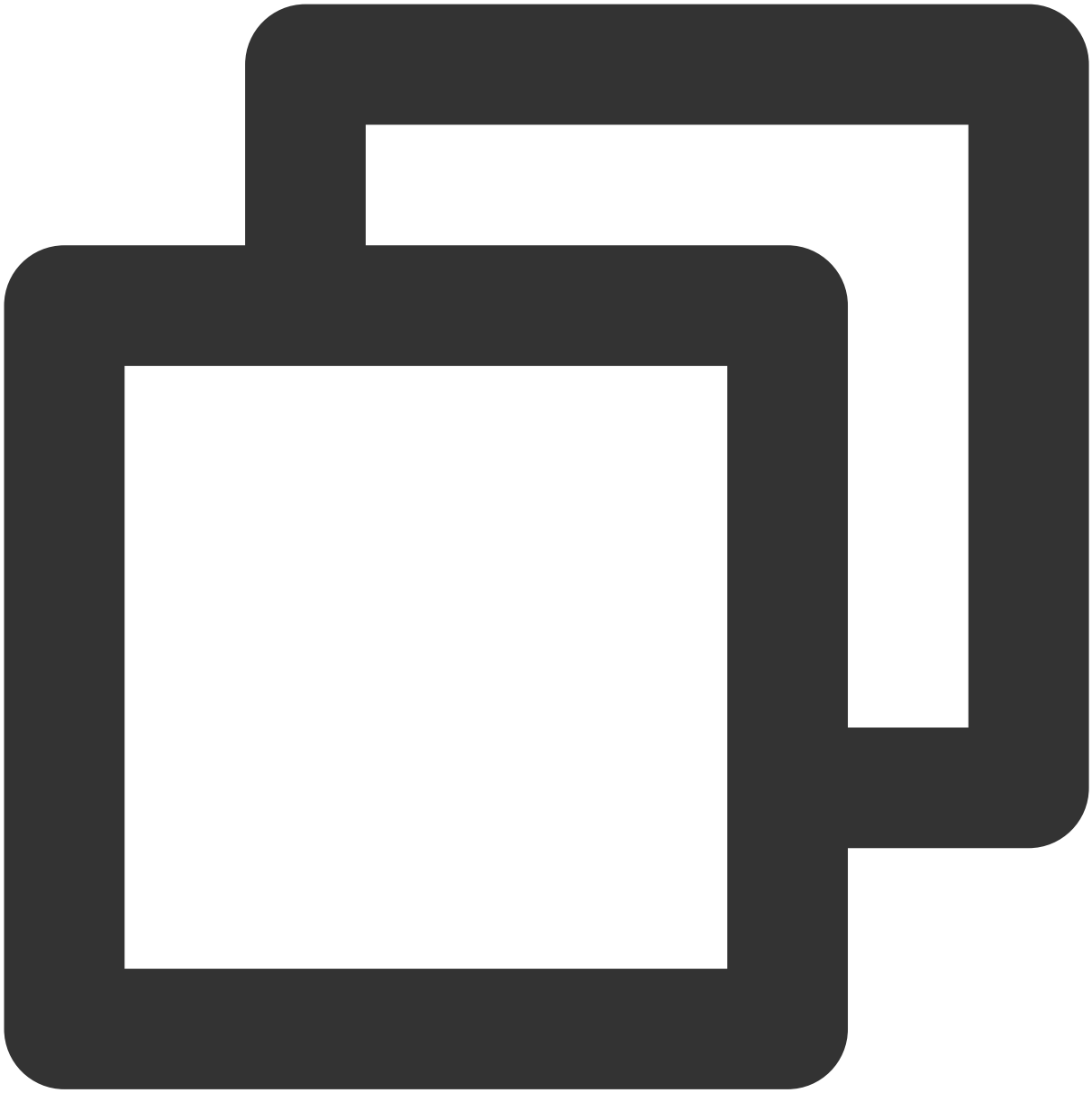
```
- (void)onError:(int)code message:(NSString * _Nullable)message;
```

The parameters are described below:

Parameter	Type	Description
code	int	The error code.
message	NSString	The error message.

onCallReceived

A call invitation was received. This callback is received by an invitee. You can listen for this event to determine whether to display the incoming call view.



```
- (void)onCallReceived:(NSString *)callerId calleeIdList:(NSArray<NSString *> *)cal
```

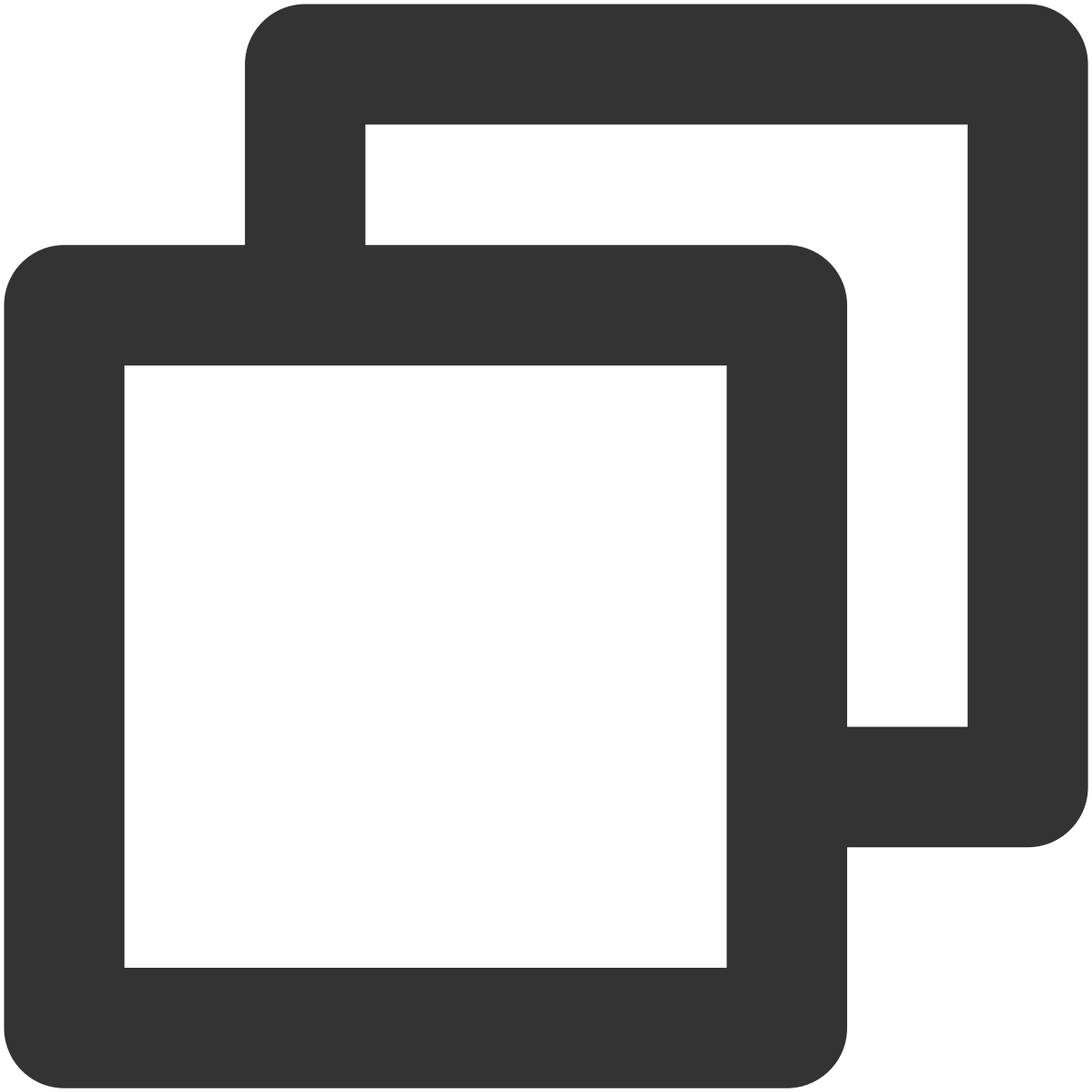
The parameters are described below:

Parameter	Type	Description
callerId	NSString	The user ID of the inviter.
calleeIdList	NSArray	The invitee list.
groupId	NSString	The group ID.

callMediaType	TUICallMediaType	The call type, which can be video or audio.
userData	NSString	User-added extended fields., Please refer to:

onCallCancelled

The call was canceled by the inviter or timed out. This callback is received by an invitee. You can listen for this event to determine whether to show a missed call message.
This indicates that the call was canceled by the caller, timed out by the callee, rejected by the callee, or the callee was busy. There are multiple scenarios involved. You can listen to this event to achieve UI logic such as missed calls and resetting UI status.
Call cancellation by the caller: The caller receives the callback (userId is himself); the callee receives the callback (userId is the ID of the caller)
Callee timeout: the caller will simultaneously receive the onUserNoResponse and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID)
Callee rejection: The caller will simultaneously receive the onUserReject and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID)
Callee busy: The caller will simultaneously receive the onUserLineBusy and onCallCancelled callbacks (userId is his own ID);
Abnormal interruption: The callee failed to receive the call , he receives this callback (userId is his own ID).



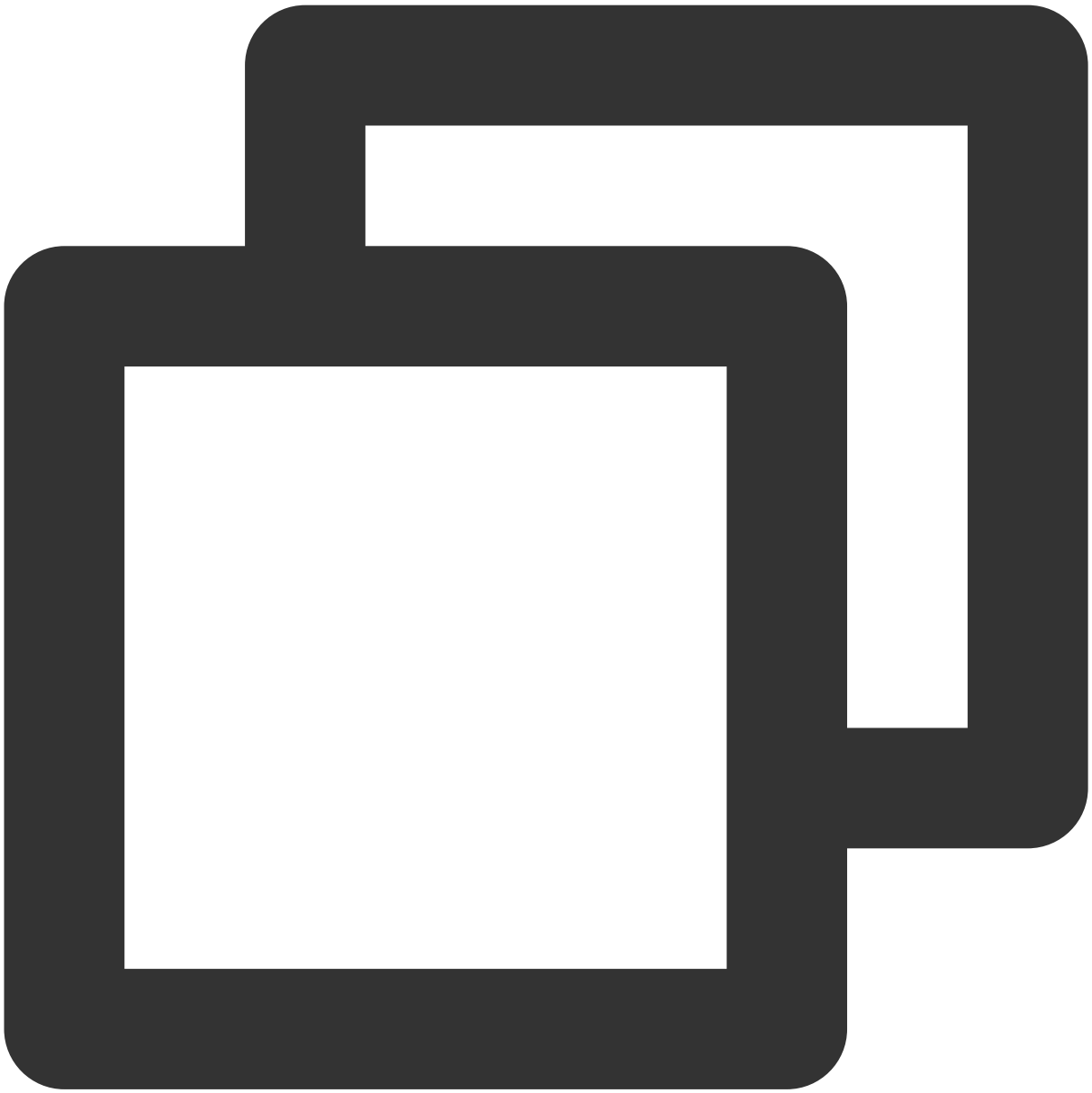
```
- (void)onCallCancelled:(NSString *)callerId;
```

The parameters are described below:

Parameter	Type	Description
callerId	NSString	The user ID of the inviter.

onCallBegin

The call was connected. This callback is received by both the inviter and invitees. You can listen for this event to determine whether to start on-cloud recording, content moderation, or other tasks.



```
- (void)onCallBegin:(TUIRoomId *)roomId callMediaType:(TUICallMediaType)callMediaTy
```

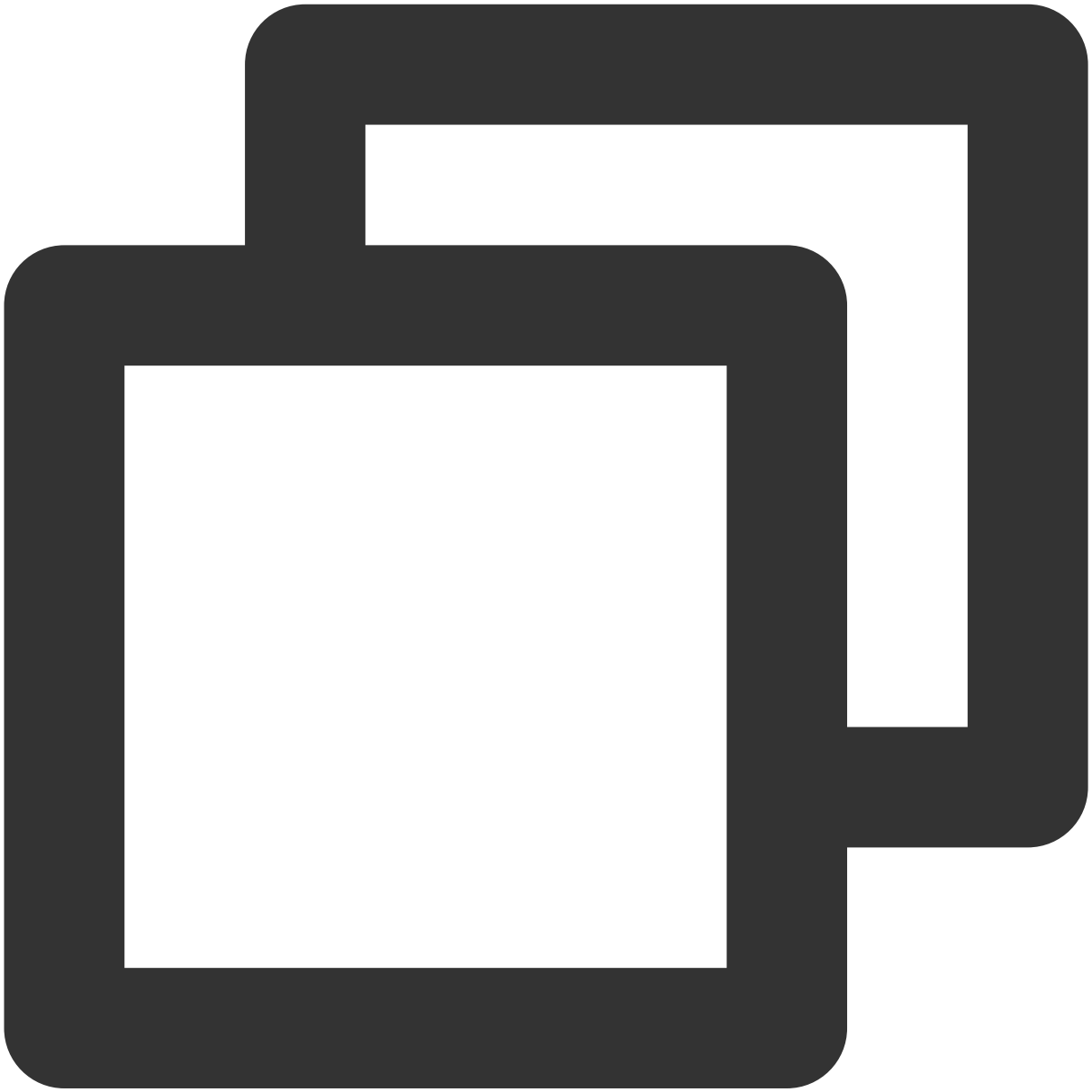
The parameters are described below:

Parameter	Type	Description
roomId	TUIRoomId	The room ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.

callRole	TUICallRole	The role, which can be caller or callee.

onCallEnd

The call ended. This callback is received by both the inviter and invitees. You can listen for this event to determine when to display call information such as call duration and call type, or stop on-cloud recording.



```
- (void)onCallEnd:(TUIRoomId *)roomId callMediaType:(TUICallMediaType)callMediaType
```

The parameters are described below:

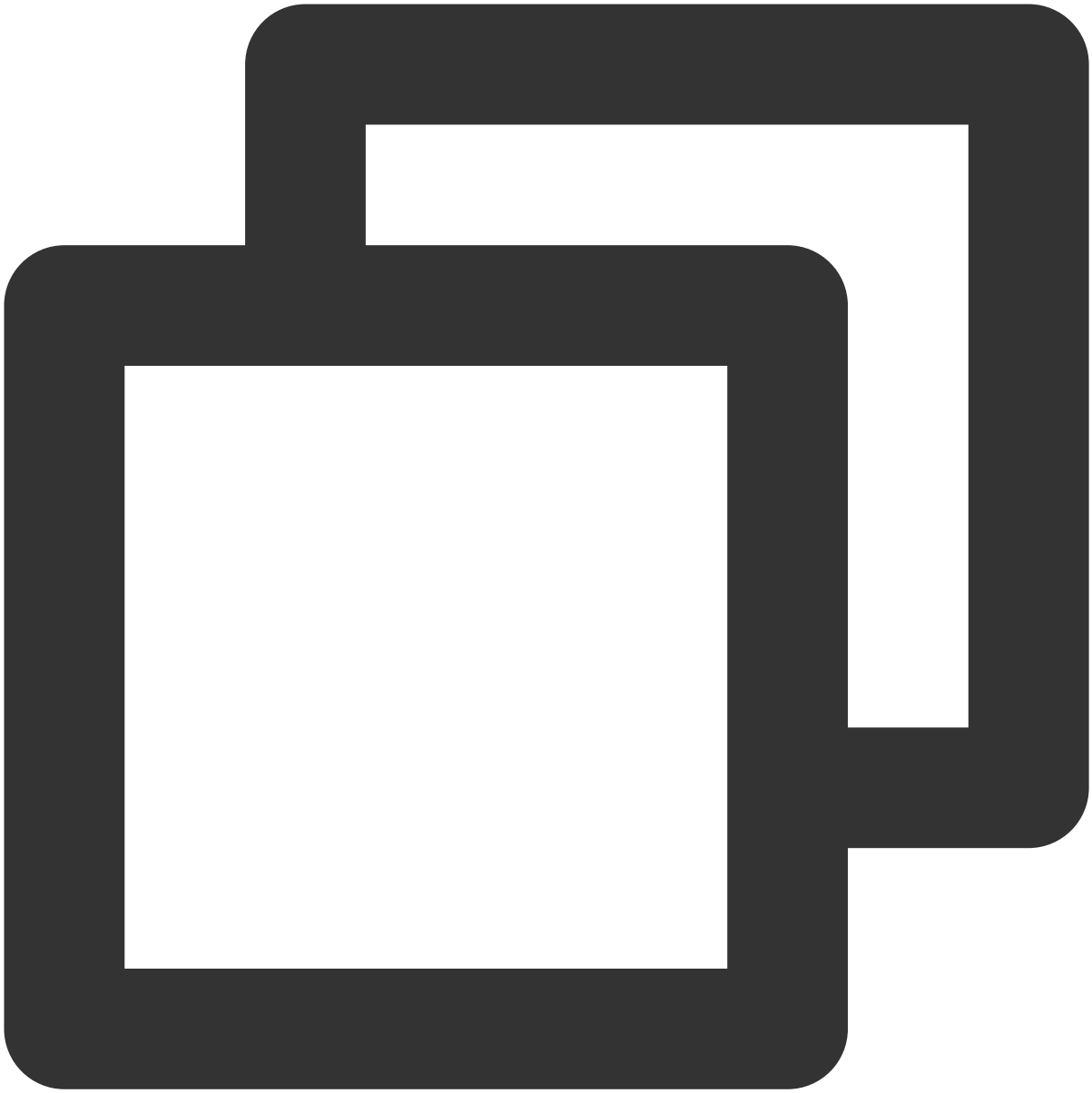
Parameter	Type	Description
roomId	TUIRoomId	The room ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.
callRole	TUICallRole	The role, which can be caller or callee.
totalTime	float	The call duration.

Note

Client-side callbacks are often lost when errors occur, for example, when the process is closed. If you need to measure the duration of a call for billing or other purposes, we recommend you use the RESTful API.

onCallMediaTypeChanged

The call type changed.



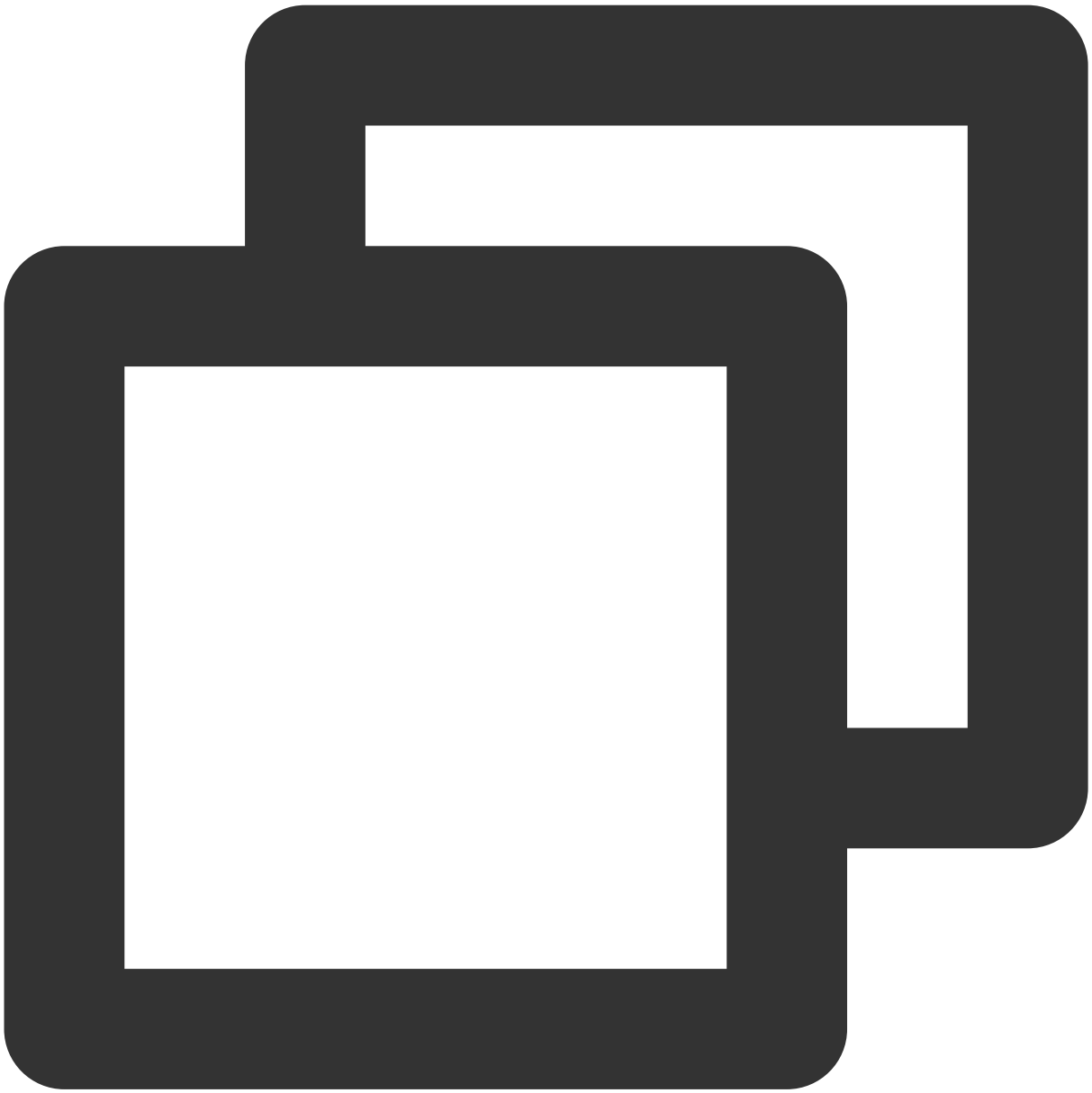
```
- (void)onCallMediaTypeChanged:(TUICallMediaType)oldCallMediaType newCallMediaType:
```

The parameters are described below:

Parameter	Type	Description
oldCallMediaType	TUICallMediaType	The call type before the change.
newCallMediaType	TUICallMediaType	The call type after the change.

onUserReject

The call was rejected. In a one-to-one call, only the inviter will receive this callback. In a group call, all invitees will receive this callback.



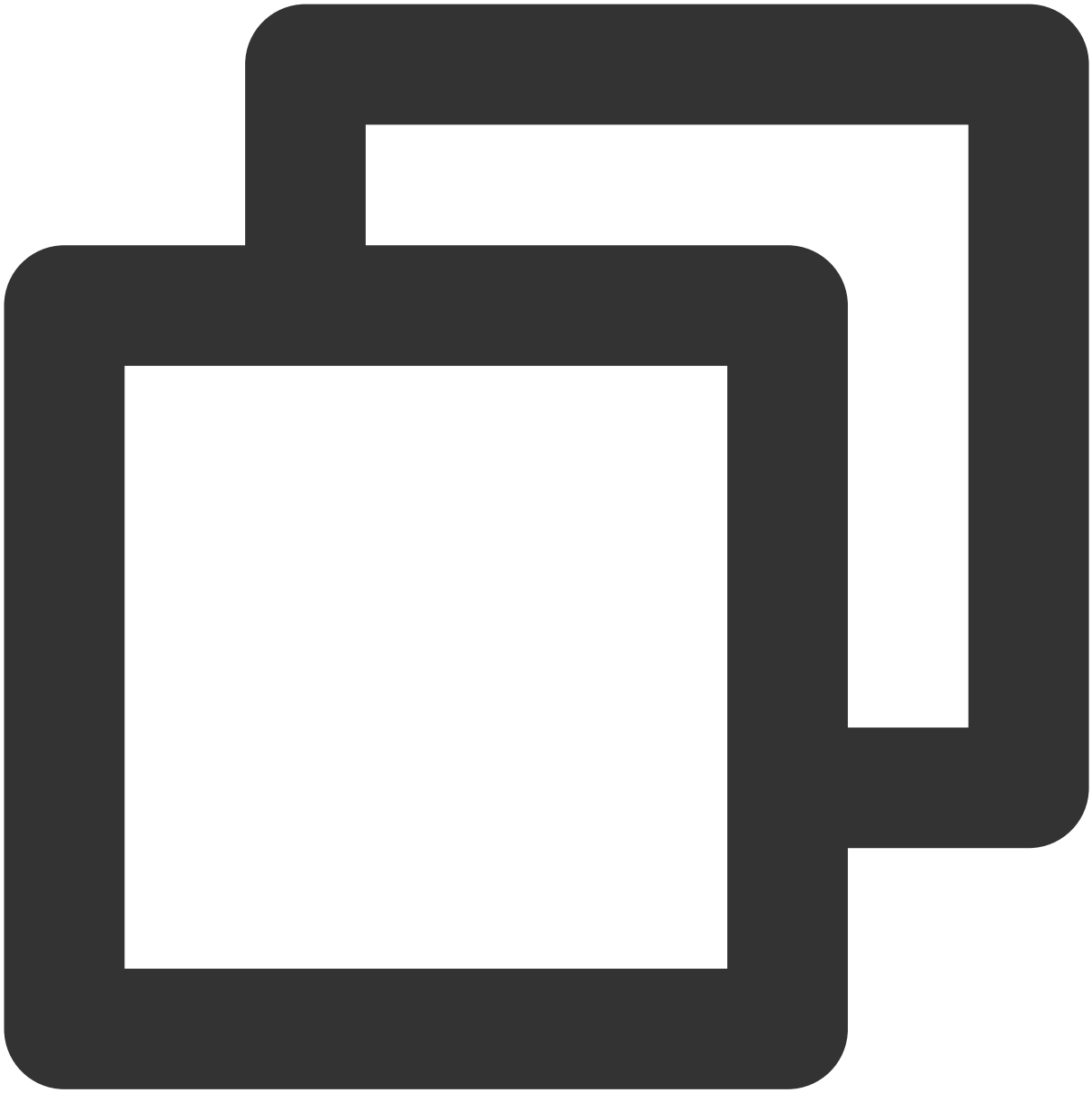
```
- (void)onUserReject:(NSString *)userId;
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	The user ID of the invitee who rejected the call.

onUserNoResponse

A user did not respond.



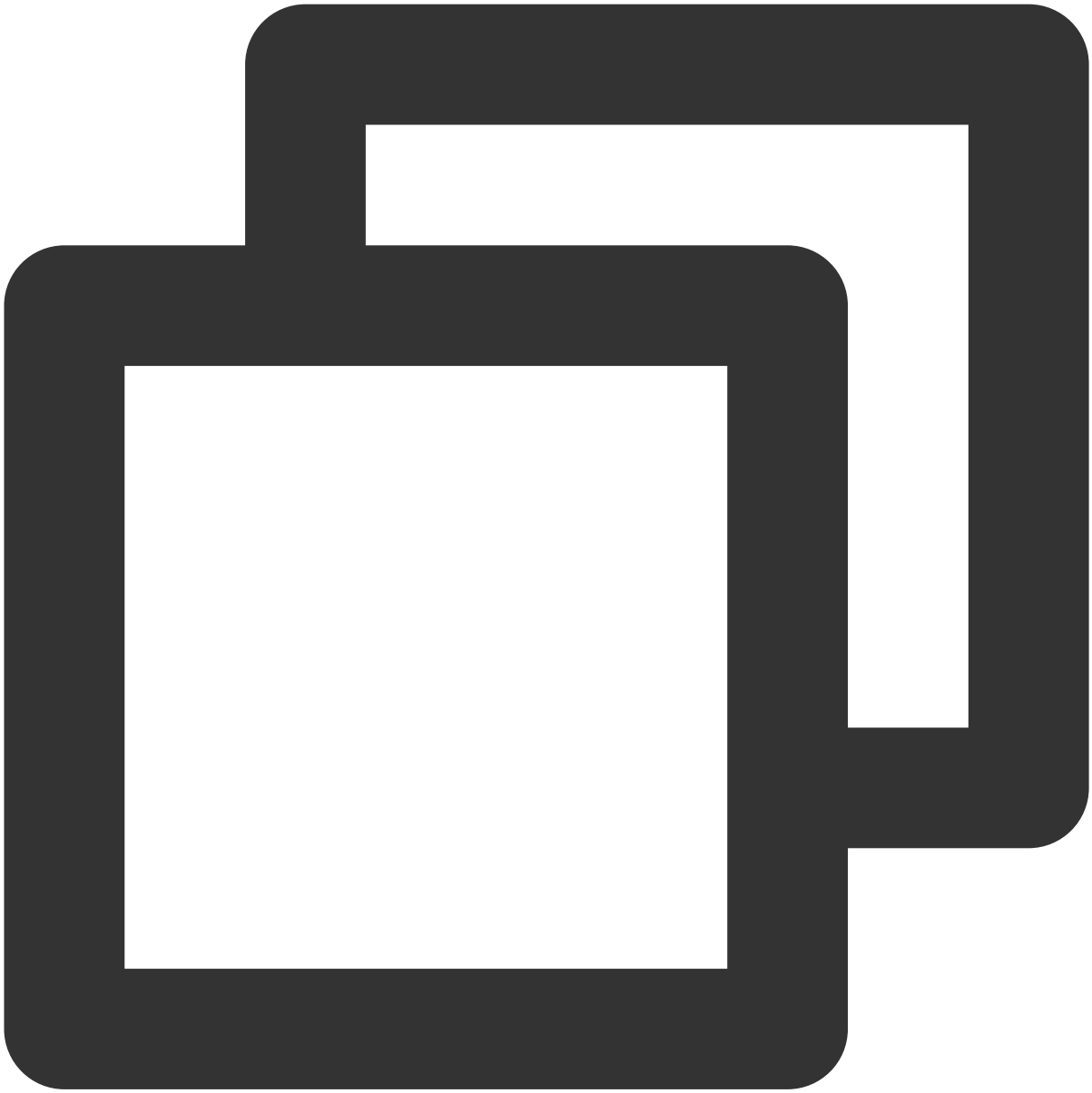
```
- (void)onUserNoResponse:(NSString *)userId;
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	The user ID of the invitee who did not answer.

onUserLineBusy

A user is busy.



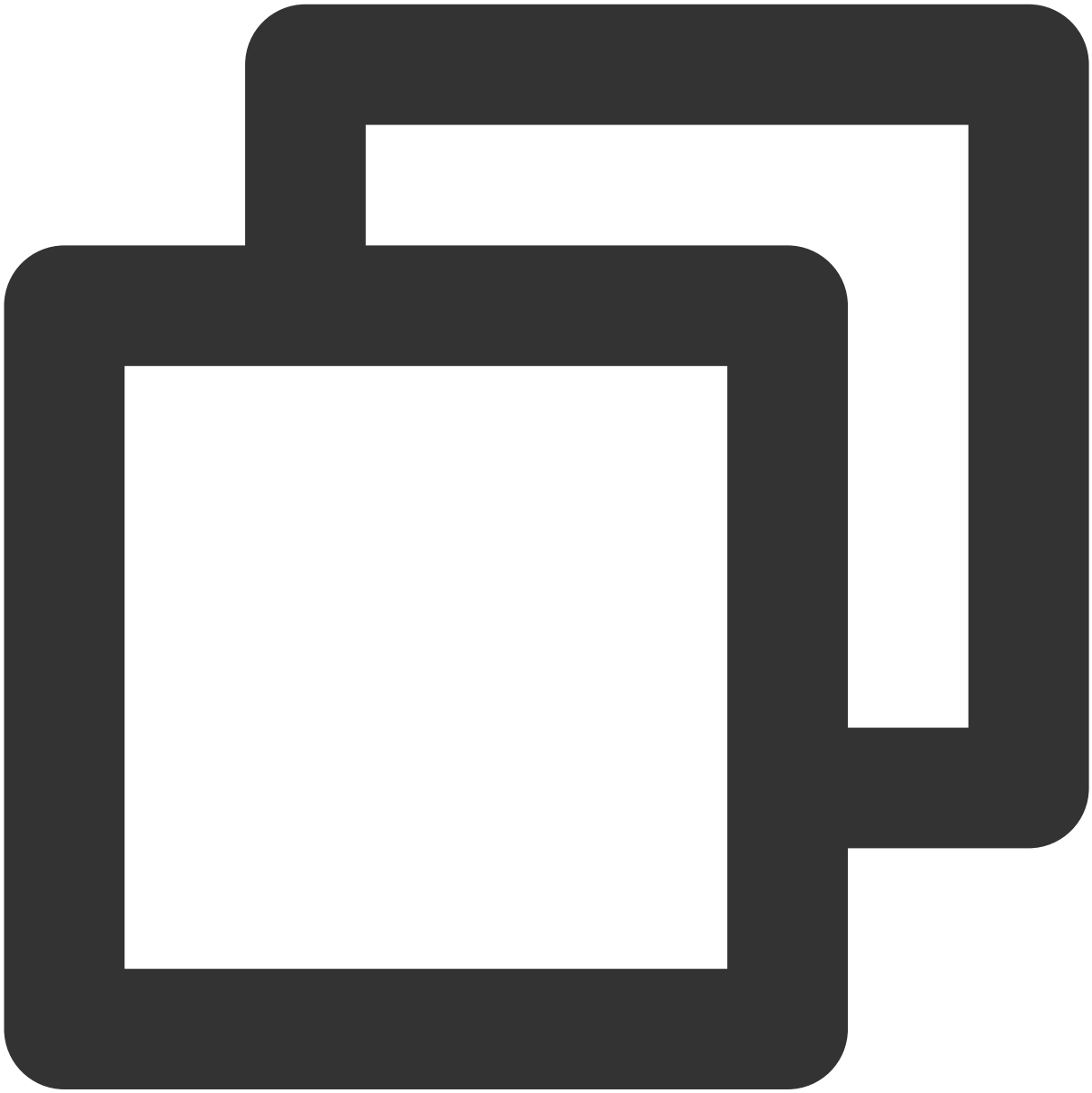
```
- (void)onUserLineBusy:(NSString *)userId;
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	The user ID of the invitee who is busy.

onUserJoin

A user joined the call.



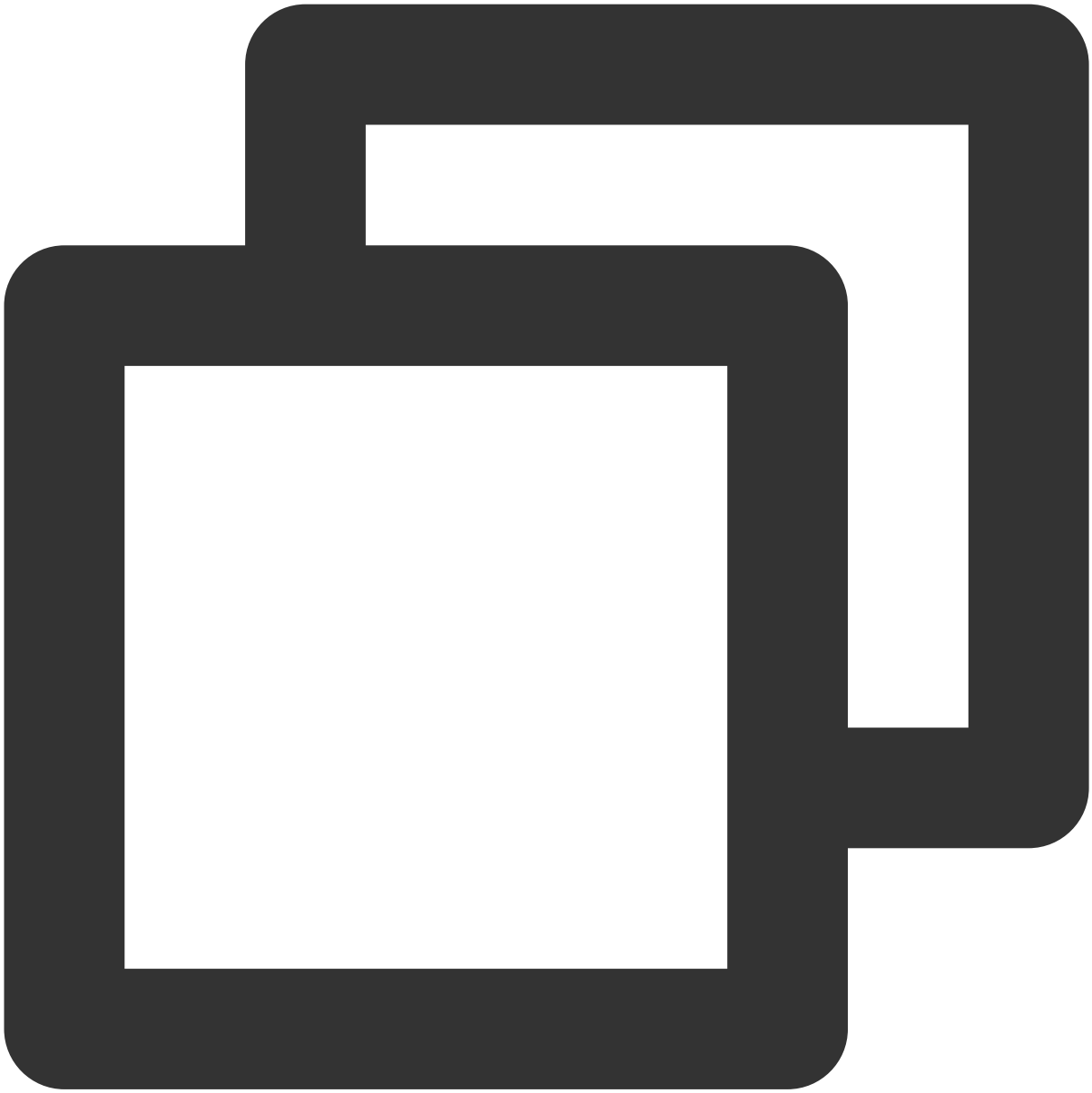
```
- (void)onUserJoin:(NSString *)userId;
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	The ID of the user who joined the call.

onUserLeave

A user left the call.



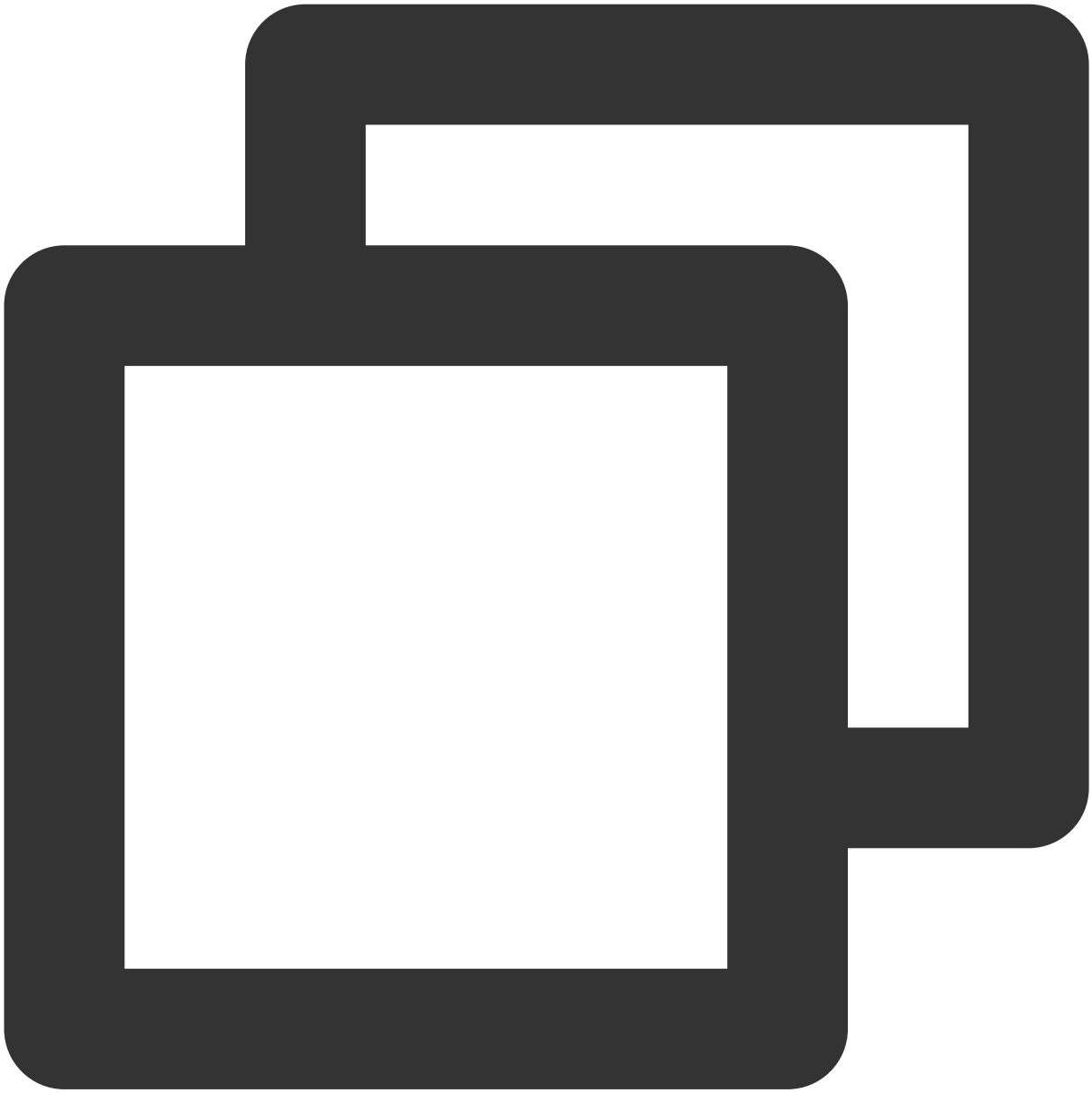
```
- (void)onUserLeave:(NSString *)userId;
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	The ID of the user who left the call.

onUserAudioAvailable

Whether a user is sending audio.



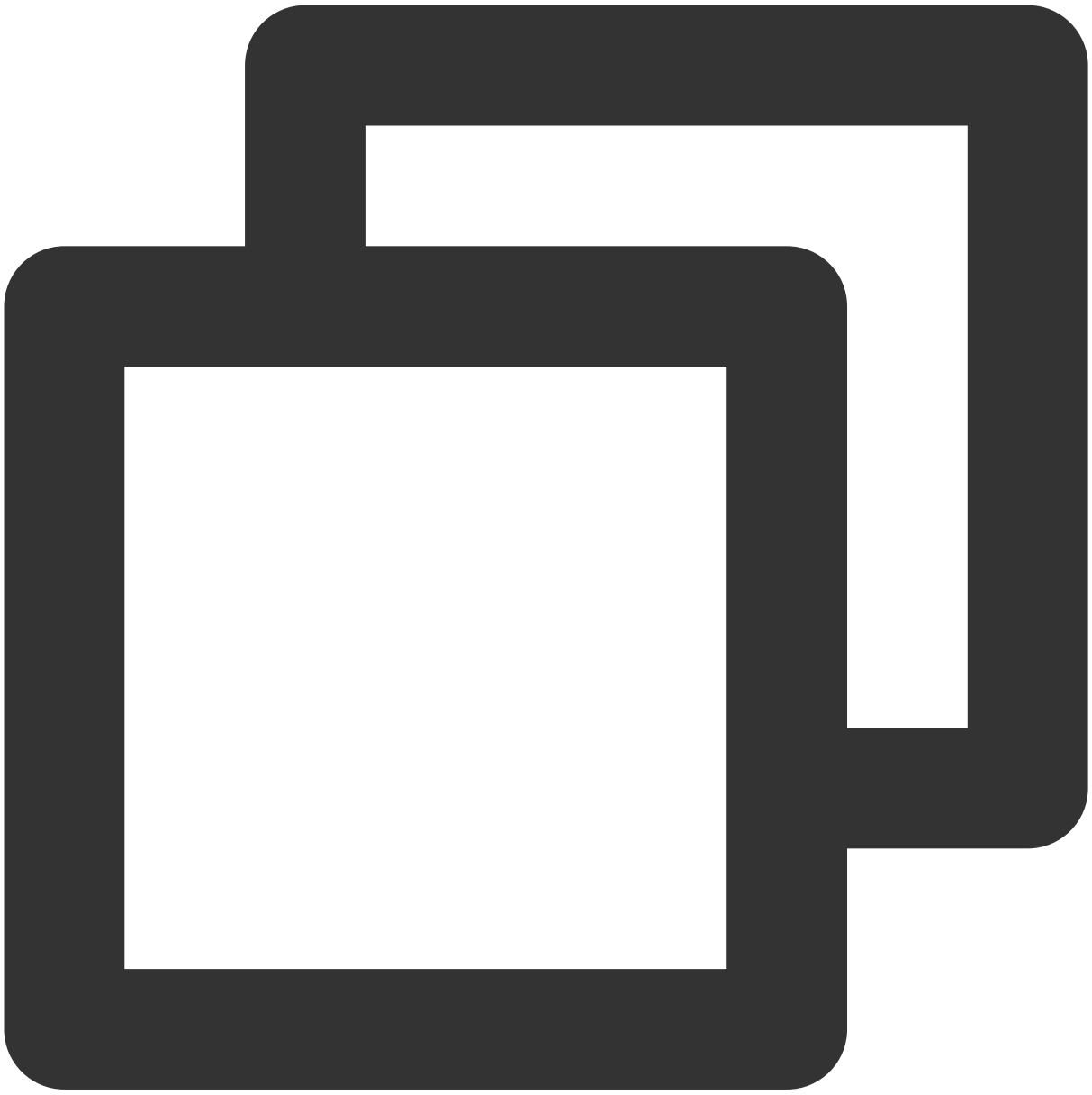
```
- (void)onUserAudioAvailable:(NSString *)userId isAudioAvailable:(BOOL)isAudioAvail
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	The user ID.
isAudioAvailable	BOOL	Whether the user has audio.

onUserVideoAvailable

Whether a user is sending video.



```
- (void)onUserVideoAvailable:(NSString *)userId isVideoAvailable:(BOOL)isVideoAvail
```

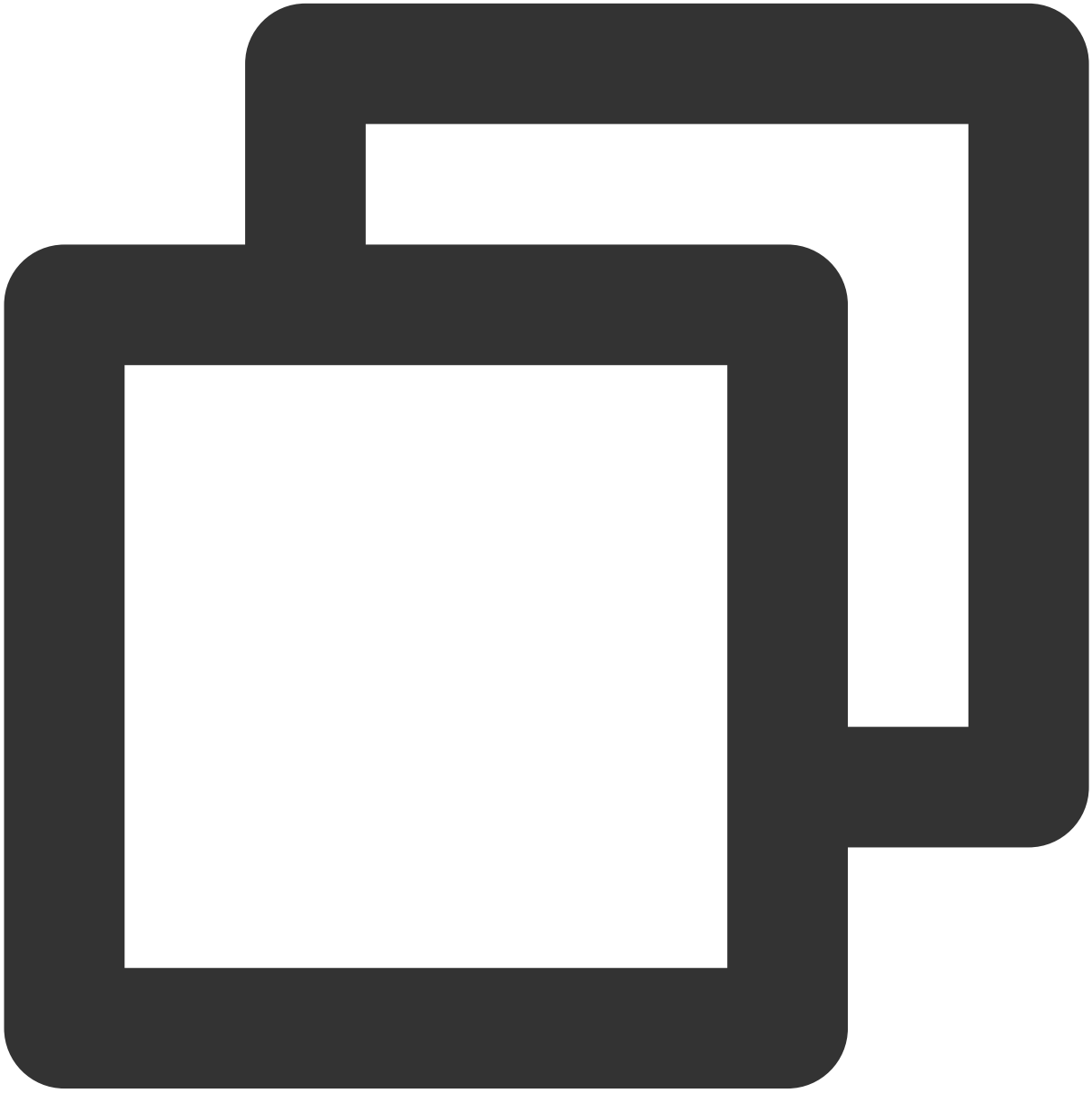
The parameters are described below:

Parameter	Type	Description
userId	NSString	The user ID.

isVideoAvailable	BOOL	Whether the user has video.

onUserVoiceVolumeChanged

The volumes of all users.



```
- (void)onUserVoiceVolumeChanged:(NSDictionary <NSString *, NSNumber *> *)volumeMap
```

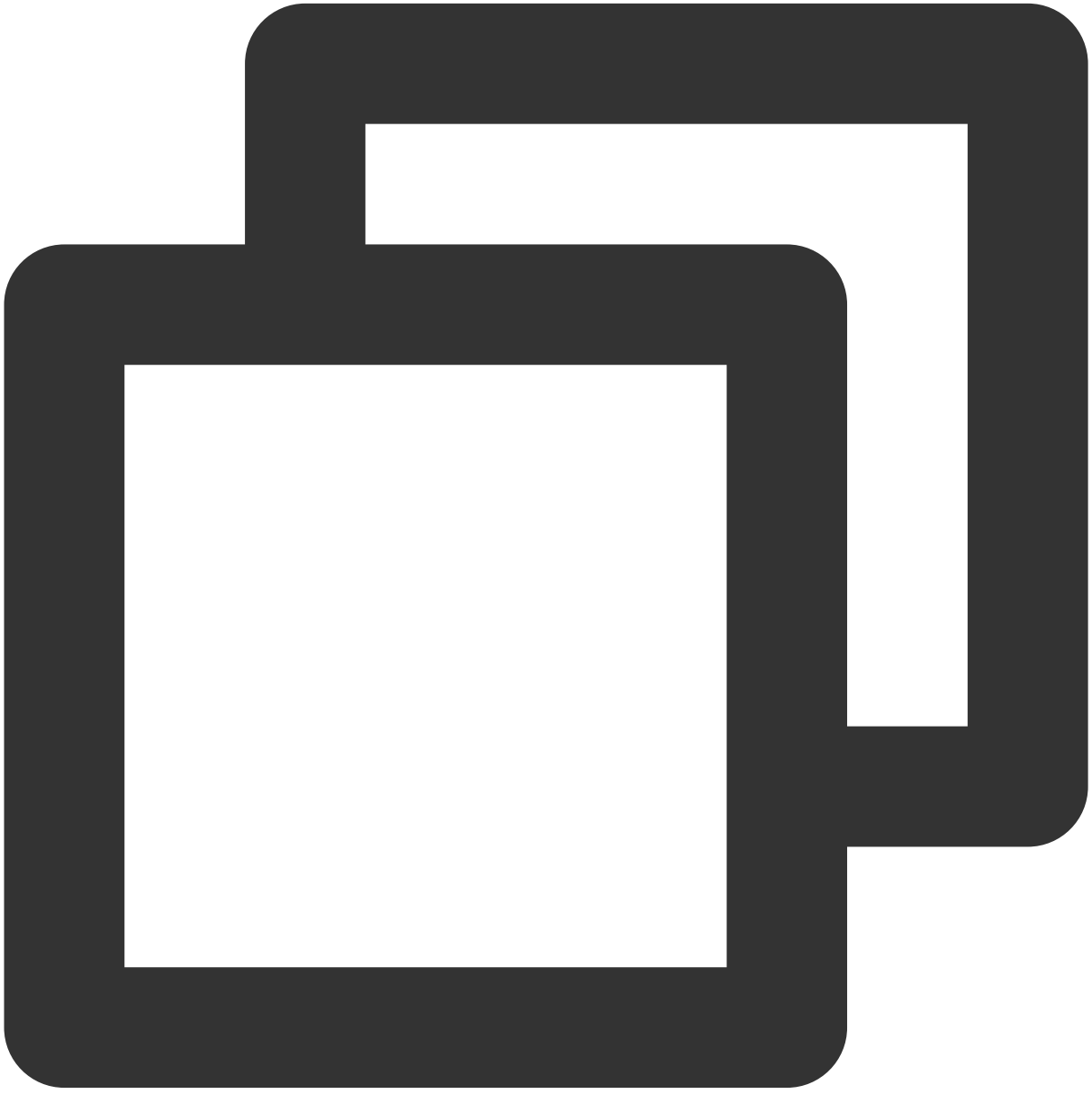
The parameters are described below:

Parameter	Type	Description

volumeMap	NSDictionary	The volume table, which includes the volume of each user (`userId`). Value range: 0-100.

onUserNetworkQualityChanged

The network quality of all users.



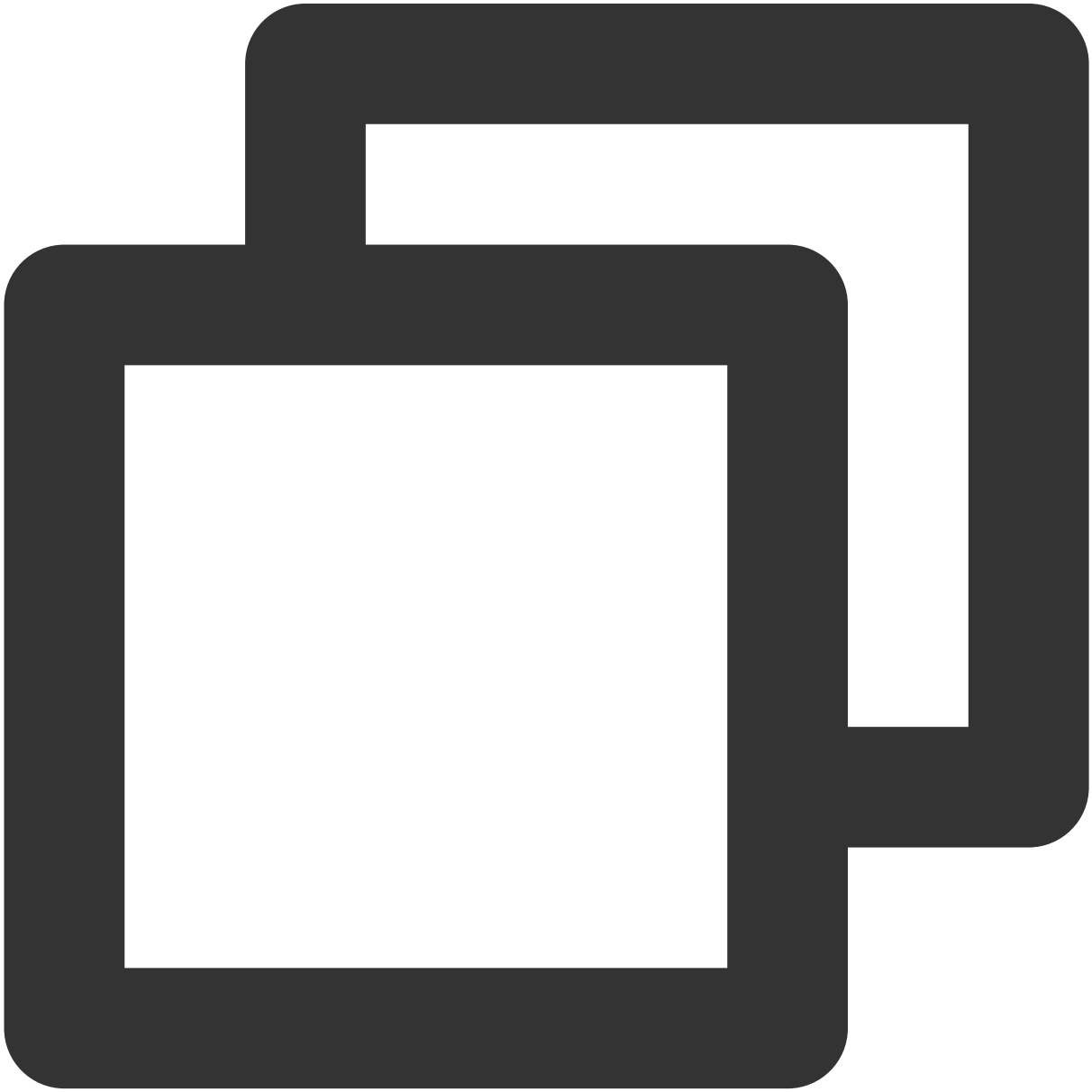
```
- (void)onUserNetworkQualityChanged:(NSArray<TUINetworkQualityInfo *> *)networkQual
```

The parameters are described below:

Parameter	Type	Description
networkQualityList	NSArray	The current network conditions for all users (`userId`).

onKickedOffline

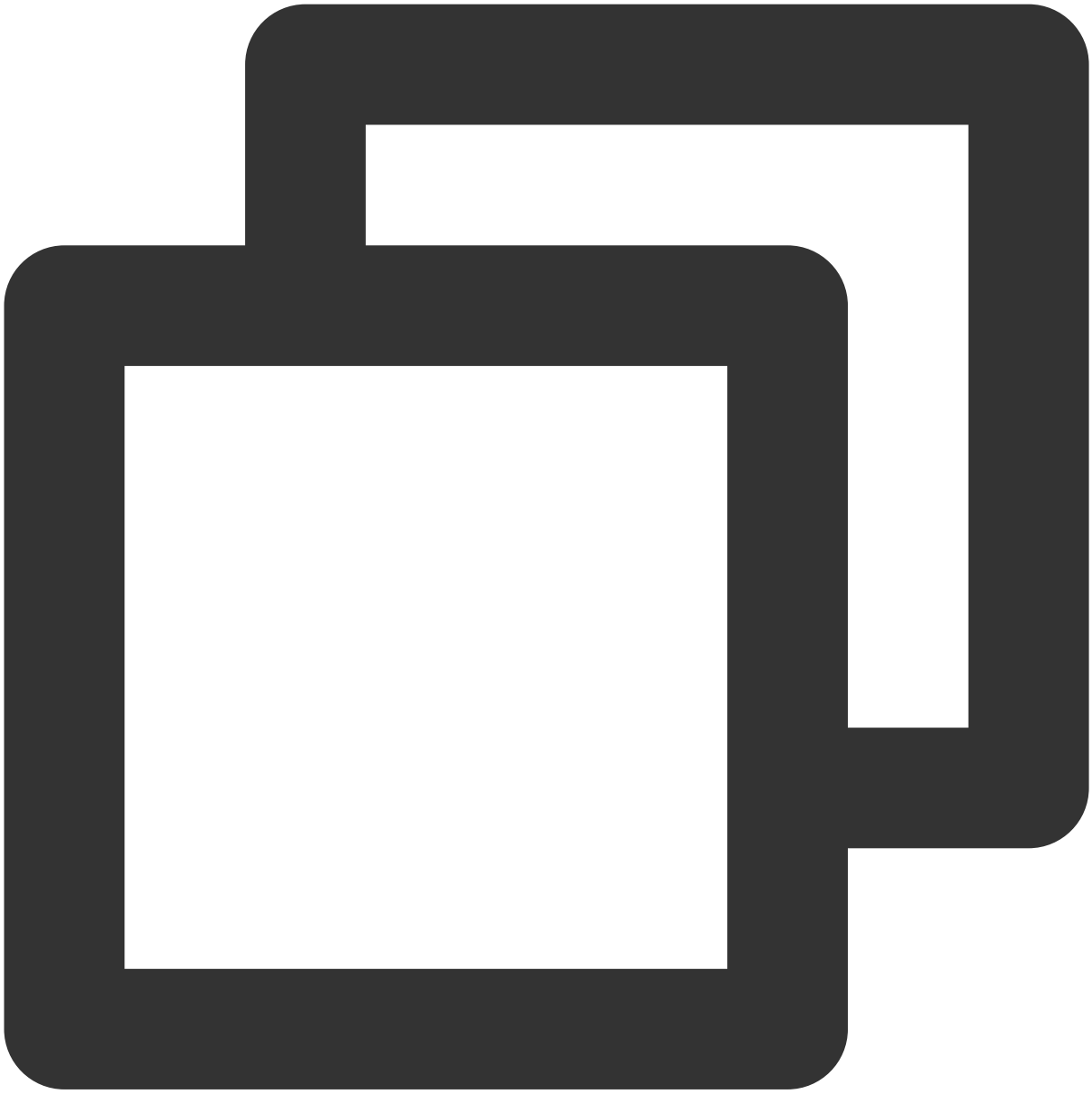
The current user was kicked offline：At this time, you can prompt the user with a UI message and then invoke `init` again.



```
- (void)onKickedOffline;
```

onUserSigExpired

The user sig is expired：At this time, you need to generate a new `userSig` , and then invoke `init` again.



```
- (void)onUserSigExpired;
```

Type Definition

Last updated：2023-06-21 16:30:07

Common structures

TUICallDefine

Type	Description
TUICallParams	An additional parameter.
TUIOfflinePushInfo	Offline push vendor configuration information.

TUICommonDefine

Type	Description
TUIRoomId	Room ID for audio and video in a call.
TUINetworkQuality	Network quality information
TUIVideoRenderParams	Video render parameters
TUIVideoEncoderParams	Video encoding parameters

Enum definition

TUICallDefine

Type	Description
TUICallMediaType	Media type in a call
TUICallRole	Roles of individuals in a call.
TUICallStatus	The call status
TUICallScene	The call scene
TUICallIOSOfflinePushType	iOS offline push type

TUICommonDefine

Type	Description

TUIAudioPlaybackDevice	Audio route
TUICamera	Camera type
TUINetworkQuality	Network quality
TUIVideoRenderParamsFillMode	Video image fill mode
TUIVideoRenderParamsRotation	Video image rotation direction
TUIVideoEncoderParamsResolutionMode	Video aspect ratio mode
TUIVideoEncoderParamsResolution	Video resolution

TUICallParams

Call params

参数	Type	Description
roomId	TUIRoomId	Room ID for audio and video in a call.
offlinePushInfo	TUIOfflinePushInfo	Offline push vendor configuration information.
timeout	int	Call timeout period, default: 30s, unit: seconds.
userData	NSString	An additional parameter. Callback when the callee receives onCallReceived

TUIOfflinePushInfo

Offline push vendor configuration information， please refer to：Offline call push

Value	Type	Description
title	NSString	offlinepush notification title
desc	NSString	offlinepush notification description
ignoreIOSBadge	BOOL	Ignore badge count for offline push (only for iOS), if set to true, the message will not increase the unread count of the app icon on the iOS receiver's side.
iOSSound	NSString	Offline push sound setting (only for iOS). When sound = **IOS_OFFLINE_PUSH_NO_SOUND**, there will be no sound played when the message is received. When sound = **IOS_OFFLINE_PUSH_DEFAULT_SOUND**,

		the system sound will be played when the message is received. If you want to customize the iOSSound, you need to link the audio file into the Xcode project first, and then set the audio file name (with extension) to the iOSSound.
androidSound	NSString	Offline push sound setting (only for Android, supported by IMSDK 6.1 and above). Only Huawei and Google phones support setting sound prompts. For Xiaomi phones, please refer to: Xiaomi custom ringtones. In addition, for Google phones, in order to set sound prompts for FCM push on Android 8.0 and above systems, you must call setAndroidFCMChannelID to set the channelID for it to take effect.
androidOPPOChannelID	NSString	Set the channel ID for OPPO phones with Android 8.0 and above systems.
androidVIVOClassification	NSInteger	Classification of VIVO push messages (deprecated interface, VIVO push service will optimize message classification rules on April 3, 2023. It is recommended to use setAndroidVIVOCategory to set the message category). 0: Operational messages, 1: System messages. The default value is 1.
androidXiaoMiChannelID	NSString	Set the channel ID for Xiaomi phones with Android 8.0 and above systems.
androidFCMChannelID	NSString	Set the channel ID for google phones with Android 8.0 and above systems.
androidHuaWeiCategory	NSString	Classification of Huawei push messages, please refer to: Huawei message classification standard.
isDisablePush	BOOL	Whether to turn off push notifications (default is on).
iOSPushType	TUICallIOSOfflinePushType	iOS offline push type， default is APNs

TUIRoomId

Room ID for audio and video in a call.

Note：

(1) `intRoomId` and `strRoomId` are mutually exclusive. If you choose to use `strRoomId`, `intRoomId` needs to be filled in as 0. If both are filled in, the SDK will prioritize `intRoomId`.
(2) Do not mix `intRoomId` and `strRoomId` because they are not interchangeable. For example, the number 123 and the string "123" represent two completely different rooms.

Value	Type	Description
intRoomId	UInt32	Numeric room ID. **range:** 1 - 2147483647(2^31-1)
strRoomId	NSString	String room ID. **range**：Limited to 64 bytes in length. The supported character set range is as follows (Lowercase and uppercase English letters. (a-zA-Z) Number (0-9) Spaces、`!`、`#`、`$`、`%`、`&`、`(`、`)`、`+`、`-`、`:`、`;`、`<`、

Note：
Currently, string room number is only supported on Android and iOS platforms. Support for other platforms such as Web, Mini Programs, Flutter, and Uniapp will be available in the future. Please stay tuned!

TUIVideoRenderParams

Video render parameters

Value	Type	Description
fillMode	TUIVideoRenderParamsFillMode	Video image fill mode
rotation	TUIVideoRenderParamsRotation	Video image rotation direction

TUINetworkQualityInfo

User network quality information

Value	Type	Description
userId	NSString	user ID
quality	NetworkQuality	network quality

TUIVideoEncoderParams

Video encoding parameters

Value	Type	Description
resolution	TUIVideoEncoderParamsResolution	Video resolution
resolutionMode	TUIVideoEncoderParamsResolutionMode	Video aspect ratio mode

TUICallMediaType

Call media type

Type	Value	Description
TUICallMediaTypeUnknown	0	Unknown
TUICallMediaTypeAudio	1	Audio call
TUICallMediaTypeVideo	2	Video call

TUICallRole

Call role

Type	Value	Description
TUICallRoleNone	0	Unknown
TUICallRoleCall	1	Caller（inviter）
TUICallRoleCalled	2	Callee（invitee）

TUICallStatus

Call status

Type	Value	Description
TUICallStatusNone	0	Unknown
TUICallStatusWaiting	1	The call is currently waiting
TUICallStatusAccept	2	The call has been accepted

TUICallScene

Call scene

Type	Value	Description

TUICallSceneGroup	0	Group call
TUICallSceneMulti	1	Anonymous group calling (not supported at this moment, please stay tuned).
TUICallSceneSingle	2	one to one call

TUICallIOSOfflinePushType

iOS offline push type

Type	Value	Description
TUICallIOSOfflinePushTypeAPNs	0	APNs
TUICallIOSOfflinePushTypeVoIP	1	VoIP

TUIAudioPlaybackDevice

Audio route

Type	Value	Description
TUIAudioPlaybackDeviceSpeakerphone	0	Speakerphone
TUIAudioPlaybackDeviceEarpiece	1	Earpiece

TUICamera

Front/Back camera

Type	Value	Description
TUICameraFront	0	Front camera
TUICameraBack	1	Back camera

TUINetworkQuality

Network quality

Type	Value	Description
TUINetworkQualityUnknown	0	Unknown
TUINetworkQualityExcellent	1	Excellent

TUINetworkQualityGood	2	Good
TUINetworkQualityPoor	3	Poor
TUINetworkQualityBad	4	Bad
TUINetworkQualityVbad	5	Vbad
TUINetworkQualityDown	6	Down

TUIVideoRenderParamsFillMode

If the aspect ratio of the video display area is not equal to that of the video image, you need to specify the fill mode:

Type	Value	Description
TUIVideoRenderParamsFillModeFill	0	Fill mode: the video image will be centered and scaled to fill the entire display area, where parts that exceed the area will be cropped. The displayed image may be incomplete in this mode.
TUIVideoRenderParamsFillModeFit	1	Fit mode: the video image will be scaled based on its long side to fit the display area, where the short side will be filled with black bars. The displayed image is complete in this mode, but there may be black bars.

TUIVideoRenderParamsRotation

We provides rotation angle setting APIs for local and remote images. The following rotation angles are all clockwise.

Type	Value	Description
TUIVideoRenderParamsRotation_0	0	No rotation
TUIVideoRenderParamsRotation_90	1	Clockwise rotation by 90 degrees
TUIVideoRenderParamsRotation_180	2	Clockwise rotation by 180 degrees
TUIVideoRenderParamsRotation_270	3	Clockwise rotation by 0 degrees

TUIVideoEncoderParamsResolutionMode

Video aspect ratio mode

Type	Value	Description

TUIVideoEncoderParamsResolutionModeLandscape	0	Landscape resolution, such as：TUIVideoEncoderParamsResolution_640_360 - TUIVideoEncoderParamsResolutionModeLands = 640 × 360
TUIVideoEncoderParamsResolutionModePortrait	1	Portrait resolution, such as：TUIVideoEncoderParamsResolution_640_360 - TUIVideoEncoderParamsResolutionModePortra 360 × 640

TUIVideoEncoderParamsResolution

Video resolution

Type	Value	Description
TUIVideoEncoderParamsResolution_640_360	108	Aspect ratio: 16:9；resolution: 640x360；recommended bitrate: 500kbps
TUIVideoEncoderParamsResolution_640_480	62	Aspect ratio: 4:3；resolution: 640x480；recommended bitrate: 600kbps
TUIVideoEncoderParamsResolution_960_540	110	Aspect ratio: 16:9；resolution: 960x540；recommended bitrate: 850kbps
TUIVideoEncoderParamsResolution_960_720	64	Aspect ratio: 4:3；resolution: 960x720；recommended bitrate: 1000kbps
TUIVideoEncoderParamsResolution_1280_720	112	Aspect ratio: 16:9；resolution: 1280x720；recommended bitrate: 1200kbps
TUIVideoEncoderParamsResolution_1920_1080	114	Aspect ratio: 16:9；resolution: 1920x1080；recommended bitrate: 2000kbps

Web
API Overview

Last updated：2024-04-03 17:23:11

TUICallKit (Includes UI Components)

TUICallKit is an audio and video call component that **includes a UI component**. You can quickly implement a WhatsApp-like audio and video calling scenario with this component.
<TUICallKit/>: The core UI call component.
TUICallKitServer is the call instance, offering the following API interfaces.

API	Description
init	Initializing TUICallKit.
call	Initiate a one-on-one call
groupCall	Initiate a group call
joinInGroupCall	Actively join the ongoing group call
setCallingBell	Establish a personalised ringtone for incoming calls
setSelfInfo	Configure the user's nickname and profile photo
enableMuteMode	Toggle On/Off the ringtone for incoming calls
enableFloatWindow	Activate/Deactivate the floating window function
setLanguage	Set the call language for the TUICallKit component
destroyed	Terminating TUICallKit

TUICallEngine (No UI)

TUICallEngine API is an audio and video call component that **offers a No UI interface**. You can use this set of APIs to custom encapsulate according to your business needs.

API	Description
createInstance	Creating a TUICallEngine Instance (Singleton Pattern)

destroyInstance	Terminating a TUICallEngine Instance (Singleton Pattern)
on	Listening on events
off	Canceling Event Listening
login	Sign in Interface
logout	Logout Interface
setSelfInfo	Configure the user's nickname and profile photo
call	Initiate a one-on-one call
groupCall	Group Chat Invitation Call
accept	Answer Calls
reject	Decline Call
hangup	End Calls
switchCallMediaType	Switch Audio and Video Calls
startRemoteView	Initiate Remote Screen Rendering
stopRemoteView	Stop Remote Screen Rendering
startLocalView	Start Local Screen Rendering,**Note: This will be deprecated; use openCamera instead**
stopLocalView	Stop Local Screen Rendering,**Note: This will be deprecated; use closeCamera instead**
openCamera	Enable the camera
closeCamara	Turn Off Camera
openMicrophone	Enable Microphone
closeMicrophone	Turn off the microphone
setVideoQuality	Set video quality
getDeviceList	Access device list
switchDevice	Switch camera or microphone devices
enableAIVoice	Enable/disable AI noise reduction

Event Types

TUICallEvent is the callback event class corresponding to TUICallEngine. Through this callback, you can listen to the callback events of interest.

EVENT	Description
TUICallEvent.ERROR	An error occurred inside the SDK
TUICallEvent.SDK_READY	This callback is received when the SDK enters the Ready State
TUICallEvent.KICKED_OUT	Duplicate Sign in, receiving this callback indicates being Kicked out of Room
TUICallEvent.USER_ACCEPT	If a user answers, this callback will be received
TUICallEvent.USER_ENTER	If a user agrees to join the call, this callback will be received
TUICallEvent.USER_LEAVE	If a user agrees to leave the call, this callback will be received
TUICallEvent.REJECT	User declines the call
TUICallEvent.NO_RESP	Invite user, no response
TUICallEvent.LINE_BUSY	Invitee Busy Line
TUICallEvent.CALLING_TIMEOUT	As an invitee, receiving this callback indicates that the call has timed out without an answer
TUICallEvent.USER_VIDEO_AVAILABLE	Remote User turns Camera On/Off, this callback will be received
TUICallEvent.USER_AUDIO_AVAILABLE	Remote User turns Microphone On/Off, this callback will be received
TUICallEvent.USER_VOICE_VOLUME	Remote User Speech Volume Adjustment, this callback will be received
TUICallEvent.GROUP_CALL_INVITEE_LIST_UPDATE	Group Chat Update, Invitation List this callback will be received
TUICallEvent.INVITED	Invited for a call
TUICallEvent.CALLING_CANCEL	As an invitee, receiving this callback indicates that the call has been canceled

TUICallEvent.CALLING_END	Receiving this callback indicates that the call has ended
TUICallEvent.DEVICED_UPDATED	Device list update, this callback will be received
TUICallEvent.CALL_TYPE_CHANGED	This callback is received when switching call types

Document Link

TUICallEngine

TUICallEvent

TUICallKit

Last updated：2024-04-03 17:23:11

API Introduction

The TUICallKit API is the **audio and video call component that includes a UI interface**. With the TUICallKit API, you can swiftly develop audio and video call scenarios reminiscent of WeChat through simple interfaces. For further comprehensive steps to access this, please refer to: Swift Access to TUICallKit.

API Overview

TUICallKit is the **audio and video call component with a UI**, which enables you to swiftly create scenarios akin to WeChat for voice and video calls.
<TUICallKit/>: The core UI call component.
TUICallKitServer is the call instance, offering the following API interfaces.

API	Description
init	Initialize the `TUICallKit` component instance
call	Initiate a one-on-one call
groupCall	Initiate a group call
joinInGroupCall	Actively join the ongoing group call
setCallingBell	Establish a personalised ringtone for incoming calls
setSelfInfo	Configure the user's nickname and profile photo
enableMuteMode	Toggle On/Off the ringtone for incoming calls
enableFloatWindow	Activate/Deactivate the floating window function
setLanguage	Set the call language for the TUICallKit component
destroyed	Terminate the TUICallKit component instance

Introduction to `<TUICallKit/>` attributes

Attribute Overview

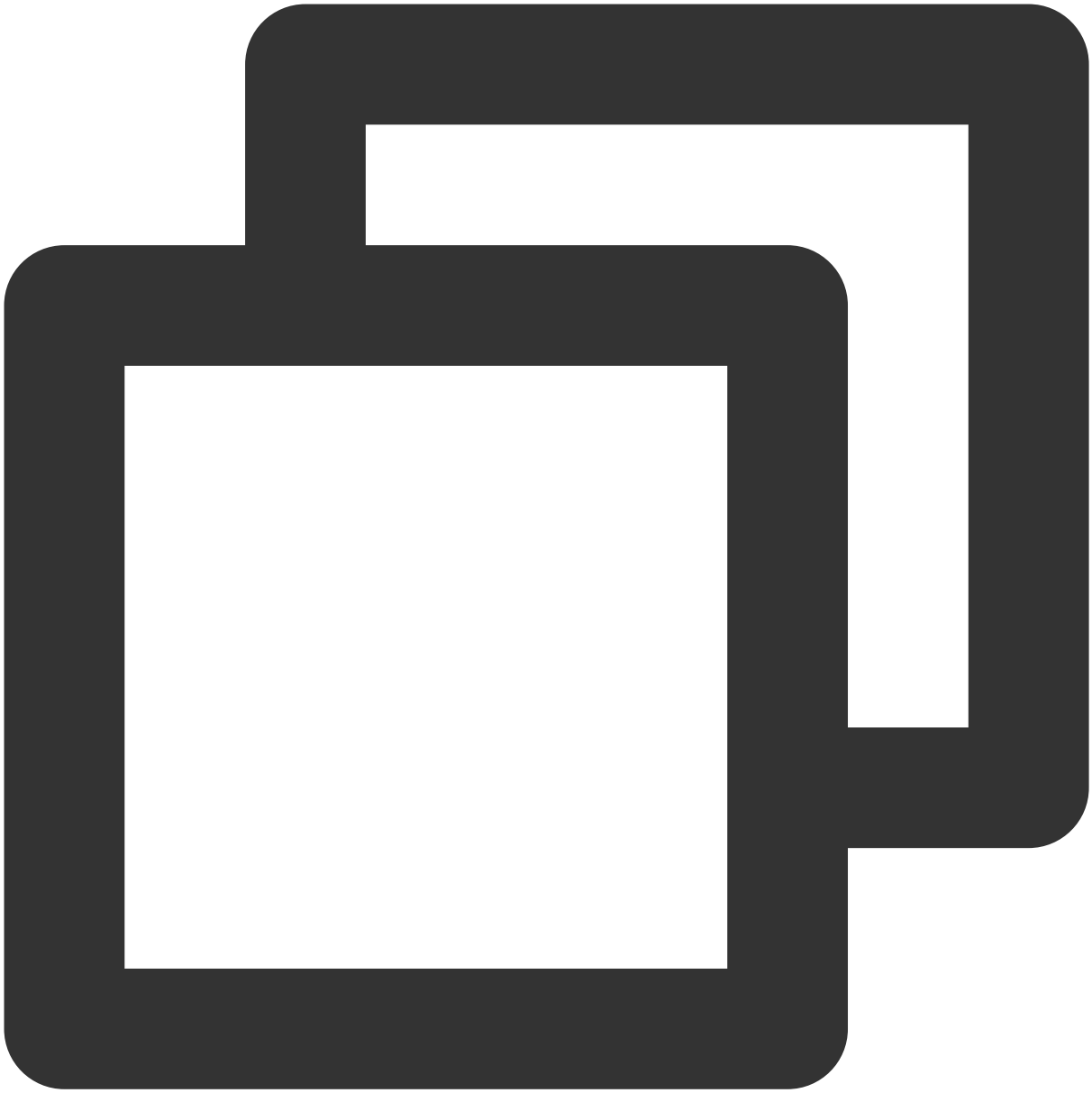
Attribute	Description	Type	Required	Default Value
allowedMinimized	Is the floating window permitted?	boolean	No	false
allowedFullScreen	Whether to permit full screen mode for the call interface	boolean	No	true
videoDisplayMode	Display mode for the call interface	VideoDisplayMode	No	VideoDisplayMode.COVER
videoResolution	Call Resolution	VideoResolution	No	VideoResolution.RESOLUTION_48
beforeCalling	This function will be executed prior to making a call and before receiving an invitation to talk	function(type, error)	No	-
afterCalling	This function will be executed after the termination of the call	function()	No	-
onMinimized	This function will be executed when the component switches to a minimized	function(oldStatus, newStatus)	No	-

	state. The explanation for the STATUS value is			
kickedOut	The events thrown by the component occur when the current logged-in user is ejected. The call will also automatically terminate	function()	No	-
statusChanged	Event thrown by the component; this event is triggered when the call status changes. For detailed types of call status, refer to STATUS value description	function({oldStatus, newStatus})	No	-

Sample code

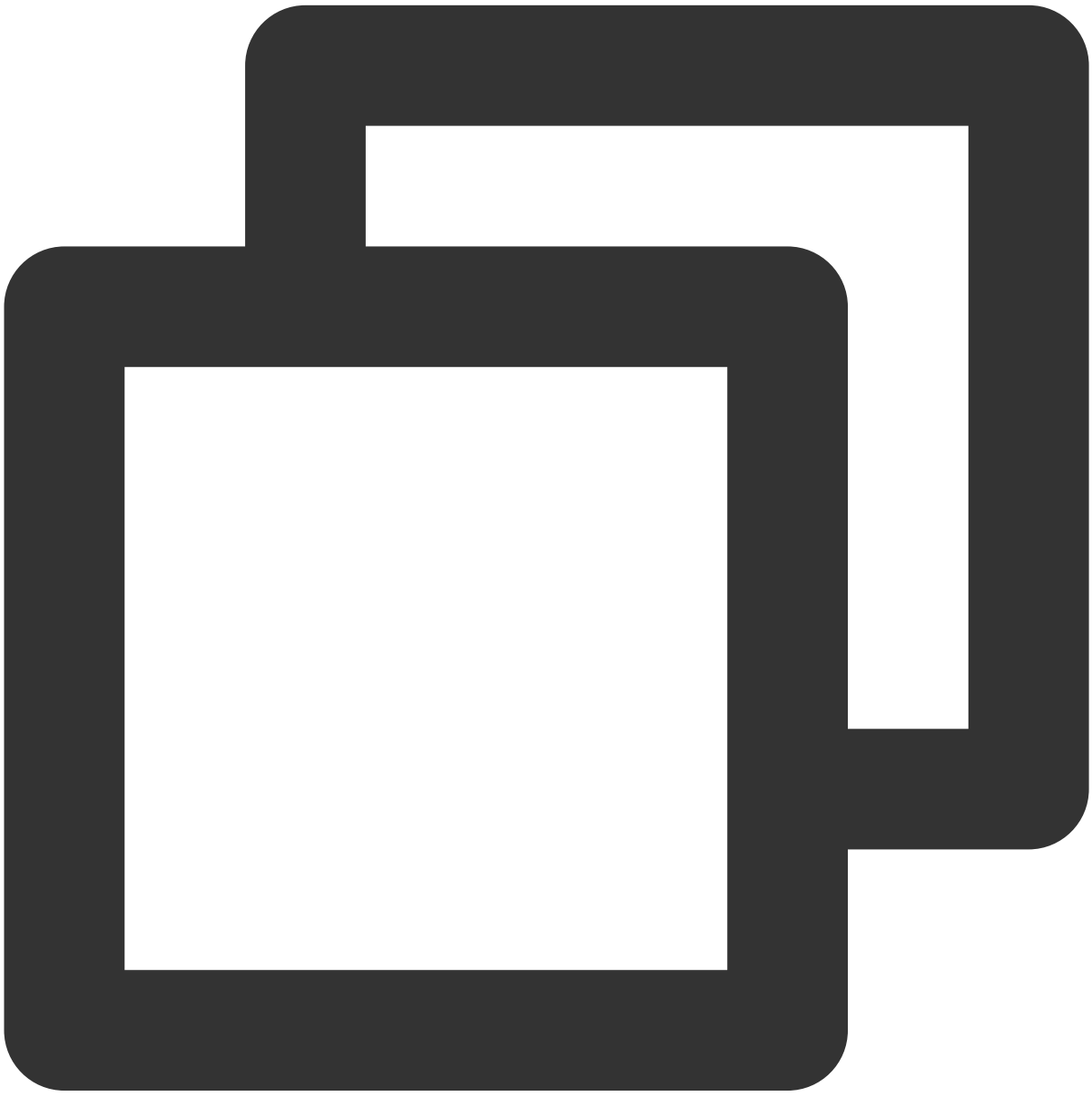
React

Vue



```
import { TUICallKit, VideoDisplayMode, VideoResolution } from "@tencentcloud/call-u

<TUICallKit
    videoDisplayMode={VideoDisplayMode.CONTAIN}
    videoResolution={VideoResolution.RESOLUTION_1080P}
    beforeCalling={handleBeforeCalling}
    afterCalling={handleAfterCalling}
/>

function handleBeforeCalling(type: string, error: any) {
  console.log("[TUICallkit Demo] handleBeforeCalling:", type, error);
```

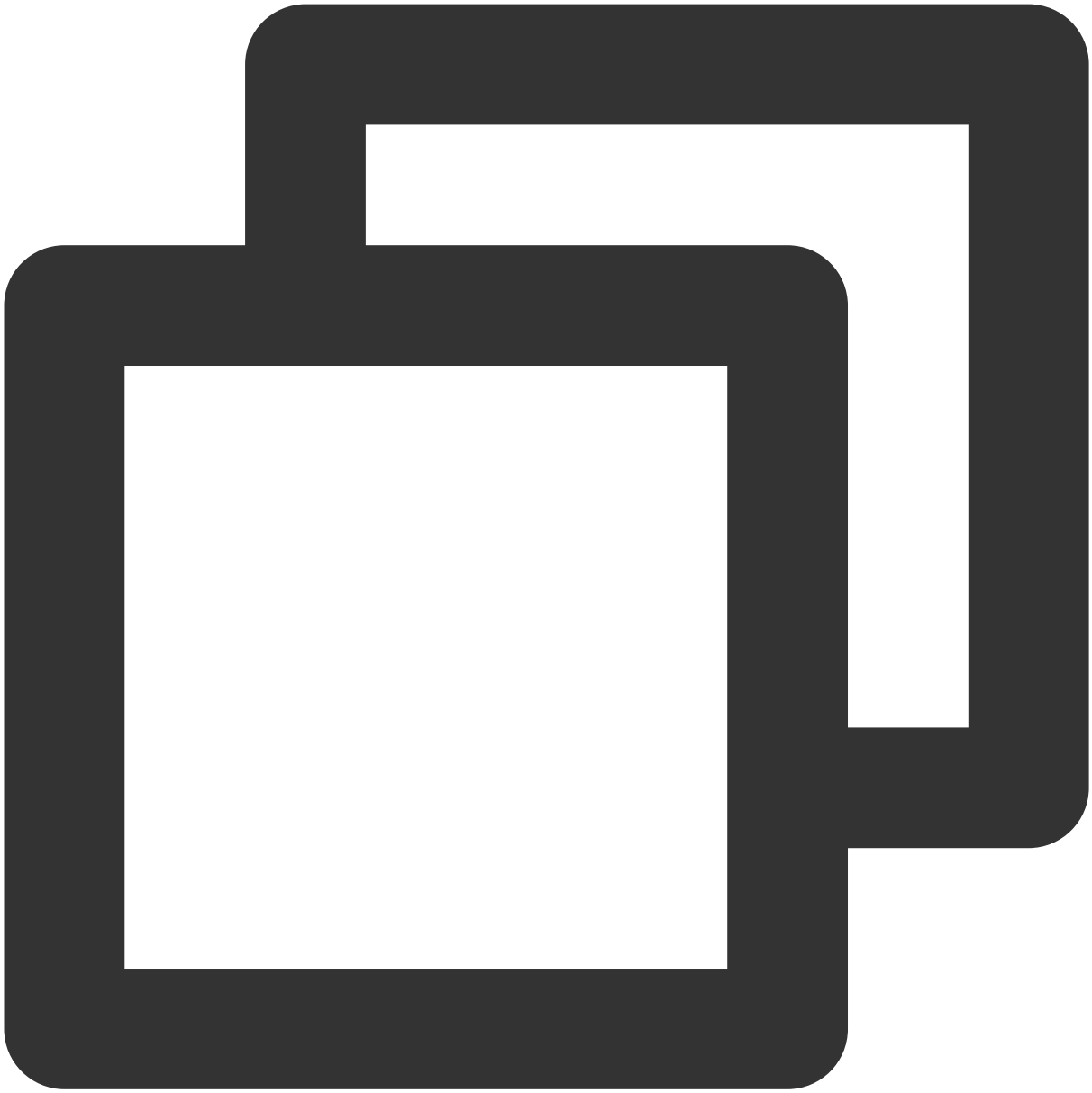
```
}
function handleAfterCalling() {
  console.log("[TUICallkit Demo] handleAfterCalling");
}
```



```
<template>
   <TUICallKit
    :allowedMinimized="true"
    :allowedFullScreen="true"
    :videoDisplayMode="VideoDisplayMode.CONTAIN"
    :videoResolution="VideoResolution.RESOLUTION_1080P"
```

```
    :beforeCalling="beforeCalling"
    :afterCalling="afterCalling"
    :onMinimized="onMinimized"
    :kickedOut="handleKickedOut"
    :statusChanged="handleStatusChanged"
  />
</template>
<script lang="ts" setup>
import { TUICallKit, TUICallKitServer, VideoDisplayMode, VideoResolution, STATUS }

function beforeCalling(type: string, error: any) {
  console.log("[TUICallkit Demo] beforeCalling:", type, error);
}
function afterCalling() {
  console.log("[TUICallkit Demo] afterCalling");
}
function onMinimized(oldStatus: string, newStatus: string) {
  console.log("[TUICallkit Demo] onMinimized: " + oldStatus + " -> " + newStatus);
}
function kickedOut() {
  console.log("[TUICallkit Demo] kickedOut");
}
function statusChanged(args: { oldStatus: string; newStatus: string; }) {
  const { oldStatus, newStatus } = args;
  if (newStatus === STATUS.CALLING_C2C_VIDEO) {
    console.log(`[TUICallkit Demo] statusChanged: ${oldStatus} -> ${newStatus}`);
  }
}
</script>
```

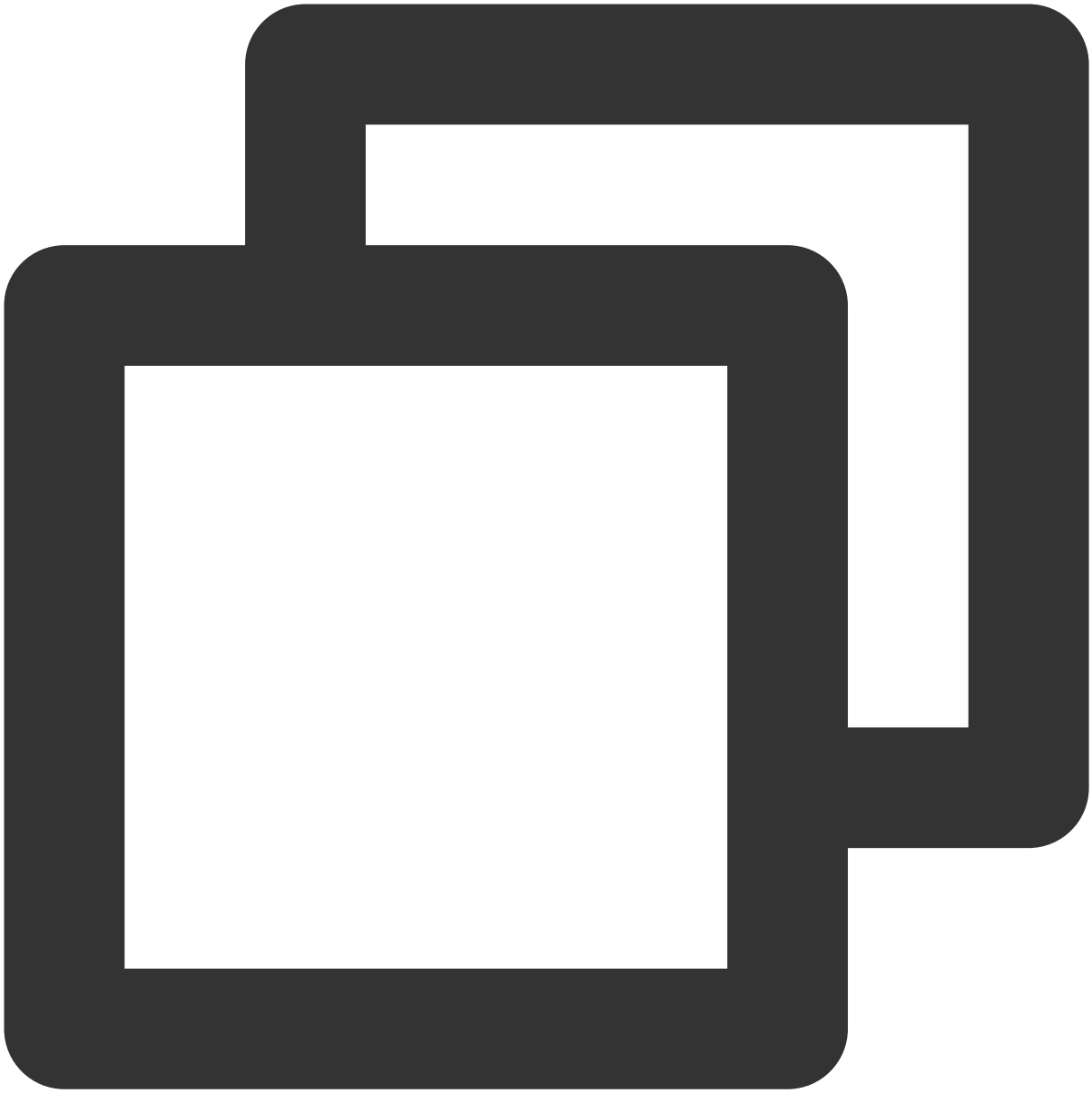
Detailed information on TUICallKitServer API



```
import { TUICallKitServer } from "@tencentcloud/call-uikit-react";
// Replace it with the call-uikit npm package you are currently using
```

init

Initialize TUICallKit, which should be accomplished prior to 'call' and 'groupCall'.



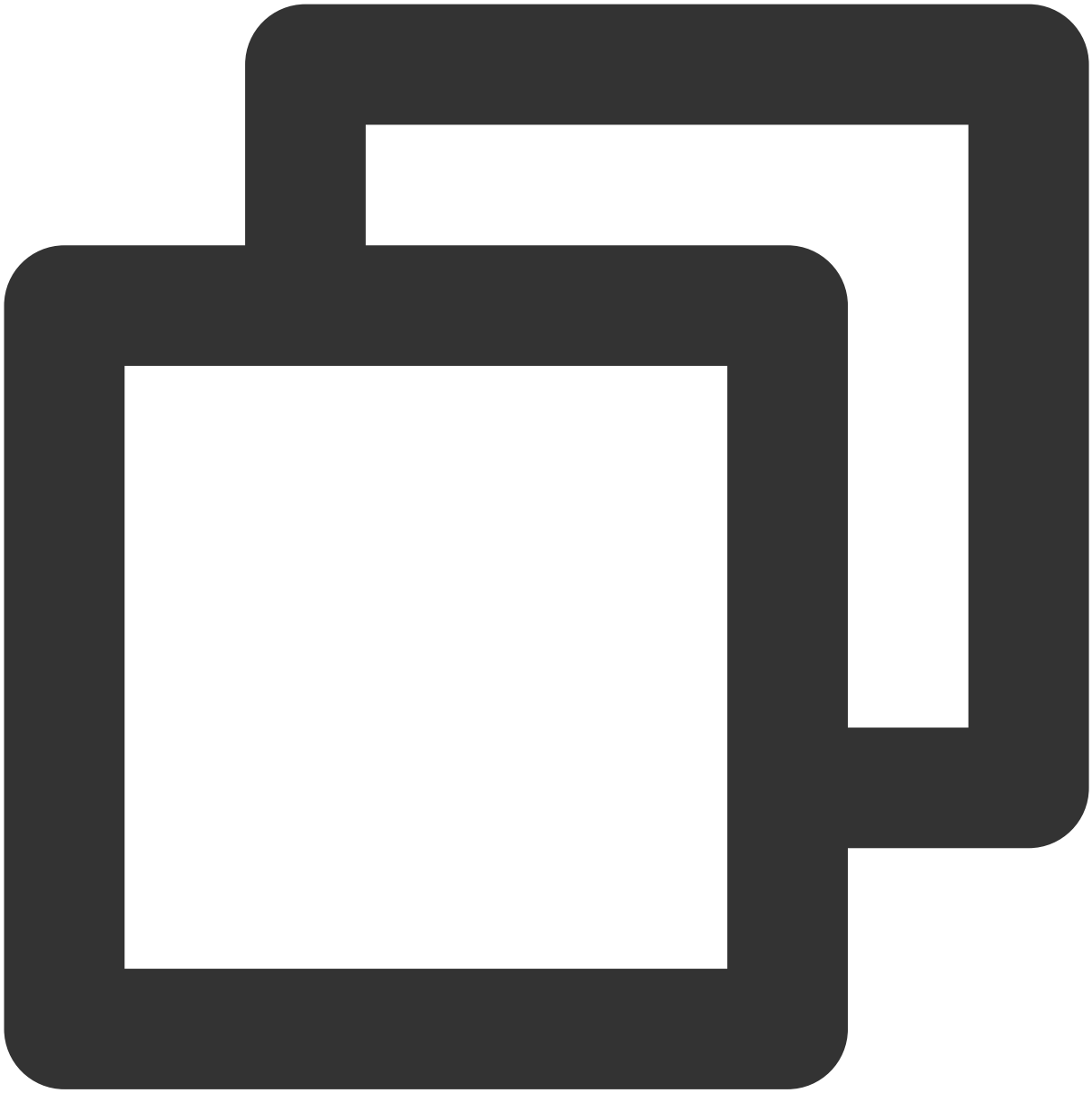
```
try {
  await TUICallKitServer.init({ SDKAppID, userID, userSig });
  // If you already have a tim instance in your project, you need to pass it in her
  // await TUICallKitServer.init({ tim, SDKAppID, userID, userSig});
  alert("[TUICallKit] Initialization succeeds.");
} catch (error: any) {
  alert(`[TUICallKit] Initialization failed. Reason: ${error}`);
}
```

The parameters are described below:

Parameter	Type	Required	Meaning
SDKAppID	Number	Yes	SDKAppID of the cloud communication application
userID	String	Yes	The current user's ID is of string type, only allowing for the inclusion of English letters (a-z and A-Z), digits (0-9), hyphens (-) and underscores (_)
userSig	String	Yes	A safeguard signature designed by Tencent Cloud. For acquisition method, kindly refer to the calculation of UserSig
tim	Any	No	The tim parameter is viable if a TIM instance already exists in the business, to ensure the uniqueness of the TIM instance

call

Initiate a one-on-one call.



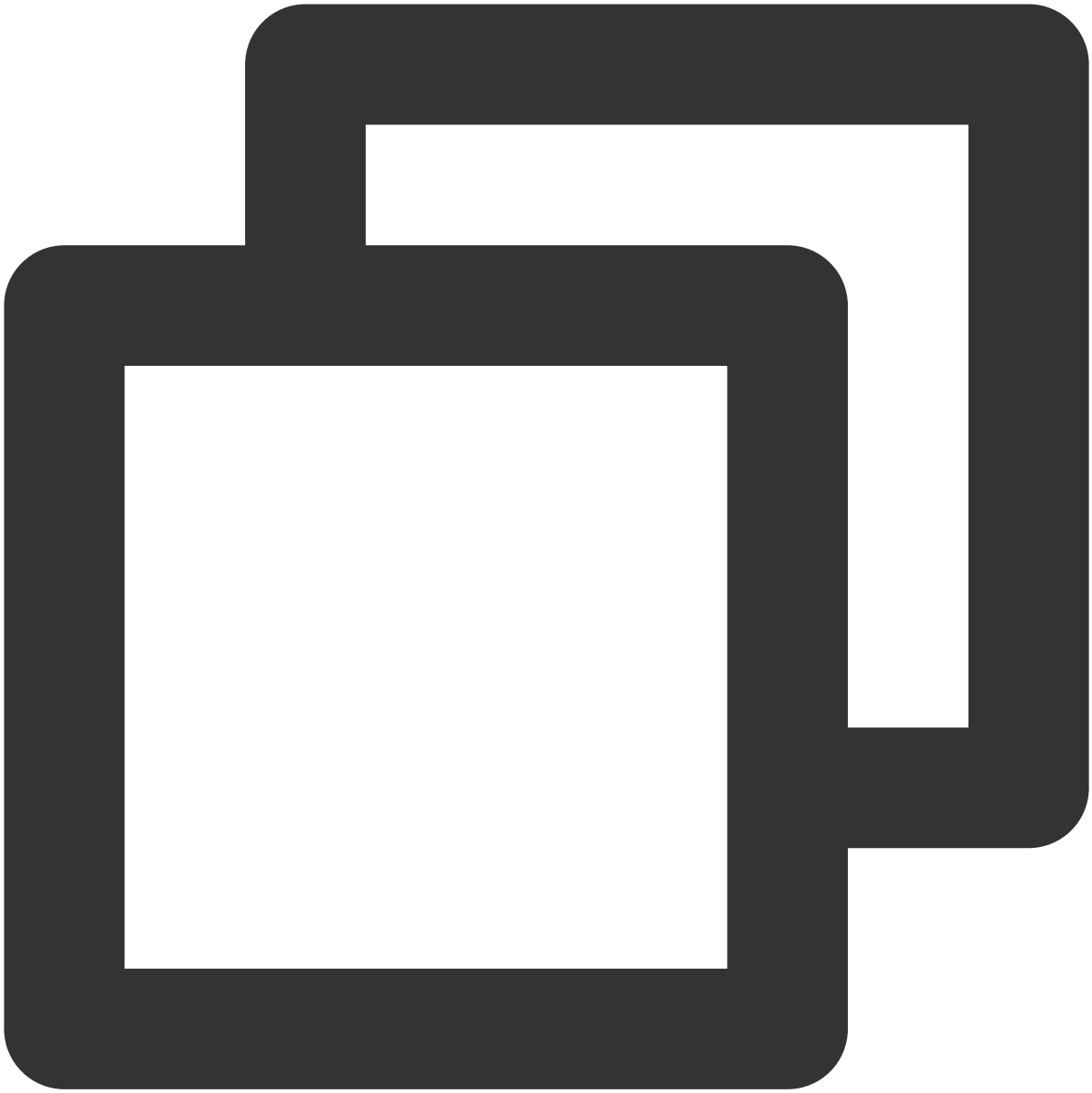
```
try {
  await TUICallKitServer.call({
    userID: callUserID,
    type: TUICallType.VIDEO_CALL,
  });
} catch (error: any) {
  alert(`[TUICallKit] Call failed. Reason: ${error}`);
}
```

The parameters are described below:

Parameter	Type	Required	Meaning
userID	String	Yes	target user's userId
type	TUICallType	Yes	The media type of the call, see TUICallType call type for parameter value specifications
roomID	Number	No	Numerical Room ID, range [1, 2147483647]
timeout	Number	No	Call timeout duration, 0 signifies no timeout, unit s(seconds) (optional) - Default 30s
userData	String	No	Extension field: Used to enhance the invitation signal with additional information
offlinePushInfo	Object	No	Customize offline message pushing

groupCall

Initiate group communication.



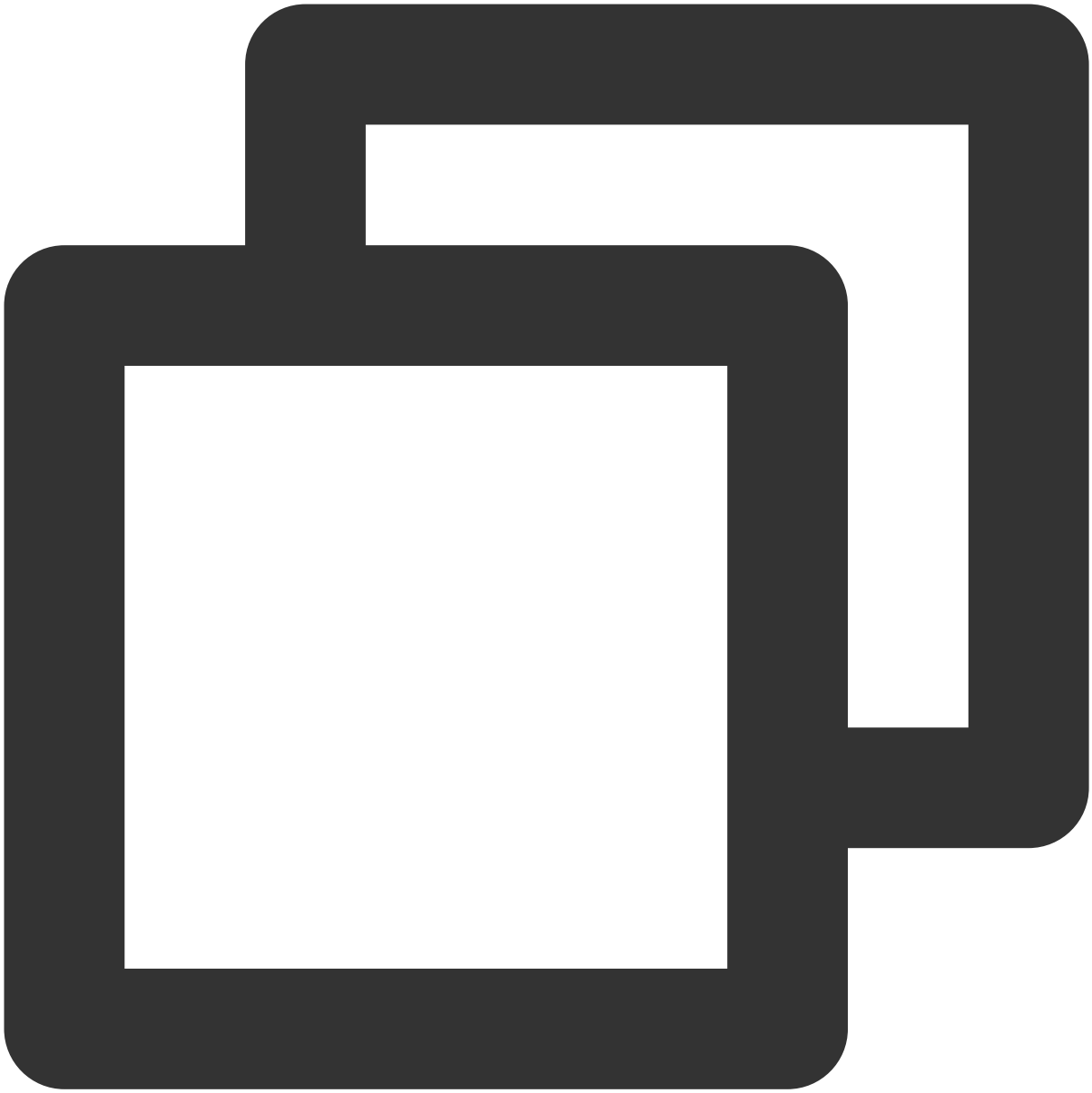
```
try {
  await TUICallKitServer.groupCall({
    userIDList: ['jack', 'tom'],
    groupID: "xxx",
    type: TUICallType.VIDEO_CALL
  });
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the groupCall API. Reason:${error}`);
}
```

The parameters are described below:

Parameter	Type	Required	Meaning
userIDList	Array<String>	Yes	Invitation list member lists
type	TUICallType	Yes	The type of media for the call, you can refer to TUICallType for the explanation of parameter values
groupID	String	Yes	Call group ID, the creation of groupID can be referred to chat-createGroup API
roomID	Number	No	Numerical Room ID, range [1, 2147483647]
timeout	Number	No	Call timeout duration, 0 signifies no timeout, unit s(seconds) (optional) - Default 30s
userData	String	No	Extended field: Utilized for amplifying details in the invitation signaling
offlinePushInfo	Object	No	Customize offline message pushing

setLanguage

Language configuration.



```
TUICallKitServer.setLanguage("zh-cn"); // "en" | "zh-cn"
```

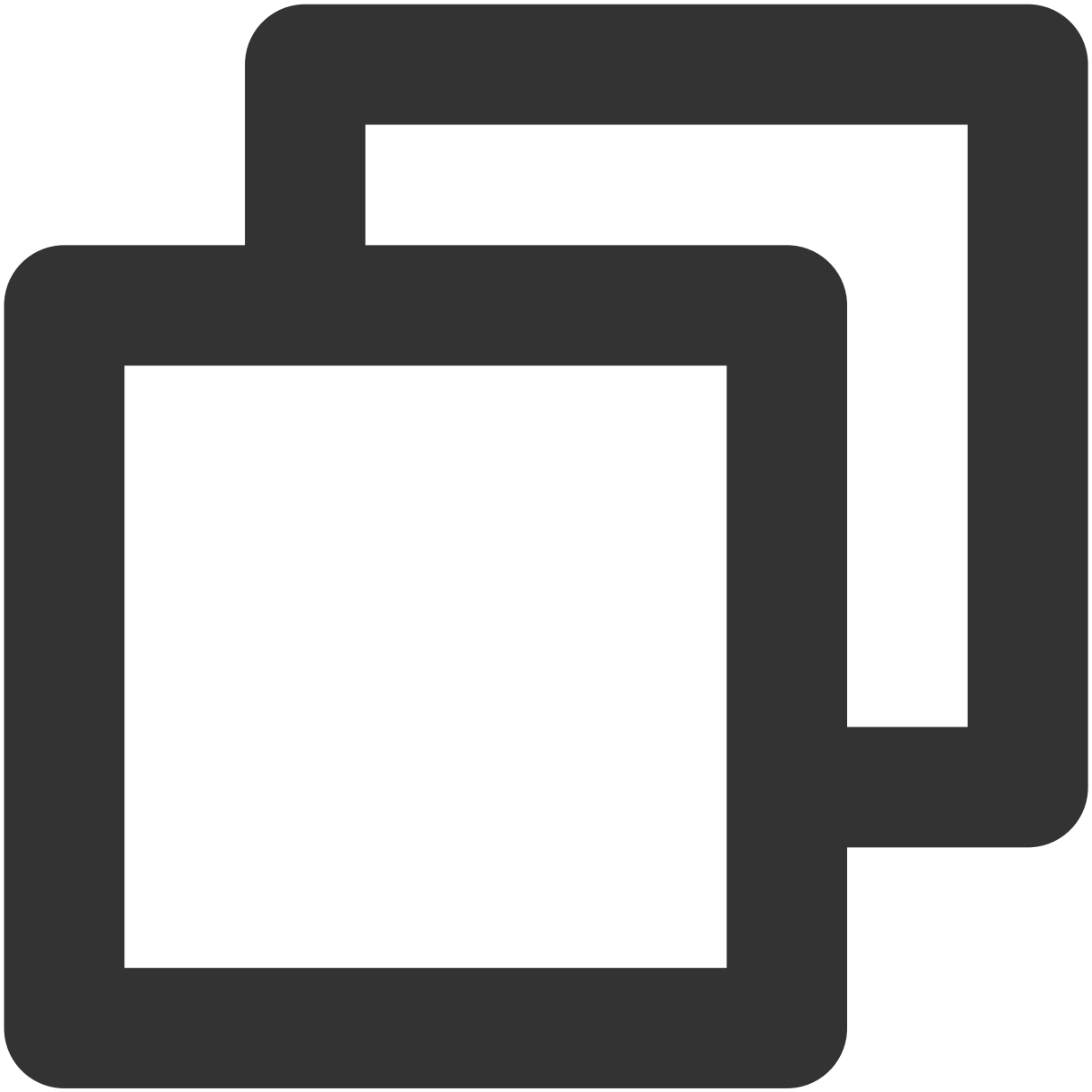
The parameters are described below:

Parameter	Type	Required	Meaning
lang	String	Yes	Language type `en` or `zh-cn`

setSelfInfo

Note: Vue ≥ v2.2.0 is supported. Using this interface to modify user information during a call will not immediately update the UI. Changes will be visible in the next call.

Setting user nickname and profile picture.



```
try {
  await TUICallKitServer.setSelfInfo({ nickName: "xxx", avatar: "http://xxx" });
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the setSelfInfo API. Reason: ${error}`;
}
```

The parameters are described below:

Parameter	Type	Required	Meaning
nickName	String	Yes	User's nickname
avatar	String	Yes	User profile picture URL

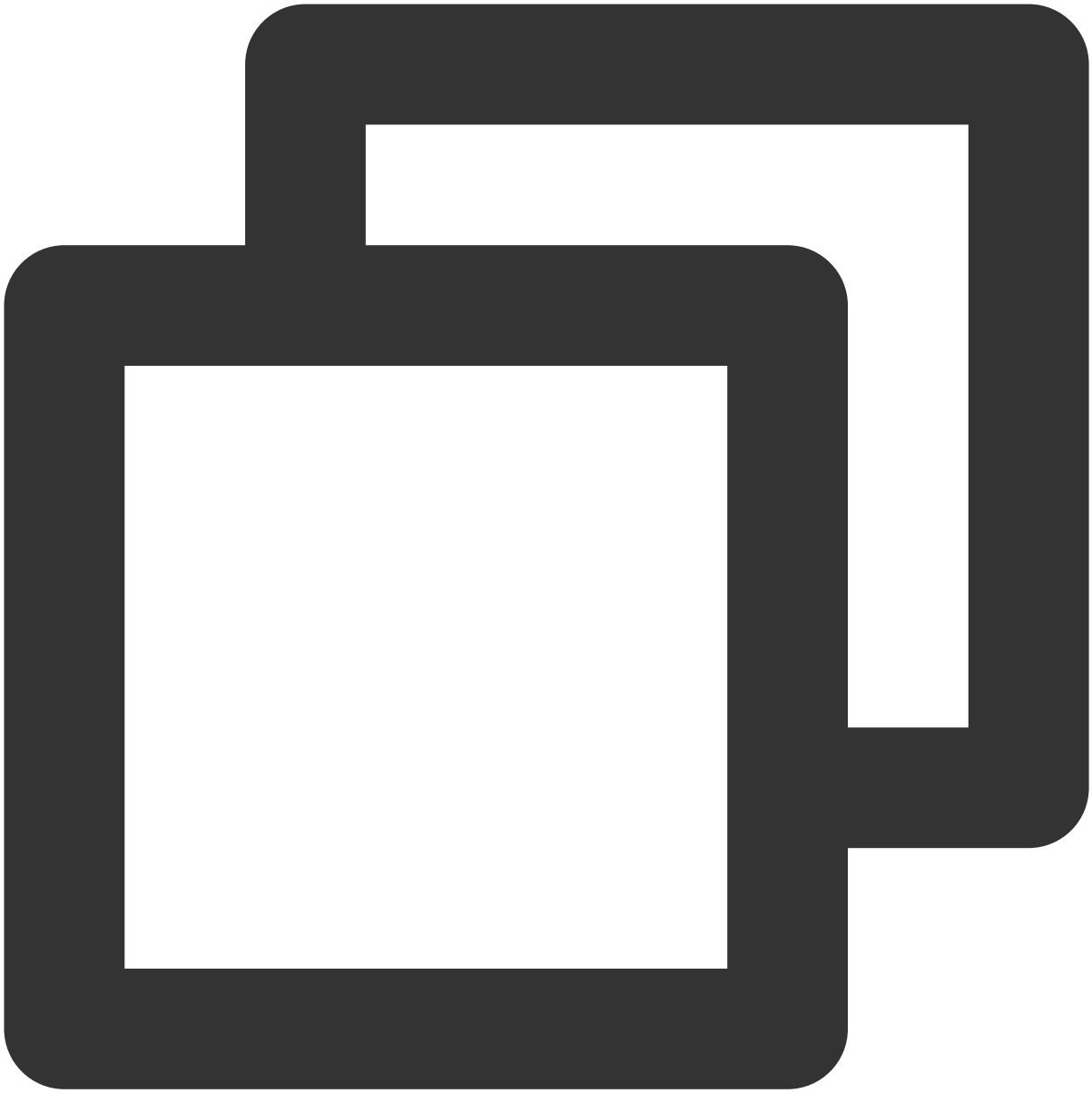
setCallingBell

Note: Vue ≥ v3.0.0 is supported

Customize the user's incoming call ringtone.

The input is restricted to the local MP3 format file address. It is imperative to ensure that the application has access to this file directory.

Use the ES6 import method to import the ringtone file.



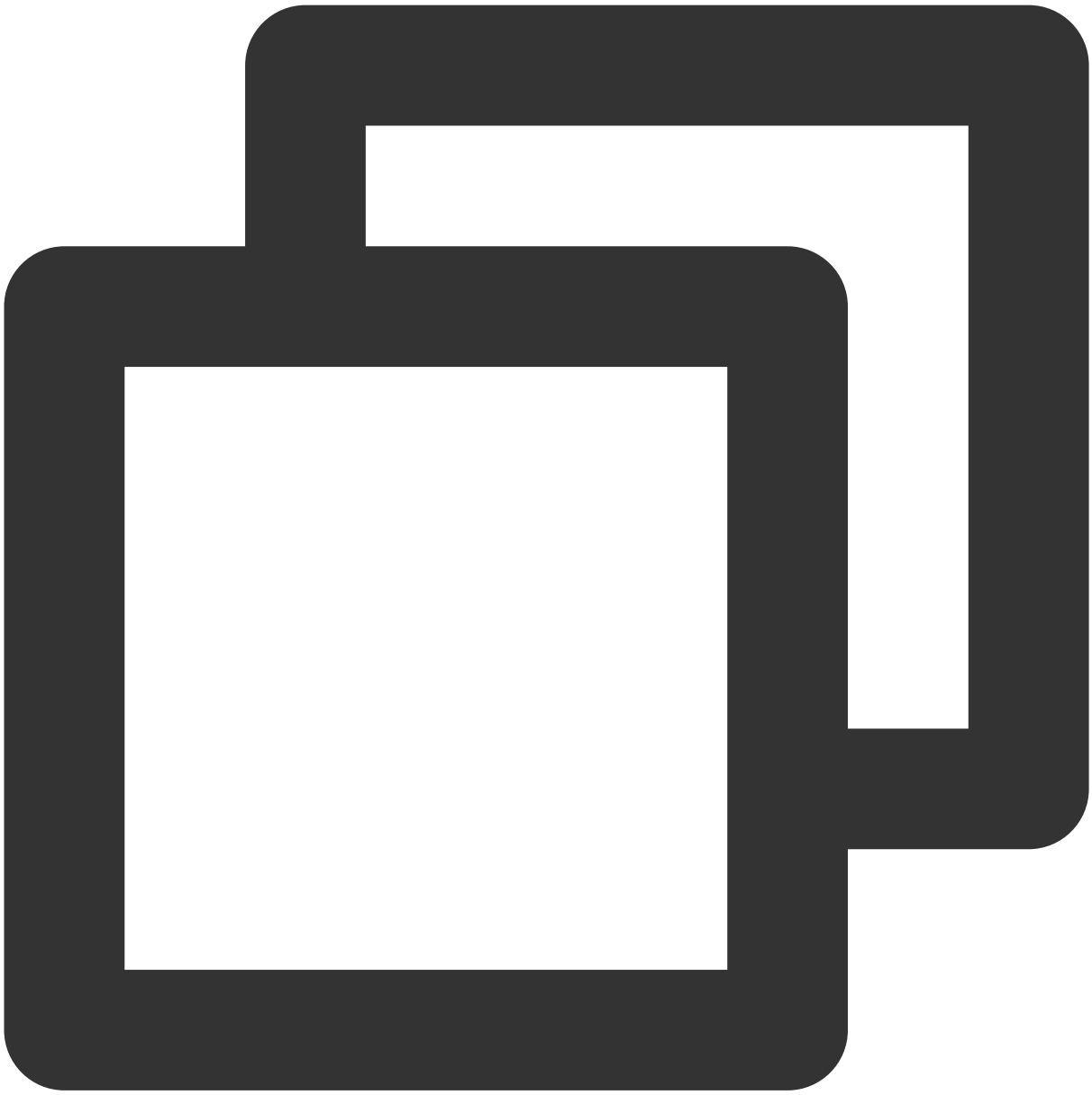
```
try {
  await TUICallKitServer.setCallingBell(filePath?: string)
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the setCallingBell API. Reason: ${error}`);
}
```

enableFloatWindow

Note: Vue ≥ v3.1.0 is supported

Enable/Disable floating window functionality.

By default, the floating window button in the top left corner of the call interface is hidden (`false`). It is displayed when set to true.



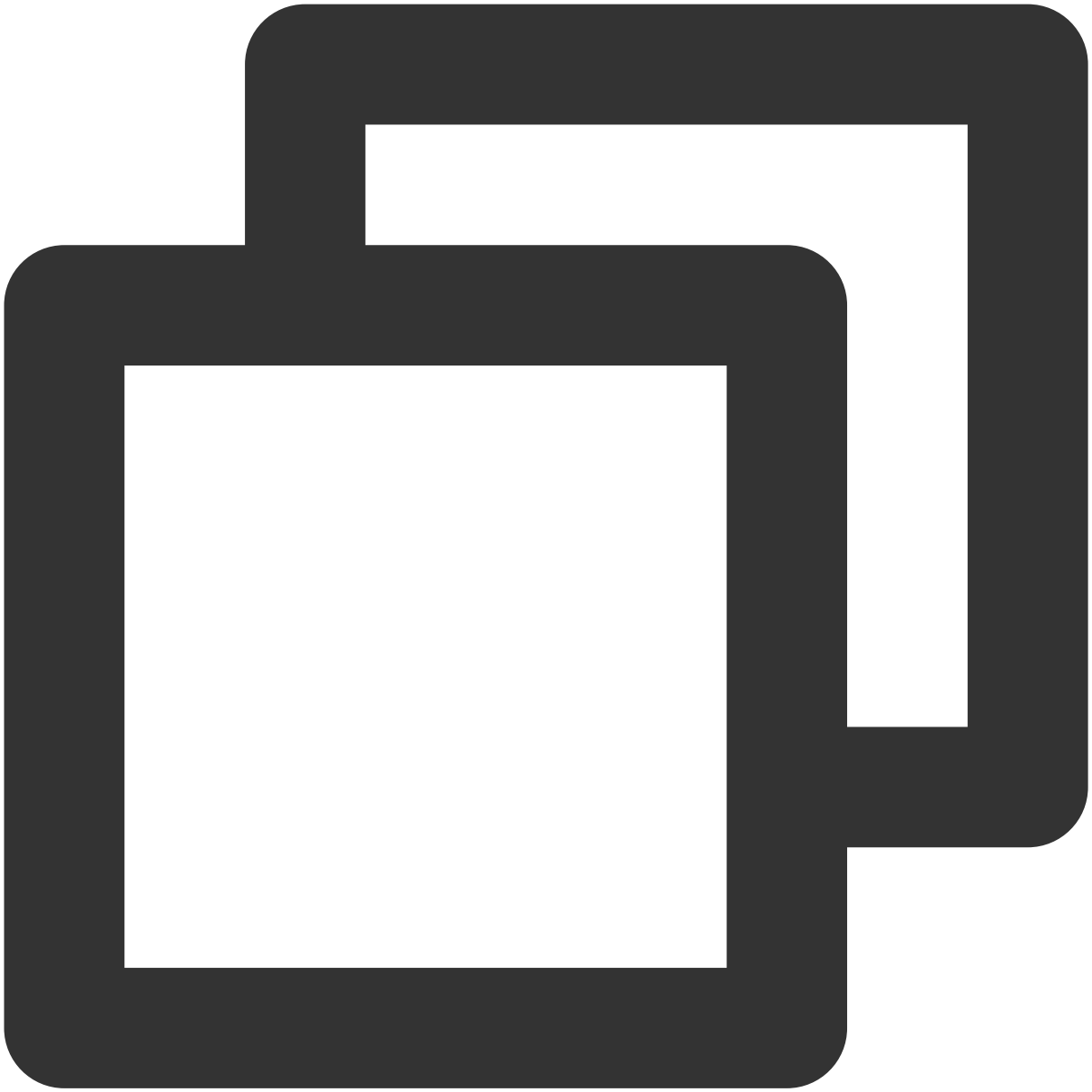
```
try {
  await TUICallKitServer.enableFloatWindow(enable: Boolean)
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the enableFloatWindow API. Reason: ${error}`);
}
```

enableMuteMode

Note: Vue ≥ v3.1.2 is supported

Enable/Disable incoming call ringtone.

After enabling, the incoming call ringtone will not be played when a call request is received.



```
try {
  await TUICallKitServer.enableMuteMode(enable: boolean)
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the enableMuteMode API. Reason: ${error}`);
}
```

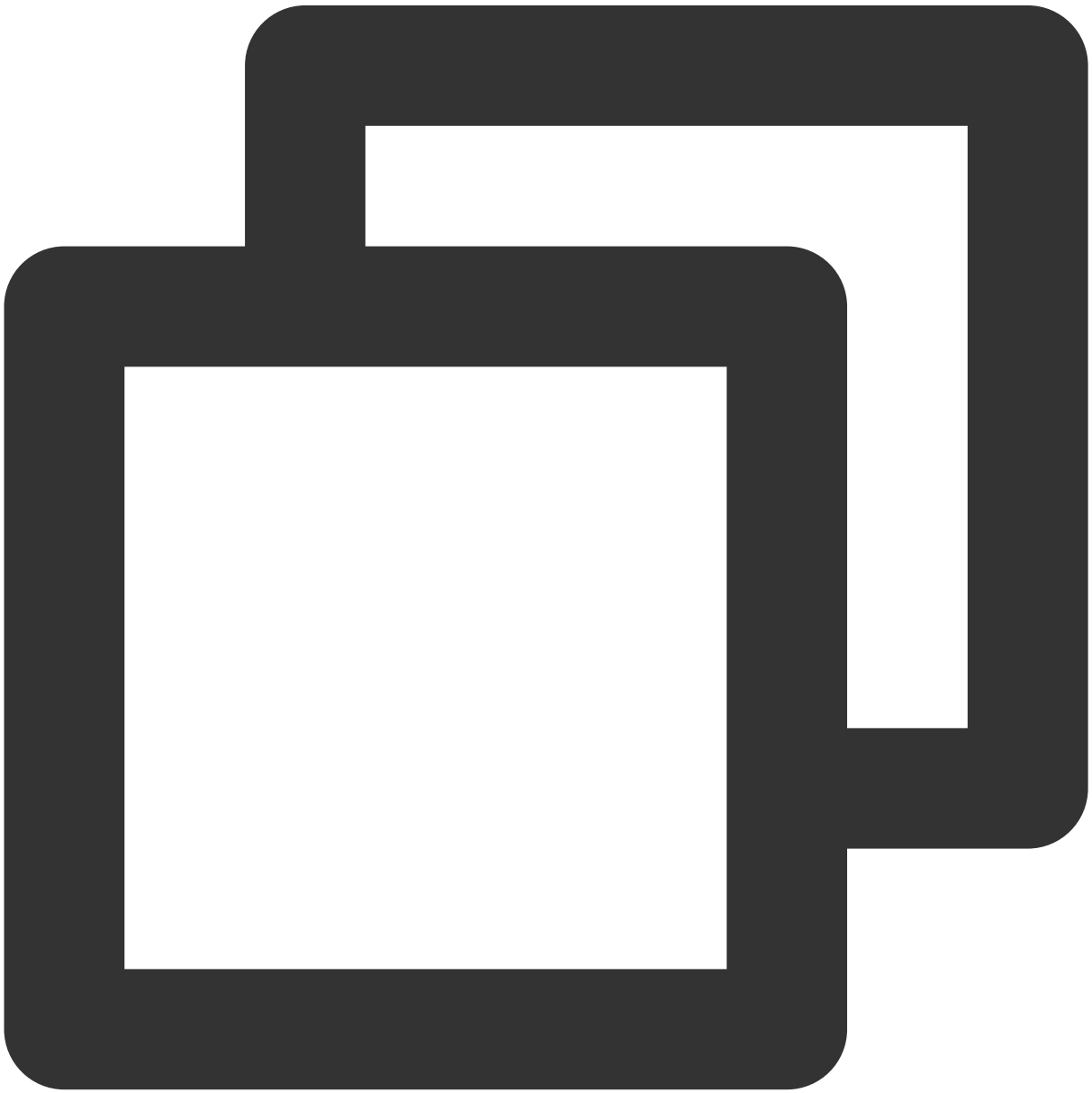
joinInGroupCall

Note: Vue ≥ v3.1.2 is supported

Join an existing audio-video call in a group.

Note:

Before joining an existing audio-video call in the group, an IM group must be pre-established or joined, and users in the group must already be engaged in a call. If the group has already been formed, please ignore this requirement. Instructions for creating a group can be found at IM Group Management. Alternatively, you may directly utilize IM TUIKit for an all-in-one integration of chat, call and other scenarios.



```
try {
  const params = {
    type: TUICallType.VIDEO_CALL,
    groupID: "xxx",
    roomID: 0,
  };
  await TUICallKitServer.joinInGroupCall(params);
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the enableMuteMode API. Reason: ${error}`);
}
```

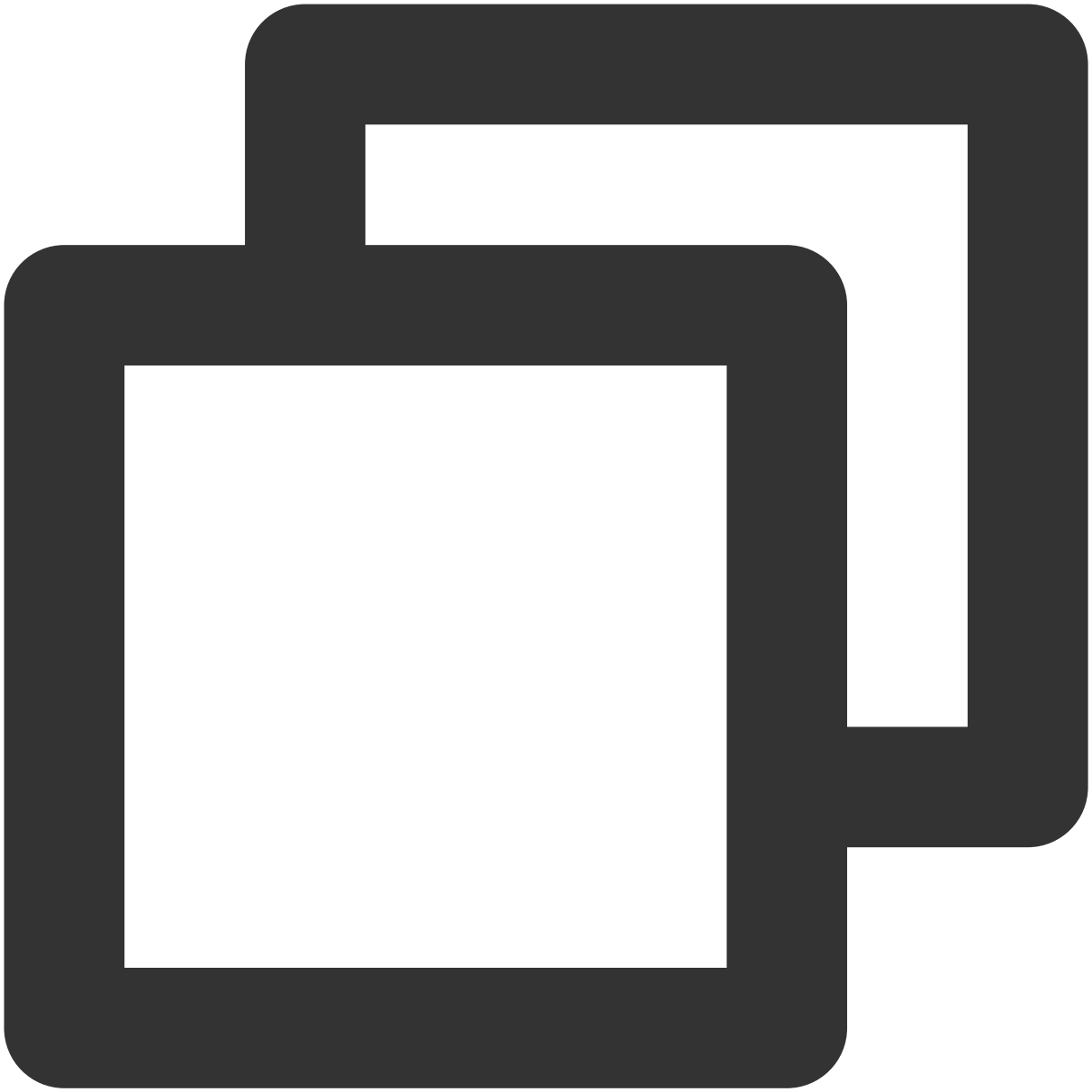
Parameter list:

Parameter	Type	Required	Meaning
type	TUICallType	Yes	The media type of communication, for instance, video calls, voice calls
groupID	string	Yes	Group ID associated with this group call
roomID	number	Yes	Audio-Video Room ID for this call

destroyed

Terminate the TUICallKit instance.

This method won't automatically log out of `tim`, manual logging out is required: `tim.logout();`.



```
try {
  await TUICallKitServer.destroyed();
} catch (error: any) {
  alert(`[TUICallKit] Failed to call the destroyed API. Reason: ${error}`);
}
```

TUICallKit Type Definition

videoDisplayMode

There are three values for the `videoDisplayMode` display mode:

`VideoDisplayMode.CONTAIN`

`VideoDisplayMode.COVER`

`VideoDisplayMode.FILL` , the default value is `VideoDisplayMode.COVER` .

Attribute	Value	Description
videoDisplayMode	VideoDisplayMode.CONTAIN	Ensuring the full display of video content is our top priority. The dimensions of the video are scaled proportionally until one side aligns with the frame of the viewing window. In case of discrepancy in sizes between the video and the display window, the video is scaled - on the premise of maintaining the aspect ratio - to fill the window, resulting in a black border around the scaled video.
	VideoDisplayMode.COVER	Priority is given to ensure that the viewing window is filled. The video size is scaled proportionally until the entire window is filled. If the video's dimensions are different from those of the display window, the video stream will be cropped or stretched to match the window's ratio.
	VideoDisplayMode.FILL	Ensuring that the entire video content is displayed while filling the window does not guarantee preservation of the original video's proportion. The dimensions of the video will be stretched to match those of the window.

videoResolution

The resolution `videoResolution` has three possible values:

`VideoResolution.RESOLUTION_480P`

`VideoResolution.RESOLUTION_720P`

`VideoResolution.RESOLUTION_1080P` , the default value is `VideoResolution.RESOLUTION_480P` .

Resolution Explanation:

Video Profile	Resolution (W x H)	Frame Rate (fps)	Bitrate (Kbps)
480p	640 × 480	15	900

720p	1280 × 720	15	1500
1080p	1920 × 1080	15	2000

Frequently Asked Questions:

iOS 13&14 does not support encoding videos higher than 720P. It is suggested to limit the highest collection to 720P on these two system versions. Refer to iOS Safari known issue case 12.

Firefox does not permit the customization of video frame rates (default is set to 30fps).

Due to the influence of system performance usage, camera collection capabilities, browser restrictions, and other factors, the actual values of video resolution, frame rate, and bit rate may not necessarily match the set values exactly. In such scenarios, the browser will automatically adjust the Profile to get as close to the set values as feasible.

STATUS

STATUS attribute value	Description
STATUS.IDLE	Idle status
STATUS.BE_INVITED	Received an Audio/Video Call Invite
STATUS.DIALING_C2C	Initiating a one-to-one call
STATUS.DIALING_GROUP	Initiating a group call
STATUS.CALLING_C2C_AUDIO	Engaged in a 1v1 Audio Call
STATUS.CALLING_C2C_VIDEO	In the midst of a one-to-one video call
STATUS.CALLING_GROUP_AUDIO	Engaged in Group Audio Communication
STATUS.CALLING_GROUP_VIDEO	Engaged in group video call

TUICallType

TUICallType Type	Description
TUICallType.AUDIO_CALL	Audio Call
TUICallType.VIDEO_CALL	Video Call

offlinePushInfo

Parameter	Type	Required	Meaning
offlinePushInfo.title	String	No	Offline Push Title (Optional)

offlinePushInfo.description	String	No	Offline Push Content (Optional)
offlinePushInfo.androidOPPOChannelID	String	No	Setting the channel ID for OPPO phones with 8.0 system and above for offline pushes (Optional)
offlinePushInfo.extension	String	No	Offline push through content (optional) (tsignaling version >= 0.9.0)

TUICallEngine

Last updated：2024-04-03 17:23:11

TUICallEngine APIs

TUICallEngine API is the **No UI Interface** of the Audio and Video Call Components.

API Overview

API	Description
createInstance	Creating a TUICallEngine Instance (Singleton Pattern)
destroyInstance	Terminating a TUICallEngine Instance (Singleton Pattern)
on	Listening on events
off	Canceling Event Listening
login	Sign in Interface
logout	Logout Interface
setSelfInfo	Configure the user's nickname and profile photo
call	C2C Invitation Call
groupCall	Group Chat Invitation Call
accept	Answer Calls
reject	Decline Call
hangup	End Calls
switchCallMediaType	Switch Audio and Video Calls
inviteUser	In Group Call, invite others to join
joinInGroupCall	Actively join the ongoing group call
startRemoteView	Initiate Remote Screen Rendering

stopRemoteView	Stop Remote Screen Rendering
openCamera	Enable camera, start local screen rendering
closeCamara	Camera off, stop local screen rendering
openMicrophone	Enable Microphone
closeMicrophone	Turn off the microphone
setVideoQuality	Set video quality
setVideoRenderParams	Setting the display pattern of the user video display
getDeviceList	Access device list
switchDevice	Switch camera or microphone devices
enableAIVoice	Enable/disable AI noise reduction
enableMultiDeviceAbility	Enable/Disable TUICallEngine's multi-device Sign in pattern (**Supported by Deluxe package**)

TUICallEvent

Last updated：2024-04-03 17:23:11

TUICallEvent API Introduction

TUICallEvent API is the **Event Interface** of the Audio and Video Call Components.

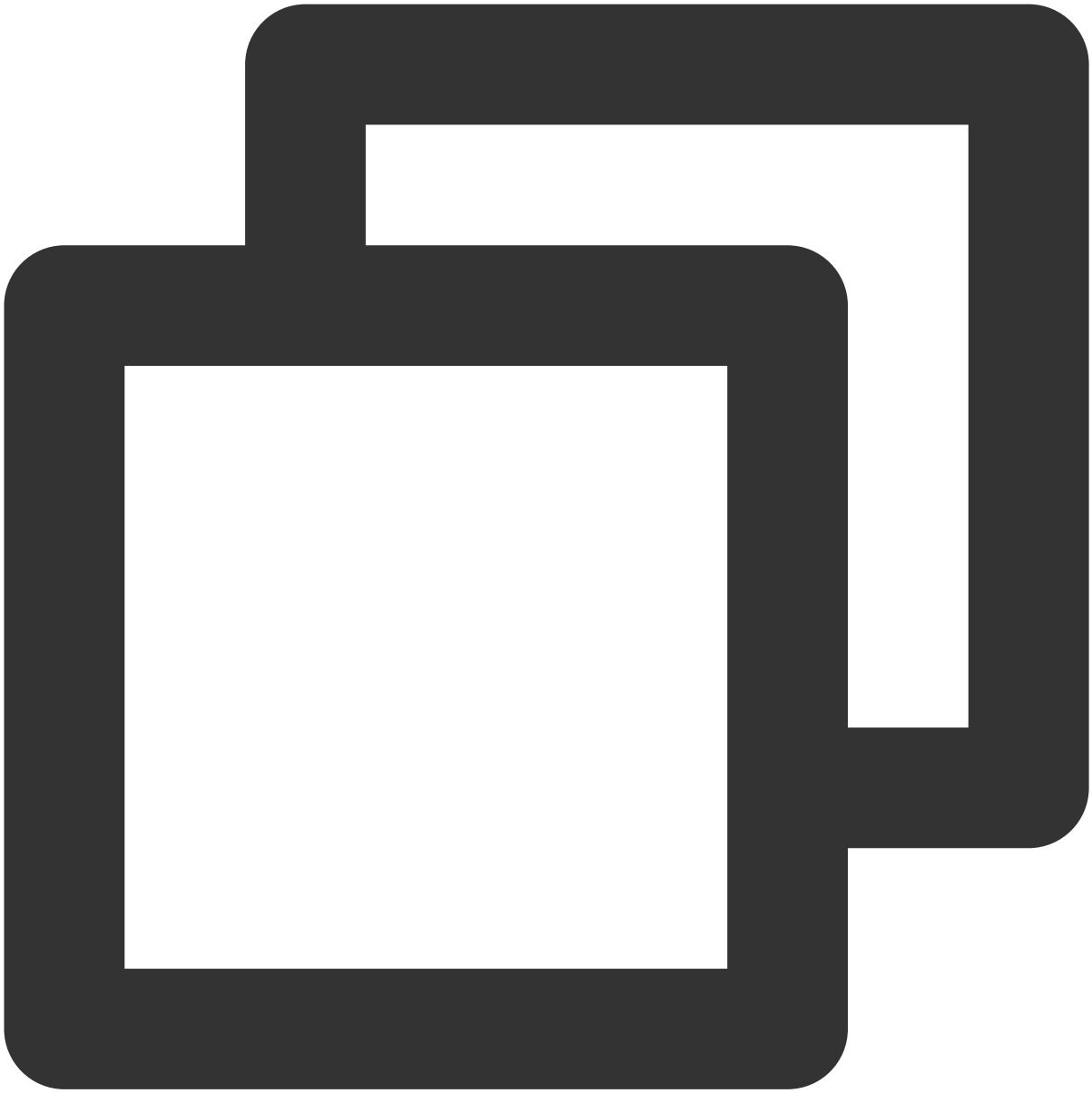
Event List

EVENT	Description
TUICallEvent.ERROR	An error occurred inside the SDK
TUICallEvent.SDK_READY	This event is received when the SDK enters the ready state
TUICallEvent.KICKED_OUT	Receiving this event after a duplicate sign-in indicates that the user has been removed from the room
TUICallEvent.USER_ACCEPT	If a user answers, this event will be received
TUICallEvent.USER_ENTER	If a user agrees to join the call, this event will be received
TUICallEvent.USER_LEAVE	If a user agrees to leave the call, this event will be received
TUICallEvent.REJECT	User declines the call, this event will be received
TUICallEvent.NO_RESP	Invite user, no response, this event will be received
TUICallEvent.LINE_BUSY	Invitee Busy Line, this event will be received
TUICallEvent.USER_VIDEO_AVAILABLE	Remote user has enabled/disabled the camera, this event will be received
TUICallEvent.USER_AUDIO_AVAILABLE	Remote user has enabled/disabled the microphone, this event will be received

TUICallEvent.USER_VOICE_VOLUME	Remote user adjusts speaking volume, this event will be received
TUICallEvent.GROUP_CALL_INVITEE_LIST_UPDATE	Group chat update invitation list, this event will be received
TUICallEvent.INVITED	Being invited to a call, this event will be received
TUICallEvent.ON_CALL_RECEIVED	Event of Call Request
TUICallEvent.CALLING_CANCEL	If the call is not established, all platforms involved in the call will throw this event
TUICallEvent.ON_CALL_BEGIN	Event thrown when a call is connected
TUICallEvent.CALLING_END	Receiving this event indicates that the call has ended
TUICallEvent.DEVICED_UPDATED	Device list update, this event will be received
TUICallEvent.CALL_TYPE_CHANGED	Call type switching, this event will be received

ERROR

An error occurred inside the SDK, which can be captured by listening for this event.



```
let onError = function(error) {
  console.log(error.code, error.msg);
};
tuiCallEngine.on(TUICallEvent.ERROR, onError);
```

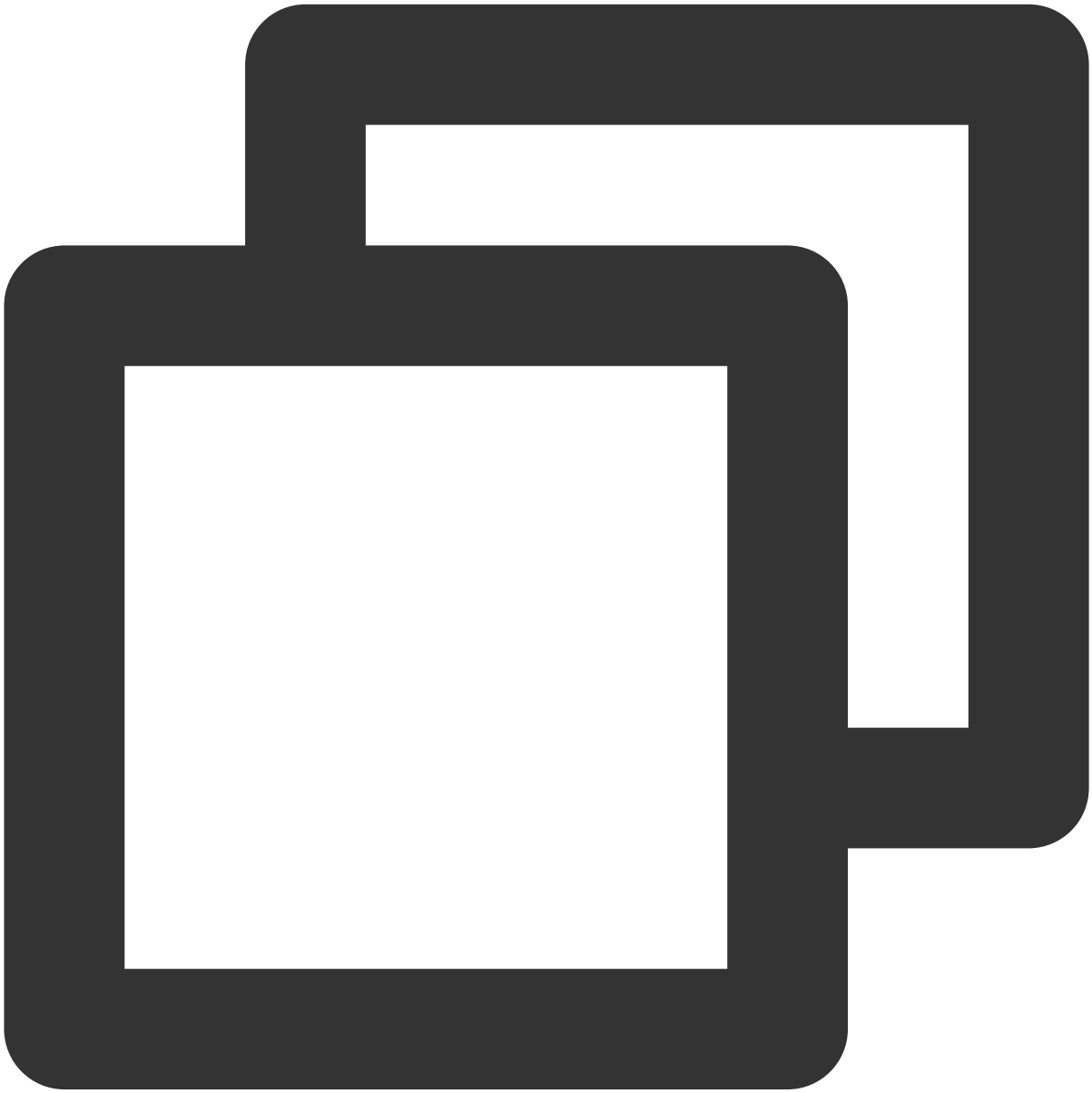
The parameters are described below:

Parameter	Type	Meaning
code	int	Error Code

msg	String	Error message

SDK_READY

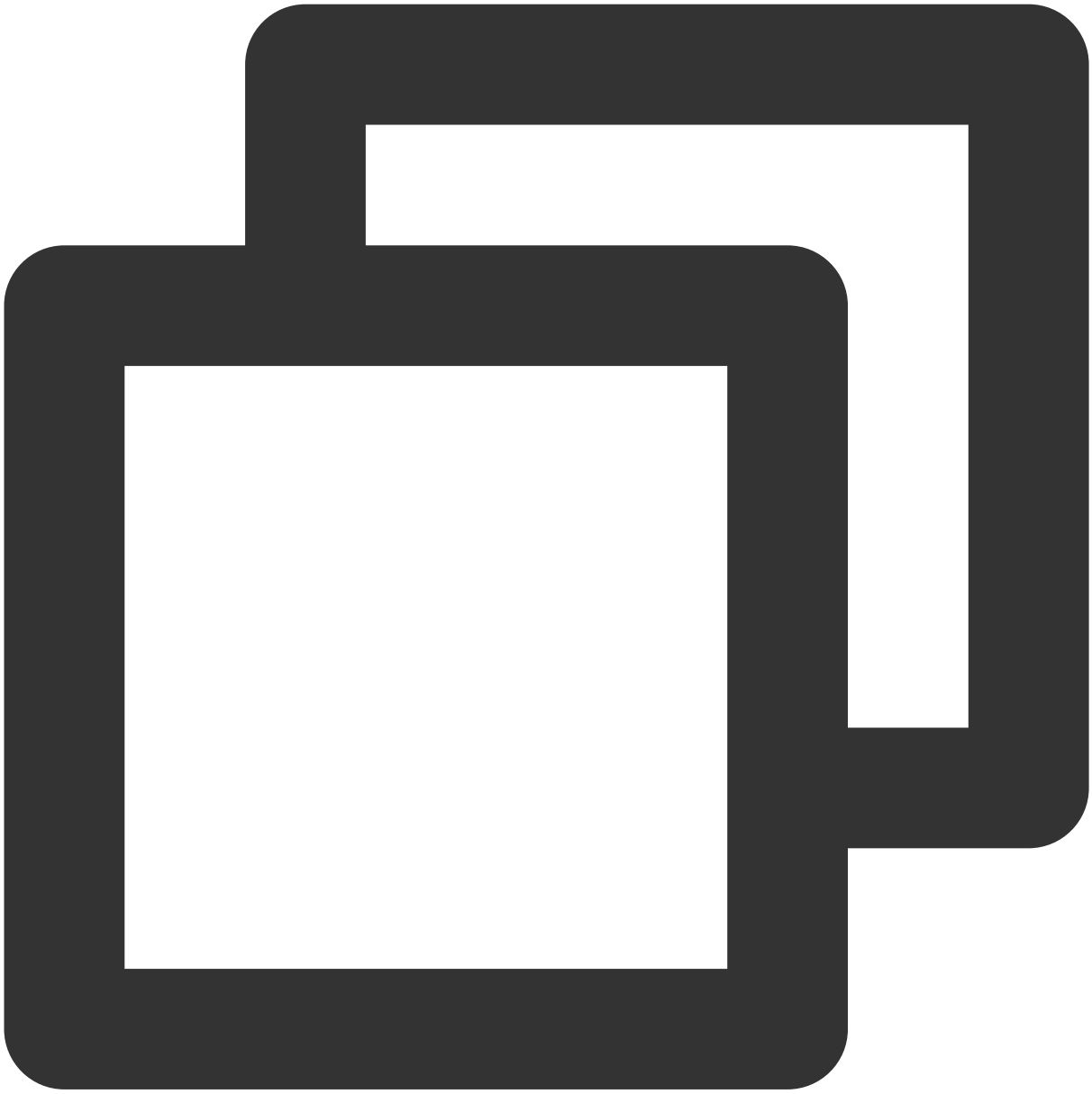
This event is received when the SDK enters the ready state.



```
let onSDKReady = function(event) {
  console.log(event);
};
tuiCallEngine.on(TUICallEvent.SDK_READY, onSDKReady);
```

KICKED_OUT

Duplicate sign-in, receiving this event indicates that the user has been kicked out of the room.



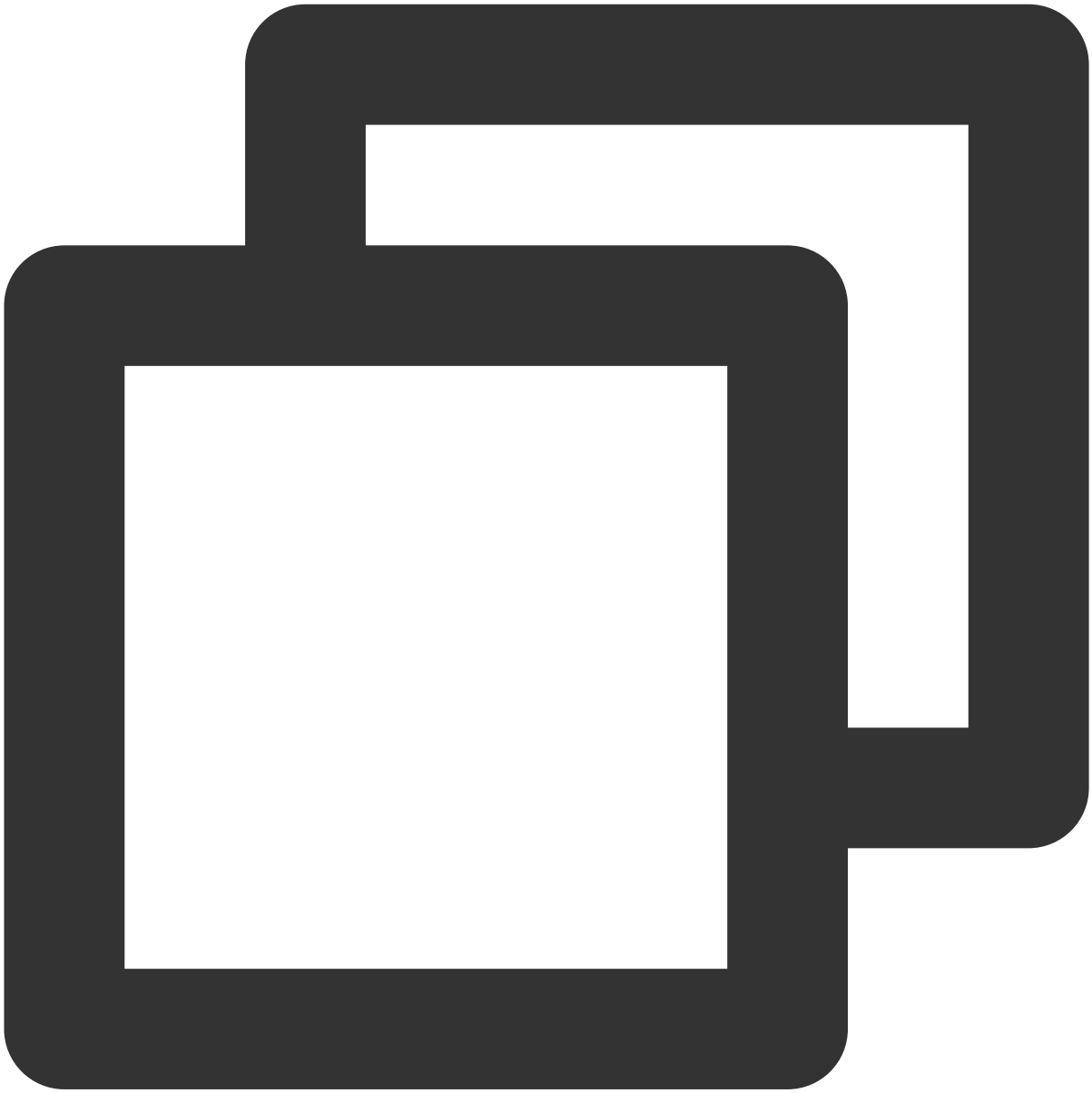
```
let handleOnKickedOut = function(event) {
  console.log(event);
};
tuiCallEngine.on(TUICallEvent.KICKED_OUT, handleOnKickedOut);
```

USER_ACCEPT

If a user answers, all other users will receive this event, where `userID` is the user who answered.

1. In a 1v1 call: when the callee answers, the caller will throw this event.

2. In group calls: if A calls B and C, and B answers, both A and C will throw this event, with the event's `userID` being B. Similarly, if C answers, both A and B will throw this event, with the event's `userID` being C.



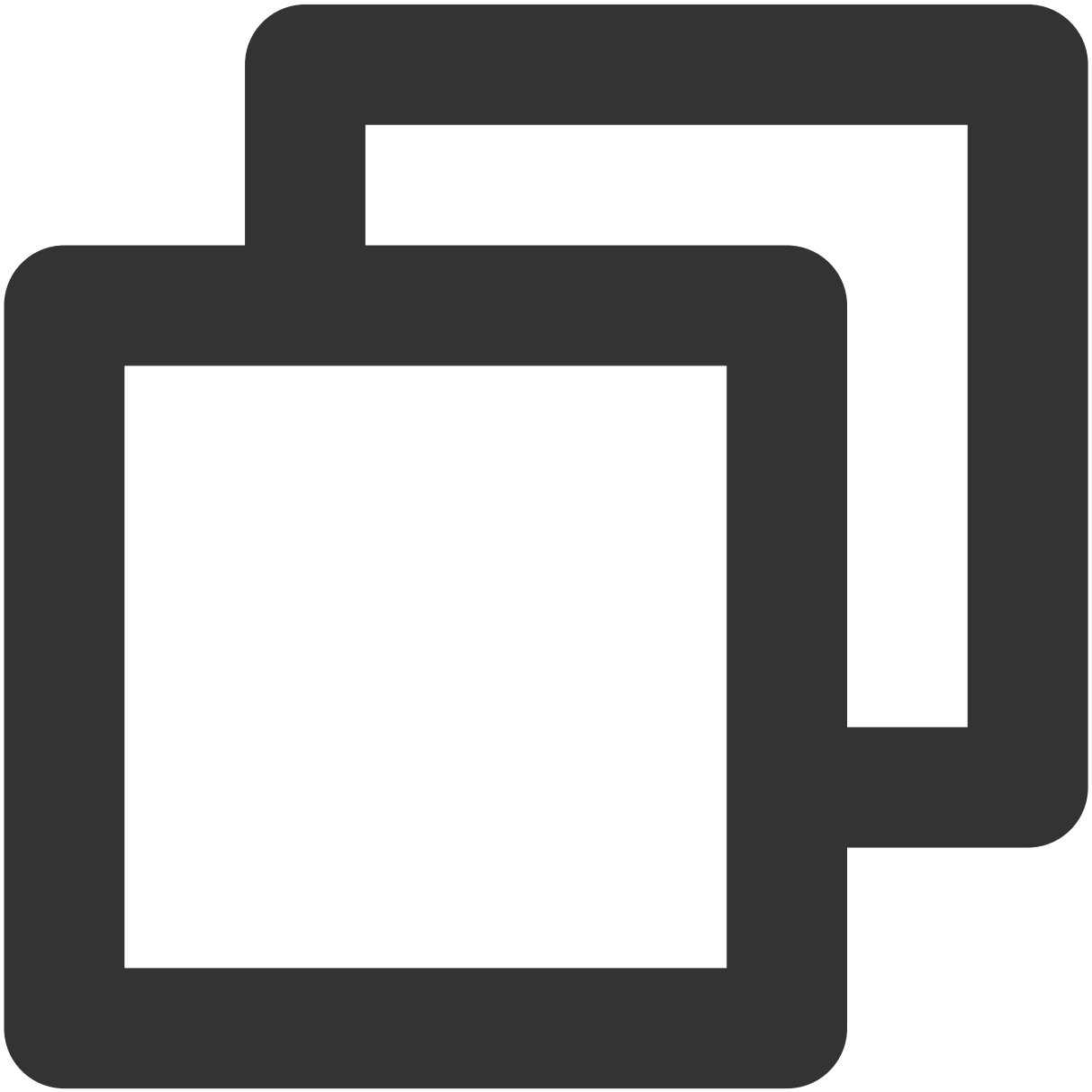
```
let handleUserAccept = function(event) {
  console.log(event.userID);
};
tuiCallEngine.on(TUICallEvent.USER_ACCEPT, handleUserAccept);
```

The parameters are described below:

Parameter	Type	Meaning
userID	String	Answering User ID

USER_ENTER

If a user agrees to join the call, all other users will receive this event, where `userID` is the user who agreed to join.



```
let handleUserEnter = function(event) {
  console.log(event.userID);
};
```

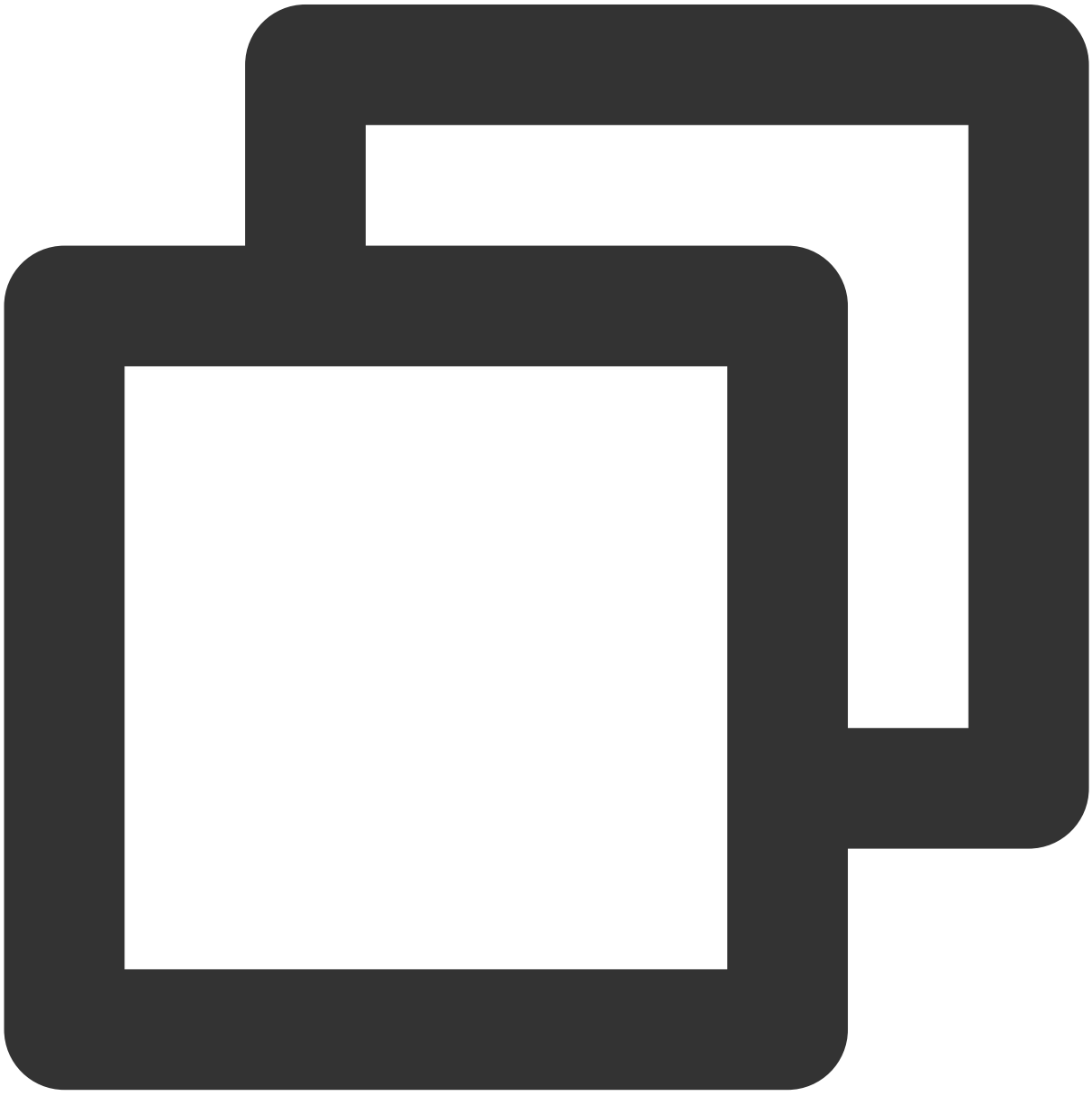
```
tuiCallEngine.on(TUICallEvent.USER_ENTER, handleUserEnter);
```

The parameters are described below:

Parameter	Type	Meaning
userID	String	Entering User ID

USER_LEAVE

When a user leaves the call,**in the call** other users will receive this event, userID is the user who left the call.



```
let handleUserLeave = function(event) {
  console.log(event.userID);
};
tuiCallEngine.on(TUICallEvent.USER_LEAVE, handleUserLeave);
```

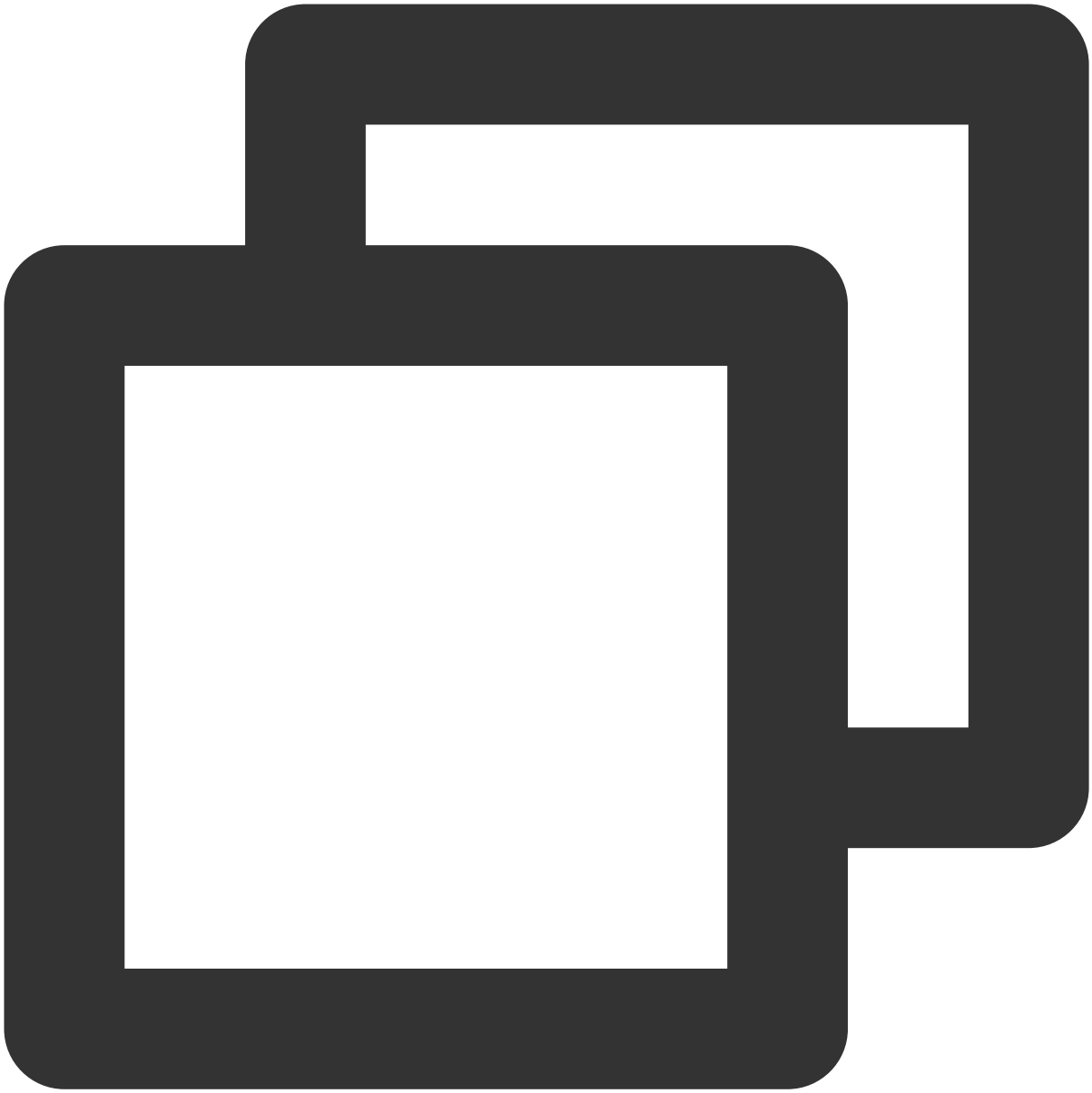
The parameters are described below:

Parameter	Type	Meaning
userID	String	Exiting User ID

REJECT

Call Rejection Event

1. In a 1v1 call, only the caller will receive the rejection event, where `userID` is the called party.
2. In a group call, all invitees can receive this event, where `userID` is the user who declined the call.



```
let handleInviteeReject = function(event) {
  console.log(event.userID);
};
tuiCallEngine.on(TUICallEvent.REJECT, handleInviteeReject);
```

The parameters are described below:

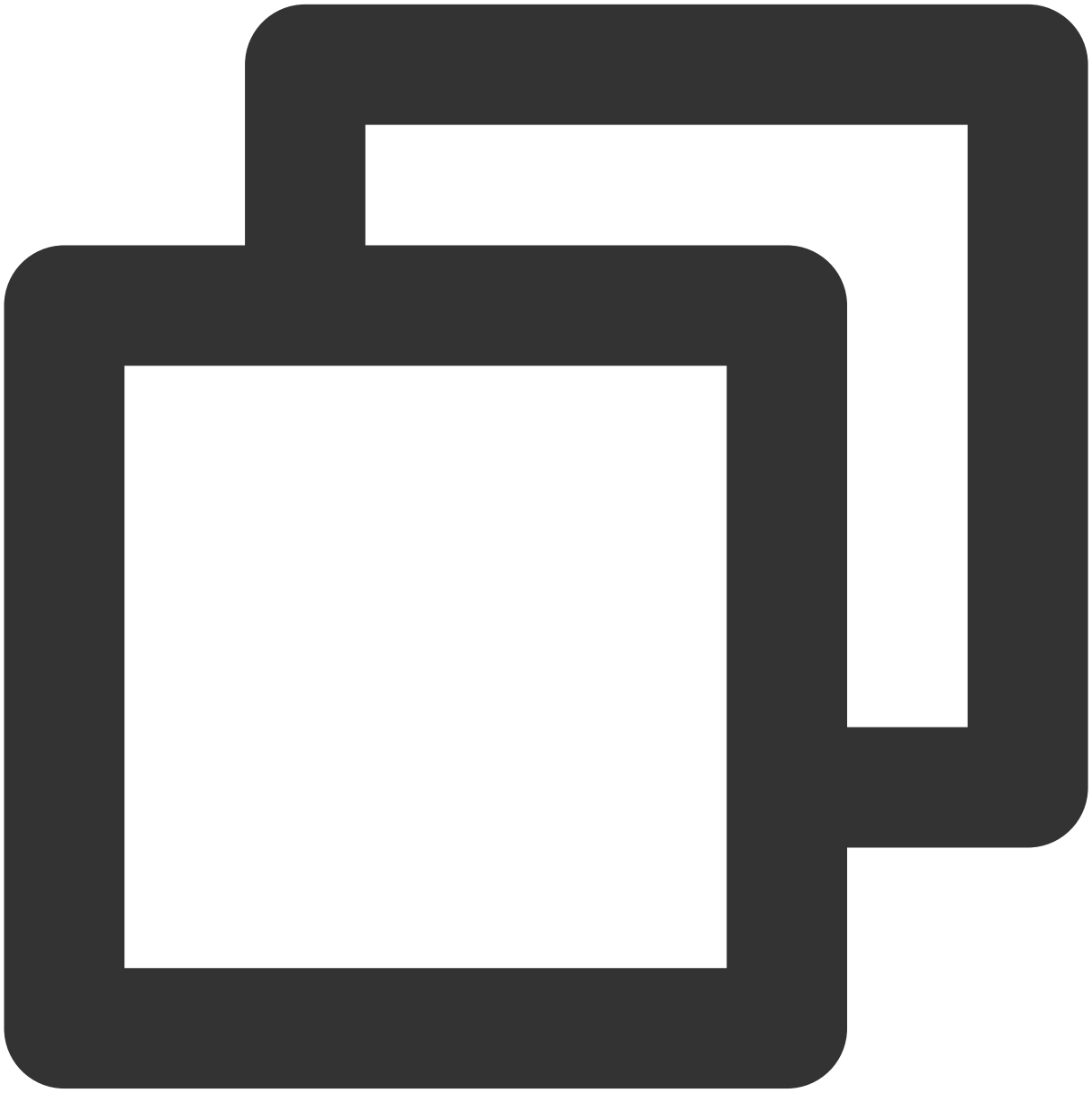
Parameter	Type	Meaning
userID	String	Declining User ID

NO_RESP

No Answer Event by Inviting User.

In a 1v1 call, only the initiator will receive the event of no answer. For example, A invites B, B does not answer, A can receive this event.

In a group call, all invitees can receive this event. For example, if A invites B and C to join the call and B does not respond, both A and C will receive this event.



```
let handleNoResponse = function(event) {
console.log(event.sponsor, event.userIDList);
};
```

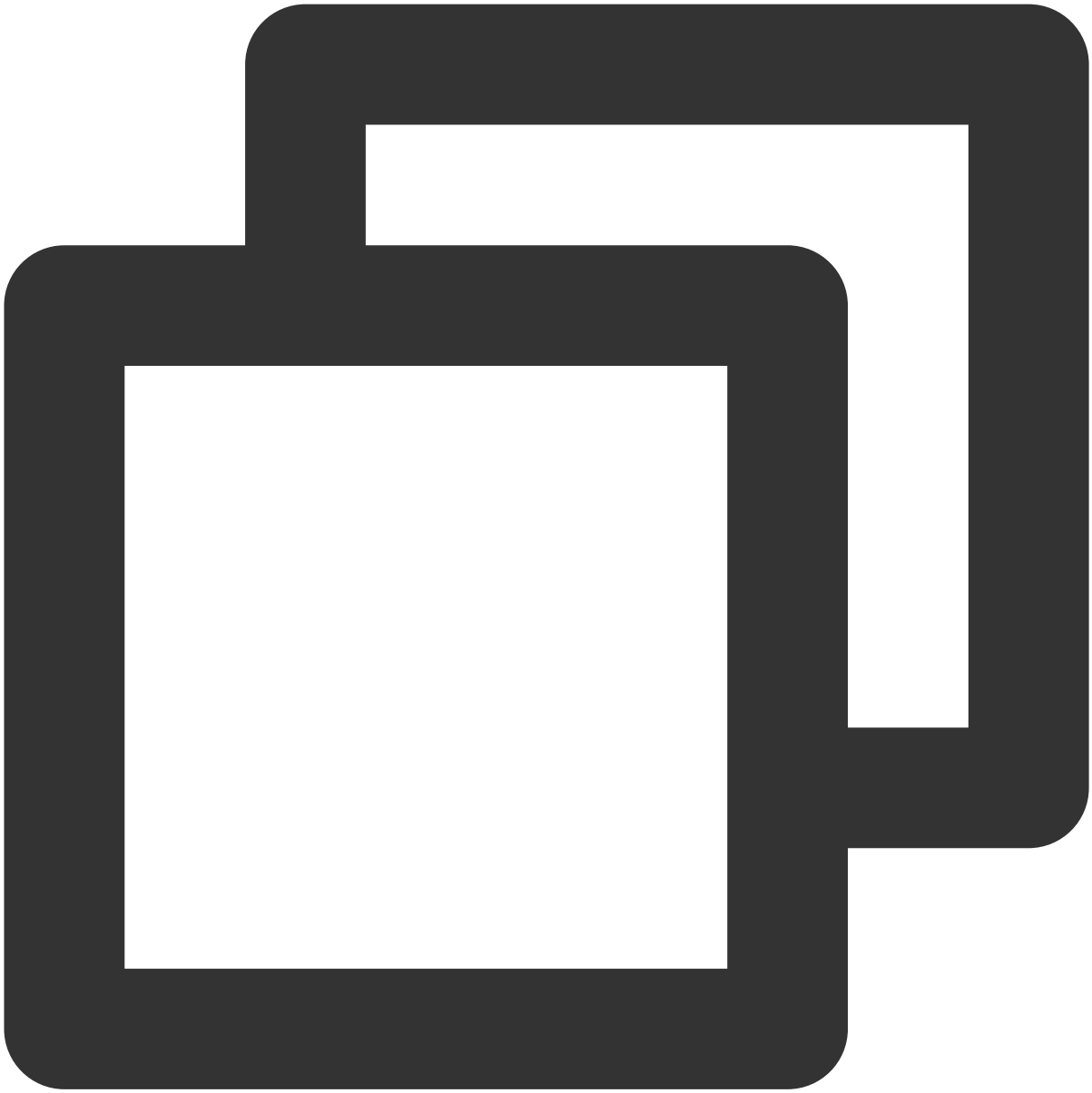
```
tuiCallEngine.on(TUICallEvent.NO_RESP, handleNoResponse);
```

The parameters are described below:

Parameter	Type	Meaning
sponsor	String	Caller's User ID
userIDList	Array<String>	List of Users Who Triggered Timeout Due to No Response

LINE_BUSY

Busy Call Event.



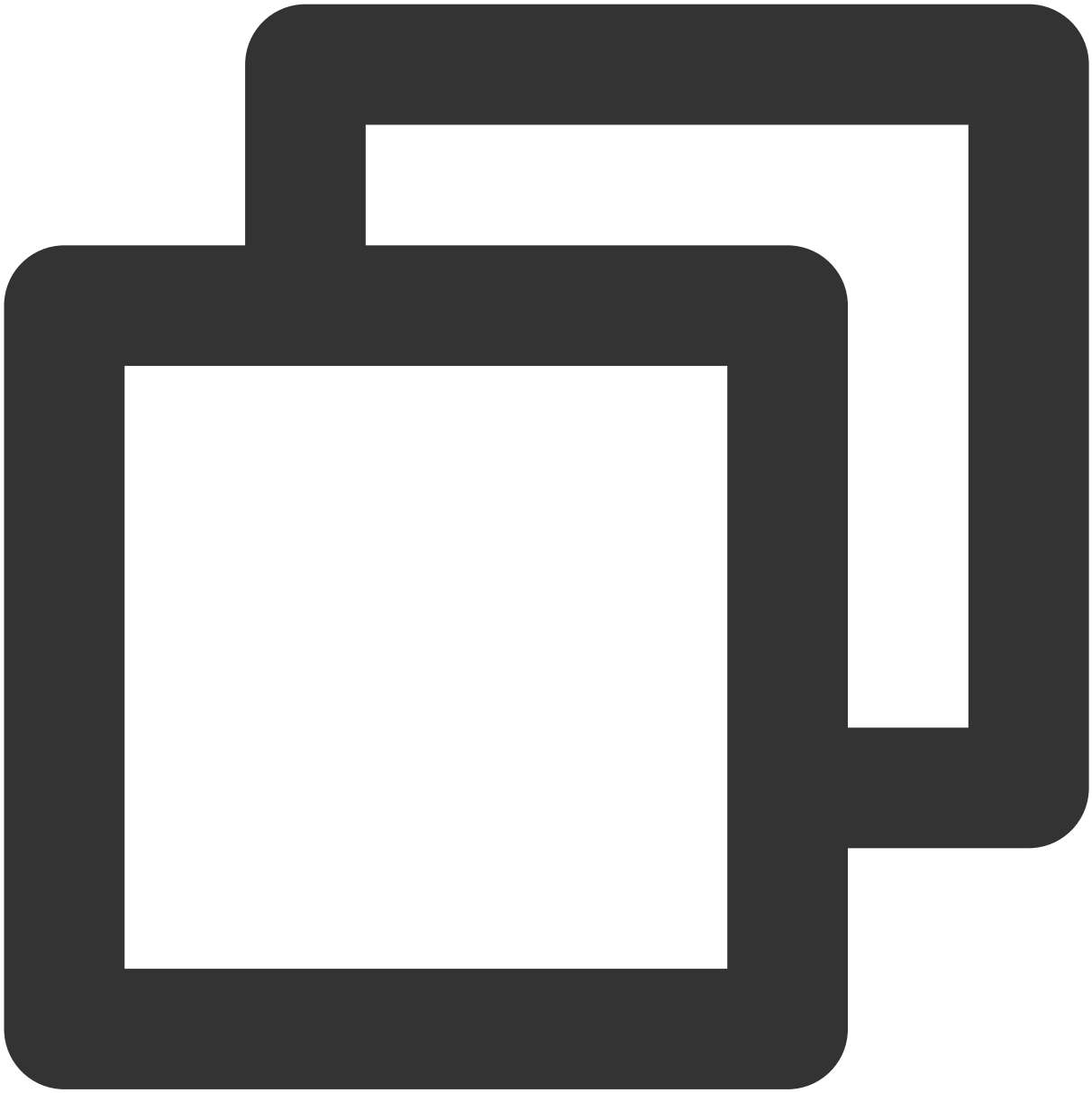
```
let handleLineBusy = function(event) {
  console.log(event)
};
tuiCallEngine.on(TUICallEvent.LINE_BUSY, handleLineBusy);
```

The parameters are described below:

Parameter	Type	Meaning
userID	String	Busy User ID

USER_VIDEO_AVAILABLE

Remote user has enabled/disabled the camera, this event will be received.



```
let handleUserVideoChange = function(event) {
  console.log(event.userID, event.isVideoAvailable);
};
tuiCallEngine.on(TUICallEvent.USER_VIDEO_AVAILABLE, handleUserVideoChange);
```

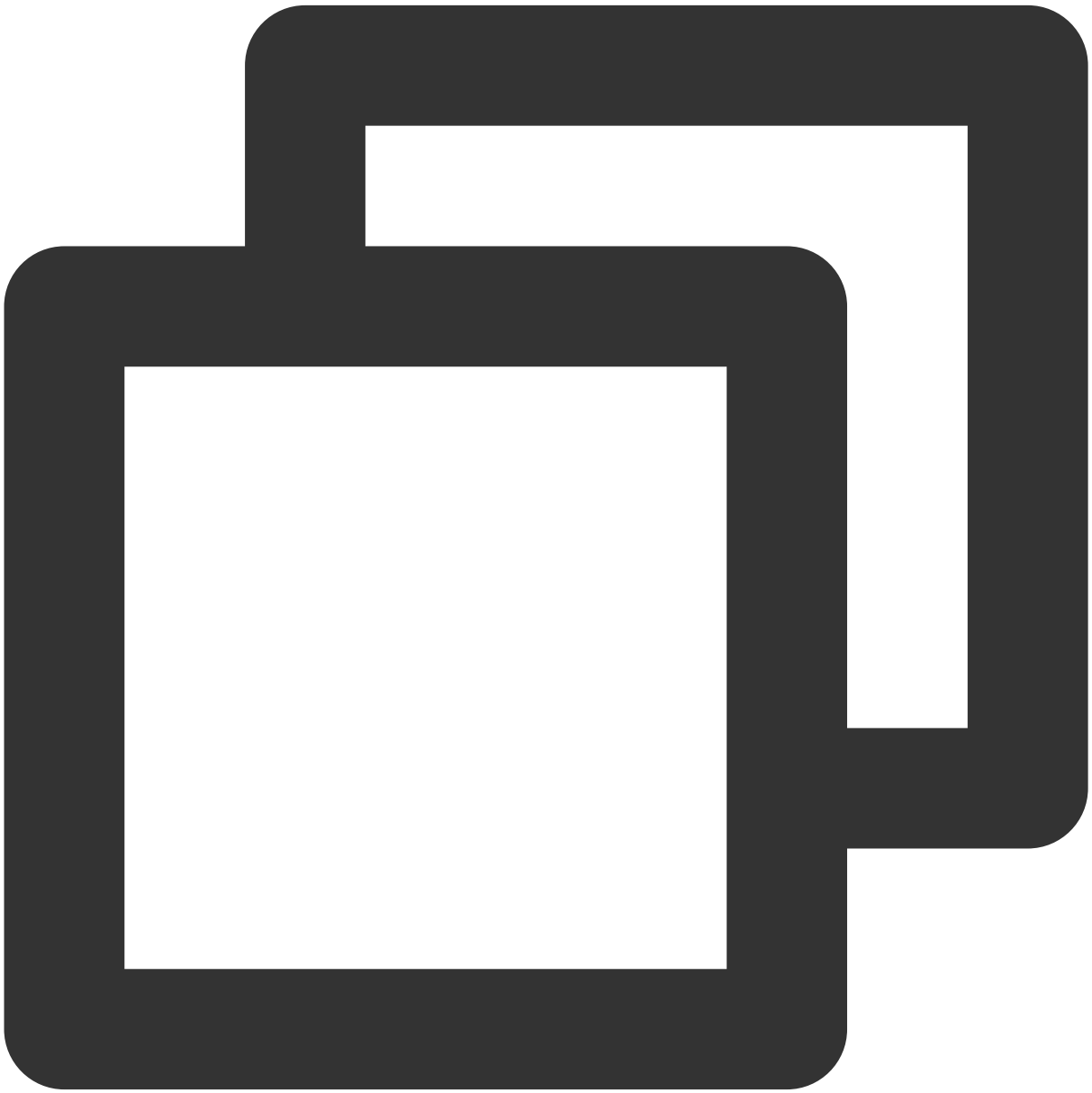
The parameters are described below:

Parameter	Type	Meaning

userID	String	Remote User ID
isVideoAvailable	Boolean	true: Remote User turns Camera On; false: Remote User turns Camera Off

USER_AUDIO_AVAILABLE

Remote user has enabled/disabled the microphone, this event will be received.



```
let handleUserAudioChange = function(event) {
  console.log(event.userID, event.isAudioAvailable);
```

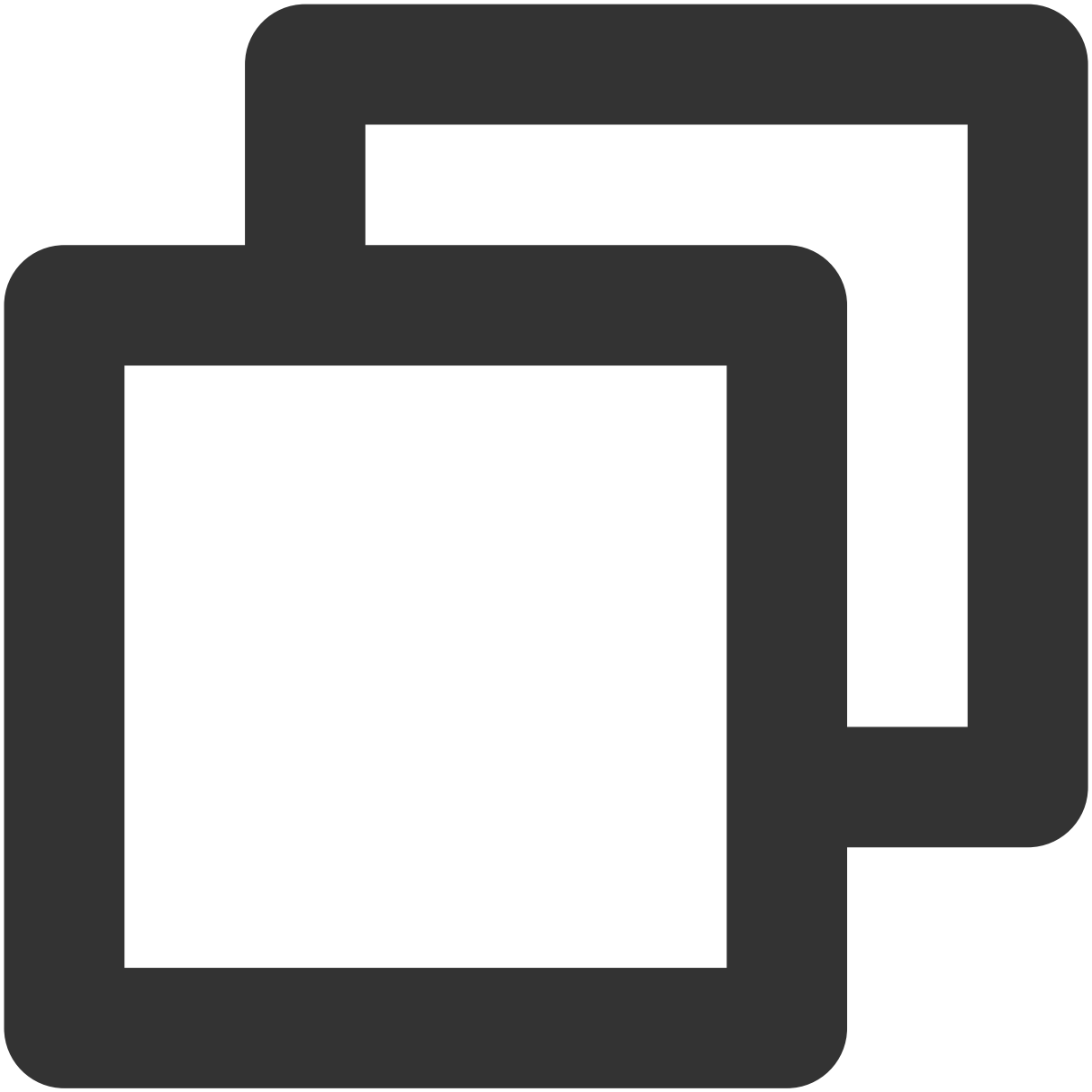
```
};
tuiCallEngine.on(TUICallEvent.USER_AUDIO_AVAILABLE, handleUserAudioChange);
```

The parameters are described below:

Parameter	Type	Meaning
userID	String	Remote User ID
isAudioAvailable	Boolean	true Remote user turns on microphone; false Remote user turns off microphone

USER_VOICE_VOLUME

Remote user adjusts speaking volume, this event will be received.



```
let handleUserVoiceVolumeChange = function(event) {
  console.log(event.volumeMap);
};
tuiCallEngine.on(TUICallEvent.USER_VOICE_VOLUME, handleUserVoiceVolumeChange);
```

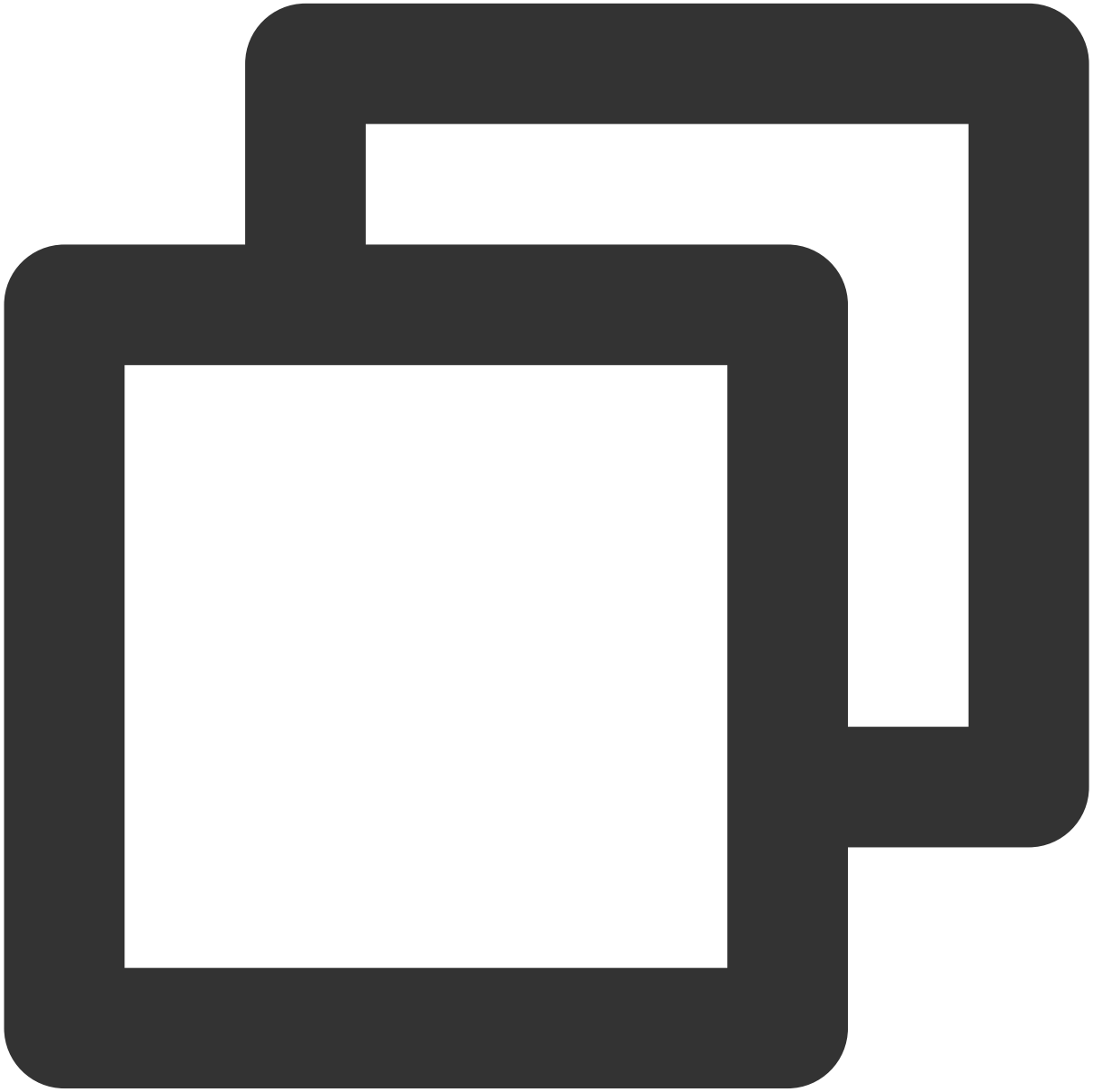
The parameters are described below:

Parameter	Type	Meaning
volumeMap	Array<Object>	Volume meter, access the volume level for each userid, with the minimum

		volume at 0 and the maximum volume at 100

GROUP_CALL_INVITEE_LIST_UPDATE

Group chat update invitation list, this event will be received.



```
let handleGroupInviteeListUpdate = function(event) {
  console.log(event.userIDList);
};
tuiCallEngine.on(TUICallEvent.GROUP_CALL_INVITEE_LIST_UPDATE, handleGroupInviteeLis
```

The parameters are described below:

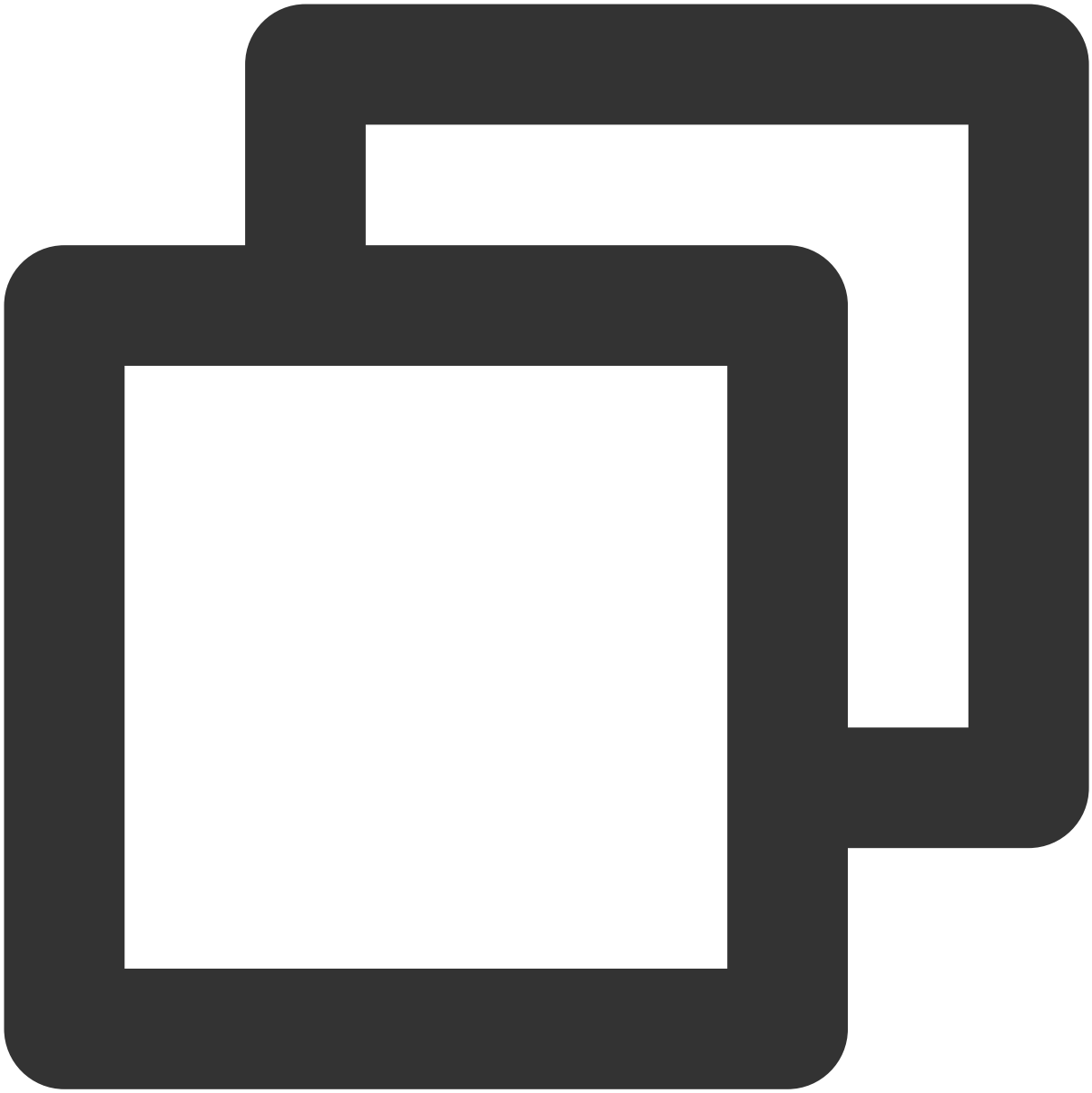
Parameter	Type	Meaning
userIDList	Array<String>	Group update invitation list

INVITED

Receiving a new incoming call event, the called party will be notified. By listening to this event, you can decide whether to display the call answering interface.

Please Note:

Plan to deprecate in subsequent versions



```
let handleNewInvitationReceived = function(event) {
  console.log(event.sponsor, event.userIDList, event.isFromGroup, event.inviteData,
};
tuiCallEngine.on(TUICallEvent.INVITED, handleNewInvitationReceived);
```

The parameters are described below:

Parameter	Type	Meaning
sponsor	String	Inviter

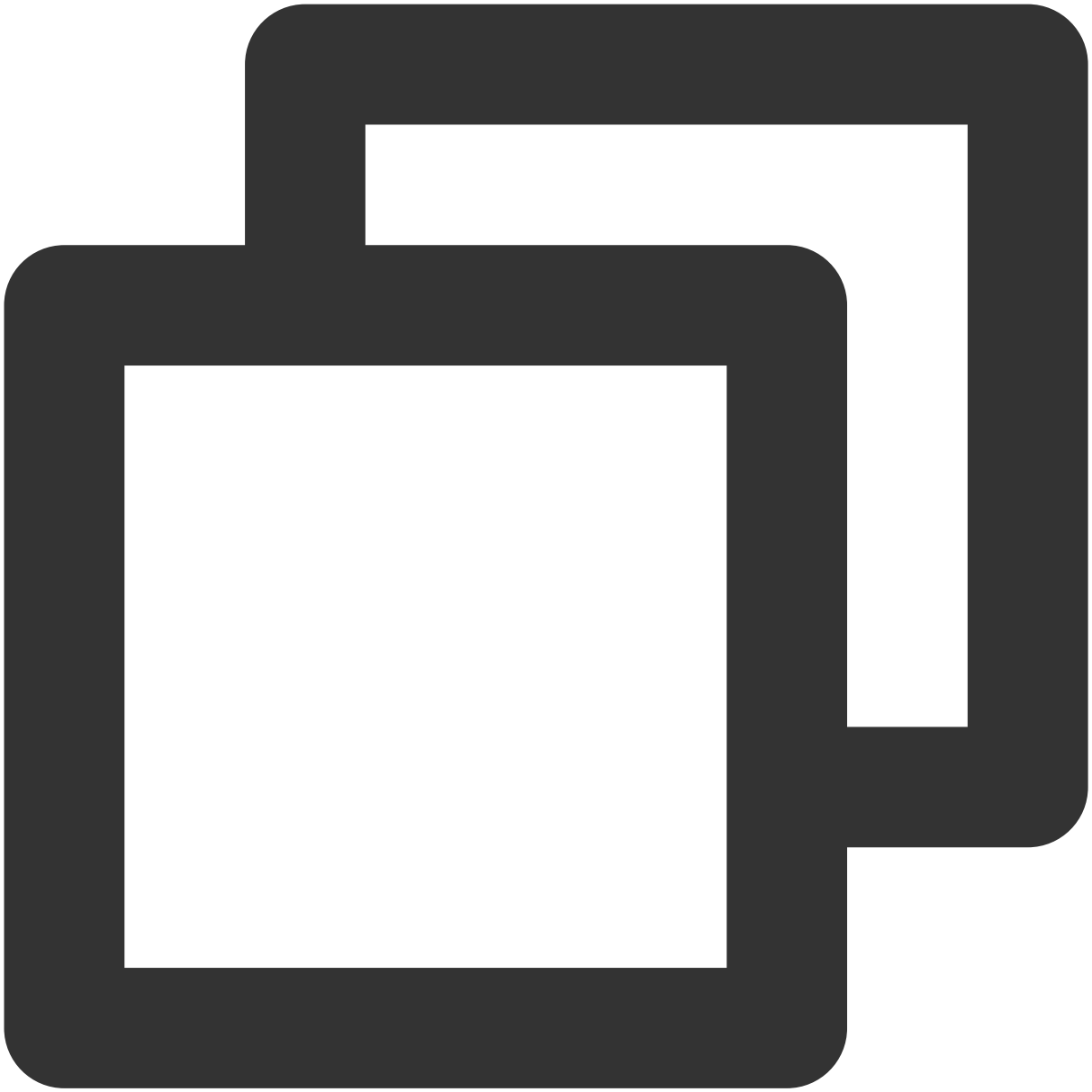
userIDList	Array<String>	Also Invited Persons
isFromGroup	Boolean	Is it a Group Call
inviteData	Object	Call Data
inviteID	String	Invitation ID, identifying one invitation
userData	String	Extended field: Utilized for amplifying details in the invitation signaling
callId	String	The unique ID for this call.**Supported in v1.4.6+**
roomID	Number	The Audio/Video Room ID for this call.**Supported in v1.4.6+**
callMediaType	Number	Media Type of the call, Video Call, Voice Call.**Supported from version v1.4.6+**
callRole	String	role, Enumeration Type: Caller, Called.**Supported from version v1.4.6+**

ON_CALL_RECEIVED

Receiving a new incoming call event, the called party will be notified. By listening to this event, you can decide whether to display the call answering interface.

Please Note:

Supported from version v1.4.6+



```
let handleOnCallReceived = function(event) {
    console.log(event)
};
tuiCallEngine.on(TUICallEvent.ON_CALL_RECEIVED, handleOnCallReceived);
```

The parameters are described below:

Parameter	Type	Meaning
sponsor	String	Inviter

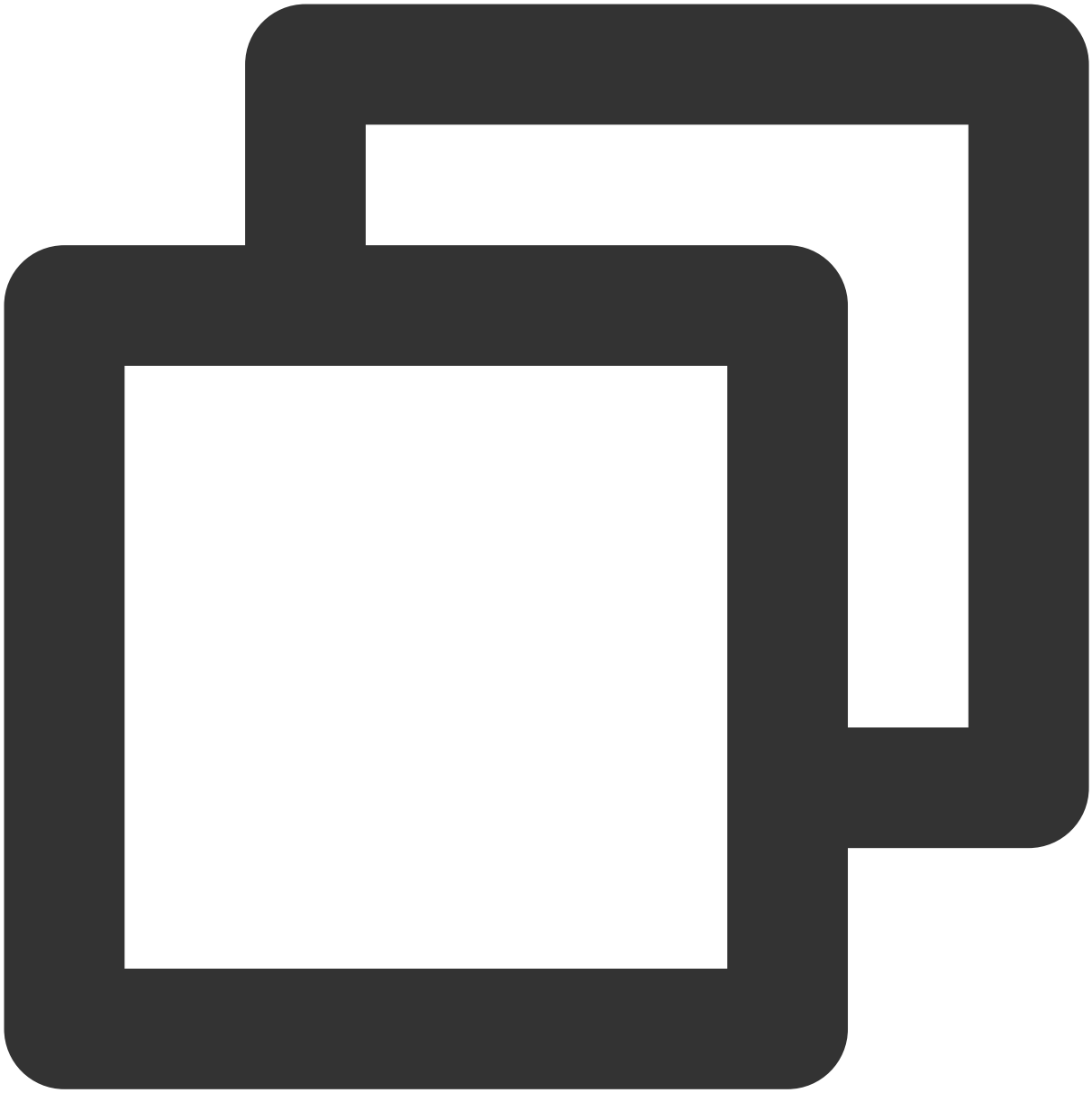
userIDList	Array<String>	Also Invited Persons
isFromGroup	Boolean	Is it a Group Call
inviteData	Object	Call Data
inviteID	String	Invitation ID, identifying one invitation
userData	String	Extended field: Utilized for amplifying details in the invitation signaling
callId	String	Unique ID for this call
roomID	Number	Audio-Video Room ID for this call
callMediaType	Number	Media Type of the call, Video Call, Voice Call
callRole	String	role, Enumeration Type: Caller, Called

CALLING_CANCEL

If the call is not established, this event will be thrown. By listening to this event, you can implement display logic similar to missed calls, reset UI state, etc. Scenarios where the call is not established include:
Caller Cancelled: The caller throws this event, userID is the caller; the called also throws this event, userID is the called;
Callee Timeout: The caller will throw both NO_RESP and CALLING_CANCEL events, userID is the caller; the called throws the CALLING_CANCEL event, userID is the called;
Callee Rejected: The caller will throw both REJECT and CALLING_CANCEL events, userID is the caller; the called throws the CALLING_CANCEL event, userID is the called;
Callee Busy: The caller will throw both LINE_BUSY and CALLING_CANCEL events, userID is the caller; the callee throws the CALLING_CANCEL event, userID is the callee;

Please Note:

Plan to deprecate in subsequent versions



```
let handleCallingCancel = function(event) {
  console.log(event.userID);
};
tuiCallEngine.on(TUICallEvent.CALLING_CANCEL, handleCallingCancel);
```

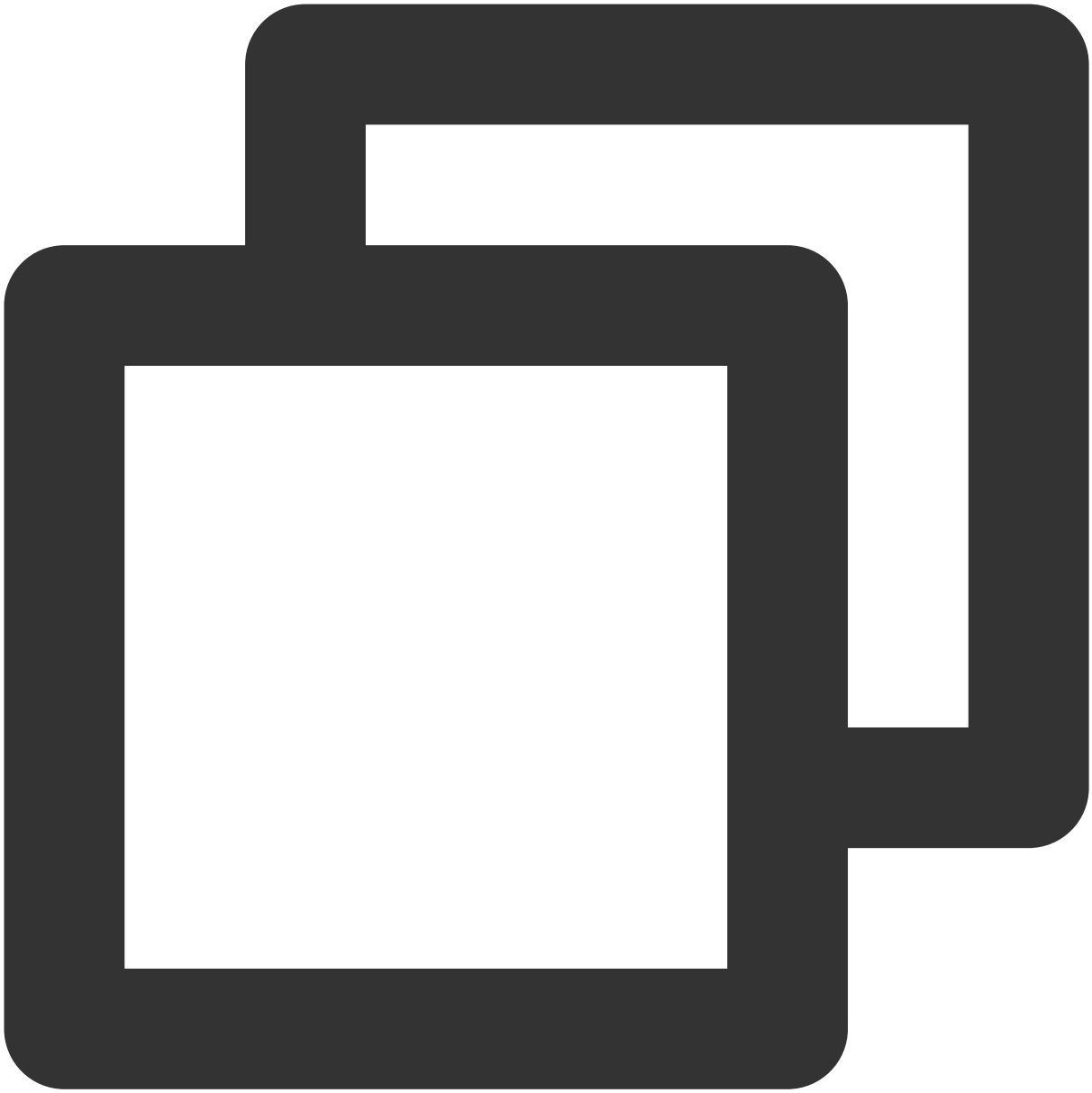
The parameters are described below:

Parameter	Type	Meaning
userID	String	Cancelled User ID

callId	String	The unique ID for this call.**Supported in v1.4.6+**
roomID	Number	The Audio/Video Room ID for this call.**Supported in v1.4.6+**
callMediaType	Number	Media Type of the call, Video Call, Voice Call.**Supported from version v1.4.6+**
callRole	String	role, Enumeration Type: Caller, Called.**Supported from version v1.4.6+**

ON_CALL_CANCELED

If the call is not established, this event will be thrown. By listening to this event, you can implement display logic similar to missed calls, reset UI state, etc. Scenarios where the call is not established include:
Caller Cancelled: The caller throws this event, userID is the caller; the called also throws this event, userID is the called;
Callee Timeout: The caller will throw both NO_RESP and CALLING_CANCEL events, userID is the caller; the called throws the CALLING_CANCEL event, userID is the called;
Callee Rejected: The caller will throw both REJECT and CALLING_CANCEL events, userID is the caller; the called throws the CALLING_CANCEL event, userID is the called;
Callee Busy: The caller will throw both LINE_BUSY and CALLING_CANCEL events, userID is the caller; the callee throws the CALLING_CANCEL event, userID is the callee;
Please Note:
Supported from version v1.4.6+



```
let handleOnCallCanceled = function(event) {
  console.log(event.userID);
};
tuiCallEngine.on(TUICallEvent.ON_CALL_CANCELED, handleOnCallCanceled);
```

The parameters are described below:

Parameter	Type	Meaning
userID	String	Cancelled User ID

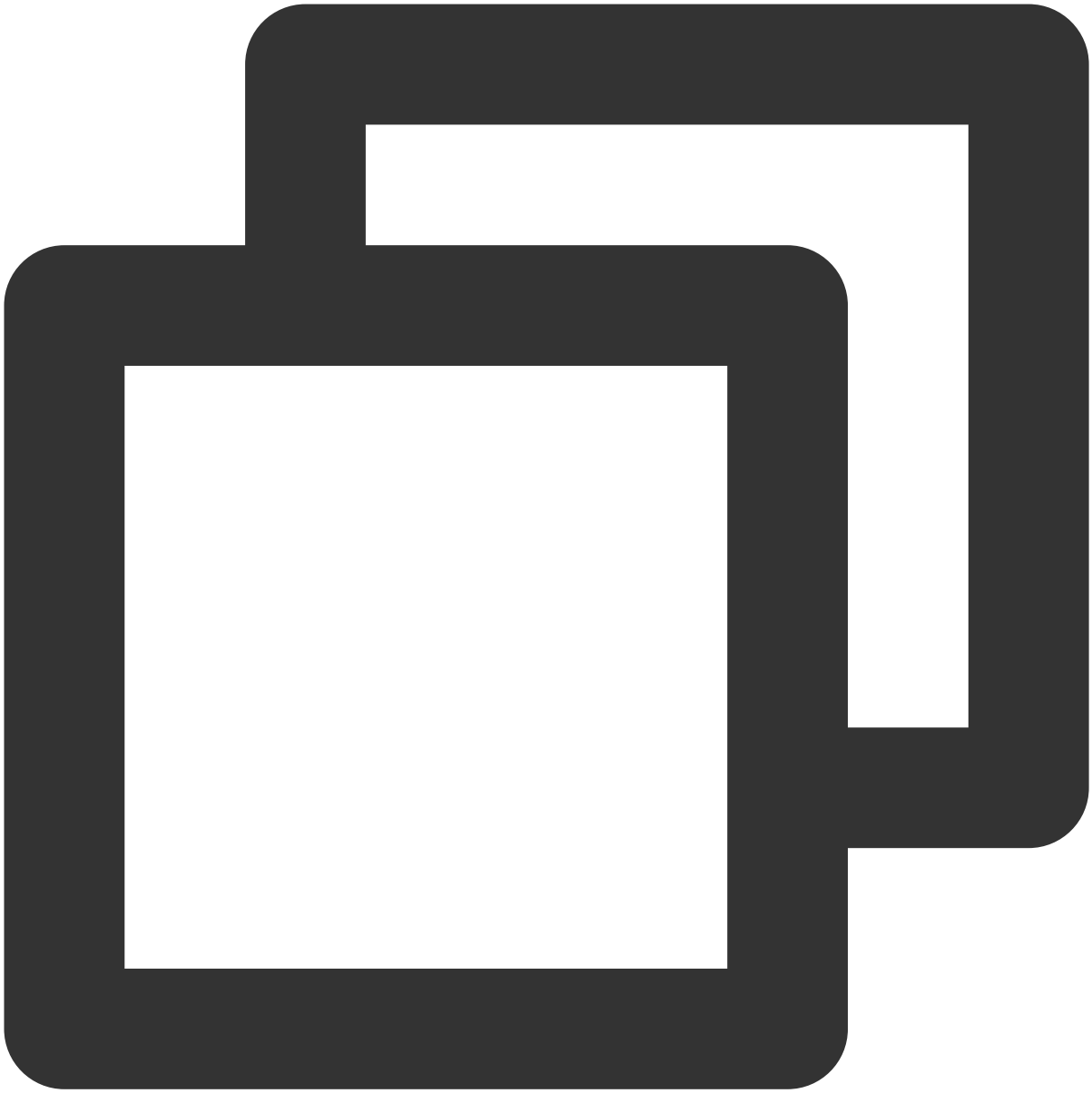
callId	String	Unique ID for this call
roomID	Number	Audio-Video Room ID for this call
callMediaType	Number	Media Type of the call, Video Call, Voice Call
callRole	String	role, Enumeration Type: Caller, Called

ON_CALL_BEGIN

Indicates call connection. Both caller and called can receive it. You can start cloud recording, content review, etc., by listening to this event.

Please Note:

Supported from version v1.4.6+



```
let handleOnCallBegin = function(event) {
    console.log(event)
};
tuiCallEngine.on(TUICallEvent.ON_CALL_BEGIN, handleOnCallBegin);
```

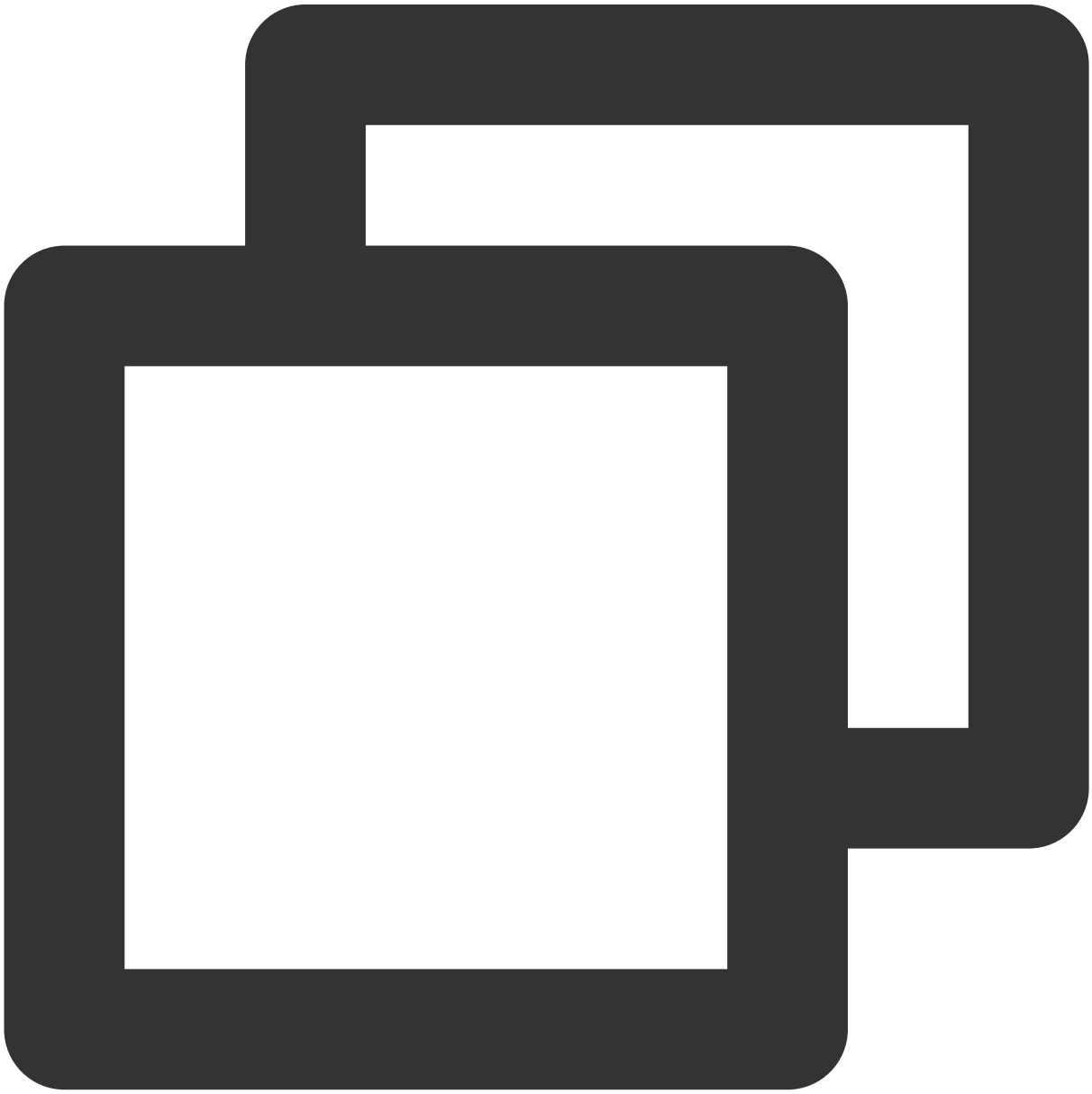
The parameters are described below:

Parameter	Type	Meaning
callId	String	Unique ID for this call

roomID	Number	Audio-Video Room ID for this call
callMediaType	Number	Media Type of the call, Video Call, Voice Call
callRole	String	role, Type: Caller, Called

CALLING_END

Indicates call termination. Both caller and called can trigger this event. You can display information such as call duration, call type, or stop the cloud recording process by listening to this event.



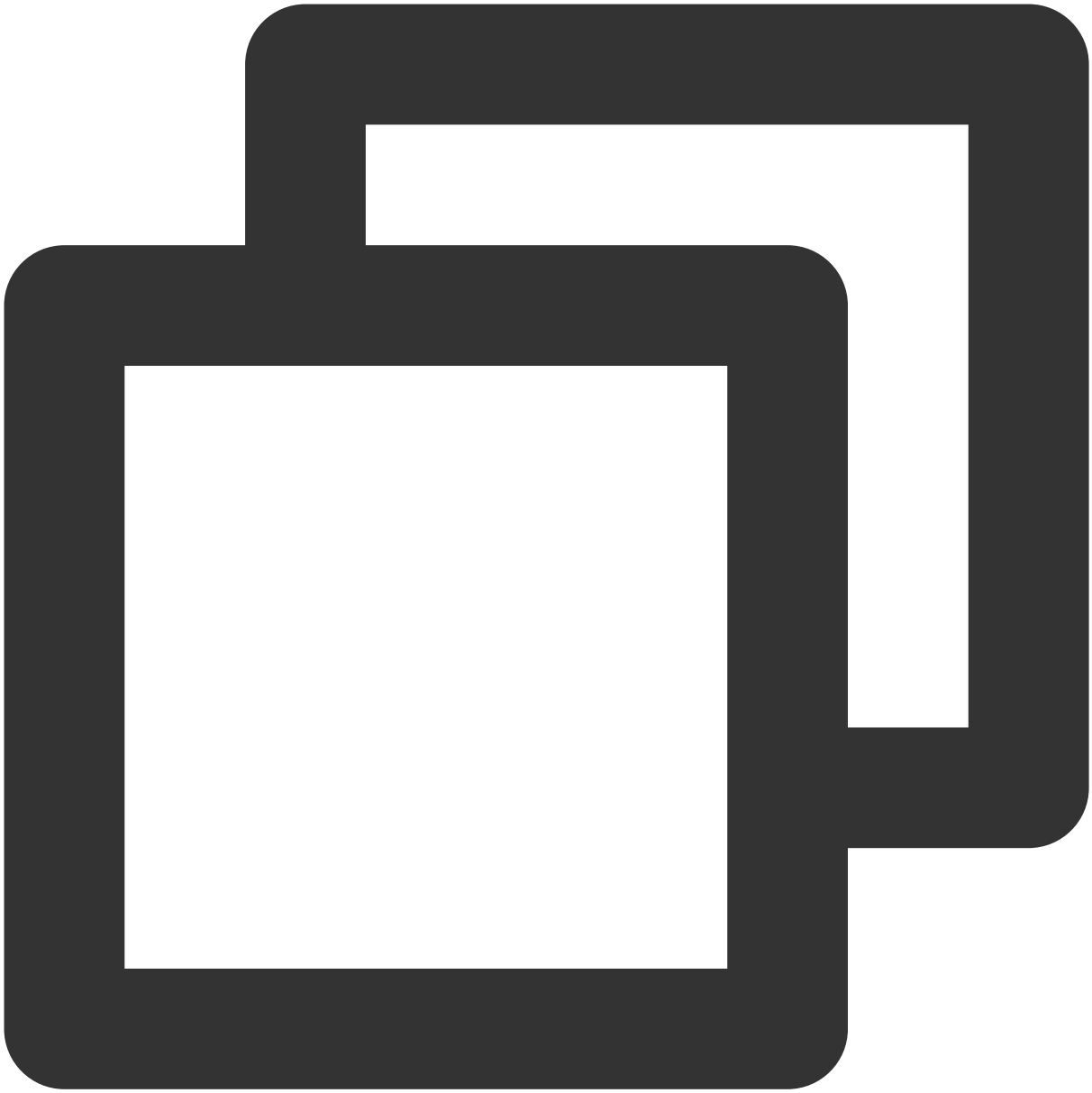
```
let handleCallingEnd = function(event) {
  console.log(event.userID, event.);
};
tuiCallEngine.on(TUICallEvent.CALLING_END, handleCallingEnd);
```

The parameters are described below:

Parameter	Type	Meaning
roomID	Number	Audio-Video Room ID for this call, currently only supports numeric room number, future versions will support character string room numbers
callMediaType	Number	Media Type of the call, Video Call, Voice Call
callRole	String	role, Enumeration Type: Caller ('inviter'), Called ('invitee'), Unknown ('')
totalTime	Number	The duration of this call in seconds
userID	String	userID of the call termination.
callId	String	The unique ID for this call.**Supported in v1.4.6+**
callEnd	Number	The duration of this call (**will be deprecated**) in seconds

DEVICED_UPDATED

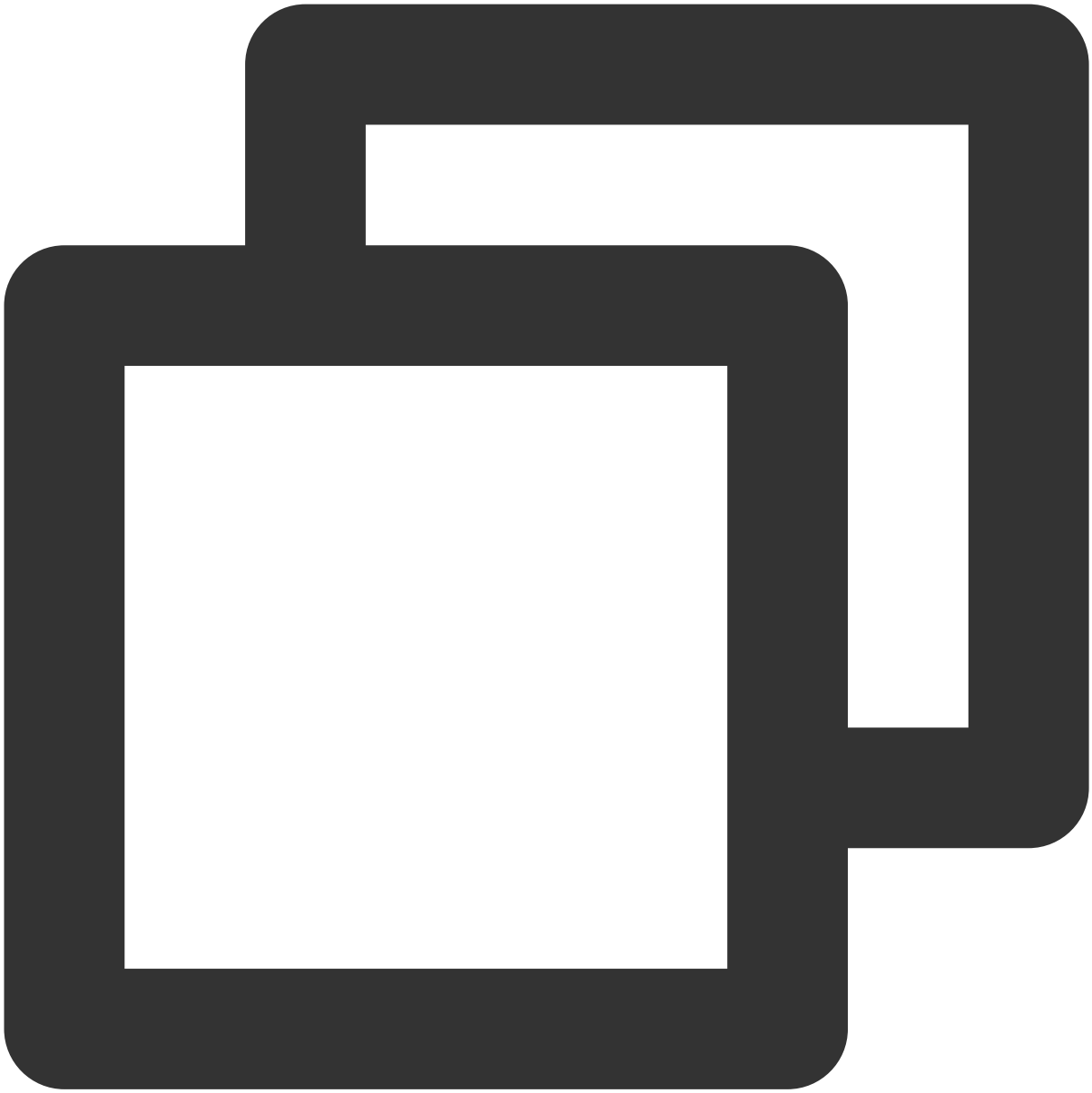
Device list update, this event will be received.



```
let handleDeviceUpdated = function({ microphoneList, cameraList, currentMicrophoneI
  console.log(microphoneList, cameraList, currentMicrophoneID, currentCameraID)
};
tuiCallEngine.on(TUICallEvent.DEVICED_UPDATED, handleDeviceUpdated);
```

CALL_TYPE_CHANGED

Call type switching, this event will be received.



```
let handleCallTypeChanged = function({ oldCallType, newCallType }) {
  console.log(oldCallType, newCallType)
};
tuiCallEngine.on(TUICallEvent.CALL_TYPE_CHANGED, handleDeviceUpdated);
```

The parameters are described below:

Parameter	Type	Meaning
oldCallType	Number	Old call type

newCallType	Number	New call type

Flutter
API Overview

Last updated：2024-03-12 14:51:07

TUICallKit (UI Included)

TUICallKit is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat.

API	Description
login	Log in
logout	Sign out
setSelfInfo	Sets the user nickname and profile photo.
call	Makes a one-to-one call.
groupCall	Makes a group call.
joinInGroupCall	Joins a group call.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.
setCallingBell	Custom ringtone.

TUICallEngine (No UI)

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

API	Description
init	Authenticates the basic audio/video call capabilities.
unInit	The destructor function, which releases resources used by TUICallEngine.
addObserver	Registers an event listener.

removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Accepts a call.
reject	Rejects a call.
hangup	Ends a call.
ignore	Ignores a call.
inviteUser	Invites users to the current group call.
joinInGroupCall	Joins a group call.
switchCallMediaType	Changes the call type, for example, from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.
openCamera	Turns the camera on.
closeCamera	Turns the camera off.
switchCamera	Switches between the front and rear cameras.
openMicrophone	Turns the mic on.
closeMicrophone	Turns the mic off.
selectAudioPlaybackDevice	Selects the audio playback device (receiver or speaker).
setSelfInfo	Sets the alias and profile photo.
enableMultiDeviceAbility	Sets whether to enable multi-device login for TUICallEngine (supported by the premium package).
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.
queryRecentCalls	Query call record.
deleteRecordCalls	Delete call record.
setBeautyLevel	Set beauty level, support turning off default beauty.

TUICallObserver

`TUICallObserver` is the callback class of `TUICallEngine`. You can use it to listen for events.

API	Description
onError	An error occurred during the call.
onCallReceived	A call was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user has a video stream.
onUserAudioAvailable	Whether a user has an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user is kicked offline
onUserSigExpired	Ticket expires while online

TUICallKit

Last updated：2024-03-12 14:51:07

TUICallKit APIs

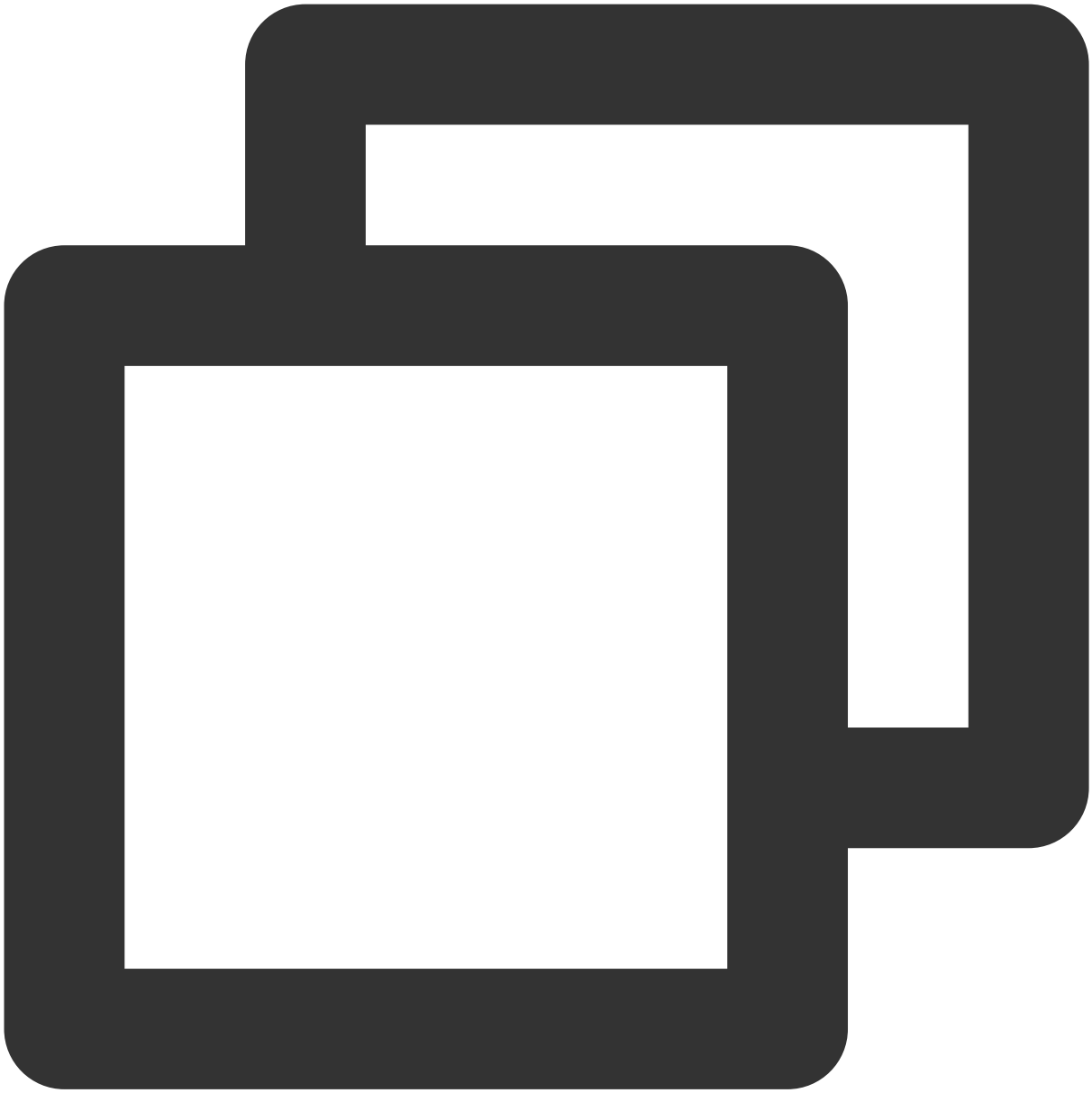
`TUICallKit` is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat. For directions on integration, see Integrating TUICallKit.

API overview

API	Description
login	Log in
logout	Sign out
setSelfInfo	Sets the user nickname and profile photo.
call	Makes a one-to-one call.
groupCall	Makes a group call.
joinInGroupCall	Joins a group call.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.
setCallingBell	Custom ringtone.

Details

login

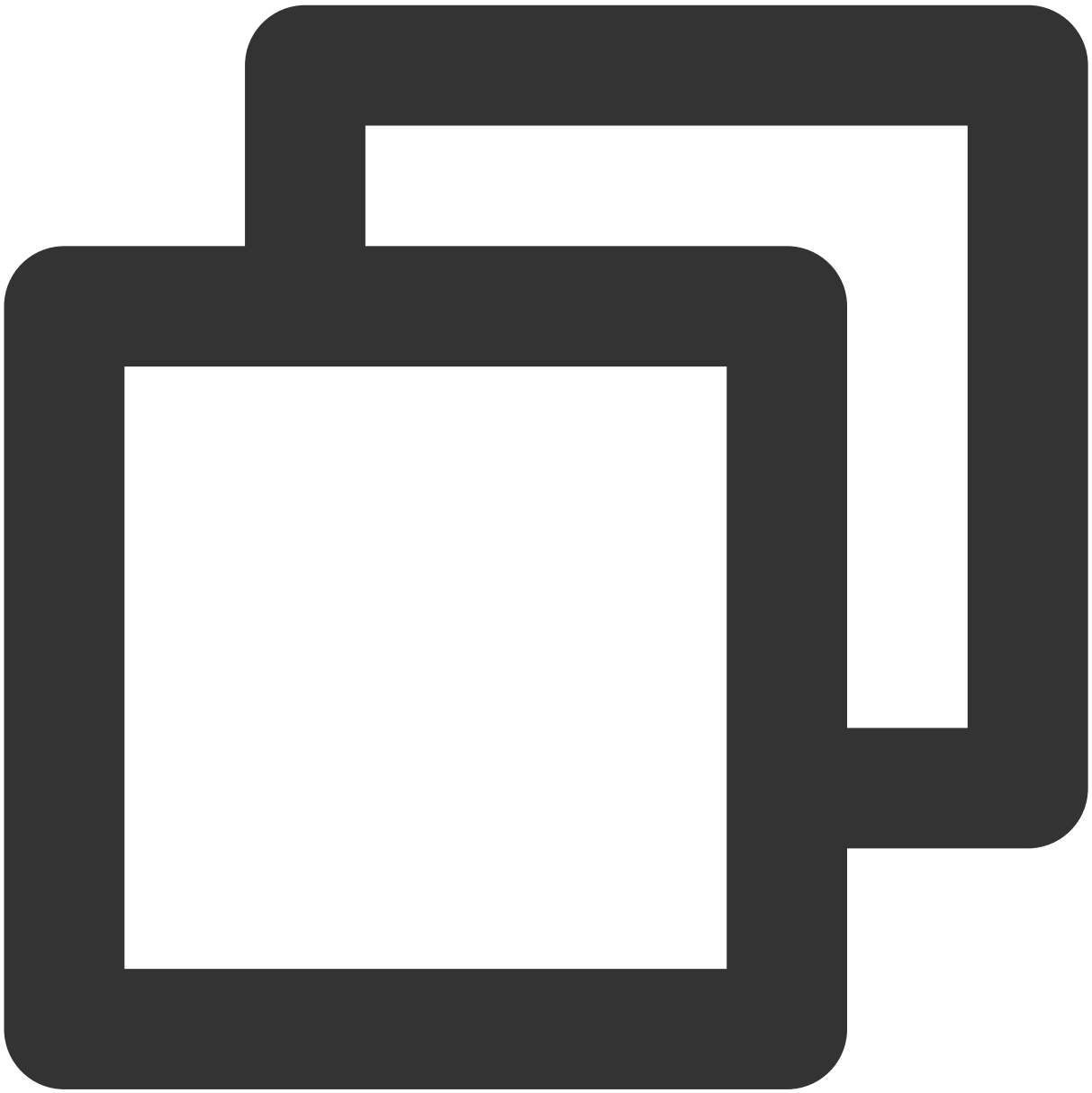


```
Future<TUIResult> login(int sdkAppId, String userId, String userSig)
```

Parameter	Type	Description
sdkAppId	int	User SDKAppID
userId	String	User ID
userSig	String	User Signature（Signature calculation method）
return value	TUIResult	Contains code and message information: code = 0 means the call is

		successful; code != 0 means the call failed, see message for the reason of failure

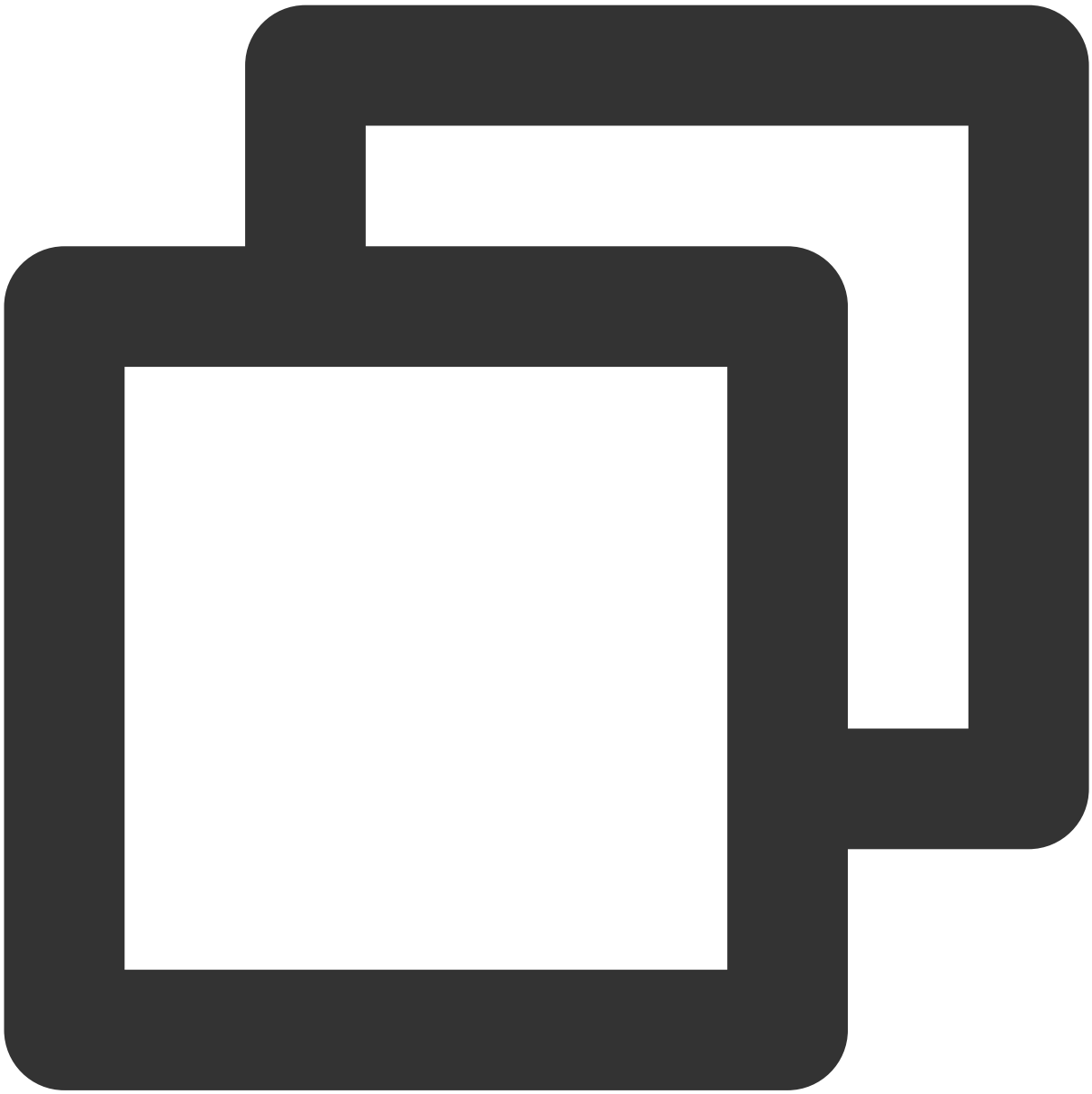
logout



```
Future<void> logout()
```

setSelfInfo

This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.



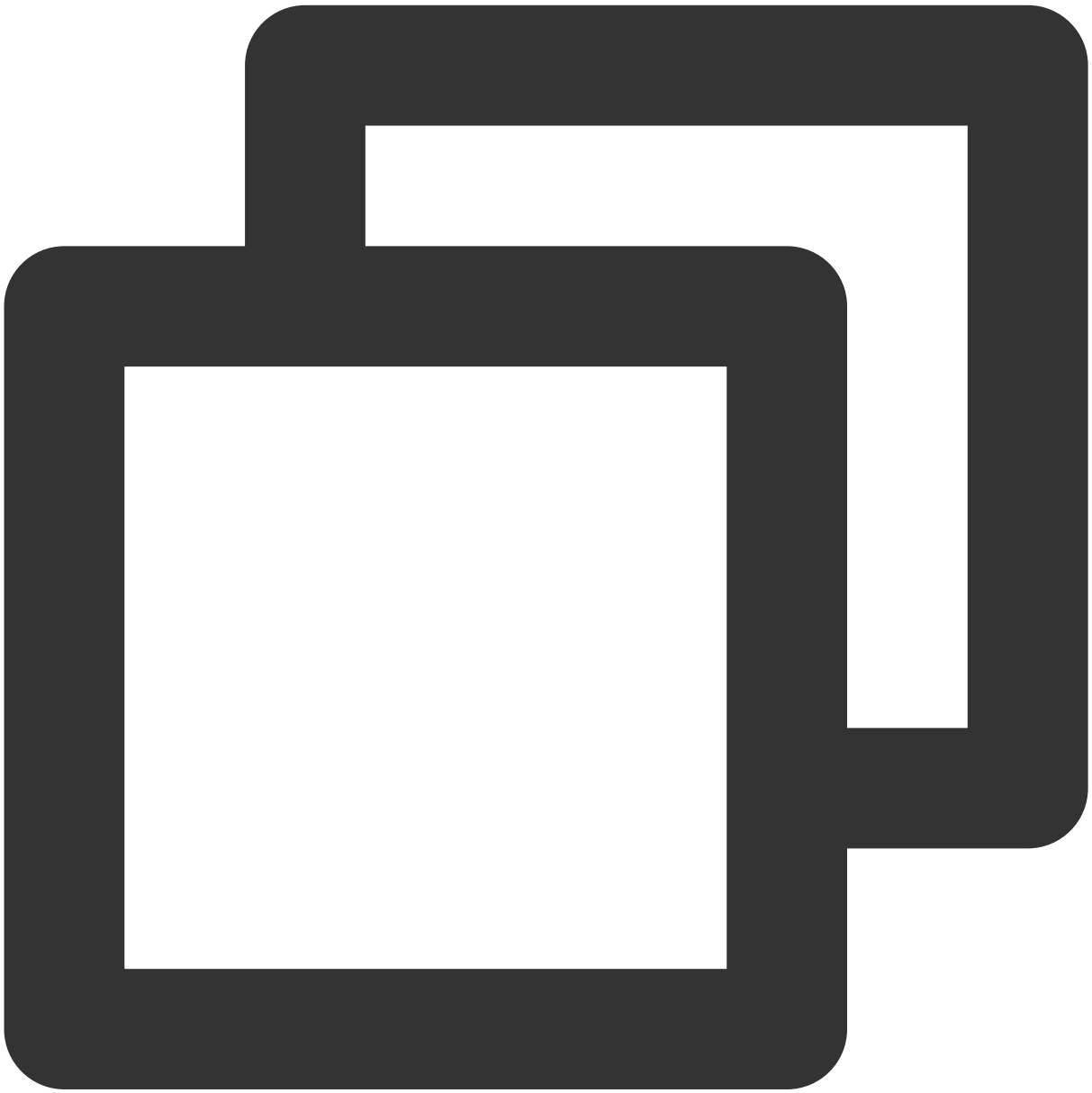
```
Future<TUIResult> setSelfInfo(String nickname, String avatar)
```

Parameter	Type	Description
nickName	String	The alias.
avatar	String	The profile photo.

return value	TUIResult	Contains code and message information: code = 0 means the call is successful; code != 0 means the call failed, see message for the reason of failure

call

This API is used to make a (one-to-one) call.



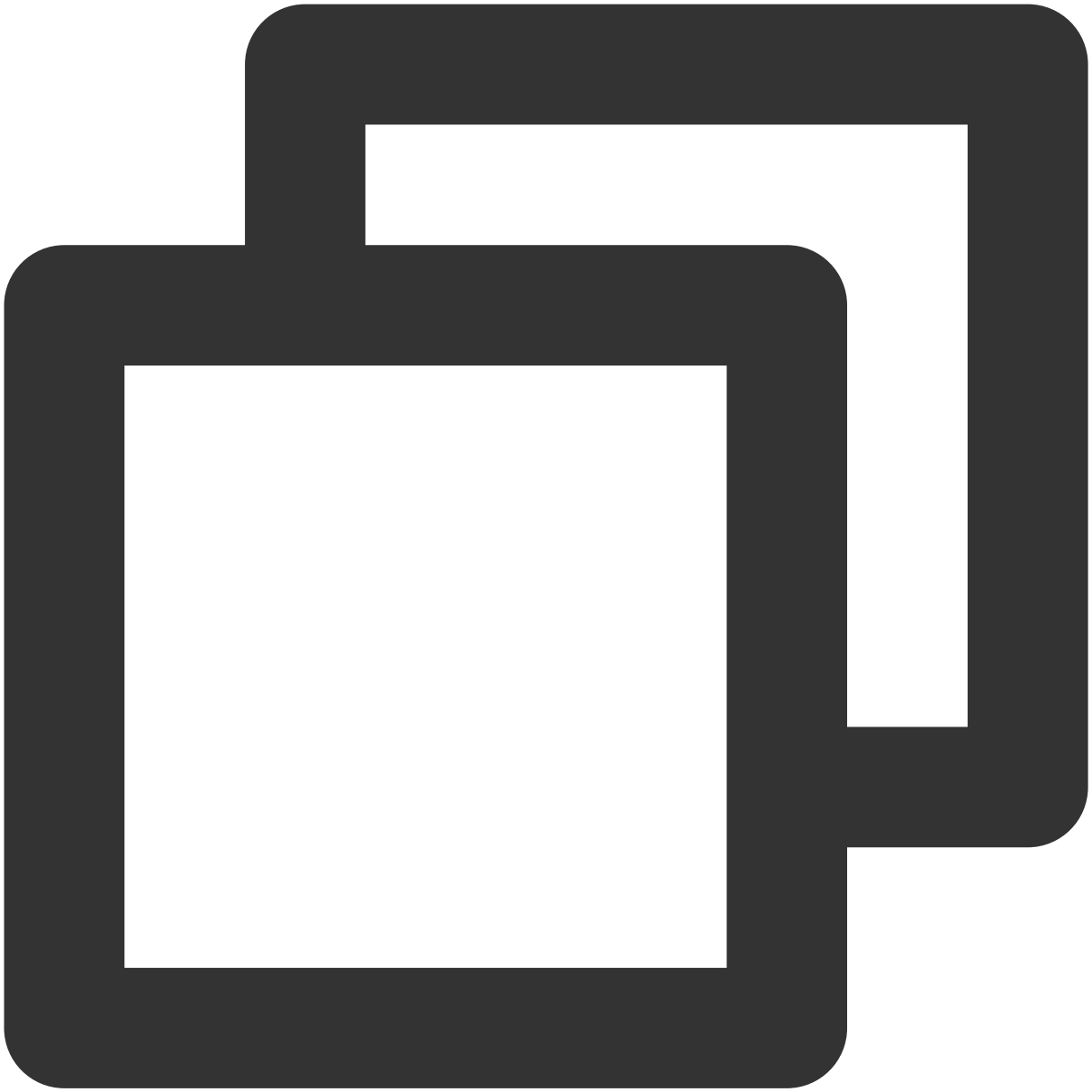
```
Future<void> call(String userId, TUICallMediaType callMediaType, [TUICallParams? pa
```

The parameters are described below:

Parameter	Type	Description
userId	String	The target user ID.
callMediaType	TUICallMediaType	`The call type, which can be video or audio.`

groupCall

This API is used to make a group call.



```
Future<void> groupCall(String groupId, List<String> userIdList, TUICallMediaType ca
```

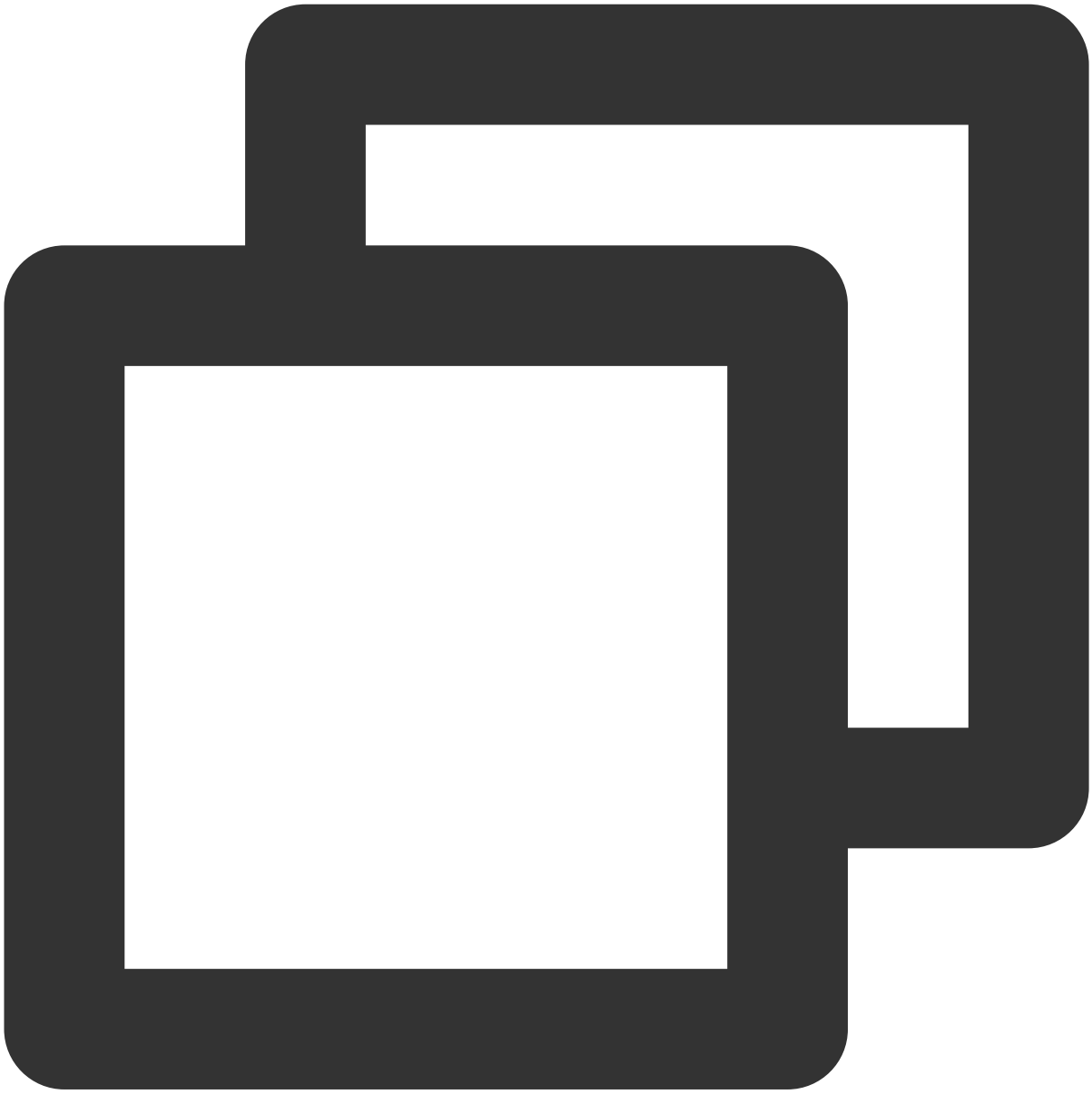
The parameters are described below:

Parameter	Type	Description
groupId	String	The group ID.
userIdList	List<String>	The target user IDs.
callMediaType	TUICallMediaType	`The call type, which can be video or`

		`audio.`

joinInGroupCall

This API is used to join a group call.



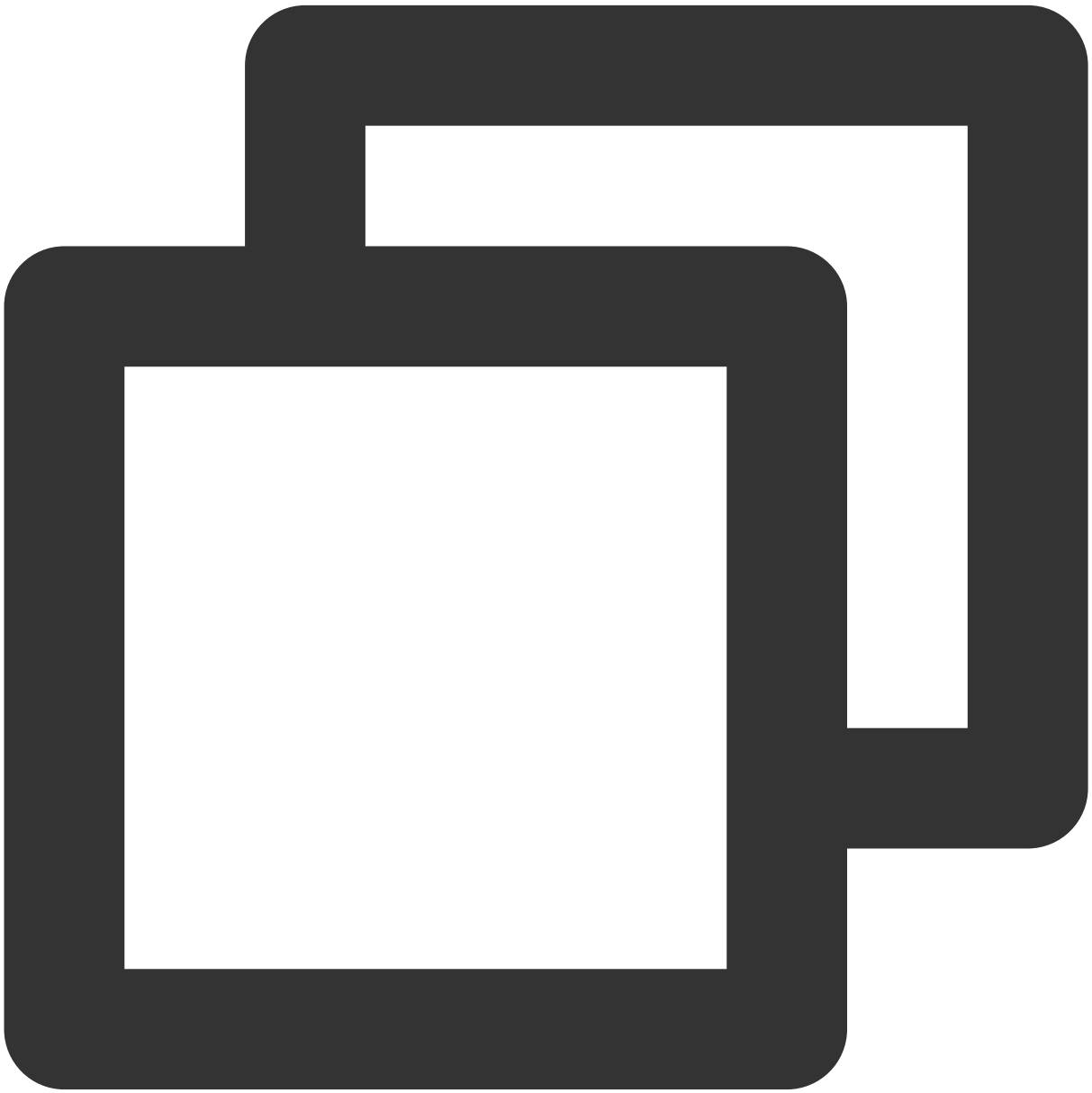
```
Future<void> joinInGroupCall(TUIRoomId roomId, String groupId, TUICallMediaType cal
```

Parameter	Type	Description
roomId	TUIRoomID	The room ID.

groupId	String	The group ID.
callMediaType	TUICallMediaType	`The call type, which can be video or audio.`

enableMuteMode

This API is used to set whether to turn on the mute mode.

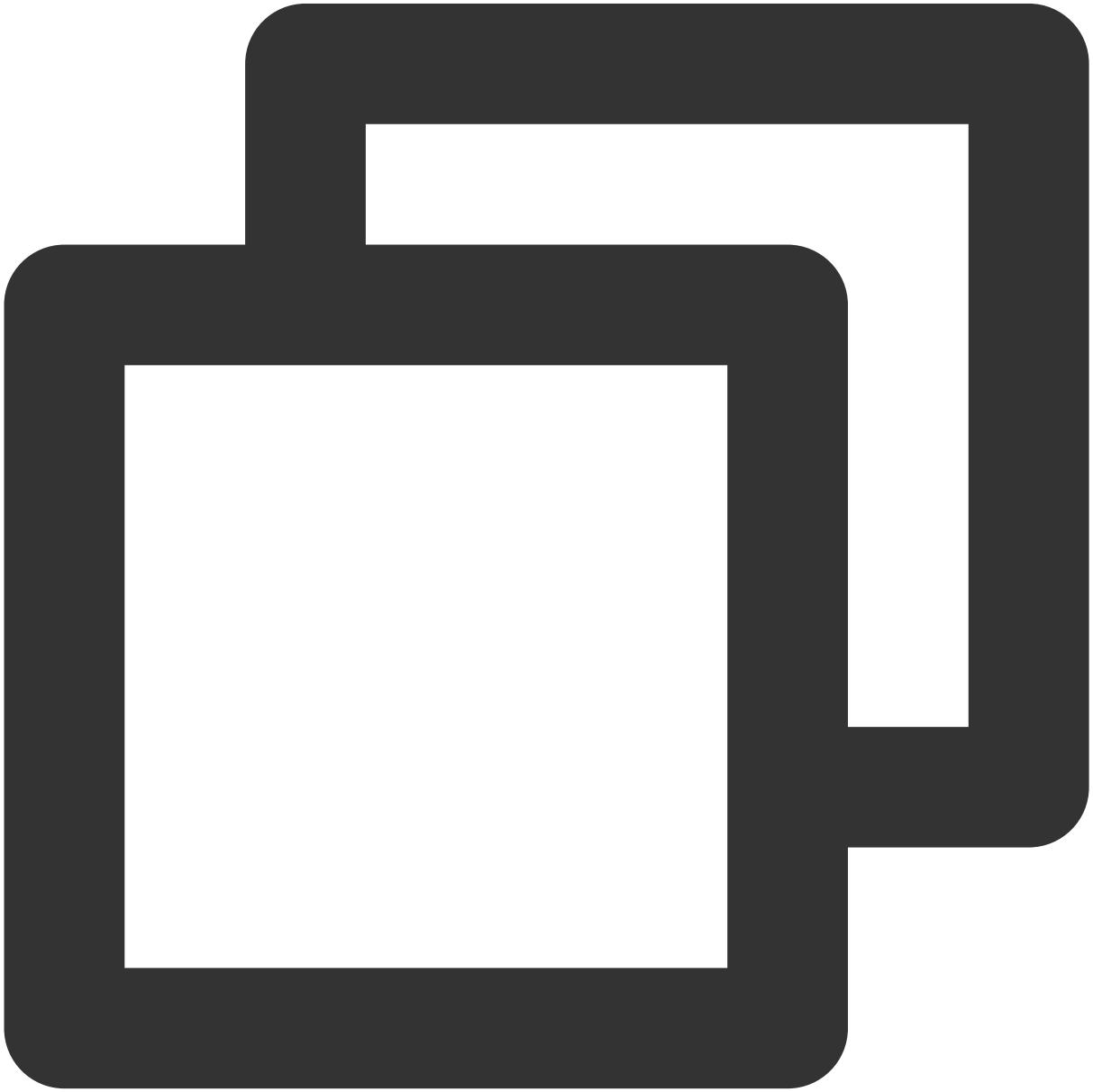


```
Future<void> enableMuteMode(bool enable)
```

Parameter	Type	Description
enable	Boolean	Turn on and off the mute; true means to turn on the mute

enableFloatWindow

This API is used to set whether to enable floating windows. The default value is `false`, and the floating window button in the top left corner of the call view is hidden. If it is set to `true`, the button will become visible.

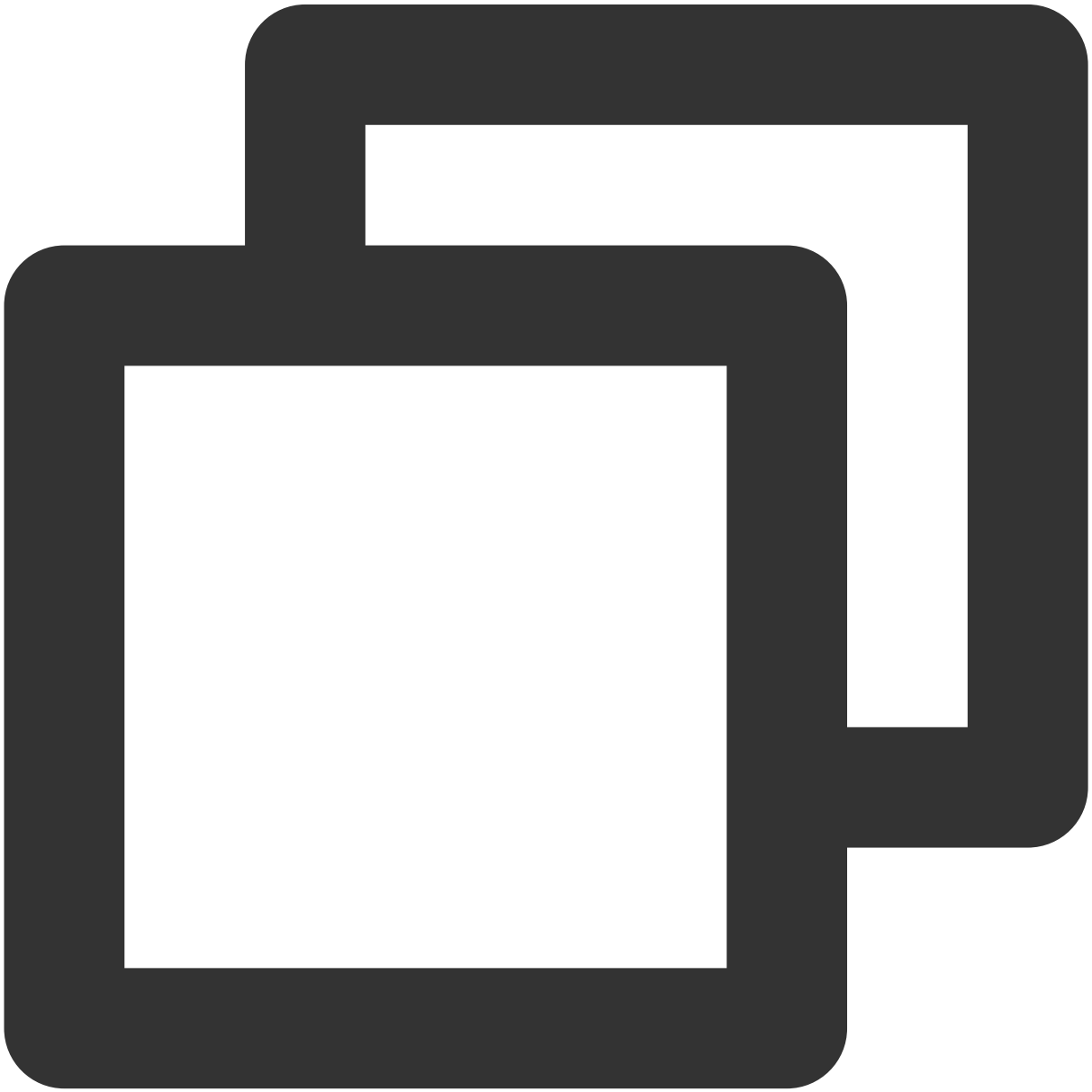


```
Future<void> enableFloatWindow(bool enable)
```

Parameter	Type	Description
enable	Boolean	The default value is false, and the floating window button in the top left corner of the call view is hidden. If it is set to true, the button will become visible.

setCallingBell

Custom ringtone.



```
Future<void> setCallingBell(String assetName)
```

Parameter	Type	Description
assetName	String	The path of the ringtone. The ringtone file needs to be added to the assets resource of the main project.

TUICallEngine

Last updated：2023-09-19 16:18:05

TUICallEngine APIs

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

Overview

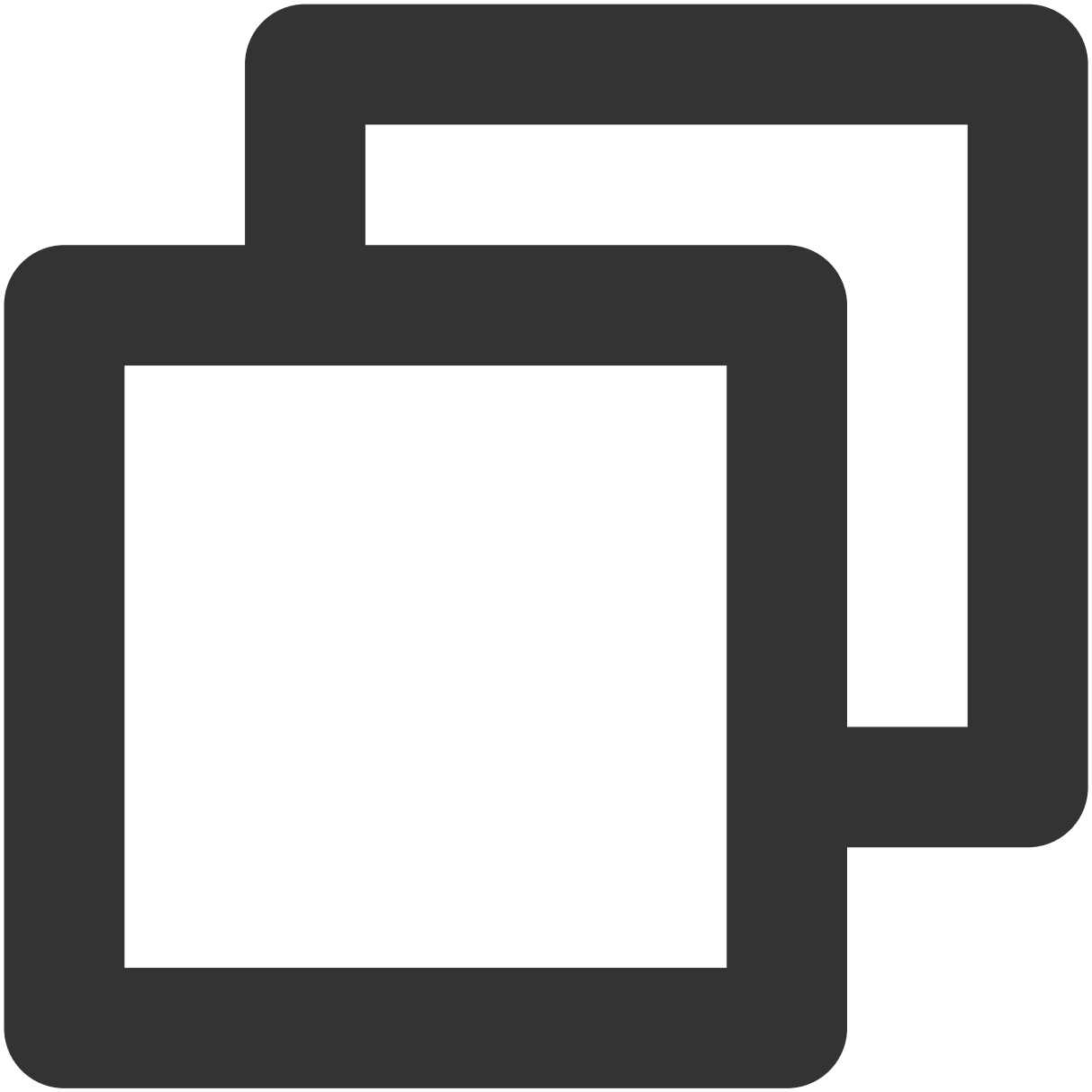
API	Description
init	Authenticates the basic audio/video call capabilities.
unInit	The destructor function, which releases resources used by TUICallEngine.
addObserver	Registers an event listener.
removeObserver	Unregisters an event listener.
call	Makes a one-to-one call.
groupCall	Makes a group call.
accept	Accepts a call.
reject	Rejects a call.
hangup	Ends a call.
ignore	Ignores a call.
inviteUser	Invites users to the current group call.
joinInGroupCall	Joins a group call.
switchCallMediaType	Changes the call type, for example, from video call to audio call.
startRemoteView	Subscribes to the video stream of a remote user.
stopRemoteView	Unsubscribes from the video stream of a remote user.

openCamera	Turns the camera on.
closeCamera	Turns the camera off.
switchCamera	Switches between the front and rear cameras.
openMicrophone	Turns the mic on.
closeMicrophone	Turns the mic off.
selectAudioPlaybackDevice	Selects the audio playback device (receiver or speaker).
setSelfInfo	Sets the alias and profile photo.
enableMultiDeviceAbility	Sets whether to enable multi-device login for TUICallEngine (supported by the premium package).
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.
queryRecentCalls	Query call record.
deleteRecordCalls	Delete call record.
setBeautyLevel	Set beauty level, support turning off default beauty.

Details

init

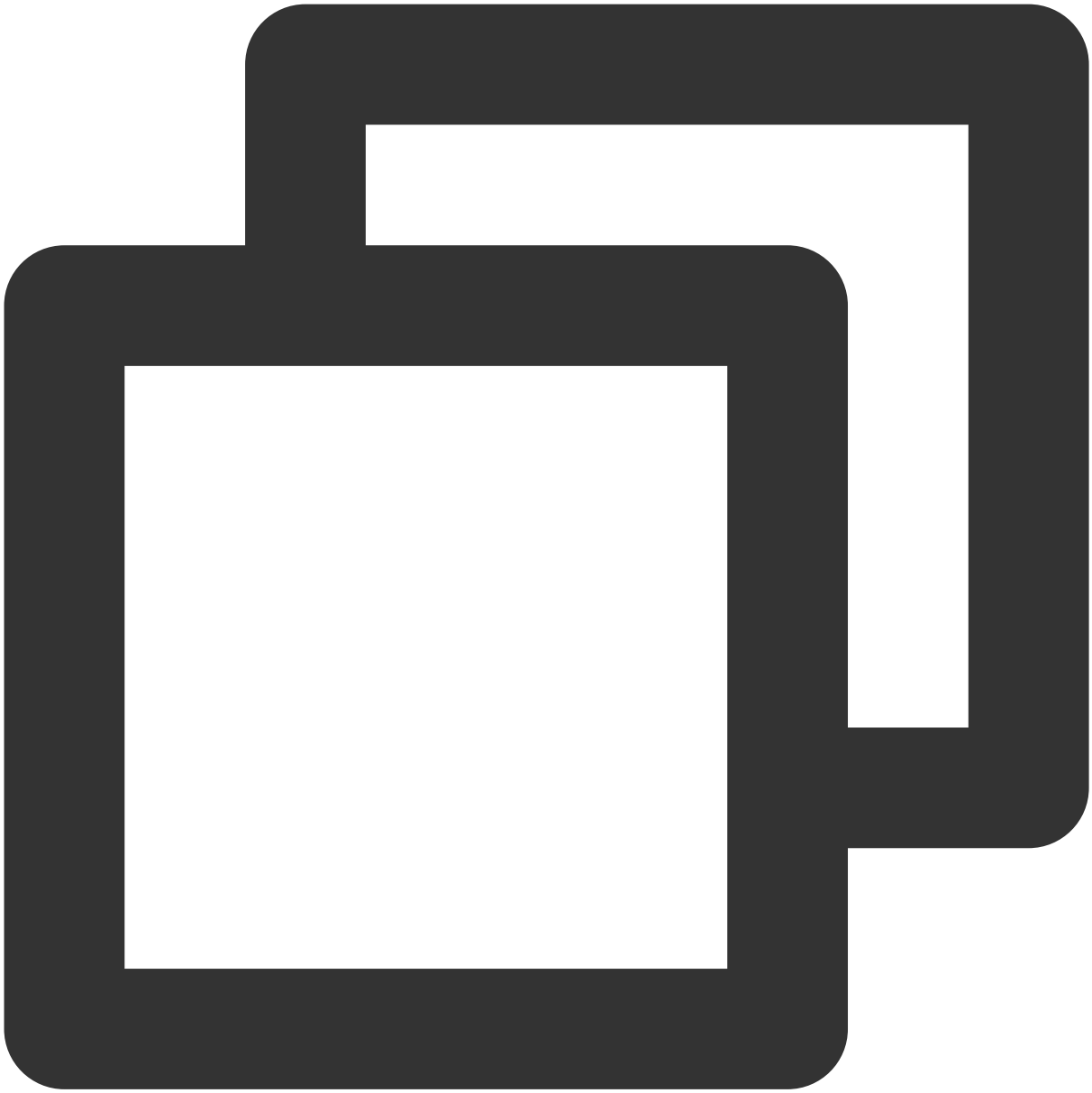
This API is used to initialize `TUICallEngine`. Call it to authenticate the call service and perform other required actions before you call other APIs.



```
Future<TUIResult> init(int sdkAppID, String userId, String userSig)
```

unInit

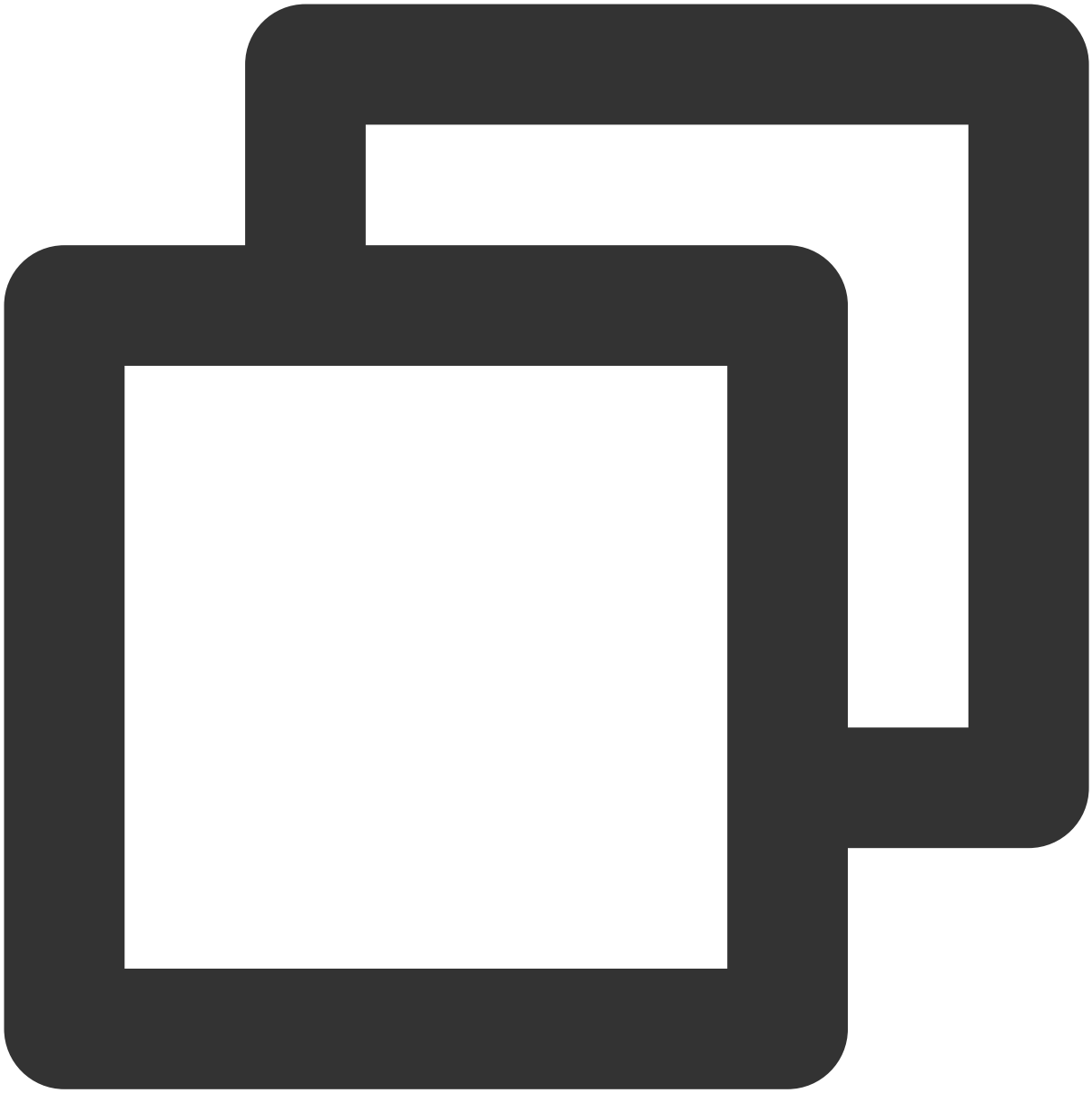
The destructor function, which releases resources used by TUICallEngine.



```
Future<TUIResult> unInit()
```

addObserver

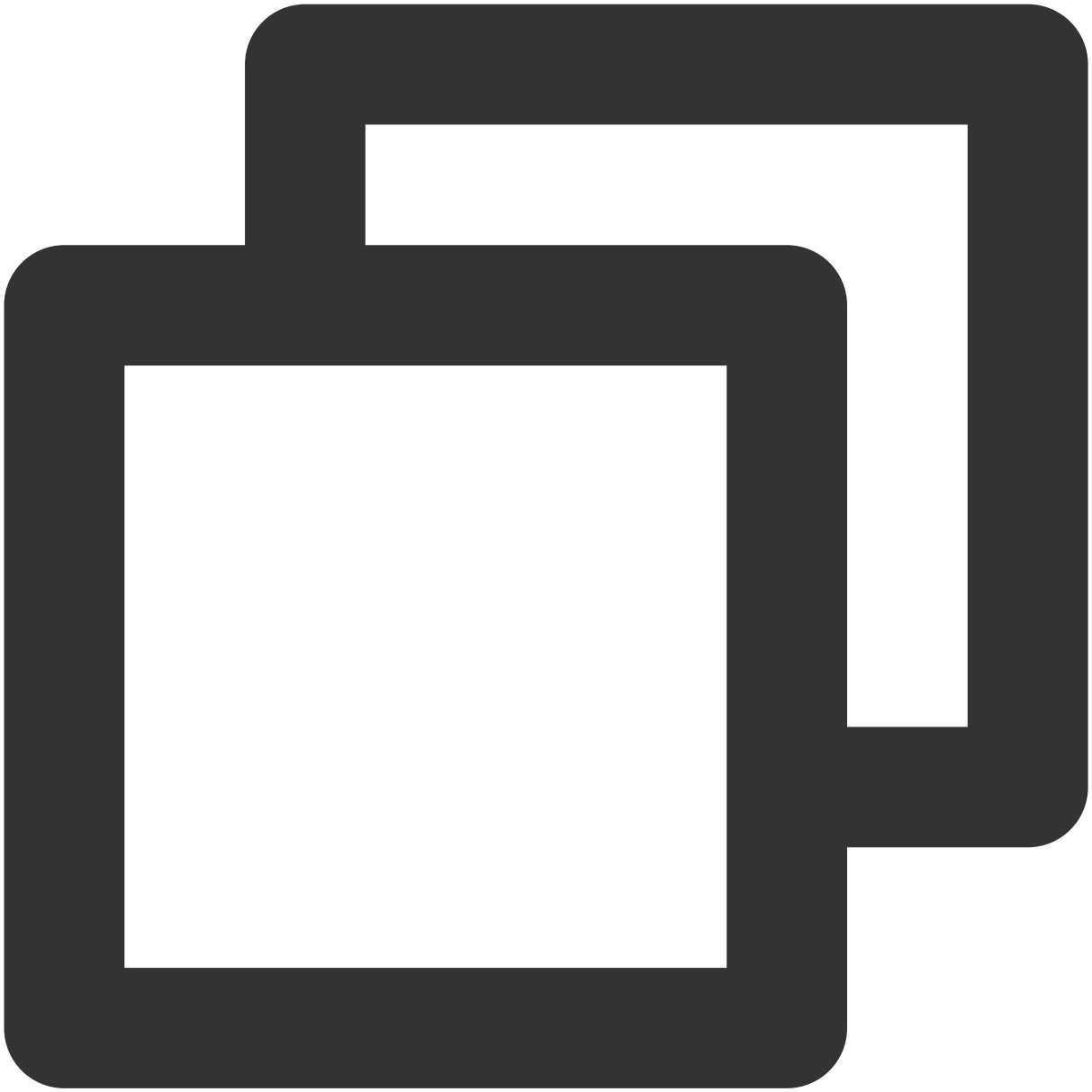
This API is used to register an event listener to listen for `TUICallObserver` events.



```
Future<void> addObserver(TUICallObserver observer)
```

removeObserver

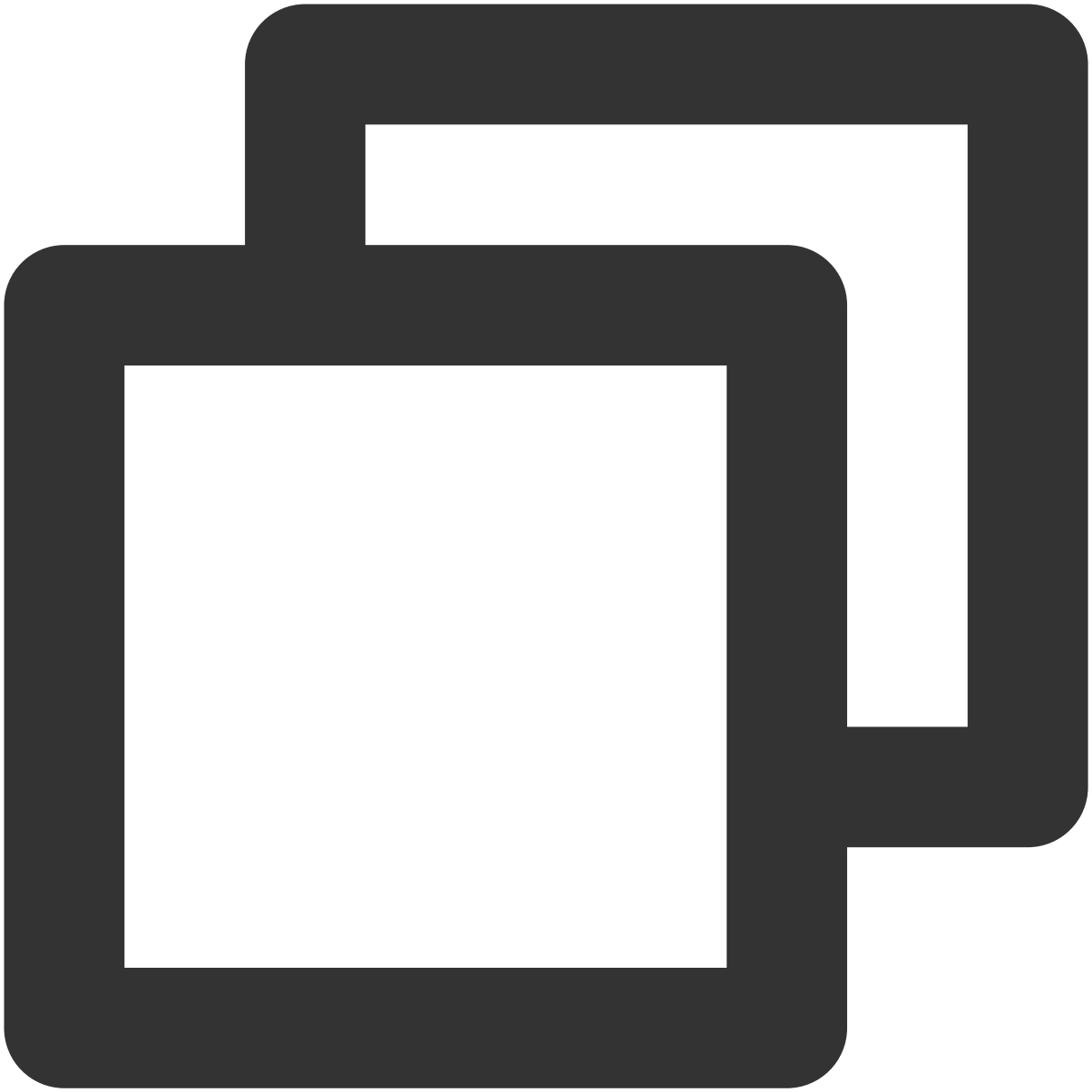
This API is used to unregister an event listener.



```
Future<void> removeObserver(TUICallObserver observer)
```

call

This API is used to make a (one-to-one) call.



```
Future<TUIResult> call(String userId, TUICallMediaType mediaType, TUICallParams par
```

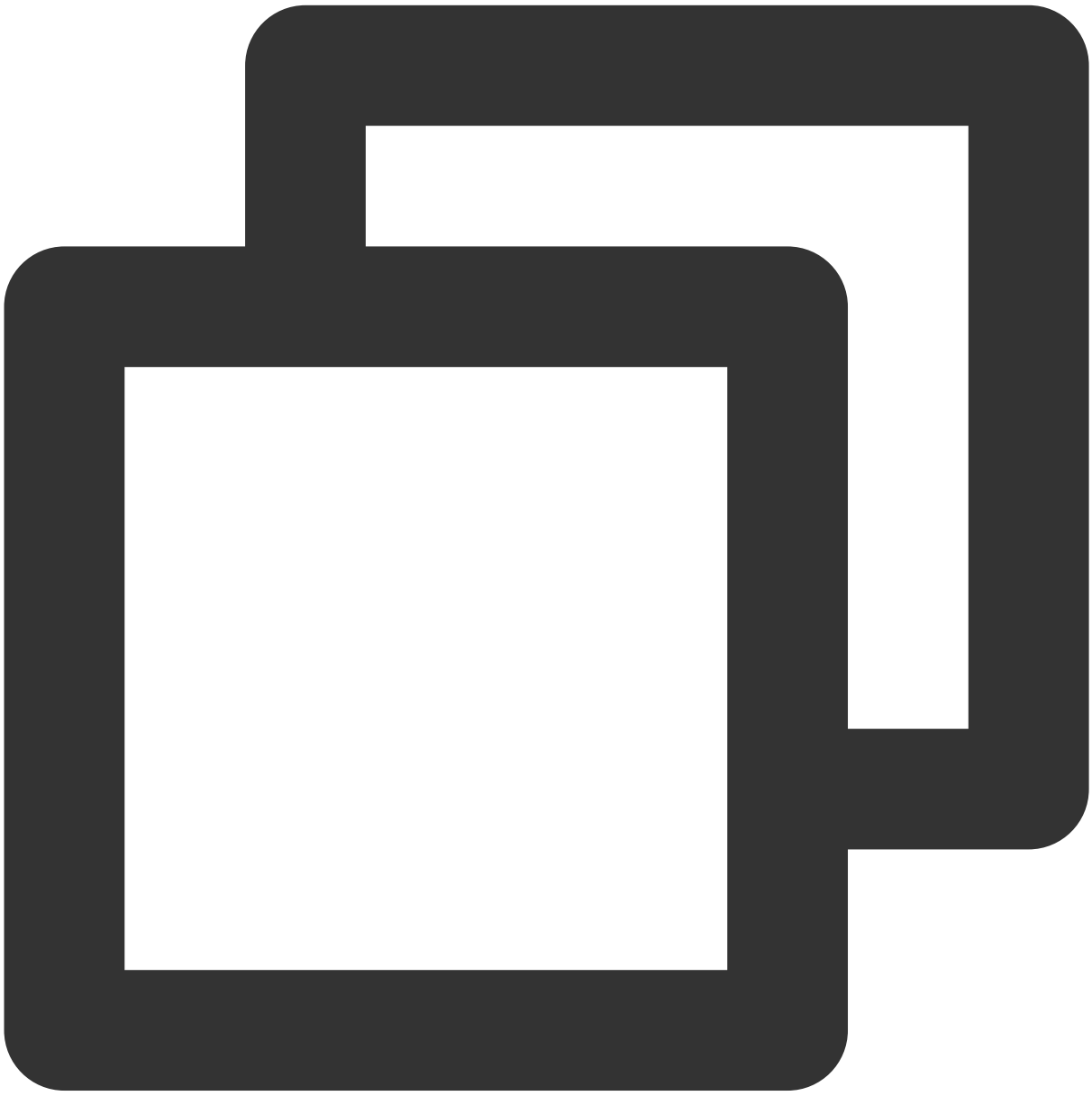
Parameter	Type	Description
userId	String	The target user ID.
mediaType	TUICallMediaType	The call type, which can be video or audio.
params	TUICallParams	An additional parameter, such as roomID, call timeout, offline push info, etc

groupCall

This API is used to make a group call.

Notice：

Before making a group call, you need to create an IM group first.



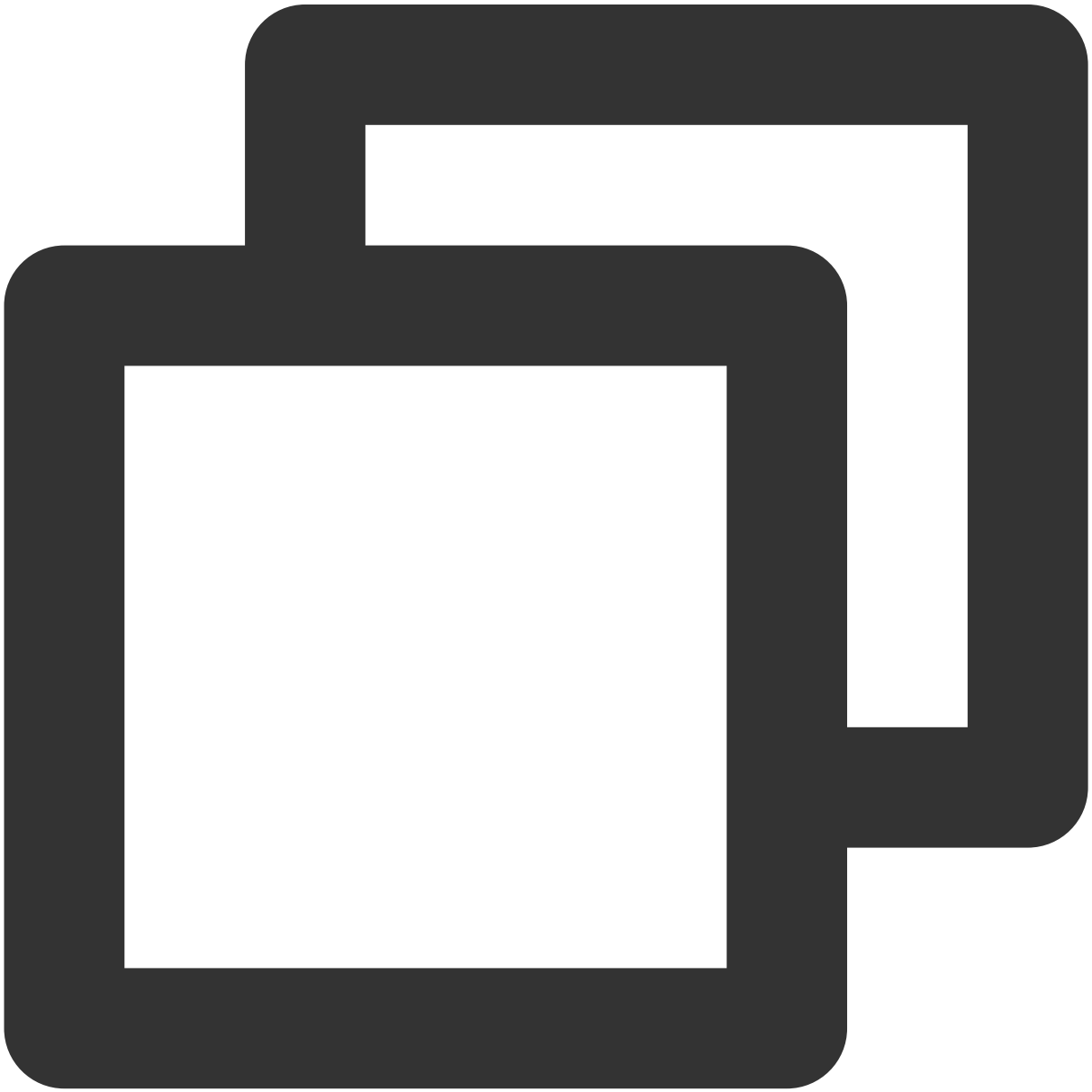
```
Future<TUIResult> groupCall(String groupId, List<String> userIdList, TUICallMediaTy
```

Parameter	Type	Description
groupId	String	The group ID.

userIdList	List<String>	The target user IDs.
mediaType	TUICallMediaType	The call type, which can be video or audio.
params	TUICallParams	An additional parameter. such as roomID, call timeout, offline push info, etc

accept

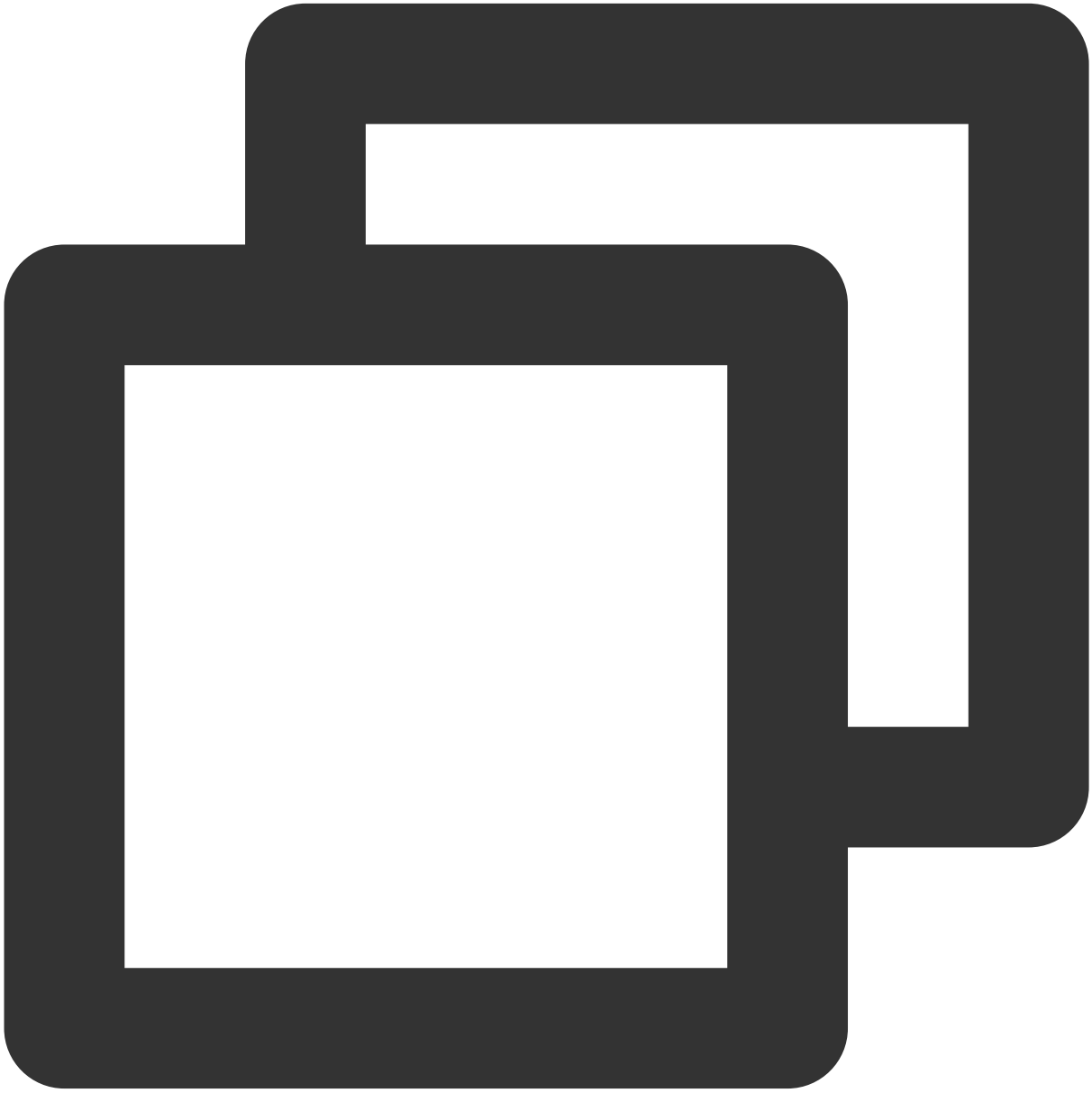
This API is used to accept a call. After receiving the `onCallReceived()` callback, you can call this API to accept the call.



```
Future<TUIResult> accept()
```

reject

This API is used to reject a call. After receiving the `onCallReceived()` callback, you can call this API to reject the call.

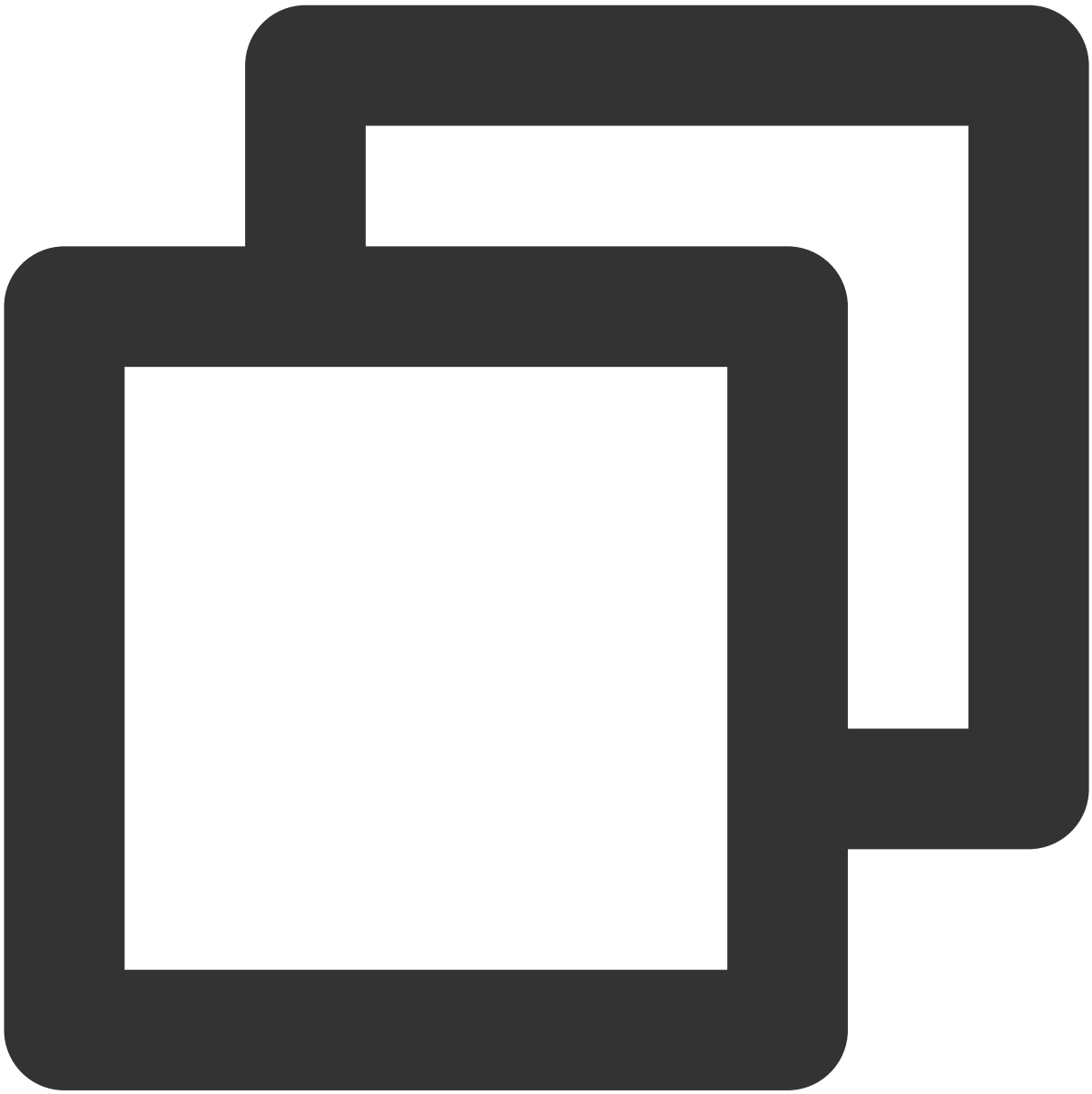


```
Future<TUIResult> reject()
```

ignore

This API is used to ignore a call. After receiving the `onCallReceived()` , you can call this API to ignore the call. The caller will receive the `onUserLineBusy` callback.

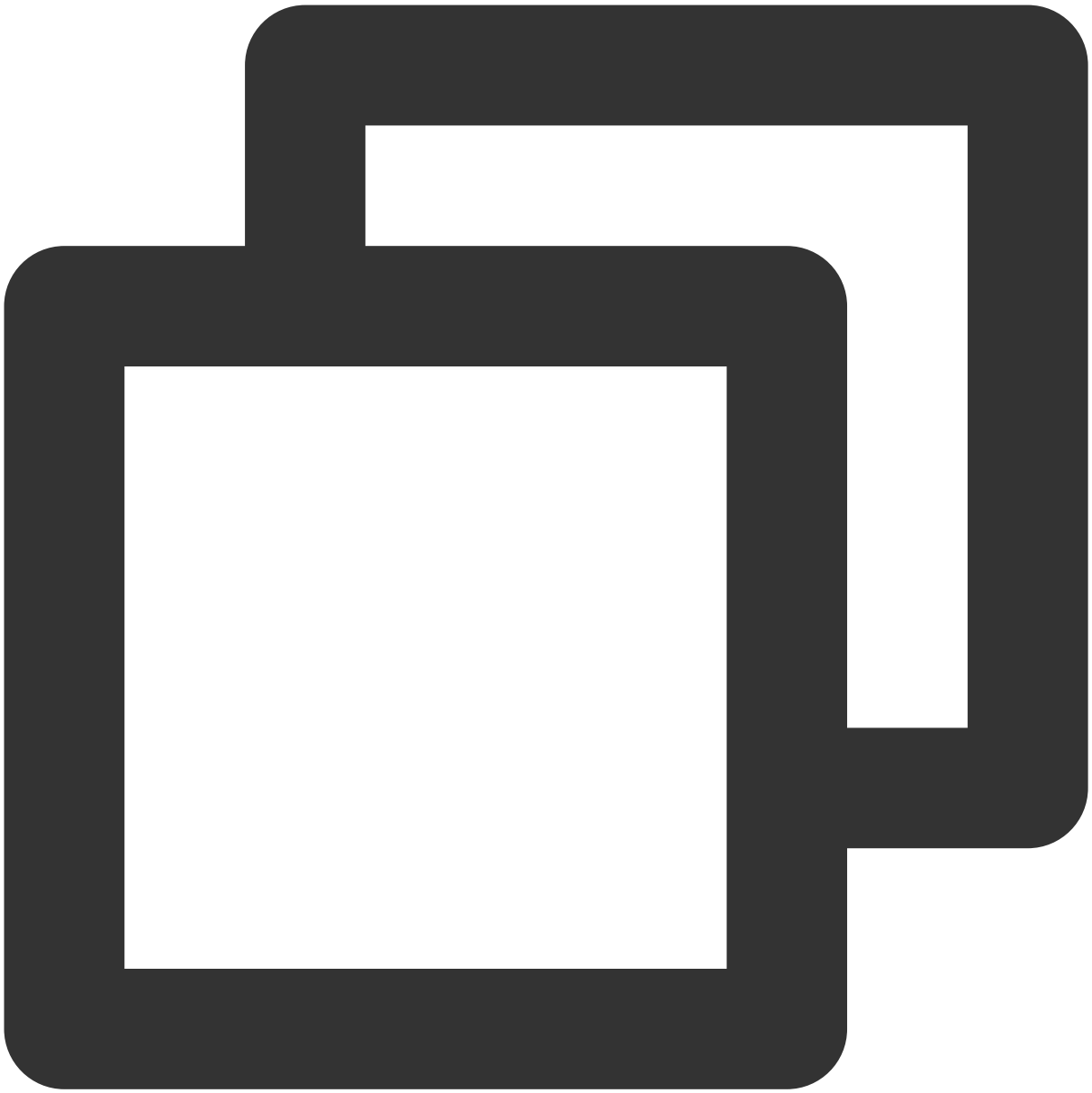
Note: If your project involves live streaming or conferencing, you can also use this API to implement the “in a meeting” or “on air” feature.



```
Future<TUIResult> ignore()
```

hangup

This API is used to end a call.

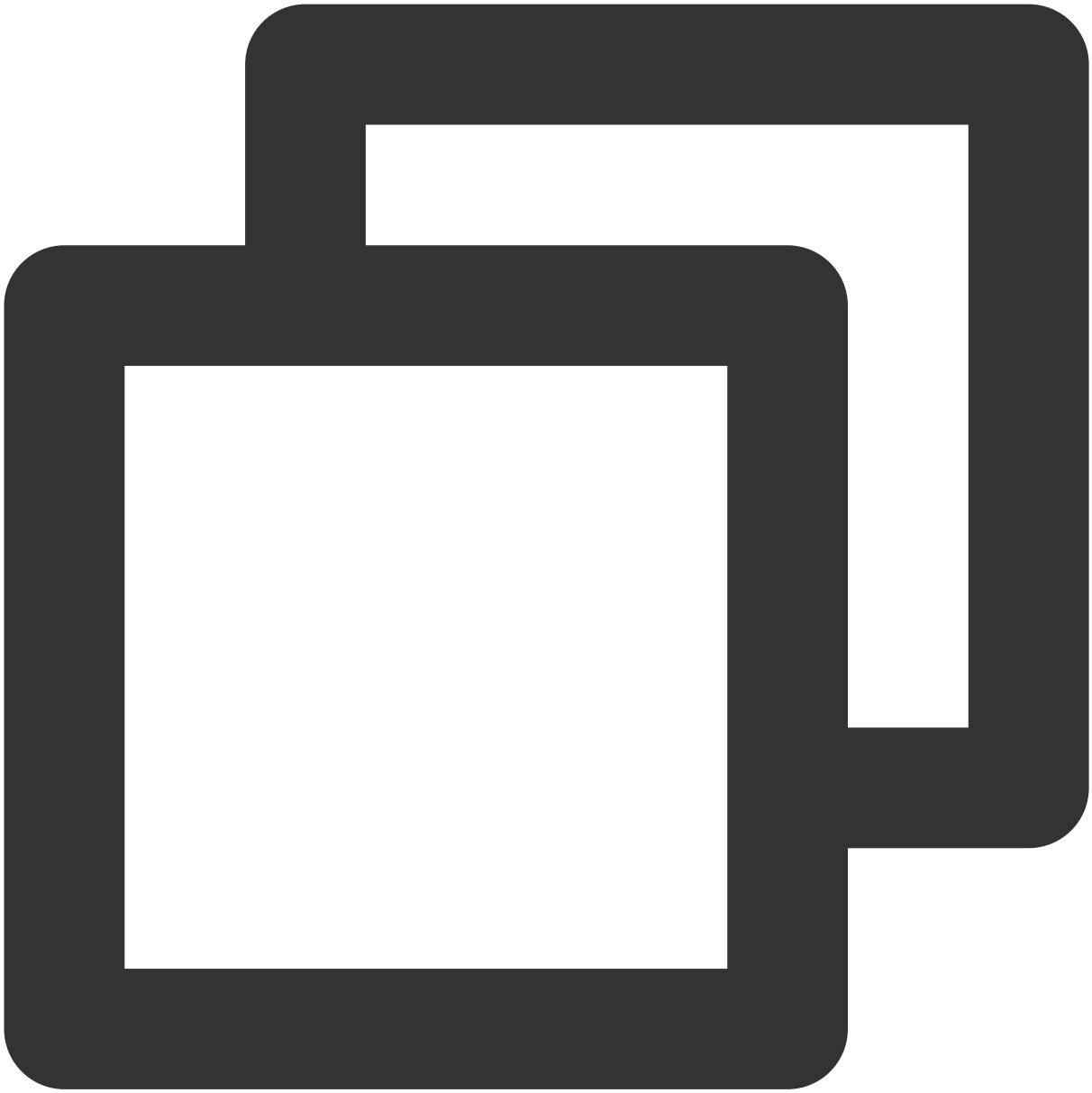


```
Future<TUIResult> hangup()
```

inviteUser

This API is used to invite users to the current group call.

This API is called by a participant of a group call to invite new users.



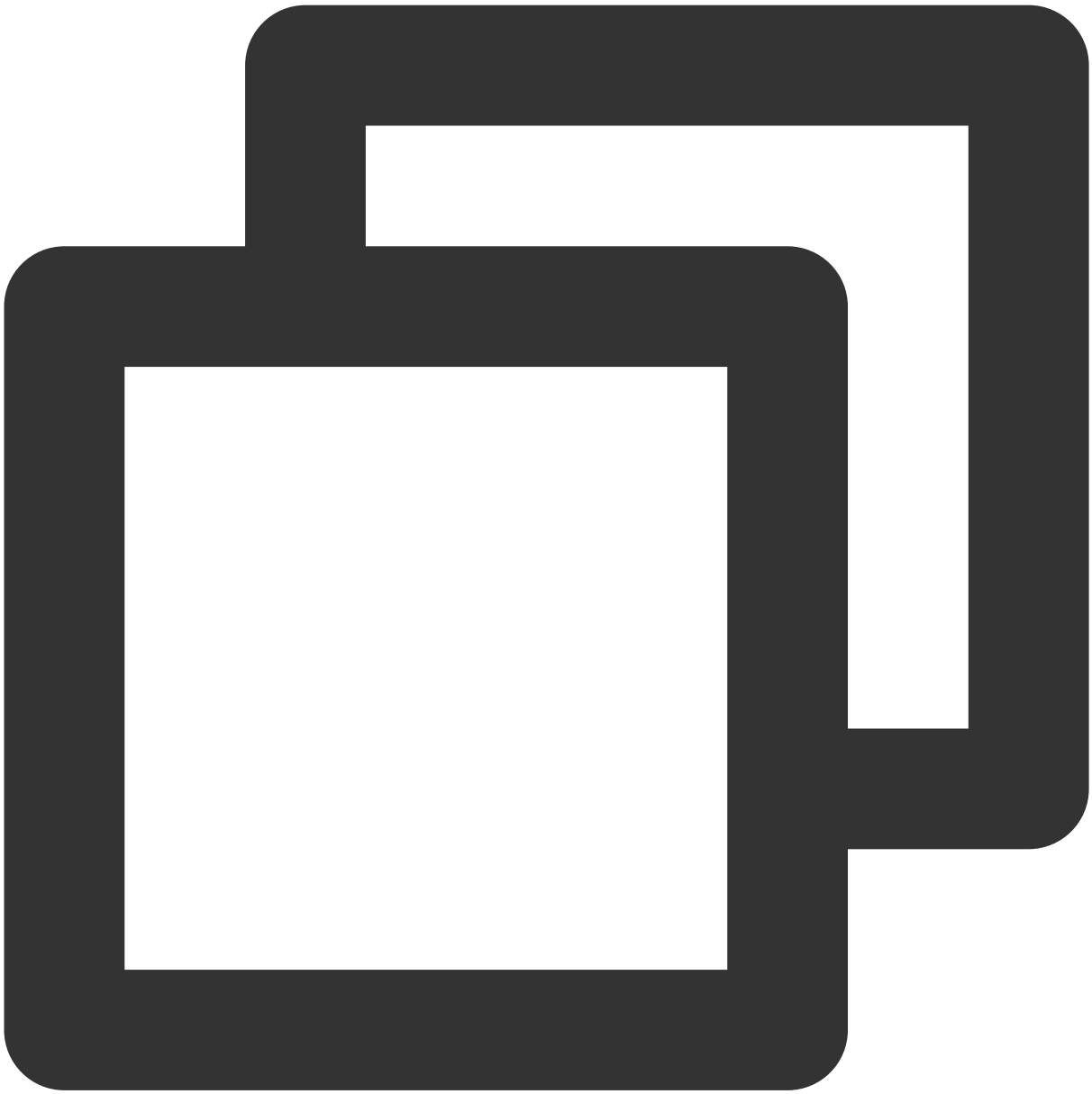
```
Future<void> iniviteUser(List<String> userIdList, TUICallParams params, TUIValueCal
```

Parameter	Type	Description
userIdList	List<String>	The target user IDs.
params	TUICallParams	An additional parameter. such as roomID, call timeout, offline push info, etc.

joinInGroupCall

This API is used to join a group call.

This API is called by a group member to join the group's call.



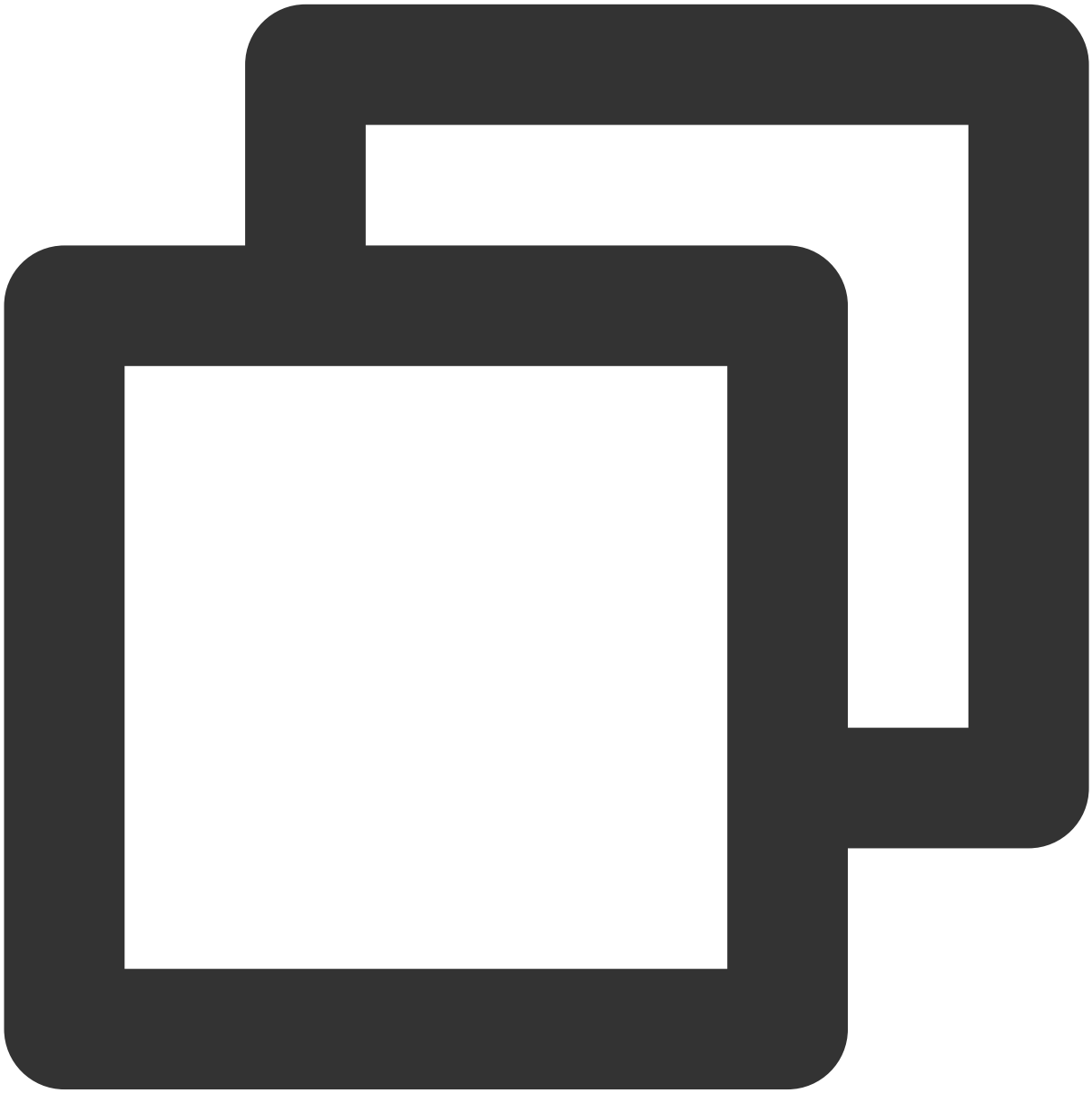
```
Future<TUIResult> joinInGroupCall(TUIRoomId roomId, String groupId, TUICallMediaTyp
```

Parameter	Type	Description
roomId	TUIRoomId	The room ID.
groupId	String	The group ID.

mediaType	TUICallMediaType	The call type, which can be video or audio.

switchCallMediaType

This API is used to change the call type.

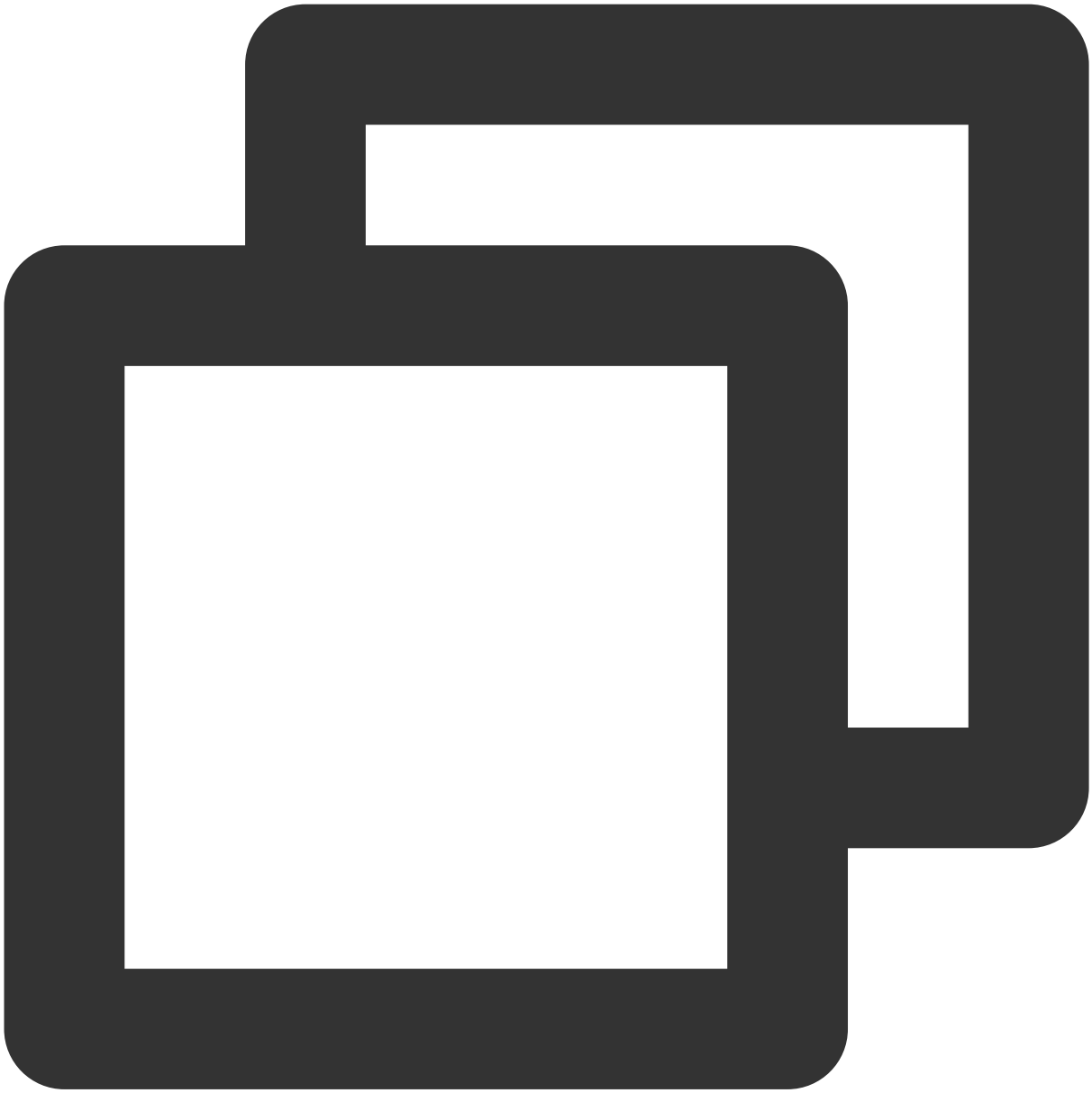


```
Future<void> switchCallMediaType(TUICallMediaType mediaType)
```

Parameter	Type	Description
mediaType	TUICallMediaType	The call type, which can be video or audio.

startRemoteView

This API is used to set the view object to display a remote video.

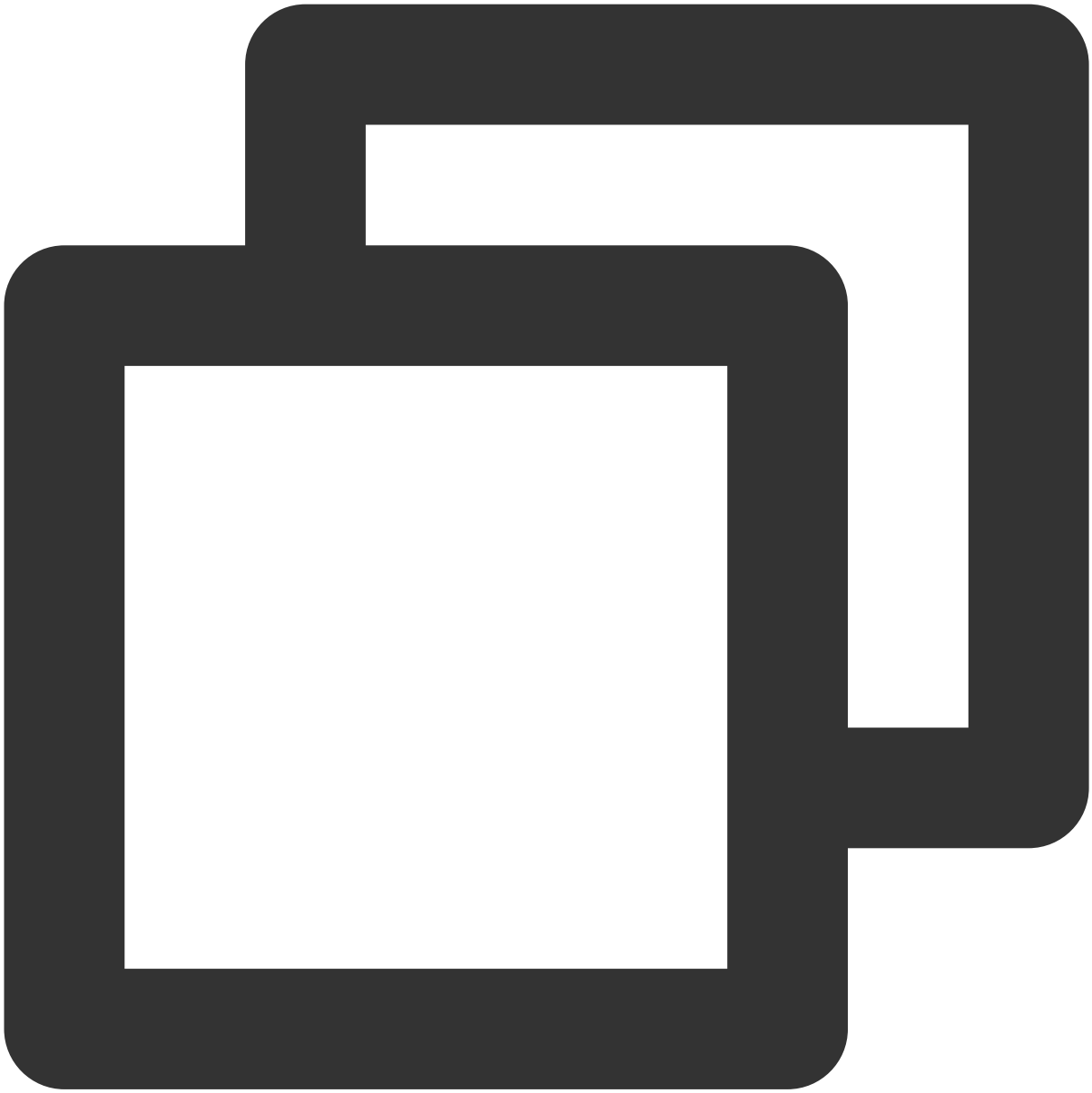


```
Future<void> startRemoteView(String userId, intviewId)
```

Parameter	Type	Description
userId	String	The target user ID.
intviewId	int	The ID of the widget in the video rendering screen

stopRemoteview

This API is used to unsubscribe from the video stream of a remote user.

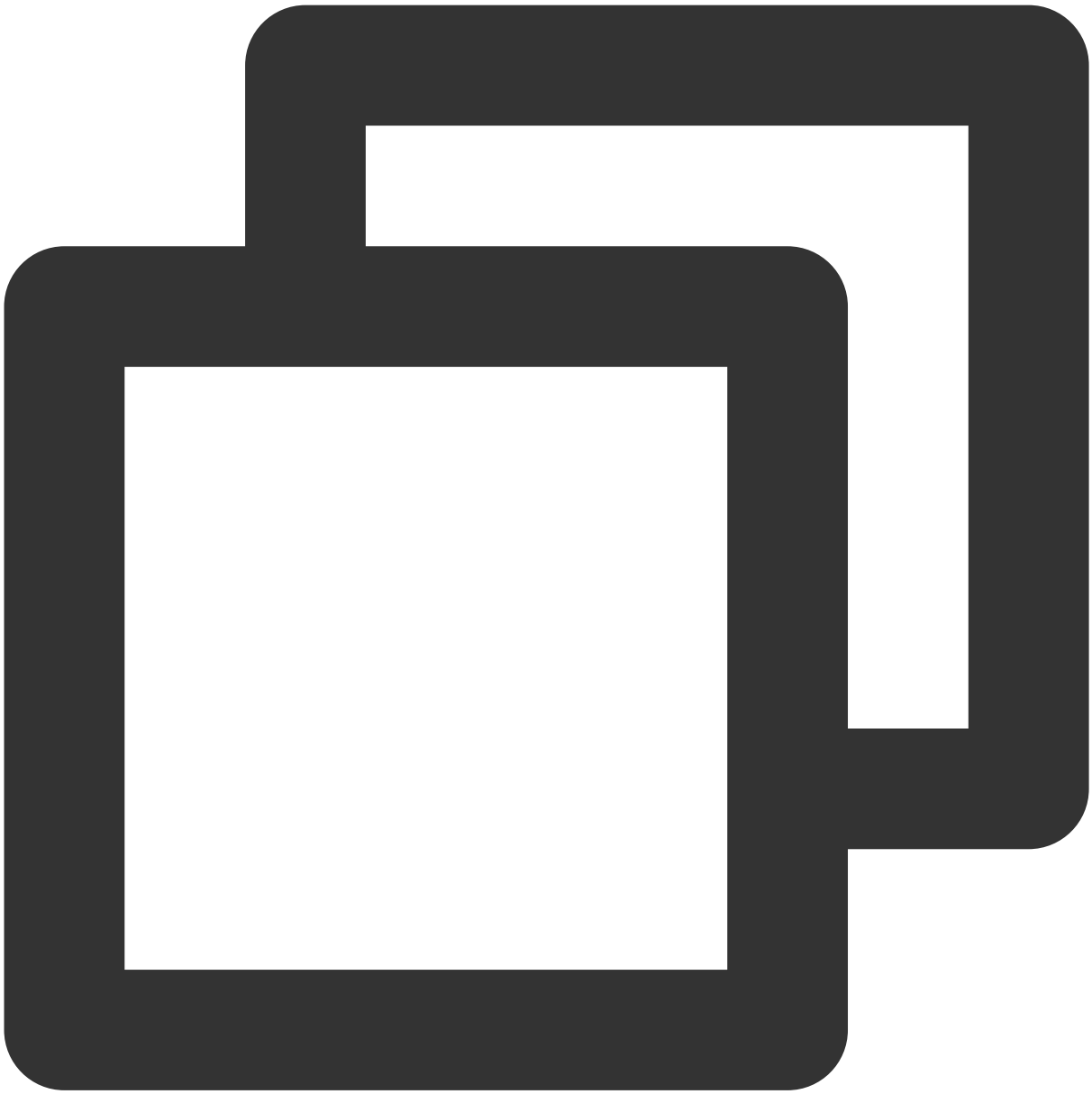


```
Future<void> stopRemoteView(String userId)
```

Parameter	Type	Description
userId	String	The target user ID.

openCamera

This API is used to turn the camera on.

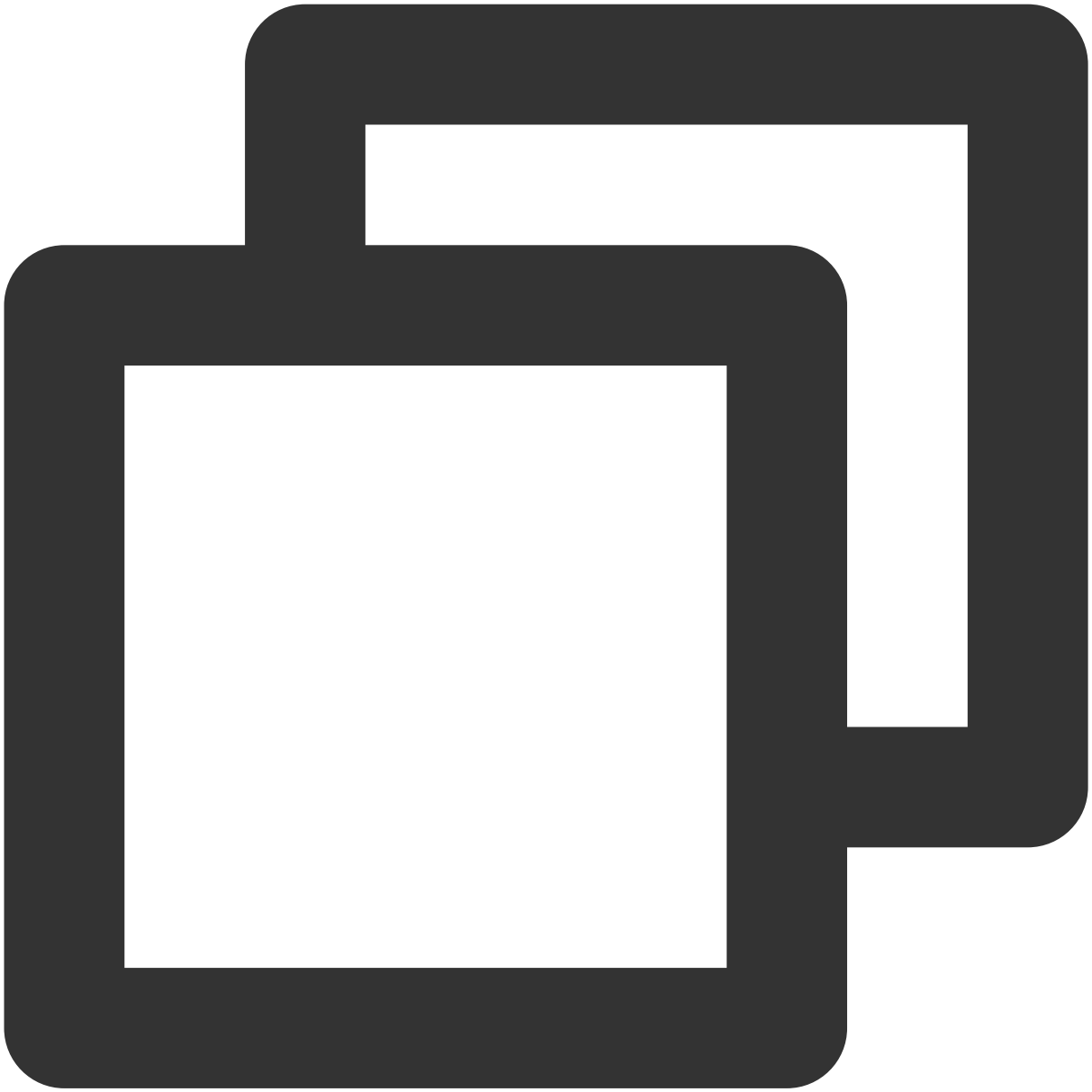


```
Future<TUIResult> openCamera(TUICamera camera, int? viewId)
```

Parameter	Type	Description
camera	TUICamera	The front or rear camera.
viewId	int	The ID of the widget in the video rendering screen

closeCamera

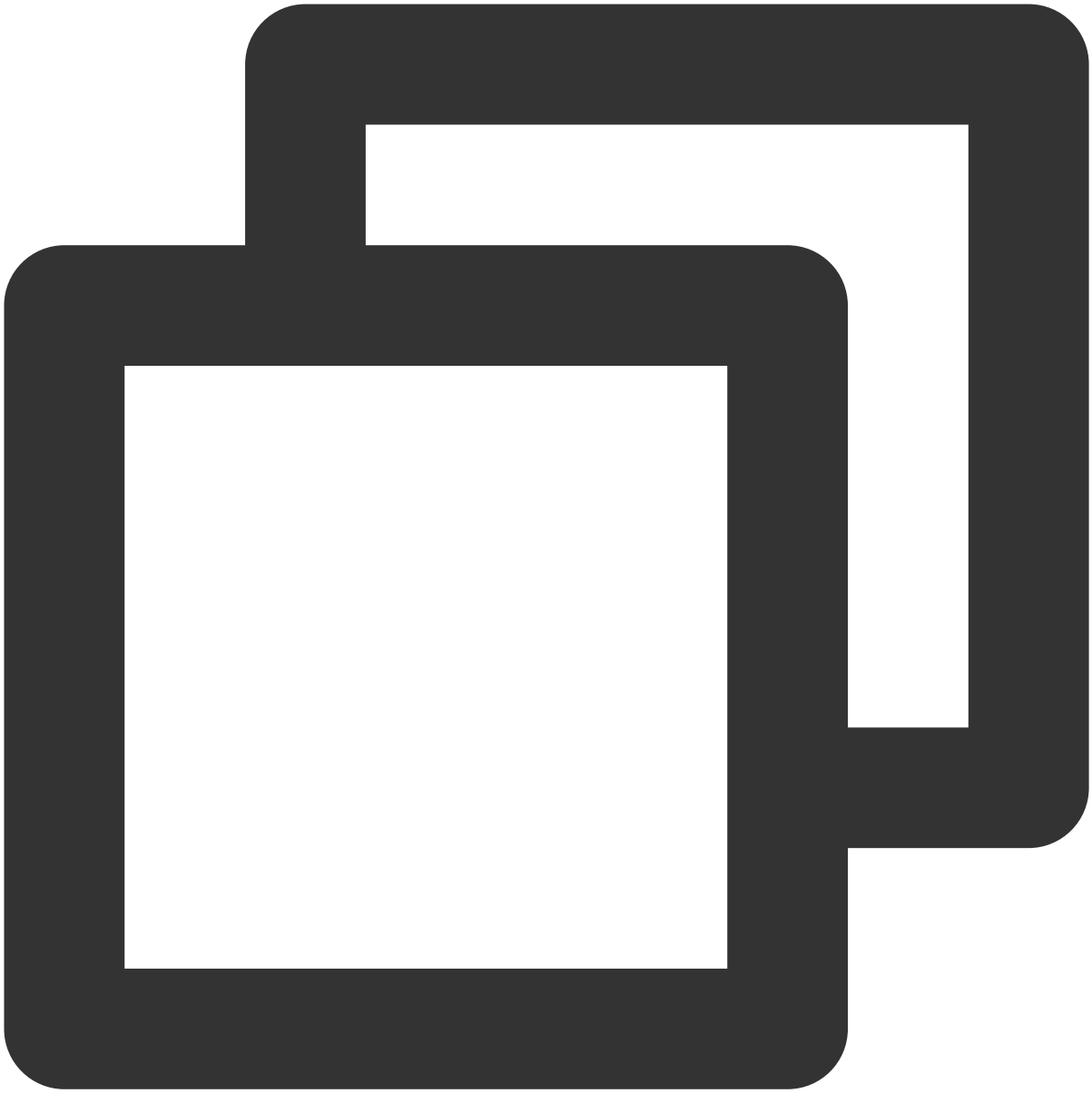
This API is used to turn the camera off.



```
Future<void> closeCamera()
```

switchCamera

This API is used to switch between the front and rear cameras.

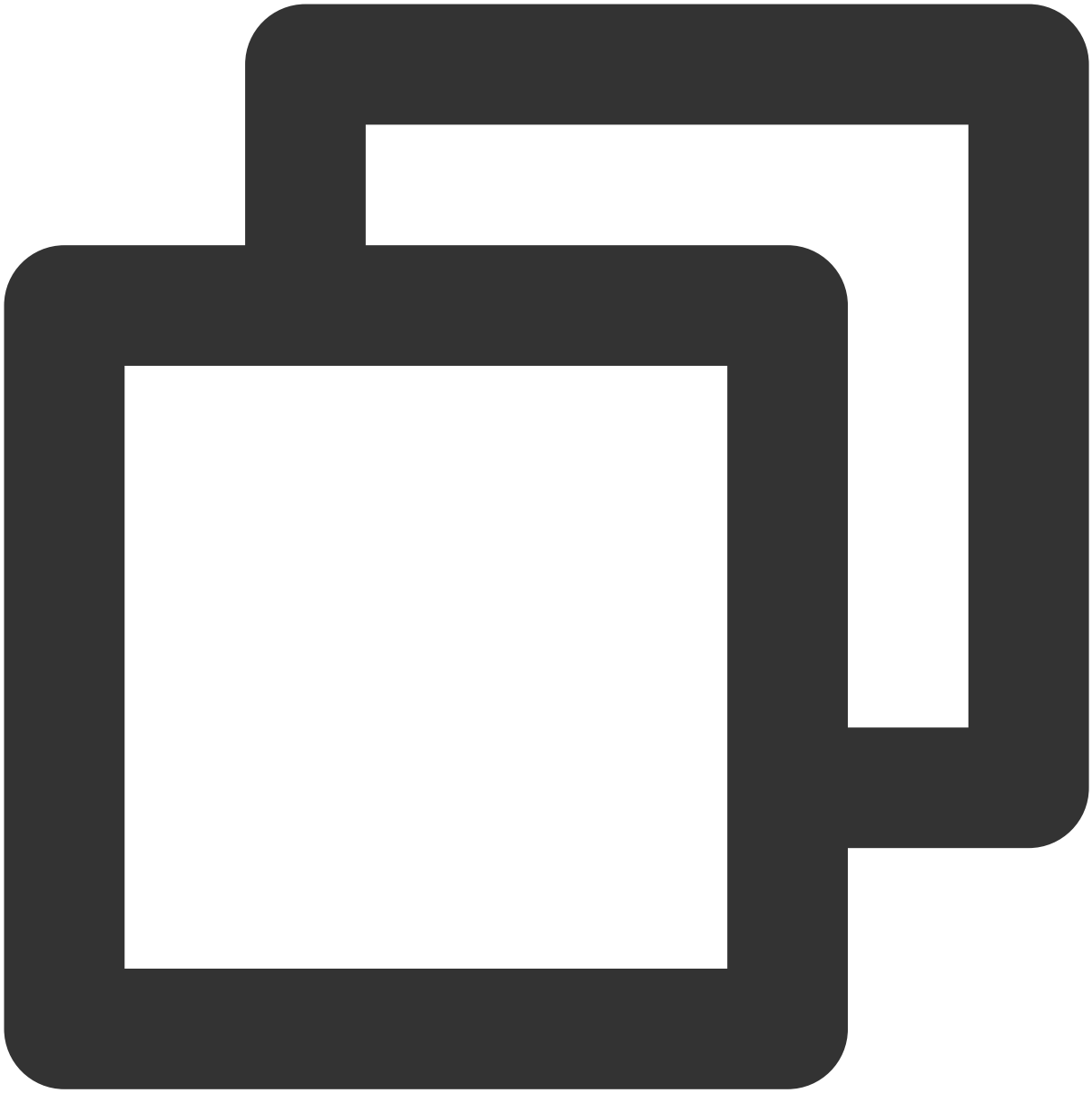


```
Future<void> switchCamera(TUICamera camera)
```

Parameter	Type	Description
camera	TUICamera	The front or rear camera.

openMicrophone

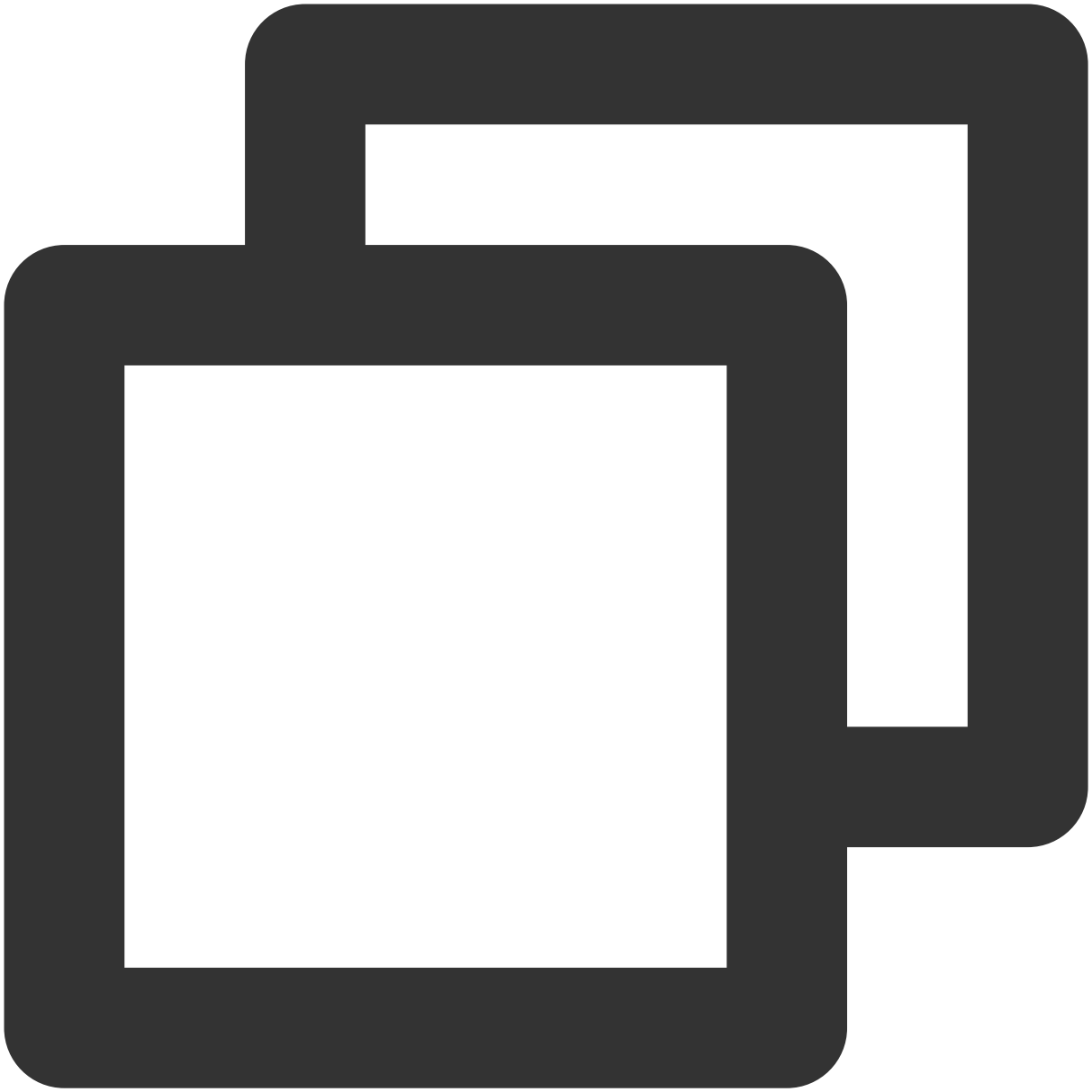
This API is used to turn the mic on.



```
Future<TUIResult> openMicrophone()
```

closeMicrophone

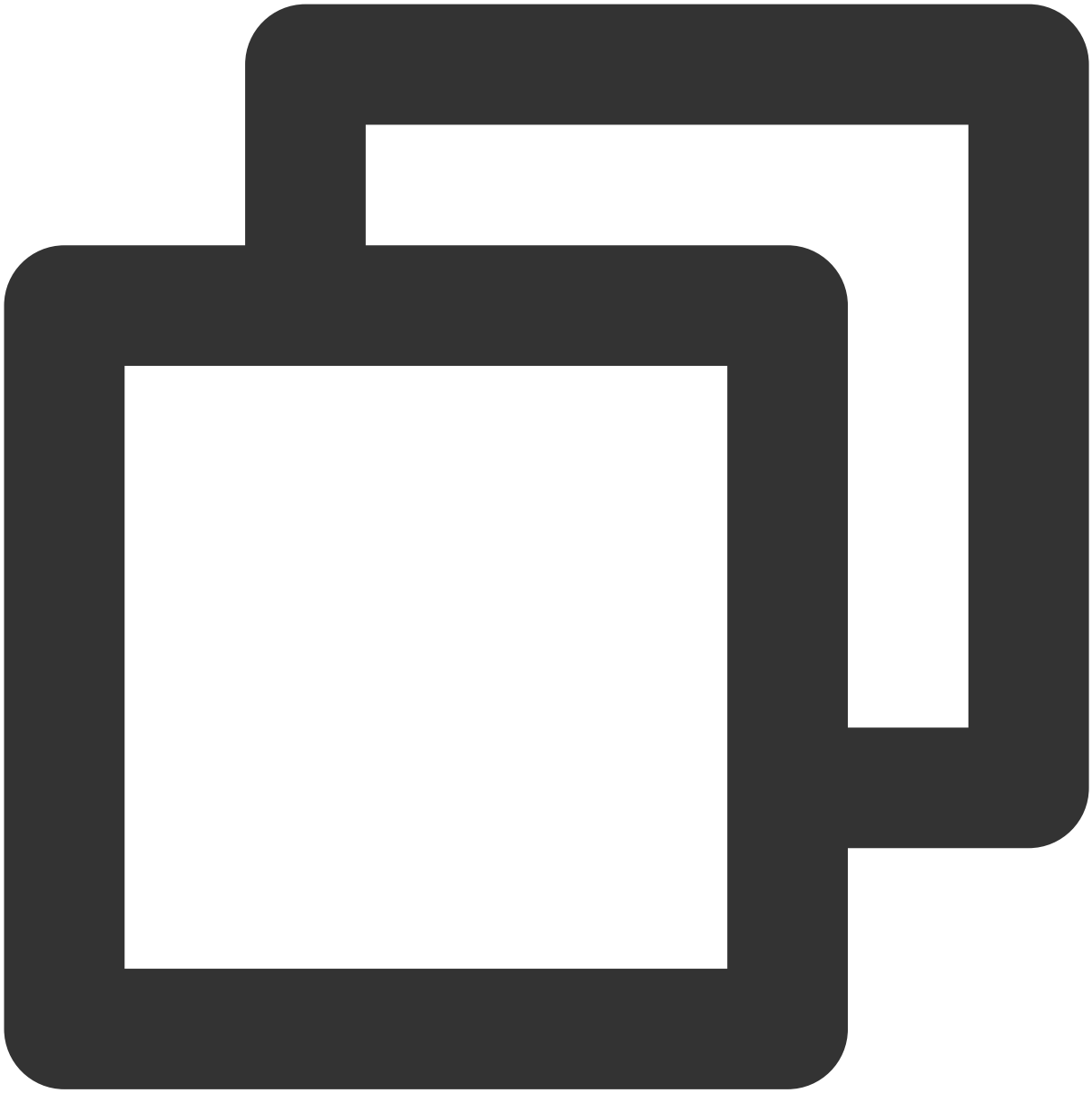
This API is used to turn the mic off.



```
Future<void> closeMicrophone()
```

selectAudioPlaybackDevice

This API is used to select the audio playback device (receiver or speaker). In call scenarios, you can use this API to turn on/off hands-free mode.

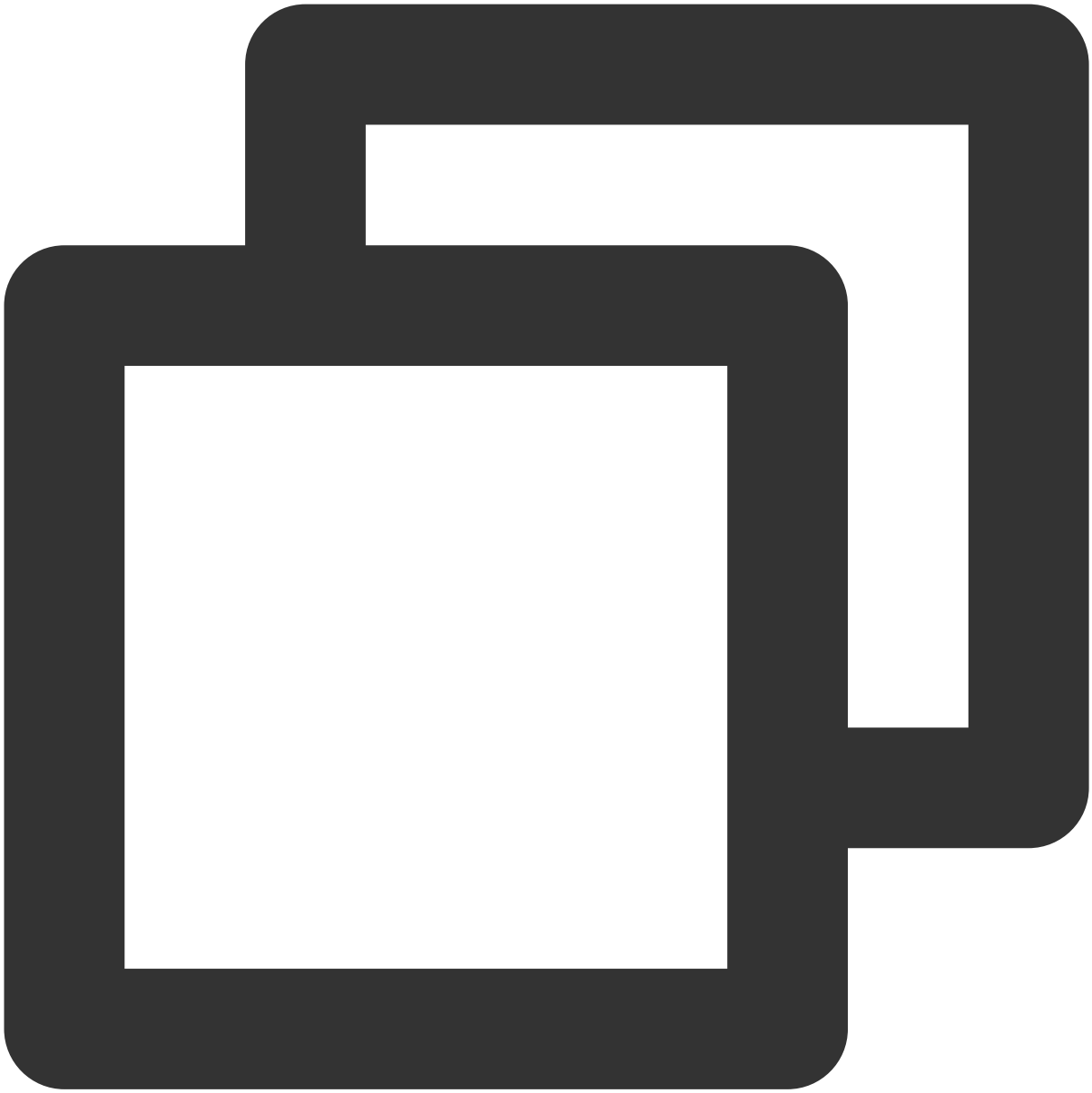


```
Future<void> selectAudioPlaybackDevice(TUIAudioPlaybackDevice device)
```

Parameter	Type	Description
device	TUIAudioPlaybackDevice	The speaker or receiver.

setSelfInfo

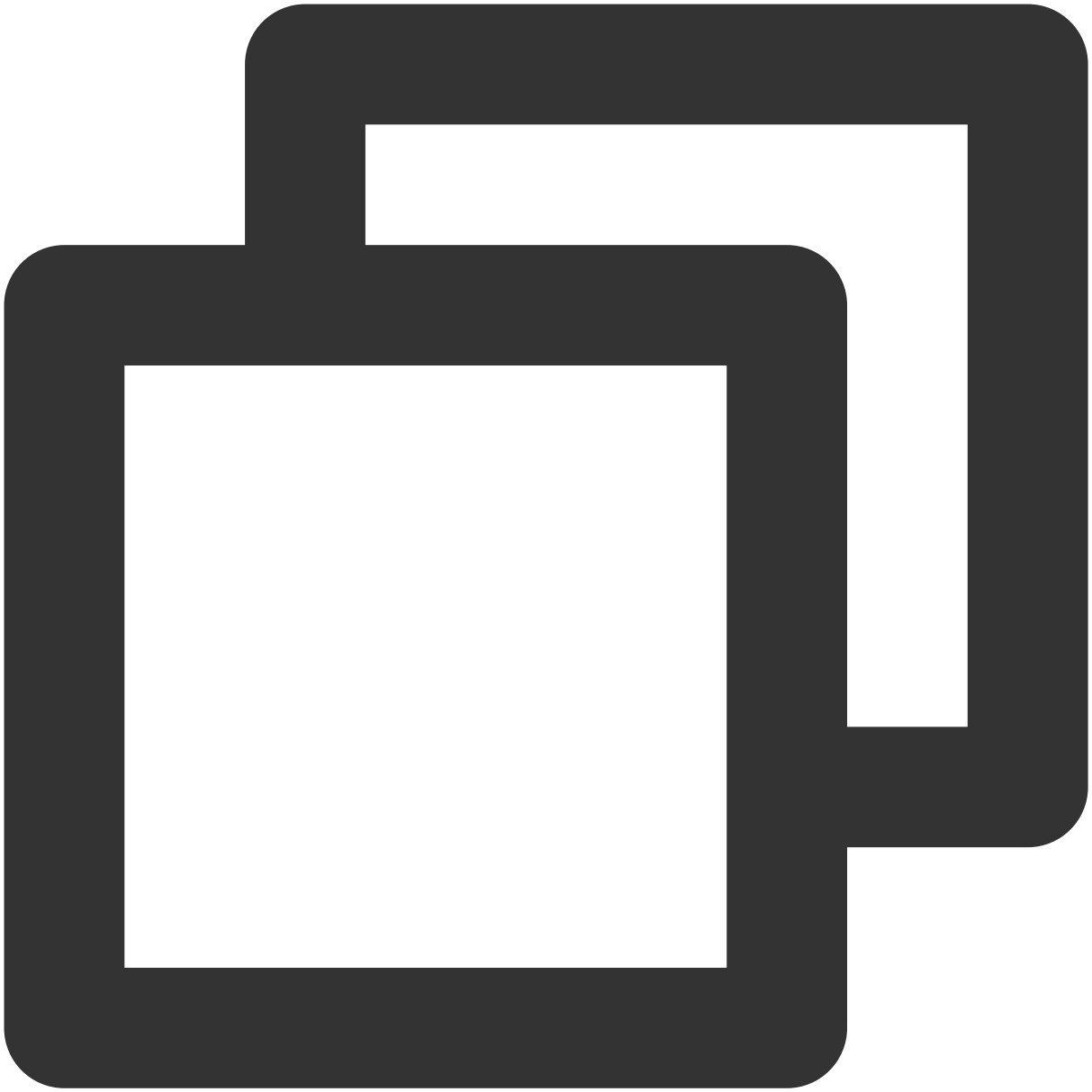
This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.



```
Future<TUIResult> setSelfInfo(String nickname, String avatar)
```

enableMultiDeviceAbility

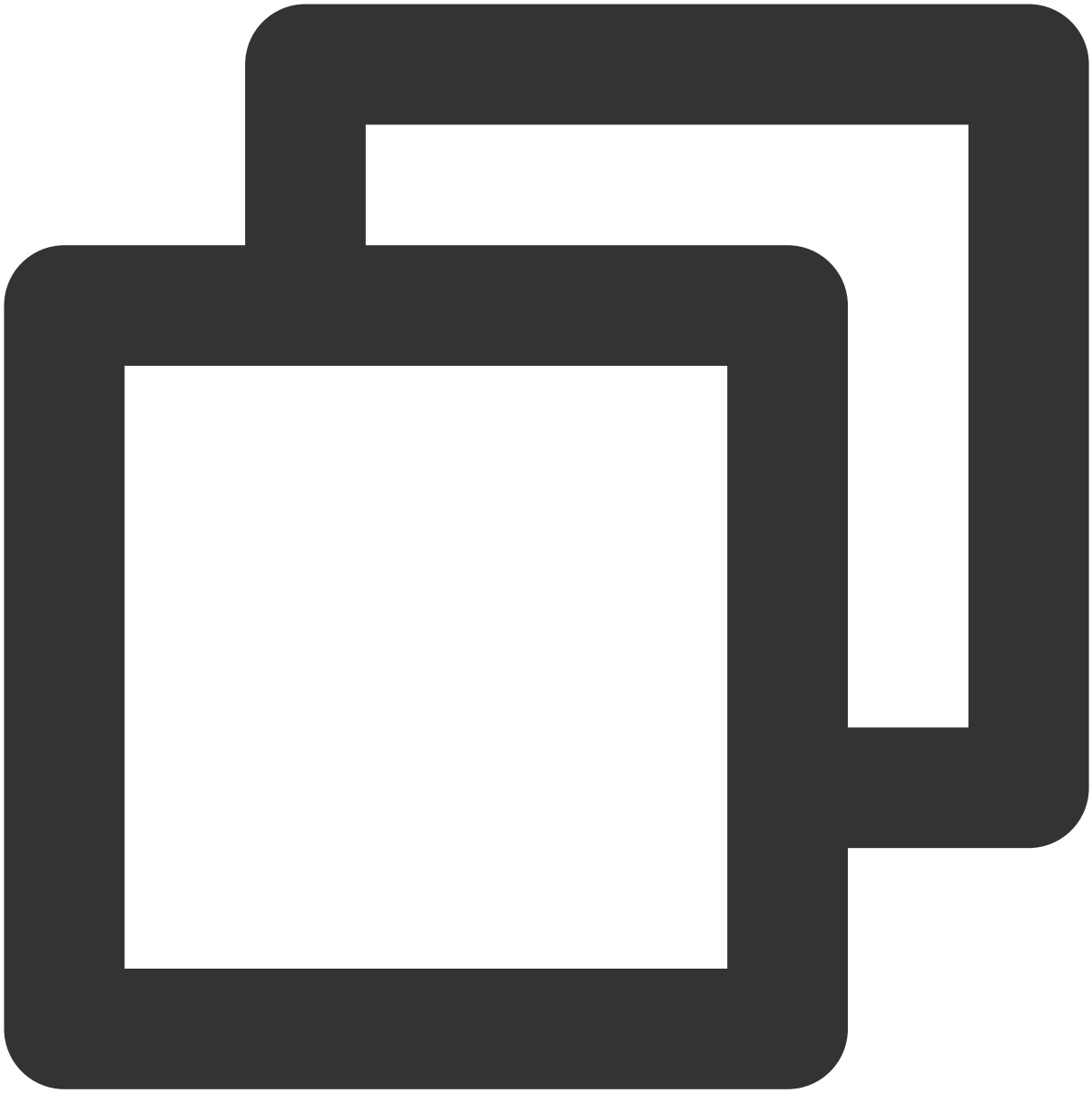
This API is used to set whether to enable multi-device login for `TUICallEngine` (supported by the premium package).



```
Future<TUIResult> enableMultiDeviceAbility(bool enable)
```

setVideoRenderParams

Set the rendering mode of video image.



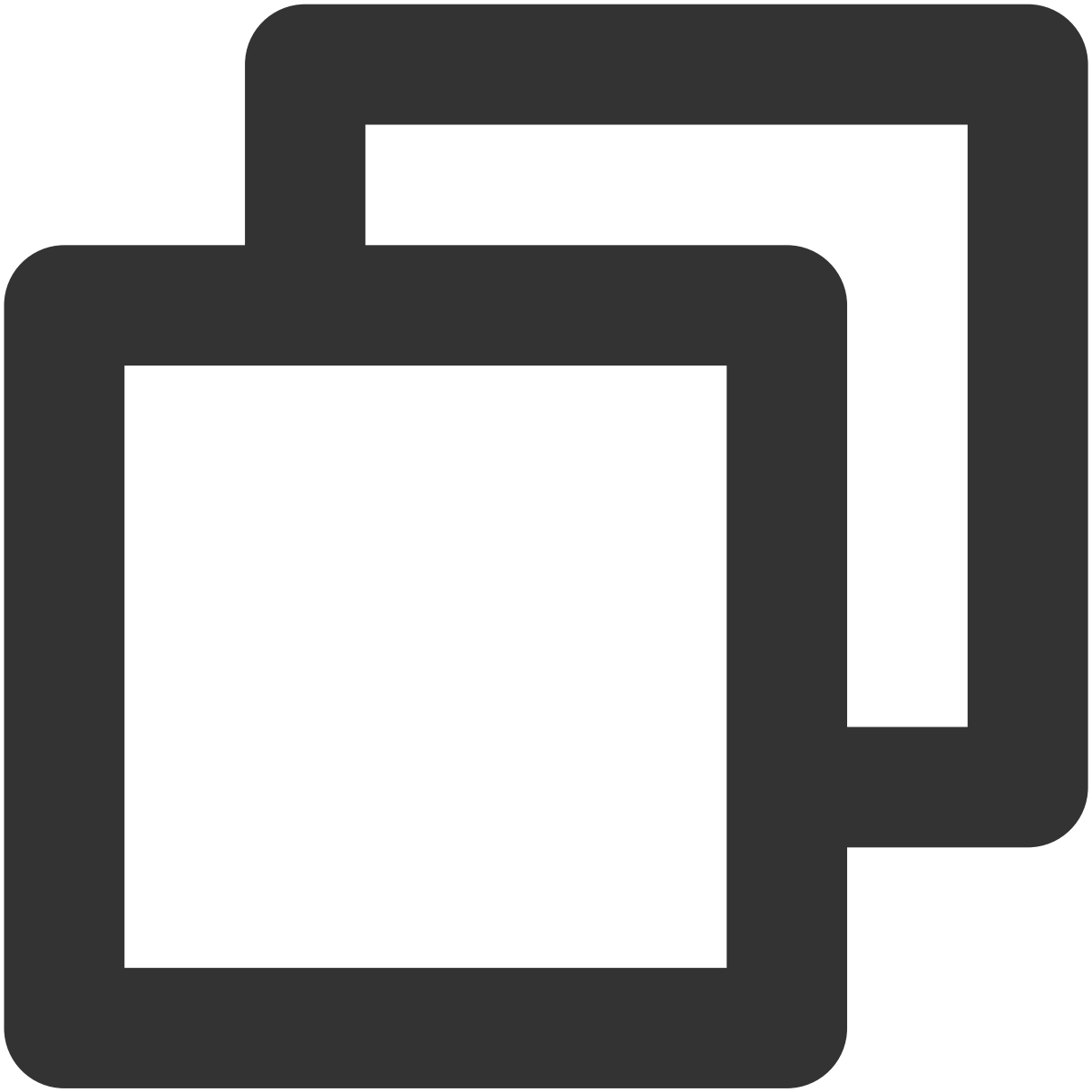
```
Future<TUIResult> setVideoRenderParams(String userId, VideoRenderParams params)
```

Parameter	Type	Description
userId	String	The target user ID.
params	VideoRenderParams	Video render parameters.

setVideoEncoderParams

Set the encoding parameters of video encoder.

This setting can determine the quality of image viewed by remote users, which is also the image quality of on-cloud recording files.

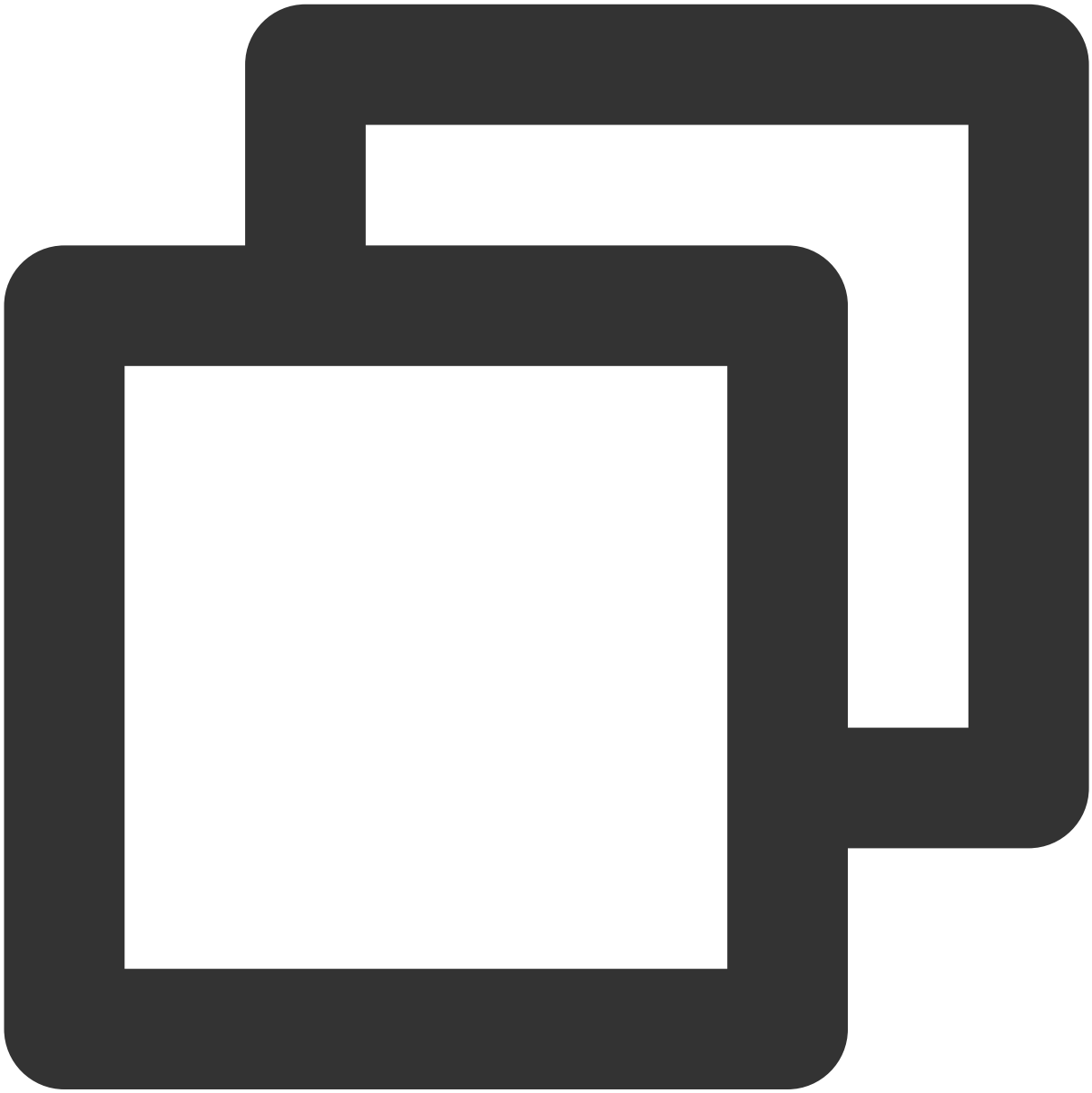


```
Future<TUIResult> setVideoEncoderParams(VideoEncoderParams params)
```

Parameter	Type	Description
params	VideoEncoderParams	Video encoding parameters

queryRecentCalls

Query call record.

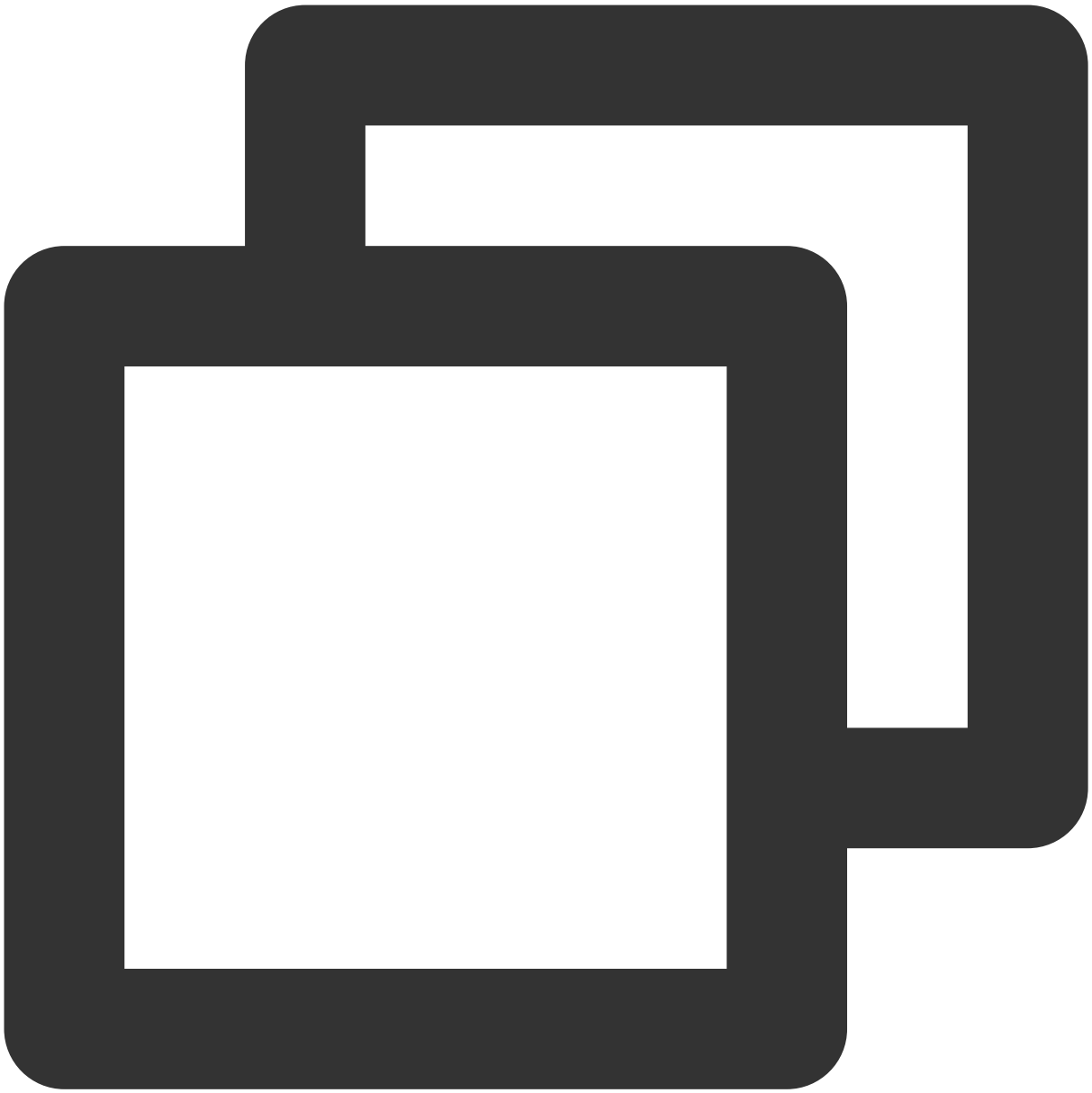


```
Future<void> queryRecentCalls(TUICallRecentCallsFilter filter, TUIValueCallback cal
```

Parameter	Type	Description
filter	TUICallRecentCallsFilter	Filter condition

deleteRecordCalls

Delete call record.

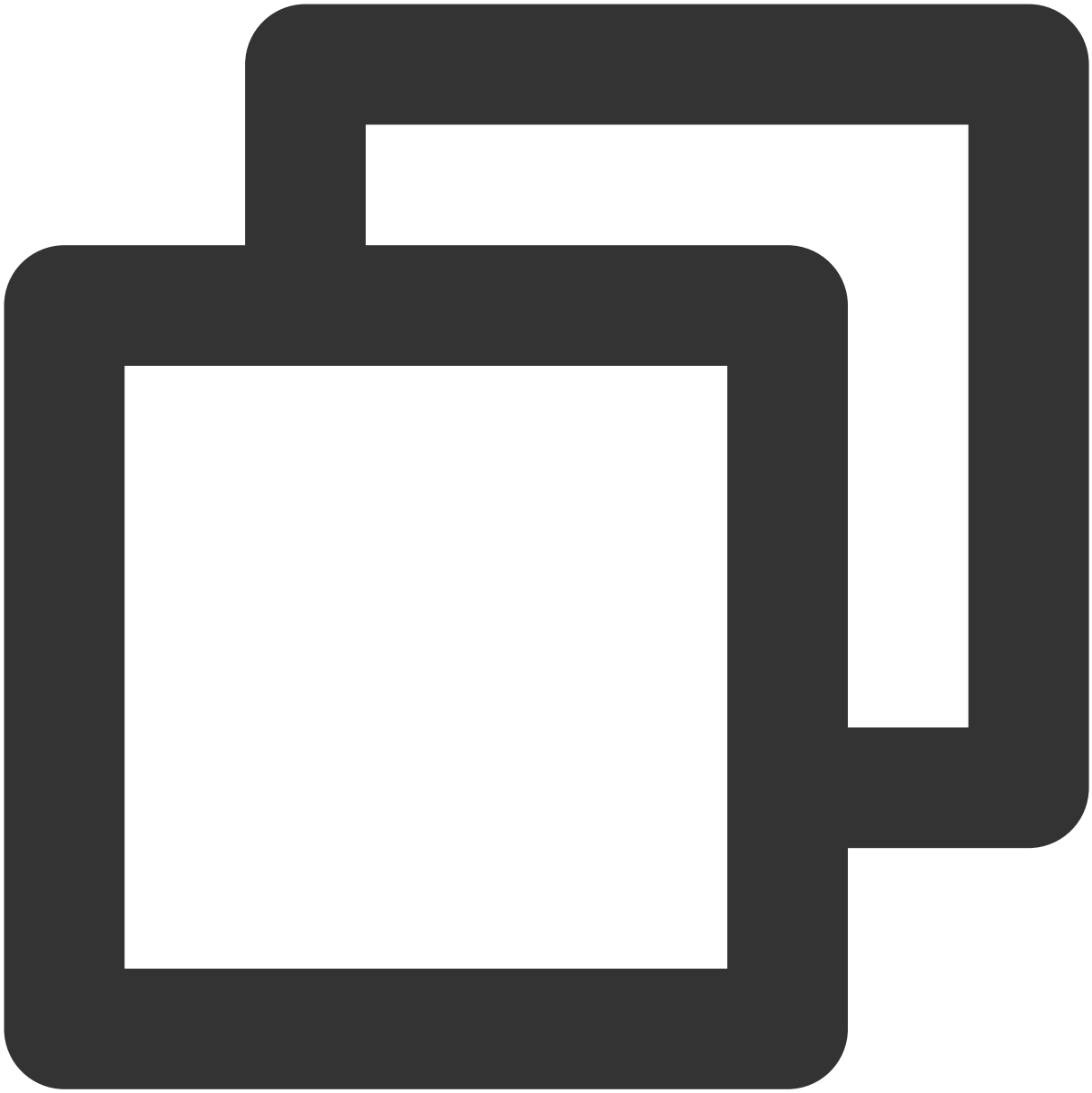


```
Future<void> deleteRecordCalls(List<String> callIdList, TUIValueCallback callback)
```

Parameter	Type	Description
callIdList	List<String>	List of IDs of records to be deleted.

setBeautyLevel

Set beauty level, support turning off default beauty.



```
Future<TUIResult> setBeautyLevel(double level)
```

Parameter	Type	Description
level	double	Beauty level, range 0.0 to 9.0.

TUICallObserver

Last updated：2024-01-23 13:01:17

TUICallObserver API

`TUICallObserver` is the callback class of `TUICallEngine`. You can use it to listen for events.

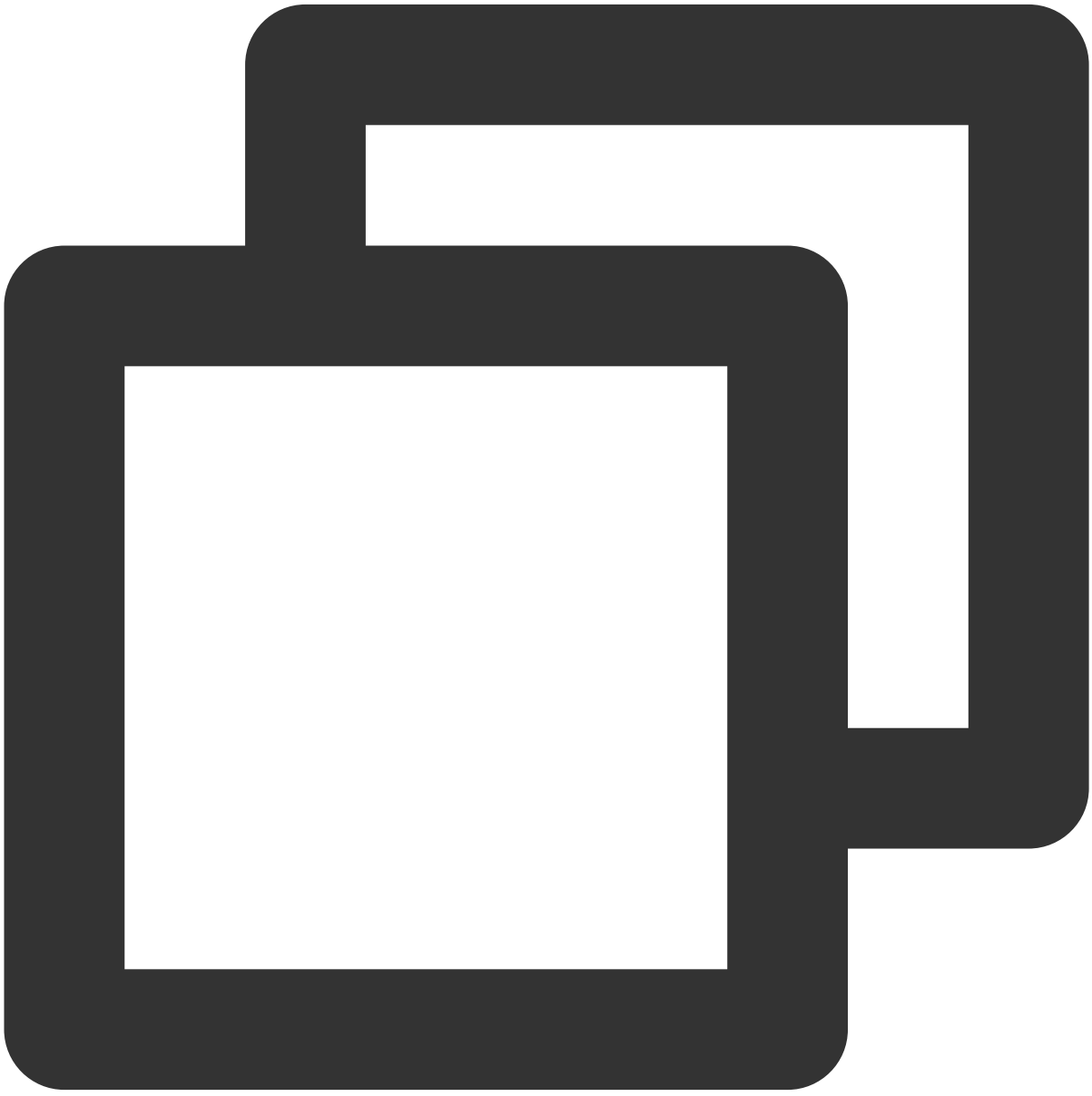
Overview

API	Description
onError	A call occurred during the call.
onCallReceived	A call invitation was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user was kicked offline.

onUserSigExpired	The user sig is expired.

Details

Listen to the events thrown by the Flutter plugin through addObserver.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onError: (int code, String message) {
```

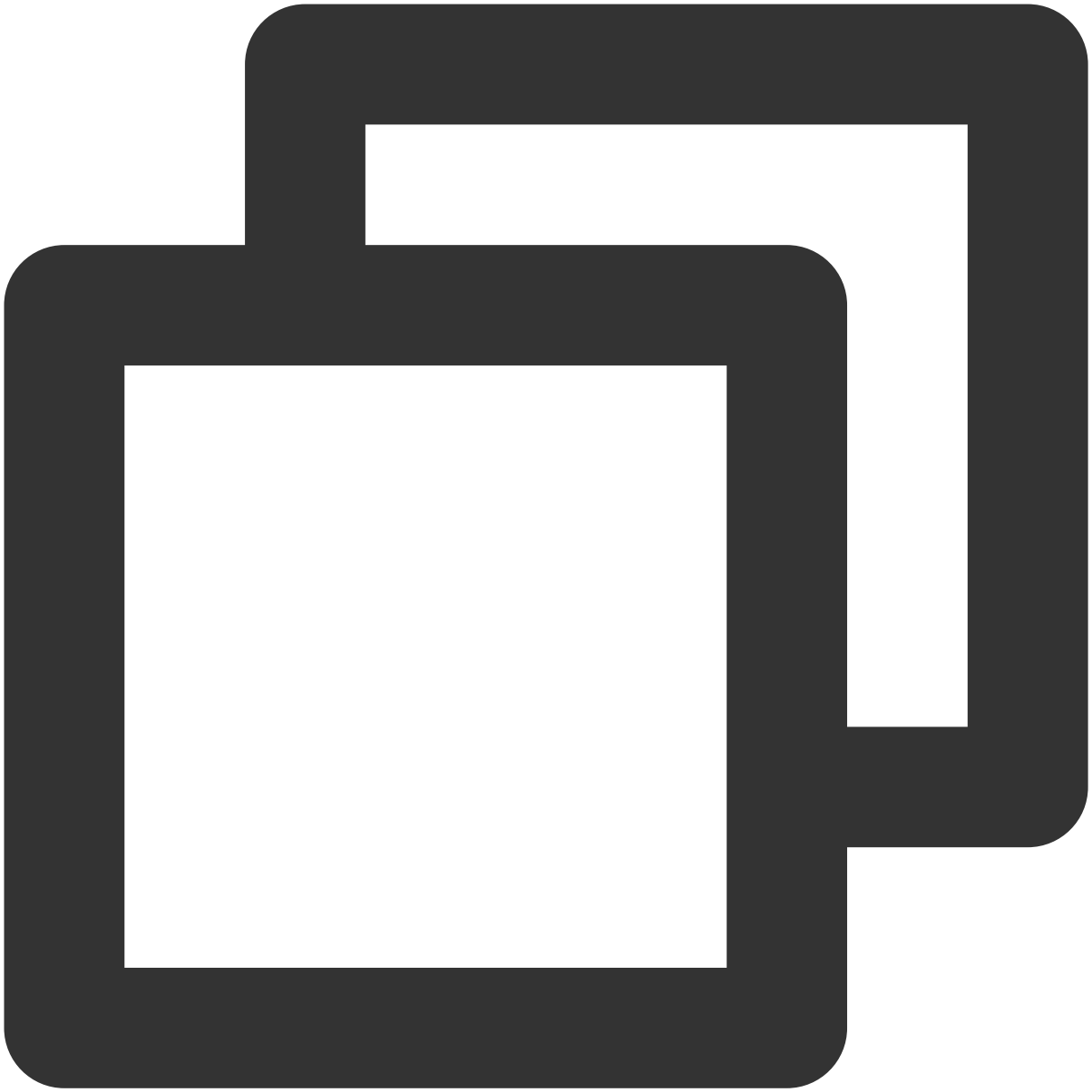
```
    },onCallCancelled: (String callerId) {

    }, onCallBegin: (TUIRoomId roomId, TUICallMediaType callMediaType, TUICallRole

    }, onCallEnd: (TUIRoomId roomId, TUICallMediaType callMediaType, TUICallRole ca

    }, onCallMediaTypeChanged: (TUICallMediaType oldCallMediaType, TUICallMediaType

    }, onUserReject: (String userId) {

    }, onUserNoResponse: (String userId) {

    }, onUserLineBusy: (String onUserLineBusy) {

    }, onUserJoin: (String userId) {

    }, onUserLeave: (String userId) {

    }, onUserVideoAvailable: (String userId, bool isVideoAvailable) {

    }, onUserAudioAvailable: (String userId, bool isAudioAvailable) {

    }, onUserNetworkQualityChanged: (List<TUINetworkQualityInfo> networkQualityList

    }, onCallReceived: (String callerId, List<String> calleeIdList, String groupId,

    }, onUserVoiceVolumeChanged: (Map<String, int> volumeMap) {

    }, onKickedOffline: () {

    }, onUserSigExpired: () {

    }
));
```

onError

An error occurred.

Note

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users if necessary.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onError: (int code, String message) {
    }
));
```

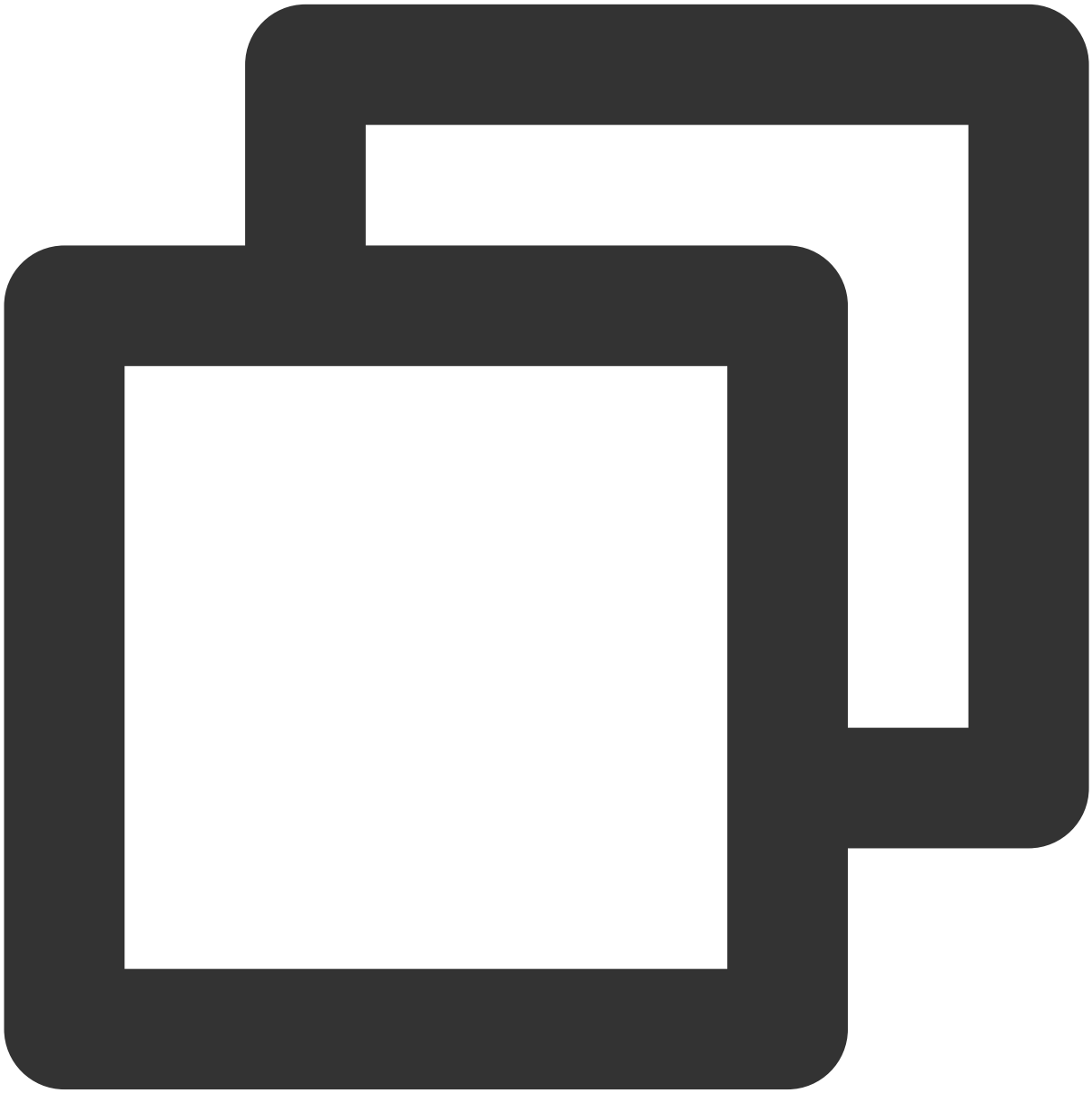
The parameters are described below:

Parameter	Type	Description
code	int	The error code.

message	String	The error message.

onCallReceived

A call invitation was received. This callback is received by an invitee. You can listen for this event to determine whether to display the incoming call view.



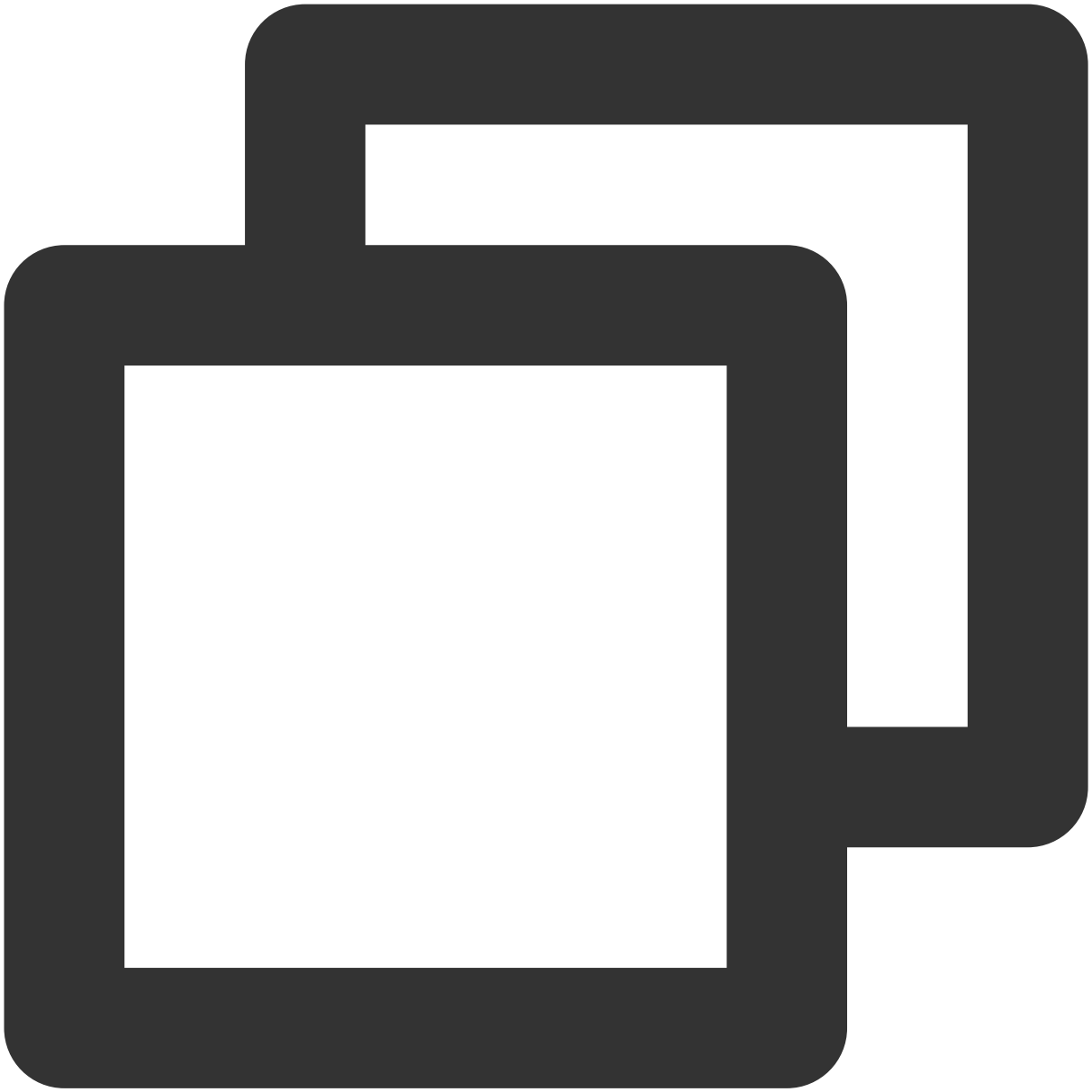
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onCallReceived: (String callerId, List<String> calleeIdList, String groupId, TU
    }
));
```

The parameters are described below:

Parameter	Type	Description
callerId	String	The user ID of the inviter.
calleeIdList	List<String>	The invitee list.
groupId	String	The group ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.

onCallCancelled

The call was canceled by the inviter or timed out. This callback is received by an invitee. You can listen for this event to determine whether to show a missed call message.
This indicates that the call was canceled by the caller, timed out by the callee, rejected by the callee, or the callee was busy. There are multiple scenarios involved. You can listen to this event to achieve UI logic such as missed calls and resetting UI status.
Call cancellation by the caller: The caller receives the callback (userId is himself); the callee receives the callback (userId is the ID of the caller) .
Callee timeout: the caller will simultaneously receive the onUserNoResponse and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID) .
Callee rejection: The caller will simultaneously receive the onUserReject and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID) .
Callee busy: The caller will simultaneously receive the onUserLineBusy and onCallCancelled callbacks (userId is his own ID);
Abnormal interruption: The callee failed to receive the call ， he receives this callback (userId is his own ID).



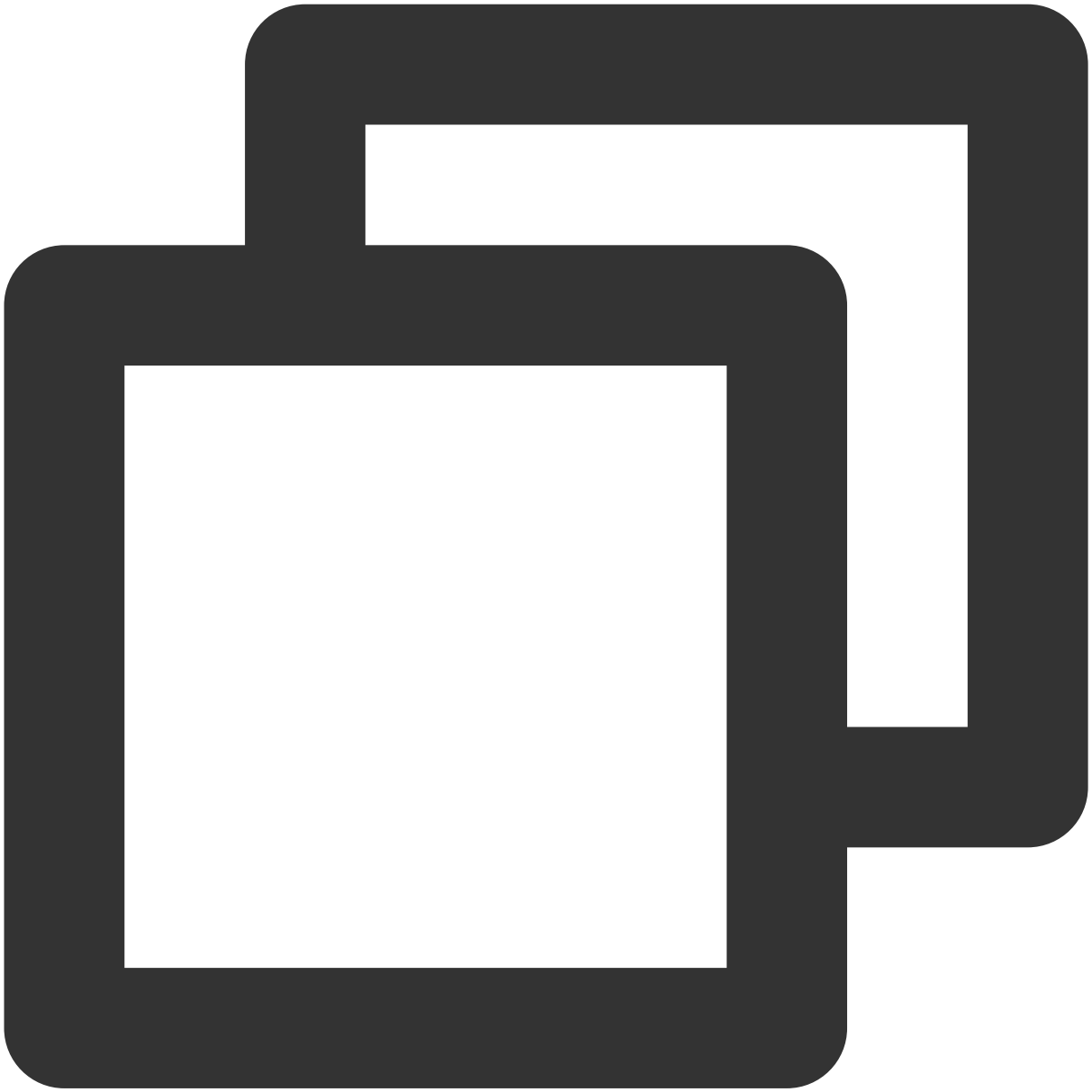
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onCallCancelled: (String userId) {
    }
));
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the inviter.

onCallBegin

The call was connected. This callback is received by both the inviter and invitees. You can listen for this event to determine whether to start on-cloud recording, content moderation, or other tasks.



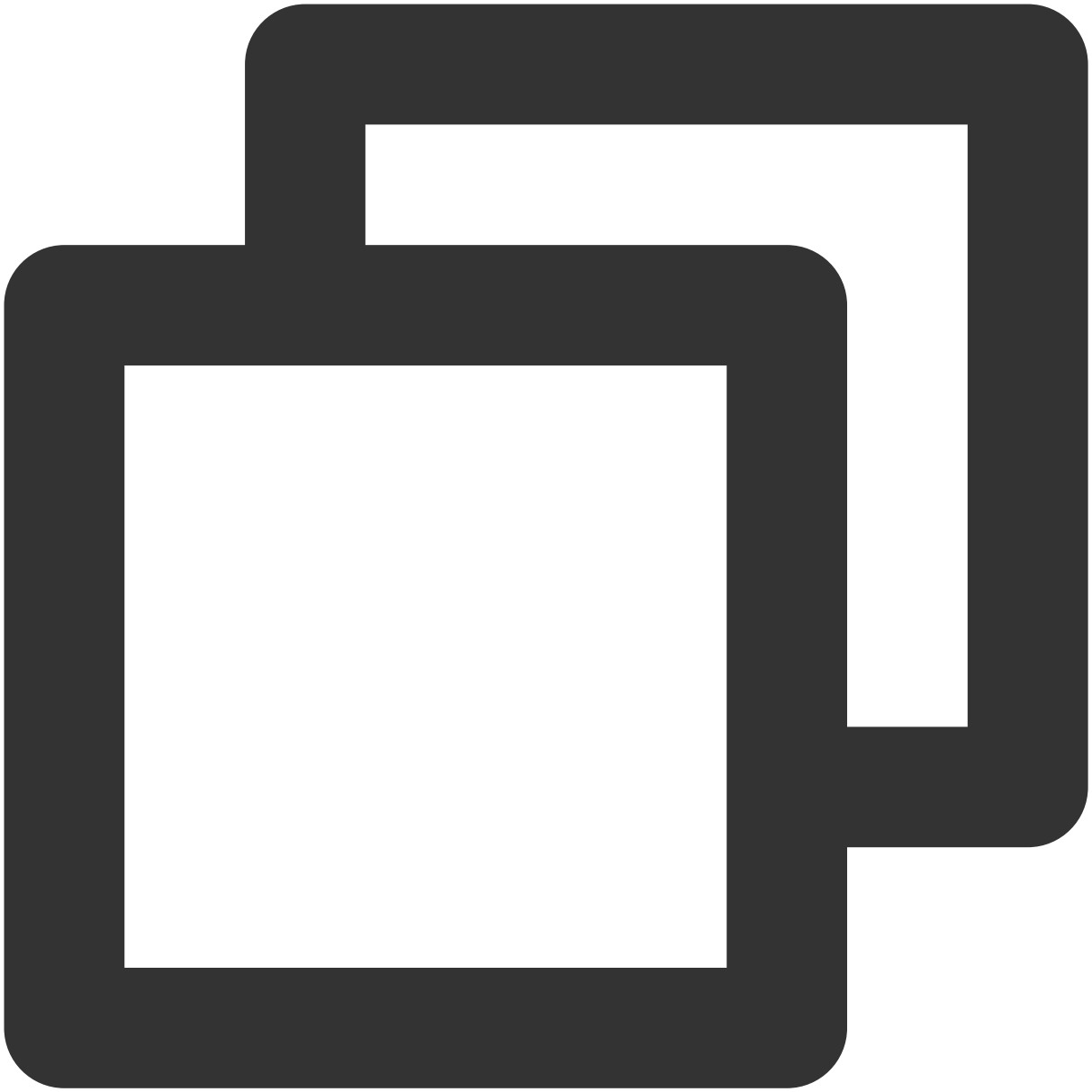
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onCallBegin: (TUIRoomId roomId, TUICallMediaType callMediaType, TUICallRole cal
    }
));
```

The parameters are described below:

Parameter	Type	Description
roomId	TUIRoomId	The room ID.
callMediaType	TUICallMediaType	The call type, which can be video or audio.
callRole	TUICallRole	The role, which can be caller or callee.

onCallEnd

The call ended. This callback is received by both the inviter and invitees. You can listen for this event to determine when to display call information such as call duration and call type, or stop on-cloud recording.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onCallEnd: (TUIRoomId roomId, TUICallMediaType callMediaType, TUICallRole callR
    }
));
```

The parameters are described below:

Parameter	Type	Description
roomId	TUIRoomId	The room ID.

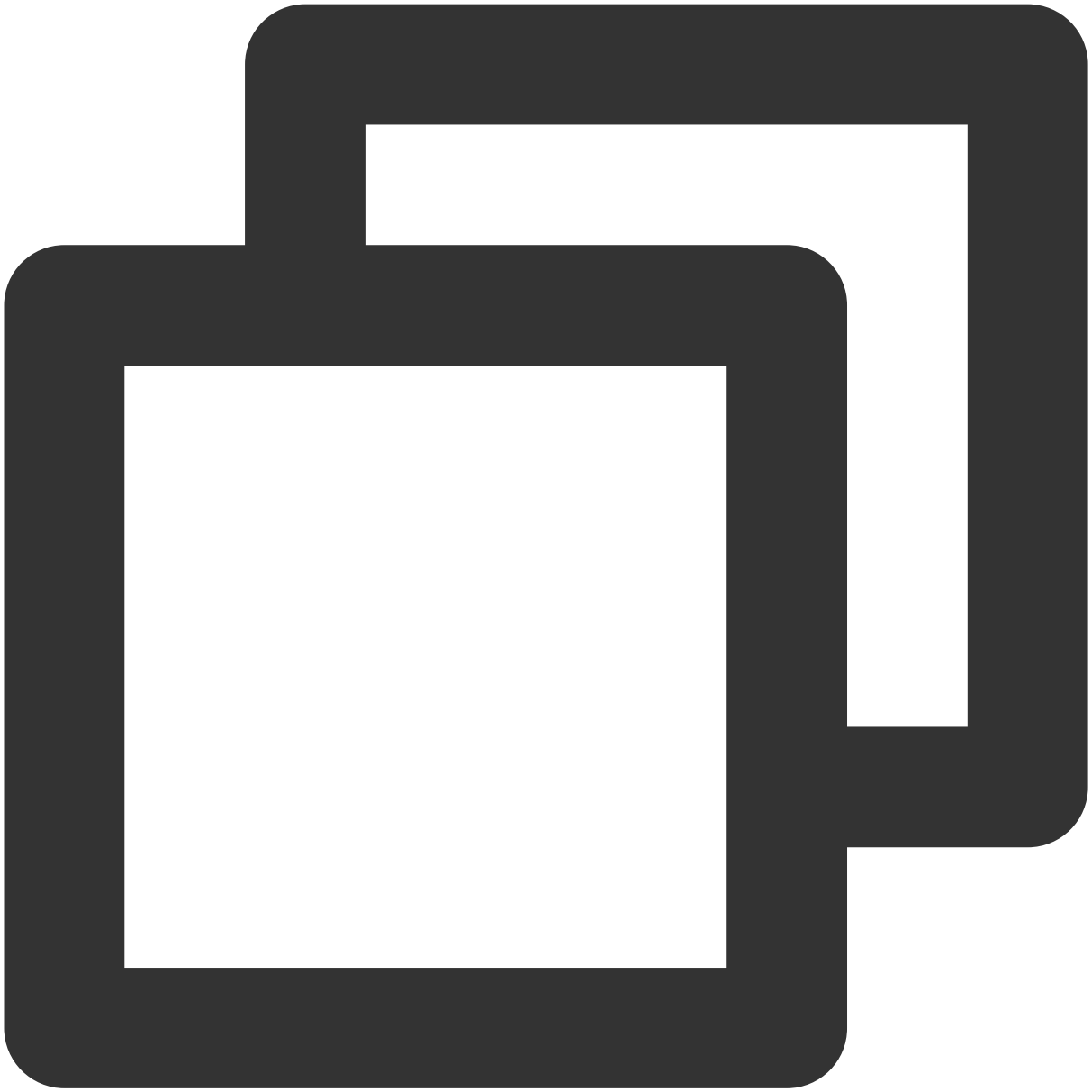
callMediaType	TUICallMediaType	The call type, which can be video or audio.
callRole	Number	The role, which can be caller or callee.
totalTime	double	The call duration.

Note

Client-side callbacks are often lost when errors occur, for example, when the process is closed. If you need to measure the duration of a call for billing or other purposes, we recommend you use the RESTful API.

onCallMediaTypeChanged

The call type changed.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onCallMediaTypeChanged: (TUICallMediaType oldCallMediaType, TUICallMediaType ne
    }
));
```

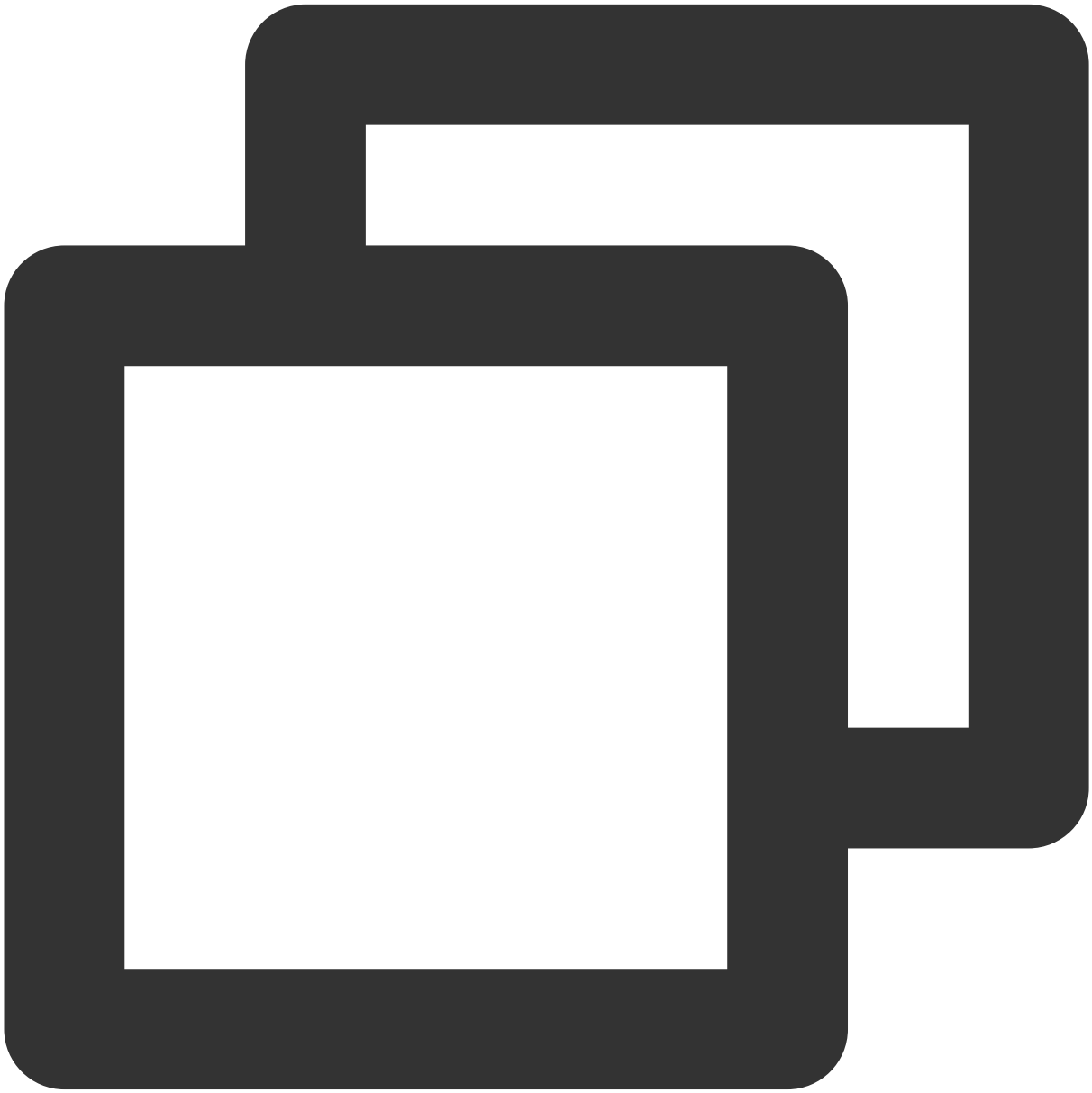
The parameters are described below:

Parameter	Type	Description
oldCallMediaType	TUICallMediaType	The call type before the change.

newCallMediaType	TUICallMediaType	The call type after the change.

onUserReject

The call was rejected. In a one-to-one call, only the inviter will receive this callback. In a group call, all invitees will receive this callback.



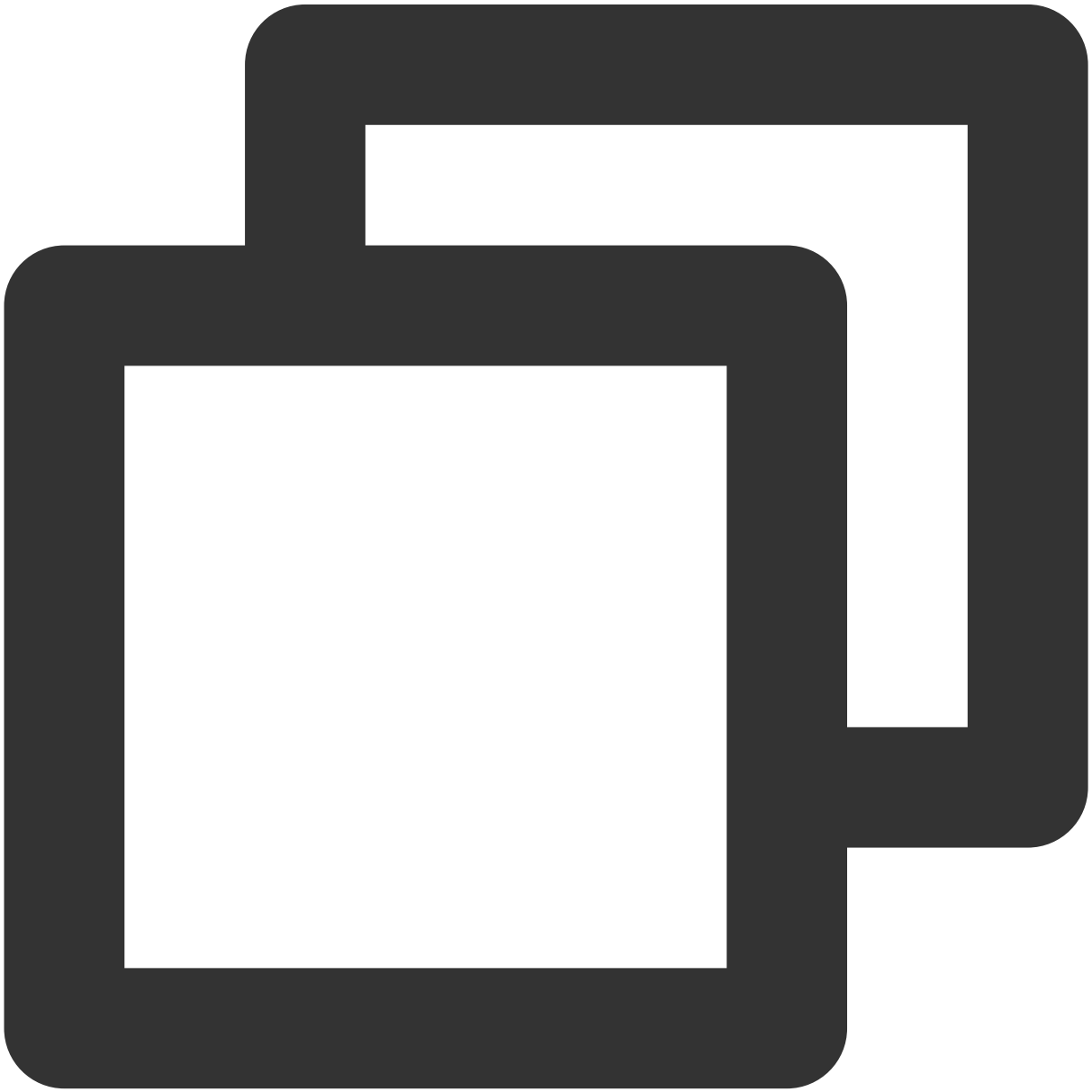
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserReject: (String userId) {
    }
));
```

The parameters are described below:

Parameter	Type	Description
res.userId	String	The user ID of the invitee who rejected the call.

onUserNoResponse

A user did not respond.



```
TUICallEngine.instance.addObserver(TUICallObserver(
```

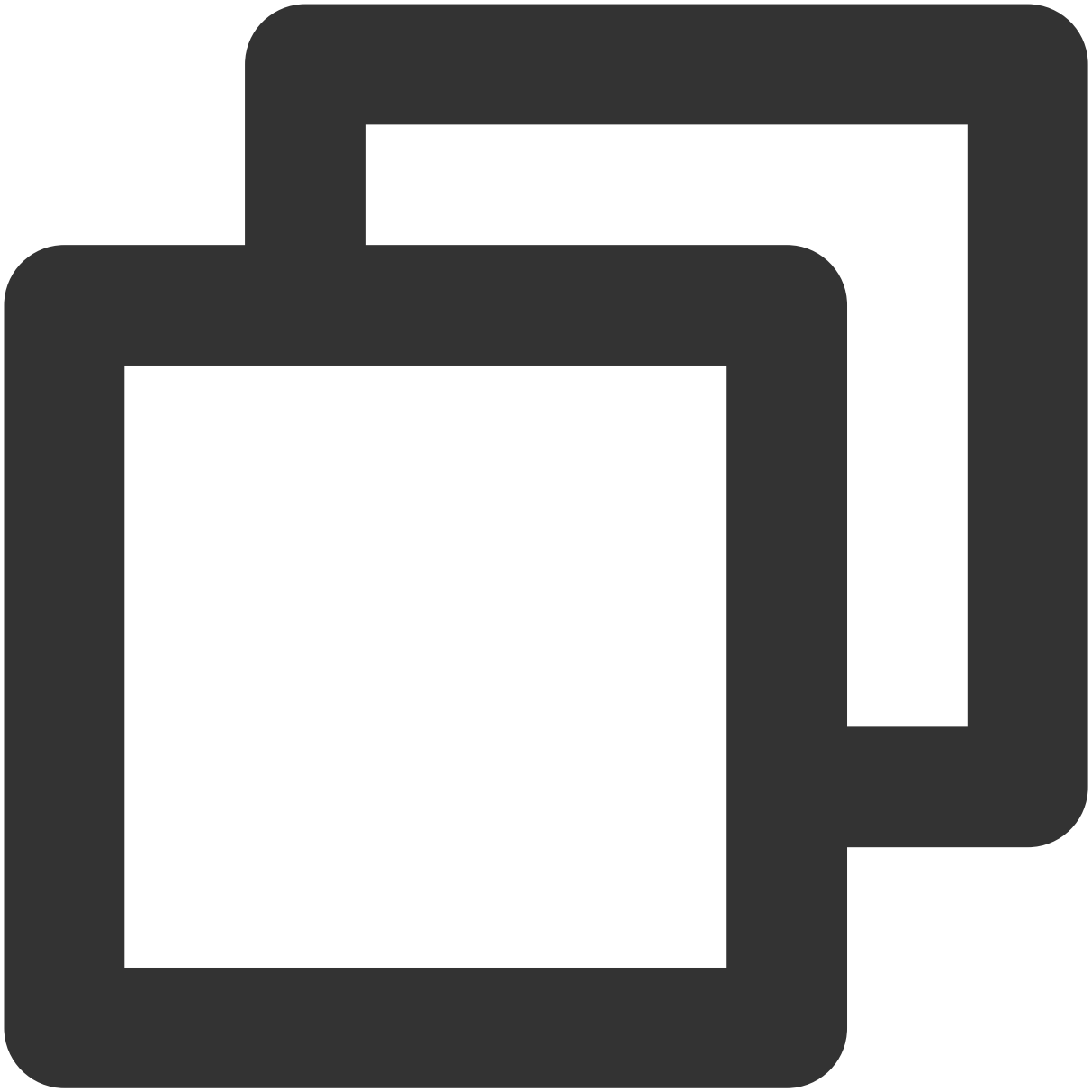
```
    onUserNoResponse: (String userId) {
    }
));
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the invitee who did not answer.

onUserLineBusy

A user is busy.



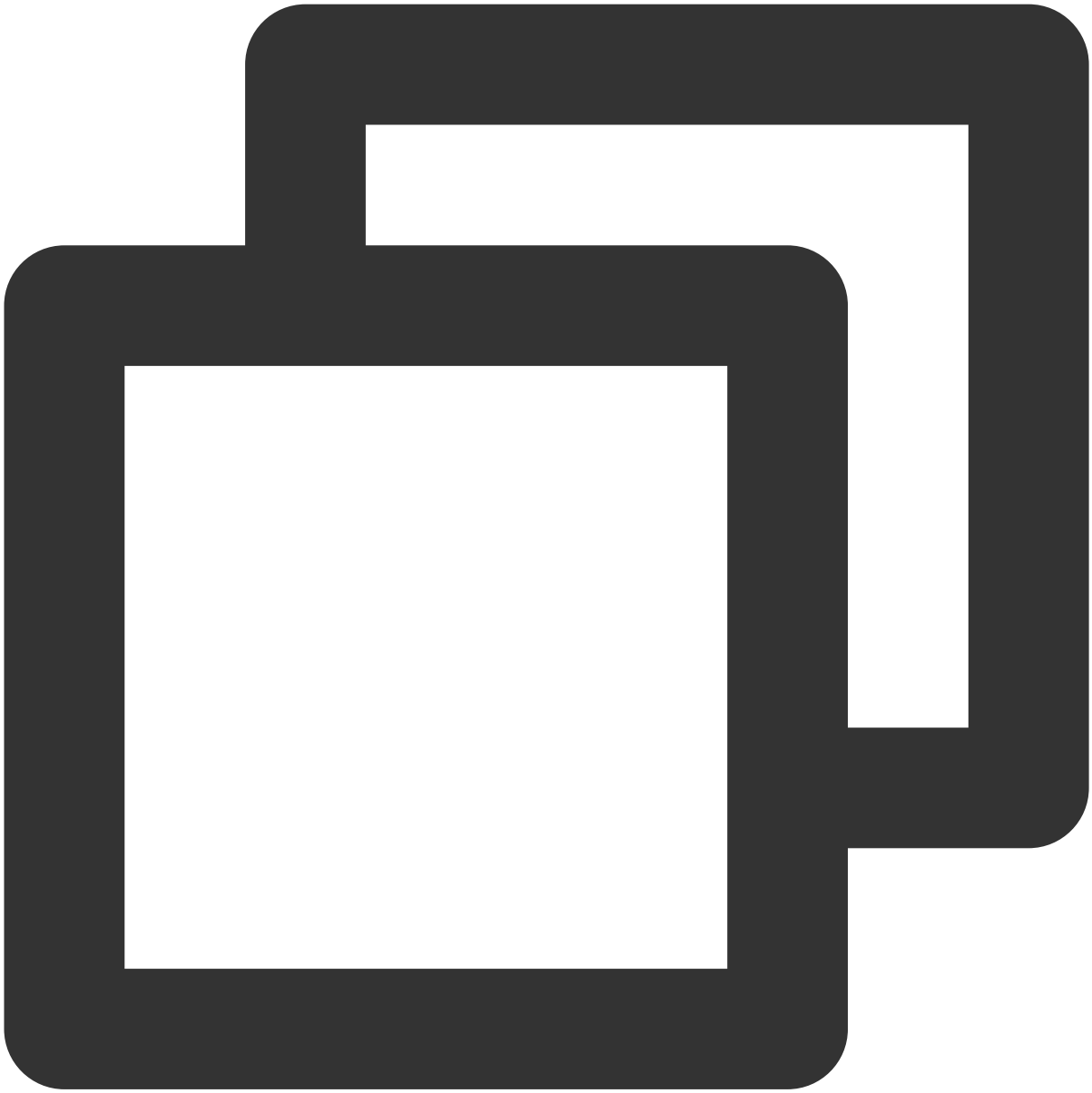
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserLineBusy: (String onUserLineBusy) {
    },
));
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the invitee who is busy.

onUserJoin

A user joined the call.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserJoin: (String userId) {
    }
));
```

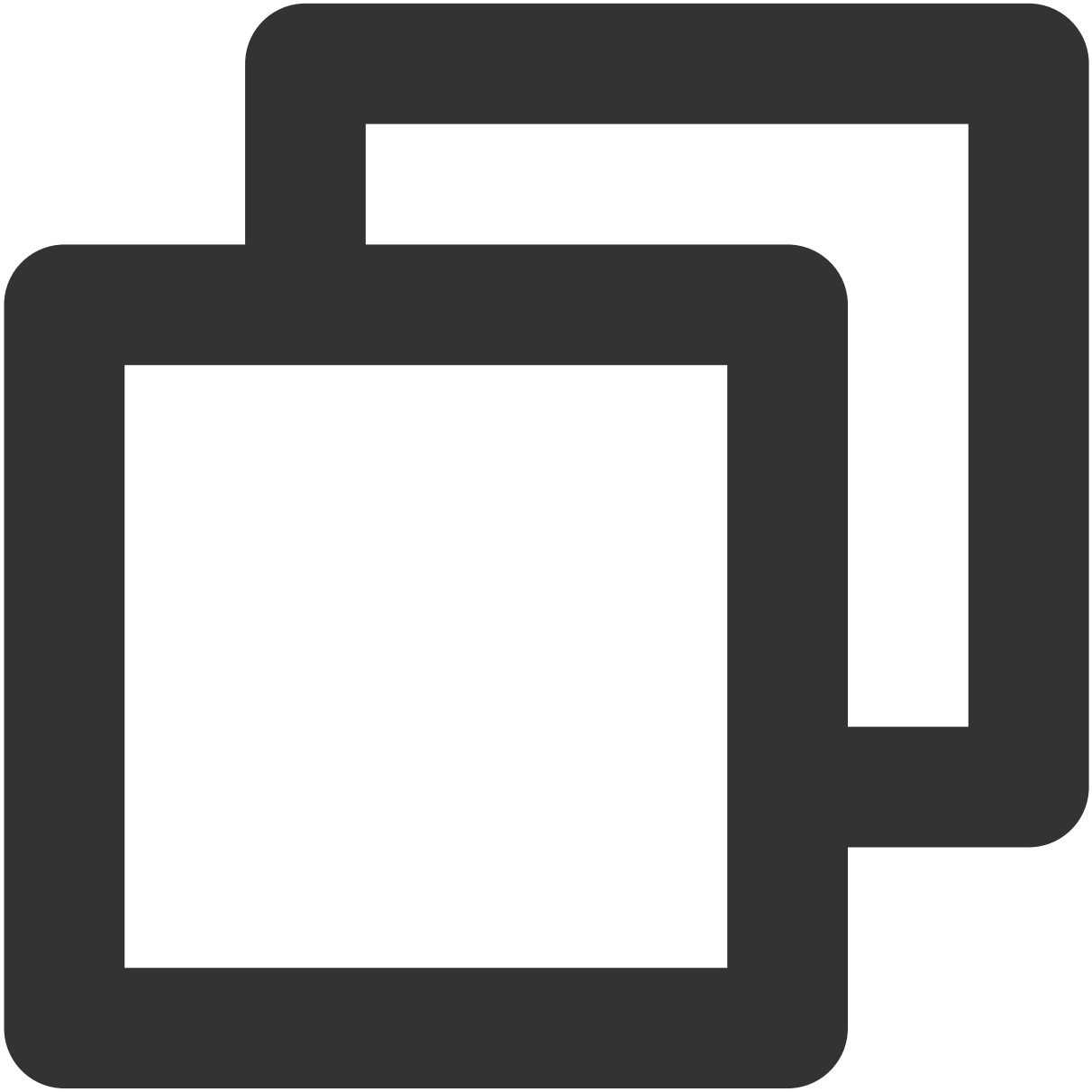
The parameters are described below:

Parameter	Type	Description

userId	String	The ID of the user who joined the call.

onUserLeave

A user left the call.



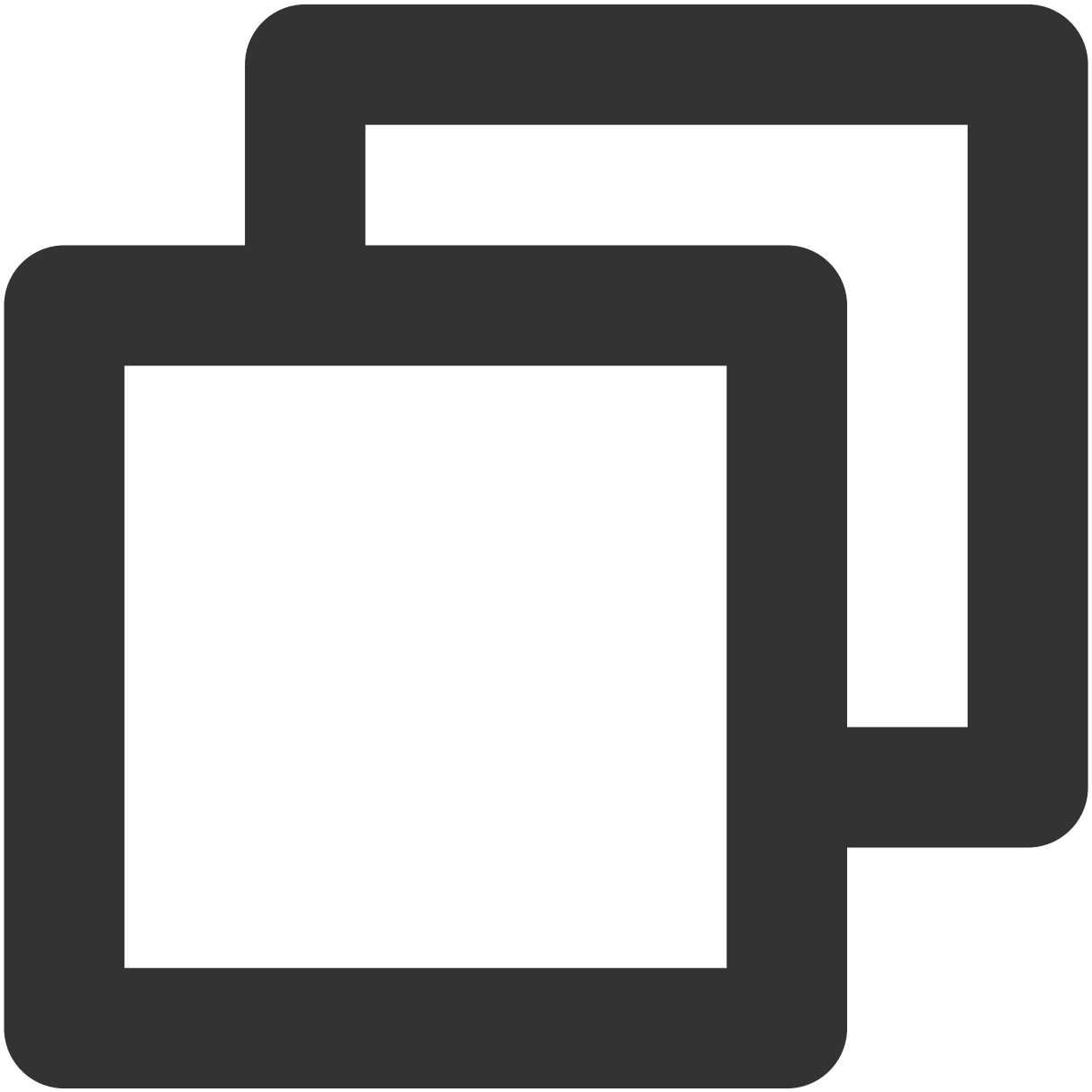
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserLeave: (String userId) {
    }
));
```

The parameters are described below:

Parameter	Type	Description
userId	String	The ID of the user who left the call.

onUserVideoAvailable

Whether a user is sending video.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserVideoAvailable: (String userId, bool isVideoAvailable) {
```

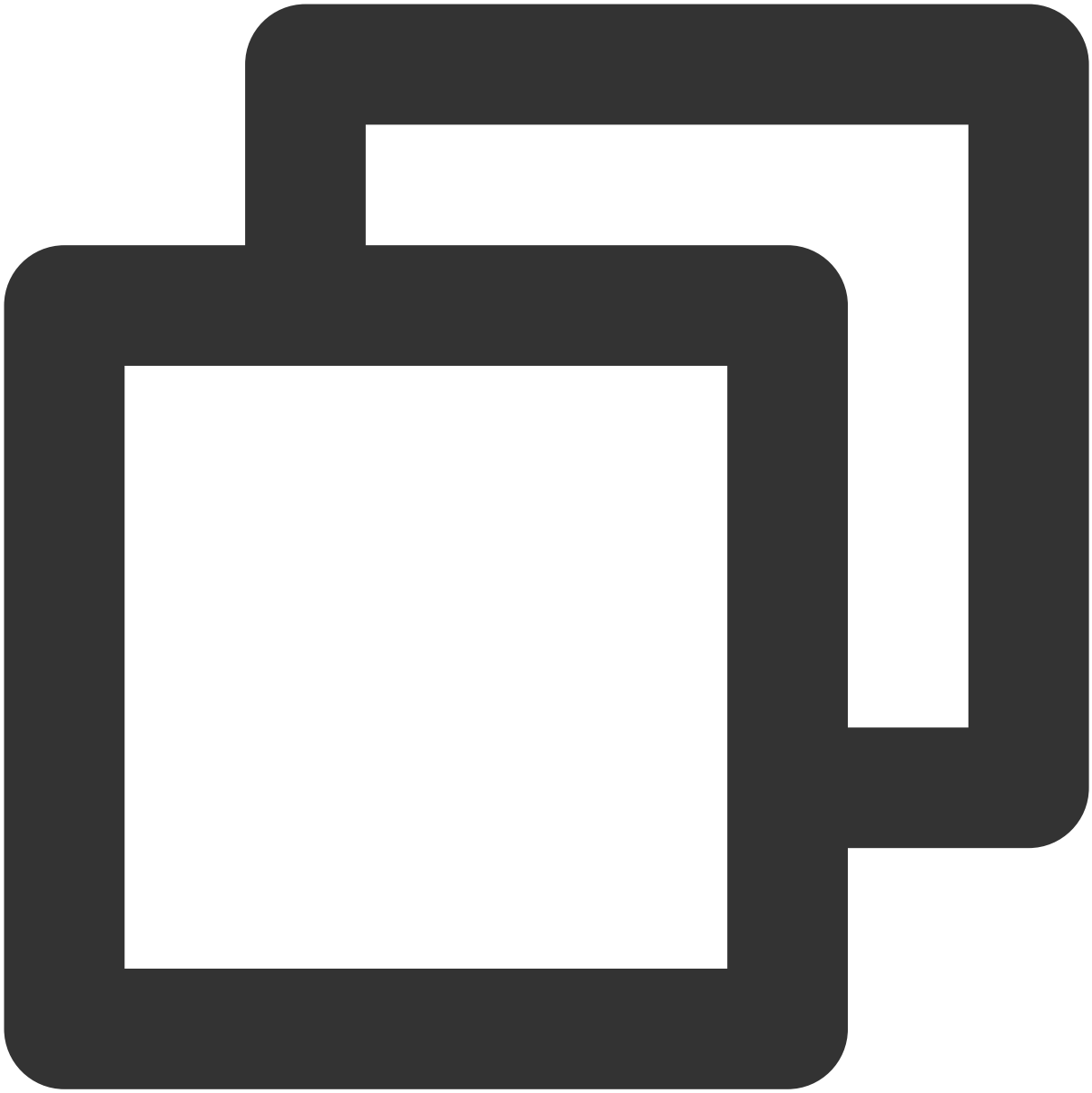
```
      }
));
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.
isVideoAvailable	bool	Whether the user has video.

onUserAudioAvailable

Whether a user is sending audio.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserAudioAvailable: (String userId, bool isAudioAvailable) {
    }
));
```

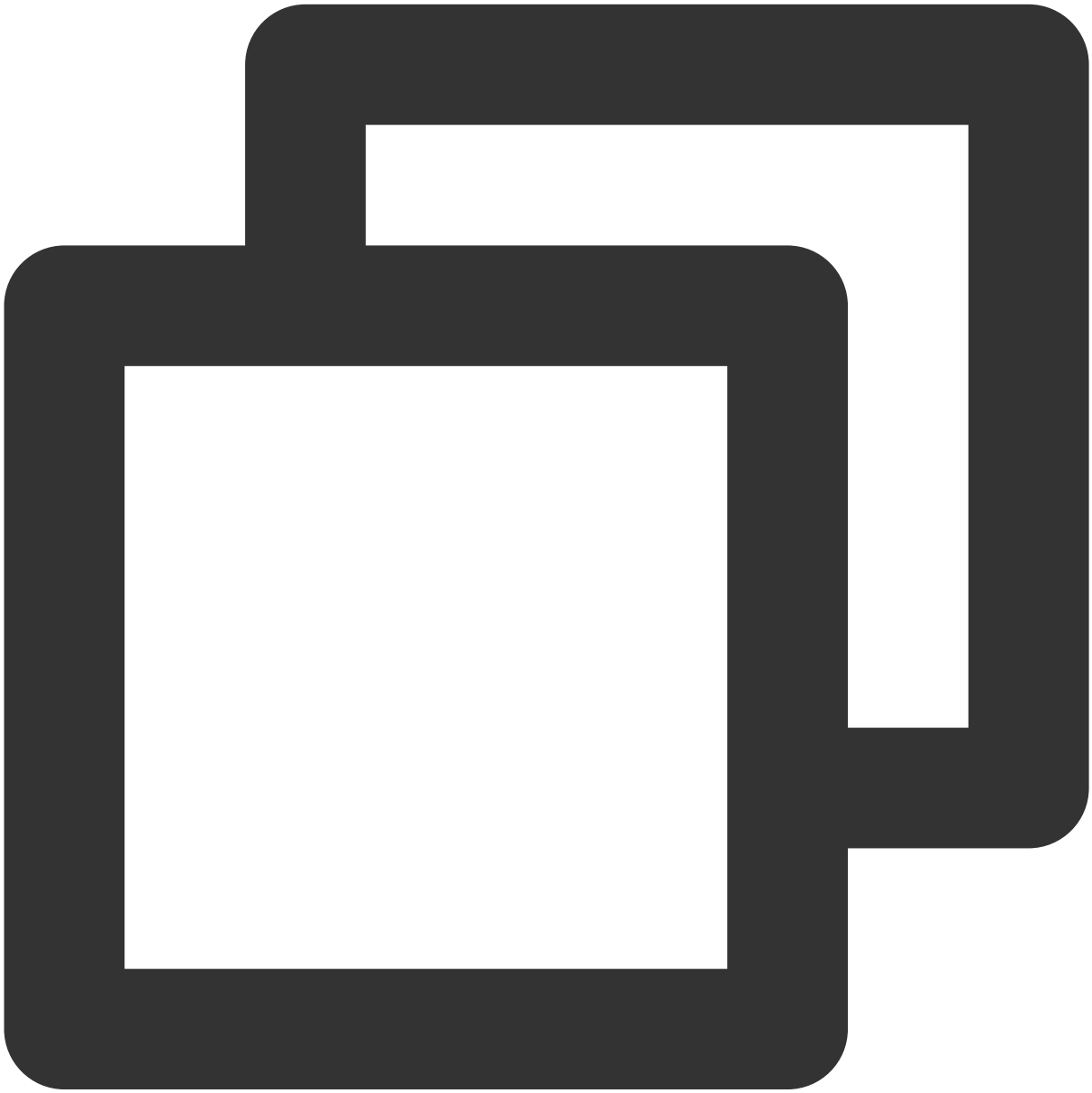
The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.

isAudioAvailable	bool	Whether the user has audio.

onUserVoiceVolumeChanged

The volumes of all users.



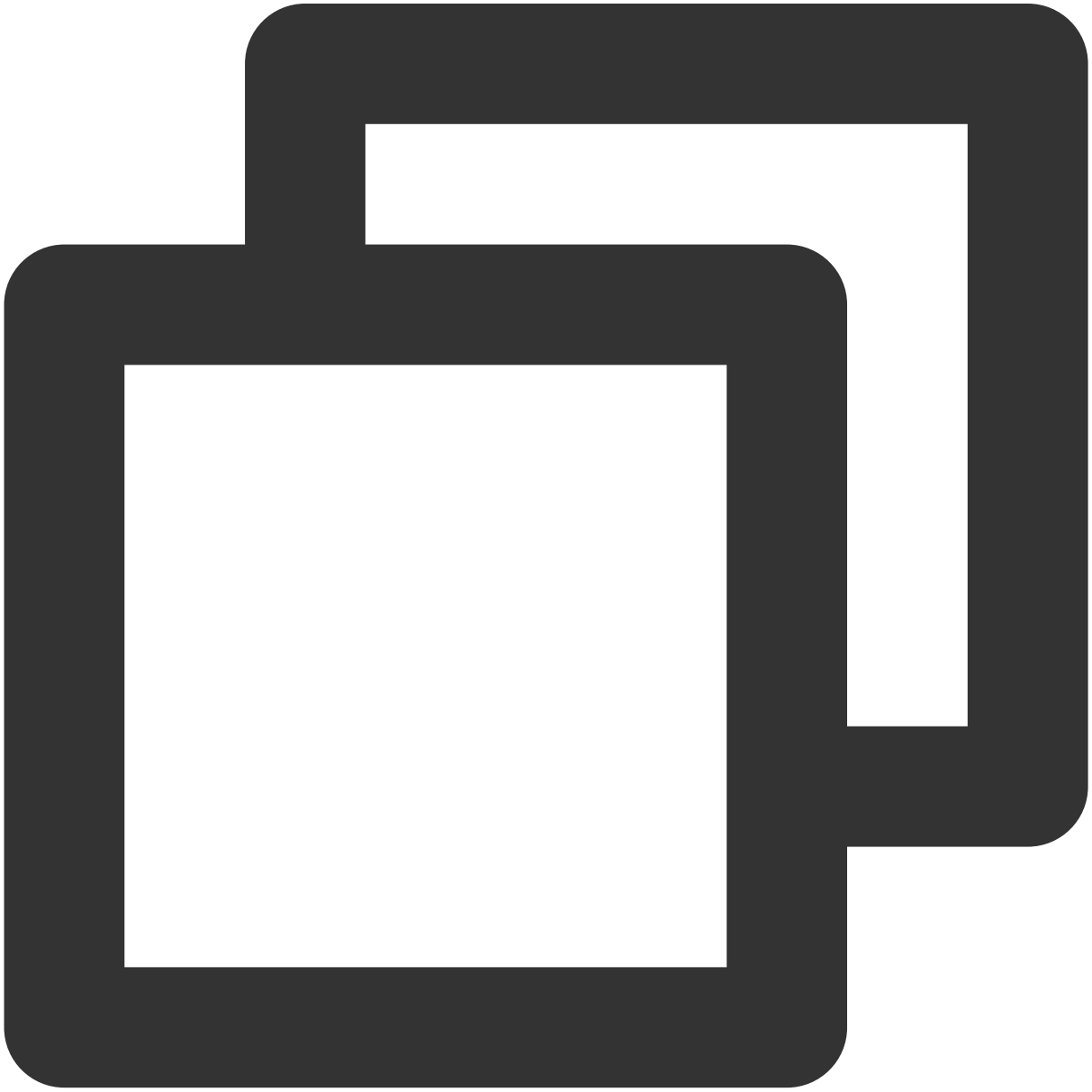
```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserVoiceVolumeChanged: (Map<String, int> volumeMap) {
    }
));
```

The parameters are described below:

Parameter	Type	Description
volumeMap	Map<String, int>	The volume table, which includes the volume of each user (userId). Value range: 0-100.

onUserNetworkQualityChanged

The network quality of all users.



```
TUICallEngine.instance.addObserver(TUICallObserver(
```

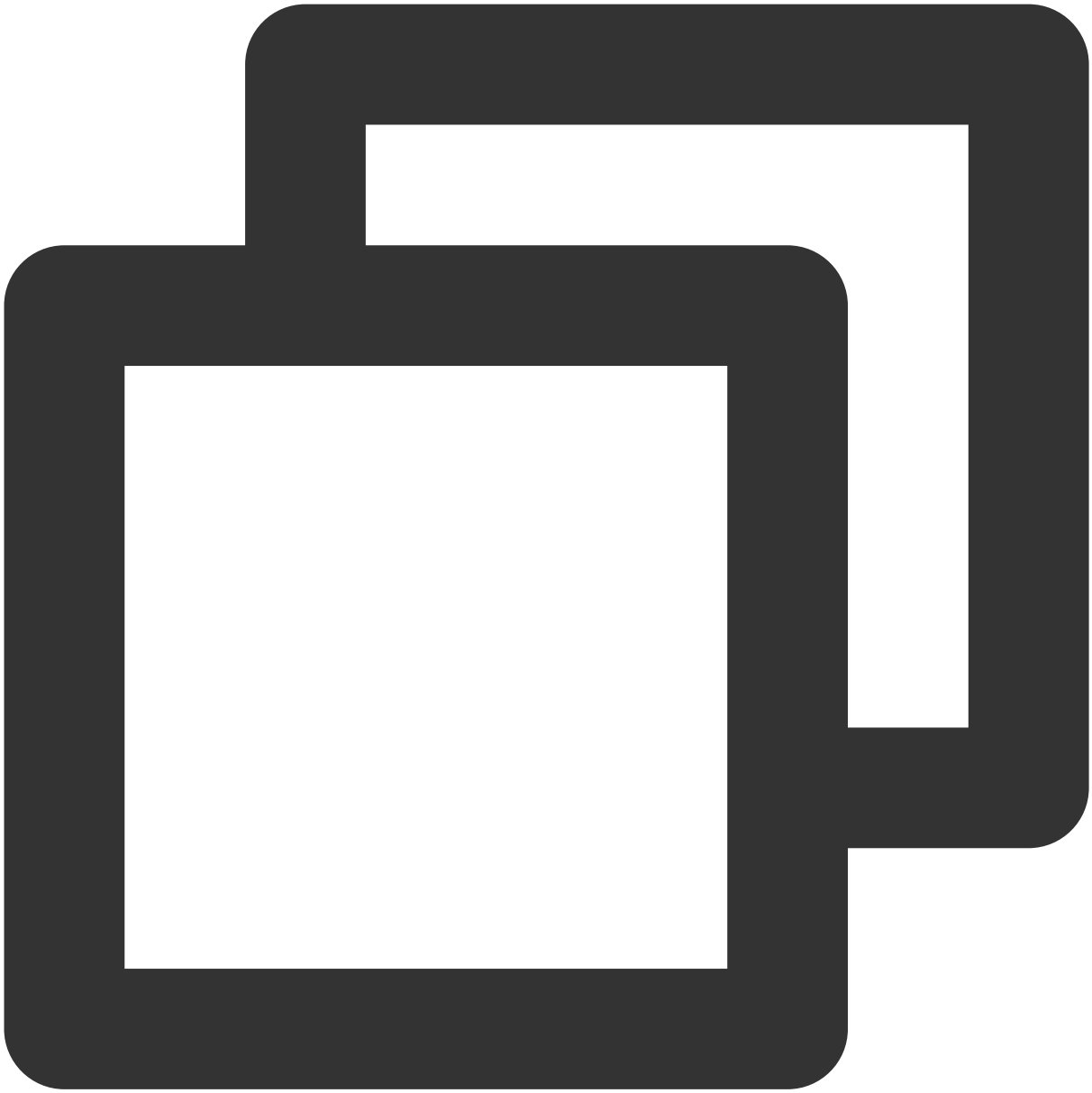
```
    onUserNetworkQualityChanged: (List<TUINetworkQualityInfo> networkQualityList) {
    }
));

class TUINetworkQualityInfo {
    String userId;
    TUINetworkQuality quality;
    TUINetworkQualityInfo({required this.userId, required this.quality});
}

enum TUINetworkQuality {
  unknown,
  excellent,
  good,
  poor,
  bad,
  vBad,
  down
}
```

The parameters are described below:

Parameter	Type	Description
networkQualityList	List<TUINetworkQualityInfo>	The current network conditions for all users (userId).

onKickedOffline

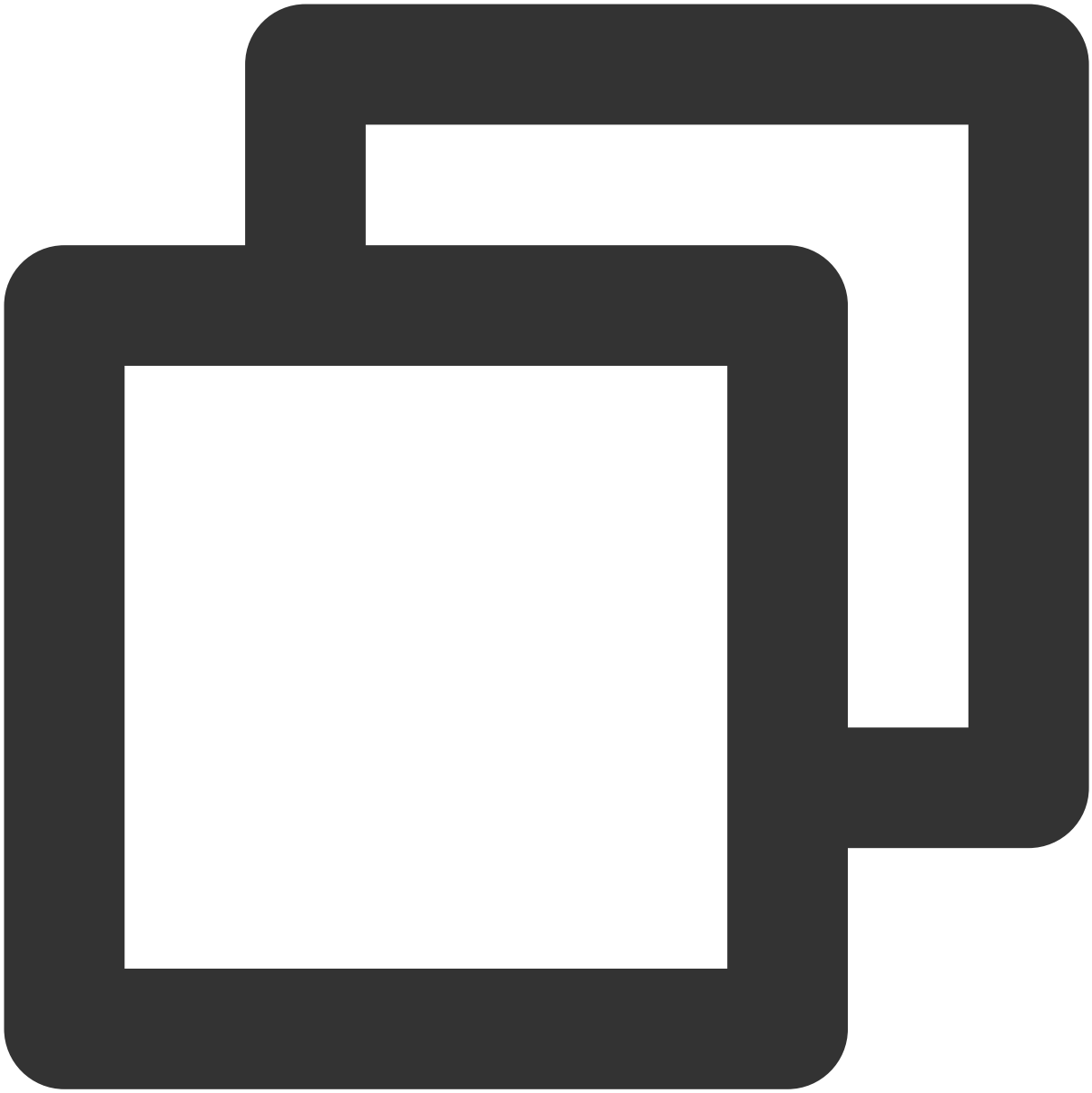
The current user was kicked offline：At this time, you can prompt the user with a UI message and then invoke `init` again.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onKickedOffline: () {
    }
));
```

onUserSigExpired

The user sig is expired：At this time, you need to generate a new `userSig`, and then invoke `init` again.



```
TUICallEngine.instance.addObserver(TUICallObserver(
    onUserSigExpired: () {
    }
));
```

Type Definition

Last updated：2023-09-21 15:37:01

Common structures

TUIResult

The return value of calling the API

Value	Type	Description
code	String	If the code is empty "", it means the call succeeded, if the code is not empty "", it means the call failed.
message	String?	Error message

TUIRoomId

Room ID for audio and video in a call.

Note：

(1) `intRoomId` and `strRoomId` are mutually exclusive. If you choose to use `strRoomId`, `intRoomId` needs to be filled in as 0. If both are filled in, the SDK will prioritize `intRoomId`.

(2) Do not mix `intRoomId` and `strRoomId` because they are not interchangeable. For example, the number 123 and the string "123" represent two completely different rooms.

Value	Type	Description
intRoomId	int	Numeric room ID.
strRoomId	String	String room number.

VideoRenderParams

Video render parameters

Value	Type	Description
fillMode	FillMode	Video image fill mode
rotation	Rotation	Video image rotation direction

VideoEncoderParams

Video encoding parameters

Value	Type	Description
resolution	Resolution	Video resolution
resolutionMode	ResolutionMode	Video aspect ratio mode

TUICallParams

Call params

Value	Type	Description
roomId	TUIRoomId	Room Id.
offlinePushInfo	TUIOfflinePushInfo	Offline push vendor configuration information.
timeout	String	Call timeout period, default: 30s, unit: seconds.
userData	String	An additional parameter.

TUIOfflinePushInfo

Offline push vendor configuration information, please refer to:Offline call push

Value	Type	Description
title	String	offlinepush notification title
desc	String	offlinepush notification description
ignoreIOSBadge	bool	Ignore badge count for offline push (only for iOS), if set to true, the message will not increase the unread count of the app icon on the iOS receiver's side.
iOSSound	String	Offline push sound setting (only for iOS). When sound = IOS_OFFLINE_PUSH_NO_SOUND , there will be no sound played when the message is received. When sound = IOS_OFFLINE_PUSH_DEFAULT_SOUND , the system sound will be played when the message is received. If you want to customize the iOSSound, you need to link the audio file into

		the Xcode project first, and then set the audio file name (with extension) to the iOSSound.
androidSound	String	Offline push sound setting (only for Android, supported by IMSDK 6.1 and above). Only Huawei and Google phones support setting sound prompts. For Xiaomi phones, please refer to: Xiaomi custom ringtones . In addition, for Google phones, in order to set sound prompts for FCM push on Android 8.0 and above systems, you must call setAndroidFCMChannelID to set the channelID for it to take effect.
androidOPPOChannelID	String	Set the channel ID for OPPO phones with Android 8.0 and above systems.
androidVIVOClassification	int	Classification of VIVO push messages (deprecated interface, VIVO push service will optimize message classification rules on April 3, 2023. It is recommended to use setAndroidVIVOCategory to set the message category). 0: Operational messages, 1: System messages. The default value is 1.
androidXiaoMiChannelID	String	Set the channel ID for Xiaomi phones with Android 8.0 and above systems.
androidFCMChannelID	String	Set the channel ID for google phones with Android 8.0 and above systems.
androidHuaWeiCategory	String	Classification of Huawei push messages, please refer to: Huawei message classification standard.
isDisablePush	bool	Whether to turn off push notifications (default is on).
iOSPushType	TUICallIOSOfflinePushType	iOS offline push type，default is APNs

TUICallRecords

Call recording information

Value	Type	Description

callId	String	Call recording ID.
inviter	String	Inviter ID.
inviteList	List<String>	List of invited user IDs.
scene	TUICallScene	Call scenario.
mediaType	TUICallMediaType	Media type.
groupId	String	Group ID.
role	TUICallRole	Role.
result	TUICallResultType	Call result type.
beginTime	int	Start time.
totalTime	int	Total time.

TUICallRecentCallsFilter

Call recording filtering conditions.

Value	Type	Description
begin	double	Start time.
end	double	End time.
resultType	TUICallResultType	Call result type.

enum definition

TUICallMediaType

Call media type

Type	Value	Description
none	0	Unknown
audio	1	Audio call
video	2	Video call

TUICallRole

Call role

Type	Value	Description
none	0	Unknown
caller	1	Caller（inviter）
called	2	Callee（invitee）

TUICallStatus

Call status

Type	Value	Description
none	0	Unknown
waiting	1	The call is currently waiting
accept	2	The call has been accepted

TUICallScene

Call scene

Type	Value	Description
groupCall	0	Group call
multiCall	1	Anonymous group calling (not supported at this moment, please stay tuned).
singleCall	2	one to one call

TUINetworkQuality

Network quality

Type	Value	Description
unknown	0	Unknown
excellent	1	Excellent
good	2	Good
poor	3	Poor

bad	4	Bad
vBad	5	Vbad
down	6	Down

FillMode

If the aspect ratio of the video display area is not equal to that of the video image, you need to specify the fill mode:

Type	Value	Description
fill	0	Fill mode: the video image will be centered and scaled to fill the entire display area, where parts that exceed the area will be cropped. The displayed image may be incomplete in this mode.
fit	1	Fit mode: the video image will be scaled based on its long side to fit the display area, where the short side will be filled with black bars. The displayed image is complete in this mode, but there may be black bars.

Rotation

We provides rotation angle setting APIs for local and remote images. The following rotation angles are all clockwise.

Type	Value	Description
rotation_0	0	No rotation
rotation_90	1	Clockwise rotation by 90 degrees
rotation_180	2	Clockwise rotation by 180 degrees
rotation_270	3	Clockwise rotation by 270 degrees

ResolutionMode

Video aspect ratio mode

Type	Value	Description
landscape	0	Landscape resolution, such as Resolution.Resolution_640_360 + ResolutionMode.Landscape = 640 × 360.
portrait	1	Portrait resolution, such as Resolution.Resolution_640_360 + ResolutionMode.Portrait = 360 × 640.

Resolution

Video resolution

Type	Value	Description
resolution_640_360	0	Aspect ratio: 16:9；resolution: 640x360；recommended bitrate: 500kbps
resolution_640_480	1	Aspect ratio: 4:3；resolution: 640x480；recommended bitrate: 600kbps
resolution_960_540	2	Aspect ratio: 16:9；resolution: 960x540；recommended bitrate: 850kbps
resolution_960_720	3	Aspect ratio: 4:3；resolution: 960x720；recommended bitrate: 1000kbps
resolution_1280_720	4	Aspect ratio: 16:9；resolution: 1280x720；recommended bitrate: 1200kbps
resolution_1920_1080	5	Aspect ratio: 16:9；resolution: 1920x1080；recommended bitrate: 2000kbps

TUICallIOSOfflinePushType

iOS offline push type

Type	Value	Description
APNs	0	APNs
VoIP	1	VoIP

TUICamera

Camera type.

Type	Value	Description
front	0	Front camera.
back	1	Rear camera.

TUIAudioPlaybackDevice

Audio playback device.

Type	Value	Description

speakerphone	0	Speaker
earpiece	1	Earpiece

TUICallResultType

Call recording type.

Type	Value	Description
unknown	0	Unknown
missed	1	Missed
incoming	2	Incoming call
outgoing	3	Outgoing Call

uniapp（Android&iOS）
API Overview

Last updated：2024-03-07 10:34:35

TUICallKit (UI Included)

TUICallKit is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat.

API	Description
login	login
logout	logou
setSelfInfo	Sets the user nickname and profile photo.
call	Makes a one-to-one call.
groupCall	Makes a group call.
joinInGroupCall	Joins a group call.
setCallingBell	Sets the ringtone.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.

Event

TUICallKit throws the following events.

API	Description
onError	An error occurred during the call.
onCallReceived	A call was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.

onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user has a video stream.
onUserAudioAvailable	Whether a user has an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user was kicked offline.
onUserSigExpired	The user sig is expired.

TUICallEngine (No UI)

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

API	Description
hangup	Ends a call.
accept	Answers a call.
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.

TUICallKit

Last updated：2024-03-07 18:03:37

TUICallKit APIs

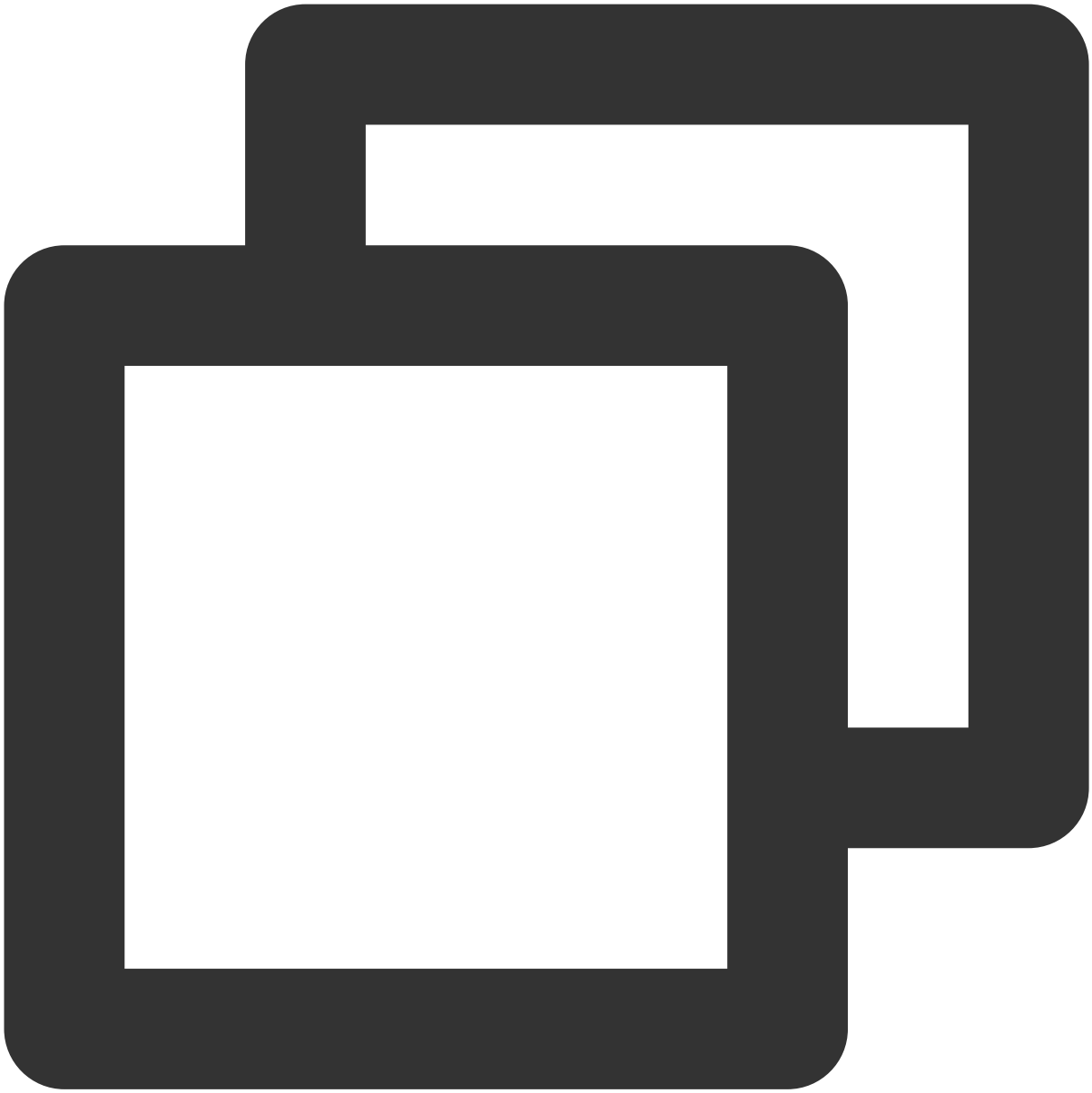
`TUICallKit` is an audio/video call component that **includes UI elements**. You can use its APIs to quickly implement an audio/video call application similar to WeChat. For directions on integration, see Integrating TUICallKit.

API Overview

API	Description
login	login
logout	logout
setSelfInfo	Sets the user nickname and profile photo.
call	Makes a one-to-one call.
groupCall	Makes a group call.
joinInGroupCall	Joins a group call.
setCallingBell	Sets the ringtone.
enableMuteMode	Sets whether to turn on the mute mode.
enableFloatWindow	Sets whether to enable floating windows.

API Detail

login

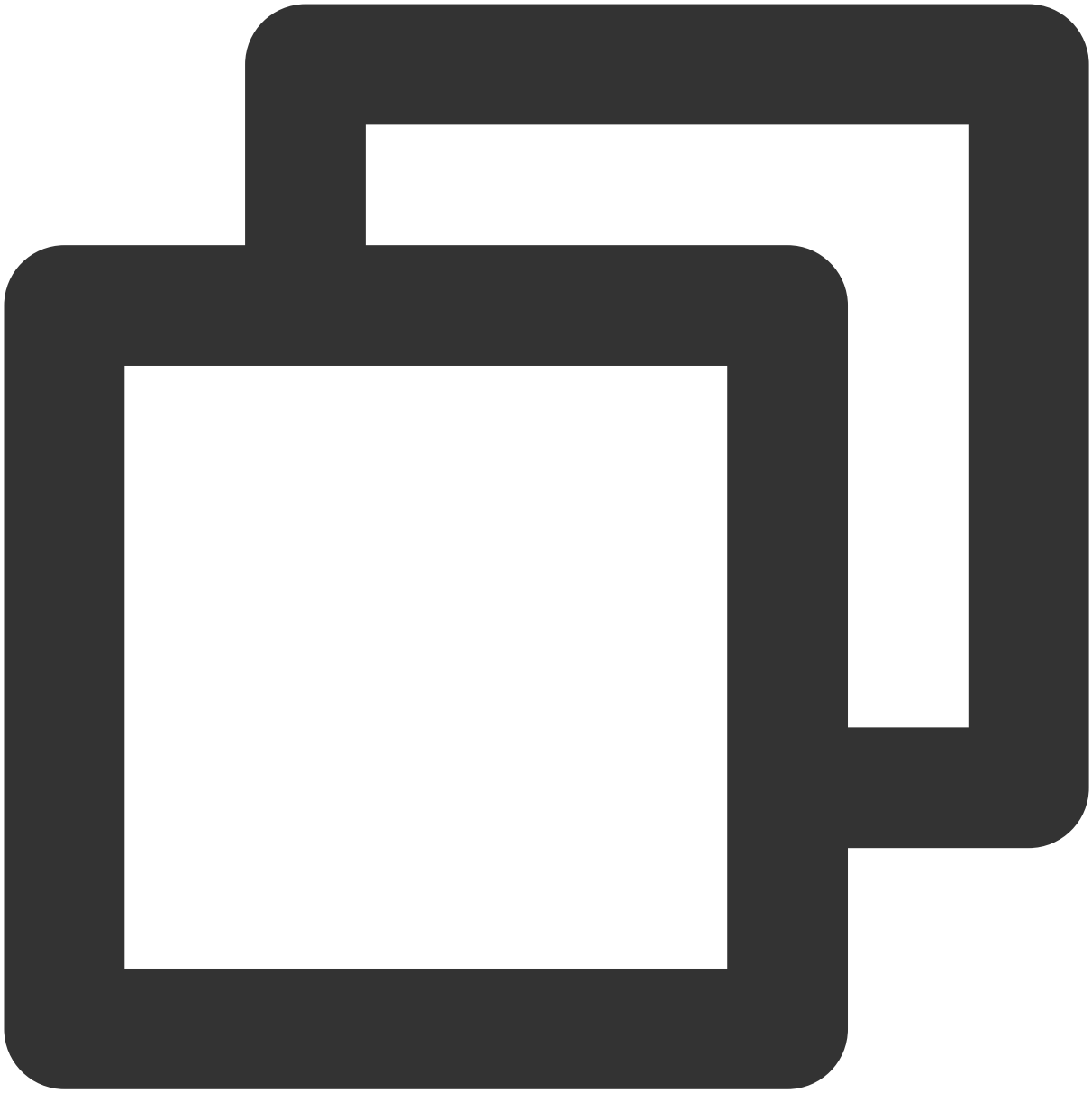


```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  SDKAppID: 0,
  userID: 'mike',
  userSig: '',
};
TUICallKit.login(options, (res) => {
  if (res.code === 0) {
    console.log('login success');
  } else {
    console.log(`login failed, error message = ${res.msg}`);
```

```
    }
});
```

Parameter	Type	Description
options	Object	Initialization parameters
options.SDKAppID	Number	User SDKAppID
options.userID	String	userID
options.userSig	String	User Signature
callback	Function	callback function, code = 0 means the call was successful; code ! = 0 means the call failed, see msg for the reason.

logout



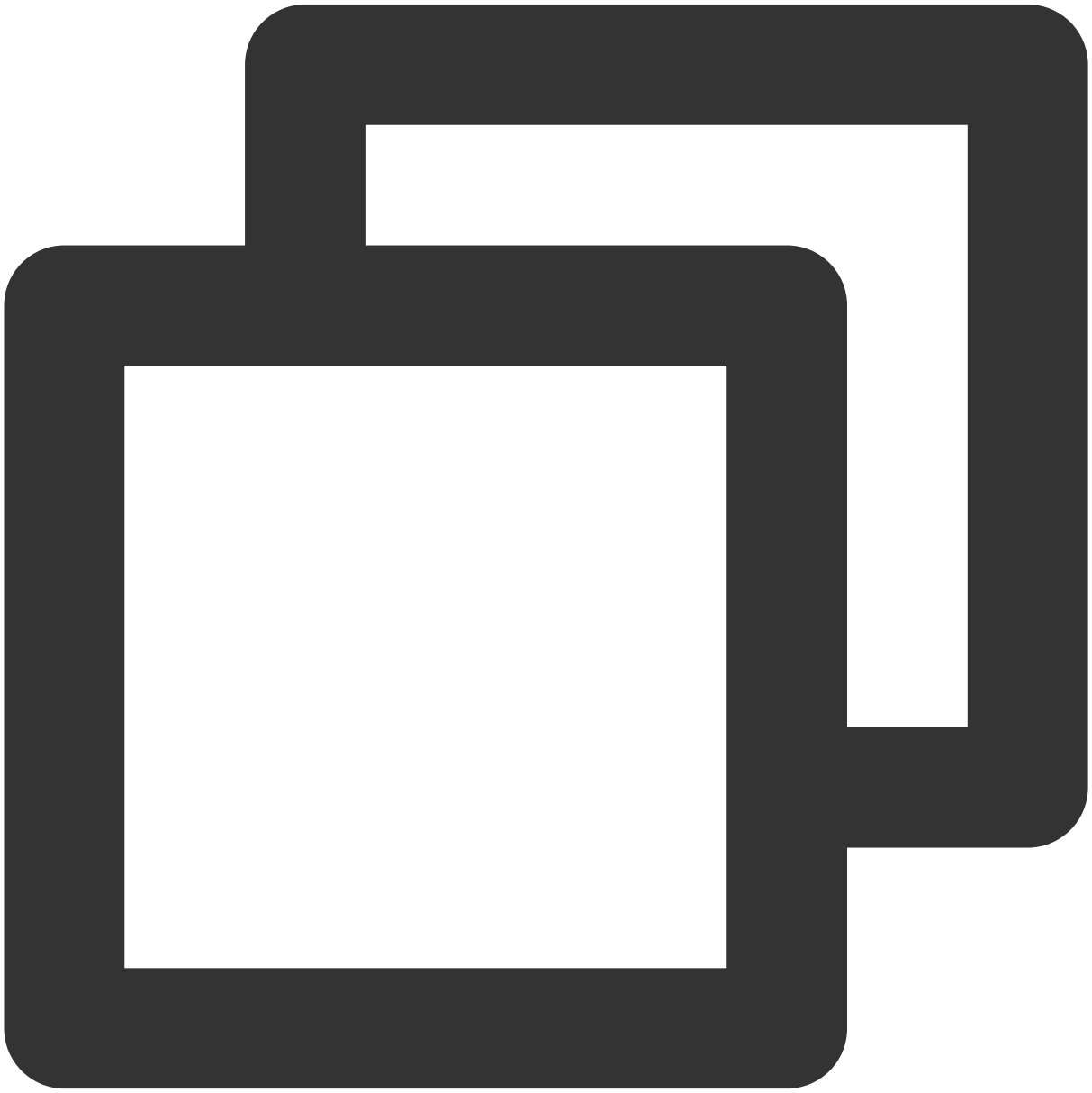
```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
TUICallKit.logout((res) => {
  if (res.code === 0) {
    console.log('logout success');
  } else {
    console.log(`logout failed, error message = ${res.msg}`);
  }
});
```

Parameter	Type	Description

callback	Function	callback function, code = 0 means the call was successful; code ! = 0 means the call failed, see msg for the reason.

setSelfInfo

This API is used to set the alias and profile photo. The alias cannot exceed 500 bytes, and the profile photo is specified by a URL.



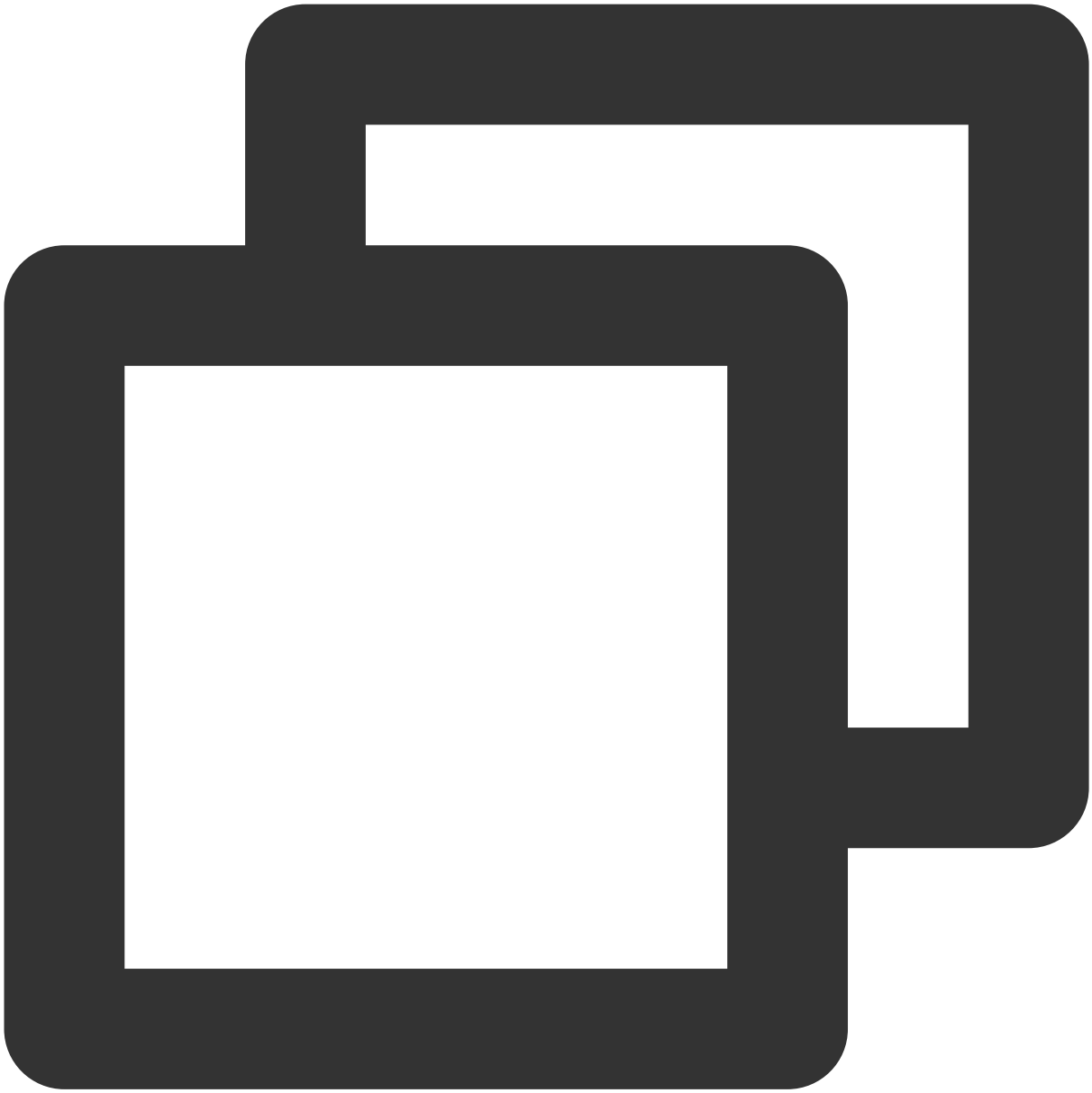
```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  nickName: 'jack',
```

```
  avatar: 'https:/****/user_avatar.png'
}
TUICallKit.setSelfInfo(options, (res) => {
  if (res.code === 0) {
    console.log('setSelfInfo success');
  } else {
    console.log(`setSelfInfo failed, error message = ${res.msg}`);
  }
});
```

Parameter	Type	Description
options	Object	Initialization parameters
options.nickName	String	Nickname of the target user, not required
options.avatar	String	Target user's avatar, not required
callback	Function	callback function, code = 0 means the call was successful; code ! = 0 means the call failed, see msg for the reason.

call

This API is used to make a (one-to-one) call.



```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  userID: 'mike',
  callMediaType: 1, // audio call(callMediaType = 1)、video call(callMediaType = 2)
  roomID: 0,
  strRoomID: '1223',
};
TUICallKit.call(options, (res) => {
  if (res.code === 0) {
    console.log('call success');
  } else {
```

```
    console.log(`call failed, error message = ${res.msg}`);
  }
});
```

The parameters are described below:

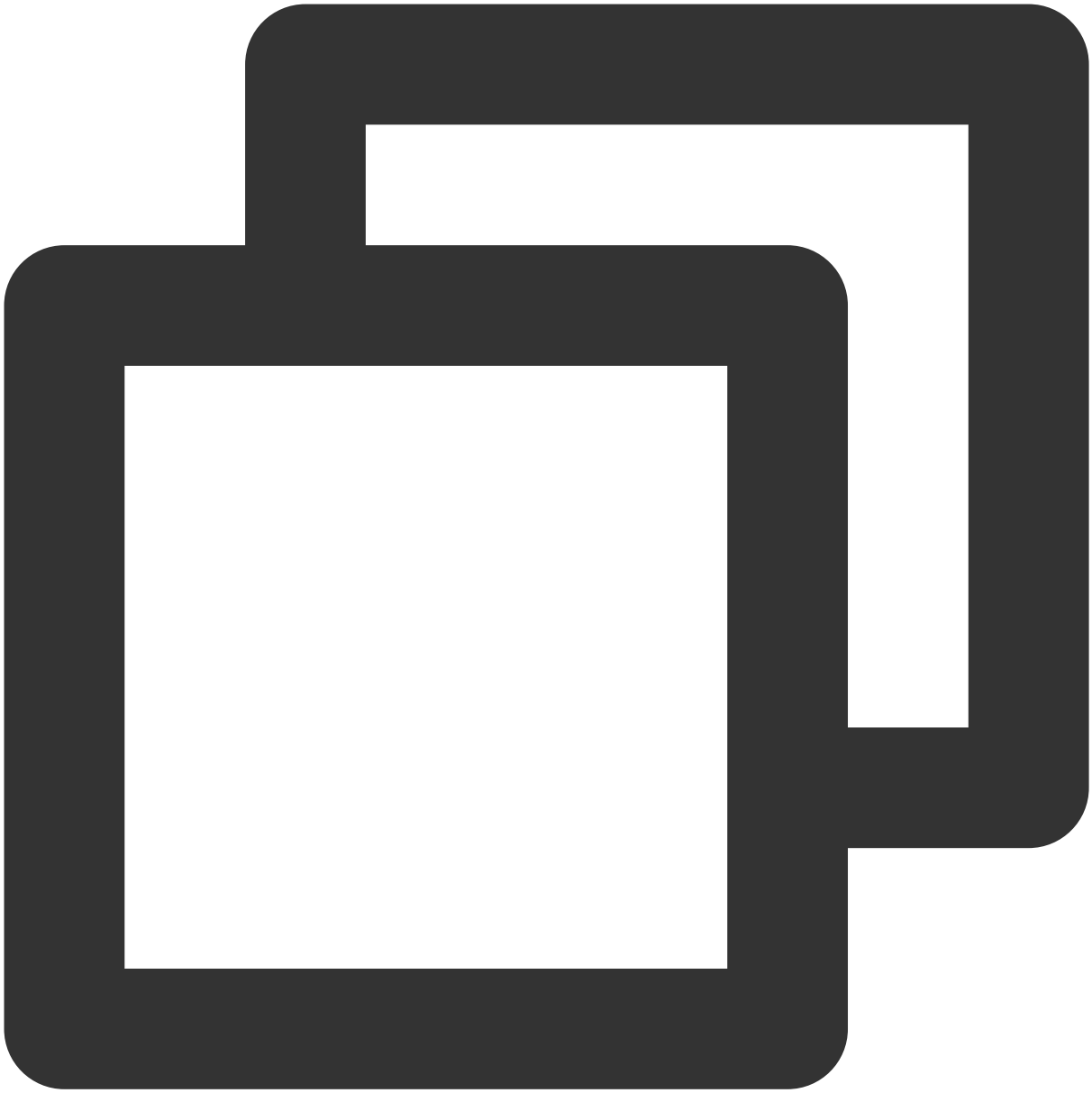
Parameter	Type	Description
options	Object	Initialization parameters
options.userID	String	The userID of the target user
options.callMediaType	Number	Media type of the call, e.g., voice call (callMediaType = 1), video call (callMediaType = 2)
options.roomID	Number	Customize the numeric room number. As long as the roomID is present, the numeric room number is used, even if strRoomID is present.
options.strRoomID	String	Customize the string room number. If you want to use a string room number, you need to set roomID = 0 after setting strRoomID.
callback	Function	callback function, code = 0 means the call was successful; code ! = 0 means the call failed, see msg for the reason.

groupCall

This API is used to make a group call.

Note:

Before making a group call, you need to create an IM group first.



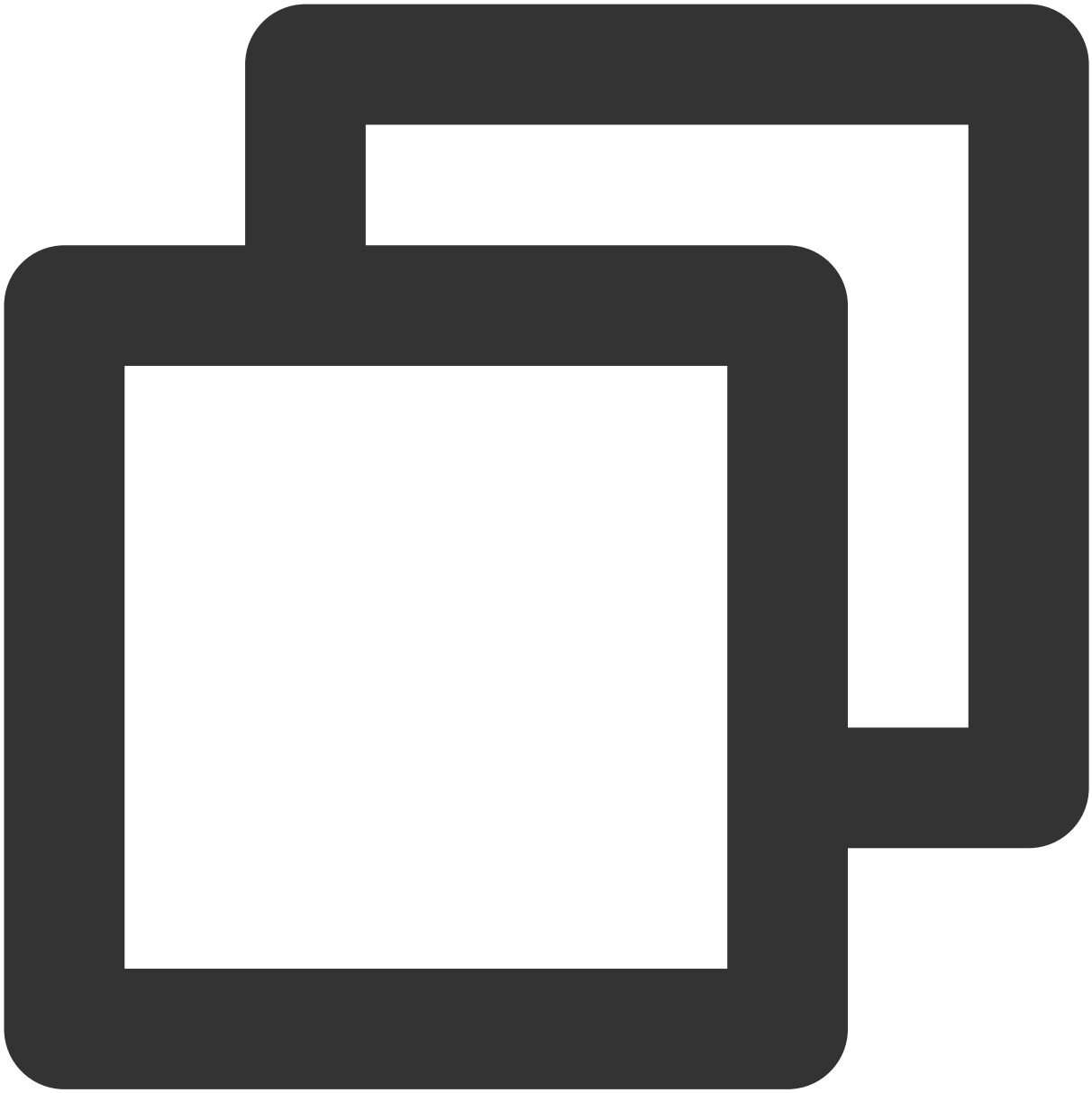
```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  groupID: 'myGroup',
  userIDList: ['mike', 'tom'],
  callMediaType: 1, // audio call(callMediaType = 1)、video call(callMediaType = 2)
};
TUICallKit.groupCall(options, (res) => {
  if (res.code === 0) {
    console.log('call success');
  } else {
    console.log(`call failed, error message = ${res.msg}`);
```

```
    }
});
```

Parameter	Type	Description
options	Object	Initialization parameters
options.groupID	String	Group ID for this group cal
options.userIDList	List	The target user IDs.
options.callMediaType	Number	Media type of the call, e.g., voice call (callMediaType = 1), video call (callMediaType = 2)
options.roomID	Number	Customize the numeric room number. As long as the roomID is present, the numeric room number is used, even if strRoomID is present.
options.strRoomID	String	Customize the string room number. If you want to use a string room number, you need to set roomID = 0 after setting strRoomID.

joinInGroupCall

This API is used to join a group call.



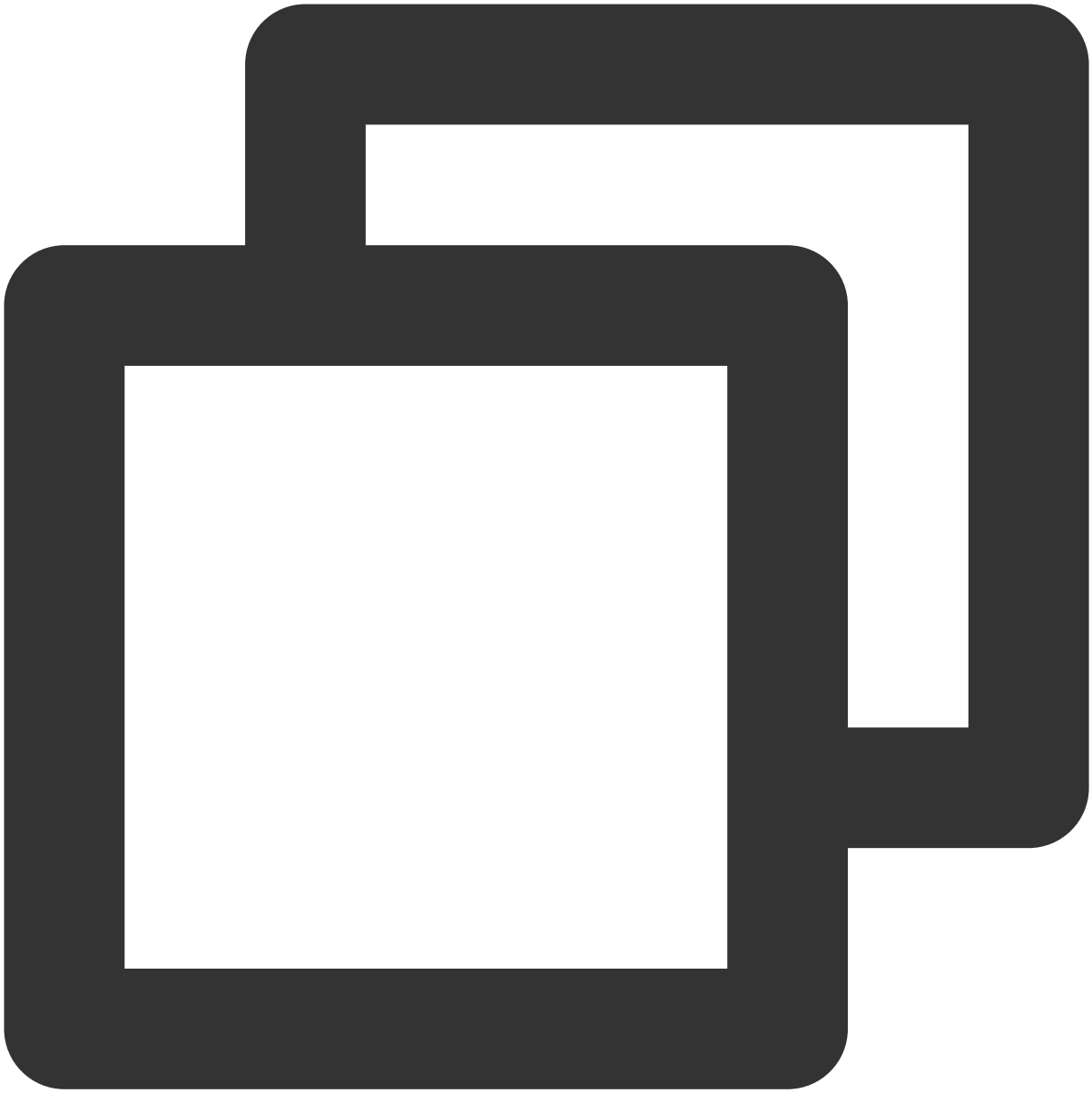
```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const options = {
  roomID: 9898,
  groupID: 'myGroup',
  callMediaType: 1, // audio call(callMediaType = 1)、video call(callMediaType = 2)
};
TUICallKit.joinInGroupCall(options, (res) => {
  if (res.code === 0) {
    console.log('joinInGroupCall success');
  } else {
    console.log(`joinInGroupCall failed, error message = ${res.msg}`);
```

```
    }
});
```

Parameter	Type	Description
options	Object	Initialization parameters
options.roomID	Number	Customize the numeric room number. As long as the roomID is present, the numeric room number is used, even if strRoomID is present.
options.strRoomID	String	Customize the string room number. If you want to use a string room number, you need to set roomID = 0 after setting strRoomID.
options.groupID	String	Group ID for this group cal
options.callMediaType	Number	Media type of the call, e.g., voice call (callMediaType = 1), video call (callMediaType = 2)
callback	Function	callback function, code = 0 means the call was successful; code ! = 0 means the call failed, see msg for the reason.

setCallingBell

To set a customized incoming call tone, here you are limited to passing in the local file address, and you need to make sure that the file directory is accessible to the application.



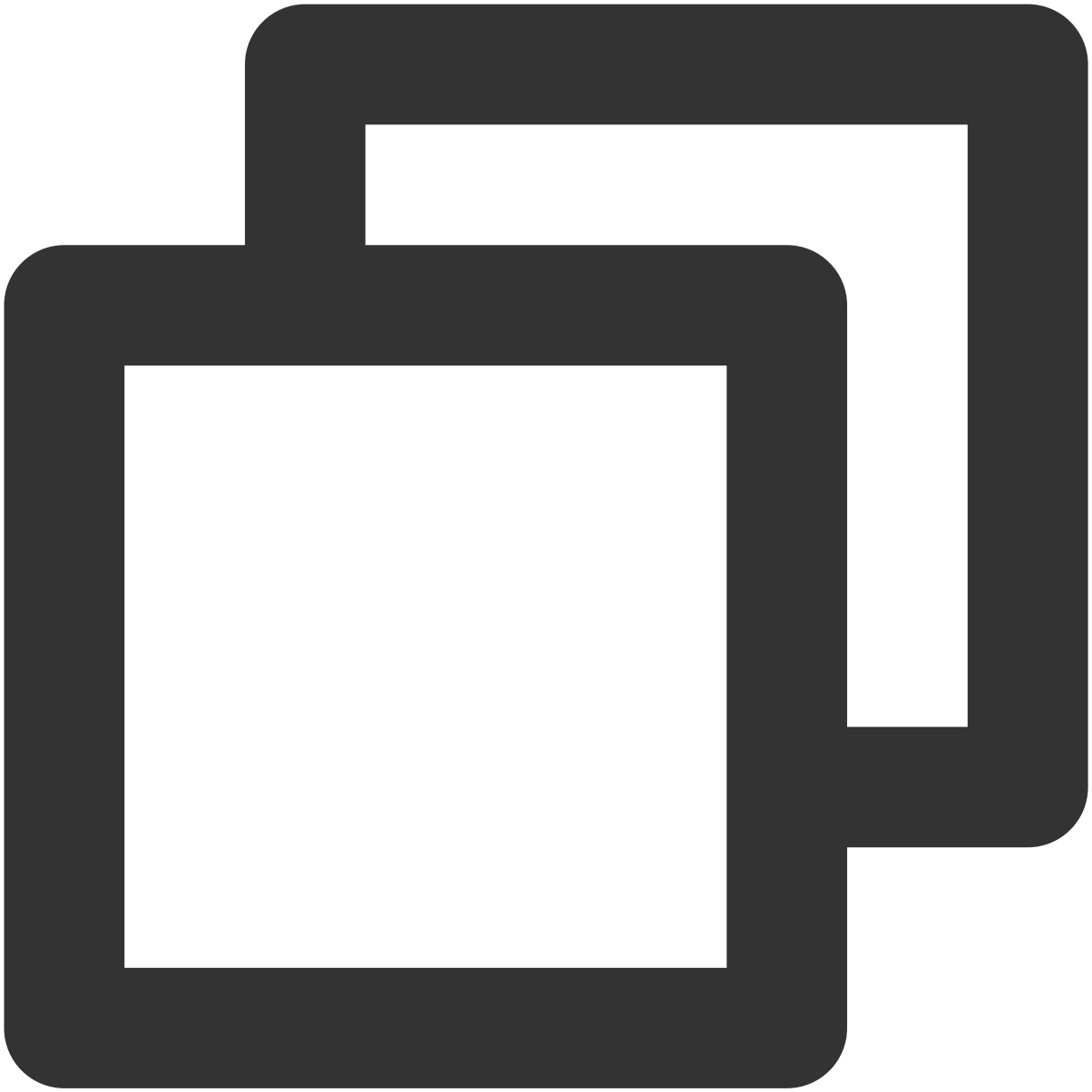
```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');

// 【1】Save audio files locally through uni.saveFile. Reference.: https://zh.uniapp
const tempFilePath = './static/rain.mp3';
let musicFilePath = '';
uni.saveFile({
    tempFilePath: tempFilePath,
    success: (res) => {
        musicFilePath =  res.savedFilePath;

        // 【2】Convert relative path to absolute path, otherwise access will not be
```

```
        musicFilePath = plus.io.convertLocalFileSystemURL(musicFilePath);

        // 【3】set ringtone
        TUICallKit.setCallingBell(musicFilePath, (res) => {
          if (res.code === 0) {
            console.log('setCallingBell success');
          } else {
            console.log(`setCallingBell failed, error message = ${res.msg}`);
          }
        });
    },
    fail: (err) => {
      console.error('save failed');
    },
});
```

Parameter	Type	Description
filePath	String	Ringtone local file address
callback	Function	callback function, code = 0 means the call was successful; code ! = 0 means the call failed, see msg for the reason.

enableMuteMode

This API is used to set whether to turn on the mute mode.

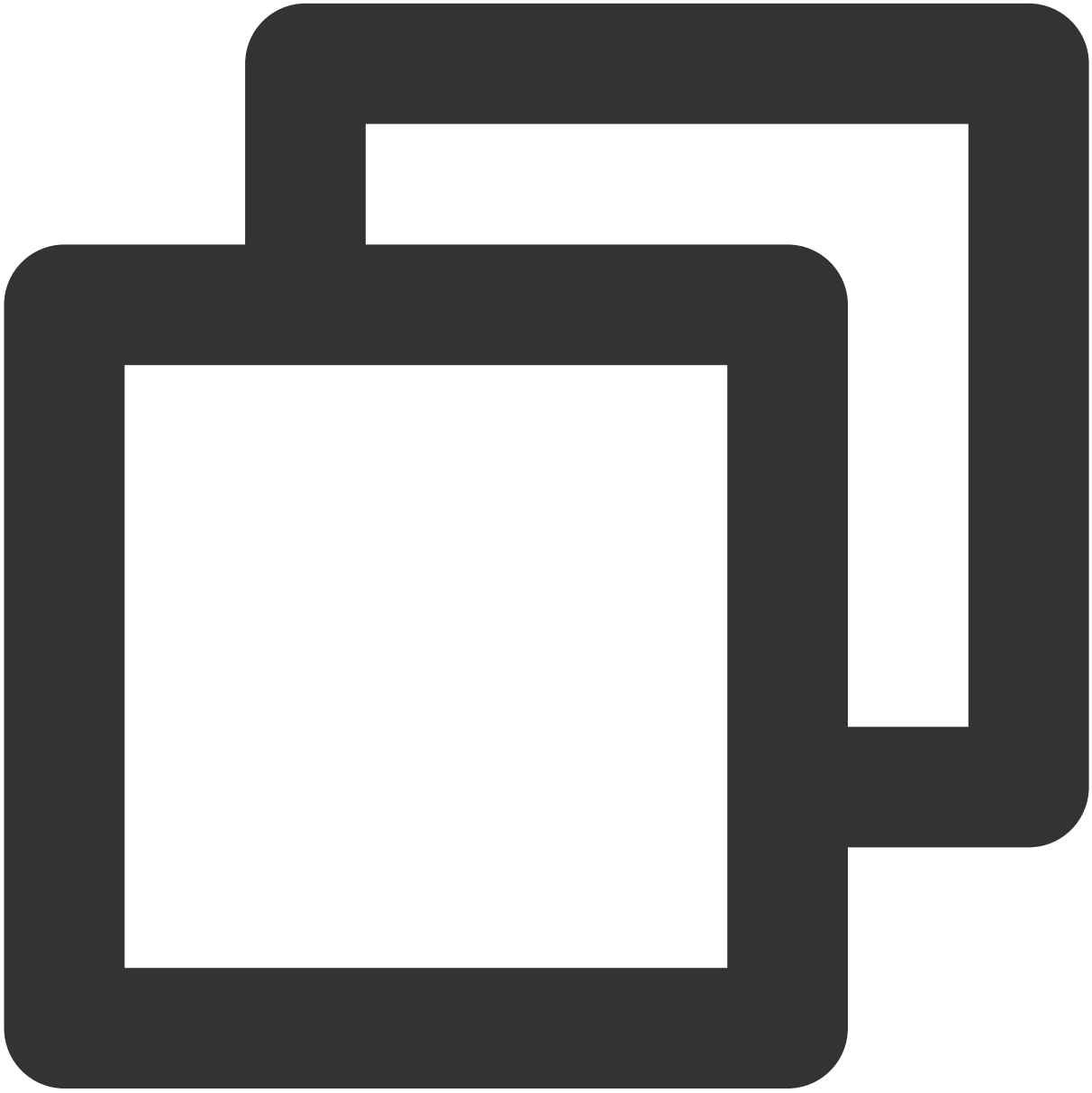


```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const enable = true;
TUICallKit.enableMuteMode(enable);
```

Parameter	Type	Description
enable	Boolean	Mute on, mute off; true means mute on

enableFloatWindow

This API is used to set whether to enable floating windows.
The default value is `false`, and the floating window button in the top left corner of the call view is hidden. If it is set to `true`, the button will become visible.



```
const TUICallKit = uni.requireNativePlugin('TencentCloud-TUICallKit');
const enable = true;
TUICallKit.enableFloatWindow(enable);
```

Parameter	Type	Description
enable	Boolean	Enable/disable the floating window function; true means floating window is enabled.

TUICallEngine

Last updated：2024-03-07 10:46:00

TUICallEngine API

`TUICallEngine` is an audio/video call component that **does not include UI elements**. If `TUICallKit` does not meet your requirements, you can use the APIs of `TUICallEngine` to customize your project.

Note

It needs to be used with TencentCloud-TUICallKit plugin and cannot be used alone.

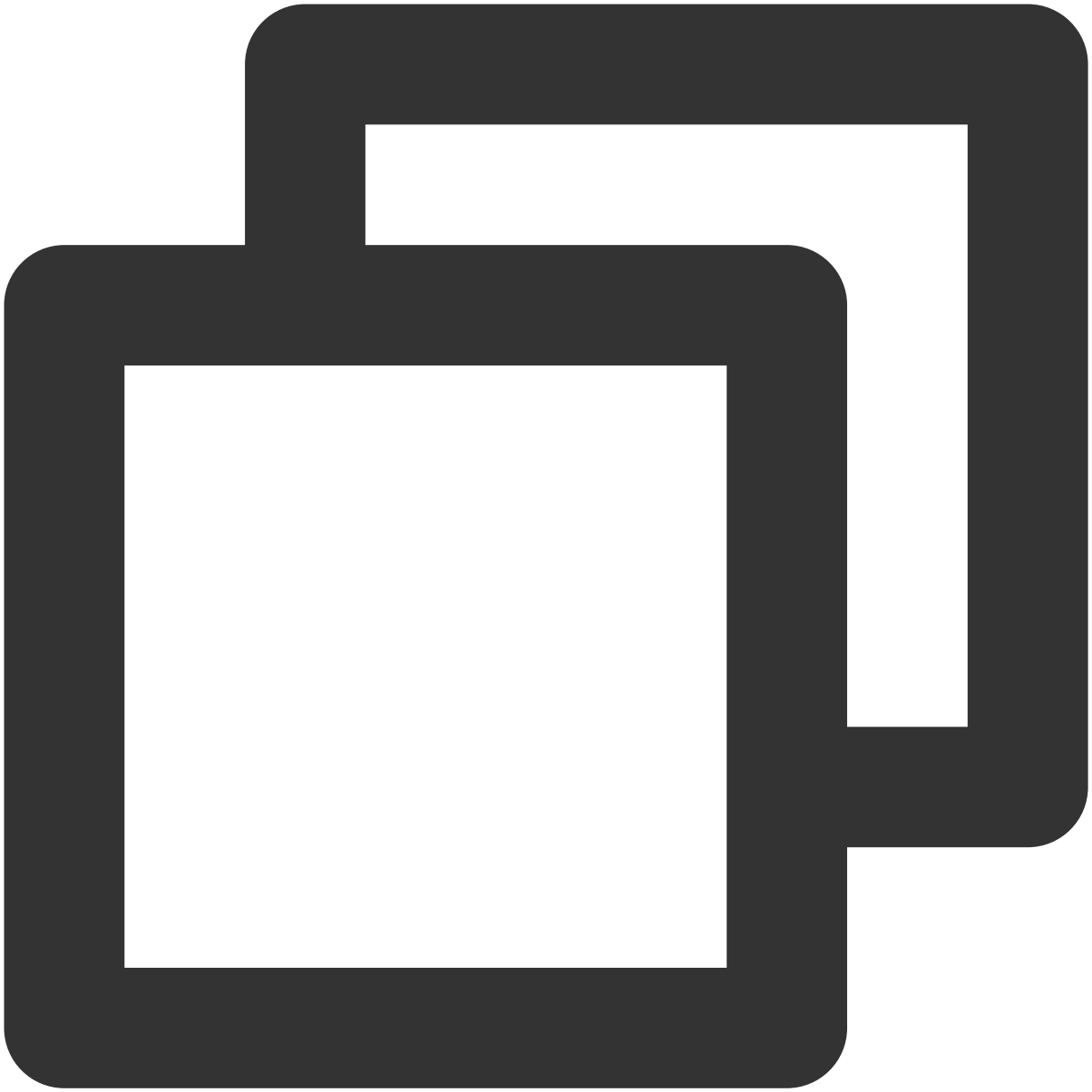
API Overview

API	Description
hangup	Ends a call.
accept	Accepts a call.
setVideoRenderParams	Set the rendering mode of video image.
setVideoEncoderParams	Set the encoding parameters of video encoder.

API Details

hangup

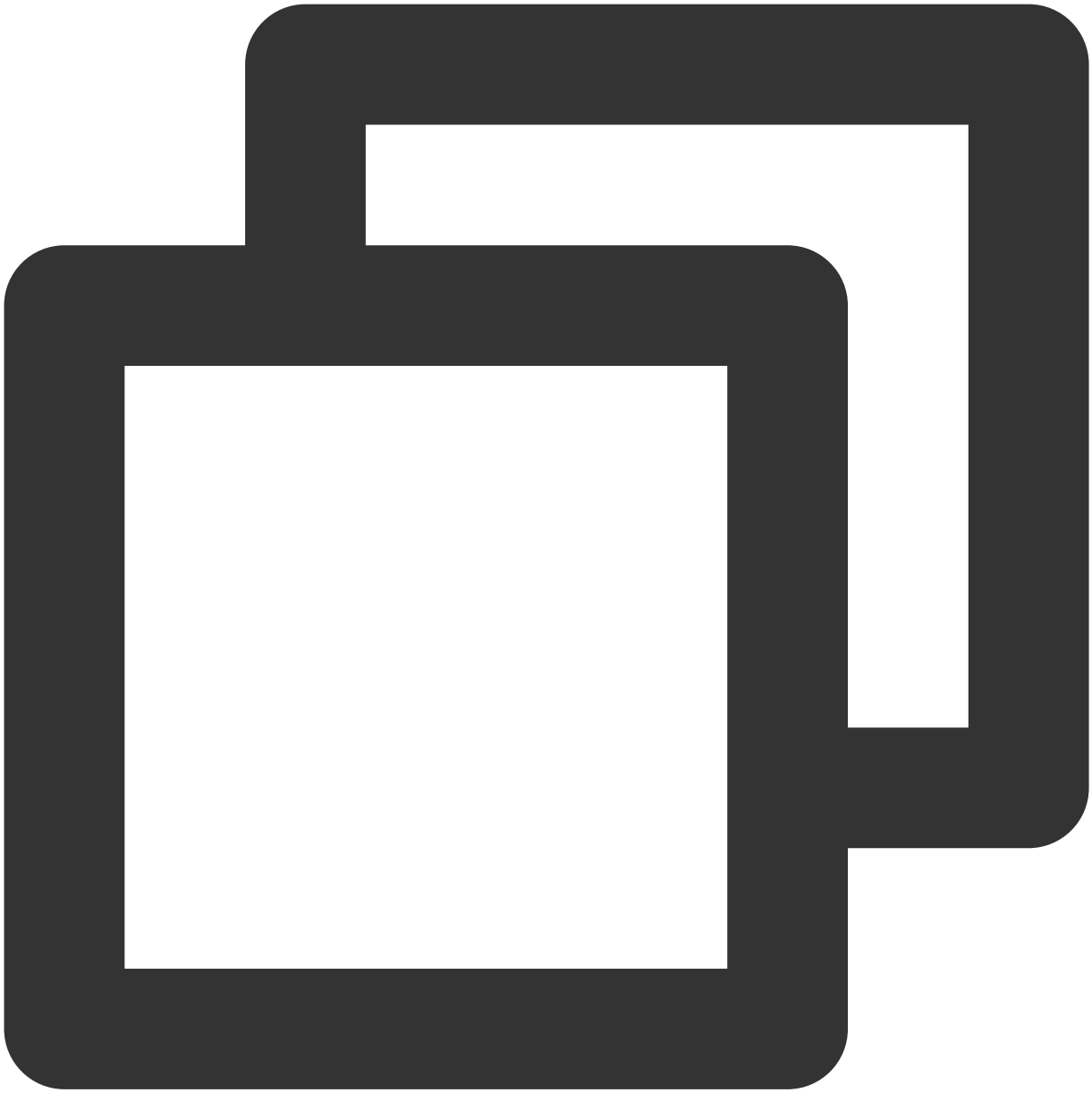
This API is used to end a call.



```
const TUICallEngine = uni.requireNativePlugin('TencentCloud-TUICallKit-TUICallEngin
TUICallEngine.hangup();
```

accept

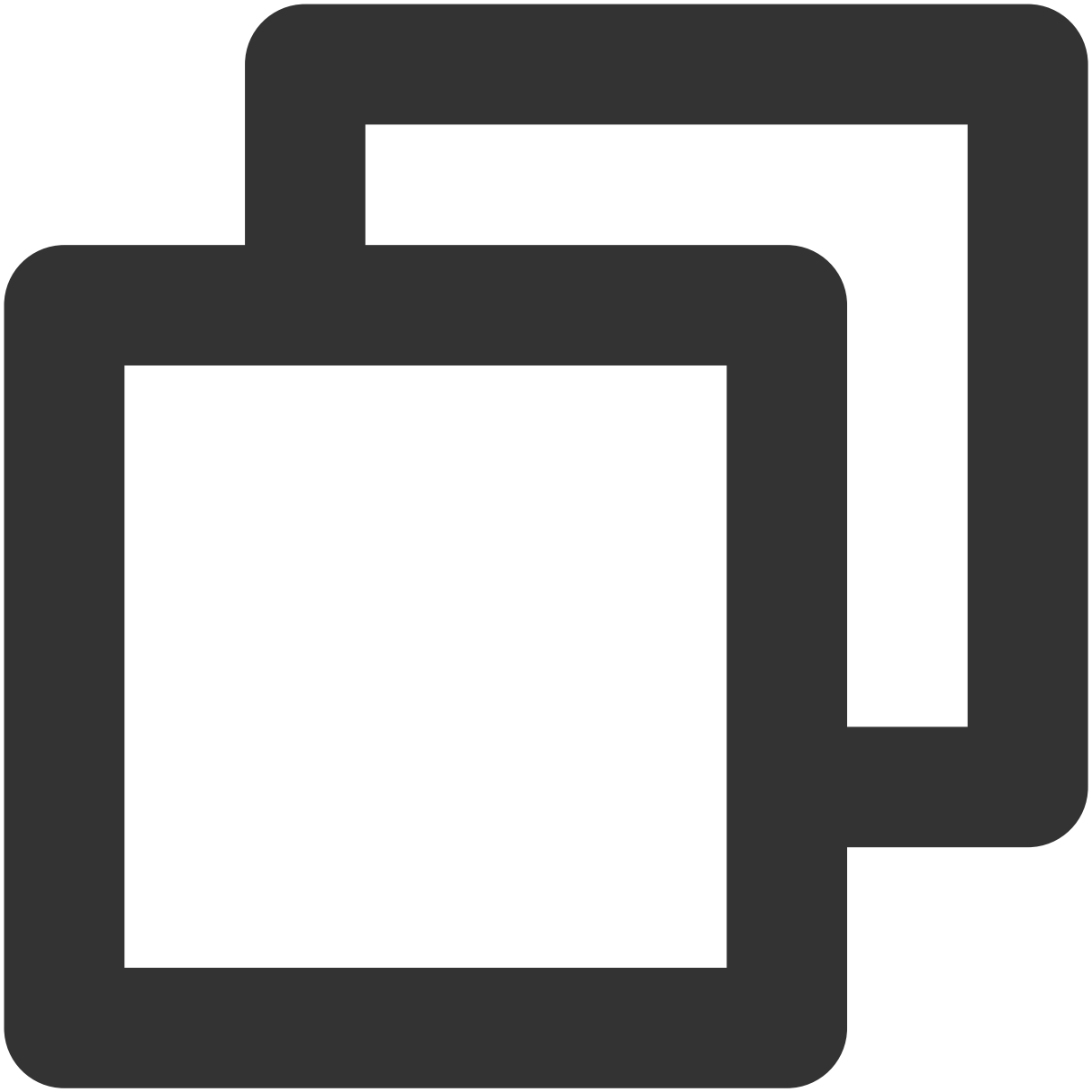
This API is used to accept a call. After receiving the `onCallReceived()` callback, you can call this API to accept the call.



```
const TUICallEngine = uni.requireNativePlugin('TencentCloud-TUICallKit-TUICallEngin
TUICallEngine.accept();
```

setVideoRenderParams

Set the rendering mode of video image.



```
const TUICallEngine = uni.requireNativePlugin('TencentCloud-TUICallKit-TUICallEngin
const params = {
        userID: '234',
        fillMode: 0, // 0-fill mode, 1-adapter mode
        rotation: 1, // 0：Rotation_0; 1: Rotation_90; 2: Rotation_180; 3: Rotation_
};
TUICallEngine.setVideoRenderParams(params, (res) => {
        console.warn('res = ', JSON.stringify(res));
});
```

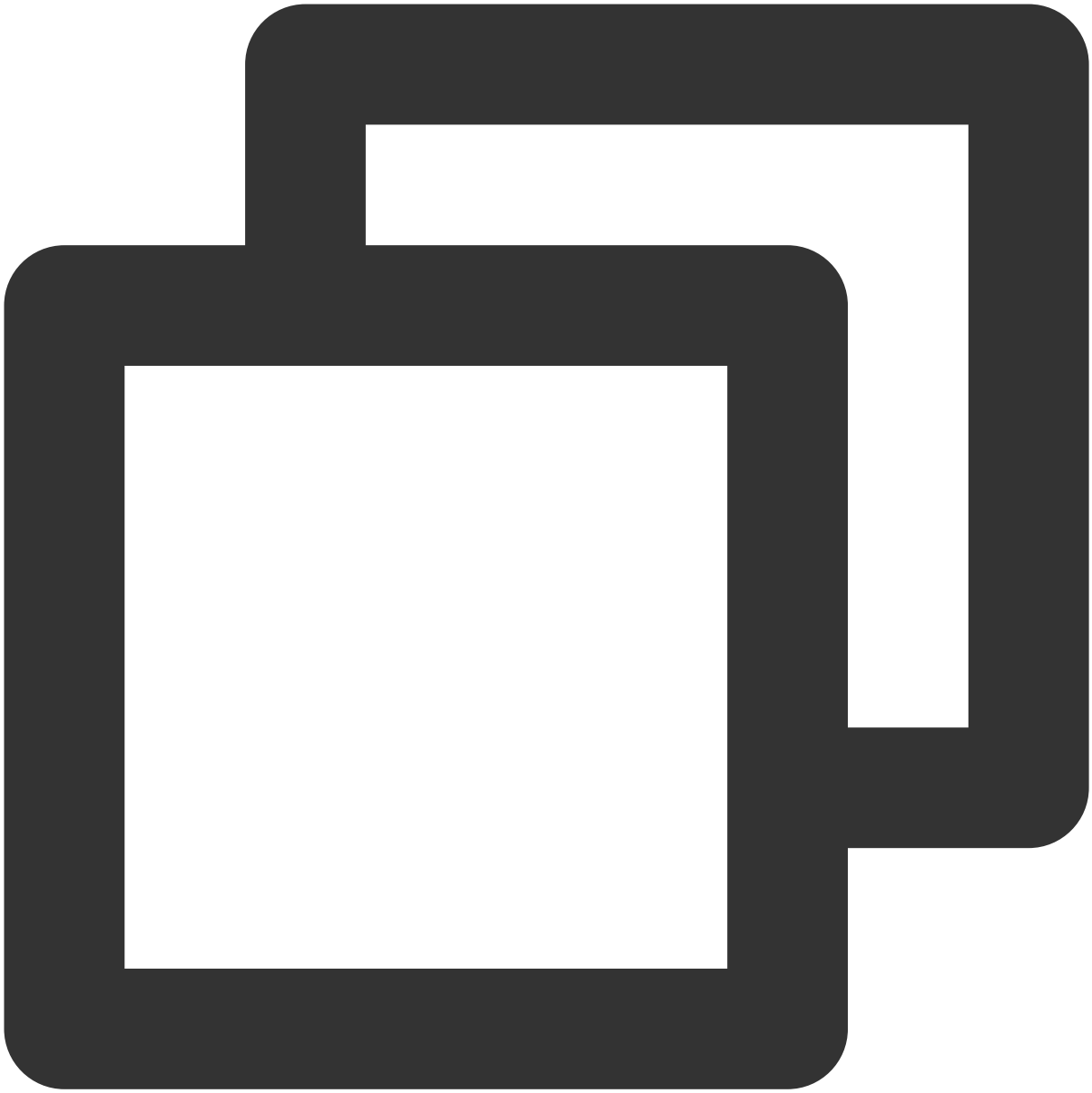
The parameters are described below:

Parameter	Type	Description
userID	String	target userId
params	Object	Video frame rendering parameters, e.g. frame rotation angle, fill mode

setVideoEncoderParams

Set the encoding parameters of video encoder.

This setting can determine the quality of image viewed by remote users, which is also the image quality of on-cloud recording files.



```
const TUICallEngine = uni.requireNativePlugin('TencentCloud-TUICallKit-TUICallEngin
const params = {
        resolution: 108,
        resolutionMode: 0, // 0--landscape, 1--portrait
};
TUICallEngine.setVideoEncoderParams(params, (res) => {
        console.warn('res = ', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
resolution	Number	video resolution 62: aspect ratio 16:9；resolution 640x360； 64: aspect ratio 4:3；resolution 960x720； 108: aspect ratio 16:9；resolution 640x360； 110: aspect ratio 16:9；resolution 960x540； 112: aspect ratio 16:9；resolution 1280x720； 114: aspect ratio 16:9；resolution 1920x1080；
resolutionMode	Number	resolution mode 0: Landscape 1: Portrait

Event

Last updated：2024-03-07 10:35:23

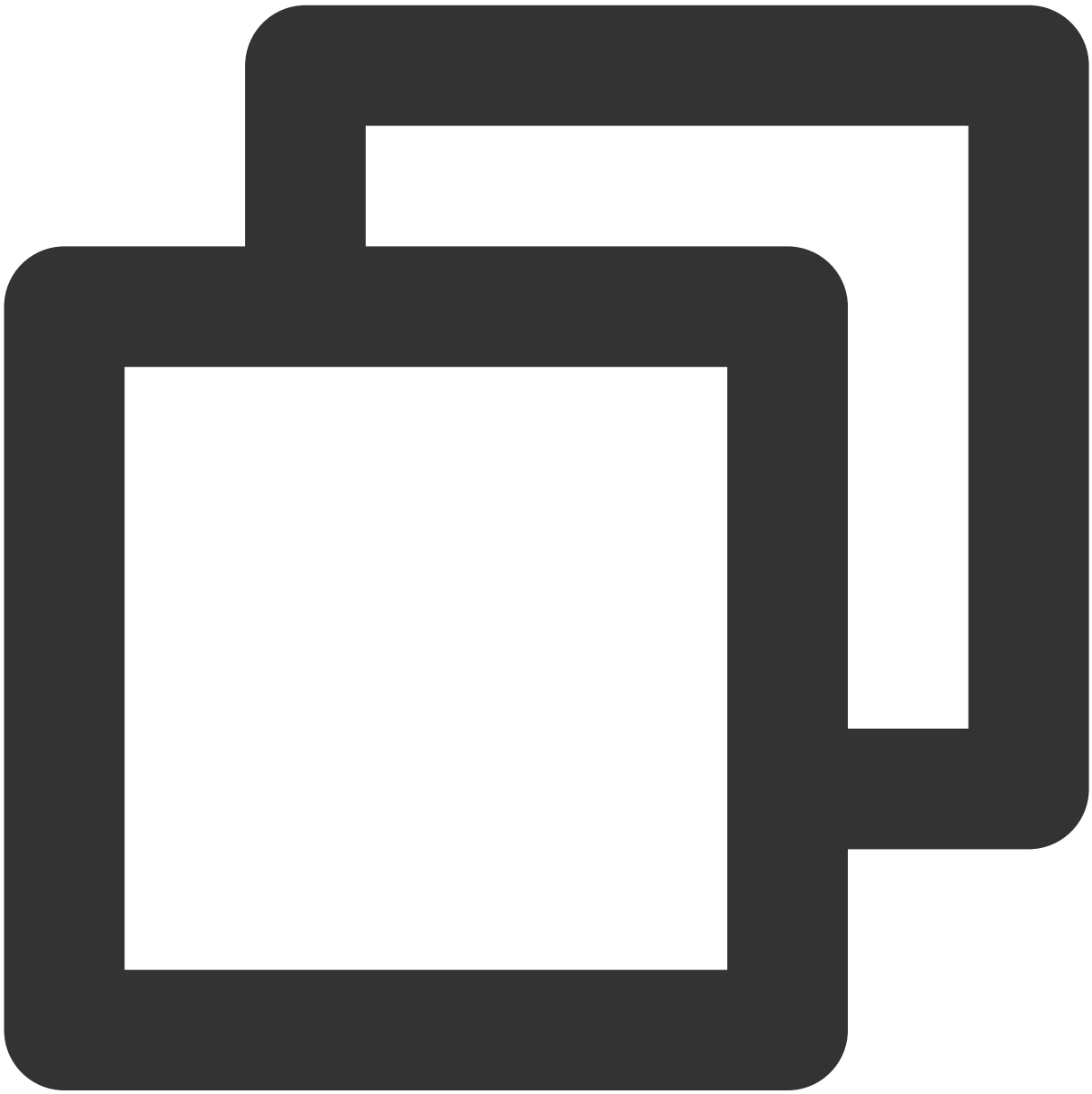
You can listen to TUICallKit's corresponding events for prompts and other interactions.

Event Overview

API	Description
onError	A call occurred during the call.
onCallReceived	A call invitation was received.
onCallCancelled	The call was canceled.
onCallBegin	The call was connected.
onCallEnd	The call ended.
onCallMediaTypeChanged	The call type changed.
onUserReject	A user declined the call.
onUserNoResponse	A user didn't respond.
onUserLineBusy	A user was busy.
onUserJoin	A user joined the call.
onUserLeave	A user left the call.
onUserVideoAvailable	Whether a user had a video stream.
onUserAudioAvailable	Whether a user had an audio stream.
onUserVoiceVolumeChanged	The volume levels of all users.
onUserNetworkQualityChanged	The network quality of all users.
onKickedOffline	The current user was kicked offline.
onUserSigExpired	The user sig is expired.

Details

Listen to events thrown by the native plugin via globalEvent.



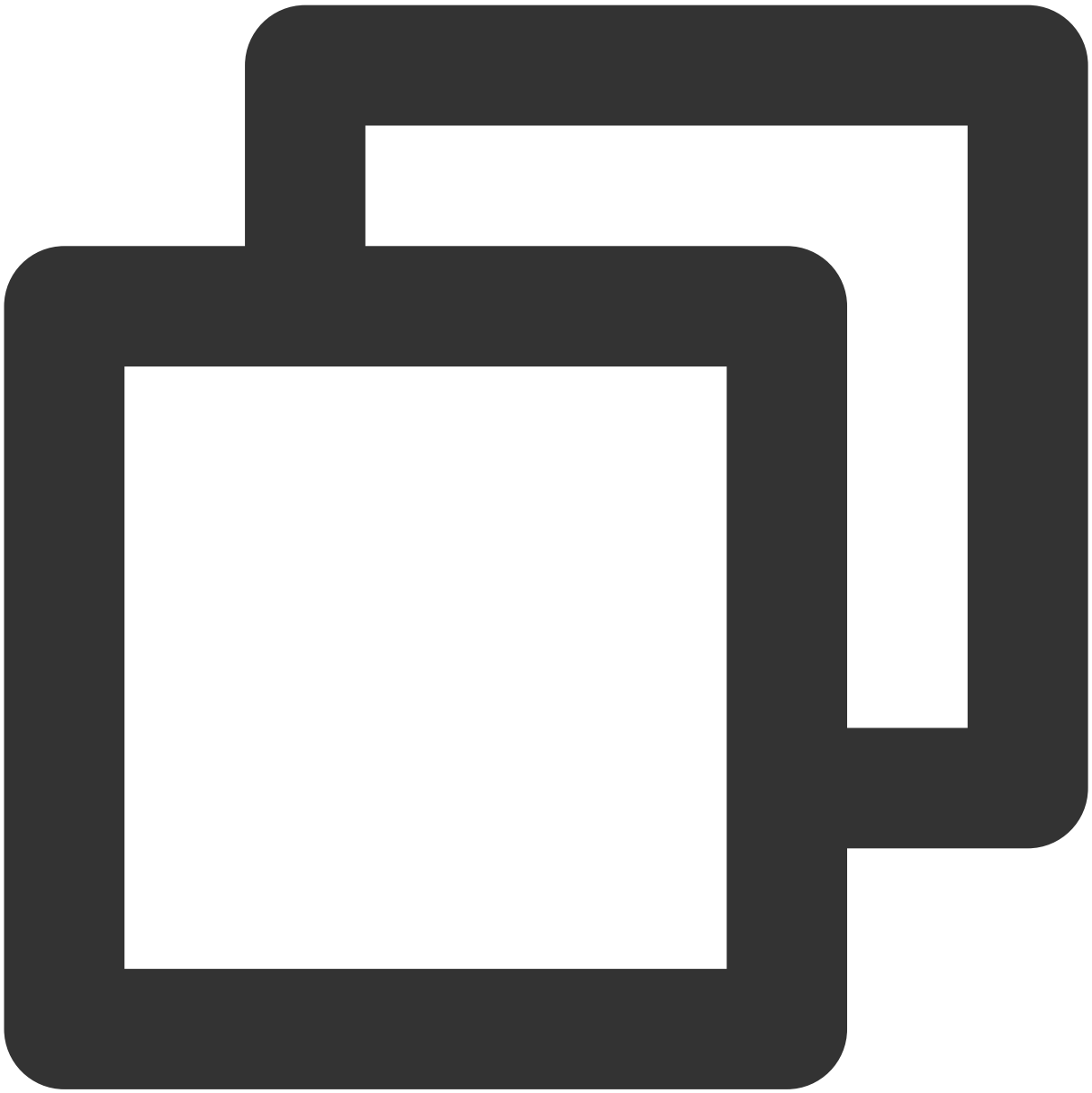
```
const TUICallingEvent = uni.requireNativePlugin('globalEvent');
```

onError

An error occurred.

Note

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users if necessary.



```
TUICallingEvent.addEventListener('onError', (res) => {
  console.log('onError', JSON.stringify(res));
});
```

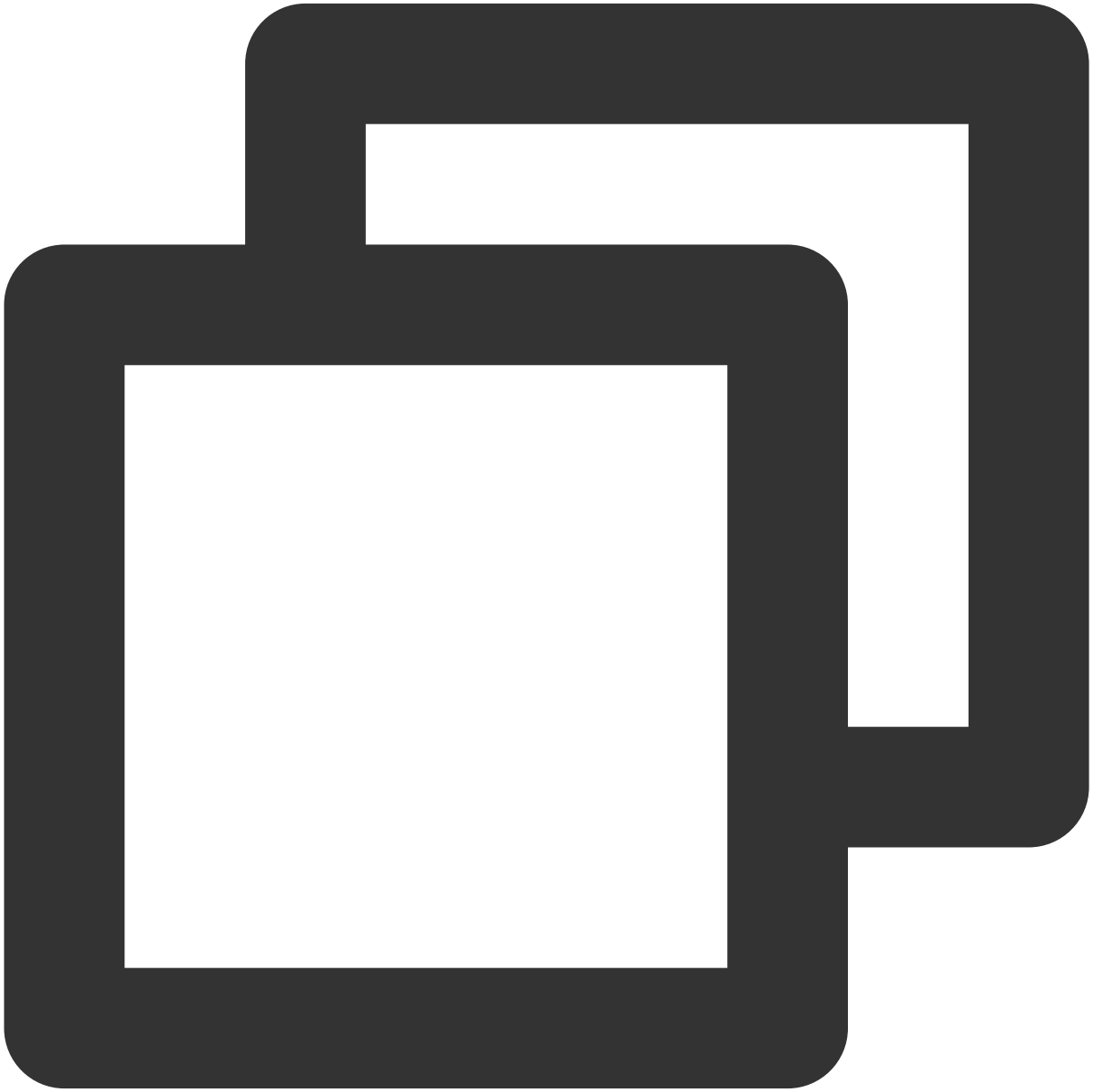
The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter

res.code	Number	The error code.
res.msg	String	The error message.

onCallReceived

A call invitation was received. This callback is received by an invitee. You can listen for this event to determine whether to display the incoming call view.



```
TUICallingEvent.addEventListener('onCallReceived', (res) => {
```

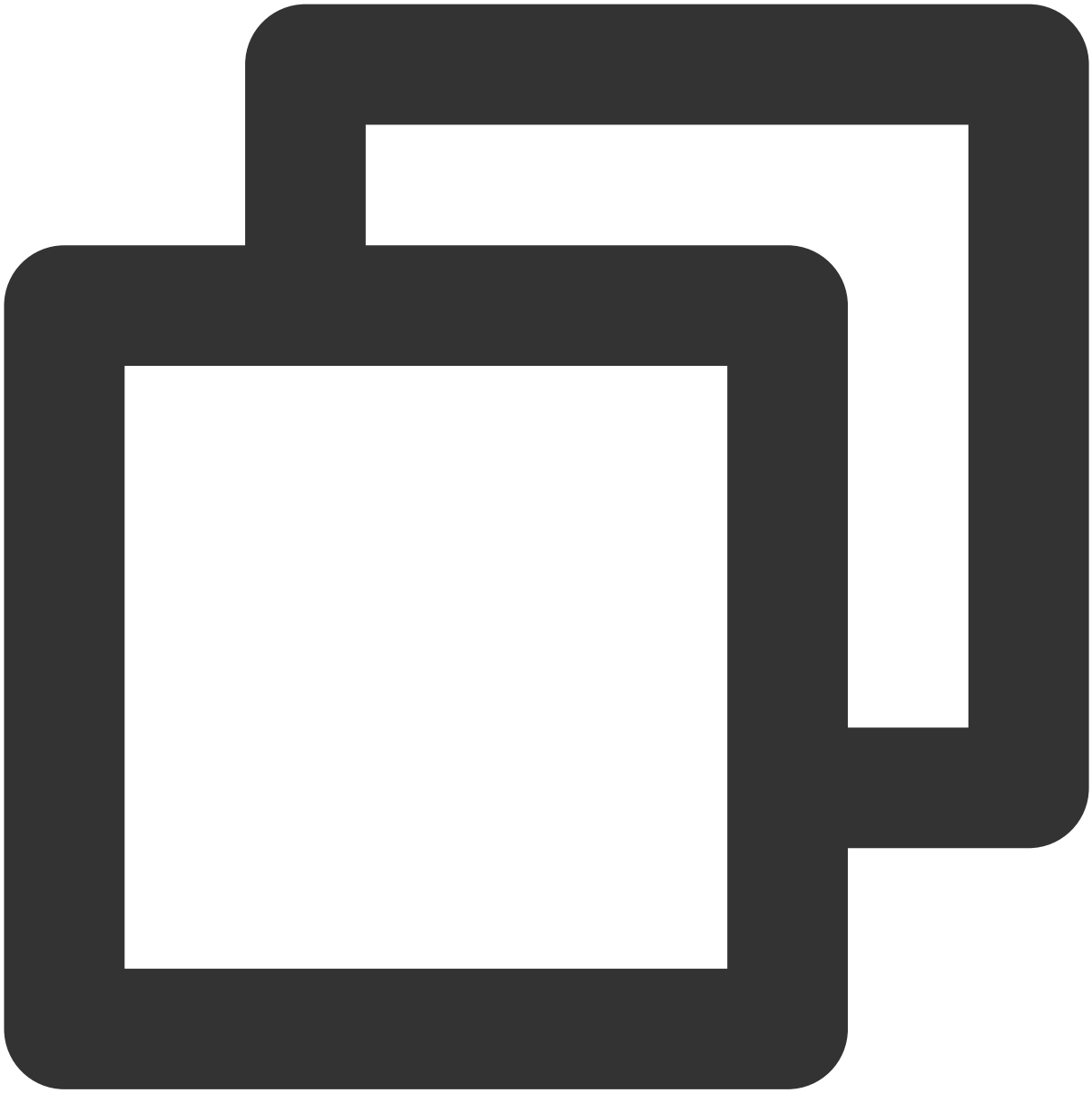
```
  console.log('onCallReceived', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.callerId	String	The user ID of the inviter.
res.calleeIdList	Array<String>	The invitee list.
res.groupId	String	The group ID.
res.callMediaType	Number	Media type of the call, e.g., voice call (callMediaType = 1), video call (callMediaType = 2)
res.userData	String	User-added extended fields.

onCallCancelled

The call was canceled by the inviter or timed out. This callback is received by an invitee. You can listen for this event to determine whether to show a missed call message.
This indicates that the call was canceled by the caller, timed out by the callee, rejected by the callee, or the callee was busy. There are multiple scenarios involved. You can listen to this event to achieve UI logic such as missed calls and resetting UI status.
Call cancellation by the caller: The caller receives the callback (userId is himself); the callee receives the callback (userId is the ID of the caller)
Callee timeout: the caller will simultaneously receive the onUserNoResponse and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID)
Callee rejection: The caller will simultaneously receive the onUserReject and onCallCancelled callbacks (userId is his own ID); the callee receives the onCallCancelled callback (userId is his own ID)
Callee busy: The caller will simultaneously receive the onUserLineBusy and onCallCancelled callbacks (userId is his own ID);
Abnormal interruption: The callee failed to receive the call ， he receives this callback (userId is his own ID).



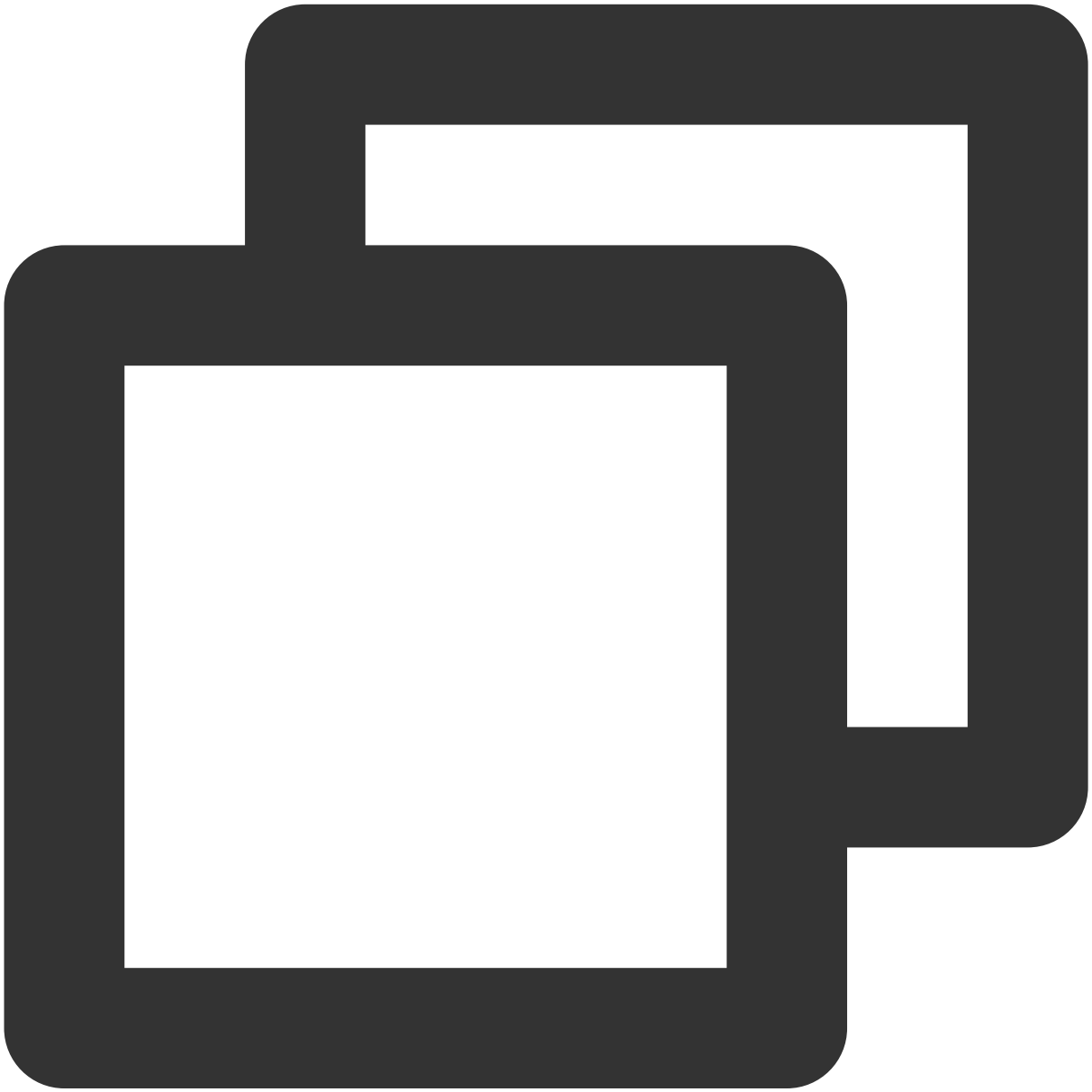
```
TUICallingEvent.addEventListener('onCallCancelled', (res) => {
  console.log('onCallCancelled', res);
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The user ID of the inviter.

onCallBegin

The call was connected. This callback is received by both the inviter and invitees. You can listen for this event to determine whether to start on-cloud recording, content moderation, or other tasks.



```
TUICallingEvent.addEventListener('onCallBegin', (res) => {
  console.log('onCallBegin', JSON.stringify(res));
});
```

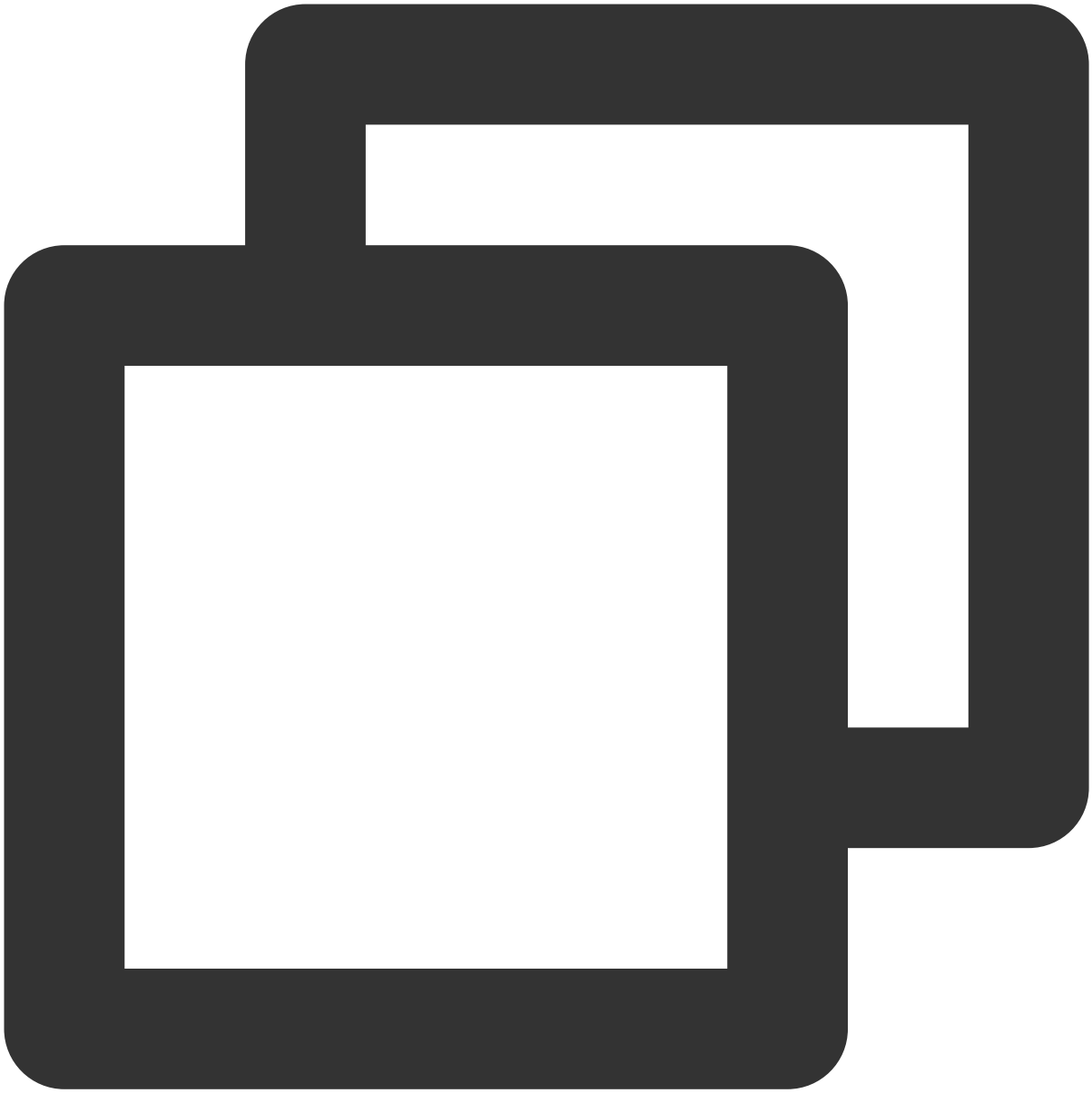
The parameters are described below:

Parameter	Type	Description

res	Object	callback parameter
res.roomID	Number	The room ID.
res.callMediaType	Number	Media type of the call, e.g., voice call (callMediaType = 1), video call (callMediaType = 2)
res.callRole	Number	The role, which can be caller or callee.

onCallEnd

The call ended. This callback is received by both the inviter and invitees. You can listen for this event to determine when to display call information such as call duration and call type, or stop on-cloud recording.



```
TUICallingEvent.addEventListener('onCallEnd', (res) => {
  console.log('onCallEnd', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.roomID	Number	The room ID.

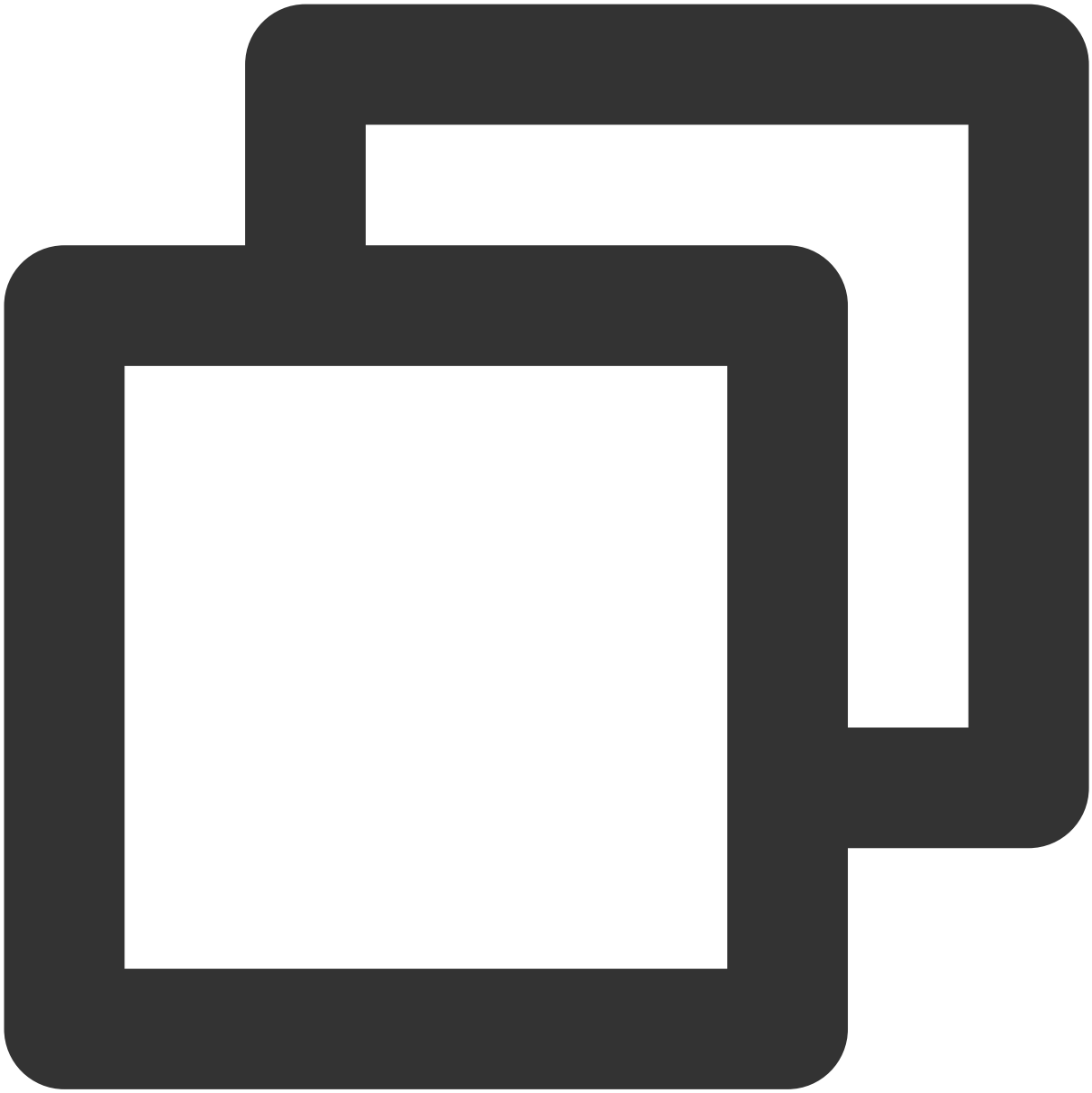
res.callMediaType	Number	Media type of the call, e.g., voice call (callMediaType = 1), video call (callMediaType = 2)
res.callRole	Number	The role, which can be caller or callee.
res.totalTime	Number	The call duration. unit: second

Note

Client-side callbacks are often lost when errors occur, for example, when the process is closed. If you need to measure the duration of a call for billing or other purposes, we recommend you use the RESTful API.

onCallMediaTypeChanged

The call type changed.



```
TUICallingEvent.addEventListener('onCallMediaTypeChanged', (res) => {
  console.log('onCallMediaTypeChanged', JSON.stringify(res));
});
```

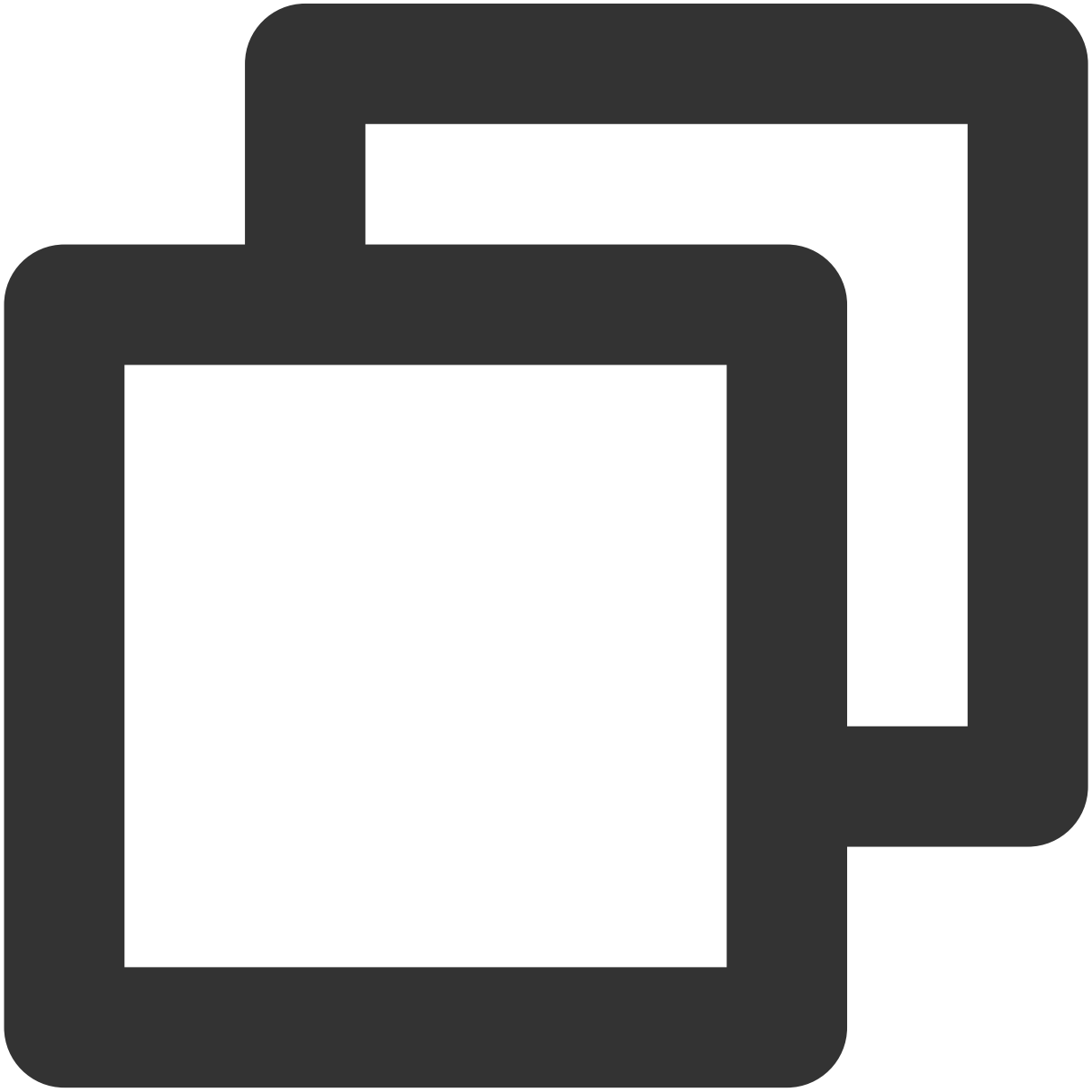
The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.oldCallMediaType	Number	The call type before the change. eg. audio call(callMediaType =

		1), video call(callMediaType = 2)
res.newCallMediaType	Number	The call type after the change. eg. audio call(callMediaType = 1), video call(callMediaType = 2)

onUserReject

The call was rejected. In a one-to-one call, only the inviter will receive this callback. In a group call, all invitees will receive this callback.



```
TUICallingEvent.addEventListener('onUserReject', (res) => {
```

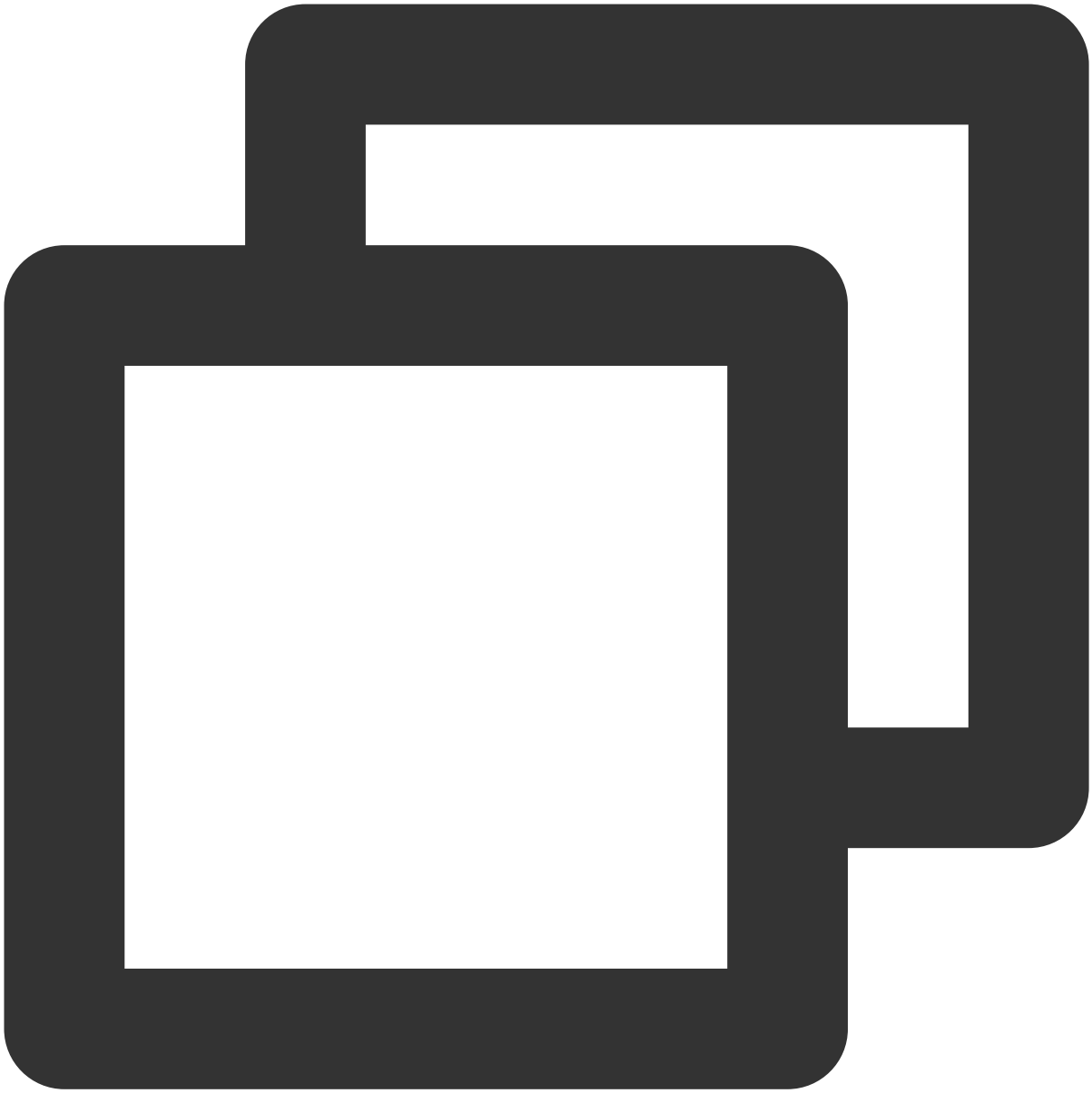
```
  console.log('onUserReject', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The user ID of the invitee who rejected the call.

onUserNoResponse

A user did not respond.



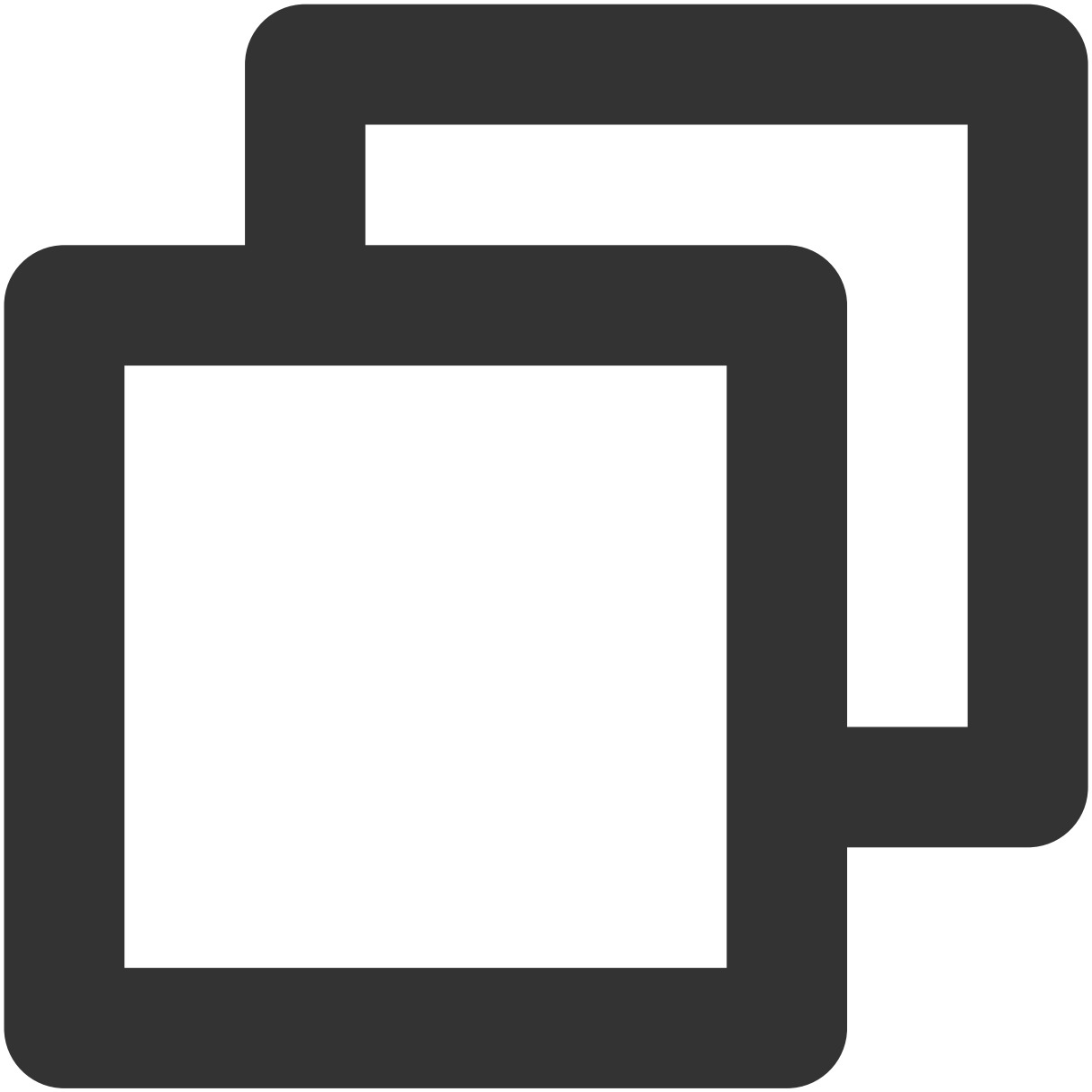
```
TUICallingEvent.addEventListener('onUserNoResponse', (res) => {
  console.log('onUserNoResponse', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The user ID of the invitee who did not answer.

onUserLineBusy

A user is busy.



```
TUICallingEvent.addEventListener('onUserLineBusy', (res) => {
  console.log('onUserLineBusy', JSON.stringify(res));
});
```

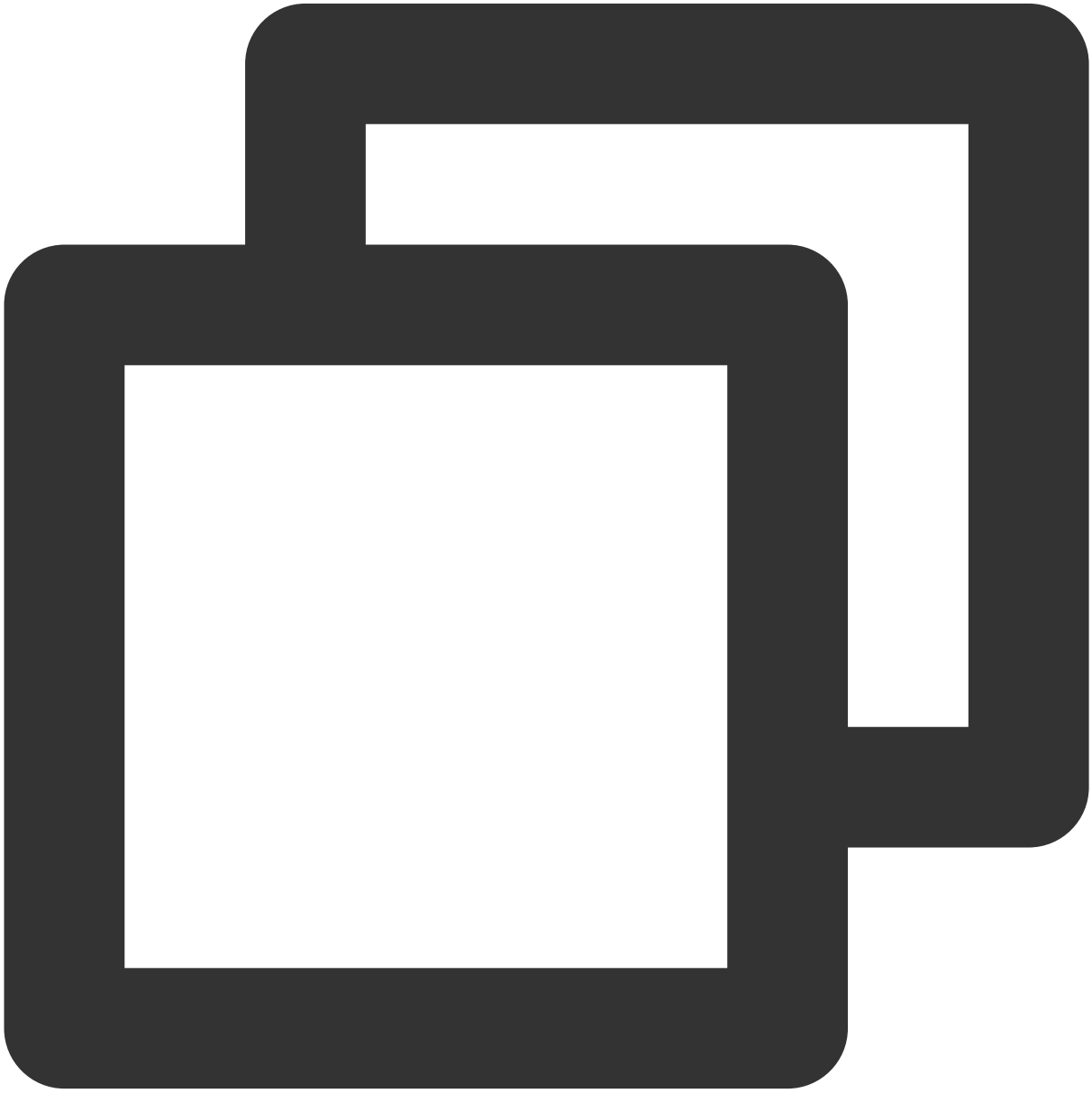
The parameters are described below:

Parameter	Type	Description

res	Object	callback parameter
res.userId	String	The user ID of the invitee who is busy.

onUserJoin

A user joined the call.



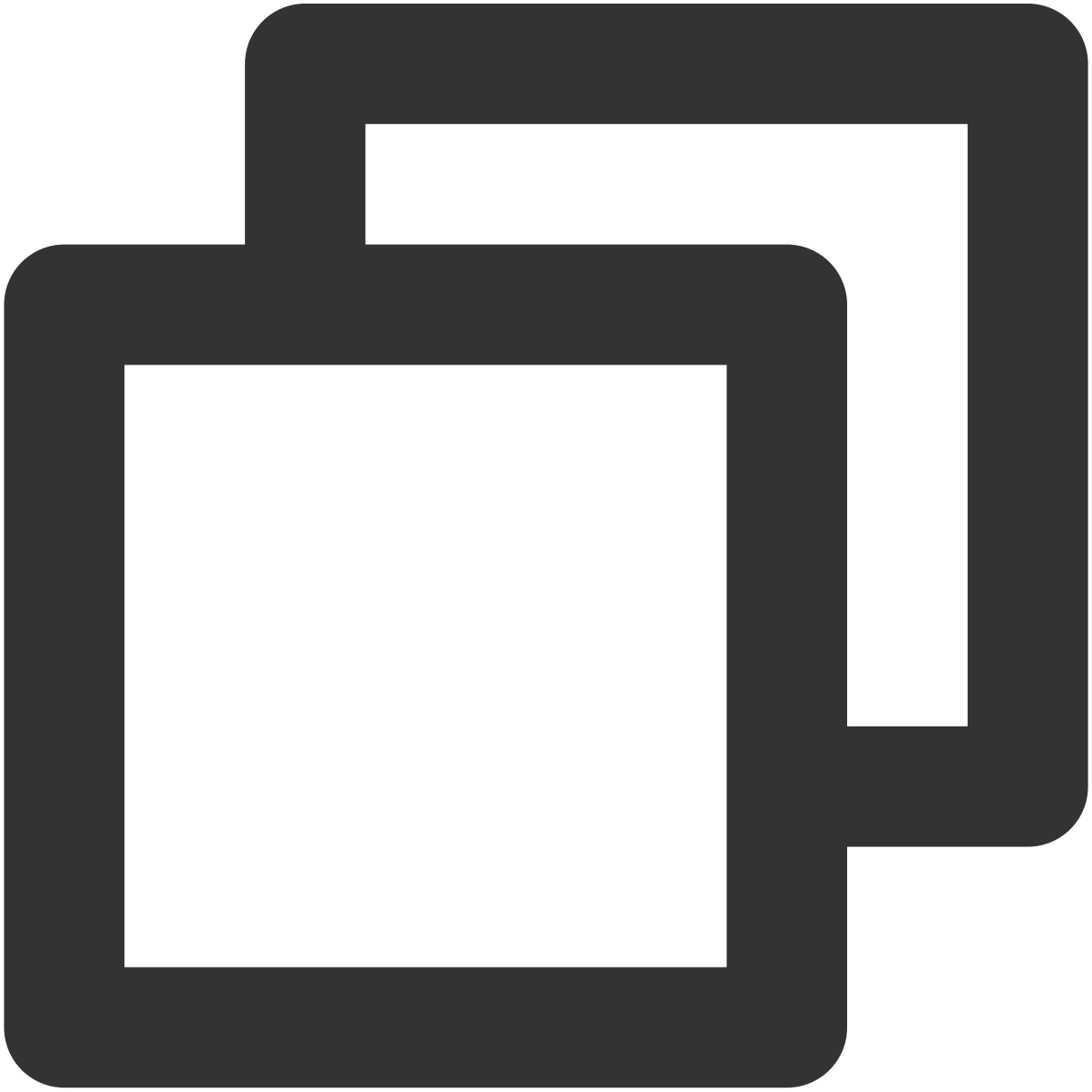
```
TUICallingEvent.addEventListener('onUserJoin', (res) => {
  console.log('onUserJoin', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The ID of the user who joined the call.

onUserLeave

A user left the call.



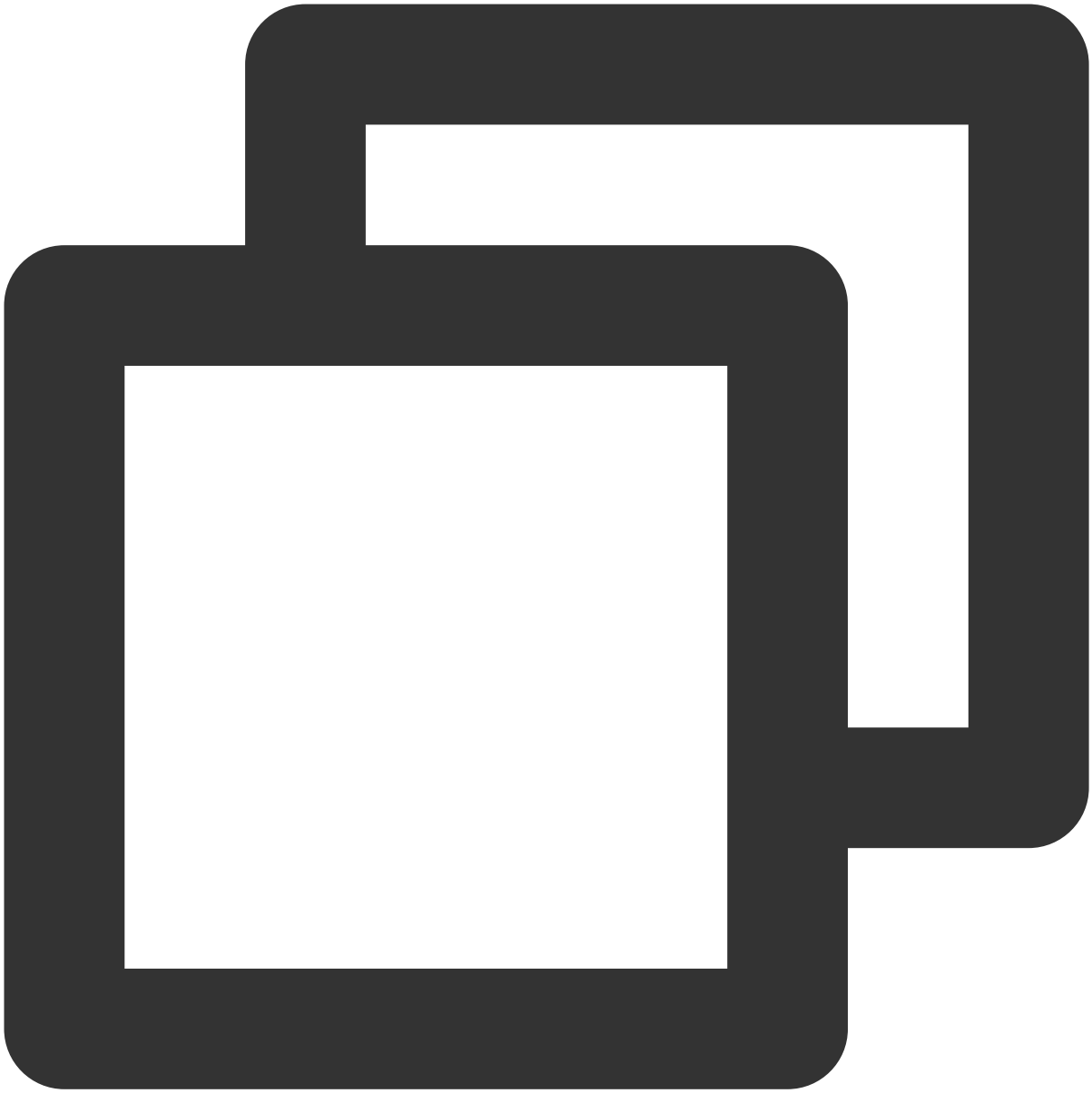
```
TUICallingEvent.addEventListener('onUserLeave', (res) => {
  console.log('onUserLeave', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The ID of the user who left the call.

onUserVideoAvailable

Whether a user is sending video.



```
TUICallingEvent.addEventListener('onUserVideoAvailable', (res) => {
  console.log('onUserVideoAvailable', JSON.stringify(res));
});
```

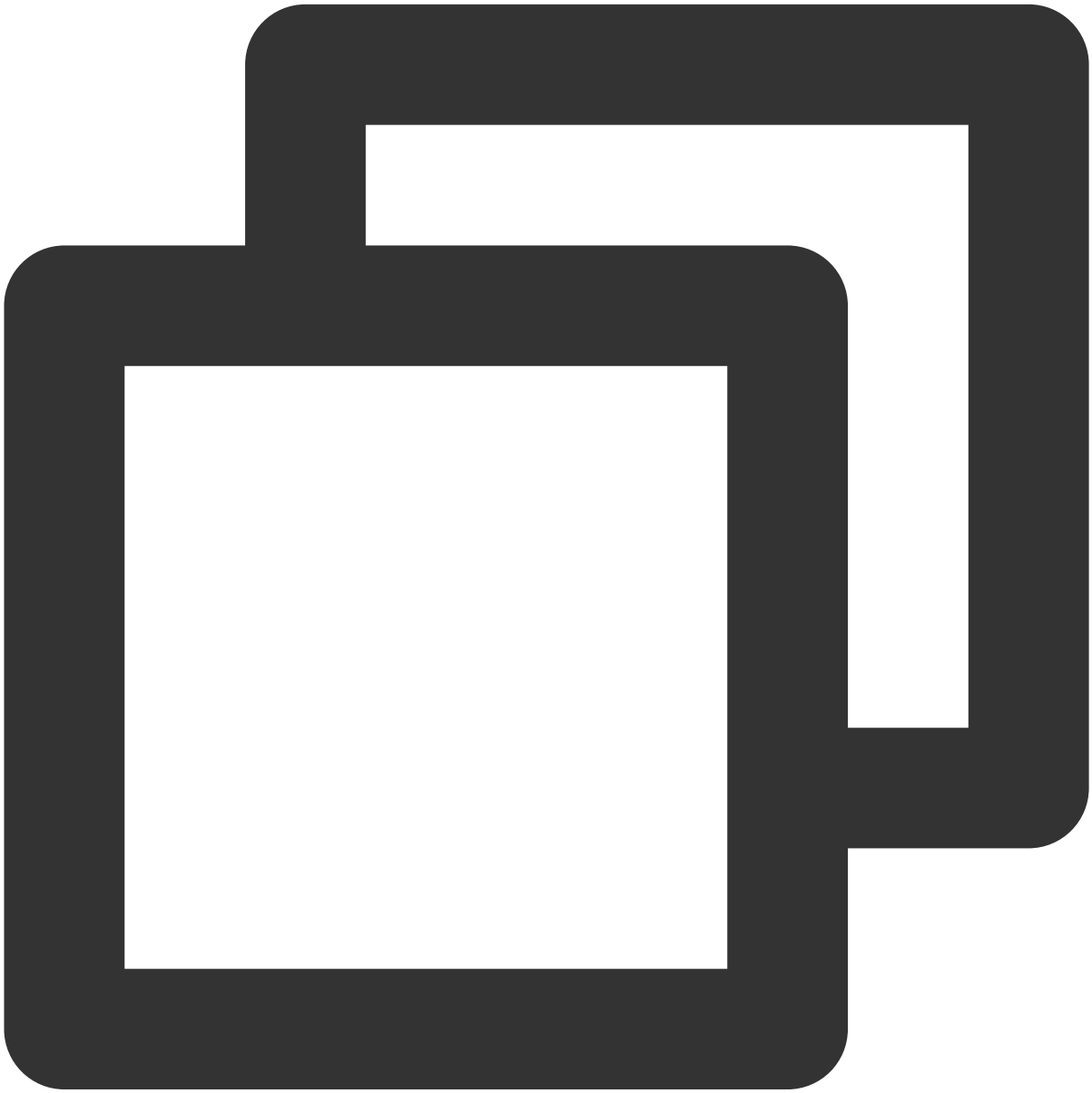
The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The user ID.

res.isVideoAvailable	boolean	Whether the user has video.

onUserAudioAvailable

Whether a user is sending audio.



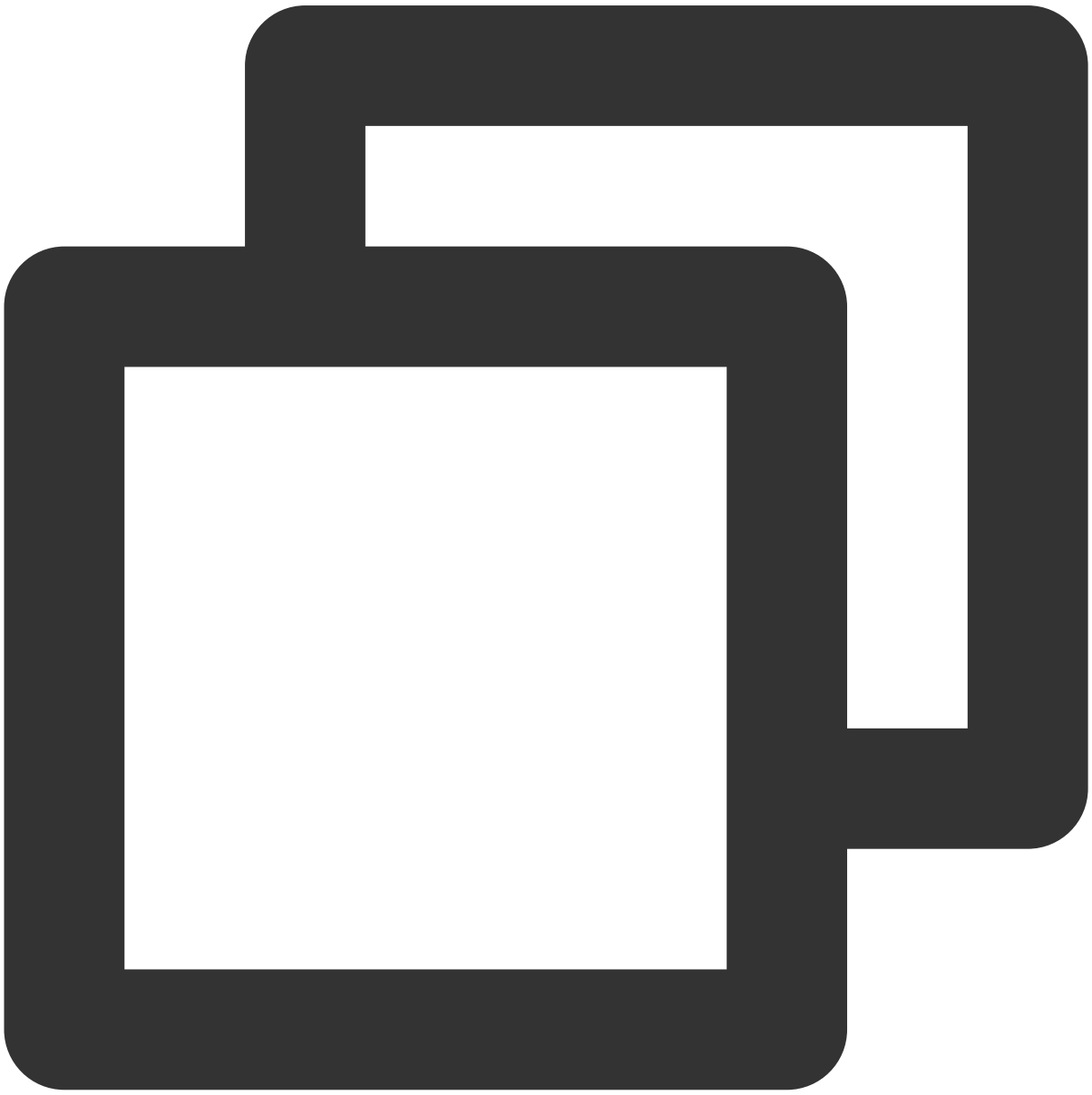
```
TUICallingEvent.addEventListener('onUserAudioAvailable', (res) => {
  console.log('onUserAudioAvailable', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.userId	String	The user ID.
res.isAudioAvailable	boolean	Whether the user has audio.

onUserVoiceVolumeChanged

The volumes of all users.



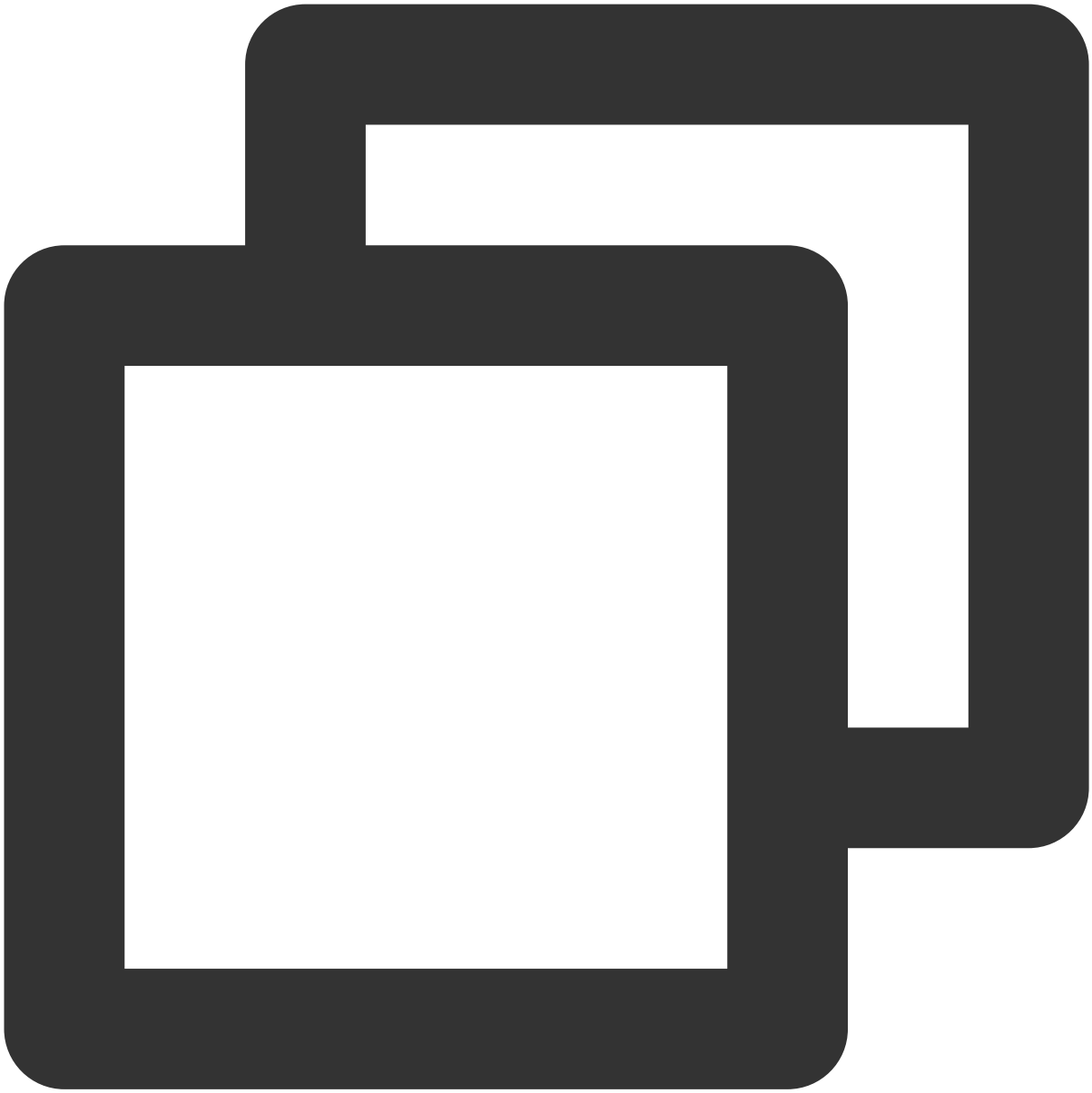
```
TUICallingEvent.addEventListener('onUserVoiceVolumeChanged', (res) => {
  console.log('onUserVoiceVolumeChanged', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.volumeMap	Map<String, Integer>	The volume table, which includes the volume of each user (userId). Value range: 0-100.

onUserNetworkQualityChanged

The network quality of all users.



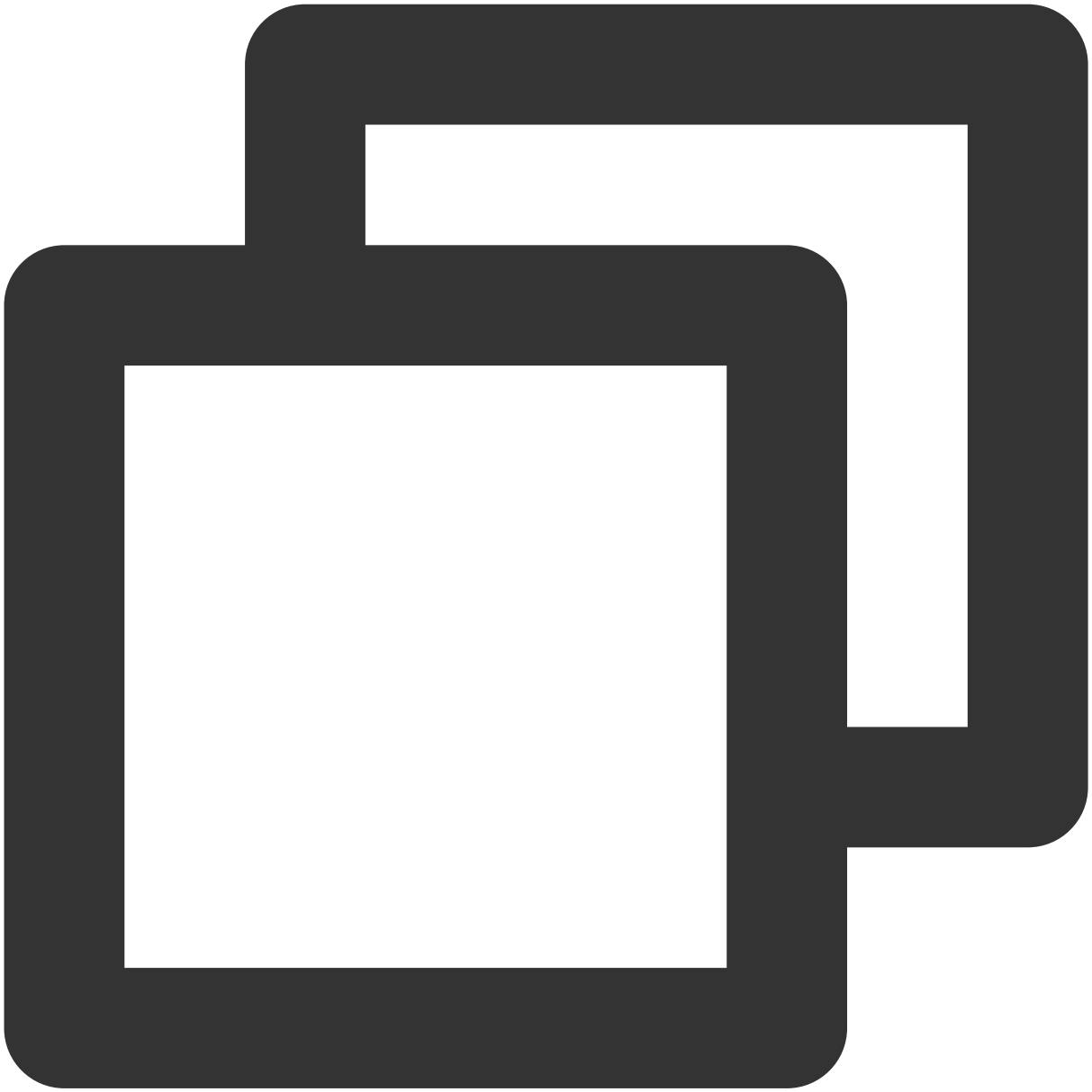
```
TUICallingEvent.addEventListener('onUserNetworkQualityChanged', (res) => {
  console.log('onUserNetworkQualityChanged', JSON.stringify(res));
});
```

The parameters are described below:

Parameter	Type	Description
res	Object	callback parameter
res.networkQualityList	List	The current network conditions for all users (userId).

onKickedOffline

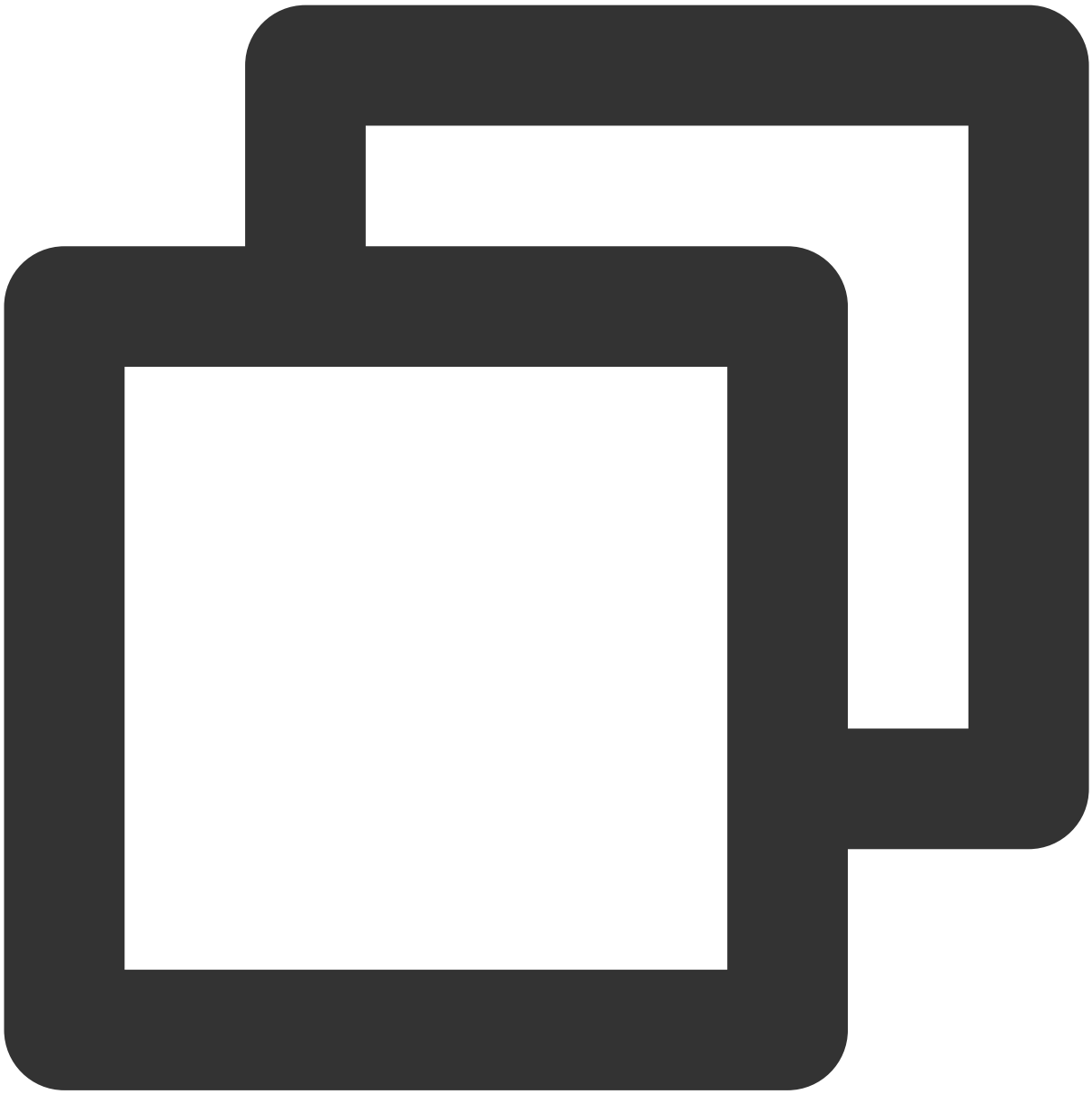
The current user was kicked offline：At this time, you can prompt the user with a UI message and then invoke `login` again.



```
TUICallingEvent.addEventListener('onKickedOffline', (res) => {
  console.log('onKickedOffline', JSON.stringify(res));
});
```

onUserSigExpired

The user sig is expired：At this time, you need to generate a new `userSig` , and then invoke `login` again.



```
TUICallingEvent.addEventListener('onUserSigExpired', (res) => {
  console.log('onUserSigExpired', JSON.stringify(res));
});
```

ErrorCode

Last updated：2023-09-19 15:30:20

Notify users of warnings and errors that occur during audio and video calls.

TUICallDefine Error Code

Definition	Value	Description
ERROR_PACKAGE_NOT_PURCHASED	-1001	You do not have TUICallKit package, please open the free experience in the console or purchase the official package.
ERROR_PACKAGE_NOT_SUPPORTED	-1002	The package you purchased does not support this ability. You can refer to console to purchase Upgrade package.
ERROR_TIM_VERSION_OUTDATED	-1003	The IM SDK version is too low, please upgrade the IM SDK version to >= 6.6; Find and modify in the build.gradle file.："com.tencent.imsdk:imsdk-plus:7.1.3925"
ERROR_PERMISSION_DENIED	-1101	Failed to obtain permission. The audio/video permission is not authorized. Check if the device permission is enabled.
ERROR_GET_DEVICE_LIST_FAIL	-1102	Failed to get the device list (only supported on web platform).
ERROR_INIT_FAIL	-1201	The init method has not been called for initialization. The TUICallEngine API should be used after initialization.
ERROR_PARAM_INVALID	-1202	param is invalid.
ERROR_REQUEST_REFUSED	-1203	The current status can't use this function.
ERROR_REQUEST_REPEATED	-1204	The current status is waiting/accept, please do not call it repeatedly.
ERROR_SCENE_NOT_SUPPORTED	-1205	The current calling scene does not support this feature.
ERROR_SIGNALING_SEND_FAIL	-1406	Failed to send signaling. You can check the specific

		error message in the callback of the method.

IM Error Code

Video and audio calls use Tencent Cloud's IM SDK as the basic service for communication, such as the core logic of call signaling and busy signaling. Common error codes are as follows:

Error Code	Description
6014	You have not logged in to the Chat SDK or have been forcibly logged out. Log in to the Chat SDK first and try again after a successful callback. To check whether you are online, use TIMManager getLoginUser.
6017	Invalid parameter. Check the error information to locate the invalid parameter.
6206	UserSig has expired. Get a new valid UserSig and log in again. For more information about how to get a UserSig, see Generating UserSig.
7013	The current package does not support this API. Please upgrade to the Flagship Edition package.
8010	The signaling request ID is invalid or has been processed.

Explanation：
More IM SDK error codes are available at：IM Error Code

TRTC Error Code

Video and audio calls use Tencent Cloud's IM SDK as the basic service for calling, such as the core logic of switching camera and microphone on or off. Common error codes are as follows:

Enum	Value	Description
ERR_CAMERA_START_FAIL	-1301	Failed to turn the camera on. This may occur when there is a problem with the camera configuration program (driver) on Windows or macOS. Disable and reenable the camera, restart the camera, or update the configuration program.
ERR_CAMERA_NOT_AUTHORIZED	-1314	No permission to access to the camera. This usually occurs on mobile devices and may be because the user denied access.

ERR_CAMERA_SET_PARAM_FAIL	-1315	Incorrect camera parameter settings (unsupported values or others).
ERR_CAMERA_OCCUPY	-1316	The camera is being used. Try another camera.
ERR_MIC_START_FAIL	-1302	Failed to turn the mic on. This may occur when there is a problem with the mic configuration program (driver) on Windows or macOS. Disable and reenable the mic, restart the mic, or update the configuration program.
ERR_MIC_NOT_AUTHORIZED	-1317	No permission to access to the mic. This usually occurs on mobile devices and may be because the user denied access.
ERR_MIC_SET_PARAM_FAIL	-1318	Failed to set mic parameters.
ERR_MIC_OCCUPY	-1319	The mic is being used. The mic cannot be turned on when, for example, the user is having a call on the mobile device.
ERR_TRTC_ENTER_ROOM_FAILED	-3301	Failed to enter the room. For the reason, refer to the error message for -3301.

Explanation：

More TRTC SDK error codes are available at：TRTC Error Code

Release Notes (TUICallKit)
Web

Last updated：2024-04-03 18:02:21

Note:

TUICallKit Vue3 Github version address: Github TUICallKit Web.

Version 3.2.1 @2024.03.08

Added

Language log reporting.

Version 3.2.0 @2024.02.23

Added

Added default offline push parameters.

Fix

Fix the issue where group calls have no nickname.

Version 3.1.9 @2024.01.30

Fix

Fix the issue where group calls do not display user information.
Fixed the issue where the 'Confirm' button was still clickable in the selector component when there were no members available.
Fixed the issue where muting the microphone during a call would prevent the audio stream from being transmitted in subsequent calls (upgrade trtc-cloud-js-sdk to v2.2.7+).

Version 3.1.8 @2024.01.19

Fix

Fixed the impact of the selector component's style on the page.

Version 3.1.7 @2024.01.12

Fix

Added a retry mechanism for interfaces and fixed the playback failure issue due to the inability to find the DOM node.
Fixed the device list selection style issue on PC.

Version 3.1.6 @2023.12.29

Optimization

Optimized the prompt message during group calls.
Optimized the display issue when the nickname is too long.

Fix

Fixed the camera permission issue for voice call requests.
Fixed the issue with 'destroyed'.
Fixed the hang-up issue in the floating window under different call scenarios.
Fixed the display remote issue during the caller call status.
Fixed the incomplete fill style issue on PC.

Version 3.1.5 @2023.12.15

Added

Optimized the timing of accessing device permissions. No longer access device permissions during initialization, only access when using call.

Fix

Fixed @tencentcloud/call-uikit-vue2,@tencentcloud/call-uikit-vue2.6 components not having declare file issues.

Version 3.1.4 @2023.12.01

Added

Integrated into Chat, added isFromChat reporting.

Fix

Fixed the issue where the button is clickable under loading.

Version 3.1.3 @2023.11.17

Added

Added parameter validation to the interface.

Version 3.1.2 @2023.11.03

Added

Add the inviteUser feature for inviting others.
Added the feature to add people mid-call joinInGroupCall.
Introduced the feature to mute incoming call ringtones enableMuteMode.

Fix

Fixed the issue where remote stream microphone status was displayed incorrectly.

Version 3.1.0 @2023.10.20

Added

Added Floating Window feature.
Added enableFloatWindow interface for enabling/disabling Floating Window feature.
Desktop Terminal supports switching Camera and Microphone devices.
Added failure prompt message for calling blocked users.
Added support for Japanese.

Optimization

During video calls, the big screen defaults to displaying the remote user.

Version 3.0.8 @2023.10.10

Added

Added reporting for version number, framework, and other information.

Version 3.0.7 @2023.10.08

Added

Add desktop video call duration display.

Optimization

Optimized desktop video stream preview of rounded corners and black edges.
Optimized display priority for remote stream user information: Remarks > Nickname > userId.
Optimized TUICallKit component package size (Removed unused images and code).

Version 3.0.6 @2023.09.19

Fix

Fixed the message display issue integrated into TUIKit.

Version 3.0.5 @2023.09.15

Optimization

Optimized mutual references in TUICallKit to avoid the stack overflow issue that occurs when packaging mini-programs in uniapp.

Added

Added a prompt for desktop devices when there is no permission, guiding customers on how to authorize devices.

Fix

Fixed setCallingBell where the called ringtone was overridden by the calling ringtone, leading to ringtone repetition issue.
Fixed styling issues on mobile devices.

Version 3.0.4 @2023.09.01

Fix

Fixed setCallingBell targeting incoming call ringtone (called ringtone).
Fixed destroyed error reporting problem.

Fixed the lack of Chinese and English in the error popup prompt.
Fixed the issue where it is impossible to switch between multi-screen support after turning off the camera during a 1v1 call.

Version 3.0.3 @2023.8.25

Added

Add @tencentcloud/call-uikit-vue2.6 compatible with Vue 2.6 version.

Optimization

Optimize the default language of the component to the system default language.
Optimize the log information printed.
Optimize error message thrown by tuicall-engine-webrtc.
Optimize resource cleanup after component destruction.

Fix

Fixed an issue where videoDisplayMode,videoResolution did not take effect when calling again after hanging up.
Fixed the issue where statusChanged was not triggered during the call.
Fixed the issue of init being called multiple times.
Fixed the issue of being unable to switch between full and split screens when turning off the camera during a call.

Version 3.0.2 @2023.8.14

Fix

Fixed styling issues of the called component on the H5 platform.
Fixed the styling issues that occurred after switching to a small window during another call.

Version 3.0.1 @2023.8.8

Fix

Fixed the issue of the caller's local preview failing during a group call, and modified the component layer's default reading mode from the data layer.

Version 3.0.0 @2023.8.4

Breaking Change

Upgraded the underlying dependency tuicall-engine-webrtc to ^2.0.0. It no longer supports creating tim instances with tim-js-sdk. If you need to create a tim instance, please use @tencentcloud/chat.

Add

Add the custom ringtone feature setCallingBell.

Version 2.4.2 @2023.11.03

Added

Add the inviteUser feature for inviting others.
Added the feature to add people mid-call joinInGroupCall.
Introduced the feature to mute incoming call ringtones enableMuteMode.

Fix

Fixed the issue where remote stream microphone status was displayed incorrectly.

Version 2.4.0 @2023.10.20

Added

Added Floating Window feature.
Added enableFloatWindow interface for enabling/disabling Floating Window feature.
Desktop Terminal supports switching Camera and Microphone devices.
Added failure prompt message for calling blocked users.
Added support for Japanese.

Optimization

During video calls, the big screen defaults to displaying the remote user.

Version 2.3.9 @2023.10.10

Added

Added reporting for version number, framework, and other information.

Version 2.3.8 @2023.10.08

Added

Add desktop video call duration display.

Optimization

Optimized desktop video stream preview of rounded corners and black edges.
Optimized display priority for remote stream user information: Remarks > Nickname > userId.
Optimized TUICallKit component package size (Removed unused images and code).

Version 2.3.6 @2023.09.15

Optimization

Optimized mutual references in TUICallKit to avoid the stack overflow issue that occurs when packaging mini-programs in uniapp.

Added

Added a prompt for desktop devices when there is no permission, guiding customers on how to authorize devices.

Fix

Fixed setCallingBell where the called ringtone was overridden by the calling ringtone, leading to ringtone repetition issue.
Fixed styling issues on mobile devices.

Version 2.3.5 @2023.9.5

Fix

Fixed the issue where the camera and microphone buttons were by default turned on before entering the room.

Version 2.3.4 @2023.9.1

Added

Add the feature to disable or enable the camera before answering a video call.

Fix

Fixed the issue where it is impossible to switch screen sizes after turning off the camera during a 1v1 call.
Fixed the issue where statusChanged was not triggered when switching from a video call to a voice call.

Version 2.3.3 @2023.8.22

Fix

Fixed an issue where videoDisplayMode,videoResolution did not take effect when calling again after hanging up.
Fixed the issue where statusChanged was not triggered during the call.

Version 2.3.2 @2023.7.26

Breaking Change

Removed the TUICallKitMini floating window component, merged it into the TUICallKit component.
The thrown @kicked-out event has been adjusted to the affinity callback `:kickedOut` .
The thrown @status-changed event has been adjusted to the affinity callback `:statusChanged` .

Add

Add animation effect when the call page appears.
Add group call layout on H5.

Optimization

Optimize the problem prompt message during the call, prompt method.
Optimize support on H5 page, interaction.
Optimize the time it takes to bring up the call interface.
Optimize the @tencentcloud/call-uikit-vue package directory structure.

Fix

Fixed call issues under boundary operations such as immediately hanging up after connecting.
Fixed styling issues on H5 for some models, browsers.
Fixed call anomaly issues caused by repeated clicks.

Version 2.2.1 @2023.7.7

Add

@tencentcloud/call-uikit-vue2 Add detection and prompt for the Vue version.

Fix

Fixed the issue where repeatedly clicking the "Answer" button on the incoming call page causes the answer to fail.

Version 2.2.0 @2023.6.30

Add

call,groupCall support custom roomID parameter for digital room numbers.
call,groupCall support custom userData parameter for extended fields (used to add additional information in the invitation signaling).
Add setSelfInfo interface, supporting user configuration of aliases and profile photos.

Version 2.1.0 @2023.4.14

Add

In the H5 voice chat pattern, while calling, it supports displaying the opposite party's nickname.
When initiating a call fails, "Call initiation failed" will be displayed on the calling page.
When answering a call fails, "Answer failed" will be shown on the incoming call page.
Support for monitoring whether the current user is kicked out (e.g., due to being logged out), see TUICallKit Method - @kicked-out.
Support for listening to TUICallKit call status, see TUICallKit Method - @status-changed.
Support for business-side code to control the answering, canceling, and hanging up of calls, see More Features - Auto-answer through Interface Setting.
The Vue2 version adds TypeScript type declaration files, allowing normal compilation of types in TypeScript projects.

Fix

Fixed a warning about updating personal profile interface appearing in the console during component initialization.
Fixed background image misalignment issues of the callee answer button in the H5 pattern.

Interface Change

`TUICallKitServer.destroy()` Added invocation limit, can only be called in non-call status.

Version 2.0.1 @2023.03.31

Add

Optimized the rendering logic of 1v1 and group call videos to improve performance and stability.
Optimized UI presentation, support for displaying corresponding UI during the execution of `TUICallKitServer.call()`, which enables immediate UI display of `<TUICallKit/>` components upon clicking the call button.

Fix

Fixed the issue of incorrect nickname display in group calls.
Fixed the issue of CSS not being scoped properly, leading to global style pollution.

Version 2.0.0 @2023.03.21

Add

Support for importing the packaged CallKit file from npm.
Support for Vue projects in JavaScript version.
Supports all versions of Vue2 projects, applicable to the npm package for Vue2: call-uikit-vue2.

Fix

Fixed the issue where calls could not be initiated due to the absence of a camera device or permission.

Version 1.4.2 @2023.03.03

Add

Supports setting call resolution. See API Documentation for details.
Supports changing the display pattern. See API Documentation for details.
Optimized the integration steps.
Optimized error throwing.

Version 1.4.1 @2023.02.13

Add

Optimized the logic for previewing the local camera.
Optimized the rendering logic for remote video streams.

Version 1.4.0 @2023.01.06

Add

Supports importing in Vue2.7+ projects.
Call interface defaults to displaying nicknames. For setting nicknames, refer to TIM#updateMyProfile.

Version 1.3.3 @2022.12.27

Add

Added null value detection for the call list when making calls in the Basic Demo.
Added a loading icon when making calls in the Basic Demo.
Optimized the logic for device detection in the Basic Demo, no longer proactively popping up after manually skipping.
Optimized the reference method for component icons.
Changed the default package management tool to npm.
Optimized the rendering method for videos, reducing the number of iterative renderings.

Fix

Fixed an error in the Basic Demo caused by outdated dependencies in vue-CLI.

Version 1.3.2 @2022.12.07

Add

Language switching is supported, see setLanguage for interface details.
Optimized the device detection logic in the Basic Demo; it will no longer pop up proactively after being manually skipped.

Fix

Fixed a warning caused by introducing `defineProps` .

Version 1.3.1 @2022.11.29

Note:

This version depends on the SDK version tuicall-engine-webrtc@1.2.1, please update promptly.

Add

Optimize style details.
Support monitoring the other party's modification of call type when the call is not answered.
Basic demo adds device detection feature.

Fix

Fixed errors caused by internal logic when hanging up the phone.

Version 1.3.0 @2022.11.14

Add

Supports automatic switching to vertical screen style when using mobile H5.
Supports previewing the local camera when making a phone call.
Basic demo adds device detection before making a phone call.

Fix

Fixed the issue where the tim instance did not fully log out after calling TUICallKitServer.destroyed().
Fixed the problem where a 'No response' message was displayed when the line was busy.
Fixed the issue where TypeScript types were not successfully packaged in a vite environment.

Interface Change

When actively calling TUICallKitServer.call() or TUICallKitServer.groupCall(), if an error occurs, the beforeCalling callback will not be invoked. Please use try catch to capture errors directly.

Version 1.2.0 @2022.11.03

Add

Adaptation to new versions of TUICallEngine SDK.

Version 1.1.0 @2022.10.21

Add

During a call, the call page can be displayed in full screen.
During a call, you can use `<TUICallKitMini/>` to minimize.

Fix

Fixed known issues, improved stability.

Version 1.0.3 @2022.10.14

Add

Basic demo adds quick copy UserID, one-click open new window.

Version 1.0.2 @2022.09.30

Add

Optimized access documentation, added demonstration images and detailed guides.

Fix

Fixed the issue where the device status bit became invalid when first entering the room.
Fixed the occasional failure of Icon loading when packaging with webpack.
Fixed known styling issues.

Version 1.0.1 @2022.09.26

Add

Hide the other party's microphone icon during a phone call.

Fix

Fixed the issue where the SDKAppID input box in the basic demo should be numeric.

Version 1.0.0 @2022.09.23

Quickly Run Through the TUICallKit Demo
Quick Integration of TUICallKit
TUICallKit API
TUICallKit Customizable Interface Guide
Frequently Asked Questions About TUICallKit (Web)

Android and iOS

Last updated：2023-11-29 18:21:52

Version 2.0.0.750 Released November 3, 2023

Functionality Enhancement

Android & iOS: The UIKit supports the Japanese language.
Android & iOS: Enhanced the display of call nicknames.
Android & iOS: Adjusted the default ringtone volume from 60% to 100%.

Defect Rectification

iOS: Corrected the slow image loading issue in Swift version.
iOS: Fixed the issue where the call invitation was automatically cancelled after the caller initiated the call and moved the application to the background.

Version 1.9.0.680 Released September 27, 2023

Functionality Enhancement

Android & iOS: Added support for the Arabic language.
Android & iOS: Optimized the package purchase prompts, enabling redirection to corresponding package purchase pages based on the provided links.
Android & iOS: Enhanced the default bitrate at different resolutions to ensure clearer output at higher resolutions. For details, refer to Resolution.
Android & iOS: The default bitrate for video calls has been set to 600kbps, with a beauty level of grade 4.

Defect Rectification

Android & iOS: Resolved inconsistencies between the rejection prompt when initiating a call to a user on the blacklist and the rejection prompt when sending a private chat message.
iOS: Rectified an anomaly in the video placement for the initiator, which occurred on a 4-person group video call interface when one member declined the call.
iOS: Addressed an issue where the resolution would be reset if the beauty feature was enabled immediately after successful login.

Version 1.8.0.620 Released August 14, 2023

Functionality Enhancement

Android & iOS: By default, call messages are excluded from the unread count.
Android: Enhanced the redirection page for floating window permissions on Xiaomi smartphones.

Defect Rectification

iOS: Remedied an issue where the onKickOffline callback interface became ineffective after being kicked offline.
iOS: Fixed an issue where, after clearing the call on the Missed Call interface, returning to the All Calls interface would result in an empty list.

Version 1.7.2.570 Released July 20, 2023

Functionality Enhancement

Android: Gravity sensor is turned off by default, optimizing the call experience on large-screen and customized devices.

Defect Rectification

Android & iOS: Rectified an issue where, after User A (online) calls User B (offline) and cancels the call, User A calls back User B who logs in thereafter, leading to abnormal cloud call records for user B.
Android: Resolved the crash issue of TUICallKit after upgrading the TRTC SDK version to 11.3.

Version 1.7.0.460 Released June 25, 2023

Functionality Enhancement

Android & iOS: Includes UI integration solutions, optimizes sample projects, and improves call setting items.
Android: Reduced the status preservation level during a call to only show standby prompts in the status bar; removed notifications and vibrations.

Version 1.6.1.410 Released on May 22, 2023

New features:

Android & iOS: The UI interface call() and groupCall() now support custom room ID.
Android & iOS: When initiating a call, a string-type room ID can be passed in, see CallParams for details.

Bug fixes:

Android: Fixed issue where an error would occur on the groupCall when generating list parameters using Arrays.asList.
Android: Fixed issue where the video call display was abnormal.
iOS: Fixed issue where it conflicted with TUIRoom component.
iOS: Fixed issue where initiating a call immediately after successful login would cause a crash.
iOS: Fixed issue where the invite page would not appear intermittently when clicking on a notification message to enter the app.

Version 1.6.0.360 Released on April 27, 2023

New features:

Android: TUICallKit added the Kotlin language version;
iOS: TUICallKit added the Swift language version;
Android & iOS: Added a page to display local call records.

Functional optimization:

Android: Optimized the display of video call avatars.
Android & iOS: In group calls, other group members can be invited to join the call by default.

Bug fixes:

Android: Fixed issues where devices running Android 12 or higher would have no sound after being connected to Bluetooth;
Android: Fixed intermittent issues where the muting setting on the callee side was not effective;
iOS: Fixed intermittent issues where devices could not receive incoming call invitations after relogging in;
iOS: Fixed the issue where the enableCustomViewRoute interface of TUICallKit was not valid;
iOS: Fixed the issue where the nickname was displayed incorrectly on the VoIP push page.

Version 1.5.1.310 Released on April 17, 2023

New features:

Android & iOS: Added VoIP message push function to provide a better call answering experience.
Android & iOS: Support custom extended fields when initiating a call, see TUICallDefine.CallParams parameter in the call() method for details.

Functional optimization:

Android & iOS: Optimized offline push capabilities for Huawei, Xiaomi, FCM, and other manufacturers, added manufacturer message categories, and channel ID settings.

Bug fixes:

Android & iOS: Fixed issue where the IM custom property was overwritten after initiating a call.
Android: Fixed issue where the totalTime unit in the onCallEnd callback was incorrect.

Version 1.5.0.305 Released on March 09, 2023

Functional optimization:

Android & iOS: Optimized chat-message display.
Android: The ear-to-screen messaging function is turned off by default now.
Android: Upgraded gradle plugin and version.
Android: Optimized mediaPlayer class, supporting loop playback of ringtones.

Bug fixes:

Android & iOS: Fixed issue where the callee would not receive the onCallCancel callback when answering a call fails.
Android: Fixed issue where the caller would receive an exception when the callee fails to answer the call.
Android: Fixed issue where the caller cancels the call during the permission check of the first call and the callee pulls up the interface again.
Android: Fixed the issue where userId was empty when returning network quality to the upper callback.

Version 1.4.0.255 Released on January 06, 2023

New features:

Android & iOS: Support custom call timeout time, see TUICallDefine.CallParams parameter in the call() method for details.

Bug fixes:

Android & iOS: Fixed issue where joining a room actively (joinInGroupCall) would result in abnormal termination of the call.
Android: Fixed issue where there were abnormalities with call status when you exited the audio and video call answer interface and came back to the foreground again.

Version 1.3.0.205 Released on November 30, 2022

New features:

Android & iOS: Added beauty setting interface setBeautyLevel(), supporting turning off default beauty.

Functional optimization:

iOS: Optimized the framework size of TUICallKit.

Bug fixes:

Android & iOS: Fixed issue where the calling interface did not disappear when the server dissolves a room or kicks out a user.
Android: Fixed issue where if A called offline user B and then cancelled, then A called B again and B came online, the calling interface did not appear.

Version 1.2.0.153 Released on November 14, 2022

New features:

Android & iOS: Support for custom video encoding resolutions.
Android & iOS: Support setting rendering parameters for video: rendering direction and filling mode.
Android & iOS: Support integration of third-party beauty features.
Android & iOS: TUICallKit has added overloaded interfaces call() and groupCall(), supporting custom offline messages (see API documentation for details).

Functional optimization:

Android & iOS: Optimized some TUICallObserver callback exception issues.
Android & iOS: Optimized the video-to-audio switching function, supporting switching in offline state.
Android & iOS: Improved error codes and error prompts for TUICallKit.
iOS: Standardized TUICallEngine and TUICallKit Swift API names.

Bug fixes:

Android & iOS: Fixed issue where you would still receive previously rejected incoming calls after logging back in to your account.
Android: Fixed issue where you would encounter abnormal hang-ups in invites from group chats in one-to-one chats.
Android: Fixed issue where there were abnormalities with multiple-scene exits from live rooms, preventing the initiation of calls.
Android: Fixed issue where contacting person A while B and C were calling each other at the same time would cause C to enter A's room at random.

Version 1.1.0.103 Released on September 30, 2022

Android & iOS: Optimized the feature of inviting new members to the current group call.
Android & iOS: Optimized the call process to avoid the charging of recording, moderation, and other fees before a call is answered.
Android & iOS: Added support for custom offline notifications.
Android & iOS: Changed the parameters of some **TUICallEngine** APIs. For details, see call(), groupCall(), inviteUser(), and onCallReceived().
Android & iOS: Fixed occasional callback errors during a group call.
Android & iOS: Fixed the status abnormal issue caused by repeated login or expired `UserSig` .
iOS: Fixed the issue where, when a mixed-language `TUICallKit` project is built with Objective-C and Swift, an error occurs when `init` is called.
Android: Fixed the issue where an error occurs when the floating window feature is integrated for a Kotlin project.

Version 1.0.0.53 Released on August 15, 2022

First release:

Android & iOS: Supports one-to-one and group audio/video calls.
Android & iOS: Supports offline call push for mainstream devices on the market.
Android & iOS: Supports custom profile photos and aliases.
Android & iOS: Supports floating call windows.
Android & iOS: Supports custom ringtones.
Android & iOS: Supports receiving calls when the user is logged in on multiple platforms.

Flutter

Last updated：2024-01-10 17:10:25

Version 2.0.3 @2023.12.04

Bug Fixes：

Android&iOS : Fixed the intermittent issue of incoming call page not displaying sometimes after clicking on an incoming call notification.

Version 2.0.2 @2023.11.27

Bug Fixes

Android : Fix the issue of call failure under multiple Flutter Engine conditions.

Version 2.0.1 @2023.11.15

Bug Fixes

Android & iOS : Fixed an incompatibility issue caused by Tencent RTC Observer when using Tencent RTC components with other components that also use Tencent RTC.
Android : Fixed an incompatibility issue when using TUIRoom in conjunction with other devices.

Version 2.0.0 @2023.11.06

Dependency Description

Upgrade the dependent client SDK version:
Android&iOS TUICore:7.6.5011.
Android&iOS TUICallEngine:2.0.0.750.

Version 1.9.1 @2023.10.21

New Features：

iOS: Support Voip.

Bug Fixes

iOS: Fixed an issue where the call page would be abnormal when receiving a call in the background.

Version 1.9.0 @2023.10.09

New Features

Android$iOS: Add an interface for setting ringtones.

Function Optimization:

Android & iOS: Optimize package purchasing prompts.
Android & iOS: Optimize default bitrates for different resolutions, see details.

Bug Fixes

iOS: Fixed the issue where the same Observer object can be registered twice.

Dependency Description

Upgrade the dependent client SDK version:
Android&iOS TUICore:7.5.4852.
Android&iOS TUICallEngine:1.9.0.680.

Version 1.8.3 @2023.08.25

Bug Fixes

Android&iOS: Fixed the problem of no call message display when using tencent_cloud_chat_uikit.
Android&iOS: Fixed the problem of occasionally pulling up the group call page during a single-person call.
Android&iOS: Fixed the problem of occasionally pulling up the call page twice during a call.
Android&iOS: Fixed the problem of abnormal display of call duration.
Function Optimization:
Android: Optimized the problem of failing to pull up the interface in the background when receiving a call.

Dependency Description：

Upgrade tencent_cloud_uikit_core to version 1.1.1.

Version 1.8.2 @2023.08.19

Bug Fixes

iOS: Fixed the problem of some compilers failing to compile due to the use of deprecated Swift interfaces.

Version 1.8.1 @2023.08.18

Bug Fixes：

Android&iOS: Fixed the problem of the video stream of the other party being displayed during a group call voice call.

Version 1.8.0 @ 2023.08.17

New Features:

Android&iOS：Build a new TUICalkit based on the Dart language, which makes it easier to customize your own UI style.
Android&iOS：TUICallEngine adds multiple business interfaces such as hangup, accept, and reject.

Version 1.7.4 @ 2023.07.20

Function Optimization:

Android：By default, the gravity sensor is turned off to optimize the call experience on large screens and customized devices.

Bug Fixes:

Android&iOS：A calls B (offline) and then cancels, A calls B again, B logs in and goes online, and B's cloud call record is abnormal.

Version 1.7.3 @ 2023.07.19

Function Optimization:

Android: Supports development & debugging using the emulator.

Dependency Notes:

The client SDK version that the upgrade depends on: Android LiteAVSDK_Professional: 11.3.0.13176.

Version 1.7.2 @ 2023.07.09

Bug Fixes:

iOS: Upgrade the client SDK version to fix the problem of AppStore listing failure caused by Non-public API usage.

Version 1.7.1 @ 2023.07.03

New Features:

Android&iOS：Added cloud call records, you can activate the service on the console for experience query.

Function Optimization:

Android：Reduce the level of system keep-alive during calls, only display the keep-alive reminder in the status bar, and remove notifications and vibrations.

Version 1.6.3 @ 2023.06.03

Bug Fixes:

iOS: Fix the issue of an empty page when adding people halfway after calling joinInGroupCall.
iOS: Fix the issue of user screen overlap after calling joinInGroupCall.

Version 1.6.2 @ 2023.05.30

Bug Fixes:

Android: Fix the crash issue caused by calling the joinInGroupCall API.

Version 1.6.1 @ 2023.05.15

Bug Fixes:

Android: Fix the occasional crash when applying for floating window permissions on specific Vivo models.

Dependency Notes:

Upgrade the dependent client SDK version: Android LiteAVSDK_Professional: 11.1.0.13111, iOS TXLiteAVSDK_Professional: 11.1.14143.

Version 1.6.0 @ 2023.05.03

New Features:

Android&iOS: Add hangup interface.
Android&iOS: Add user-defined fields and user-defined call timeout duration.
Android&iOS: Add midway join page for group calls.

Function Optimization:

Android: Optimize single-user video call avatar display.
Android&iOS: By default, support inviting other group members to join the call in group calls.

Bug Fixes:

Android: Fix the issue of no sound on Android 12 and above devices after connecting to Bluetooth.
Android: Fix the occasional issue of mute settings not taking effect on the called party's side.
iOS: Fix the occasional issue of the device not receiving incoming call invitations after re-login.
iOS: Fix the issue of incorrect nickname display on VoIP push page.

Dependency Notes:

Upgrade the dependent client SDK version: Android LiteAVSDK_Professional: 11.1.0.13111, iOS TXLiteAVSDK_Professional: 11.1.14143.

Flutter Version 1.5.4 @ 2023.04.14

New Features:

Android&iOS: Add offline push parameters for Xiaomi, Huawei, and VIVO.
iOS: Supports VoIP message push function.
Android&iOS: Add resolution setting function.

Function Optimization:

Android: Optimize the unit of the totaltime parameter in the onCallEnd callback to milliseconds.

Bug Fixes:

Android&iOS: Fix onCallReceived callback exception issue.
iOS: Fix the issue of incomplete call page display when the screen is rotated.

Version 1.5.3 @ 2023.03.17

Bug Fixes:

Android: Fix the packaging failure issue.
Android&iOS: Fix the issue of throwing exceptions when callback methods are not implemented.

Version 1.5.2 @ 2023.03.13

Bug Fixes:

Android: Fix the compilation error caused by the API change of TUICallDefine.OfflinePushInfo.

Version 1.5.1 @ 2023.03.13

Bug Fixes:

Android&iOS: Fix the issue of incorrect version dependency of tencent_calls_engine.

Version 1.5.0 @ 2023.03.13

Function Optimization:

Android: Proximity wake-up function is turned off by default.
Android: Upgrade gradle plugin and version.
Android: Optimize the ringtone playback class, supporting loop playback.

Bug Fixes:

Android&iOS: Fix the issue that the onCallCancel callback is missing when the called party fails to answer the call.
Android: Fix the abnormal problem of the caller when the called party fails to answer the call.
Android: Fix the issue that the interface is pulled up again by the called party when checking permissions for the first call and the calling party cancels the call.
Android: Fix the issue of userId being empty when calling back the network quality to the upper layer.
iOS: Fix the issue of incorrect Observer registration timing in Example.

Version 1.4.2 @ 2023.02.24

Bug Fixes:

Android&iOS: Fix the issue of abnormal calls caused by the wrong Observer registration timing in Example.
iOS: Fix the occasional invalid setting issue of removeObserver API.

Version 1.4.1 @ 2023.02.20

Bug Fixes:

Android: Fix the issue of the OnCallEnd event being lost after the call ends.

Version 1.4.0 @ 2023.01.16

Bug Fixes:

Android&iOS: Fix the issue of abnormal call termination when actively joining a room (joinInGroupCall).
Android: Fix the issue of abnormal call status when entering the background during audio and video call answering and returning to the foreground.
Android: Fix the issue of call initiation failure caused by login status when integrating the tencent_cloud_chat_uikit plugin.
Android: Fix the issue of call initiation failure due to parameter check issues when initiating a group call.

Version 1.3.1 @ 2022.12.27

New Features:

Android&iOS: Support custom offline push message during a call.

Bug Fixes:

Android: Fix the issue of sdkappid is invalid prompt when integrating the tencent_cloud_chat_uikit plugin.

Version 1.3.0 @ 2022.12.02

Function Optimization:

iOS: Optimize the size of the TUICallKit Framework.

Bug Fixes:

Android&iOS: Fix the issue of the call interface not disappearing when the server-side dissolves the room or kicks out users.
Android: Fix the issue that the call interface does not display when user A calls offline user B, then cancels the call; A calls B again, and B's call interface does not display after going online.

Version 1.2.2 @ 2022.11.17

Bug Fixes:

iOS: Fix the compilation issue caused by static library linking.

Version 1.2.0 @ 2022.11.17

New Features:

Support 1v1 audio and video calls, group audio and video calls.
Support custom avatar and custom nickname.
Support setting custom ringtones.
Support enabling floating window during the call.
Support incoming call service for multi-platform login status.

FAQs(TUICallKit)
Web

Last updated：2024-04-03 17:23:11

What should I do if I receive the error message "The package you purchased does not support this ability"?

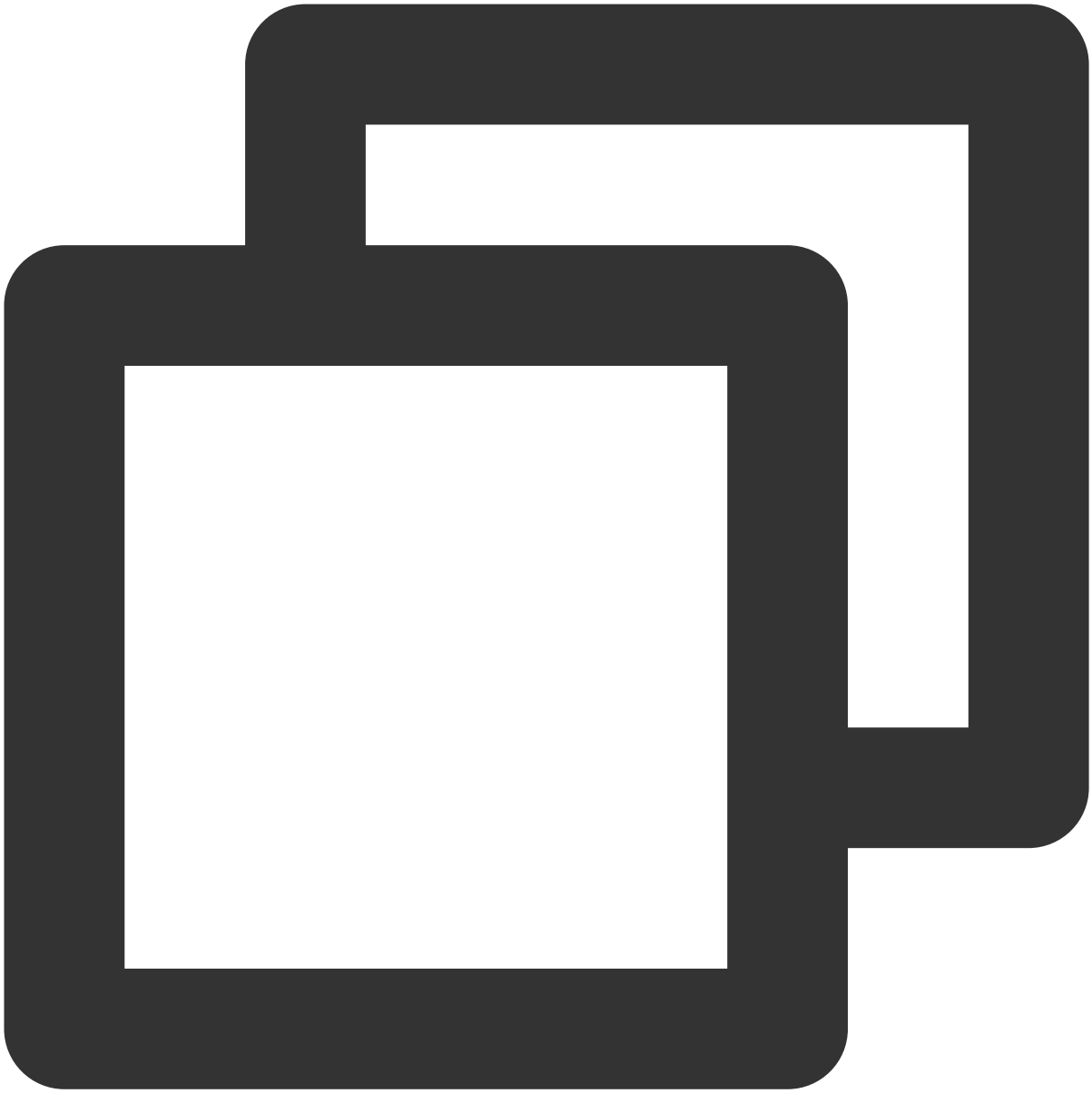
If you encounter the error message above, it's because the Audio and Video Calling Capability Package of your current application has either expired or not been activated. Please refer to Activate Service to claim or activate the audio and video calling capability, and continue to use the TUICallKit Component.

How do I procure a package?

Please follow the link Purchase Official Version.

How can I generate UserSig?

UserSig is a type of security signature designed by Tencent Cloud for its cloud services. It serves as a login credential, derived from the encrypted combination of information such as SDKAppID and SecretKey.
Method 1: Accessing from the control panel, refer to How to Obtain a Temporary UserSig.
Method 2: Deploying a temporary generation script.
Warning:
This approach involves configuring the SecretKey within the front-end code. Regrettably, in this method, the SecretKey can be easily decrypted through reverse engineering. In the event of your key being exposed, attackers can usurp your Tencent Cloud traffic. Therefore, **this method is only suitable for local functional debugging**. For a production environment, please refer to Method 3.
For easier initial debugging, `GenerateTestUserSig-es.js` in the `genTestUserSig(params)` function can be used temporarily to calculate userSig, for instance:



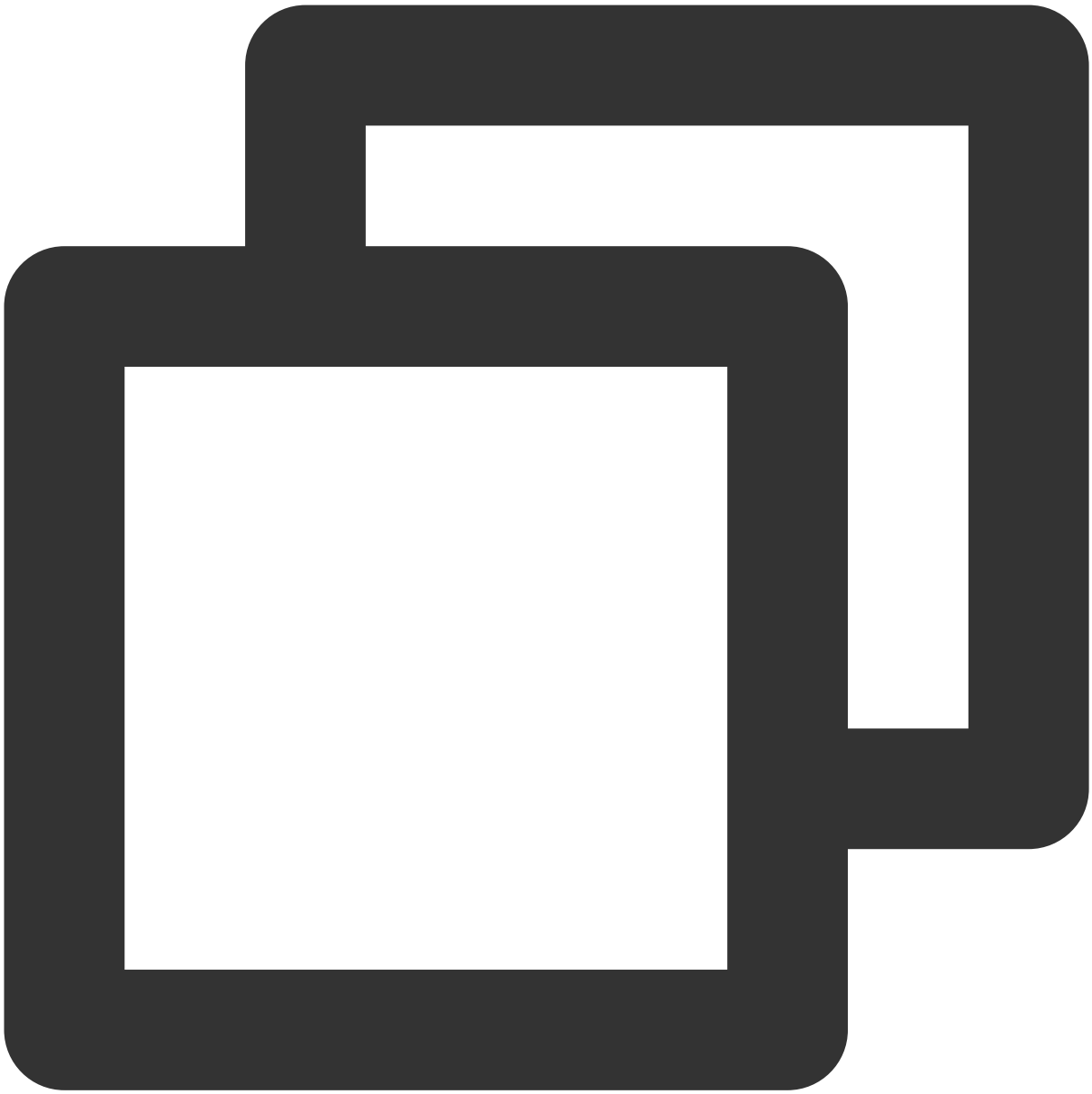
```
import { genTestUserSig } from "@tencentcloud/call-uikit-vue/debug/GenerateTestUser
const { userSig } = genTestUserSig({ userID: "Alice", SDKAppID: 0, SecretKey: "YOUT
```

Method Three: Use in official environment.

The correct method of issuing UserSig is to integrate the calculation code of UserSig into your server-side, providing project-specific interfaces. When UserSig is needed, your project can launch requests to the business server to obtain dynamic UserSig. For detailed information, please see Generating UserSig on Server-side.

How is the groupID generated in group calls?

The generation of groupID requires integration of the @tencentcloud/chat package. For specifics, refer to the createGroup API; below is an example of the code to generate groupID.



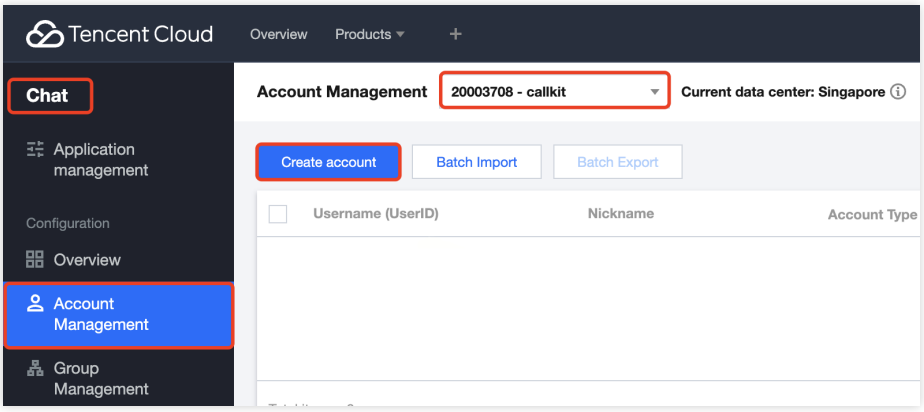
```
import TIM from "@tencentcloud/chat"; // npm i @tencentcloud/chat

const userIDList: string[] = ['user1', 'user2', 'xxx'];  // group member
async function createGroupID() {
  const tim = TIM.create({ SDKAppID });
  const memberList: any[] = userIDList.map(userId => ({ userID: userId }));
  const res = await tim.createGroup({
    type: TIM.TYPES.GRP_PUBLIC,  // must be a public group
```

```
    name: 'WebSDK',
    memberList
  });
  return res.data.group.groupID;
}
```

How can I create a userID?

Signing in once with userID and userSig will automatically create the user.

Create and get through the Instant Messaging Console.



All Platform

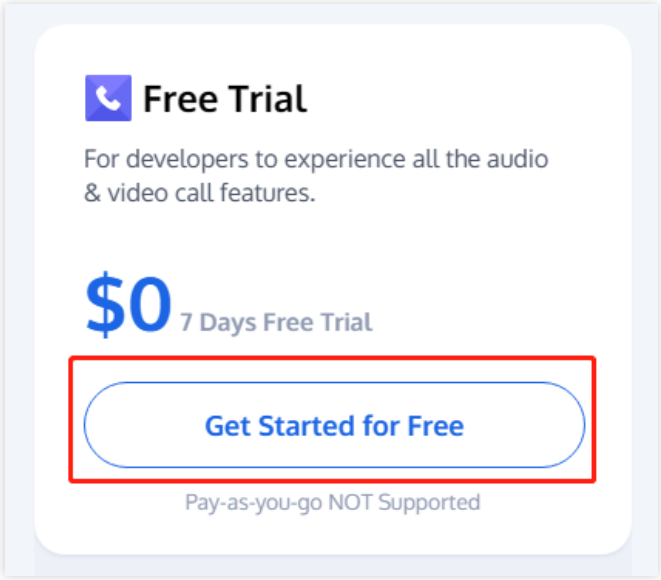
Last updated：2023-09-19 16:27:46

Is there an error message indicating that the audio and video call function is not enabled?

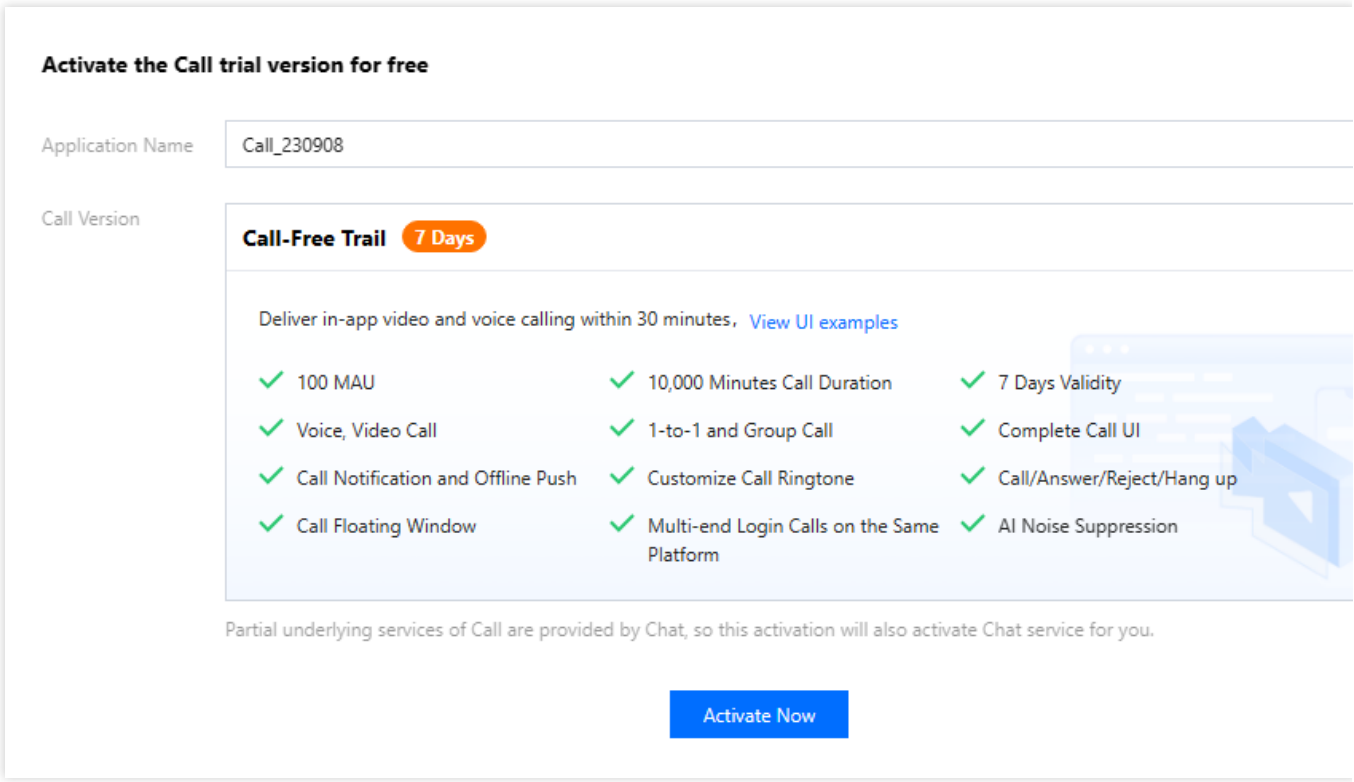
You can choose the Free Trial version (7 days trial) or purchase the official version.

The Free Trail

1. Go to the price page, read the specific services included in the Free Trail package, click **Get Started for Free**, and follow the documentation prompts to enter the console.



2. Read the **Call-Free Trail** package information in the console pop-up window and click **Activate Now** to activate the 7-day free trial of TUICallKit.

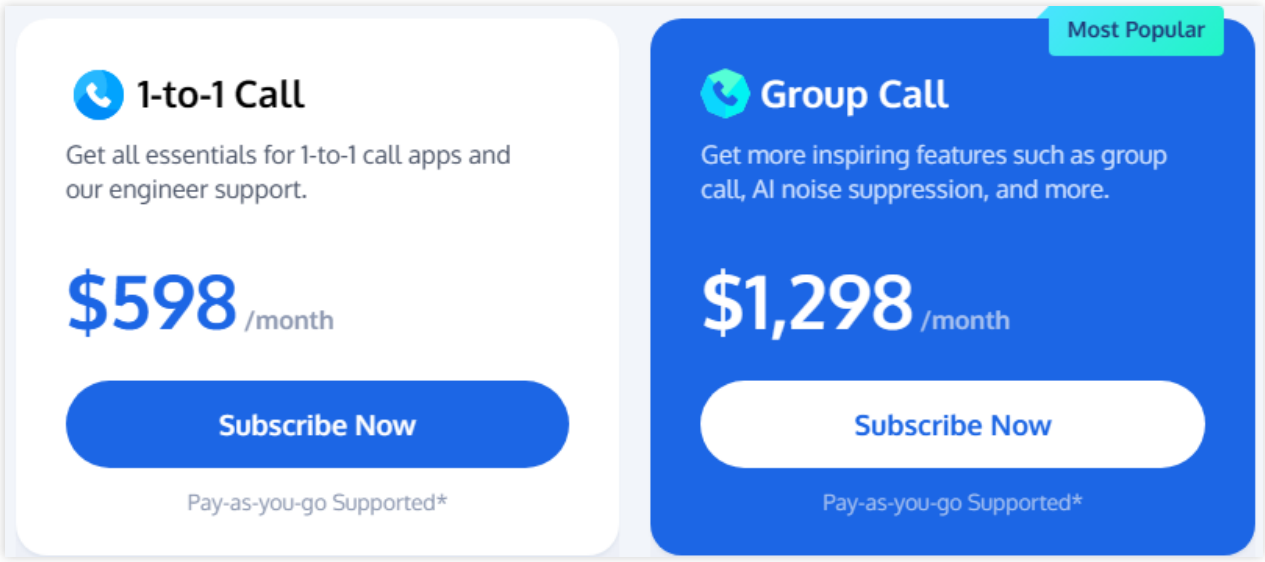


Notice：

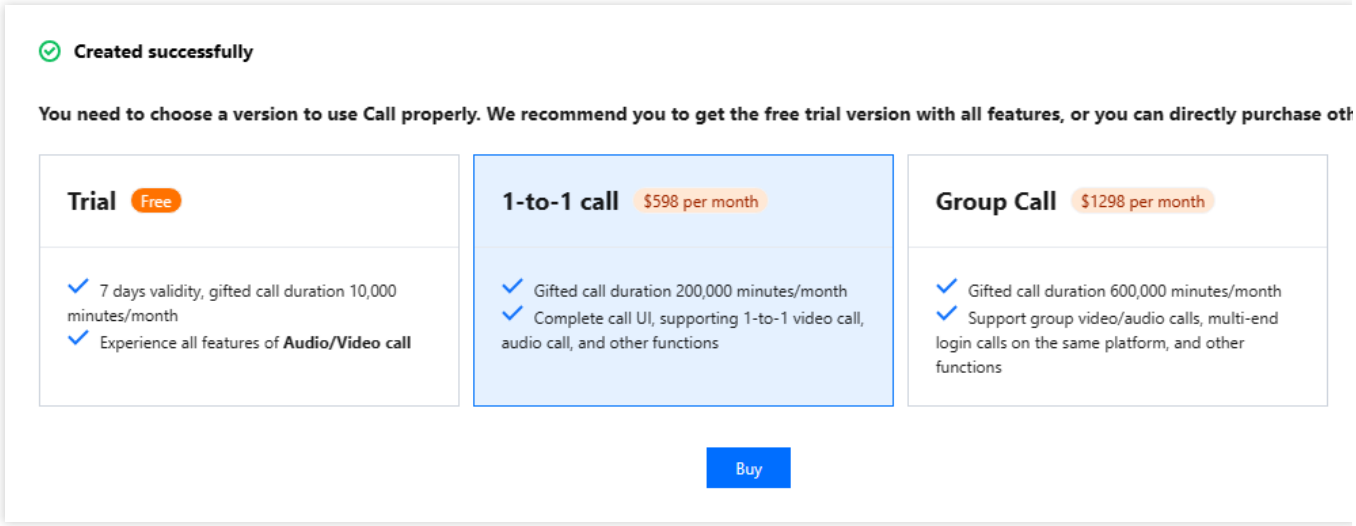
Partial underlying services of Call are provided by Chat, so this activation will also activate Chat service for you.

The Official Version

1. Go to the price page, read the specific services included in the Free Trail package, click **Subscribe Now**, and follow the documentation prompts to enter the console.



2. Click **Create application** in the console, and select **1-to-1 Call** or **Group Call** in the pop-up window after successful creation to open official service of TUICallKit and become the official version.



The error inviteID is invalid or the invitation has been processed

The inviteID has been cancelled by the calling party or the invitation has been accepted. Because signaling is affected by many factors such as network bandwidth, in extreme cases (repeated calls on the accept and reject interfaces), an error that inviteID is invalid may result.

The message sender or receiver UserID is invalid or does not exist

The user you are calling has not logged in to the IM service, so the call fails. Please try to call a user who has logged in to the IM service.

Can TUICallKit use TRTC without introducing IM SDK?

No, all components of TUIKit use Tencent Cloud IM SDK as the basic service for communication, such as call dialing signaling, call busy line signaling and other core logic, if you have purchased other IM products, you can also refer to TUICallKit logic to adapt.

How to buy audio and video call plan?

Please refer to the purchase link TRTC Call Monthly Packages, if you have other questions, please click the top of the page Talk to us for pre-sale package consultation.

How do I get the Roomid of the call?

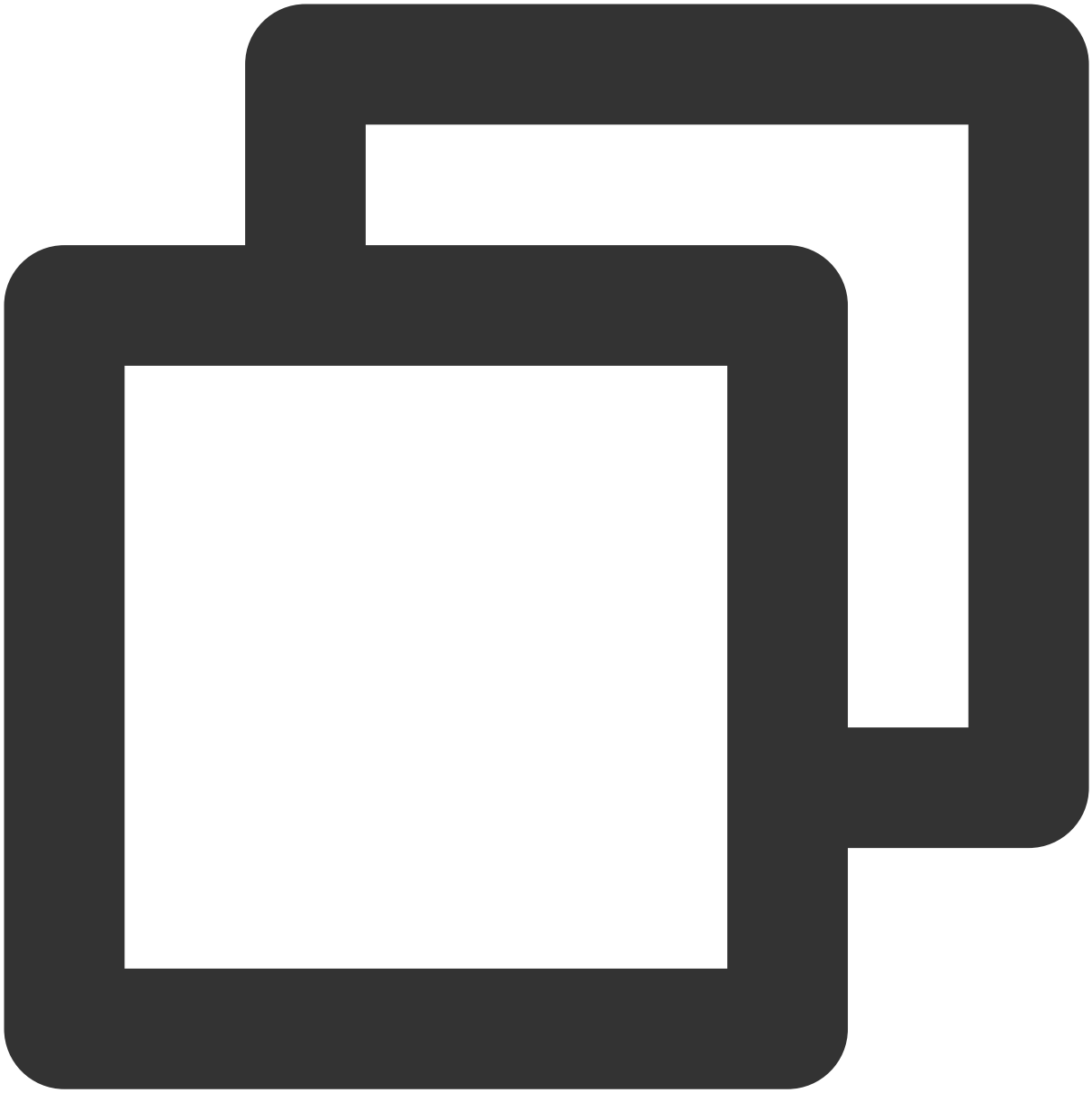
After the call is connected, you can use onCallBegin to return the roomid field to obtain the information.

Flutter

Last updated：2023-09-19 16:28:54

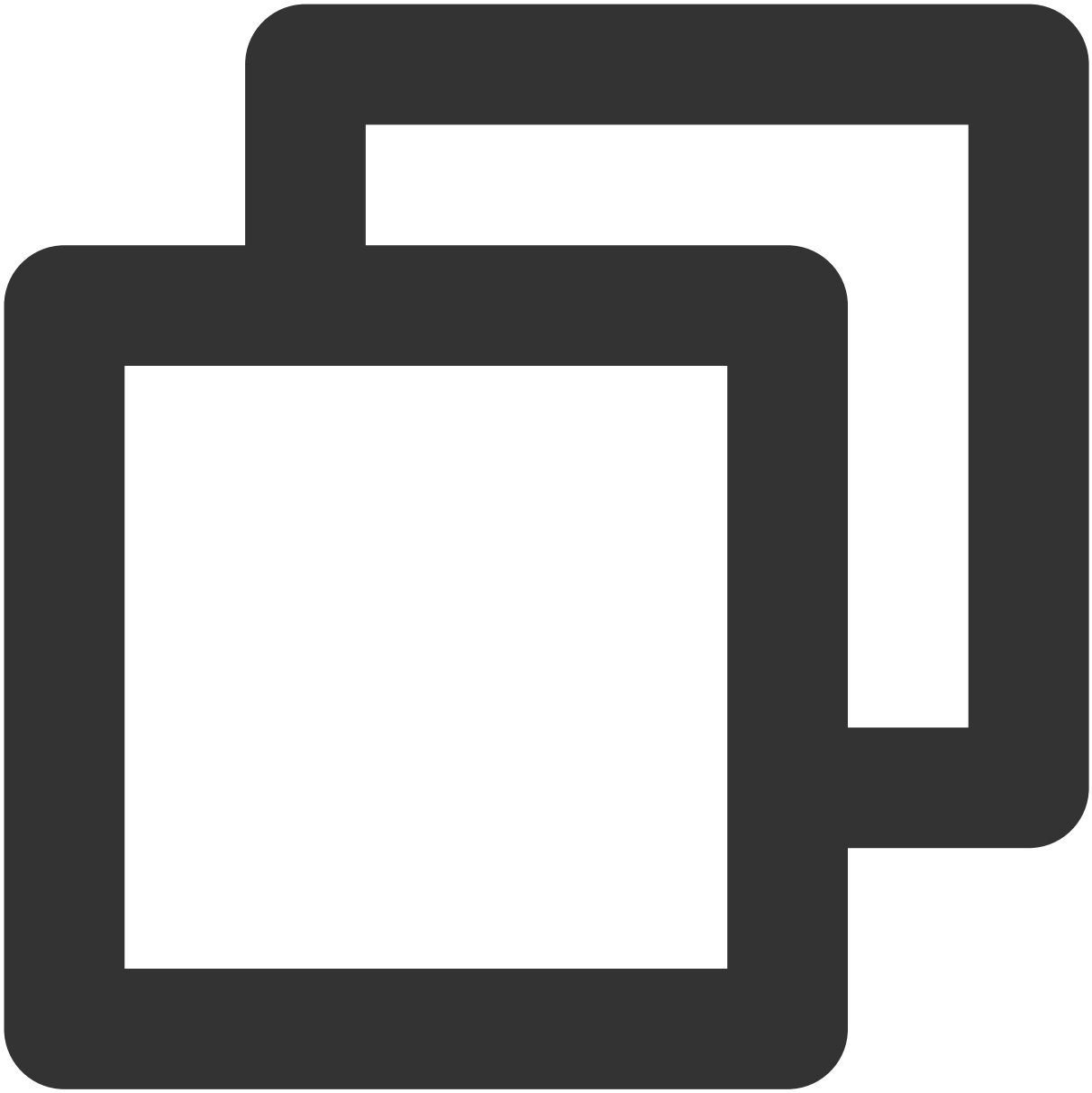
1. Integrate `tencent_calls_uikit` and `tencent_trtc_cloud` at the same time, or integrate `tencent_calls_uikit` and `live_flutter_plugin` at the same time, and the symbol conflict will occur, how to solve it?

Detials: When introducing flutter "tencent_calls_uikit" into our existing project, Android builds APK with the following error:



```
Duplicate class com.tencent.liteav.LiveSettingJni found in modules jetified-LiteAVS
(com.tencent.liteav:LiteAVSDK_Professional:10.7.0.13053) and jetified-LiteAVSDK_TRT
(com.tencent.liteav:LiteAVSDK_TRTC:10.3.0.11225)
```

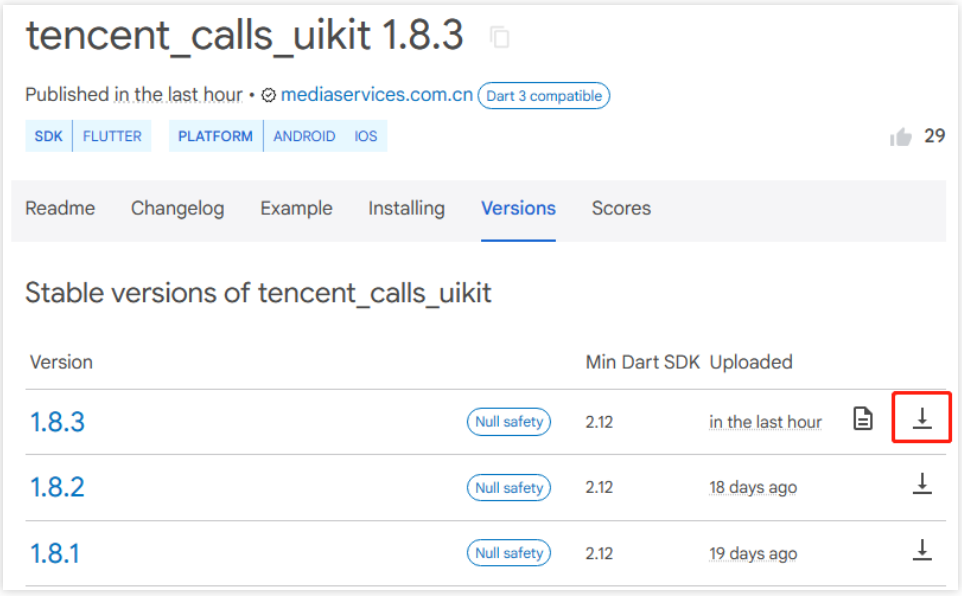
The following error occurs when `pod install` is executed on iOS:

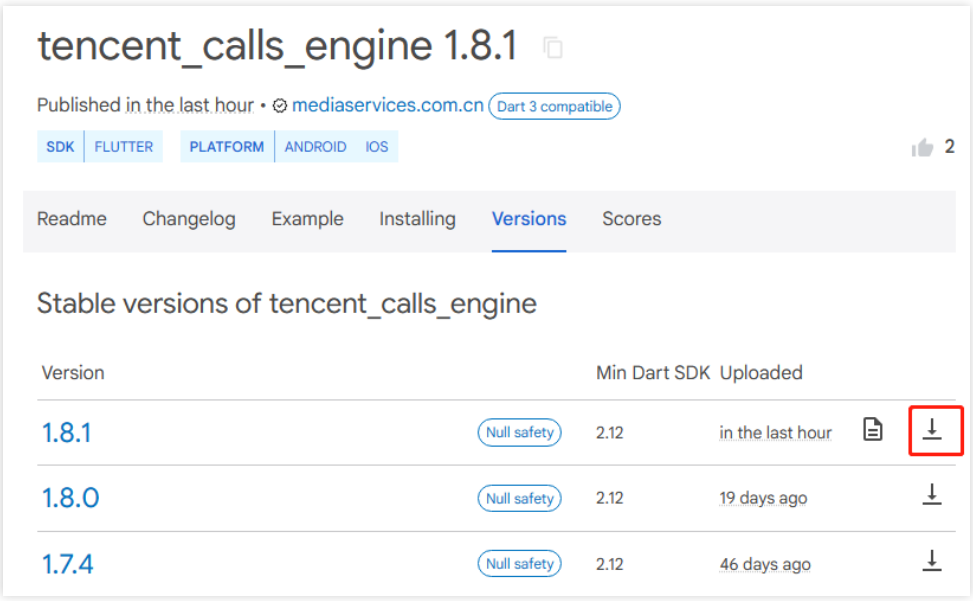


```
[!] The 'Pods-Runner' target has frameworks with conflicting names: txsoundtouch.xc
```

The reason for this problem is that tencent_calls_uikit and tencent_trtc_cloud rely on the standard and premium versions of TRTC Android SDK respectively (this problem will be gradually unified in subsequent versions). Currently, this problem can be fixed through local integration. The specific steps are as follows:

1. Go to the version management page of tencent_calls_uikit and tencent_calls_engine respectively (tencent_calls_uikit depends on tencent_calls_engine), click the download button, wait for the download to complete, and extract the file.





2. Change the TRTC SDK dependency in the tencent_calls_engine plug-in to the professional version.

Android: Go to the directory decompressed by `tencent_calls_engine` and change the dependency in the `android/build.gradle` file to the one displayed in the error message: `com.tencent.liteav:LiteAVSDK_Professional:10.7.0.13053` .

```
}

dependencies{
    implementation fileTree(dir: 'libs', include: ['*.jar'])
    api 'com.google.code.gson:gson:2.9.1'
    api "com.tencent.liteav.tuikit:tuicore:1.1.16"
    api 'com.tencent.imsdk:imsdk-plus:6.8.3374'
    api "com.tencent.liteav:LiteAVSDK_TRTC:10.3.0.11225"
    api 'com.tencent.liteav.tuikit:tuicallengine:1.3.0.205'
}
```

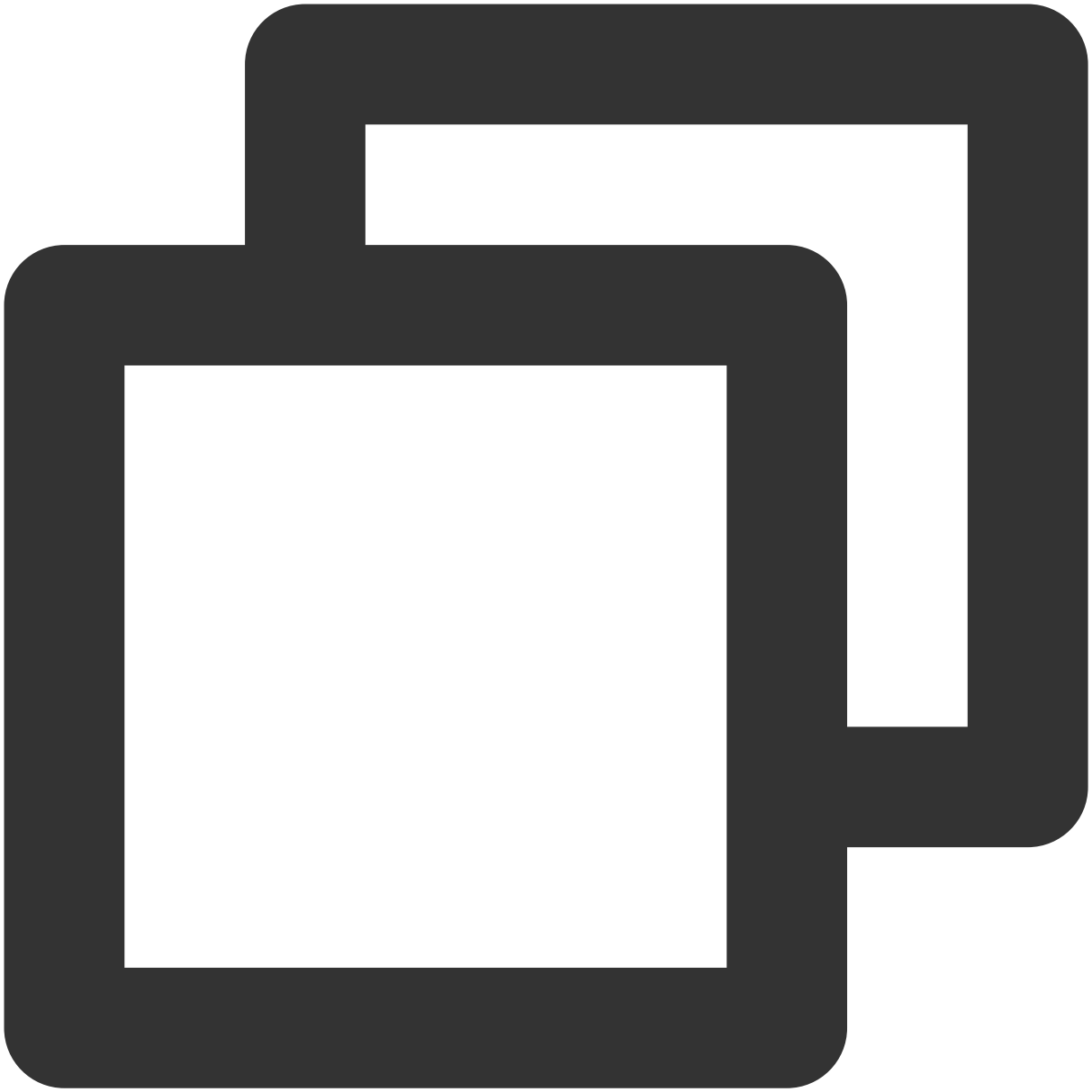
iOS: Go to the directory where `tencent_calls_engine` is decompressed and change the dependencies in the `ios/tencent_calls_engine. podspec` file to: `s.dependency 'TUICallEngine/Professional', '1.5.1.310'`.

```
A new Flutter plugin project.
                    DESC
  s.homepage         = 'http://example.com'
  s.license          = { :file => '../LICENSE' }
  s.author           = { 'Your Company' => 'email@example.com' }
  s.source           = { :path => '.' }
  s.source_files = 'Classes/**/*'
  s.dependency 'Flutter'
  s.dependency 'TUICallEngine/Professional', '1.5.1.310'
  s.platform = :ios, '9.0'
  s.static_framework = true
  # Flutter.framework does not contain a i386 slice.
  s.pod_target_xcconfig = { 'DEFINES_MODULE' => 'YES', 'EXCLUDED_ARCHS[sdk=iphonesimulator
  s.swift_version = '5.0'
```

Then go to the directory extracted by `tencent_calls_uikit` and change the dependencies in the `ios/Tencent_calls_UIkit. podspec` file to: `s.dapendency 'TUICallKit/Professional', '1.5.1.310'`.

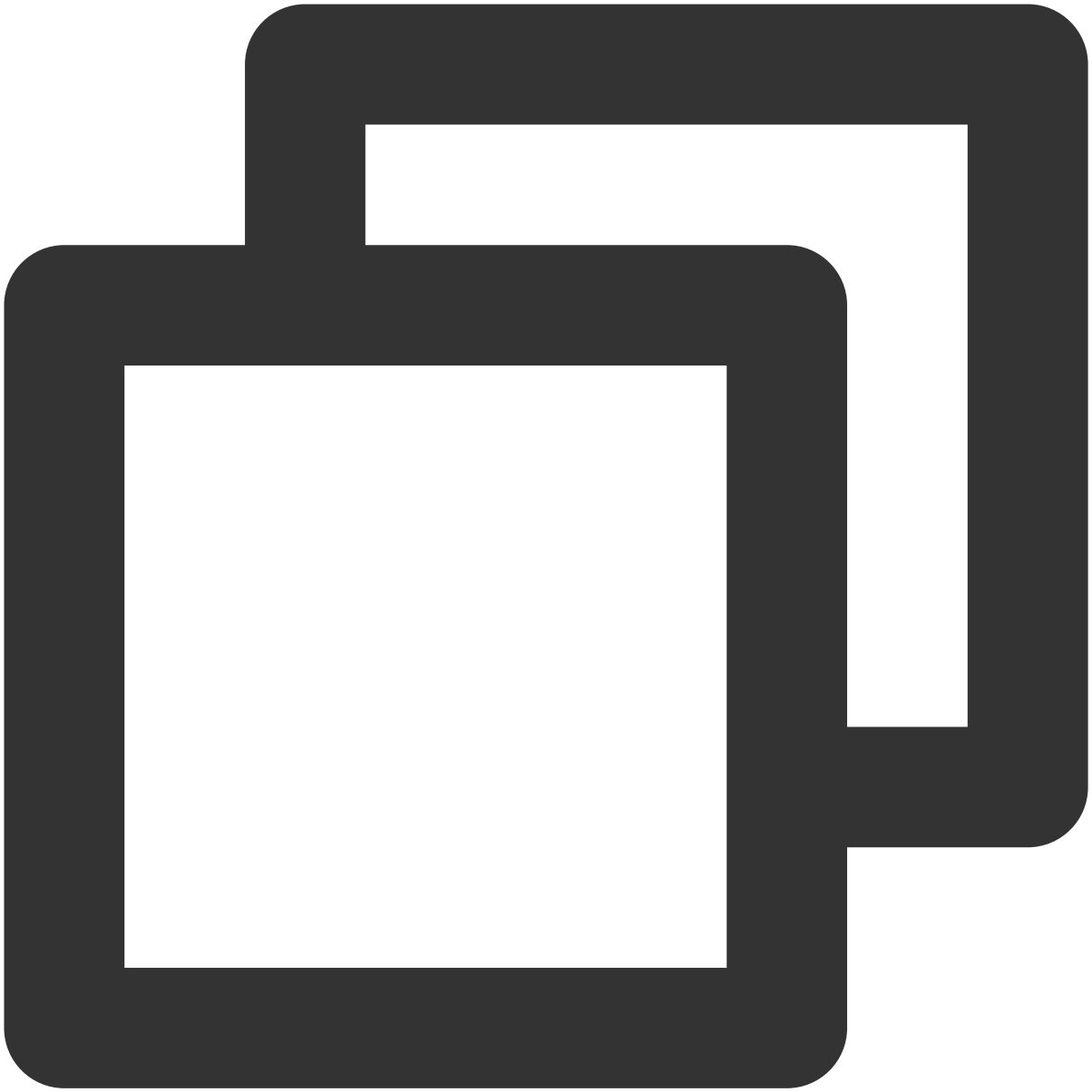
```
A new Flutter plugin project.
                      DESC
  s.homepage         = 'http://example.com'
  s.license          = { :file => '../LICENSE' }
  s.author           = { 'Your Company' => 'email@example.com' }
  s.source           = { :path => '.' }
  s.source_files = 'Classes/**/*'
  s.dependency 'Flutter'
  s.dependency 'TUICallKit/Professional' '1.5.1.310'
  s.platform = :ios, '9.0'
  s.static_framework = true
  # Flutter.framework does not contain a i386 slice.
  s.pod_target_xcconfig = { 'DEFINES_MODULE' => 'YES', 'EXCLUDED_ARCHS[sdk=iphonesimulator*
  s.swift_version = '5.0'
end
```

3. Modify `pubspec.yaml` in the tencent_calls_uikit project to adjust the `tencent_calls_engine` dependency to a local dependency as shown in the following example:



```
    tencent_calls_engine:
    path: tencent_calls_engine/  # The directory here corresponds to the plug-in di
```

4. Modify `pubspec.yaml` in your project to change the `tencent_calls_uikit` dependency to a local dependency as shown in the following example:

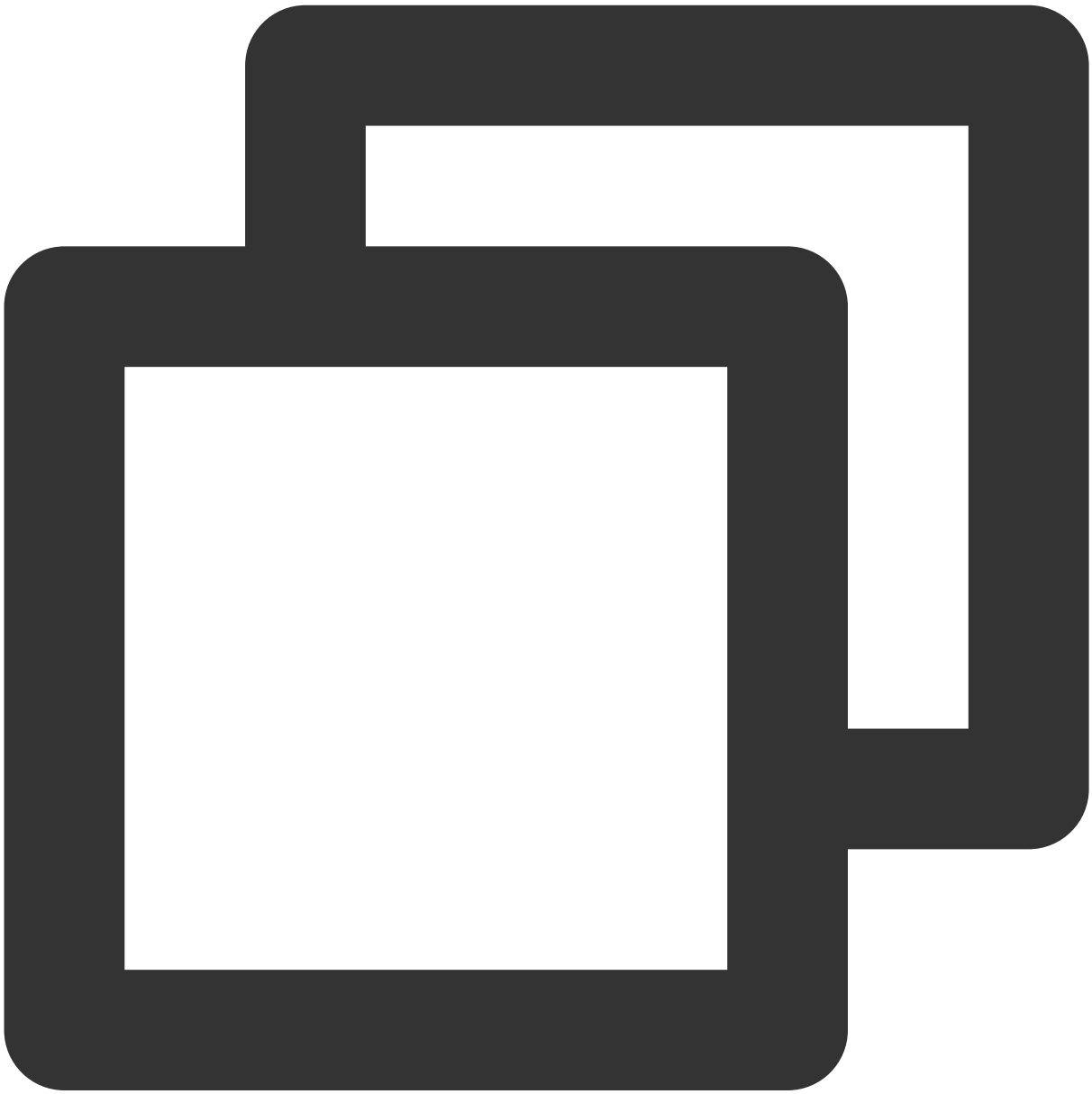


```
tencent_calls_uikit:
  path: tencent_calls_uikit/  # The directory here corresponds to the plug-in dir
```

2. Flutter Android does not add confusion Settings, how to set?

If you need to compile and run on the Android platform, because we use the reflection feature of Java inside the SDK, we need to add some classes in the SDK to the list of non-obviation, so you need to add the following code in the

proguard-rules.pro file:

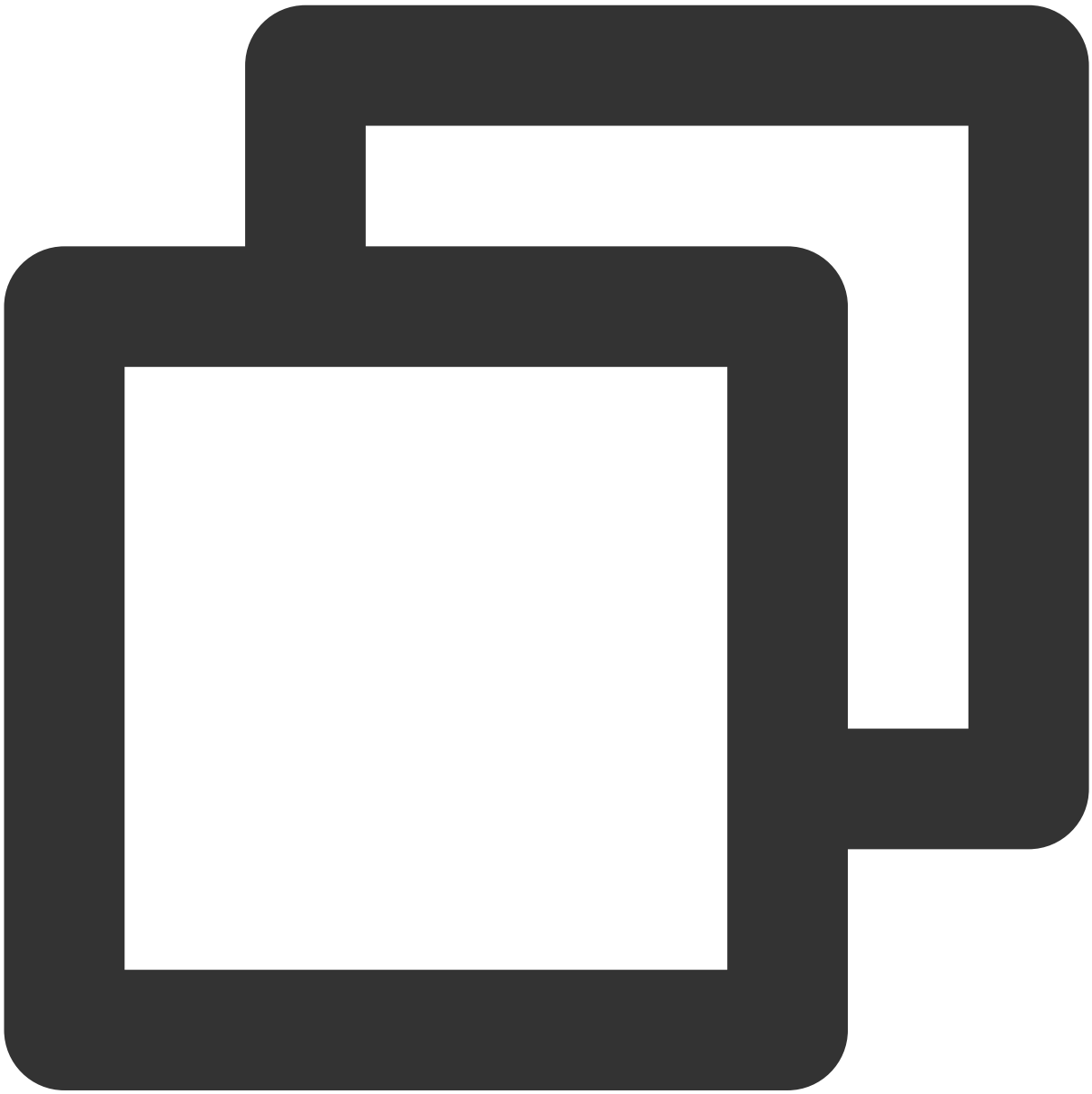


```
-keep class com.tencent.** { *; }
```

3. How can I fix a compilation error or page failure caused by an upgrade from a version earlier than 1.8.0 to 1.8.0 or later?

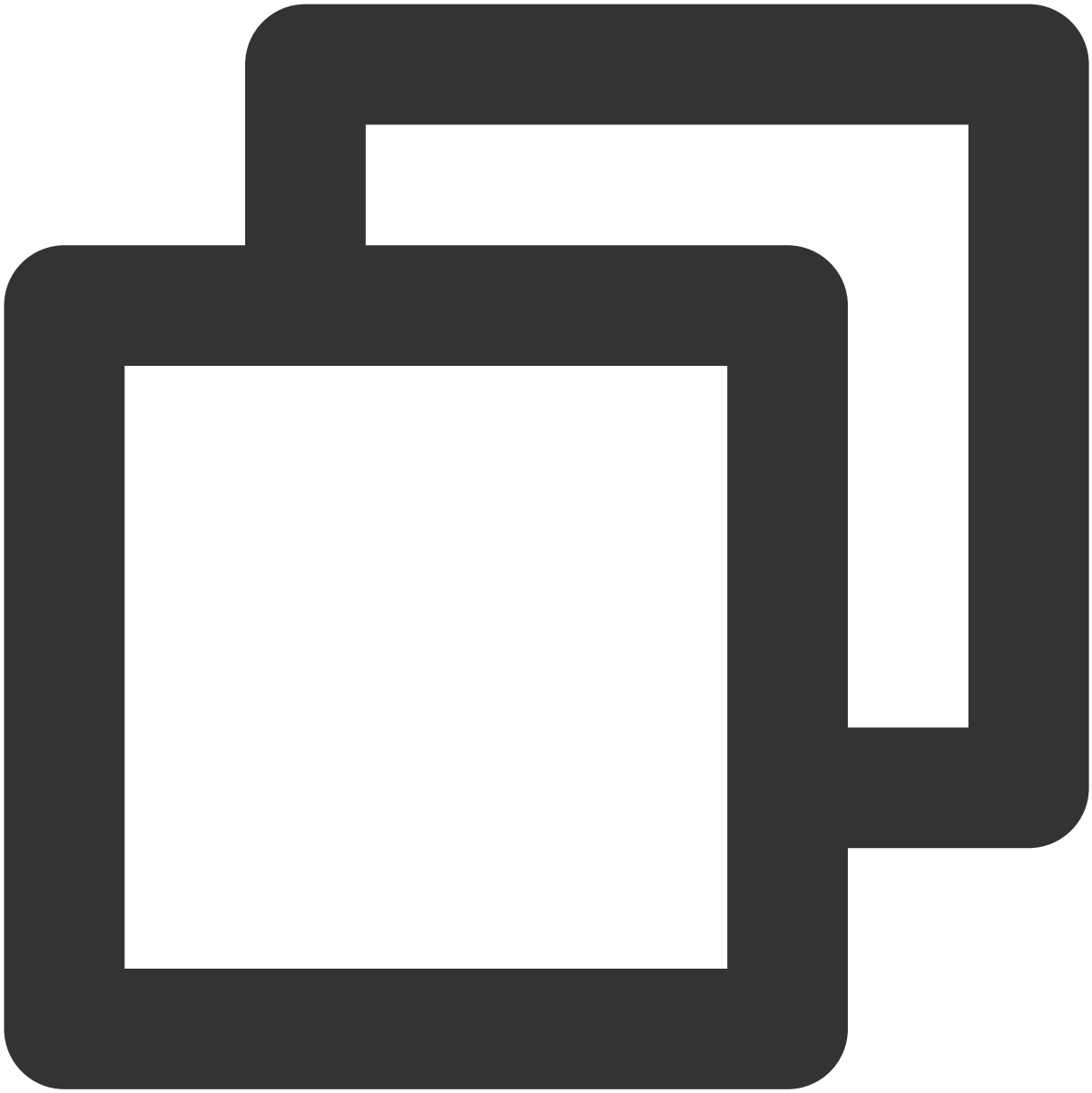
If you are upgrading from 1.8.0 or below to 1.8.0 or above, you need to check that the following steps are normal:

1. Add `navigatorObservers` to `MateriaApp` . The purpose is to navigate to the TUICallKit page when you receive a call invitation. Example code is as follows:



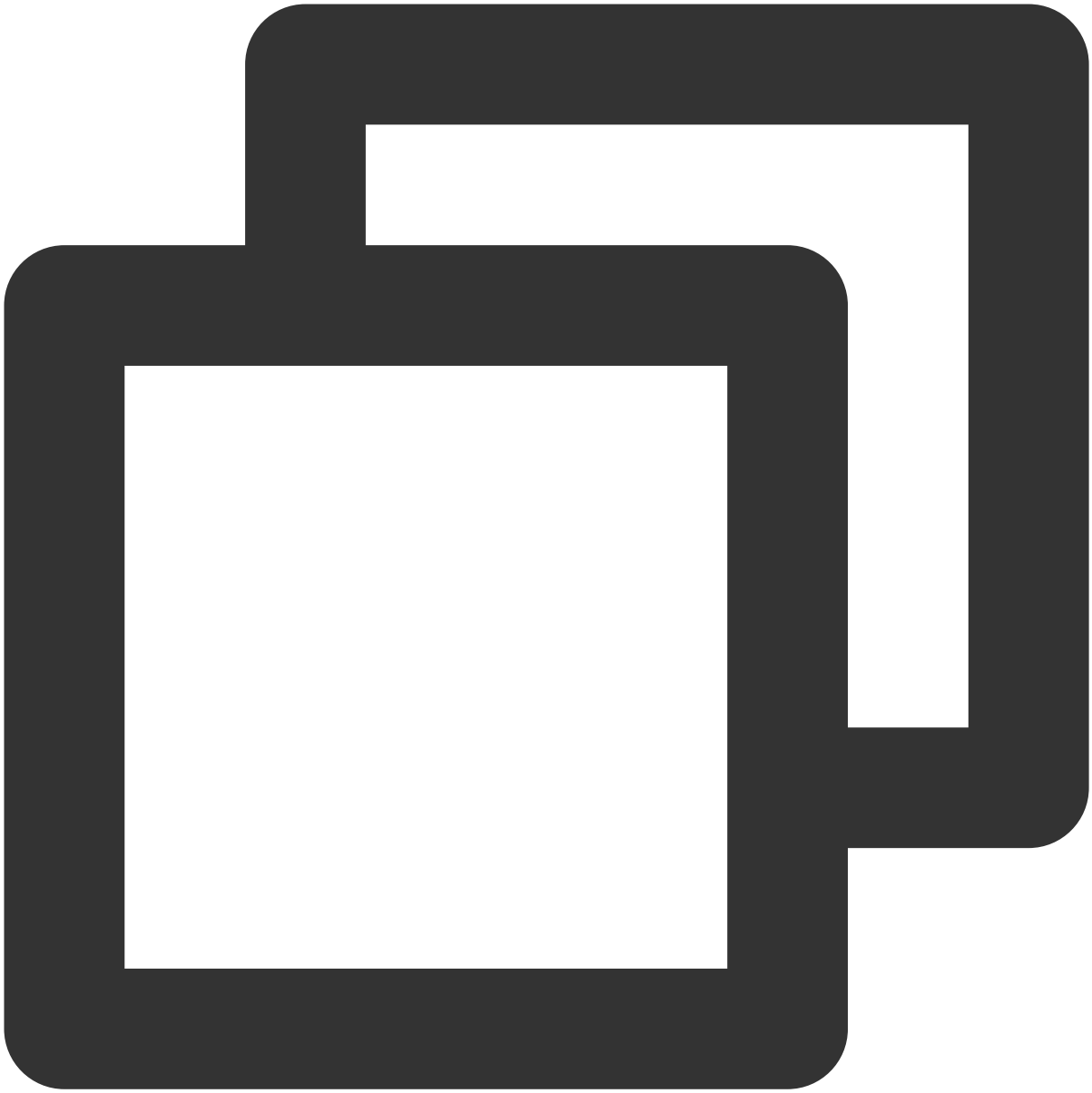
```
import 'package:tencent_calls_uikit/tuicall_kit.dart';

MaterialApp (
      navigatorObservers：[TUICallKit.navigatorObserver],
      ...
)
```

2. `tencent_calls_engine` Import files in plug-ins are uniformly replaced with new ones.



```
import 'package:tencent_calls_engine/tuicall_engine.dart';
import 'package:tencent_calls_engine/tuicall_observer.dart';
import 'package:tencent_calls_engine/tuicall_define.dart';
```

The above code block content is replaced with the following:



```
import 'package:tencent_calls_engine/tencent_calls_engine.dart';
```

3. The login API adjustment is more standardized and no parameters need to be specified.

```
return await callsUIKitPlugin.login(
    sdkAppId: GenerateTestUserSig.sdkAppId,
    userId: userInfo.userId,
    userSig: GenerateTestUserSig.genTestSig(userInfo.userId));
```

```
return await callsUIKitP
    userInfo.userId, Ger
}
For versions earlier than 1.
```

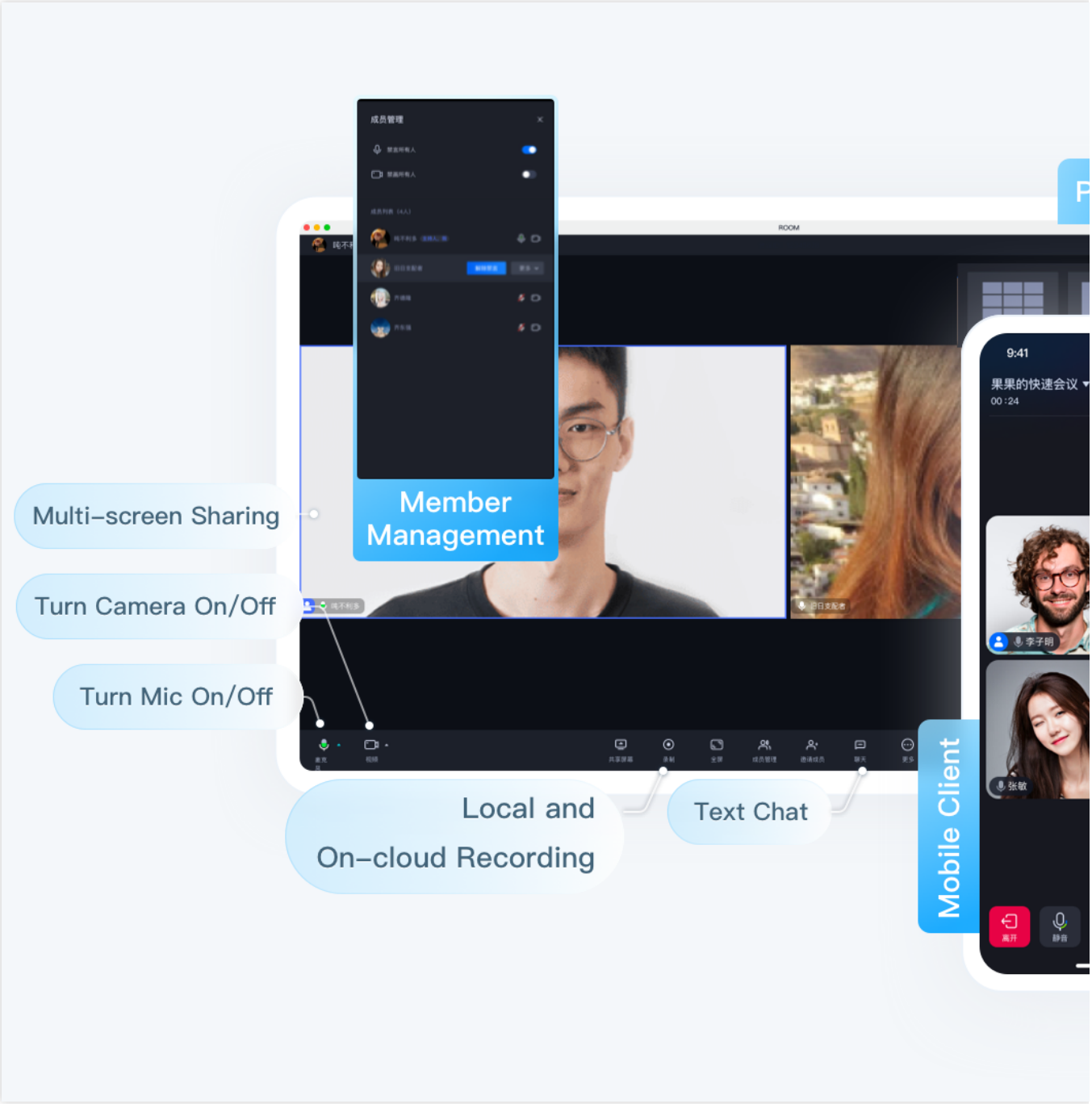
4. Optimization of offline push parameter construction.

Audio/Video Conference Overview (TUIRoomKit)

Last updated：2024-04-12 11:19:23

Overview

Conference (TUIRoomKit) is a product suitable for multi-person audio and video conversation scenarios such as business meetings, webinars, and online education. By integrating this product, you can add room management, member management, screen sharing, and other functions to your App in just three steps within a day, quickly launching your business. The basic function display is as shown below:

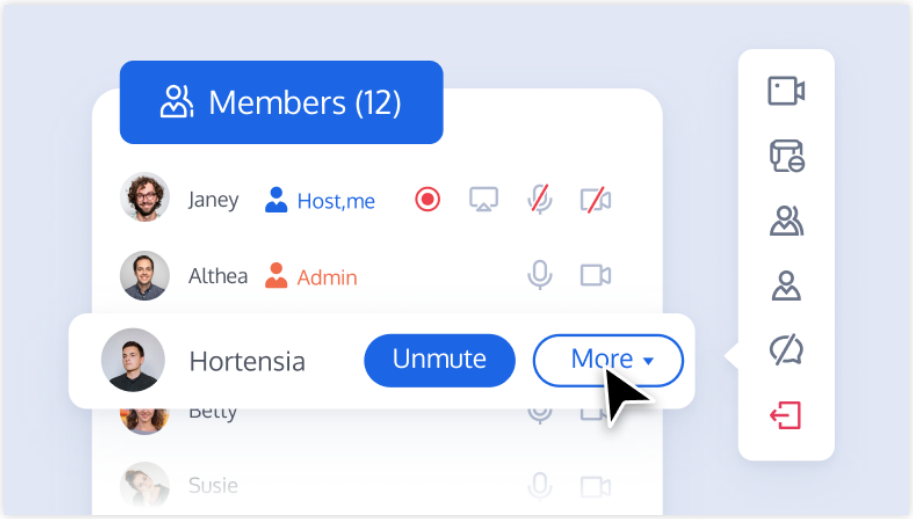
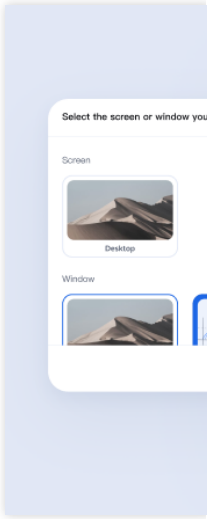


Supported Platform

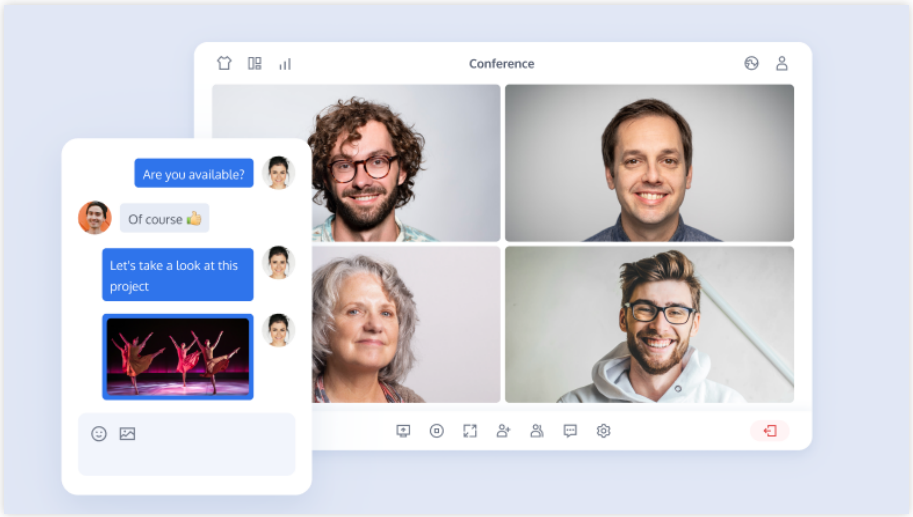
Platform	Android	iOS	Web	Flutter	Electron
Supported					
Supported Languages/Frameworks	Java	Swift	Vue3 Vue2	Dart	Vue3 Vue2

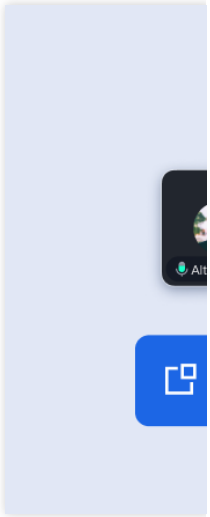
Description of the Feature

Basic Feature	Advanced Feature	Feature Advantages
Multi-person video conversation Rich meeting control functions Support for on-stage speaking mode Enable/Disable Floating Window Audio and video settings Screen sharing	In-meeting chat On-cloud recording AI Noise Reduction	**Quick integration** **Comprehensive UI Interaction** **Cross-platform Interconnection Support** **Multi-device Login Support**

Member Management	Screen Sharing
	

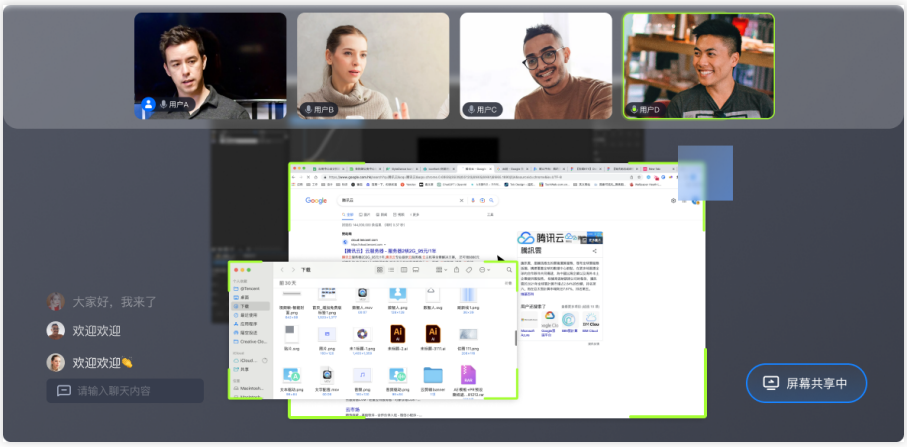
In-meeting Chat	Floating Window



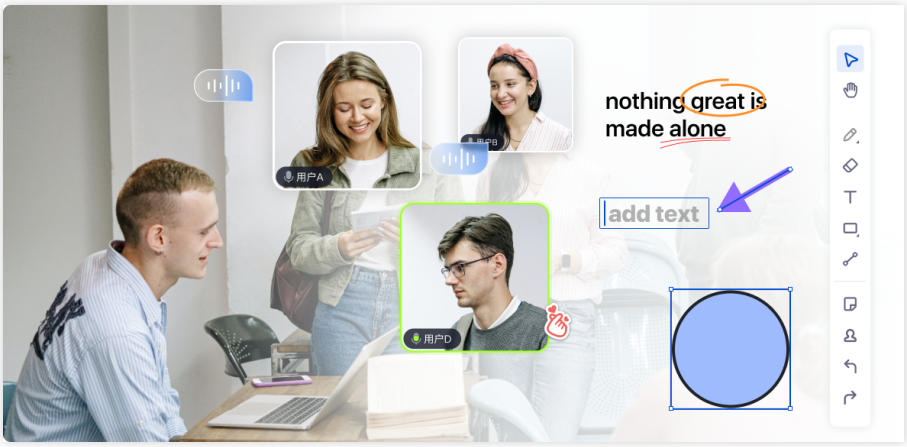


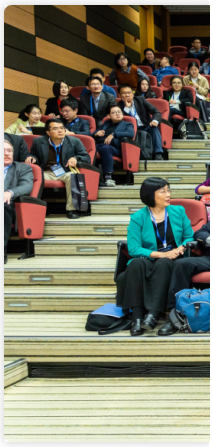
Applicable Scenario

Multi-person audio and video conversation interaction, covering business meetings, webinars, online education, online recruitment, and audio chat rooms.

Audio/Video Conference	Online Classroom
	

Webinar	Corporate Training





Trying It Online

Platform	Web	Android	iOS	Others
Online Experience				/
Demo Integration	Github: web	Github: Andorid	Github: iOS	Github

Exchange and Feedback

If you have any requirements or feedback, you can contact: info_rtc@tencent.com.

Activate the Service (TUIRoomKit)

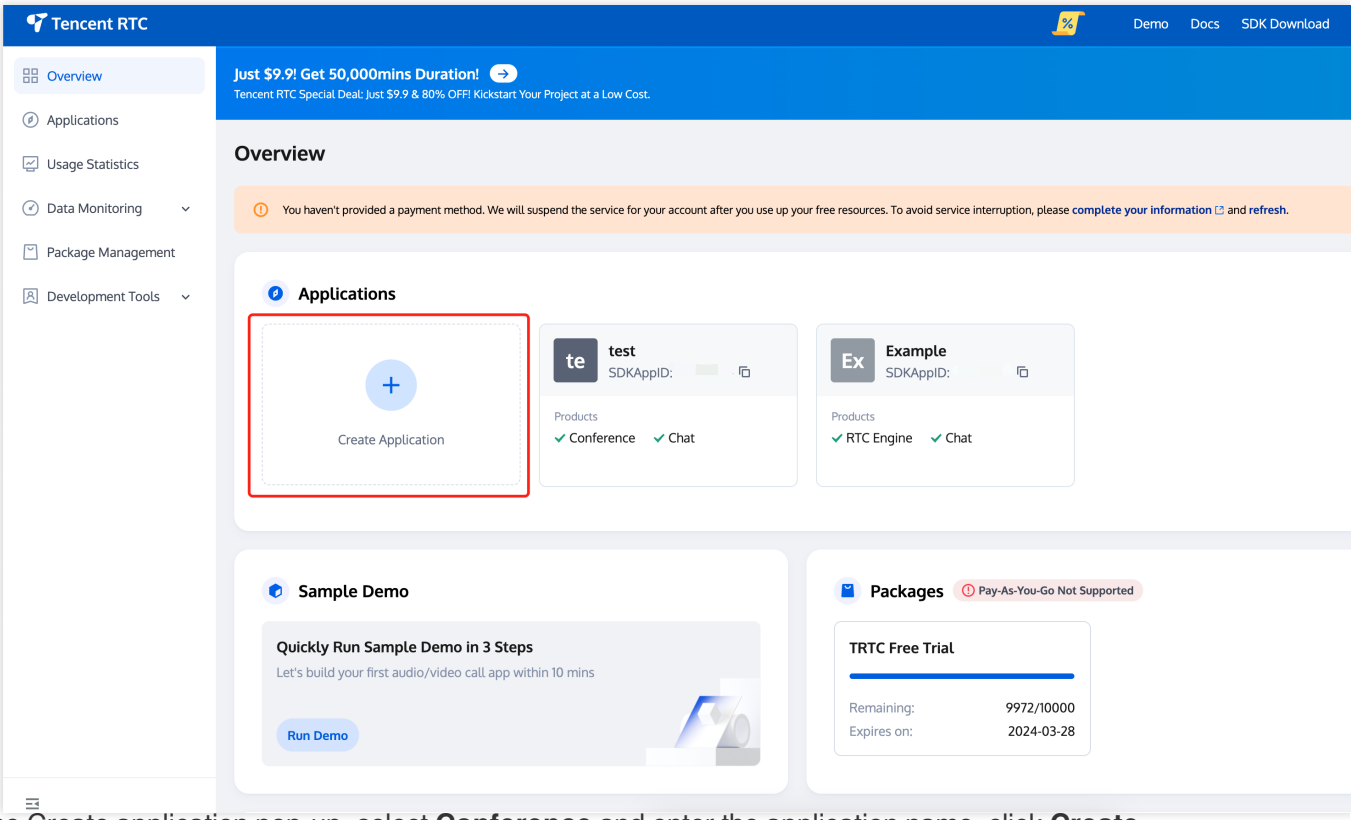
Last updated：2024-04-12 11:40:48

Activate and purchase guide

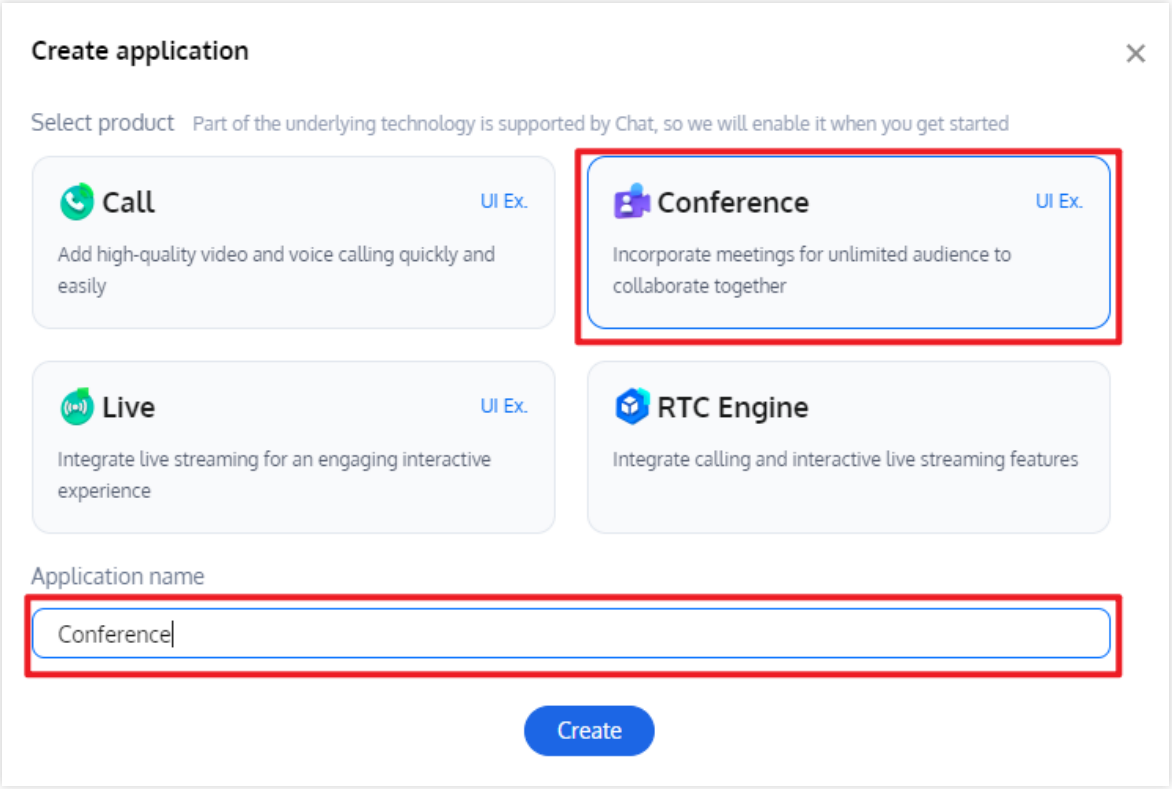
Free trial

You can follow the steps below to activate the TRTC Conference product service and receive a free 14-day trial version.

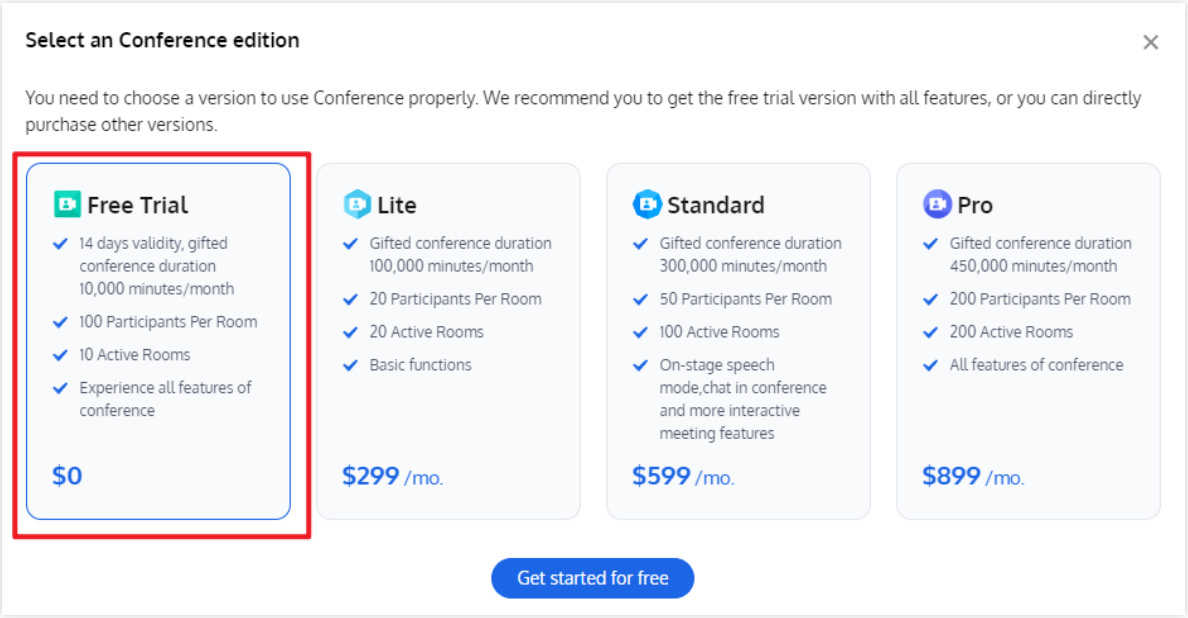
1. Visit TRTC Console > Applications, select **Create Application**.



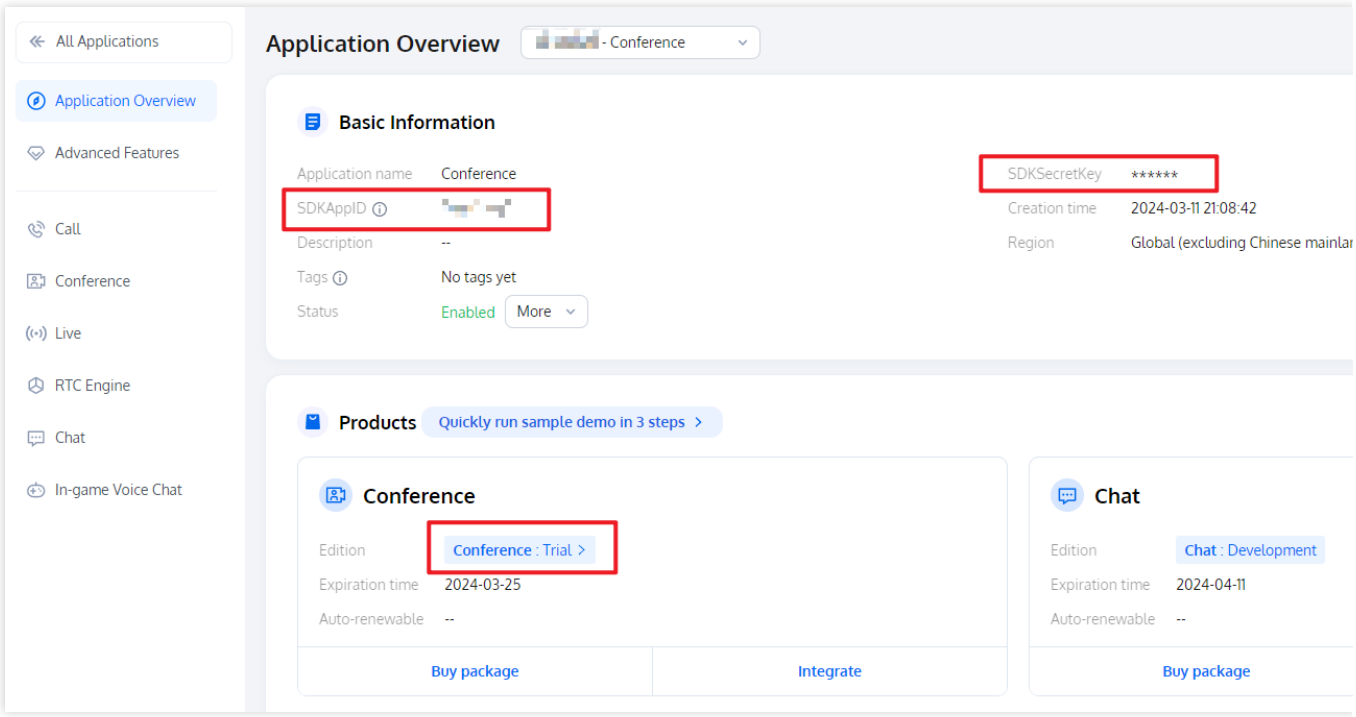
2. In the Create application pop-up, select **Conference** and enter the application name, click **Create**.



3. After completing the application creation, you will default entry to the application details page, select the **Free Trail** in the floating window, and click to **Get started for free**.

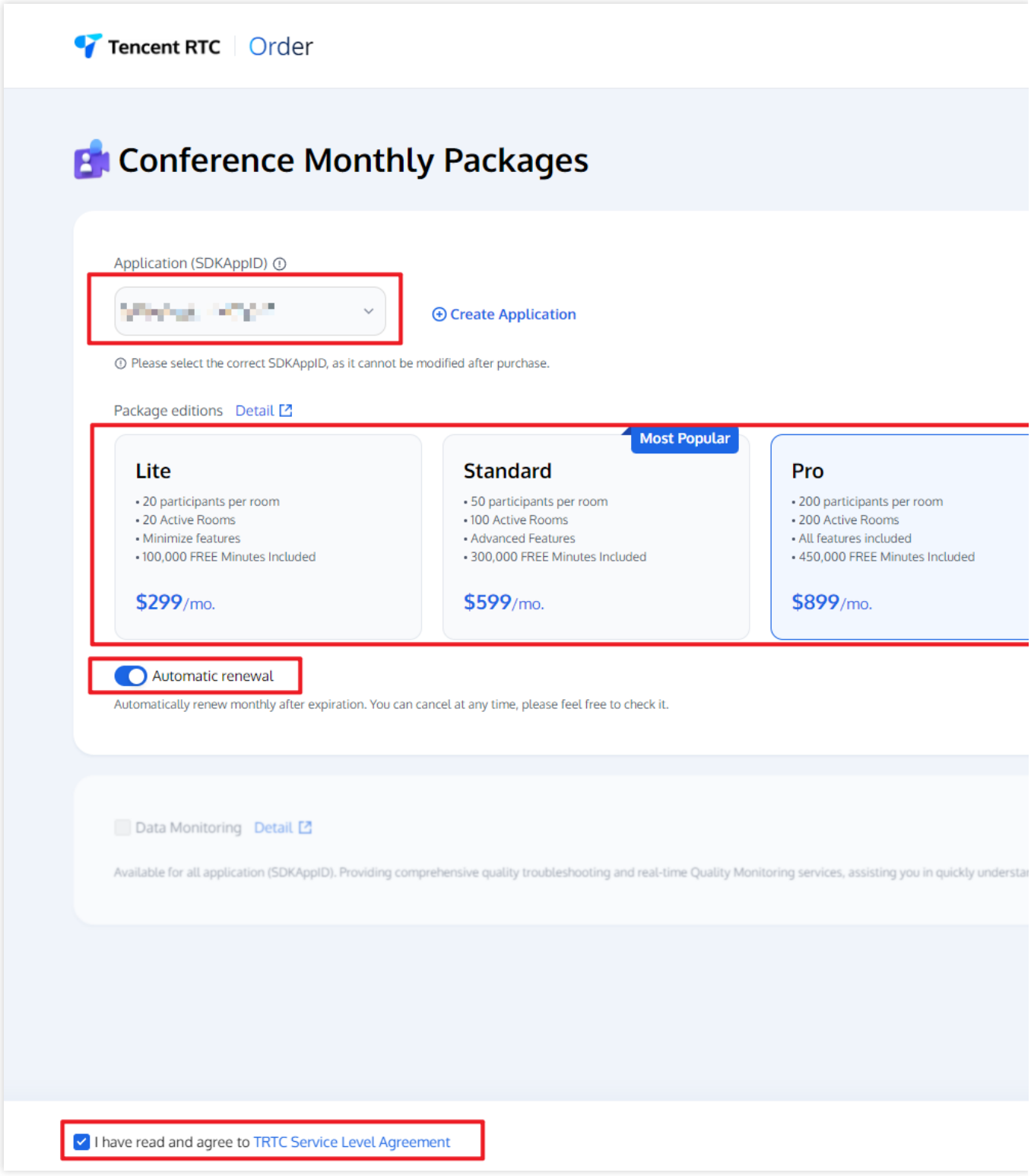


4. After the activation is completed, you can view the edition information on the current page. The `SDKAppID` and `SDKSecretKey` here will be used in the integration guide.

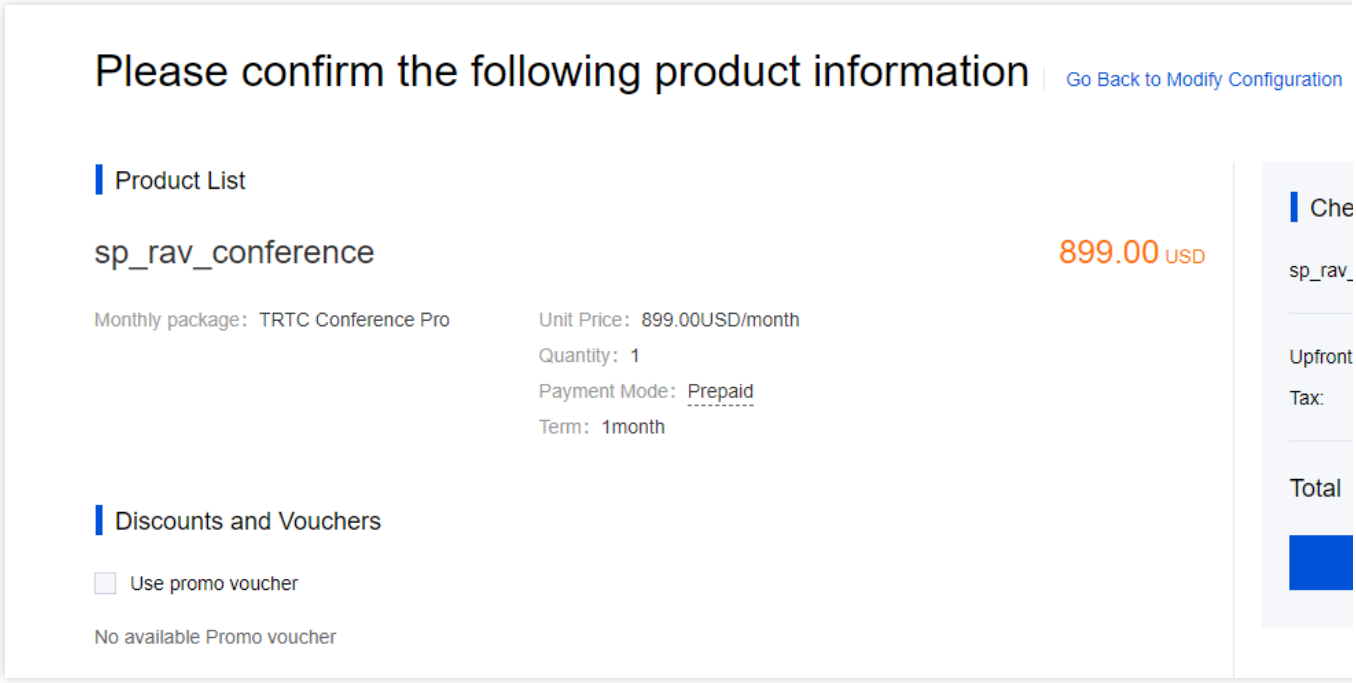


Purchase the official editions

1. Visit the TRTC Conference Purchase page, select the Application (SDKAppID) and Conference Package you want to purchase. At the same time, **we recommend you to enable Auto-renewal to avoid affecting business use**. After Confirming purchase information and agreeing to the relevant agreement, check the agreement content and click **Subscribe now**.



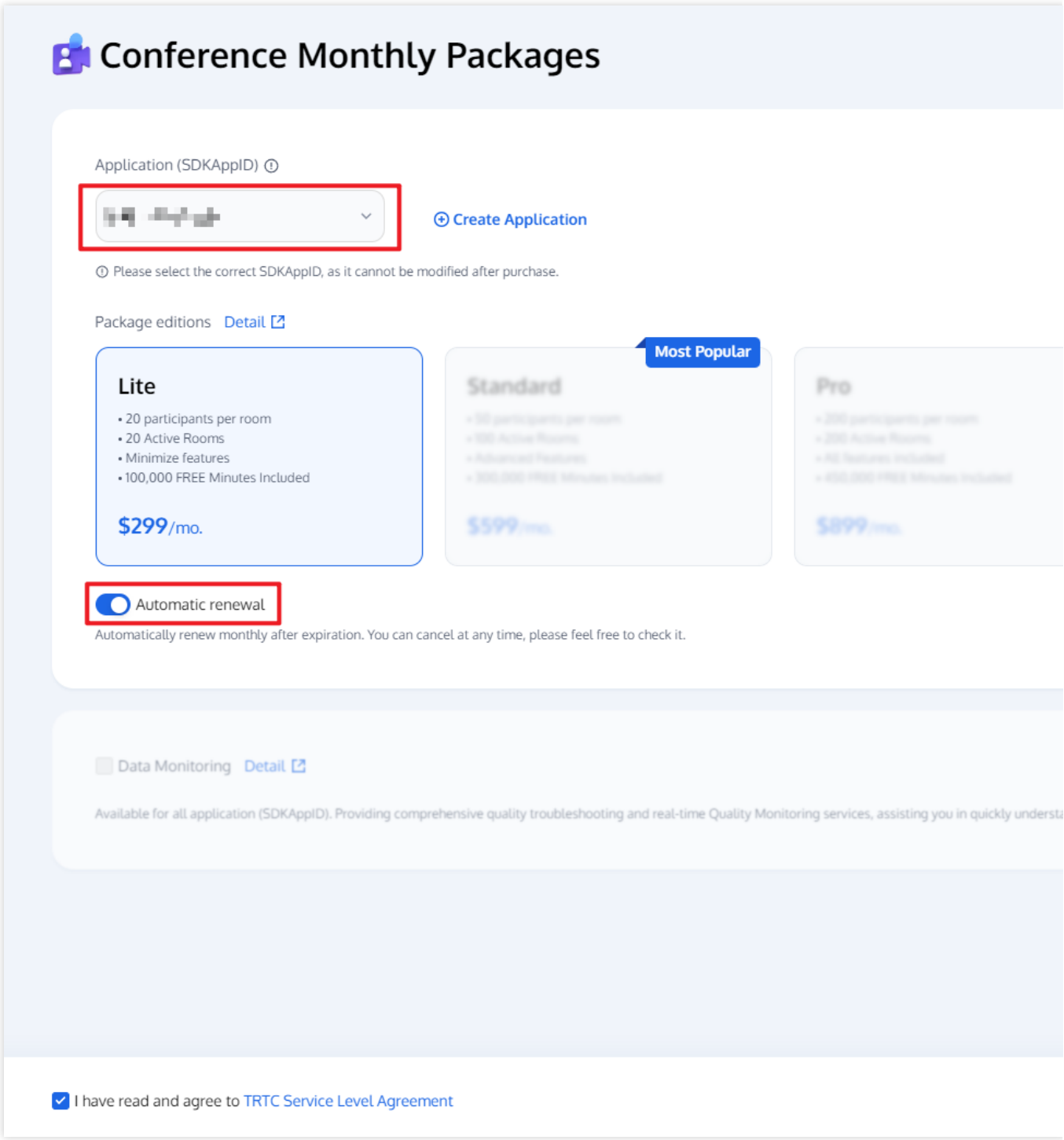
2. Go to the order confirmation page to confirm product information.



3. Go to the payment page to complete the payment. After the purchase is completed, you can go to the TRTC Console to view application edition information, and refer to the Integration guide for integration.

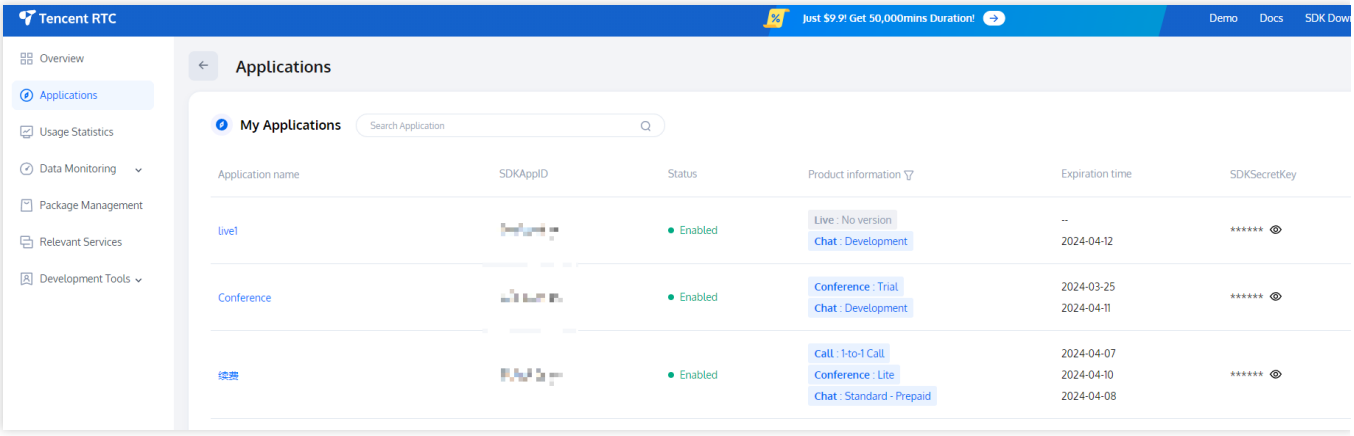
Renew the official edition

Refer to the Purchasing the official edition and purchase the same edition of the Conference monthly package again to complete the renewal. It is recommended that you renew Conference by enabling auto-renewal. **When the account balance is sufficient, it will automatically renew monthly after expiration.**

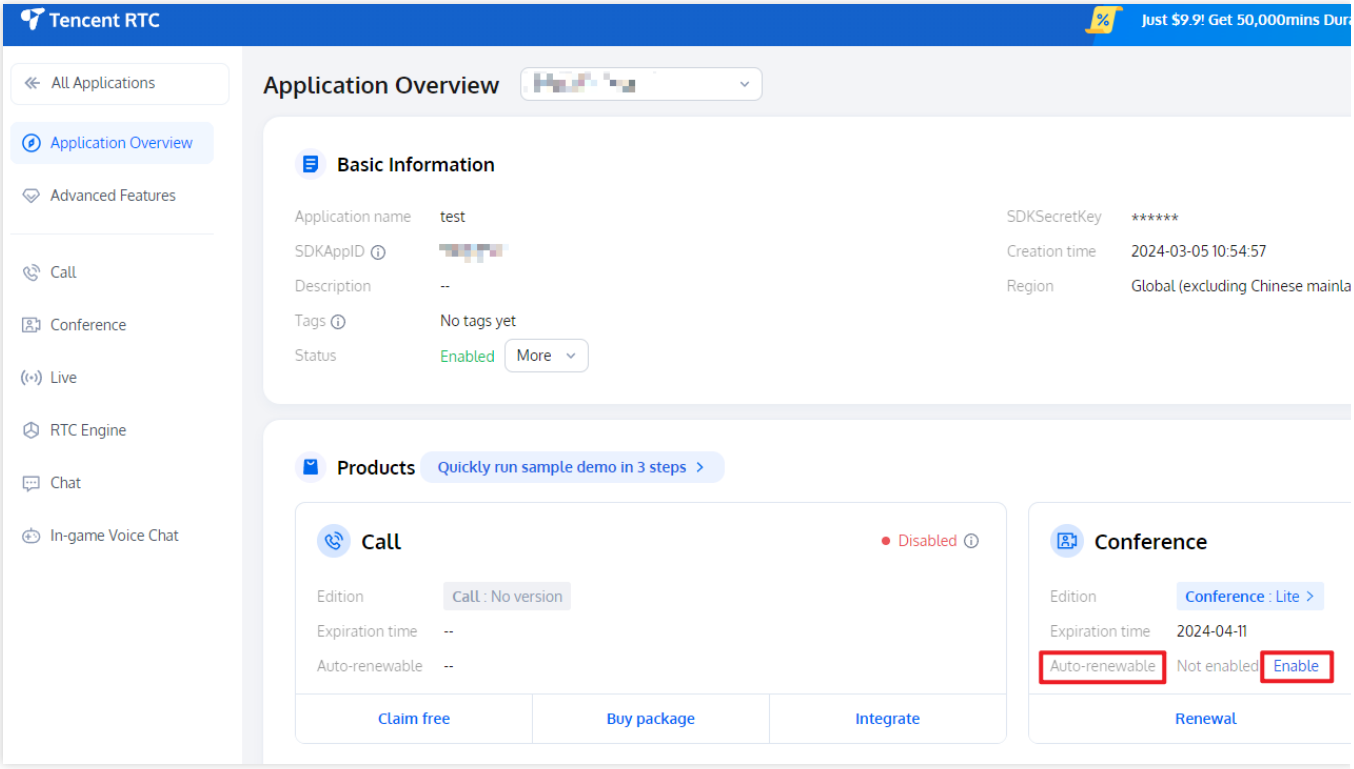


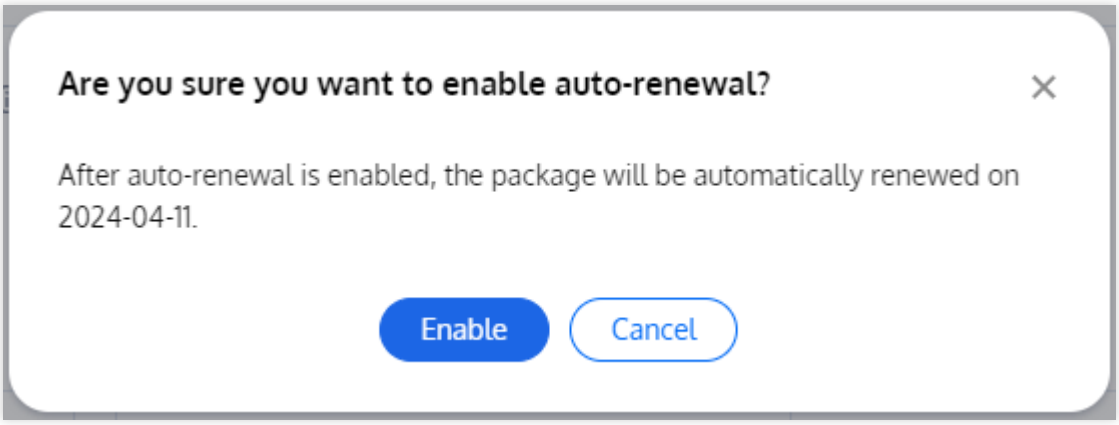
The specific steps to enable auto-renewal in the console are as follows:

1. Access the TRTC Console > Applications, find the application and click **manage** to enter the application details page.



2. In the Conference product information, click the **Enable auto-renewable** button, a confirmation pop-up will appear, click **Enable**.





Function and Billing Overview

To use TUIRoomKit, you need to purchase the Conference monthly package. The pricing and feature comparison of the Conference monthly package can be found in the table. For detailed billing information, please refer to the Conference monthly package billing instructions.

Item		Free Trial	Lite	Standard	Pro
Price		As low as 0 USD for 14 days	Subscribe Now	Subscribe Now	Subscribe Now
Package duration	Free minutes	10,000 minutes/month	10,000 minutes/month	10,000 minutes/month	10,000 minutes/month
	Package bonus minutes	-	100,000 minutes/month	300,000 minutes/month	450,000 minutes/month
	Pay-as-you-go upon exhaustion (within the validity of the package)	Services become unavailable after exhaustion	✓	✓	✓
Conference Features	Participants per room	100	20	50	200
	Active Rooms	10	20	100	200
	Quota Of Free Monthly Active	100/month	10,000/month	10,000/month	10,000/month

	User (MAU)				
	Video Quality	HD, FHD, 2K, 4K	HD, FHD	HD, FHD	HD, FHD, 2K, 4K
	Complete UI	✓	✓	✓	✓
	Custom UI	✓	✓	✓	✓
	Floating Window	✓	✓	✓	✓
	Screen Sharing	✓	✓	✓	✓
	Member Management	✓	✓	✓	✓
	Room Management	✓	✓	✓	✓
	Free Speech Mode	✓	✓	✓	✓
	Audio mix by default	✓	✓	✓	✓
	On-stage Speech Mode	✓	-	✓	✓
	Microphone Management	✓	-	✓	✓
	Microphone Quantity	20	-	9	20
	Chat in Conference	✓	-	✓	✓
	AI noise suppression	✓	-	✓	✓
	Less stutter under poor network conditions	✓	-	✓	✓
	Multi-terminal login	✓	-	-	✓

TRTC Basic Features	On-Cloud Recording	✓	✓	✓	✓
	On-Cloud Mix-Transcoding	✓	✓	✓	✓
	Relay To CSS	✓	✓	✓	✓
Supported Platforms		iOS, Android, Web, Flutter, Electron, Windows	iOS, Android, Web, Flutter, Electron, Windows	iOS, Android, Web, Flutter, Electron, Windows	iOS, Android, Web, Flutter, Electron, Windows
Technical Support		-	Response time: 5 day/12 hour P1 - 2 hours P2 - 6 hours P3 - 12 hours	Response time: 5 day/12 hour P1 - 2 hours P2 - 6 hours P3 - 12 hours	Response time: 7 day/24 hour P1 - 1 hour P2 - 4 hours P3 - 8 hours
		-	Ticket and email support	Ticket and email support	Ticket and email support
		-	Telegram group	Telegram group	Telegram group

Notes:

1. Package duration: The duration of a package can be used to deduct your conference durations. If you use the trial edition, services will become unavailable for your application after you use up the package. If you use Lite, Standard or Pro, after you use up the package, your additional usage will be charged at pay-as-you-go rates.
2. Free minutes: Each Tencent Cloud account will get 10,000 free minutes per usage cycle (a usage cycle is one month) after it buys a TRTC Conference package. The free minutes can deduct usage of both TRTC Conference features and TRTC basic features such as on-cloud recording and on-cloud mixtranscoding. To learn more, see Free Minutes.
3. Package bonus minutes: Bonus minutes can deduct your conference durations. They are valid for one month and will expire at the end of each usage cycle.
4. TRTC basic features: In addition to TRTC Conference features, you can also use TRTC's basic features, which will incur additional fees. For the billing details, see Billing of On-Cloud Recording and Billing of MixTranscoding and Relay to CDN.

Integration (TUIRoomKit)
iOS

Last updated：2024-04-12 11:29:00

This article will introduce how to complete the integration of the `TUIRoomKit` Component in the shortest time. By following this document, you will complete the following key steps within an hour and ultimately obtain an audio/video conference function with a complete UI interface.

Environment preparation

iOS 13.0 and higher.
Xcode 12.0 and higher.
Swift 4.2 and higher.

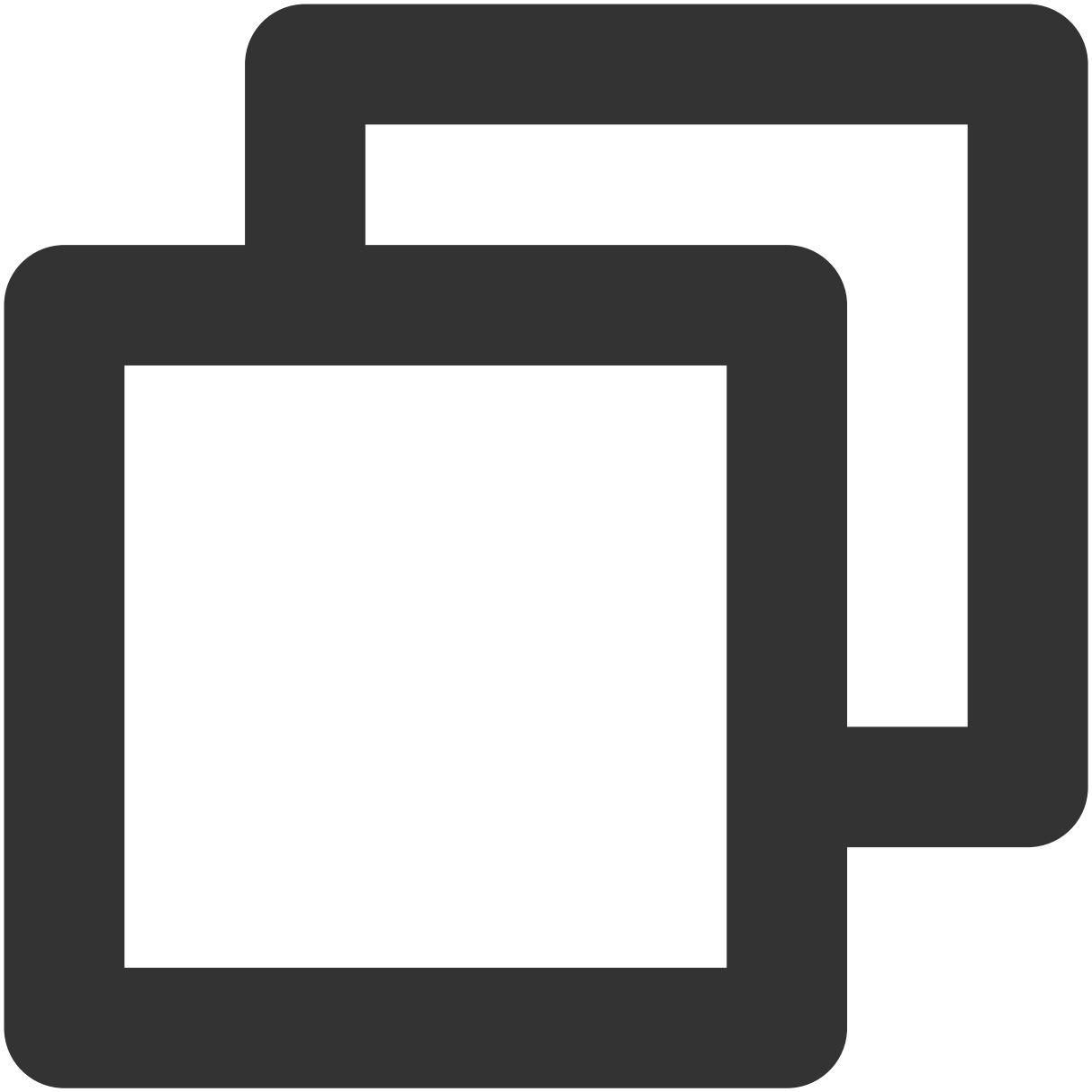
Activate the service

Before initiating a meeting with TUIRoomKit, you need to activate the exclusive multi-person audio and video interaction service for TUIRoomKit on the console. For specific steps, please refer to Activate Service.

Integrate the TUIRoomKit Component

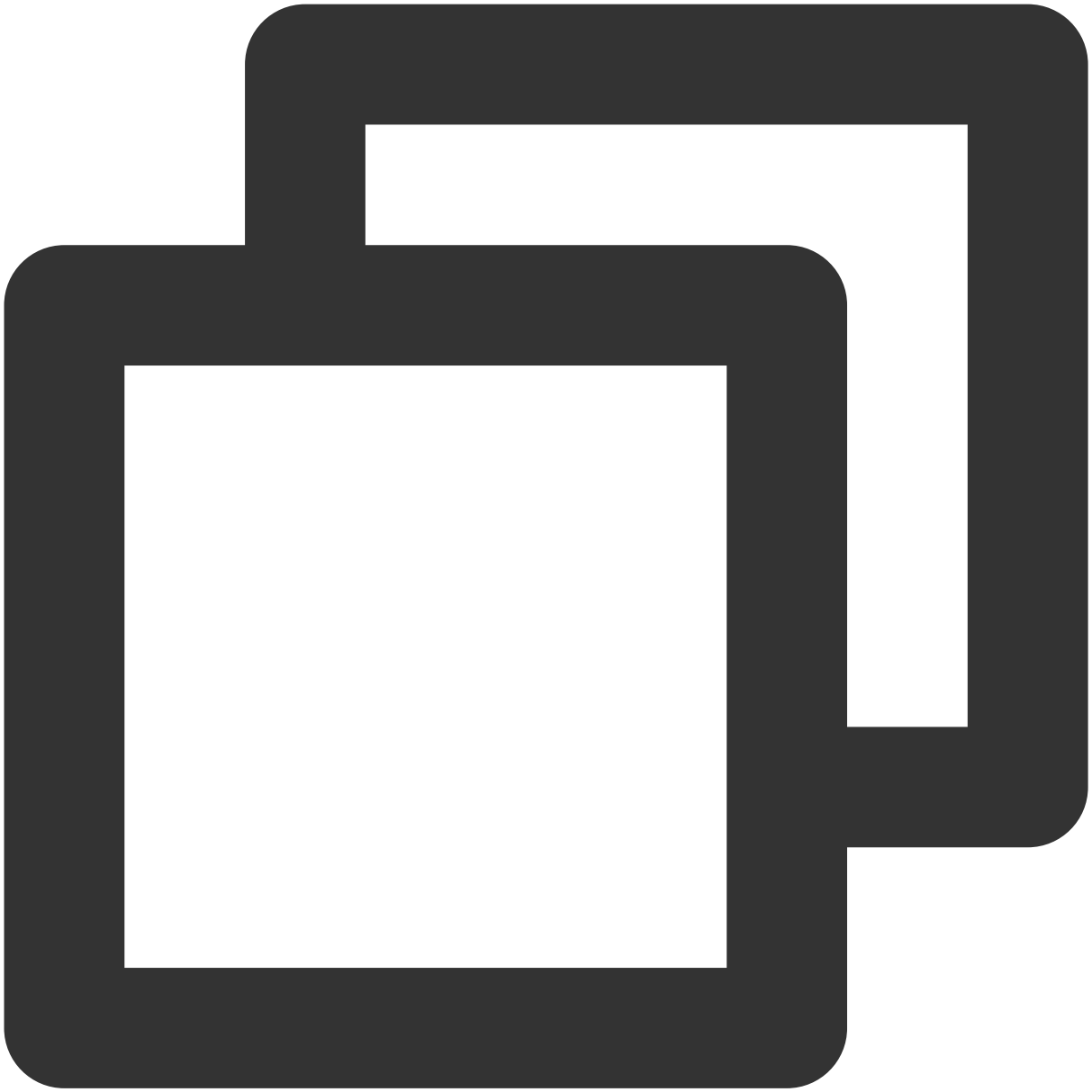
Pull remote CocoaPods integration (recommended when there is no source code modification)

1. Add the following dependencies to your Podfile file.



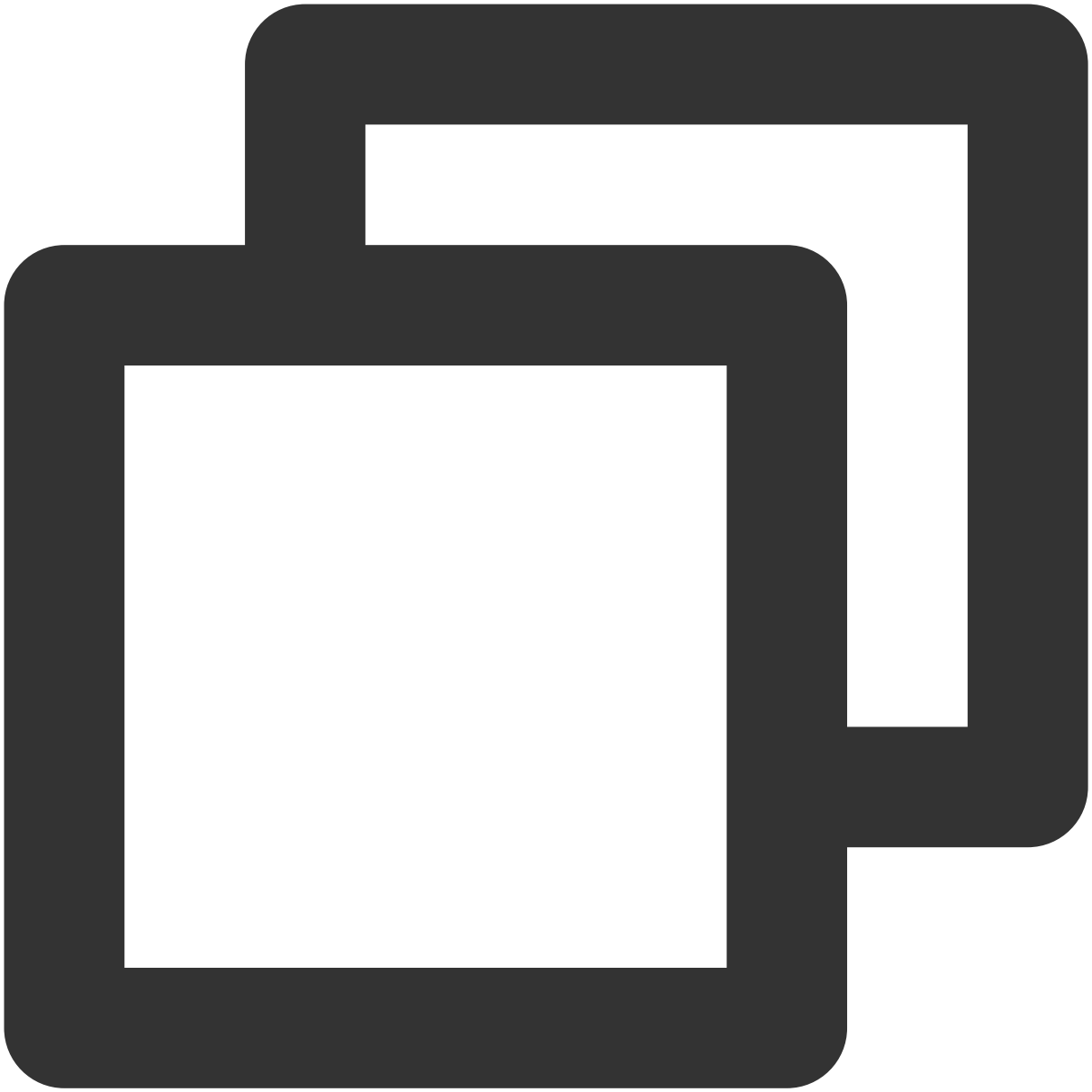
```
pod 'TUIRoomKit'
```

2. Execute the following command to install the Component.



```
pod install
```

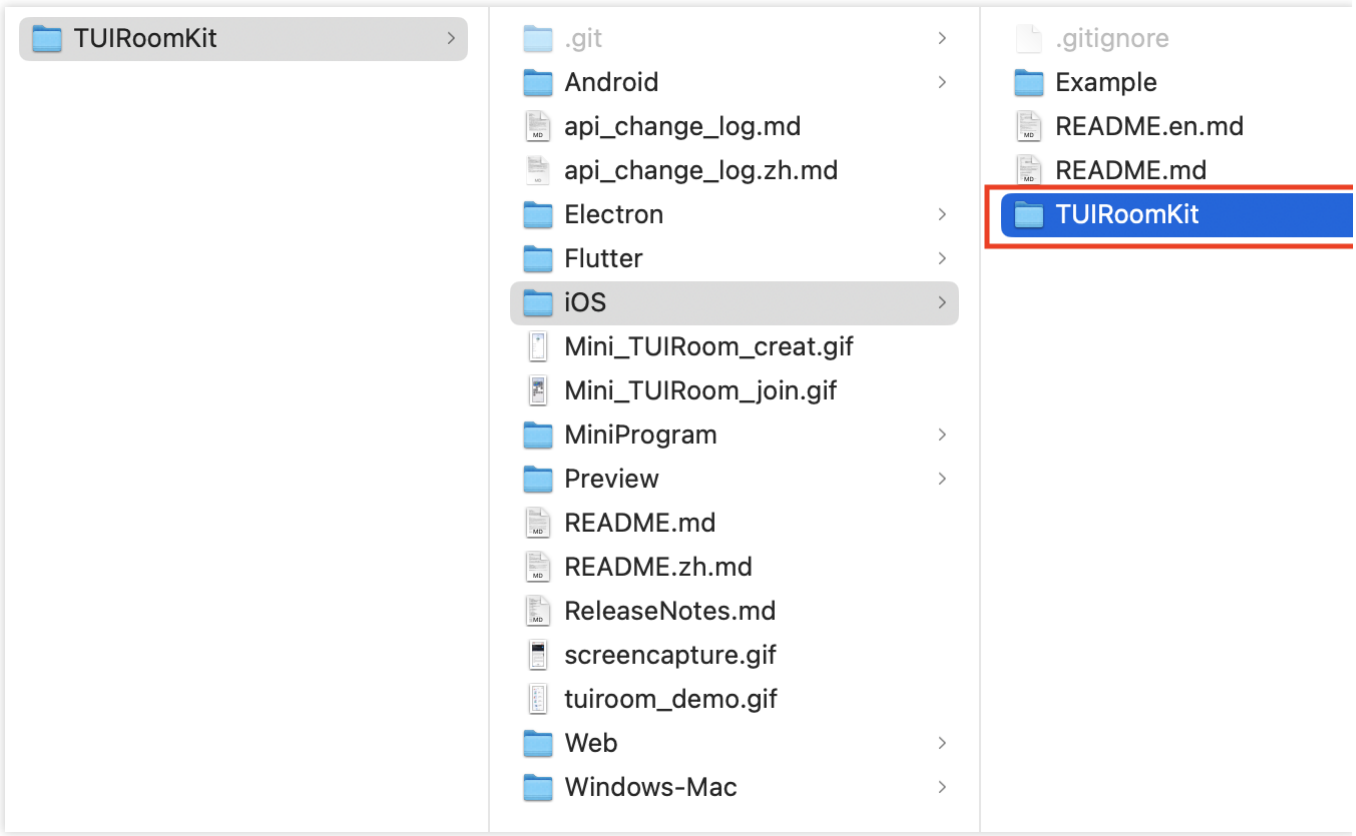
3. If you cannot install the latest version of TUIRoomKit, execute the following command to update the local CocoaPods repository list.



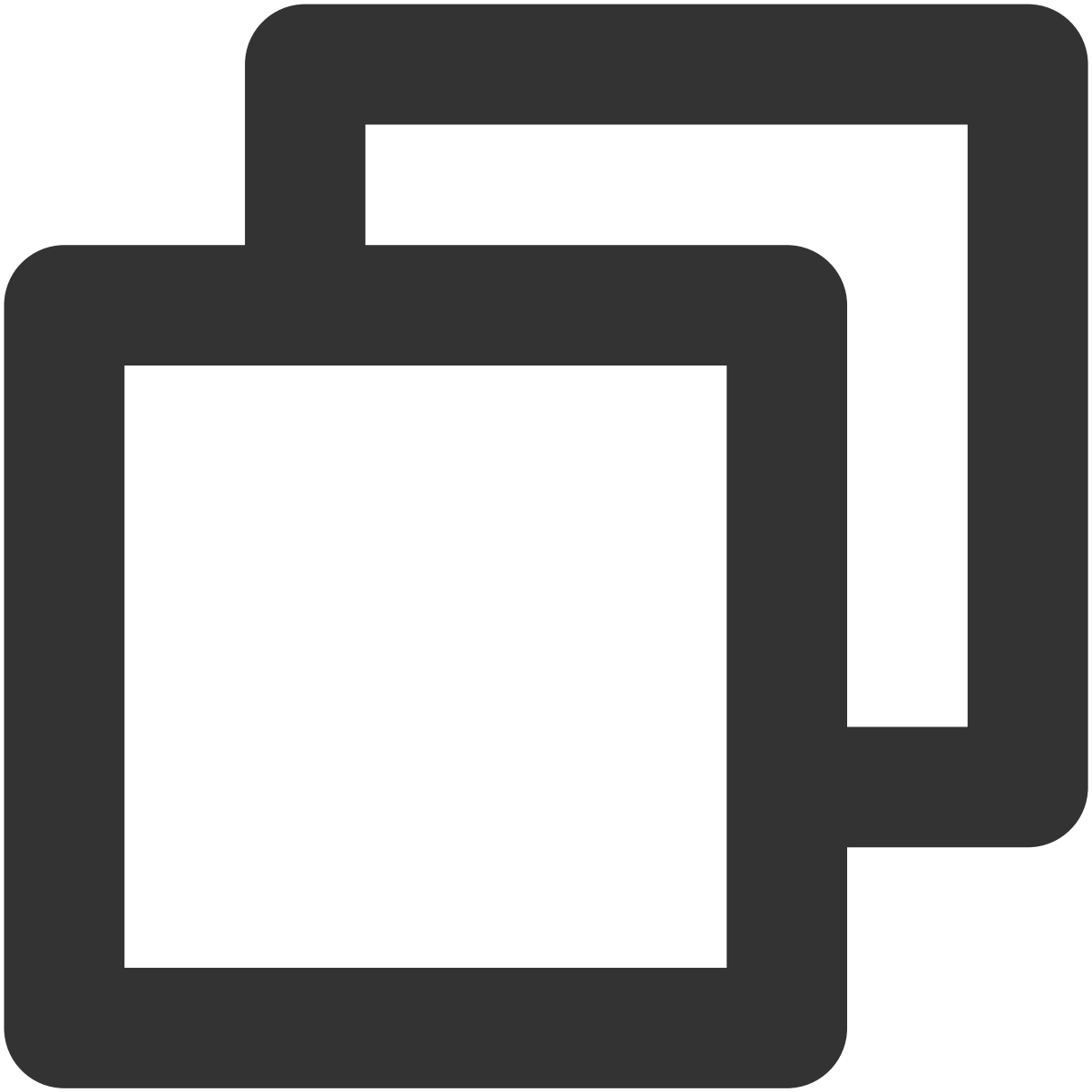
```
pod repo update
```

Source code integration (recommended when there are source code modifications)

1. Download the TUIRoomKit source code from GitHub. Drag directly into your project directory: TUIRoomKit/iOS/TUIRoomKit.

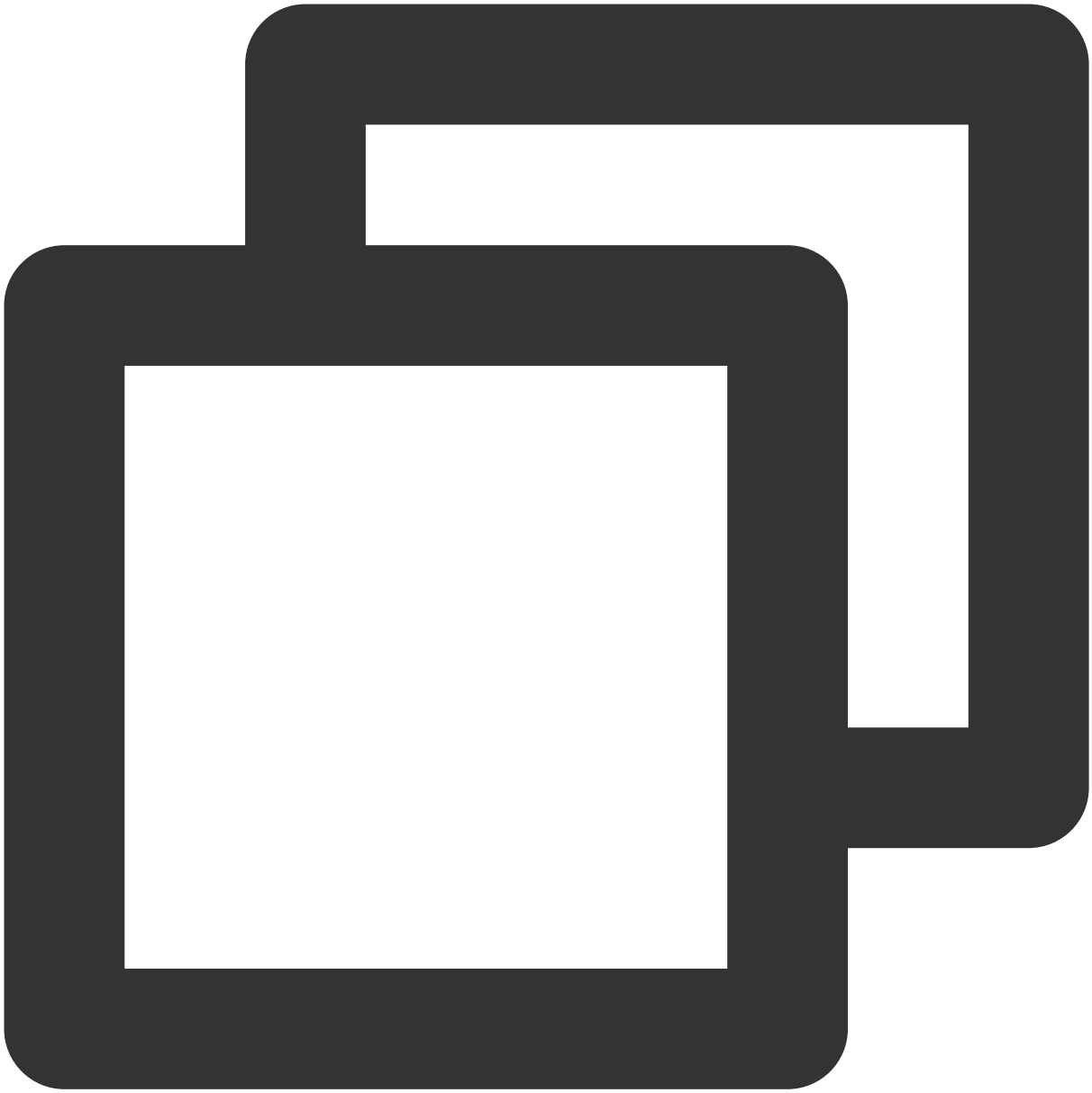


2. Modify the path of the TUIRoomKit component in your Podfile, for example:



```
pod 'TUIRoomKit', :path => "../TUIRoomKit/"
```

3. Execute installation command.



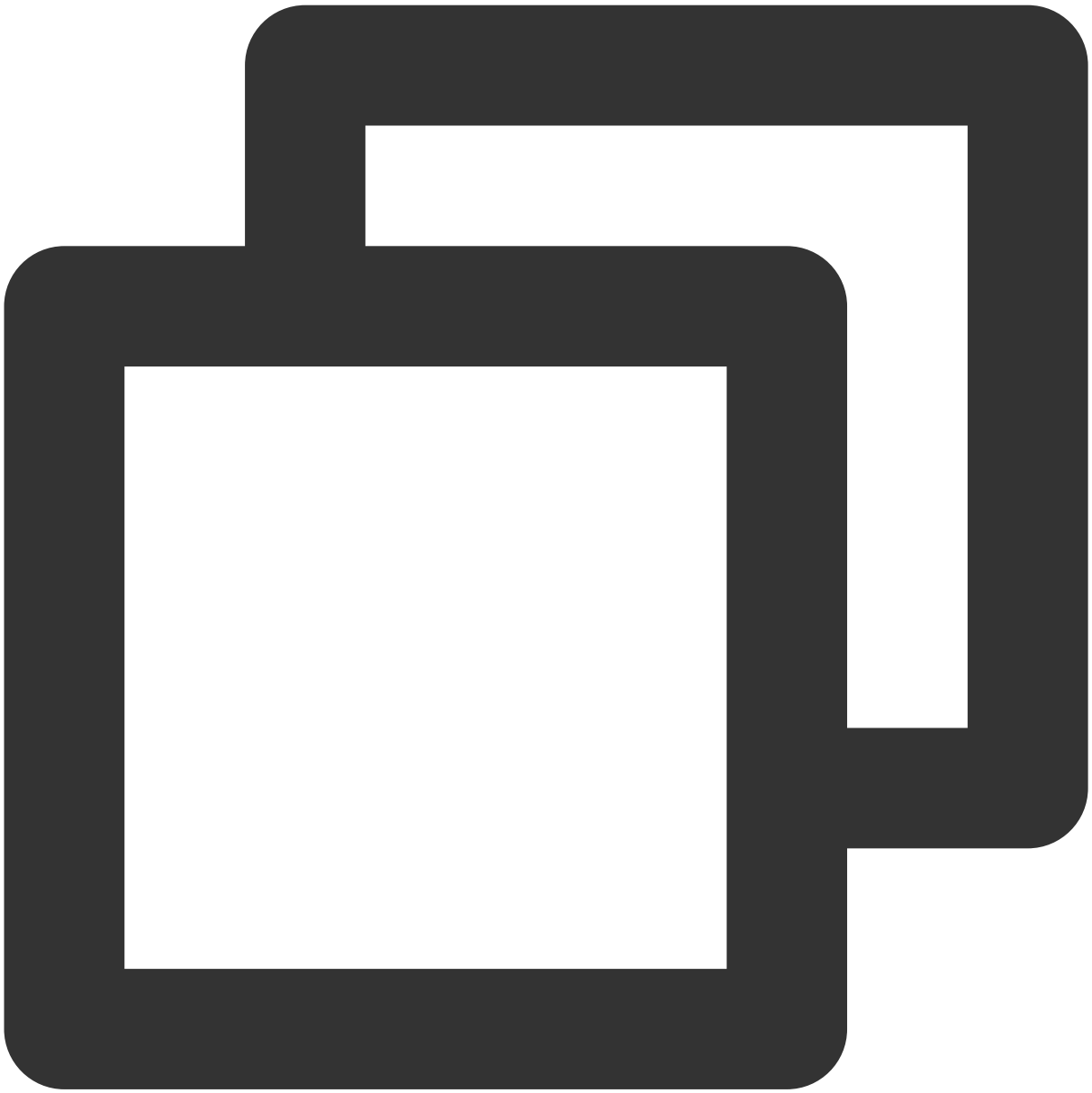
```
pod install
```

Quick setup

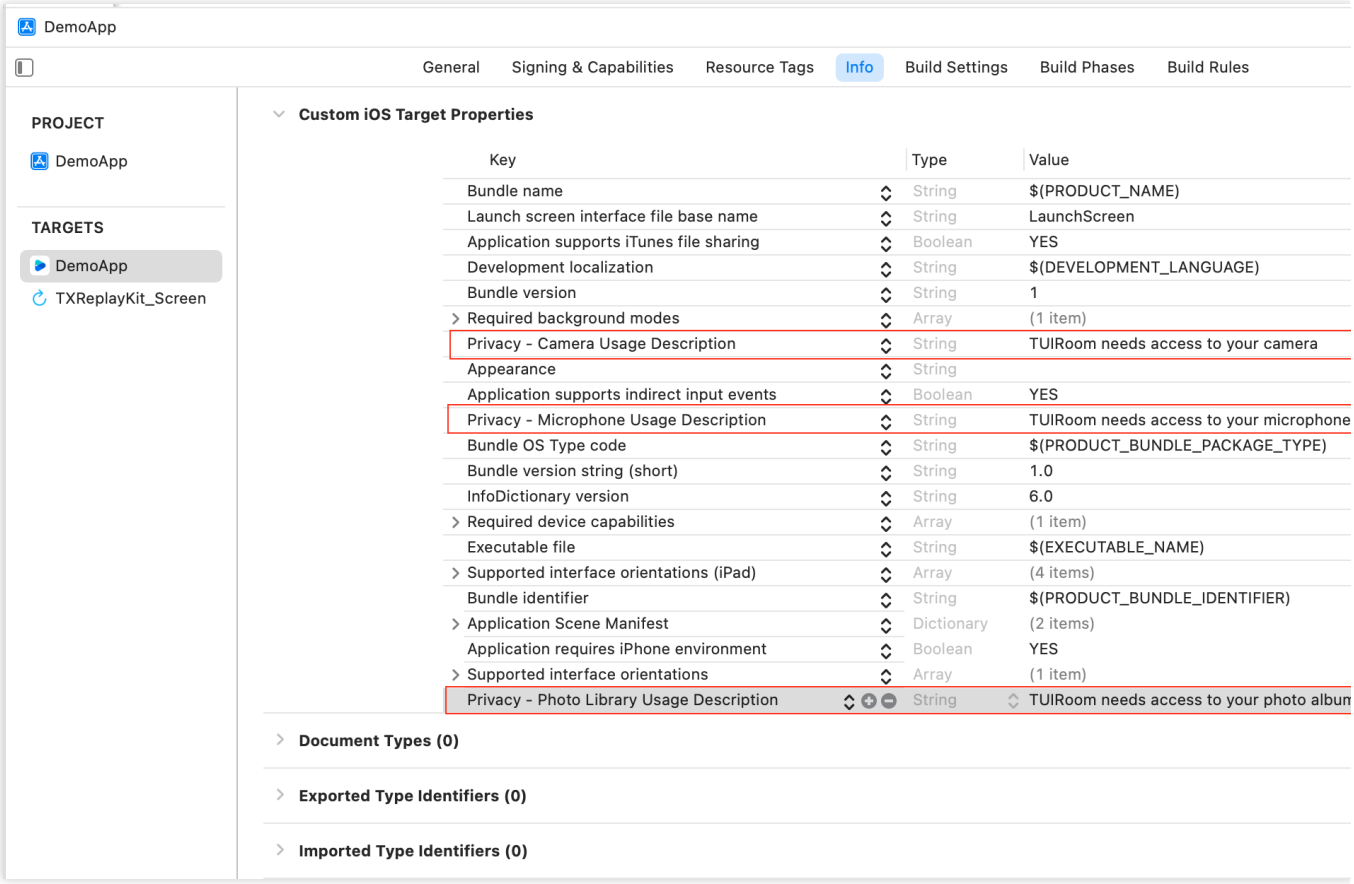
Step 1: Project Configuration

To use the audio and video functions, you need to authorize the use of microphone, camera and photo album. Add the following items to the App's Info.plist, corresponding to the prompt messages for the microphone, camera, and photo

album when the system pops up the authorization dialog box.

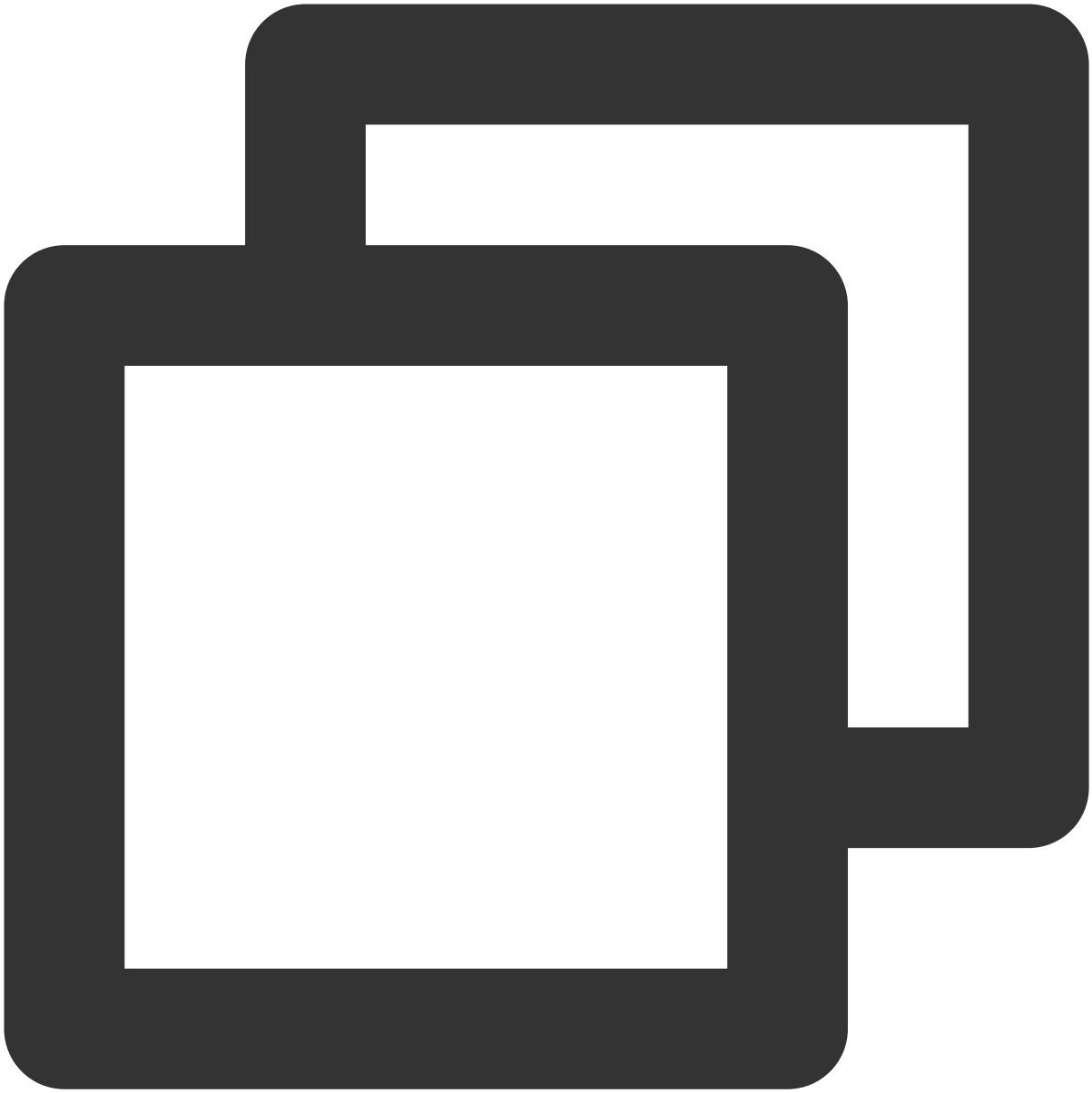


```
<key>NSCameraUsageDescription</key>
<string>TUIRoom needs access to your Camera permission</string>
<key>NSMicrophoneUsageDescription</key>
<string>TUIRoom needs access to your Mic permission</string>
<key>NSPhotoLibraryUsageDescription</key>
<string>TUIRoom needs access to your Photo Library</string>
```



Step 2: Log in TUI Component

Add the following code to your project. Its function is to complete the initialization of TUI components by calling the relevant interfaces in TUICore. This step is very critical, because all functions of TUIRoomKit can only be used normally after successful login, so please be patient and check whether the relevant parameters are configured correctly:



```
import TUICore

TUILogin.login(1400000001,                          // Please replace with the SDKApp
            userID: "998",                          // Please replace with your UserI
           userSig: "xxxxxxxxxx") {                 // You can calculate a UserSig in
    print("login success")
} fail: { (code, message) in
    print("login failed, code: \\(code), error: \\(message ?? "nil")")
}
```

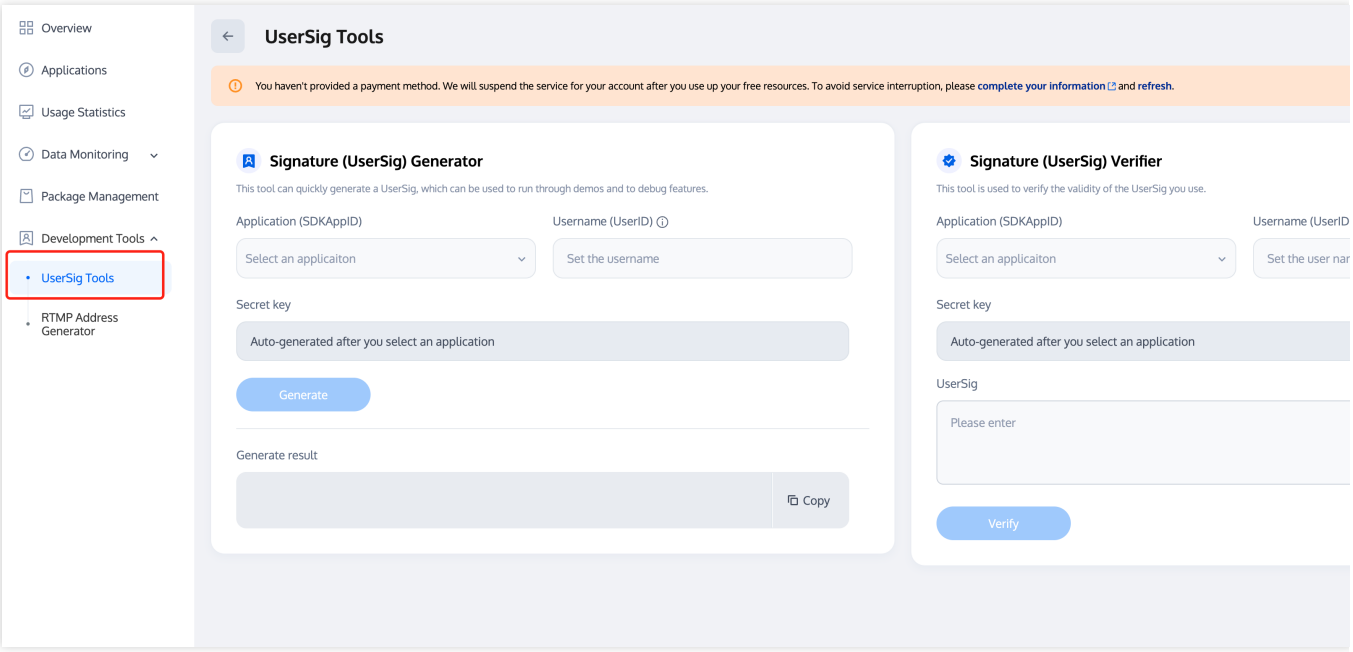
Parameter Description

Here is a detailed introduction to the key parameters used in the login function:

SDKAppID：You have already obtained it in Activate the service, so it will not be repeated here.

UserID：The ID of the current user, string type, only allows to contain English letters (a-z and A-Z), numbers (0-9), hyphens (-), and underscores (_).

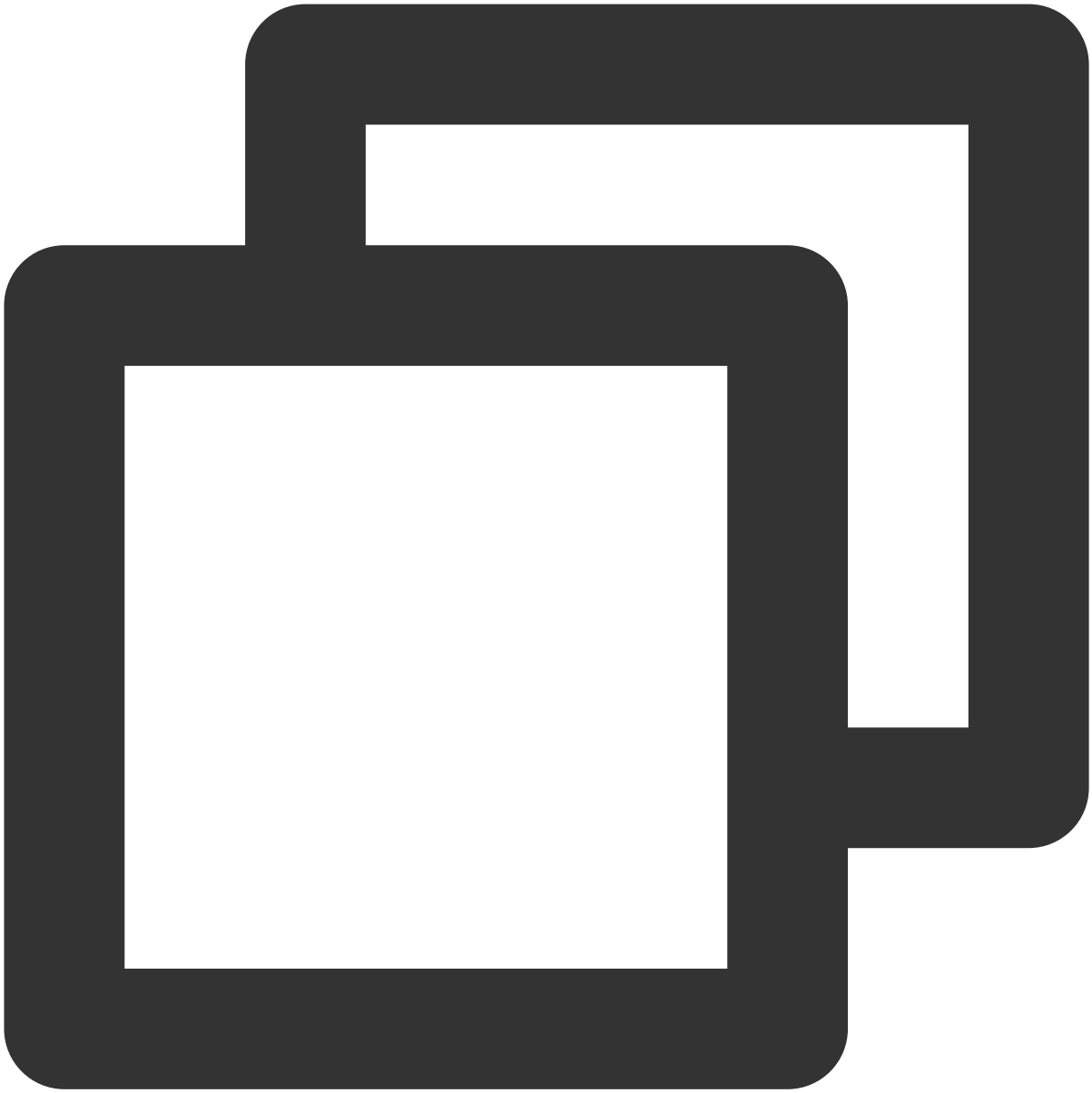
UserSig：Encrypt the SDKAppID, UserID, etc. with the SDKSecretKey obtained in Activate the service to get the UserSig, which is a ticket for authorization and is used for Tencent Cloud to recognize whether the current user can use the TRTC service. You can create a temporarily available UserSig through the UserSig Tools through the project sidebar in the console.



For more information, please refer to the UserSig related.

Step 3: Set user nickname and avatar

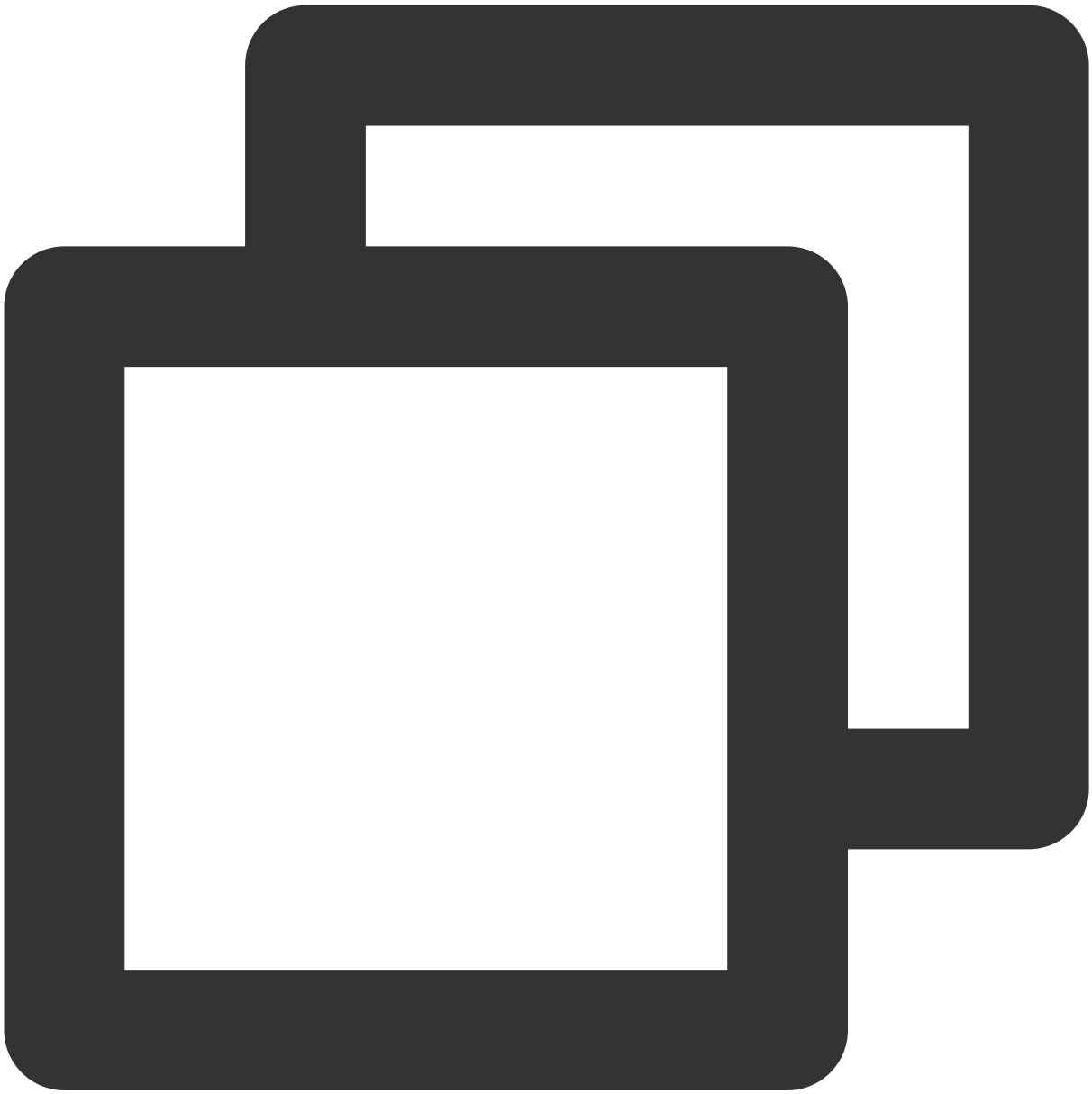
The user's username and avatar can be set by calling setSelfInfo of TUIRoomEngine, which can be set in the callback of successful login.



```
import TUIRoomEngine

TUIRoomEngine.setSelfInfo(userName: "xxx", avatarUrl: "xxx") {
    print("setSelfInfo success")
} onError: { code, message in
    print("setSelfInfo failed, code:\\(code),message:\\(message)")
}
```

Step 4: The host start a quick conference

The main conference page is ConferenceMainViewController. Just call quickStartConference to initiate a quick conference and jump to ConferenceMainViewController in the onConferenceStarted callback.

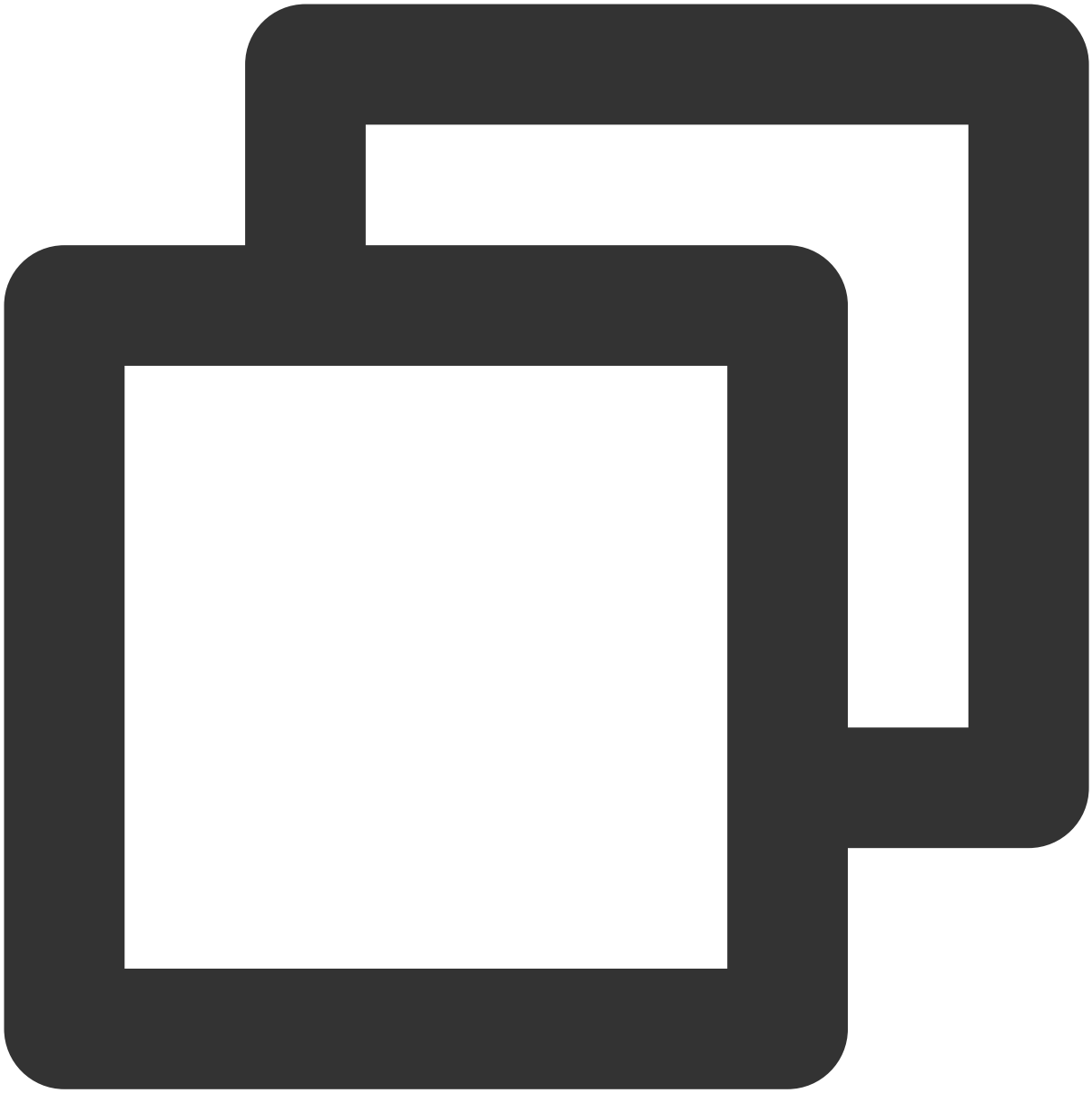


```
import TUIRoomKit

// CreateRoomViewController for your own ViewController
class CreateConferenceViewController: UIViewController {
    private var conferenceViewController: ConferenceMainViewController?
    func quickStartConferenceAction() {
        conferenceViewController = ConferenceMainViewController()
        conferenceViewController?.setConferenceObserver(observer: self)
```

```
            conferenceViewController?.quickStartConference(conferenceId: "123456")
        }
    }

extension CreateConferenceViewController: ConferenceObserver {
    func onConferenceStarted(conferenceId: String, error: ConferenceError) {
        if error == .success, let vc = conferenceViewController {
            navigationController?.pushViewController(vc, animated: true)
        }
        conferenceViewController = nil
    }
}
```

Step 5: Members join the conference

The main conference page is ConferenceMainViewController. Just call joinConference to join the conference and jump to ConferenceMainViewController in the onConferenceJoined callback.



```
import TUIRoomKit

// EnterRoomViewController for your own ViewController
class EnterConferenceViewController: UIViewController {
    private var conferenceViewController: ConferenceMainViewController?
    private func joinConferenceAction() {
        conferenceViewController = ConferenceMainViewController()
        conferenceViewController?.setConferenceObserver(observer: self)
        conferenceViewController?.joinConference(conferenceId: "123456")
    }
 }
```

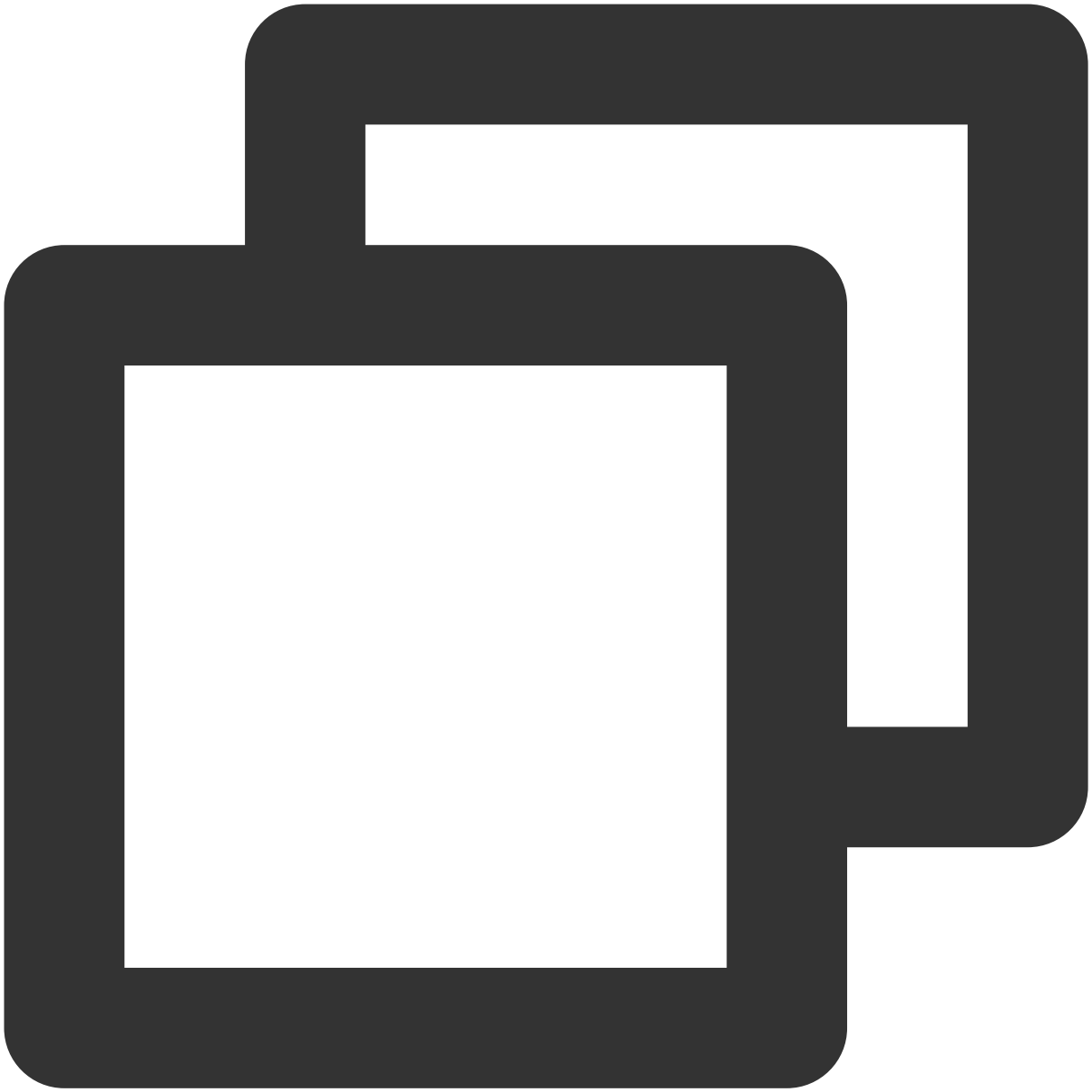
```
extension EnterConferenceViewController: ConferenceObserver {
    func onConferenceJoined(conferenceId: String, error: ConferenceError) {
        if error == .success, let vc = conferenceViewController {
            navigationController?.pushViewController(vc, animated: true)
        }
        conferenceViewController = nil
    }
}
```

More Features

UI Widget Access

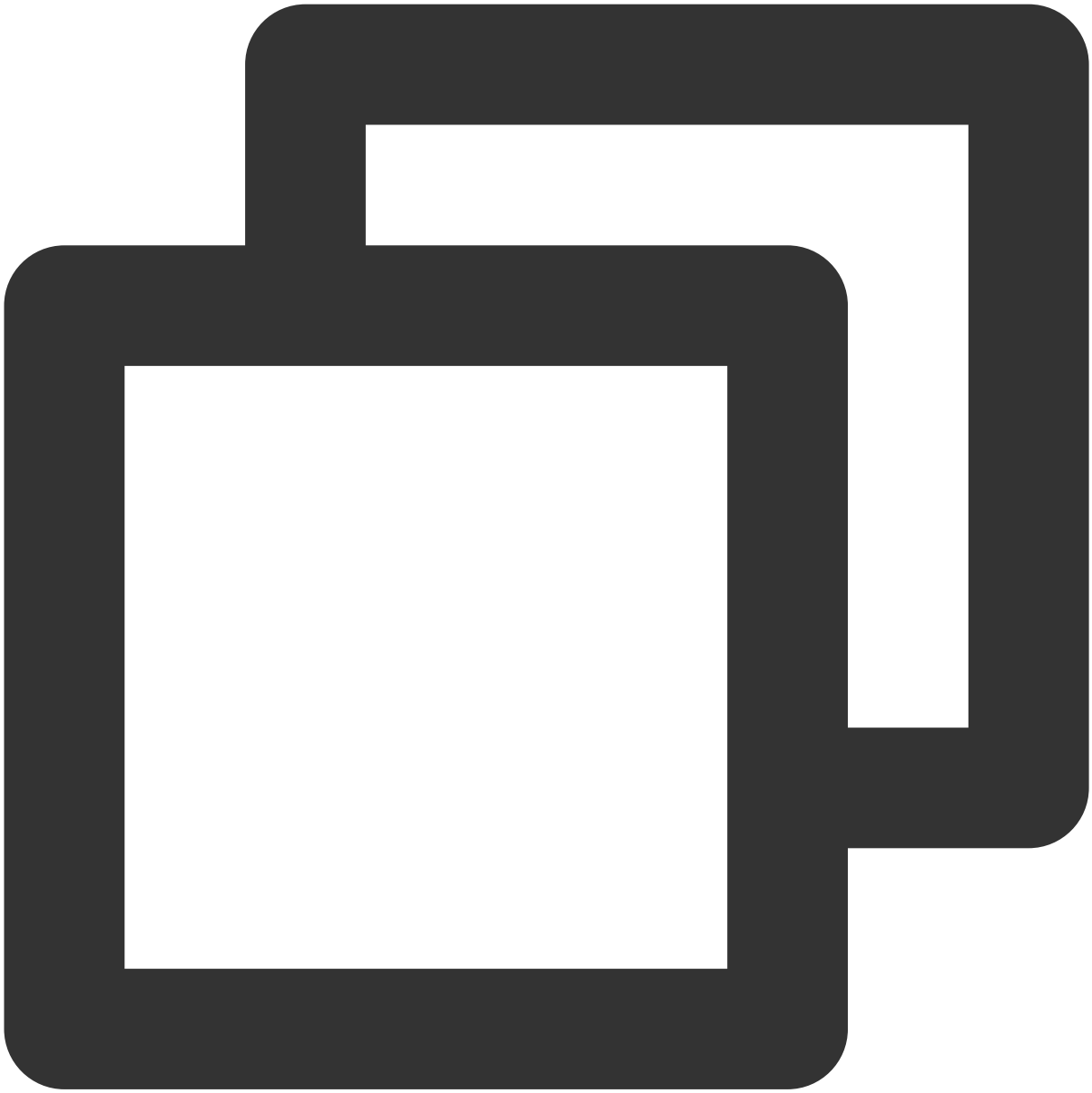
Import the chat widget using CocoaPods, with the following specific steps:

1. Add the following dependencies to your `Podfile` file.



```
pod 'TUIChat'          # [Optional] TUIChat Widget
```

2. Execute the following command to install the component.



```
pod install
```

Common Problems

If you encounter problems when using TUIRoomKit, please check the FAQ document first.

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

Android

Last updated：2024-04-12 11:29:03

This article will introduce how to complete the integration of the `TUIRoomKit` Component in the shortest time. By following this document, you will complete the following key steps within an hour and ultimately obtain an audio/video conference function with a complete UI interface.

Environment preparation

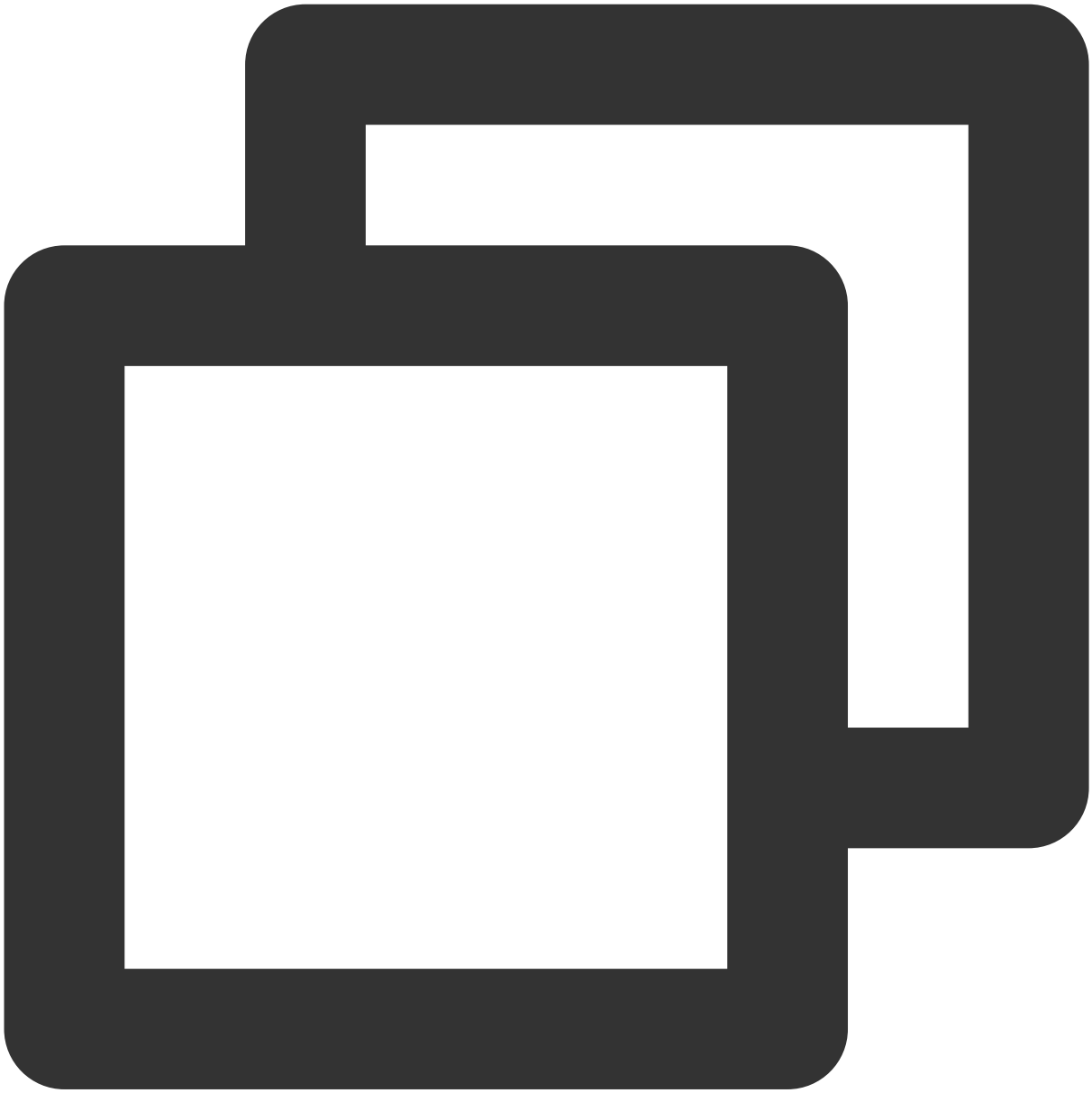
Minimum compatibility with Android 4.4 (SDK API Level 19), recommended to use Android 5.0 (SDK API Level 21) and above.
Android Studio 3.5 and above (Gradle 3.5.4 and above).
Mobile devices with Android 4.4 and above.

Activate the service

Before initiating a meeting with TUIRoomKit, you need to activate the exclusive multi-person audio and video interaction service for TUIRoomKit on the console. For specific steps, please refer to Activate Service.

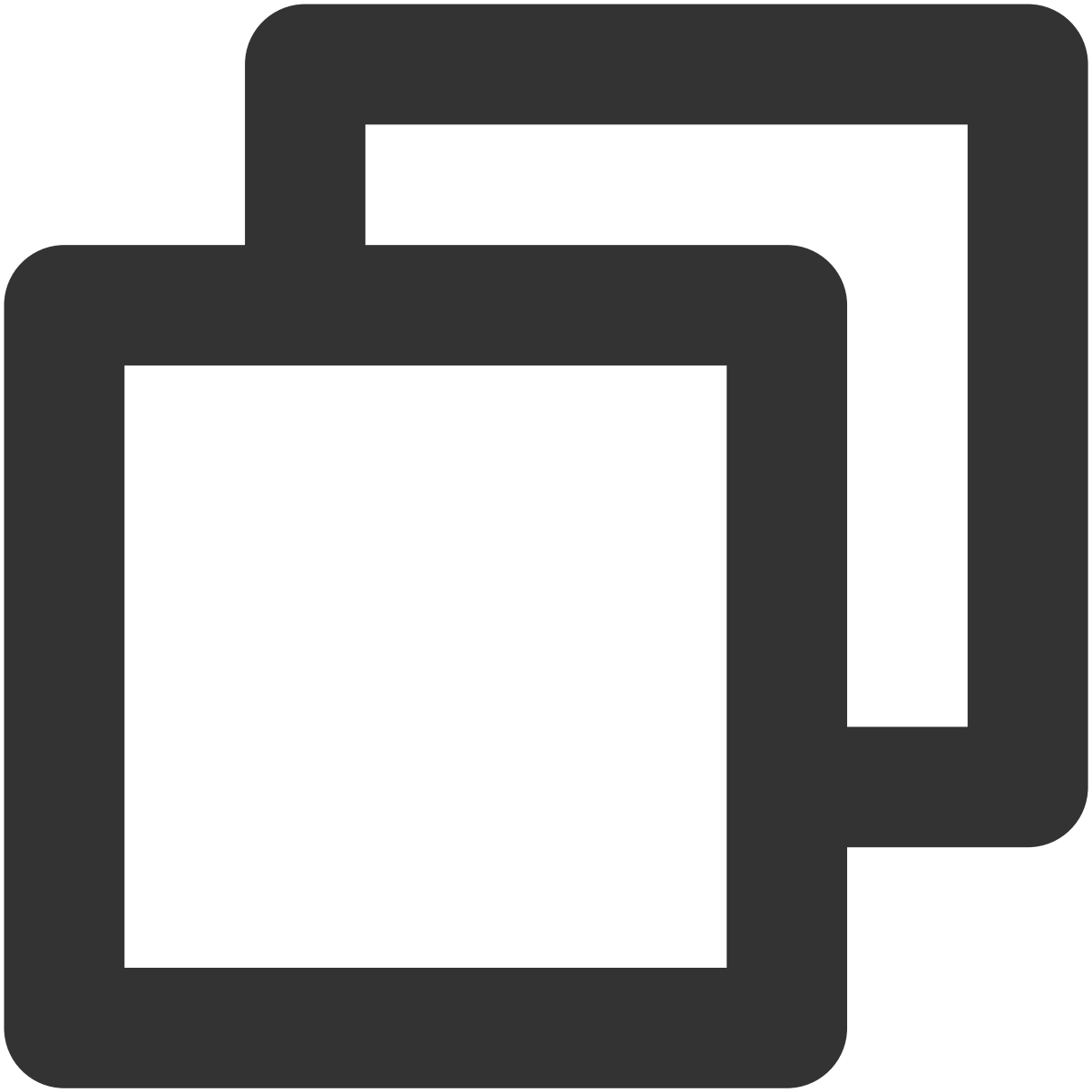
module source code integration

1. Clone/download the code in Github, and then copy the **debug**, **timcommon**, **tuichat**, and **tuiroomkit** subdirectories in the **Android** directory to the app directory in your current project.
2. Find the **setting.gradle** file in the project root directory and add the following code to it. Its function is to import **tuiroomkit** as a local module into your current project.



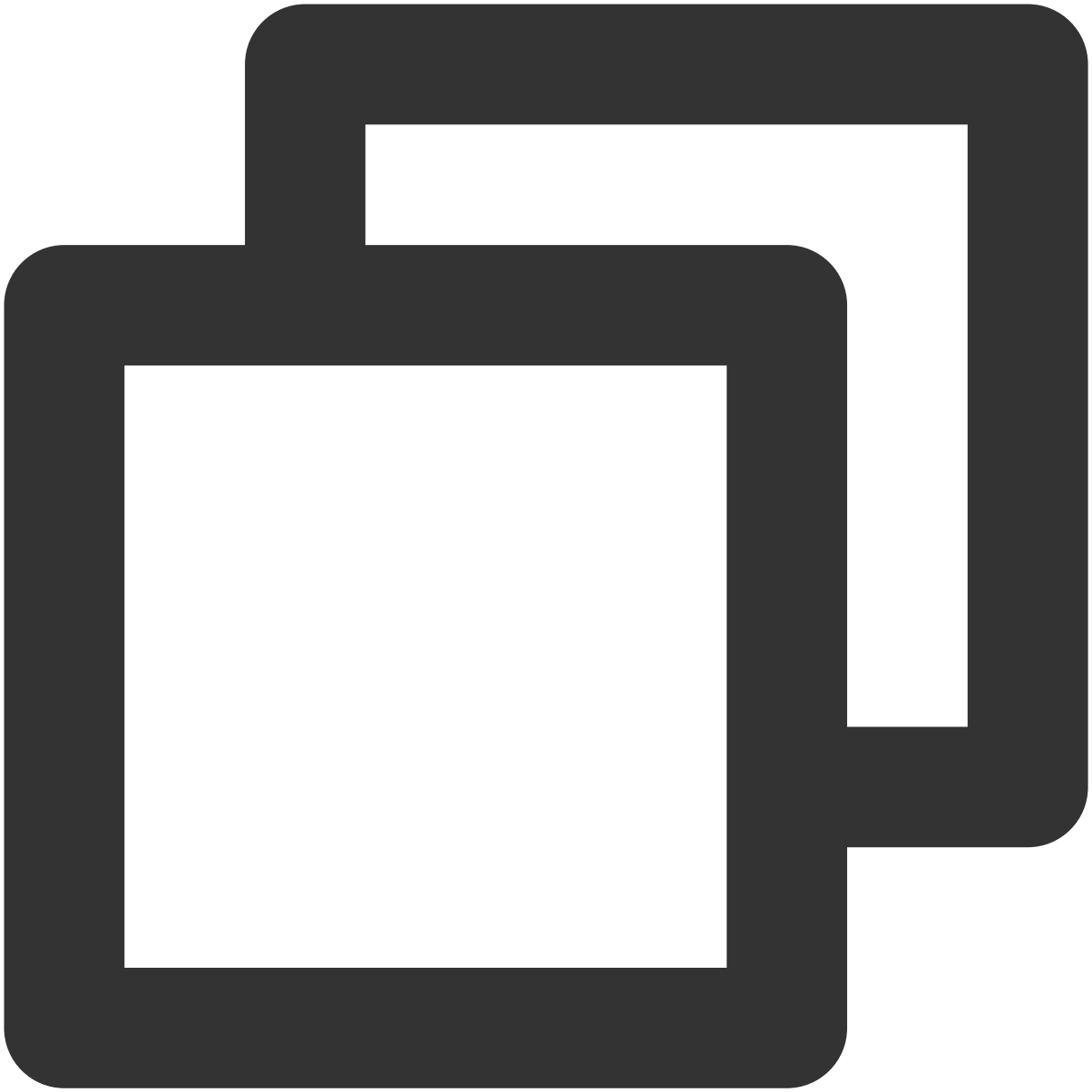
```
include ':debug'
include ':timcommon'
include ':tuichat'
include ':tuiroomkit'
```

3. Find the **build.gradle** file in the app directory and add the following code to it. Its function is to declare the dependence of the current app on the newly added **tuiroomkit** component.



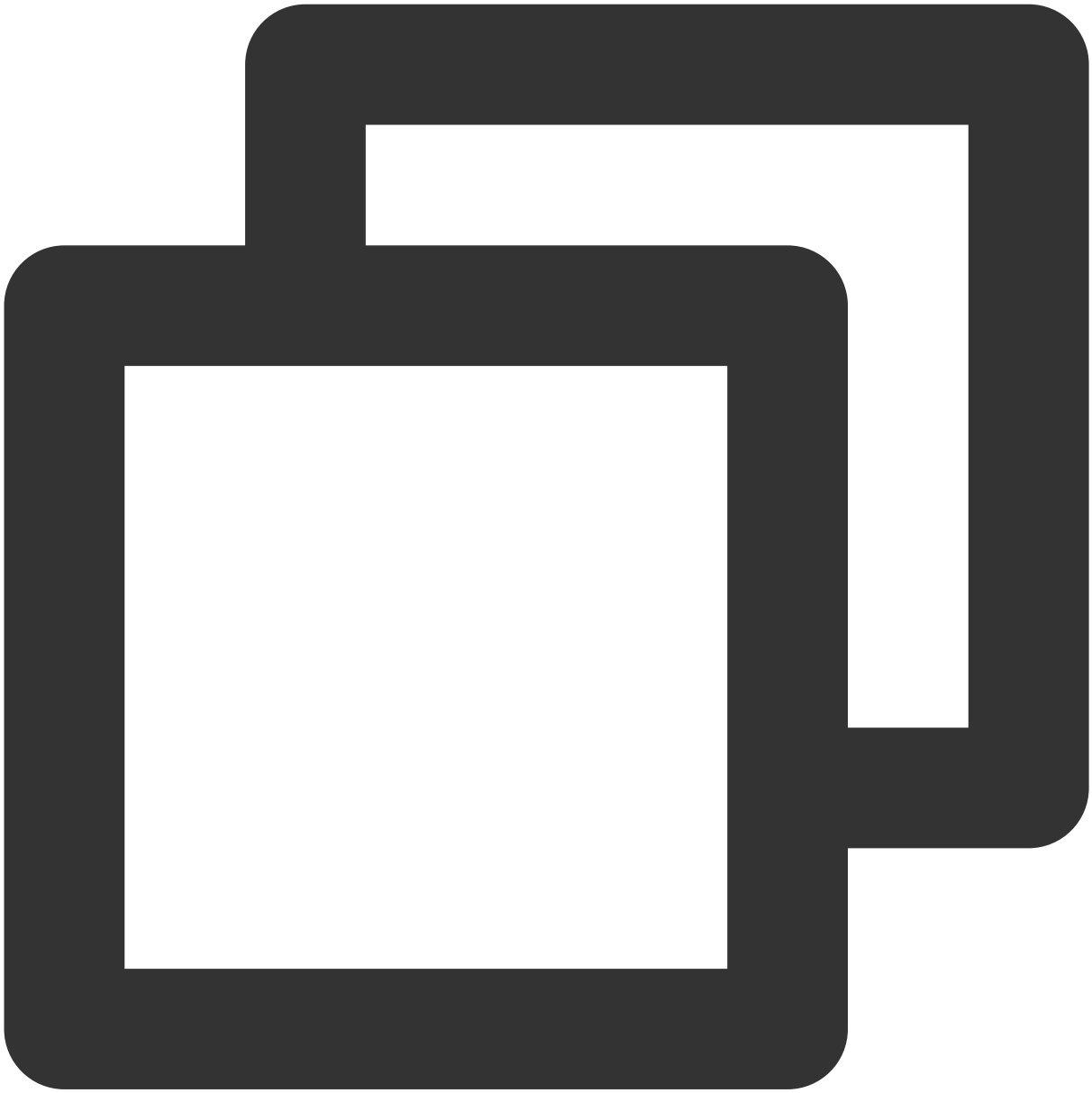
```
api project(':tuiroomkit')
```

4. Add the following line to the **gradle.properties** file to automatically convert third-party libraries to be compatible with AndroidX:



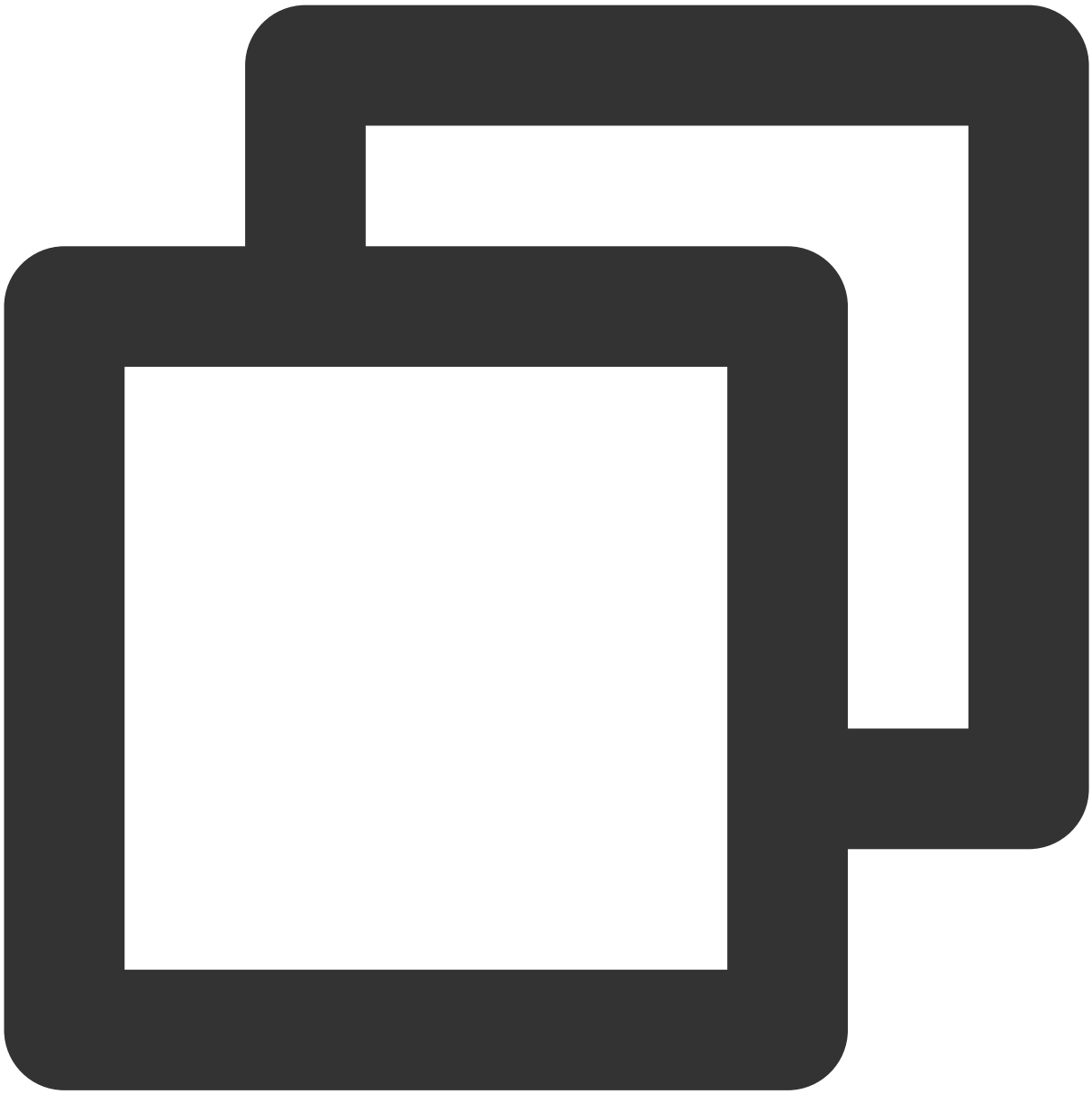
```
android.enableJetifier=true
```

5. To add maven repository and Kotlin support, add the following in the **build.gradle** file of the root project (same level as settings.gradle):



```
buildscript {
    repositories {
        mavenCentral()
        maven { url "https://mirrors.tencent.com/nexus/repository/maven-public/" }
    }
    dependencies {
        classpath 'com.android.tools.build:gradle:7.0.0'
        classpath "org.jetbrains.kotlin:kotlin-gradle-plugin:1.5.31"
    }
}
```

If you are using Gradle 8.x, you need to add the following code.



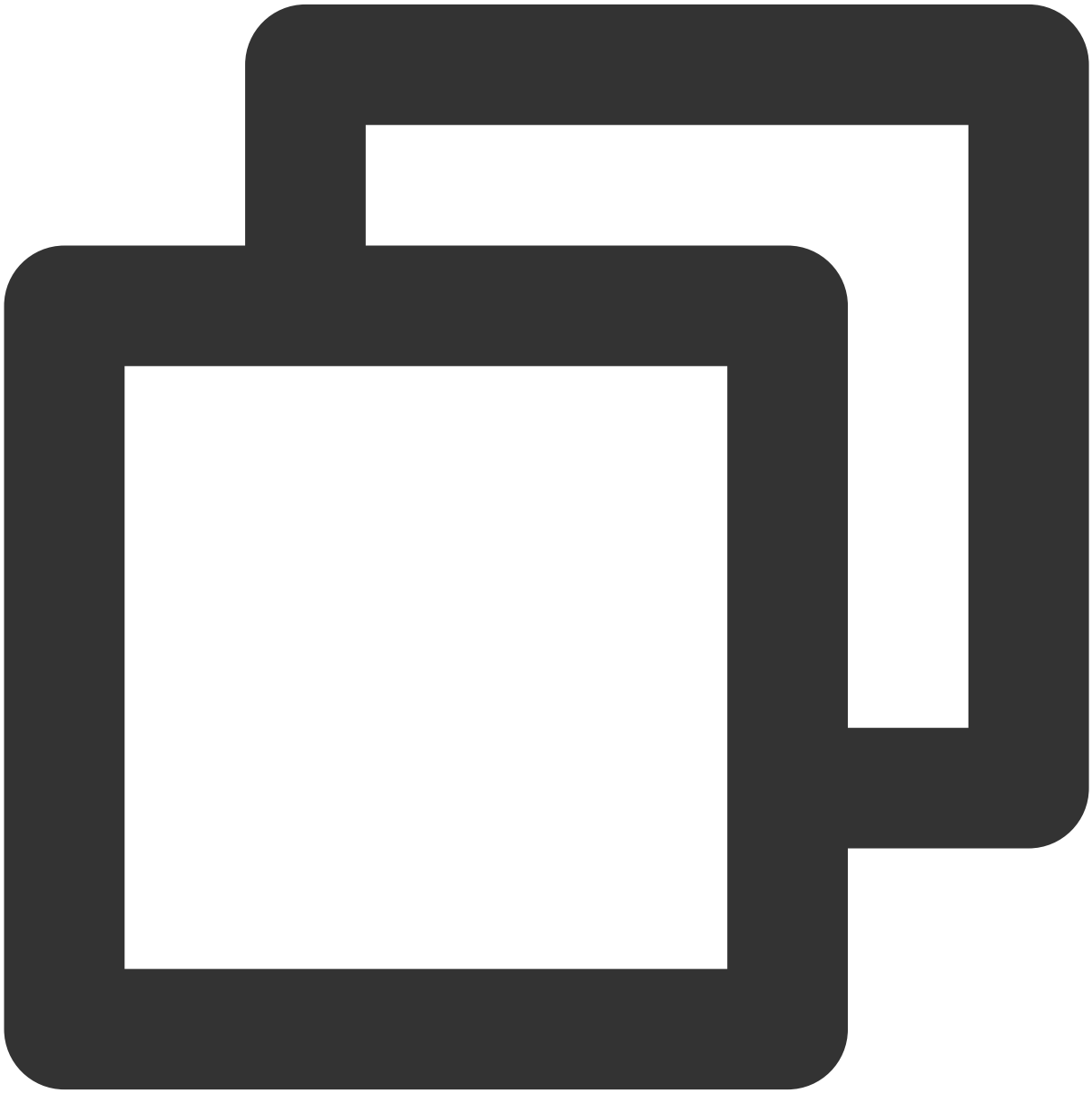
```
buildscript {
    repositories {
        mavenCentral()
        maven { url "https://mirrors.tencent.com/nexus/repository/maven-public/" }
    }
    dependencies {
        classpath 'com.android.tools.build:gradle:8.0.2'
        classpath "org.jetbrains.kotlin:kotlin-gradle-plugin:1.9.0"
    }
```

```
}
```

Note:

The version correspondence between Kotlin, Gradle and AGP can be viewed here.

6. Since we use the reflection feature of Java inside the SDK, we need to add some classes in the SDK to the unobfuscated list, so you need to add the following code to the **proguard-rules.pro** file:



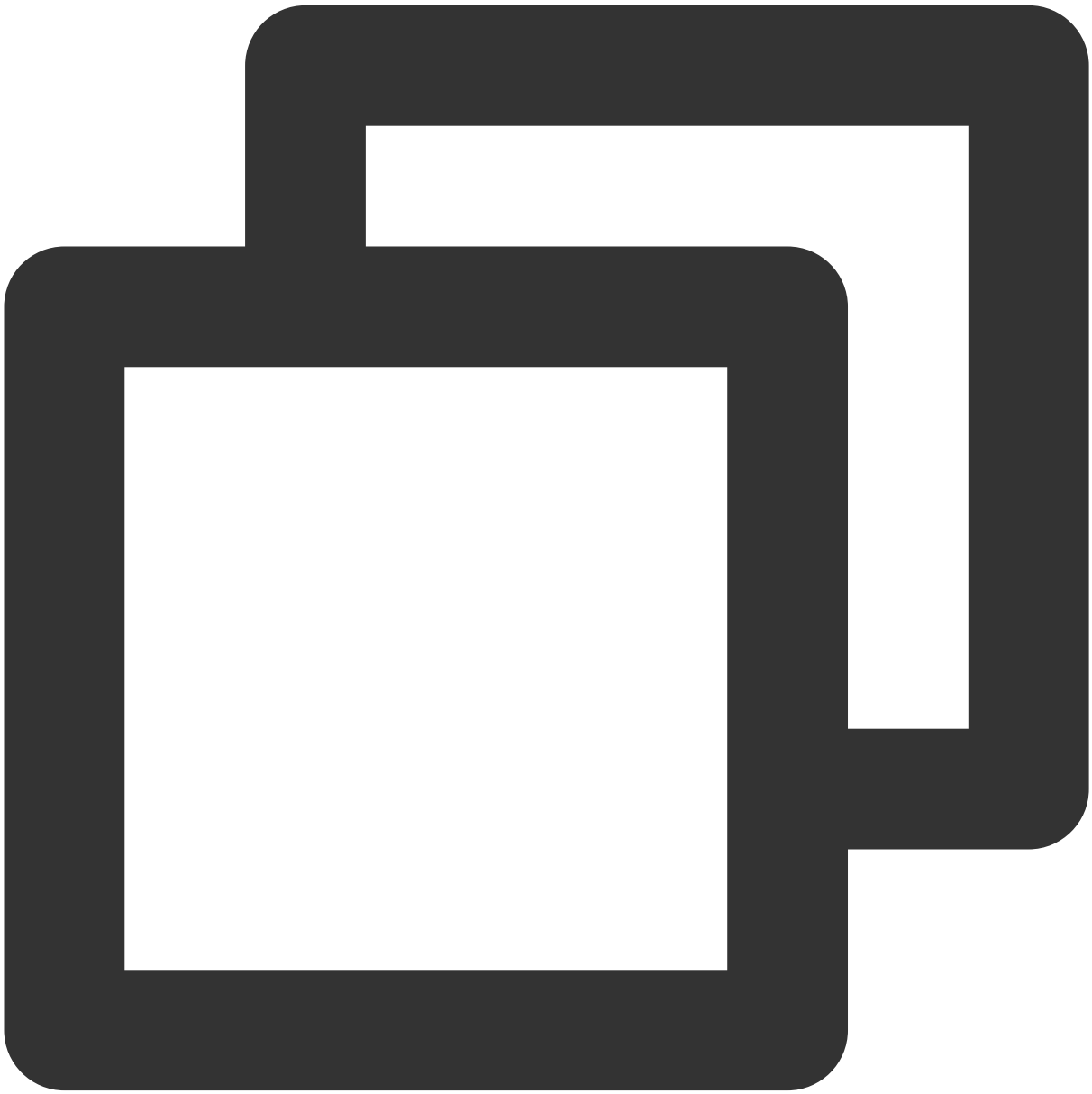
```
-keep class com.tencent.** { *; }
```

Quick setup

By referring to the steps below, you can quickly build the main interface of the meeting in your project.

Step 1: Component Login

Add the following code to your project. Its function is to complete the component login by calling the relevant interface in TUILogin. This step is extremely critical, because you can only use the various functions of TUIRoomKit normally after logging in, so please be patient and check whether the relevant parameters are configured correctly:



```
TUILogin.login(context,
               1400000001,    // Please replace it with the SDKAppID obtained from
               "998",         // Please replace with your UserID
               "xxxxxxxxxx",  // You can calculate a UserSig in the console and fil
               callback);     // Callback for successful login
```

Parameter Description

Here is a detailed introduction to several key parameters needed in the login function:

SDKAppID：Get it in the last step of activating the service.

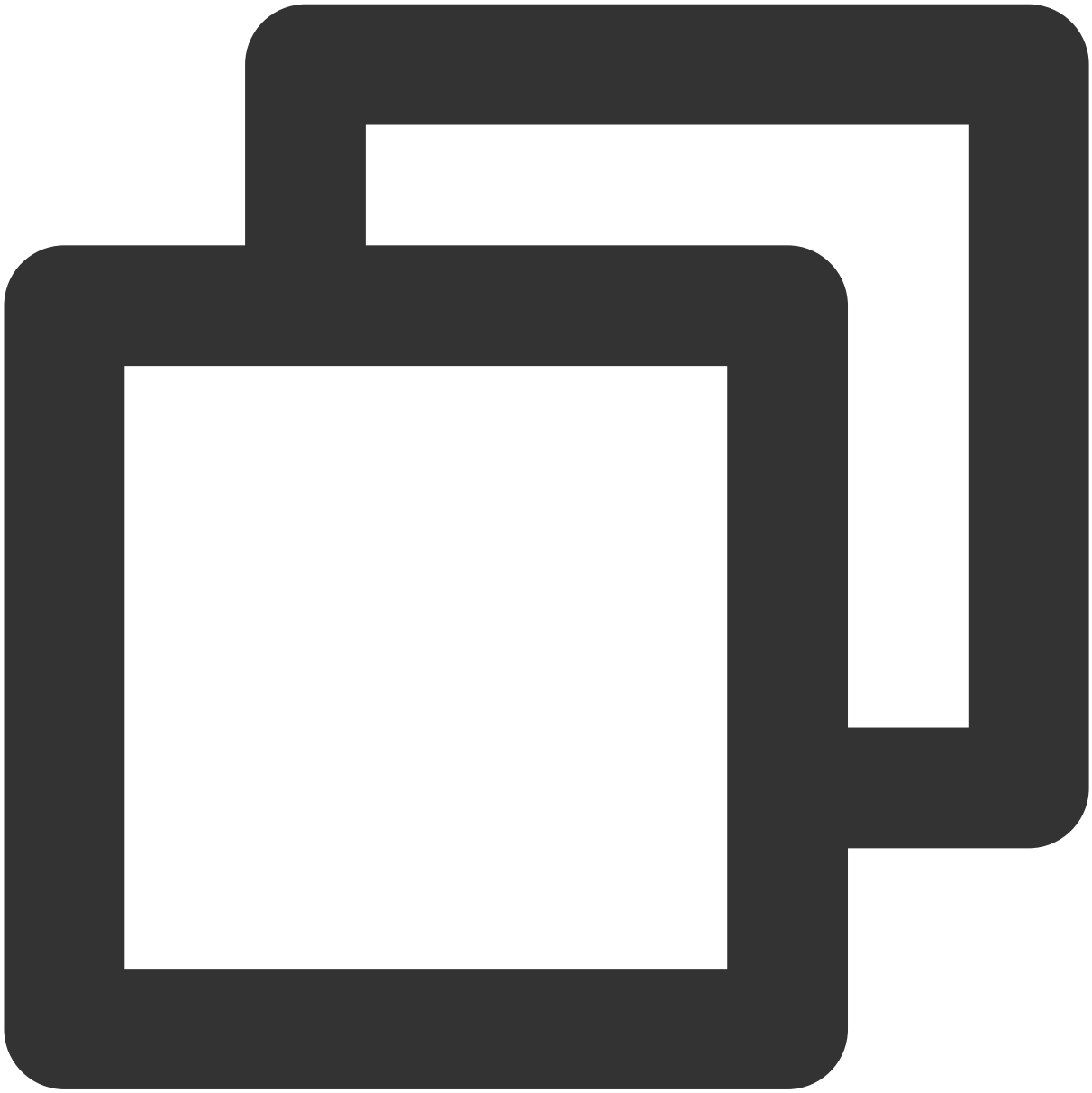
UserID：The ID of the current user, a string type, only allowed to contain English letters (a-z and A-Z), numbers (0-9), hyphens (-) and underscores (_).

UserSig：Use the SDKSecretKey obtained in step 4 of activating the service to encrypt the SDKAppID, UserID and other information to obtain the UserSig, which is an authentication ticket used by Tencent Cloud to identify whether the current user can use TRTC services. You can generate a temporarily available UserSig through the auxiliary tools in the console.

For more information, please refer to the UserSig related.

Step 2: Set user nickname and avatar

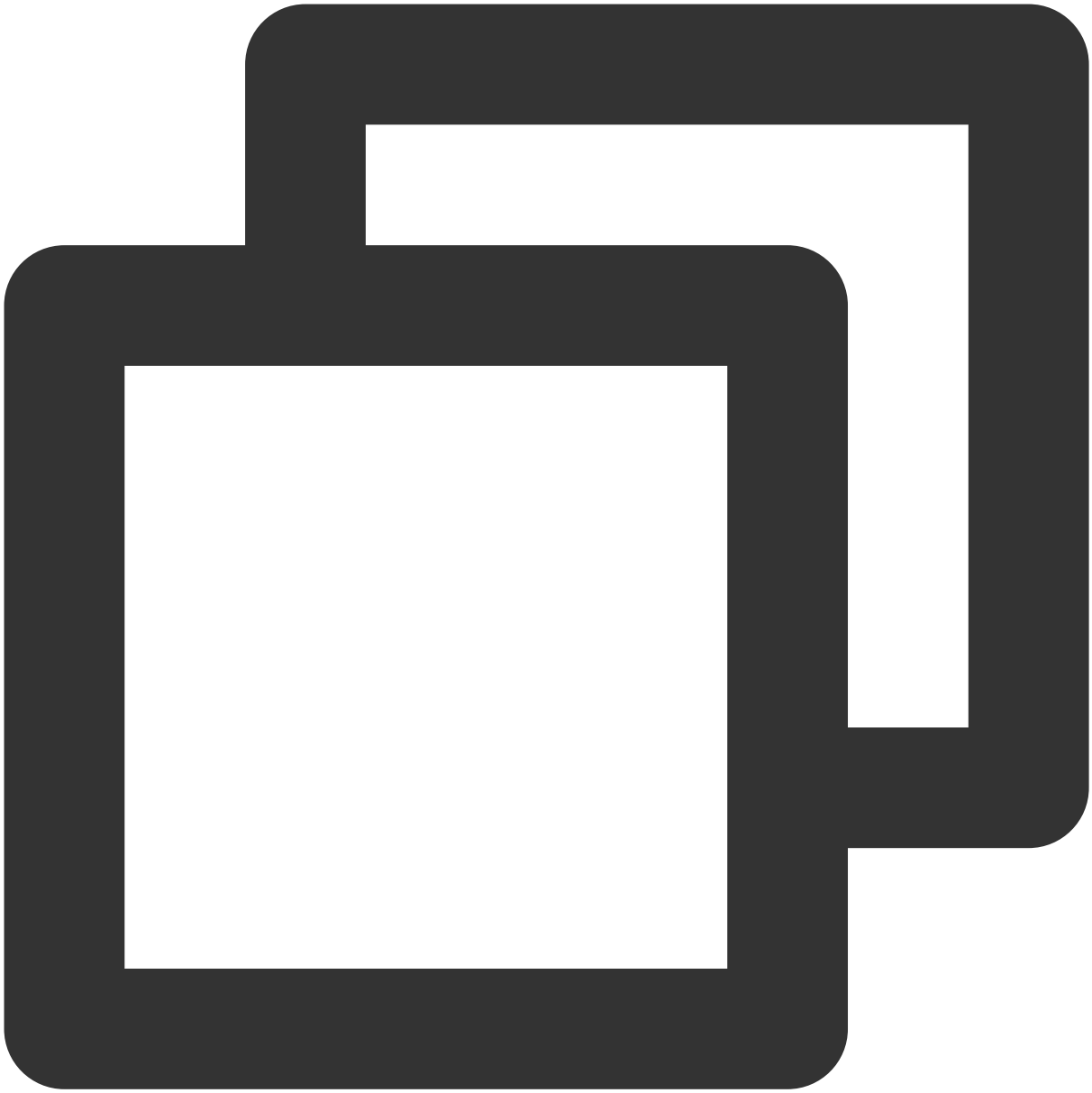
The user's username and avatar can be set by calling setSelfInfo of TUIRoomEngine, which can be set in the callback of successful login.



```
TUIRoomEngine.setSelfInfo("nickName", "faceUrl", null);
```

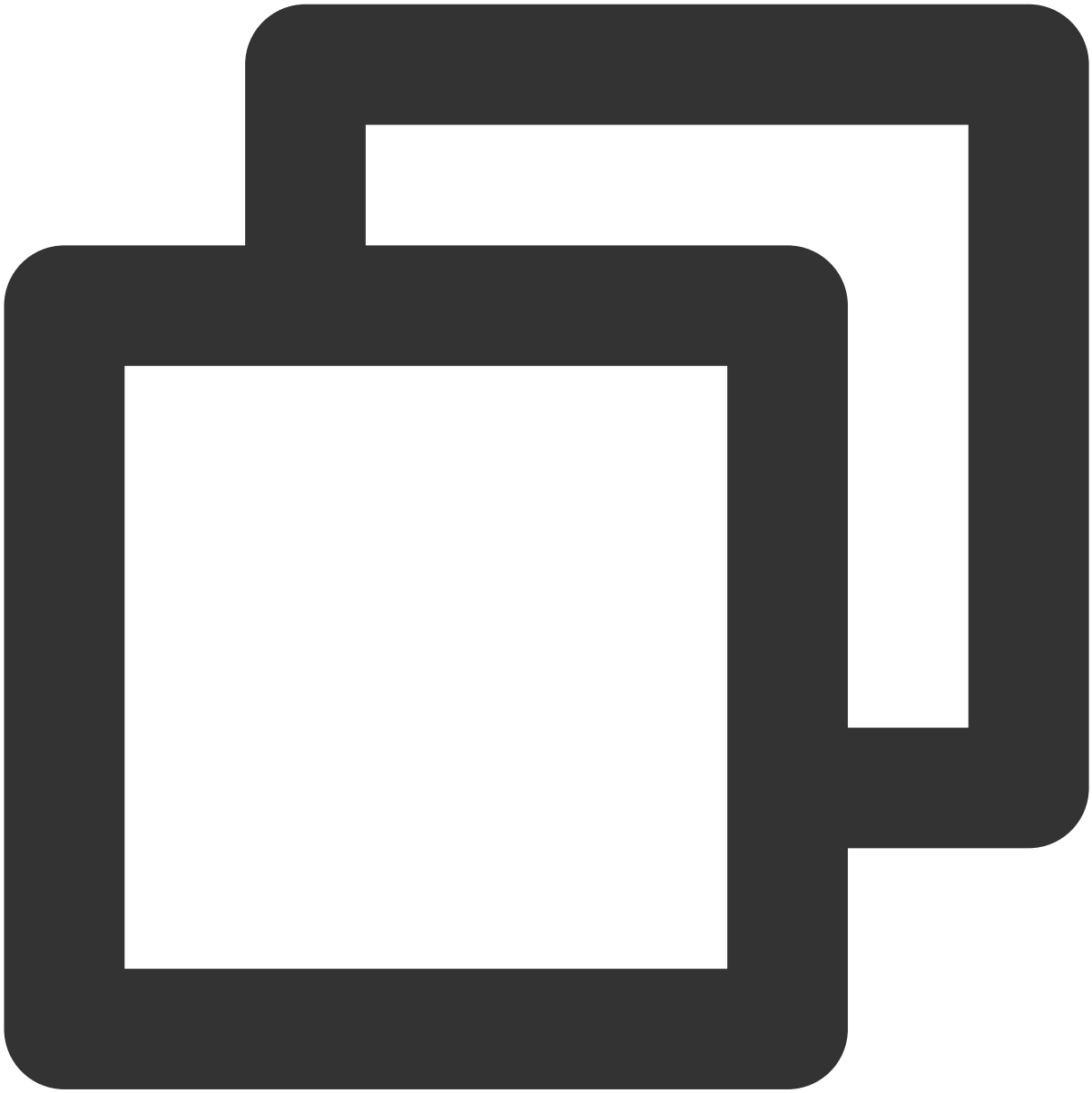
Step 3: The host initiates a quick meeting

1. Add interface layout in activity_conference_owner.xml:



```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/conference_owner_container"
    android:layout_width="match_parent"
    android:layout_height="match_parent" />
```

2. ConferenceMainFragment is the main interface of the conference. You only need to call quickStartConference to initiate a quick conference, and add ConferenceMainFragment to the current Activity in the quick conference callback onConferenceStarted to initiate a quick conference.



```
public class ConferenceOwnerActivity extends AppCompatActivity {
    private static final String TAG = "ConferenceOwnerActivity";

    private ConferenceObserver mConferenceObserver;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_conference_owner);
```

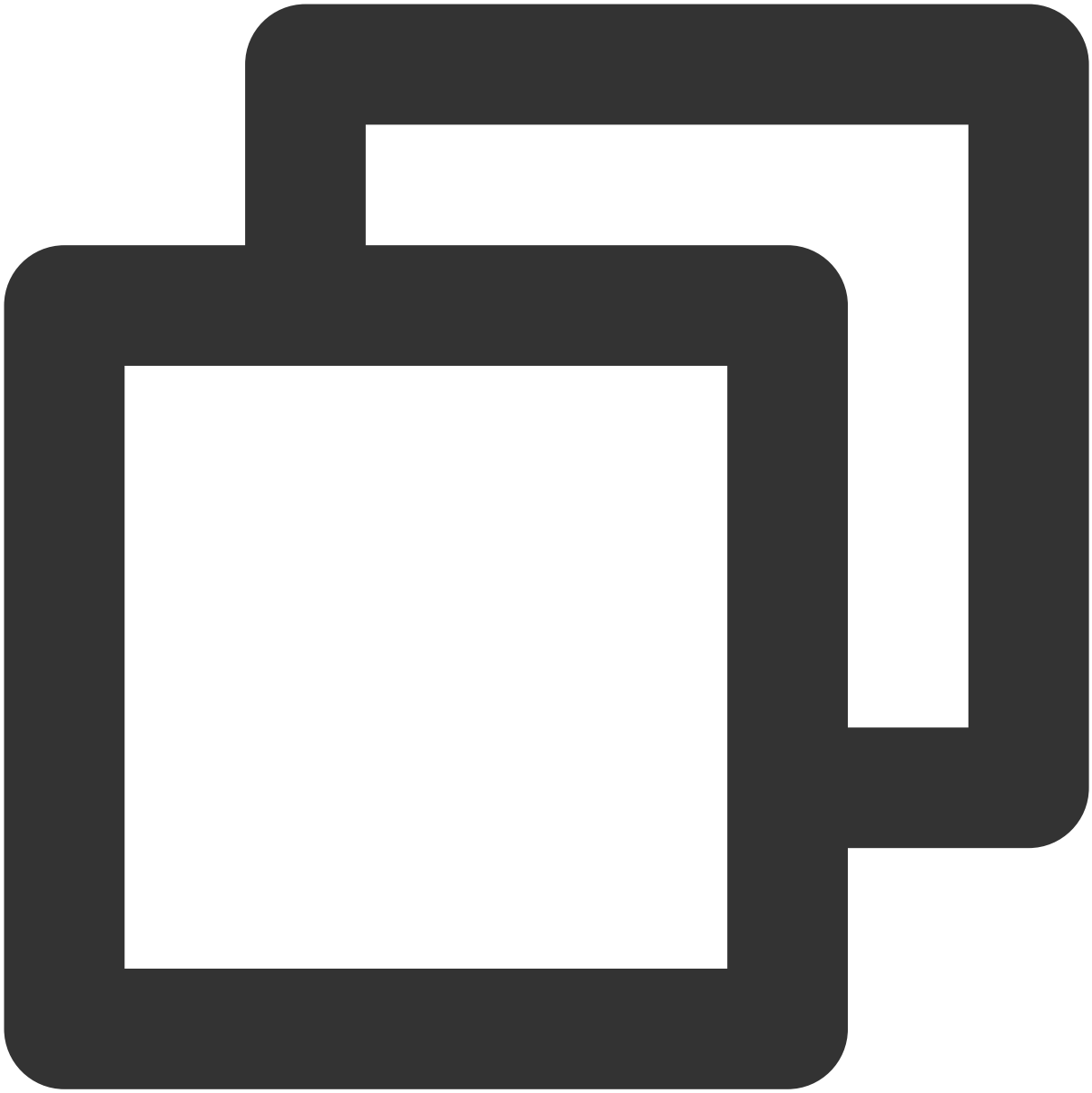
```
        ConferenceMainFragment fragment = new ConferenceMainFragment();
        setConferenceObserver(fragment);
        // Replace "123456" with the corresponding conference number
        fragment.quickStartConference("123456");
    }

    private void setConferenceObserver(ConferenceMainFragment fragment) {
        mConferenceObserver = new ConferenceObserver() {
            @Override
            public void onConferenceStarted(String conferenceId, ConferenceError er
                super.onConferenceStarted(conferenceId, error);
                if (error != ConferenceError.SUCCESS) {
                    Log.e(TAG, "Error : " + error);
                    return;
                }
                FragmentManager manager = getSupportFragmentManager();
                FragmentTransaction transaction = manager.beginTransaction();
                transaction.add(R.id.conference_owner_container, fragment);
                transaction.commitAllowingStateLoss();
            }
        };
        fragment.setConferenceObserver(mConferenceObserver);
    }
}
```

Note

ConferenceOwnerActivity must inherit FragmentActivity or its subclass, otherwise the interface will not be displayed.

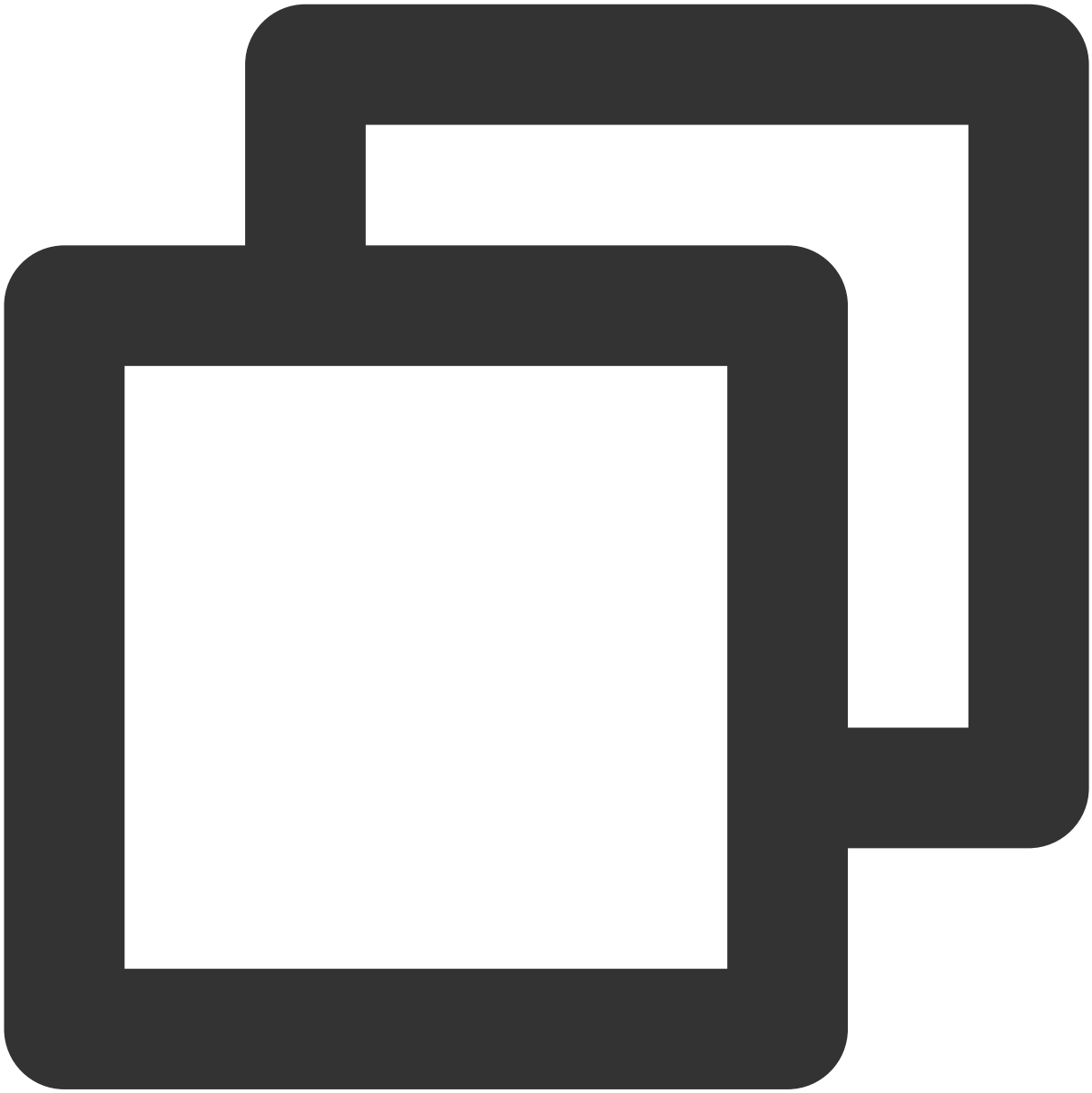
Step 4: General members join the meeting

1. Add interface layout in activity_conference_general.xml:



```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/conference_general_container"
    android:layout_width="match_parent"
    android:layout_height="match_parent" />
```

2. ConferenceMainFragment is the main interface of the conference. You only need to call joinConference to join the conference and add ConferenceMainFragment to the current Activity in the onConferenceJoined callback to join the conference to participate in the current conference.



```
public class ConferenceGeneralActivity extends AppCompatActivity {
    private static final String TAG = "ConferenceGeneralActivity";

    private ConferenceObserver mConferenceObserver;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_conference_general);
```

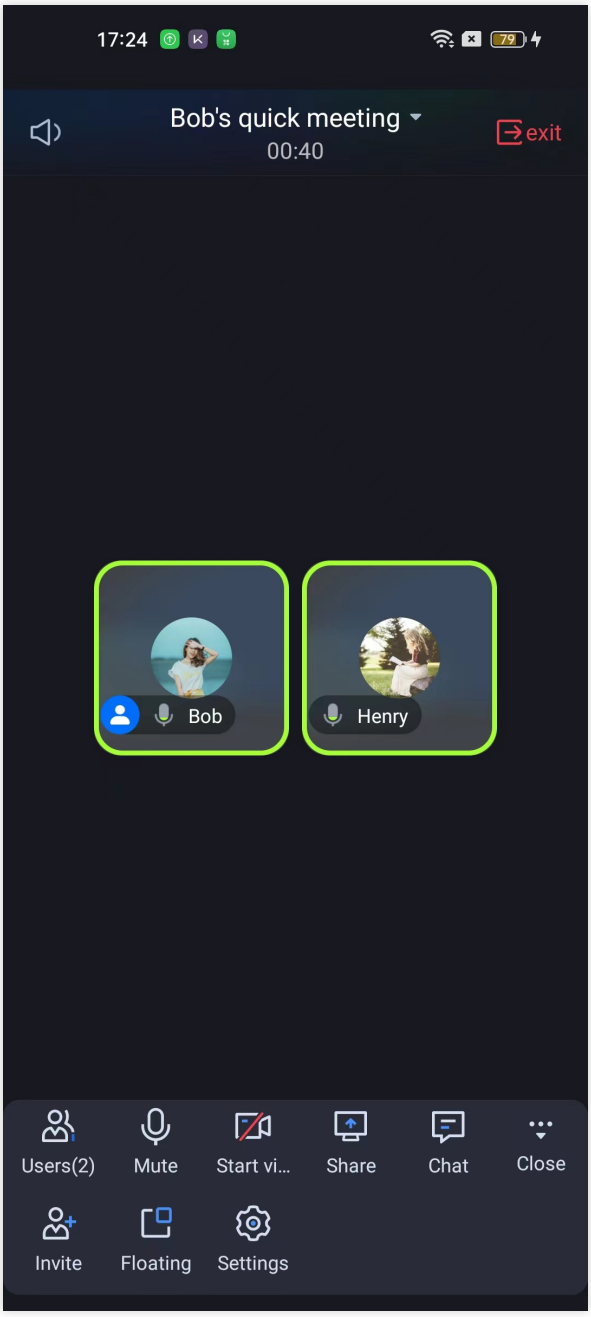
```
        ConferenceMainFragment fragment = new ConferenceMainFragment();
        setConferenceObserver(fragment);
        // Replace "123456" with the corresponding conference number
        fragment.joinConference("123456");
    }

    private void setConferenceObserver(ConferenceMainFragment fragment) {
        mConferenceObserver = new ConferenceObserver() {
            @Override
            public void onConferenceJoined(String conferenceId, ConferenceError err
                super.onConferenceJoined(conferenceId, error);
                if (error != ConferenceError.SUCCESS) {
                    Log.e(TAG, "Error : " + error);
                    return;
                }
                FragmentManager manager = getSupportFragmentManager();
                FragmentTransaction transaction = manager.beginTransaction();
                transaction.add(R.id.conference_general_container, fragment);
                transaction.commitAllowingStateLoss();
            }
        };
        fragment.setConferenceObserver(mConferenceObserver);
    }
}
```

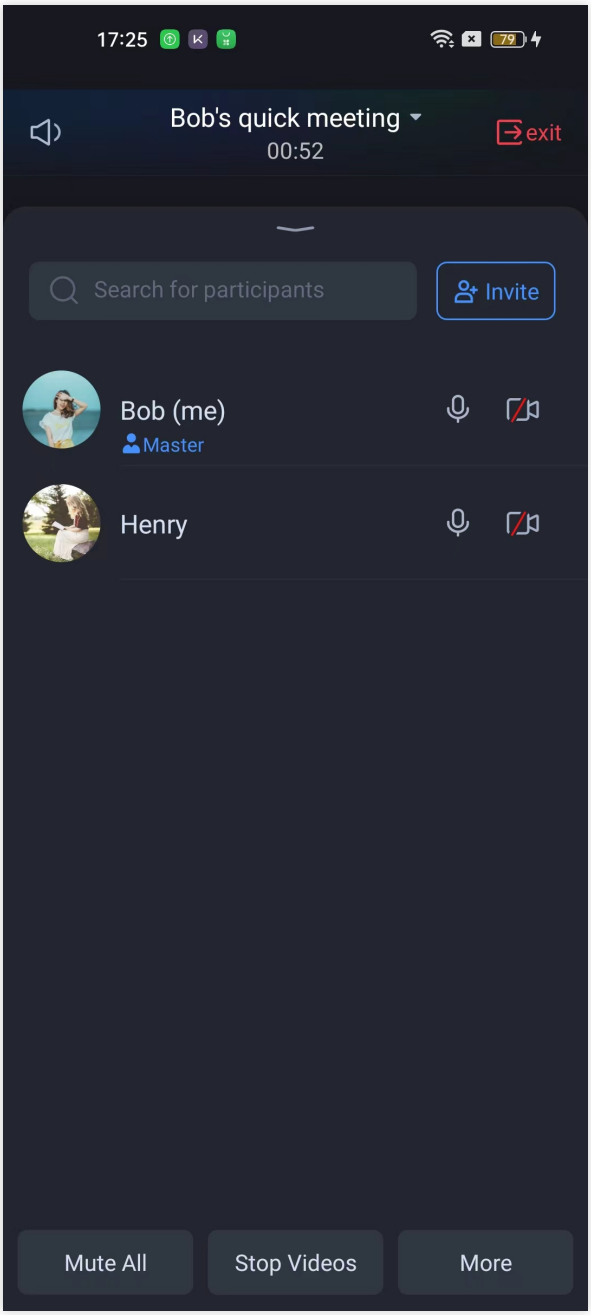
Note

ConferenceGeneralActivity must inherit FragmentActivity or its subclass, otherwise the interface will not be displayed.

Step 5: Run

After running the code, you will see the meeting interface as shown below.





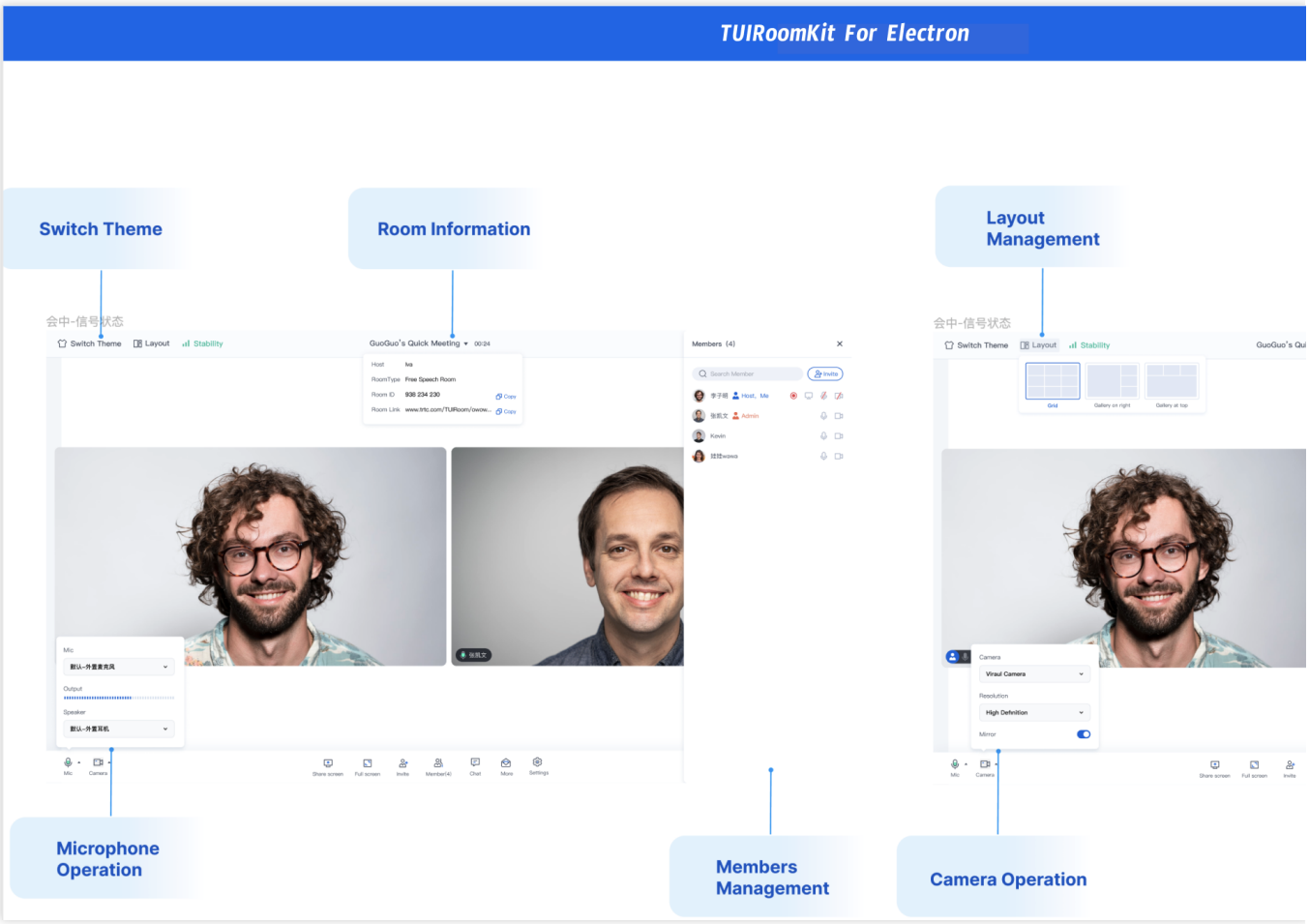
Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

Electron

Last updated：2024-04-12 11:29:03

TUIRoomKit is a multiplayer audio/video UI component launched by Tencent Cloud. The component provides room management, audio/video control, screen sharing, member management, mike management, live chat, custom layout switching and other rich functional interactions, as well as support for Chinese and English switching, one-click skinning and other capabilities.



You can click on the Online Experience link: Mac OS Version and Windows Version to download and experience more features of TUIRoomKit Electron.

You can also click on Github to download the TUIRoomKit code and refer to the TUIRoomKit Electron sample project and run the TUIRoomKit Electron sample project.

If you need to integrate the Electron-side TUIRoomKit Component into your existing business, please refer to this document.

Supported Platforms

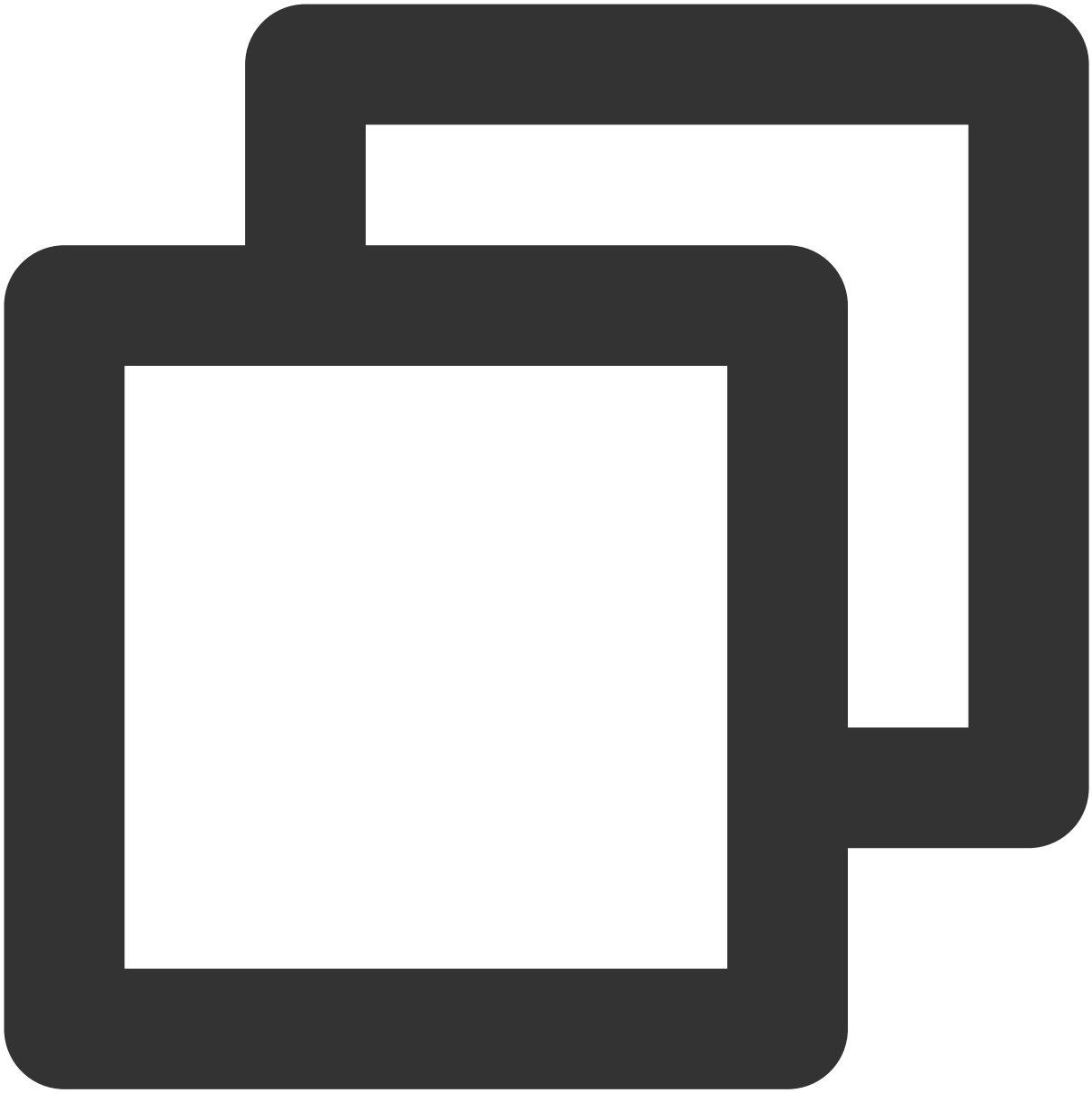
Windows（PC）
Mac

Step 1: Activate the service

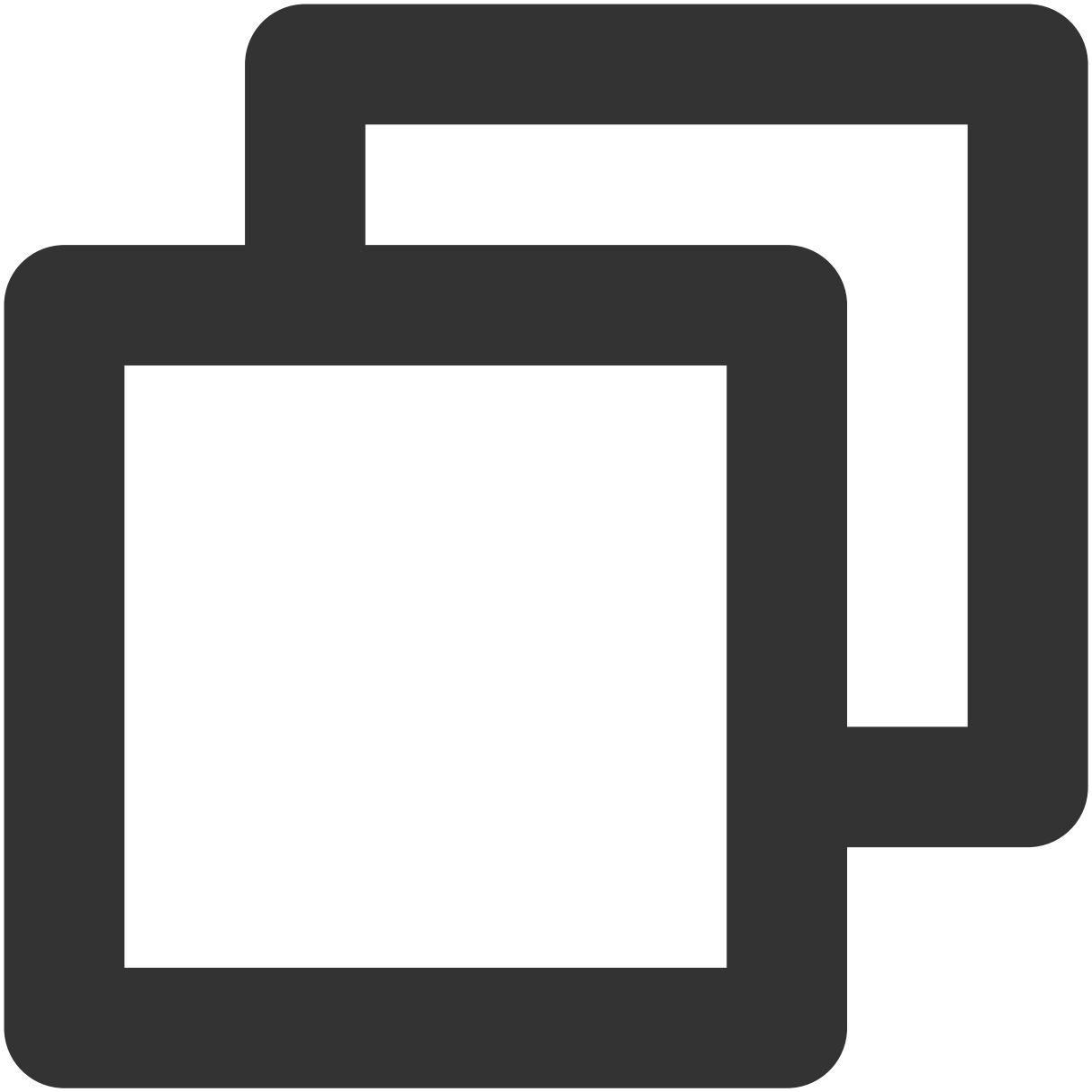
Before initiating a meeting with TUIRoomKit, you need to activate the exclusive multi-person audio and video interaction service for TUIRoomKit on the console. For specific steps, please refer to Activate Service.

Step 2: Prepare Vue Project Code

Vue3 + Vite + TS
Vue2 + Webpack +TS
1. Open the existing Electron + Vue3 + TS project on the business side. If there is no Electron + Vue3 + TS project, you can generate an Electron + Vue3 + TS template project through this template Github, with a nodejs version greater than 14.17.0.
Note:
The integration steps described in this document are based on the electron-vite-vue template project version 1.0.0. The latest version of the electron-vite-vue template project has adjusted the directory structure. If you need to use the latest version, you can refer to this document to adjust the directory and configuration yourself.
2. After cloning the template project, execute the following Script:



```
git clone https://github.com/electron-vite/electron-vite-vue.git
cd electron-vite-vue
git checkout v1.0.0
git switch -c TUIRoomKit-quick-start
npm install
npm run dev
```



```
// Install vue-cli, note that Vue CLI 4.x requires Node.js to be v10 or higher
npm install -g @vue/cli
// Create a Vue2 + Webpack + TS Template Project
vue create tuiroomkit-demo
```

Note:

During the process of executing the template project generation script, select `Manually select features` for the template generation method, and refer to the image for other configuration options.

```
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, TS, Linter
? Choose a version of Vue.js that you want to start the project with 2.x
? Use class-style component syntax? No
? Use Babel alongside TypeScript (required for modern mode, auto-detected
polyfills, transpiling JSX)? Yes
? Pick a linter / formatter config: Standard
? Pick additional lint features: Lint on save
? Where do you prefer placing config for Babel, ESLint, etc.? In dedicated
config files
```

After successfully generating the Vue2 + Webpack + TS Template Project, refer to the Electron UI-less integration document to integrate Electron into the template project.

Note:

Since the TUIRoom Component has already introduced trtc-electron-sdk, you can ignorethis step when referring to the Electron UI-less integration document.

2. In the project script, import and use the module:

```
const TRTCCloud = require('trtc-electron-sdk').default;
// import TRTCCloud from 'trtc-electron-sdk';
this.rtcCloud = new TRTCCloud();
// Get the SDK version number
this.rtcCloud.getSDKVersion();
```

Since v7.9.348, the TRTC Electron SDK has integrated `trtc.d.ts` for developers using TypeScript.

```
import TRTCCloud from 'trtc-electron-sdk';
const rtcCloud: TRTCCloud = new TRTCCloud();
// Get the SDK version number
rtcCloud.getSDKVersion();
```

Step 3: Download and Reference TUIRoomkit Component

1. **Download TUIRoom Component code**

Click Github, clone or download the TUIRoomKit repository code.

2. **Reference TUIRoom Component**

Introducing TUIRoom Component in Vue3 Project

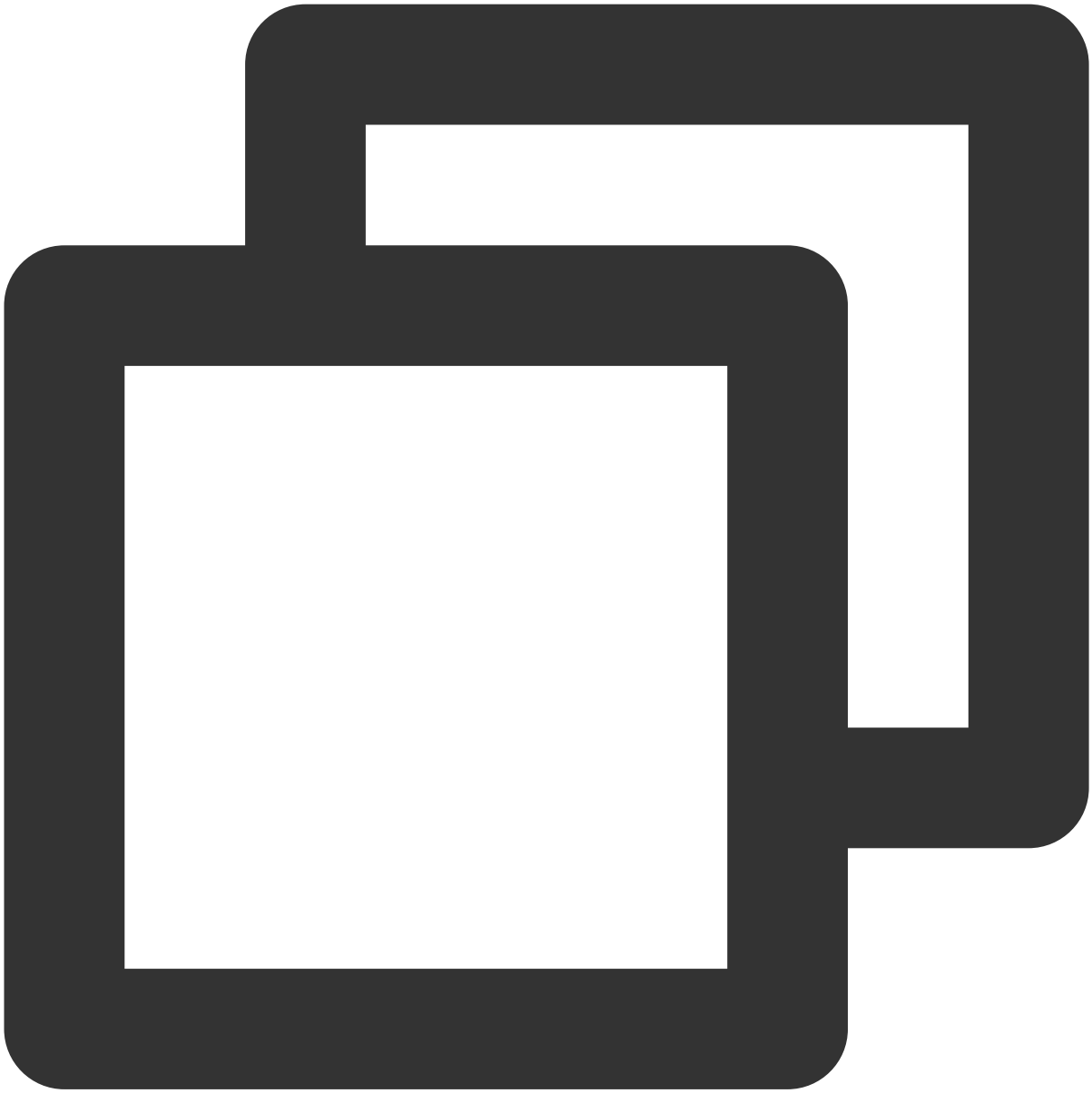
Introducing TUIRoom Component in Vue2 Project

1. Copy the `TUIRoomKit/Electron/vue3/packages/renderer/src/TUIRoom` folder to the existing project `packages/renderer/src/` directory, and copy the `TUIRoomKit/Electron/vue3/packages/renderer/index.html` folder to the existing project `packages/renderer/` directory.

2. Reference the TUIRoom Component in the page. For example, import the TUIRoom Component in the `App.vue` component.

The TUIRoom Component divides users into Host and Regular Member roles. The Component provides 'init', createRoom, and enterRoom methods externally.

Both the Host and Regular Members can initialize the application and user data to the TUIRoom Component through the init method, the Host can create and join a Room through the createRoom method, and Regular Members can join a Room created by the Host through the enterRoom method.



```
<template>
  <room ref="TUIRoomRef"></room>
</template>

<script setup lang="ts">
import { ref, onMounted } from 'vue';
// Import TUIRoom Component, make sure the import path is correct
import Room from './TUIRoom/index.vue';
// Get the TUIRoom Component element for calling TUIRoom Component methods
const TUIRoomRef = ref();
```

```
onMounted(async () => {
  // Initialize TUIRoom Component
  // The host needs to initialize the TUIRoom Component before creating a room
  // Ordinary members need to initialize the TUIRoom Component before entering a ro
  await TUIRoomRef.value.init({
    // Get sdkAppId, please refer to Step 1
    sdkAppId: 0,
    // The unique identifier of the user in your business
    userId: '',
    // Local development and debugging can quickly generate userSig on https://cons
    userSig: '',
    // The nickname used by the user in your business
    userName: '',
    // The avatar URL used by the user in your business
    avatarUrl: '',
    // Skin theme colours that users need in your business and whether or not switc
    theme: {
      defaultTheme: 'black',
      isSupportSwitchTheme: true
     }
  })
  // By default, create a room. In actual access, you can choose to execute the han
  await handleCreateRoom();
})

// The host creates a room, this method is only called when creating a room
async function handleCreateRoom() {
  // roomId is the room number entered by the user, and roomId is required to be of
  // roomMode includes 'FreeToSpeak' (Free-to-speak mode) and 'SpeakAfterTakingSeat
  // roomParam specifies the default behavior of the user when entering the room (w
  const roomId = '123456';
  const roomMode = 'FreeToSpeak';
  const roomParam = {
    isOpenCamera: true,
    isOpenMicrophone: true,
  }
  try {
    await TUIRoomRef.value.createRoom({ roomId, roomName: roomId, roomMode, roomPar
  } catch (error: any) {
    alert('TUIRoomKit.createRoom error: ' + error.message);
  }
}

// Regular members enter the room, this method is called when regular members enter
async function handleEnterRoom() {
  // roomId is the room number entered by the user, and roomId is required to be of
  // roomParam specifies the default behavior of the user when entering the room (w
```

```
    const roomId = '123456';
    const roomParam = {
      isOpenCamera: true,
      isOpenMicrophone: true,
    }
    try {
      await TUIRoomRef.value.enterRoom({ roomId, roomParam });
    } catch (error: any) {
      alert('TUIRoomKit.enterRoom error: ' + error.message);
    }
  }
  </script>

  <style lang="scss">
  html, body {
      width: 100%;
      height: 100%;
      margin: 0;
  }

  #app {
    width: 100%;
    height: 100%;
  }
  </style>
```

1. Copy the `TUIRoomKit/Electron/vue2/src/TUIRoom` folder to the existing project src/ directory.

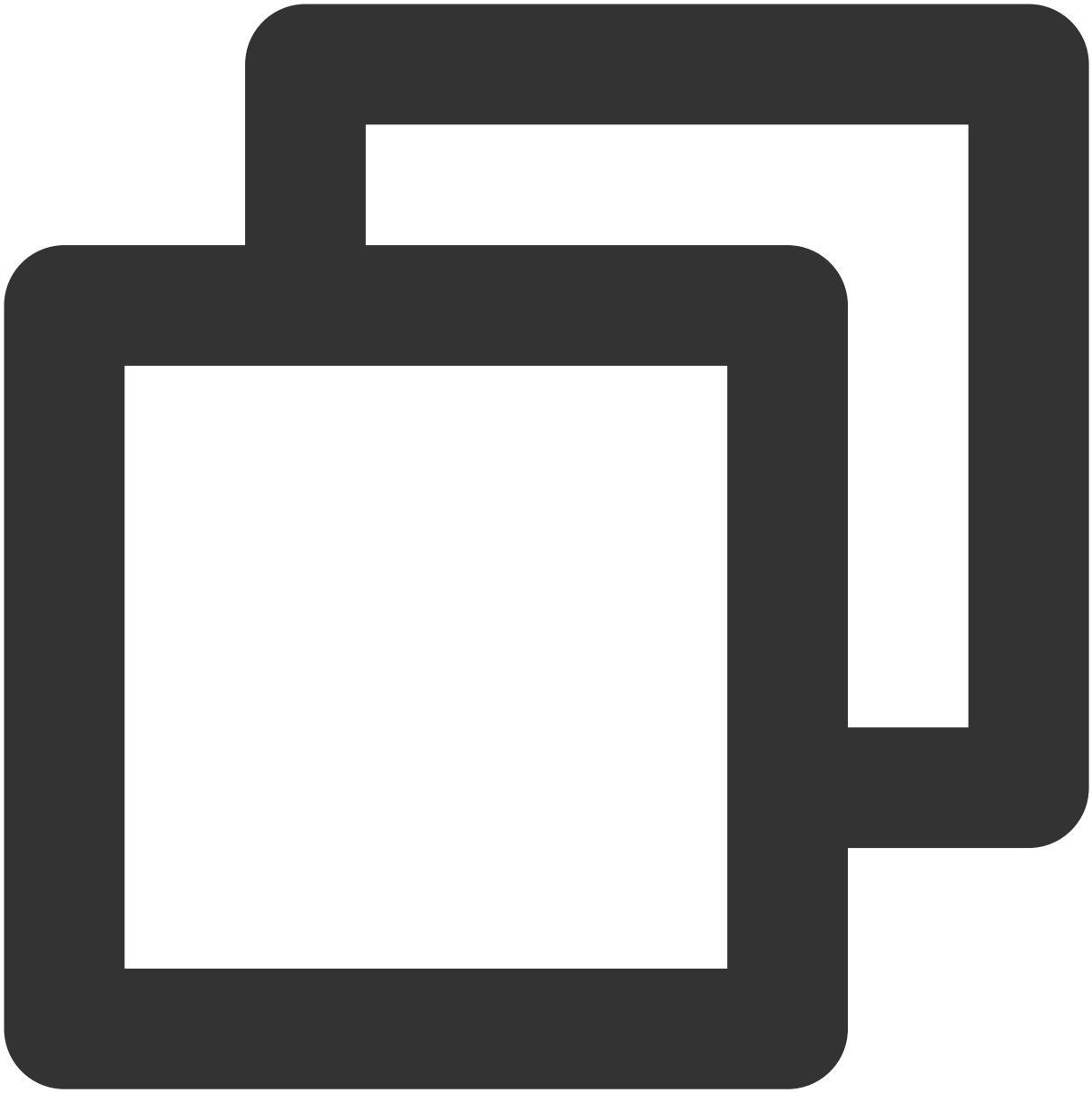
2. Reference the TUIRoom Component in the page. For example, import the TUIRoom Component in the `App.vue` component.

The TUIRoom Component divides users into Host and Regular Member roles. The Component provides init, createRoom, and enterRoom methods externally.

Both the Host and Regular Members can initialize the application and user data to the TUIRoom Component through the init method, the Host can create and join a Room through the createRoom method, and Regular Members can join a Room created by the Host through the enterRoom method.

Note:

After copying the following code to the page, you need to modify the parameters of the TUIRoom interface to the actual data.



```
<template>
  <div id="app">
    <room-container ref="TUIRoomRef"></room-container>
  </div>
</template>

<script>
import RoomContainer from '@/TUIRoom/index.vue';
export default {
  name: 'App',
  components: { RoomContainer },
```

```
  data() {
    return {};
  },
  async mounted() {
    // Initialize TUIRoom Component
    // The host needs to initialize the TUIRoom component before creating a room
    // Regular members need to initialize the TUIRoom component before entering a r
    await this.$refs.TUIRoomRef.init({
      // Get sdkAppId, please refer to Step 1
      sdkAppId: 0,
      // User unique identifier in your business
      userId: '',
      // Local development and debugging can quickly generate userSig on https://co
      userSig: '',
      // The nickname used by the user in your business
      userName: '',
      // The avatar link used by the user in your business
      avatarUrl: '',
    });
    // By default, create a room, and actually access it according to the needs of
    await this.handleCreateRoom();
  },
  methods: {
    // The host creates a room, this method is only called when creating a room
    async handleCreateRoom() {
      // roomId is the room number entered by the user, and roomId is required to b
      // roomMode includes 'FreeToSpeak' (Free-to-speak mode) and 'SpeakAfterTaking
      // roomParam specifies the default behavior of the user when entering the roo
      const roomId = '123456';
      const roomMode = 'FreeToSpeak';
      const roomParam = {
          isOpenCamera: true,
          isOpenMicrophone: true,
      }
      try {
        await this.$refs.TUIRoomRef.createRoom({ roomId, roomName: roomId, roomMode
      } catch (error) {
        alert('TUIRoomKit.createRoom error: ' + error.message);
      }
    },
    // Regular members enter the room, this method is called when regular members e
    async handleEnterRoom() {
      // roomId is the room number entered by the user, and roomId is required to b
      // roomParam specifies the default behavior of the user when entering the roo
      const roomId = '123456';
      const roomParam = {
          isOpenCamera: true,
```

```
            isOpenMicrophone: true,
        }
        try {
          await this.$refs.TUIRoomRef.enterRoom({ roomId, roomParam });
        } catch (error) {
          alert('TUIRoomKit.enterRoom error: ' + error.message);
        }
      }
    },
};

</script>

<style lang="scss">
html, body {
  width: 100%;
  height: 100%;
  margin: 0;
}

#app {
  width: 100%;
  height: 100%;
  * {
    box-sizing: border-box;
  }
}
</style>
```

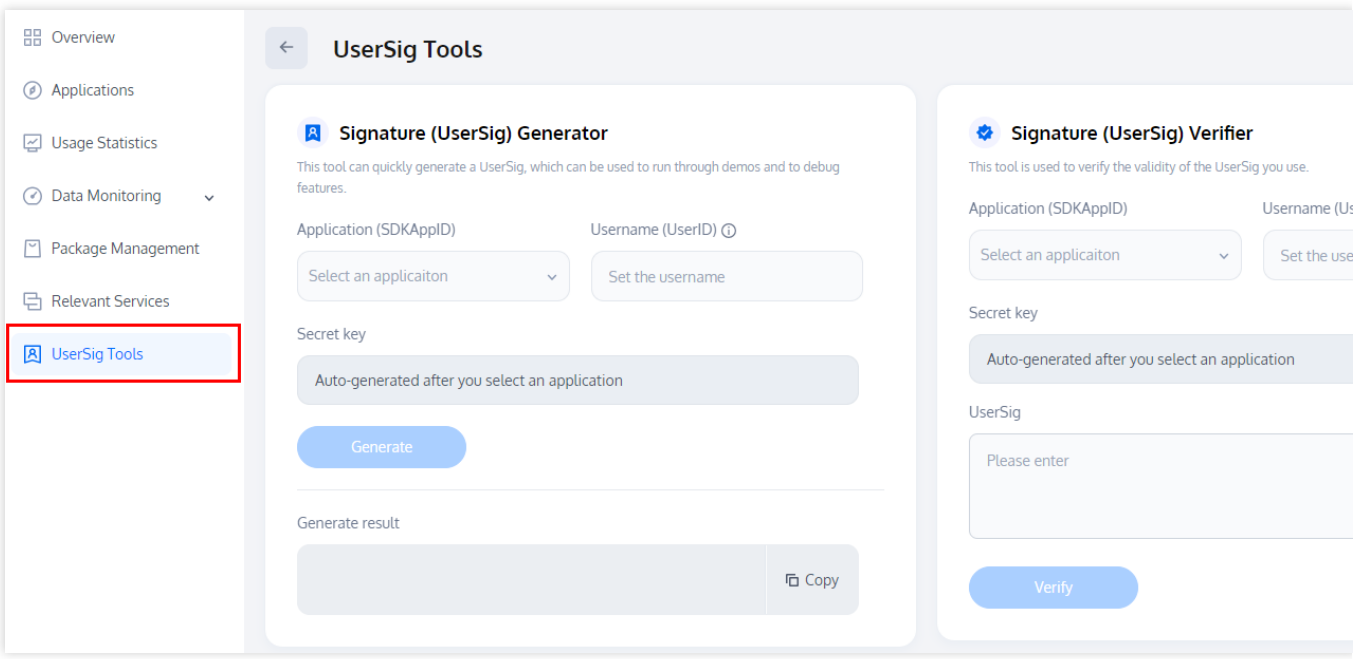
Parameter Description

Here is a detailed introduction to the key parameters used in the login function:

SDKAppID：You have already obtained it in Step 1, so it will not be repeated here.

UserID：The ID of the current user, string type, only allows to contain English letters (a-z and A-Z), numbers (0-9), hyphens (-), and underscores (_).

UserSig：Encrypt the SDKAppID, UserID, etc. with the SDKSecretKey obtained in Step 1 to get the UserSig, which is a ticket for authorization and is used for Tencent Cloud to recognize whether the current user can use the TRTC service. You can create a temporarily available UserSig through the UserSig Tools through the project sidebar in the console.



For more information, please refer to the UserSig related.

Note:

This step is also the step with the most feedback from developers we have received so far. Common problems are as follows:

SDKAppID is set incorrectly. Please use the SDKAppID of the international site correctly, otherwise, you will not be able to access it.

UserSig is misconfigured as an encryption key (SDKSecretKey). UserSig is obtained by encrypting the SDKAppID, UserID, and expiration time with the SDKSecretKey, not by directly configuring the SDKSecretKey as UserSig.

UserID is set to simple strings like "1", "123", "111", etc. **Since TRTC does not support multi-terminal login with the same UserID**, simple UserIDs like "1", "123", "111" are easily occupied by your colleagues, causing login failure. Therefore, we recommend that you set some UserIDs with high identifiability when debugging.

The sample code in Github uses the genTestUserSig function to calculate UserSig locally to quickly get you through the current access process. However, this solution exposes your SDKSecretKey in the App code, which is not conducive to your subsequent upgrades and protection of your SDKSecretKey. Therefore, we strongly recommend that you put the calculation logic of UserSig on the server side and have the app request the real-time calculated UserSig from your server every time it uses the TUIRoomKit Component.

Step 4: Configure the Development Environment

After the TUIRoom Component is introduced, in order to ensure that the project can run normally, the following configurations need to be made:

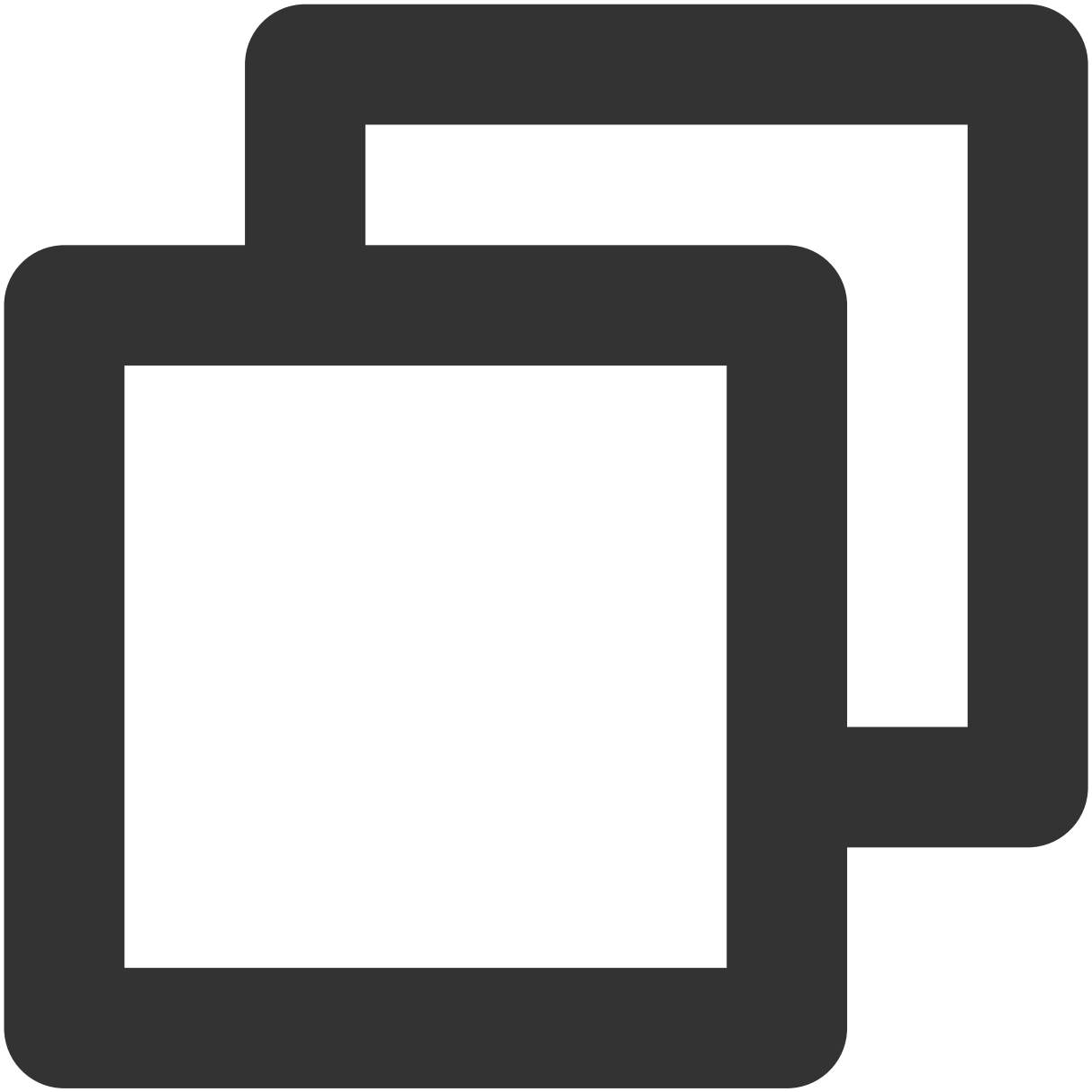
Setting up Vue3 + Vite + TS Development Environment

Setting up Vue2 + Webpack + TS Development Environment

Setting up Vue2 + Webpack + JS Development Environment

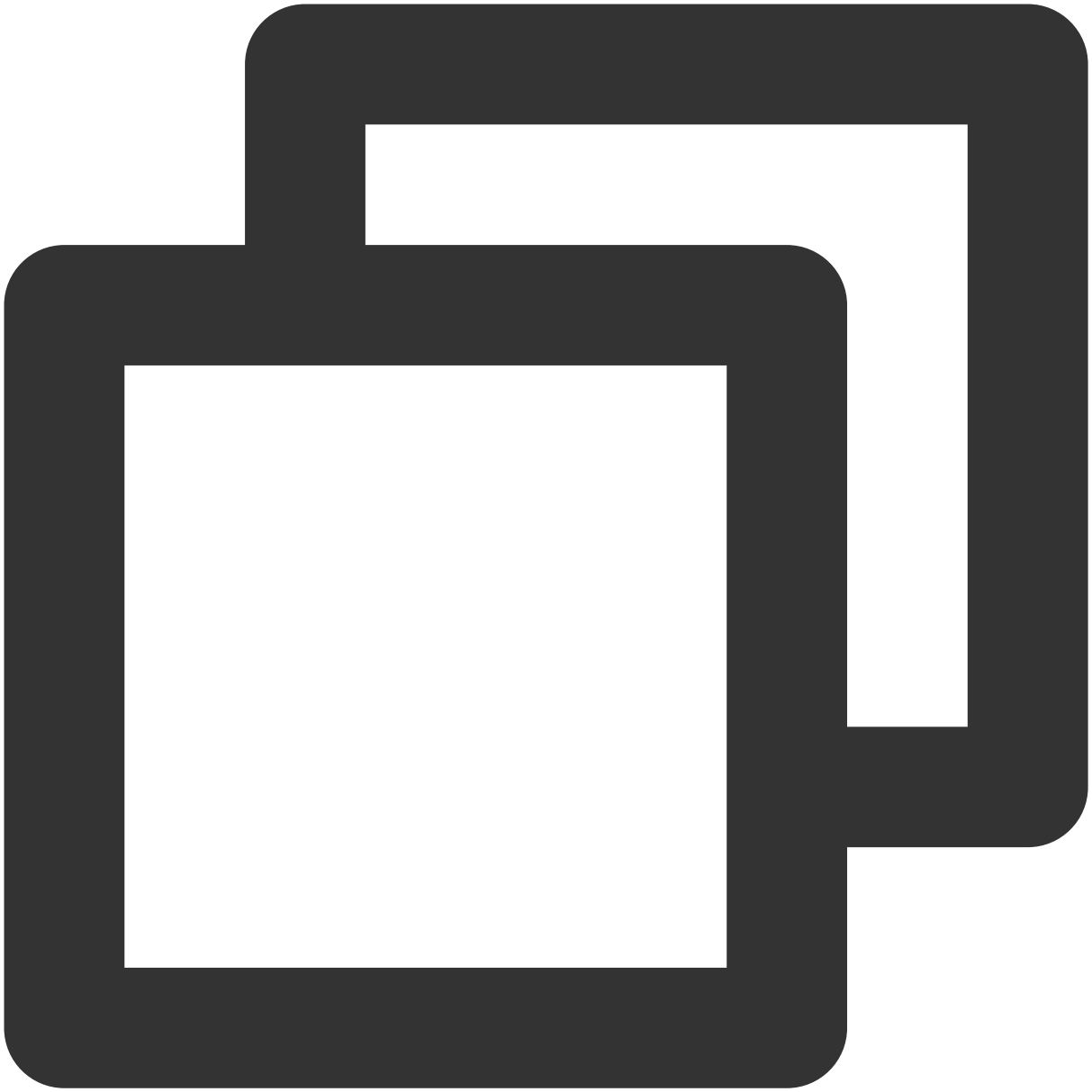
1. **Install Dependencies**

Install Development Environment Dependencies:



```
npm install sass typescript unplugin-auto-import unplugin-vue-components --save-dev
```

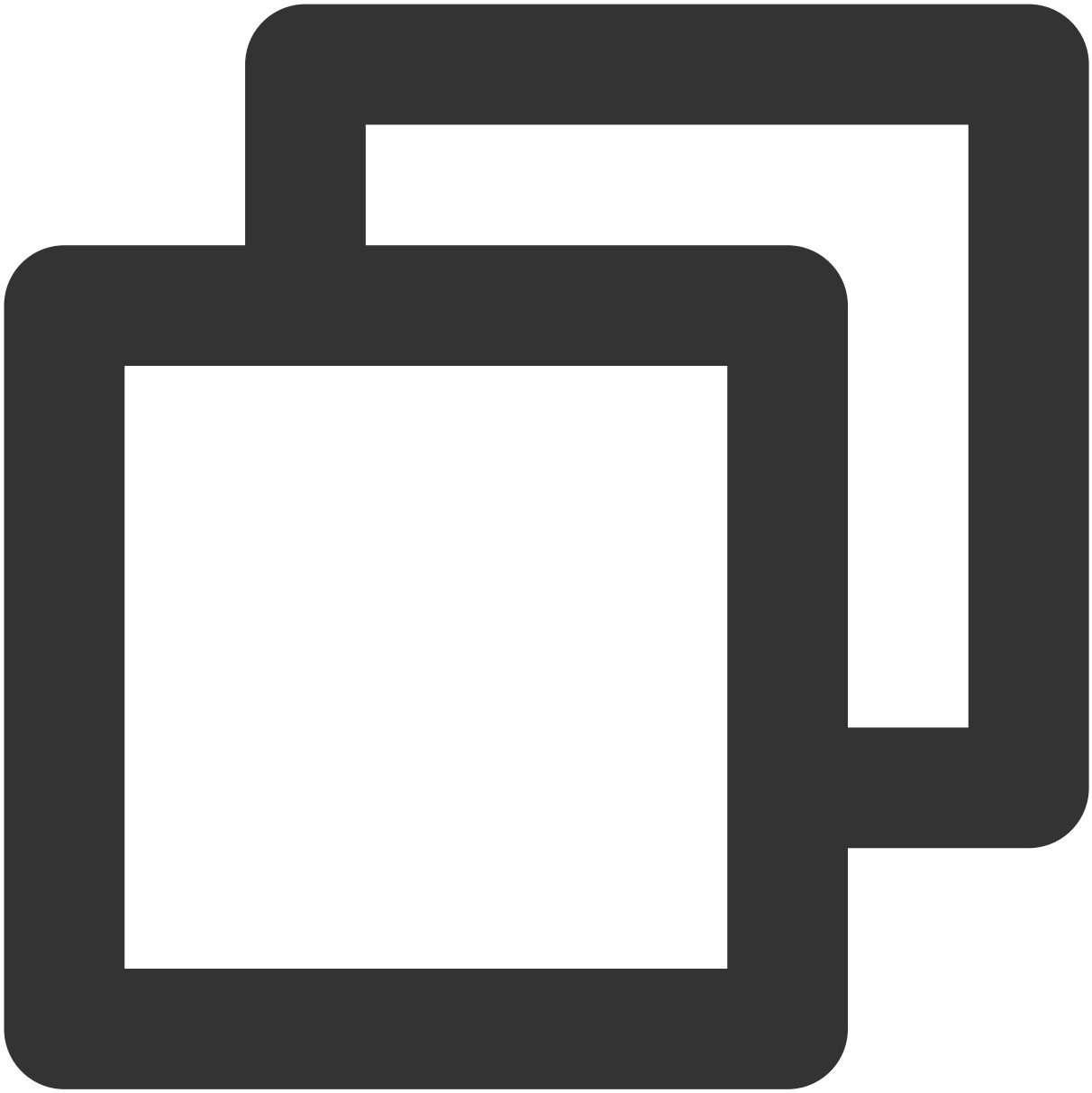
Install Production Environment Dependencies:



```
npm install events mitt pinia trtc-electron-sdk tim-js-sdk tsignaling vue-i18n @ten
```

2. **Register Pinia**

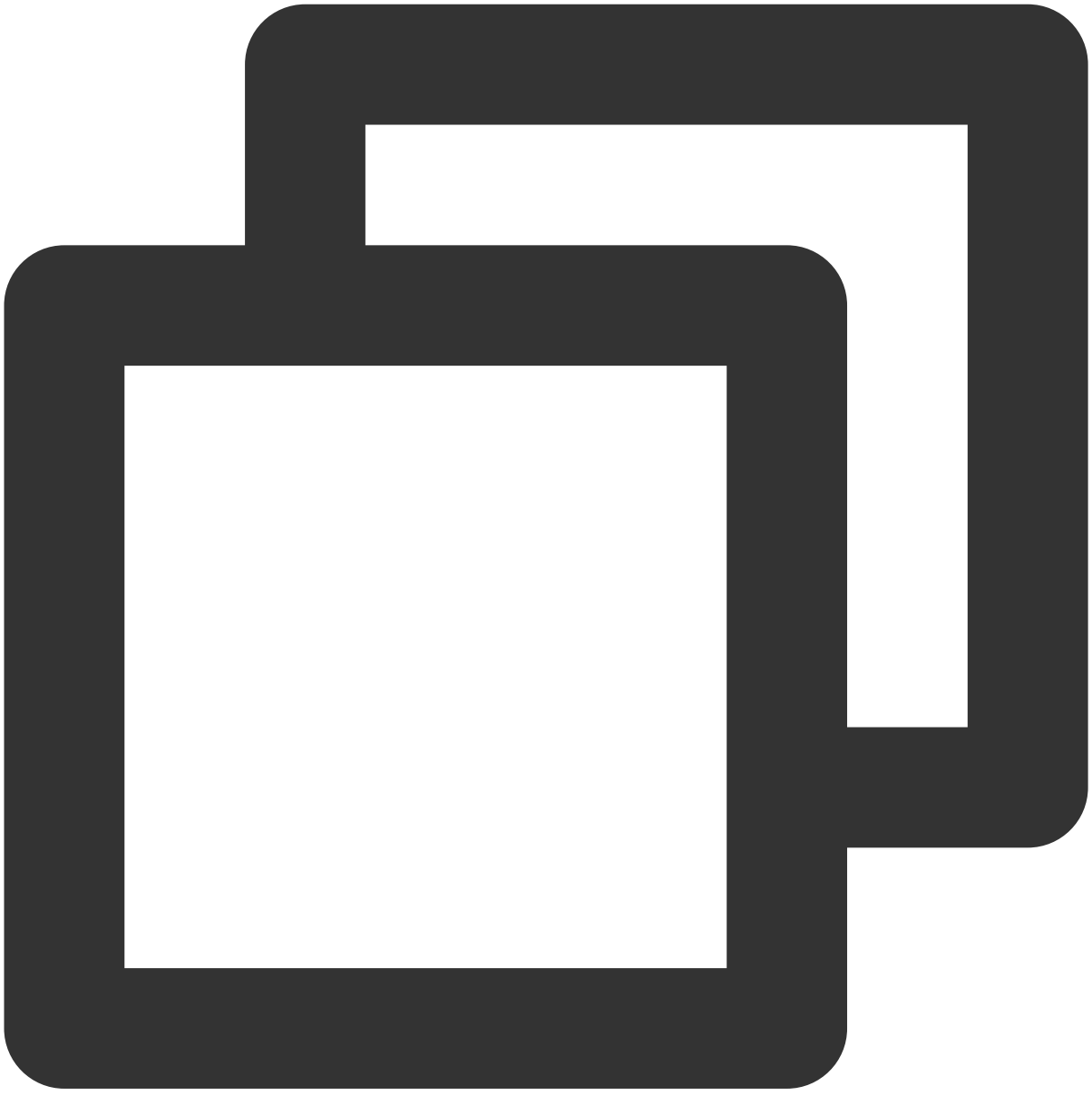
TUIRoom uses Pinia for room data management, you need to register Pinia in the project entry file, which is the `packages/renderer/src/main.ts` file.



```
// src/main.ts file
import { createPinia } from 'pinia';

const app = createApp(App);
// Register Pinia
createApp(App)
  .use(createPinia())
  .mount('#app')
  .$nextTick(window.removeLoading)
```

3. **Import trtc-electron-sdk**

In order to import trtc-electron-sdk in the UI layer using the import method, to unify the code style, otherwise, it must be imported using the require method, you need to configure it in packages/renderer/vite.config.ts. Replace the content in resolve with the following configuration items, you can refer to `packages/renderer/vite.config.ts` file.



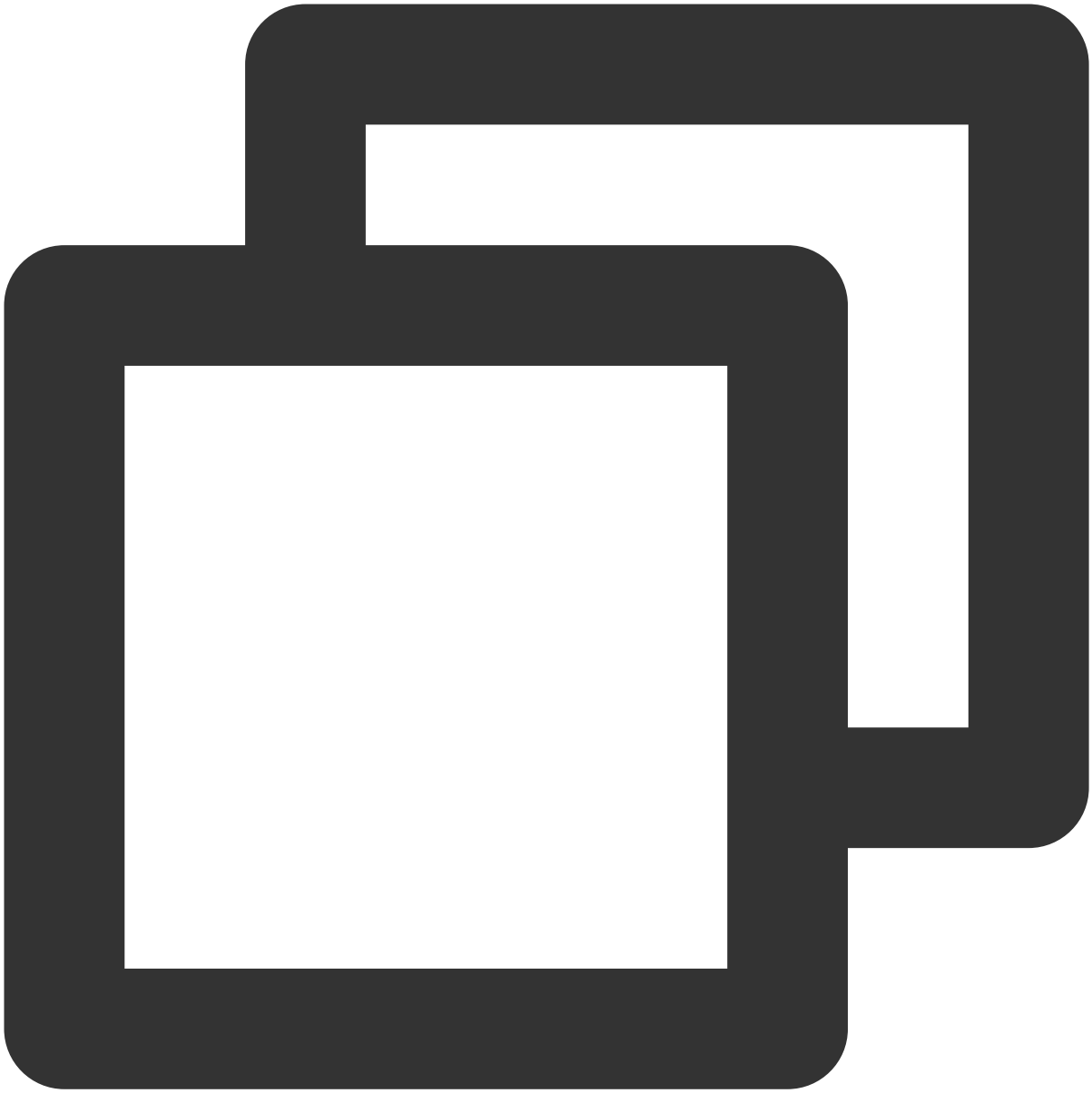
```
// vite.config.ts

export default defineConfig({
 // ...
 plugins: [
 resolve(
```

```
{
  "trtc-electron-sdk": `
    const TRTCCloud = require("trtc-electron-sdk");
    const TRTCParams = TRTCCloud.TRTCParams;
    const TRTCAppScene = TRTCCloud.TRTCAppScene;
    const TRTCVideoStreamType = TRTCCloud.TRTCVideoStreamType;
    const TRTCScreenCaptureSourceType = TRTCCloud.TRTCScreenCaptureSourceType;
    const TRTCVideoEncParam = TRTCCloud.TRTCVideoEncParam;
    const Rect = TRTCCloud.Rect;
    const TRTCAudioQuality = TRTCCloud.TRTCAudioQuality;
    const TRTCScreenCaptureSourceInfo = TRTCCloud.TRTCScreenCaptureSourceInfo;
    const TRTCDeviceInfo = TRTCCloud.TRTCDeviceInfo;
    const TRTCVideoQosPreference = TRTCCloud.TRTCVideoQosPreference;
    const TRTCQualityInfo = TRTCCloud.TRTCQualityInfo;
    const TRTCQuality = TRTCCloud.TRTCQuality;
    const TRTCStatistics = TRTCCloud.TRTCStatistics;
    const TRTCVolumeInfo = TRTCCloud.TRTCVolumeInfo;
    const TRTCDeviceType = TRTCCloud.TRTCDeviceType;
    const TRTCDeviceState = TRTCCloud.TRTCDeviceState;
    const TRTCBeautyStyle = TRTCCloud.TRTCBeautyStyle;
    const TRTCVideoResolution = TRTCCloud.TRTCVideoResolution;
    const TRTCVideoResolutionMode = TRTCCloud.TRTCVideoResolutionMode;
    const TRTCVideoMirrorType = TRTCCloud.TRTCVideoMirrorType;
    const TRTCVideoRotation = TRTCCloud.TRTCVideoRotation;
    const TRTCVideoFillMode = TRTCCloud.TRTCVideoFillMode;
    const TRTCRoleType = TRTCCloud.TRTCRoleType;
    const TRTCScreenCaptureProperty = TRTCCloud.TRTCScreenCaptureProperty;
    export {
      TRTCParams,
      TRTCAppScene,
      TRTCVideoStreamType,
      TRTCScreenCaptureSourceType,
      TRTCVideoEncParam,
      Rect,
      TRTCAudioQuality,
      TRTCScreenCaptureSourceInfo,
      TRTCDeviceInfo,
      TRTCVideoQosPreference,
      TRTCQualityInfo,
      TRTCStatistics,
      TRTCVolumeInfo,
      TRTCDeviceType,
      TRTCDeviceState,
      TRTCBeautyStyle,
      TRTCVideoResolution,
      TRTCVideoResolutionMode,
      TRTCVideoMirrorType,
```

```
          TRTCVideoRotation,
          TRTCVideoFillMode,
          TRTCRoleType,
          TRTCQuality,
          TRTCScreenCaptureProperty,
        };
        export default TRTCCloud.default;
      `
    }
  ),
  // ...
  ]
  // ...
});
```

4. **env.d.ts File Configuration**

env.d.ts file configuration needs to be configured in `packages/renderer/src/env.d.ts`. The following configuration items are incremental configurations, do not delete the existing `env.d.ts` file configuration.

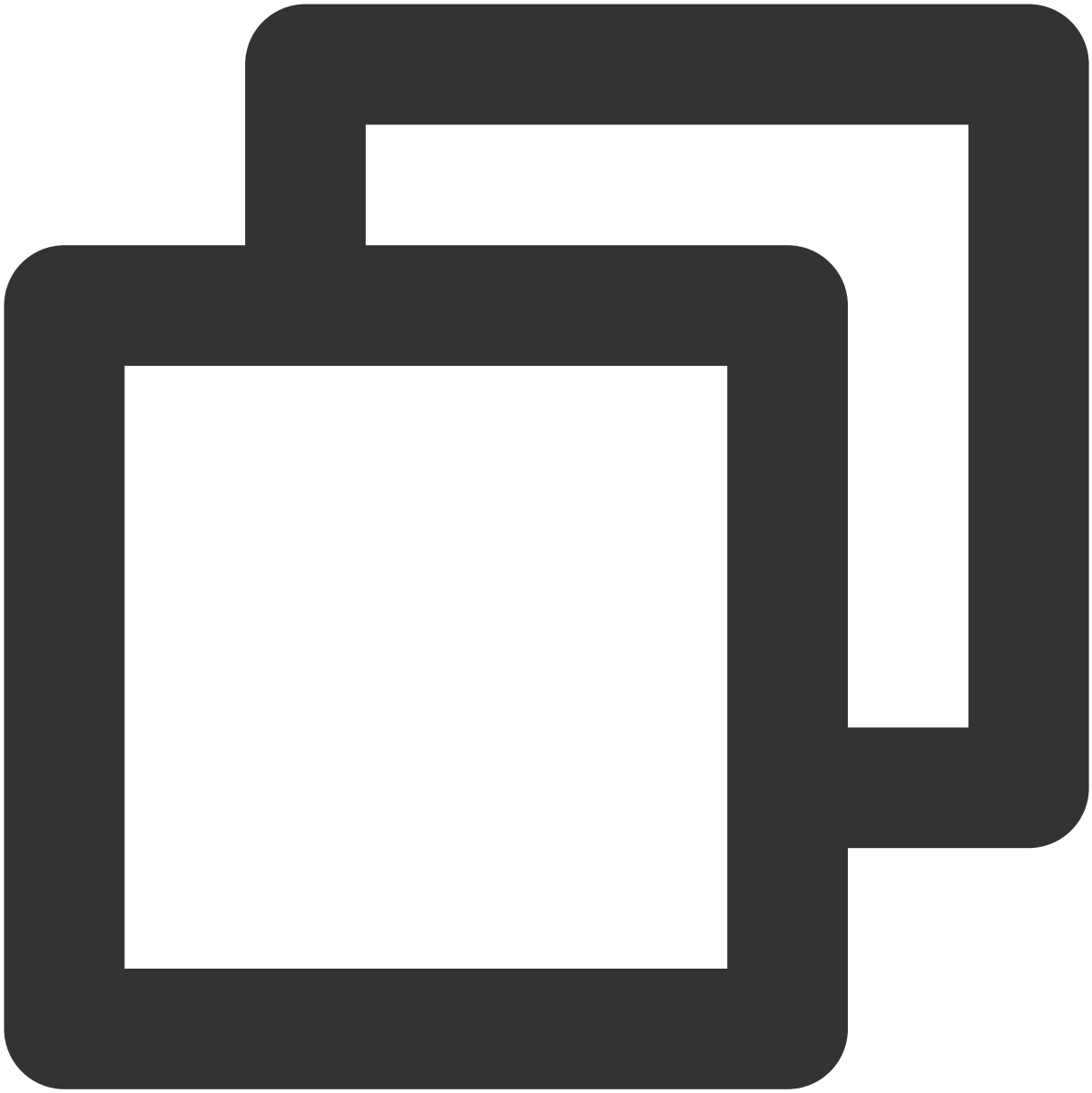


```
// env.d.ts
declare module '*.vue' {
  import { DefineComponent } from 'vue'
  // eslint-disable-next-line @typescript-eslint/no-explicit-any, @typescript-eslin
  const component: DefineComponent<{}, {}, any>
  export default component
}

declare module 'tsignaling/tsignaling-js' {
  import TSignaling from 'tsignaling/tsignaling-js';
  export default TSignaling;
```

```
}

declare module 'tim-js-sdk' {
  import TIM from 'tim-js-sdk';
  export default TIM;
}

declare const Aegis: any;
```

5. **Configure Chinese-English language switching**

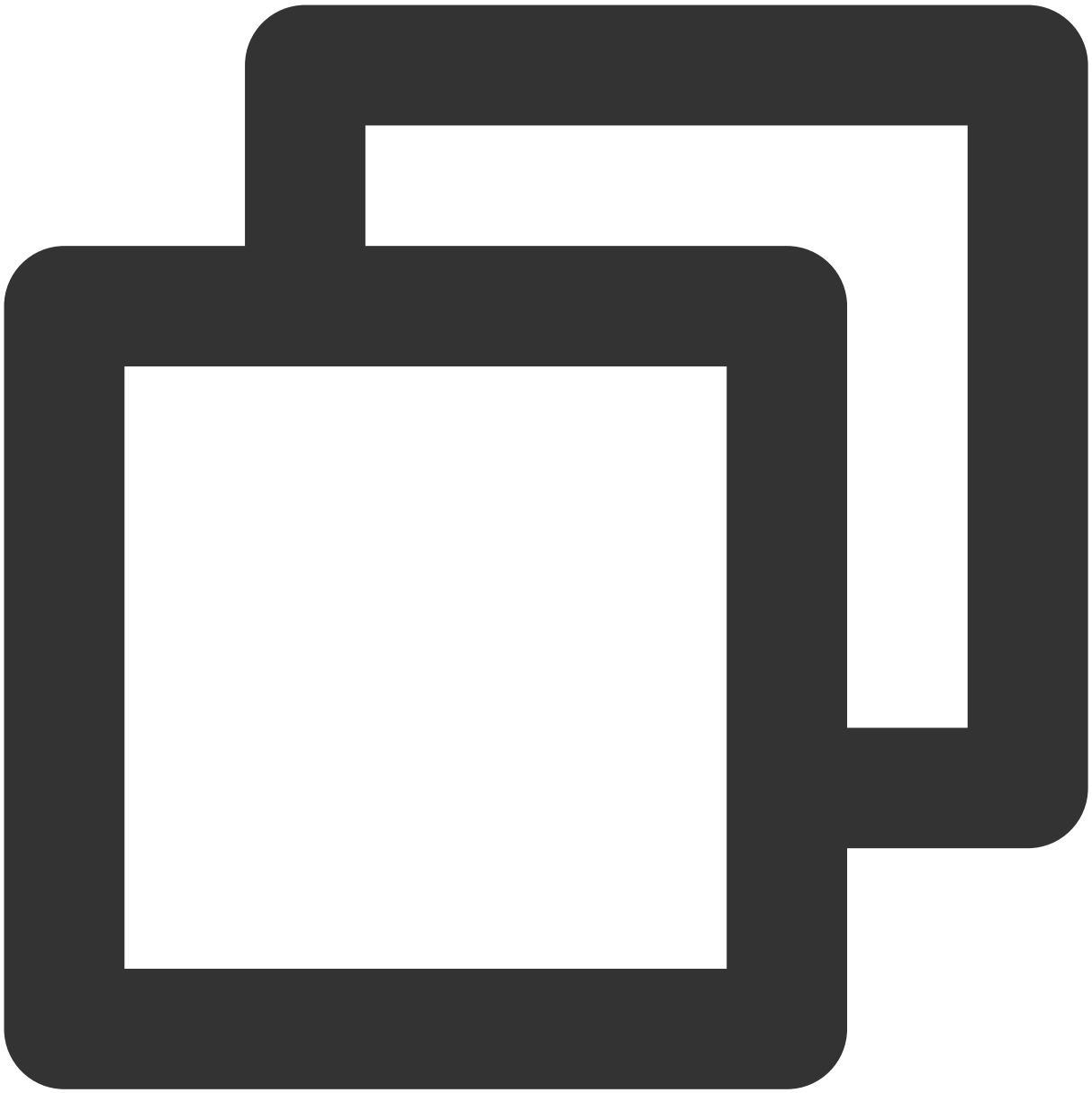
TUIRoom currently supports Chinese-English language switching, you need to register the i18n instance in the main.ts file.



```
// src/main.ts
// Import locales/index.ts file, Please confirm whether the import path is correct
import VueI18n from './TUIRoom/locales/index';

createApp(App)
  .use(createPinia())
  .use(VueI18n)
  .mount('#app')
  .$nextTick(window.removeLoading);
```

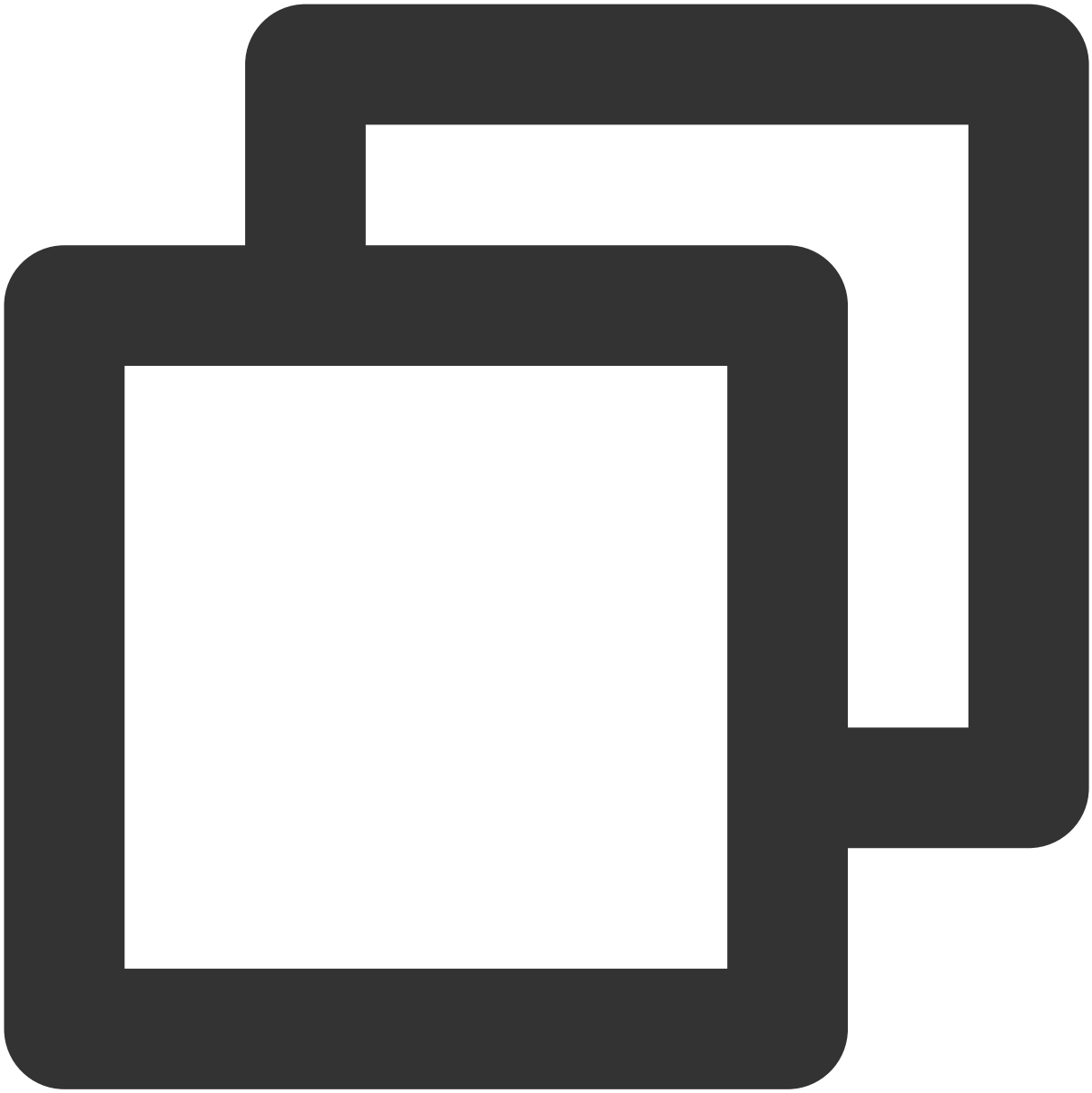
1. Install Dependencies

Install Development Environment Dependencies



```
npm install sass sass-loader -S -D
```

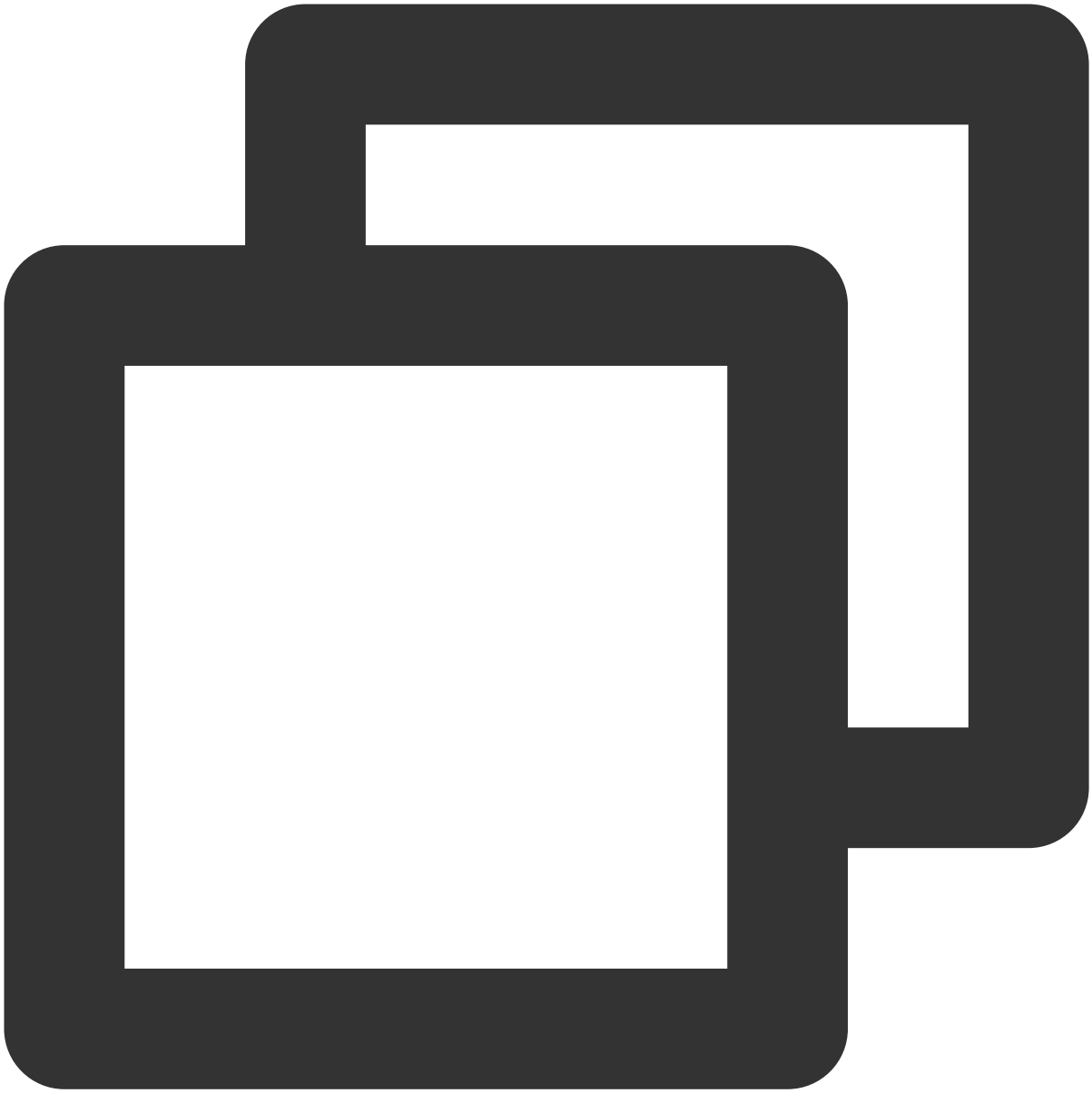
Install Production Environment Dependencies



```
npm install vue@^2.7 pinia trtc-electron-sdk tim-js-sdk tsignaling @tencentcloud/tu
```

2. Register Pinia

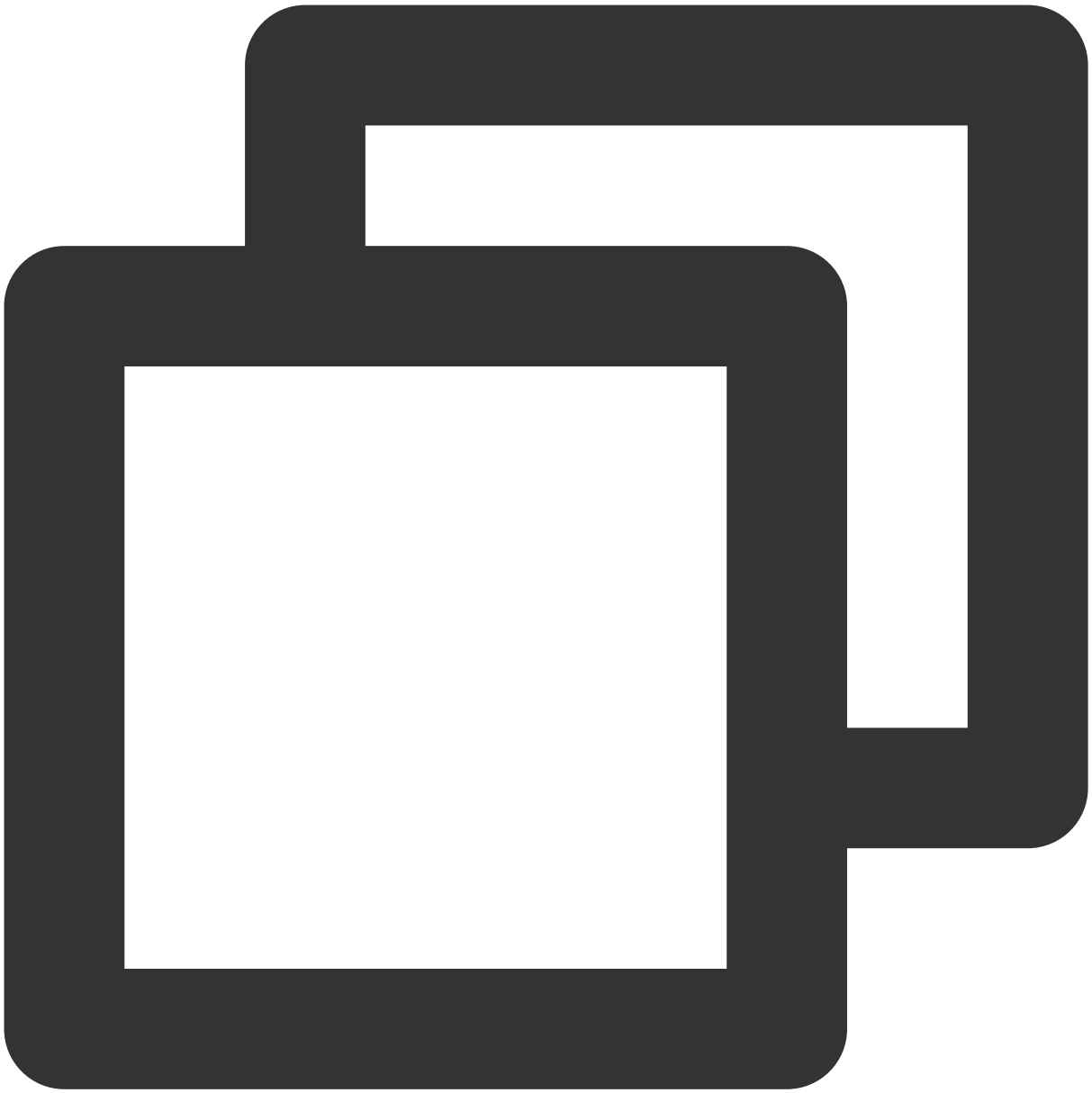
TUIRoom uses Pinia for room data management, you need to register Pinia in the project entry file, which is the `src/main.ts` file.



```
import { createPinia, PiniaVuePlugin } from 'pinia';

Vue.use(PiniaVuePlugin);
const pinia = createPinia();

new Vue({
  pinia,
  render: h => h(App),
}).$mount('#app');
```

3. Configure Chinese-English language switching

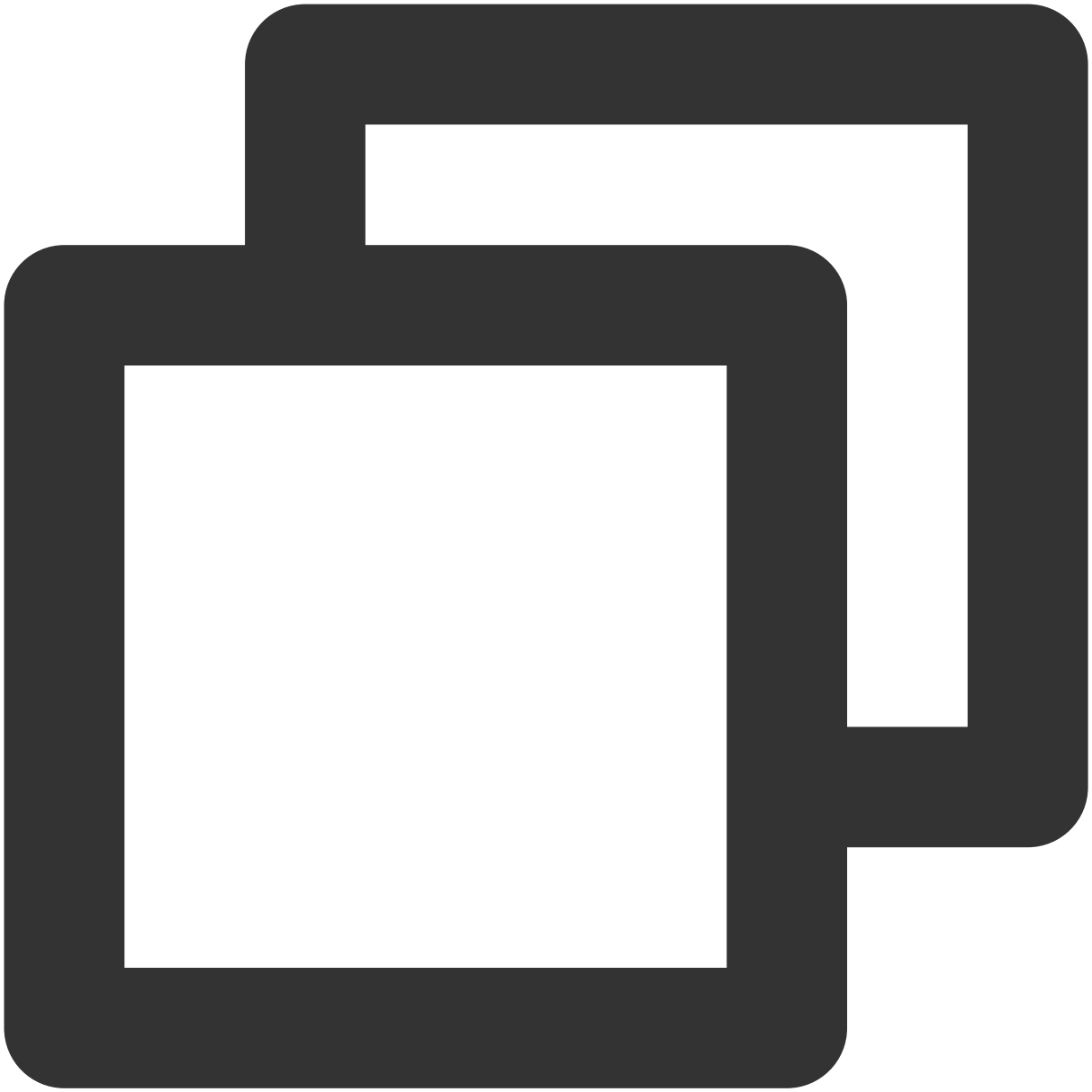
TUIRoom currently supports Chinese-English language switching, you need to register the i18n instance in the main.ts file.



```
import i18n from './TUIRoom/locales/';

Vue.use(i18n);
```

TUIRoom's default support environment is Vue2 + Webpack + TS. If you want to integrate TUIRoom Component in a Vue2 + Webpack + JS environment, you need to do the following setup.

1. Set up typescript to support TUIRoom Component loading.



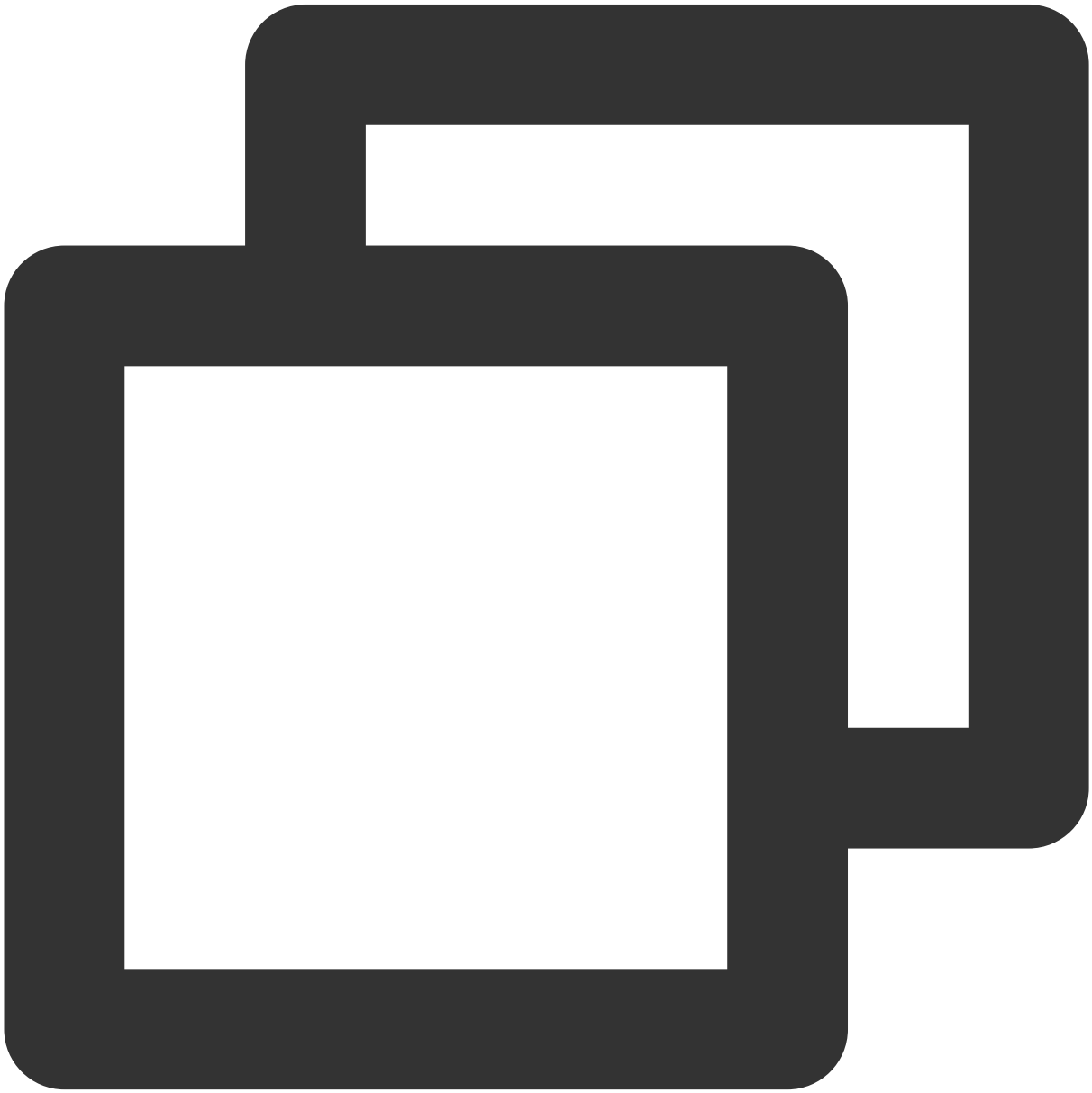
```
vue add typescript
```

Options for setting up the TS development environment can be referred to the image.

```
? Use class-style component syntax? No
? Use Babel alongside TypeScript (required for modern mode, auto-detected
polyfills, transpiling JSX)? Yes
? Convert all .js files to .ts? No
? Allow .js files to be compiled? Yes
? Skip type checking of all declaration files (recommended for apps)? No
```

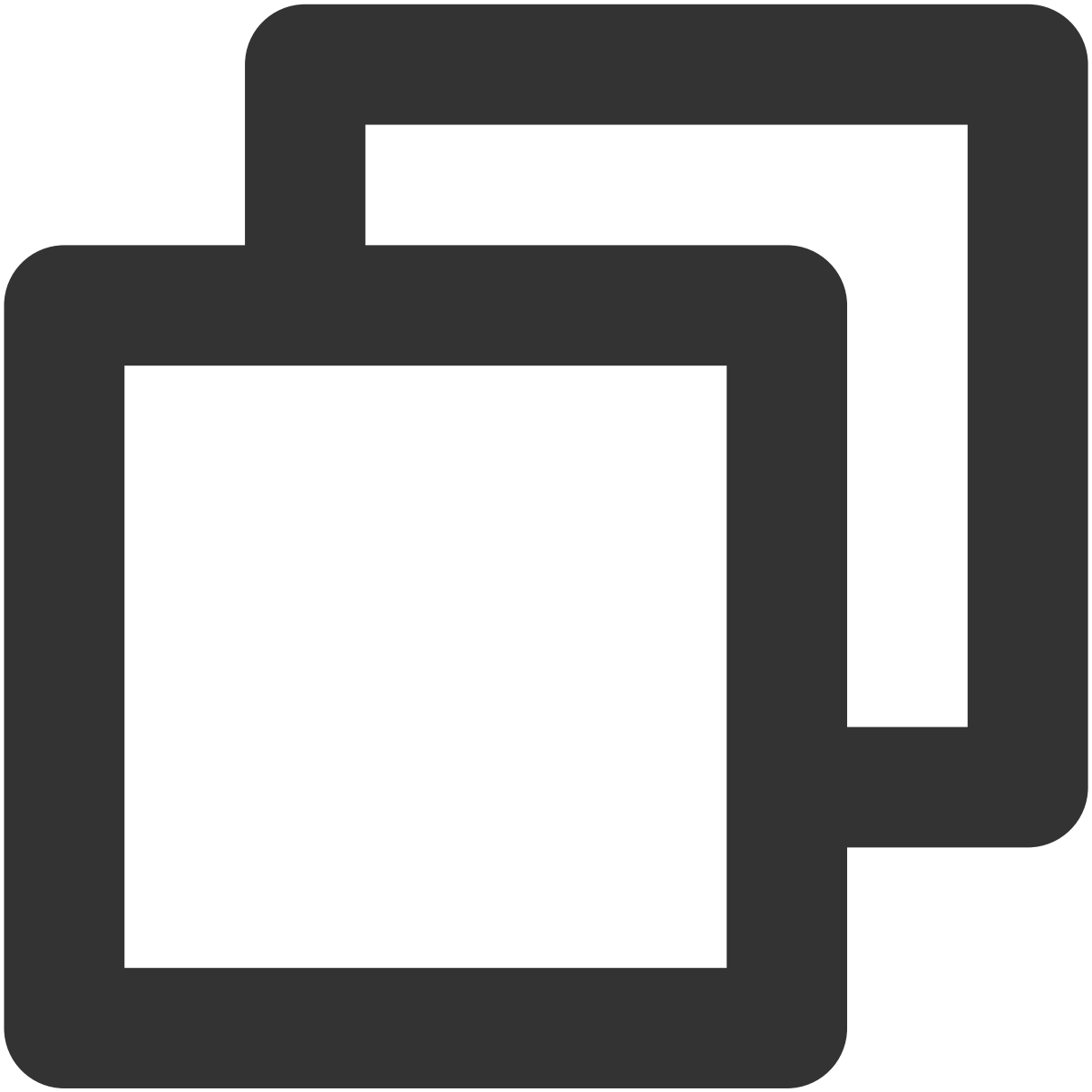
2. Install Dependencies

Install Development Environment Dependencies



```
npm install sass sass-loader -S -D
```

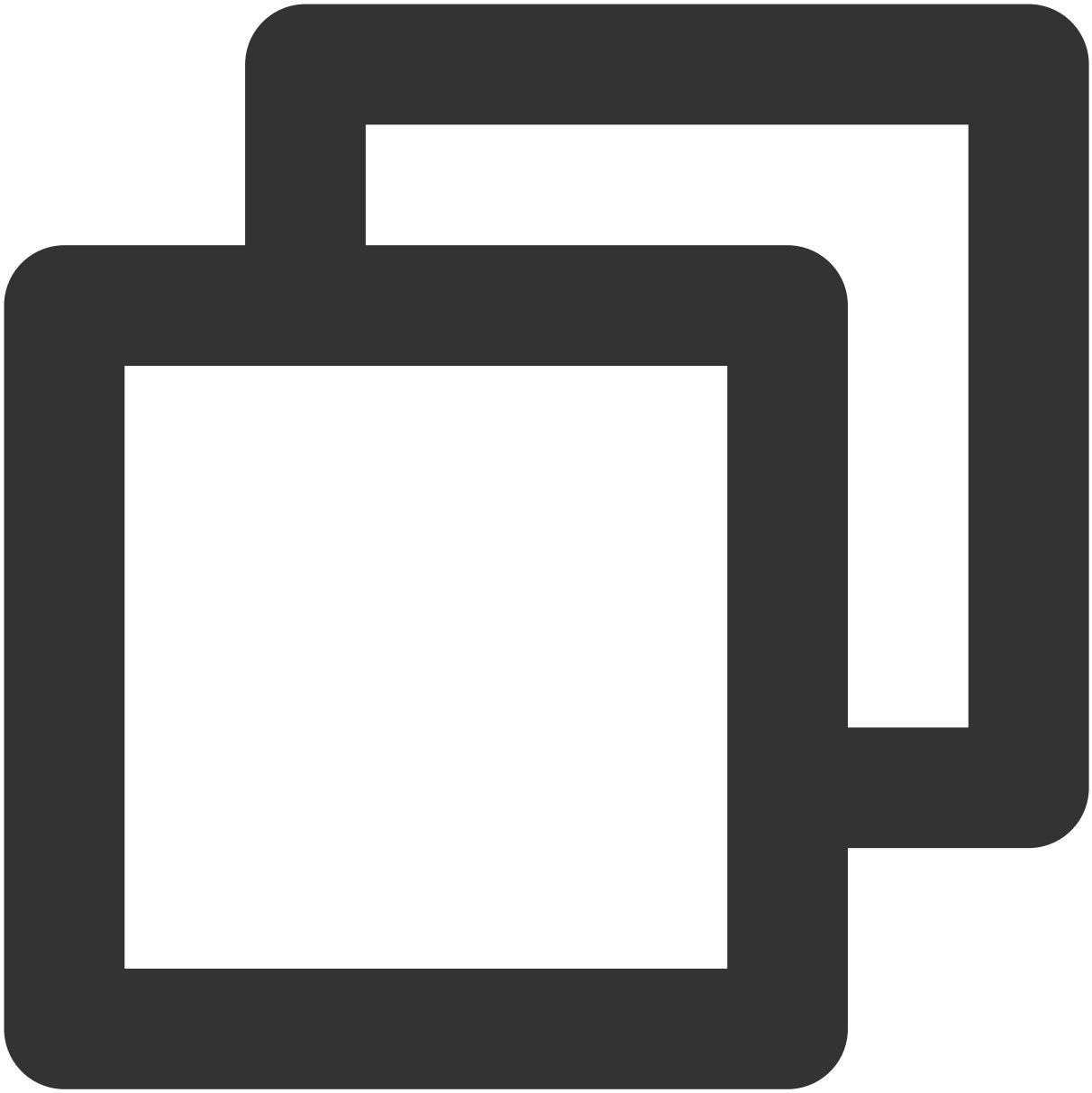
Install Production Environment Dependencies



```
npm install vue@^2.7 pinia trtc-electron-sdk tim-js-sdk tsignaling @tencentcloud/tu
```

3. Register Pinia

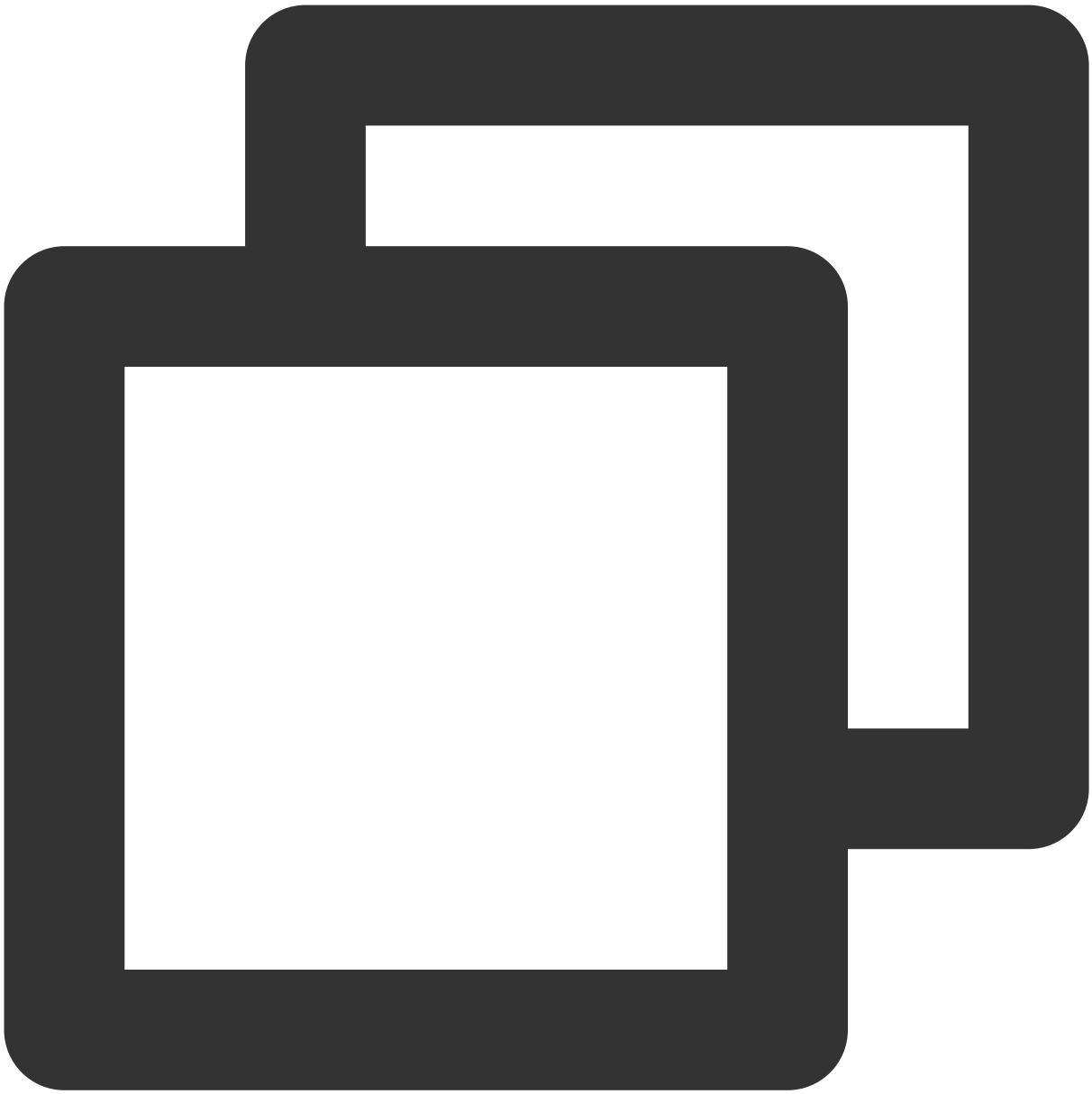
TUIRoom uses Pinia for room data management, you need to register Pinia in the project entry file, which is the `src/main.ts` file.



```
import { createPinia, PiniaVuePlugin } from 'pinia';

Vue.use(PiniaVuePlugin);
const pinia = createPinia();

new Vue({
  pinia,
  render: h => h(App),
}).$mount('#app');
```

4. Configure Chinese-English language switching

TUIRoom currently supports Chinese-English language switching, you need to register the i18n instance in the main.ts file.



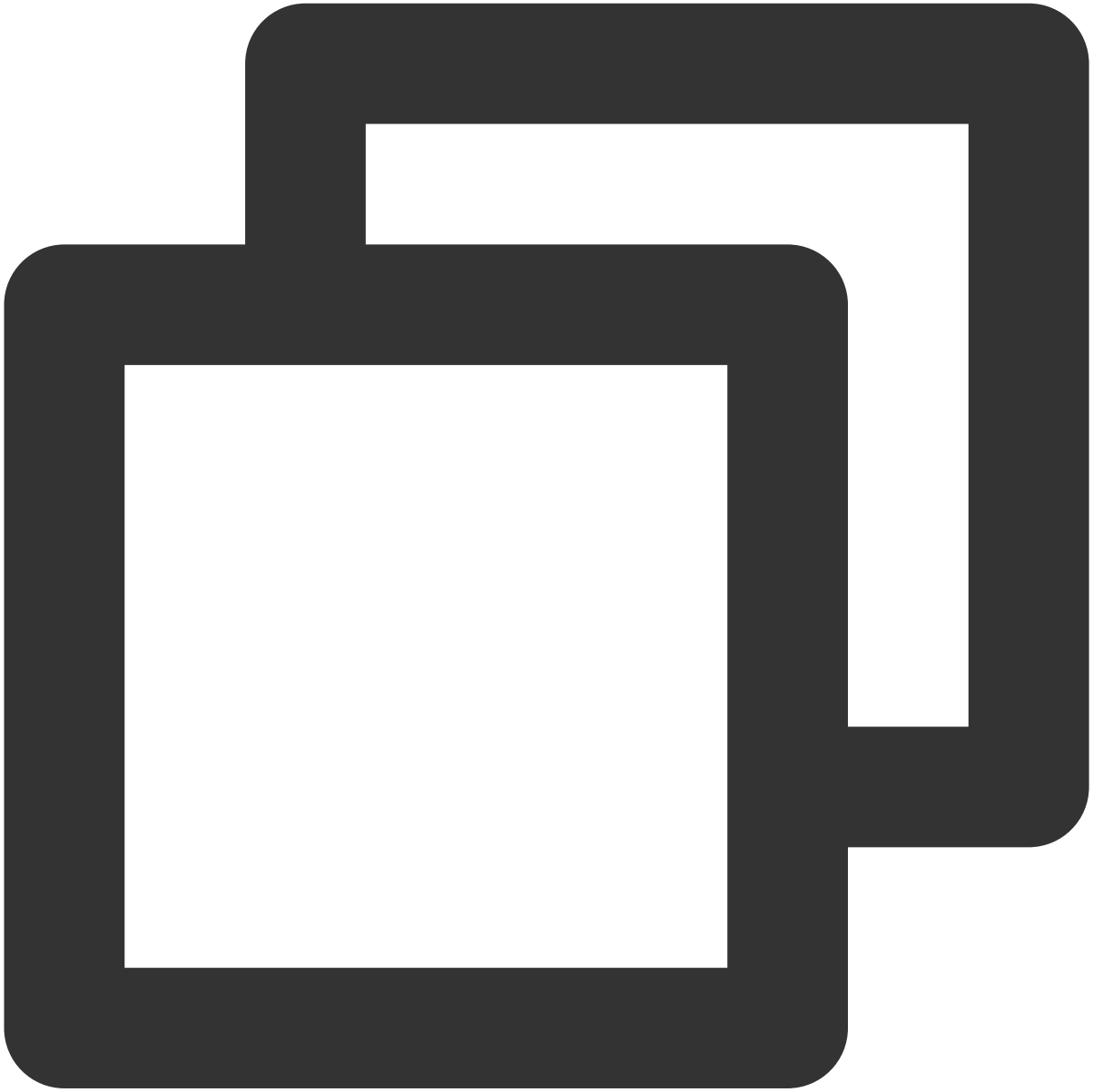
```
import i18n from './TUIRoom/locales/';

Vue.use(i18n);
```

Step 5: Run the development environment

Vue3 + Vite + TS Project

Vue2 + Webpack + TS Project

1. Execute the development environment command



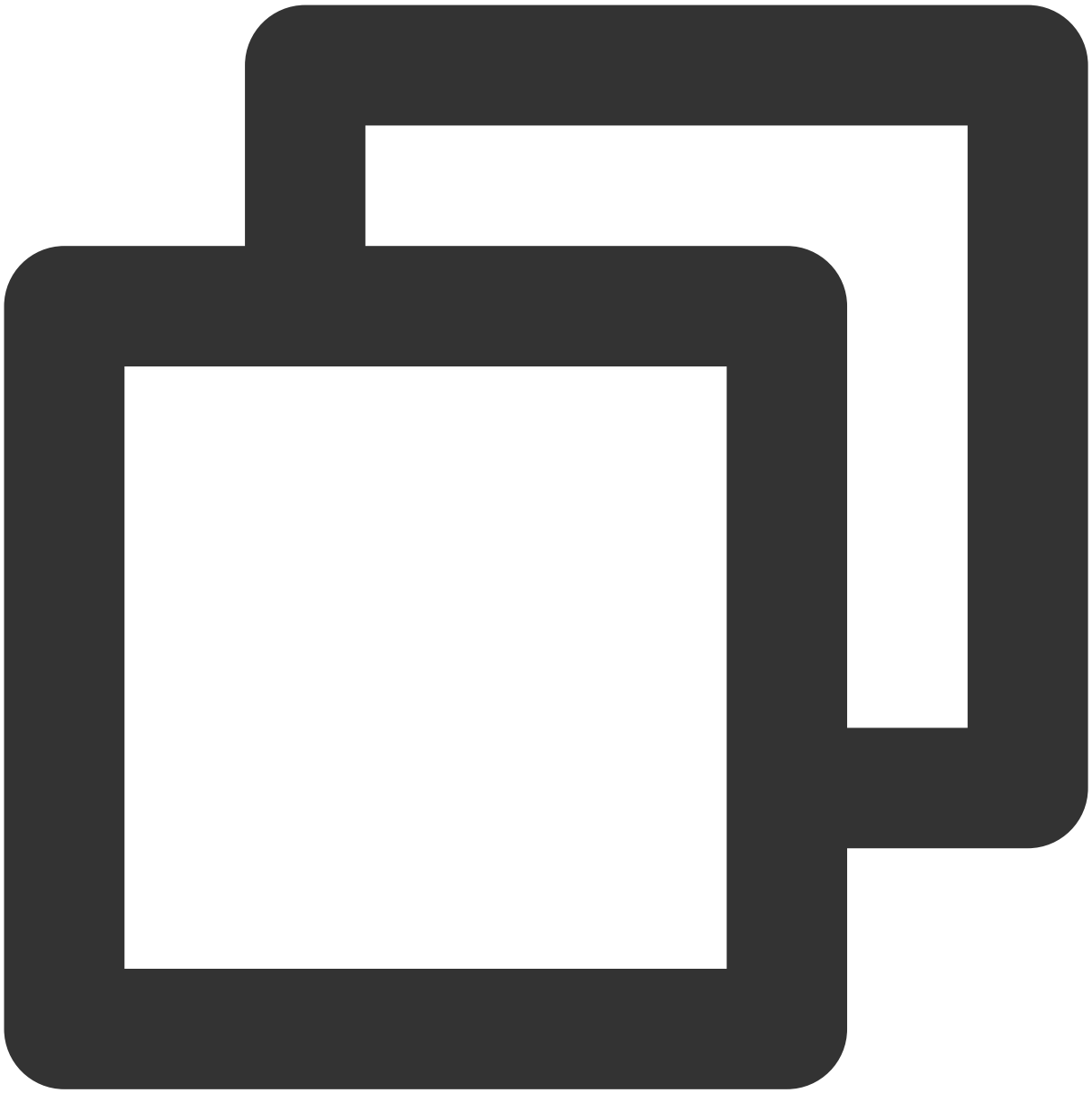
```
npm run dev
```

2. Experience the TUIRoom Component functions

Note：

If there are eslint errors in src/TUIRoom directory during runtime, you can add /src/TUIRoom/ path to block eslint checking in .eslintignore file.

1. Execute the development environment command



```
npm run start
```

Note:

Electron's default listening port number is 8080. If the UI is not rendered after packaging, it may be because the default port is occupied. Modify the corresponding port number in main.electron.js.

2. Experience the TUIRoom Component functions

Note：

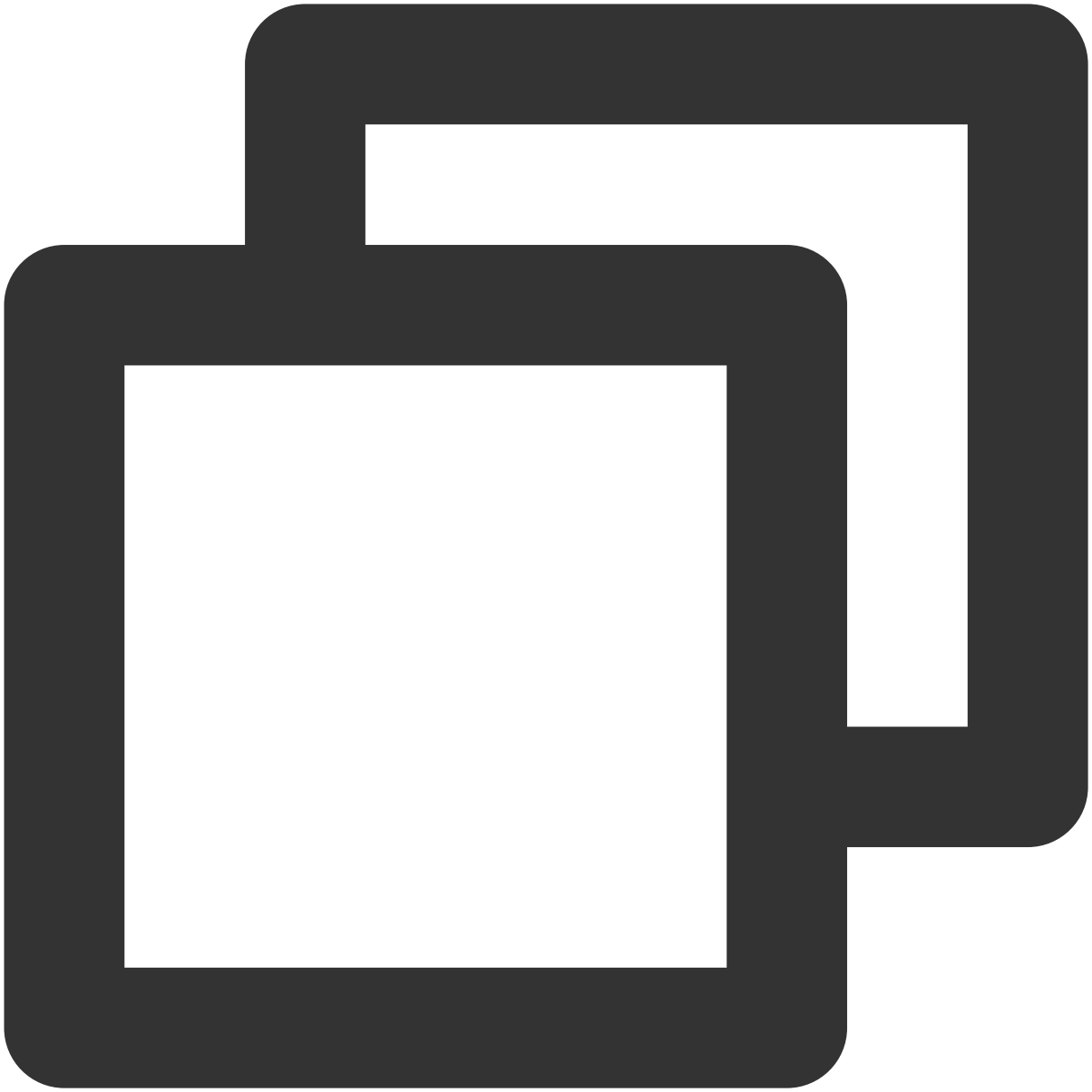
If there are eslint errors in src/TUIRoom directory during runtime, you can add /src/TUIRoom/ path to block eslint checking in .eslintignore file.

Step 6: Build the installation package and run

Vue3 + Vite + TS Project

Vue2 + Webpack + TS Project

In the command line terminal, execute the following command to build the installation package. The built installation package is located in the release directory and can be installed and run.



```
npm run build
```

In the command line terminal, execute the corresponding build command in package.json. The built installation package is located in the bin directory and can be installed and run.

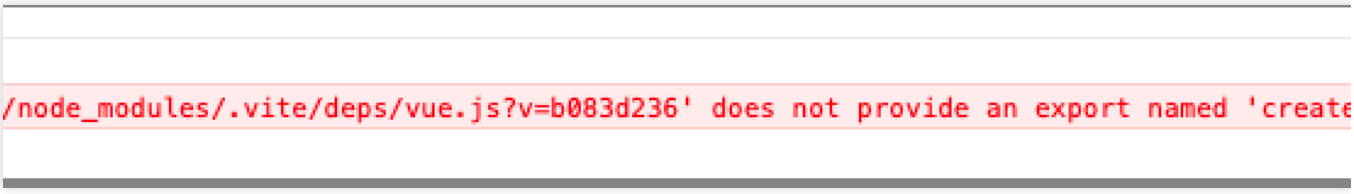
Note:

Only Mac computers can build Mac installation packages, and Windows computers can build Windows installation packages. Cross-compilation is temporarily not supported.

Common Problems

1. Running Times Error："does not provide an export named 'createBlock' "？

If you get the following error when running after following the above steps to access, please make sure you fix the Vite version below 3.0.0 and the Vue version below 3.4.9.



The reason is that the version of vite supported by the electron project template provided by the project is specified to be under 3.0.0, but the attributes in vue version 3.4.9 and above need to be upgraded in order to get the support, and an issue has been raised with the vue official here.。

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

Windows

Last updated：2024-04-12 11:29:00

This article will introduce how to complete the integration of the `TUIRoomKit` Component in the shortest time. By following this document, you will complete the following key steps within an hour and finally obtain a Real-time Conference SDK with a complete UI interface. This includes Member Management, Screen Sharing, chat, Free Speech, Request to Speak mode, and other functions.

Step 1: Activate the service

Step 2: Download TUIRoomKit Project Code

1. **Download TUIRoomKit Component Code**
Click Github, clone or download TUIRoomKit repository code, Windows-Mac directory is the directory for Windows project.
2. **Modify User Configuration**
Enter the Windows-Mac directory, open the `utils\\usersig\\win\\GenerateTestUserSig.h` file, and modify the SDKAppID and Secret Key.

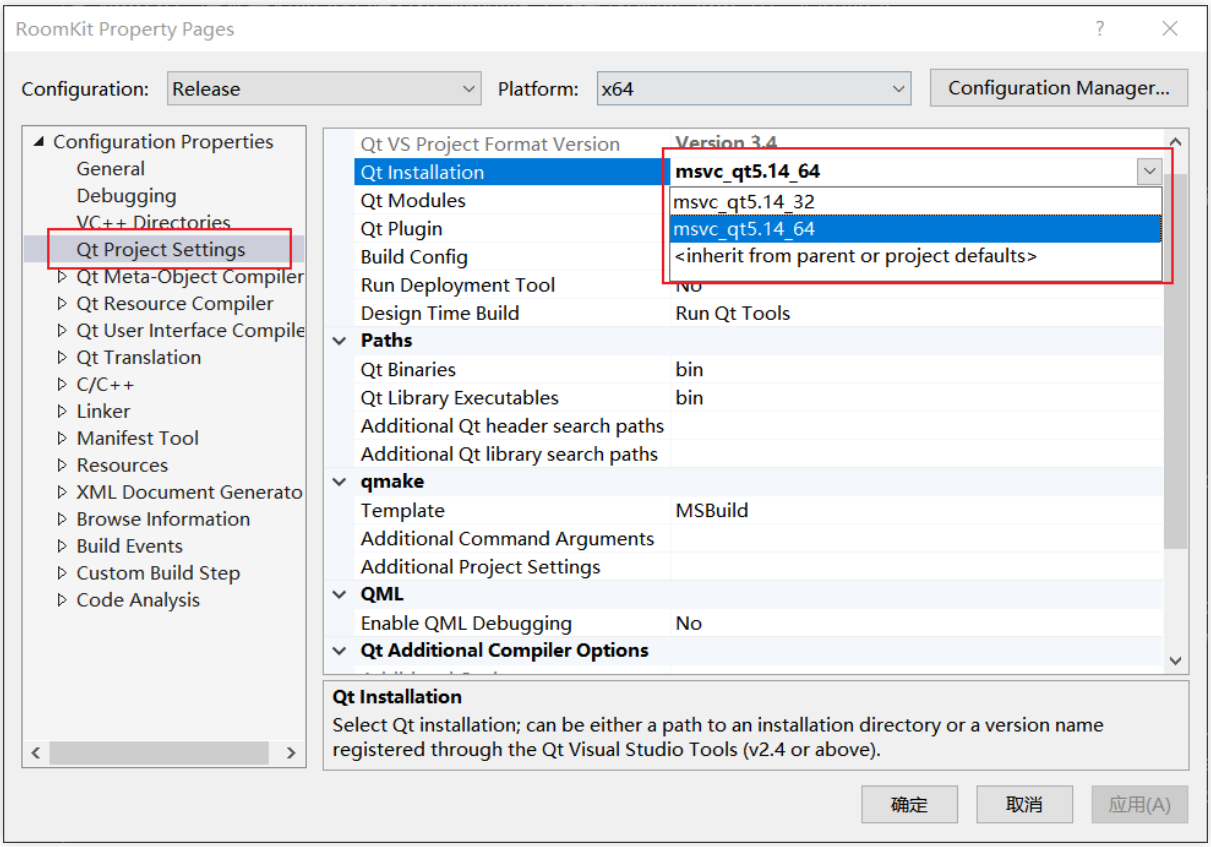
Step 3: Configure Development Environment

Windows Environment:
Visual Studio 2015 or higher integrated development environment.
QT5.9.1 or higher version of Qt development library.
QT development plugin Qt Visual Studio Tools 2.2.0 or higher for VS.
Minimum supported system: Windows 8.1.
Please ensure that your integrated development environment can develop normally.

Step 4: Configure TUIRoomKit Project

1. Enter the RoomKit directory, use Visual Studio to open the `RoomKit.vcxproj` file, and open the TUIRoomKit project.

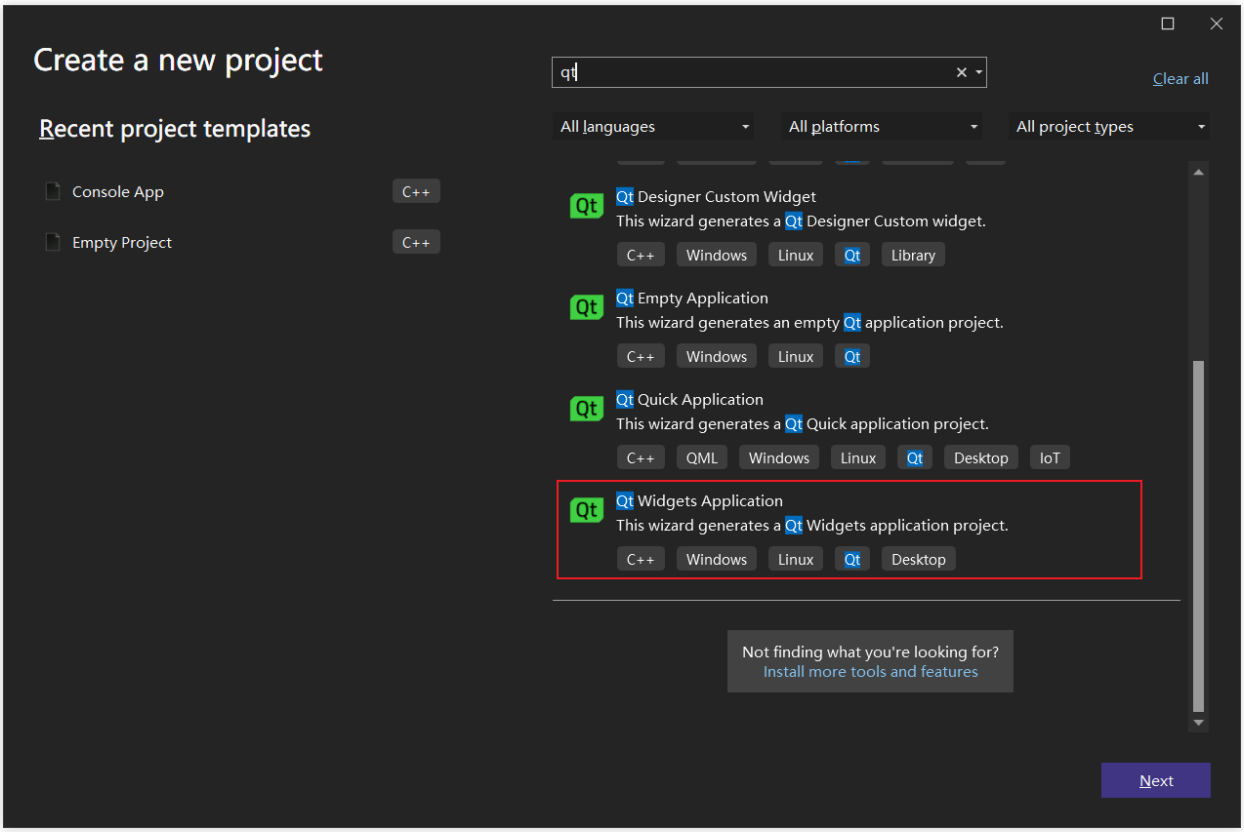
2. Configure QT development settings:

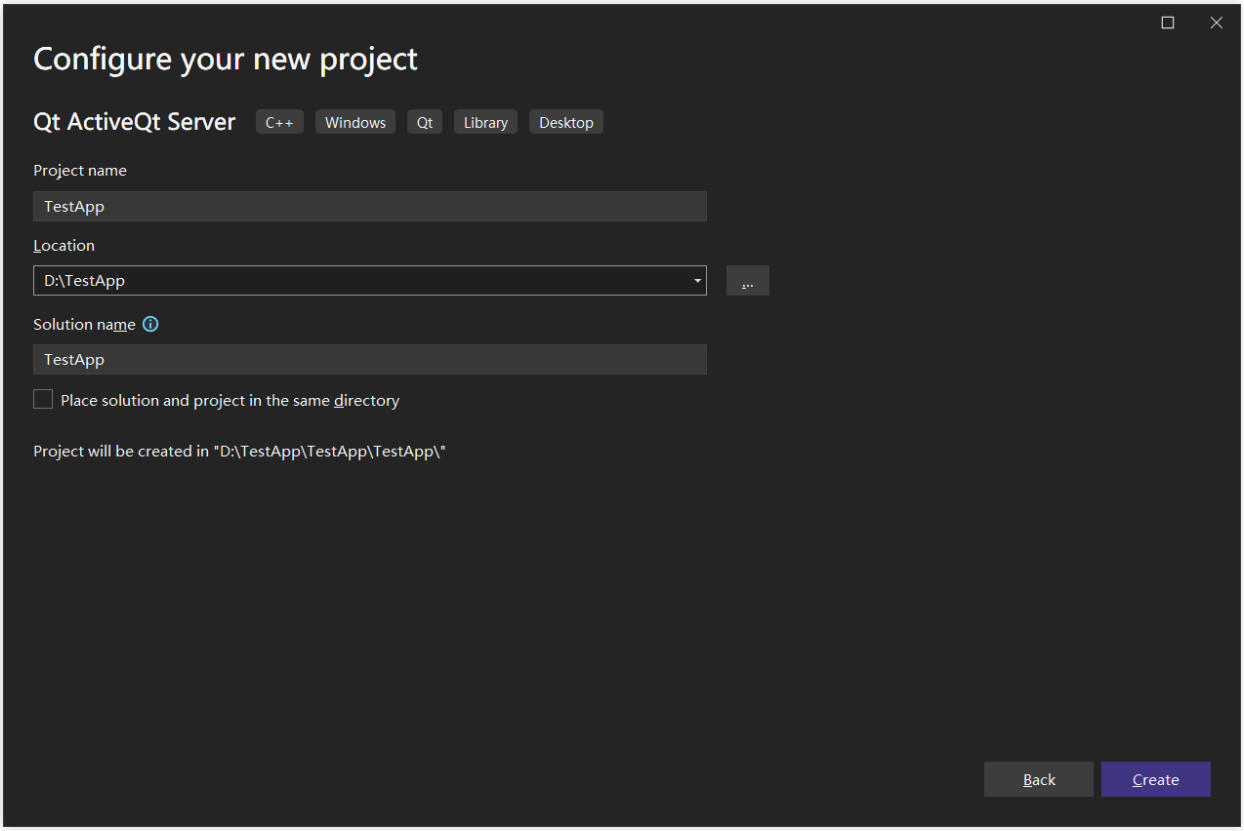


3. Compile the TUIRoomKit project and generate the RoomKit.exe program.

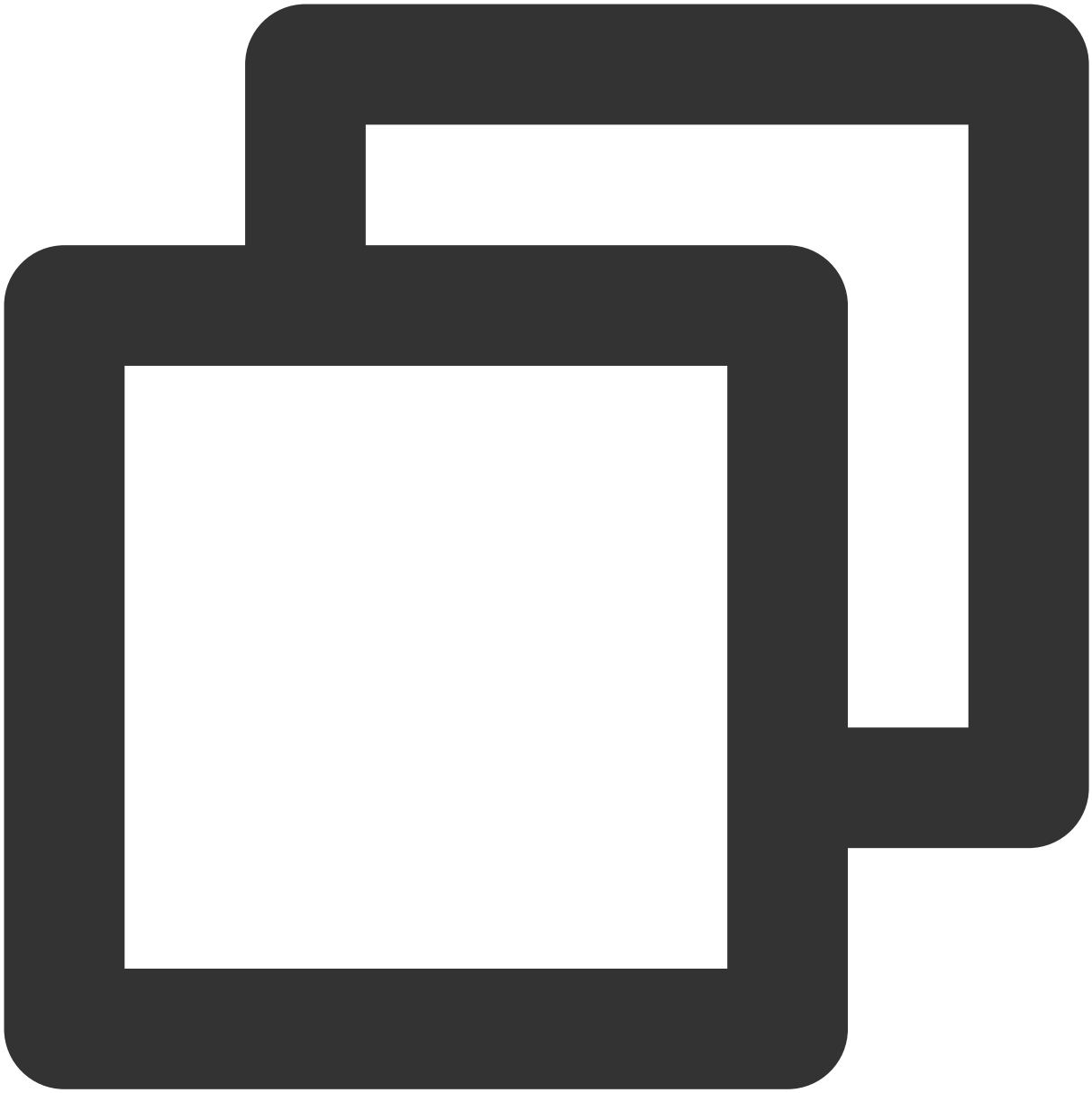
Step 5: Externally Launch TUIRoomKit Program

1. Open VS, select Qt Widgets Application project type, and create TestApp project.

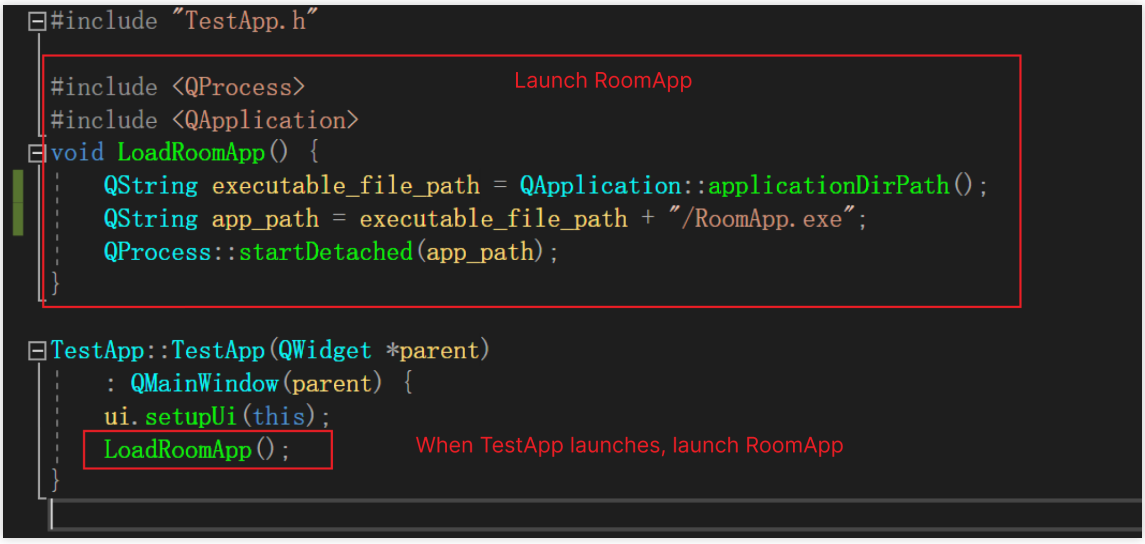




2. Write the program to start the process and invoke the LoadRoomApp function at the appropriate location.



```
#include <QProcess>
#include <QApplication>
void LoadRoomApp() {
  QString executable_file_path = QApplication::applicationDirPath();
  QString app_path = executable_file_path + "/RoomKit.exe";
  QProcess::startDetached(app_path);
}
```



3. Compile the project and copy the output of RoomKit compilation to the current executable program directory, taking the release x86 program as an example:

Copy all files in the `TUIRoomKit\\Windows-Mac\\RoomKit\\bin\\Win32\\Release` directory to the current program directory.

4. Execute the program, and simultaneously launch RoomKit with TestApp.

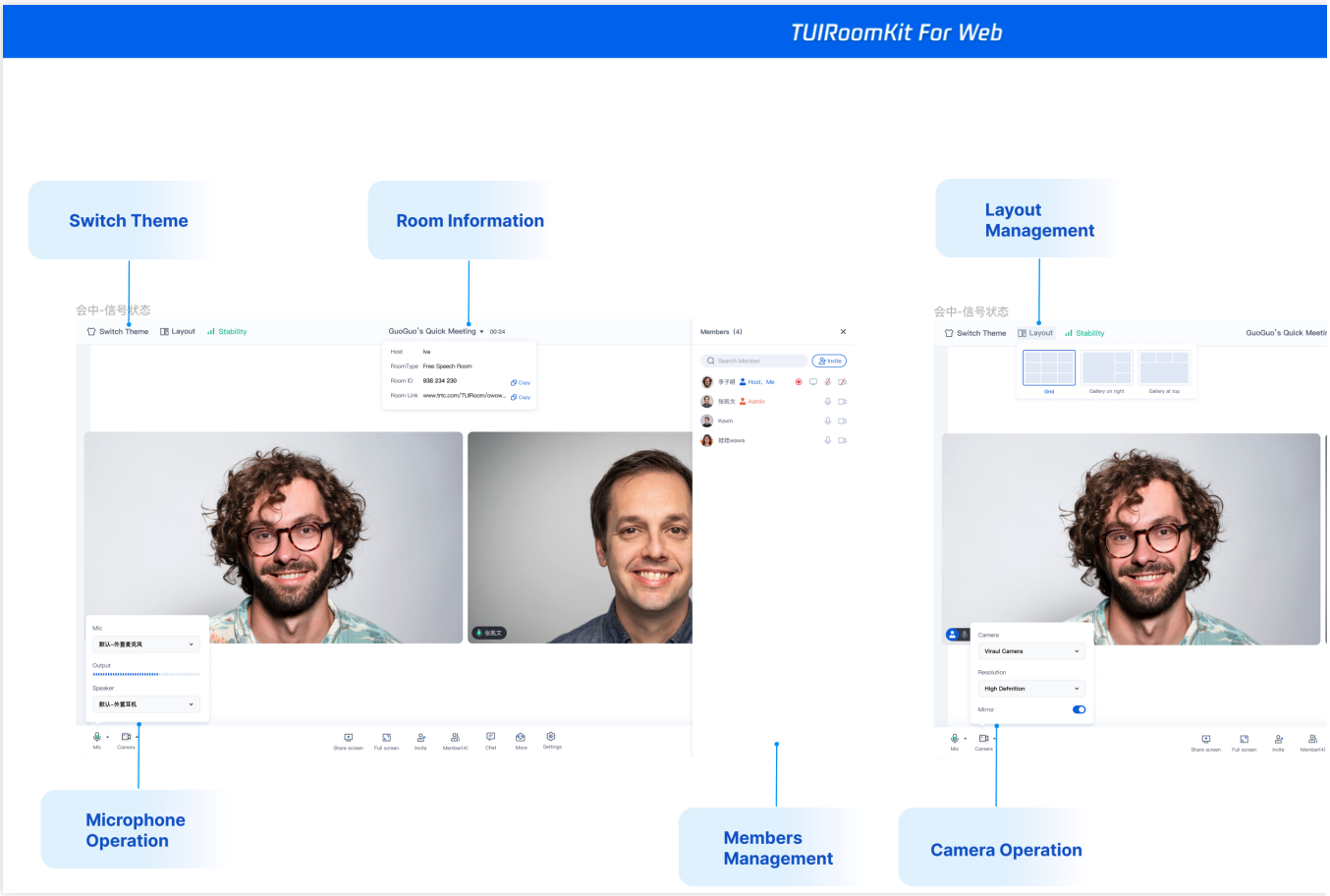
Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

Web

Last updated：2024-04-12 11:29:00

TUIRoomKit is a multi-person audio and video UI component launched by Tencent Cloud. The component provides rich functional interactions such as room management, audio and video control, screen sharing, member management, microphone management, instant messaging, custom layout switching, etc., and supports Chinese and English switching, one-click skin change, and other capabilities.



This article introduces the access guide of TUIRoomKit(Web), helping you quickly launch business scenarios such as enterprise meetings, online education, medical consultations, online inspections, and remote loss assessments.
You can click on the TUIRoomKit online experience link to experience more features of TUIRoomKit.
You can click on Github to download the TUIRoomKit code and refer to the README.md document in the code repository to run the TUIRoomKit Web sample project.

Step 1: Activate the service

Before initiating a meeting with TUIRoomKit, you need to activate the exclusive multi-person audio and video interaction service for TUIRoomKit on the console. For specific steps, please refer to Activate Service.

Step 2: Prepare Vue project code

If you already have a Vue project, you can skip this step.

If you don't have a Vue project, you can choose one of the following ways to generate a template project.

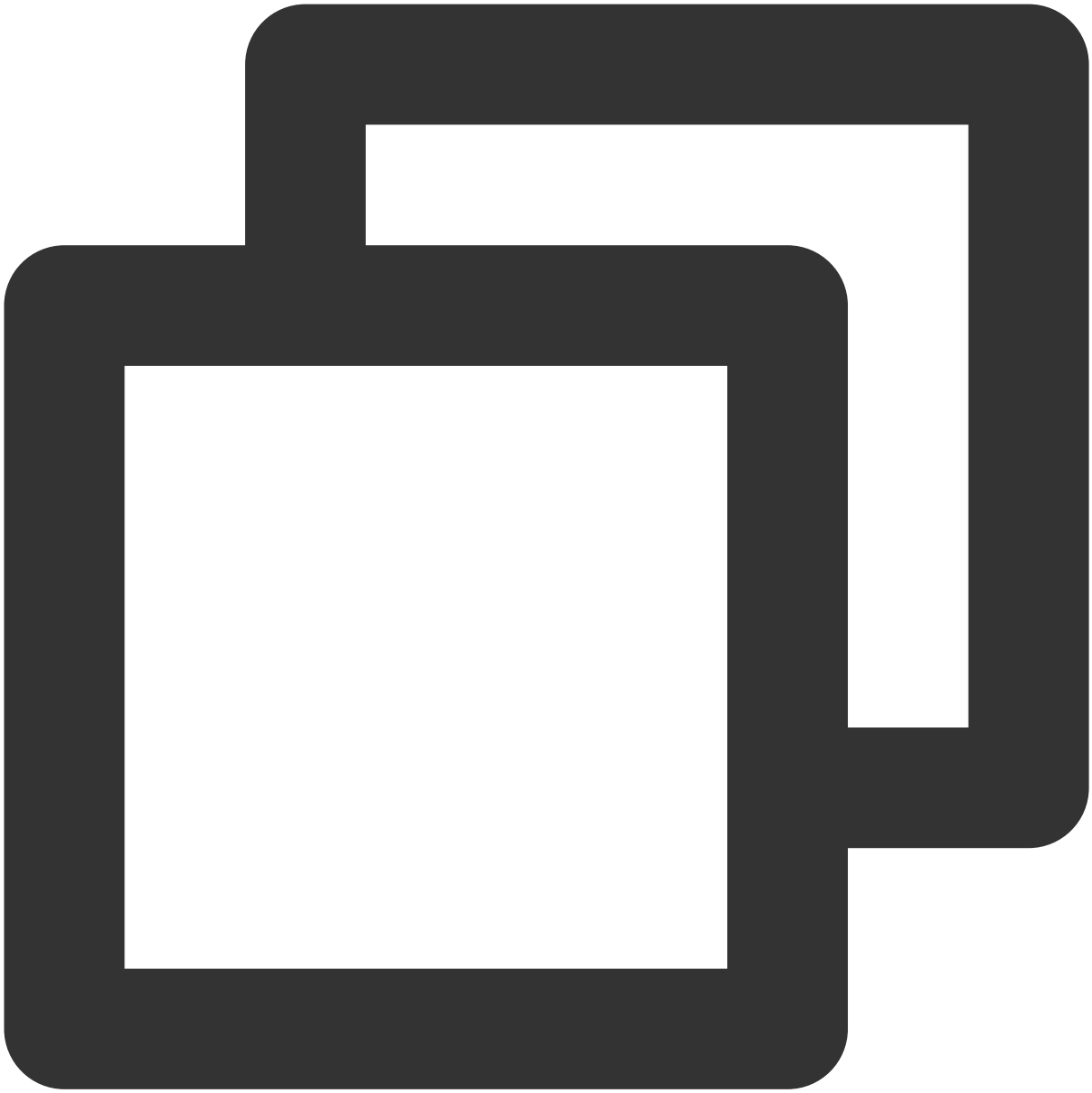
Vue3 + Vite + TS Template Project

Vue3 + Webpack + TS Template Project

Vue2 + Webpack + JS Template Project

Note：

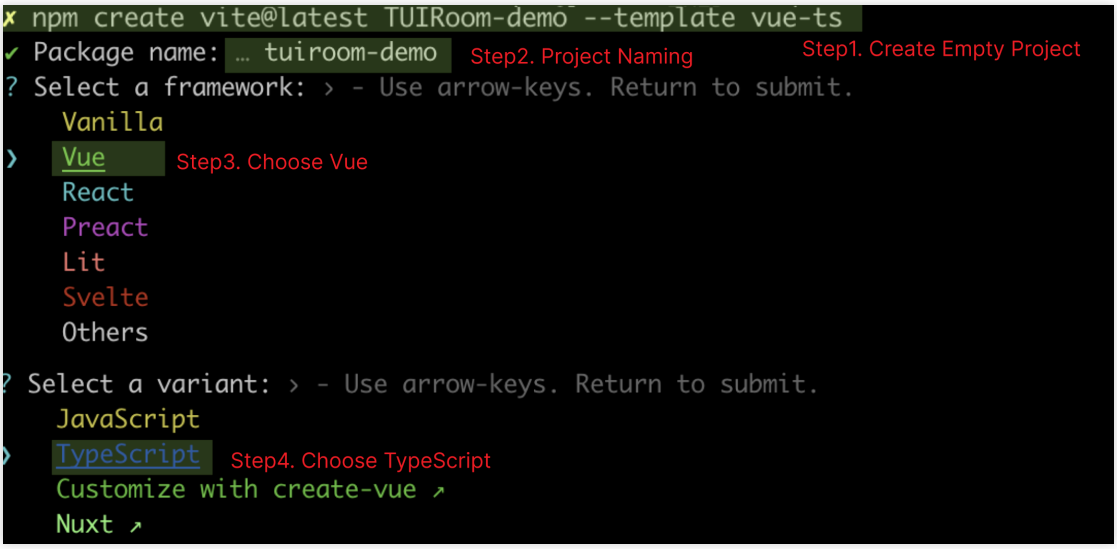
Vite requires Node.js version 14.18+, 16+. However, some templates depend on a higher Node version to work properly, so be careful to upgrade your Node version when your package manager warns you.



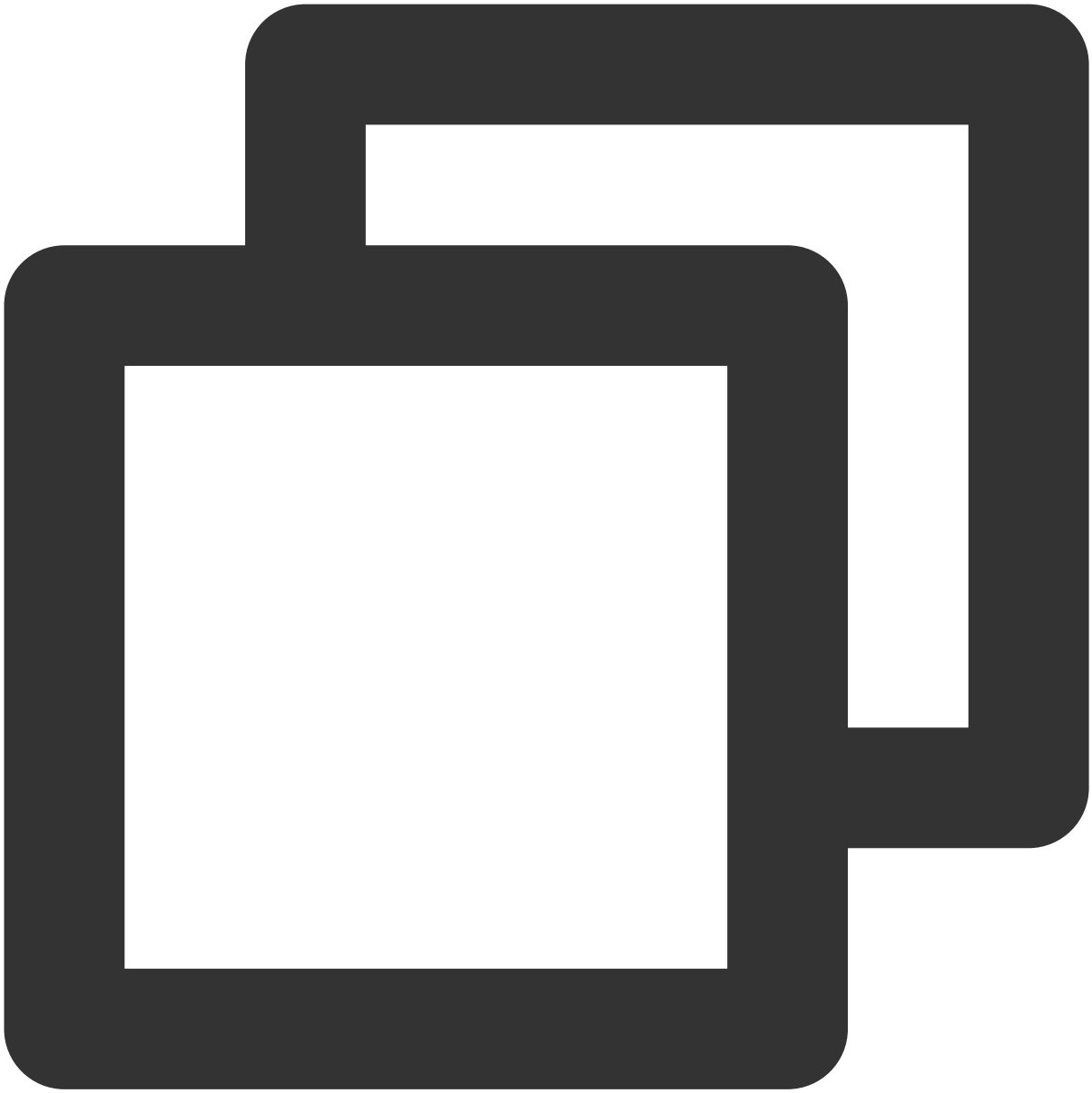
```
# npm 6.x
npm create vite@latest TUIRoom-demo --template vue-ts

# npm 7+, extra double-dash is needed:
npm create vite@latest TUIRoom-demo -- --template vue-ts

# yarn
yarn create vite TUIRoom-demo --template vue-ts

# pnpm
pnpm create vite TUIRoom-demo --template vue-ts
```

Note:

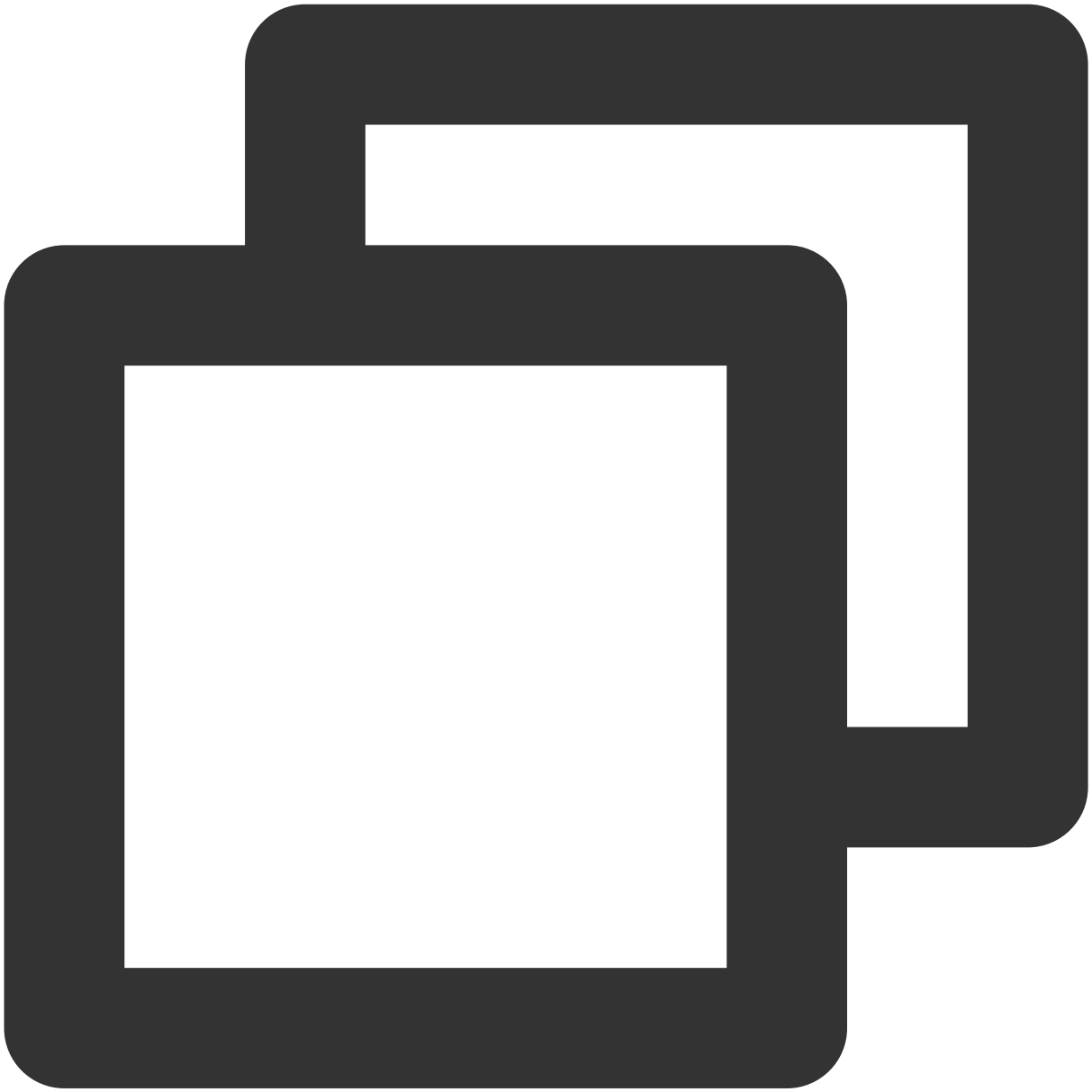
Taking the creation method of npm6.x as an example, the operation flowchart of generating the template project is as follows: (The marked highlight area needs to be input or selected)



After successfully generating the Vue3 + Vite + TS template project, execute the following script:



```
cd TUIRoom-demo
npm install
npm run dev
```



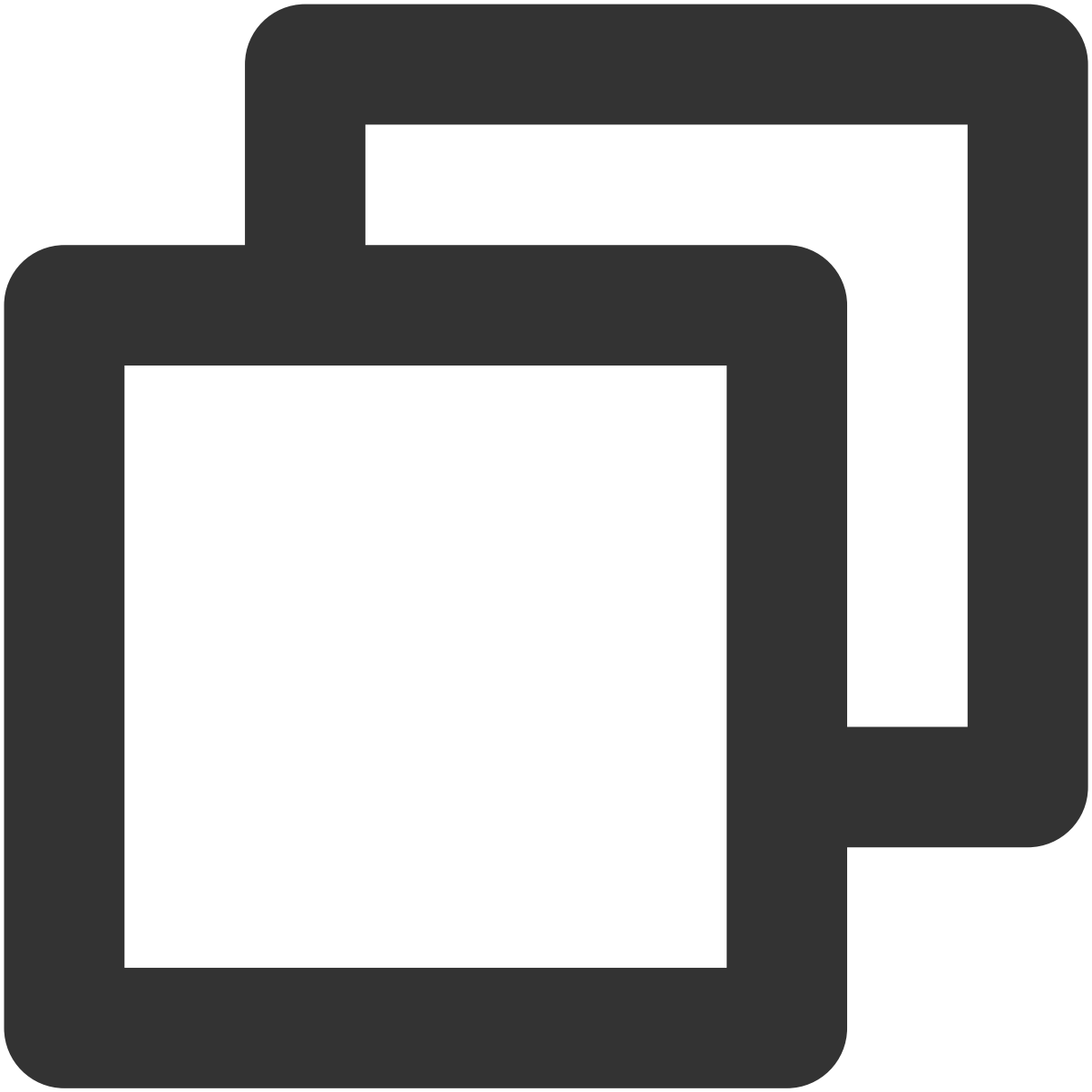
```
// Install vue-cli, note that Vue CLI 4.x requires Node.js to be v10 or above
npm install -g @vue/cli
// Create Vue3 + Webpack + TS Template Project
vue create tuiroomkit-demo
```

Note:

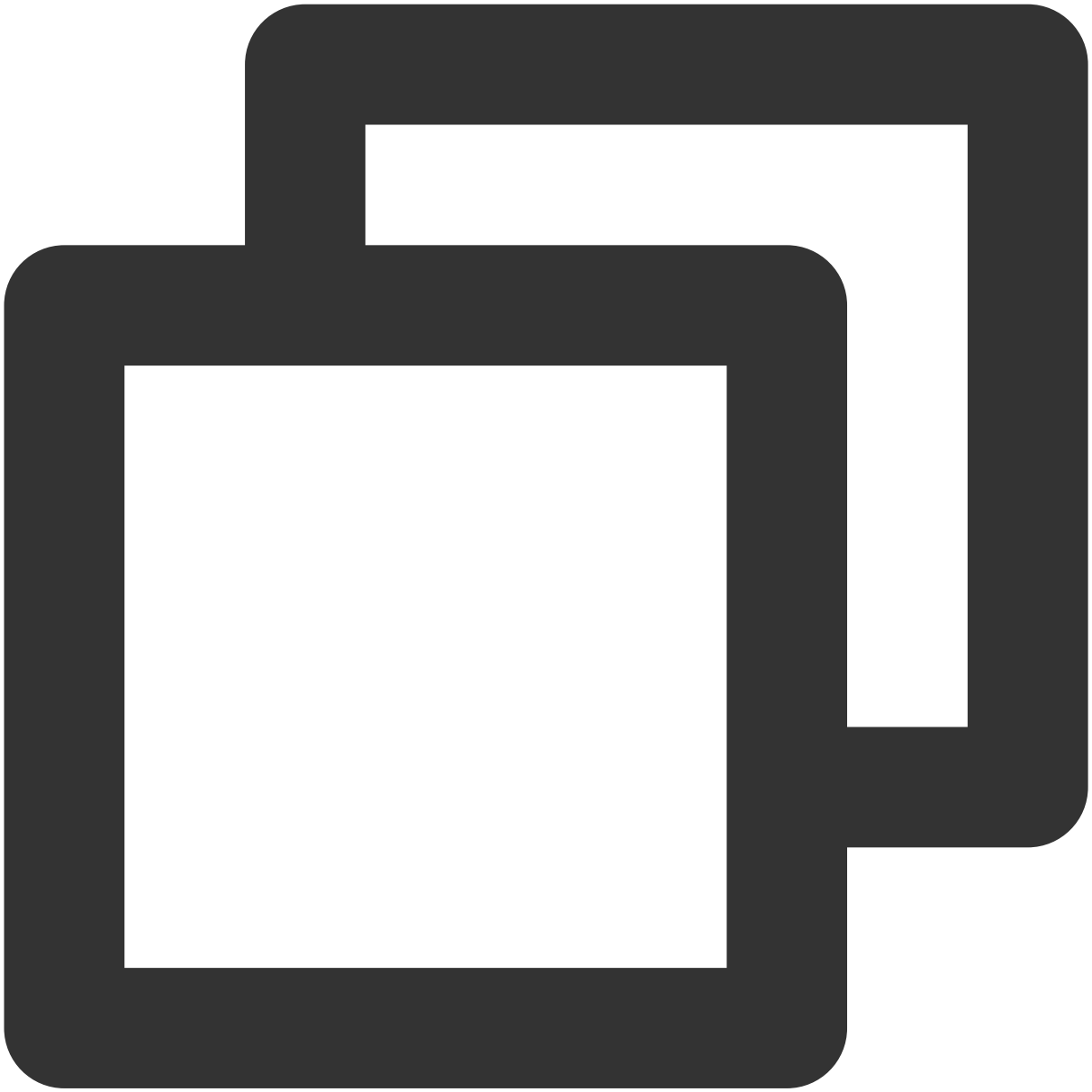
During the process of executing the generate template project script, choose the template generation method as Manually select features, and refer to the reference image for other configuration options.

```
? Please pick a preset: Manually select features
? Check the features needed for your project: Babel, TS, Linter
? Choose a version of Vue.js that you want to start the project with 3.x
? Use class-style component syntax? No
? Use Babel alongside TypeScript (required for modern mode, auto-detected
polyfills, transpiling JSX)? Yes
? Pick a linter / formatter config: Standard
? Pick additional lint features: Lint on save
? Where do you prefer placing config for Babel, ESLint, etc.? In dedicated
config files
? Save this as a preset for future projects? No
```

After successfully generating the Vue3 + Webpack + TS template project, execute the following script:



```
cd tuiroomkit-demo
npm run serve
```



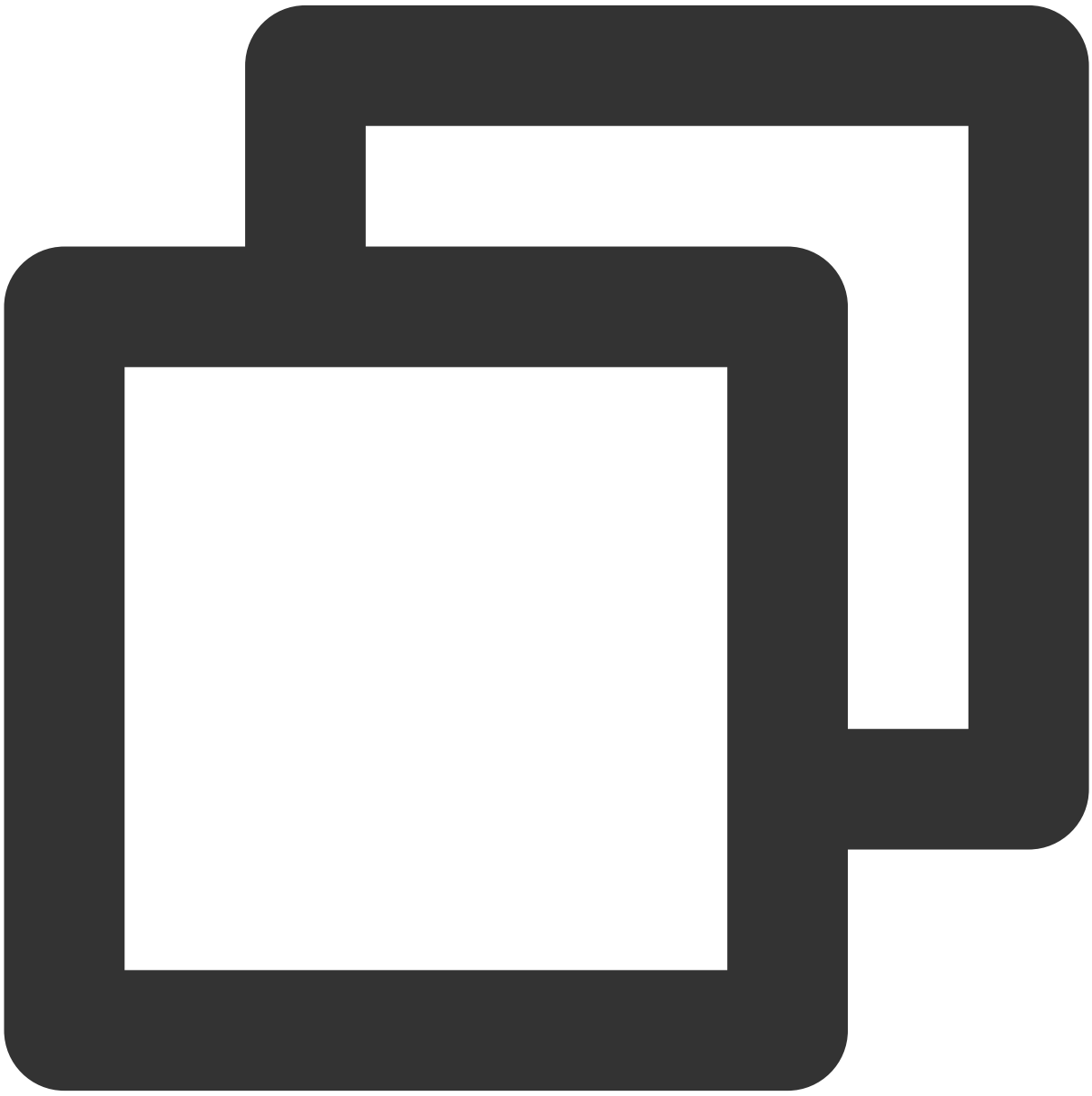
```
// Install vue-cli, note that Vue CLI 4.x requires Node.js to be v10 or above
npm install -g @vue/cli
// Create Vue2 + Webpack + Js Template Project
vue create tuiroomkit-demo
```

Note:

During the process of executing the generate template project script, choose the template generation method as Default ([Vue 2] babel, eslint).

```
? Please pick a preset:
  Default ([Vue 3] babel, eslint)
❯ Default ([Vue 2] babel, eslint)
  Manually select features
```

After successfully generating the Vue2 + Webpack + JS template project, execute the following script:



```
cd tuiroomkit-demo
npm run serve
```

Step 3: Download and reference TUIRoom component

1. **Download TUIRoom component code**

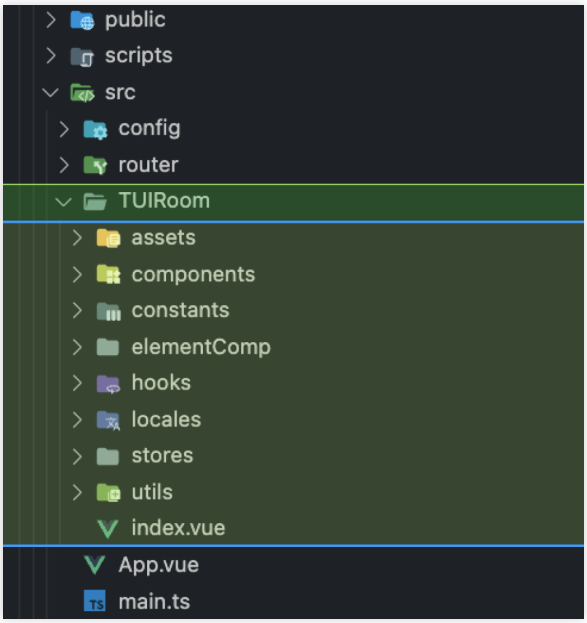
Click on Github, clone or download the TUIRoomKit repository code.

2. **Reference TUIRoom component**

Introducing TUIRoom Component in Vue3 Project

Introducing TUIRoom Component in Vue2 Project

Copy the `TUIRoomKit/Web/vue3/src/TUIRoom` folder to the existing project `src/` directory,



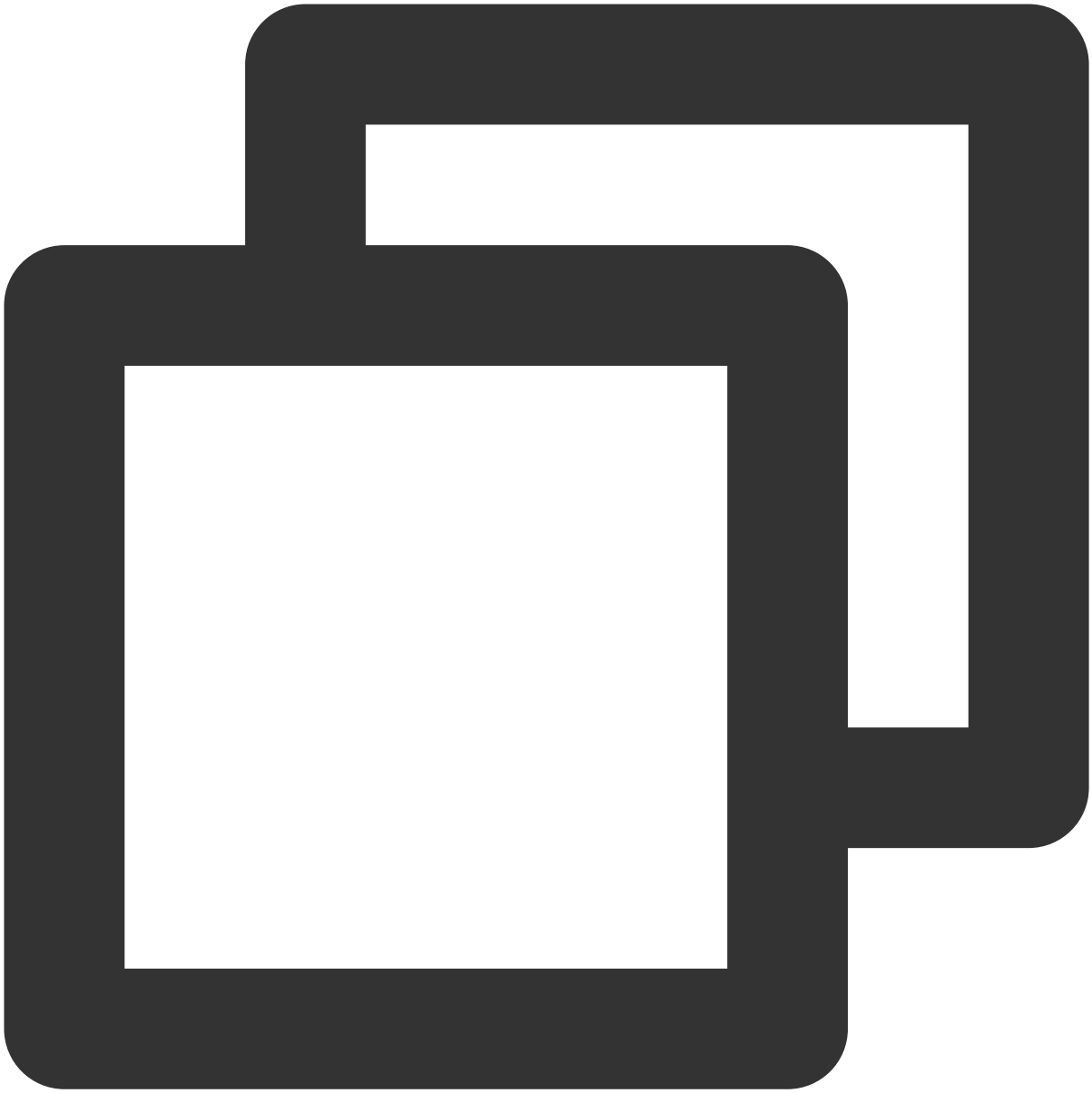
Reference the TUIRoom Component in the page. For example, import the TUIRoom Component in the `App.vue` component.

The TUIRoom Component divides users into Host and Regular Member roles. The Component provides init, createRoom, and enterRoom methods externally.

Both the Host and Regular Members can initialize the application and user data to the TUIRoom Component through the init method, the Host can create and join a Room through the createRoom method, and Regular Members can join a Room created by the Host through the enterRoom method.

Note:

After copying the following code in the page, you need to modify the parameters of the TUIRoom interface to the actual data.



```
<template>
  <room ref="TUIRoomRef"></room>
</template>

<script setup lang="ts">
import { ref, onMounted } from 'vue';
// Import TUIRoom Component, make sure the import path is correct
import Room from './TUIRoom/index.vue';
// Get the TUIRoom Component element for calling TUIRoom Component methods
const TUIRoomRef = ref();
```

```
onMounted(async () => {
  // Initialize TUIRoom Component
  // The host needs to initialize the TUIRoom Component before creating a room
  // Ordinary members need to initialize the TUIRoom Component before entering a ro
  await TUIRoomRef.value.init({
    // Get sdkAppId, please refer to Step 1
    sdkAppId: 0,
    // The unique identifier of the user in your business
    userId: '',
    // Local development and debugging can quickly generate userSig on https://cons
    userSig: '',
    // The nickname used by the user in your business
    userName: '',
    // The avatar URL used by the user in your business
    avatarUrl: '',
    // Skin theme colours that users need in your business and whether or not switc
    theme: {
      defaultTheme: 'black',
      isSupportSwitchTheme: true
     }
  })
  // By default, create a room. In actual access, you can choose to execute the han
  await handleCreateRoom();
})

// The host creates a room, this method is only called when creating a room
async function handleCreateRoom() {
  // roomId is the room number entered by the user, and roomId is required to be of
  // roomMode includes 'FreeToSpeak' (Free-to-speak mode) and 'SpeakAfterTakingSeat
  // roomParam specifies the default behavior of the user when entering the room (w
  const roomId = '123456';
  const roomMode = 'FreeToSpeak';
  const roomParam = {
    isOpenCamera: true,
    isOpenMicrophone: true,
  }
  try {
    await TUIRoomRef.value.createRoom({ roomId, roomName: roomId, roomMode, roomPar
  } catch (error: any) {
    alert('TUIRoomKit.createRoom error: ' + error.message);
  }
}

// Regular members enter the room, this method is called when regular members enter
async function handleEnterRoom() {
  // roomId is the room number entered by the user, and roomId is required to be of
  // roomParam specifies the default behavior of the user when entering the room (w
```

```
  const roomId = '123456';
  const roomParam = {
    isOpenCamera: true,
    isOpenMicrophone: true,
  }
  try {
    await TUIRoomRef.value.enterRoom({ roomId, roomParam });
  } catch (error: any) {
    alert('TUIRoomKit.enterRoom error: ' + error.message);
  }
}
</script>

<style lang="scss">
html, body {
    width: 100%;
    height: 100%;
    margin: 0;
}

#app {
  width: 100%;
  height: 100%;
}
</style>
```

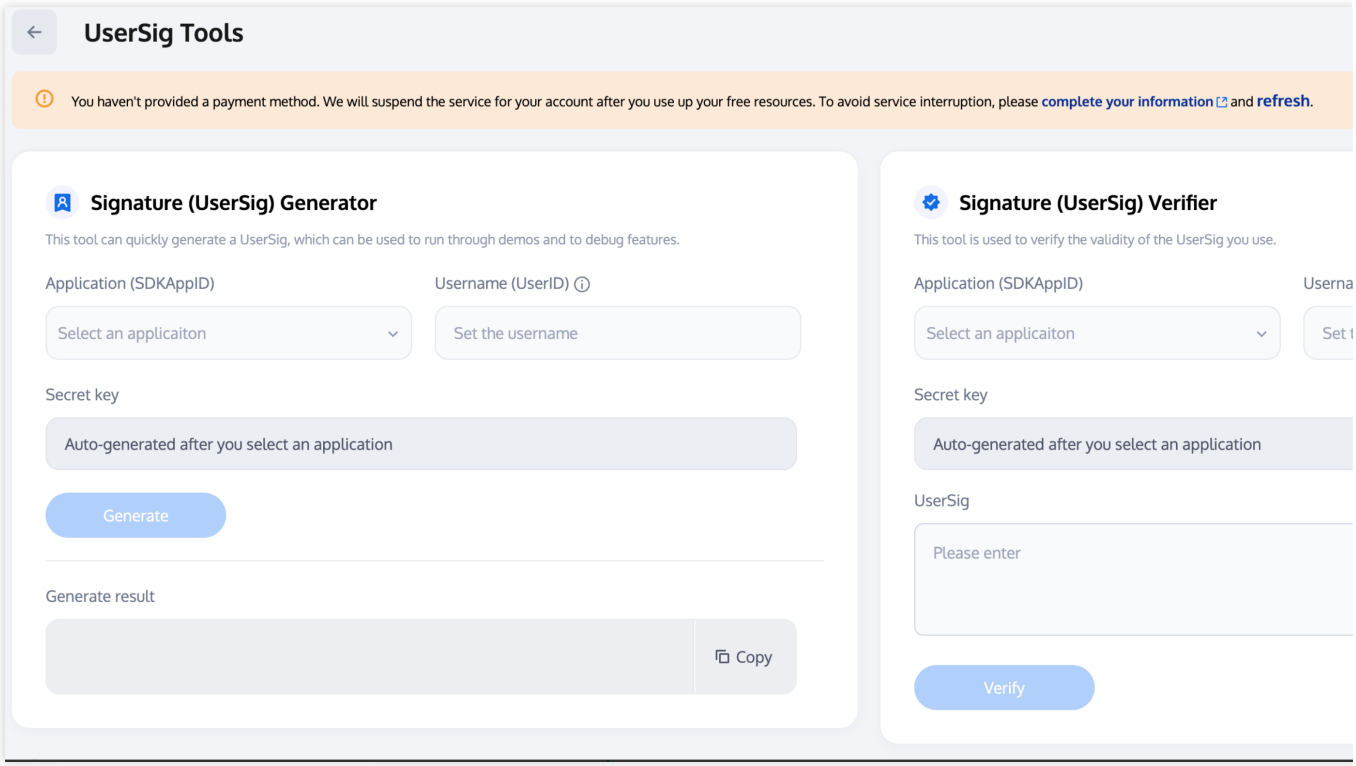
Parameter descriptions:

Here is a detailed description of the key parameters used in init:

sdkAppId: you have already got it in the last step of step 1, so I won't repeat it here.

userId: ID of the current user, string type, only allow alphabets (a-z and A-Z), numbers (0-9), hyphens (-) and underscores (_).

userSig: Use SDKSecretKey to encrypt information such as sdkAppId, userId, etc. to get userSig, which is an authentication ticket used by Tencent Cloud to identify whether the current user is able to use TRTC's services. You can get a temporary userSig by visiting Real-time Audio/Video TRTC Console -> UserSig Tools.



Note：

This step is also by far the one we receive the most feedback on from developers, with the following common problems.

sdkAppId is set incorrectly.

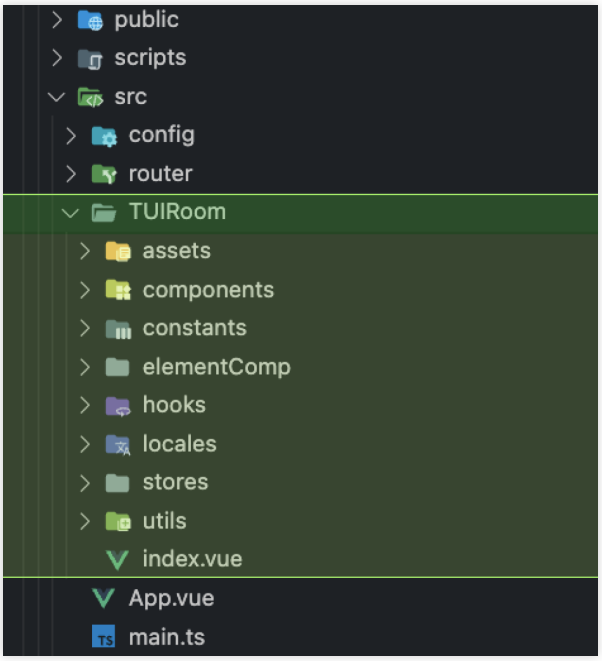
userSig is misconfigured as a SDKSecretkey. userSig is obtained by encrypting sdkAppId, userId and expiration time with the SDKSecretkey, instead of configuring the SDKSecretkey as userSig directly.

UserSig is set to a simple string such as "1", "123", "111", etc. Since TRTC doesn't support multi-login with the same UserID, it is not possible to use the same UserID for multi-login, so it is not possible to use the same UserID for multi-login. Since TRTC does not support multi-location login with the same userID, userIds like "1", "123", "111" will easily be occupied by your colleagues during multi-user development, resulting in login failure. recommend that you set some highly recognizable userId during debugging.

The sample code in Github uses the genTestUserSig function to compute the userSig locally in order to get you through the current access process faster, but this solution exposes your SDKSecretkey to the App's code, which is not conducive to upgrading and securing your SDKSecretkey, so we strongly recommend that you place the

Therefore, we strongly recommend that you put the UserSig calculation logic on the server side and have the App request the real-time calculated userSig from your server every time you use the TUIRoomKit component.

Copy the `TUIRoomKit/Web/vue2/src/TUIRoom` folder to the existing project `src/` directory,



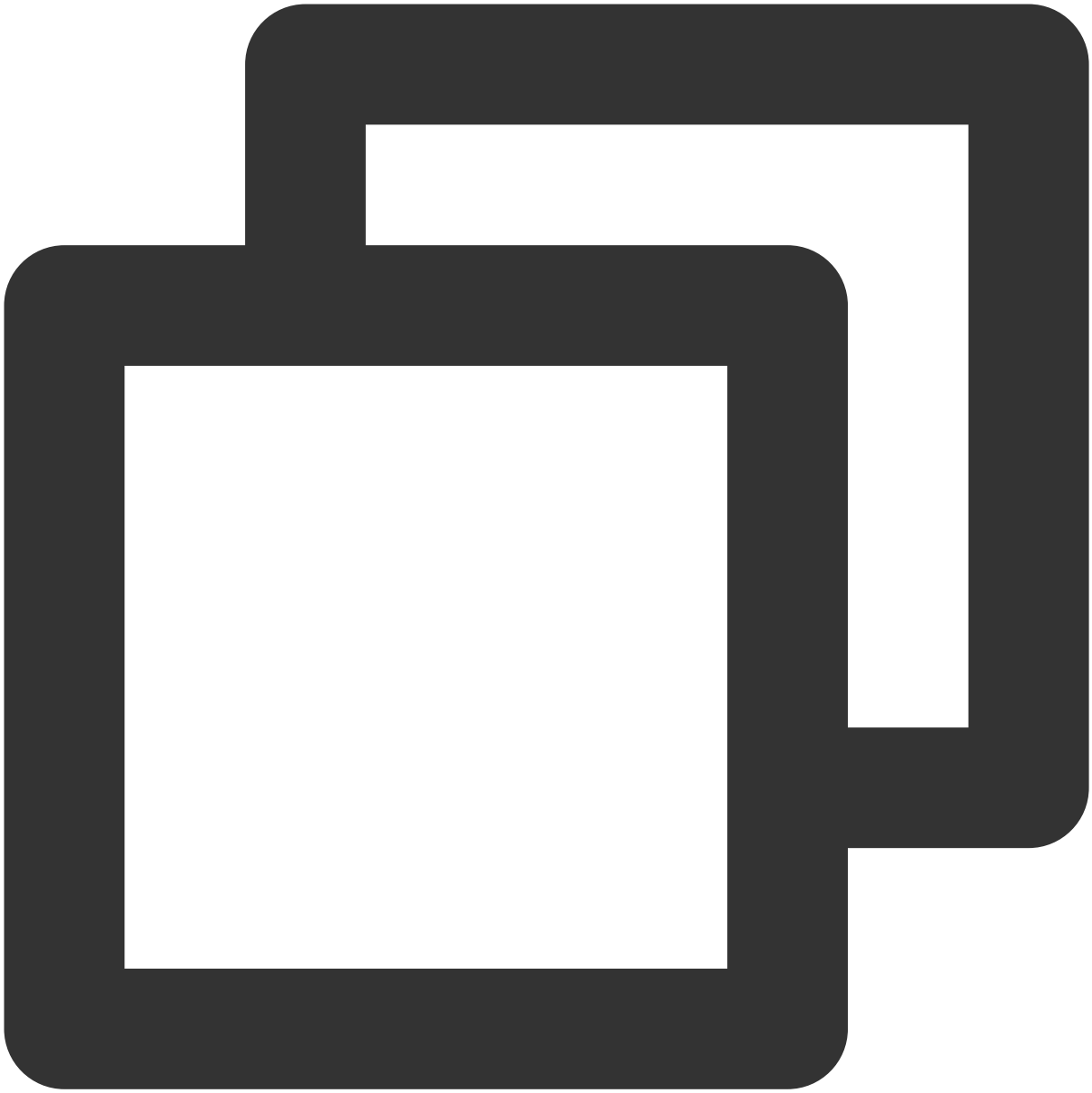
Reference the TUIRoom Component in the page. For example, import the TUIRoom Component in the `App.vue` component.

The TUIRoom Component divides users into Host and Regular Member roles. The Component provides init, createRoom, and enterRoom methods externally.

Both the Host and Regular Members can initialize the application and user data to the TUIRoom Component through the init method, the Host can create and join a Room through the createRoom method, and Regular Members can join a Room created by the Host through the enterRoom method.

Note:

After copying the following code in the page, you need to modify the parameters of the TUIRoom interface to the actual data.



```
<template>
  <div id="app">
    <room-container ref="TUIRoomRef"></room-container>
  </div>
</template>

<script>
import RoomContainer from '@/TUIRoom/index.vue';
export default {
  name: 'App',
  components: { RoomContainer },
```

```
  data() {
    return {};
  },
  async mounted() {
    // Initialize TUIRoom Component
    // The host needs to initialize the TUIRoom component before creating a room
    // Regular members need to initialize the TUIRoom component before entering a r
    await this.$refs.TUIRoomRef.init({
      // Get sdkAppId, please refer to Step 1
      sdkAppId: 0,
      // User unique identifier in your business
      userId: '',
      // Local development and debugging can quickly generate userSig on https://co
      userSig: '',
      // The nickname used by the user in your business
      userName: '',
      // The avatar link used by the user in your business
      avatarUrl: '',
    });
    // By default, create a room, and actually access it according to the needs of
    await this.handleCreateRoom();
  },
  methods: {
    // The host creates a room, this method is only called when creating a room
    async handleCreateRoom() {
      // roomId is the room number entered by the user, and roomId is required to b
      // roomMode includes 'FreeToSpeak' (Free-to-speak mode) and 'SpeakAfterTaking
      // roomParam specifies the default behavior of the user when entering the roo
      const roomId = '123456';
      const roomMode = 'FreeToSpeak';
      const roomParam = {
          isOpenCamera: true,
          isOpenMicrophone: true,
      }
      try {
        await this.$refs.TUIRoomRef.createRoom({ roomId, roomName: roomId, roomMode
      } catch (error) {
        alert('TUIRoomKit.createRoom error: ' + error.message);
      }
    },
    // Regular members enter the room, this method is called when regular members e
    async handleEnterRoom() {
      // roomId is the room number entered by the user, and roomId is required to b
      // roomParam specifies the default behavior of the user when entering the roo
      const roomId = '123456';
      const roomParam = {
          isOpenCamera: true,
```

```
            isOpenMicrophone: true,
        }
        try {
          await this.$refs.TUIRoomRef.enterRoom({ roomId, roomParam });
        } catch (error) {
          alert('TUIRoomKit.enterRoom error: ' + error.message);
        }
      }
    },
};

</script>

<style lang="scss">
html, body {
  width: 100%;
  height: 100%;
  margin: 0;
}

#app {
  width: 100%;
  height: 100%;
  * {
    box-sizing: border-box;
  }
}
</style>
```

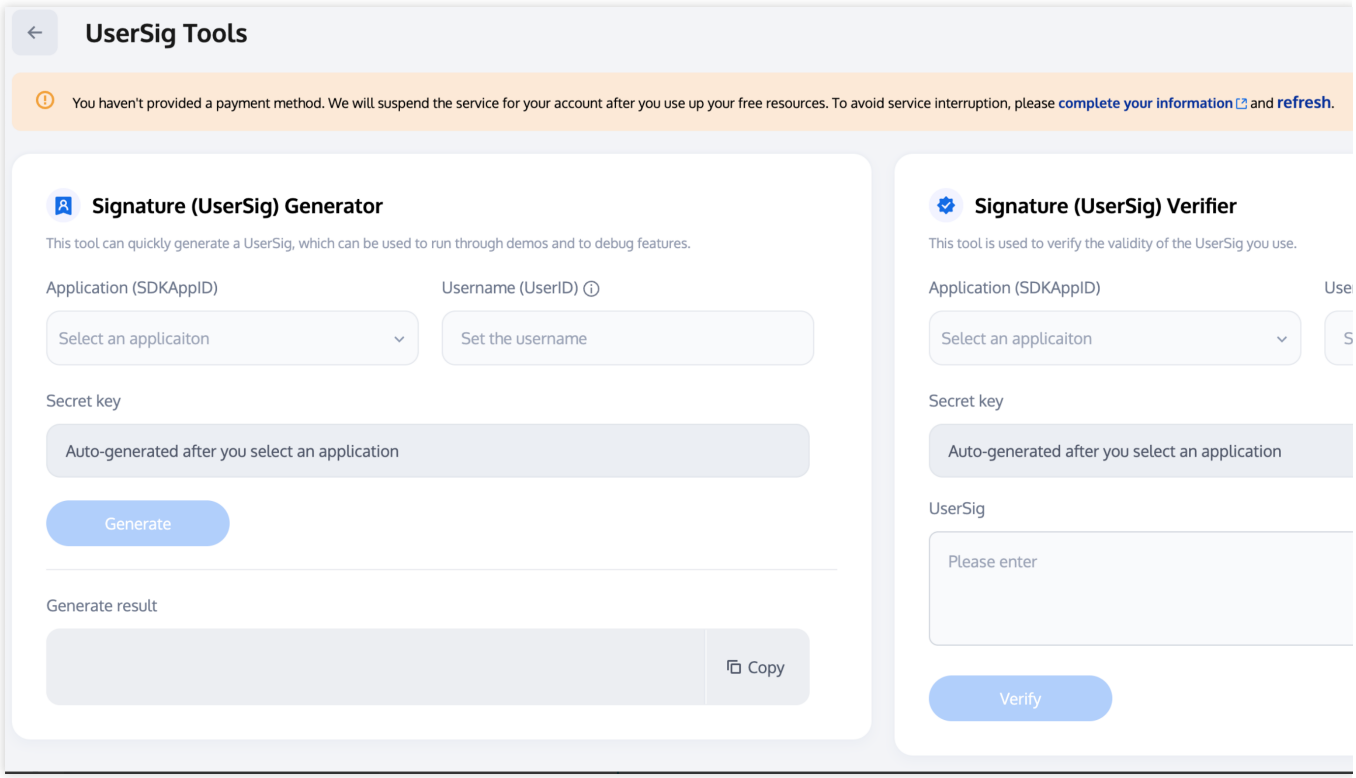
Parameter descriptions:

Here is a detailed description of the key parameters used in init:

sdkAppId: you have already got it in the last step of step 1, so I won't repeat it here.

userId: ID of the current user, string type, only allow alphabets (a-z and A-Z), numbers (0-9), hyphens (-) and underscores (_).

userSig: Use SDKSecretKey to encrypt information such as sdkAppId, userId, etc. to get userSig, which is an authentication ticket used by Tencent Cloud to identify whether the current user is able to use TRTC's services. You can get a temporary userSig by visiting Real-time Audio/Video TRTC Console -> UserSig Tools.



Note：

This step is also by far the one we receive the most feedback on from developers, with the following common problems.

sdkAppId is set incorrectly.

userSig is misconfigured as a Secretkey. userSig is obtained by encrypting sdkAppId, userId and expiration time with the SecretKey, instead of configuring the SecretKey as userSig directly.

UserSig is set to a simple string such as "1", "123", "111", etc. Since TRTC doesn't support multi-login with the same UserID, it is not possible to use the same UserID for multi-login, so it is not possible to use the same UserID for multi-login. Since TRTC does not support multi-location login with the same userID, userIds like "1", "123", "111" will easily be occupied by your colleagues during multi-user development, resulting in login failure. recommend that you set some highly recognizable userId during debugging.

The sample code in Github uses the genTestUserSig function to compute the userSig locally in order to get you through the current access process faster, but this solution exposes your SecretKey to the App's code, which is not conducive to upgrading and securing your SecretKey, so we strongly recommend that you place the Therefore, we strongly recommend that you put the UserSig calculation logic on the server side and have the App request the real-time calculated userSig from your server every time you use the TUIRoomKit component.

Step 4: Configure the development environment

After the TUIRoom component is introduced, in order to ensure that the project can run normally, the following configurations need to be made:

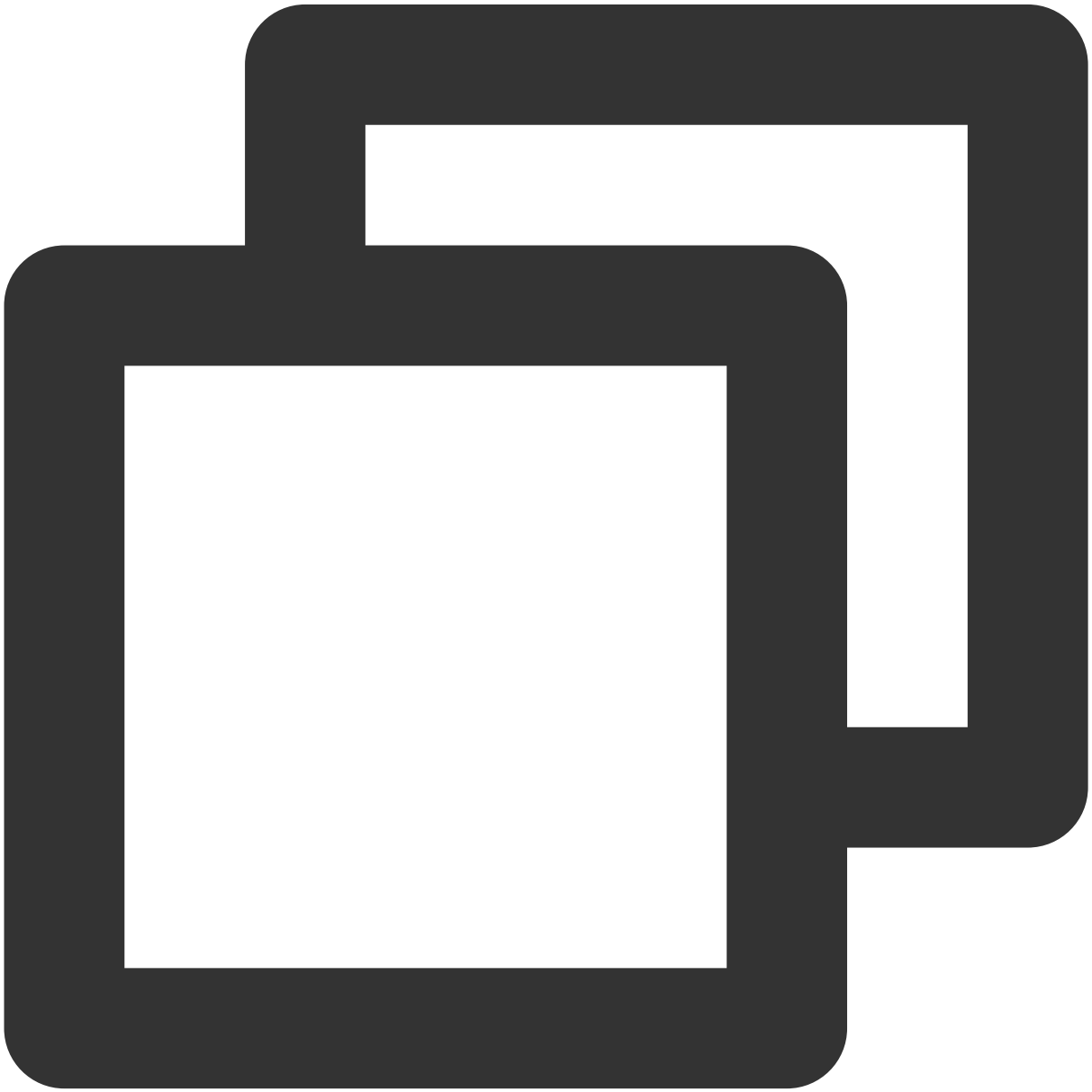
Setting up Vue3 + Vite + TS Environment

Setting up Vue3 + Webpack + TS Environment

Setting up Vue2 + Webpack + TS Environment

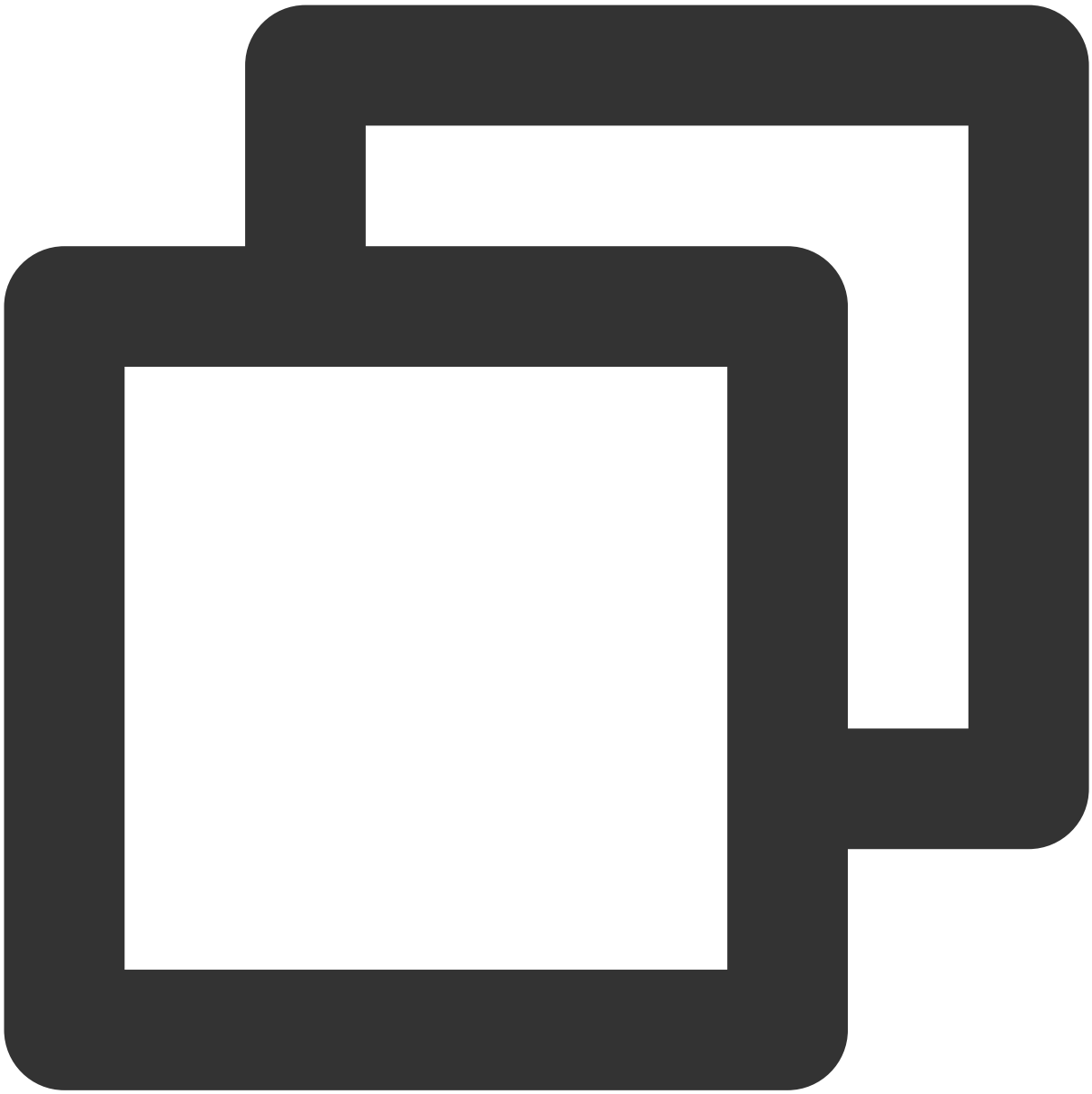
1. **Install Dependencies**

Install Development Environment Dependencies:



```
npm install sass typescript -S -D
```

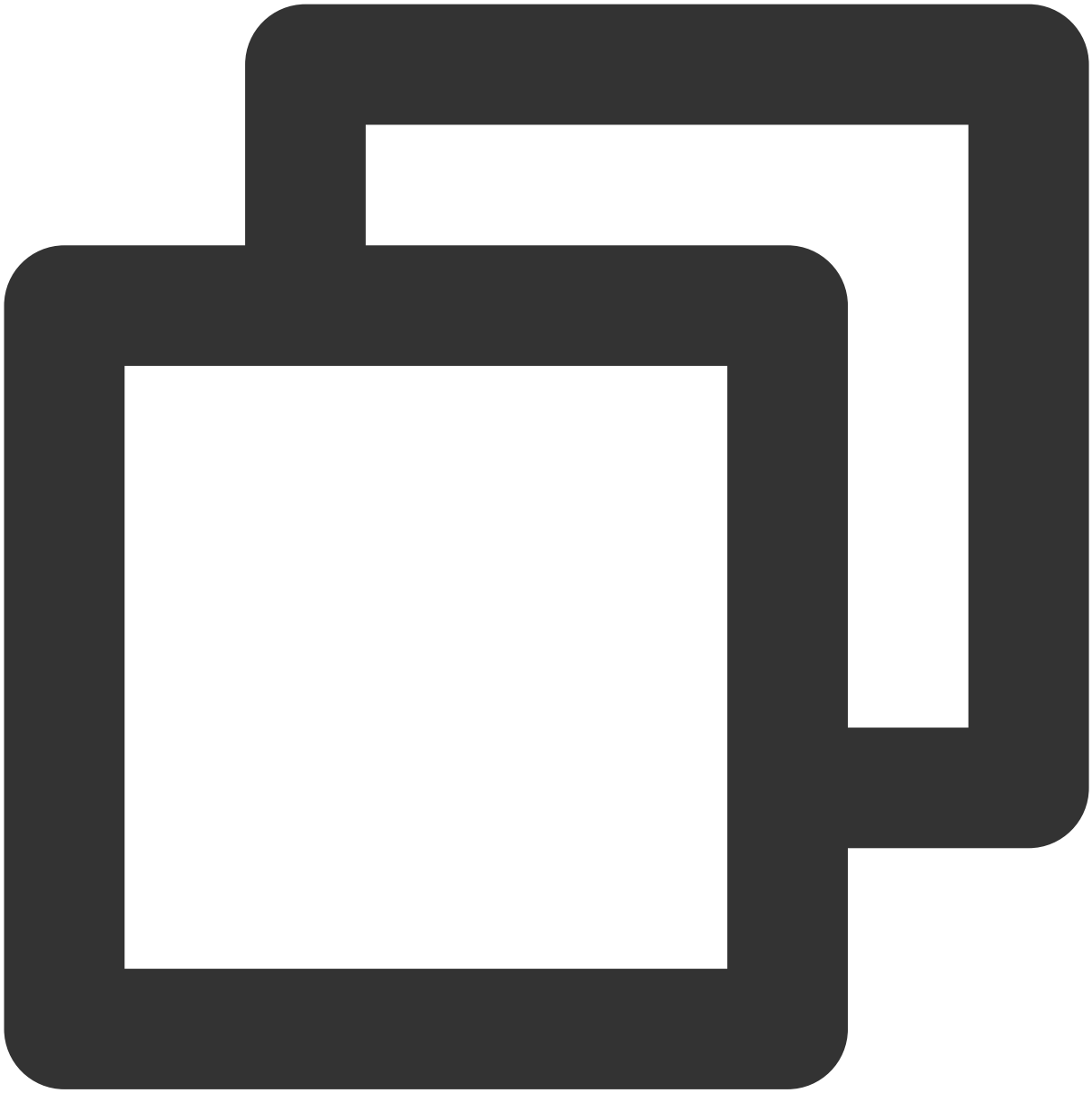
Install Production Environment Dependencies：



```
npm install mitt pinia @tencentcloud/tuiroom-engine-js vue-i18n rtc-detect -S
```

2. **Register Pinia**

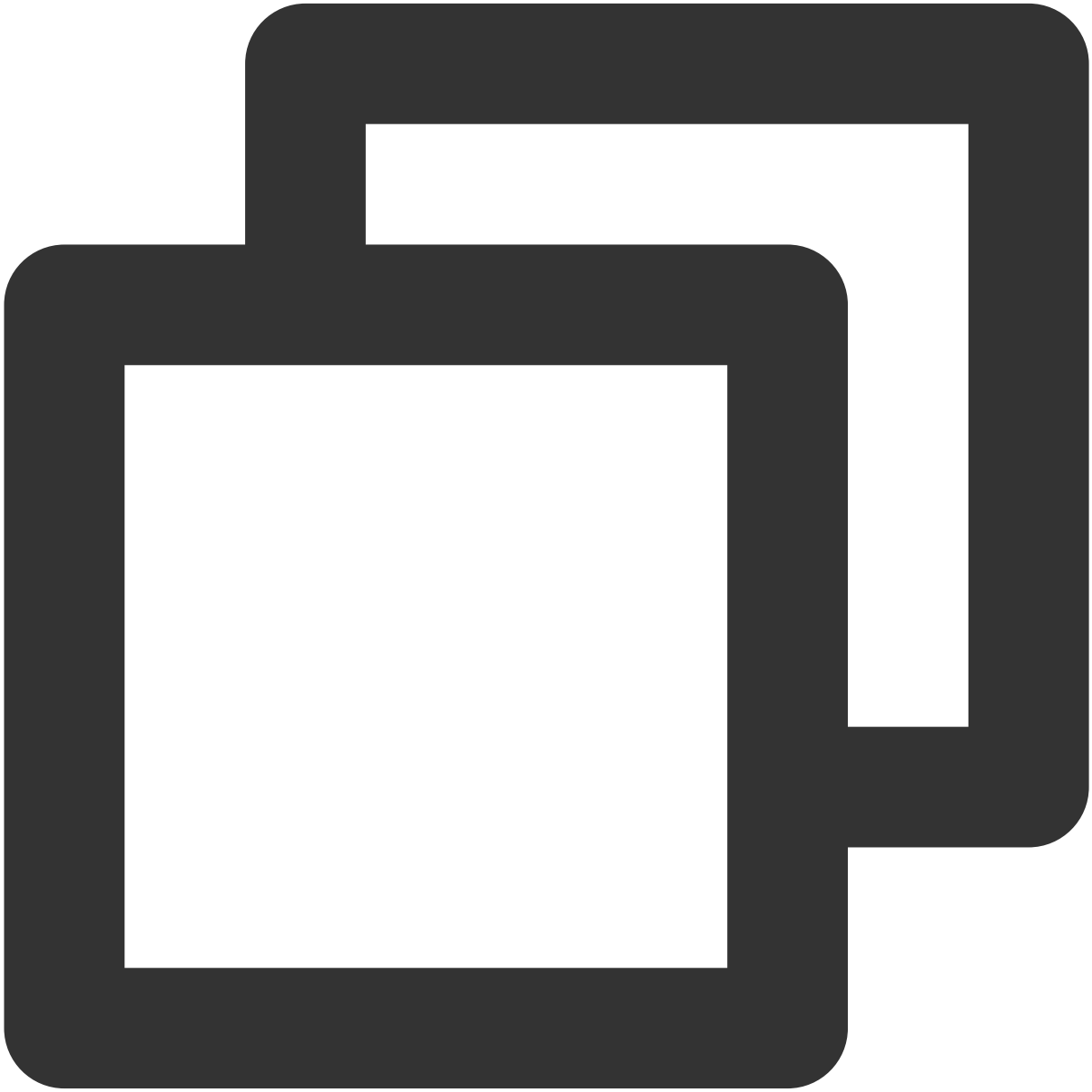
TUIRoom uses Pinia for room data management, you need to register Pinia in the project entry file, which is the `src/main.ts` file.



```
// src/main.ts file
import { createPinia } from 'pinia';

const app = createApp(App);
// Register pinia
app.use(createPinia());
app.mount('#app');
```

3. **Configure Chinese-English language switching**

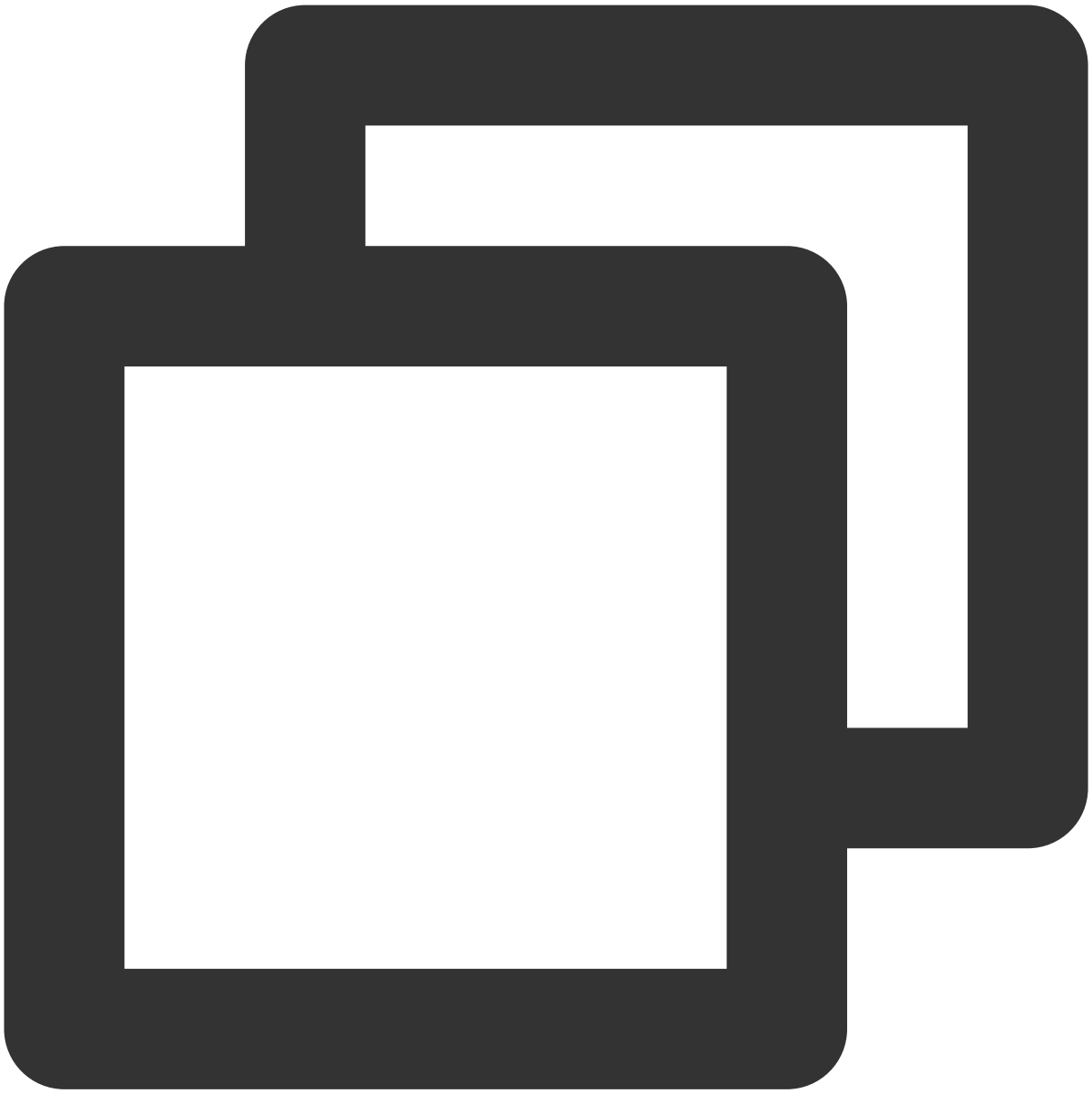
TUIRoom currently supports Chinese-English language switching, you need to register the i18n instance in the main.ts file.



```
// src/main.ts
// Import locales/index.ts file, Please confirm whether the import path is correct
import VueI18n from './TUIRoom/locales/index';

app.use(VueI18n);
```

4. **Configuring esLint Checksums**

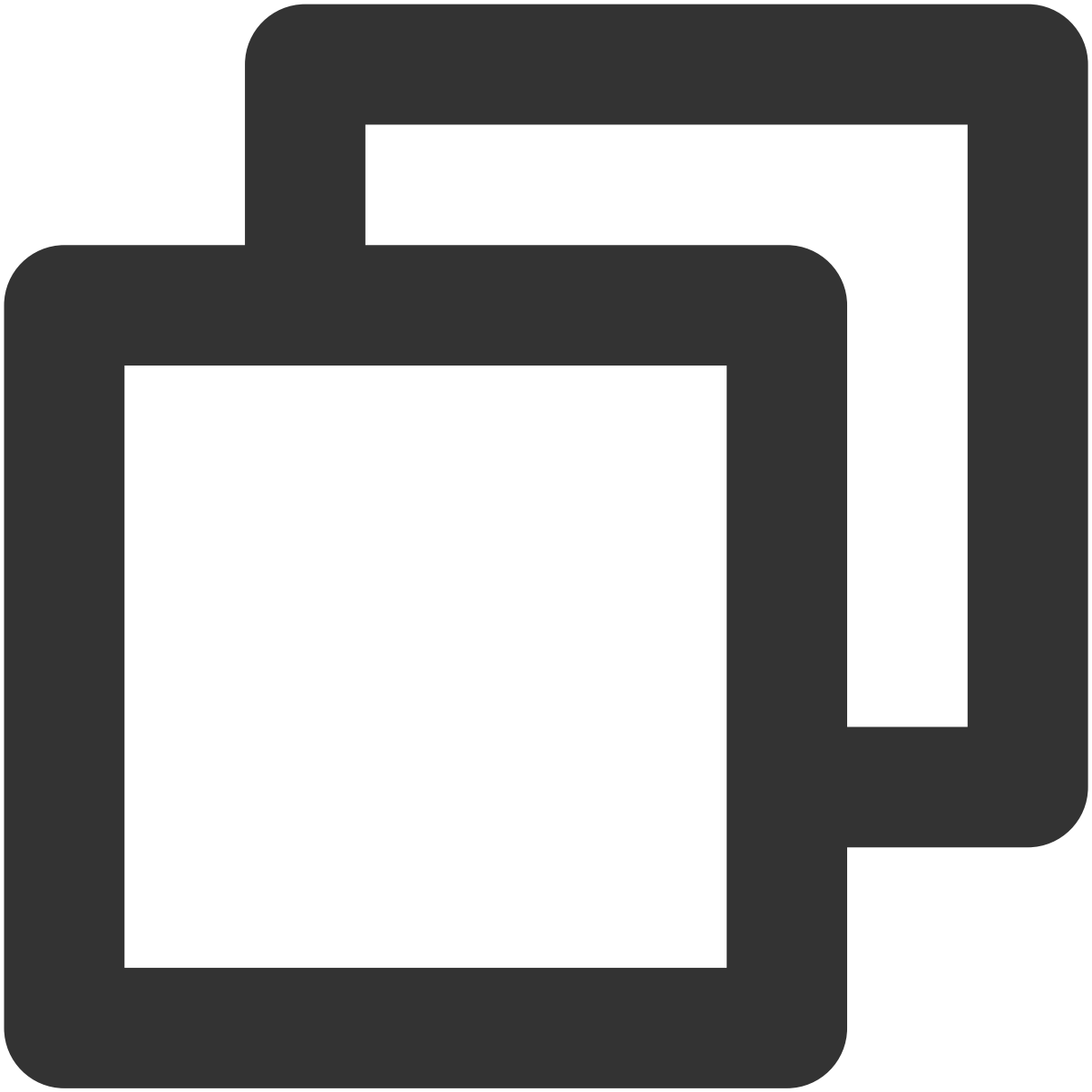
If you don't want conflicts between the esLint rules of the TUIRoomKit component and your local rules, you can add an ignore TUIRoom folder to .eslintignore.



```
src/TUIRoom
```

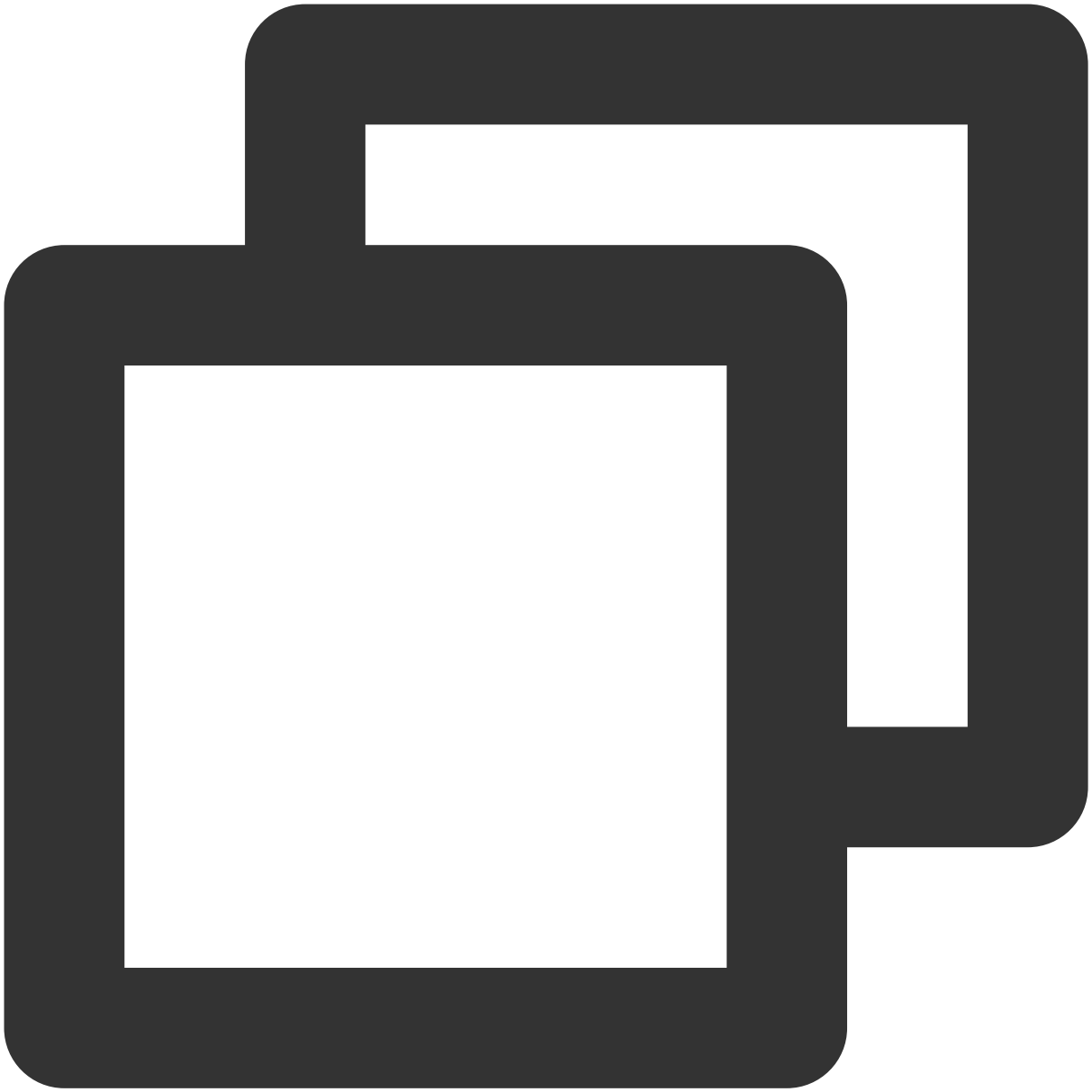
1. **Install Dependencies**

Install Development Environment Dependencies:



```
npm install sass sass-loader typescript -S -D
```

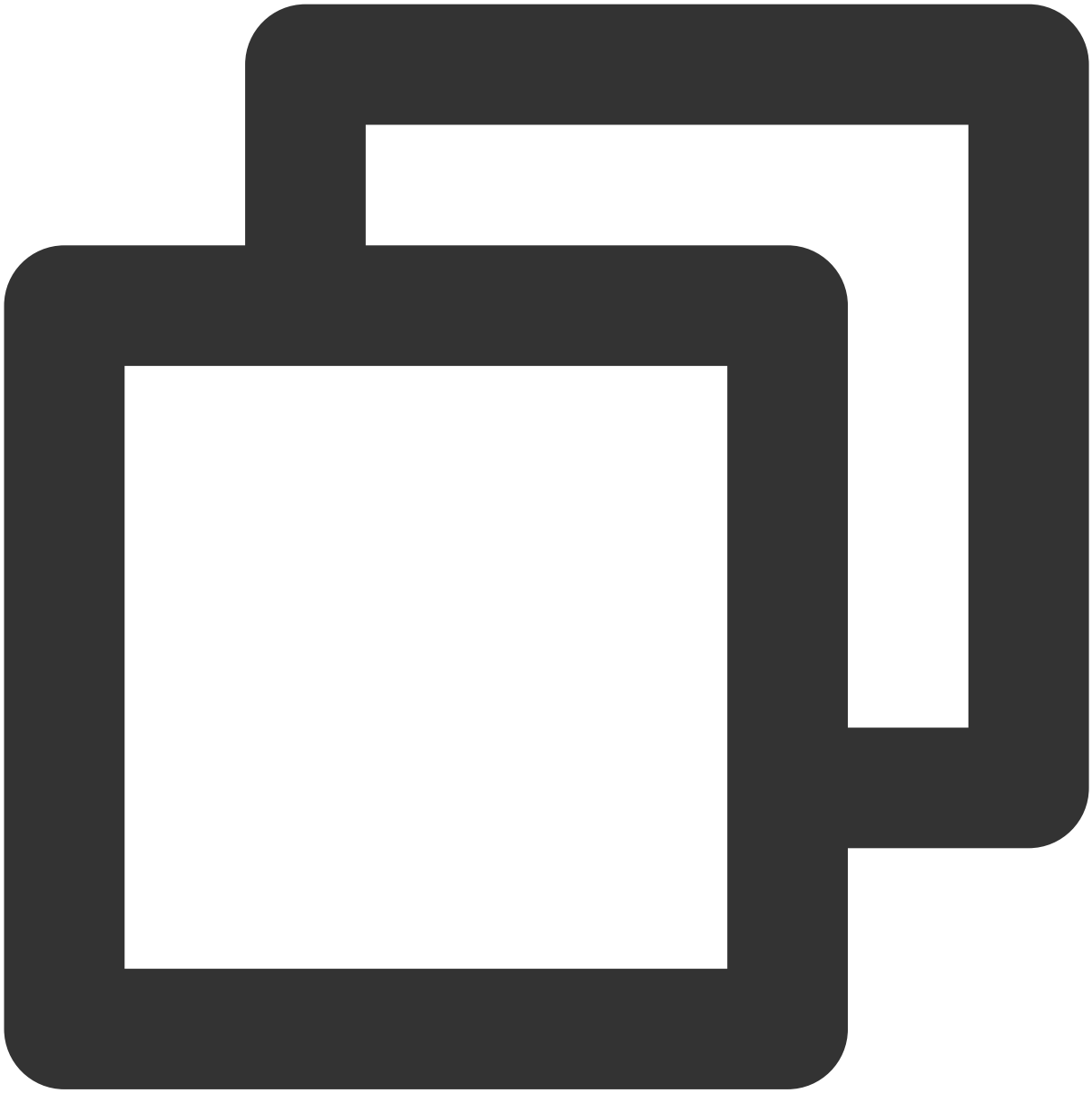
Install Production Environment Dependencies:



```
npm install mitt pinia @tencentcloud/tuiroom-engine-js vue-i18n rtc-detect -S
```

2. **Register Pinia**

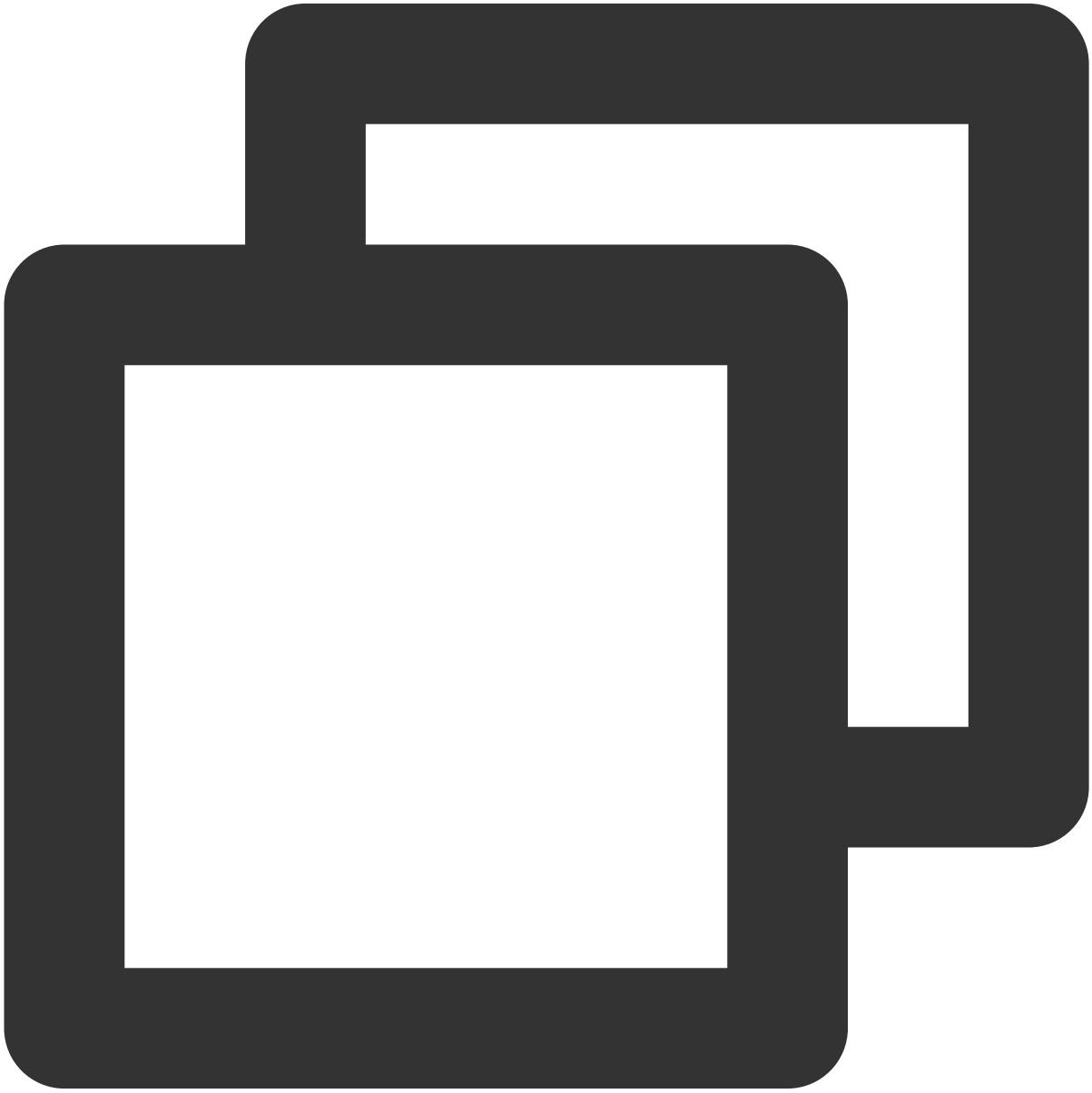
TUIRoom uses Pinia for room data management, you need to register Pinia in the project entry file, which is the `src/main.ts` file.



```
// src/main.ts file
import { createPinia } from 'pinia';

const app = createApp(App);
// Register pinia
app.use(createPinia());
app.mount('#app');
```

3. **Configure Chinese-English language switching**

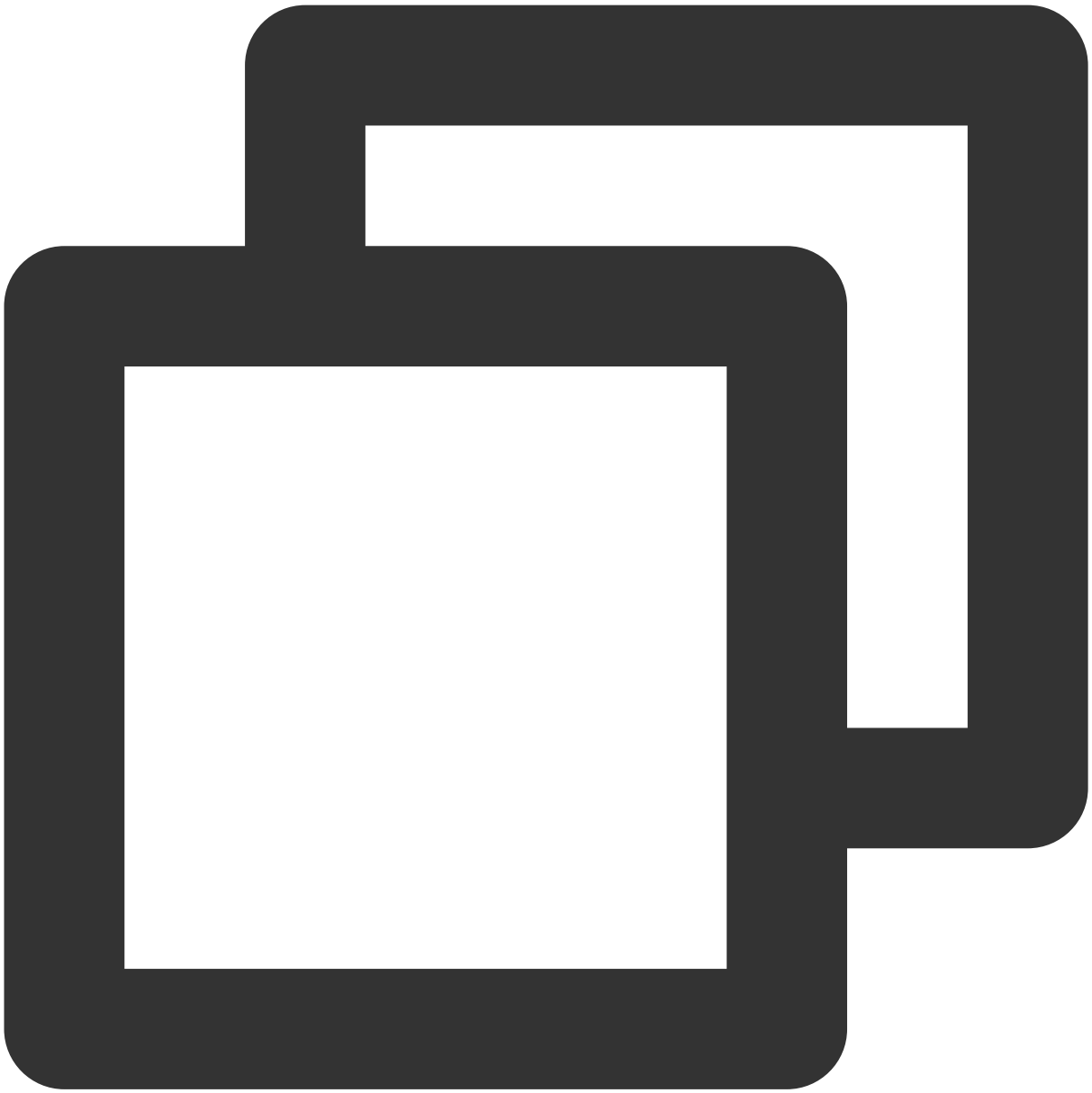
TUIRoom currently supports Chinese-English language switching, you need to register the i18n instance in the main.ts file.



```
// src/main.ts
// Import locales/index.ts file, Please confirm whether the import path is correct
import VueI18n from './TUIRoom/locales/index';

app.use(VueI18n);
```

4. **Configure esLint Checksums**

If you don't want conflicts between the esLint rules of the TUIRoomKit component and your local rules, you can add an ignore TUIRoom folder to .eslintignore.



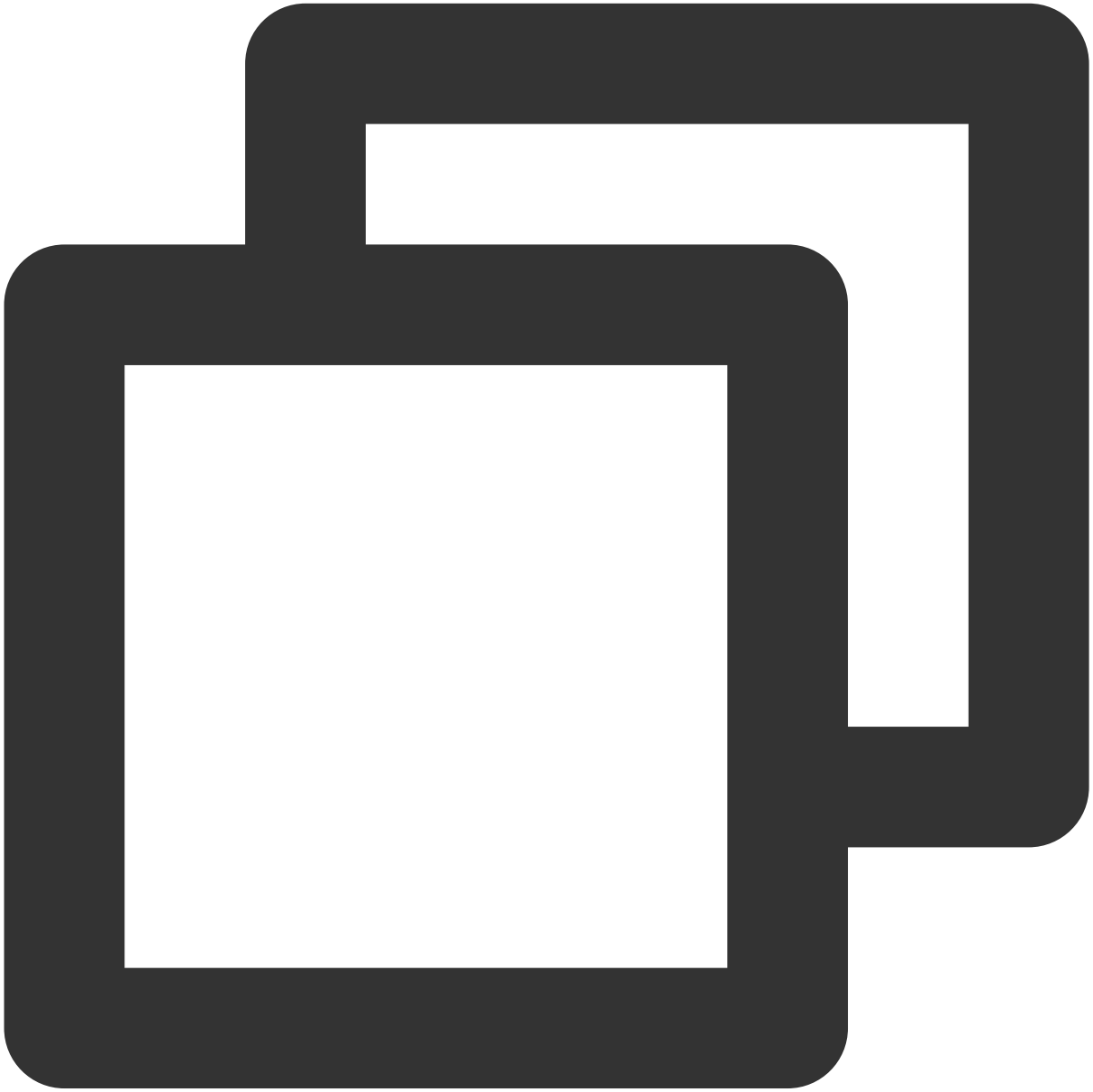
```
src/TUIRoom
src/App.vue
src/main.ts
```

Note：

TUIRoomKit component requires vue2 project to have vue2.7 installed and supports typescript environment. If your current project is on vue2.6 + js environment, follow the steps below to upgrade to vue2.7 + ts environment.

Upgrading from vue2.6 to vue2.7 is a smooth upgrade and has no impact on existing code. After configuring the ts environment, there is no impact on existing js code. Please feel free to upgrade.

1. **Configure TypeScript, support TUIRoom Component loading**



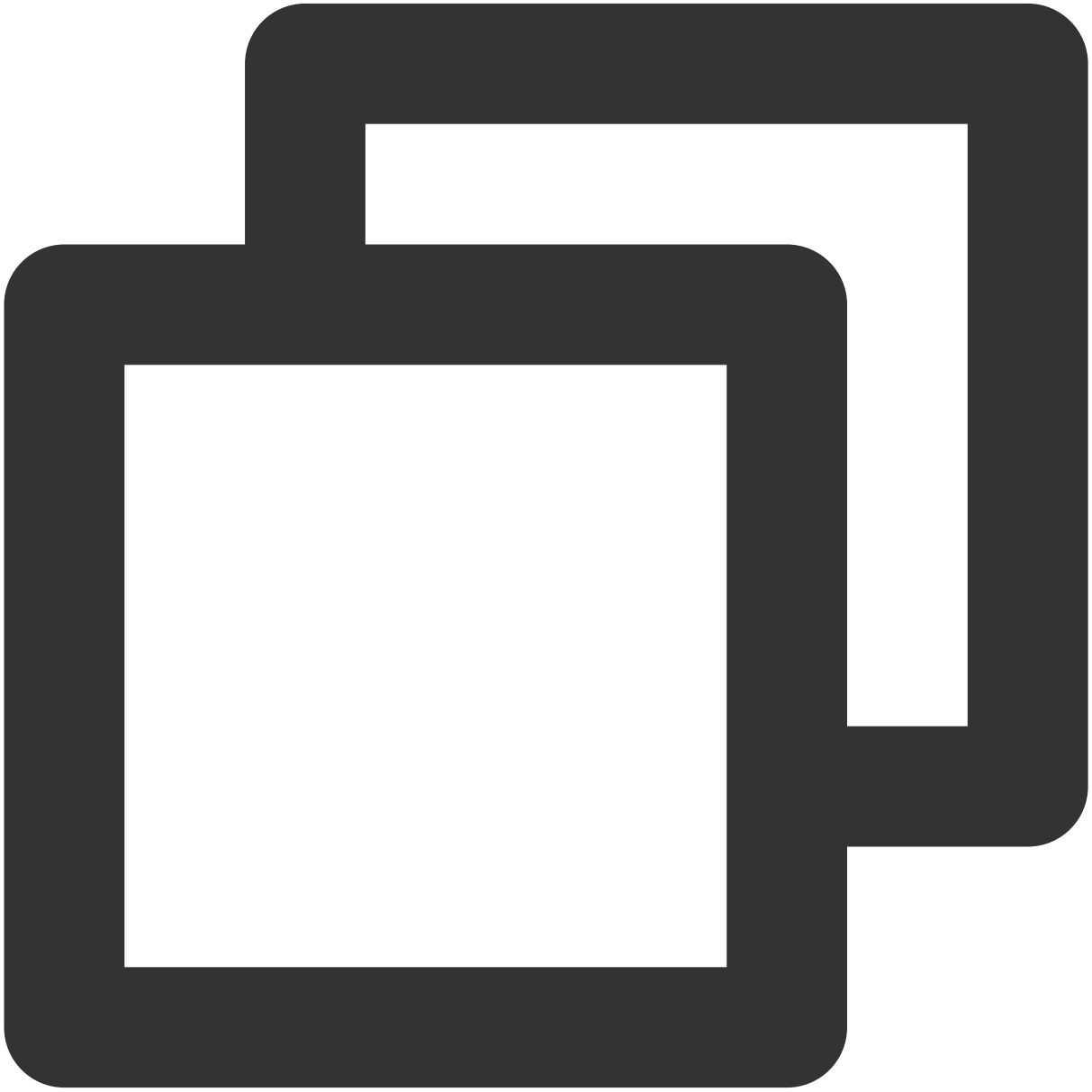
```
vue add typescript
```

Refer to the image for options to configure the TS development environment:

```
? Use class-style component syntax? No
? Use Babel alongside TypeScript (required for modern mode, auto-detected polyfills, transpiling JSX)? Yes
? Convert all .js files to .ts? No
? Allow .js files to be compiled? Yes
? Skip type checking of all declaration files (recommended for apps)? No
```

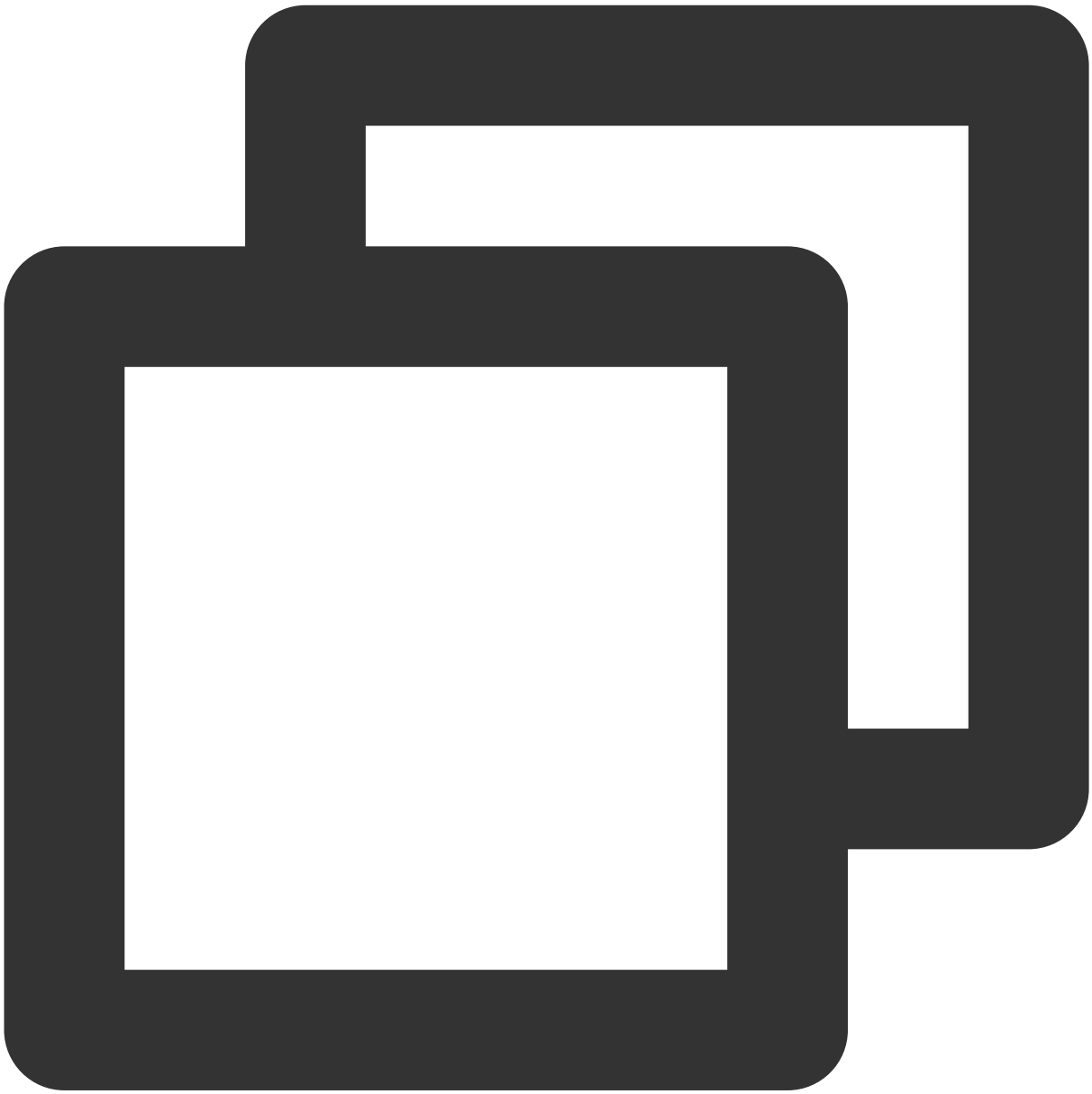
2. **Install Dependencies**

Install Development Environment Dependencies:



```
npm install sass sass-loader -S -D
```

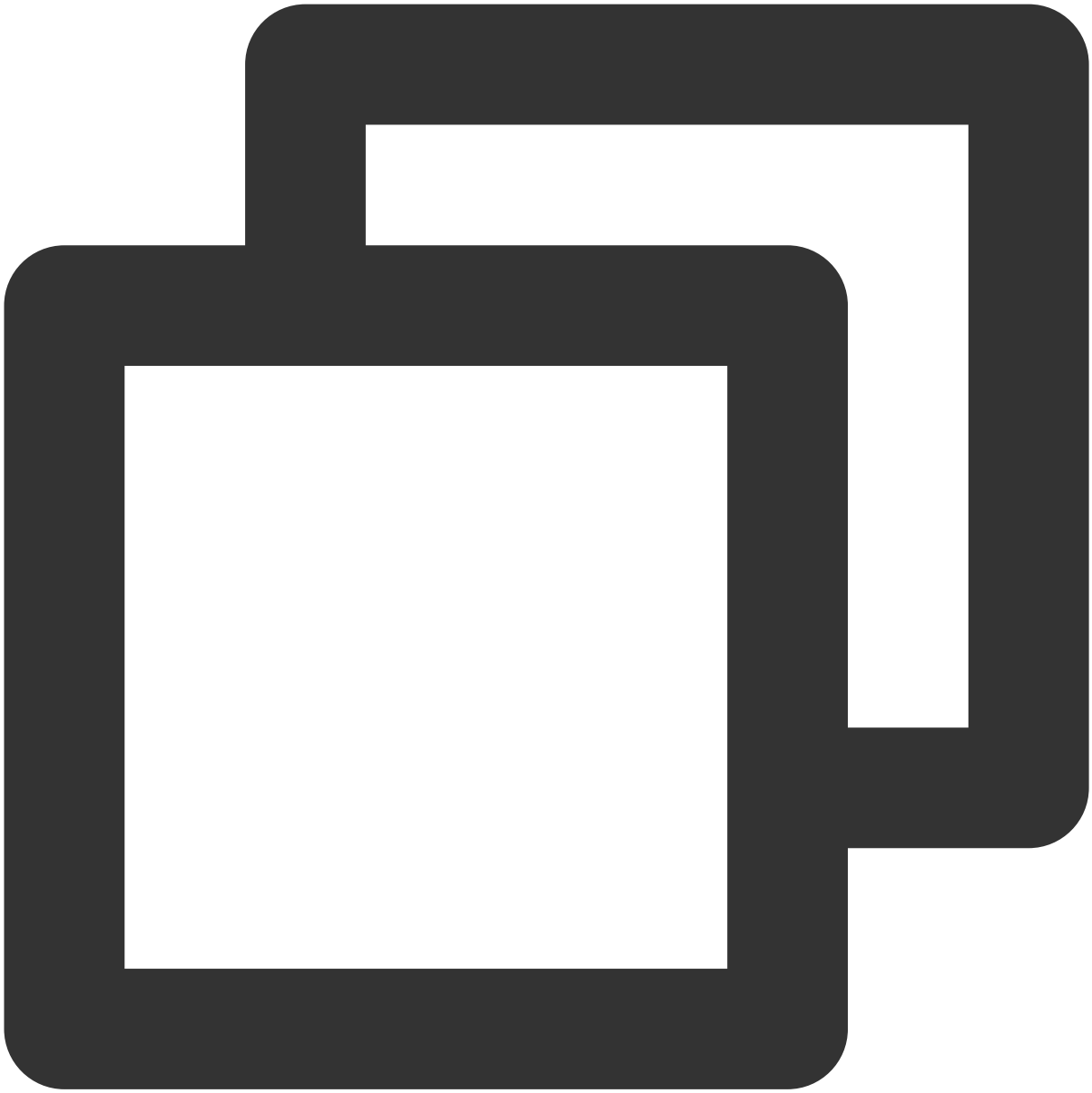
Install Production Environment Dependencies:



```
npm install vue@^2.7 pinia @tencentcloud/tuiroom-engine-js vue-i18n@^8 vue-i18n-bri
```

3. **Register Pinia**

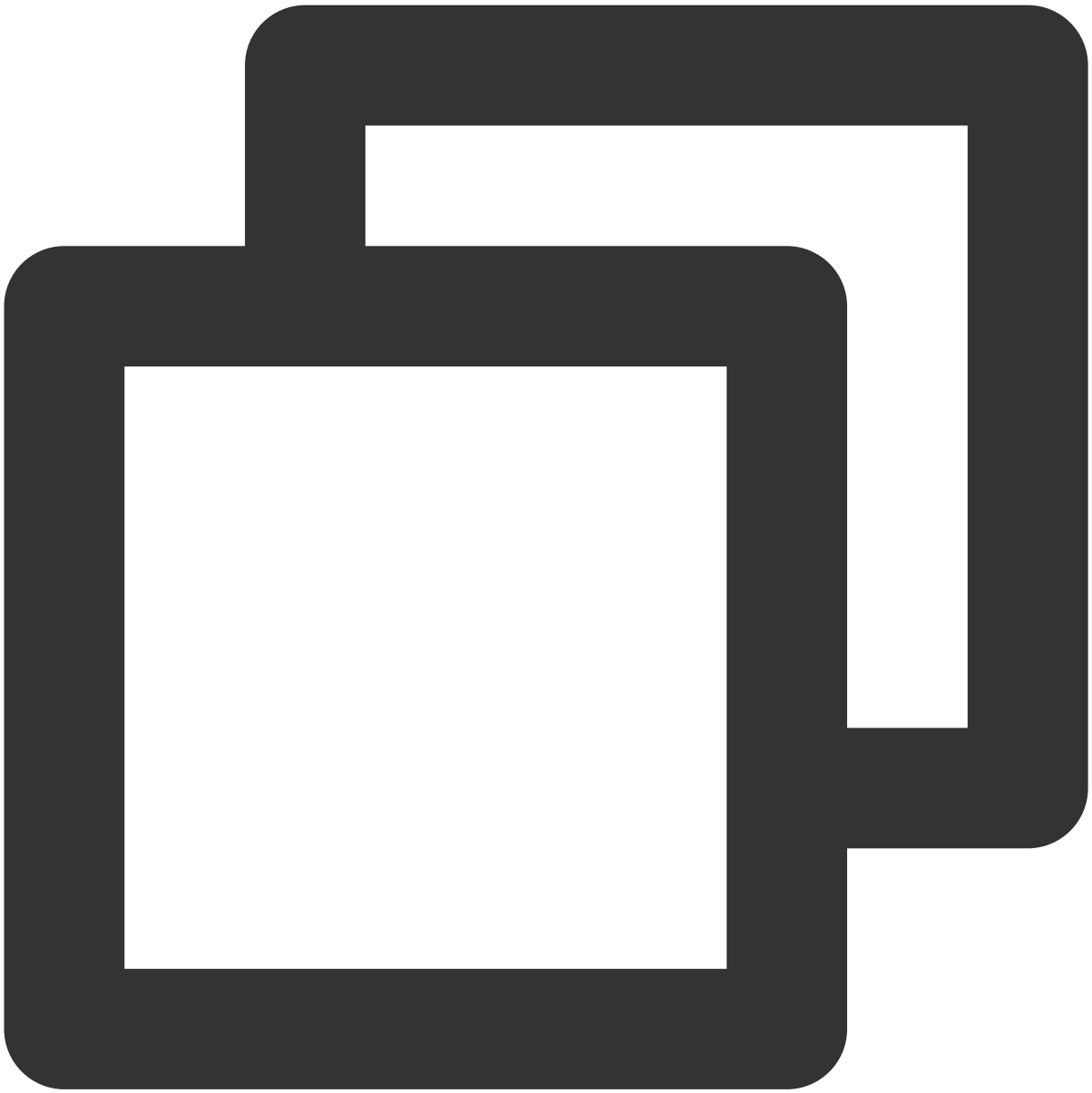
TUIRoom uses Pinia for room data management, you need to register Pinia in the project entry file, which is the `src/main.ts` or `src/main.js` file.



```
import { createPinia, PiniaVuePlugin } from 'pinia';

Vue.use(PiniaVuePlugin);
const pinia = createPinia();

new Vue({
  pinia,
  render: h => h(App),
}).$mount('#app');
```

4. **Configure Chinese-English language switching**

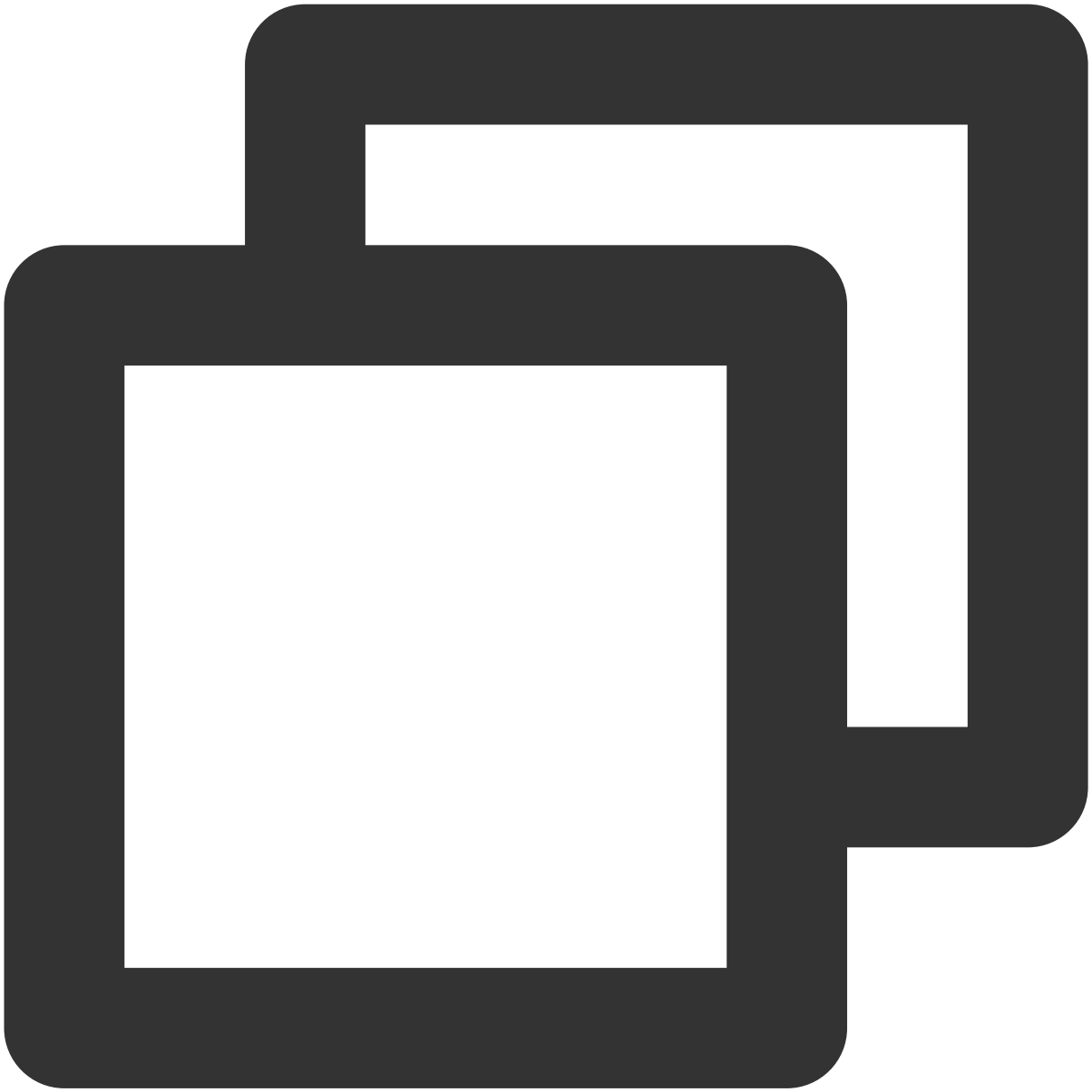
TUIRoom currently supports Chinese-English language switching, you need to register the i18n instance in the main.ts file.



```
import i18n from './TUIRoom/locales/';

Vue.use(i18n);
```

5.**Configure esLint Checksums**

If you don't want conflicts between the esLint rules of the TUIRoomKit component and your local rules, you can add an ignore TUIRoom folder to .eslintignore.



```
src/TUIRoom
```

Step 5: Run in the development environment

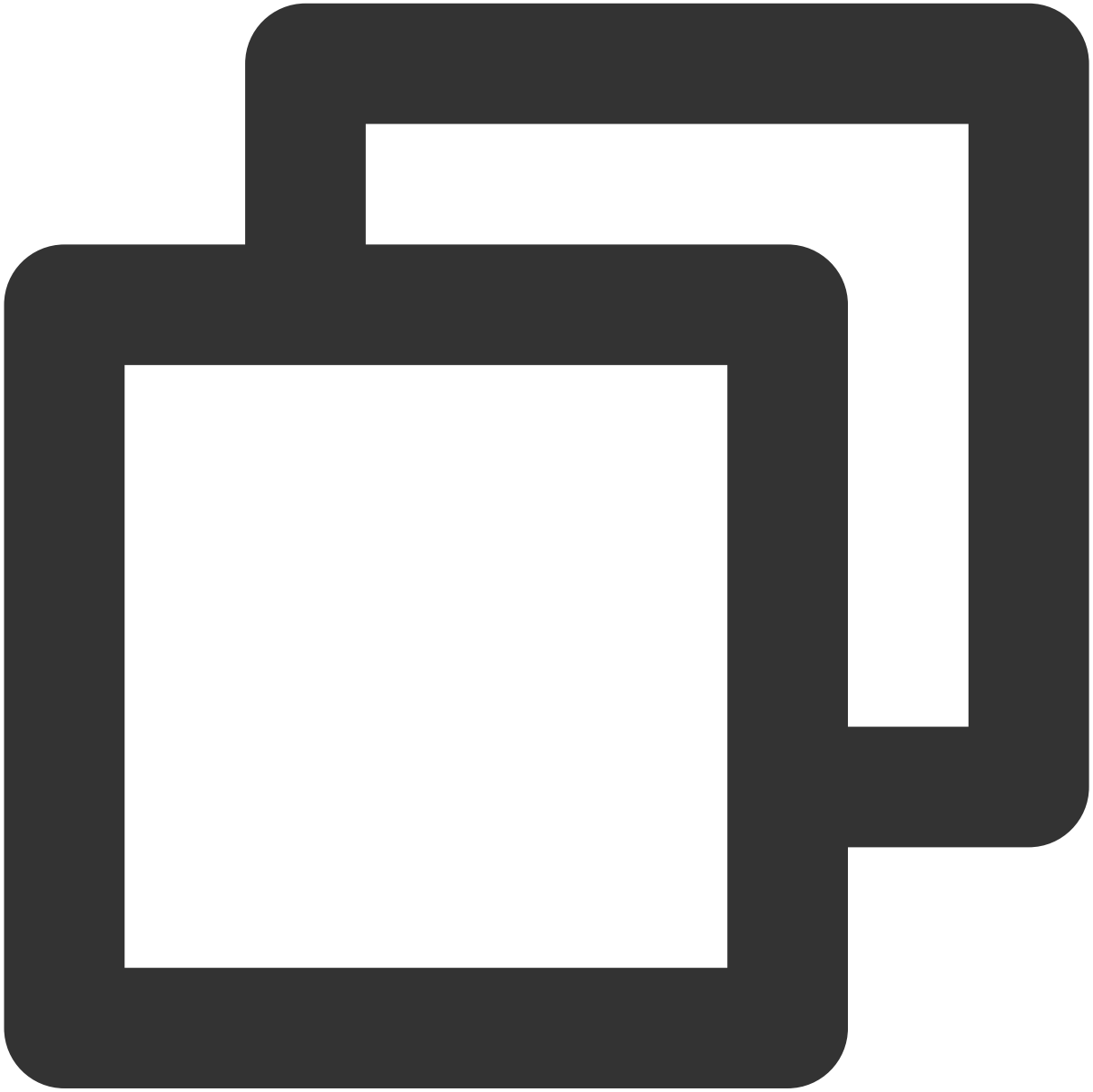
Execute the development environment running script in the console, open the page containing TUIRoomKit with a browser, and you can use the TUIRoomKit component in the page.

Vue3 + Vite + TS Project

Vue3 + Webpack + TS Project

Vue2 + Webapck + TS Project

1. Execute development environment command.



```
npm run dev
```

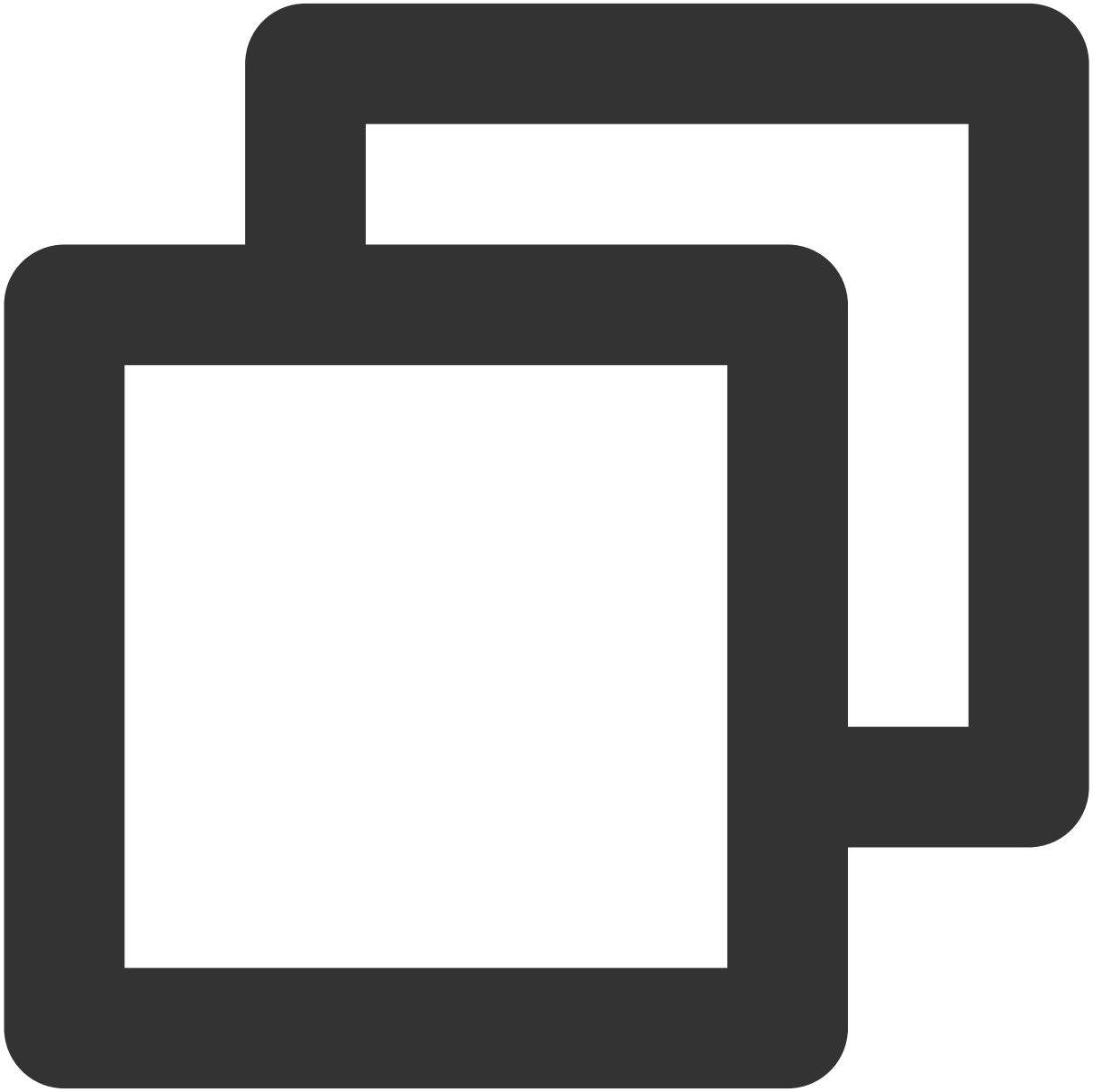
2. Open the page: `http://localhost:3000/` in the browser.

Note

Due to the on-demand import of element-plus components by TUIRoom, the response of the routing page in the development environment will be slow when it is loaded for the first time. Wait for the element-plus on-demand loading

to complete, and it can be used normally. The on-demand loading of element-plus will not affect the loading of the page after packaging.

1. Execute development environment command



```
npm run serve
```

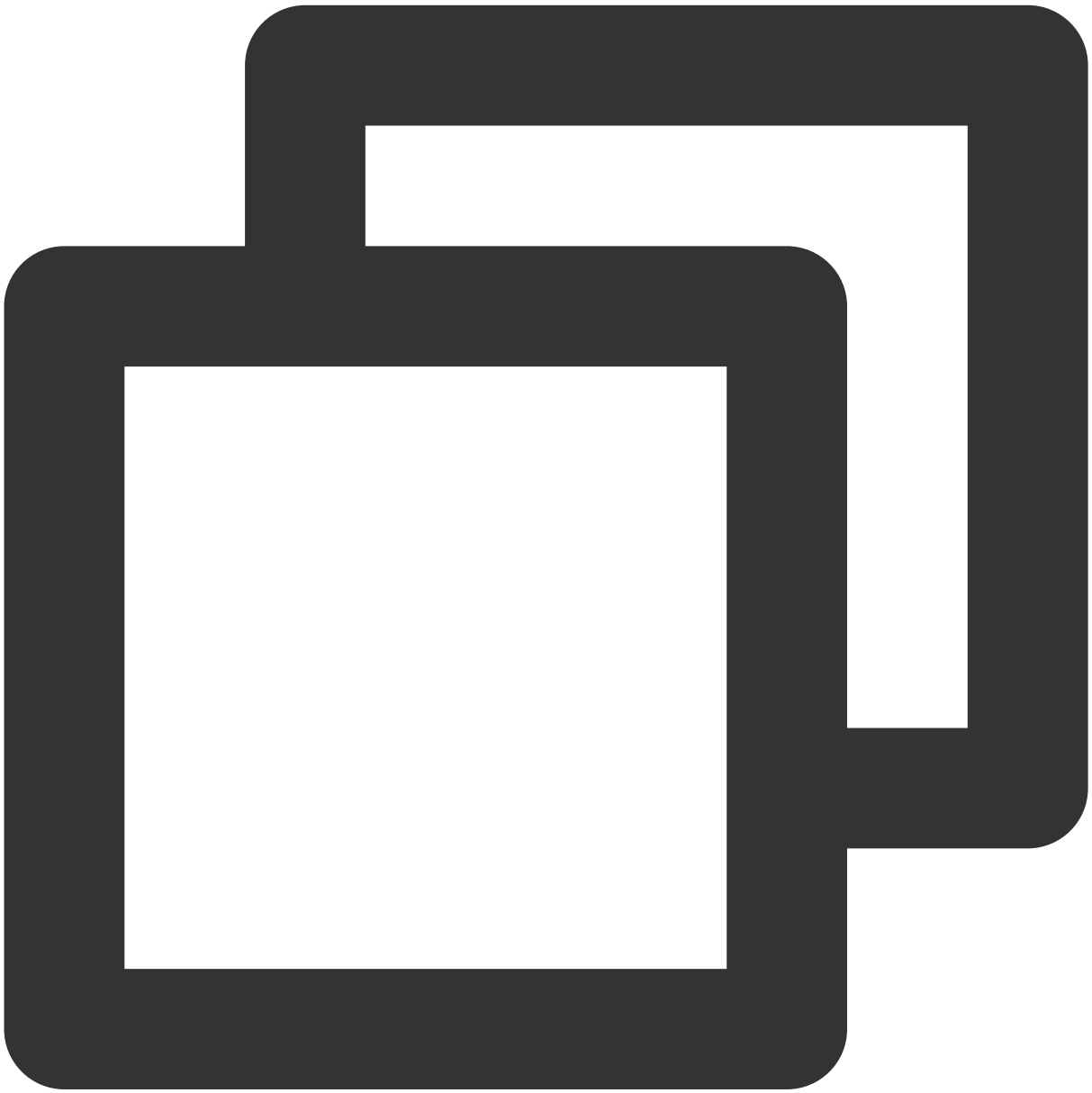
2. Open the page: `http://localhost:8080/` in the browser.

Note

If there are eslint errors in the src/TUIRoom directory during the running process, you can add the /src/TUIRoom/ path to the .eslintignore file to shield the eslint check.

3. Experience the functions of the TUIRoom component

1. Execute development environment command



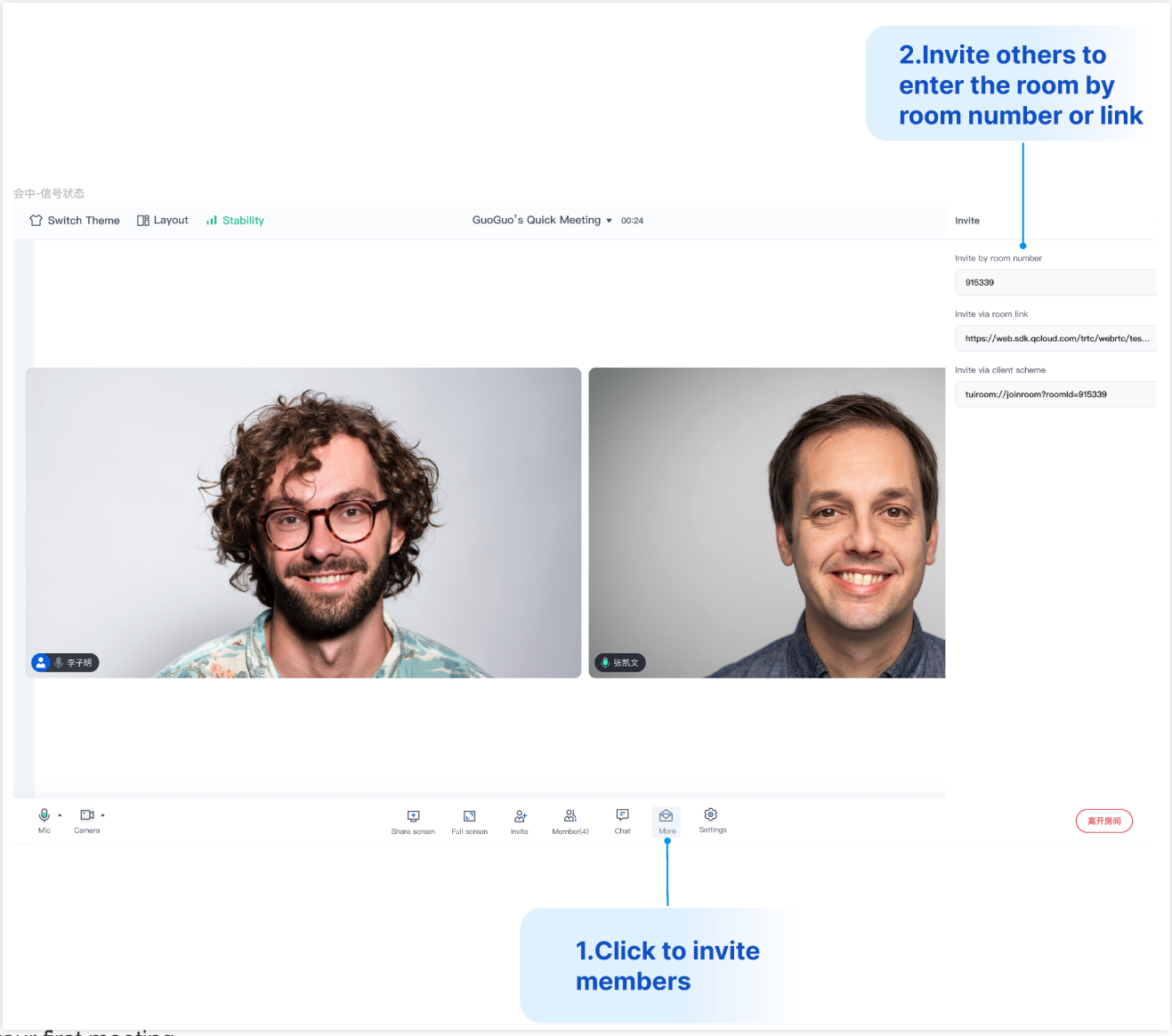
```
npm run serve
```

2. Open the page: `http://localhost:8080/` in the browser.

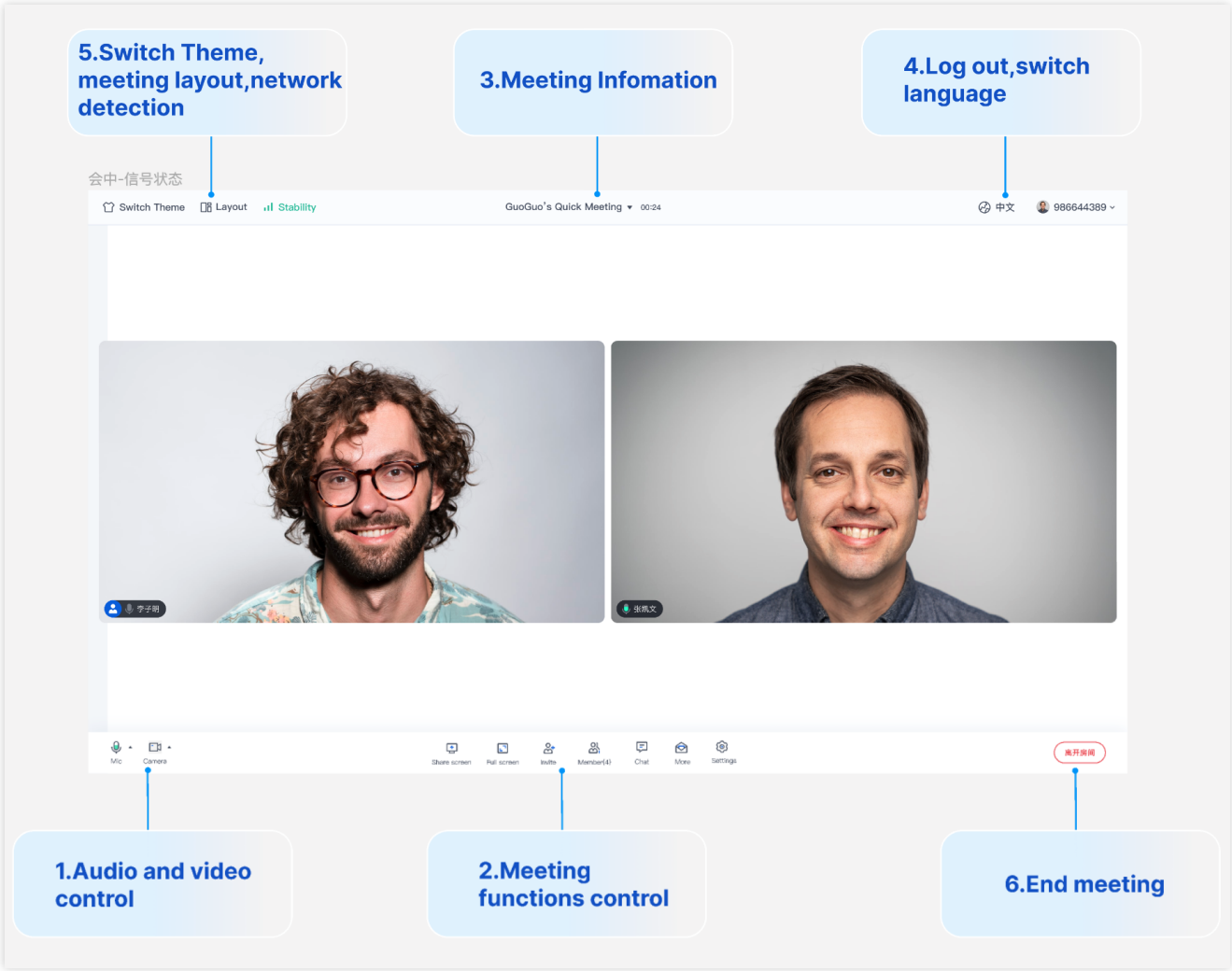
Note

If there are eslint errors in the src/TUIRoom directory during the running process, you can add the /src/TUIRoom/ path to the .eslintignore file to shield the eslint check.

After the project starts, click on Invite Members, and experience multi-user room interaction locally through the room link and client-side scheme invitation method.

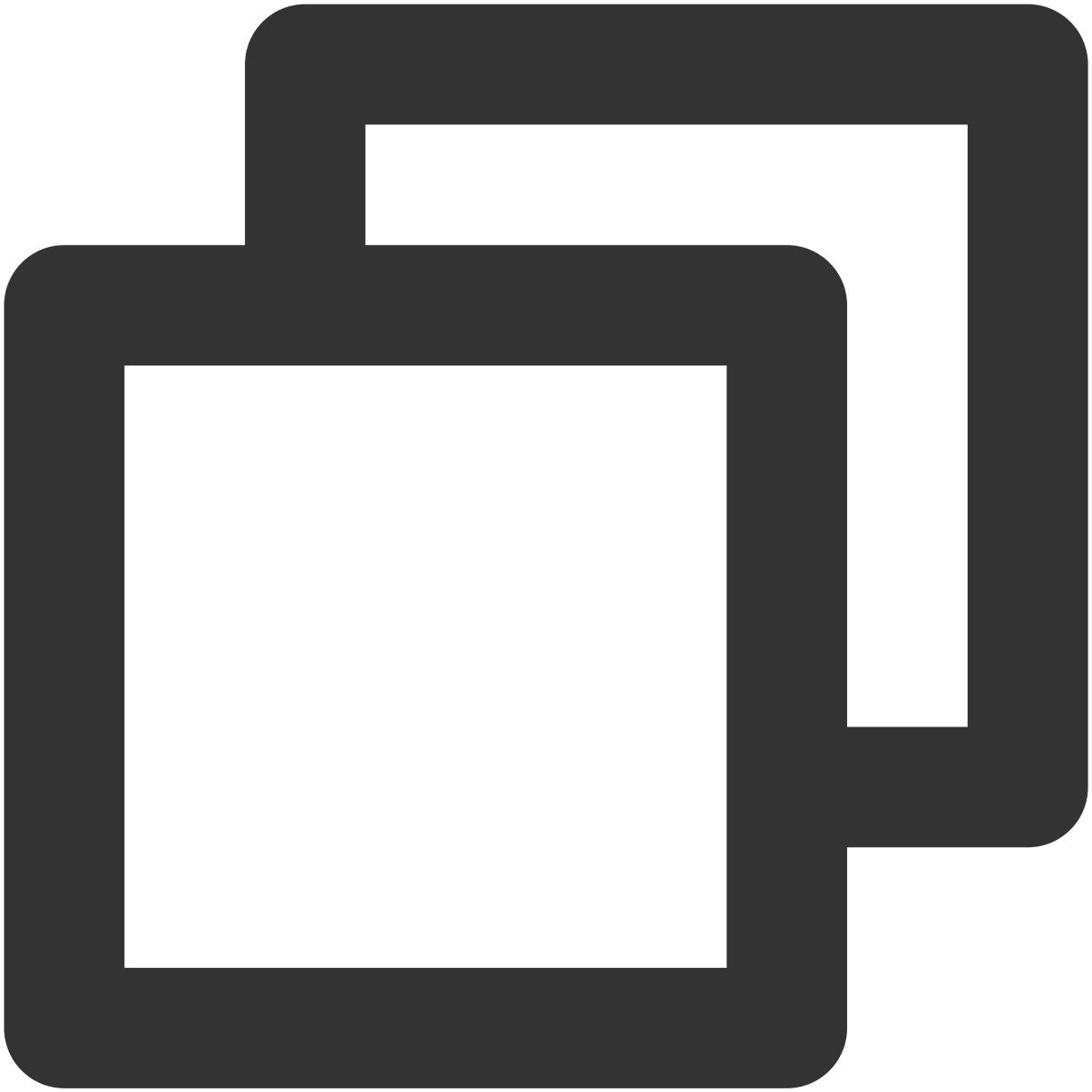


Start your first meeting.



Step 6: Deploy in the production environment

1. Package dist files



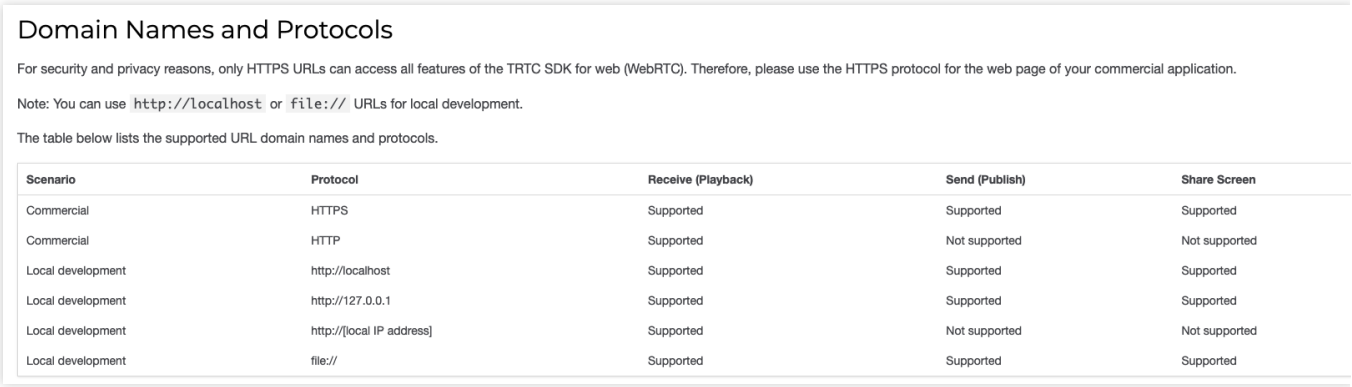
```
npm run build
```

Note

Please check the `package.json` file for the actual packaging command

2. Deploy dist files to the server

The production environment requires the use of an HTTPS domain name:



Domain Names and Protocols

For security and privacy reasons, only HTTPS URLs can access all features of the TRTC SDK for web (WebRTC). Therefore, please use the HTTPS protocol for the web page of your commercial application.

Note: You can use `http://localhost` or `file://` URLs for local development.

The table below lists the supported URL domain names and protocols.

Scenario	Protocol	Receive (Playback)	Send (Publish)	Share Screen
Commercial	HTTPS	Supported	Supported	Supported
Commercial	HTTP	Supported	Not supported	Not supported
Local development	http://localhost	Supported	Supported	Supported
Local development	http://127.0.0.1	Supported	Supported	Supported
Local development	http://[local IP address]	Supported	Not supported	Not supported
Local development	file://	Supported	Supported	Supported

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

Flutter

Last updated：2024-04-12 11:29:00

This article will introduce how to complete the integration of the `TUIRoomKit` component in the shortest time. By following this document, you will complete the following key steps within an hour and ultimately obtain an audio/video conference function with a complete UI interface.

Environment Preparation

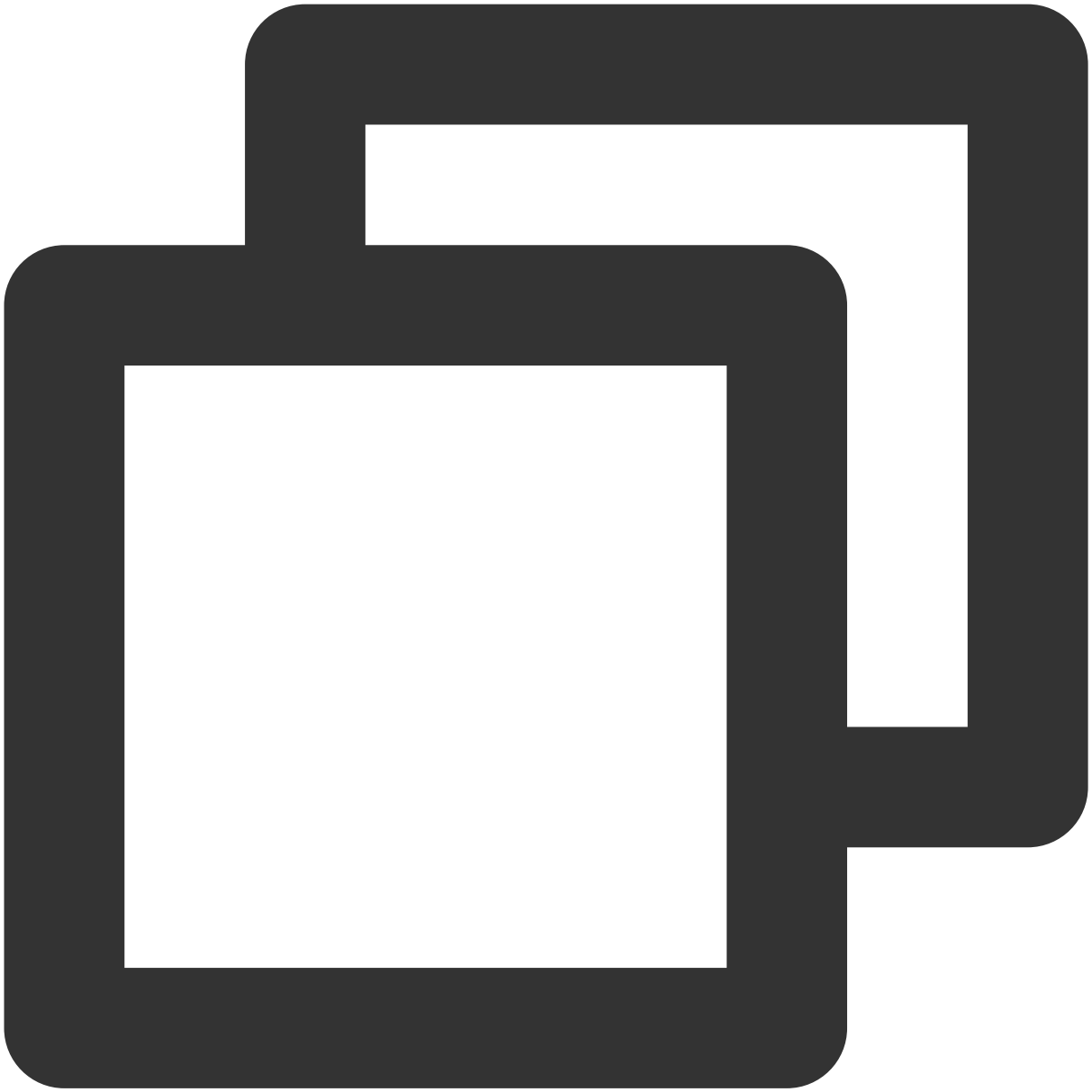
Platform	Version
Flutter	3.0.0 and above versions.
Android	Minimum compatibility with Android 4.1 (SDK API Level 16), recommended to use Android 5.0 (SDK API Level 21) and above. Android Studio 3.5 and above (Gradle 3.5.4 and above). Mobile devices with Android 4.1 and above.
iOS	iOS 12.0 and higher.

Step 1: Activate the Service

Before initiating a meeting with TUIRoomKit, you need to activate the exclusive multi-person audio and video interaction service for TUIRoomKit on the console. For specific steps, please refer to Activate Service.

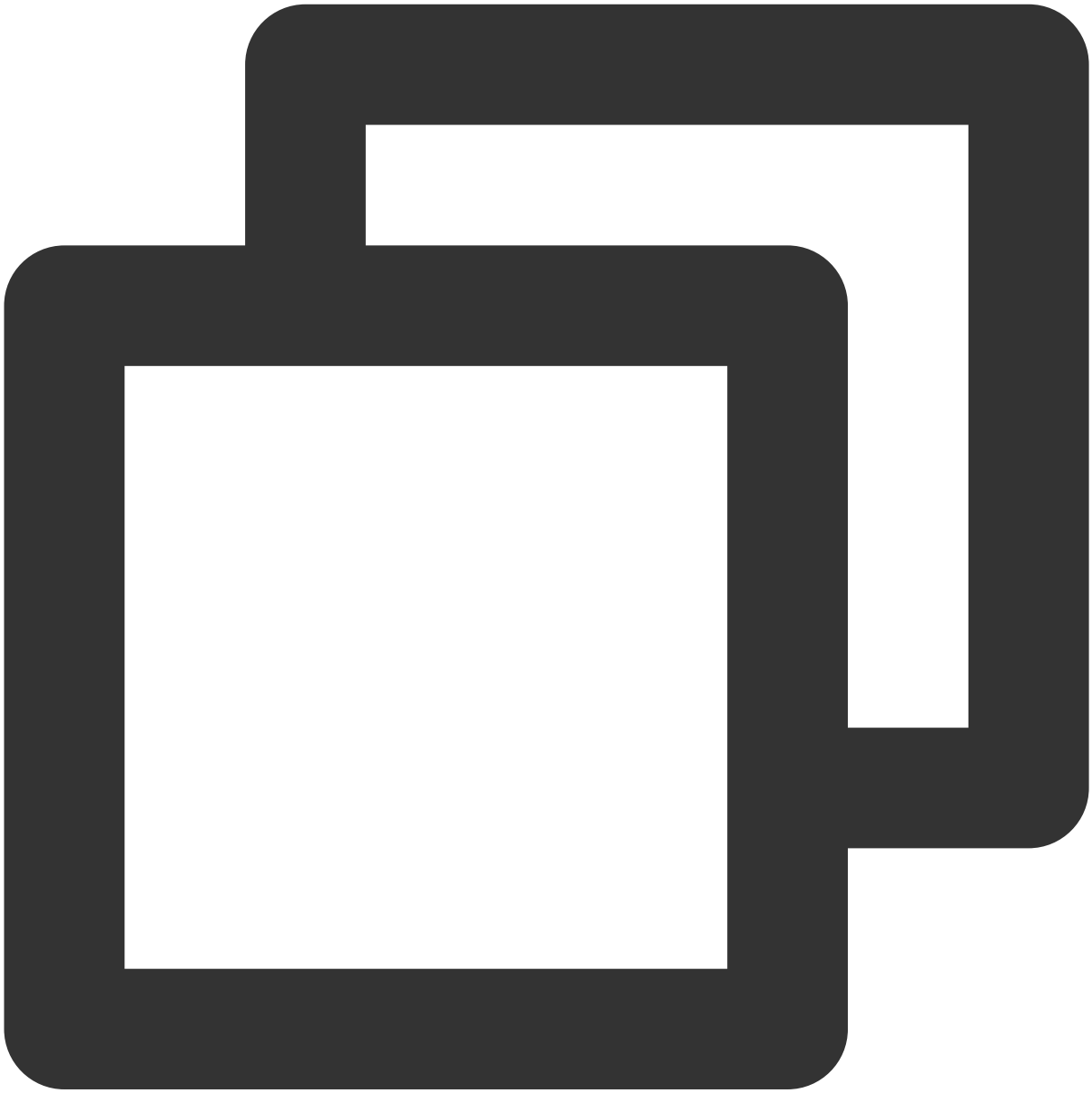
Step 2: Integrate the TUIRoomKit Component

Add the rtc_conference_tuikit plugin dependency in pubspec.yaml file in your project



```
dependencies:
    rtc_conference_tui_kit: The latest version
```

Execute the following command to install the plugin



```
flutter pub get
```

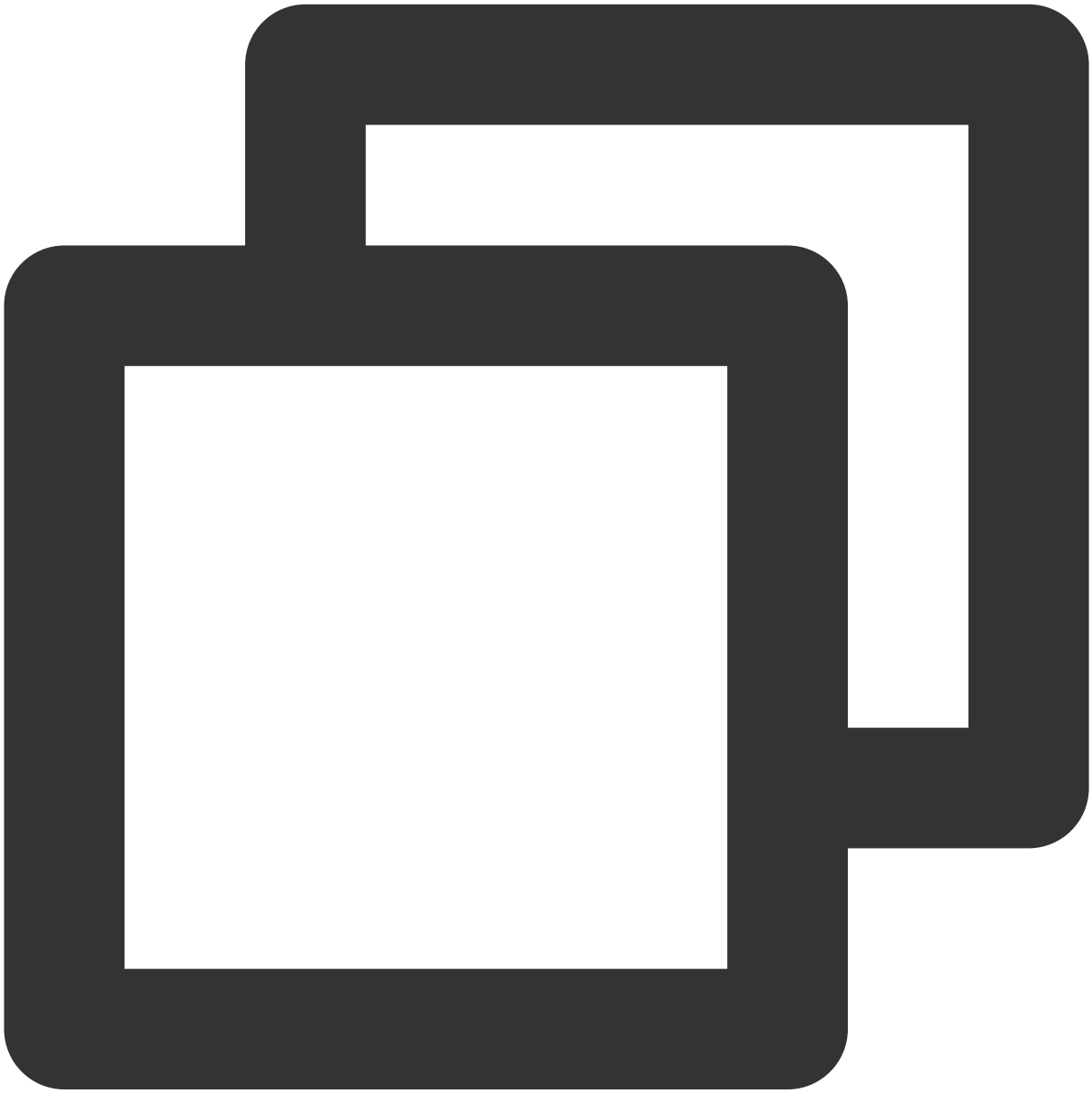
Step 3: Complete Project Configuration

Since the `rtc_conference_tui_kit` has utilized the relevant features of the `GetX` state management library, you need to replace `MaterialApp` with `GetMaterialApp` in your application. Alternatively, you can set the `navigatorKey` attribute in your `MaterialApp` to `Get.key` for the same effect.

Open your project with **Xcode**, choose **Project** > **Building Settings** > **Deployment**, and set **Strip Style** to `Non-Global Symbols` to maintain the necessary global symbol information.

If you need to use audio and video features on `iOS`, authorize the microphone and camera usage rights (`Android` has declared the relevant permissions in the SDK, and no manual configuration is necessary).

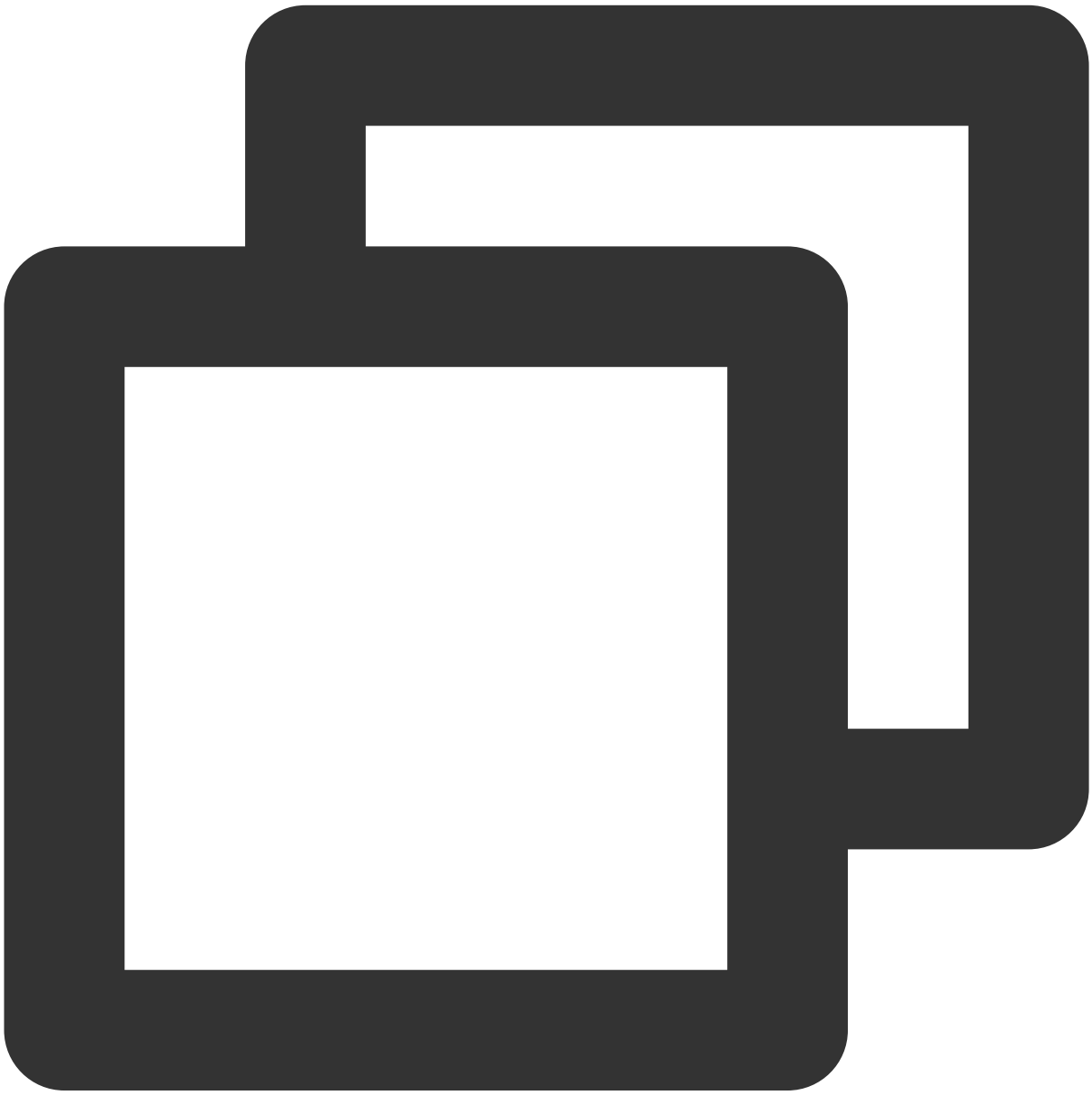
Add the following two items to your application's `Info.plist`. They correspond to the messages in the popup licensing dialog box while microphone and camera permissions are requested.



```
<key>NSCameraUsageDescription</key>
<string>TUIRoom requires access to your camera.</string>
<key>NSMicrophoneUsageDescription</key>
```

```
<string>TUIRoom requires access to your microphone.</string>
```

After the above are added, add the following preprocessor definitions in your **ios**/**Podfile** to enable camera and microphone permissions.

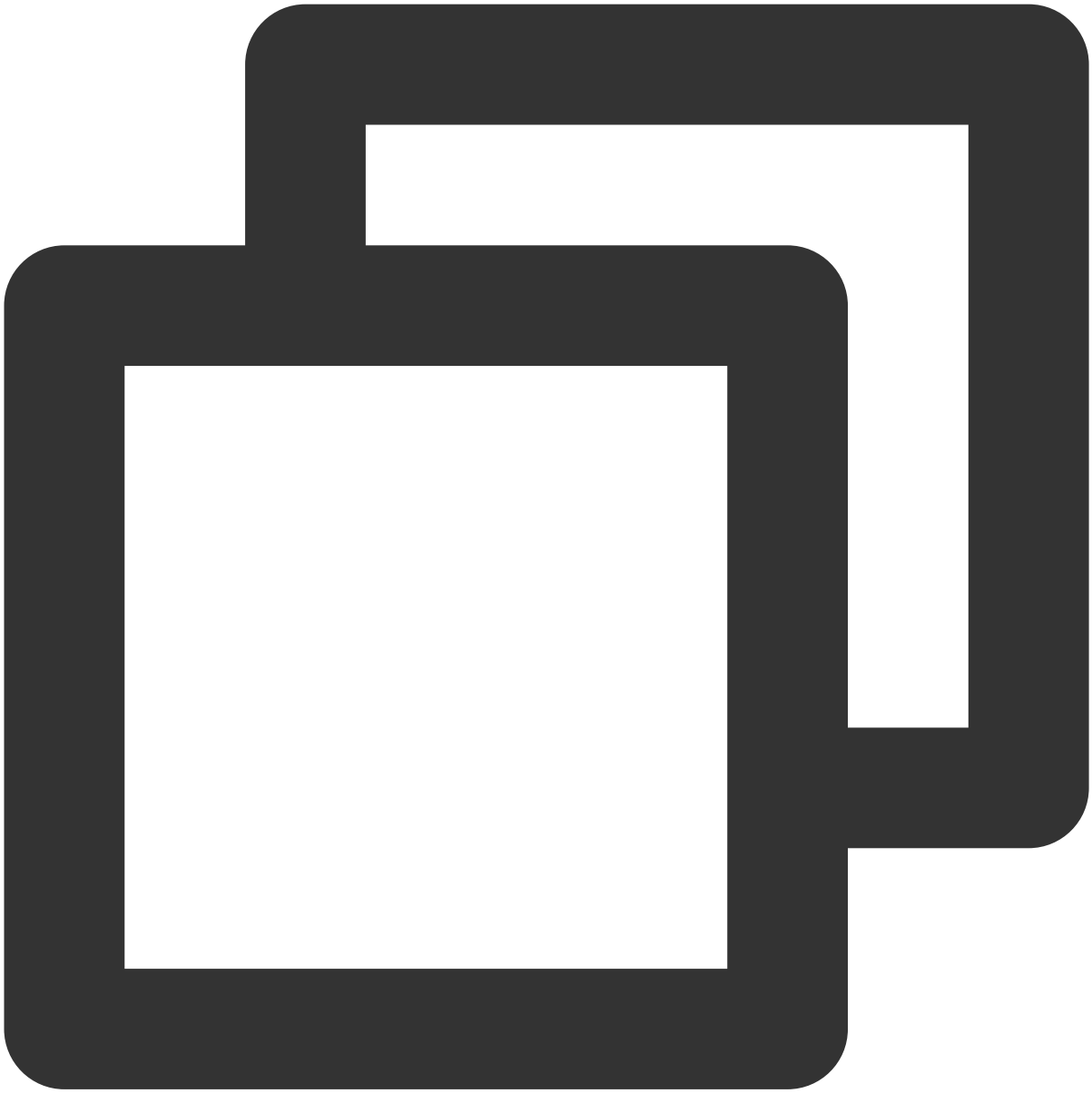


```
post_install do |installer|
  installer.pods_project.targets.each do |target|
    flutter_additional_ios_build_settings(target)
      target.build_configurations.each do |config|
        config.build_settings['GCC_PREPROCESSOR_DEFINITIONS'] ||= [
      '$(inherited)',
```

```
        'PERMISSION_MICROPHONE=1',
        'PERMISSION_CAMERA=1',
        ]
      end
    end
  end
```

Step 4: Log in to TUIRoomKit Component

Add the following code to your project, which serves to log in to the component by calling the relevant interfaces in `TUIRoomKit`. This step is extremely critical, as only after logging in can you use the various functions of `TUIRoomKit`, so please be patient and check if the relevant parameters are configured correctly:



```
import 'package:rtc_room_engine/rtc_room_engine.dart';

var result = await TUIRoomEngine.login(
SDKAPPID,   // Please replace with your SDKAPPID
'userId',   // Please replace with your user ID
'userSig',  // Please replace with your userSig
);

if (result.code == TUIError.success) {
  // login success
} else {
```

```
    // login error
}
```

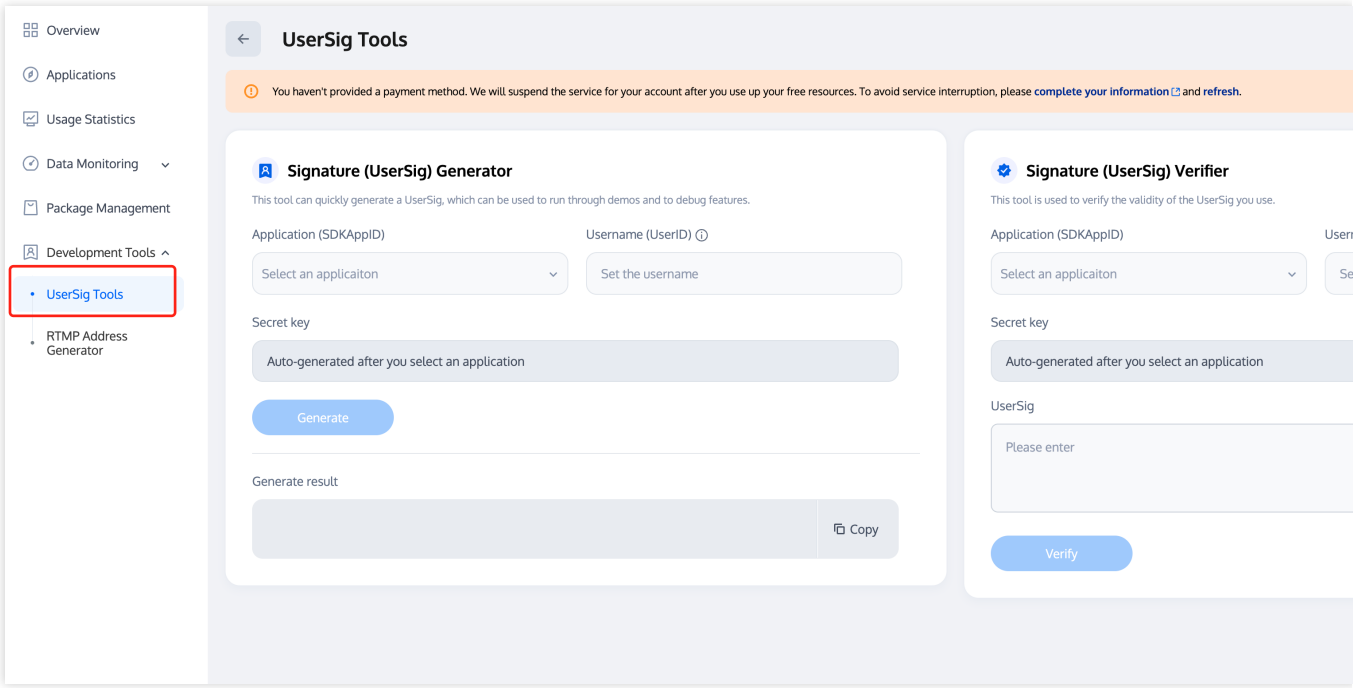
Parameter Description

Here is a detailed introduction to the key parameters used in the login function:

SDKAppID：You have already obtained it in Step 1, so it will not be repeated here.

UserID：The ID of the current user, string type, only allows to contain English letters (a-z and A-Z), numbers (0-9), hyphens (-), and underscores (_).

UserSig：Encrypt the SDKAppID, UserID, etc. with the SDK Secret Key obtained in Step 1 to get the UserSig, which is a ticket for authorization and is used for Tencent Cloud to recognize whether the current user can use the TRTC service. You can create a temporarily available UserSig through the UserSig Tools through the project sidebar in the console.



For more information, please refer to the UserSig related.

Note:

This step is also the step with the most feedback from developers we have received so far. Common problems are as follows:

`SDKAppID` is set incorrectly. Please use the `SDKAppID` of the international site correctly, otherwise, you will not be able to access it.

`UserSig` is misconfigured as an encryption key (`SDKSecretKey`). `UserSig` is obtained by encrypting the `SDKAppID` , `UserID` , and expiration time with the SDKSecretKey, not by directly configuring the `SDKSecretKey` as `UserSig` .

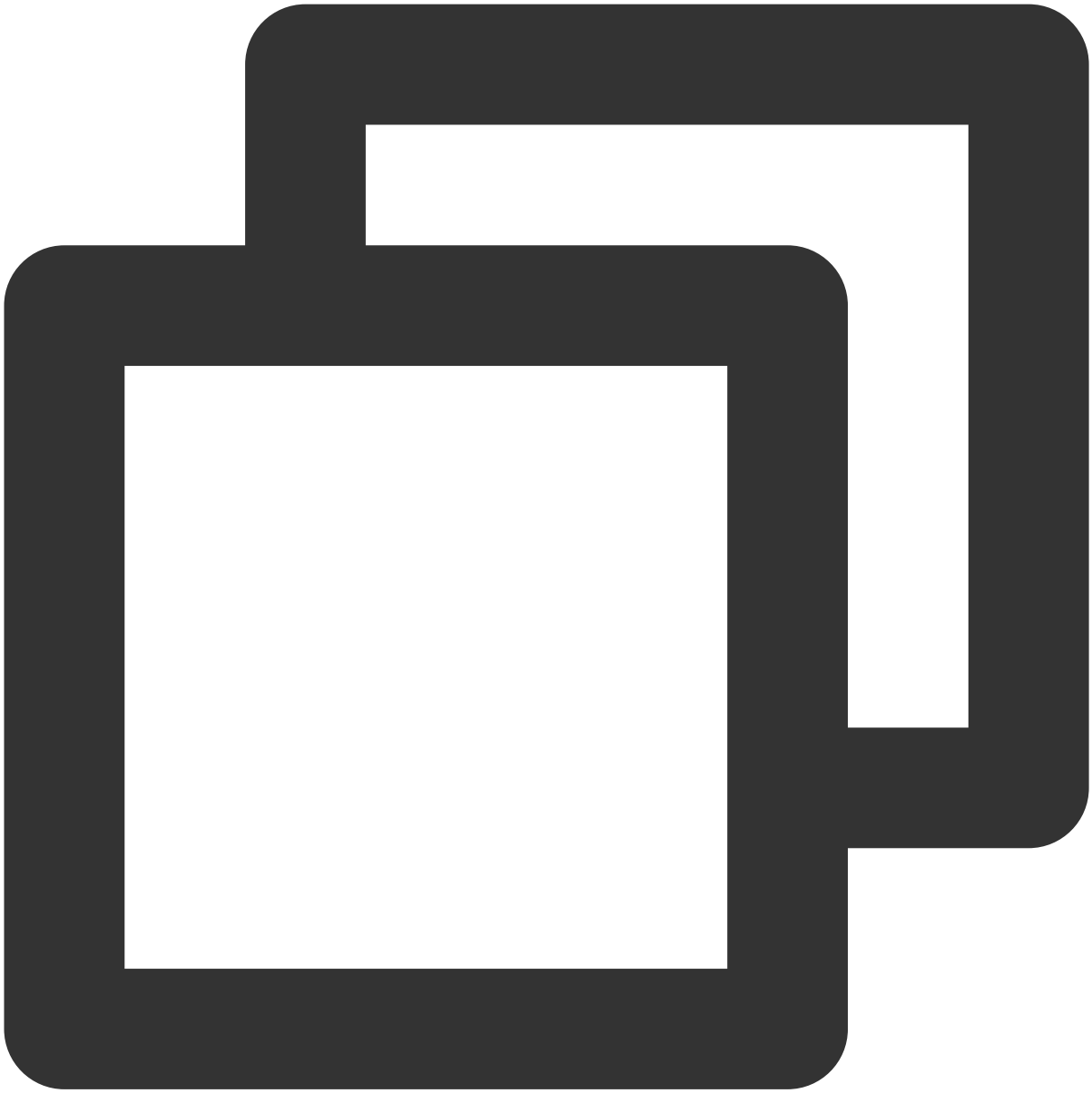
`UserID` is set to simple strings like "1", "123", "111", etc. **Since TRTC does not support multi-terminal login with the same UserID**, simple UserIDs like "1", "123", "111" are easily occupied by your colleagues, causing login

failure. Therefore, we recommend that you set some UserIDs with high identifiability when debugging.
The sample code in Github uses the `genTestUserSig` function to calculate UserSig locally to quickly get you through the current access process. However, this solution exposes your SDKSecretKey in the App code, which is not conducive to your subsequent upgrades and protection of your `SDKSecretKey`. Therefore, we strongly recommend that you put the calculation logic of `UserSig` on the server side and have the app request the real-time calculated UserSig from your server every time it uses the TUIRoomKit Component.

Step 5: Use TUIRoomKit

Set User Information (optional)

You can set the username and avatar by calling TUIRoomEngine's `setSelfInfo`.

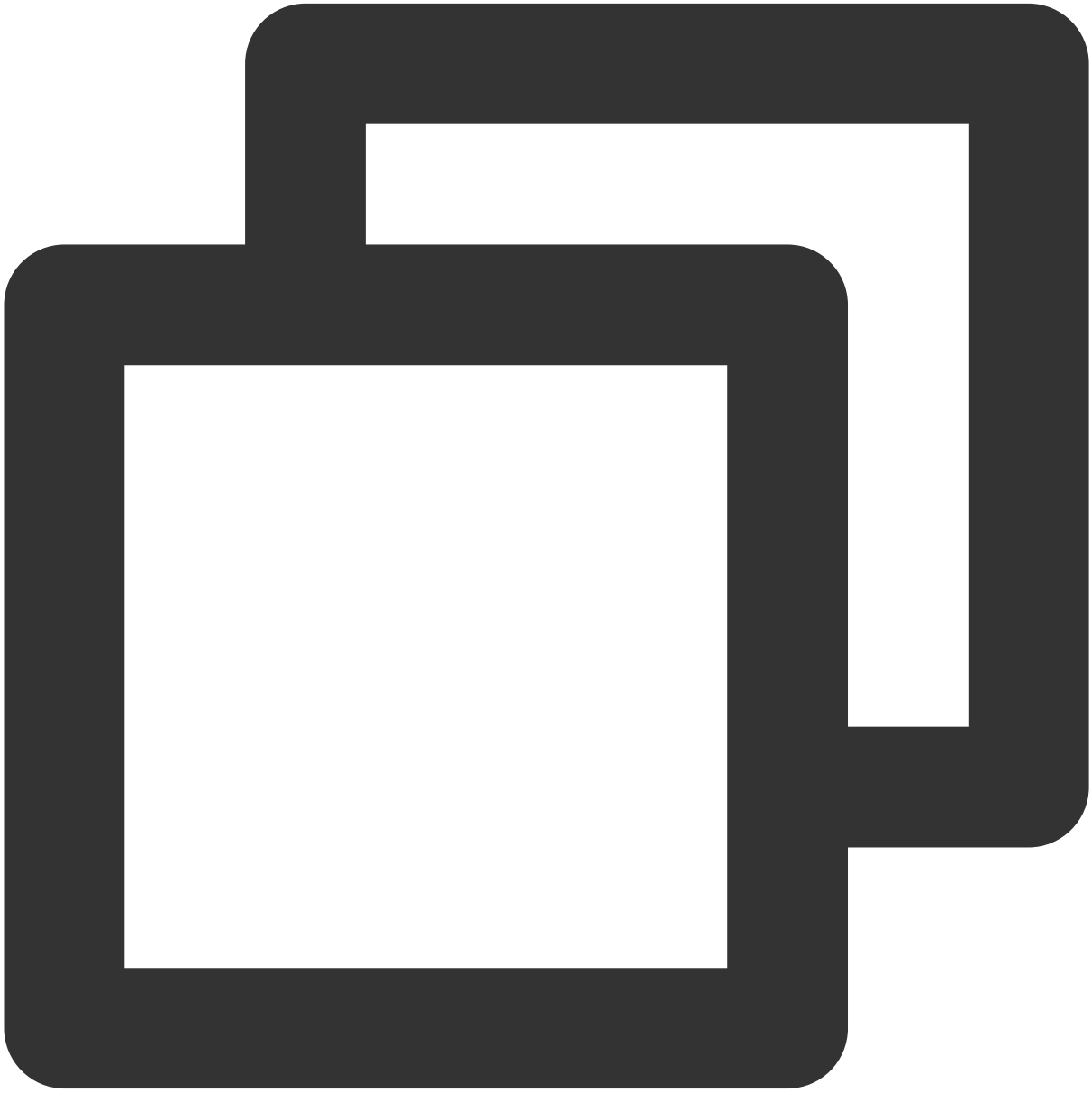


```
import 'package:rtc_room_engine/rtc_room_engine.dart';

TUIRoomEngine.setSelfInfo(userName, avatarURL);
```

Parameter	Type	Meaning
userName	String	User Name
avatarURL	String	User Avatar URL

Start a quick conference

By calling the `quickStart` method of `ConferenceSession`, you can start a quick conference.

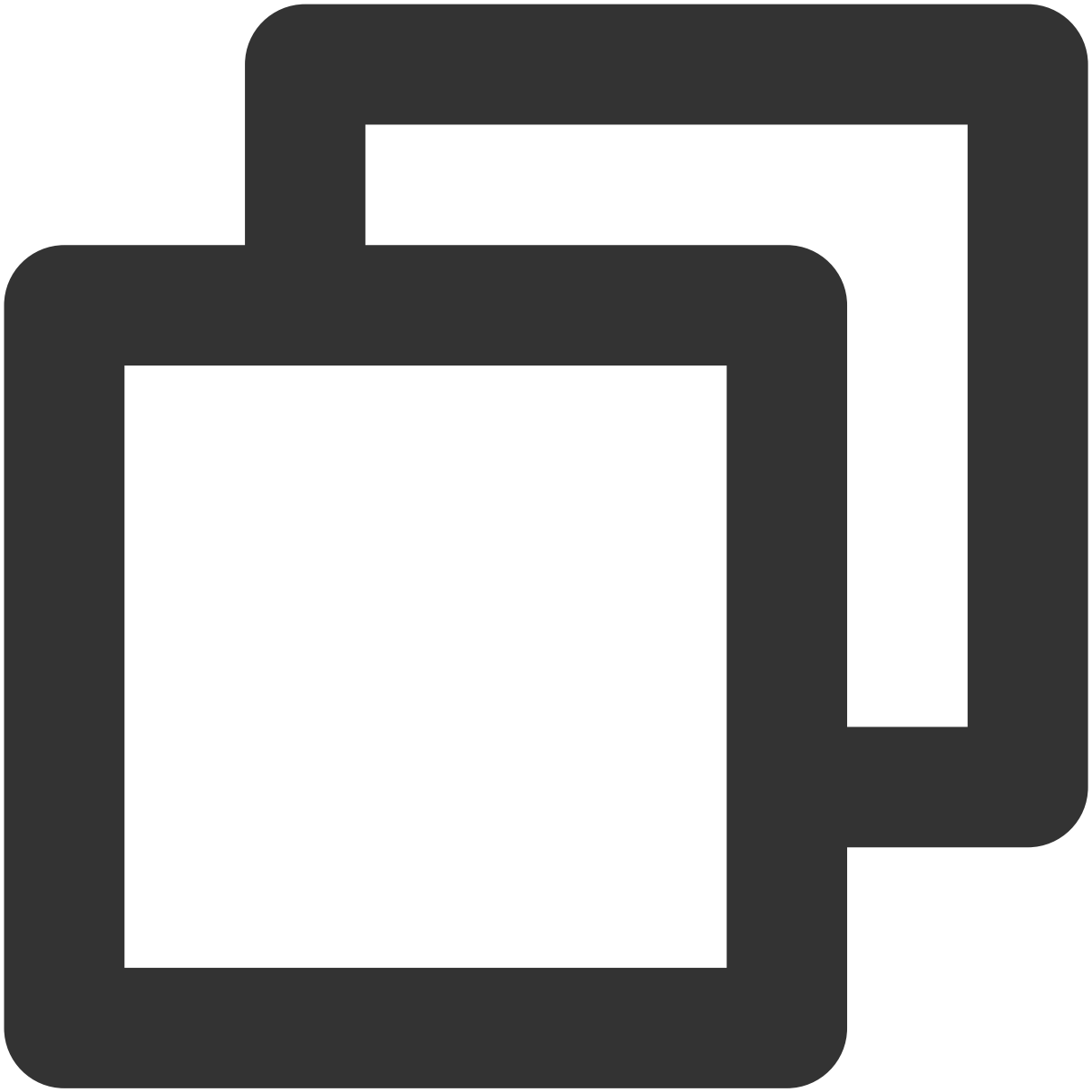


```
import 'package:rtc_conference_tui_kit/rtc_conference_tui_kit.dart';

ConferenceSession.newInstance('your roomId')
  ..onActionSuccess = _quickStartSuccess
  ..onActionError = _quickStartError
  ..quickStart();

void _quickStartSuccess() {
```

```
    // You can navigate to the conference page on your own in this success callback o
    Navigator.push(
      context,
      MaterialPageRoute(
        builder: (context) => ConferenceMainPage(),
      ),
    );
  }

  void _quickStartError(ConferenceError error, String message) {
    debugPrint("code: $error message: $message");
  }
```

Join a conference

By calling the `join` method of `ConferenceSession`, you can join the specified conference.



```
import 'package:rtc_conference_tui_kit/rtc_conference_tui_kit.dart';

ConferenceSession.newInstance('your roomId')
  ..onActionSuccess = _joinSuccess
  ..onActionError = _joinError
  ..join();

void _joinSuccess() {
  //You can navigate to the conference page on your own in this success callback of
  Navigator.push(
    context,
```

```
    MaterialPageRoute(
      builder: (context) => ConferenceMainPage(),
    ),
  );
}

void _joinError(ConferenceError error, String message) {
  debugPrint("code: $error message: $message");
}
```

More Features

TUIRoomEngine SDK Provided Rich Audio Video Room Features, Specific Content Please Refer API Overview.

Suggestions and Feedback

If you have any suggestions or feedback, please contact info_rtc@tencent.com.

UI Customization (TUIRoomKit)
Electron

Last updated：2023-09-25 10:49:12

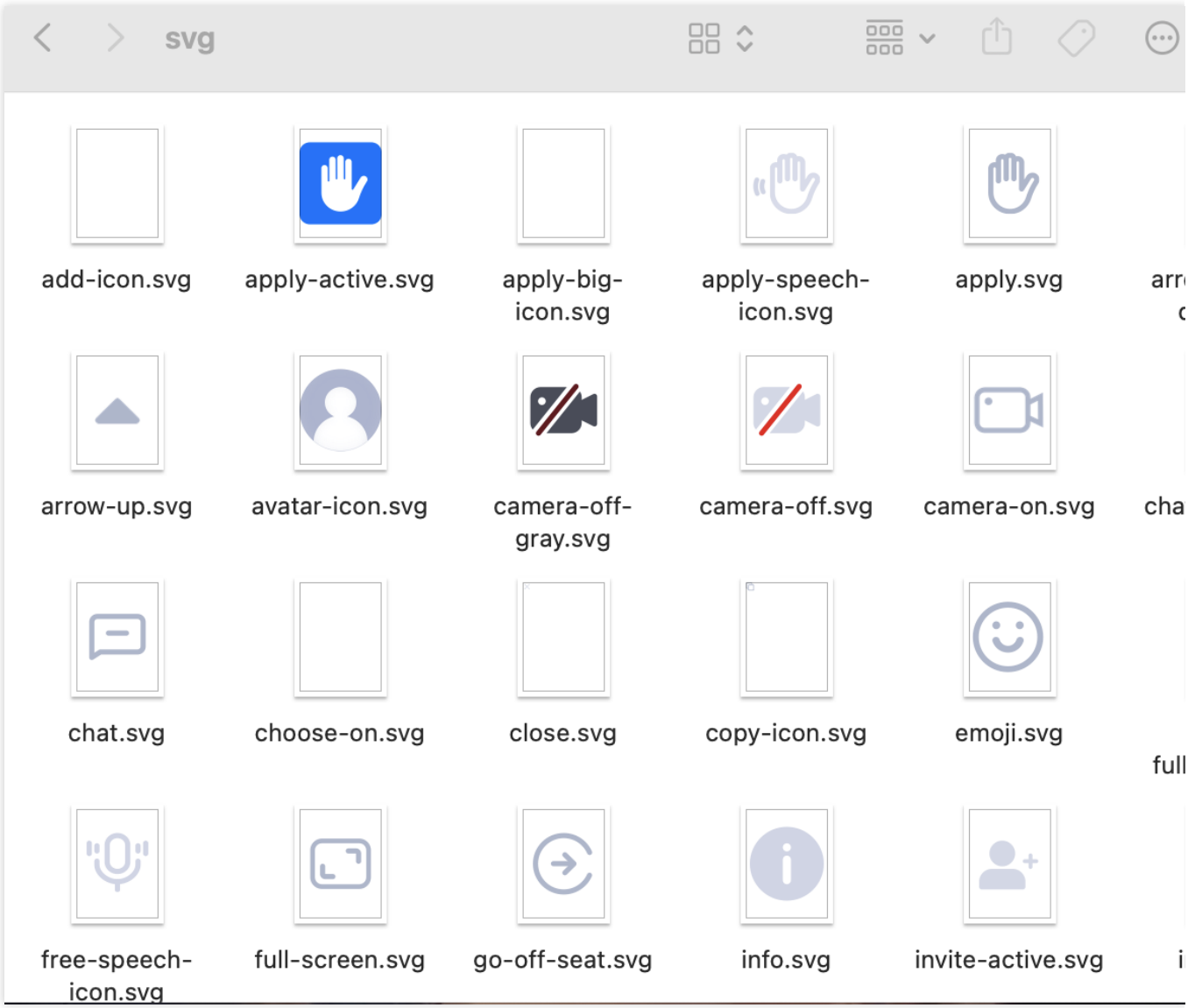
This article will introduce how to customize the User Interface of TUIRoomkit. We provide two options for you to choose from: Skinning Scheme and Custom UI Scheme.

Option 1: Interface Fine-tuning Scheme

By directly modifying the Source Code of the UI we provide, you can adjust the User Interface of TUIRoomKit. The Source Code of TUIRoomKit's interface is located in the Electron/ folder on Github:

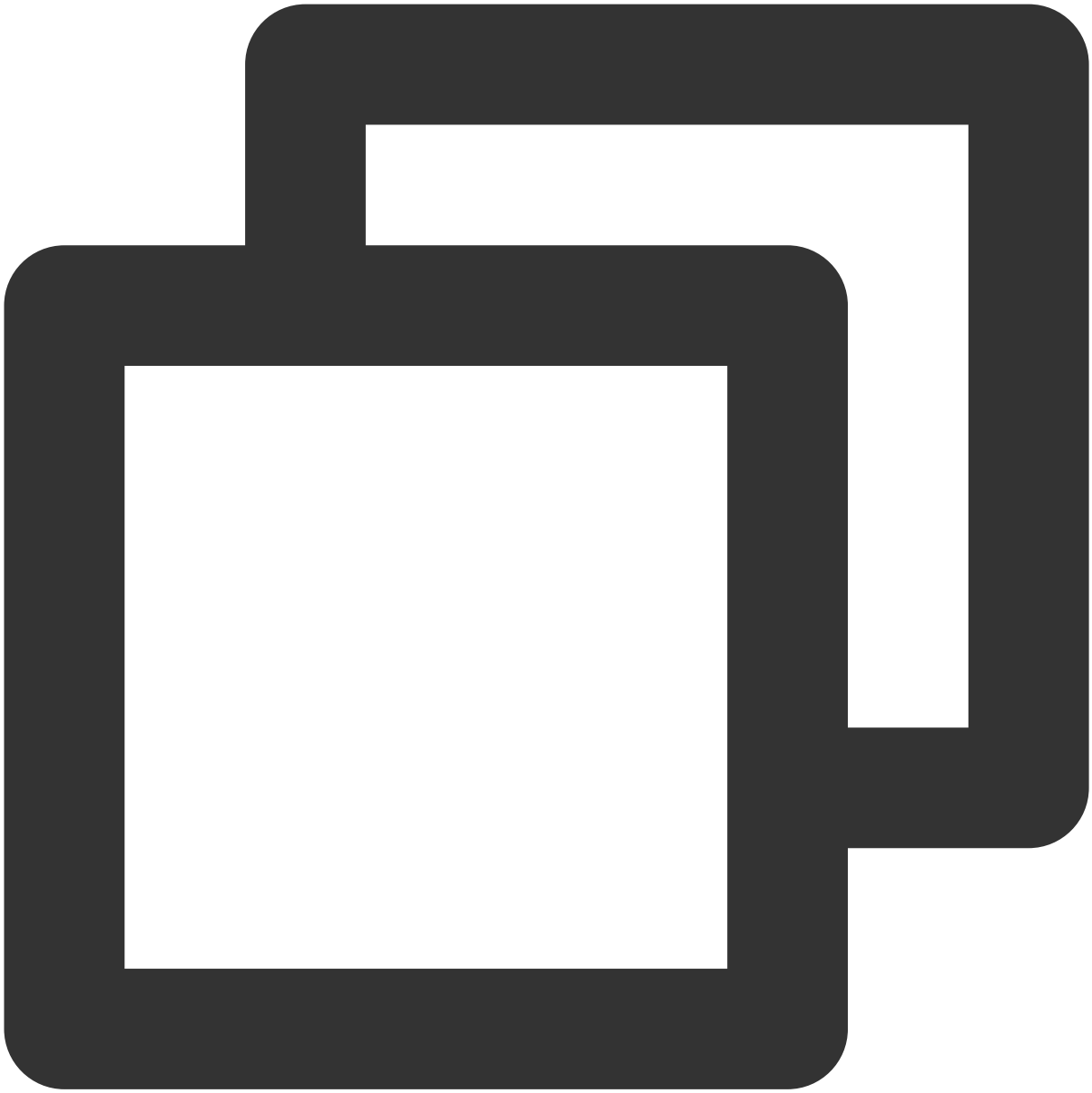
Replace Icons

You can directly modify the icon components in the `packages/renderer/src/TUIRoom/assests/icons/svg` Folder to ensure that the color tone style of the icons throughout the app remains consistent. Please keep the icon file names unchanged when replacing.



Adjust UI Layout

You can adjust the UI layout of the Multi-person Video Conference interface by modifying the different pages in the `packages/renderer/src/TUIRoom/components/` folder.



```
- components/
    - base
    - Chat                Chat
    - common              Common Icon Component
    - ManageMember        Member Management
    - RoomContent         Room Video
    - RoomFooter          Room Page Footer
    - RoomHeader          Room Page Header
    - RoomHome            Home Page
    - RoomInvite          Invite Members
    - RoomLogin           Login Page
```

```
    - RoomMore              More
    - RoomSetting           Set Up
    - RoomSidebar           Drawer Component
```

Option 2: Custom UI Scheme

The overall functionality of TUIRoom is based on the TUIRoomEngine, a UI-less SDK. You can completely implement your own User Interface based on TUIRoomEngine. For details, please see:
TUIRoomEngine Access Guide
TUIRoomEngine API Interface Address

Android

Last updated：2023-09-25 10:49:44

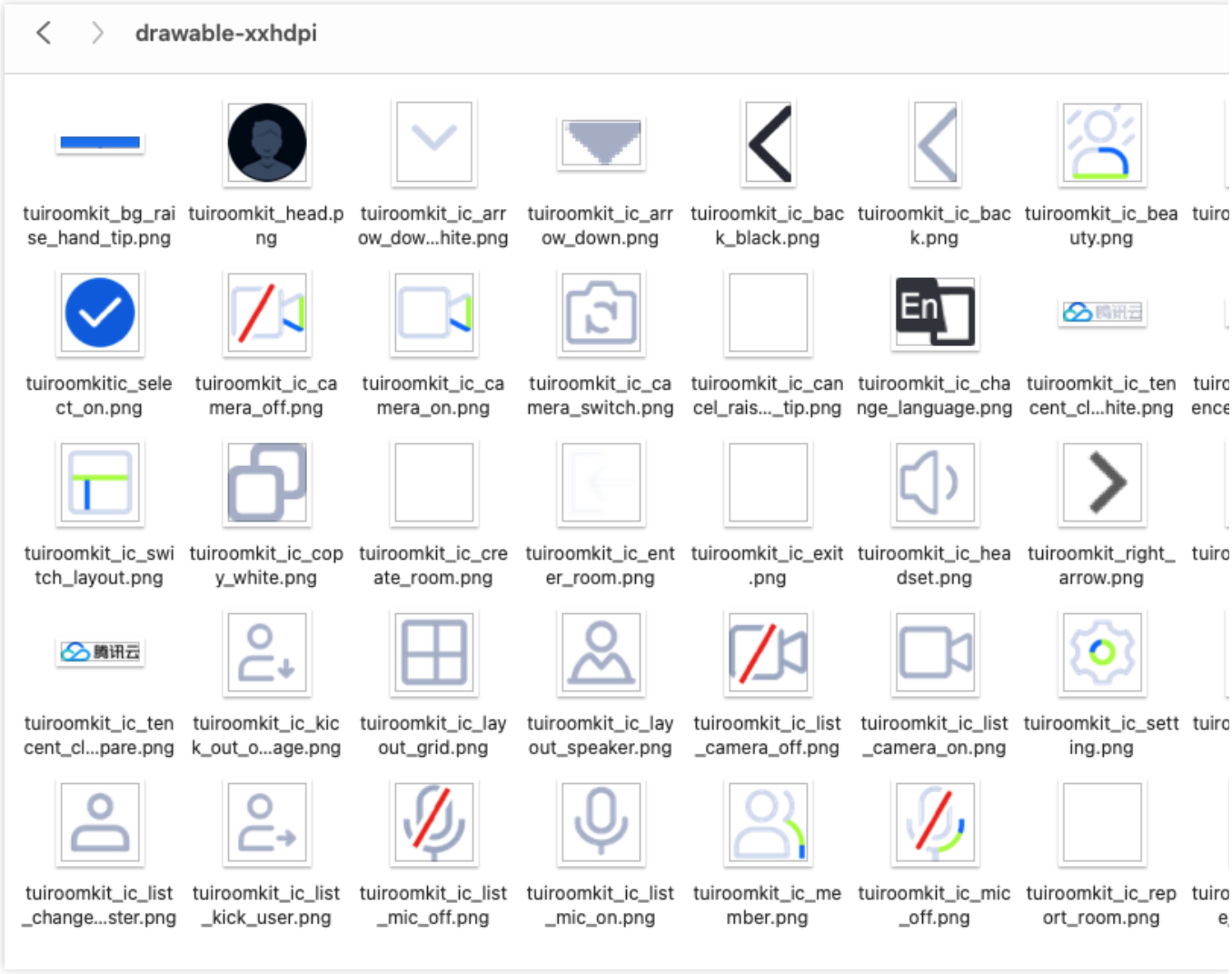
This article will introduce how to customize the User Interface of TUIRoomKit. We provide two solutions for you to choose from: **Fine-tuning Solution** and **Self-implemented UI Solution**.

Solution 1: Fine-tuning Solution

By directly modifying the UI source code we provide, you can adjust the User Interface of TUIRoomKit. The source code of TUIRoomKit's interface is located in the `Android/tuiroomkit` folder on Github:

Replace Icon

You can directly replace the icons in the `src/res/drawable-xxhdpi` folder to ensure that the color tone and style of the icons in the entire App remain consistent. Please keep the name of the icon file unchanged when replacing.



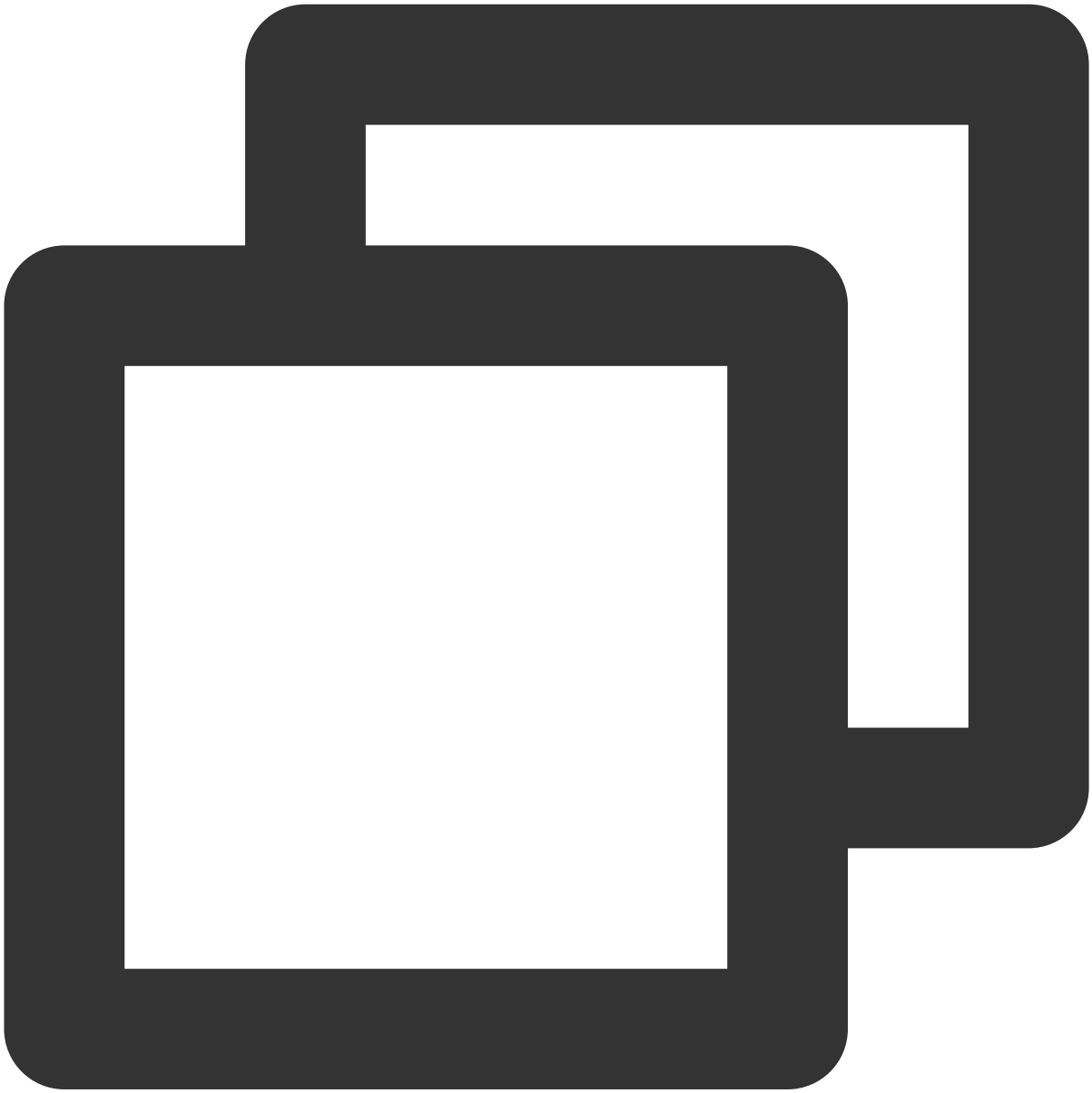
Replace Copywriting

You can modify the string content of the video conference interface by modifying the `strings.xml` files in values-zh and values-en.

Solution 2: Custom Partial UI Solution

The UI code of TUIRoomKit is located in the `src/main/java/com/tencent/cloud/tuikit/roomkit/view` directory, and the screen view is in the TUIVideoSeat Component.

The key files of TUIRoomKit's View are as follows. You can change the corresponding view according to your needs and adjust your UI.

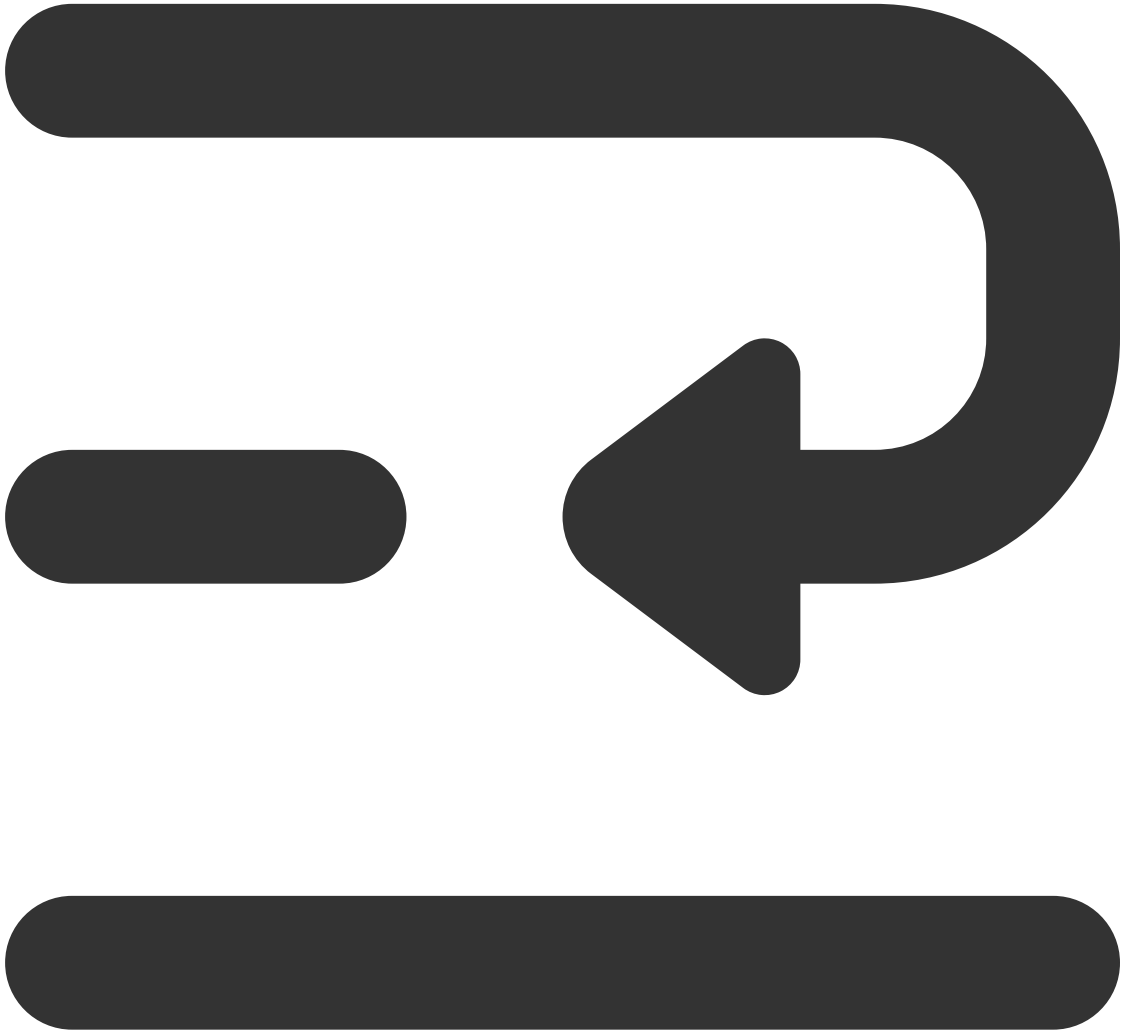


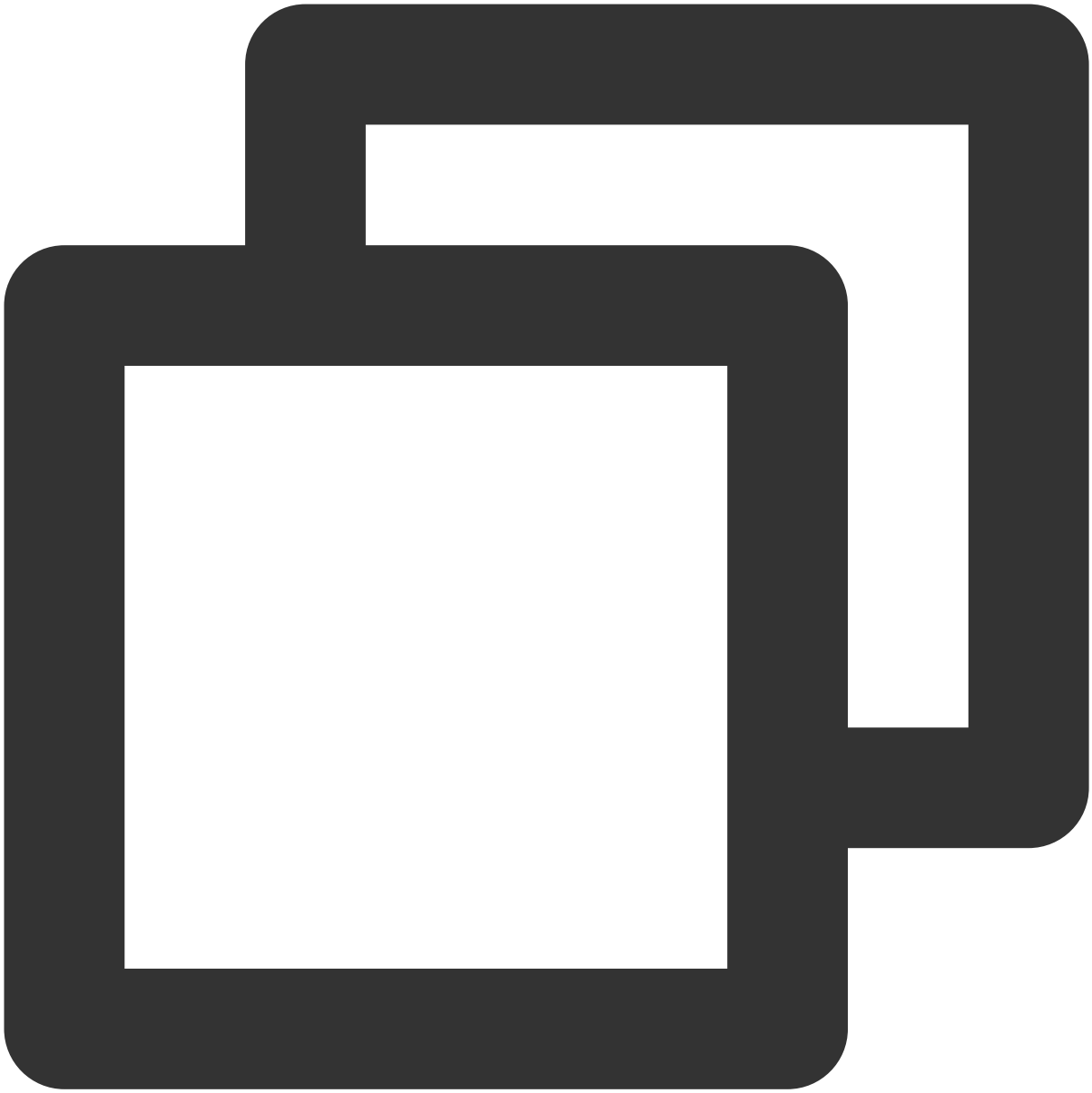
```
                |── PrepareActivity    // Preparation page Activity
                |
                |── CreateRoomActivity // Create room Activity
                |
                |── EnterRoomActivity  // Enter room Activity
                |
    activity ──|── RoomMainActivity    // Room main page Activity
       |
view ──|
       |
    component──|── PrepareView         // Preparation page View
```

```
                |
                |── CreateRoomView     // Create room View
                |
                |── EnterRoomView      // Enter room View
                |
                |── RoomMainView       // Audio/video conference main page View
                |
                |── TopView            // Top button view, including: Speaker/Receiv
                |
                |── BottomView         // Bottom button view, including: Camera, Mic
                |
                |── UseListView        // User List view
                |
                |── RaiseHandApplicationListView      // Raise Hand to Speak mode, R
                |
                |── TransferMasterView // Room Owner Transfer page
                |
                |── MoreFunctionView   // "More" function view, including Chat, Beau
                |
                |── MeetingActivity    // Audio/video conference main activity
```

Modification of BottomView's Bottom Button

To make it easier for you to customize the bottom function buttons, our BottomView is automatically constructed by reading the list. Taking the video switch button as an example, the code is as follows.





```
private BottomItemData createCameraItem() {
    BottomItemData cameraItemData = new BottomItemData();
    //Set button type to differentiate different buttons
    cameraItemData.setType(BottomItemData.Type.VIDEO);
    //Set whether the button is clickable
    if (isOwner()) {
      cameraItemData.setEnable(true);
    } else if (mRoomStore.roomInfo.enableSeatControl) {
      cameraItemData.setEnable(false);
    } else {
      cameraItemData.setEnable(mRoomStore.roomInfo.enableVideo);
```

```
    }
    //Set the default icon of the button
    cameraItemData.setIconId(R.drawable.tuiroomkit_ic_camera_off);
    //Set the background image of the button
    cameraItemData.setBackground(R.drawable.tuiroomkit_bg_bottom_item_black);
    //Set the icon of the button when it is not clickable
    cameraItemData.setDisableIconId(R.drawable.tuiroomkit_ic_camera_off);
    //Set the default icon of the button
    cameraItemData.setName(mContext.getString(R.string.tuiroomkit_item_open_camera))

    //Button click effect, if your button needs to switch images/names, etc. when cl
    BottomSelectItemData camaraSelectItemData = new BottomSelectItemData();
    //Set the name of the button when selected
    camaraSelectItemData.setSelectedName(mContext.getString(R.string.tuiroomkit_item
    //Set the name of the button when not selected
    camaraSelectItemData.setUnSelectedName(mContext.getString(R.string.tuiroomkit_it
    //Set whether the button is selected
    camaraSelectItemData.setSelected(false);
    //Set the icon of the button when selected
    camaraSelectItemData.setSelectedIconId(R.drawable.tuiroomkit_ic_camera_on);
    //Set the icon of the button when not selected
    camaraSelectItemData.setUnSelectedIconId(R.drawable.tuiroomkit_ic_camera_off);
    //Set the click event of the button when selected/unselected
    camaraSelectItemData.setOnItemSelectListener(new BottomSelectItemData.OnItemSele
          @Override
          public void onItemSelected(boolean isSelected) {
             enableCamera(isSelected);
          }
    });
    cameraItemData.setSelectItemData(camaraSelectItemData);
    return cameraItemData;
    }
```

Solution 3: Custom All UI Solution

The overall function of TUIRoomKit is based on the TUIRoomEngine, a UI-less SDK. You can completely implement your own UI interface based on TUIRoomEngine. For details, please refer to the TUIRoomEngine API interface address.

iOS

Last updated：2024-03-15 16:06:53

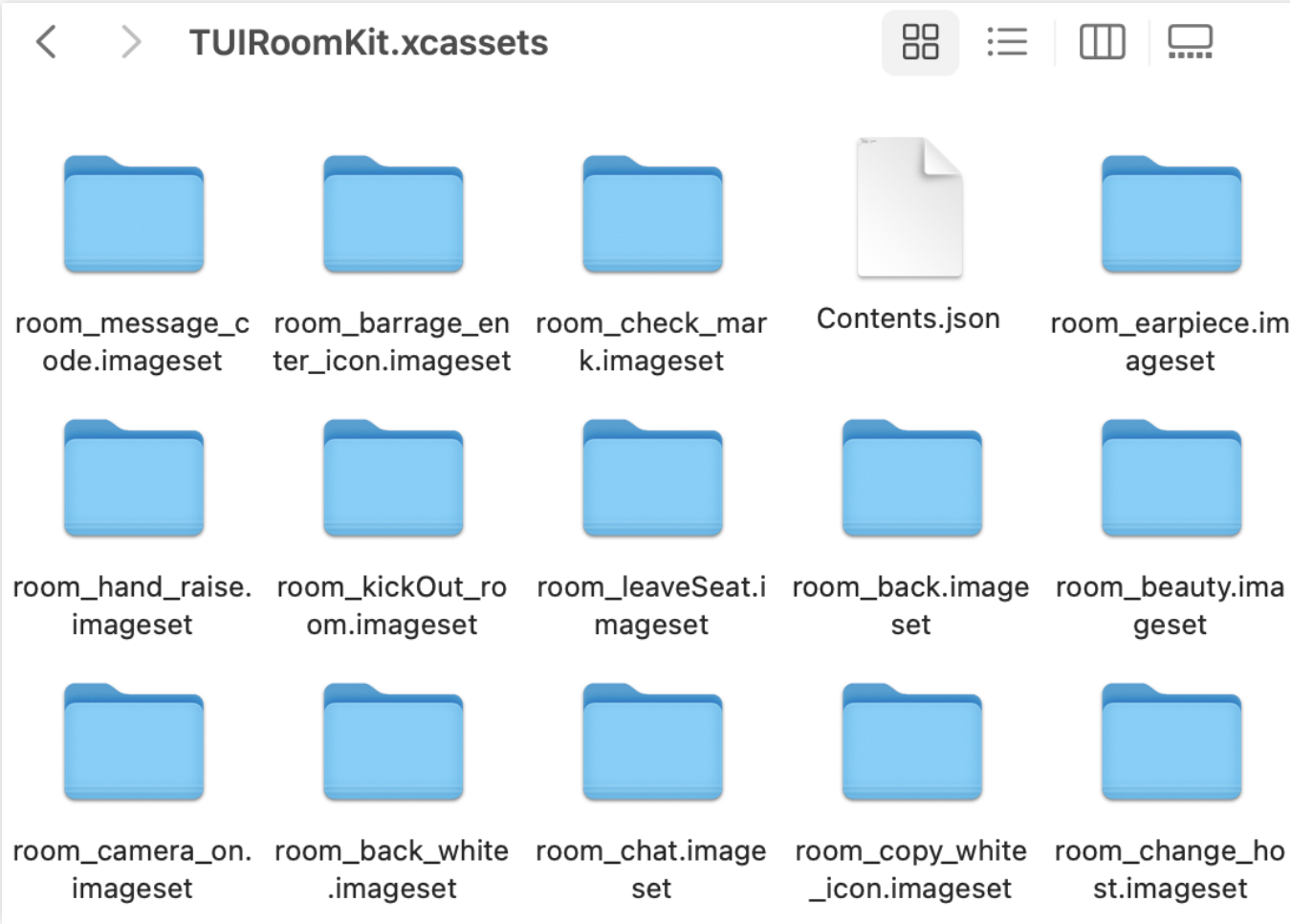
This article will introduce how to customize the user interface of TUIRoomKit. We provide two solutions for you to choose from: **fine-tuning solution** and **custom UI solution**.

Solution 1: Fine-tuning solution

By directly modifying the UI source code we provide, you can adjust the user interface of TUIRoomKit. The interface source code of TUIRoomKit is located in the iOS/ folder on Github:

Replace icons

You can directly modify the icon components in the `TUIRoomKit/Resources/TUIRoomKit.xcassets` folder to ensure that the icon color tone style is consistent throughout the app. Please keep the icon file name unchanged when replacing.

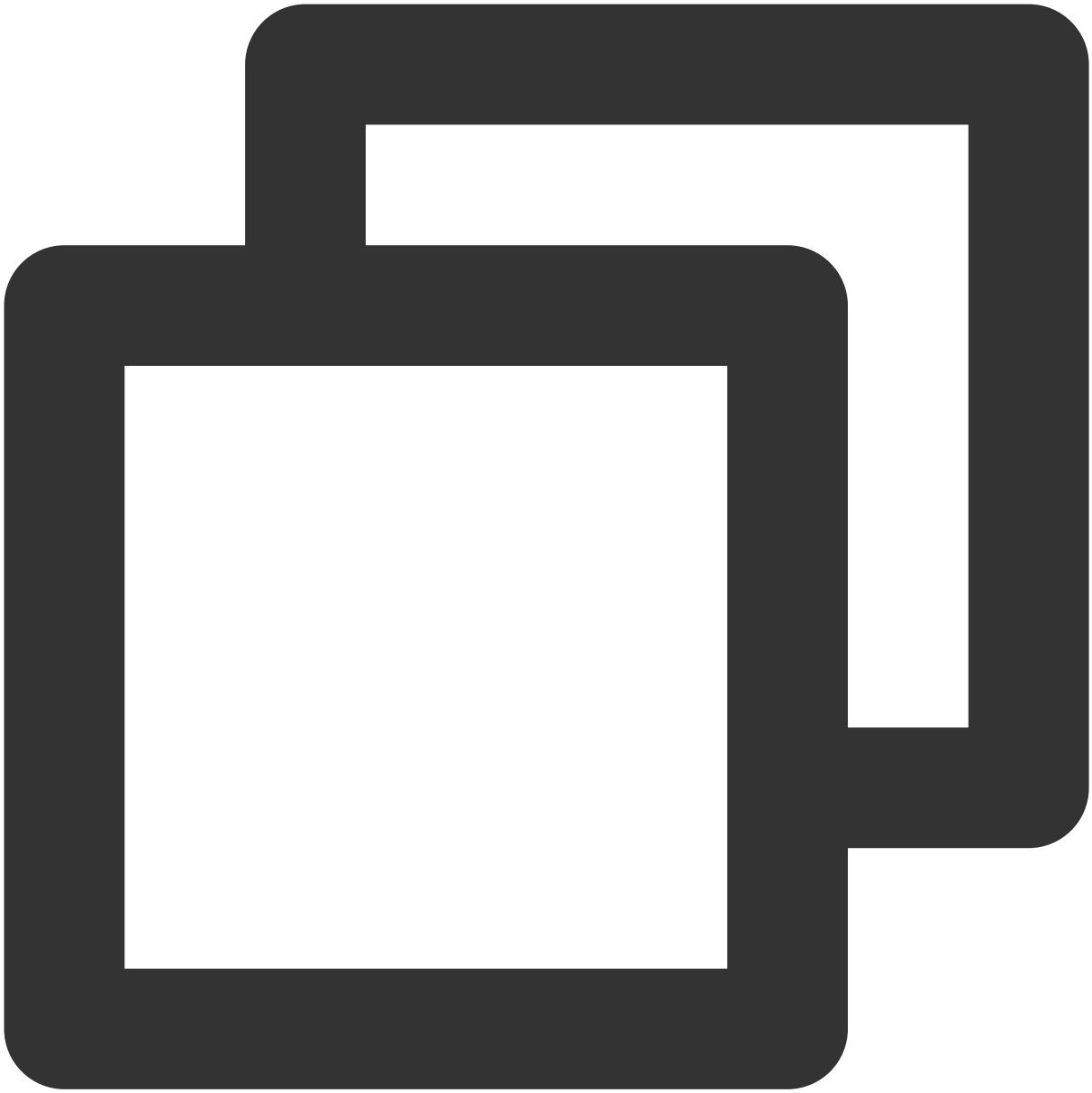


Replace copywriting

You can modify the `strings.xml` files in the values-zh and values-en of the `TUIRoomKit/Resources/Localized` folder to change the string content of the video conference interface.

Adjust UI layout

You can adjust the UI layout of the multi-person video conference interface by modifying the different pages under the `TUIRoomKit/Source/View` file:

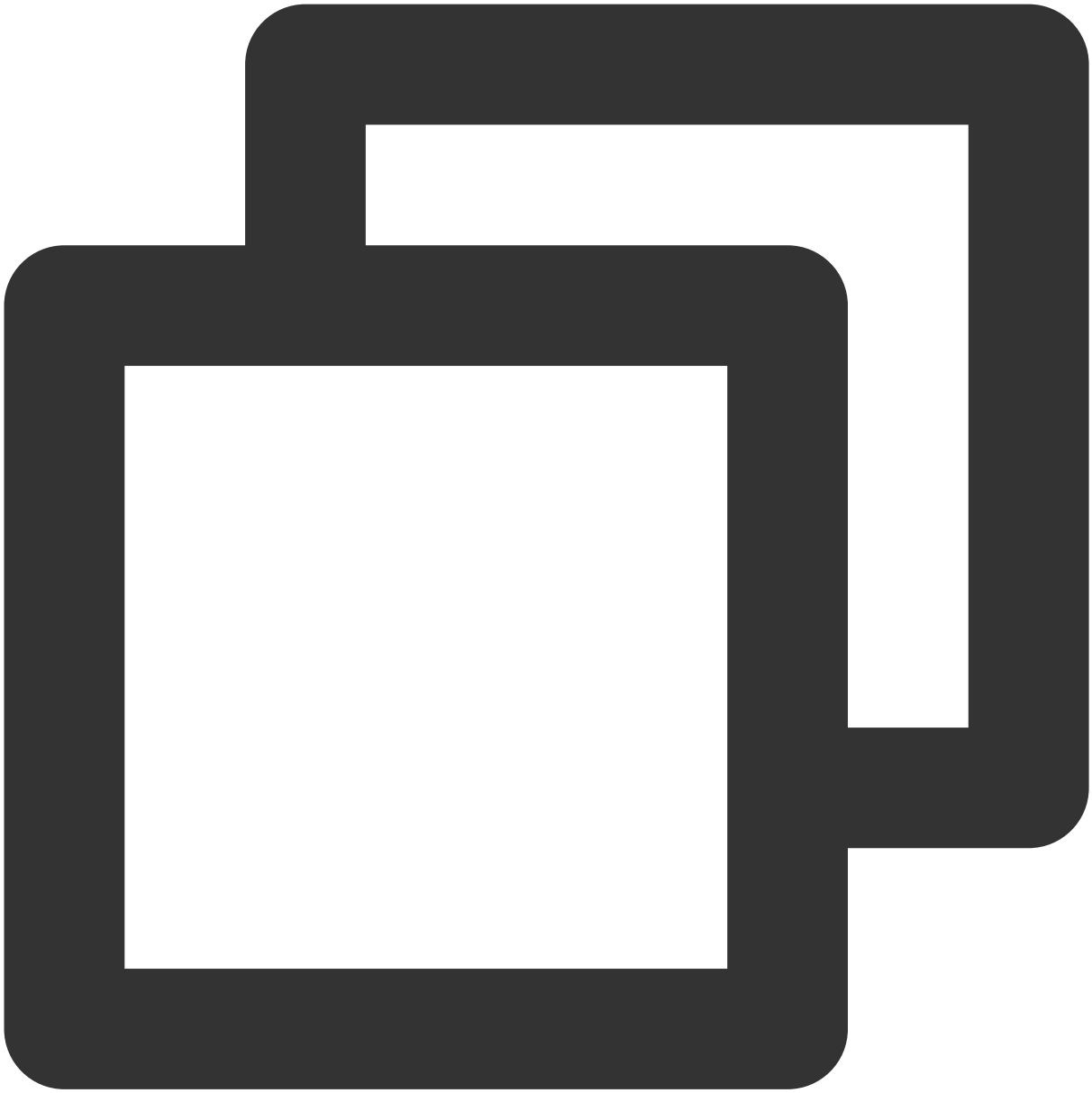


```
├── Component
│   ├── ButtonItemView.swift                    //Universal view
│   └── ListCellItemView.swift                  //Universal view
└── Page
    ├── RoomMainView.swift                      //Room main view
    ├── RoomMainViewController.swift
    ├── RoomRouter.swift                        //Routing
    └── Widget
        ├── BottomNavigationBar                 //Bottom bar
        │   ├── BottomItemView.swift
        │   └── BottomView.swift
```

```
        ├── FloatWindow                          //Floating window
        │   ├── RoomUserStatusView.swift
        │   └── RoomVideoFloatView.swift
        ├── MediaSettings                        //Set up
        │   ├── MediaSettingView.swift
        │   └── VideoChoicePanel.swift
        ├── TopNavigationBar                     //Top bar
        │   ├── TopItemView.swift
        │   └── TopView.swift
        ├── UserControlPanel                     //User list
        │   ├── UserListManagerView.swift
        │   └── UserListView.swift
        ├── RaiseHandControlPanel                //Raise hand user management lis
        │   └── RaiseHandApplicationListView.swift
        ├── TransferOwnerControlPanel            //Room transfer list
        │   └── TransferMasterView.swift
        ├── PopUpControlPanel                    //Universal pop-up box
        │   ├── PopUpView.swift
        │   └── PopUpViewController.swift
        └── VideoSeat                            //Video display
            ├── ScreenCaptureMaskView.swift
            ├── TUIVideoSeatCell.swift
            ├── TUIVideoSeatLayout.swift
            ├── TUIVideoSeatUserStatusView.swift
            └── TUIVideoSeatView.swift
```

Modification of BottomView at the bottom

To make it easier for you to customize the function buttons at the bottom, our BottomView is automatically constructed by reading the list. Taking the video switch button as an example, the code is as follows:



```
func createBottomData() {
        let muteVideoItem = ButtonItemData()
        //Set the default button title
        muteVideoItem.normalTitle = .unMuteVideoText
        //Set the button title after clicking
        muteVideoItem.selectedTitle = .muteVideoText
        //Set the default button icon
        muteVideoItem.normalIcon = "room_camera_on"
        //Set the button icon after clicking
        muteVideoItem.selectedIcon = "room_camera_off"
```

```
        //Set the button image resource acquisition location
        muteVideoItem.resourceBundle = tuiRoomKitBundle()
        //Set whether the button is clicked
        muteVideoItem.isSelect = !(roomInfo.isOpenCamera)
        //Set the button type to differentiate different buttons
        muteVideoItem.buttonType = .muteVideoItemType
        //Set the button click event
        muteVideoItem.action = { [weak self] sender in
            guard let self = self, let button = sender as? UIButton else { return }
            self.muteVideoAction(sender: button)
        }
}
```

Solution 2: Custom UI solution

The overall function of TUIRoomKit is based on the TUIRoomEngine, a UI-less SDK. You can completely implement your own UI interface based on TUIRoomEngine. For details, please see TUIRoomEngine API interface address.

Windows

Last updated：2023-09-25 10:50:35

This article will introduce how to customize the user interface of TUIRoomKit. We provide two options for you to choose from: **the skin replacement scheme** and **the custom UI scheme**.

Option 1: Interface Fine-tuning Scheme

You can directly modify and adapt based on the App we provide
The App directory contains the design and logic related to the UI. You can modify the RoomApp source code for secondary development according to your needs. The main features are as follows:

Feature	File Directory
Home Login	Windows-Mac\\RoomApp\\App\\LoginViewController.cpp
Device Detection	Windows-Mac\\RoomApp\\App\\PresetDeviceController.cpp
Main Page	Windows-Mac\\RoomApp\\App\\MainWindow.cpp
Mic-on List	Windows-Mac\\RoomApp\\App\\StageListController.cpp
Member List	Windows-Mac\\RoomApp\\App\\MemberListViewController.cpp
Settings Page	Windows-Mac\\RoomApp\\App\\SettingViewController.cpp
Chat Room	Windows-Mac\\RoomApp\\App\\ChatRoomViewController.cpp
Screen Sharing	Windows-Mac\\RoomApp\\App\\ScreenShareWindow.cpp
Bottom Toolbar	Windows-Mac\\RoomApp\\App\\BottomBarController.cpp

Option 2: Custom UI Scheme

The overall function of TUIRoomKit is based on the TUIRoomEngine, a UI-less SDK. You can completely implement your own UI interface based on TUIRoomEngine. For details, please refer to the TUIRoomEngine API interface address.

Web

Last updated：2023-09-25 10:51:00

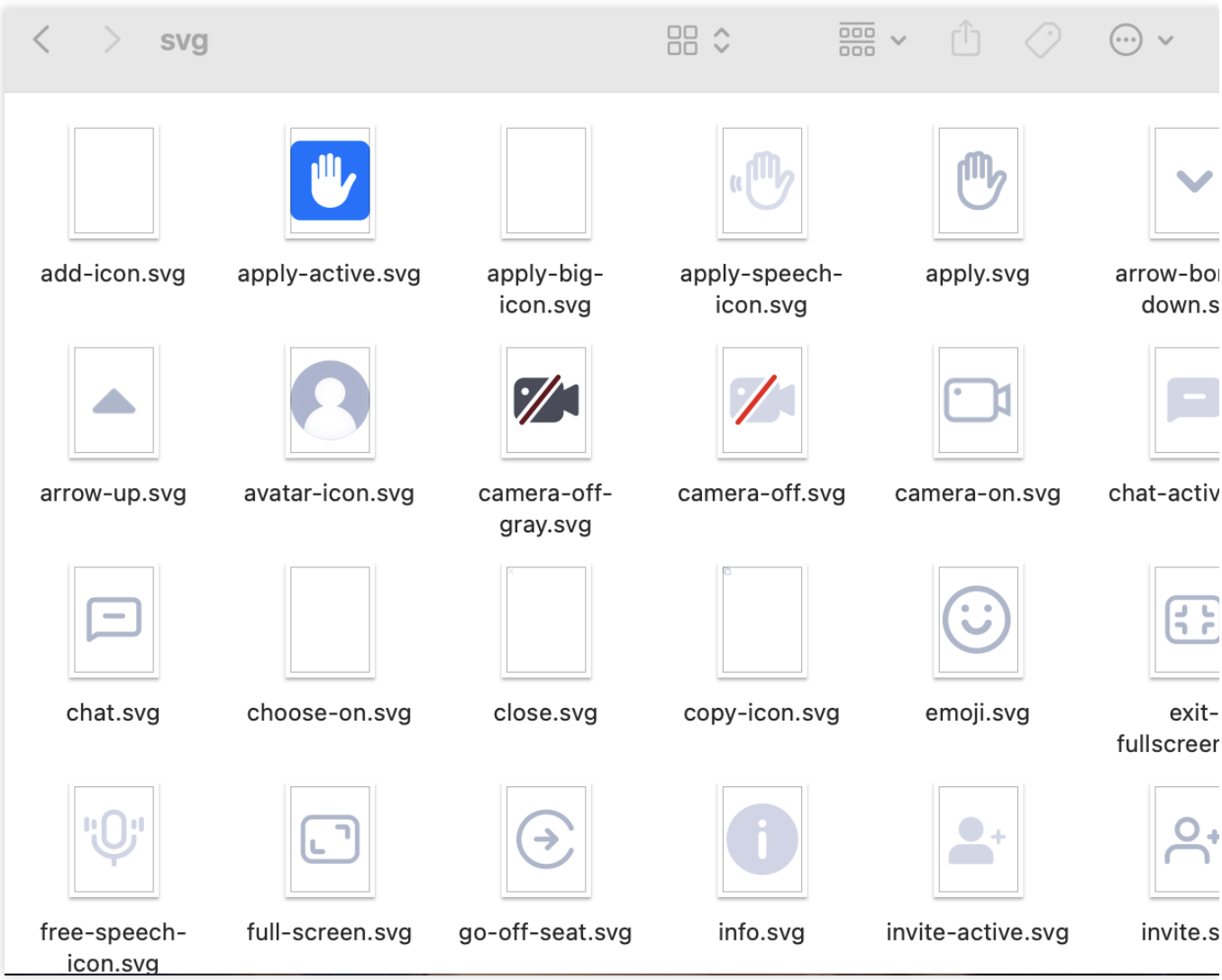
This article will introduce how to customize the User Interface of TUIRoomkit. We provide two options for you to choose from: Skinning Scheme and Custom UI Scheme.

Option 1: Interface Fine-tuning Scheme

By directly modifying the Source Code of the UI we provide, you can adjust the User Interface of TUIRoomKit. The Source Code of TUIRoomKit's interface is located in the Electron/ folder on Github.

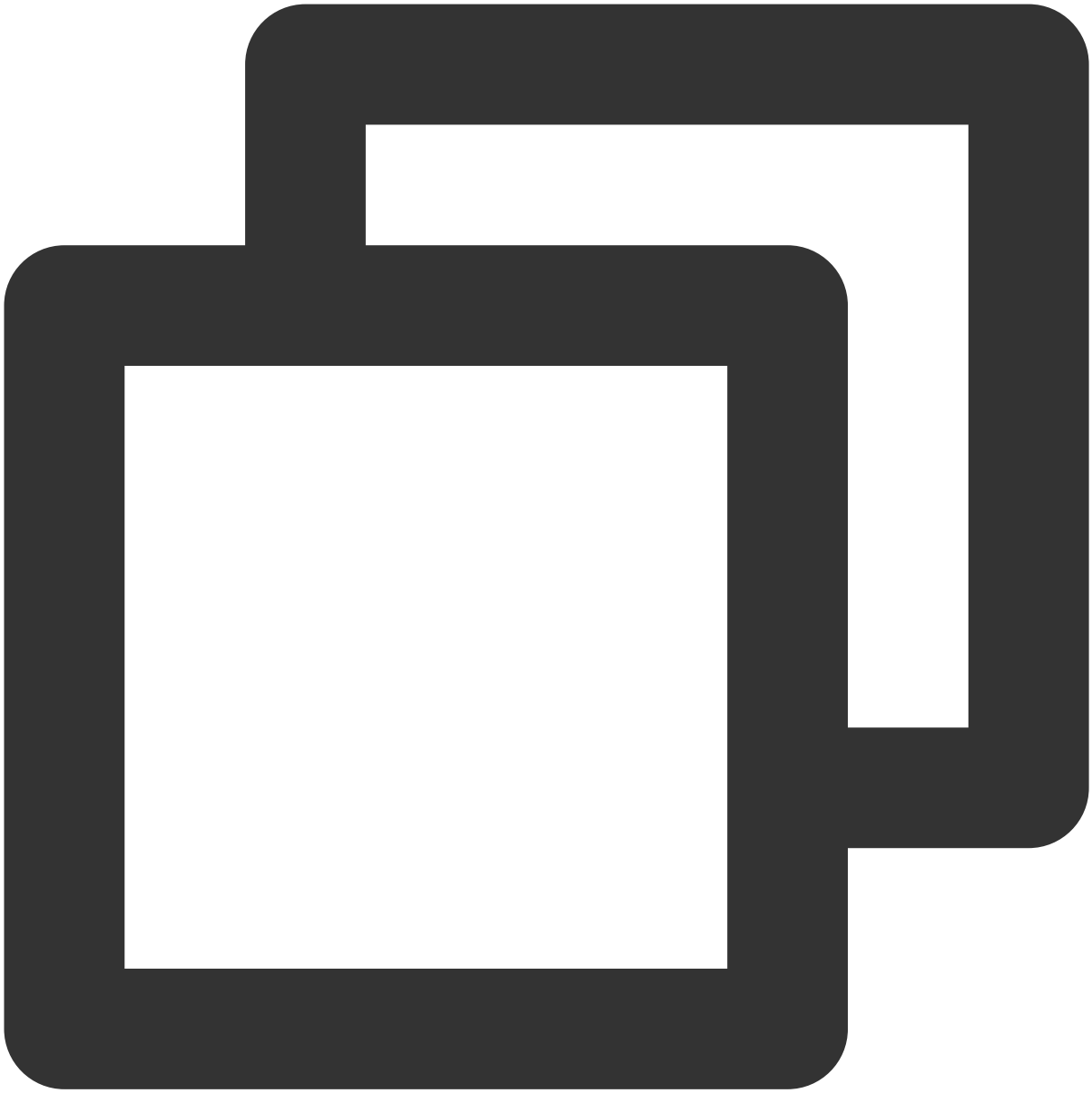
Replace Icons

You can directly modify the icon components in the `web/vue3/src/TUIRoom/assests/icons/svg` Folder to ensure that the color tone style of the icons throughout the app remains consistent. Please keep the icon file names unchanged when replacing.



Adjust UI Layout

You can adjust the UI layout of the Multi-person Video Conference interface by modifying the different pages in the `src/components/` folder.



```
- components/
    - base
    - Chat                Chat
    - common              Common Icon Component
    - ManageMember        Member Management
    - RoomContent         Room Video
    - RoomFooter          Room Page Footer
    - RoomHeader          Room Page Header
    - RoomHome            Home Page
    - RoomInvite          Invite Members
    - RoomLogin           Login Page
```

```
    - RoomMore              More
    - RoomSetting           Set Up
    - RoomSidebar           Drawer Component
```

Option 2: Custom UI Scheme

The overall functionality of TUIRoom is based on the TUIRoomEngine, a UI-less SDK. You can completely implement your own User Interface based on TUIRoomEngine. For details, please see:
TUIRoomEngine Access Guide
TUIRoomEngine API Interface Address

Flutter

Last updated：2024-04-12 11:22:08

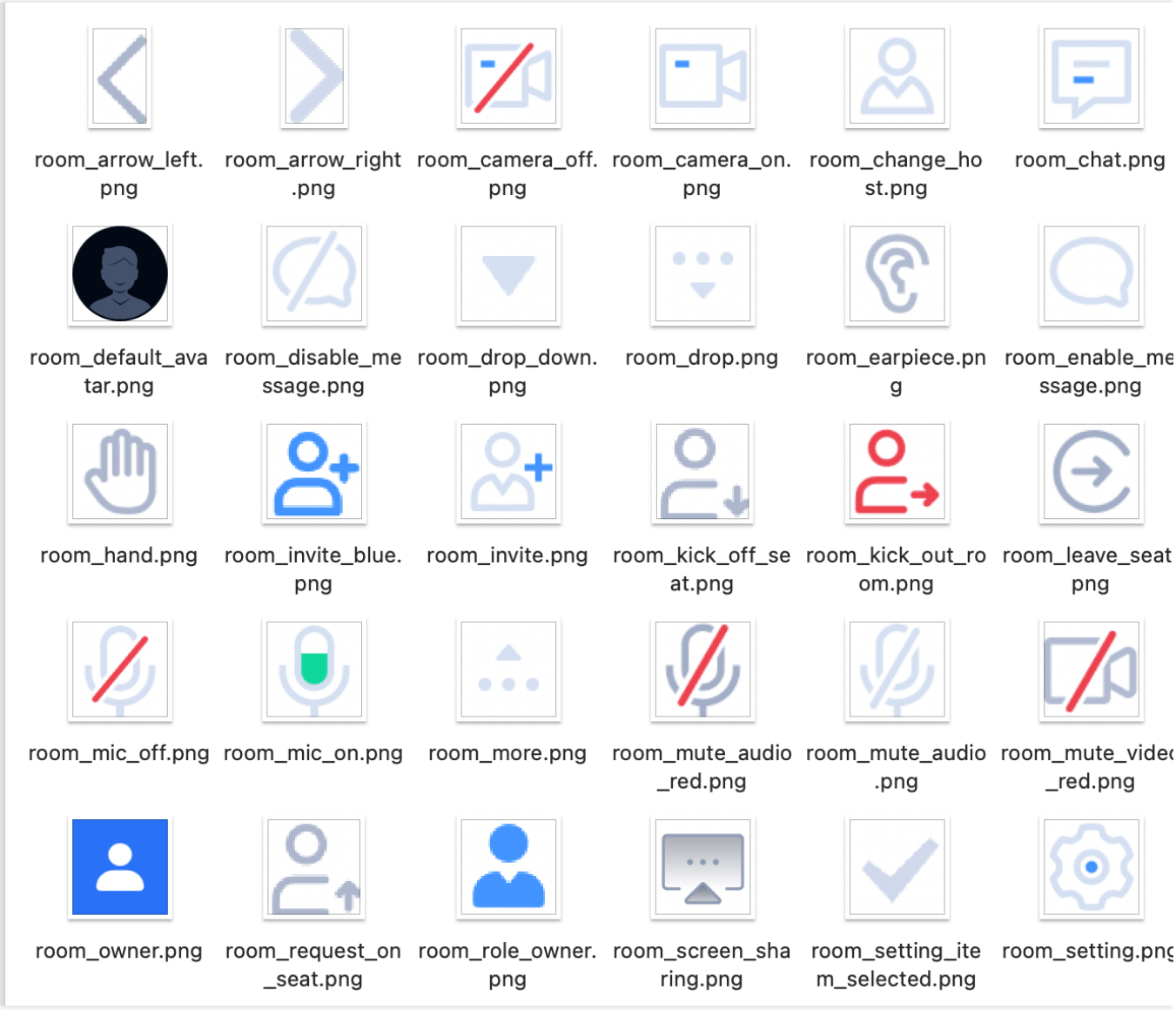
This article will introduce how to customize the user interface of `TUIRoomKit` . We provide two solutions for you to choose from: **fine-tuning solution** and **custom UI solution**.

Solution 1: Fine-tuning solution

By directly modifying the UI source code we provide, you can adjust the user interface of `TUIRoomKit` .

Replace icons

You can directly modify the icon components in the `rtc_conference_tui_kit/assets/images` folder to ensure that the icon color tone style is consistent throughout the app. Please keep the icon file name unchanged when replacing.

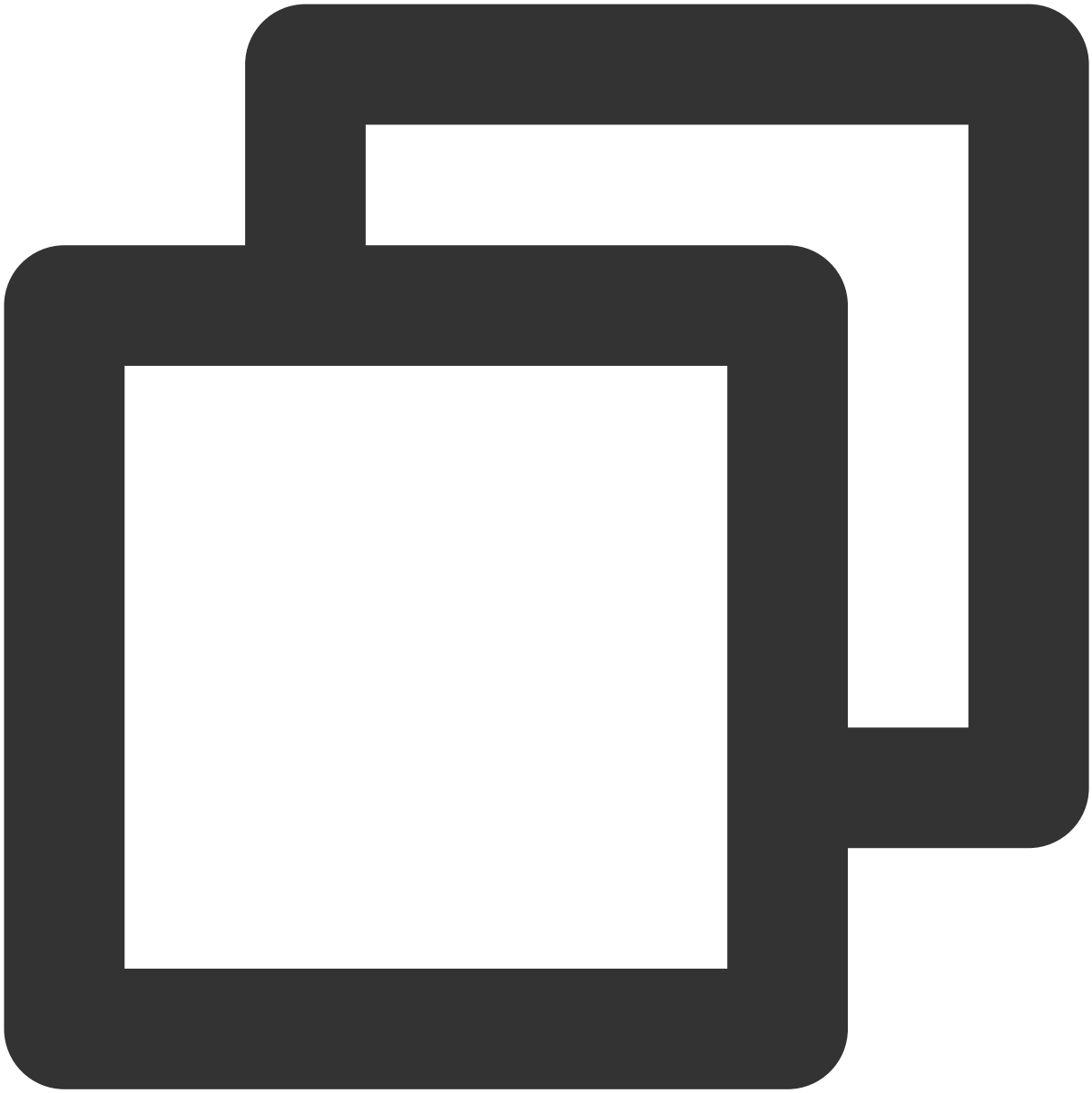


Replace copywriting

You can modify the `en_us.dart` and `zh_cn.dart` files in the `rtc_conference_tui_kit/lib/common/languages` folder to change the string content of the video conference interface.

Solution 2: Custom part of UI solution

The UI component folders of `TUIRoomKit` are as follows. You can modify the `view.dart` in the corresponding folder to customize the UI according to your actual business needs.



```
├── lib
├── common
│   └── widgets
│       ├── bottom_sheet.dart (1 KB)                    // Universal bottom sheet
│       ├── copy_text_button.dart (1 KB)                // Universal copy button
│       ├── dialog.dart (4 KB)                          // Universal dialog
│       ├── drop_down_button.dart (<1 KB)               // Universal dropdown butto
│       ├── info_list.dart (1 KB)                       // Universal information di
│       ├── rounded_container.dart (<1 KB)              // Universal rounded corner
│       ├── search_bar.dart (1 KB)                      // Universal search bar
│       ├── single_select_list.dart (1 KB)              // Universal single select
```

```
│       ├── slider.dart (1 KB)                          // Universal slider
│       ├── switch.dart (<1 KB)                         // Universal switcher
│       ├── toast.dart (<1 KB)                          // Universal toast
│       ├── user_info.dart (3 KB)                       // Universal user info item
│       └── volume_bar.dart (2 KB)                      // Universal dynamic microp
├── pages
│   └── conference_main
│       ├── view.dart (3 KB)
│       └── widgets
│           ├── bottom_view
│           │   ├── view.dart (1 KB)                    // Function button of bott
│           │   └── widgets
│           │       ├── base_button.dart (10 KB)        // Unexpanded basic bottom
│           │       ├── bottom_button_item.dart (2 KB)  // Encapsulated universal
│           │       ├── mic_button.dart (1 KB)          // Microphone button that
│           │       └── more_button.dart (3 KB)         // All bottom function but
│           ├── exit
│           │   └── view.dart (2 KB)                    // Bottom sheet of exit ro
│           ├── invite_sheet
│           │   └── invite_sheet.dart (1 KB)            // Invite popup
│           ├── local_screen_sharing
│           │   └── local_screen_sharing.dart (1 KB)    // Prompt component during
│           ├── raise_hand_list
│           │   ├── view.dart (3 KB)                    // Raise hand application
│           │   └── widgets
│           │       ├── title.dart (<1 KB)              // List title bar
│           │       ├── user_item.dart (1 KB)           // A single item of the en
│           │       └── user_table.dart (1 KB)          // List component
│           ├── setting
│           │   ├── view.dart (1 KB)                    // Settings panel
│           │   └── widgets
│           │       ├── audio_setting.dart (1 KB)       // Audio setting component
│           │       ├── setting_info_select.dart (1 KB) // Radio value setting com
│           │       ├── setting_item.dart (<1 KB)       // Settings panel single s
│           │       └── video_setting.dart (4 KB)       // Video setting component
│           ├── top_view
│           │   ├── view.dart (3 KB)                    // Function button of top
│           │   └── widgets
│           │       ├── meeting_title.dart (2 KB)       // Top meeting information
│           │       ├── room_info_sheet.dart (2 KB)     // Detailed meeting inform
│           │       └── top_button_item.dart (1 KB)     // Top function single uni
│           ├── transfer_host
│           │   ├── view.dart (1 KB)                    // Transfer homeowners pan
│           │   └── widgets
│           │       ├── title.dart (<1 KB)              // Title bar of transfer h
│           │       ├── user_item.dart (1 KB)           // Transferable homeowner
│           │       └── user_table.dart (1 KB)          // Transferable homeowner
```

```
│           ├── user_list
│           │   ├── view.dart (3 KB)                      // User list Page
│           │   └── widgets
│           │       ├── button_item.dart (1 KB)          // Button item at the bott
│           │       ├── user_control.dart (7 KB)         // The member management p
│           │       ├── user_control_item.dart (1 KB)    // The item of member mana
│           │       ├── user_item.dart (3 KB)            // User list item
│           │       └── user_table.dart (3 KB)           // User list
│           ├── video_seat
│           │   ├── video_layout
│           │   │   ├── view.dart (3 KB)                 // The layout of video ite
│           │   │   └── widgets
│           │   │       ├── video_item                   // Single video frame item
│           │   │       │   ├── view.dart (4 KB)        // Single video frame item
│           │   │       │   └── widgets
│           │   │       │       ├── video_user_info.dart (2 KB)      // User inform
│           │   │       │       └── volume_bar.dart (<1 KB)          // Microphone
│           │   │       └── with_draggable_window_widget.dart (1 KB) // Two-person
│           │   └── video_page_turning
│           │       ├── view.dart (2 KB)                            // Video scree
│           │       └── widgets
│           │           └── page_indicator.dart (1 KB)               // Page indica
```

Solution 3: Custom all UI solution

The overall function of `TUIRoomKit` is based on the `TUIRoomEngine`, a UI-less SDK. You can completely implement your own UI interface based on `TUIRoomEngine`. For details, please see TUIRoomEngine API interface address.

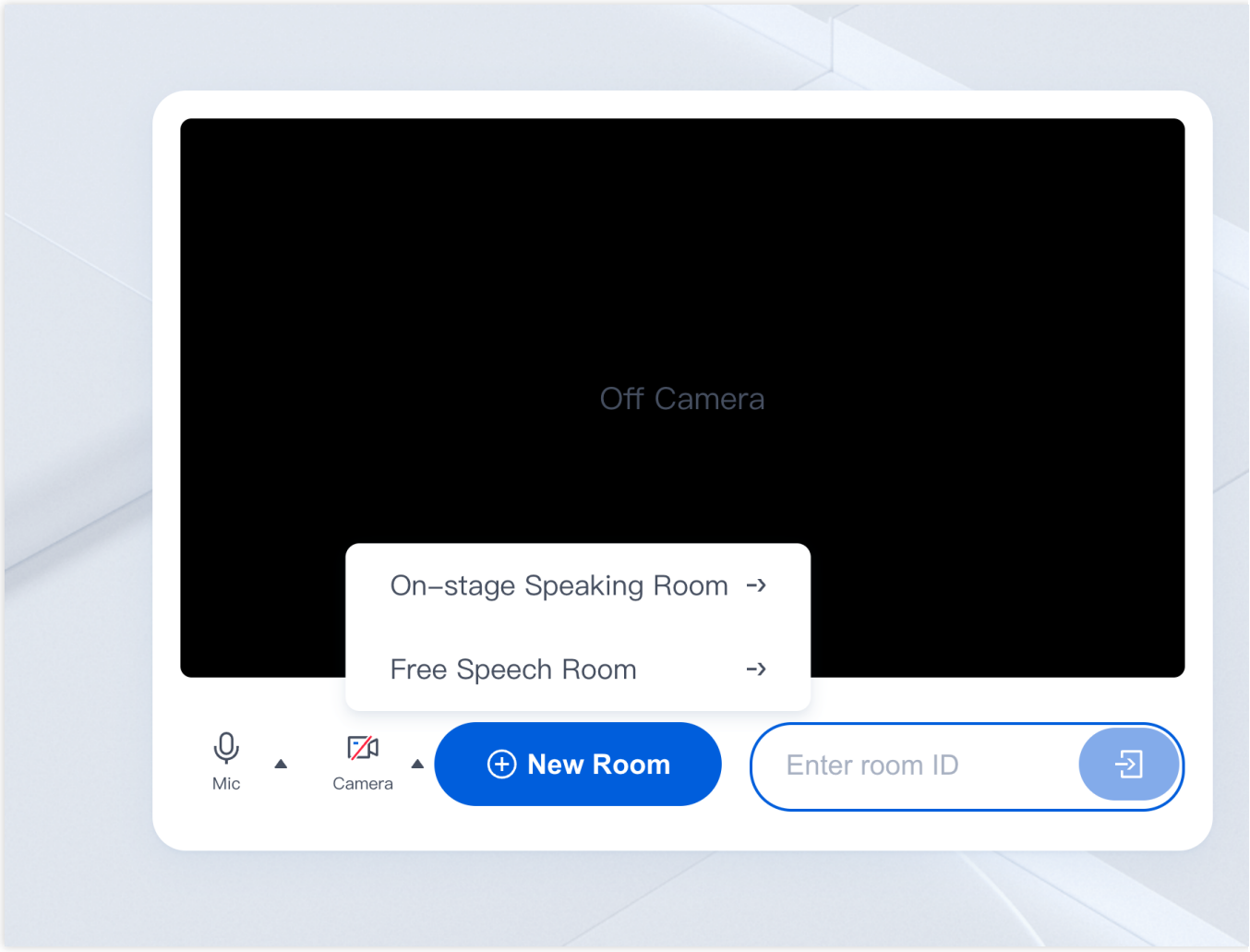
Meeting Control (TUIRoomKit)

Last updated：2024-04-12 11:20:53

This document will provide a detailed introduction to the pre-conference control, in-conference control, and other aspects of `TUIRoomKit` to help you better master the conference control features of `TUIRoomKit` . Through this document, you will be able to fully utilize the functions of `TUIRoomKit` to achieve high-quality audio and video conferences.

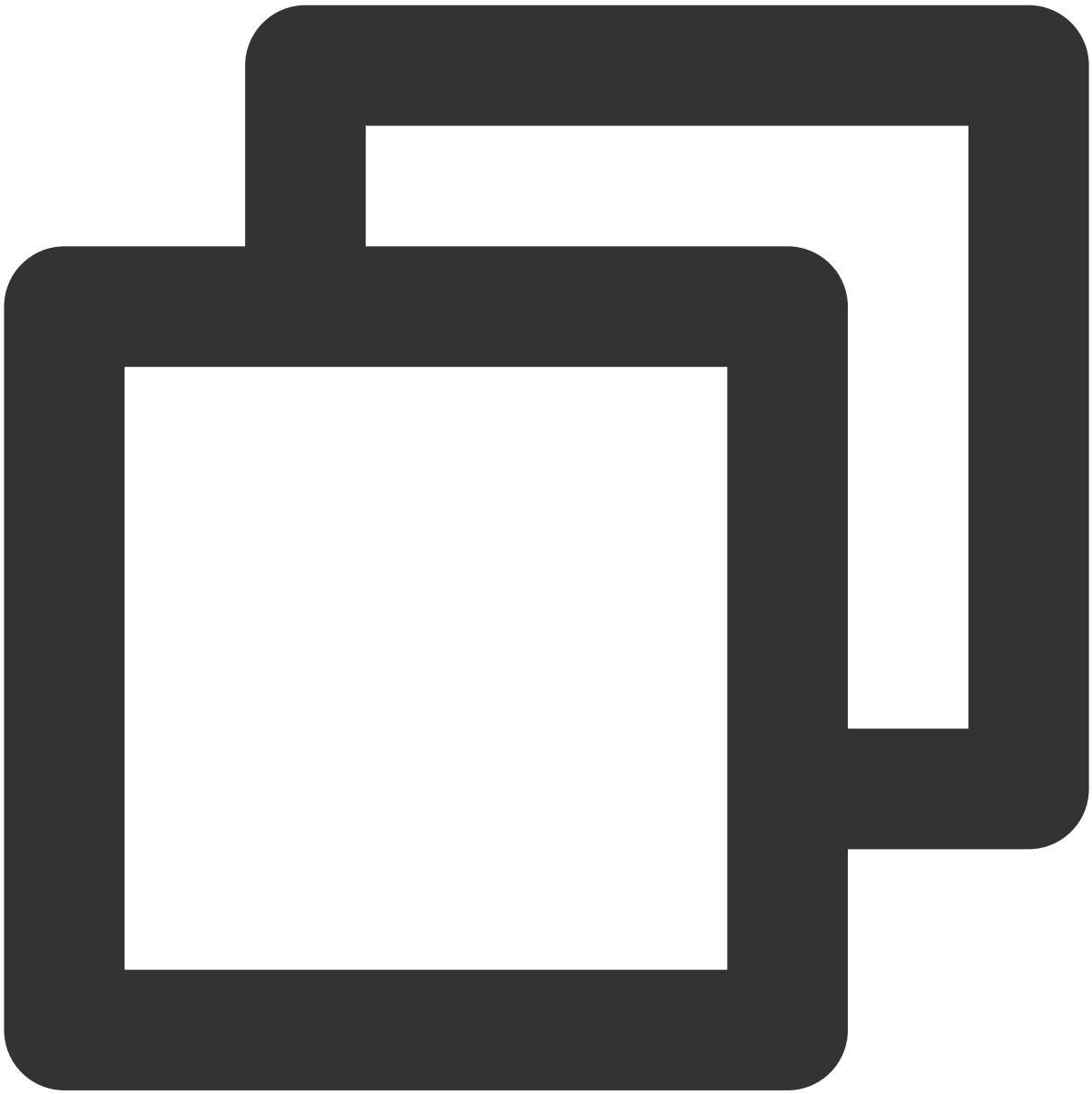
Pre-conference Control

Before entering the conference, you can use the pre-conference control features of `TUIRoomKit` to set the relevant parameters of the conference in advance, ensuring the smooth progress of the conference.



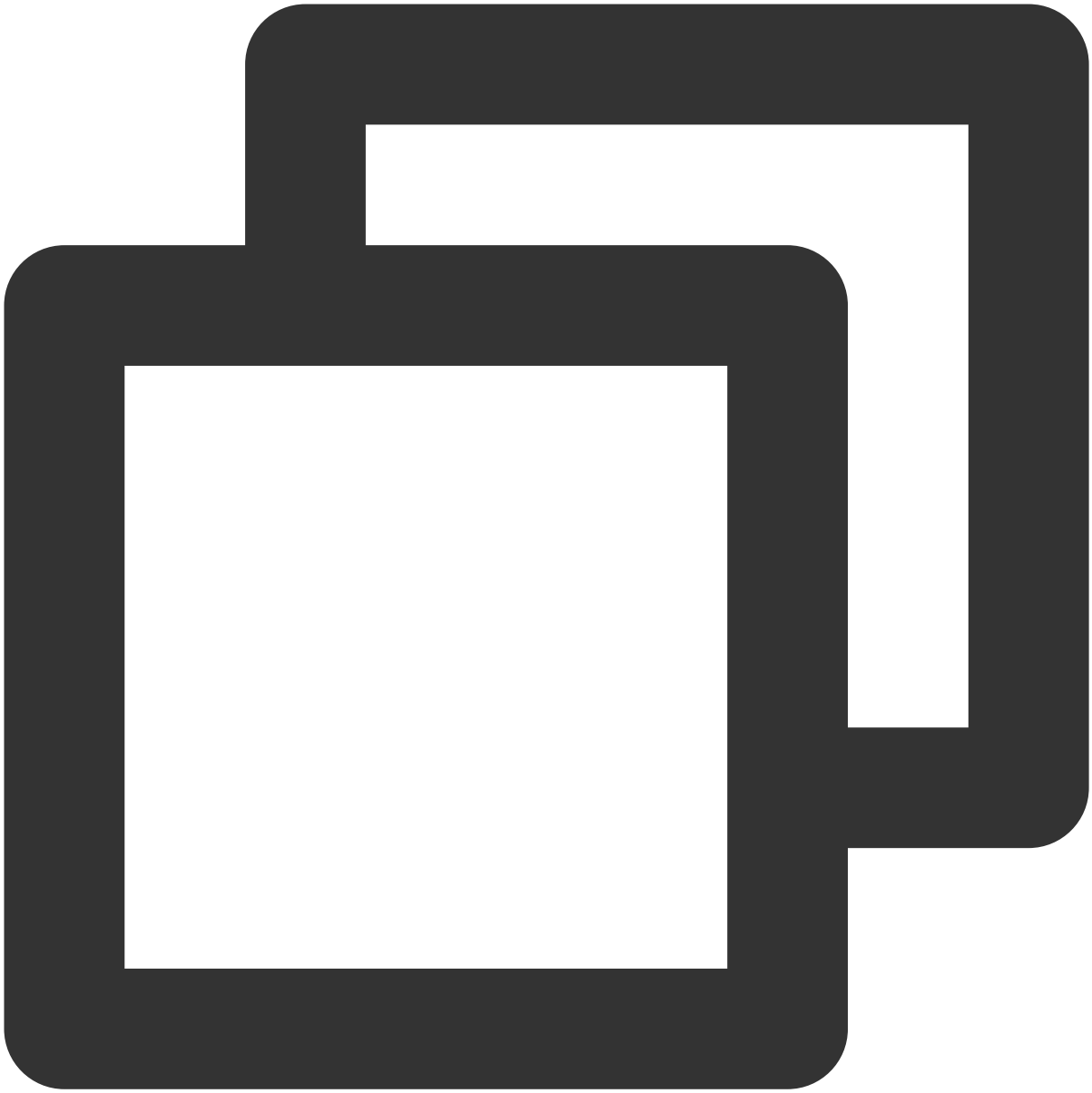
iOS (Swift)

Android（Java）
Flutter (Dart)



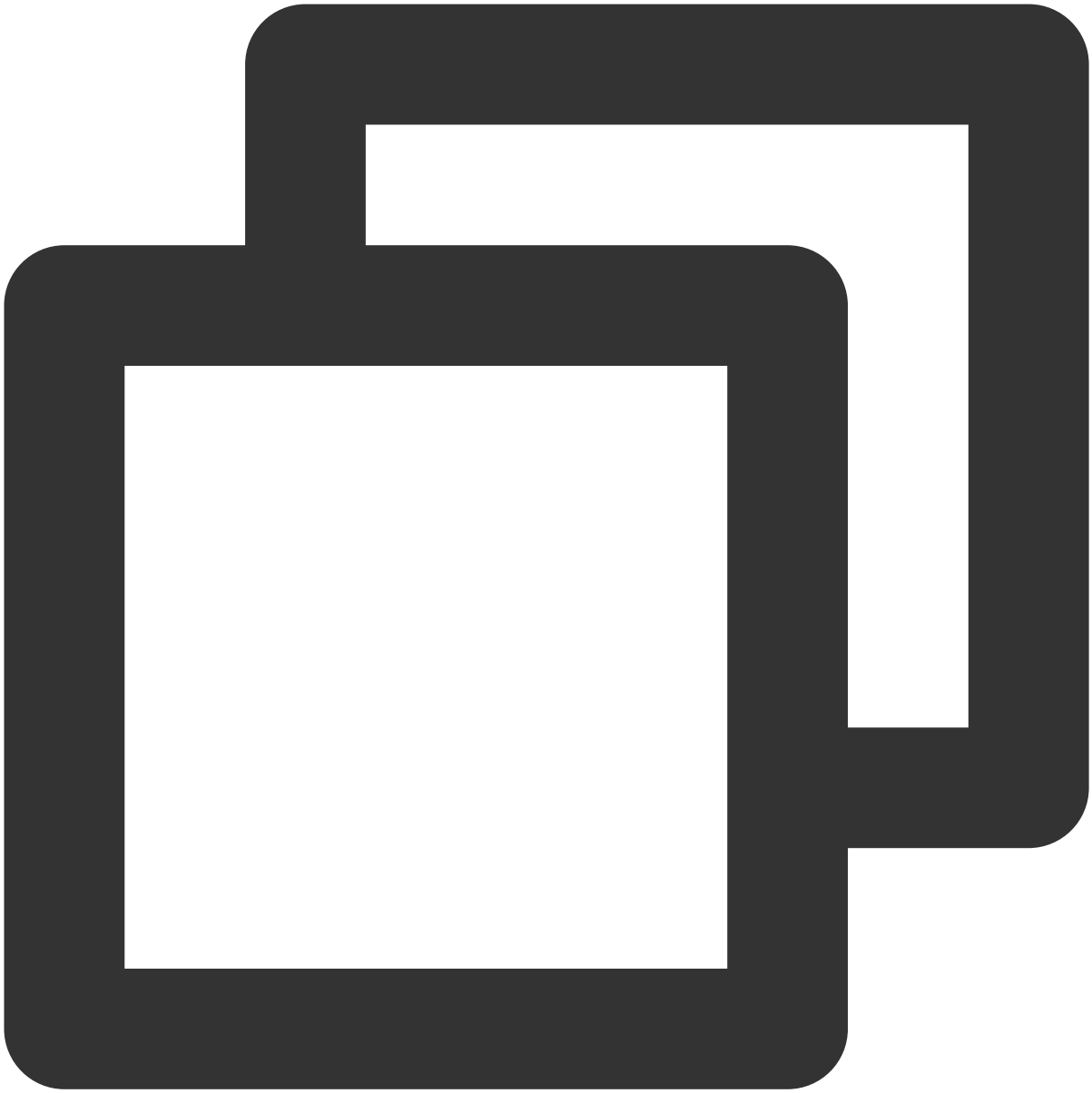
```
// CreateRoomViewController for your own ViewController
class CreateConferenceViewController: UIViewController {
    private var conferenceViewController: ConferenceMainViewController?
    func quickStartConferenceAction() {
      conferenceViewController = ConferenceMainViewController()
      // Implement the pre-conference control features by setting the parameters in
      let params = ConferenceParams()
      params.isMuteMicrophone = false
```

```
        params.isOpenCamera = false
        params.isSoundOnSpeaker = true
        params.name = "your conference name"
        params.enableMicrophoneForAllUser = true
        params.enableCameraForAllUser = true
        params.enableMessageForAllUser = true
        params.enableSeatControl = false
        conferenceViewController?.setConferenceParams(params: params)
        conferenceViewController?.setConferenceObserver(observer: self)
        // After completing the settings, call the interface to start or join a confe
        conferenceViewController?.quickStartConference(conferenceId: "your conference
    }
}

extension CreateConferenceViewController: ConferenceObserver {
    func onConferenceStarted(conferenceId: String, error: ConferenceError) {
        if error == .success, let vc = conferenceViewController {
            navigationController?.pushViewController(vc, animated: true)
        }
        conferenceViewController = nil
    }
}
```



```
public class ConferenceOwnerActivity extends AppCompatActivity {
    private static final String TAG = "ConferenceOwnerActivity";

    private ConferenceObserver mConferenceObserver;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.app_activity_conference_main);
        // Implement the pre-conference control features by setting the parameters
        ConferenceParams params = new ConferenceParams();
        params.setMuteMicrophone(false);
```

```
        params.setOpenCamera(false);
        params.setSoundOnSpeaker(true);
        params.setName("your conference name");
        params.setEnableMicrophoneForAllUser(true);
        params.setEnableCameraForAllUser(true);
        params.setEnableMessageForAllUser(true);
        params.setEnableSeatControl(false);
        ConferenceMainFragment fragment = new ConferenceMainFragment();
        fragment.setConferenceParams(params);
        setConferenceObserver(fragment);
        fragment.quickStartConference("your conferenceId");  // After completing th
    }

    private void setConferenceObserver(ConferenceMainFragment fragment) {
        mConferenceObserver = new ConferenceObserver() {
            @Override
            public void onConferenceStarted(String conferenceId, ConferenceError er
                super.onConferenceStarted(conferenceId, error);
                if (error != ConferenceError.SUCCESS) {
                    Log.e(TAG, "Error : " + error);
                    return;
                }
                FragmentManager manager = getSupportFragmentManager();
                FragmentTransaction transaction = manager.beginTransaction();
                transaction.add(R.id.conference_owner_container, fragment);
                transaction.commitAllowingStateLoss();
            }
        };
        fragment.setConferenceObserver(mConferenceObserver);
    }
}
```



```
var conferenceSession = ConferenceSession.newInstance("your conferenceId")
      ..isMuteMicrophone = false
      ..isOpenCamera = false
      ..isSoundOnSpeaker = true
      ..name = "your conference name"
      ..enableMicrophoneForAllUser = true
      ..enableCameraForAllUser = true
      ..enableMessageForAllUser = true
      ..enableSeatControl = false
      ..onActionSuccess = () {    // Successful operation callback, you can navigat
        Navigator.push(
```

```
            context,
            MaterialPageRoute(
            builder: (context) => ConferenceMainPage(),
            ),
          );
        }
        ..onActionError = (ConferenceError error, String message) {}  // Failure oper
        ..quickStart();         // After completing the settings, call the interface
```

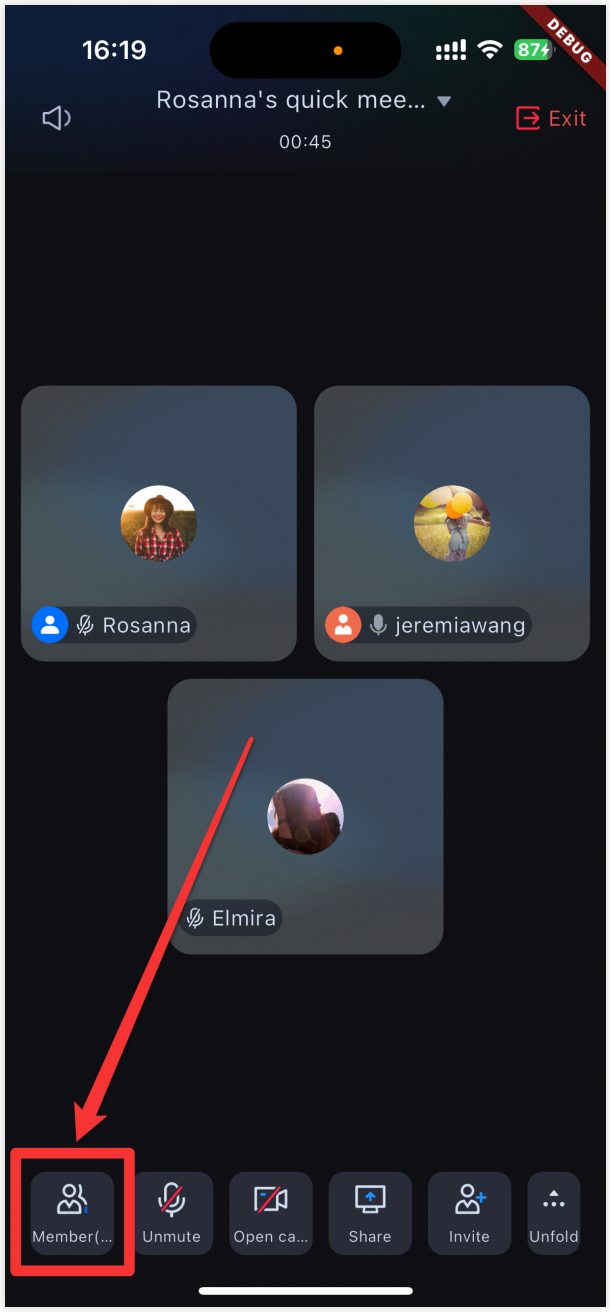
Here is a detailed introduction to the parameters in the above code.

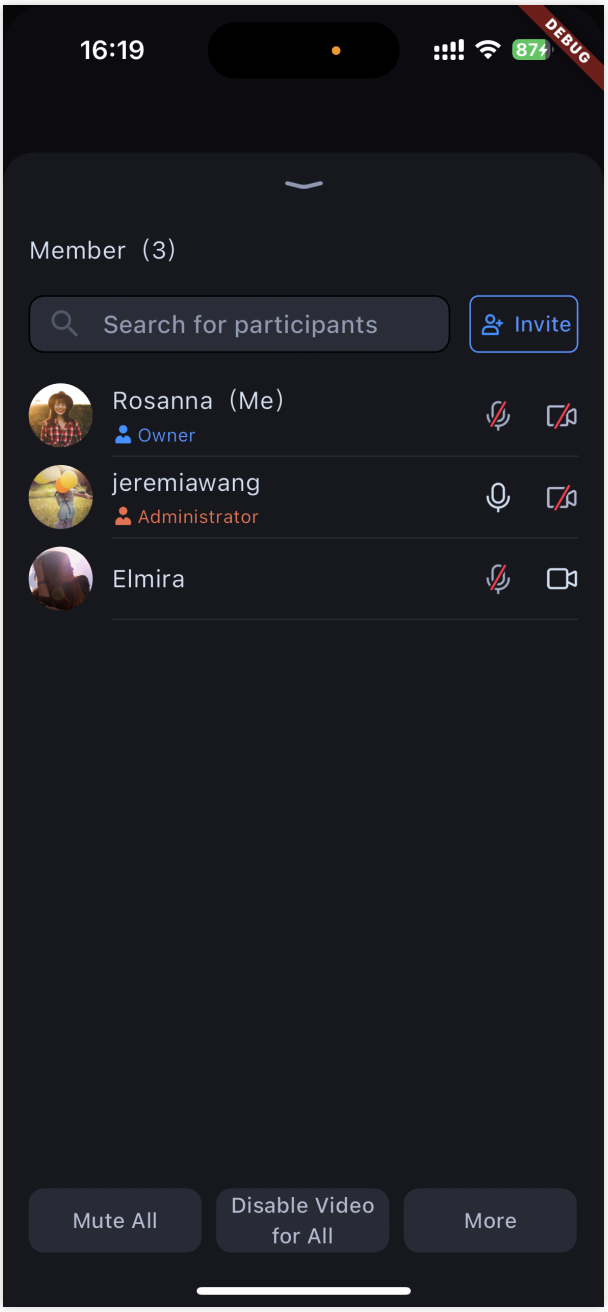
Parameter	Type	Meaning
isMuteMicrophone	bool	Whether to mute the microphone (default is false)
isOpenCamera	bool	Whether to open the camera (default is false)
isSoundOnSpeaker	bool	Whether to turn on the speakers (default is true)
name	String	conference name (default is your conferenceId)
enableMicrophoneForAllUser	bool	Whether to enable microphone permission for all members (default is true)
enableCameraForAllUser	bool	Whether to enable camera permission for all members (default is true)
enableMessageForAllUser	bool	Whether to enable message permission for all members (default is true)
enableSeatControl	bool	Whether to enable on-stage speaking mode (default is false)

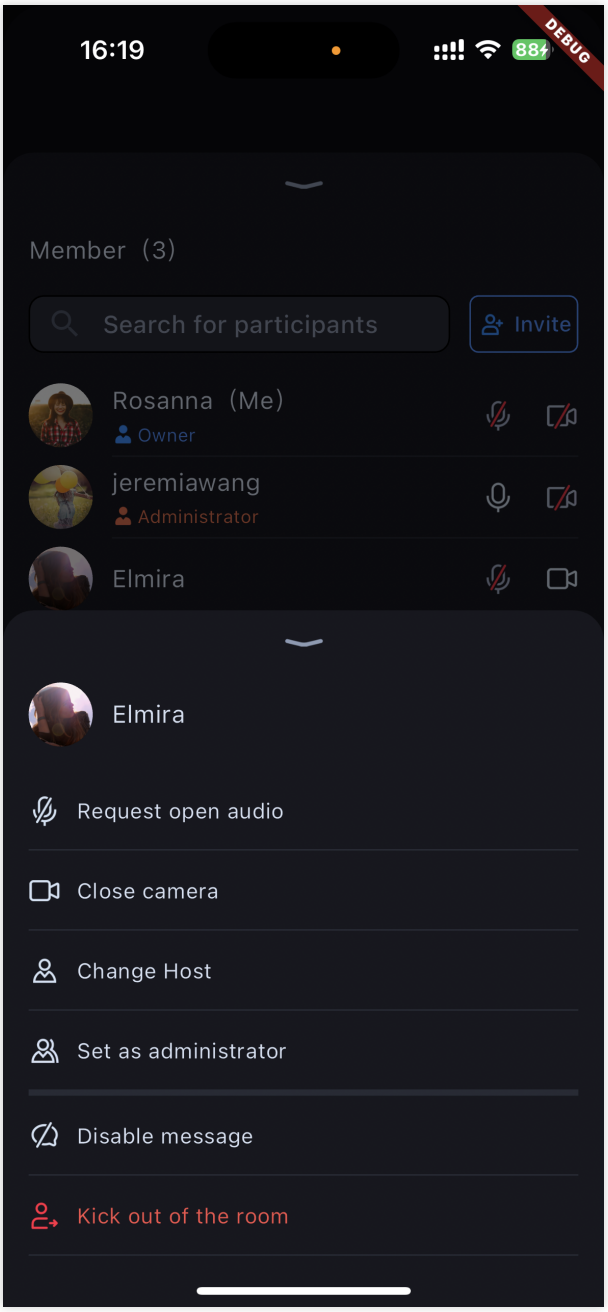
In-conference Control

During a conference, you may need to control the conference at any time to meet the needs of different scenarios. `TUIRoomKit` provides a wealth of in-conference control functions, allowing you to easily handle various conference situations. Through this section, you will intuitively understand how to effectively control the conference during the conference.

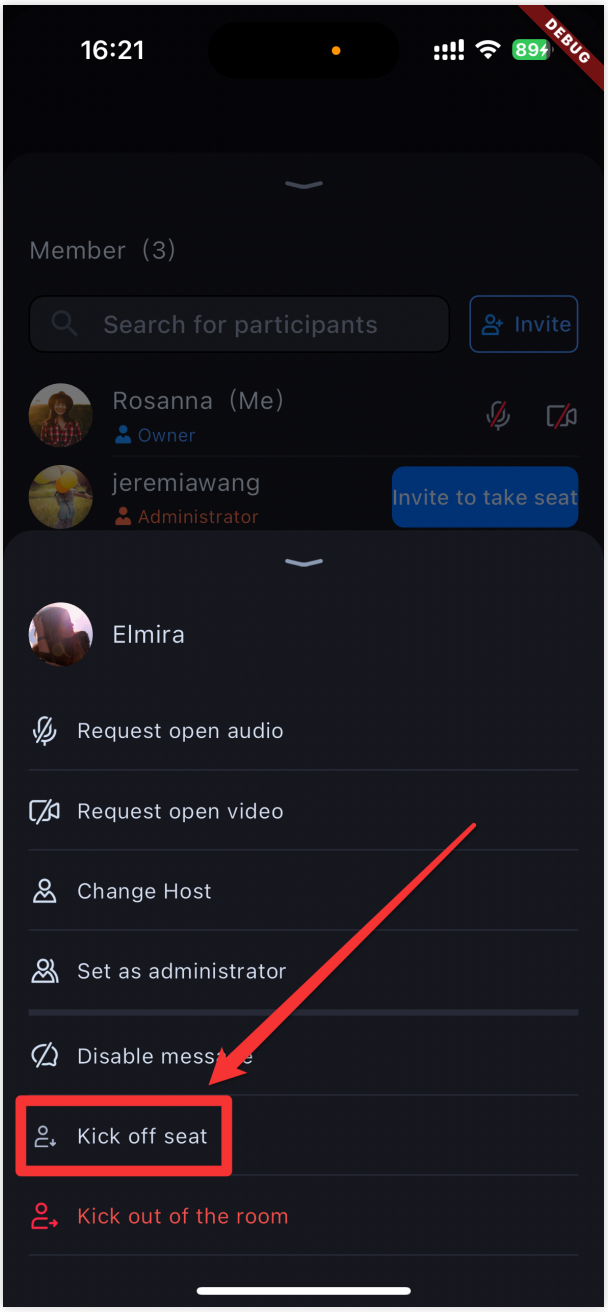
When you are the host or administrator, click the member button in the lower left corner to open the member list for related conference control, as shown in the second picture from the below. In the member list, click on the user you need to operate, and the interface shown in the first picture on the right will appear.

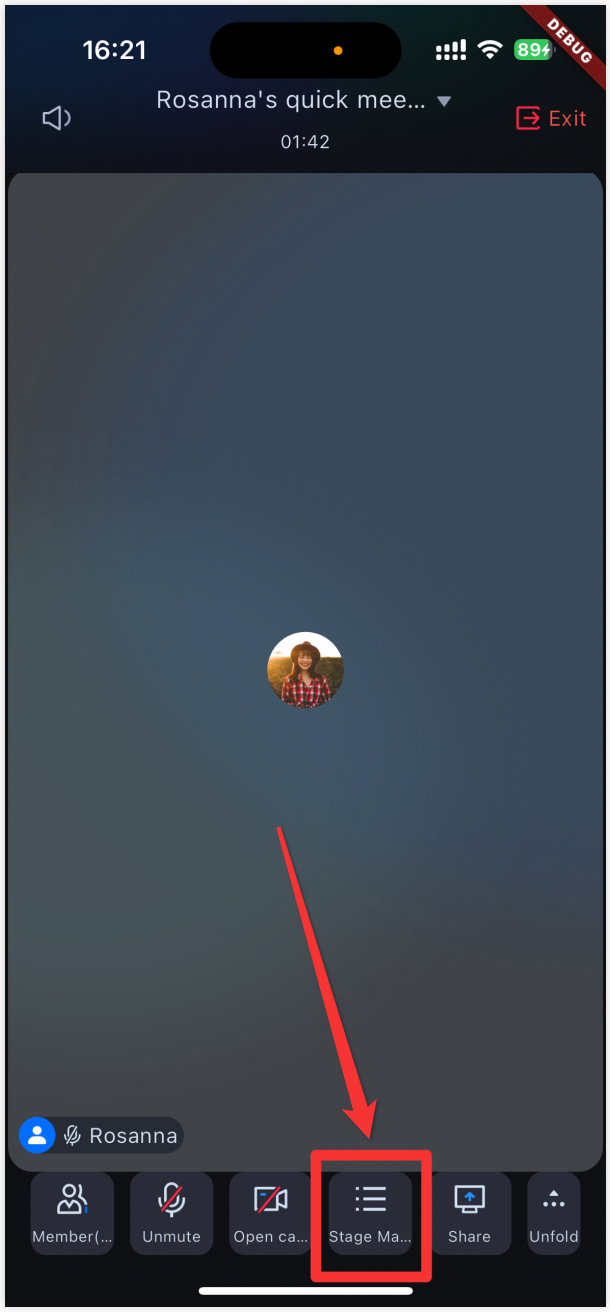


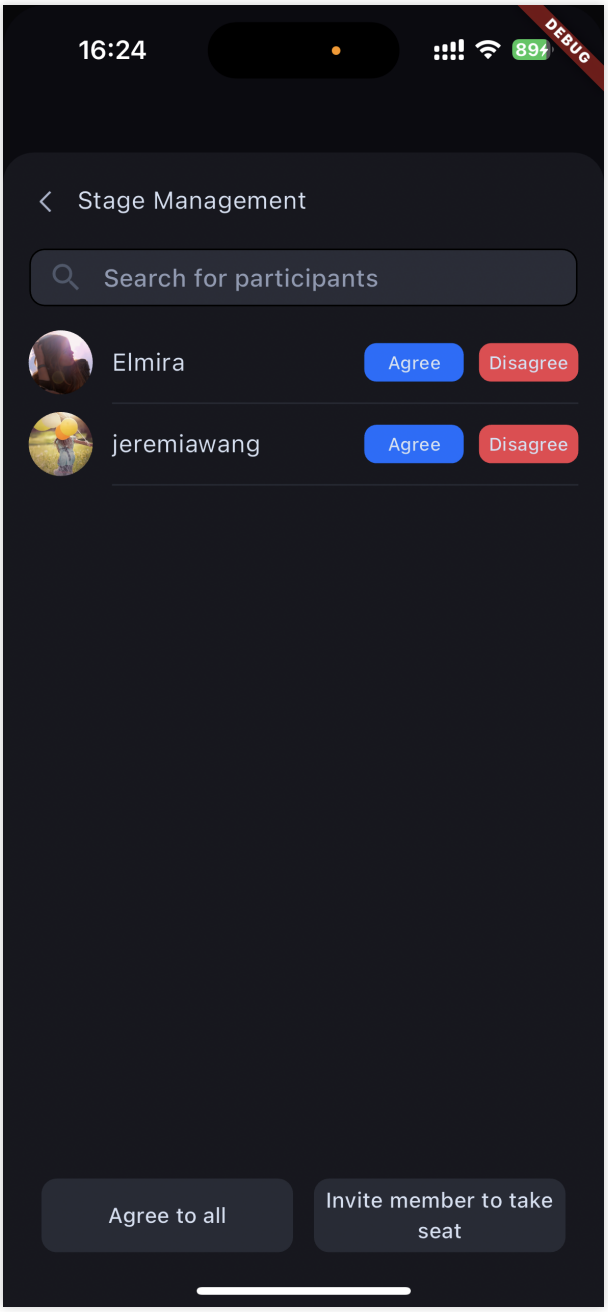




In the on-stage speaking mode, click on the user you need to operate in the member list, and the interface that appears is as shown in the first picture on the left below. Click the `Stage Management` button on the conference bottom toolbar to open the stage management interface, as shown in the first picture on the right below.







Function	Corresponding interface (Android as an example)
Disable/Enable video for all	disableDeviceForAllUserByAdmin
Turn off/Request to turn on user's audio/video	closeRemoteDeviceByAdmin / openRemoteDeviceByAdmin
Transfer host	changeUserRole
Set/Cancel administrator	changeUserRole
Disable/enable message for user	disableSendingMessageByAdmin

Kick out of the room	kickRemoteUserOutOfRoom
Invite to stage/Ask to step down	takeUserOnSeatByAdmin / kickUserOffSeatByAdmin
Agree/Reject user's stage application	responseRemoteRequest

API Documentation(TUIRoomKit)
iOS&Mac
API Overview

Last updated：2023-12-18 18:01:32

TUIRoomEngine API List

TUIRoomEngine API is the UI-free interface of the Conference Component, which allows you to customize the encapsulation according to your business needs.
TUIRoomEngine

TUIRoomEngine Core Methods

API	Description
init	Create Instance of TUIRoomEngine.
login	Login Interface, you need to initialize user information before entering the room and perform a series of operations.
logout	Logout Interface, there will be active room leaving operation and resources destruction.
setSelfInfo	Set local user name and avatar.
getSelfInfo	Get the basic information of the local user login.
addObserver	Set Event Callback.
removeObserver	Remove Event Callback.

Active Interface related to the room

API	Description
createRoom	Create a room.
destroyRoom	Close the room.
enterRoom	Entered room.

exitRoom	Leave the room.
connectOtherRoom	Connect to another room.
disconnectOtherRoom	Disconnect from another room.
fetchRoomInfo	Get Room data.
updateRoomNameByAdmin	Update Room ID (only administrator or group owner can call).
updateRoomSpeechModeByAdmin	Set Mic Control Mode for the room (only administrator or group owner can call).

Local user view rendering and video management

API	Description
setLocalVideoView	Set the View Control for local user video rendering.
openLocalCamera	Open local Camera.
closeLocalCamera	Close local Camera.
updateVideoQuality	Update Encoding Quality settings for local video.
startPushLocalVideo	Start pushing local video.
stopPushLocalVideo	Stop pushing local video.
startScreenCapture	Start Screen Sharing (this interface is only supported on mobile devices).
startScreenCapture	Start Screen Sharing (this interface is only supported on Mac OS desktop systems).
stopScreenCapture	End Screen Sharing.
getScreenCaptureSources	Enumerate shareable screens and windows (this interface is only supported on Mac OS systems).
selectScreenCaptureTarget	Select the screen or window to share (this interface is only supported on Mac OS systems).

Local user audio management

API	Description
openLocalMicrophone	Open local mic.

closeLocalMicrophone	Close local mic.
updateAudioQuality	Update local Audio Encoding Quality settings.
startPushLocalAudio	Start pushing local audio.
stopPushLocalAudio	Stop pushing local audio.

Remote user view rendering and video management

API	Description
setRemoteVideoView	Set the View Control for remote user video rendering.
startPlayRemoteVideo	Start Playback of remote user video.
stopPlayRemoteVideo	Stop Playback of remote user video.
muteRemoteAudioStream	Mute remote user.

Room user information

API	Description
getUserList	Get the member list in the room.
getUserInfo	Get member information.

Room user management

API	Description
changeUserRole	Modify user role (only administrator or group owner can call).
kickRemoteUserOutOfRoom	Kick remote user out of the room (only administrator or group owner can call).

Room user speech management

API	Description
disableDeviceForAllUserByAdmin	Control the permission status of all users in the current room to open audio streams, video streams, and capture devices, such as: all users are prohibited from opening mics, all users are prohibited from opening cameras, all users are prohibited from

	opening screen sharing (currently only available in conference scenarios, and only administrators or group owners can call).
openRemoteDeviceByAdmin	Request remote user to open media device (only administrator or group owner can call).
closeRemoteDeviceByAdmin	Close remote user media device (only administrator or group owner can call).
applyToAdminToOpenLocalDevice	Request to open local media device (available for ordinary users).

Room mic seat management

API	Description
setMaxSeatCount	Set the maximum number of mic seats (only supported when entering the room and creating the room).
getSeatList	Get the list of mic seats.
lockSeatByAdmin	Lock the mic seat (only administrator or group owner can call, including position lock, audio status lock, and video status lock).
takeSeat	Apply to Go Live (no need to apply in free speech mode).
leaveSeat	Apply to leave the mic (no need to apply in free speech mode).
takeUserOnSeatByAdmin	Host/Administrator invites user to Go Live.
kickUserOffSeatByAdmin	Host/Administrator kicks user off the mic.

Signaling management

API	Description
cancelRequest	Cancel Request.
responseRemoteRequest	Reply Request.

Send message

API	Description

sendTextMessage	Send Text Message.
sendCustomMessage	Send Custom Message.
disableSendingMessageByAdmin	Disable remote user's ability to send text messages (only administrator or group owner can call).
disableSendingMessageForAllUser	Disable all users' ability to send text messages (only administrator or group owner can call).

Advanced features: Get TRTC instance

API	Description
getDeviceManager	Get native TRTC Device Management class.
getAudioEffectManager	Get native TRTC Sound Effect Class.
getBeautyManager	Get native TRTC Beauty Class.
getTRTCCloud	Get native TRTC Instance Class.

TUIRoomObserver Callback Events

TUIRoomObserver is the callback event class corresponding to TUIRoomEngine. You can listen to the callback events you need through this callback.
TUIRoomObserver

TUIRoomObserver

Error callback

API	Description
onError	Error Event Callback.

Login status event callback

API	Description

onKickedOffLine	Other terminal login is kicked offline.
onUserSigExpired	User Credential Timeout Event.

Room event callback

API	Description
onRoomNameChanged	Room ID change event.
onAllUserMicrophoneDisableChanged	All users in the room have their mics disabled event.
onAllUserCameraDisableChanged	All users in the room have their cameras disabled event.
onSendMessageForAllUserDisableChanged	All users in the room have their text message sending disabled event.
onKickedOutOfRoom	Kicked out of the room event.
onRoomDismissed	Room closed event.
onRoomSpeechModeChanged	Room Mic Control Mode changed.

Room user event callback

API	Description
onRemoteUserEnterRoom	Remote user entered room event.
onRemoteUserLeaveRoom	Remote user left the room event.
onUserRoleChanged	User role changed event.
onUserVideoStateChanged	User video status changed event.
onUserAudioStateChanged	User audio status changed event.
onUserScreenCaptureStopped	User screen capture stopped event.
onUserVoiceVolumeChanged	User volume change event.
onSendMessageForUserDisableChanged	User text message sending ability changed event.
onUserNetworkQualityChanged	User network status change event.

Room mic seat event callback

API	Description
onRoomMaxSeatCountChanged	Maximum mic seat changed event in the room (only effective in conference type rooms).
onSeatListChanged	Mic seat list changed event.
onKickedOffSeat	Received user kicked off mic event.

Request signaling event callback

API	Description
onRequestReceived	Received request message event.
onRequestCancelled	Received request cancelled event.

Room message event callback

API	Description
onReceiveTextMessage	Received normal text message event.
onReceiveCustomMessage	Received custom message event.

TUIRoomKit

Last updated：2024-03-15 16:07:57

Introduction

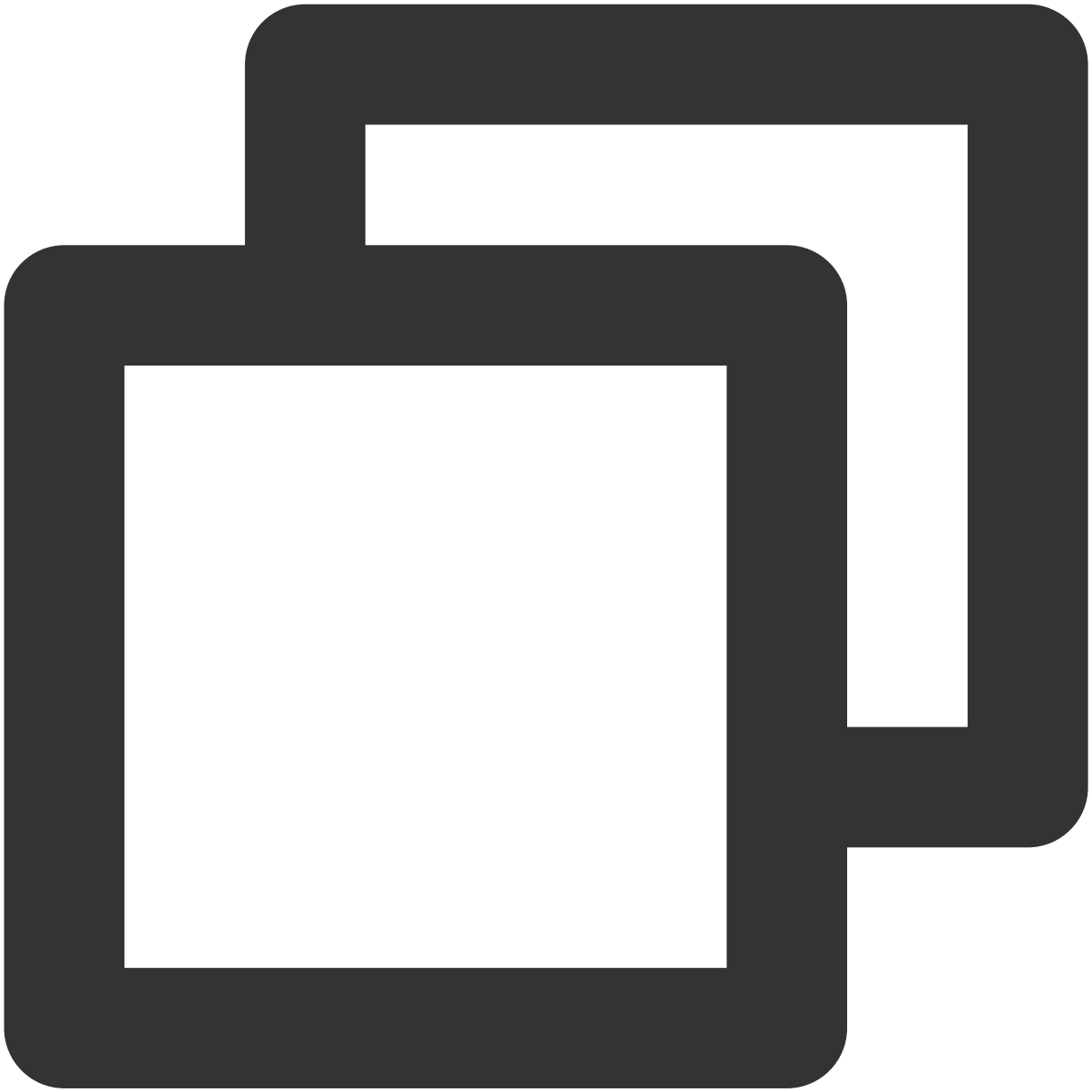
TUIRoomKit is an open source UI layer suite for conference SDK, currently only supports Swift language on the iOS platform. The conference UI can be called up through simple API calls.

TUIRoomKit Interface

API	Description
createInstance	Initialize the TUIRoomKit singleton object
destroyInstance	Destroy the TUIRoomKit singleton object
setSelfInfo	Set user information (avatar, nickname) (optional)
createRoom	Create a room
enterRoom	Enter the room

createInstance

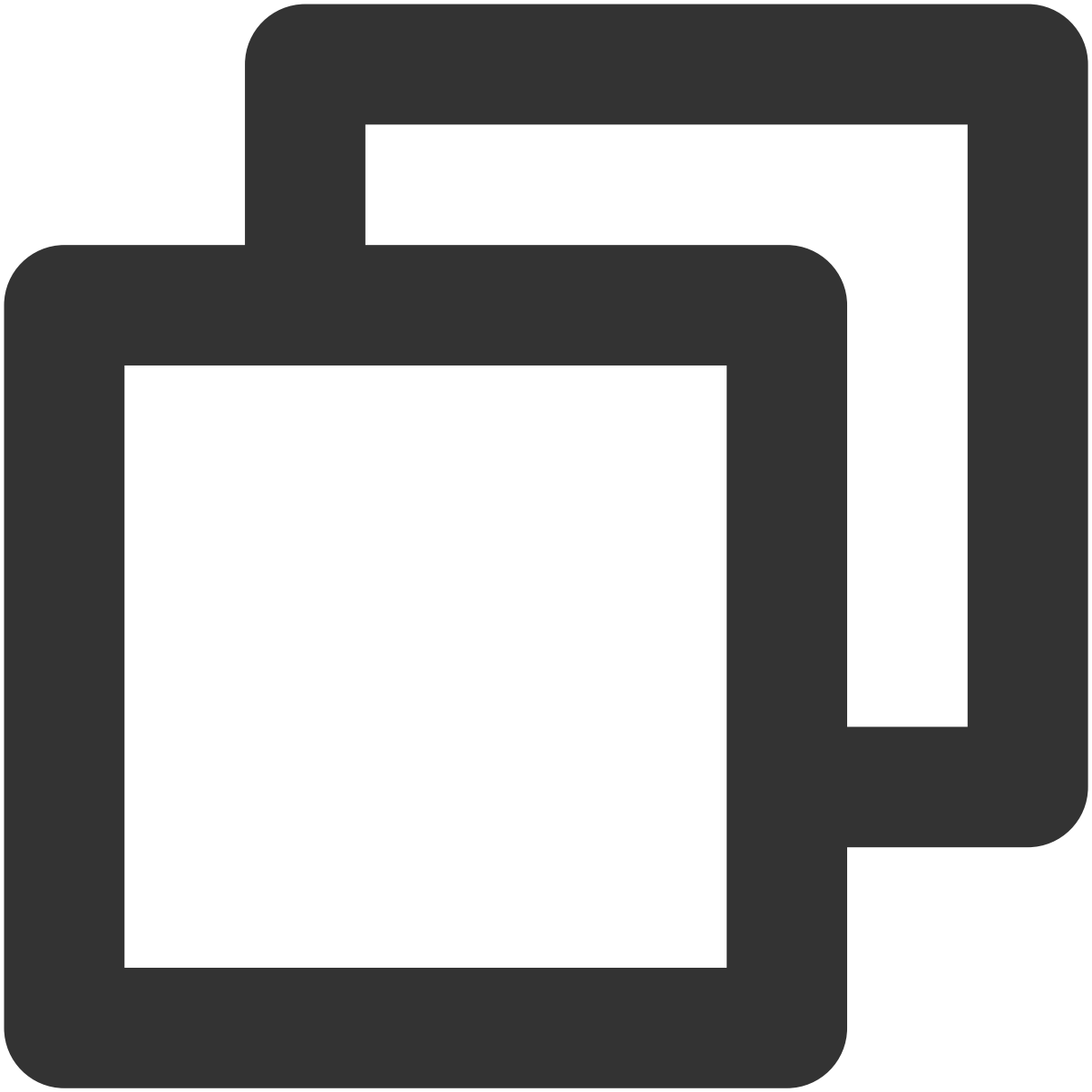
Initialize the TUIRoomKit singleton object.



```
public class func createInstance() -> TUIRoomKit
```

destroyInstance

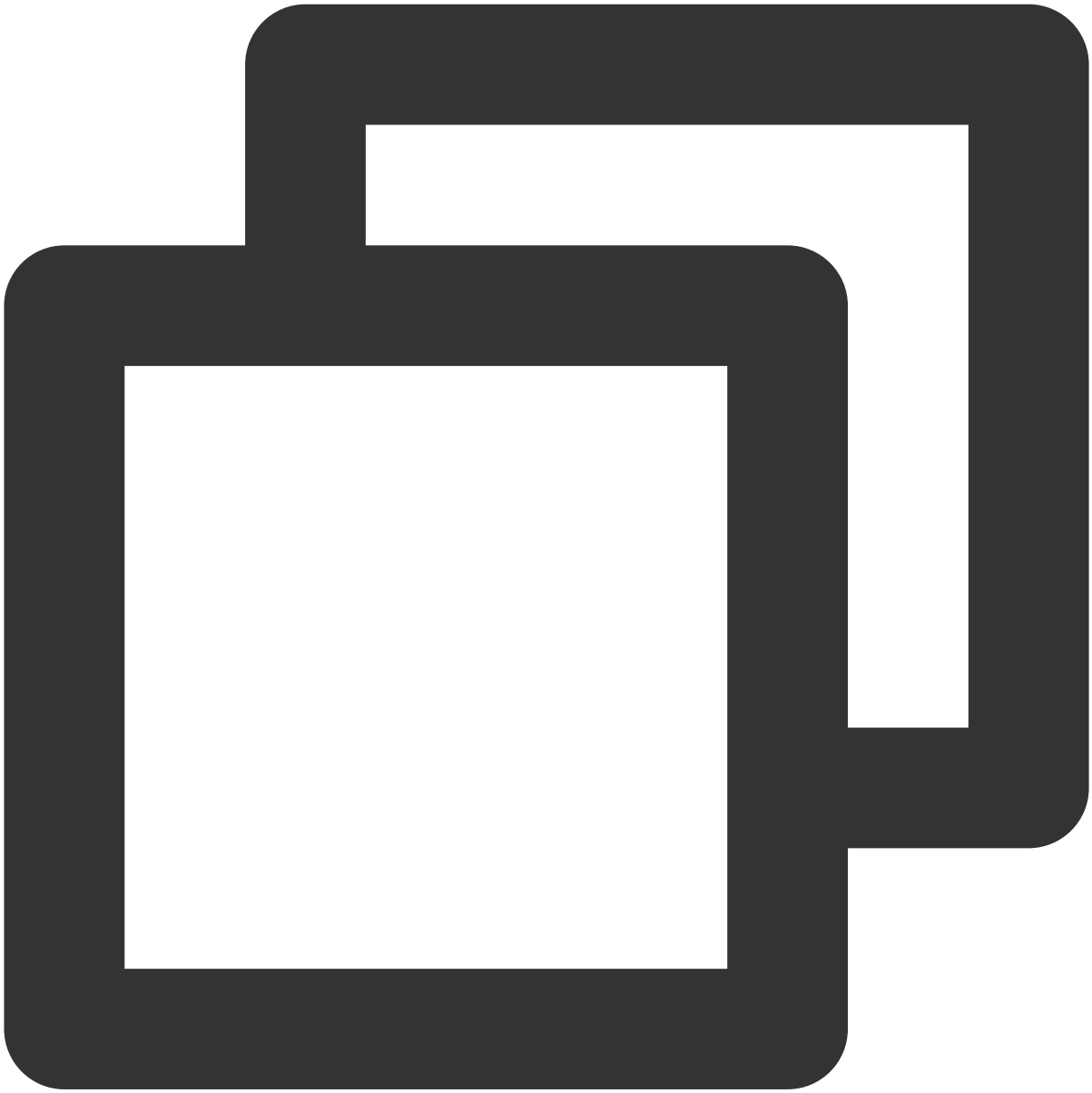
Destroy the TUIRoomKit singleton object.



```
public class func destroyInstance() -> Void
```

setSelfInfo(optional)

Set user information (avatar, nickname).



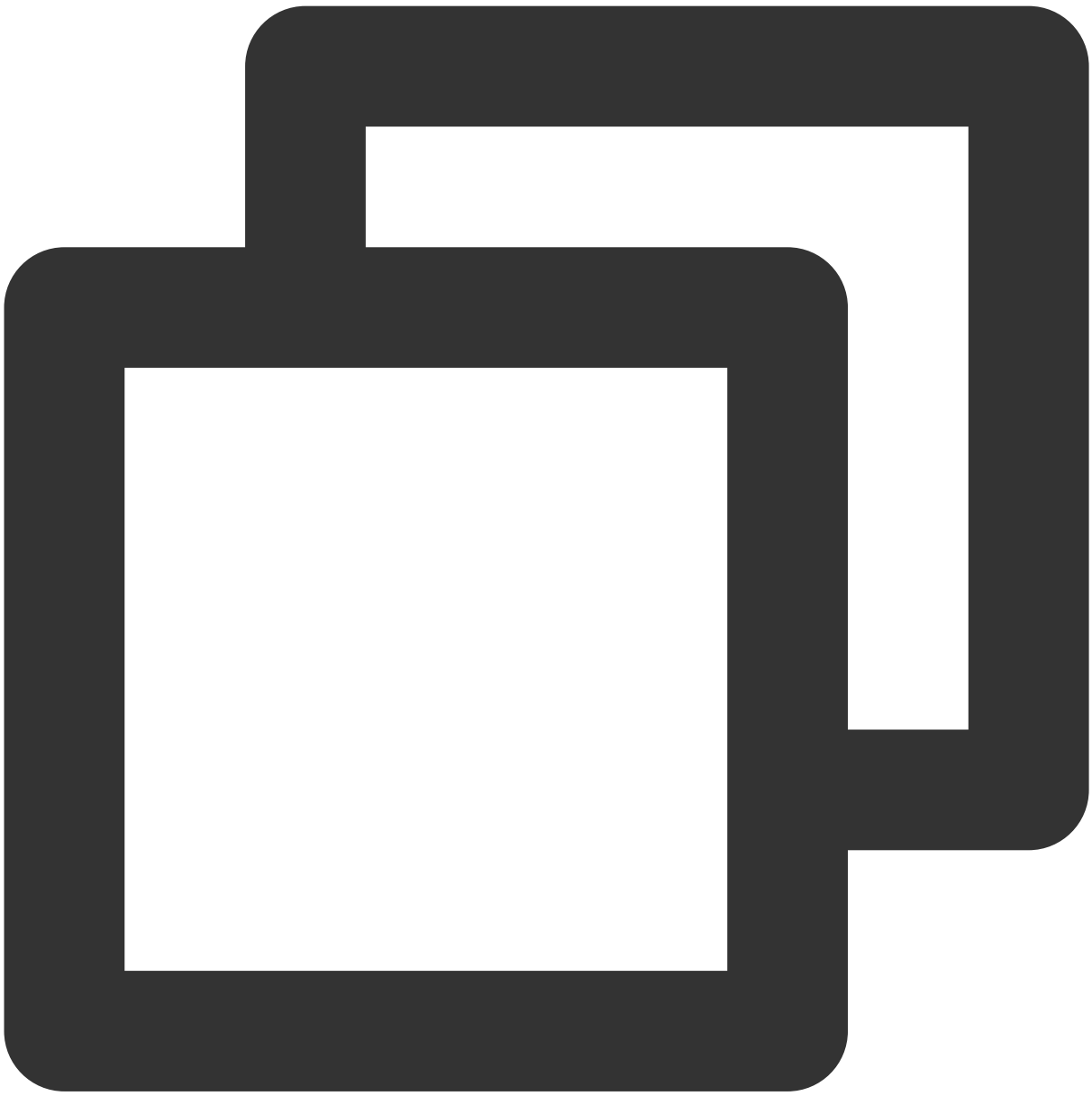
```
public func setSelfInfo(userName: String,
                        avatarURL: String,
                        onSuccess: @escaping TUISuccessBlock,
                          onError: @escaping TUIErrorBlock) -> Void
```

Parameter	Type	Meaning
userName	String	Username
avatarURL	String	User avatar URL

onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failure callback

createRoom

Create a room.



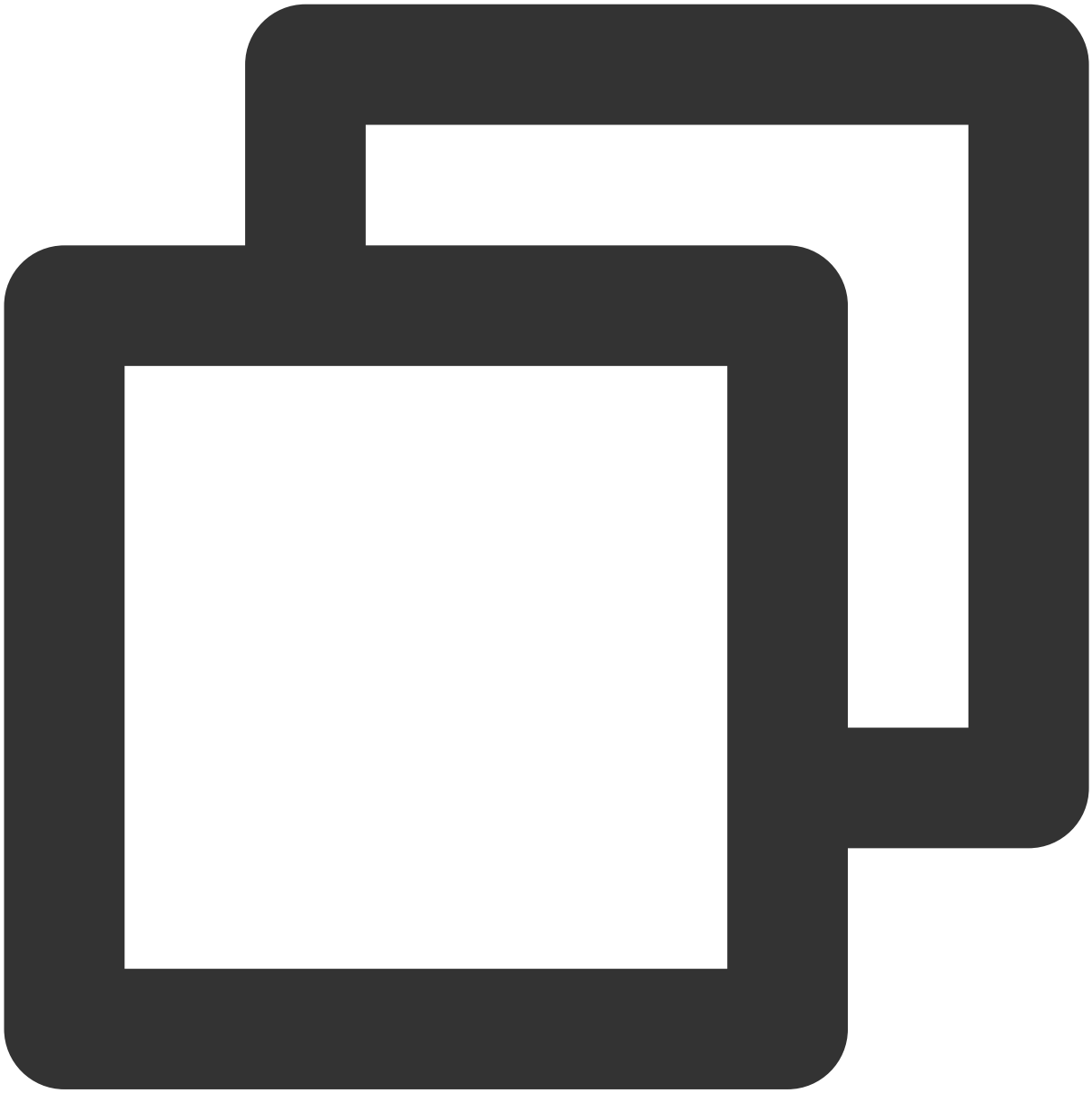
```
public func createRoom(roomInfo: TUIRoomInfo,
                       onSuccess: @escaping TUISuccessBlock,
                         onError: @escaping TUIErrorBlock) -> Void
```

The parameters are as follows:

Parameter	Type	Meaning
roomInfo	TUIRoomInfo	Room data
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failure callback

enterRoom

Enter the room.



```
public func enterRoom(roomId: String,
                      enableAudio: Bool,
                      enableVideo: Bool,
                isSoundOnSpeaker: Bool,
                       onSuccess: @escaping TUISuccessBlock,
                         onError: @escaping TUIErrorBlock) -> Void
```

The parameters are as follows:

Parameter	Type	Meaning

roomId	String	Room ID string
enableAudio	Bool	Whether to turn on the audio when entering the room
enableVideo	Bool	Whether to turn on the video when entering the room
isSoundOnSpeaker	Bool	Whether to turn on the speakers when entering the room
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failure callback

TUIRoomEngine

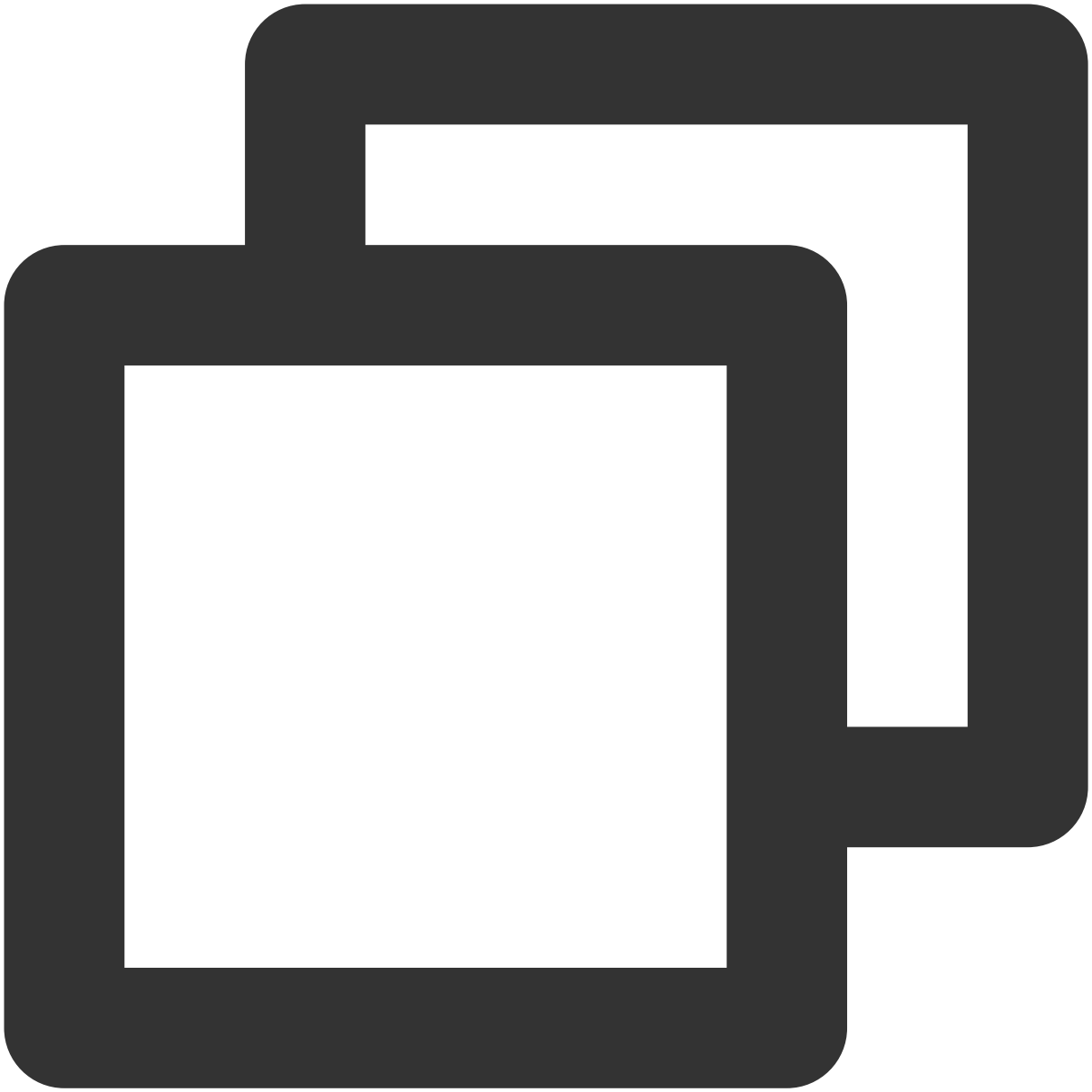
Last updated：2023-12-18 17:57:07

TUIRoomEngine API Introduction

TUIRoomEngine API is a No UI Interface for Conference Component, you can use this API to custom encapsulate according to your business needs.

init

Create TUIRoomEngine instance

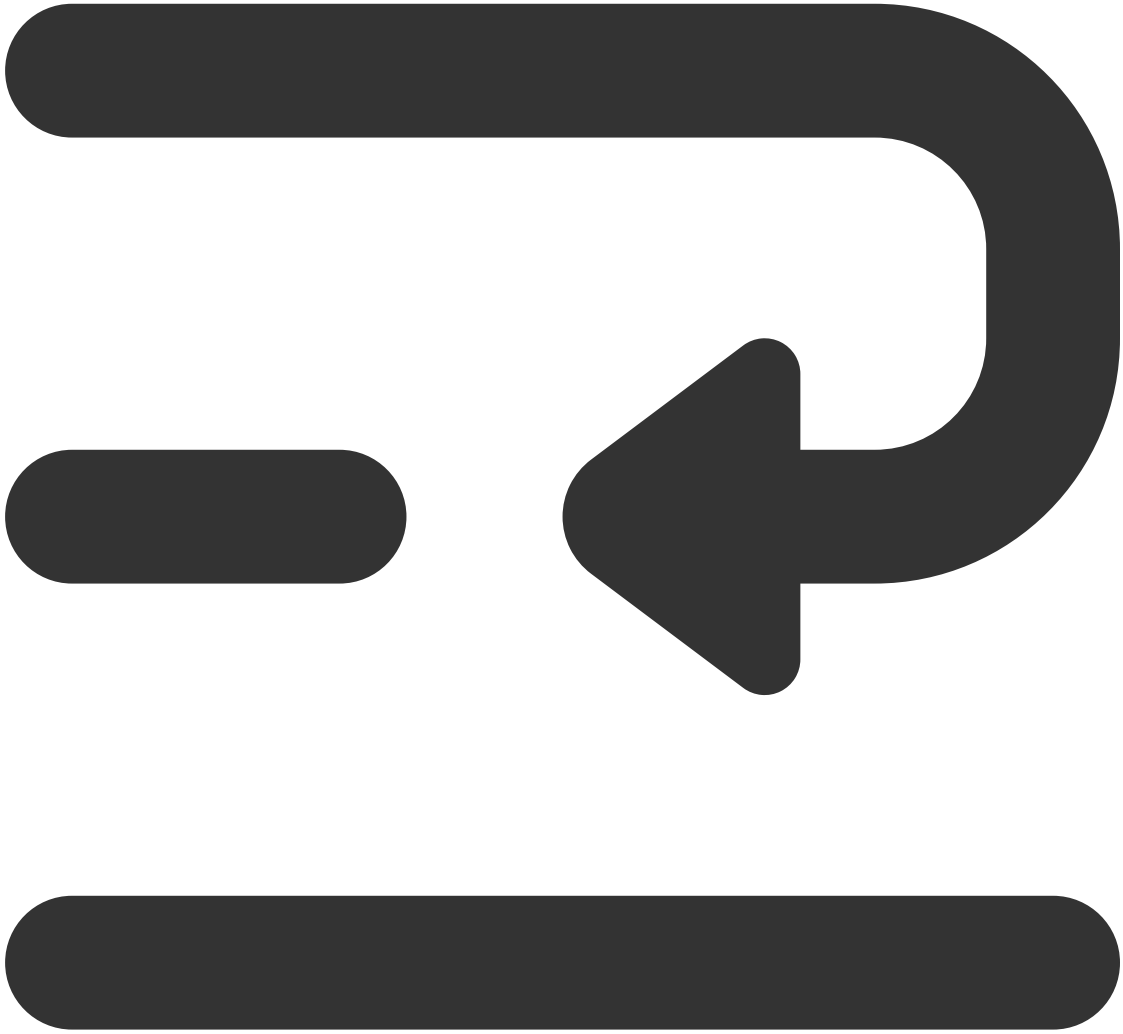


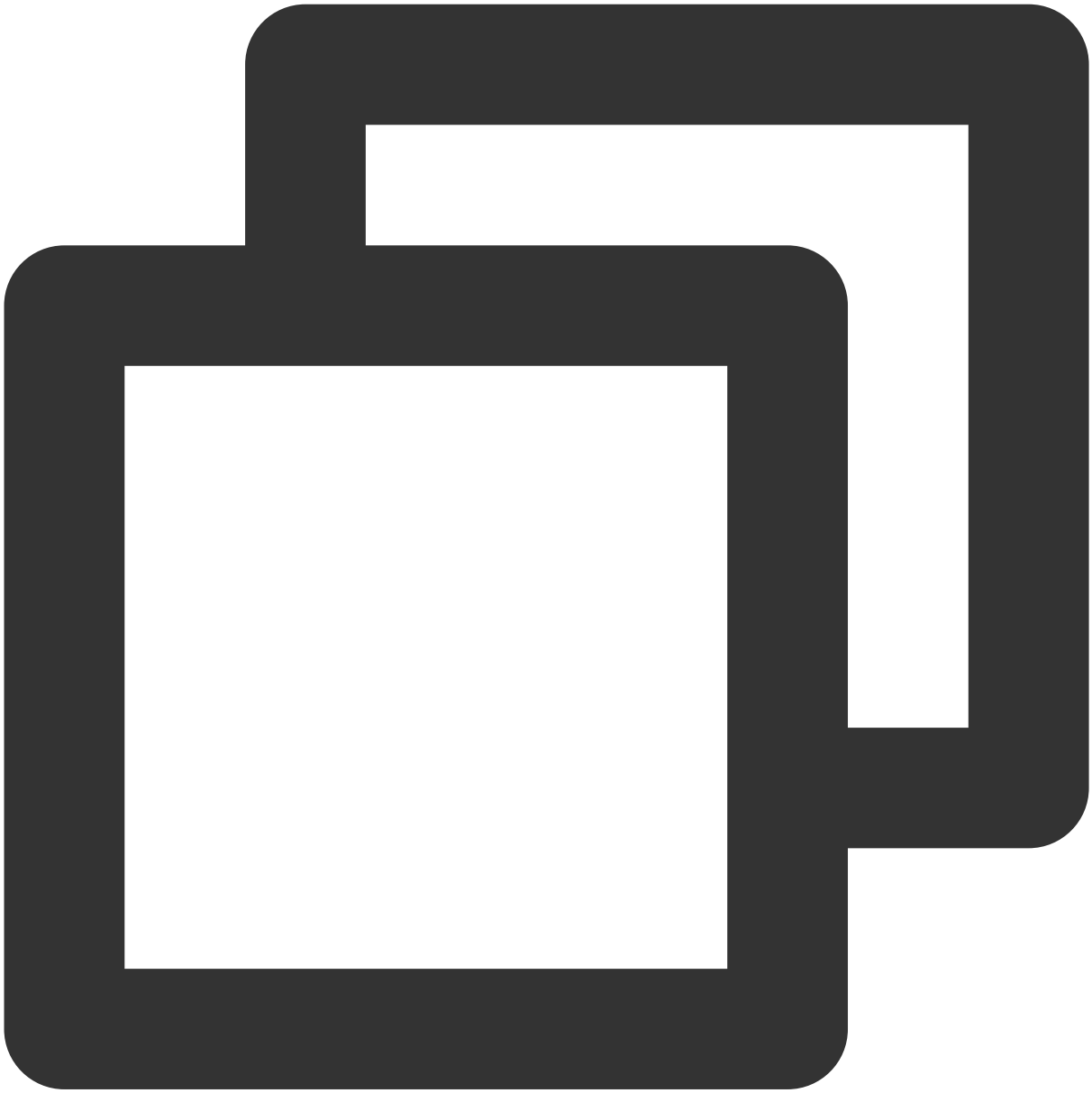
```
TUIRoomEngine *roomEngine = [[TUIRoomEngine alloc] init];
```

login

Login interface, you need to initialize user information before entering the room and perform a series of operations

Note: In v1.0.0, this interface is named setup, and in v1.0.1 and above, please use TUIRoomEnine.login to log in to TUIRoomEngine.





```
+ (void)loginWithSDKAppId:(NSInteger)sdkAppId
                   userId:(NSString *)userId
                  userSig:(NSString *)userSig
                onSuccess:(TUISuccessBlock)onSuccess
                  onError:(TUIErrorBlock)onError;
```

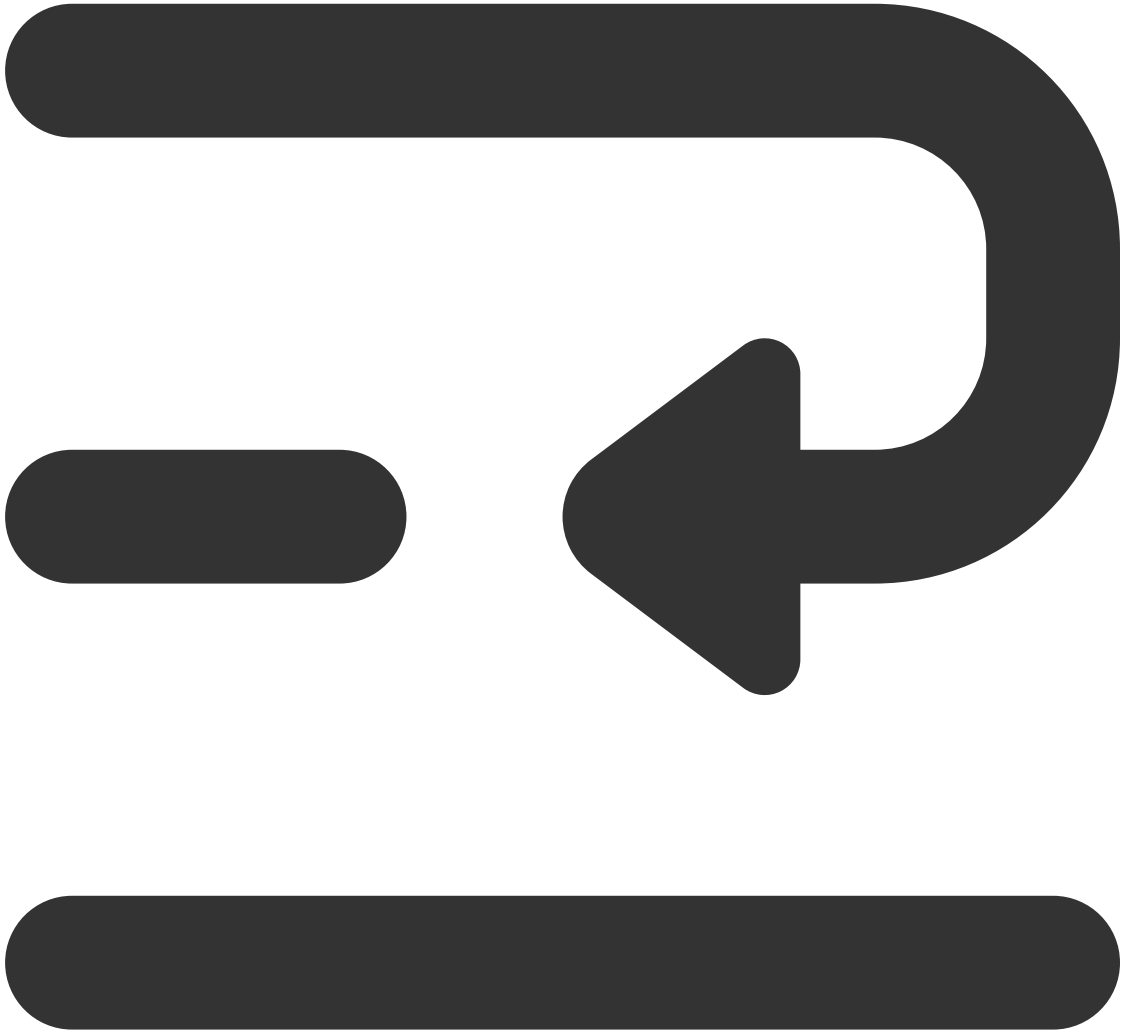
The parameters are as follows:

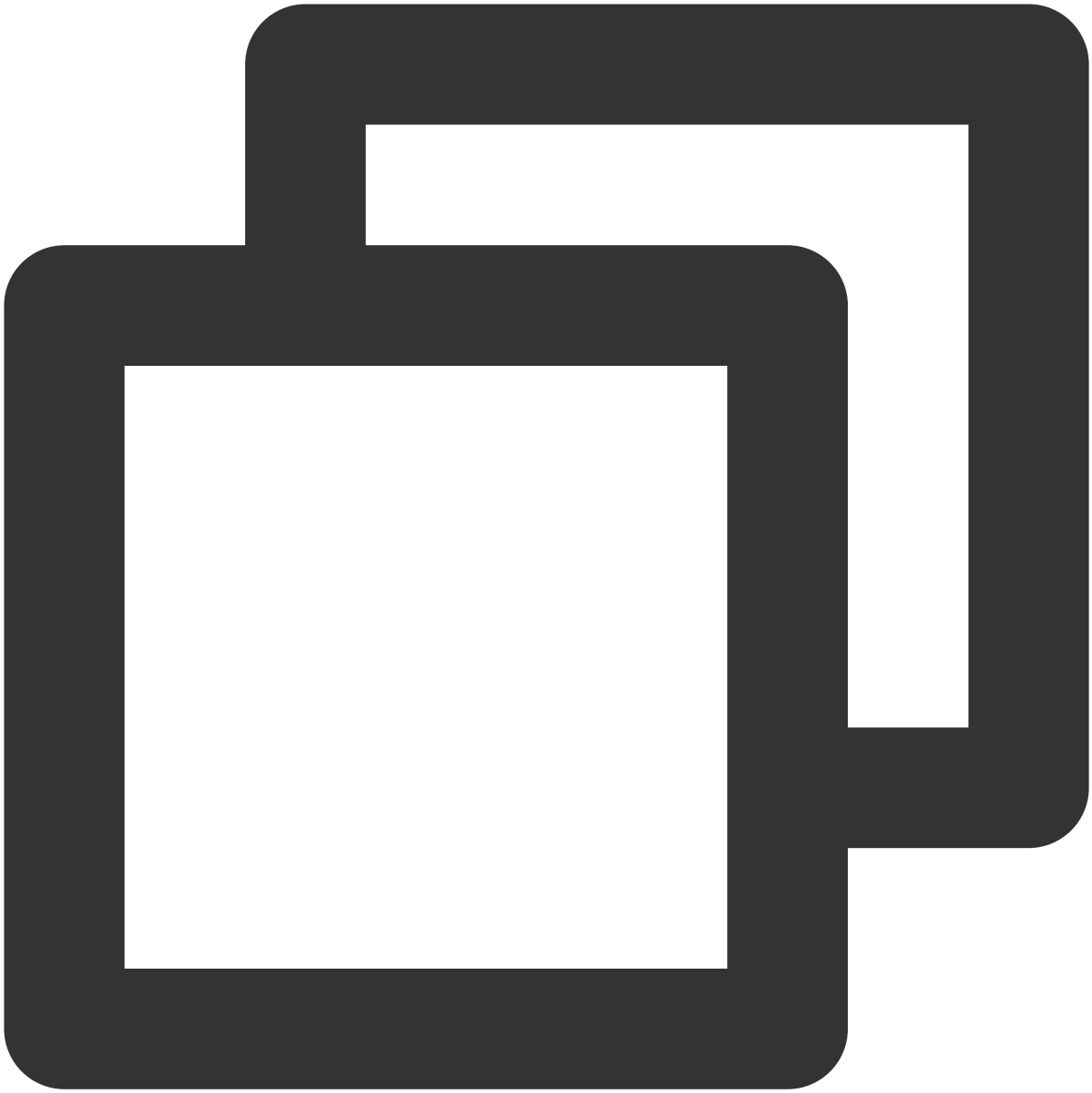
Parameter	Type	Meaning
sdkAppId	NSInteger	SDKAppID of Tencent Cloud communication

		application
userId	NSString *	User ID for Differentiate different users
userSig	NSString *	UserSig for Tencent Cloud flow authentication
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

logout

Logout interface, there will be actively leave the room operation, destroy resources





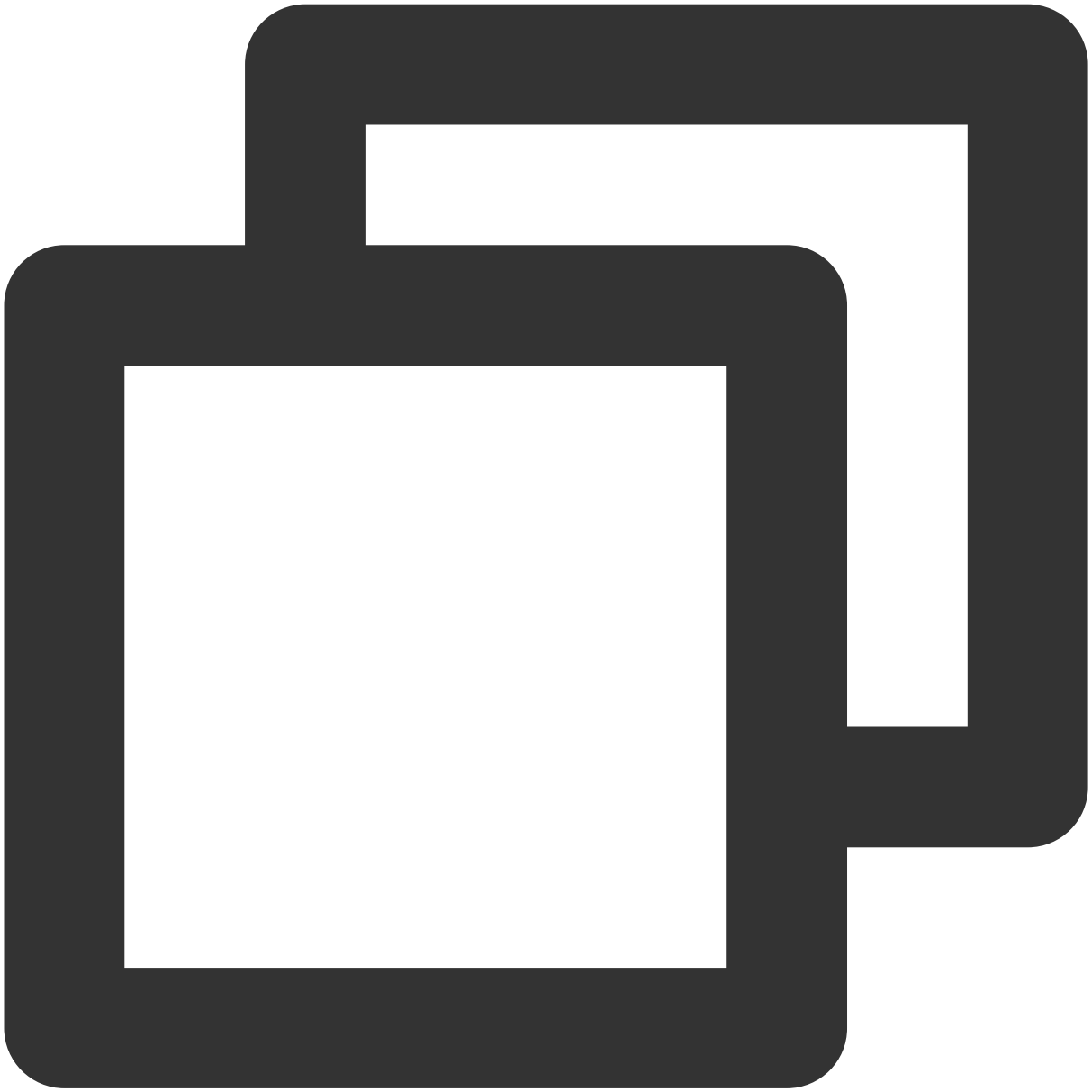
```
+ (void)logout:(TUISuccessBlock)onSuccess
       onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

setSelfInfo

Set local user name and avatar.



```
+ (void)setSelfInfoWithUserName:(NSString *)userName
                      avatarUrl:(NSString *)avatarUrl
                      onSuccess:(TUISuccessBlock)onSuccess
                        onError:(TUIErrorBlock)onError;
```

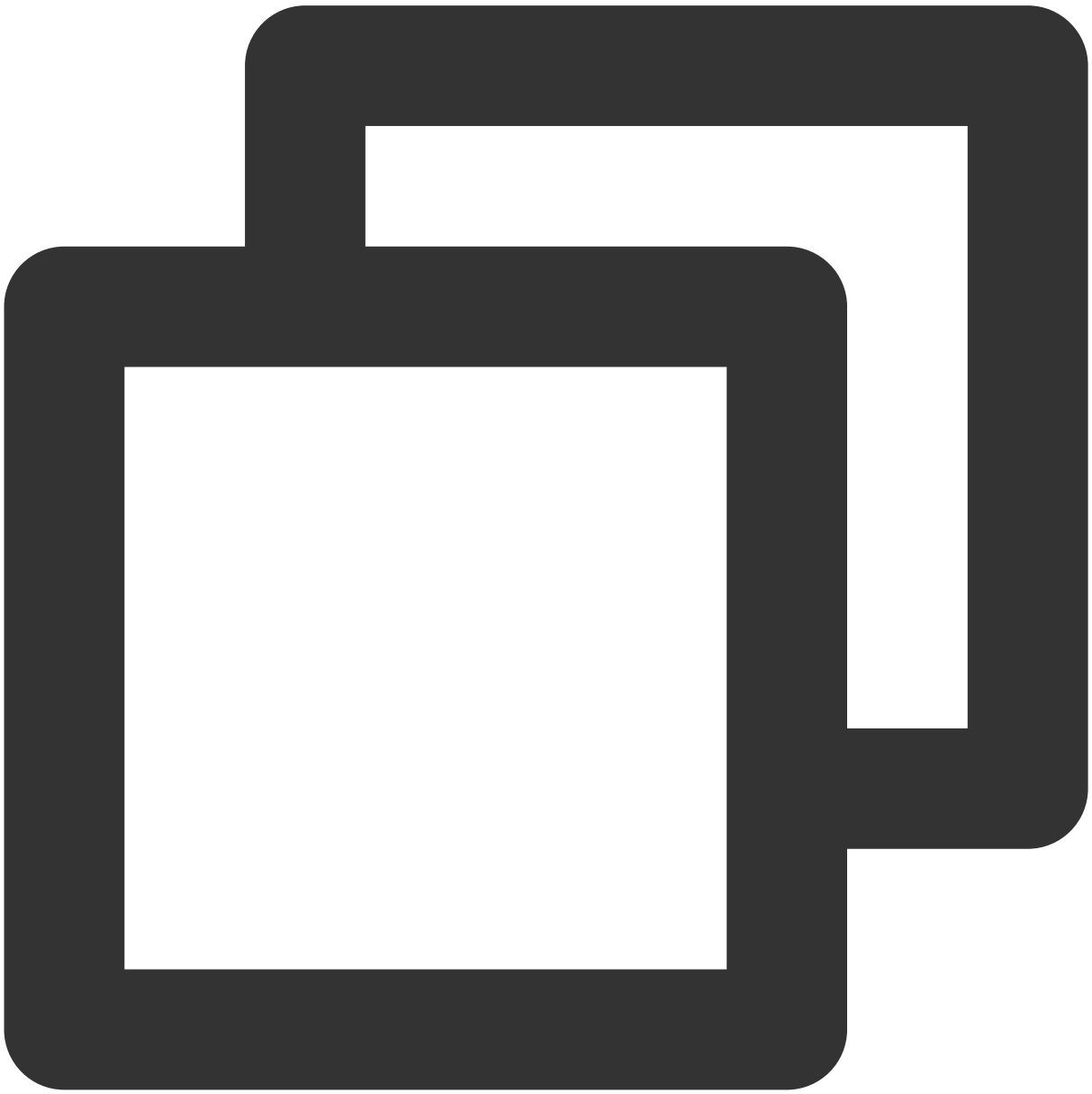
The parameters are as follows:

Parameter	Type	Meaning

userName	NSString *	User name
avatarUrl	NSString *	User avatar URL address
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

getSelfInfo

Get the basic information of the local user login.



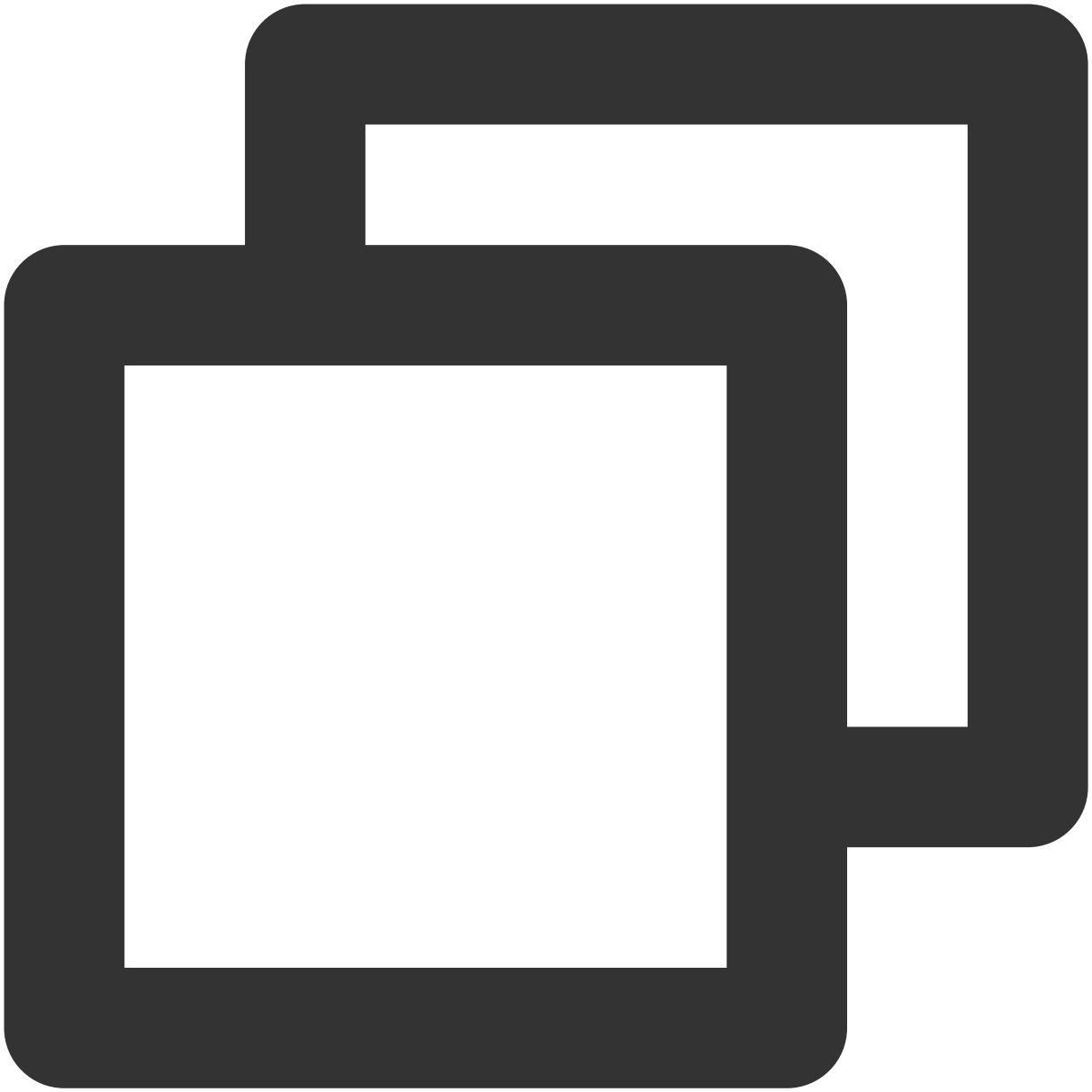
```
+ (TUILoginUserInfo *)getSelfInfo;
```

The parameters are as follows:

Parameter	Type	Meaning
selfInfo	TUILoginUserInfo *	The basic information of the local user login, the detailed definition can be referred to `TUIRoomDefine.h` in TUILoginUserInfo.

addObserver

Set event callback.



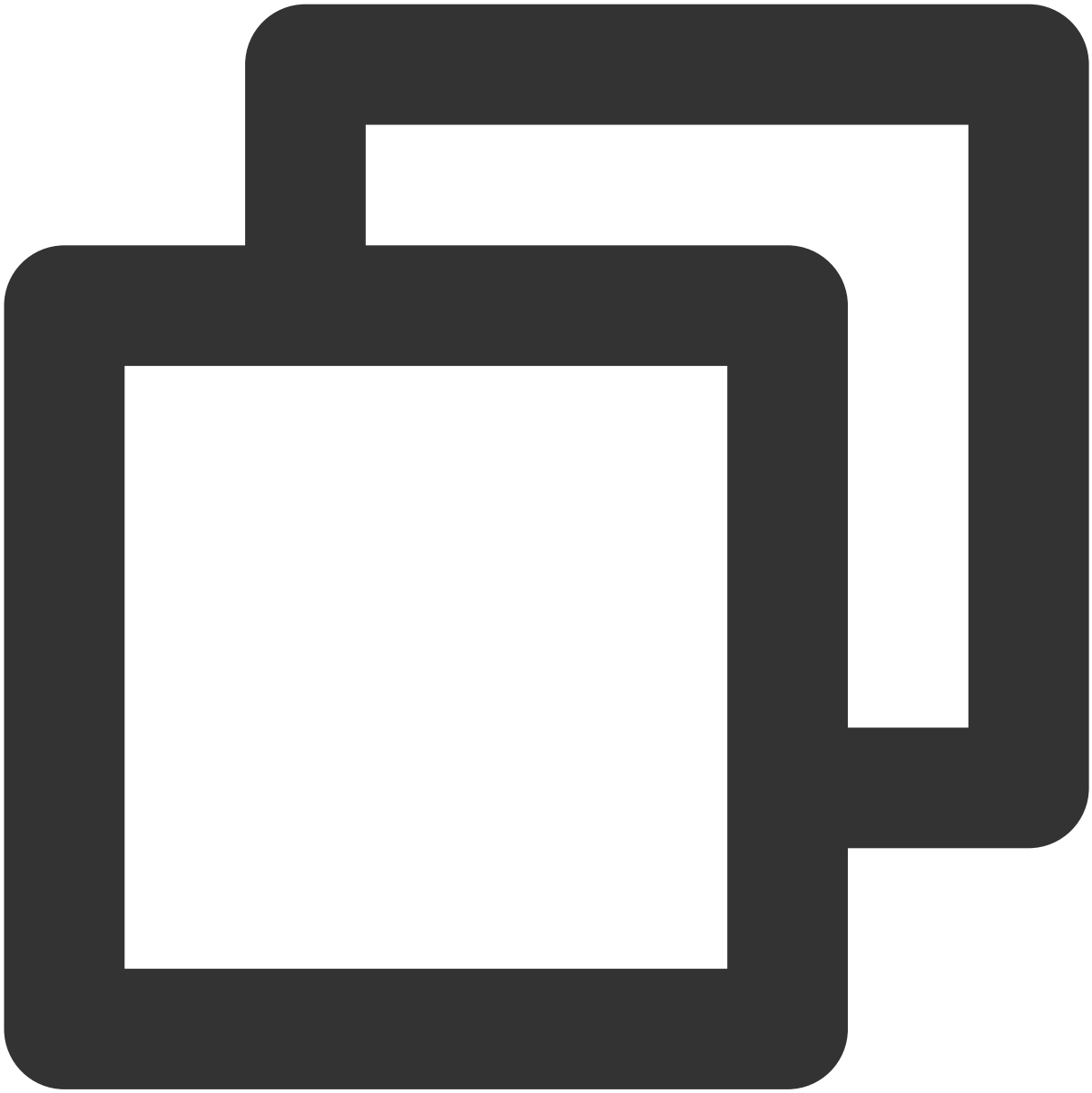
```
- (void)addObserver:(id<TUIRoomObserver>)observer;
```

The parameters are as follows:

Parameter	Type	Meaning
observer	TUIRoomObserver *	The pointer of the callback instance, you can get various event notifications (such as: error code, remote user entered room, audio and video status parameters, etc.) through TUIRoomObserver

removeObserver

Remove event callback.



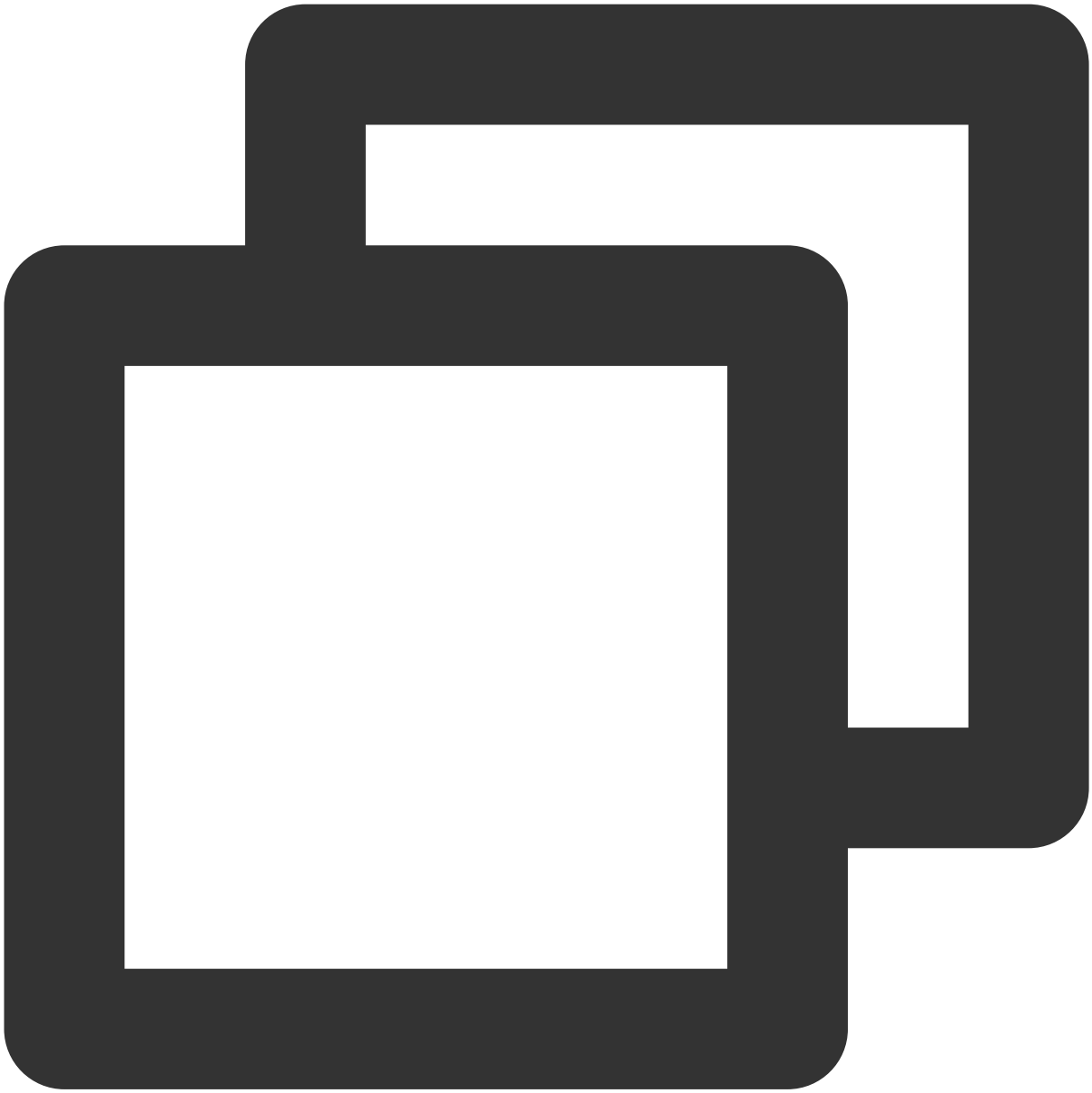
```
- (void)removeObserver:(id<TUIRoomObserver>)observer;
```

The parameters are as follows:

Parameter	Type	Meaning
observer	TUIRoomObserver *	The pointer of the callback instance

createRoom

Create room.



```
- (void)createRoom:(TUIRoomInfo *)roomInfo
         onSuccess:(TUISuccessBlock)onSuccess
           onError:(TUIErrorBlock)onError;
```

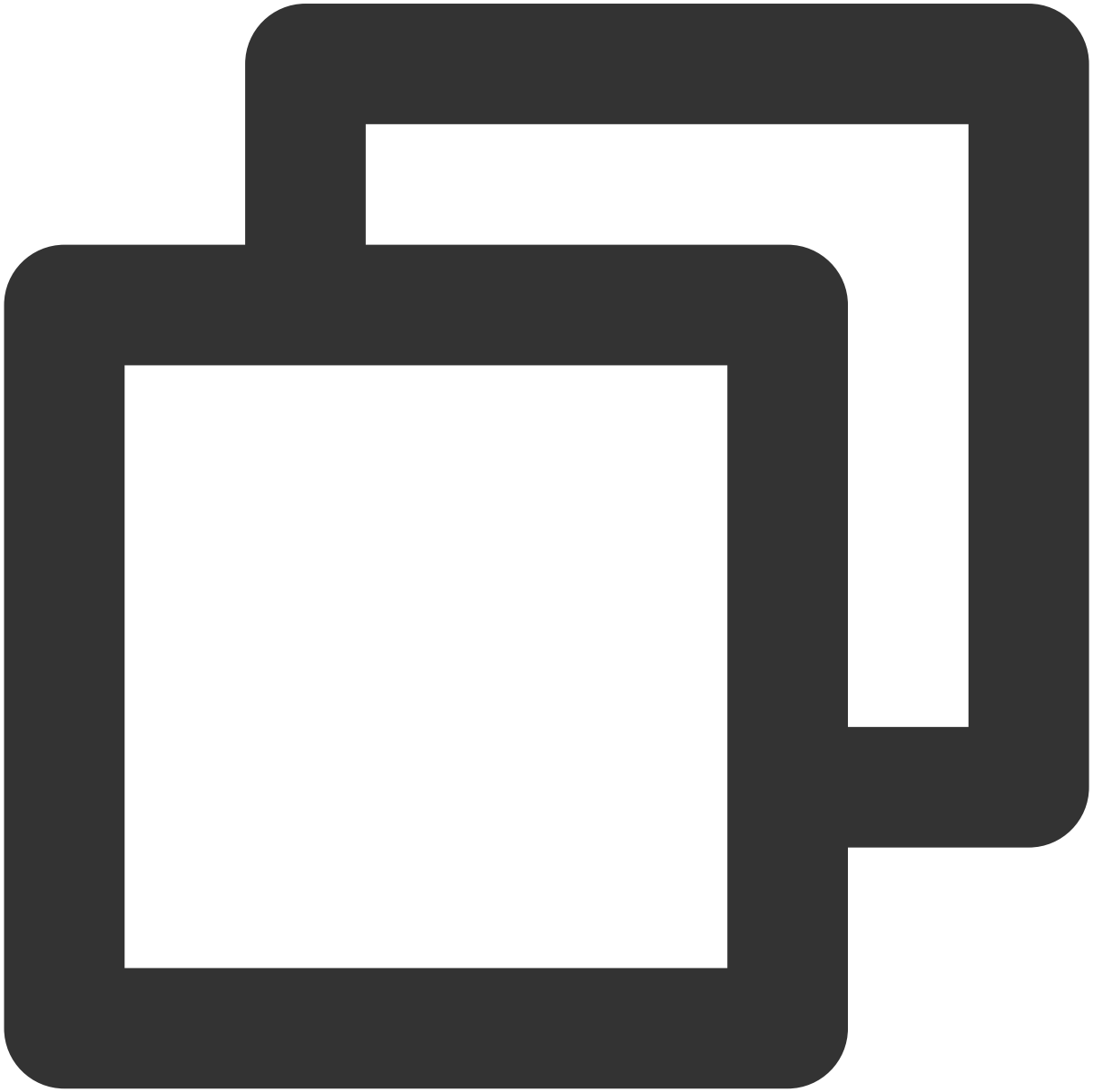
The parameters are as follows:

Parameter	Type	Meaning

roomInfo	TUIRoomInfo *	Room data, you can initialize some room settings
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

destroyRoom

close the room.



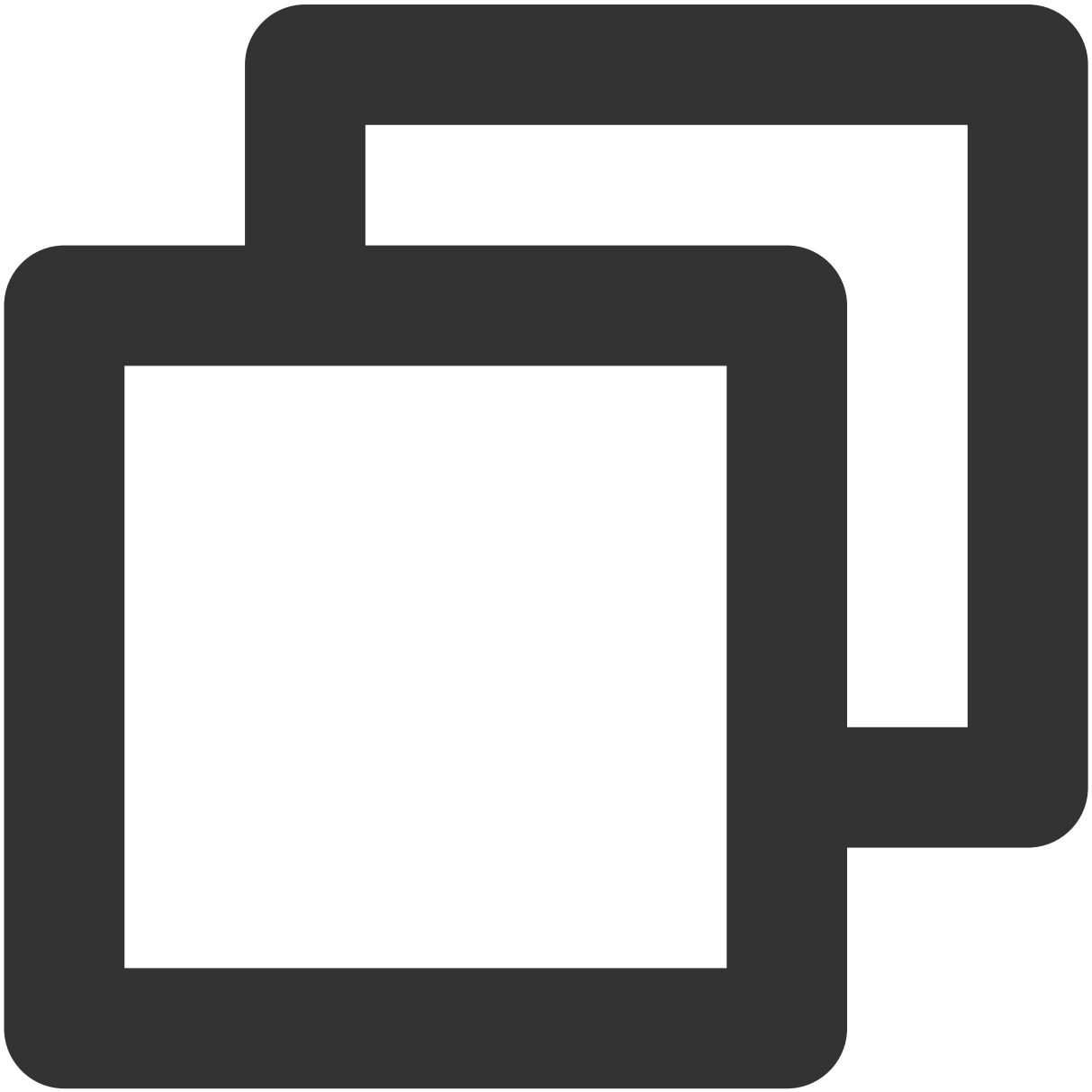
```
- (void)destroyRoom:(TUISuccessBlock)onSuccess onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

enterRoom

Entered room.



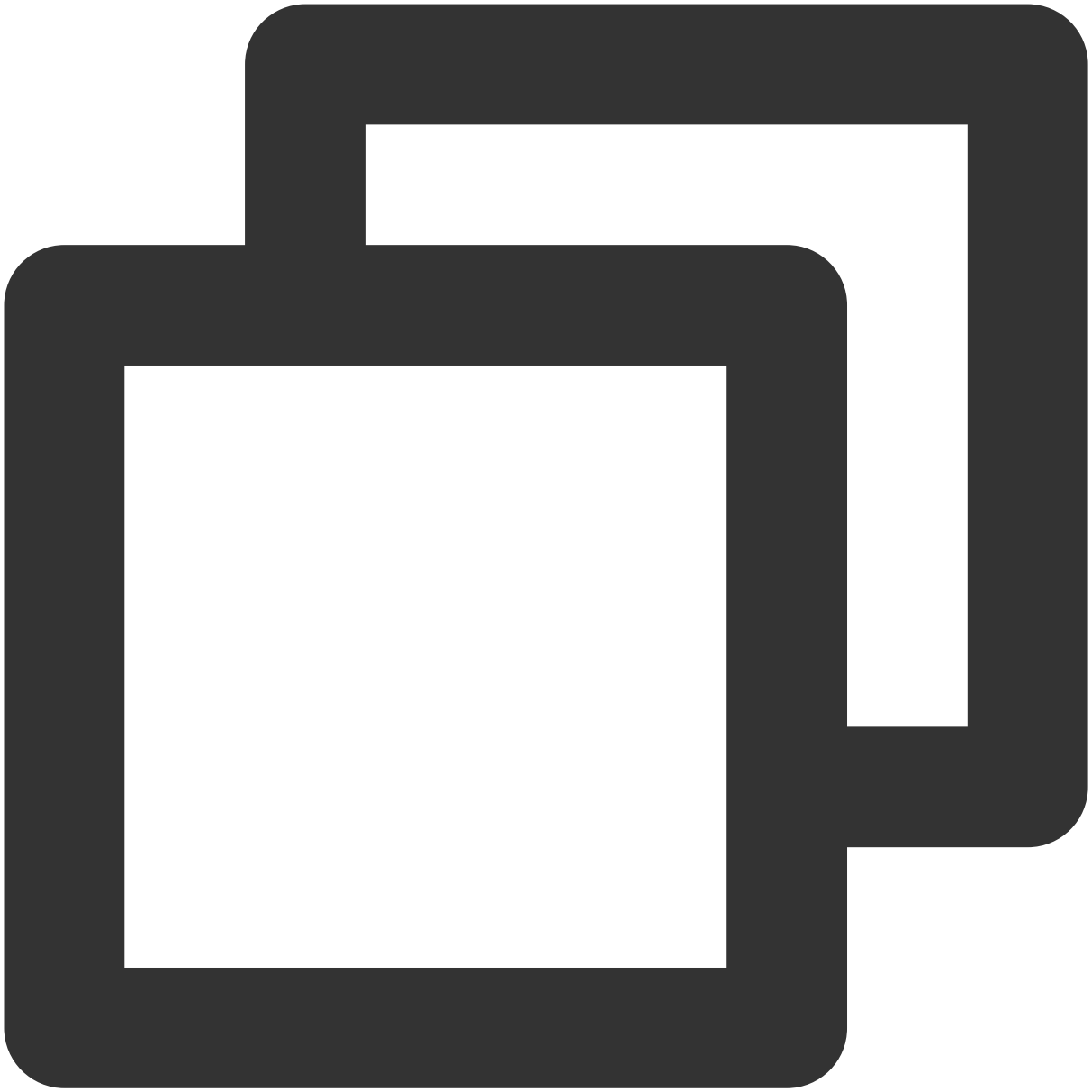
```
- (void)enterRoom:(NSString *)roomId
        onSuccess:(TUIRoomInfoBlock)onSuccess
          onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID
onSuccess	TUIRoomInfoBlock	Successful callback
onError	TUIErrorBlock	Failed callback

exitRoom

Leave room.



```
- (void)exitRoom:(BOOL)syncWaiting
       onSuccess:(TUISuccessBlock)onSuccess
         onError:(TUIErrorBlock)onError;
```

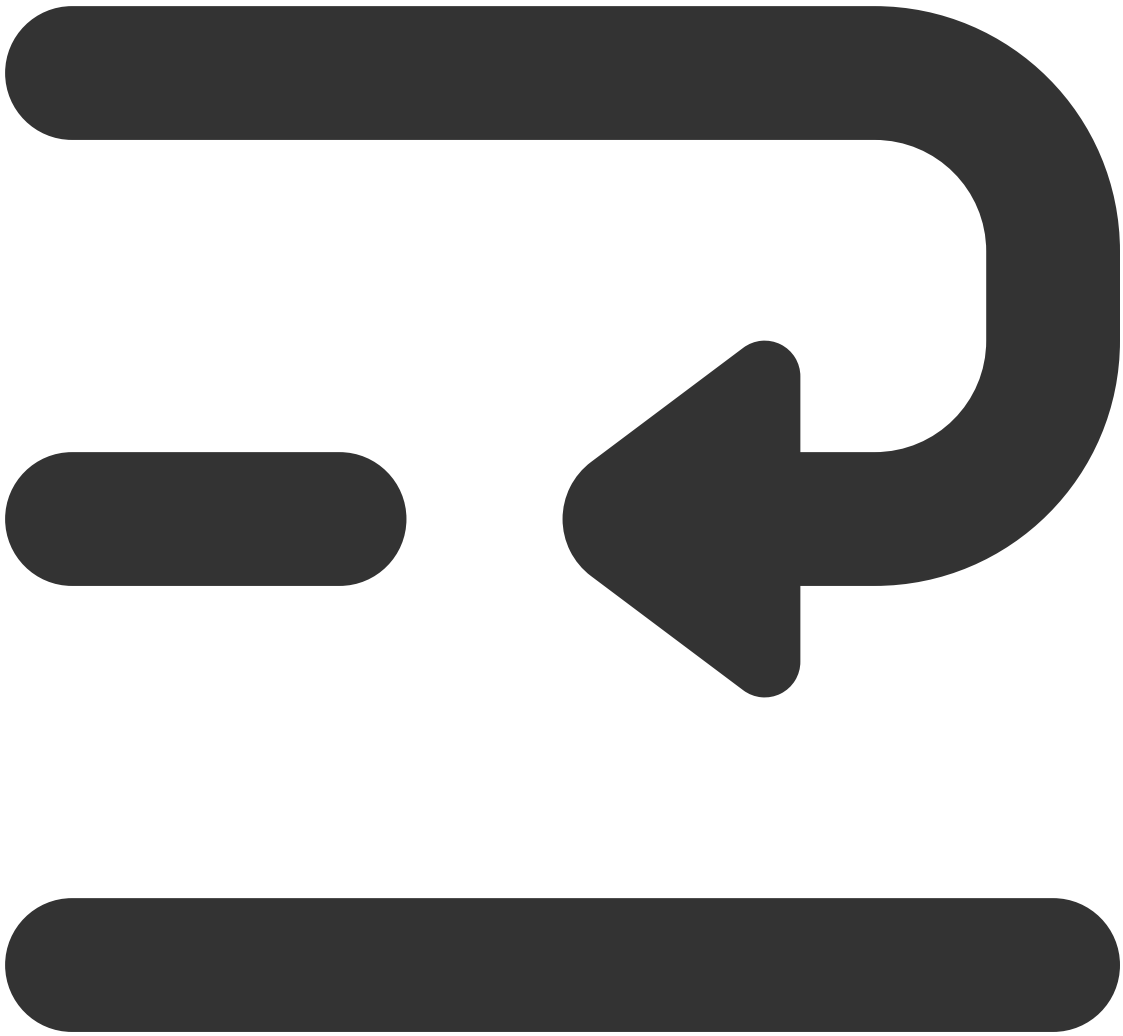
The parameters are as follows:

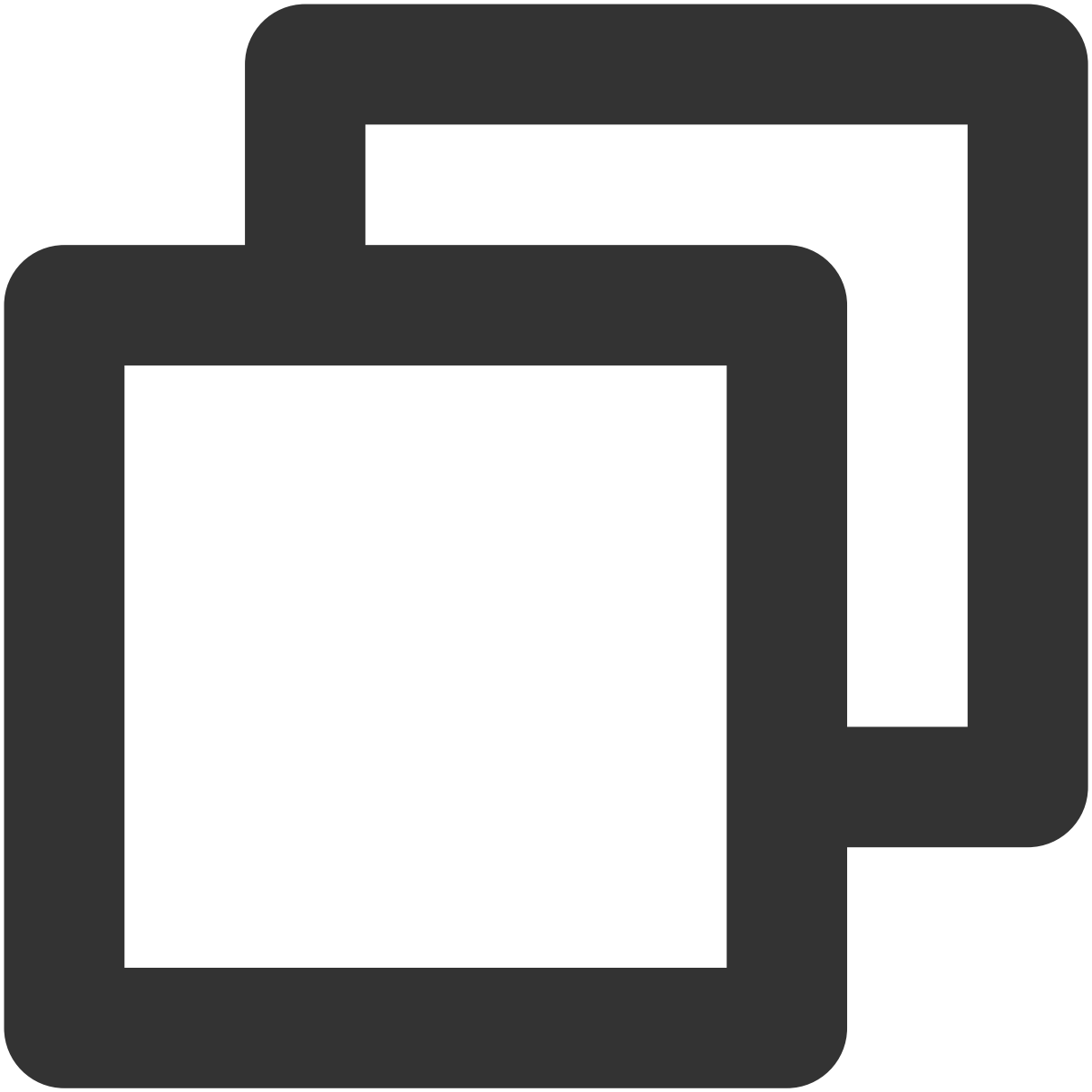
Parameter	Type	Meaning
syncWaiting	BOOL	Whether to synchronize and wait for the interface to return

onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

connectOtherRoom

Connect to other rooms (used for streaming scenario to apply for cross-room streaming).





```
- (TUIRequest *)connectOtherRoom:(NSString *)roomId
                          userId:(NSString *)userId
                         timeout:(NSTimeInterval)timeout
                      onAccepted:(TUIRequestAcceptedBlock)onAccepted
                      onRejected:(TUIRequestRejectedBlock)onRejected
                     onCancelled:(TUIRequestCancelledBlock)onCancelled
                       onTimeout:(TUIRequestTimeoutBlock)onTimeout
                         onError:(TUIRequestErrorBlock)onError;
```

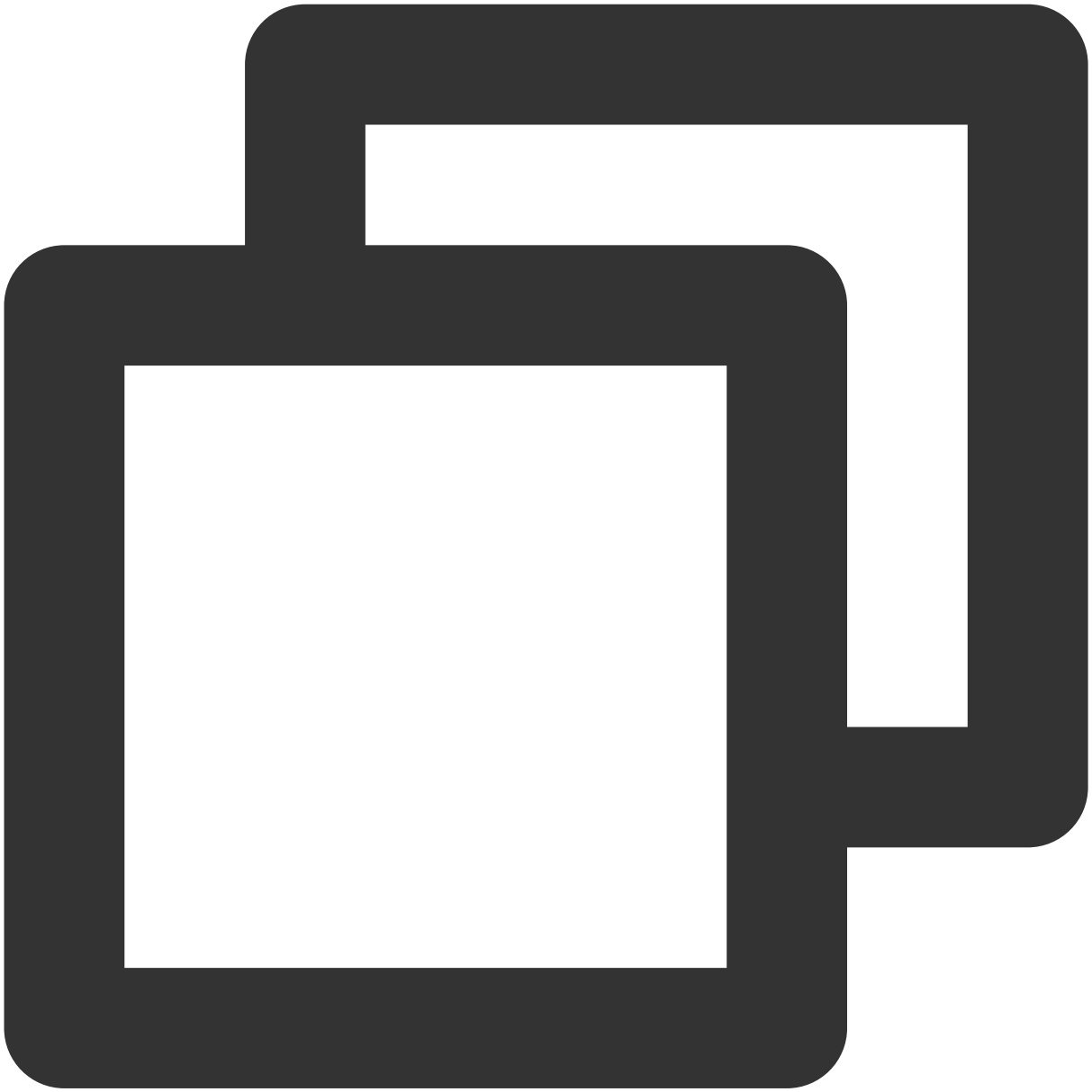
The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID
userId	NSString *	User ID
timeout	NSTimeInterval	Timeout period (Unit seconds, if set to 0, SDK will not perform timeout detection and will not trigger timeout Callback)
onAccepted	TUIRequestAcceptedBlock	Invitation accepted Callback
onRejected	TUIRequestRejectedBlock	Invitation rejected Callback
onCancelled	TUIRequestCancelledBlock	Invitation canceled Callback
onTimeout	TUIRequestTimeoutBlock	Invitation timeout unprocessed Callback
onError	TUIRequestErrorBlock	Invitation error occurred Callback

Return value	Type	Meaning
request	TUIRequest	Request body

disconnectOtherRoom

Disconnect from other rooms (used for disconnecting cross-room streaming in live streaming scenarios).



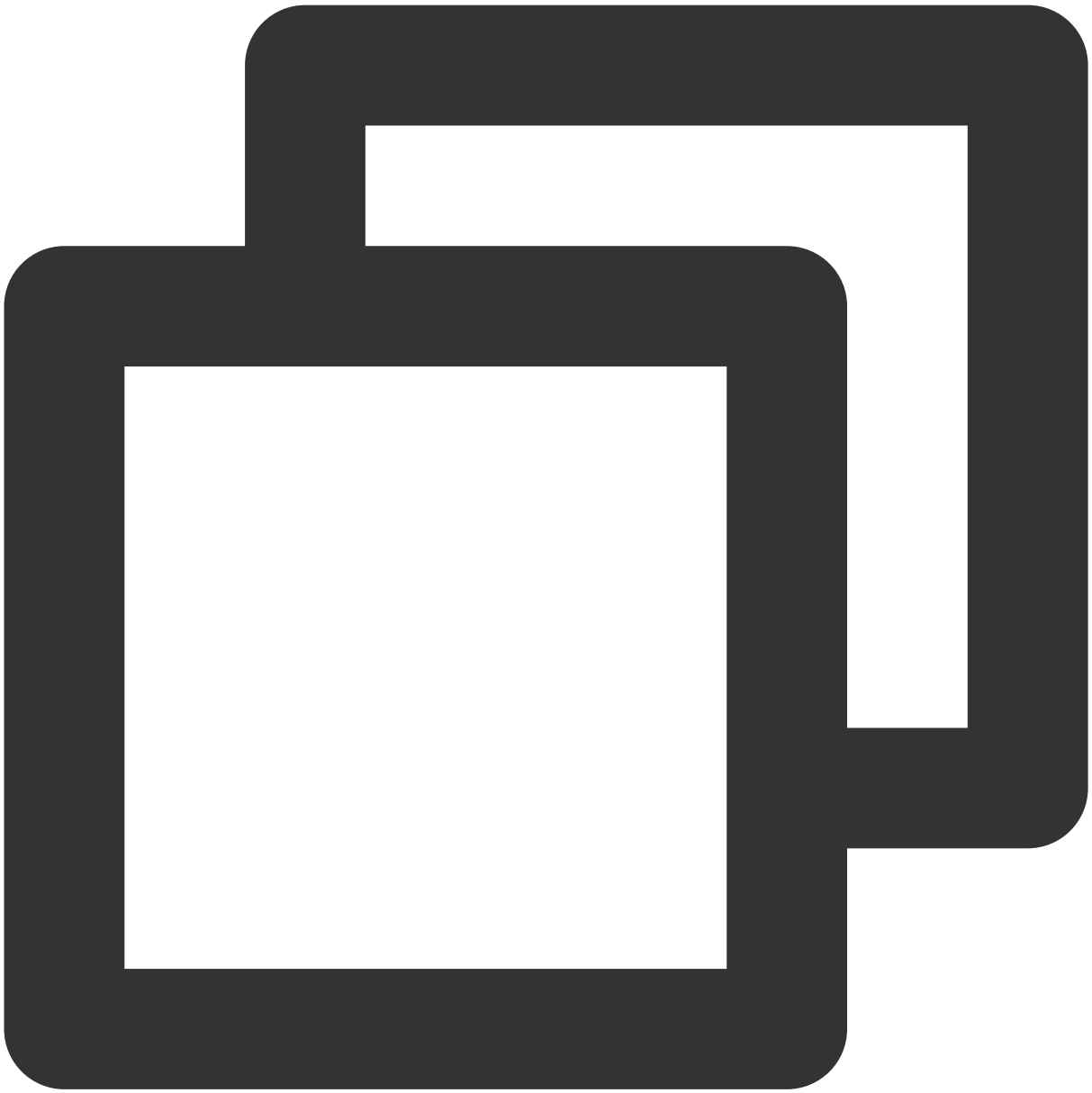
```
- (void)disconnectOtherRoom:(TUISuccessBlock)onSuccess onError:(TUIErrorBlock)onErr
```

The parameters are as follows:

Parameter	Type	Meaning
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

fetchRoomInfo

Get Room data.



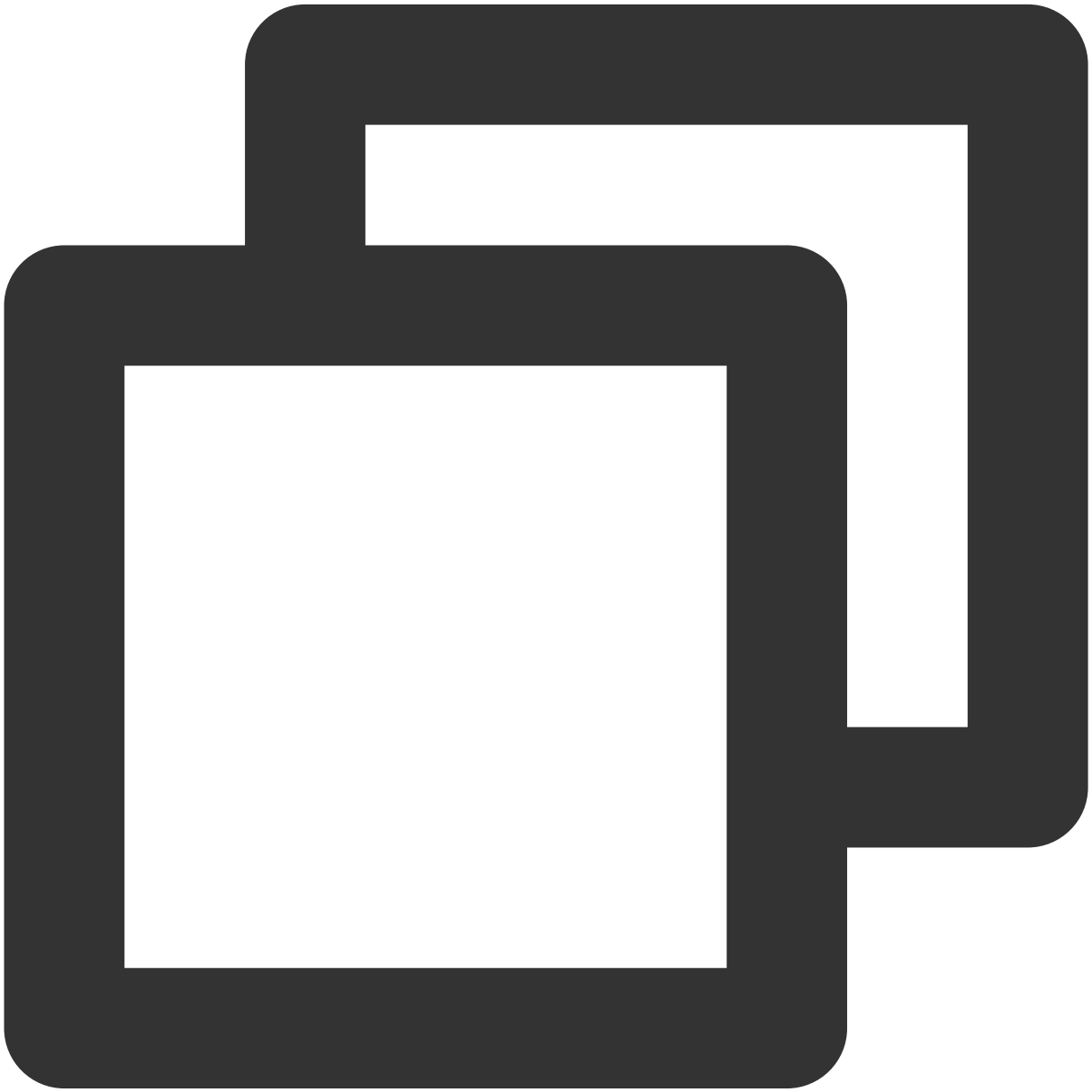
```
- (void)fetchRoomInfo:(TUIRoomInfoBlock)onSuccess onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
onSuccess	TUIRoomInfoBlock	Success Callback with TUIRoomInfo Room data
onError	TUIErrorBlock	Failed callback

updateRoomNameByAdmin

Update Room ID (Only Administrator or Group owner can call).



```
- (void)updateRoomNameByAdmin:(NSString *)roomName
                    onSuccess:(TUISuccessBlock)onSuccess
                      onError:(TUIErrorBlock)onError;
```

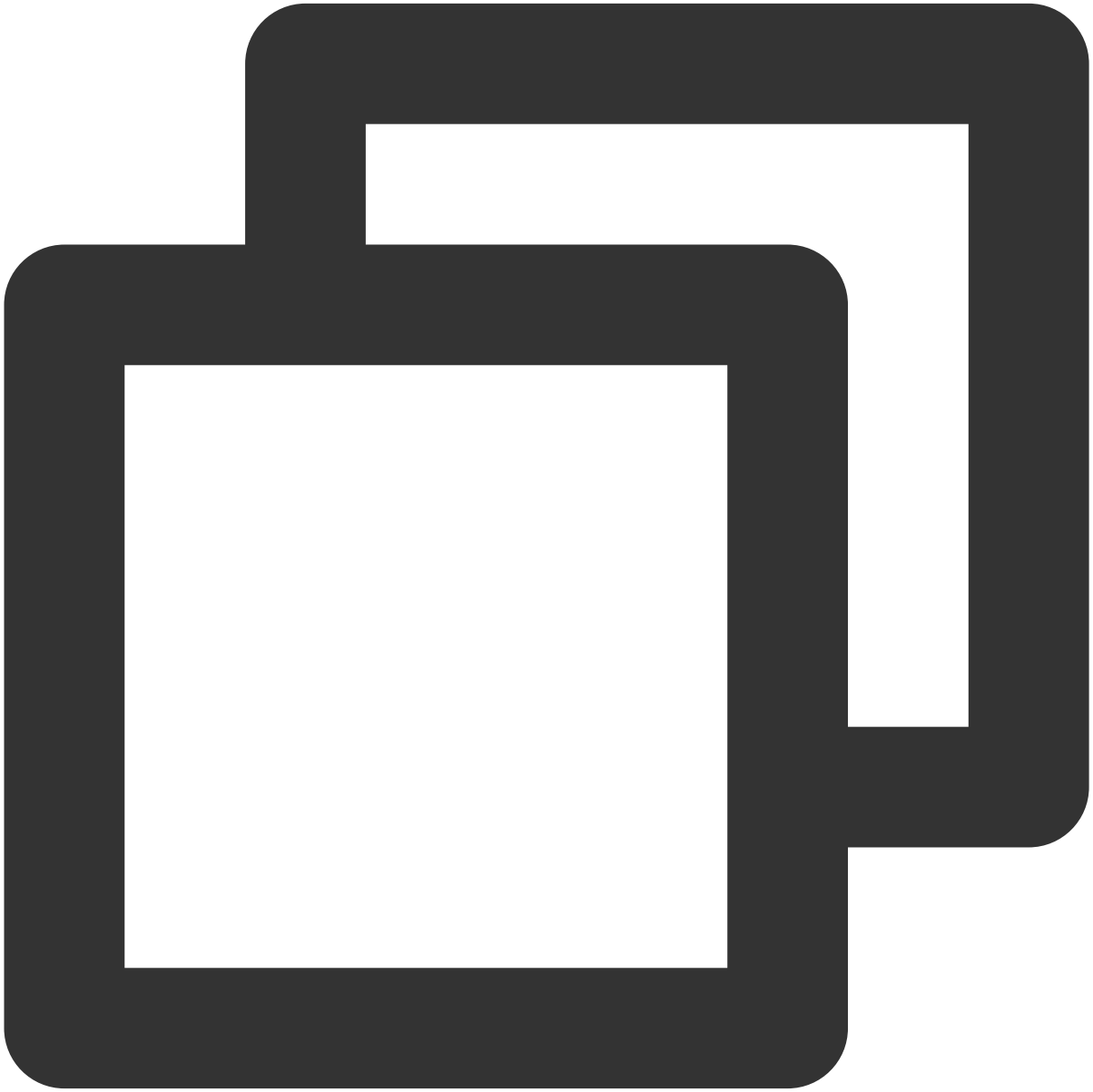
The parameters are as follows:

Parameter	Type	Meaning

roomName	NSString *	Room Name
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

updateRoomSpeechModeByAdmin

Set up the room's mic control mode (only administrators or group owners can call).



```
- (void)updateRoomSpeechModeByAdmin:(TUISpeechMode)mode
```

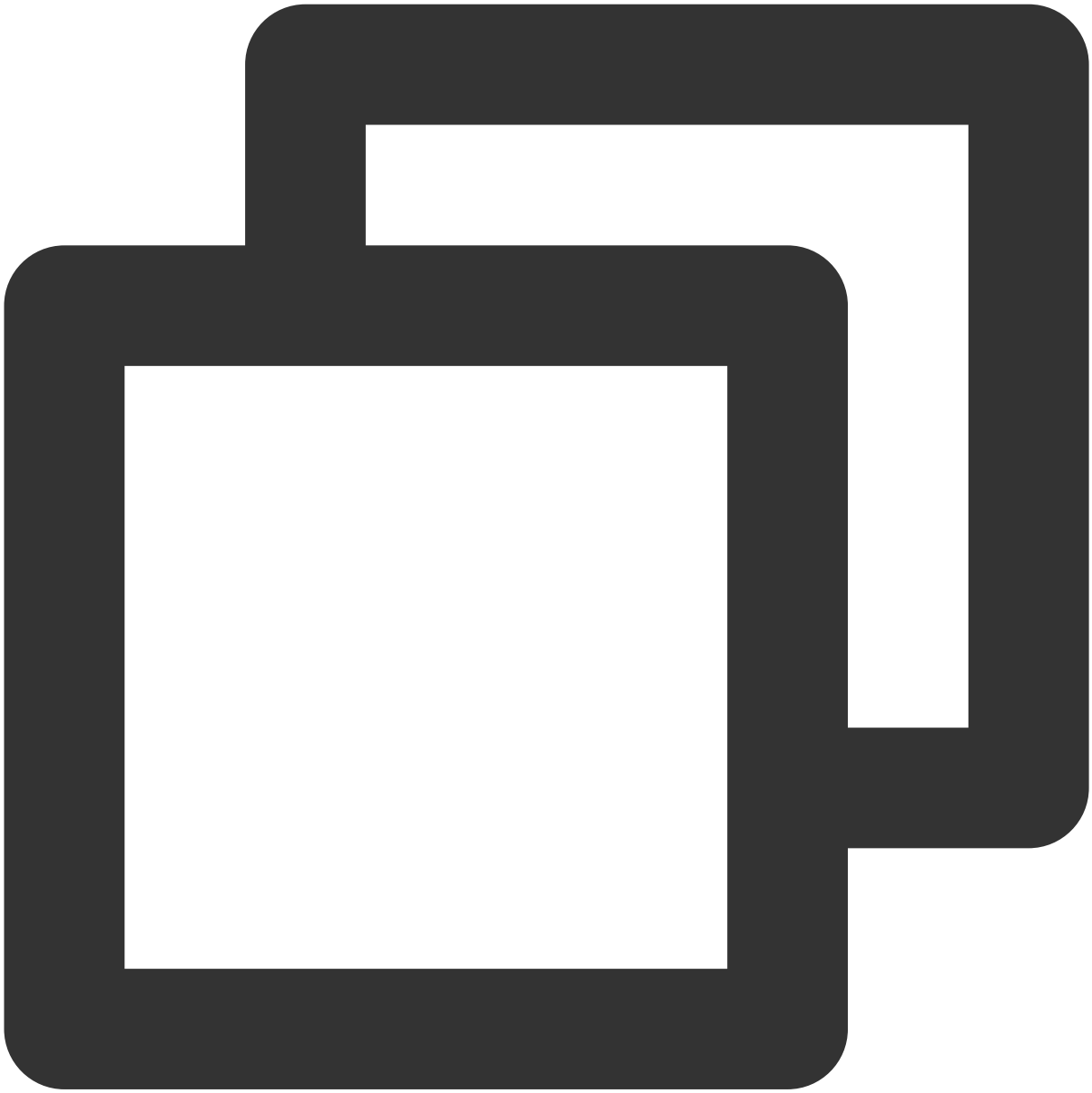
```
                                onSuccess:(TUISuccessBlock)onSuccess
                                  onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
mode	TUISpeechMode	Speech Mode, detailed Definition can be found in TUIRoomDefine.h file's TUISpeechMode.
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

setLocalVideoView

Set Local User Video Rendering Control.



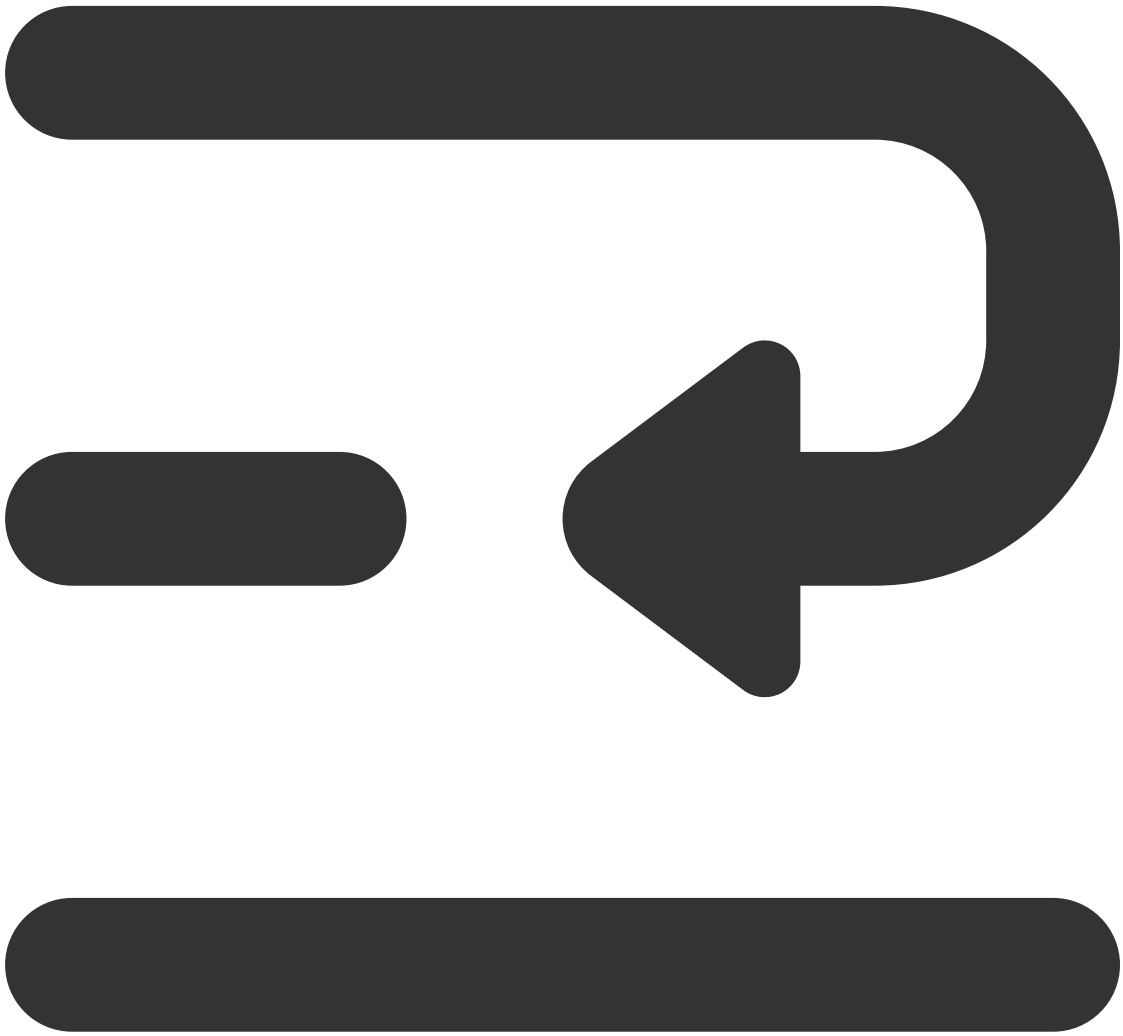
```
- (void)setLocalVideoView:(TUIVideoStreamType)streamType view:(TUIVideoView *)view;
```

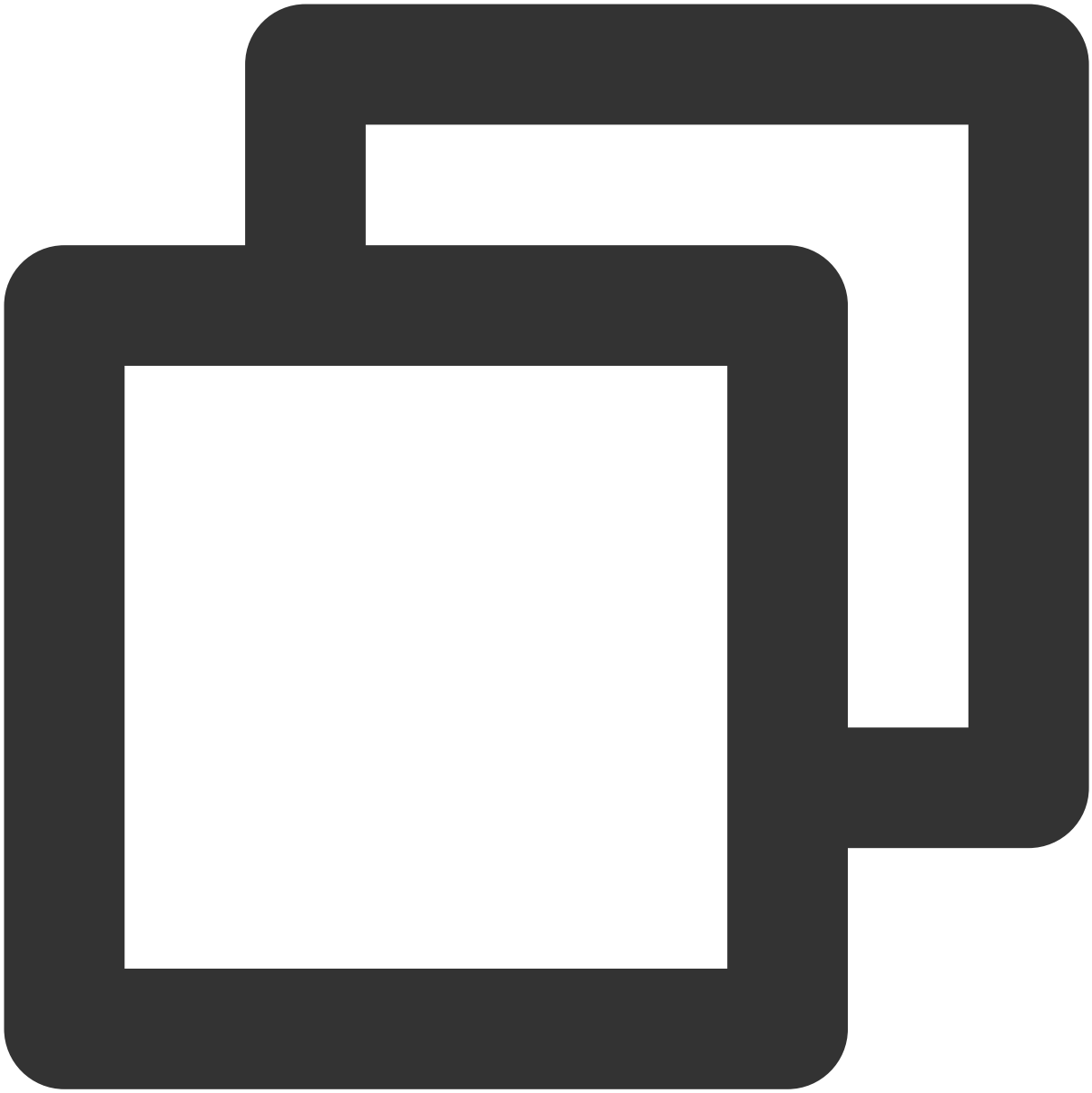
The parameters are as follows:

Parameter	Type	Meaning
streamType	TUIVideoStreamType	Video streams Type, detailed Definition can be found in TUIRoomDefine.h file's TUIVideoStreamType.
view	TUIVideoView *	Video Rendering View

setRemoteVideoView

Set Remote User Video Rendering Control.





```
- (void)setRemoteVideoView:(NSString *)userId
                streamType:(TUIVideoStreamType)streamType
                      view:(TUIVideoView * __nullable)view;
```

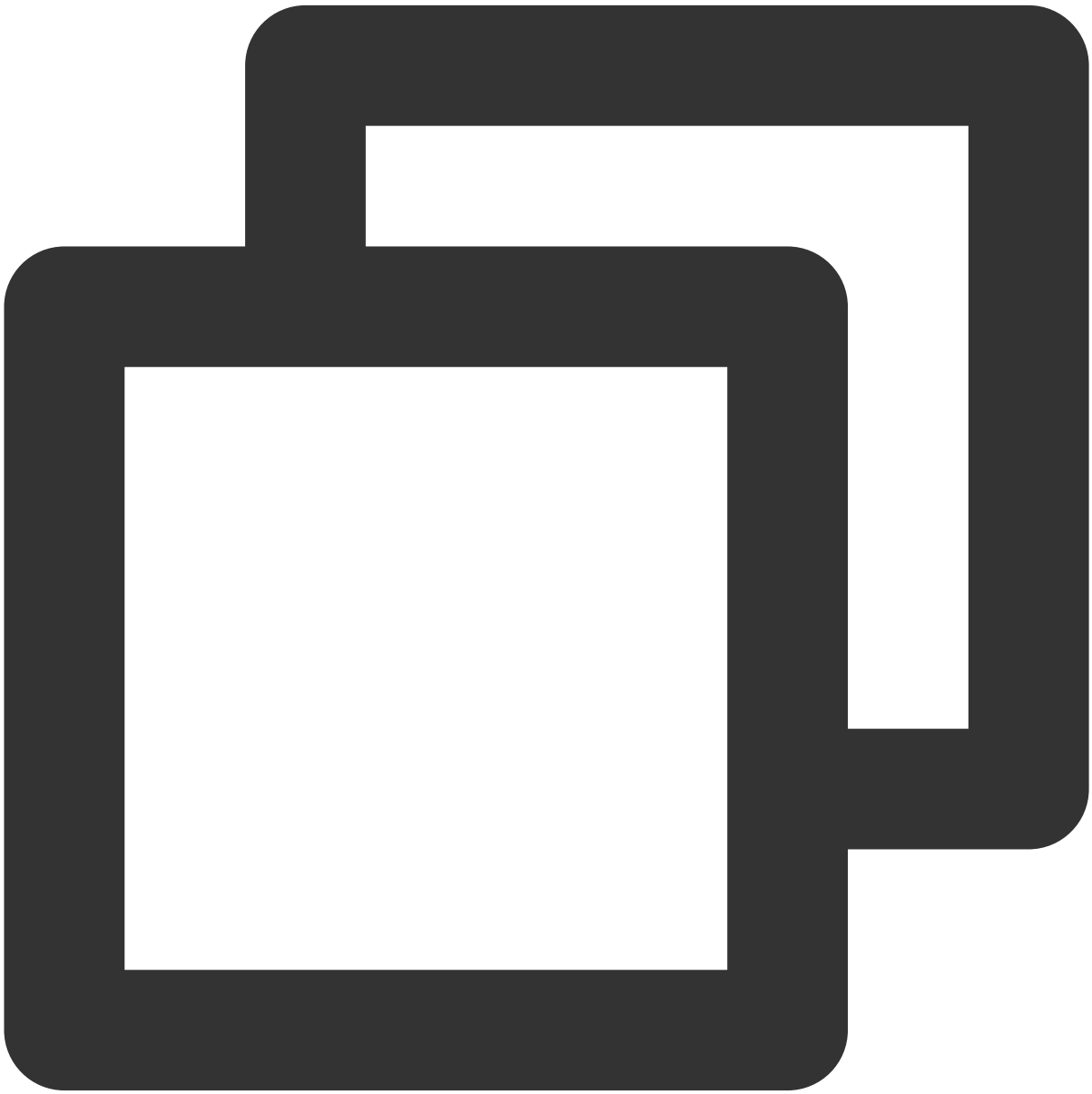
The parameters are as follows:

Parameter	Type	Meaning
userId	NSString	Remote User ID
streamType	TUIVideoStreamType	Video streams Type, detailed Definition can be found in

		TUIRoomDefine.h file's TUIVideoStreamType.
view	TUIVideoView *	Video Rendering View

openLocalCamera

Open Local Camera.



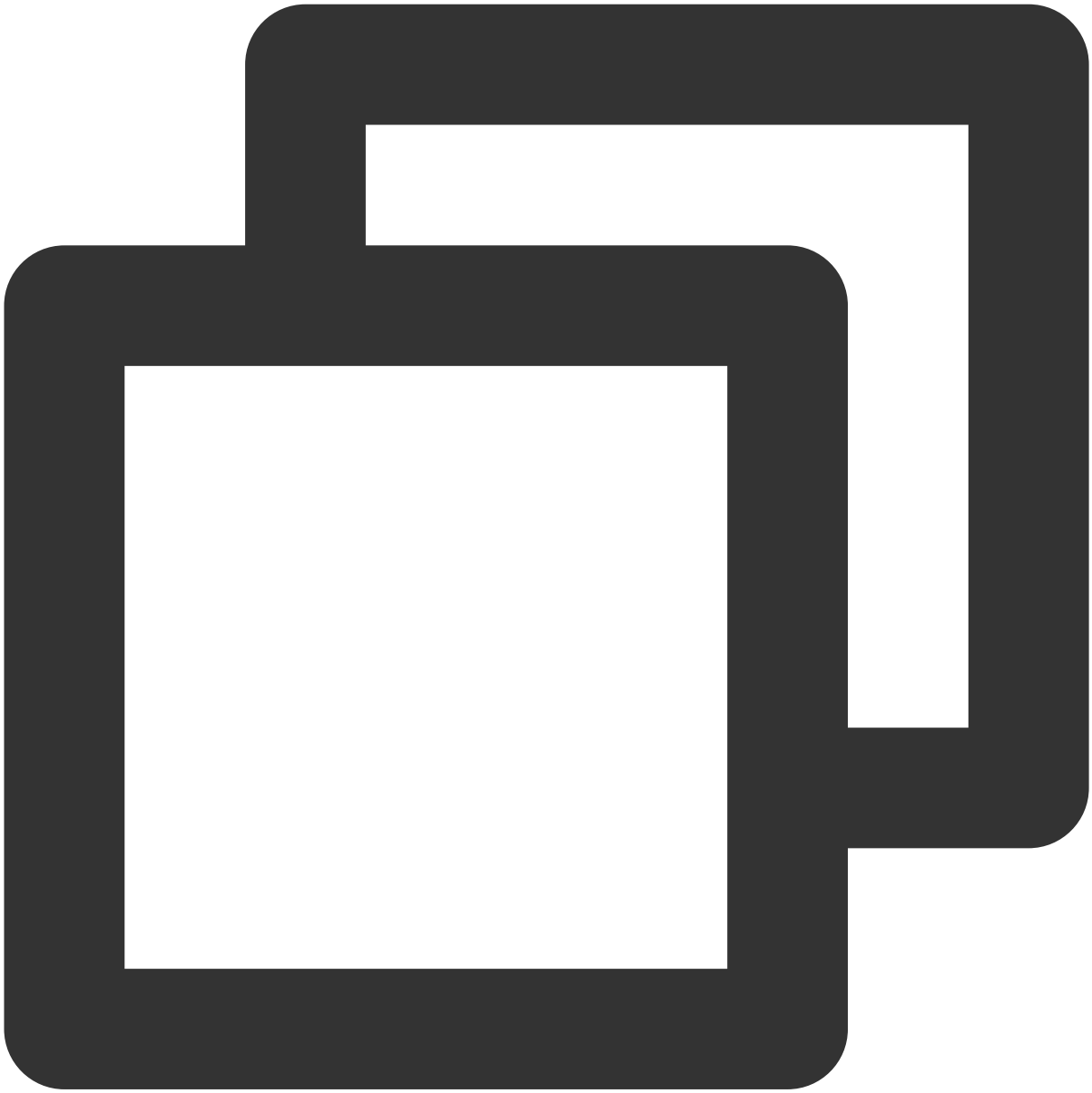
```
- (void)openLocalCamera:(BOOL)isFront
                quality:(TUIVideoQuality)quality
```

```
                onSuccess:(TUISuccessBlock)onSuccess
                  onError:(TUIErrorBlock)onError;
```

Parameter	Type	Meaning
isFront	BOOL	Front or not
quality	TUIVideoQuality	Video Quality, detailed Definition can be found in TUIRoomDefine.h file's TUIVideoQuality.
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

closeLocalCamera

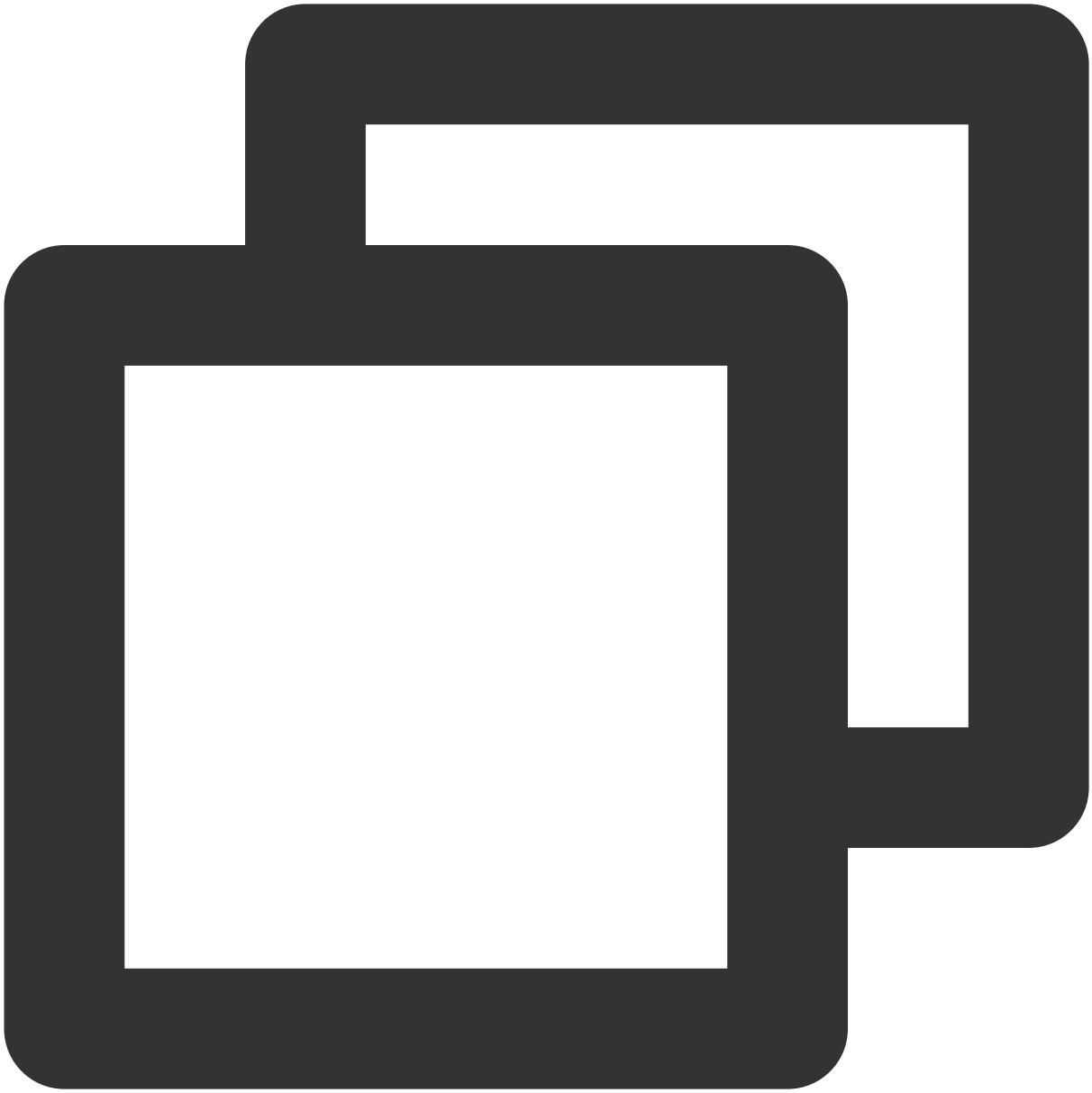
Close Local Camera.



```
- (void)closeLocalCamera;
```

updateVideoQuality

Update Local Video Codec Quality Setting.

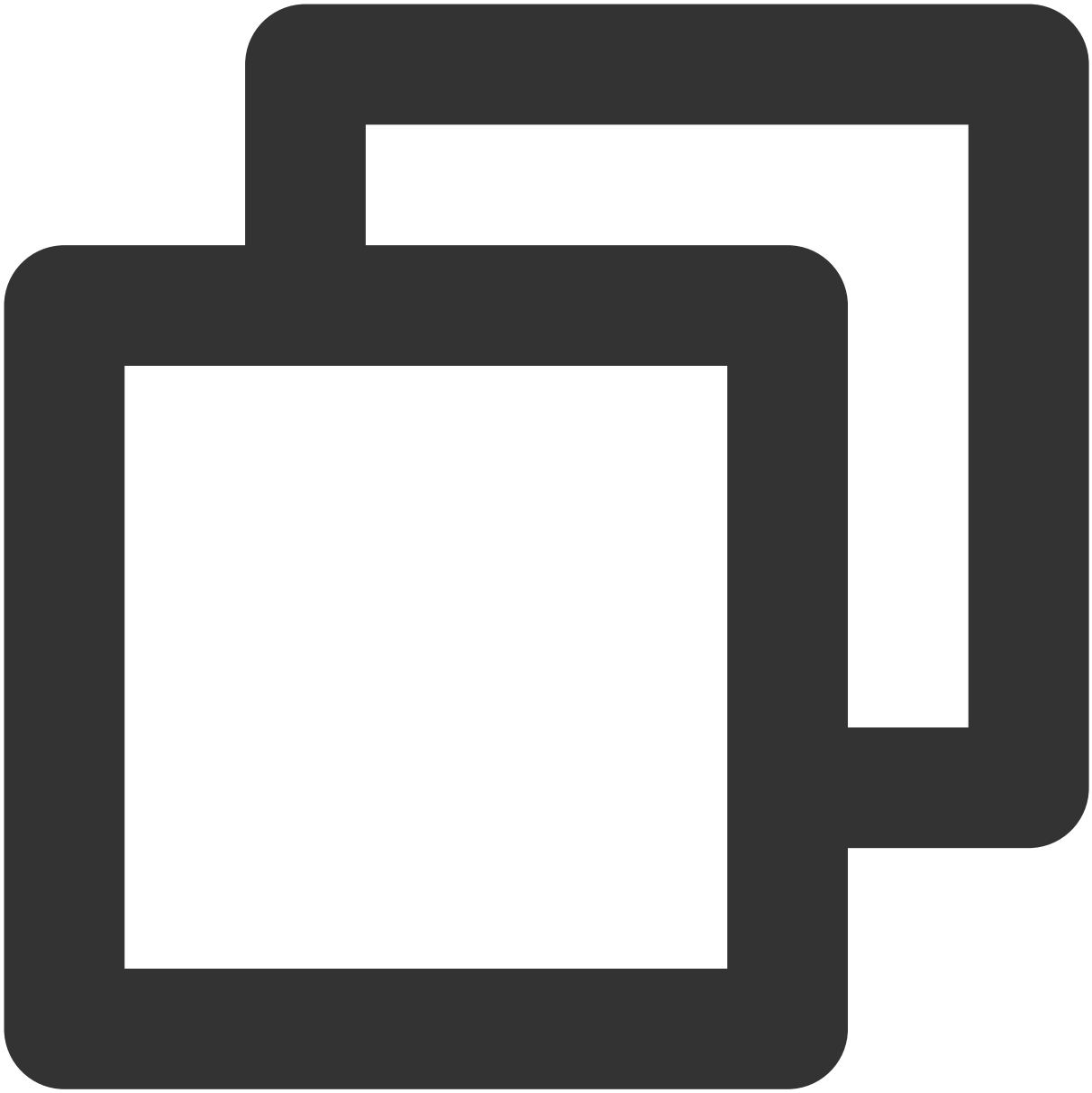


```
- (void)updateVideoQuality:(TUIVideoQuality)quality;
```

Parameter	Type	Meaning
quality	TUIVideoQuality	Video Quality

openLocalMicrophone

Open Local mic.



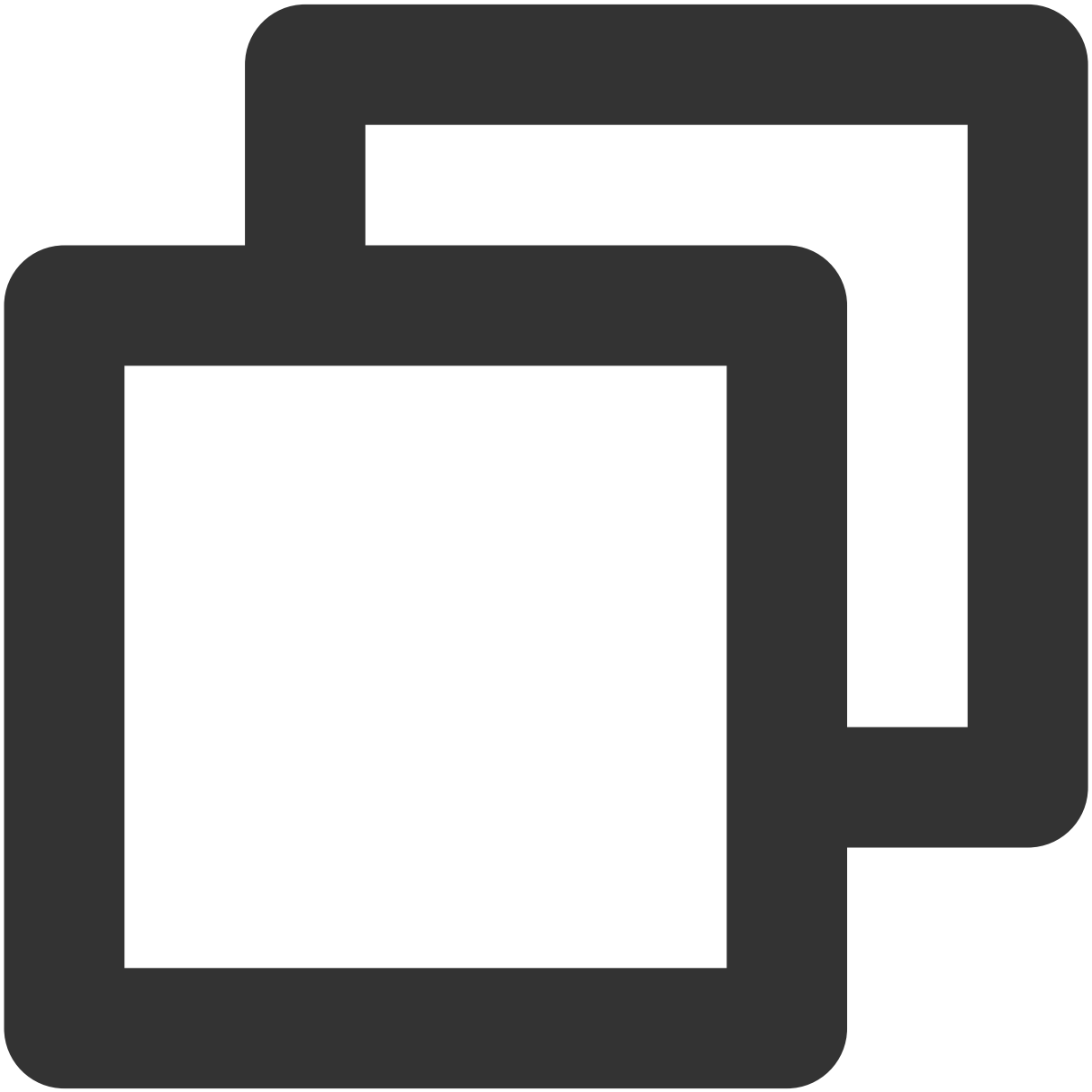
```
- (void)openLocalMicrophone:(TUIAudioQuality)quality
                  onSuccess:(TUISuccessBlock)onSuccess
                    onError:(TUIErrorBlock)onError;
```

Parameter	Type	Meaning
quality	TUIAudioQuality	Audio Quality, detailed Definition can be found in TUIRoomDefine.h file's TUIAudioQuality
onSuccess	TUISuccessBlock	Successful callback

onError	TUIErrorBlock	Failed callback

closeLocalMicrophone

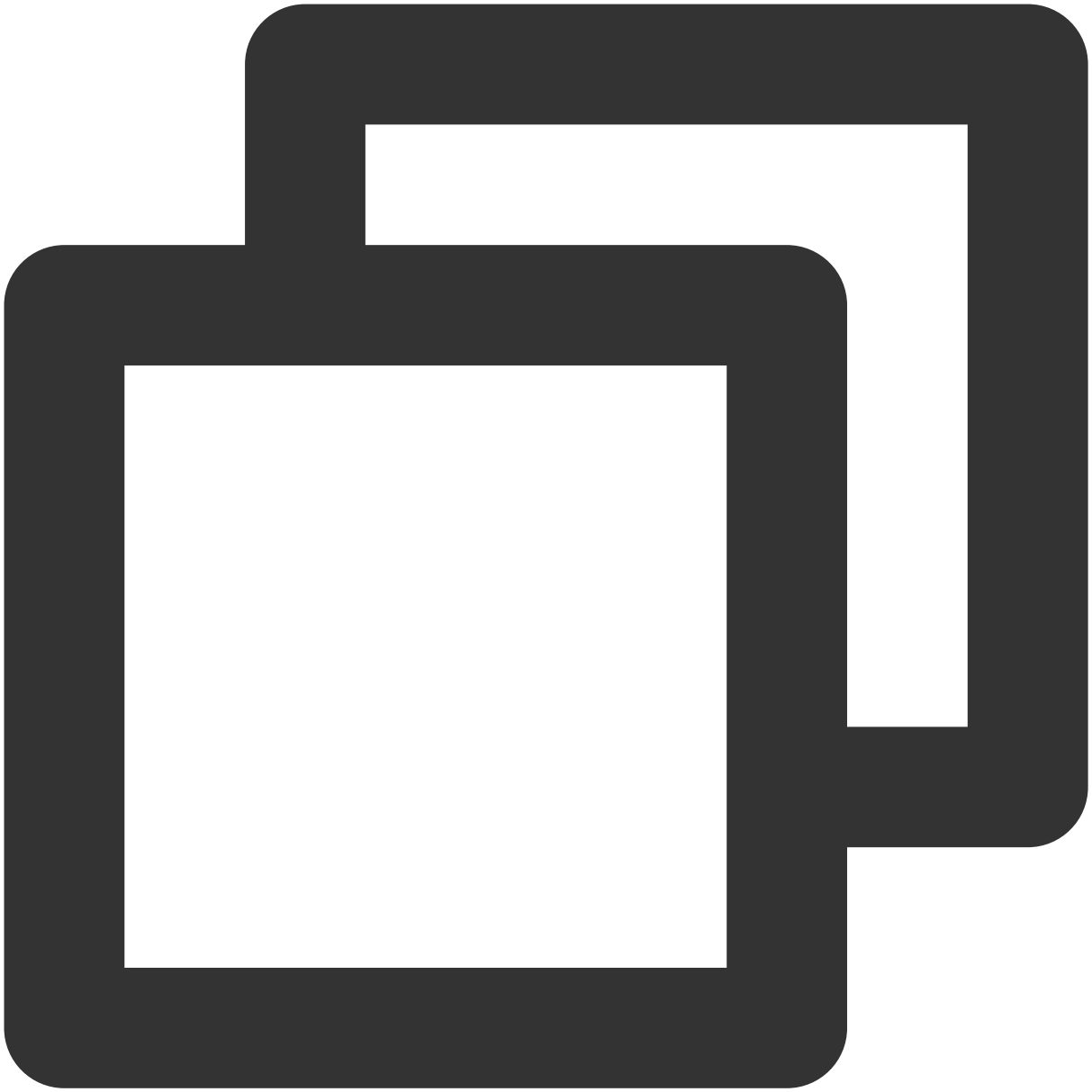
Close Local mic.



```
- (void)closeLocalMicrophone;
```

updateAudioQuality

Update Local Audio Codec Quality Setting.



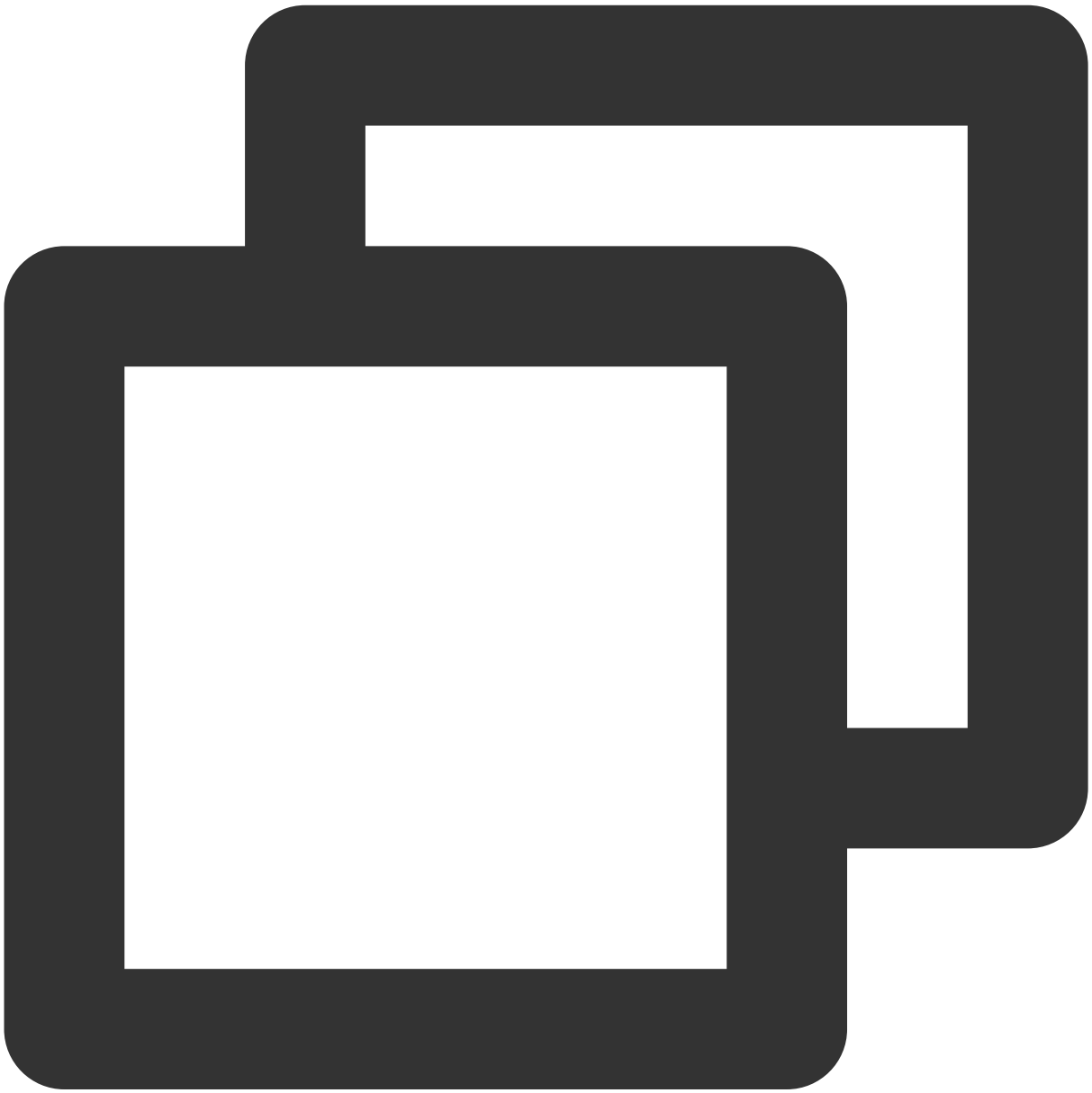
```
- (void)updateAudioQuality:(TUIAudioQuality)quality;
```

Parameter	Type	Meaning
quality	TUIAudioQuality	Audio Quality

startScreenCapture

Start Screen Sharing (Only supports mobile iOS 11.0 and above systems)

This interface supports capturing the entire iOS system screen, similar to Tencent Meeting's full system-level Screen Sharing.



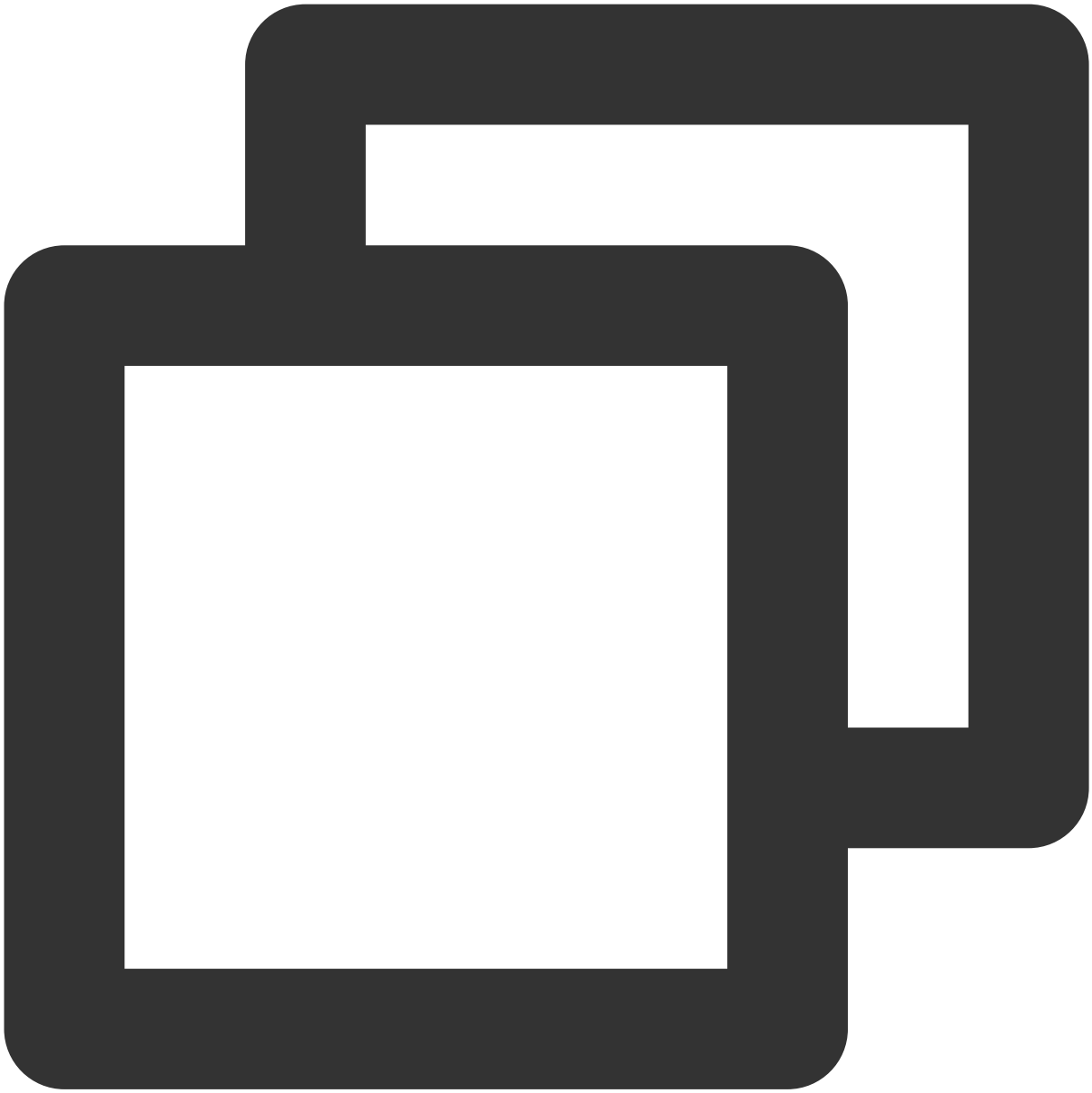
```
- (void)startScreenCaptureByReplaykit:(NSString *)appGroup API_AVAILABLE(ios(11.0))
```

The parameters are as follows:

Parameter	Type	Meaning
appGroup	NSString *	Specify the Application Group Identifier shared by your app and the Screen recording Process, you can set this parameter to nil, but it is recommended to set it according to the documentation for better Reliability.

startScreenCapture

Start Screen Sharing (This interface only supports desktop Mac OS systems)
This interface can capture the entire Mac OS system screen or the window content of a specified app and share it with other users in the same room.



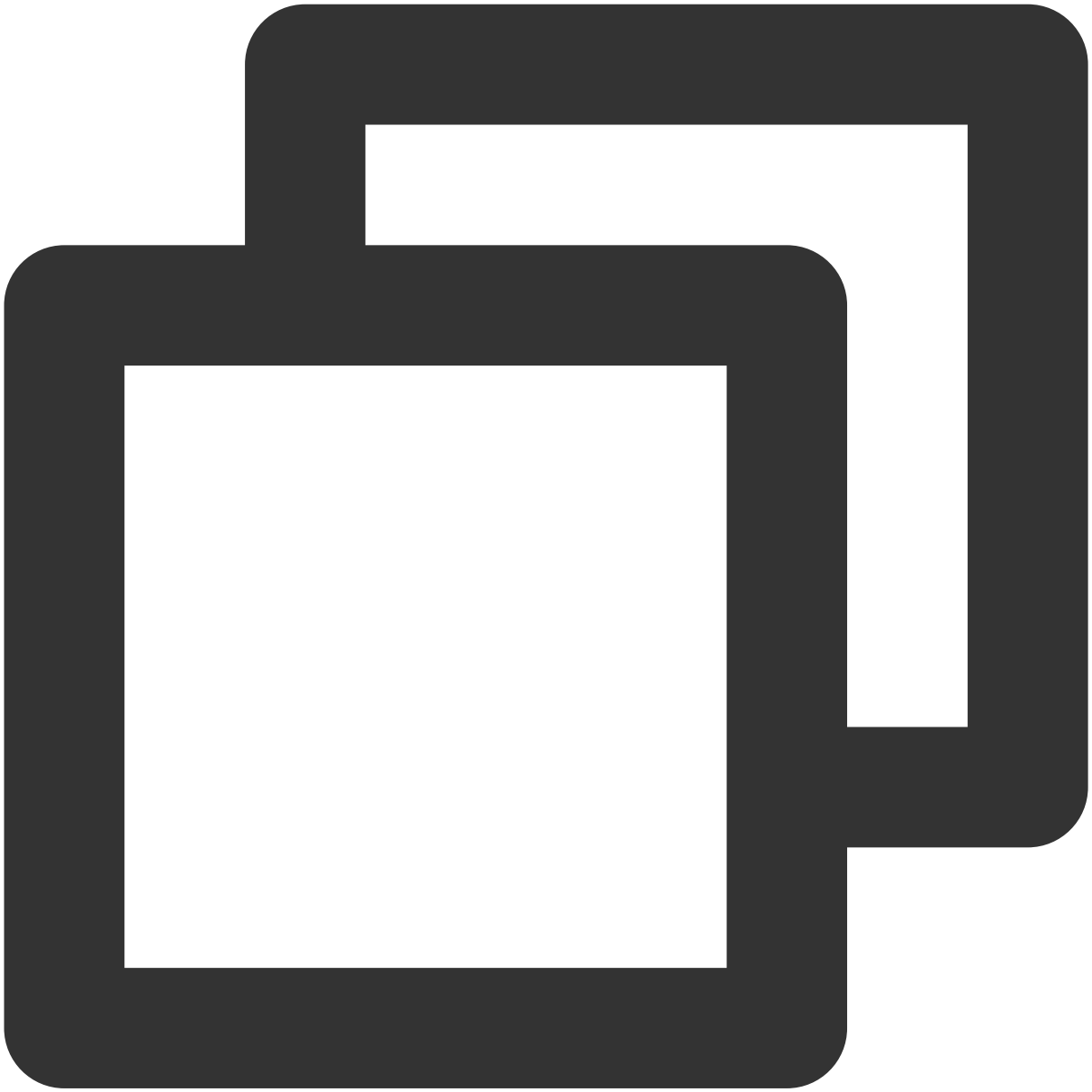
```
- (void)startScreenCapture:(TUIVideoView *)view
                 onSuccess:(TUISuccessBlock)onSuccess
                   onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
view	TUIVideoView *	Parent Control of the Rendering Control, can be set to null, indicating no preview effect of Screen Sharing.
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

stopScreenCapture

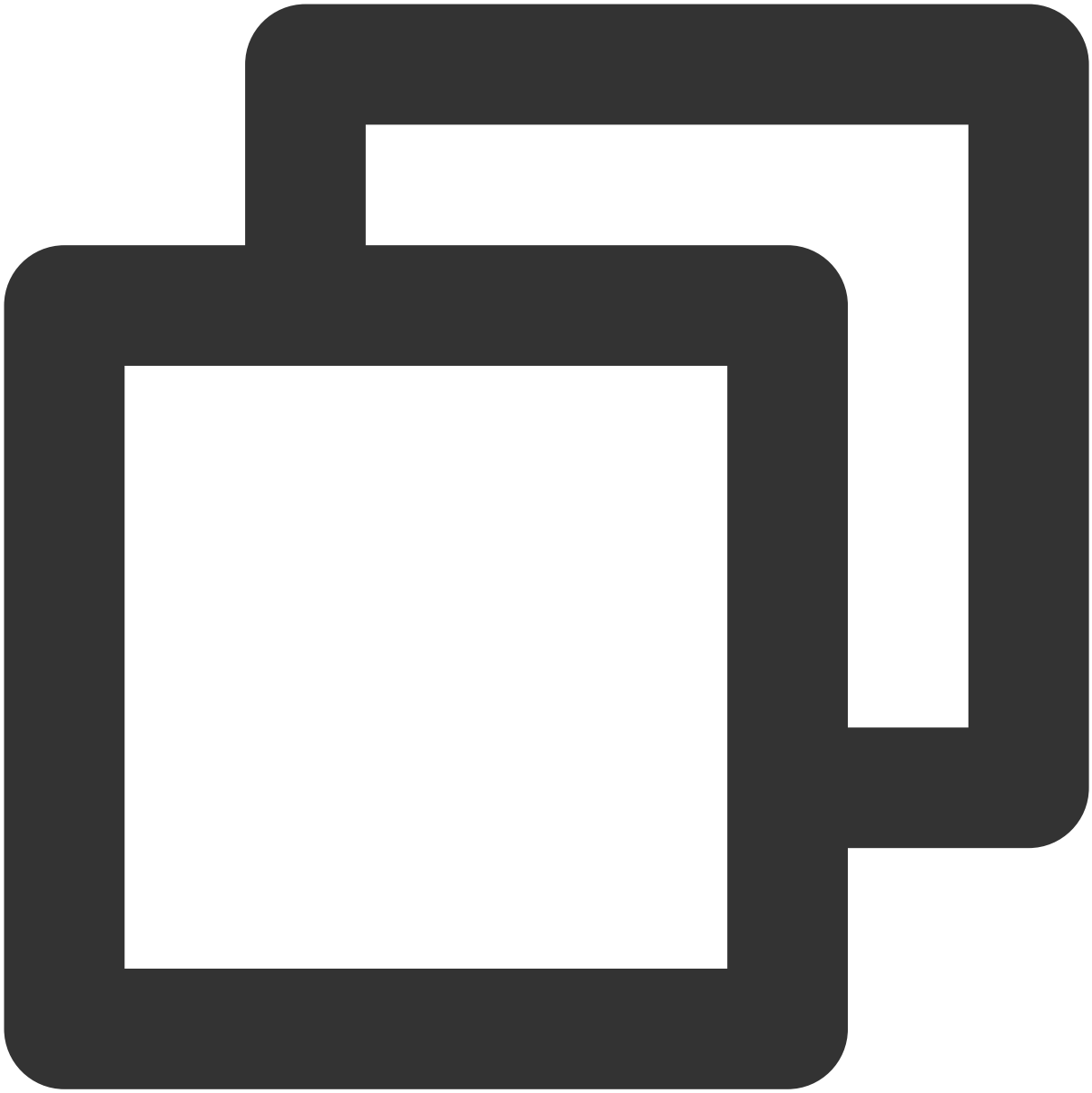
End Screen Sharing.



```
- (void)stopScreenCapture;
```

getScreenCaptureSources

Enumerate available screens and windows for sharing (This interface only supports Mac OS systems)
When you integrate the desktop system's Screen Sharing function, you generally need to display a Target selection Interface so that users can use this Interface to choose whether to share the entire screen or a specific window. Through this interface, you can query the ID, name, and thumbnail of the windows available for sharing in the current system. We provide a default Interface implementation in the Demo for your reference.

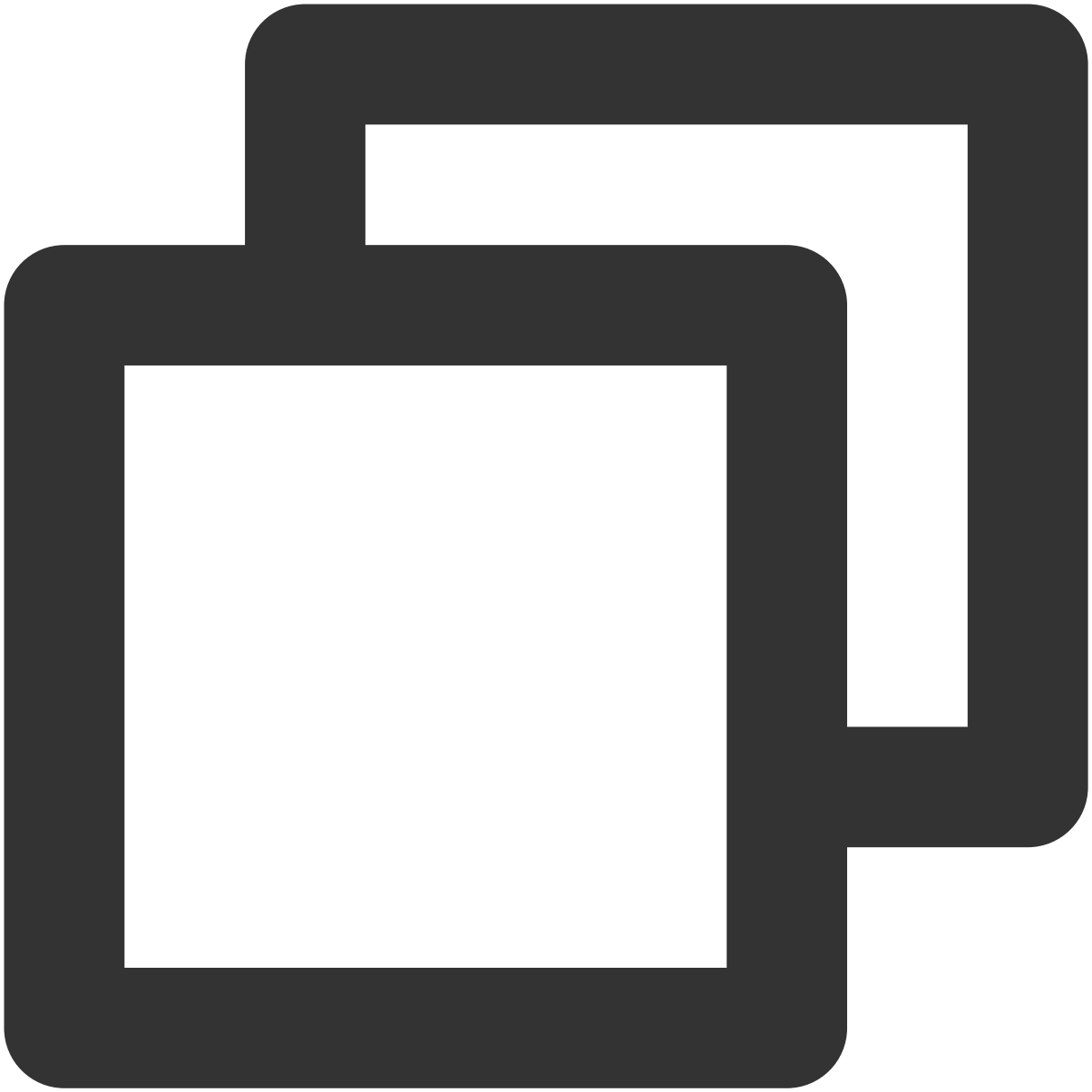


```
- (NSArray<TUIShareTarget *> *)getScreenCaptureSources;
```

Return Value	Type	Meaning
screenCaptureSources	NSArray<TUIShareTarget *> *	Window List including screens

selectScreenCaptureTarget

Select Screen Sharing Target.



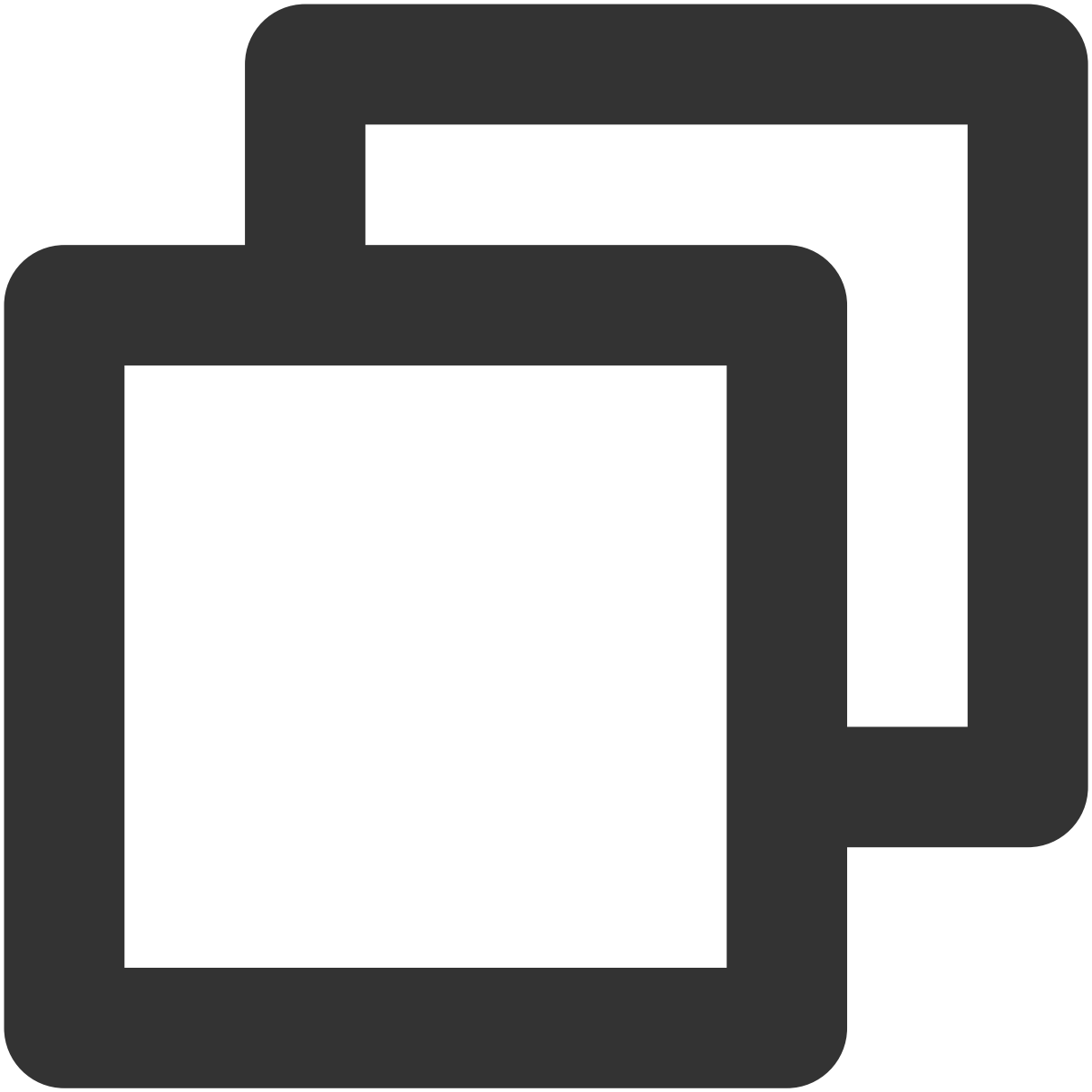
```
- (void)selectScreenCaptureTarget:(NSString *)targetId;
```

The parameters are as follows:

Parameter	Type	Meaning
targetId	NSString *	Designated Sharing Source

startPushLocalVideo

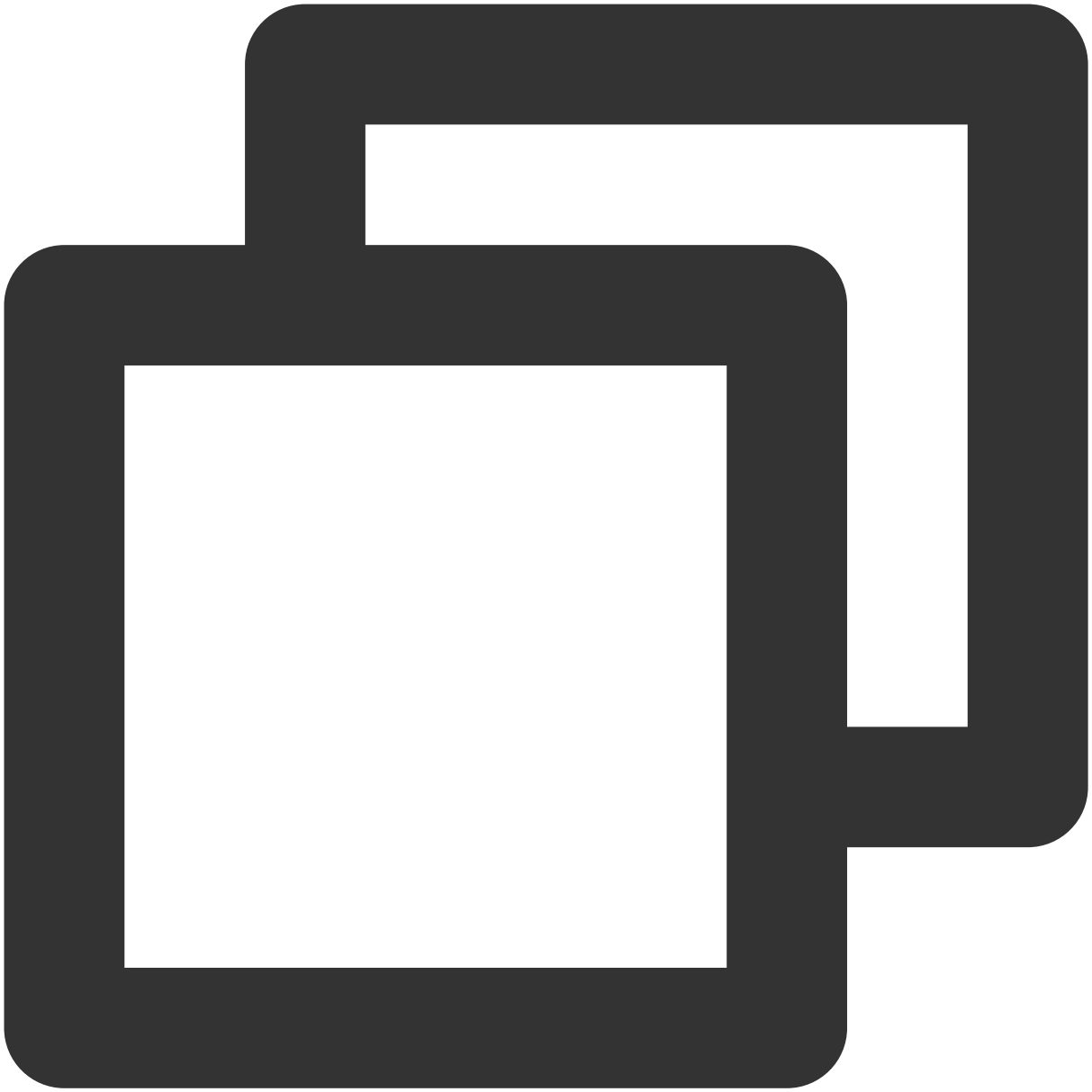
Start Pushing Local Video.



```
- (void)startPushLocalVideo;
```

stopPushLocalVideo

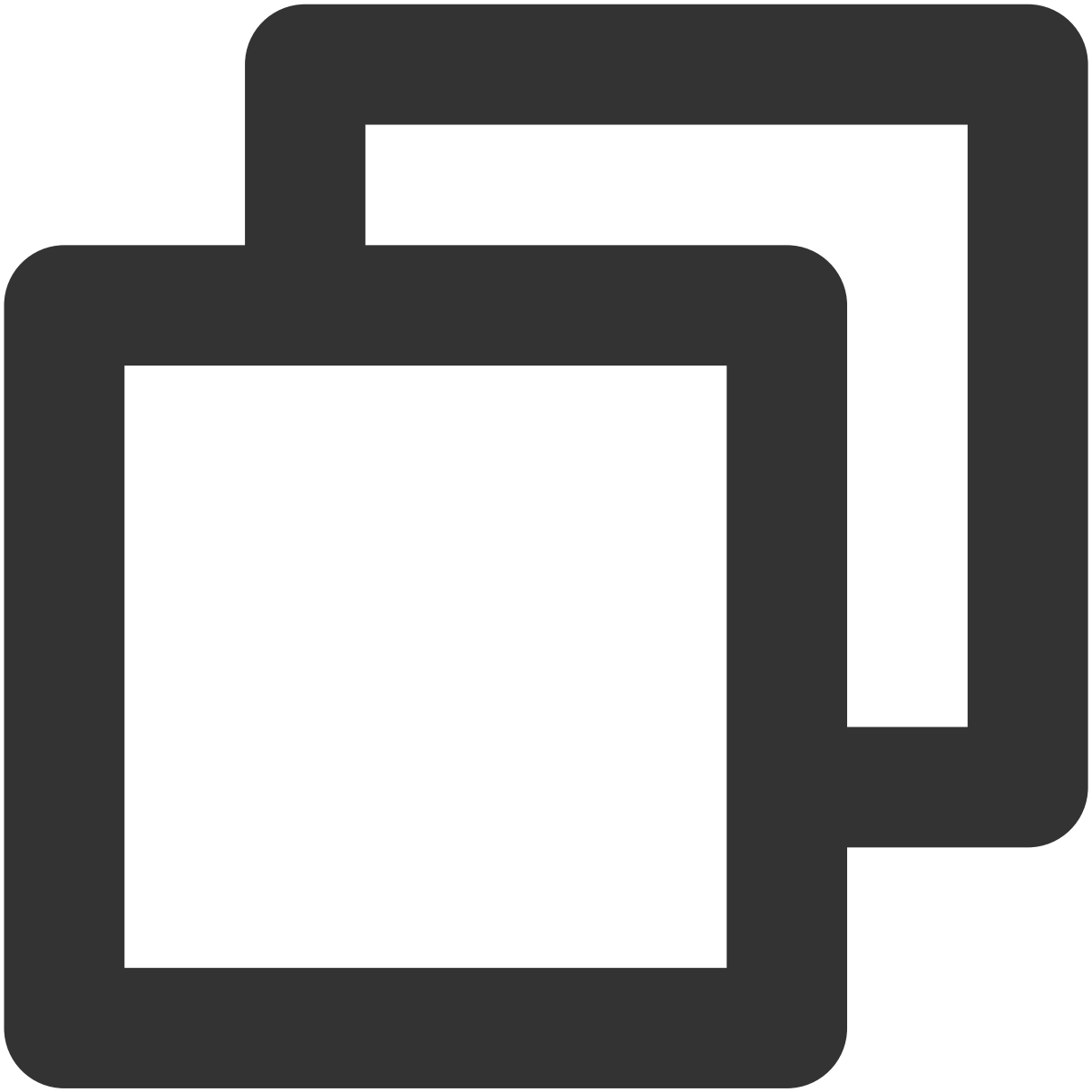
Stop Pushing Local Video.



```
- (void)stopPushLocalVideo;
```

startPushLocalAudio

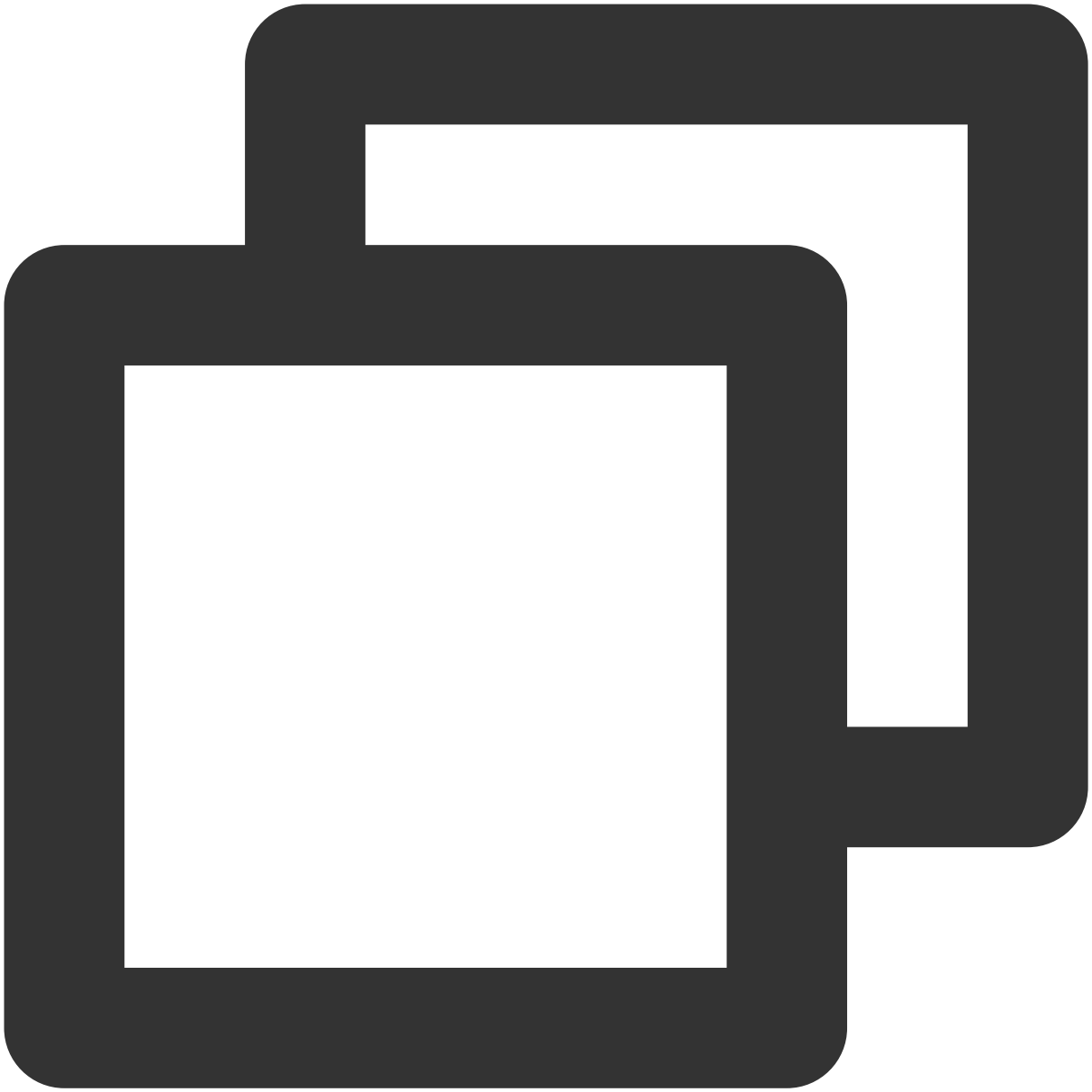
Start Pushing Local Audio.



```
- (void)startPushLocalAudio;
```

stopPushLocalAudio

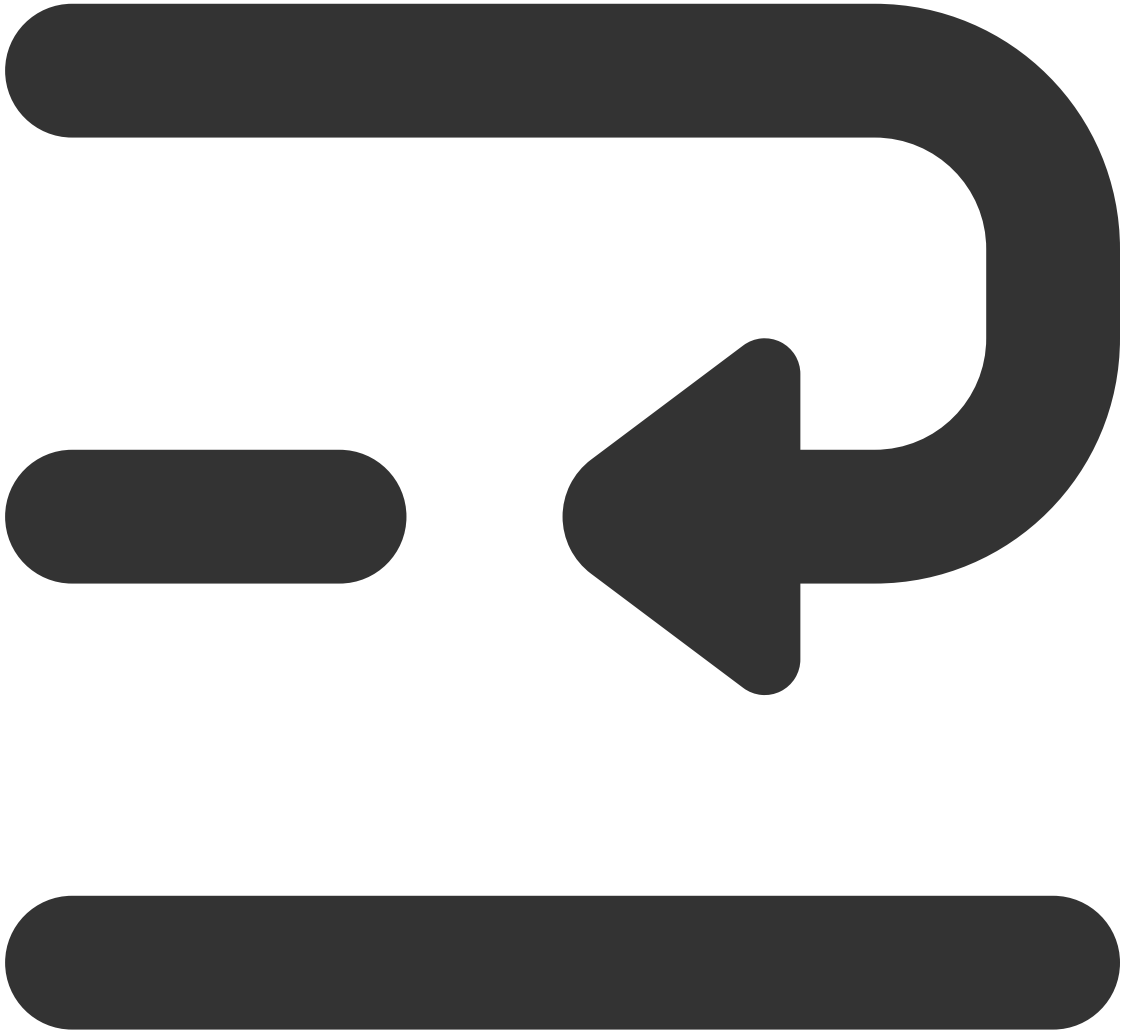
Stop Pushing Local Audio.

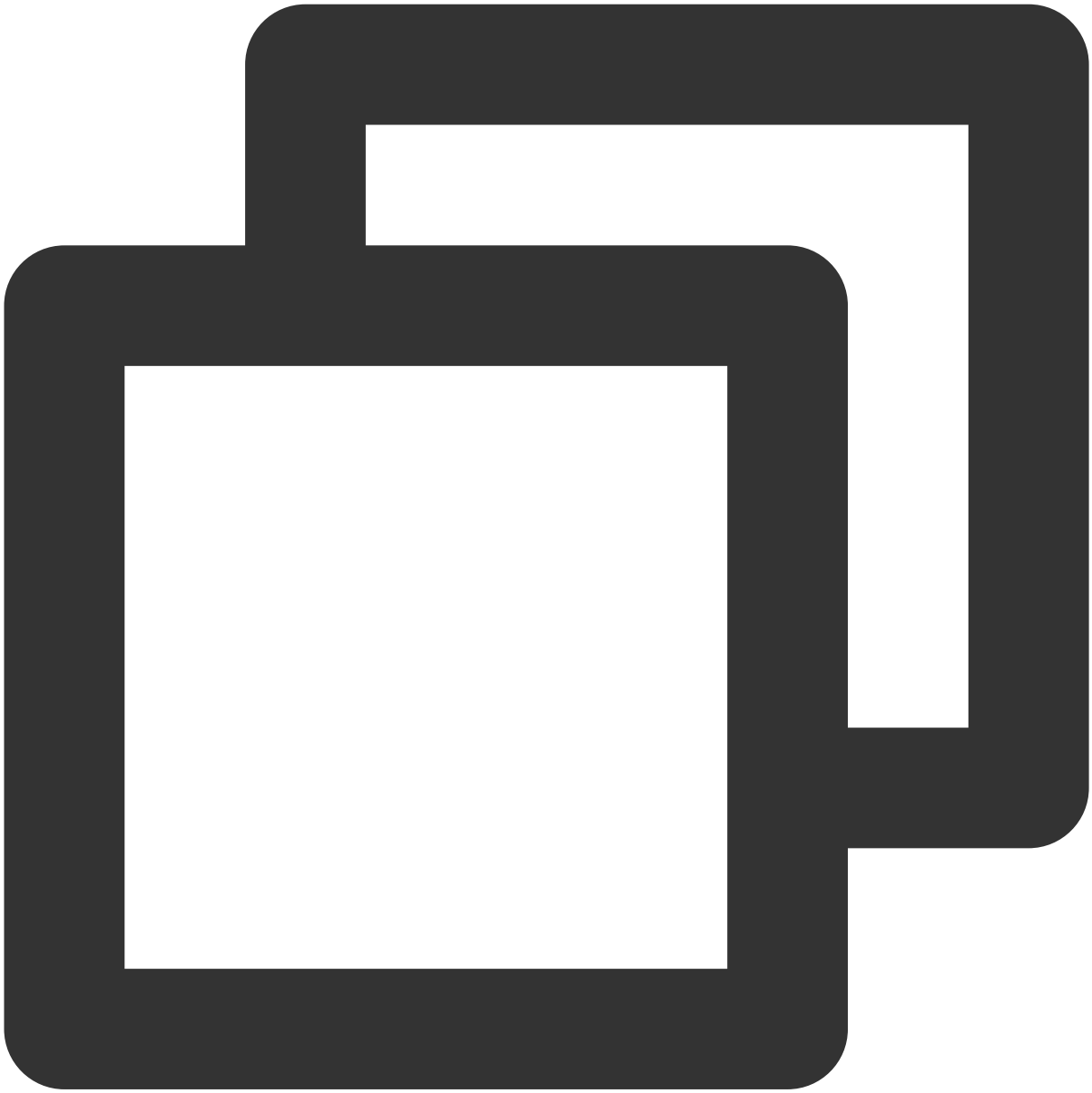


```
- (void)stopPushLocalAudio;
```

startPlayRemoteVideo

Start Playback Remote User Video.





```
- (void)startPlayRemoteVideo:(NSString *)userId
                  streamType:(TUIVideoStreamType)streamType
                   onPlaying:(TUIPlayOnPlayingBlock)onPlaying
                   onLoading:(TUIPlayOnLoadingBlock)onLoading
                     onError:(TUIPlayOnErrorBlock)onError;
```

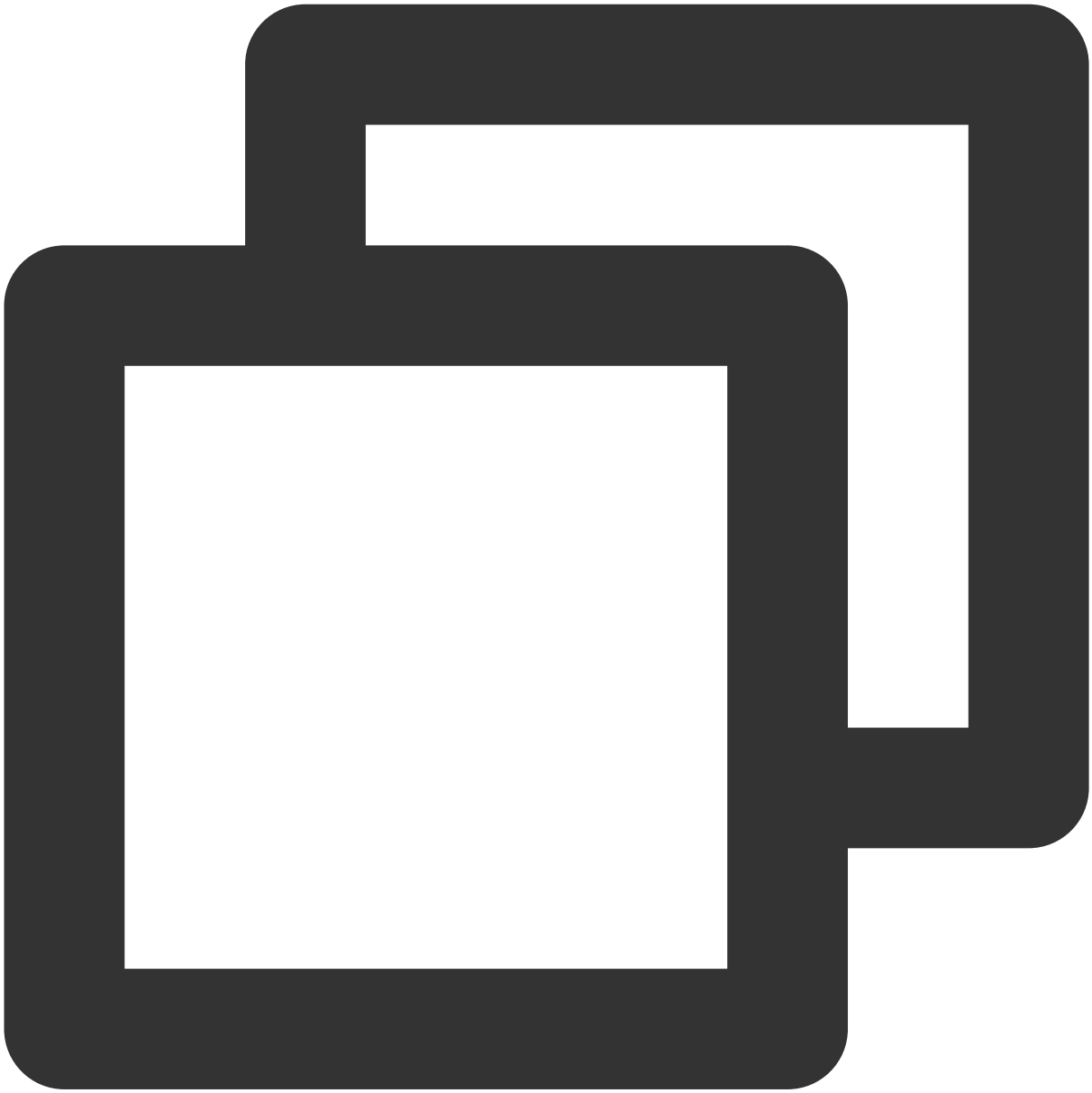
The parameters are as follows:

Parameter	Type	Meaning
userId	NSString *	User ID

streamType	TUIVideoStreamType	Type of Video streams. Detailed Definition can be found in TUIRoomDefine.h file's TUIVideoStreamType.
onPlaying	TUIPlayOnPlayingBlock	Playback Callback
onLoading	TUIPlayOnLoadingBlock	Load Callback
onError	TUIPlayOnErrorBlock	Error Callback

stopPlayRemoteVideo

Stop Playback Remote User Video.



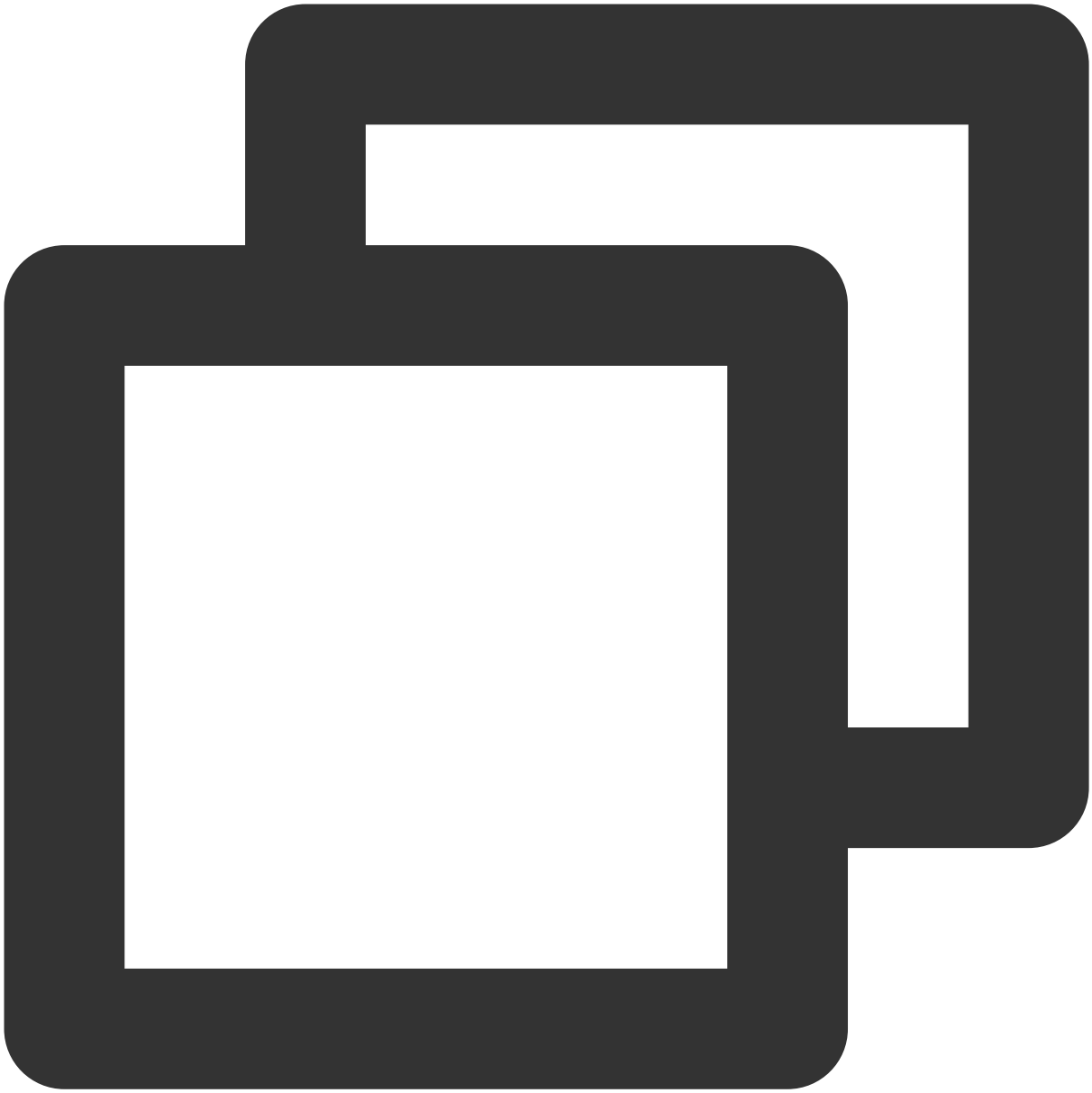
```
- (void)stopPlayRemoteVideo:(NSString *)userId streamType:(TUIVideoStreamType)strea
```

The parameters are as follows:

Parameter	Type	Meaning
userId	NSString *	User ID
streamType	TUIVideoStreamType	Type of Video streams. Detailed Definition can be found in TUIRoomDefine.h file's TUIVideoStreamType.

muteRemoteAudioStream

Mute Remote User

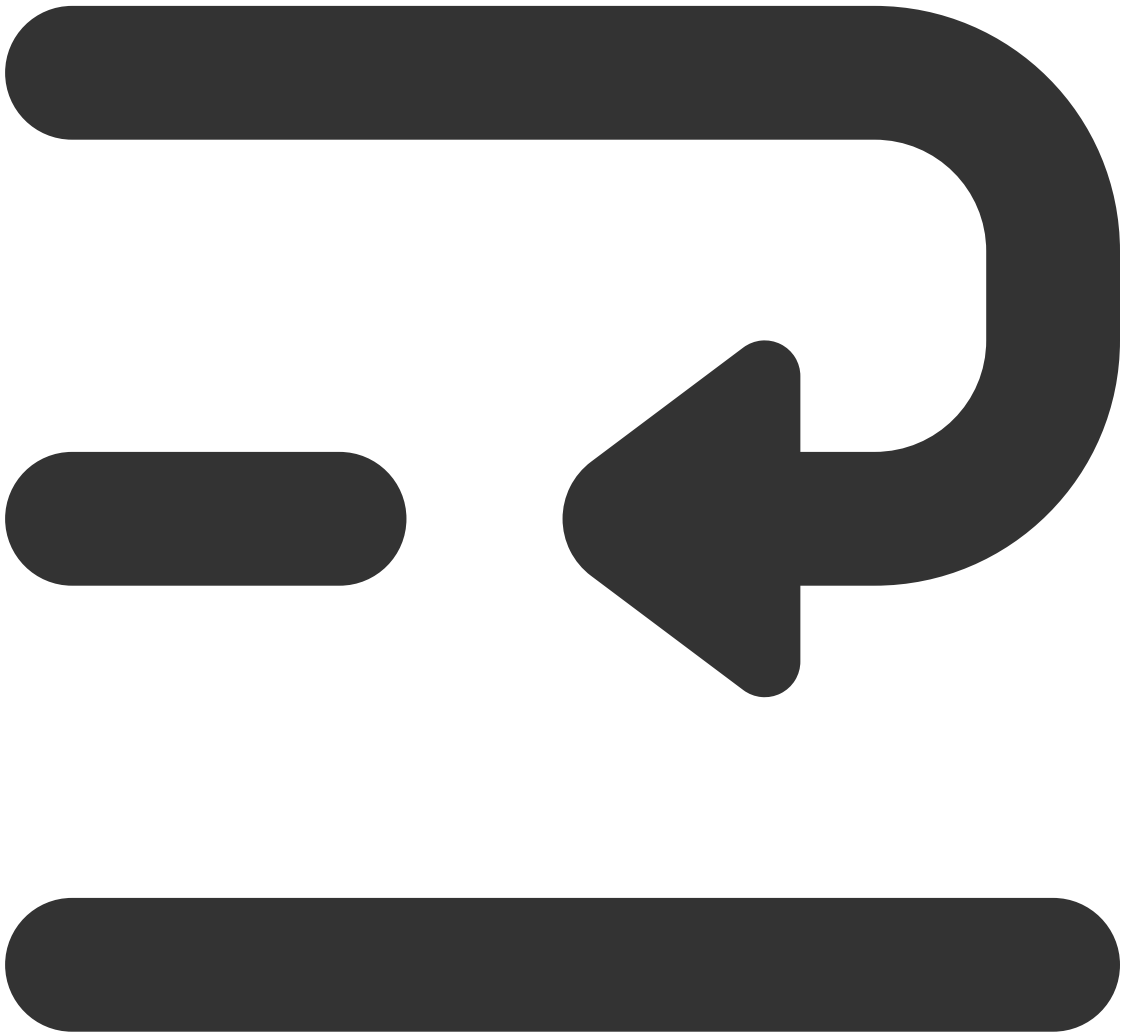


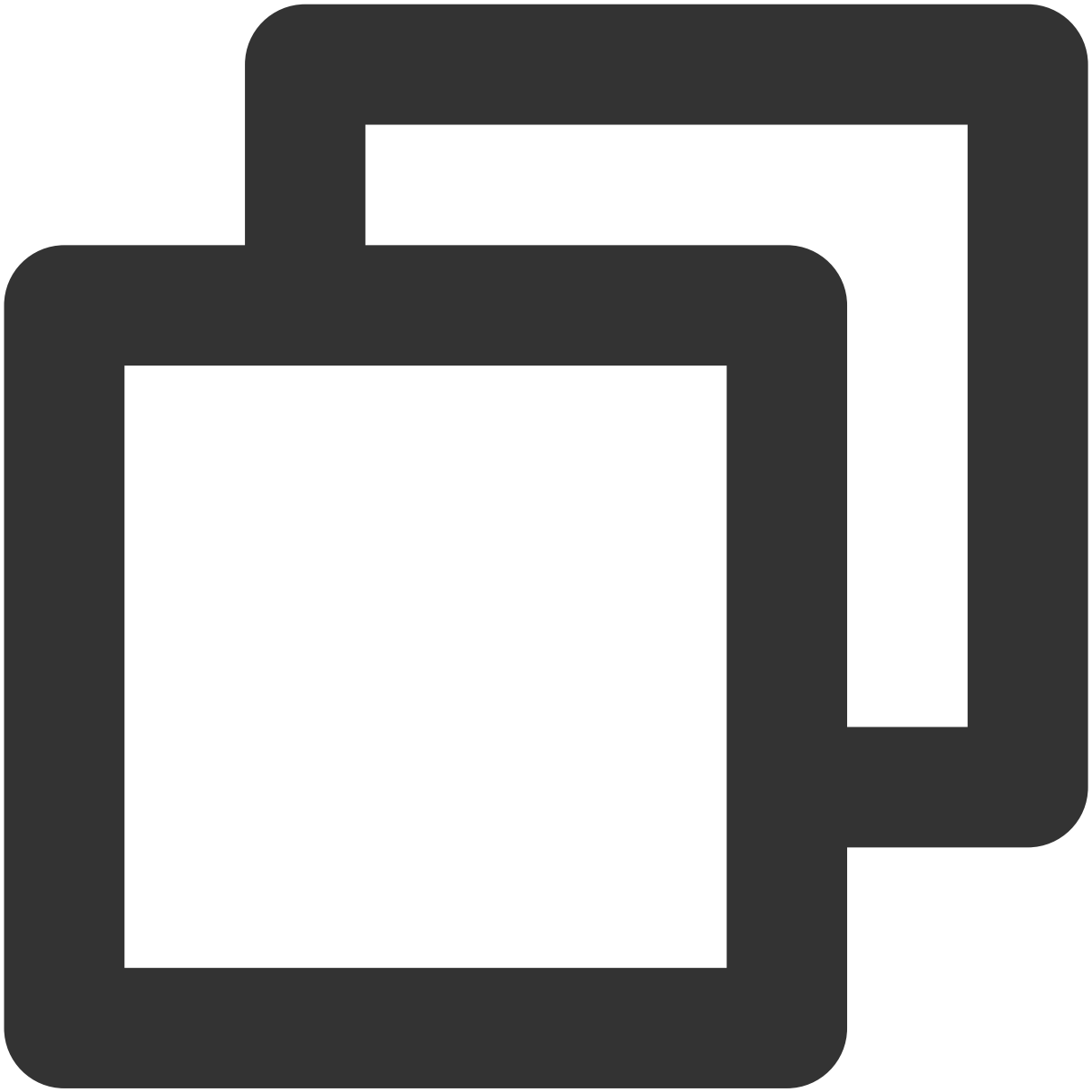
```
- (void)muteRemoteAudioStream:(NSString *)userId isMute:(BOOL)isMute;
```

Parameter	Type	Meaning
userId	NSString *	User ID
isMute	BOOL	Mute or not

getUserList

Get Member List in the Room.





```
- (void)getUserList:(NSInteger)nextSequence
          onSuccess:(TUIUserListResponseBlock)onSuccess
            onError:(TUIErrorBlock)onError;
```

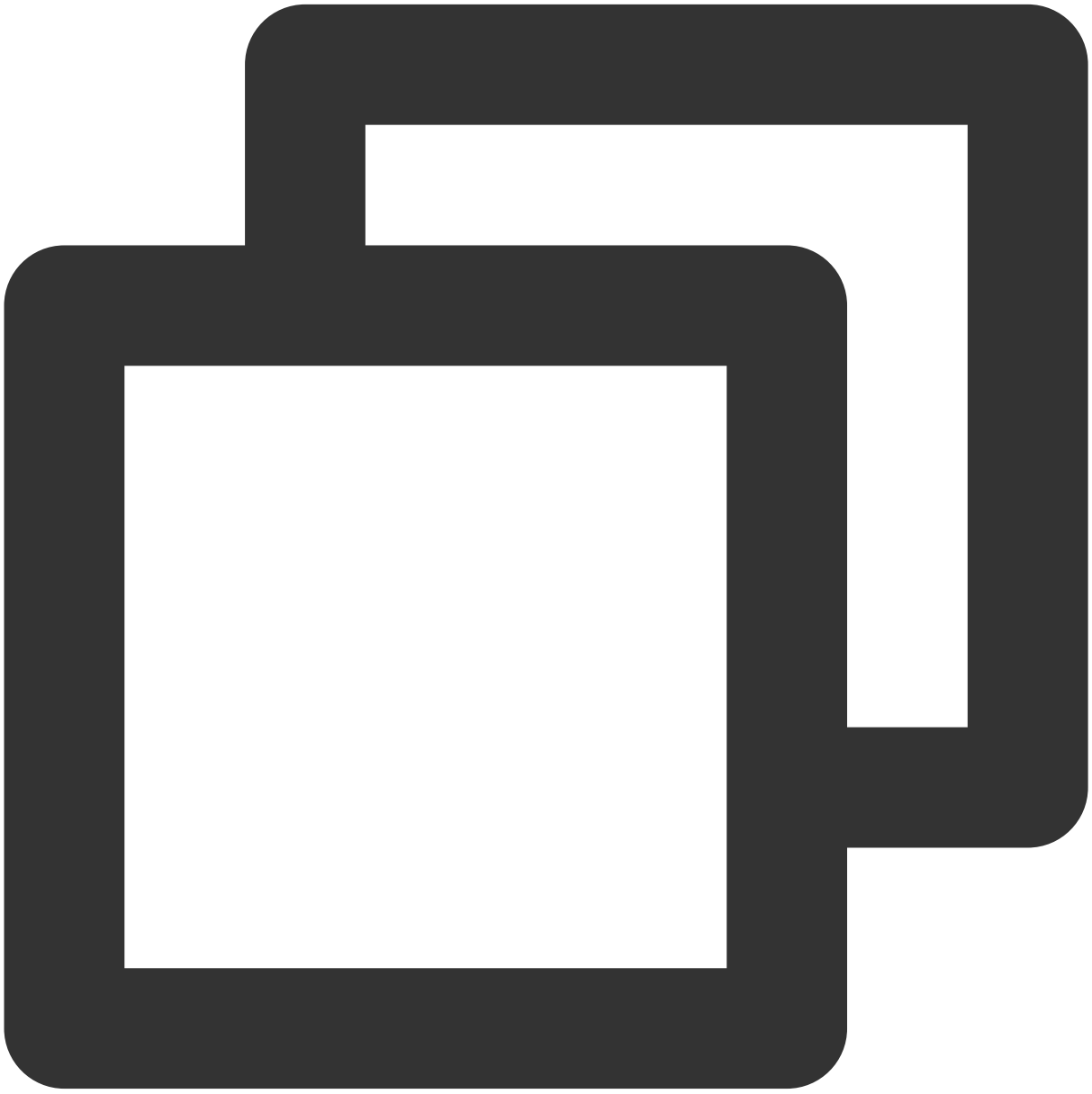
The parameters are as follows:

Parameter	Type	Meaning
nextSequence	NSInteger	Pagination Fetch flag, fill in 0 for the first Fetch, if the Callback returns TUIUserListResult with next_sequence not equal to zero, Pagination is required, pass in again to Fetch until it is 0

onSuccess	TUIUserListResponseBlock	Success Callback. Detailed Definition can be found in TUIRoomDefine.h file's TUIUserListResponseBlock
onError	TUIErrorBlock	Failed callback

getUserInfo

Get Member data.



```
- (void)getUserInfo:(NSString *)userId
          onSuccess:(TUIUserInfoBlock)onSuccess
```

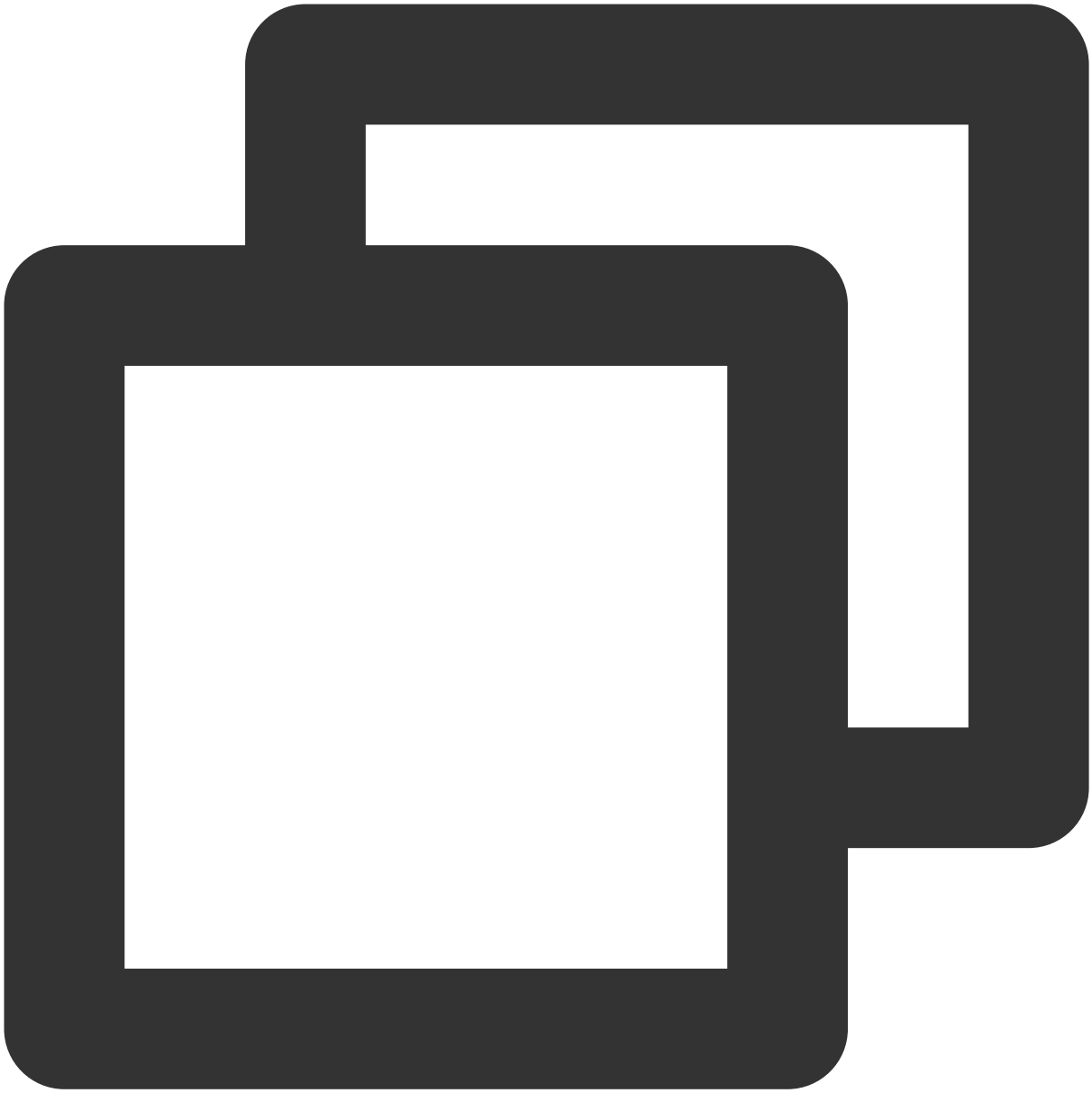
```
            onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
userId	NSString *	User ID
onSuccess	TUIUserInfoBlock	Success Callback. Detailed Definition can be found in TUIRoomDefine.h file's TUIUserInfoBlock
onError	TUIErrorBlock	Error callback

changeUserRole

Modify User Role (Only Administrator or Group owner can call).



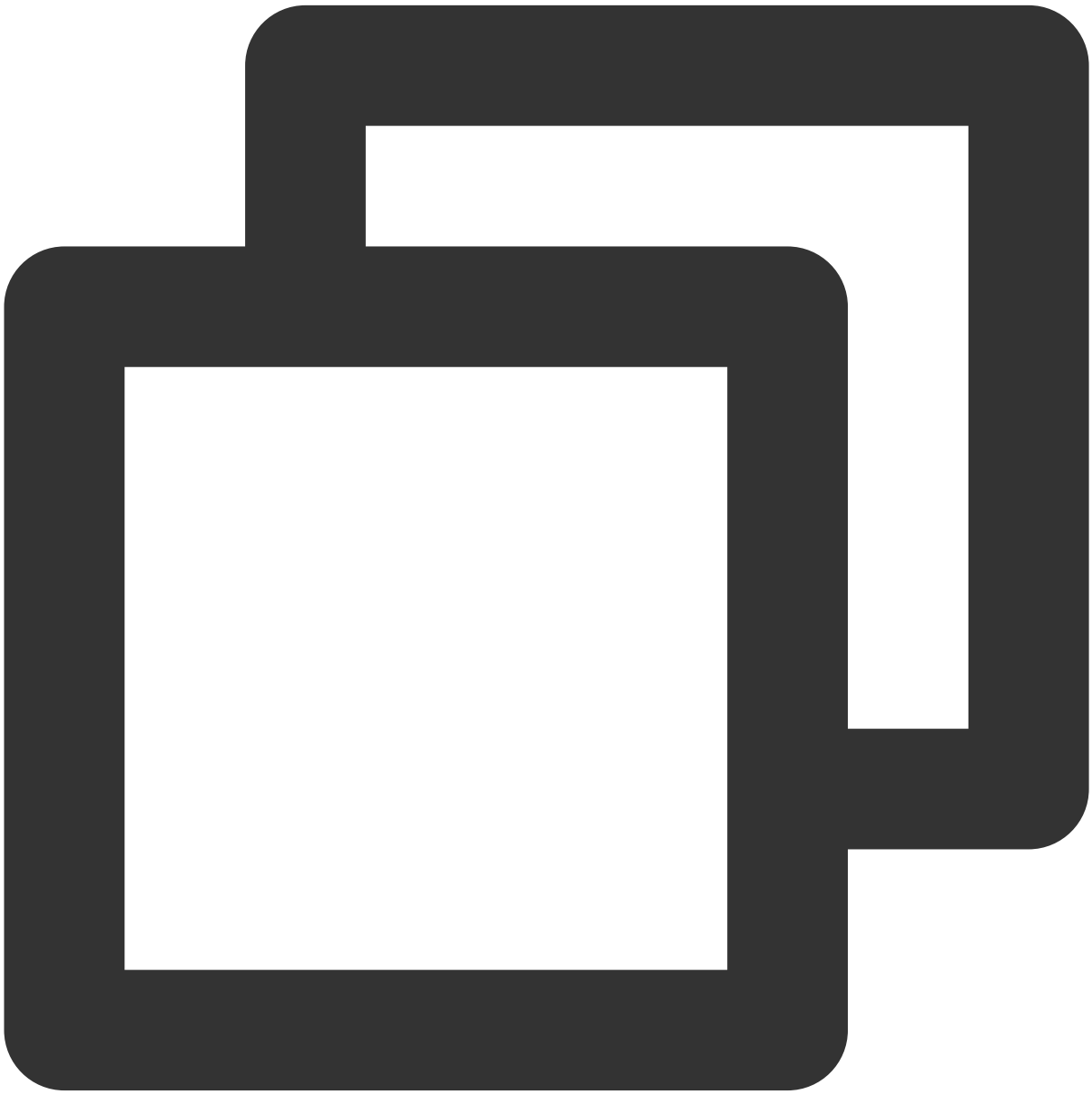
```
- (void)changeUserRoleWithUserId:(NSString *)userId
                            role:(TUIRole)role
                       onSuccess:(TUISuccessBlock)onSuccess
                         onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
userId	NSString *	User ID

role	TUIRole	Role to switch to
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

kickRemoteUserOutOfRoom



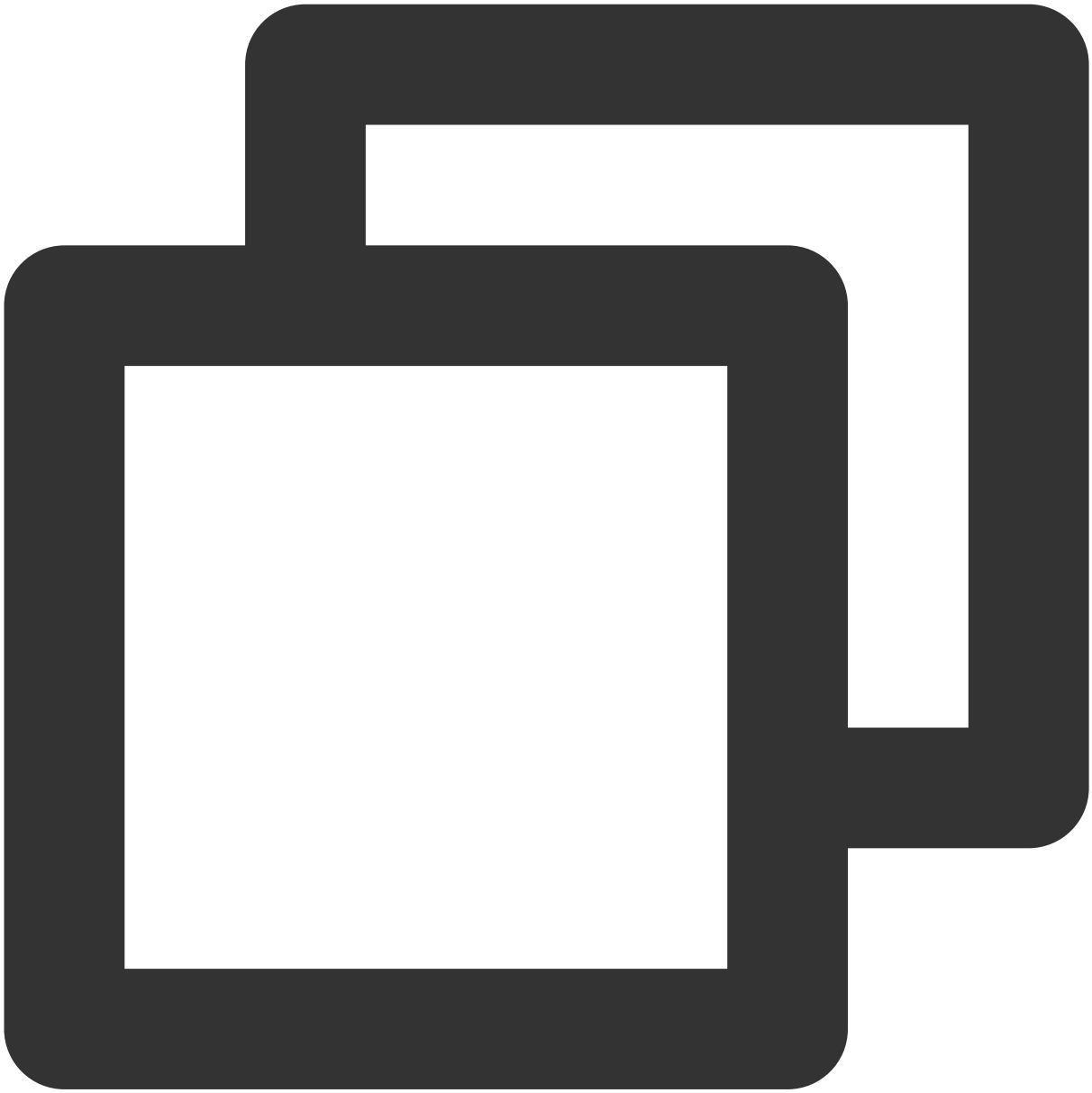
```
- (void)kickRemoteUserOutOfRoom:(NSString *)userId
                      onSuccess:(TUISuccessBlock)onSuccess
                        onError:(TUIErrorBlock)onError;
```

Kick Remote User out of the Room (Only Administrator or Group Owner can call).

Parameter	Type	Meaning
userId	NSString *	User ID
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Failed callback

disableDeviceForAllUserByAdmin

Control the permission status of all users in the current room to open Audio and Video Capturing devices, such as: Disable all users from opening mic, Disable all users from opening Camera, Disable all users from opening Screen Sharing
(Currently only available in conference scenes, and only Administrator or Group Owner can call).



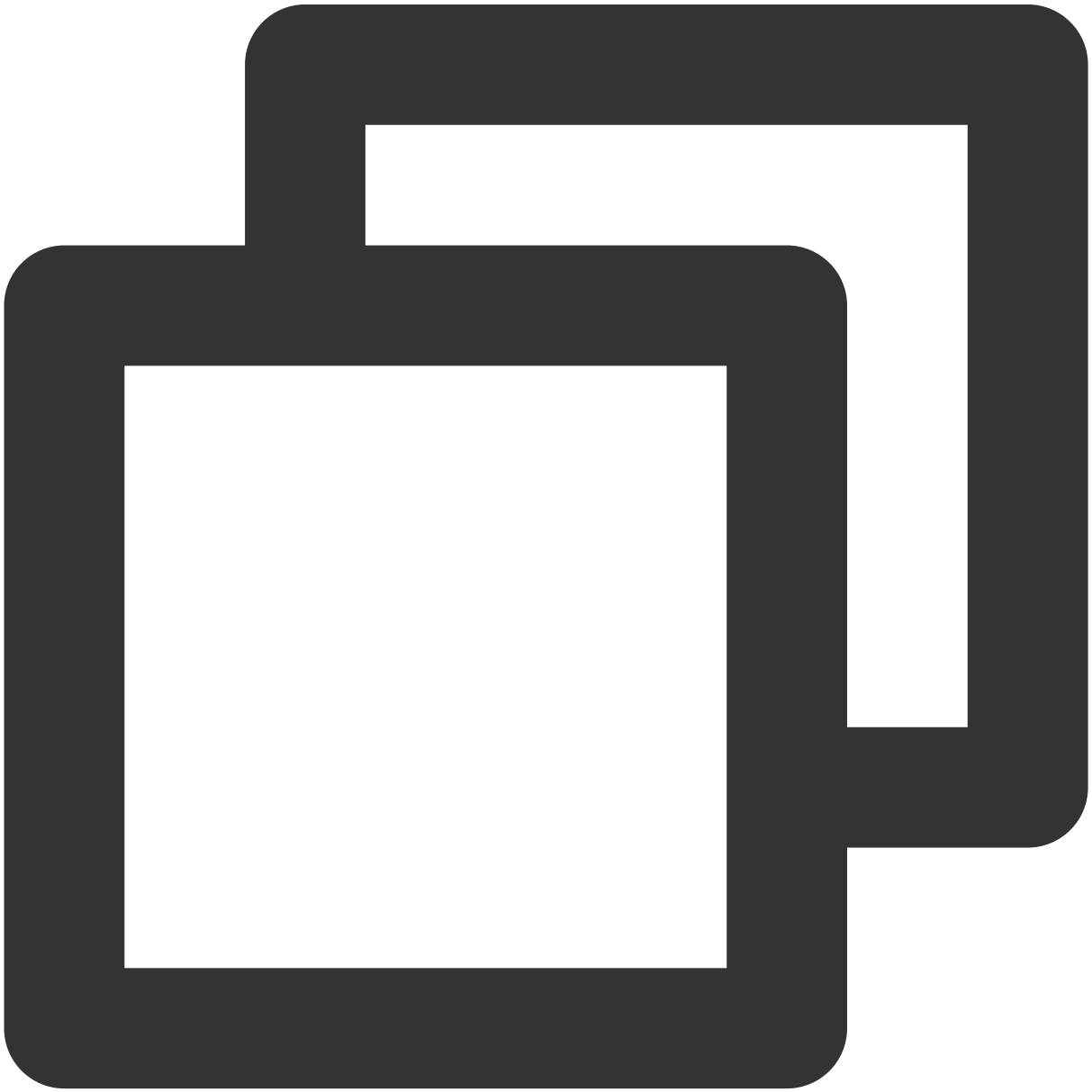
```
- (void)disableDeviceForAllUserByAdmin:(TUIMediaDevice)device
                             isDisable:(BOOL)isDisable
                             onSuccess:(TUISuccessBlock)onSuccess
                               onError:(TUIErrorBlock)onError;
```

Parameter	Type	Meaning
device	TUIMediaDevice	Device Type
isDisable	BOOL	Disable or Not

onSuccess	TUISuccessBlock	Operation Success Callback
onError	TUIErrorBlock	Operation Failure Callback

openRemoteDeviceByAdmin

Request Remote User to Open Media Device (Only Administrator or Group Owner can call).



```
- (TUIRequest *)openRemoteDeviceByAdmin:(NSString *)userId
```

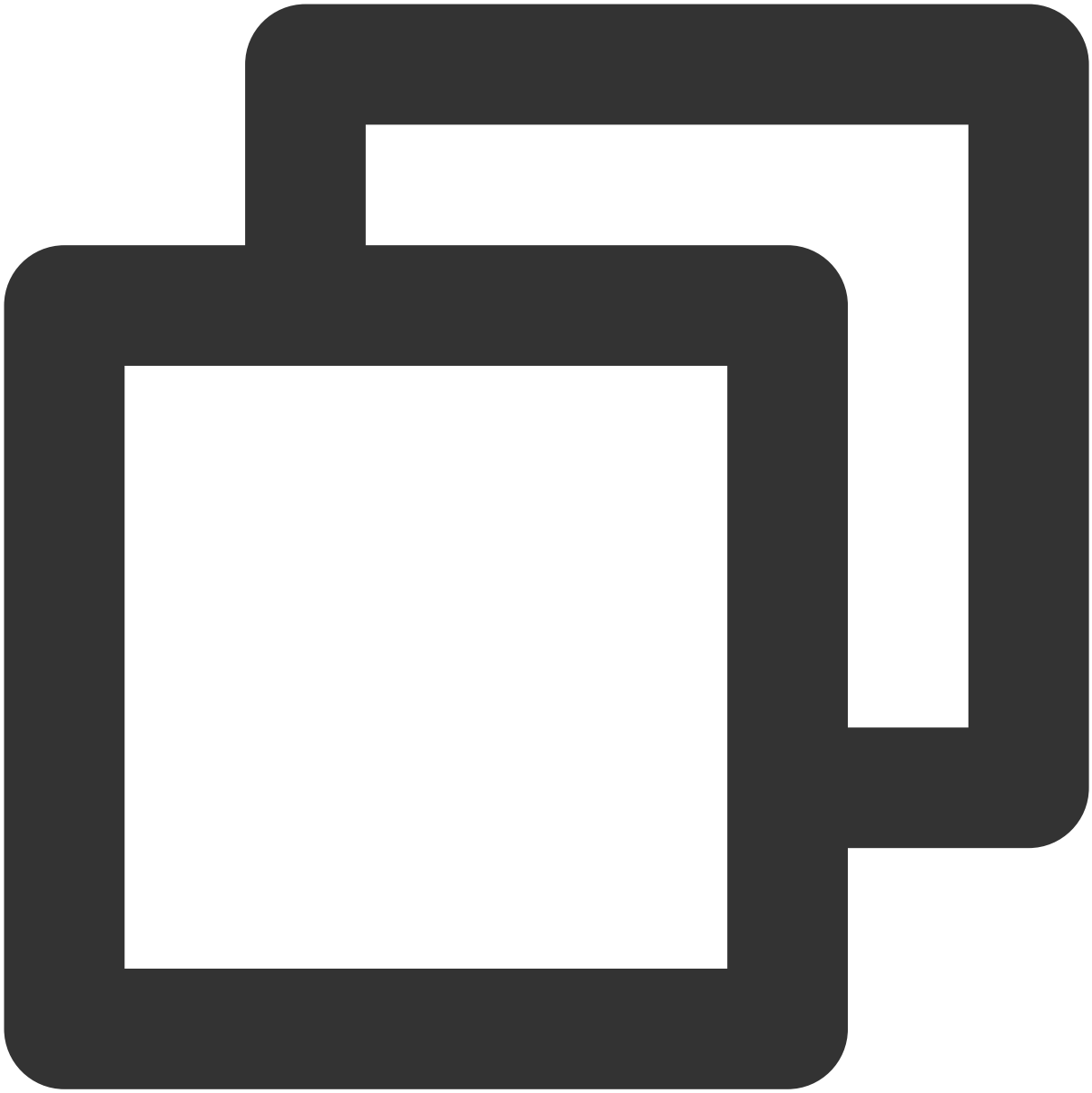
```
                                device:(TUIMediaDevice)device
                               timeout:(NSTimeInterval)timeout
                            onAccepted:(nullable TUIRequestAcceptedBlock)onAccepte
                            onRejected:(nullable TUIRequestRejectedBlock)onRejecte
                           onCancelled:(nullable TUIRequestCancelledBlock)onCancel
                             onTimeout:(nullable TUIRequestTimeoutBlock)onTimeout
                               onError:(nullable TUIRequestErrorBlock)onError;
```

Parameter	Type	Meaning
userId	NSString *	User ID
device	TUIMediaDevice	Media Device
timeout	NSTimeInterval	Timeout Duration, Unit Second, if set to 0, SDK will not perform timeout detection and will not trigger timeout callback
onAccepted	nullable TUIRequestAcceptedBlock	Invitation Accepted Callback
onRejected	nullable TUIRequestRejectedBlock	Invitation Rejected Callback
onCancelled	nullable TUIRequestCancelledBlock	Invitation Canceled Callback
onTimeout	nullable TUIRequestTimeoutBlock	Invitation Timeout Unhandled Callback
onError	nullable TUIRequestErrorBlock	Invitation Error Callback

Return Value	Type	Meaning
request	TUIRequest	Request Body

closeRemoteDeviceByAdmin

Close Remote User's Media Device (Only Administrator or Group Owner can call).



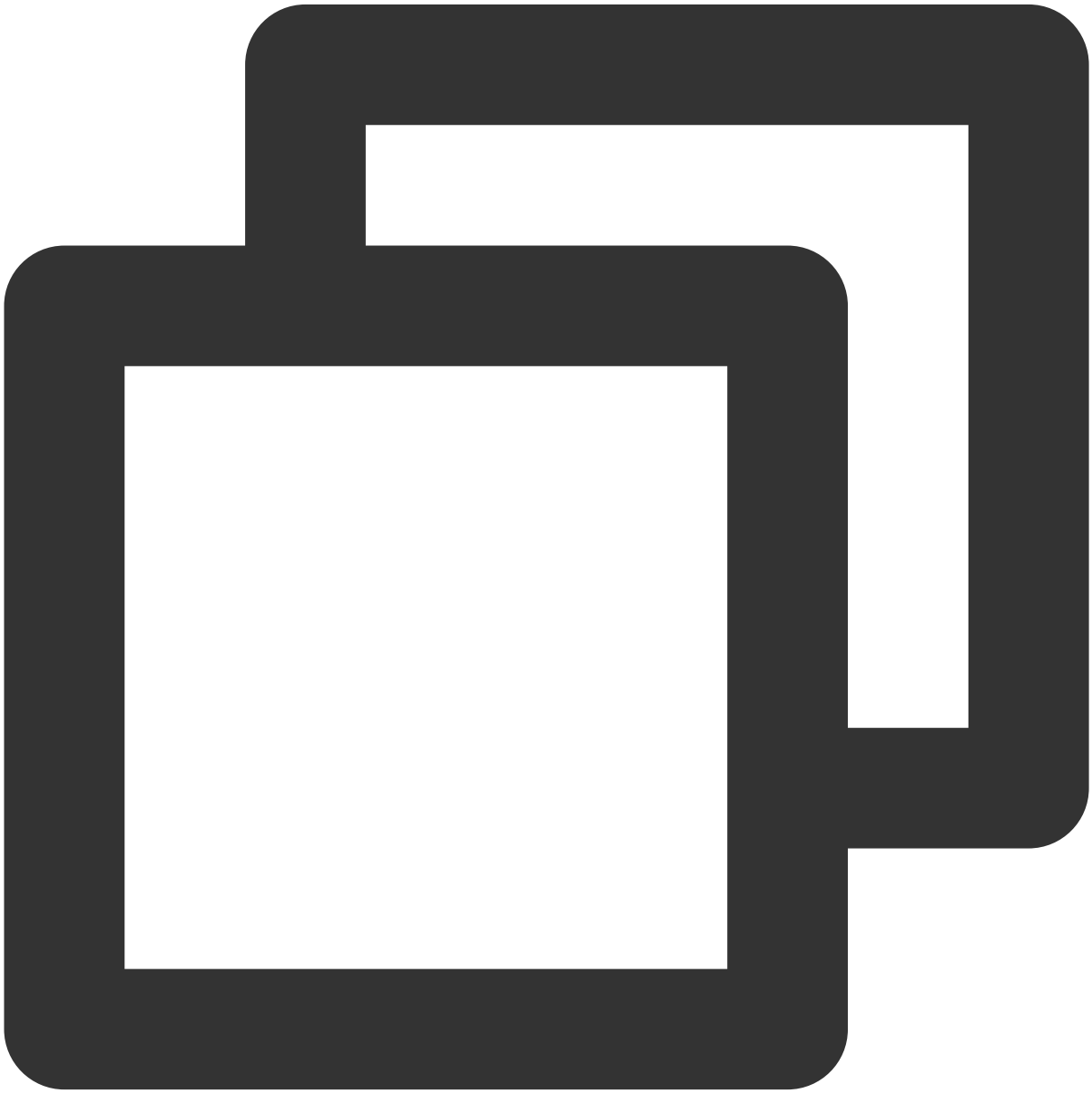
```
- (void)closeRemoteDeviceByAdmin:(NSString *)userId
                          device:(TUIMediaDevice)device
                       onSuccess:(TUISuccessBlock)onSuccess
                         onError:(TUIErrorBlock)onError;
```

Parameter	Type	Meaning
userId	NSString *	User ID
device	TUIMediaDevice	Media Device

onSuccess	TUISuccessBlock	Call Success Callback
onError	TUIErrorBlock	Call Failure Callback

applyToAdminToOpenLocalDevice

Request to Open Local Media Device (Available for ordinary users).



```
- (TUIRequest *)applyToAdminToOpenLocalDevice:(TUIMediaDevice)device
```

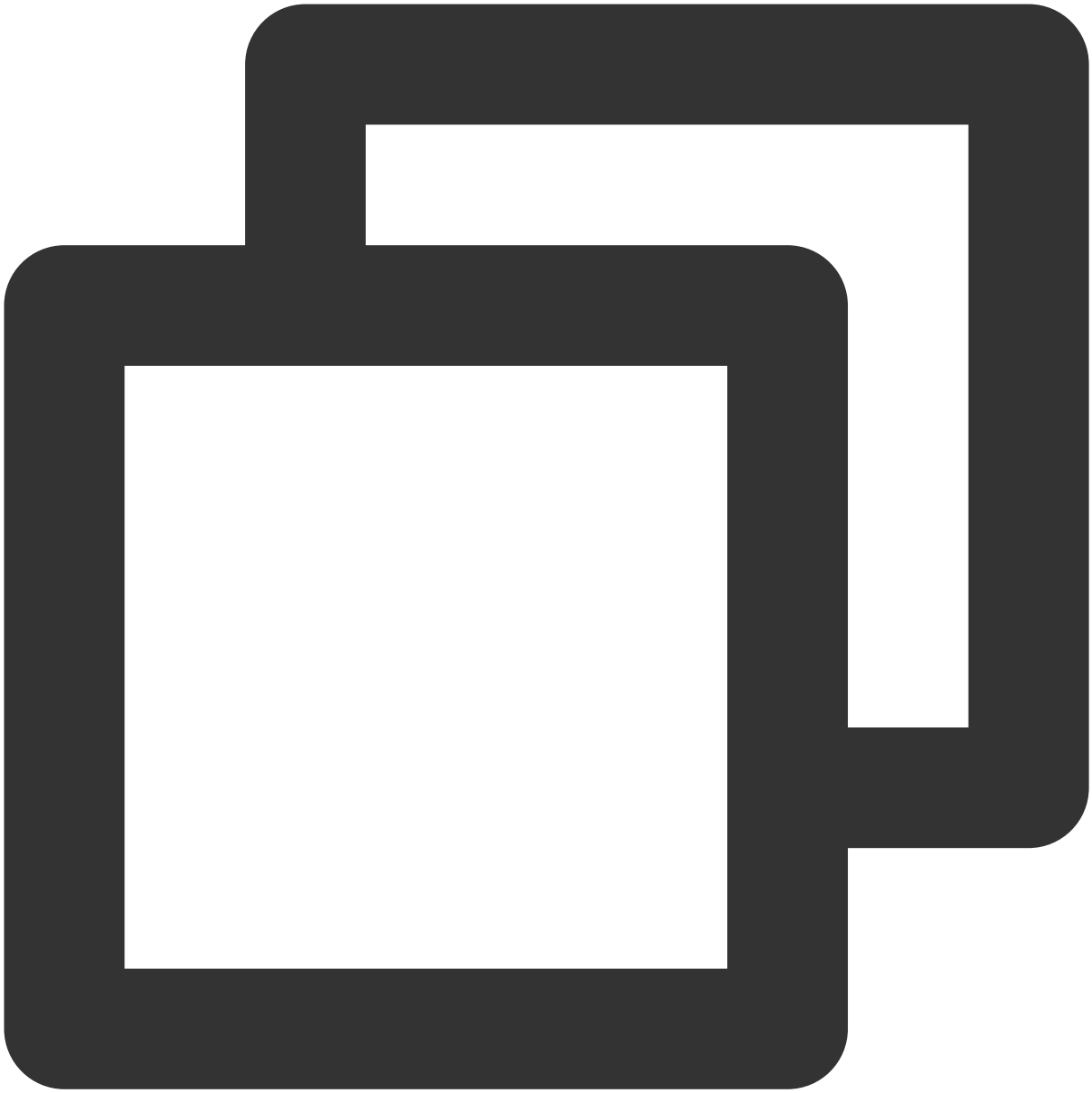
```
                                    timeout:(NSTimeInterval)timeout
                                onAccepted:(nullable TUIRequestAcceptedBlock)onA
                                onRejected:(nullable TUIRequestRejectedBlock)onR
                               onCancelled:(nullable TUIRequestCancelledBlock)on
                                 onTimeout:(nullable TUIRequestTimeoutBlock)onTi
                                   onError:(nullable TUIRequestErrorBlock)onErro
```

Parameter	Type	Meaning
device	TUIMediaDevice	Media Device
timeout	NSTimeInterval	Timeout Duration, Unit Second, if set to 0, SDK will not perform timeout detection and will not trigger timeout callback
onAccepted	nullable TUIRequestAcceptedBlock	Invitation Accepted Callback
onRejected	nullable TUIRequestRejectedBlock	Invitation Rejected Callback
onCancelled	nullable TUIRequestCancelledBlock	Invitation Canceled Callback
onTimeout	nullable TUIRequestTimeoutBlock	Invitation Timeout Unhandled Callback
onError	nullable TUIRequestErrorBlock	Invitation Error Callback

Return Value	Type	Meaning
request	TUIRequest	Request Body

setMaxSeatCount

Set Maximum Seat Count (Only supported when entering the room and creating the room).
When roomType is TUIRoomTypeConference (Educational and Conference Scenes), maxSeatCount value is not limited;
When roomType is TUIRoomTypeLivingRoom (Live Streaming Scene), maxSeatCount is limited to 16;



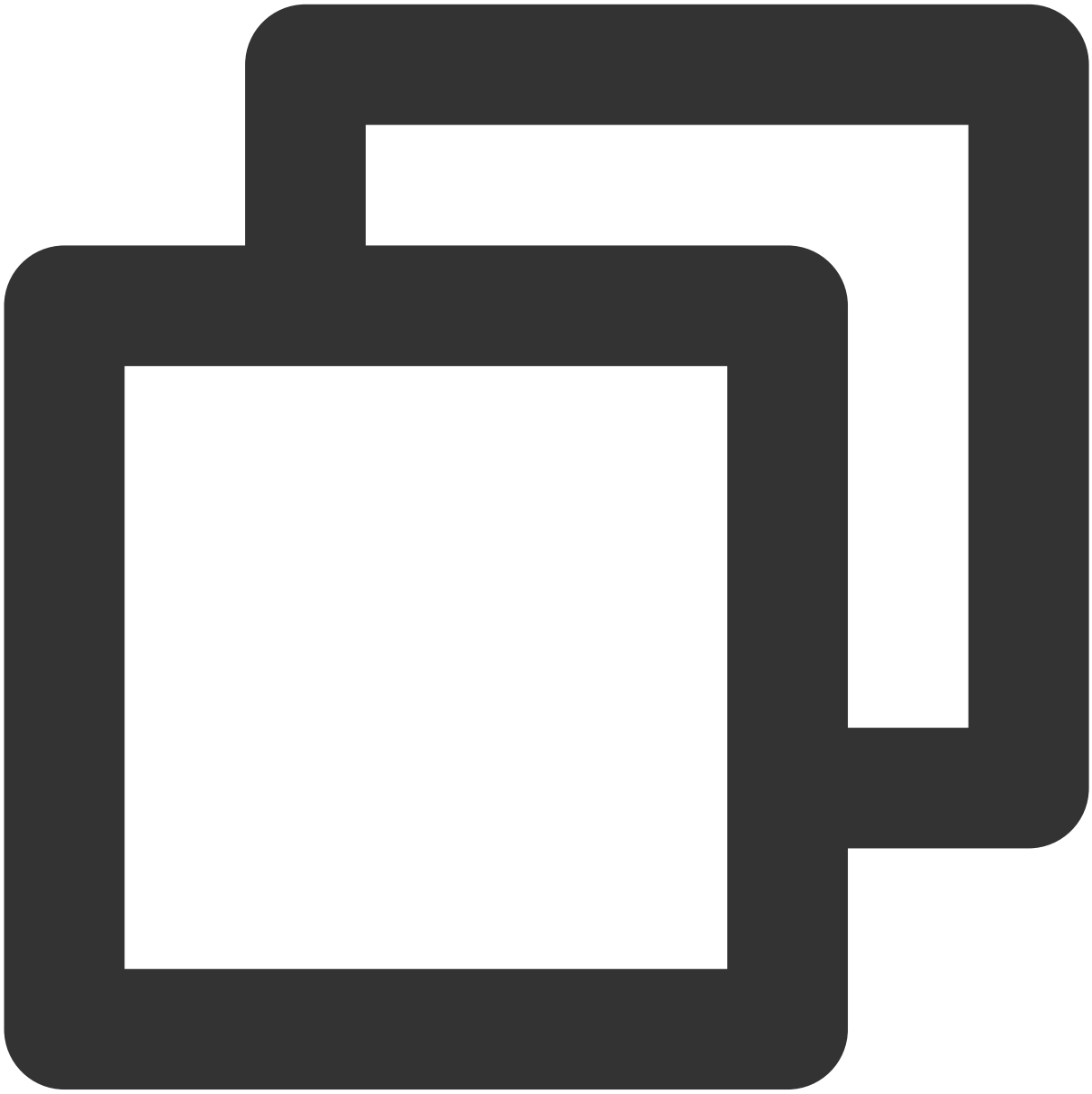
```
- (void)setMaxSeatCount:(NSUInteger)maxSeatCount
              onSuccess:(TUISuccessBlock)onSuccess
                onError:(TUIErrorBlock)onError;
```

Parameter	Type	Meaning
maxSeatCount	NSUInteger	Maximum microphone positions
onSuccess	TUISuccessBlock	Successful callback

onError	TUIErrorBlock	Error callback

getSeatList

Get Seat List.



```
- (void)getSeatList:(TUISeatListResponseBlock)onSuccess
            onError:(TUIErrorBlock)onError;
```

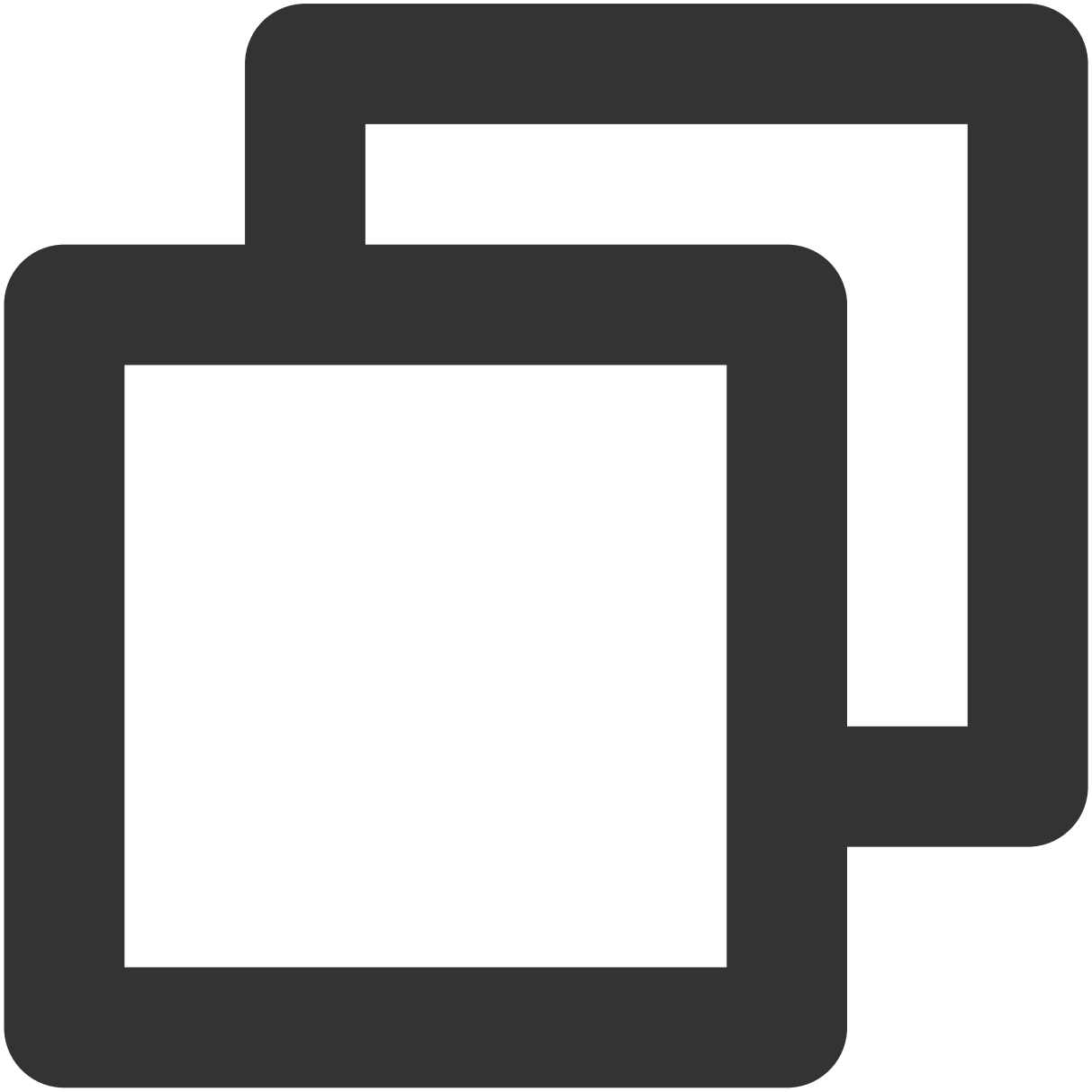
The parameters are as follows:

Parameter	Type	Meaning

onSuccess	TUISeatListResponseBlock	Success Callback. For detailed definition, please refer to TUIRoomDefine.h for TUISeatListResponseBlock and TUISeatInfo definition
onError	TUIErrorBlock	Error callback

lockSeatByAdmin

Lock Seat (Only Administrator or Group Owner can call, including position lock, Audio status lock and Video status lock).



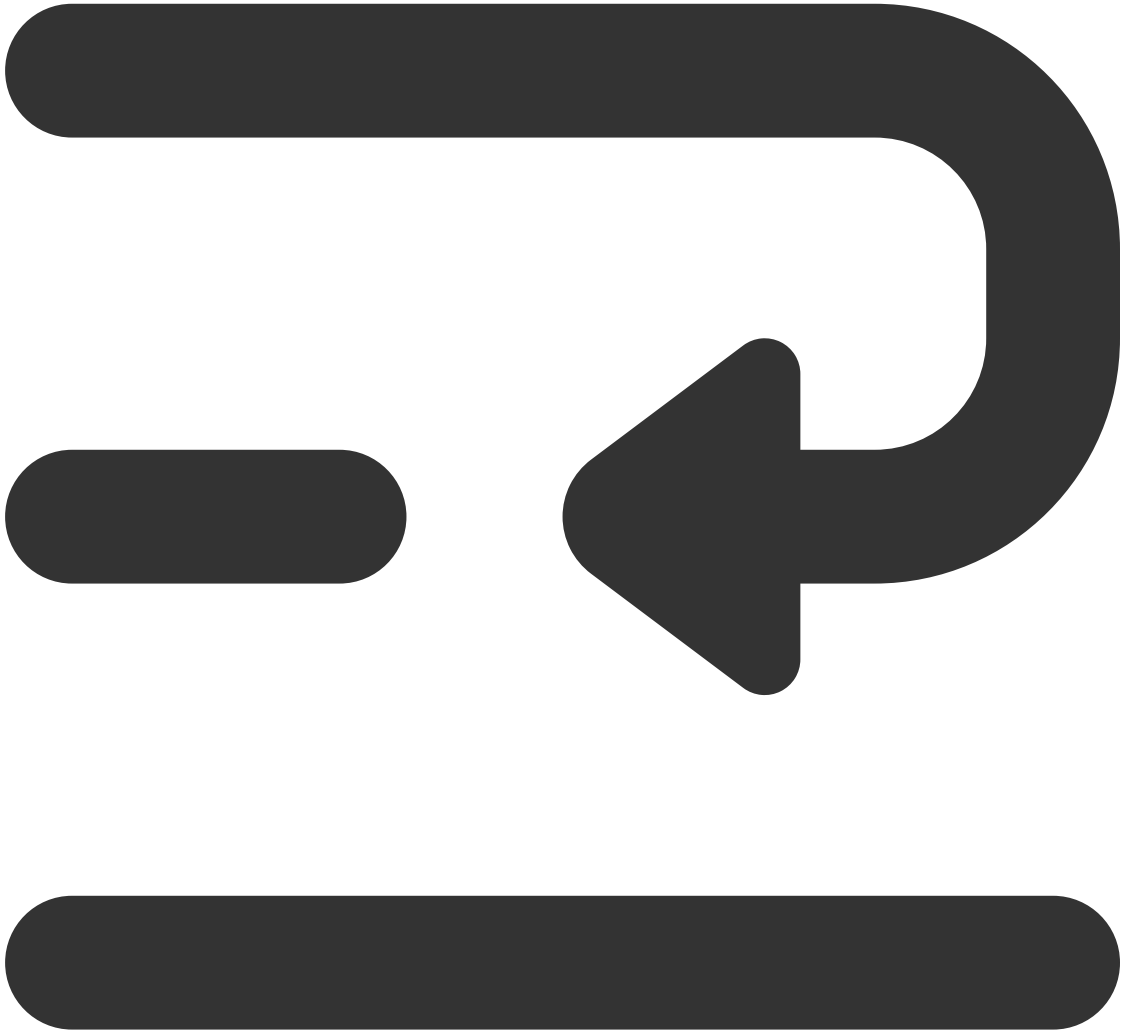
```
- (void)lockSeatByAdmin:(NSInteger)seatIndex
               lockMode:(TUISeatLockParams *)lockParams
              onSuccess:(TUISuccessBlock)onSuccess
                onError:(TUIErrorBlock)onError;
```

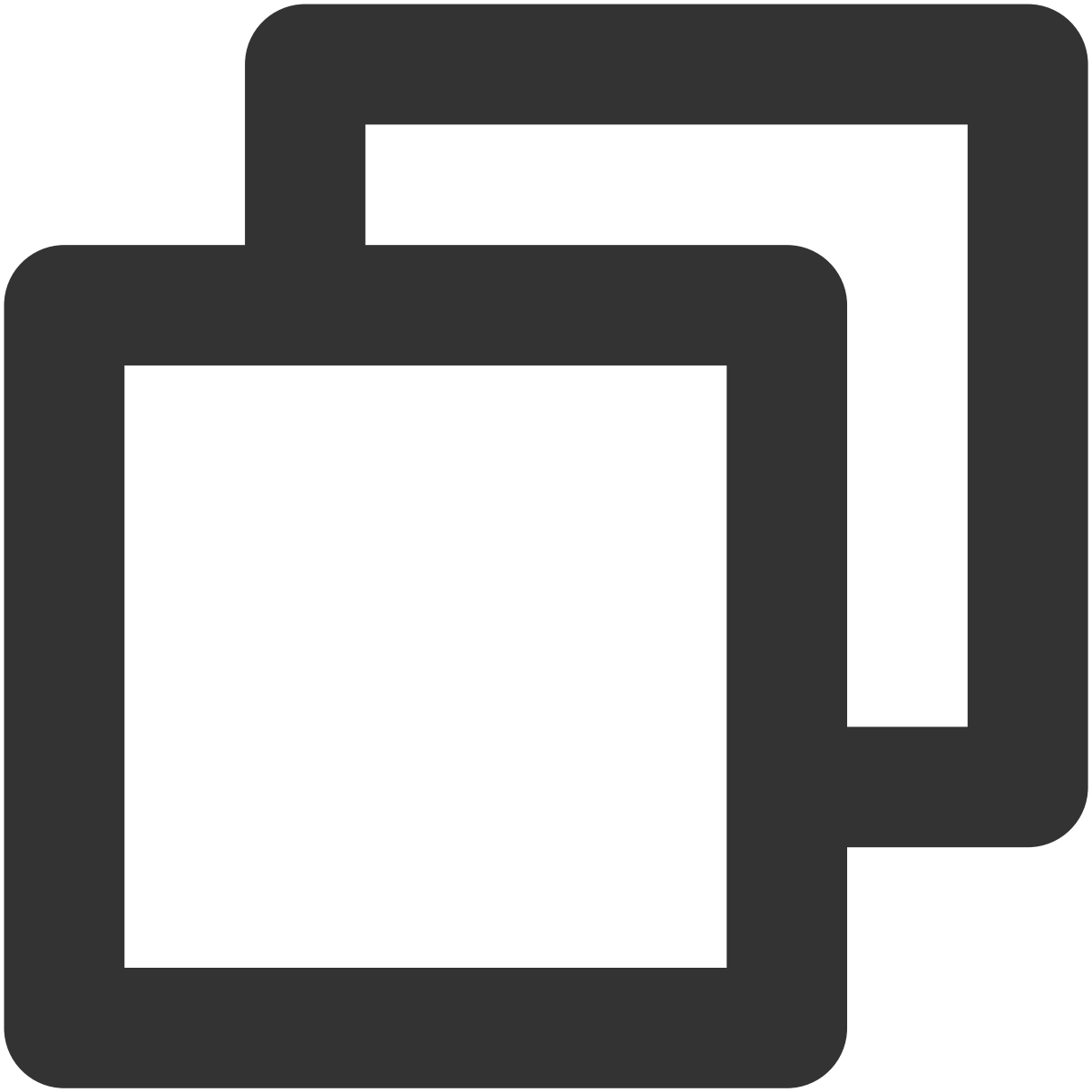
The parameters are as follows:

Parameter	Type	Meaning
seatIndex	NSInteger	Seat Number
lockParams	TUISeatLockParams *	Lock Seat Parameters, for detailed definition, please refer to TUIRoomDefine.h for TUISeatLockParams definition
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

takeSeat

Local User Go Live (In Free Speech Mode, no application is required, in Mic Control Mode, application to the host or administrator is required to allow Go Live, in Live Streaming Scene, users can Go Live freely, after Go Live, users can speak, in Conference Scene, no need to call this interface to speak).





```
- (TUIRequest *)takeSeat:(NSInteger)seatIndex
                 timeout:(NSTimeInterval)timeout
              onAccepted:(TUIRequestAcceptedBlock)onAccepted
              onRejected:(TUIRequestRejectedBlock)onRejected
             onCancelled:(TUIRequestCancelledBlock)onCancelled
               onTimeout:(TUIRequestTimeoutBlock)onTimeout
                 onError:(TUIRequestErrorBlock)onError;
```

The parameters are as follows:

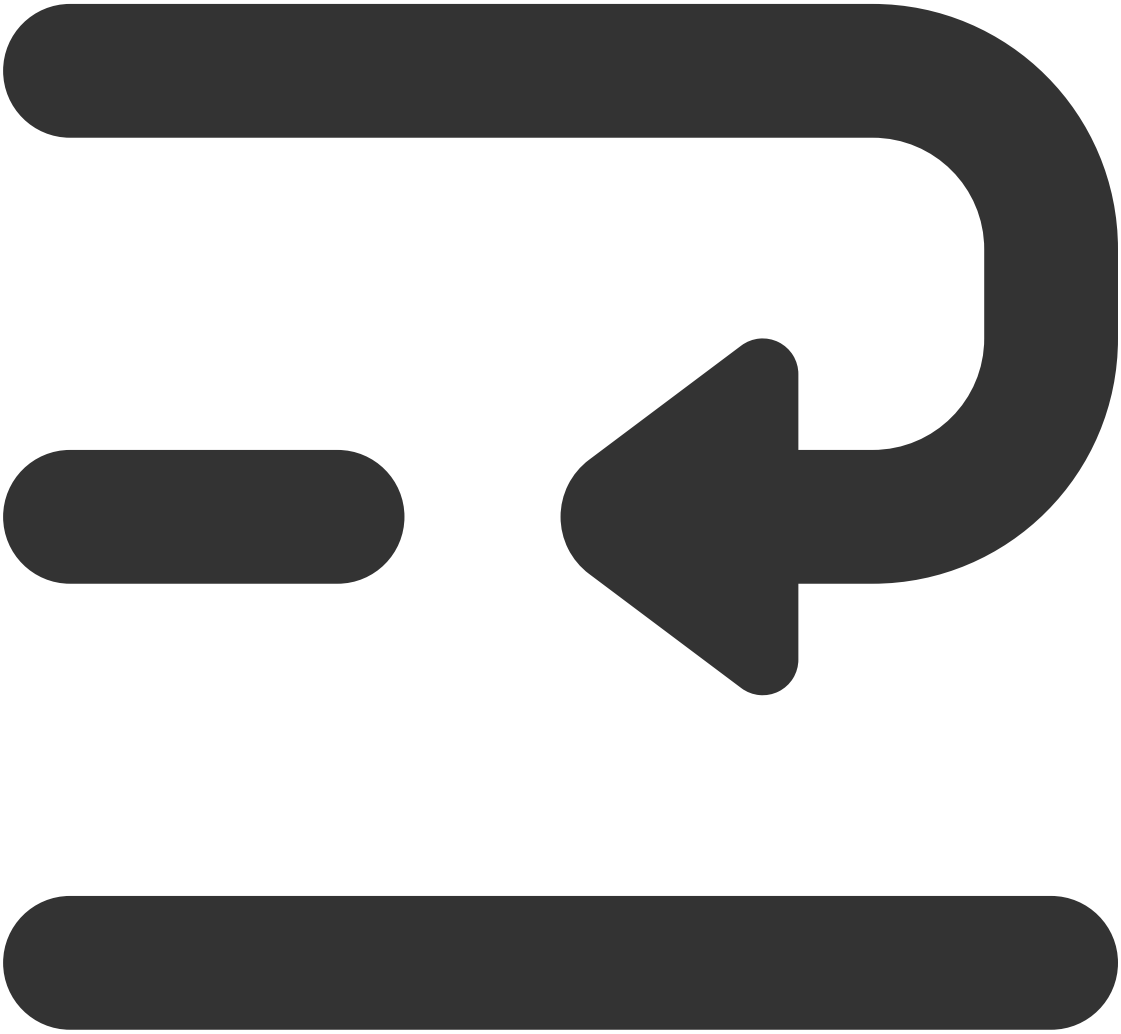
Parameter	Type	Meaning

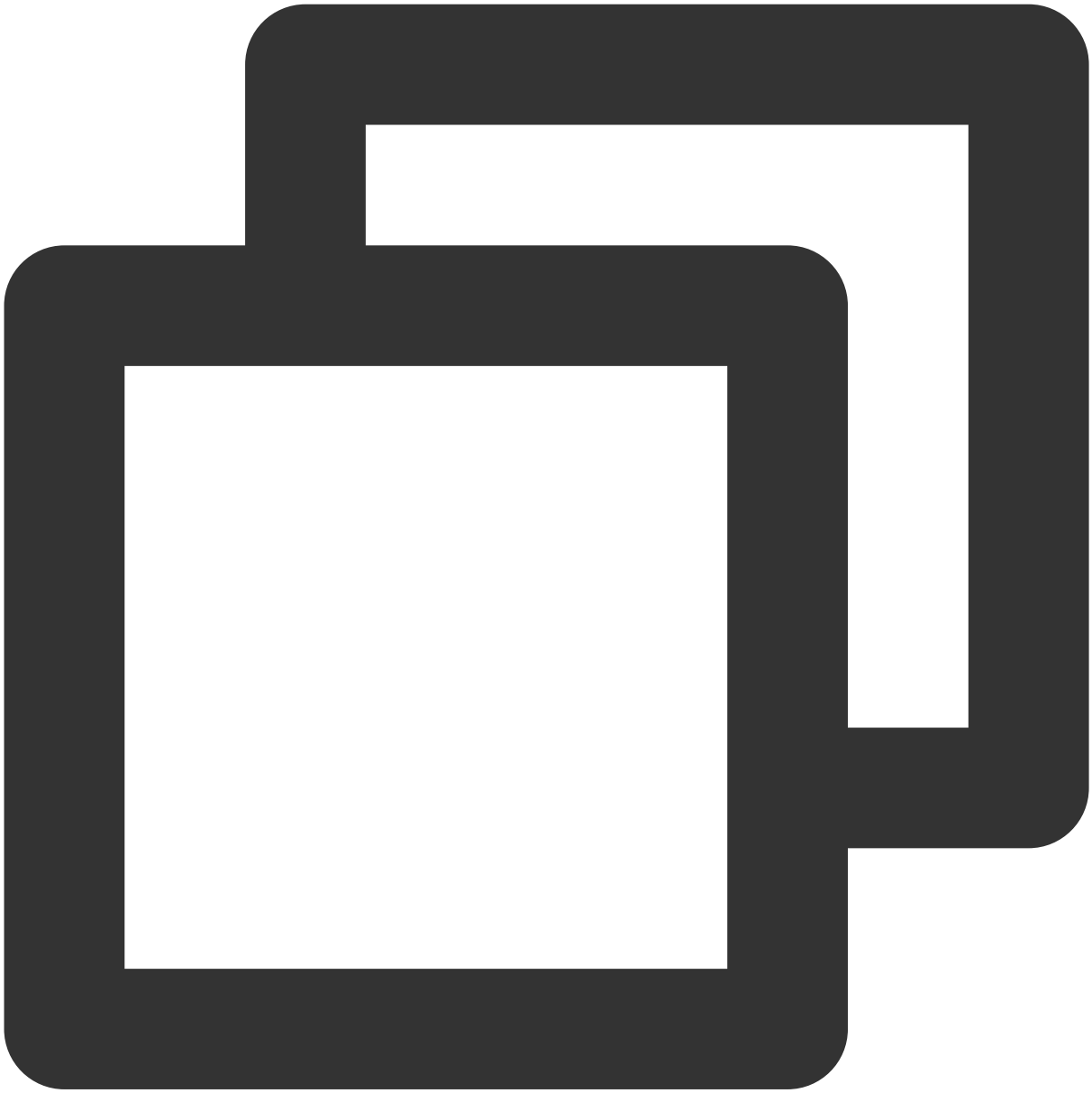
seatIndex	NSInteger	Seat Number
timeout	NSTimeInterval	Timeout Duration
onAccepted	TUIRequestAcceptedBlock	Signaling Accepted Callback
onRejected	TUIRequestRejectedBlock	Signaling Rejected Callback
onCancelled	TUIRequestCancelledBlock	Signaling Canceled Callback
onTimeout	TUIRequestTimeoutBlock	Signaling Timeout Callback
onError	TUIRequestErrorBlock	Error Callback

Return Value	Type	Meaning
request	TUIRequest	Request Body

leaveSeat

Local User Get Off the Mic (In Free Speech Mode, no application is required).





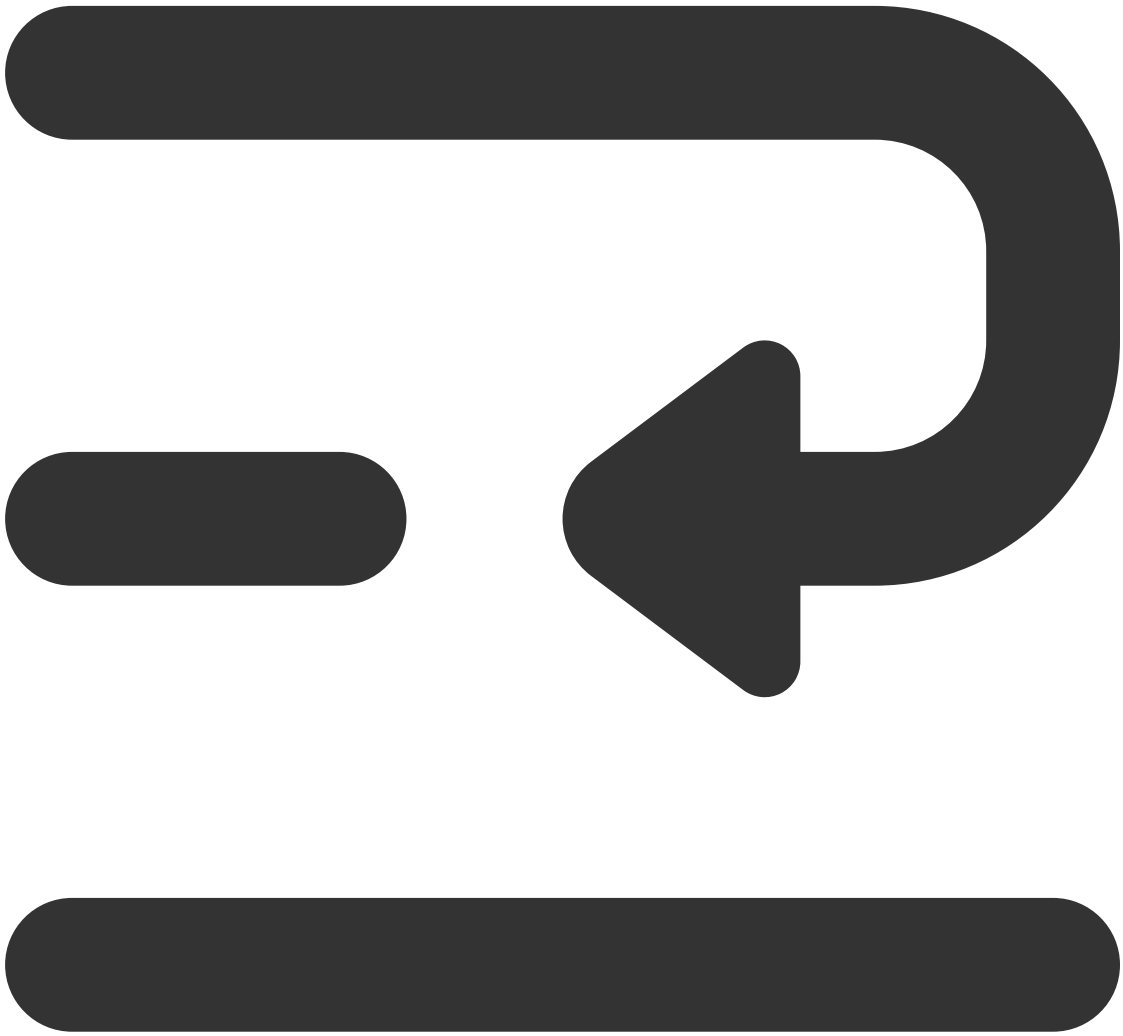
```
- (void)leaveSeat:(TUISuccessBlock)onSuccess
          onError:(TUIErrorBlock)onError;
```

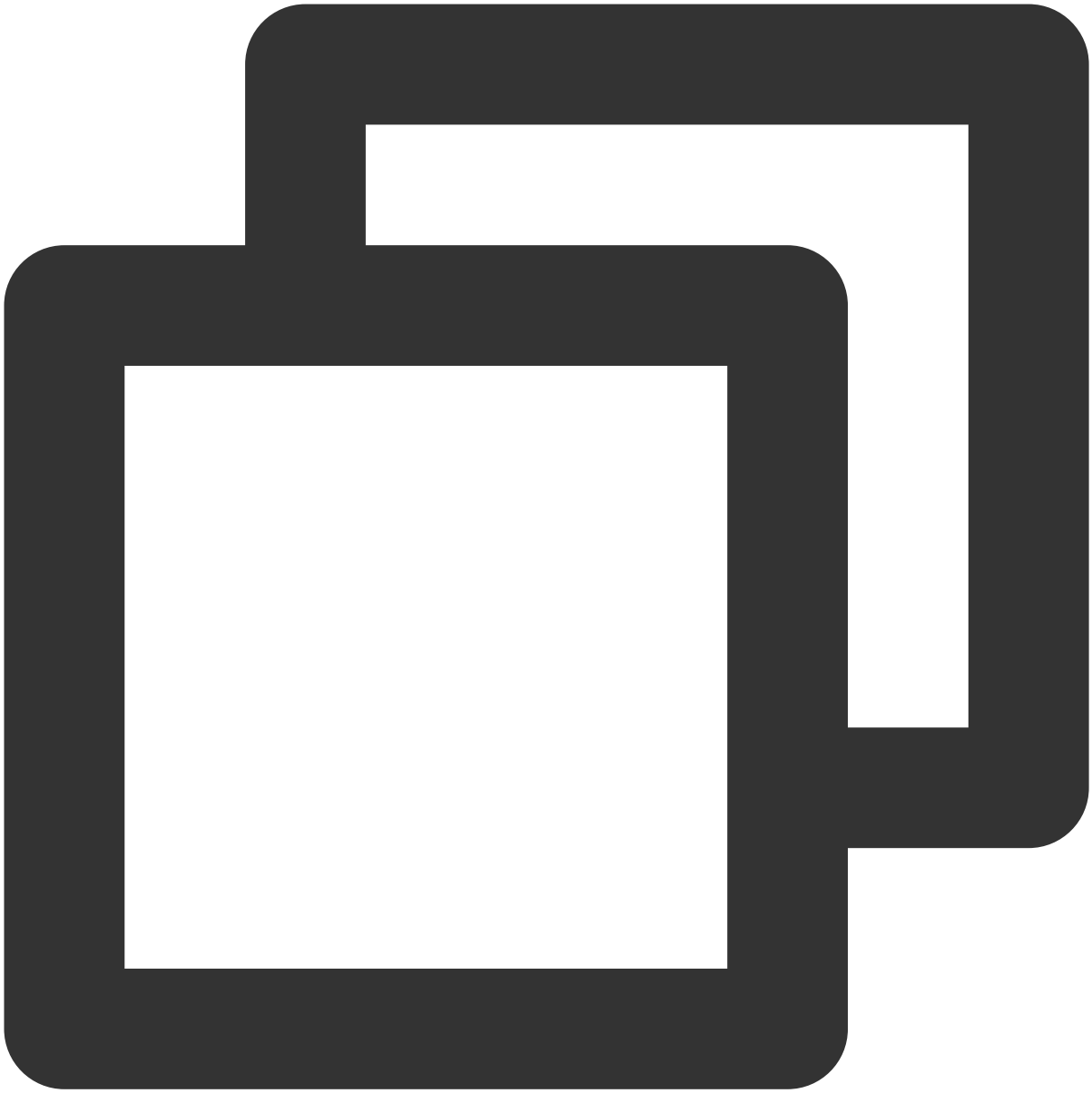
The parameters are as follows:

Parameter	Type	Meaning
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

takeUserOnSeatByAdmin

Host/Administrator Invite User to Go Live.





```
- (TUIRequest *)takeUserOnSeatByAdmin:(NSInteger)seatIndex
                               userId:(NSString *)userId
                              timeout:(NSTimeInterval)timeout
                           onAccepted:(TUIRequestAcceptedBlock)onAccepted
                           onRejected:(TUIRequestRejectedBlock)onRejected
                          onCancelled:(TUIRequestCancelledBlock)onCancelled
                            onTimeout:(TUIRequestTimeoutBlock)onTimeout
                              onError:(TUIRequestErrorBlock)onError;
```

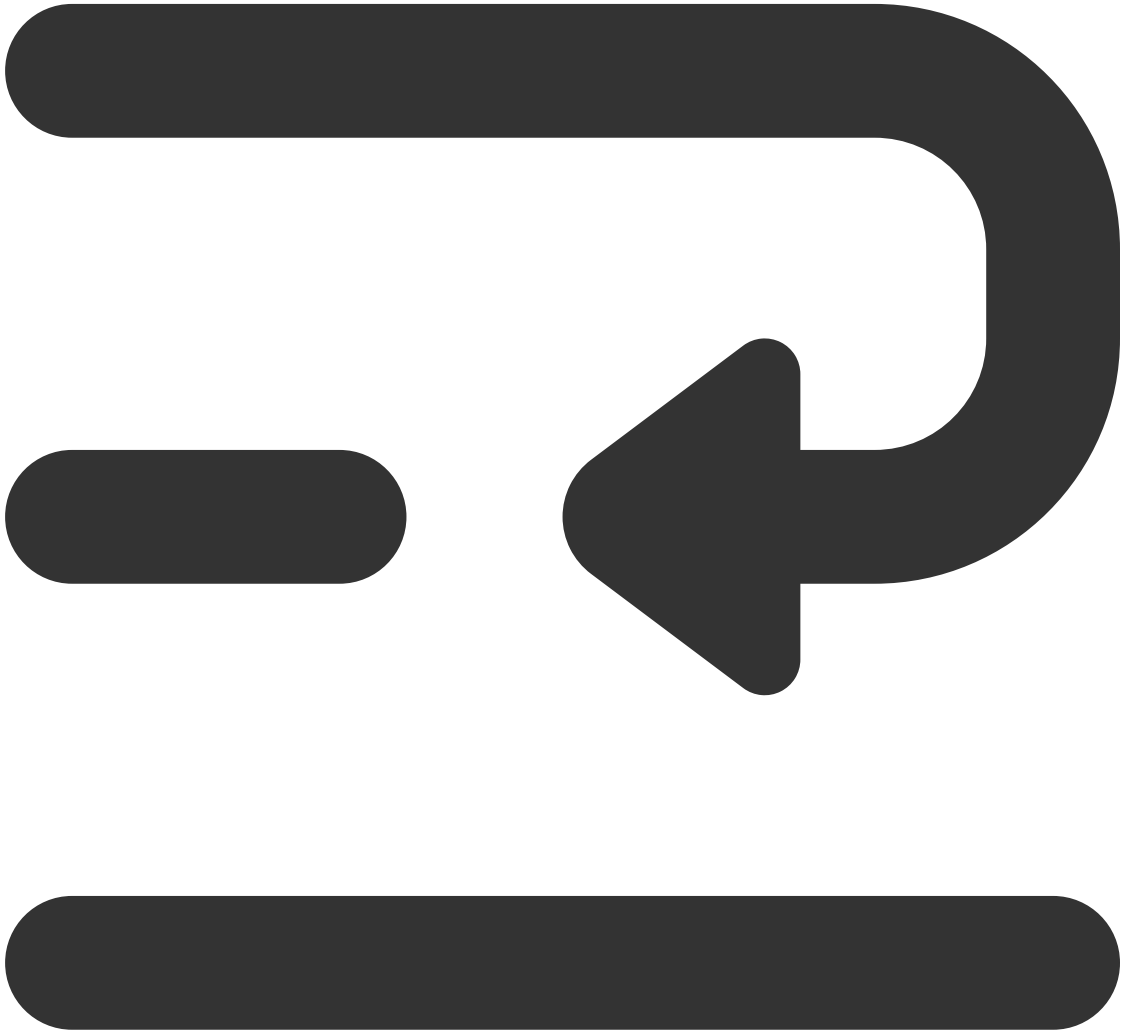
The parameters are as follows:

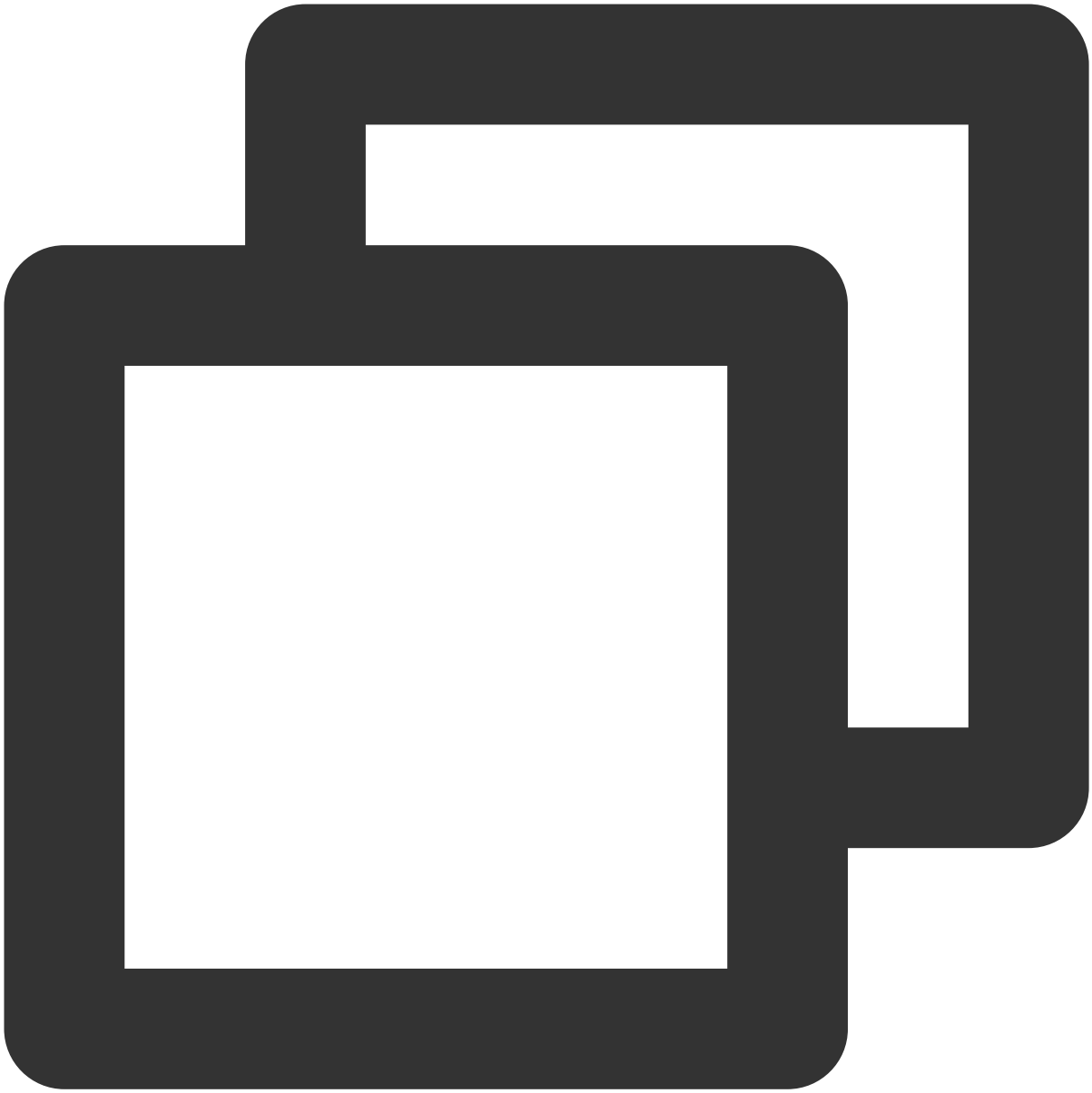
Parameter	Type	Meaning
seatIndex	NSInteger	Seat Number
userId	NSString *	User ID
timeout	NSTimeInterval	Timeout Duration (Unit Second, if set to 0, SDK will not perform timeout detection and will not trigger timeout callback)
onAccepted	TUIRequestAcceptedBlock	Invitation Accepted Callback
onRejected	TUIRequestRejectedBlock	Invitation Rejected Callback
onCancelled	TUIRequestCancelledBlock	Invitation Canceled Callback
onTimeout	TUIRequestTimeoutBlock	Invitation Timeout Unhandled Callback
onError	TUIRequestErrorBlock	Invitation Error Callback

Return Value	Type	Meaning
request	TUIRequest	Request Body

kickUserOffSeatByAdmin

Host/Administrator Kick User Off the Mic.





```
- (void)kickUserOffSeatByAdmin:(NSInteger)seatIndex
                        userId:(NSString *)userId
                     onSuccess:(TUISuccessBlock)onSuccess
                       onError:(TUIErrorBlock)onError;
```

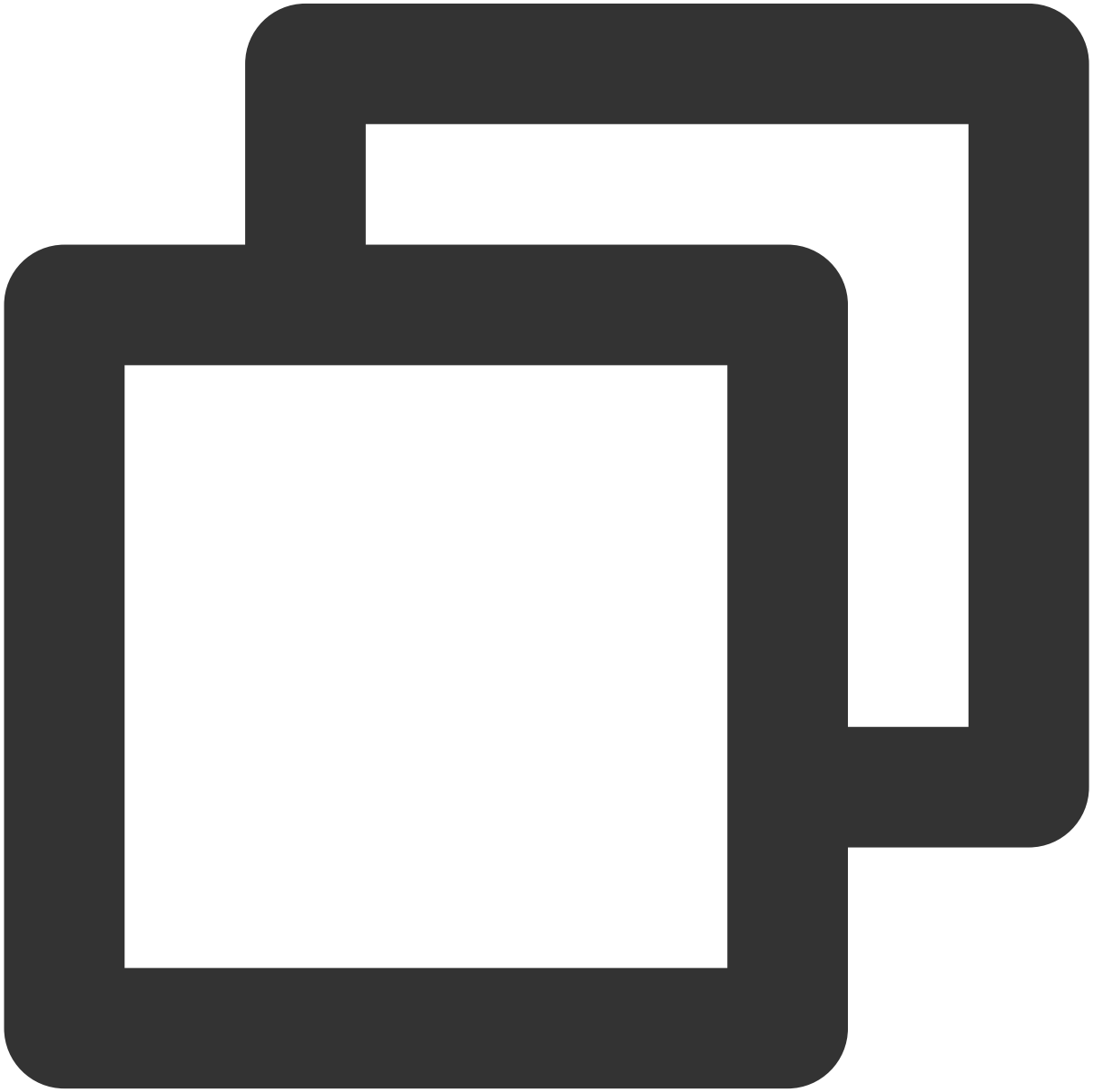
The parameters are as follows:

Parameter	Type	Meaning
seatIndex	NSInteger	Seat Number

userId	NSString *	User ID
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

cancelRequest

Cancel Request.



```
- (void)cancelRequest:(NSInteger)requestId
```

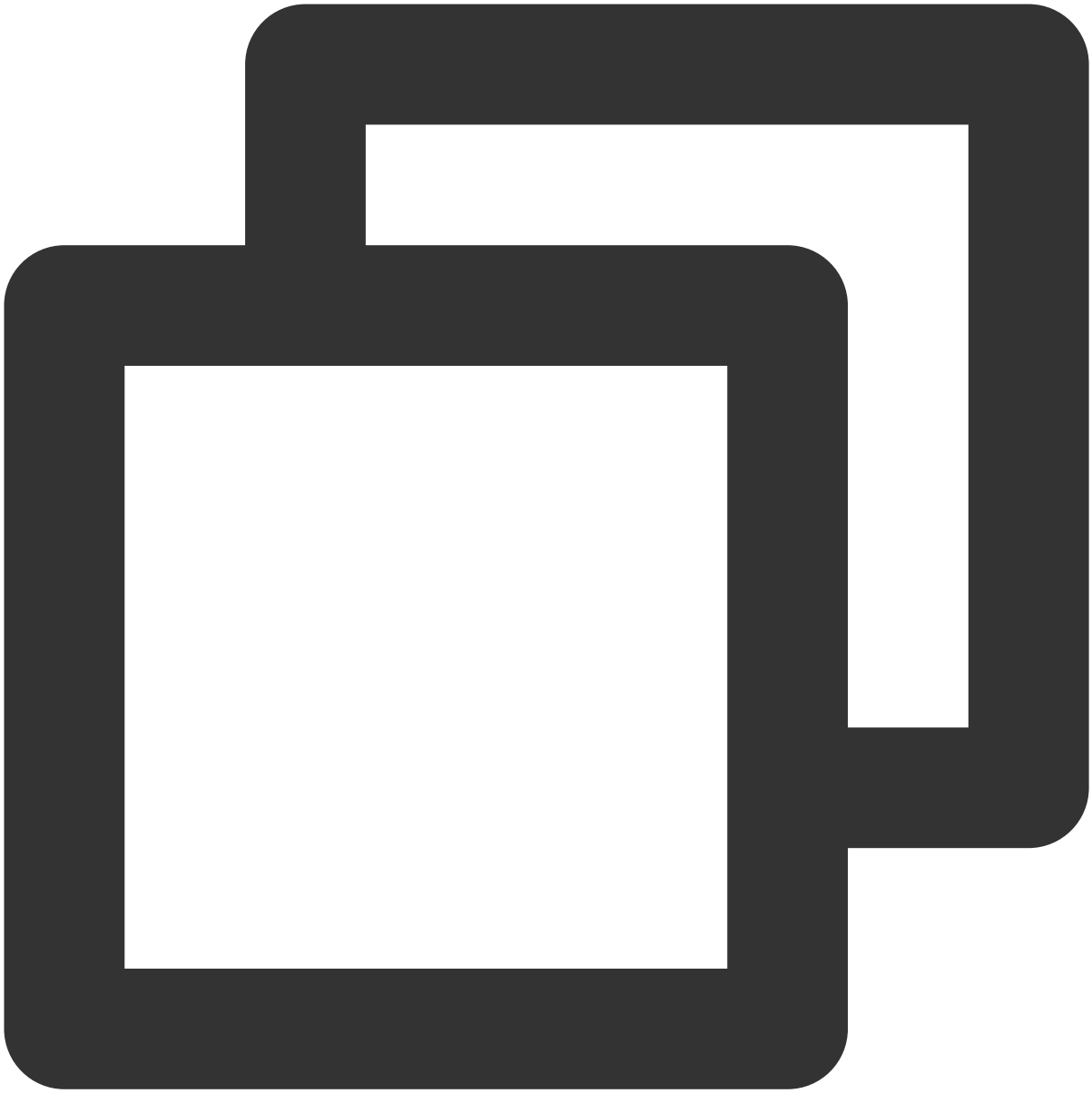
```
                onSuccess:(TUISuccessBlock)onSuccess
                  onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
requestId	NSString *	Request ID. Returned by the sending request interface
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

responseRemoteRequest

Reply Request.



```
- (void)responseRemoteRequest:(NSString *)requestId
                        agree:(BOOL)agree
                    onSuccess:(TUISuccessBlock)onSuccess
                      onError:(TUIErrorBlock)onError;
```

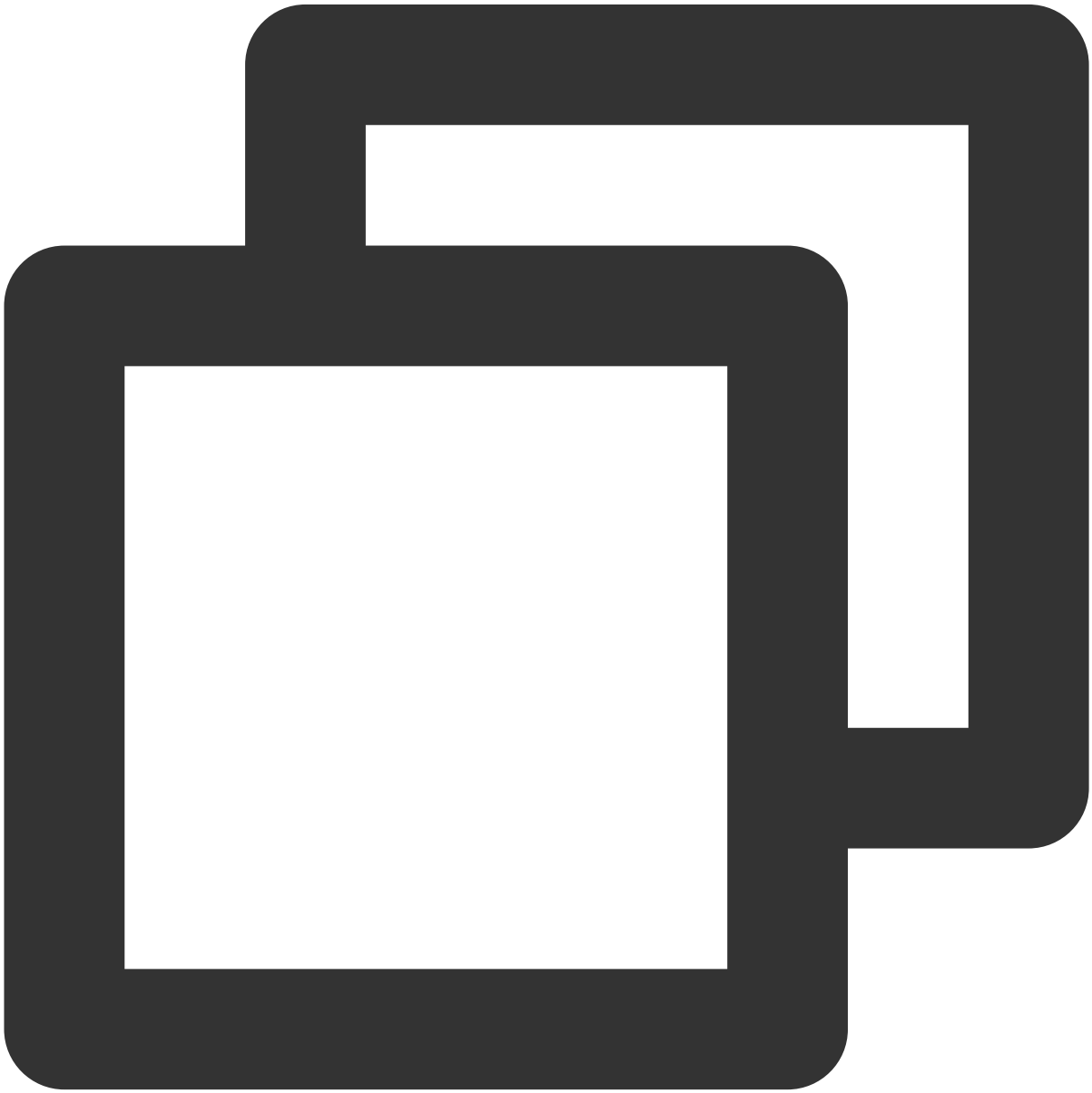
The parameters are as follows:

Parameter	Type	Meaning
requestId	NSString *	Request ID. Returned by the sending request interface or OnRequestReceived event notification

agree	BOOL	Agree or not. YES: Agree, NO: Reject
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

sendTextMessage

Send Text Message.



```
- (void)sendTextMessage:(NSString *)message
```

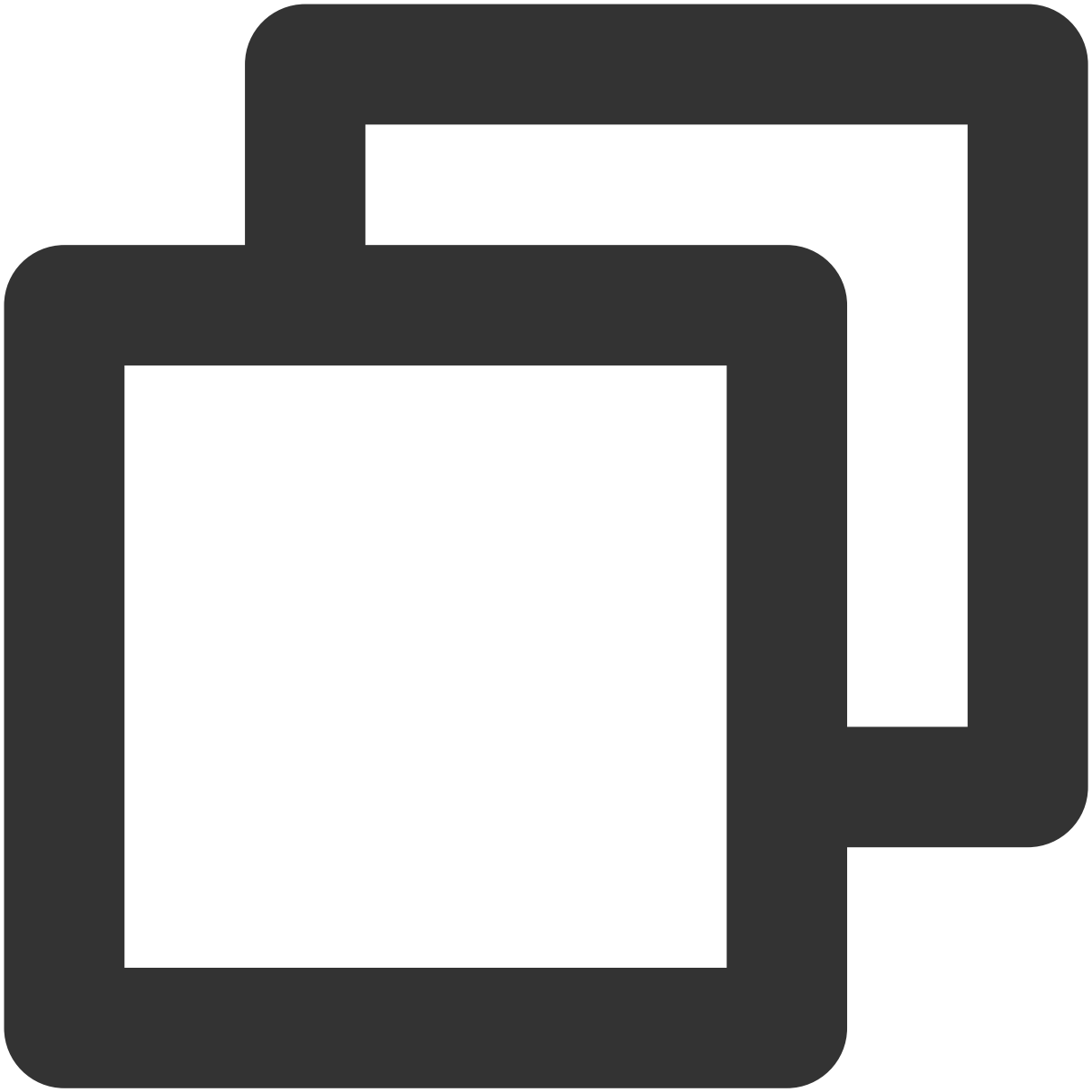
```
                onSuccess:(TUISuccessBlock)onSuccess
                  onError:(TUIErrorBlock)onError;
```

The parameters are as follows:

Parameter	Type	Meaning
message	NSString *	Message Content
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

sendCustomMessage

Send Custom Message.



```
- (void)sendCustomMessage:(NSString *)message
                onSuccess:(TUISuccessBlock)onSuccess
                  onError:(TUIErrorBlock)onError;
```

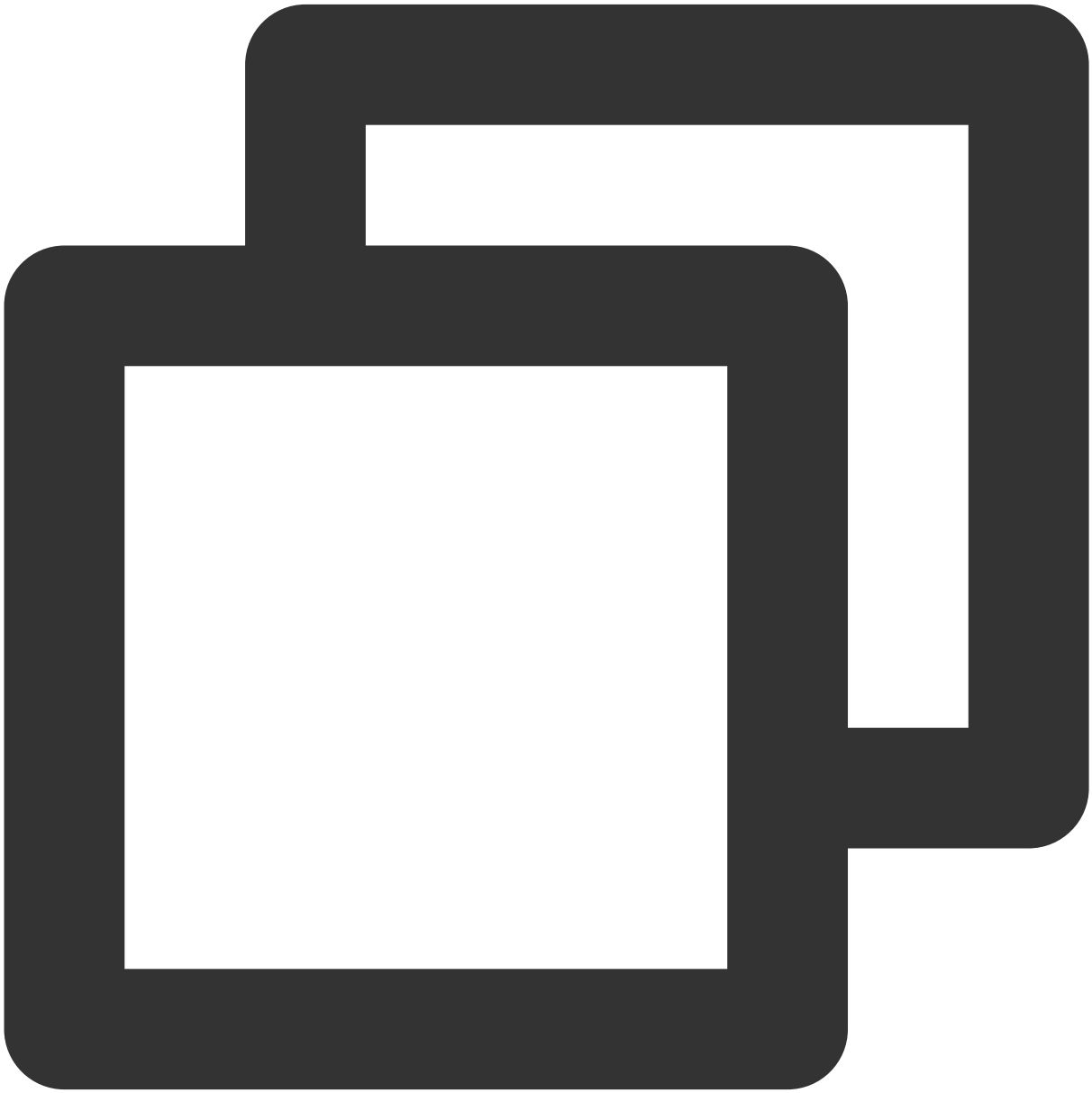
The parameters are as follows:

Parameter	Type	Meaning
message	NSString *	Message Content
onSuccess	TUISuccessBlock	Successful callback

onError	TUIErrorBlock	Error callback

disableSendingMessageByAdmin

Disable Remote User's Text Message Sending Ability (Only Administrator or Group Owner can call).

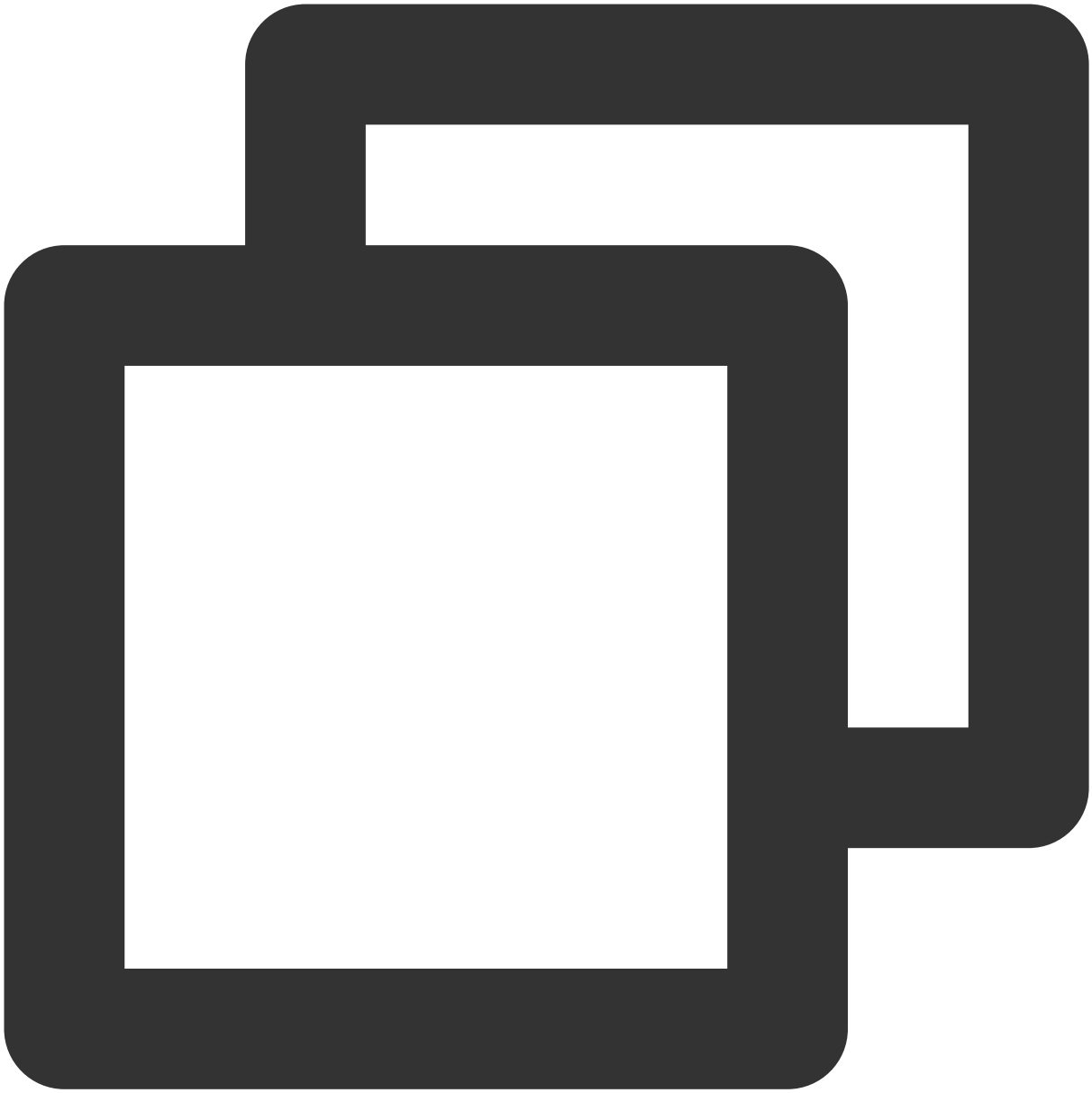


```
- (void)disableSendingMessageByAdmin:(NSString *)userId
                          isDisable:(BOOL)isDisable
                          onSuccess:(TUISuccessBlock)onSuccess
                            onError:(TUIErrorBlock)onError;
```


Parameter	Type	Meaning
userId	NSString *	User ID
isDisable	BOOL	Disable or Not
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

disableSendingMessageForAllUser

Disable All Users' Text Message Sending Ability (Only Administrator or Group Owner can call).

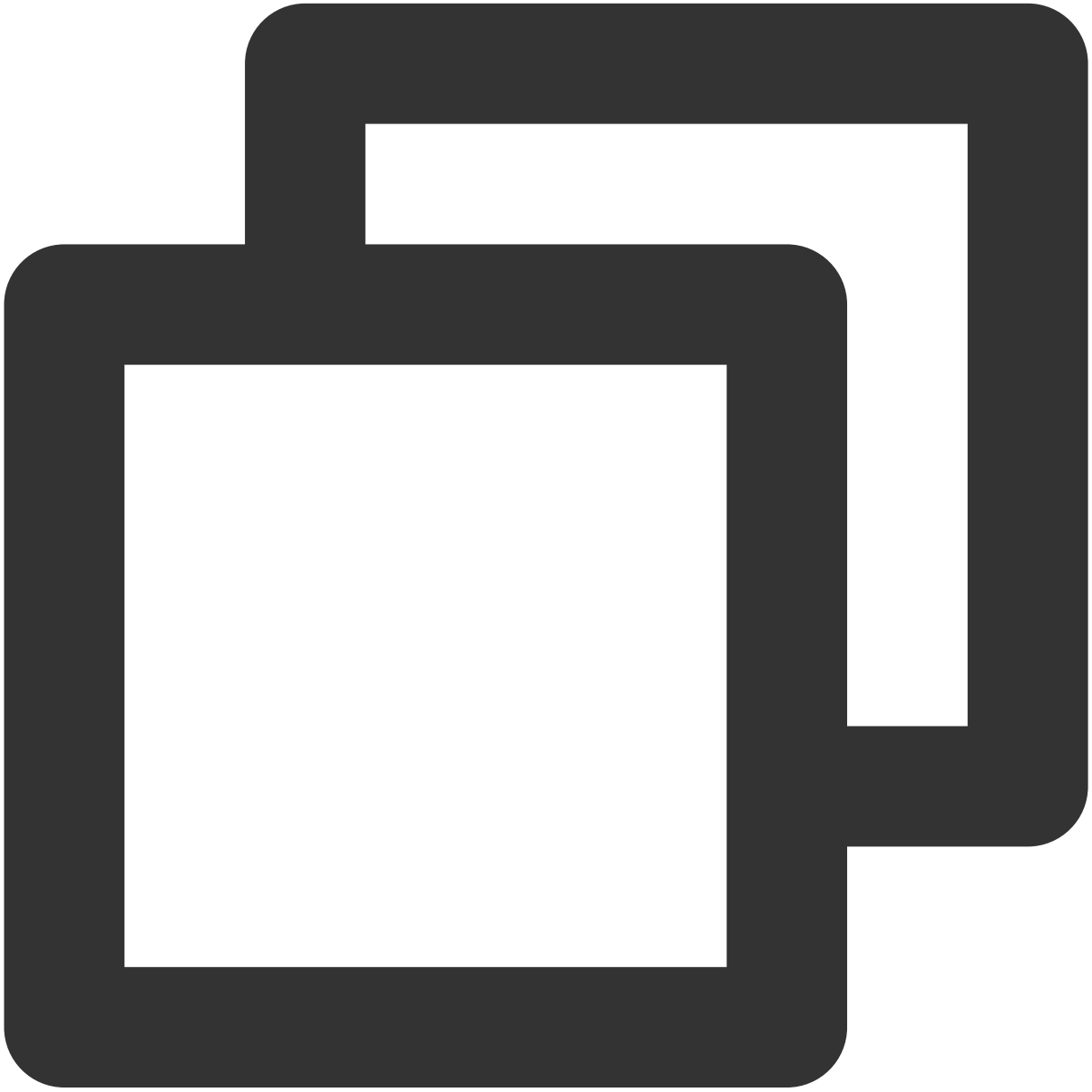


```
- (void)disableSendingMessageForAllUser:(BOOL)isDisable
                              onSuccess:(TUISuccessBlock)onSuccess
                                onError:(TUIErrorBlock)onError;
```

Parameter	Type	Meaning
isDisable	BOOL	Disable or Not
onSuccess	TUISuccessBlock	Successful callback
onError	TUIErrorBlock	Error callback

getDeviceManager

Get Device Manager Object.

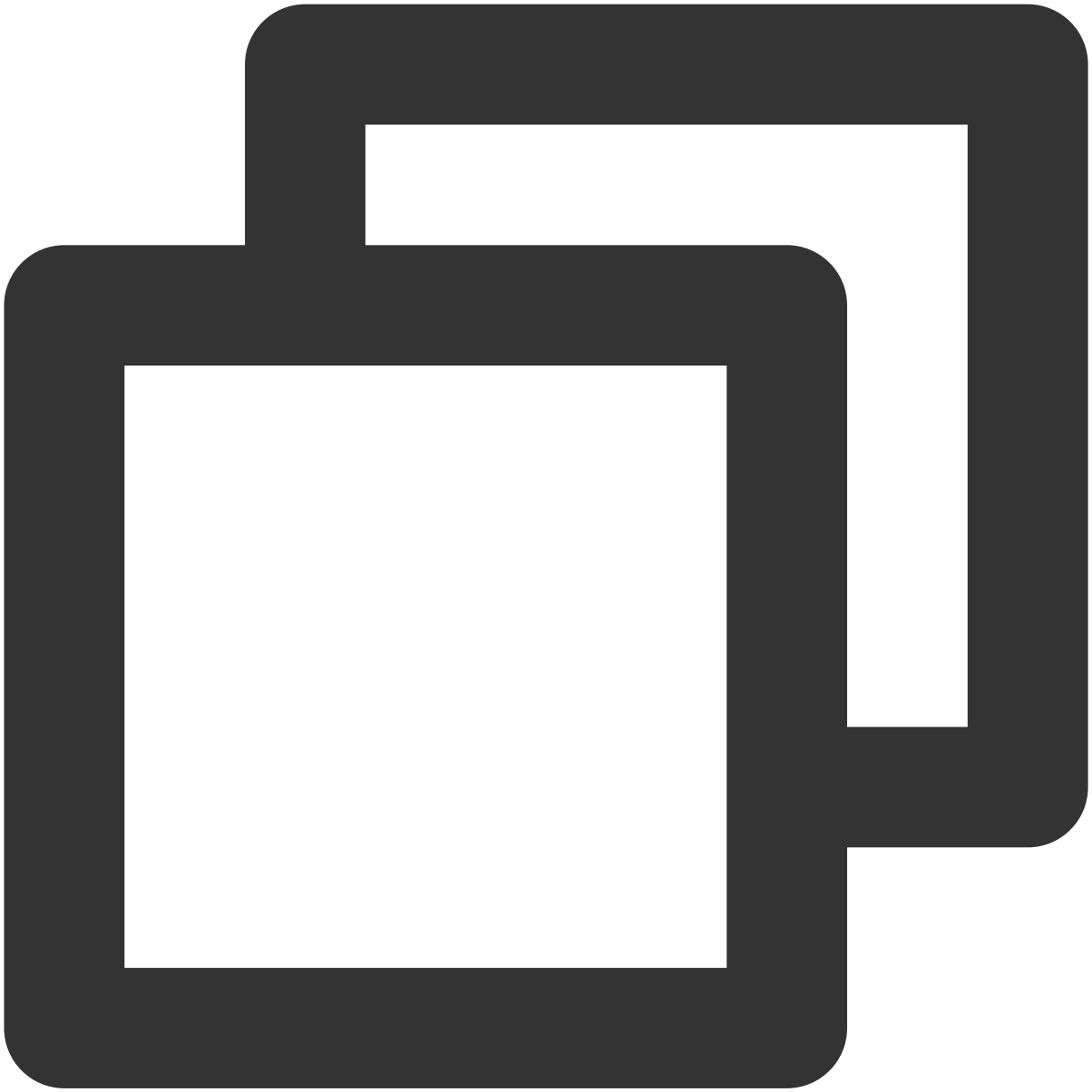


```
- (TXDeviceManager *)getDeviceManager;
```

Return Value	Type	Meaning
manager	TXDeviceManager *	TXDeviceManager Object

getBeautyManager

Get Sound Effect Manager Object.

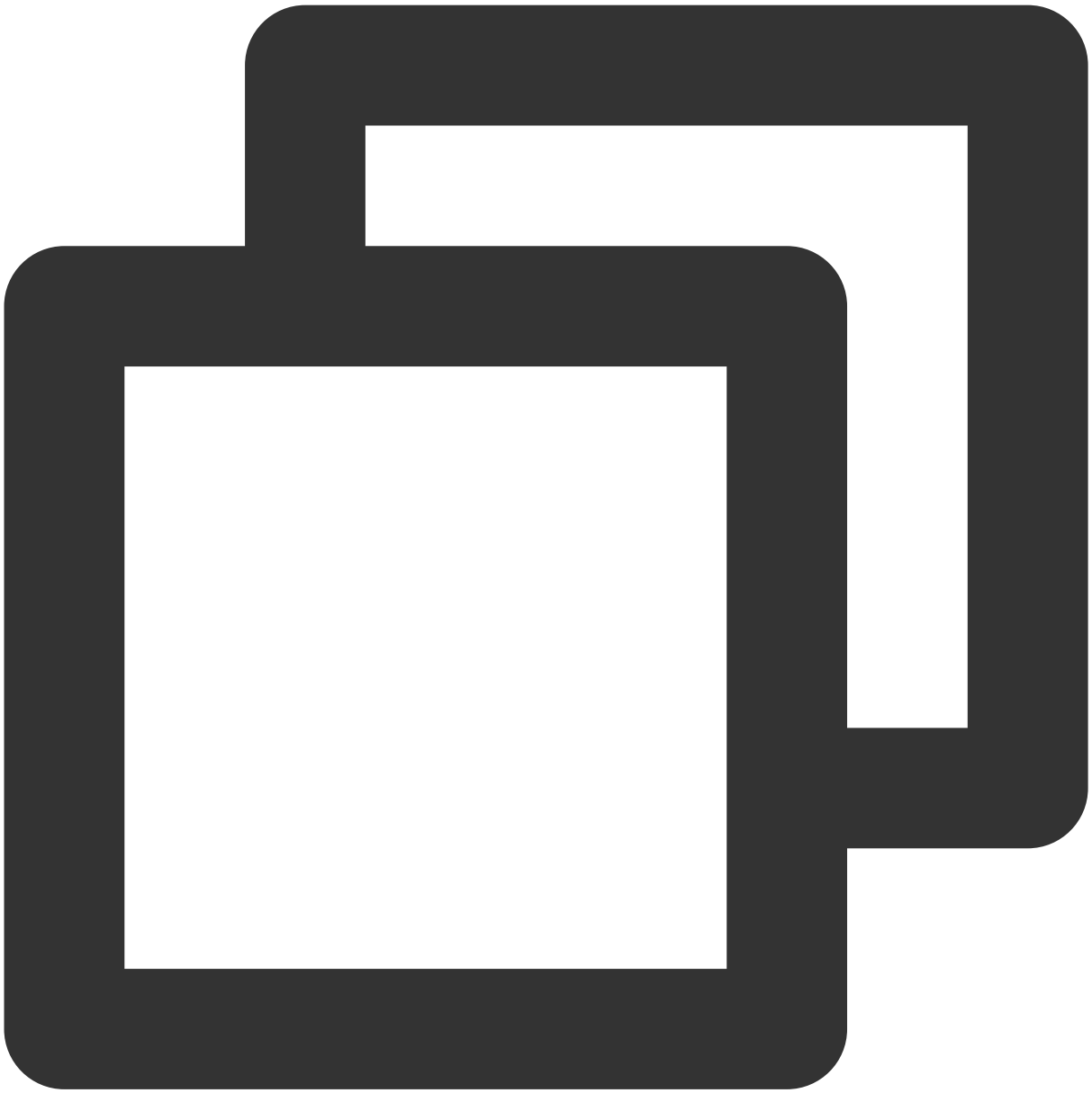


```
- (TXBeautyManager *)getBeautyManager;
```

Return Value	Type	Meaning
manager	TXBeautyManager *	TXBeautyManager Object

getAudioEffectManager

Get Sound Effect Manager Object.

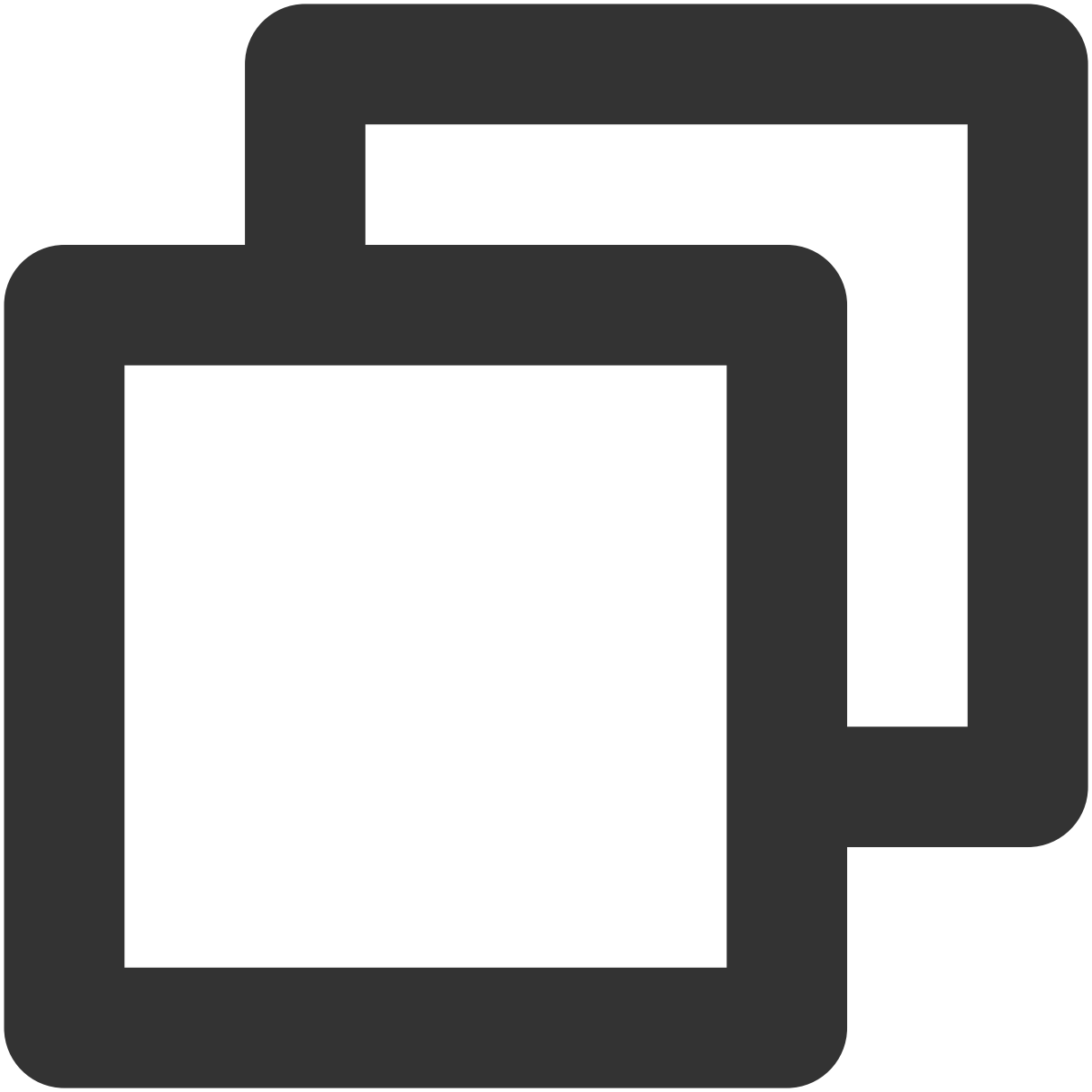


```
- (TXAudioEffectManager *)getAudioEffectManager;
```

Return Value	Type	Meaning
manager	TXAudioEffectManager *	TXAudioEffectManager Object

getTRTCCloud

Get TRTC Instance Object.



```
- (TRTCCloud *)getTRTCCloud;
```

Return Value	Type	Meaning
manager	TRTCCloud *	TRTCCloud Object

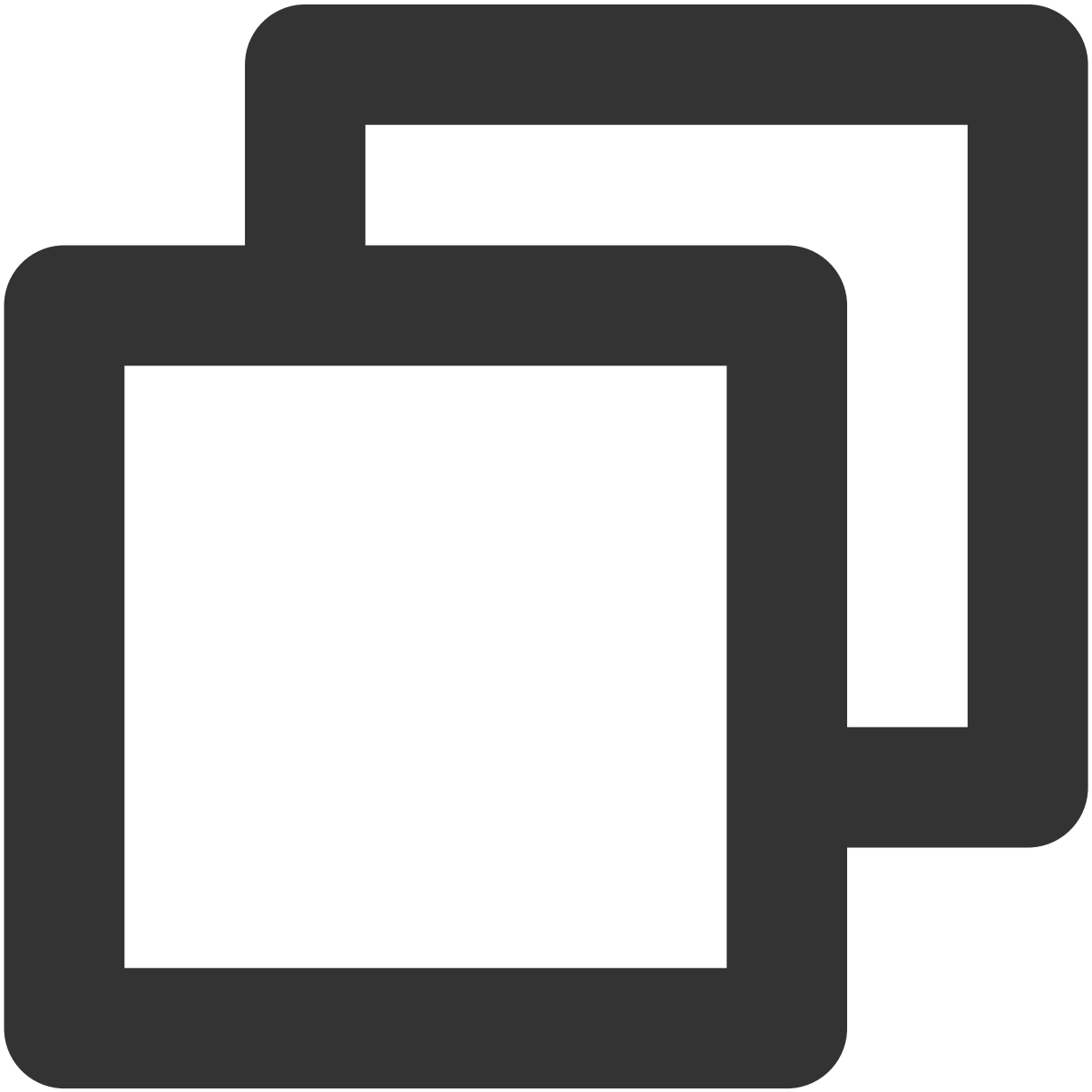
TUIRoomObserver

Last updated：2023-12-18 17:52:47

The TUIRoomObserver class is the Callback Event class corresponding to the TUIRoomEngine. You can listen to the Callback Events you are interested in through this interface.

onError

Error Event Callback.



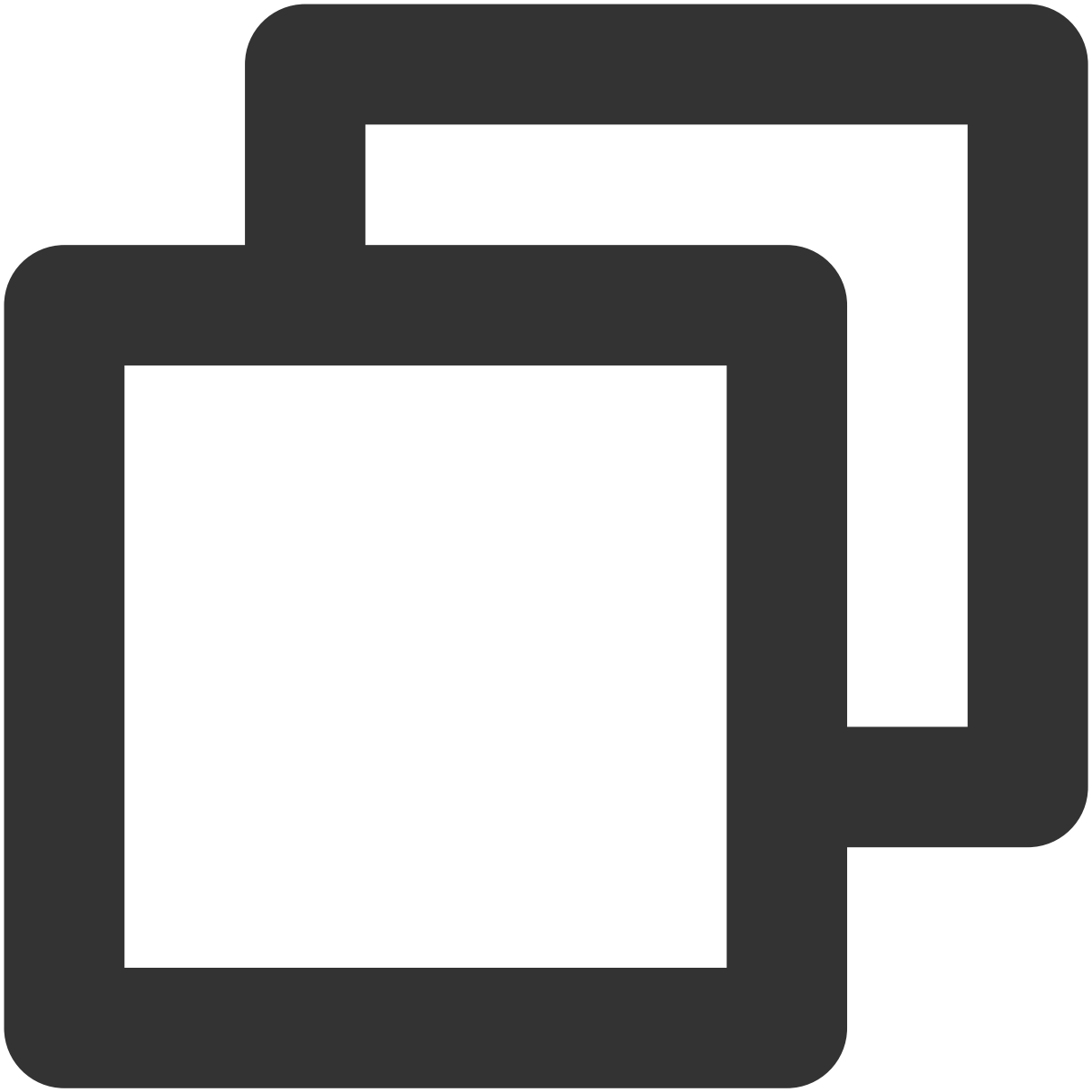
```
- (void)onError:(TUIError)error message:(NSString *)message;
```

The parameters are as follows:

Parameter	Type	Meaning
error	TUIError	Error Code
message	NSString *	Error Message

onKickedOffLine

Other terminals login and get kicked off event.



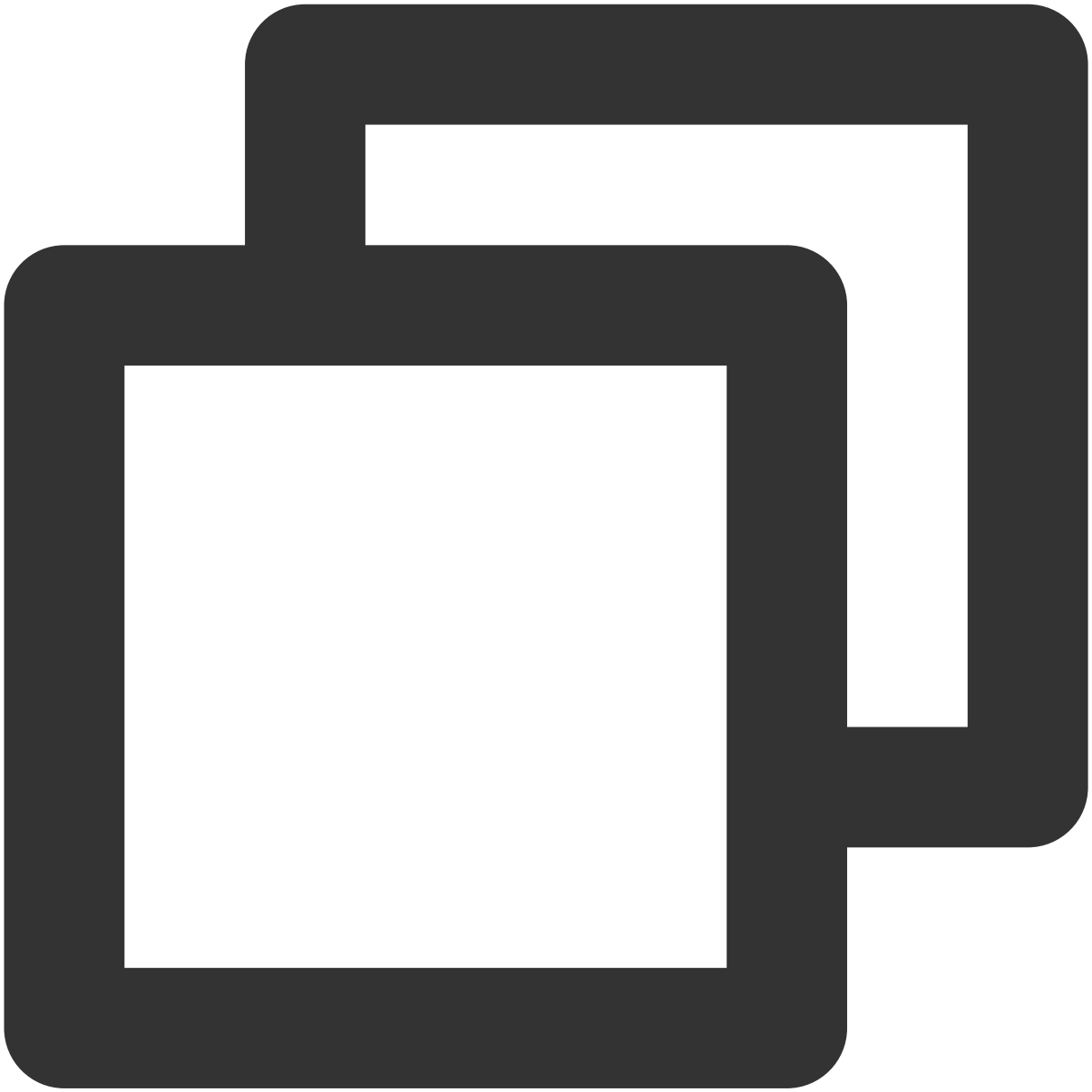
```
- (void)onKickedOffLine:(NSString *)message;
```

The parameters are as follows:

Parameter	Type	Meaning
message	NSString *	Kicked out description

onUserSigExpired

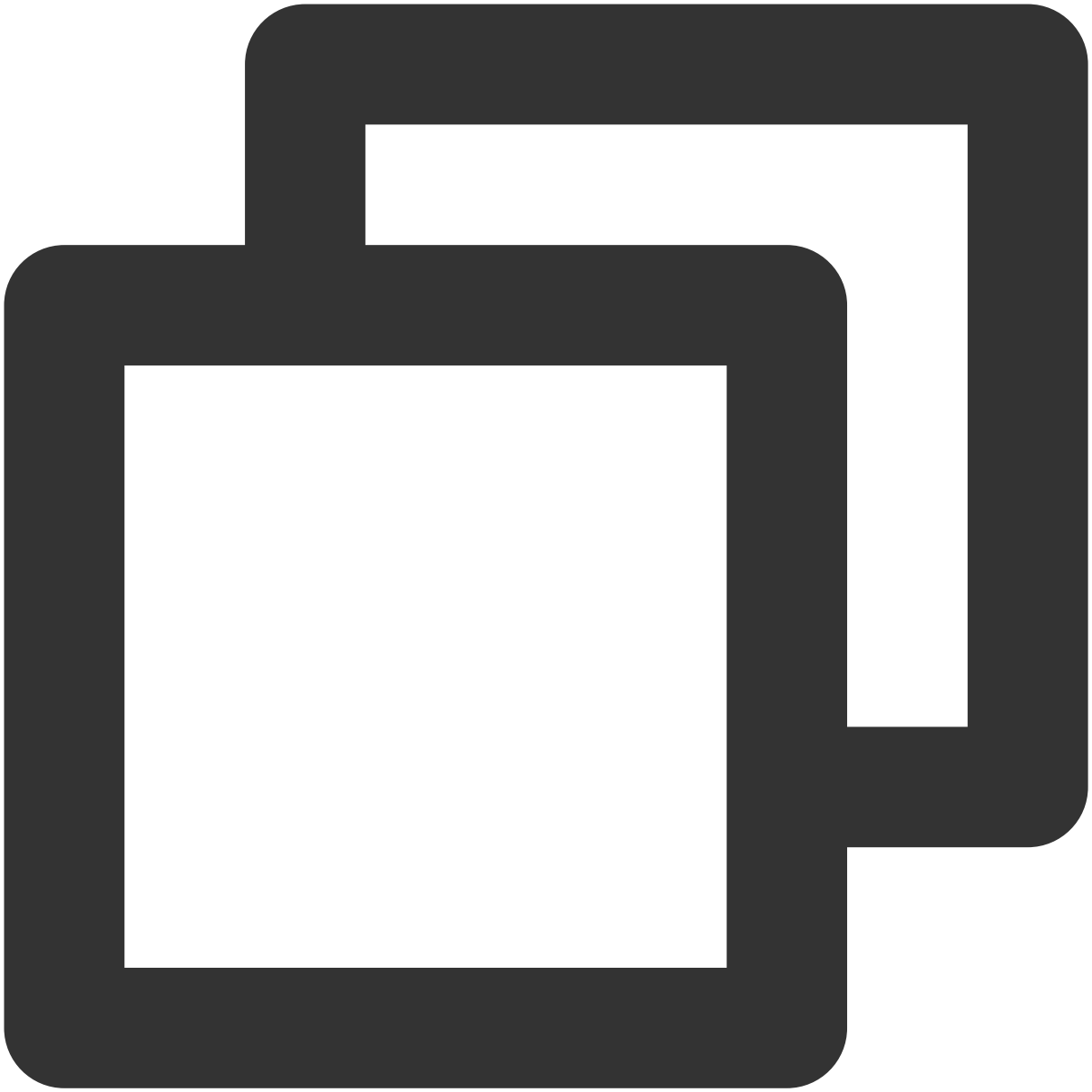
User credential timeout event.



```
- (void)onUserSigExpired;
```

onRoomNameChanged

Room name change event.

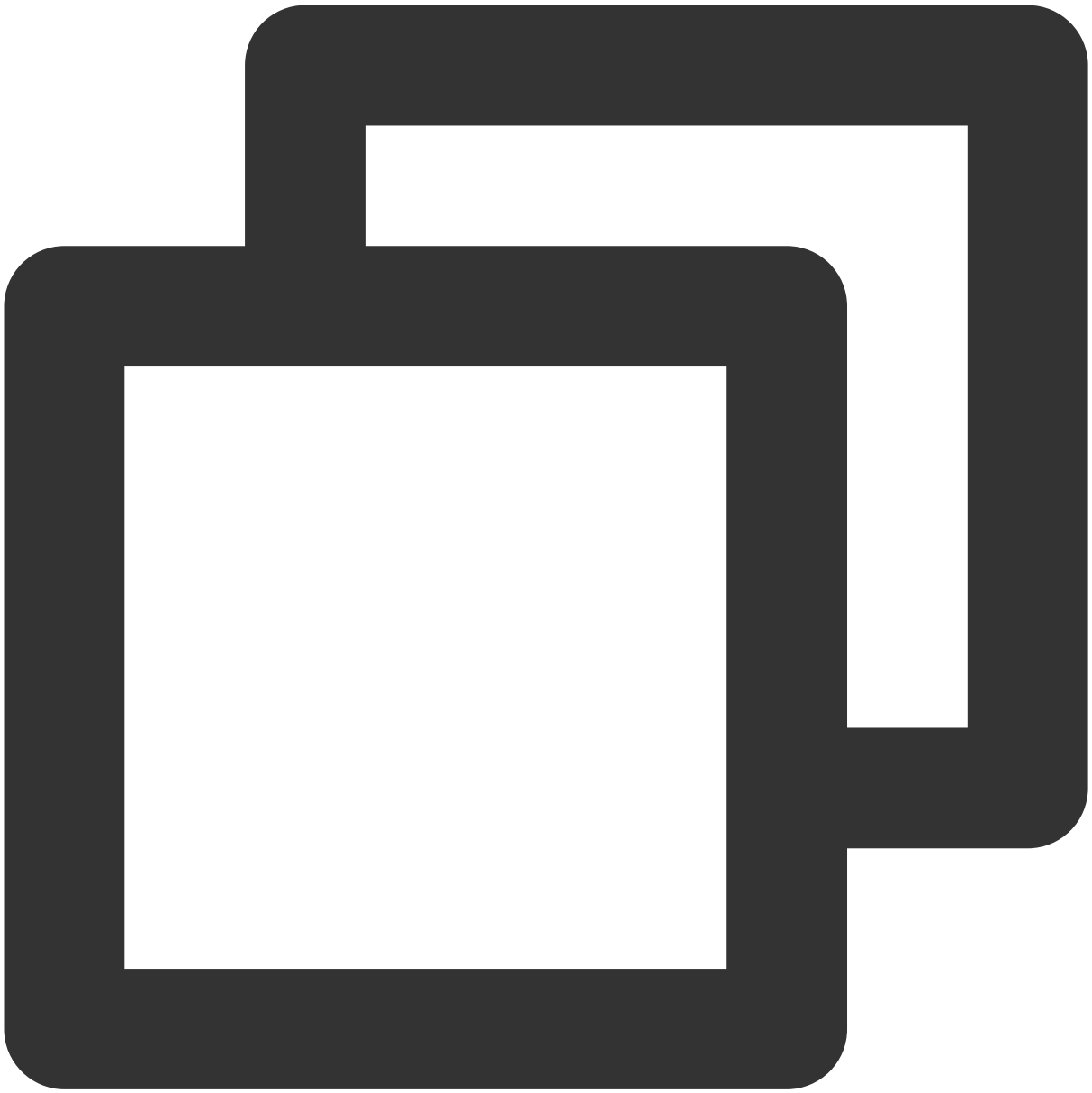


```
- (void)onRoomNameChanged:(NSString *)roomId roomName:(NSString *)roomName;
```

Parameter	Type	Meaning
roomId	NSString *	Room ID
roomName	NSString *	Room Name

onAllUserMicrophoneDisableChanged

Inside the room, all users' mic is disabled event.

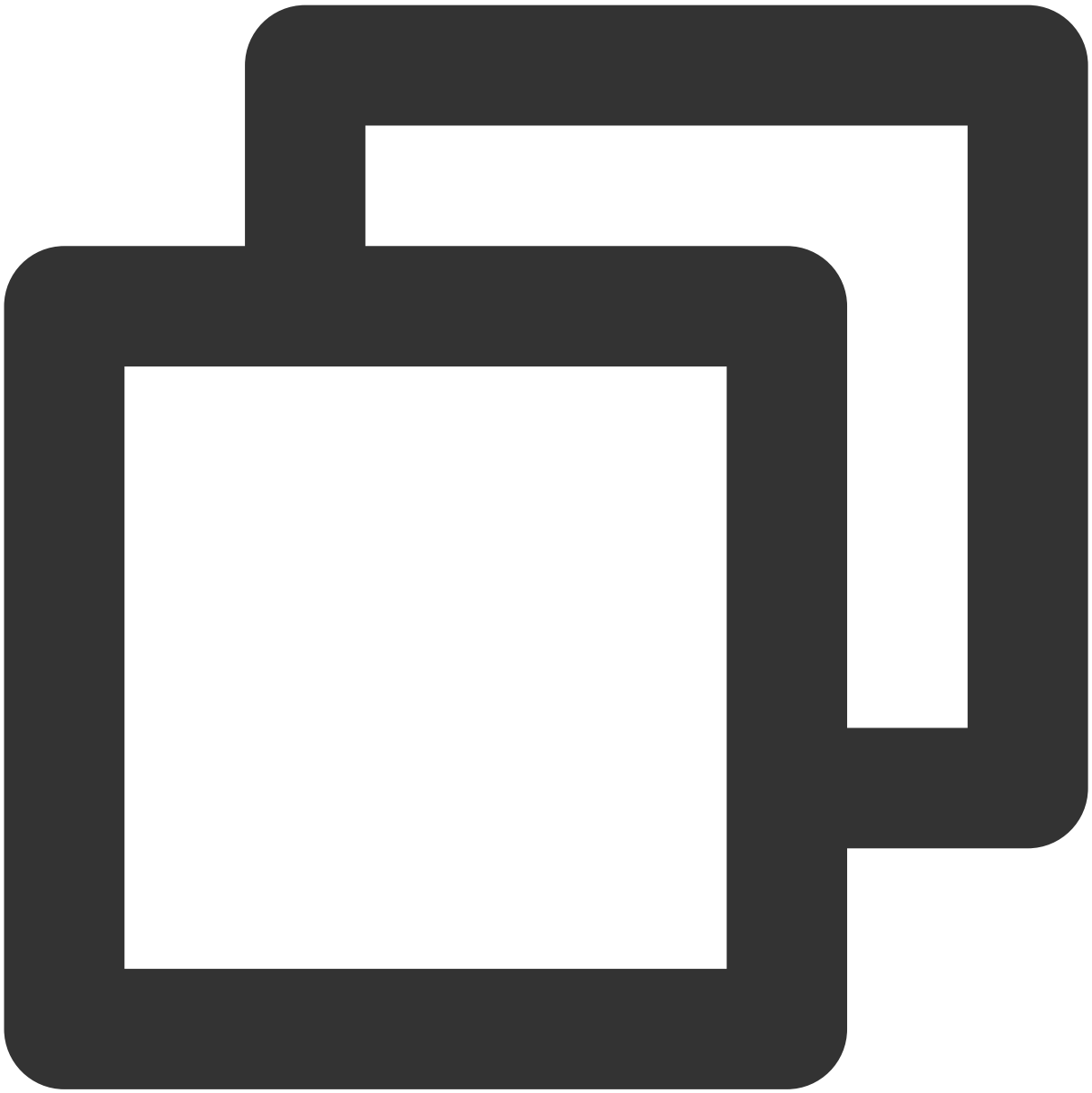


```
- (void)onAllUserMicrophoneDisableChanged:(NSString *)roomId isDisable:(BOOL)isDisa
```

Parameter	Type	Meaning
roomId	NSString *	Room ID
isDisable	BOOL	Whether it is disabled

onAllUserCameraDisableChanged

All users' Camera in the Room are disabled event.

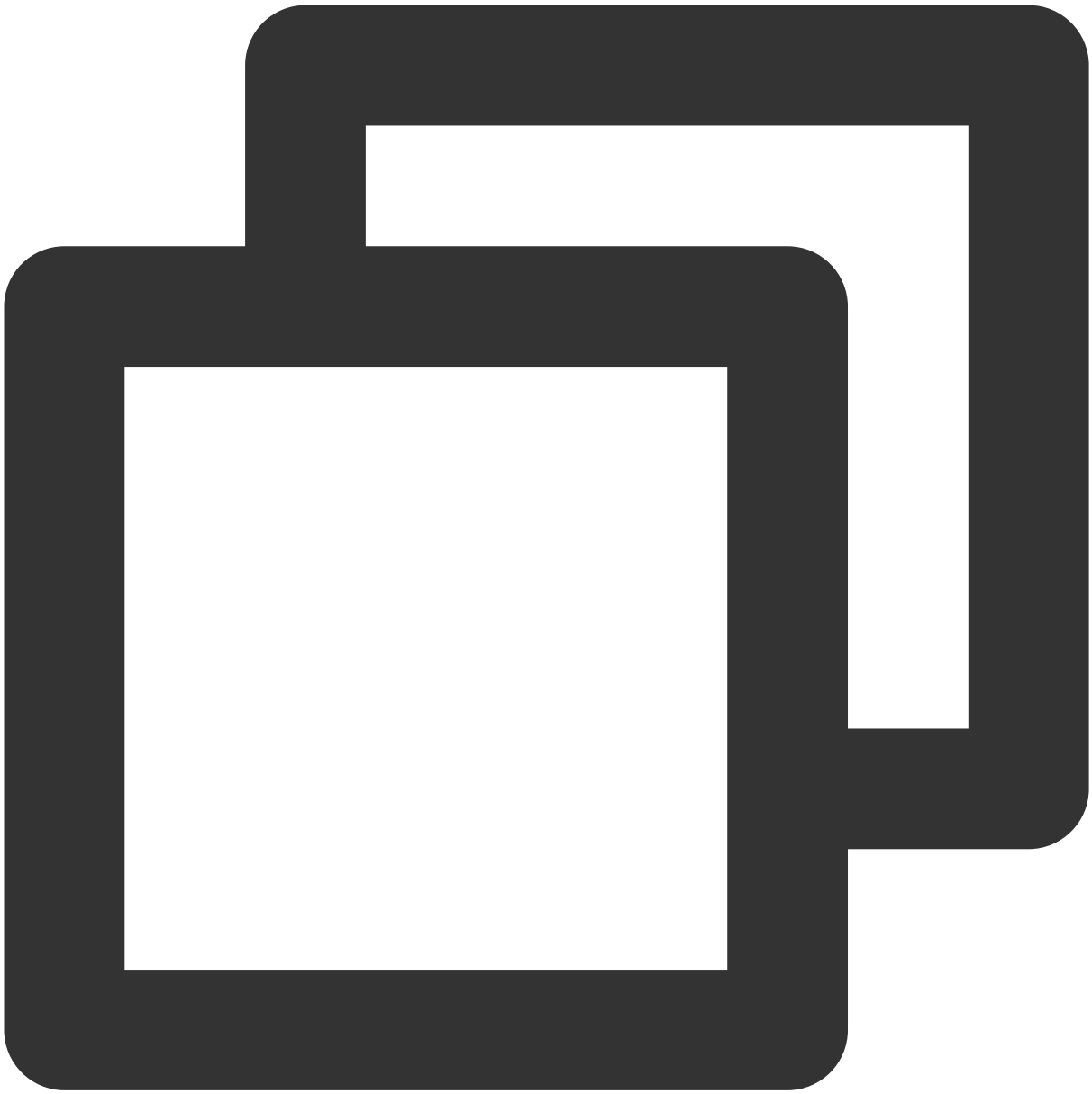


```
- (void)onAllUserCameraDisableChanged:(NSString *)roomId isDisable:(BOOL)isDisable;
```

Parameter	Type	Meaning
roomId	NSString *	Room ID
isDisable	BOOL	Whether it is disabled

onSendMessageForAllUserDisableChanged

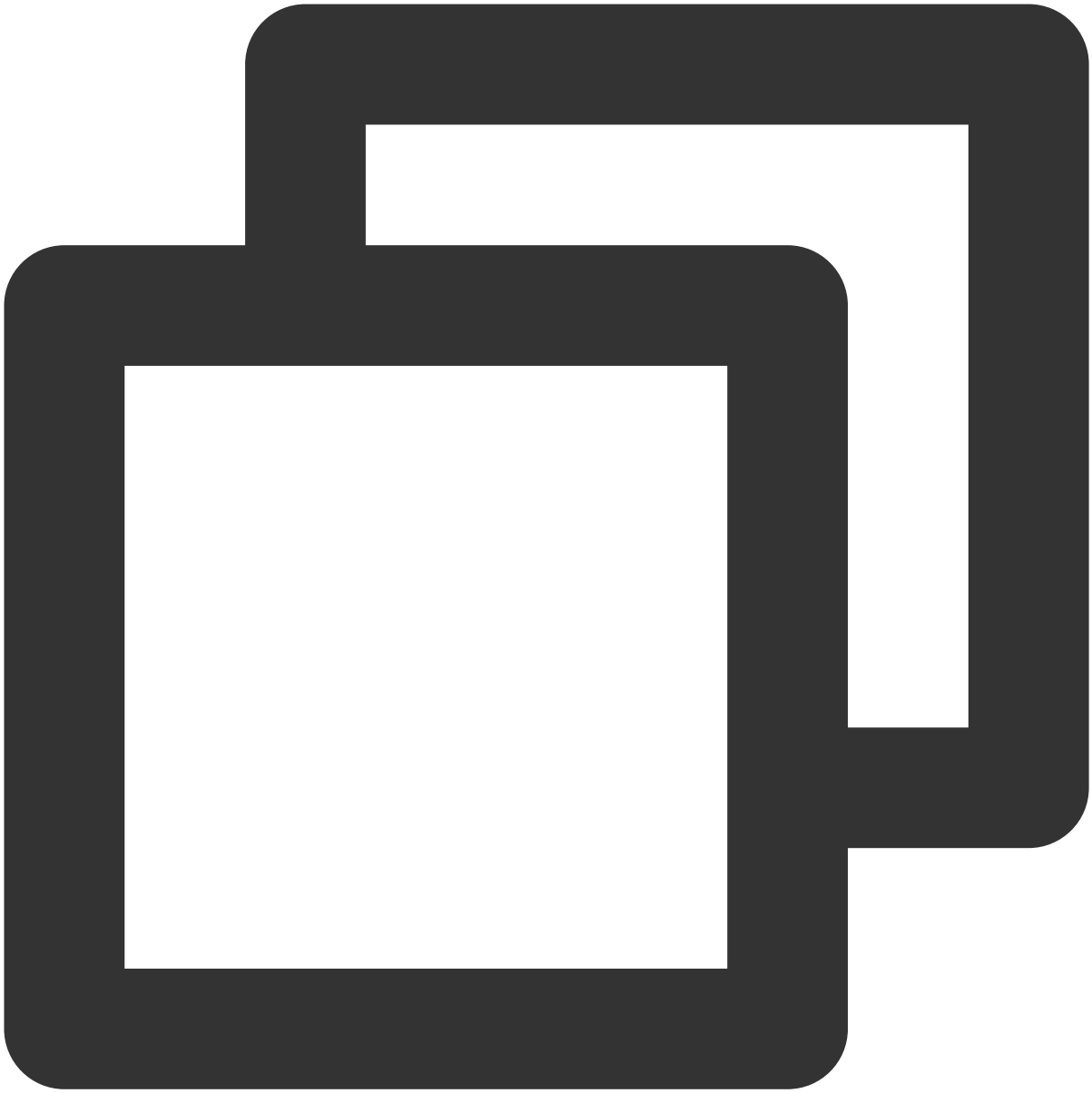
Inside the room, all users' text message sending is disabled event.



```
- (void)onSendMessageForAllUserDisableChanged:(NSString *)roomId isDisable:(BOOL)is
```

onKickedOutOfRoom

Kicked out of the room event.



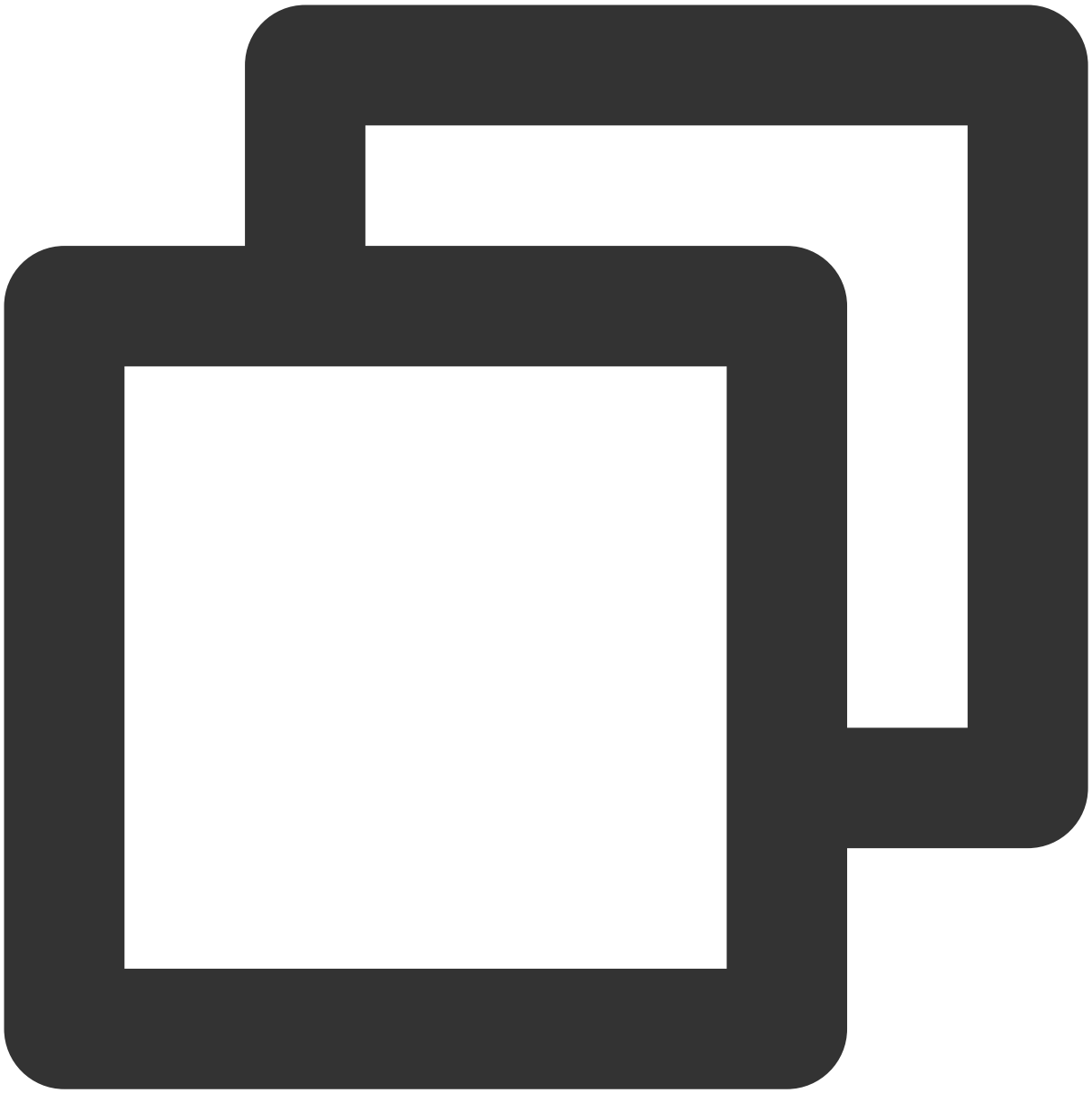
```
- (void)onKickedOutOfRoom:(NSString *)roomId message:(NSString *)message;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID
message	NSString *	Description of being kicked out

onRoomDismissed

Room dissolution event.



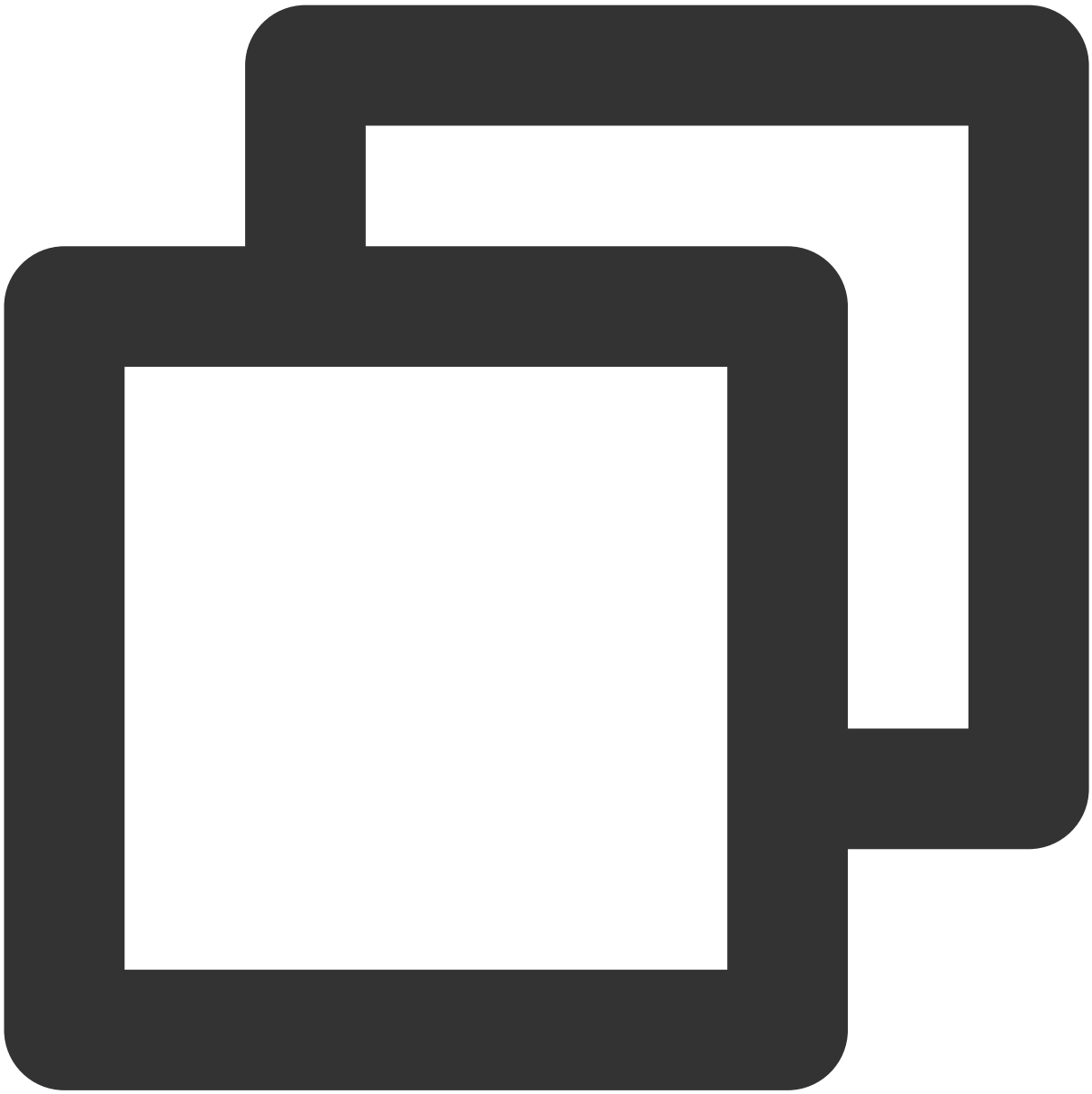
```
- (void)onRoomDismissed:(NSString *)roomId;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID

onRoomSpeechModeChanged

Mic control mode changes in the room.

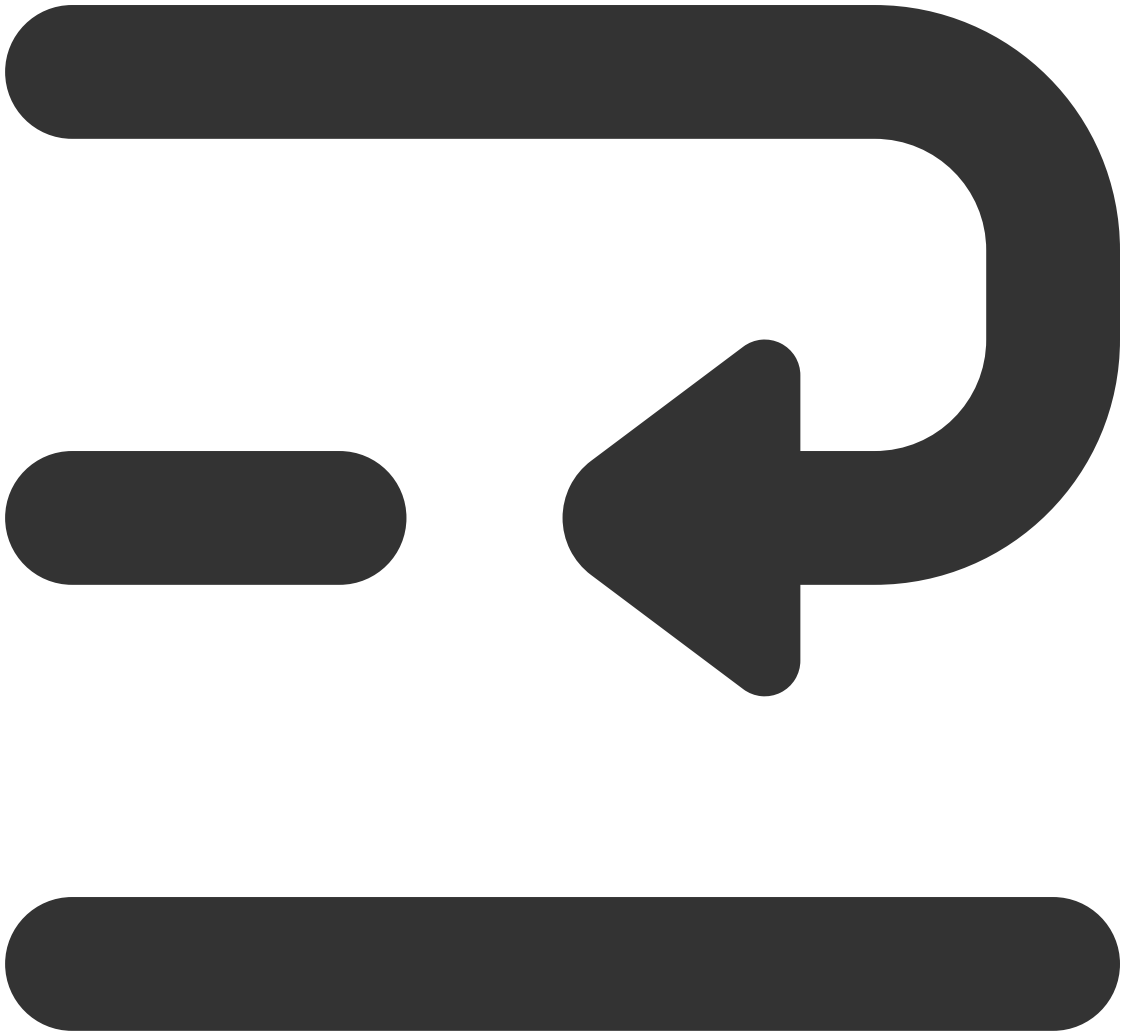


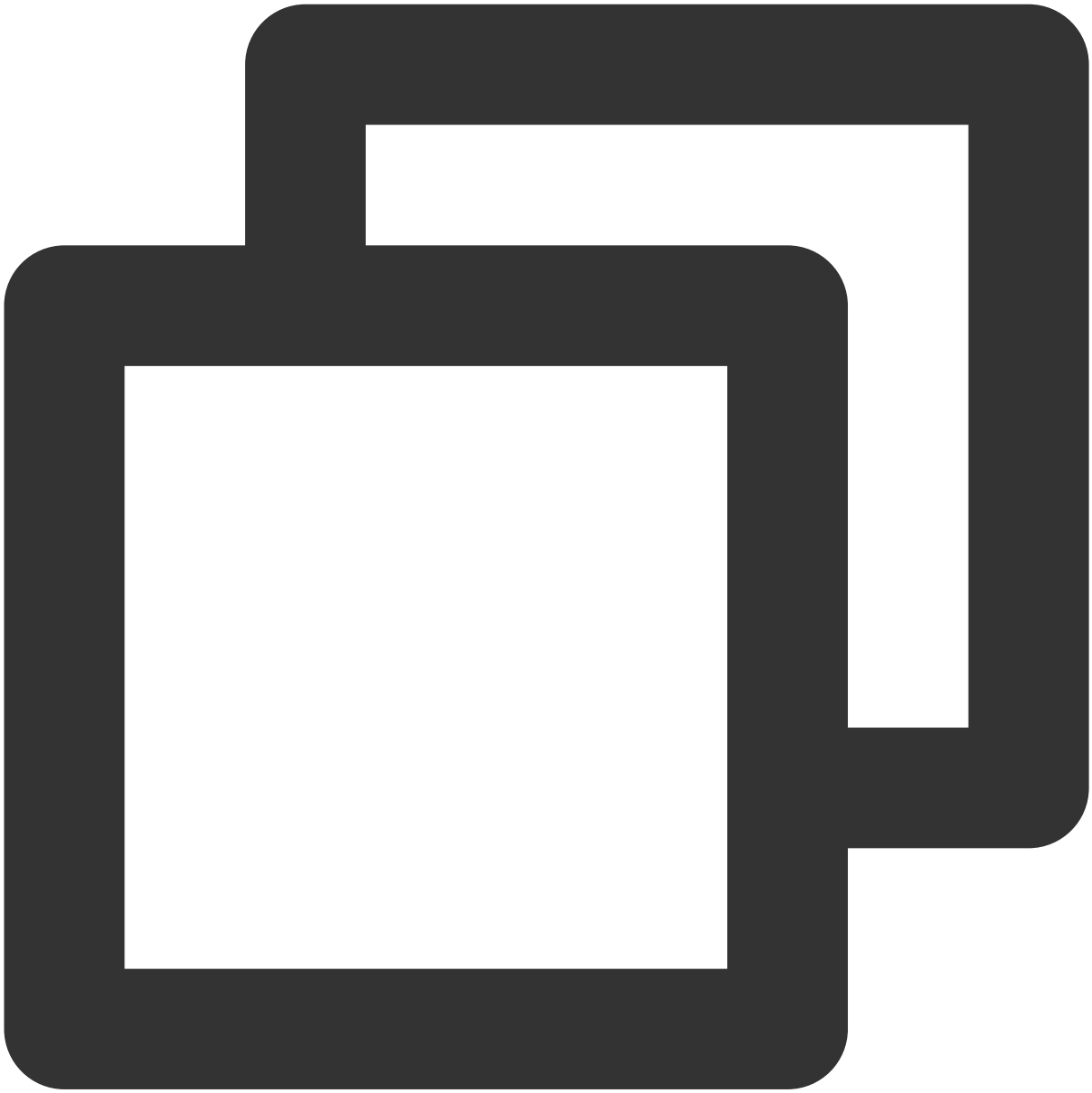
```
- (void)onRoomSpeechModeChanged:(NSString *)roomId speechMode:(TUISpeechMode)mode;
```

Parameter	Type	Meaning
roomId	NSString *	Room ID
mode	TUISpeechMode	Mic control mode

onRemoteUserEnterRoom

Remote user enters the room event.





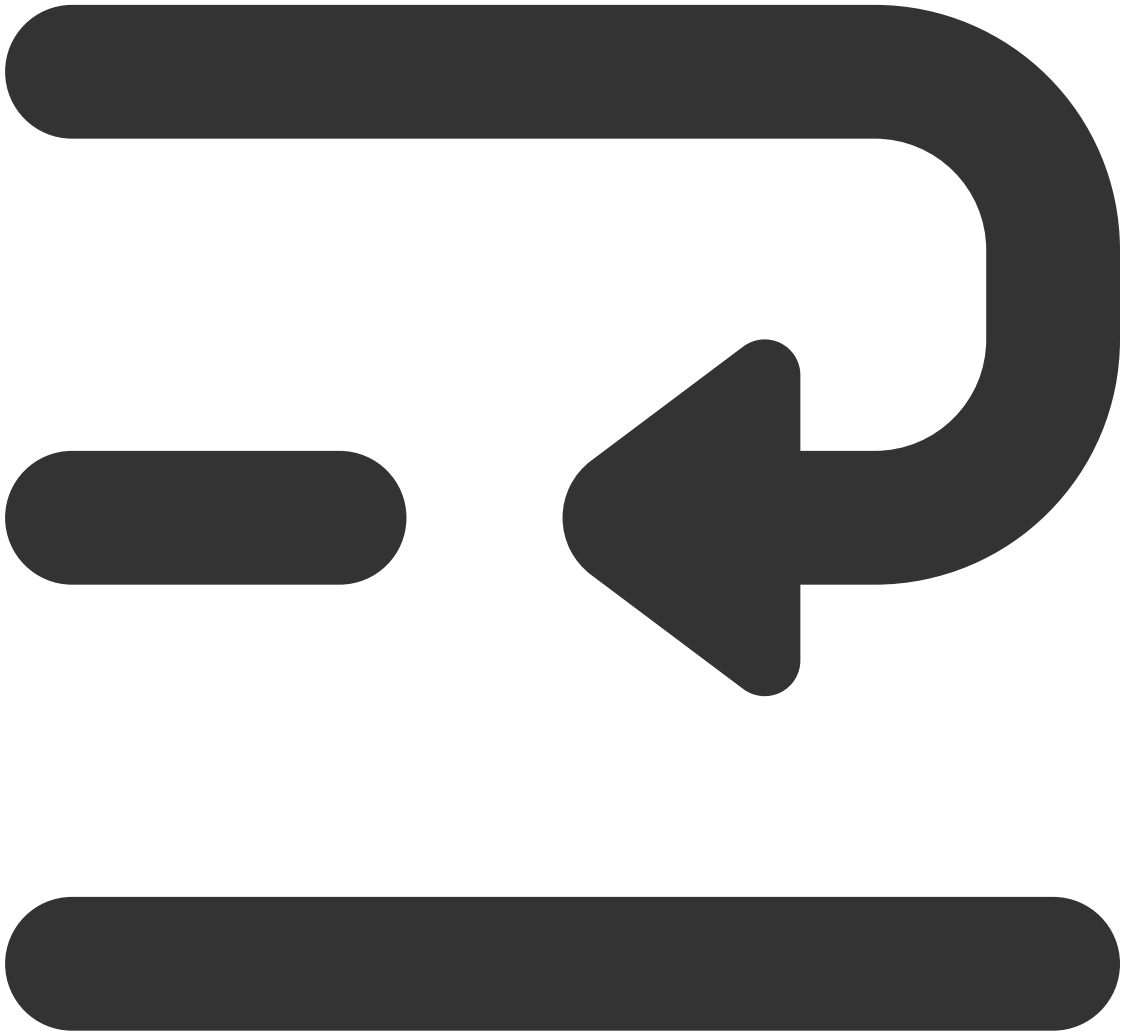
```
- (void)onRemoteUserEnterRoom:(NSString *)roomId userInfo:(TUIUserInfo *)userInfo;
```

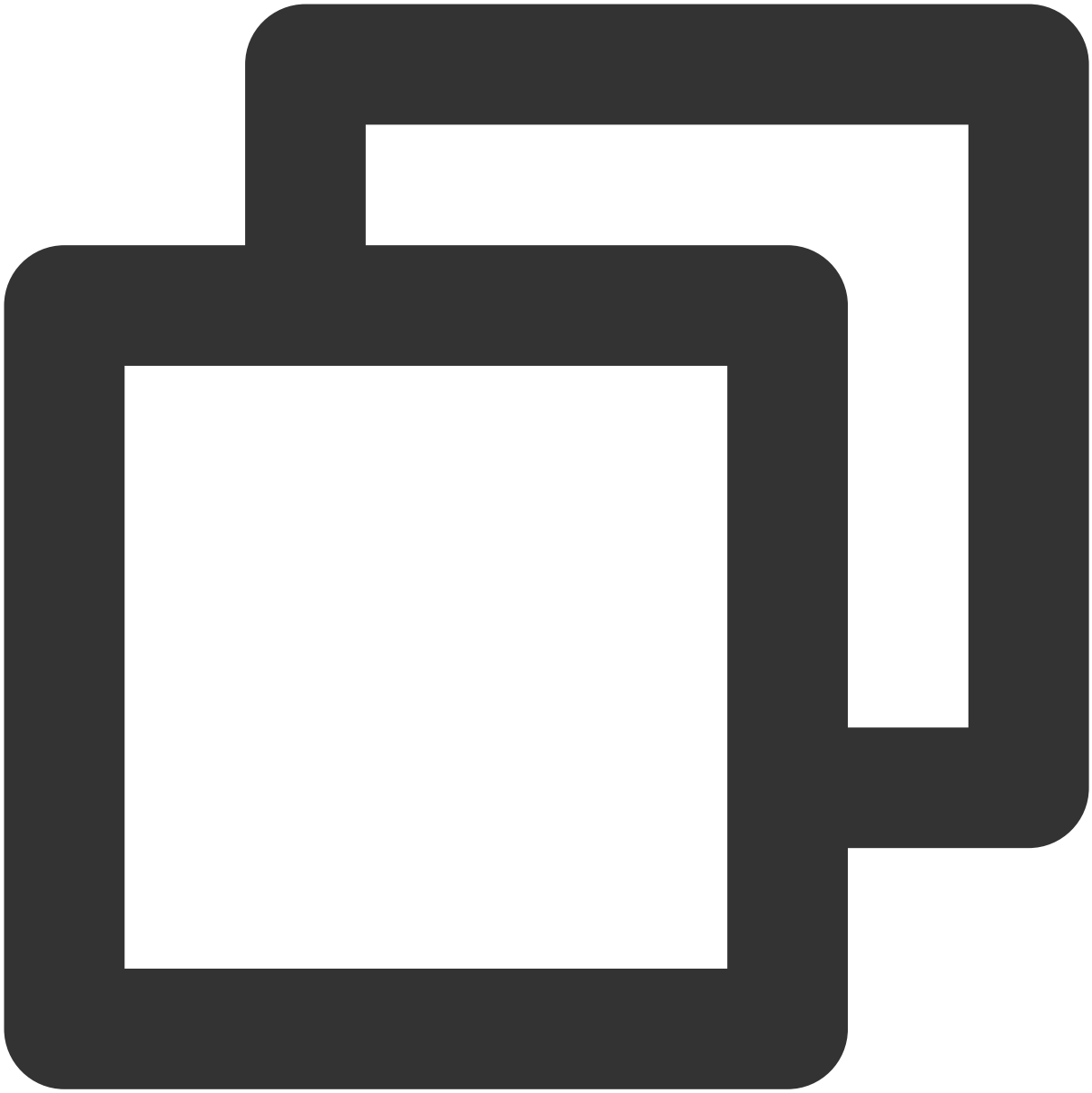
The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID
userInfo	TUIUserInfo *	User information

onRemoteUserLeaveRoom

Remote user leaves the room event.





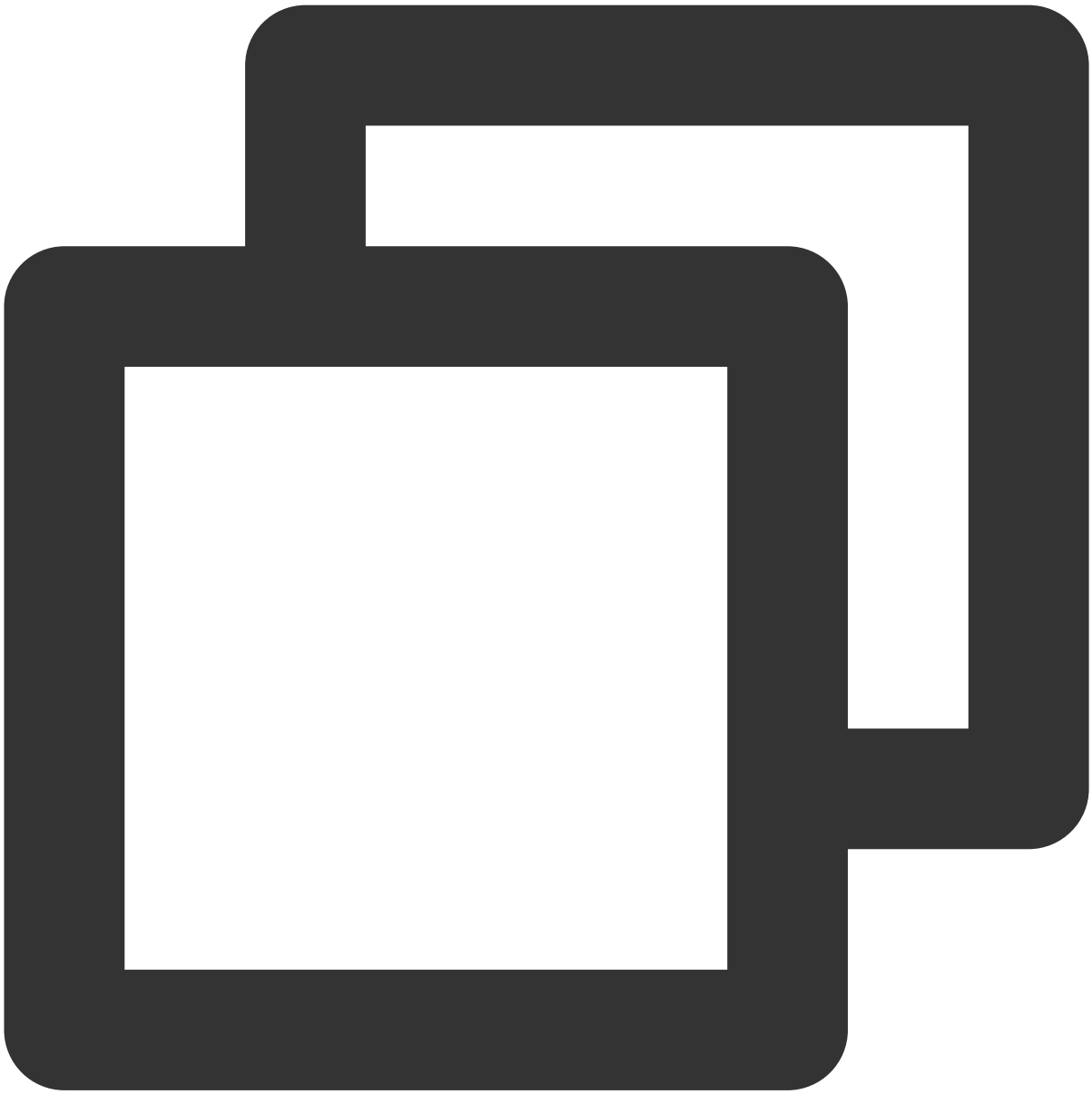
```
- (void)onRemoteUserLeaveRoom:(NSString *)roomId userInfo:(TUIUserInfo *)userInfo;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID
userInfo	TUIUserInfo *	User information

onUserRoleChanged

User role changes event.



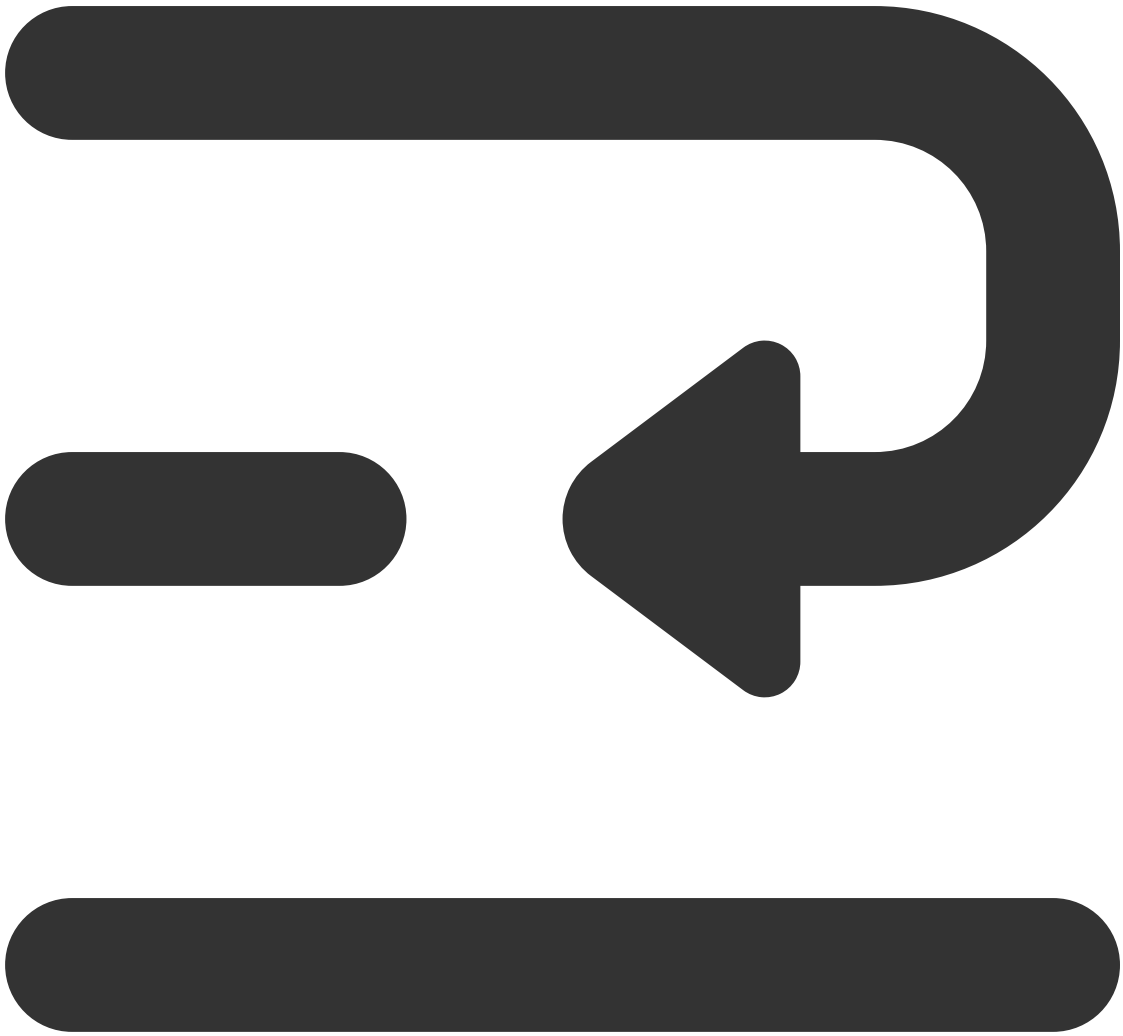
```
- (void)onUserRoleChanged:(NSString *)userId userRole:(TUIRole)userRole;
```

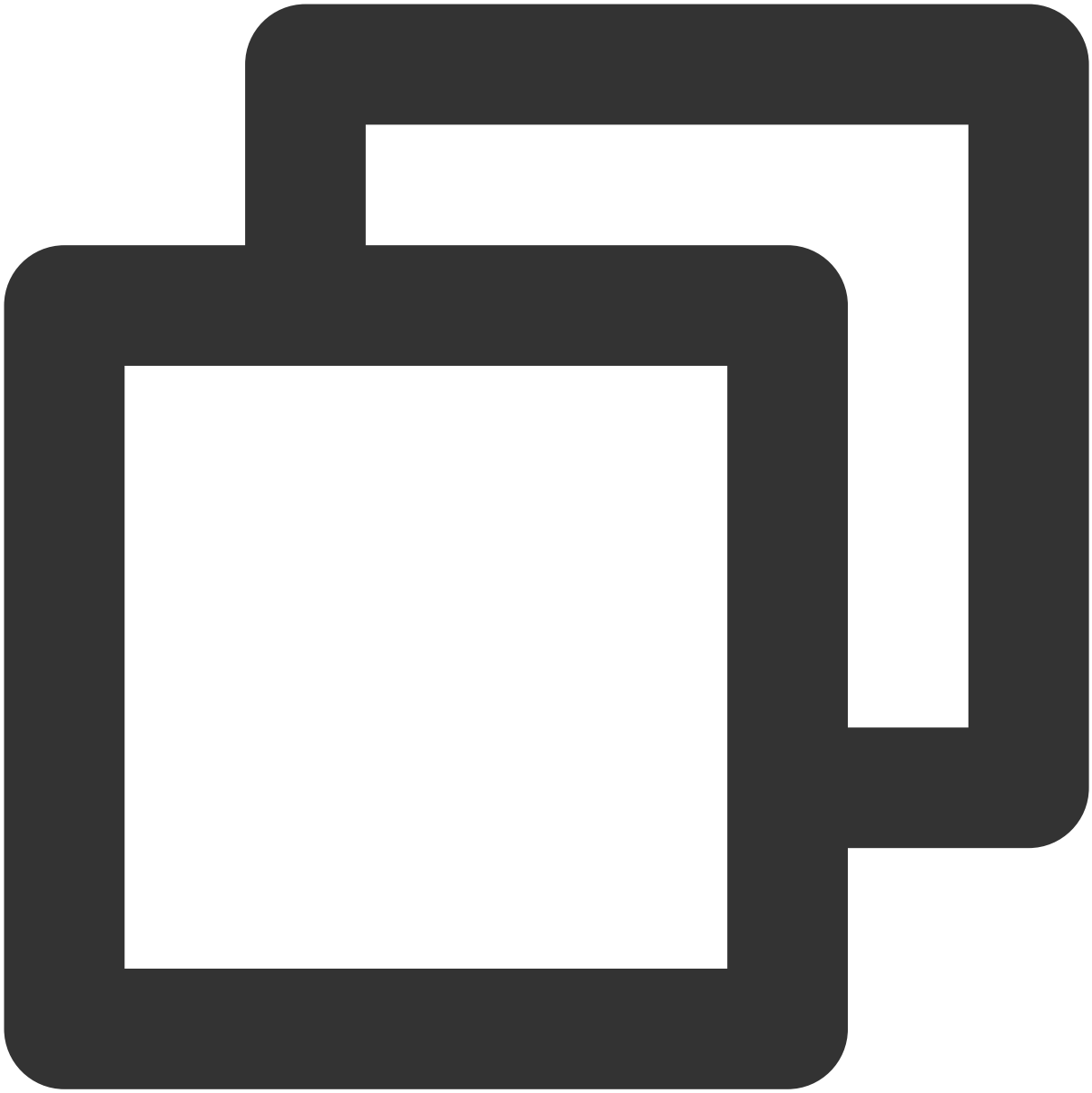
The parameters are as follows:

Parameter	Type	Meaning
userId	NSString *	User ID
userRole	TUIRole	User Role

onUserVideoStateChanged

User Video status changes event.





```
- (void)onUserVideoStateChanged:(NSString *)userId
                      streamType:(TUIVideoStreamType)streamType
                        hasVideo:(BOOL)hasVideo
                          reason:(TUIChangeReason)reason;
```

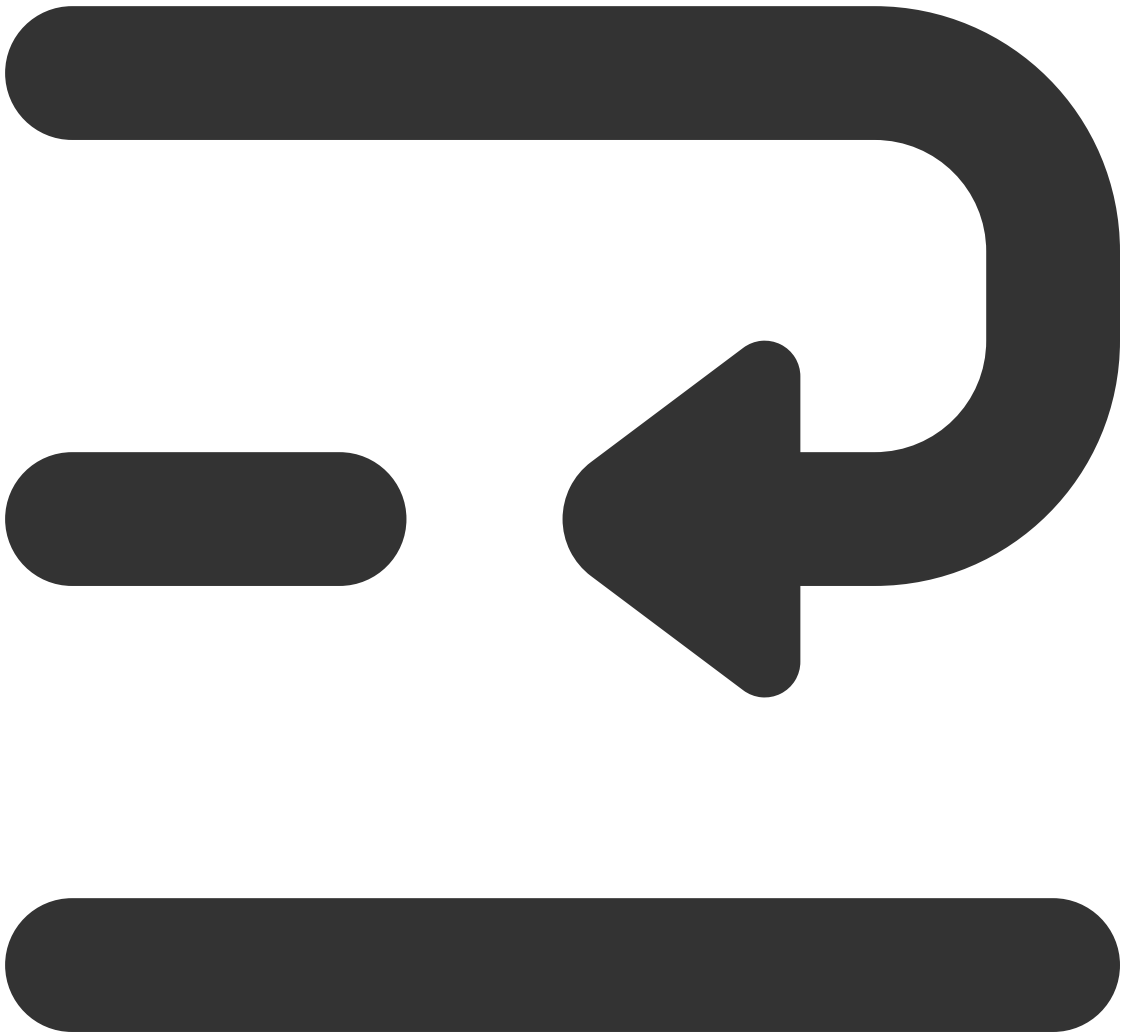
The parameters are as follows:

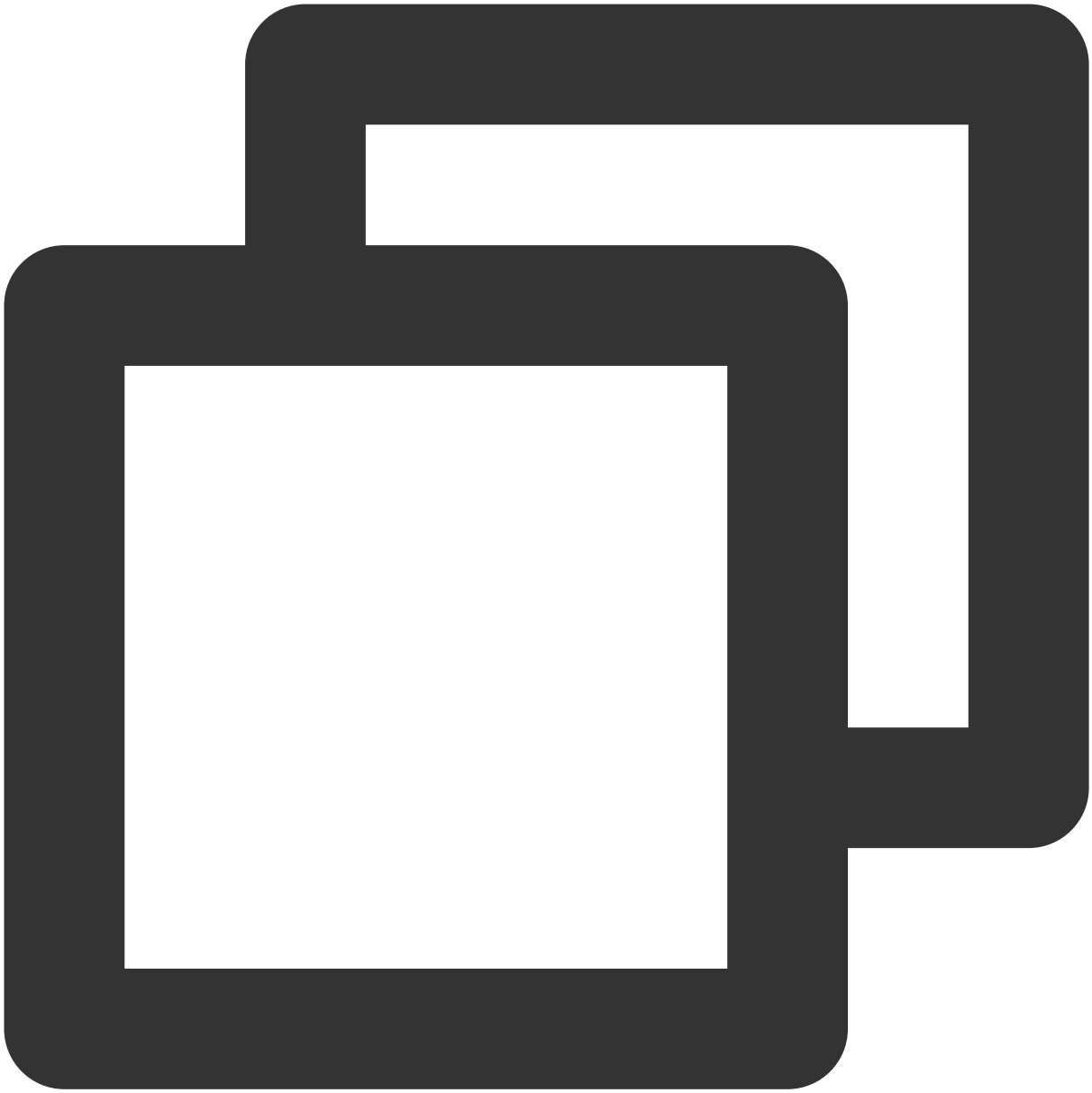
Parameter	Type	Meaning
userId	NSString *	User ID

streamType	TUIVideoStreamType	Streams type
hasVideo	BOOL	Whether there are streams
reason	TUIChangeReason	Reason for streams change

onUserAudioStateChanged

User Audio status changes event.





```
- (void)onUserAudioStateChanged:(NSString *)userId
                        hasAudio:(BOOL)hasAudio
                          reason:(TUIChangeReason)reason;
```

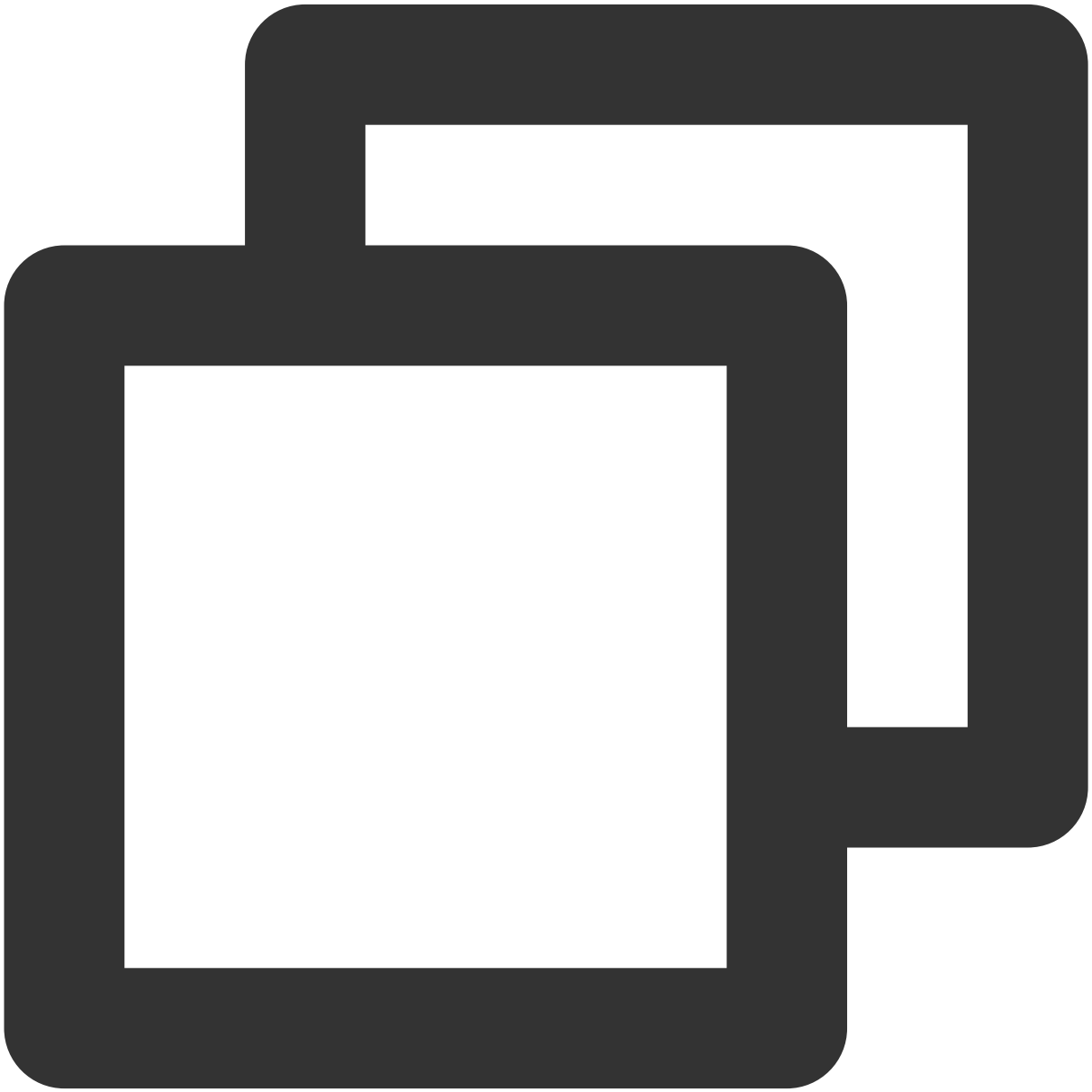
The parameters are as follows:

Parameter	Type	Meaning
userId	NSString *	User ID
hasAudio	BOOL	Whether there are Audio streams

reason	TUIChangeReason	Reason for Audio streams change

onUserScreenCaptureStopped

Screen Sharing stopped Callback event.



```
- (void)onUserScreenCaptureStopped:(NSInteger)reason;
```

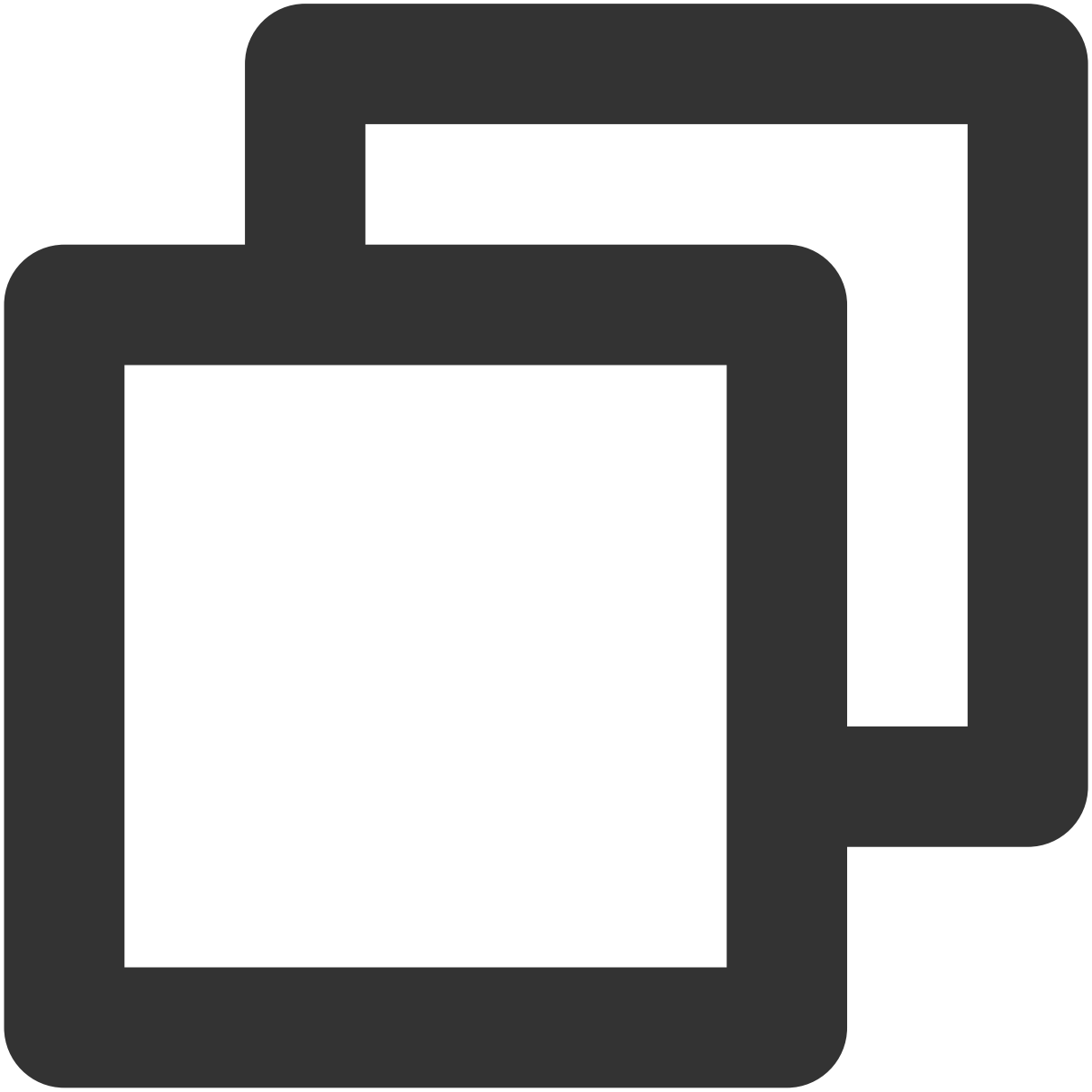
The parameters are as follows:

Parameter	Type	Meaning

reason	NSInteger	Stop reason: 0: User actively stops 1: Screen window closing causes the stop 2: Screen Sharing display screen status change (such as interface being unplugged, Projection mode change, etc.)

onRoomMaxSeatCountChanged

Maximum number of mic slots changes event in the room (only effective in meeting type rooms).

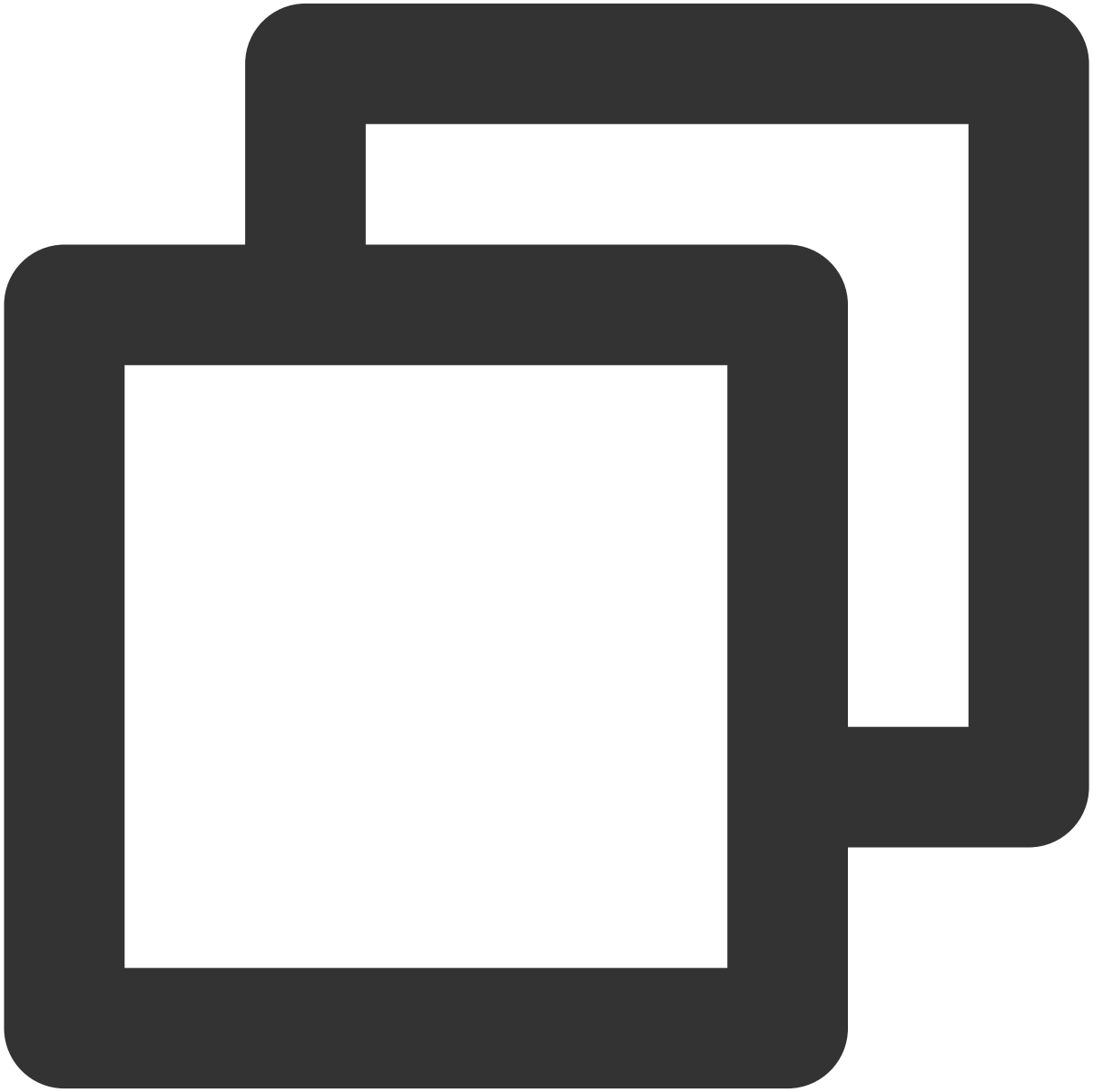


```
- (void)onRoomMaxSeatCountChanged:(NSString *)roomId maxSeatNumber:(NSInteger)maxSe
```

Parameter	Type	Meaning
roomId	NSString *	Room ID
maxSeatNumber	NSInteger	Maximum number of mic slots in the room

onUserVoiceVolumeChanged

User volume change event.



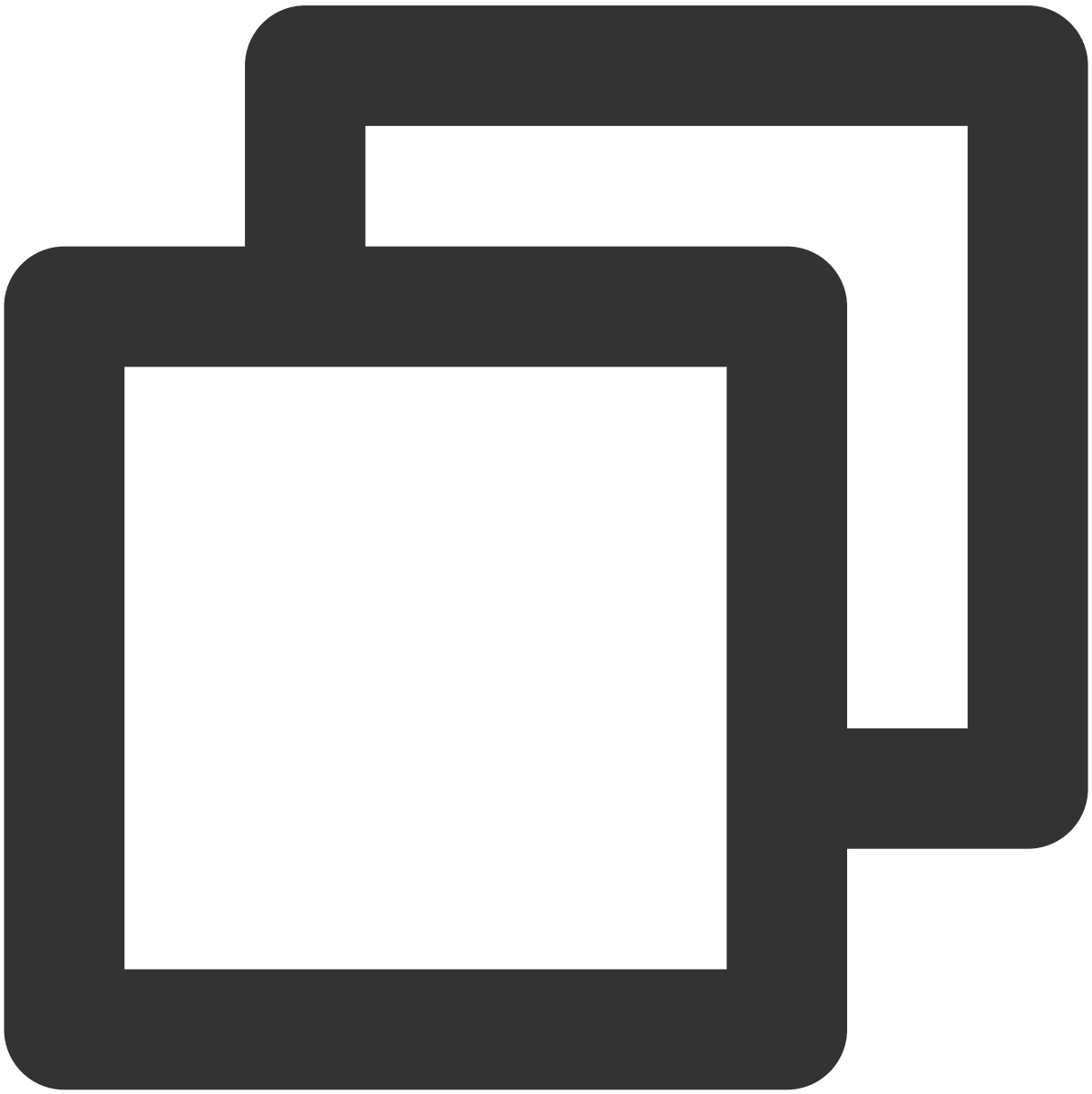
```
- (void)onUserVoiceVolumeChanged:(NSDictionary<NSString *, NSNumber *> *)volumeMap;
```

The parameters are as follows:

Parameter	Type	Meaning
volumeMap	NSDictionary<NSString *, NSNumber *> *	Volume map

onSendMessageForUserDisableChanged

User text message sending ability changes event.

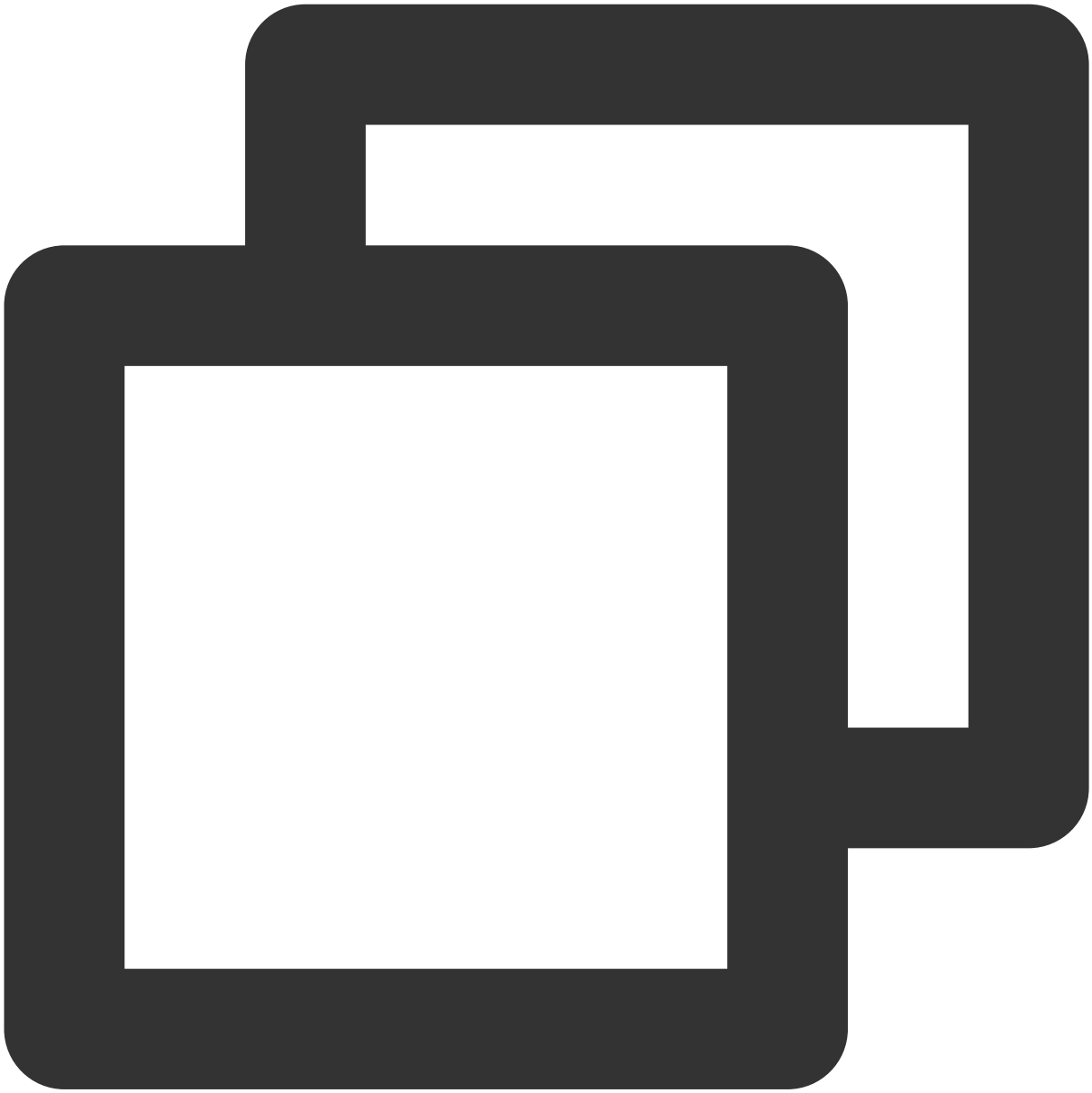


```
- (void)onSendMessageForUserDisableChanged:(NSString *)roomId
                                    userId:(NSString *)userId
                                 isDisable:(BOOL)muted;
```

Parameter	Type	Meaning
roomId	NSString *	Room ID
userId	NSString *	User ID
muted	BOOL	Whether it is prohibited to send text messages.

onUserNetworkQualityChanged

User network status change event.



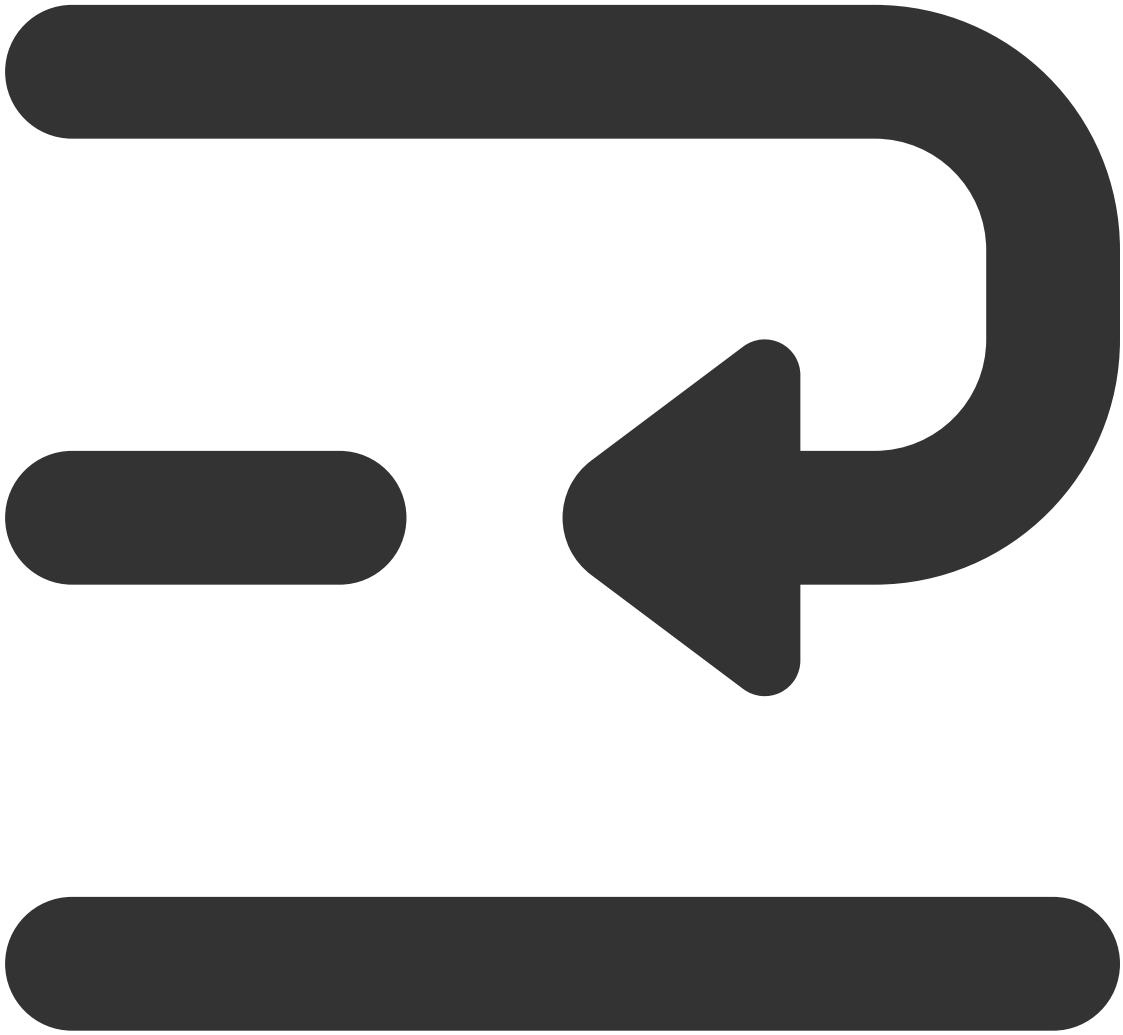
```
- (void)onUserNetworkQualityChanged:(NSArray<TUINetworkInfo *> *)networkList;
```

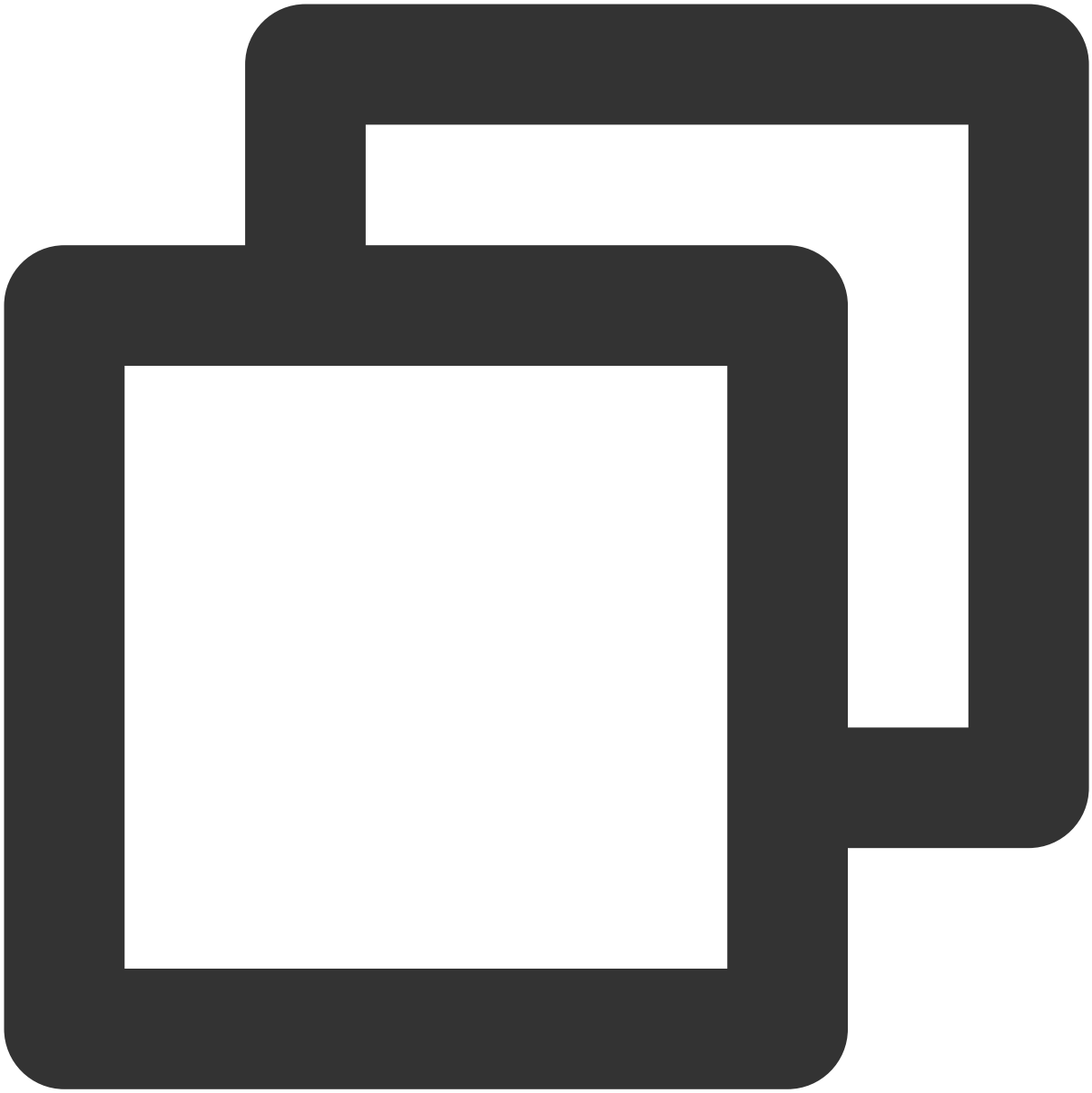
The parameters are as follows:

Parameter	Type	Meaning
networkList	NSArray<TUINetworkInfo>*	Network status array, you can refer to `TUINetworkInfo` object

onSeatListChanged

Mic slot list changes event.





```
- (void)onSeatListChanged:(NSArray<TUISeatInfo *> *)seatList
                   seated:(NSArray<TUISeatInfo *> *)seatedList
                     left:(NSArray<TUISeatInfo *> *)leftList;
```

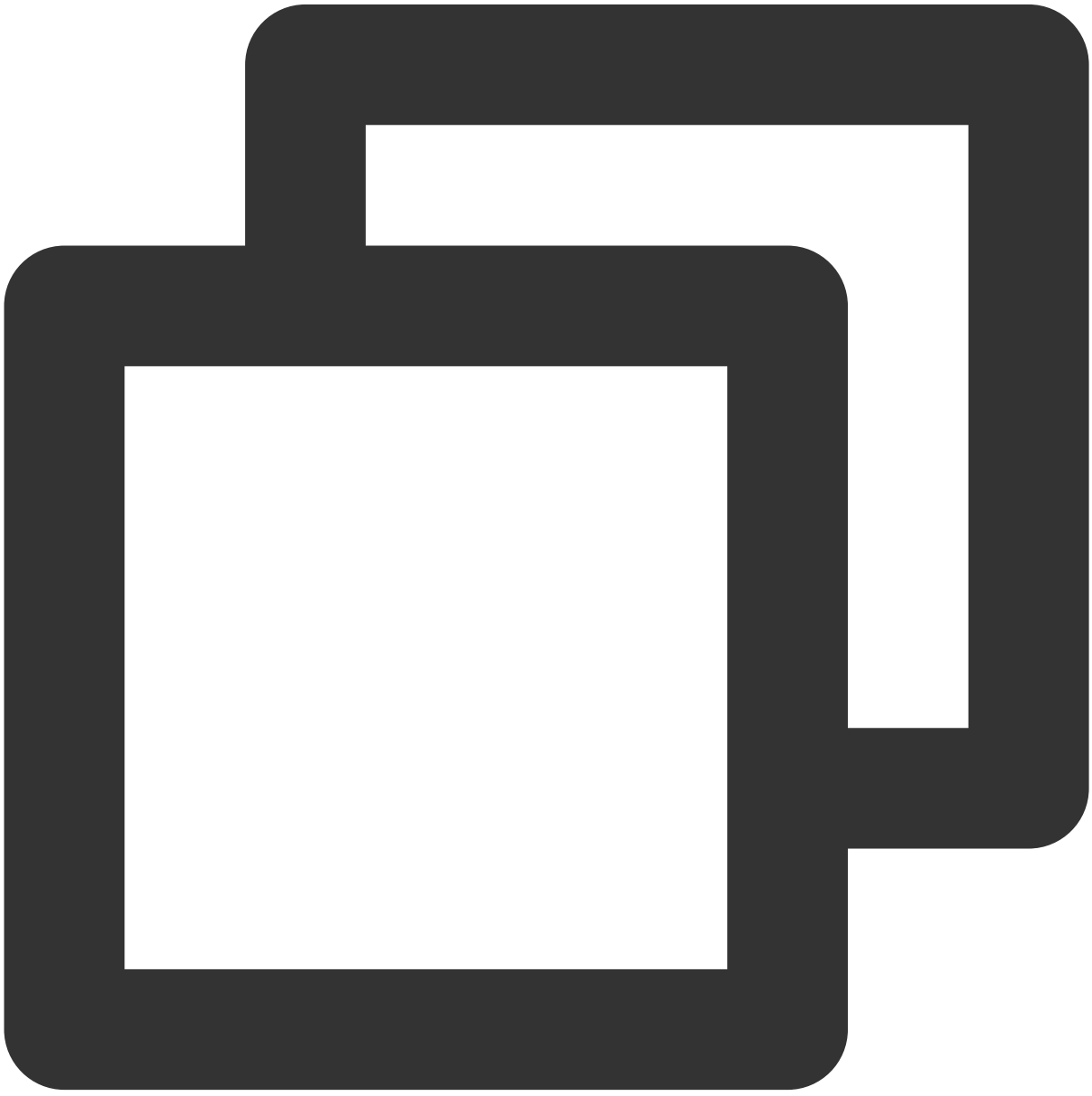
The parameters are as follows:

Parameter	Type	Meaning
seatList	NSArray<TUISeatInfo *> *	The latest user list on the mic, including newly on mic users

seatedList	NSArray<TUISeatInfo *> *	Newly on mic user list
leftList	NSArray<TUISeatInfo *> *	Newly off mic user list

onKickedOffSeat

Received the event of user being kicked off mic.



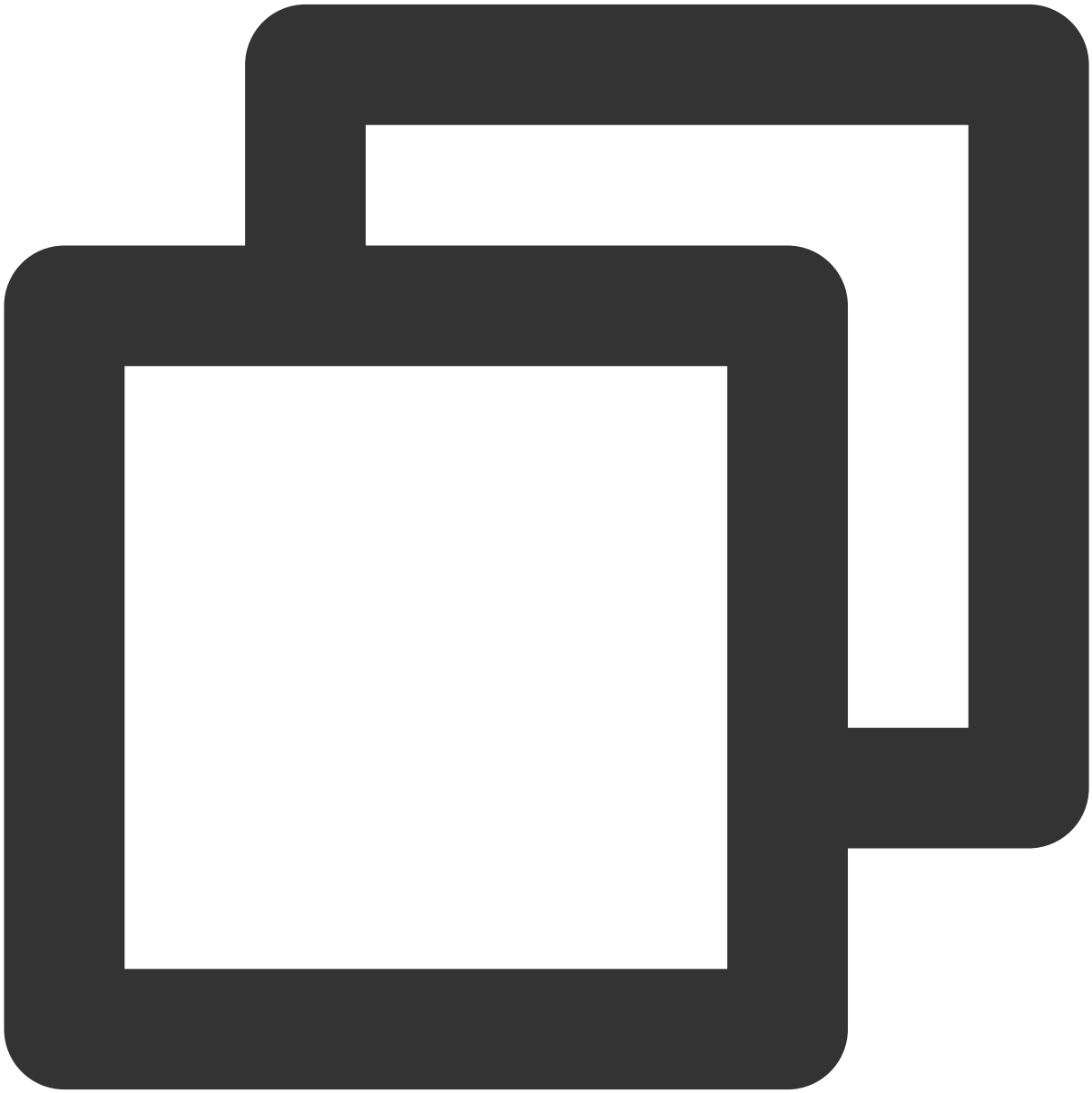
```
- (void)onKickedOffSeat:(NSString *)userId;
```

Parameter	Type	Meaning

userId	NSString *	User ID

onRequestReceived

Received request message event.



```
- (void)onRequestReceived:(TUIRequest *)request;
```

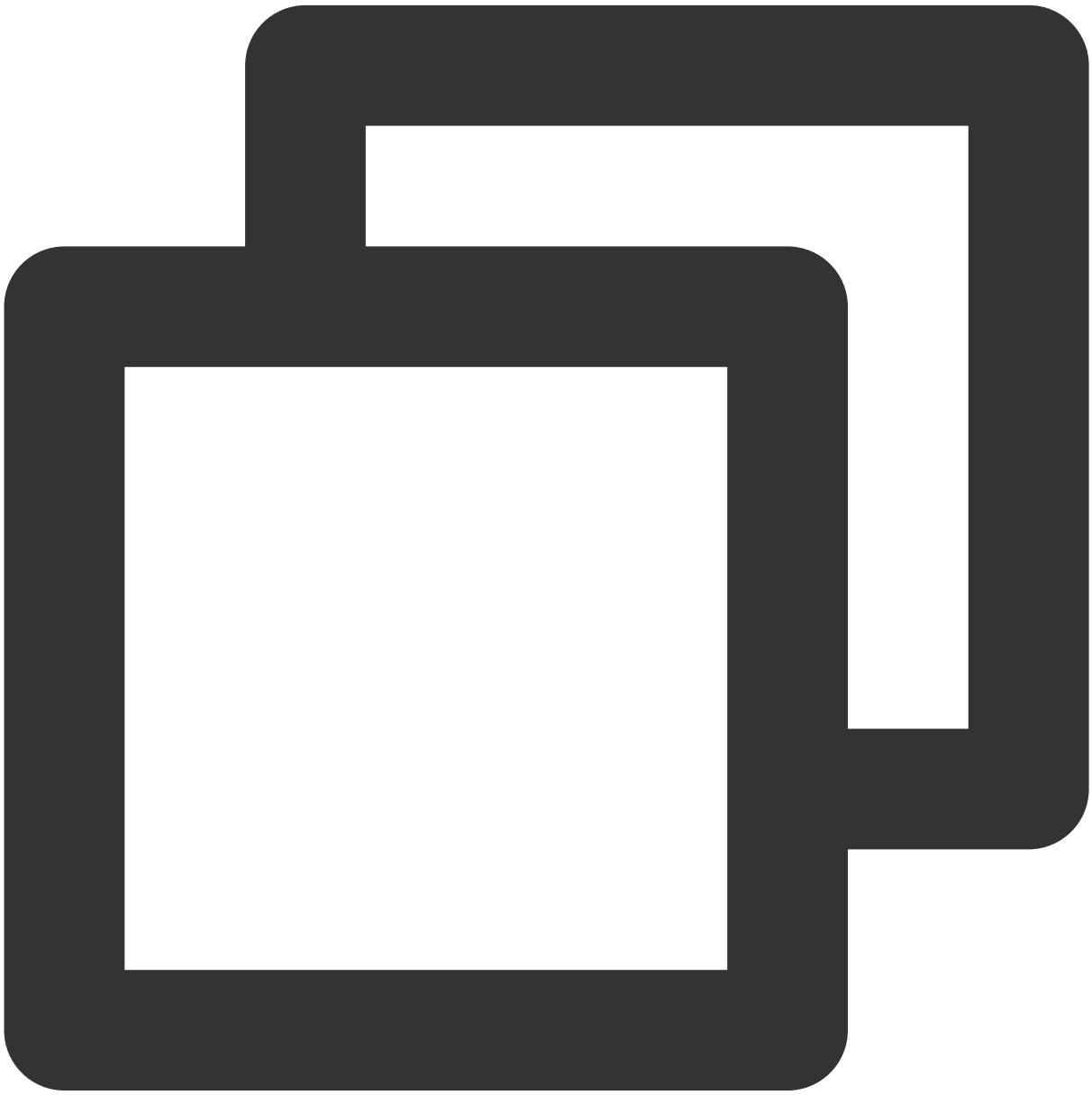
The parameters are as follows:

Parameter	Type	Meaning

request	TUIRequest *	Request content

onRequestCancelled

Received request cancellation event.



```
- (void)onRequestCancelled:(NSString *)requestId;
```

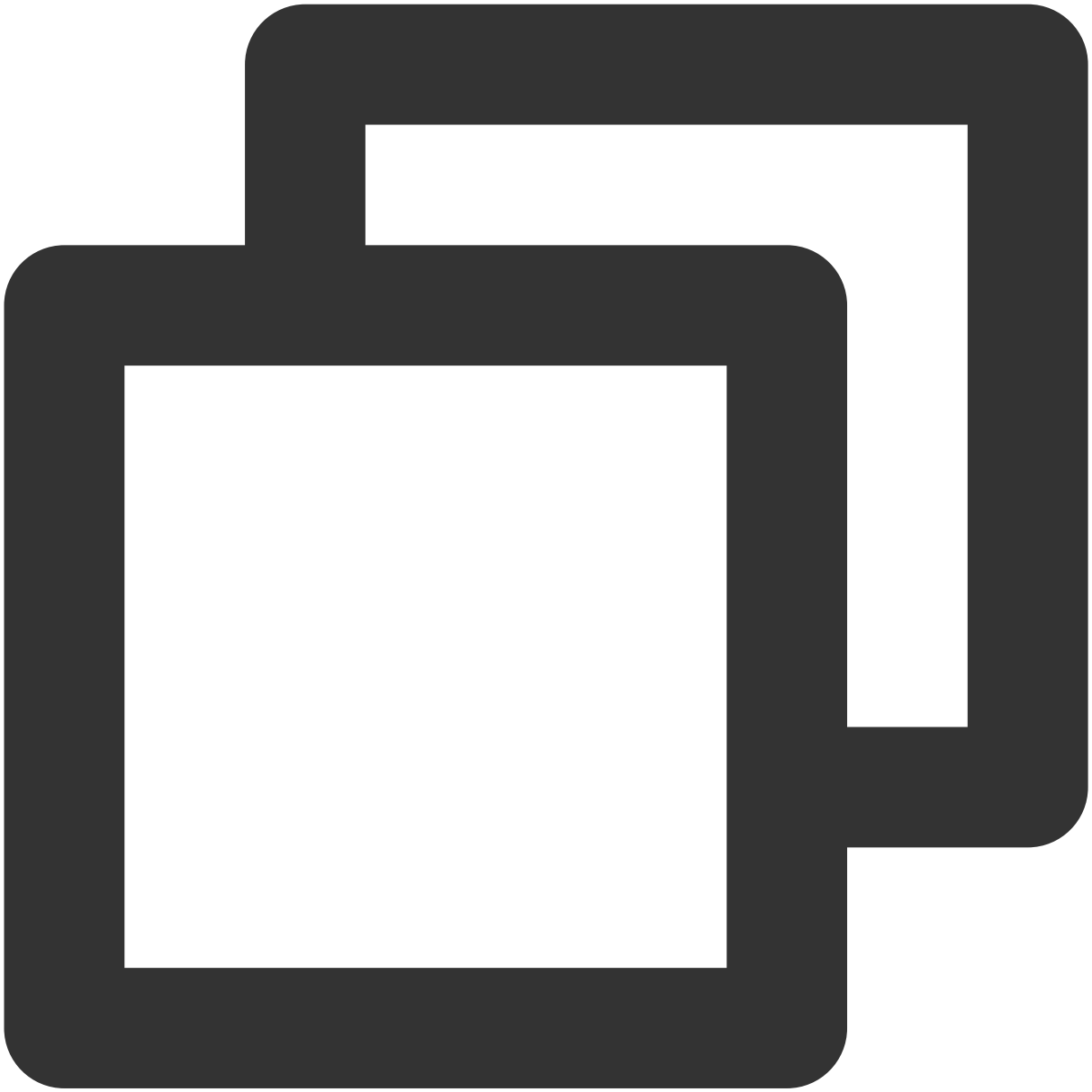
The parameters are as follows:

Parameter	Type	Meaning

requestId	NSString *	Request ID

onReceiveTextMessage

Received ordinary text message event.



```
- (void)onReceiveTextMessage:(NSString *)roomId
                     message:(TUIMessage *)message;
```

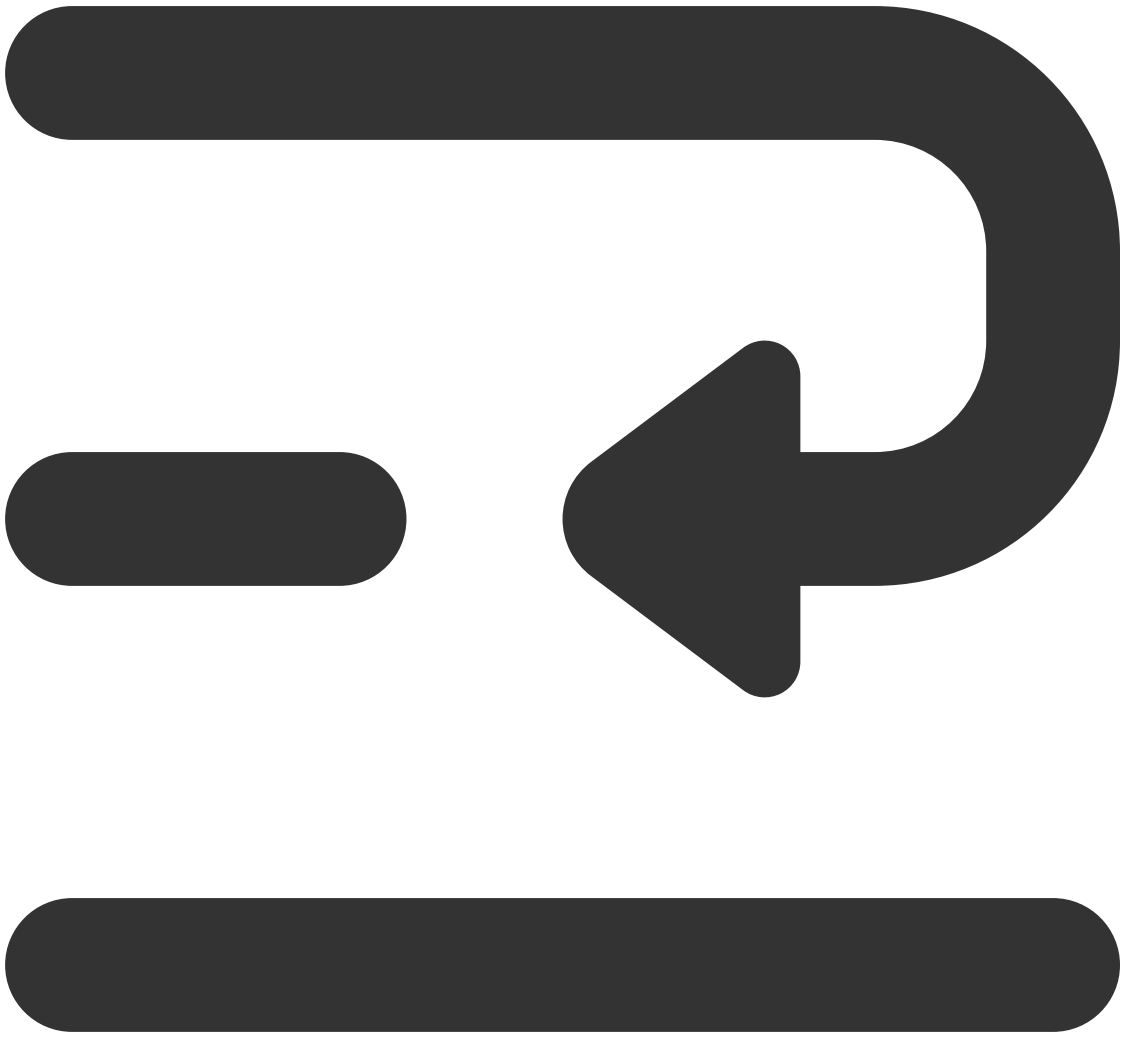
The parameters are as follows:

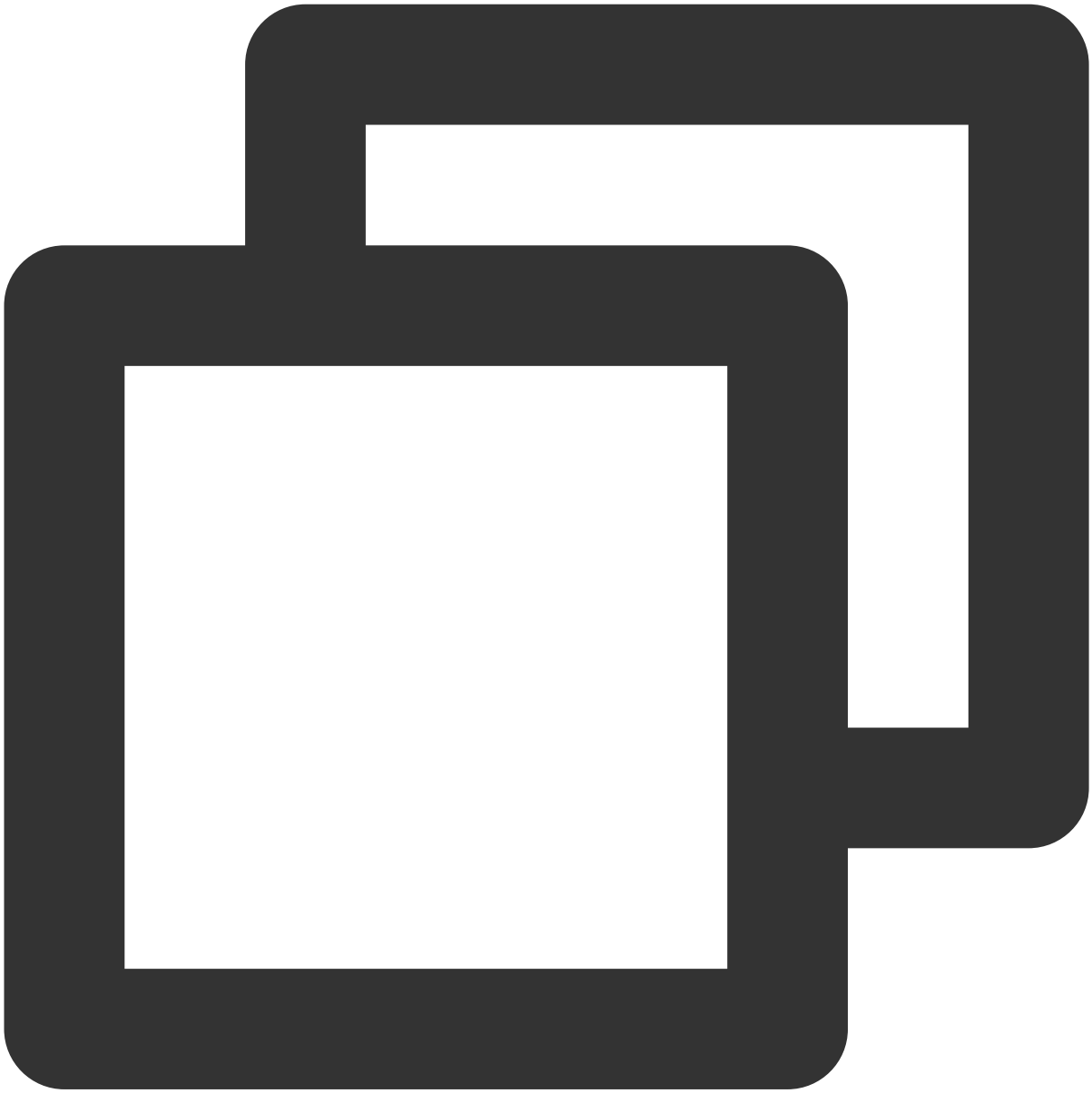
Parameter	Type	Meaning

roomId	NSString *	Room ID
message	TUIMessage	Message content, detailed definition can refer to `TUIRoomDefine.h` file in TUIMessage definition

onReceiveCustomMessage

Received custom message event.





```
- (void)onReceiveCustomMessage:(NSString *)roomId
                       message:(TUIMessage *)message;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	NSString *	Room ID
message	TUIMessage	Message content

Type Definition

Last updated：2023-12-18 18:05:05

Enumeration Definition

TUIRoomDefine

Type	Description
TUIRoomType	Room Type
TUISpeechMode	Mic Control Mode
TUIMediaDevice	Room Media Device Type
TUIRole	Room Role Type
TUIVideoQuality	Video Quality
TUIAudioQuality	Audio Quality
TUIVideoStreamType	Video Stream Type
TUIChangeReason	Change Reason (User audio and video status change operation reason: self-modification or modified by room owner/administrator)
TUICaptureSourceType	Screen Sharing Capture Source Type
TUIRequestAction	Request Type

TUICommonDefine

Type	Description
TUINetworkQuality	Network Quality

Common Structure

TUIRoomDefine

Type	Description
TUIRoomInfo	Room data
TUILoginUserInfo	User Login Information

TUIUserInfo	Room User Information
TUISeatInfo	Room Seat Information
TUISeatLockParams	Lock Seat Operation Parameters
TUIUserVoiceVolume	Room User Volume
TUIRequest	Signaling Request
TUIShareTarget	Screen Sharing Capture Source Information

TUICommonDefine

Type	Description
TUINetworkInfo	Network Quality Information
TUIMessage	Message

TUIRoomType

Room Type

Enumeration	Value	Description
TUIRoomTypeConference	1	Conference Type Room, suitable for conference and education scenarios, this room can enable free speech, apply for speech, go live and other modes.
TUIRoomTypeLivingRoom	2	Live Type Room, suitable for live broadcast scenarios, this room can enable free speech, mic control mode, and the seats in this room are numbered.

TUISpeechMode

Mic Control Mode

Enumeration	Value	Description
TUISpeechModeFreeToSpeak	1	Free speech mode.
TUISpeechModeApplyToSpeak	2	Apply to speak mode. (Only effective in conference type room)
TUISpeechModeApplySpeakAfterTakingSeat	3	Go Live mode.

TUIMediaDevice

Room Media Device Type

Enumeration	Value	Description
TUIMediaDeviceMicrophone	1	Mic
TUIMediaDeviceCamera	2	Camera
TUIMediaDeviceApplyScreenSharing	3	Screen Sharing

TUIRole

Room Role Types

Enumeration	Value	Description
TUIRoleRoomOwner	0	Room Owner, generally refers to the creator of the room, the highest authority holder in the room
TUIRoleAdministrator	1	Room Administrator
TUIRoleGeneralUser	2	General Member in the room

TUIVideoQuality

Video Quality

Enumeration	Value	Description
TUIVideoQuality360P	1	Low-quality 360P
TUIVideoQuality540P	2	Standard Definition 540P
TUIVideoQuality720P	3	High Definition 720P
TUIVideoQuality1080P	4	Ultra-clear 1080P

TUIAudioQuality

Audio Quality

Enumeration	Value	Description
TUIAudioQualitySpeech	0	Speech Mode

TUIAudioQualityDefault	1	Default Mode
TUIAudioQualityMusic	2	Music Mode

TUIVideoStreamType

Video Stream Type

Enumeration	Value	Description
TUIVideoStreamTypeCameraStream	0	High-quality Camera Video Stream
TUIVideoStreamTypeScreenStream	1	Screen Sharing Video Stream
TUIVideoStreamTypeCameraStreamLow	2	Low-quality Camera Video Stream

TUIChangeReason

Change Reason (User audio and video status change operation reason: self-modification or modification by room owner/administrator)

Enumeration	Value	Description
TUIChangeReasonBySelf	0	Self-operation
TUIChangeReasonByAdmin	1	Room Owner or Administrator Operation

TUICaptureSourceType

Screen Sharing Capture Source Type

Enumeration	Value	Description
TUICaptureSourceTypeUnknown	-1	Undefined
TUICaptureSourceTypeWindow	0	Window
TUICaptureSourceTypeScreen	1	Screen

TUIRequestAction

Request Type

Enumeration	Value	Description
TUIRequestActionInvalidAction	0	Invalid Request
TUIRequestActionOpenRemoteCamera	1	Request Remote User to

		Open Camera
TUIRequestActionOpenRemoteMicrophone	2	Request Remote User to Open Microphone
TUIRequestActionConnectOtherRoom	3	Request to Connect to Other Room
TUIRequestActionTakeSeat	4	Request to Go Live
TUIRequestActionRemoteUserOnSeat	5	Request Remote User to Go Live
TUIRequestActionApplyToAdminToOpenLocalCamera	6	Request to Admin to Open Local Camera
TUIRequestActionApplyToAdminToOpenLocalMicrophone	7	Request to Admin to Open Local Microphone

TUINetworkQuality

Network Quality

Enumeration	Value	Description
TUINetworkQualityUnknown	0	Undefined
TUINetworkQualityExcellent	1	Current Network is Excellent
TUINetworkQualityGood	2	Current Network is Good
TUINetworkQualityPoor	3	Current Network is Average
TUINetworkQualityBad	4	Current Network is Poor
TUINetworkQualityVeryBad	5	Current Network is Very Poor
TUINetworkQualityDown	6	Current Network Does Not Meet TRTC's Minimum Requirements

TUIRoomInfo

Room Information

Field	Type	Description
roomId	NSString *	Room ID
roomType	TUIRoomType	Room Type

ownerId	NSString *	Host ID, default is the room creator (read-only)
name	NSString *	Room Name, default is the room ID
speechMode	TUISpeechMode	Mic Control Mode
createTime	NSUInteger	Room Creation Time (read-only)
memberCount	NSInteger	Number of Members in the Room (read-only)
maxSeatCount	NSUInteger	Maximum Number of Mic Seats (only supported when entering the room and creating the room)
isCameraDisableForAllUser	BOOL	Whether to Disable Opening Camera (optional when creating a room), default value: false
isMicrophoneDisableForAllUser	BOOL	Whether to Disable Opening Microphone (optional when creating a room), default value: false
isMessageDisableForAllUser	BOOL	Whether to Disable Sending Messages (optional when creating a room), default value: false
enableCDNStreaming	BOOL	Whether to Enable CDN Live Streaming (optional when creating a room, for live streaming rooms), default value: false
cdnStreamDomain	NSString*	Live Streaming Push Domain (optional when creating a room, for live streaming rooms), default value: empty

TUILoginUserInfo

User Login Information

Field	Type	Meaning
userId	NSString *	User ID
userName	NSString *	User Name
avatarUrl	NSString *	User Avatar URL

TUIUserInfo

User Information in the Room

Field	Type	Description
userId	NSString *	User ID
userName	NSString *	User Name
avatarUrl	NSString *	User Avatar URL
userRole	TUIRole	User Role Type
hasAudioStream	BOOL	Whether There is Audio Stream, default value: false
hasVideoStream	BOOL	Whether There is Video Stream, default value: false
hasScreenStream	BOOL	Whether There is Screen Sharing Stream, default value: false

TUISeatInfo

Seat Information in the Room

Field	Type	Description
index	NSInteger	Mic Seat Number
userId	NSString *	User ID
isLocked	BOOL	Whether the Mic Seat is Locked, default false
isVideoLocked	BOOL	Whether the Mic Seat is Prohibited from Opening Camera, default false
isAudioLocked	BOOL	Whether the Mic Seat is Prohibited from Opening Microphone, default false

TUISeatLockParams

Lock Seat Operation Parameters

Field	Type	Meaning

lockSeat	BOOL	Lock Mic Seat, default false
lockVideo	BOOL	Lock Mic Seat Camera, default false
lockAudio	BOOL	Lock Mic Seat Microphone, default false

TUIUserVoiceVolume

User Voice Volume in the Room

Field	Type	Description
userId	NSString *	User ID
volume	NSUInteger	Volume Size, Value range 0 - 100

TUIRequest

Signaling Request

Field	Type	Description
requestId	NSString *	Request ID
requestAction	TUIRequestAction	Request Type
userId	NSString *	User ID
content	NSString *	Signaling Content
timestamp	NSUInteger	Timestamp

TUIShareTarget

Screen Sharing Capture Source Information

Field	Type	Description
targetId	NSString *	Capturing Source ID, for windows, this field represents the window ID; for screens, this field represents the display ID
sourceType	TUICaptureSourceType	Capturing Source Type
sourceName	NSString *	Capturing Source Name
thumbnailImage	TUIImage *	Thumbnail

iconImage	TUIImage *	Icon
extInfo	NSDictionary *	Window's Extended Information

TUINetworkInfo

Network Quality Information

Field	Type	Description
userId	NSString *	User ID
quality	TUINetworkQuality	Network Quality
upLoss	uint32_t	Upstream Packet Loss Rate
downLoss	uint32_t	Downstream Packet Loss Rate
delay	uint32_t	Network Delay

TUIMessage

Message

Field	Type	Description
messageId	NSString *	Message ID
message	NSString *	Message Text
timestamp	uint64_t	Message Time
userId	NSString *	Message Sender
userName	NSString *	Message Sender Nickname
avatarUrl	NSString *	Message Sender Avatar

Android
API Overview

Last updated：2023-10-24 17:16:07

TUIRoomEngine (No UI Interface)

TUIRoomEngine API is the Audio/Video call Component's No UI Interface, you can use this set of API to customize packaging according to your business needs.
TUIRoomEngine

TUIRoomEngine Core Methods

API	Description
createInstance	Create TUIRoomEngine Instance
destroyInstance	Destroy TUIRoomEngine Instance
login	Login interface, you need to initialize user information before entering the room and perform a series of operations.
logout	Logout interface, there will be actively leave room operation, destroy resources
setSelfInfo	Set local user name and avatar
getSelfInfo	Get local user basic information
addObserver	Set event callback
removeObserver	Remove event callback

Room Related Active Interface

API	Description
createRoom	Create room
destroyRoom	Close the room
enterRoom	Entered room
exitRoom	Leave room

connectOtherRoom	Connect to other room
disconnectOtherRoom	Disconnect from other room
fetchRoomInfo	Get room data
updateRoomNameByAdmin	Update room name
updateRoomSpeechModeByAdmin	Set room management mode (only administrator or group owner can call)

Local User View Rendering, Video Management

API	Description
setLocalVideoView	Set the view control for local user video rendering
openLocalCamera	Open local camera
closeLocalCamera	Close local camera
updateVideoQuality	Update local video codec quality settings
startScreenSharing	Start screen sharing
stopScreenSharing	End screen sharing
startPushLocalVideo	Start pushing local video
stopPushLocalVideo	Stop pushing local video

Local User Audio Management

API	Description
openLocalMicrophone	Open local microphone
closeLocalMicrophone	Close local microphone
updateAudioQuality	Update local audio codec quality settings
startPushLocalAudio	Start pushing local audio
stopPushLocalAudio	Stop pushing local audio

Remote User View Rendering, Video Management

API	Description

setRemoteVideoView	Set the view control for remote user video rendering
startPlayRemoteVideo	Start playing remote user video
stopPlayRemoteVideo	Stop playing remote user video
muteRemoteAudioStream	Mute remote user

Room User Information

API	Description
getUserList	Get the member list in the room
getUserInfo	Get member information

Room User Management

API	Description
changeUserRole	Modify user role (only administrator or group owner can call)
kickRemoteUserOutOfRoom	Kick Remote User out of the Room (Only Administrator or Group Owner can call)

Speech Management in Room

API	Description
disableDeviceForAllUserByAdmin	Media Device Management for All Users (Only Administrator or Group Owner can call)
openRemoteDeviceByAdmin	Request Remote User to Open Media Device (Only Administrator or Group Owner can call)
closeRemoteDeviceByAdmin	Close Remote User's Media Device (Only Administrator or Group Owner can call)
applyToAdminToOpenLocalDevice	Request to Open Local Media Device (Available for Ordinary Users)

Microphone Seat Management in Room

API	Description
setMaxSeatCount	Set Maximum Number of Microphone Seats (Only supported when entering the

	room and creating the room)
getSeatList	Get Microphone Seat List
lockSeatByAdmin	Lock Microphone Seat (Including Position Lock, Audio State Lock, Video State Lock)
takeSeat	Go Live Locally Conference Scene: SPEAK_AFTER_TAKING_SEAT mode requires application to the host or administrator to allow going live, other modes do not support going live. Live Broadcast Scene: FREE_TO_SPEAK mode allows free going live, and speak after going live; SPEAK_AFTER_TAKING_SEAT mode requires application to the host or administrator to allow going live; other modes do not support going live.
leaveSeat	Leave Microphone Seat Locally
takeUserOnSeatByAdmin	Host/Administrator invites user to go live
kickUserOffSeatByAdmin	Host/Administrator kicks user off the microphone seat

Signaling Management

API	Description
cancelRequest	Cancel Request
responseRemoteRequest	Reply to Request

Send Message

API	Description
sendTextMessage	Send Text Message
sendCustomMessage	Send Custom Message
disableSendingMessageByAdmin	Disable Remote User's Text Message Sending Ability (Only Administrator or Group Owner can call)
disableSendingMessageForAllUser	Disable All Users' Text Message Sending Ability (Only Administrator or Group Owner can call) Advanced Feature: Get TRTC Instance

Advanced Feature: Get TRTC Instance

API	Description

getTRTCCloud	Get TRTC Instance Object
getDeviceManager	Get Device Management Object
getAudioEffectManager	Get Audio Effect Management Object
getBeautyManager	Get Beauty Management Object

Event Type Definition

TUIRoomObserver is the Callback Event class corresponding to TUIRoomEngine. You can listen to the callback events you need through this callback.
TUIRoomObserver

Error Callback

Event	Description
onError	Error Callback Event

Login Status Event Callback

API	Description
onKickedOffLine	User Kicked Offline Event
onUserSigExpired	User Credential Timeout Event

Room Event Callback

API	Description
onRoomNameChanged	Room Name Change Event
onAllUserMicrophoneDisableChanged	All Users' Microphones Disabled in Room Event
onAllUserCameraDisableChanged	All Users' Cameras Disabled in Room Event
onSendMessageForAllUserDisableChanged	All Users' Text Message Sending Disabled in Room Event
onRoomDismissed	Room Dismissed Event

onKickedOutOfRoom	Kicked Out of Room Event
onRoomSpeechModeChanged	Room Microphone Control Mode Change

Room User Event Callback

API	Description
onRemoteUserEnterRoom	Remote User Entering Room Event
onRemoteUserLeaveRoom	Remote User Leaving Room Event
onUserRoleChanged	User Role Change Event
onUserVideoStateChanged	User Video State Change Event
onUserAudioStateChanged	User Audio State Change Event
onUserVoiceVolumeChanged	User Volume Change Event
onSendMessageForUserDisableChanged	User Text Message Sending Ability Change Event
onUserNetworkQualityChanged	User Network Status Change Event
onUserScreenCaptureStopped	Screen Sharing End Event

Room Microphone Seat Event Callback

API	Description
onRoomMaxSeatCountChanged	Room Maximum Microphone Seat Number Change Event (Only effective in conference type rooms)
onSeatListChanged	Microphone Seat List Change Event
onKickedOffSeat	Received User Kicked Off Microphone Event

Request Signaling Event Callback

API	Description
onRequestReceived	Received Request Message Event
onRequestCancelled	Received Request Cancellation Event

Room Message Event Callback

API	Description
onReceiveTextMessage	Received Normal Text Message Event
onReceiveCustomMessage	Received Custom Message Event

TUIRoomKit

Last updated：2024-03-29 17:53:52

Module: TUIRoomKit

Function: Multi-person audio and video main function interface

Version: 2.1.0

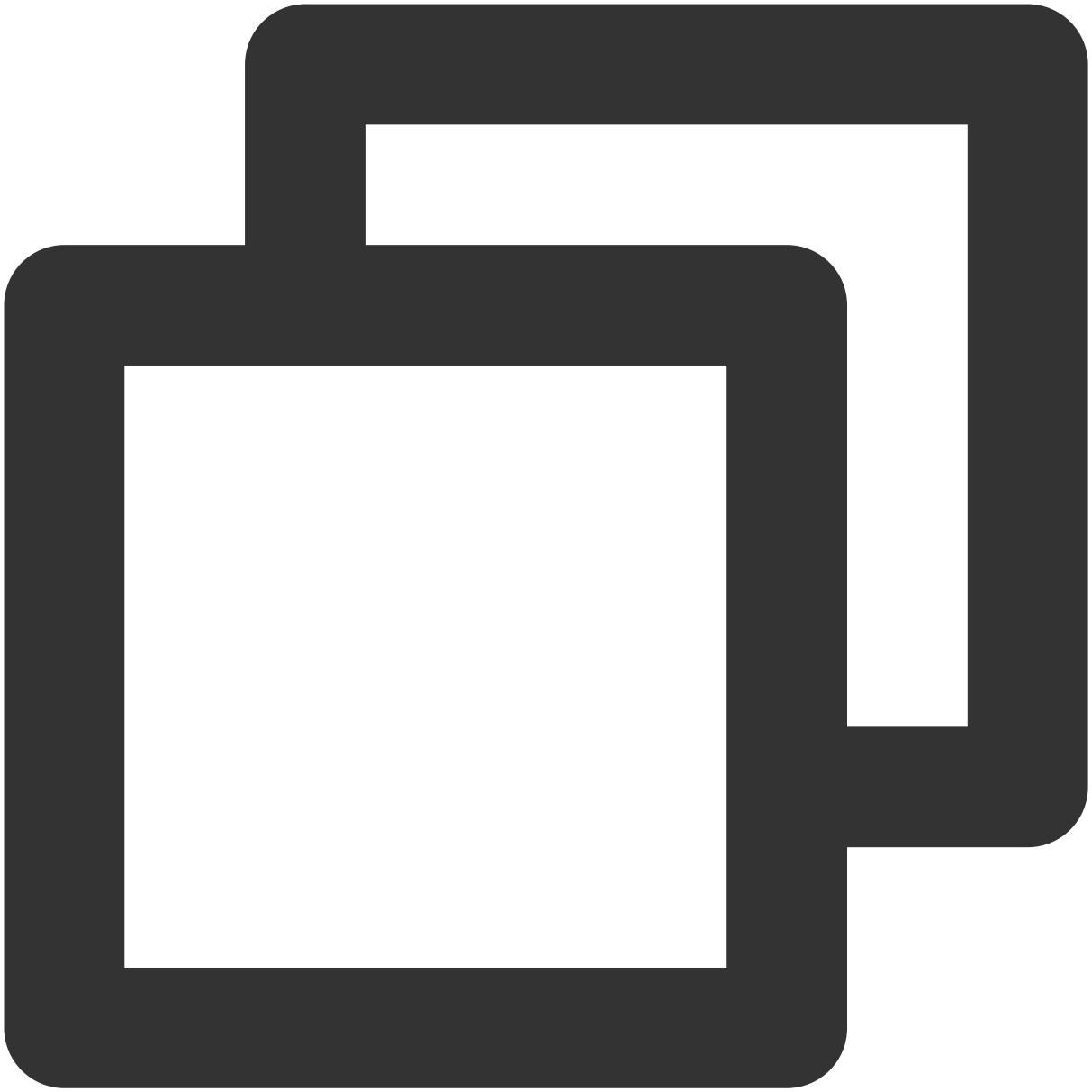
TUIRoomKit

TUIRoomKit

function list	describe
createInstance	Create a TUIRoomKit instance (singleton mode).
destroyInstance	Destroy the TUIRoomKit instance.
setSelfInfo	Set up personal information, including username and avatar.
createRoom	Create a room.
enterRoom	Enter the room.

createInstance

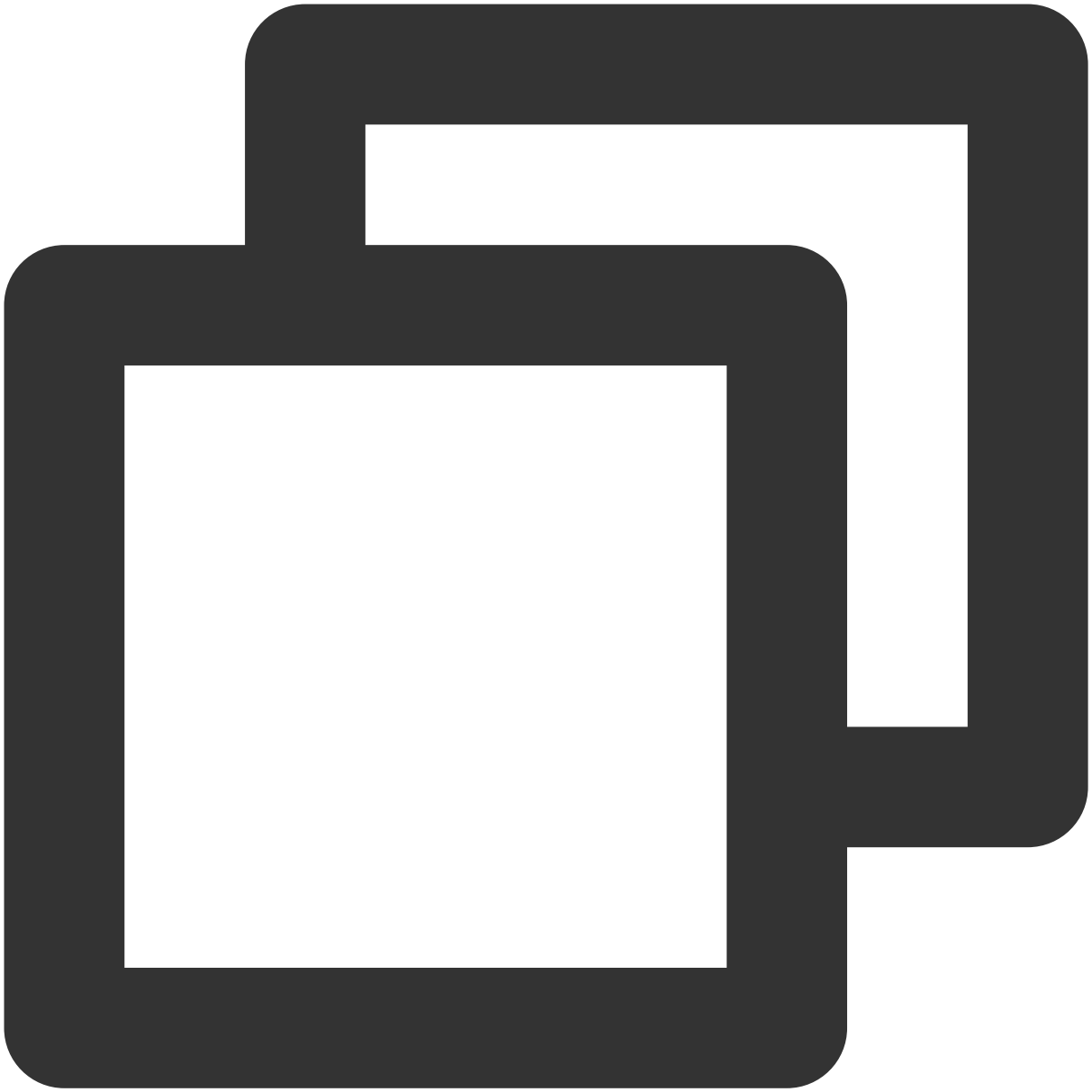
Initialize the TUIRoomKit singleton object.



```
public static TUIRoomKit createInstance();
```

destroyInstance

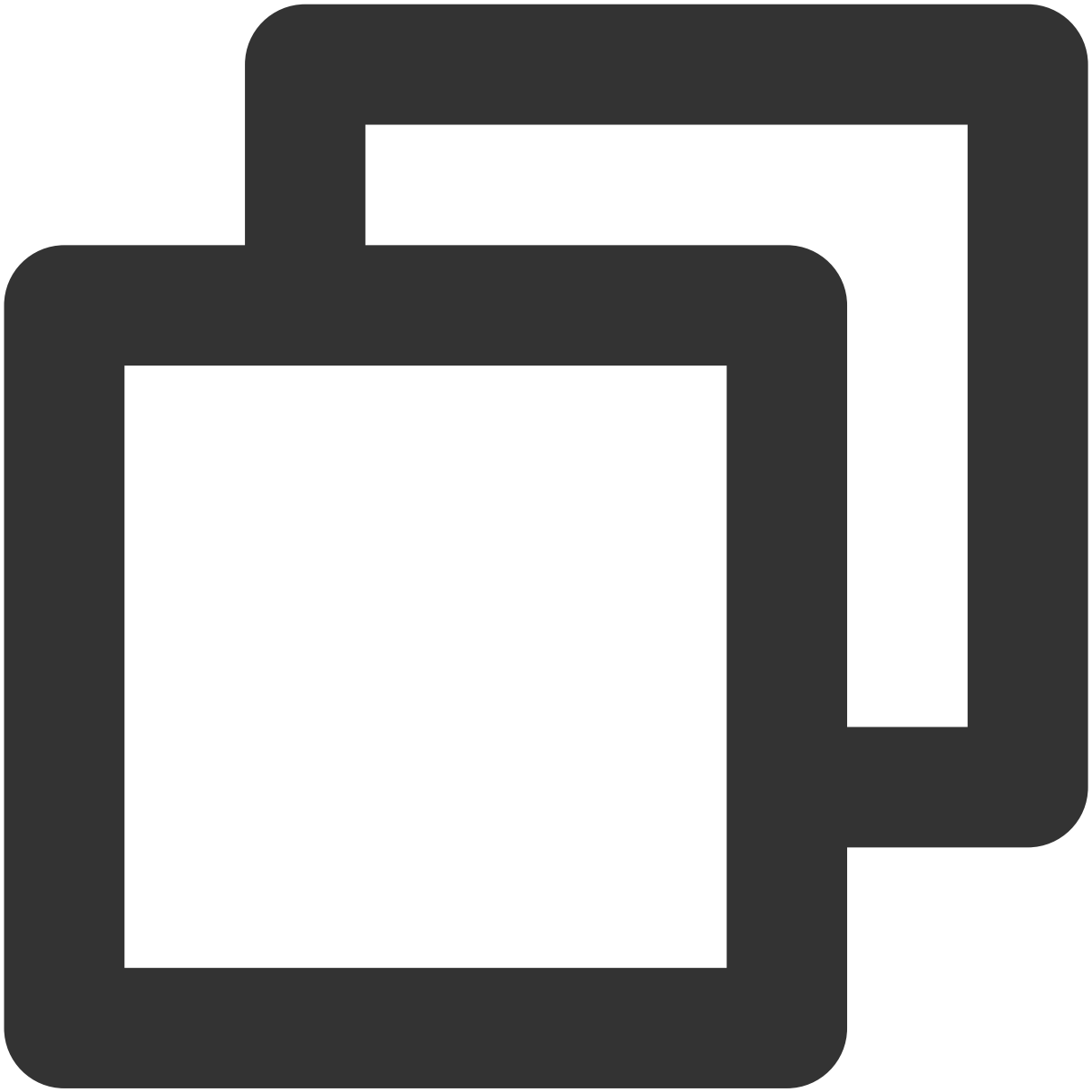
Destroy the TUIRoomKit instance.



```
public static void destroyInstance();
```

setSelfInfo

Set up personal information, including username and avatar.

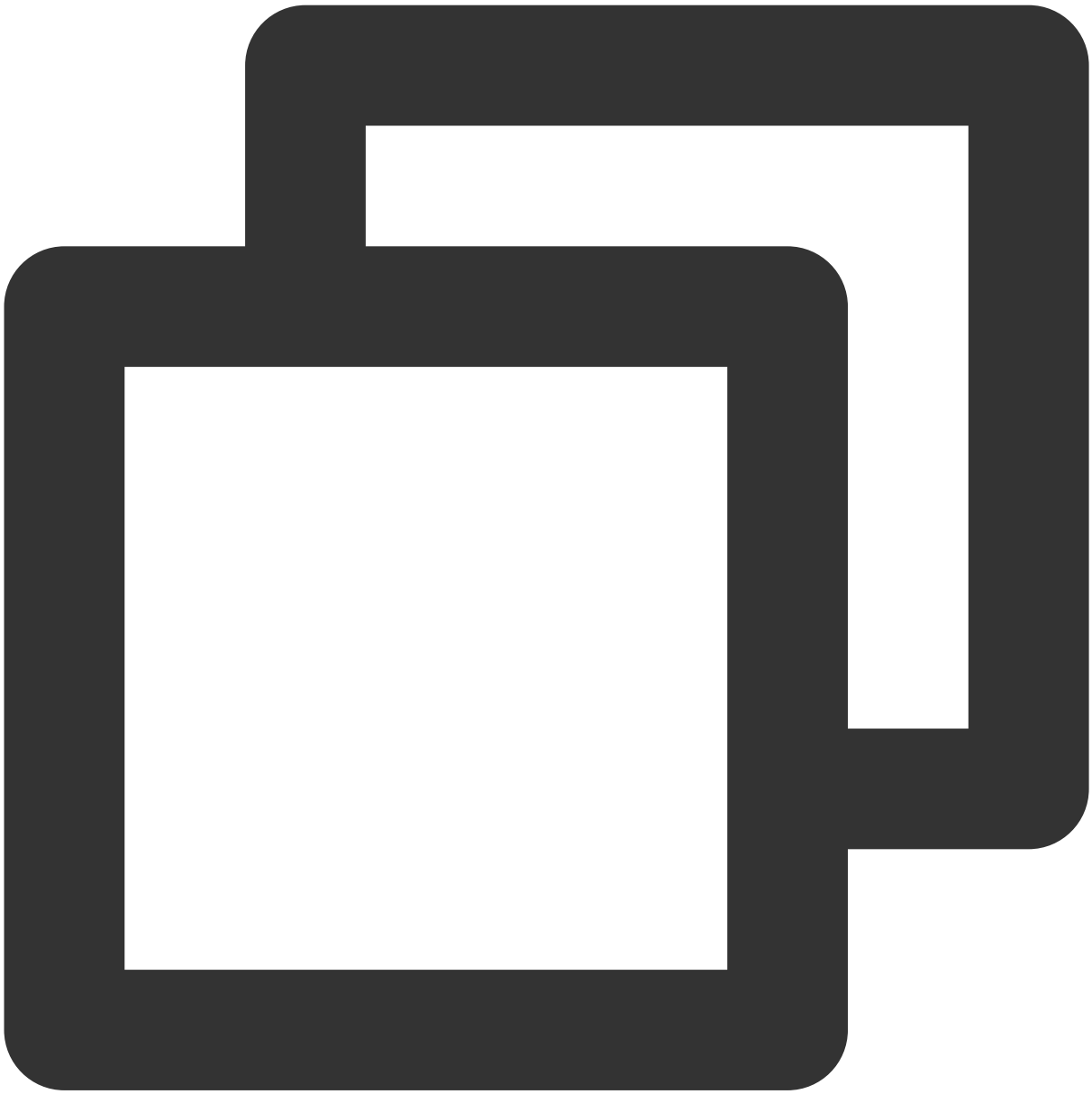


```
public abstract void setSelfInfo(String userName, String avatarURL,
                                 TUIRoomDefine.ActionCallback callback);
```

parameter	describe
userName	The individual's username.
avatarURL	Personal avatar link.
callback	Callback for success in setting personal information.

createRoom

Create a room.



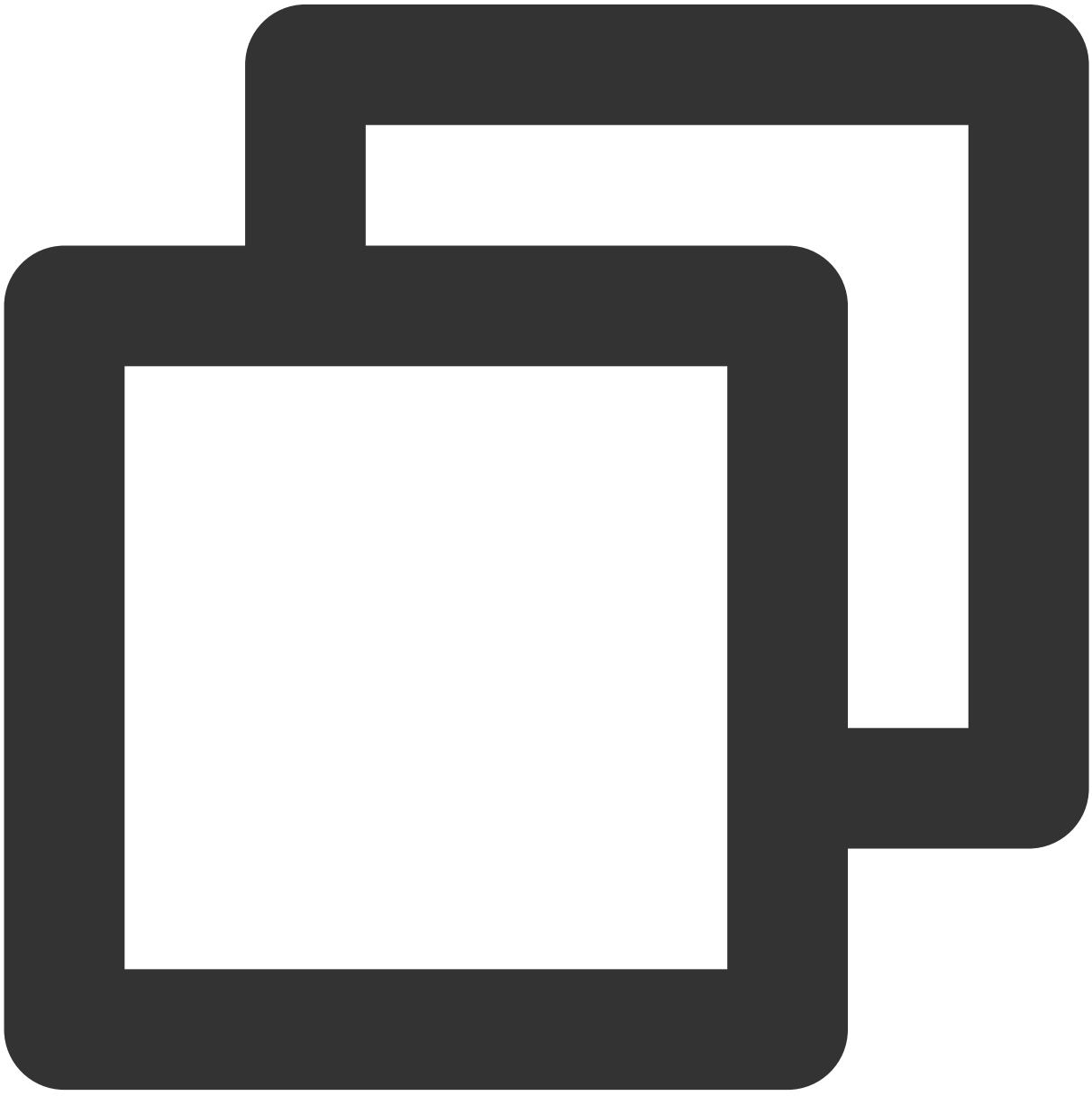
```
public abstract void createRoom(TUIRoomDefine.RoomInfo roomInfo, TUIRoomDefine.Acti
```

parameter	describe
roomInfo	Parameters for creating a room, including room number, room name, etc., where roomId is required and the rest can be default values.

callback	Callback to determine whether the room is successfully created.

enterRoom

Enter the room.



```
public abstract void enterRoom(String roomId,
                               boolean enableAudio,
                               boolean enableVideo,
```

```
                                boolean isSoundOnSpeaker,
                                TUIRoomDefine.GetRoomInfoCallback callback);
```

parameter	describe
roomId	Room number to enter the room.
enableAudio	true: When entering the room, turn on the microphone and push local audio data to the remote end. Other members can hear the local sound normally; false: When entering the room, only the microphone is turned on and local audio data is not pushed to the remote end. Other members cannot hear the local sound.
enableVideo	true: Enter the room, turn on the camera, and push the local video data to the remote end. Other members can see the local picture normally; false: When entering the room, the camera will not be turned on and local video data will not be pushed to the remote end. Other members will not be able to see the local video.
isSoundOnSpeaker	Whether to use the speaker to play sound, true to use the speaker, false to use the earpiece.
callback	Callback whether the room entry is successful.

TUIRoomEngine

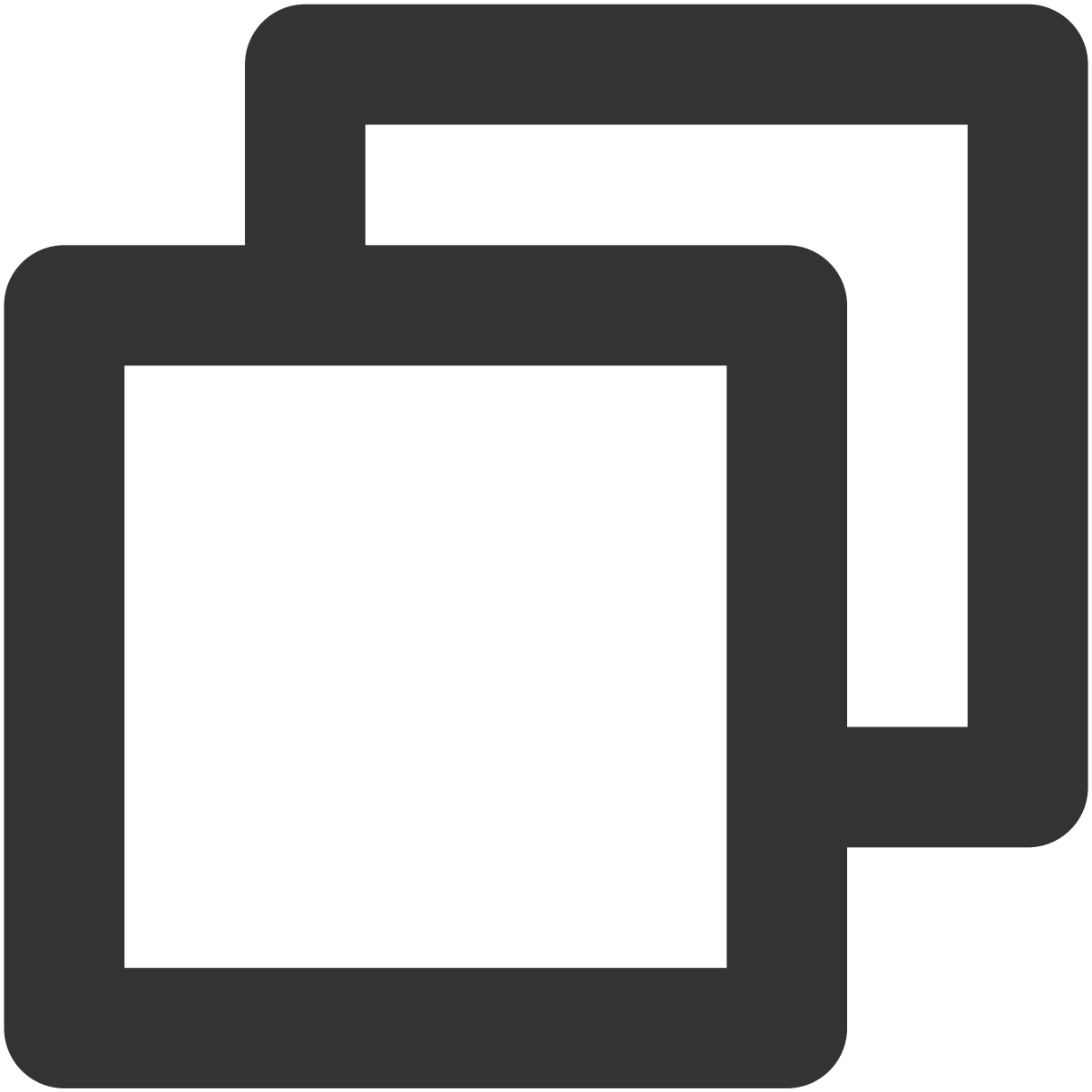
Last updated：2023-10-23 11:32:46

TUIRoomEngine (No UI Interface)

TUIRoomEngine API is a No UI Interface for Conference Component, you can use this API to custom encapsulate according to your business needs.

createInstance

Create TUIRoomEngine Instance

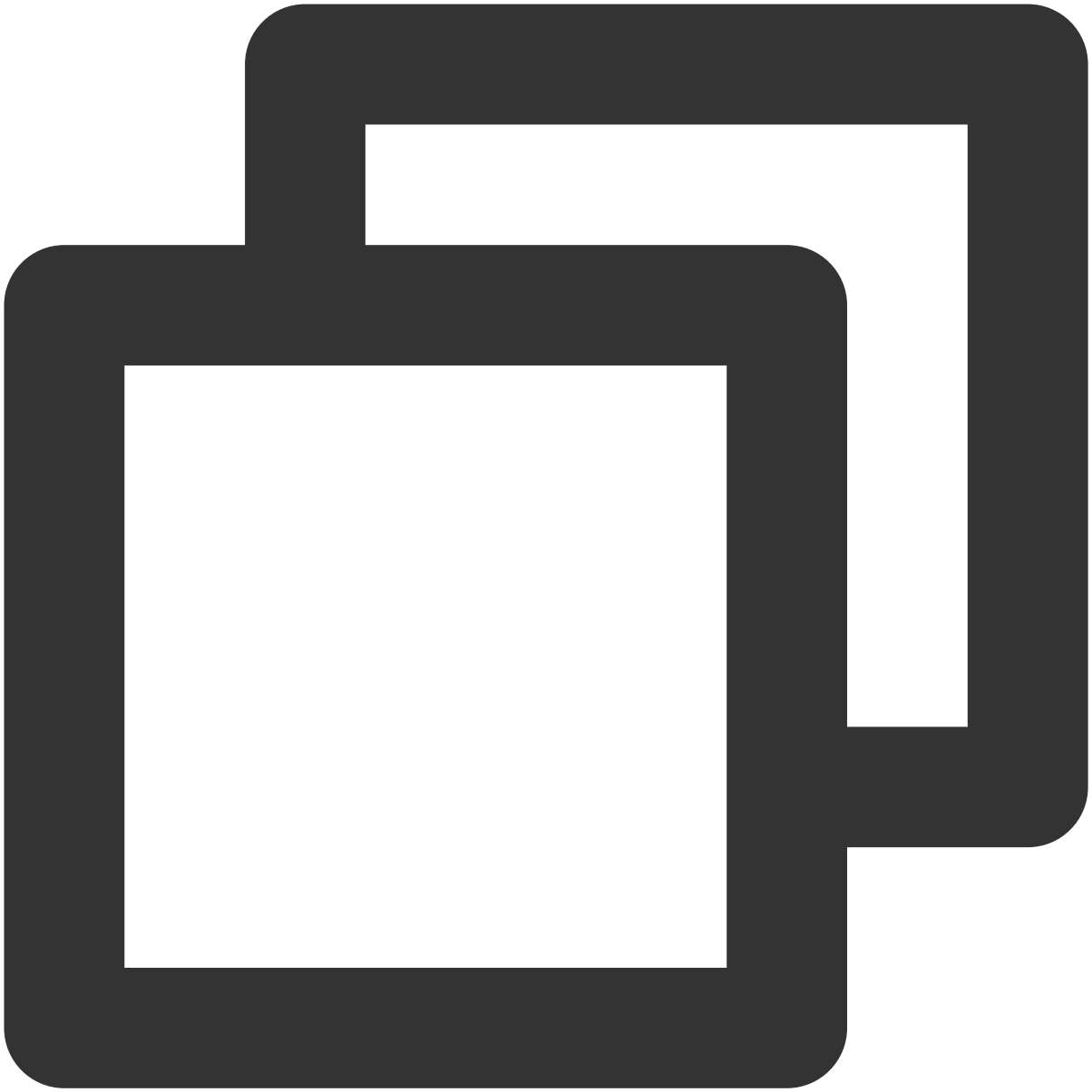


```
static TUIRoomEngine createInstance()
```

return:TUIRoomEngine Instance

destroyInstance

Destroy TUIRoomEngine Instance

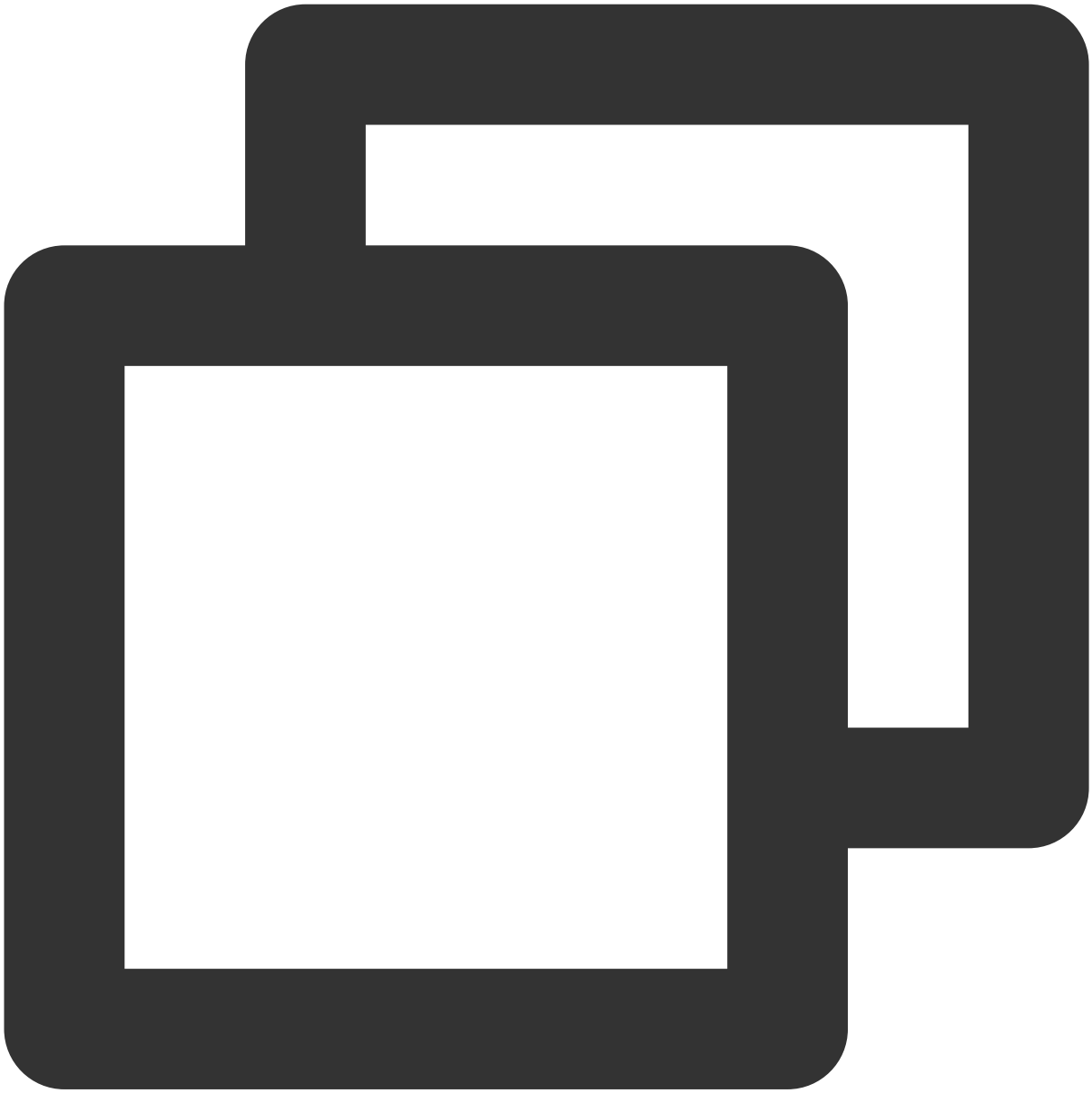


```
void destroyInstance()
```

login

Login interface, you need to initialize user information before entering the room and perform a series of operations

Note：In v1.0.0, this interface is named setup, and in v1.0.1 and above, please use TUIRoomEnine.login to log in to TUIRoomEngine.



```
void static login(Context context,
                  int sdkAppId,
                  String userId,
                  String userSig,
                  TUIRoomDefine.ActionCallback callback)
```

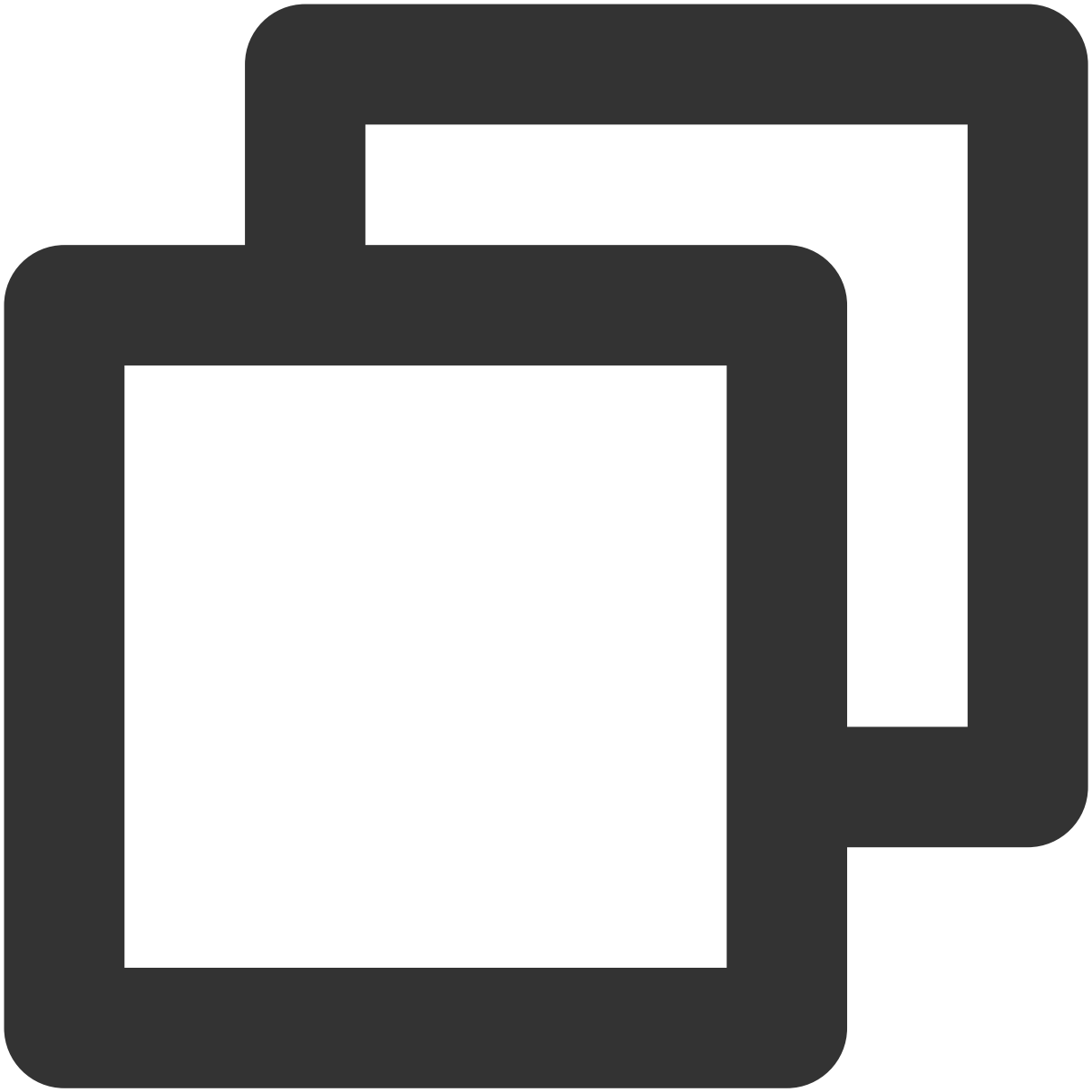
Parameters:

Parameter	Type	Meaning
context	Context	Android Context

sdkAppId	int	Get sdkAppId information from Application Info
userId	String	User ID
userSig	String	UserSig
callback	TUIRoomDefine.ActionCallback	API Callback for notifying the success or failure of the interface call

logout

Logout interface, there will be actively leave the room operation, destroy resources



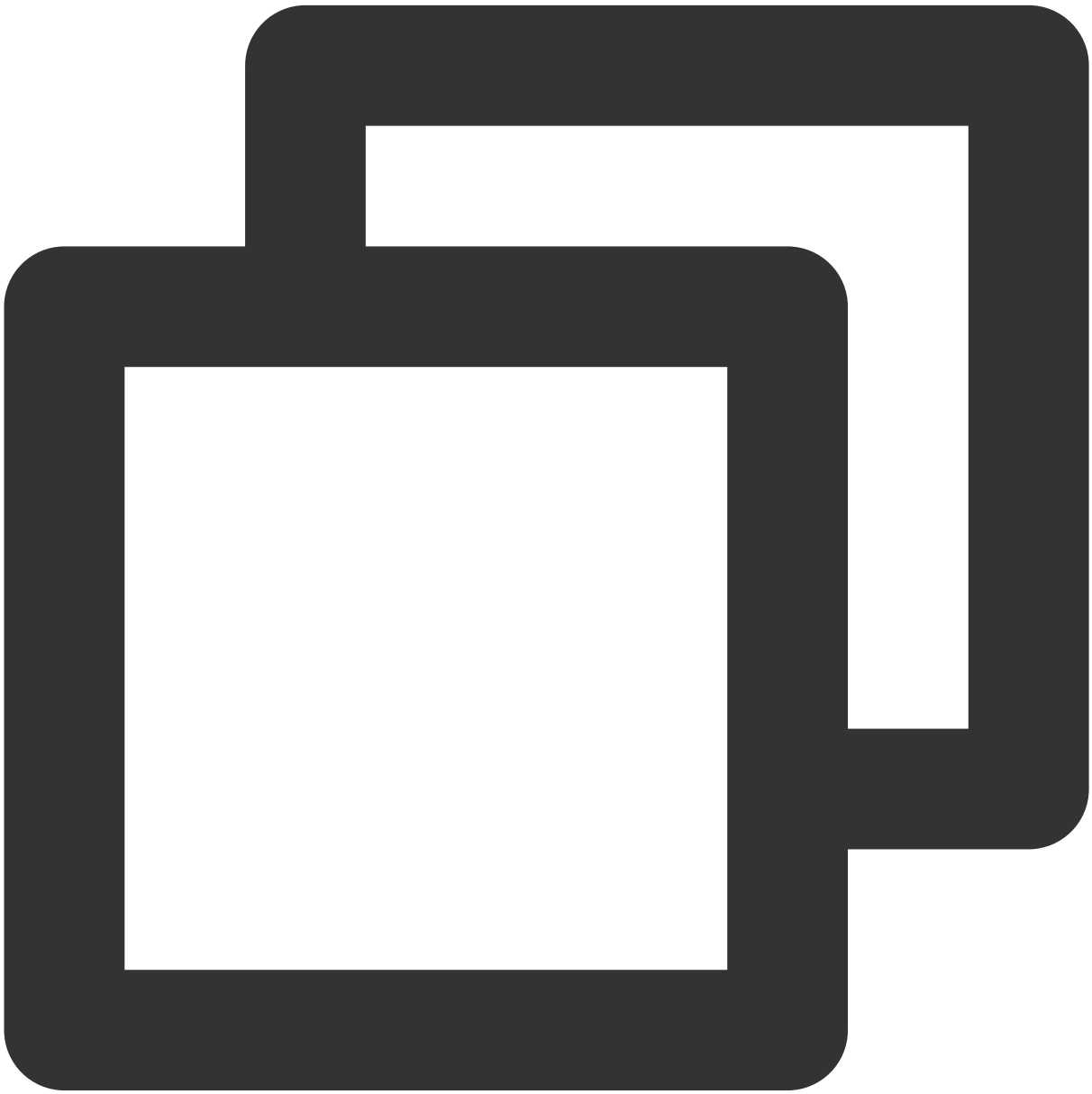
```
static void logout(TUIRoomDefine.ActionCallback callback)
```

Parameters:

Parameter	Type	Meaning
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

setSelfInfo

Set local user name and avatar



```
static void setSelfInfo(String userName, String avatarURL, TUIRoomObserver.ActionCa
```

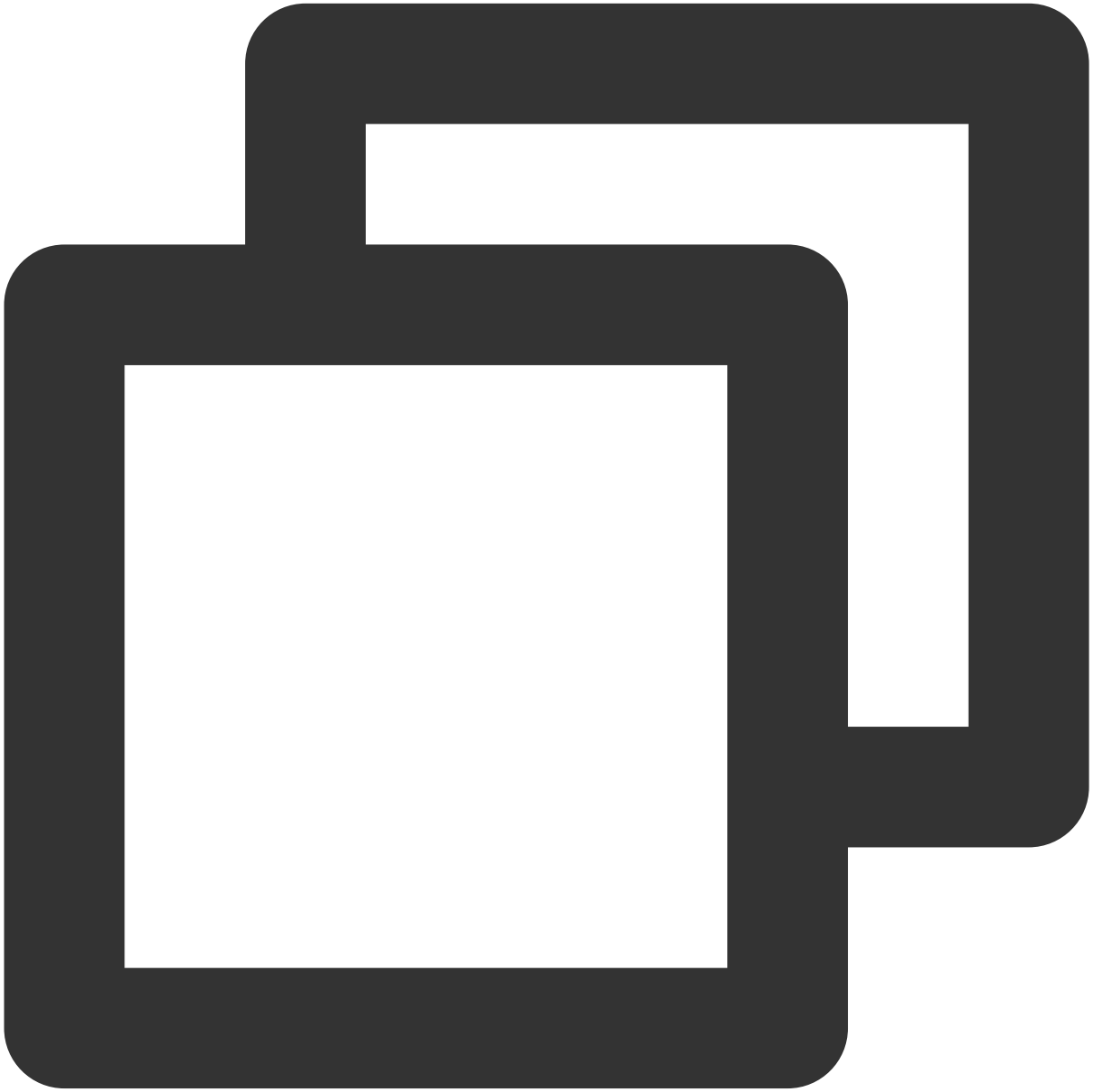
Parameters:

Parameter	Type	Meaning
userName	int	User Name
avatarUrl	String	User avatar URL address

callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

getSelfInfo

Get the basic information of the local user login

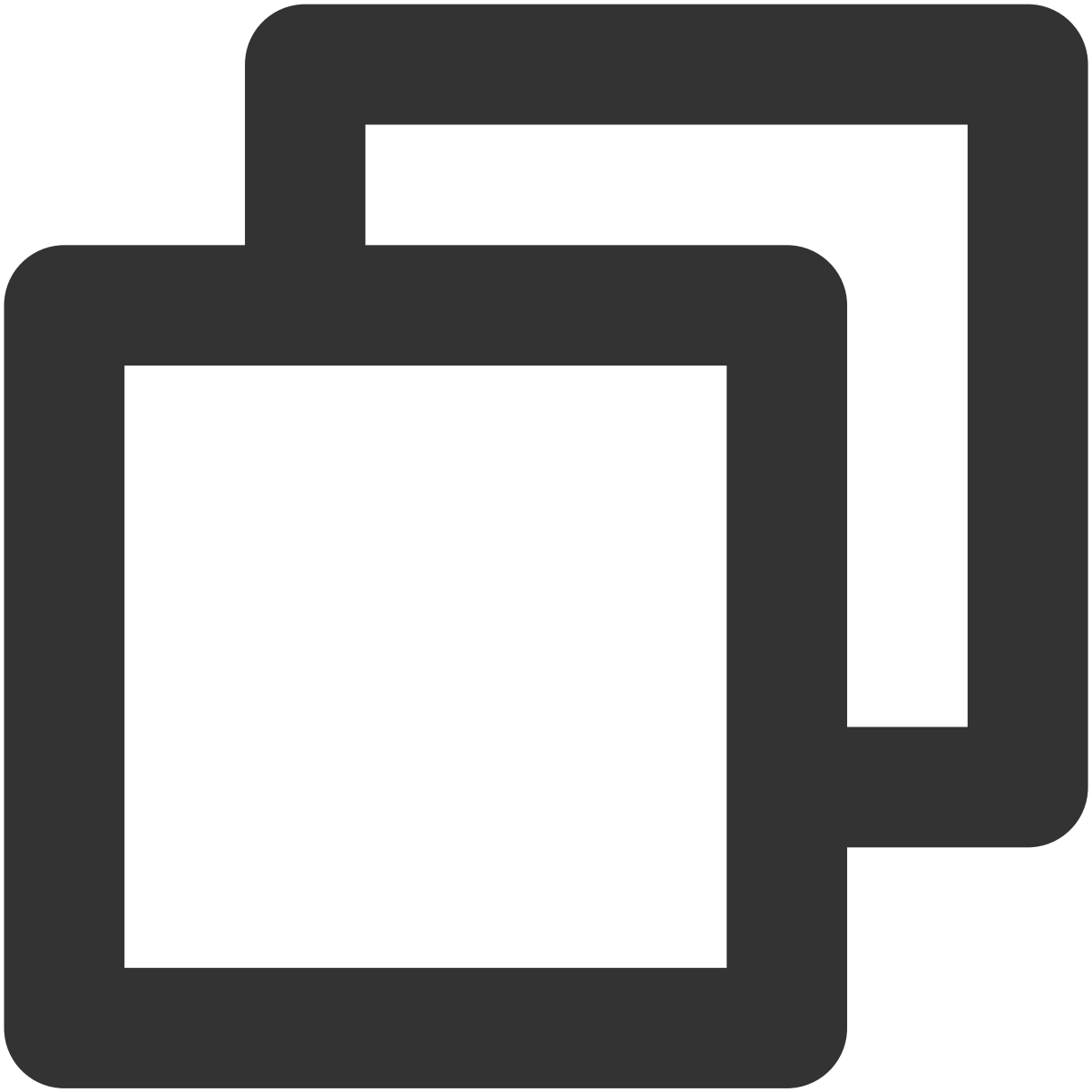


```
static TUIRoomDefine.LoginUserInfo getSelfInfo()
```

return:the basic information of the local user login

addObserver

Add TUIRoomEngine Event Callback



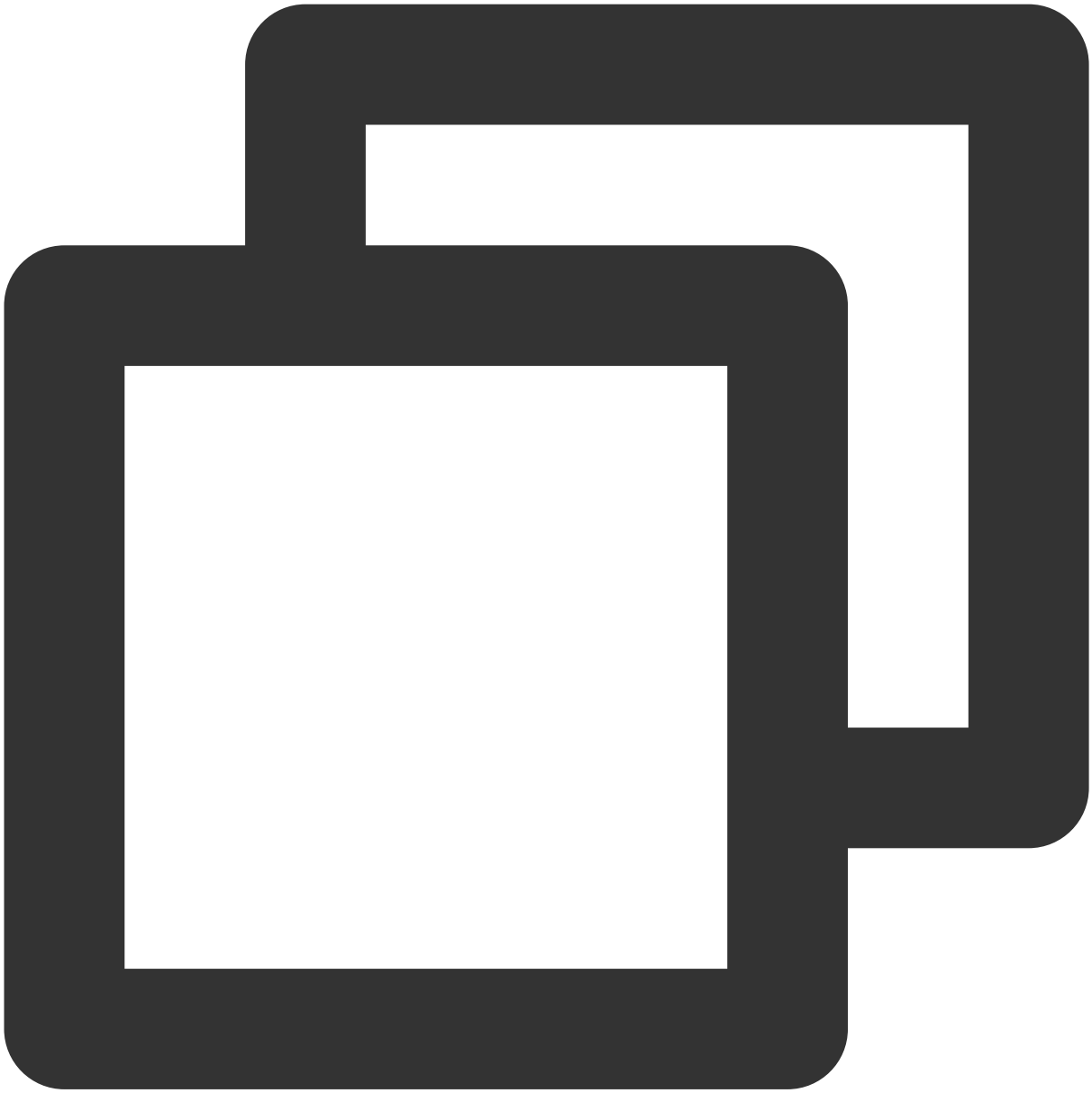
```
void addObserver(TUIRoomObserver observer)
```

Parameters:

Parameter	Type	Meaning
observer	TUIRoomObserver	TUIRoomEngine Event Callback

removeObserver

Remove TUIRoomEngine Event Callback

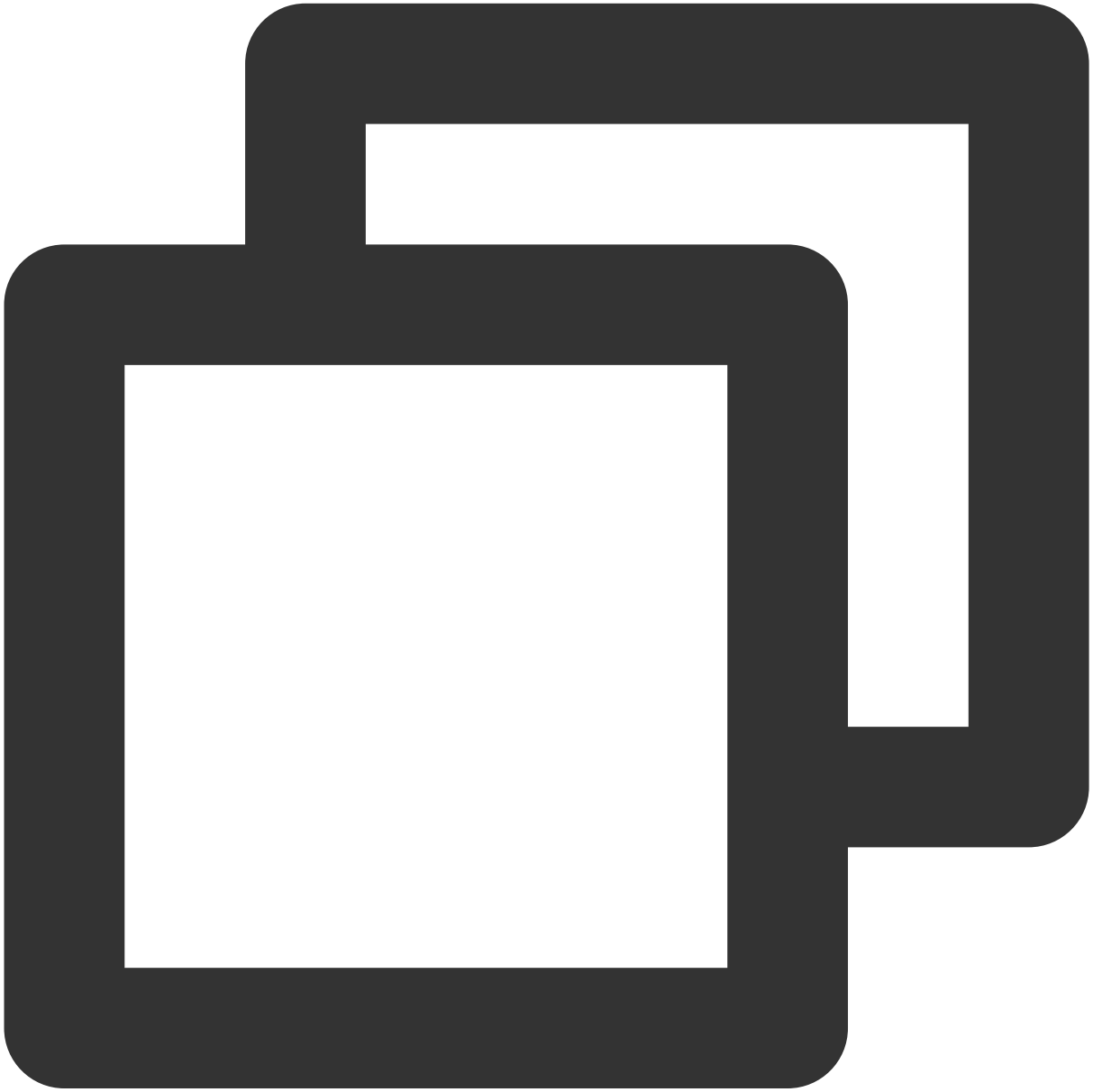


```
void removeObserver(TUIRoomObserver observer)
```

Parameter	Type	Meaning
observer	TUIRoomObserver	TUIRoomEngine Event Callback

createRoom

The host creates a room, and the user who calls createRoom is the owner of the room. When creating a room, you can set the Room ID, room name, and whether the room allows users to join, enable video and audio, send messages, and other functions.



```
void createRoom(TUIRoomDefine.RoomInfo roomInfo, TUIRoomDefine.ActionCallback callb
```

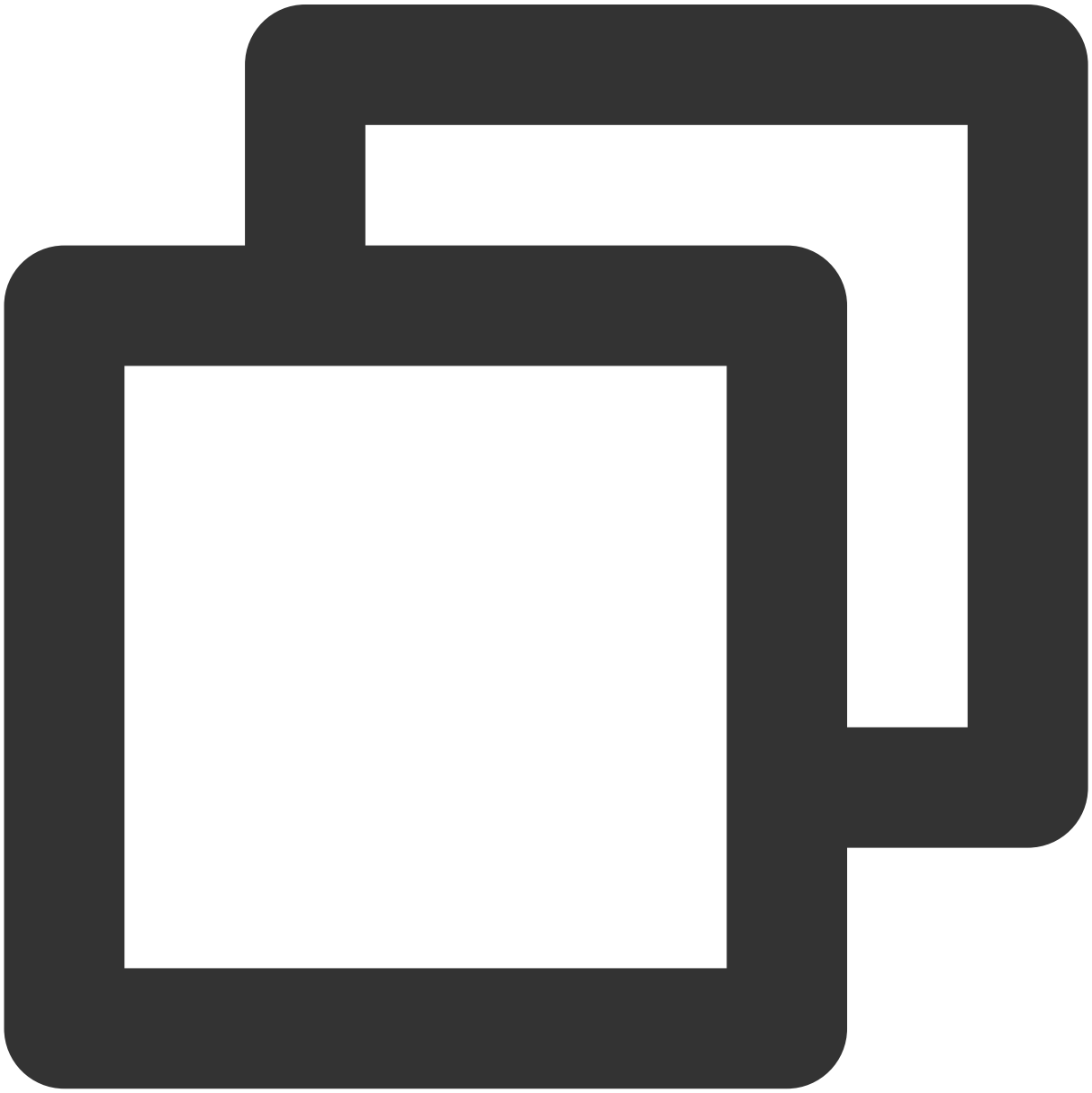
Parameters:

Parameter	Type	Meaning
roomInfo	TUIRoomDefine.RoomInfo	Room data

callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

destroyRoom

Destroy Room Interface, the room owner must initiate the destruction of the room. After the room is destroyed, it is unavailable for entry.



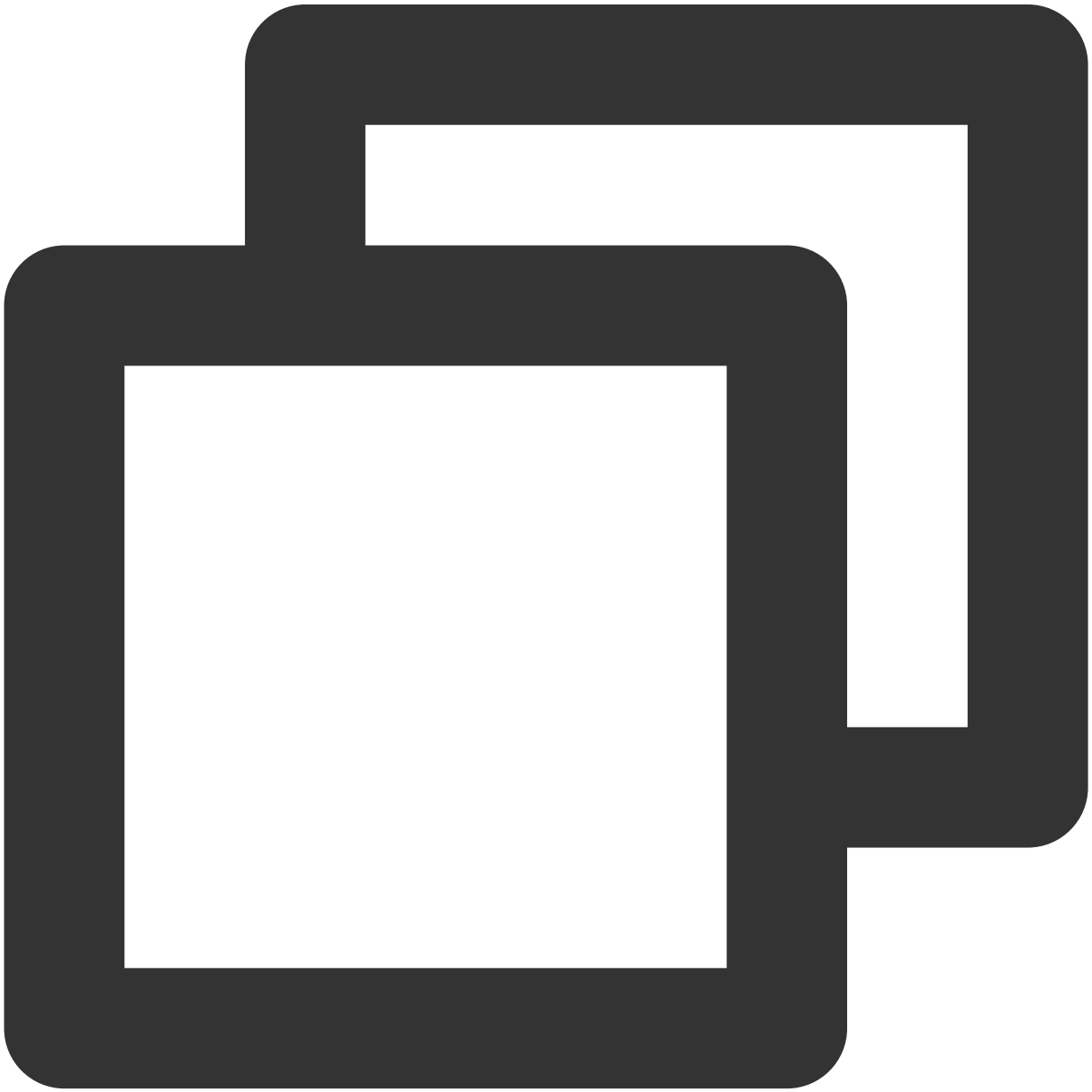
```
void destroyRoom(TUIRoomDefine.ActionCallback callback)
```

Parameters:

Parameter	Type	Meaning
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

enterRoom

Entered room.



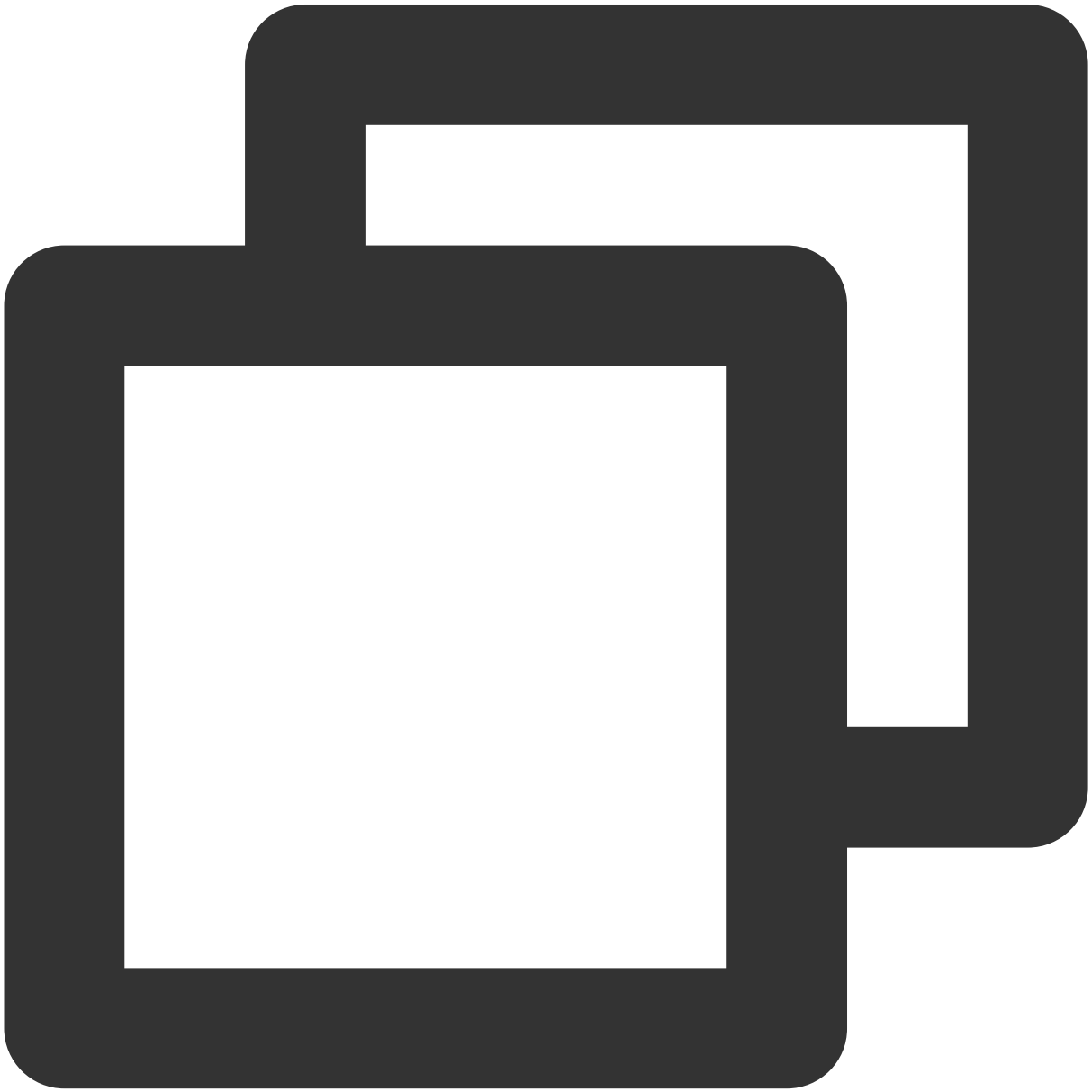
```
void enterRoom(String roomId, TUIRoomDefine.GetRoomInfoCallback callback)
```

Parameters:

Parameter	Type	Meaning
roomId	String	Room ID
callback	TUIRoomDefine.GetRoomInfoCallback	Get the entered Room data Callback

exitRoom

Exit Room Interface, after the user executes Enter Room, they can leave the room through Leave Room.



```
void exitRoom(boolean isSyncWaiting, TUIRoomDefine.ActionCallback callback);
```

Parameters:

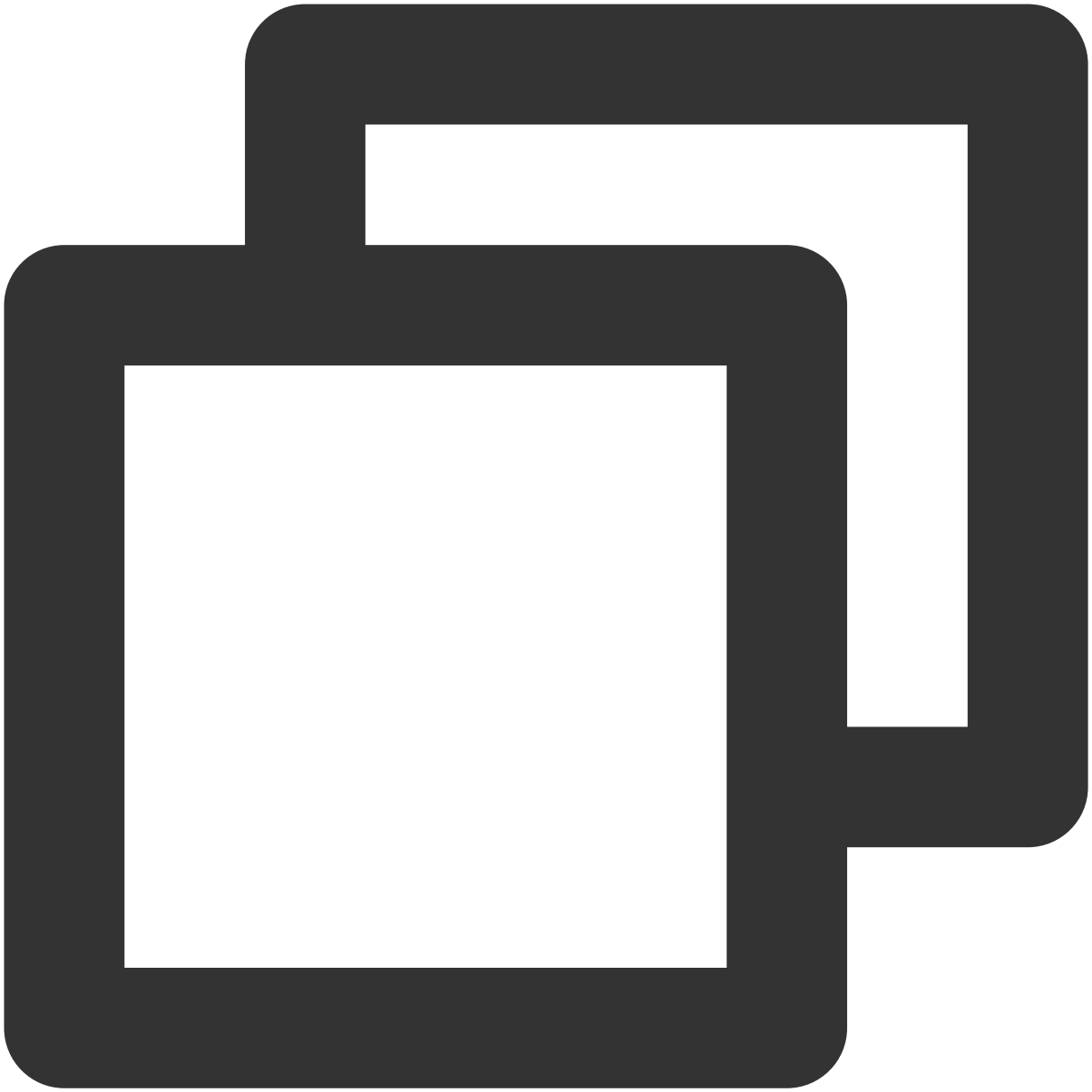
Parameter	Type	Meaning
isSyncWaiting	boolean	Whether to synchronize leaving the room
callback	TUIRoomDefine.ActionCallback	Leave Room Result Callback

connectOtherRoom

Connect to other rooms

Description:

Used for live streaming scenario to apply for cross-room streaming



```
TUIRoomDefine.Request connectOtherRoom(String roomId,
                                       String userId,
                                       int timeout,
                                       TUIRoomDefine.RequestCallback callback);
```

Parameters:

Parameter	Type	Meaning
roomId	String	Room ID

userId	String	User ID
timeout	int	Time
callback	TUIRoomDefine.RequestCallback	Connect to other rooms Callback

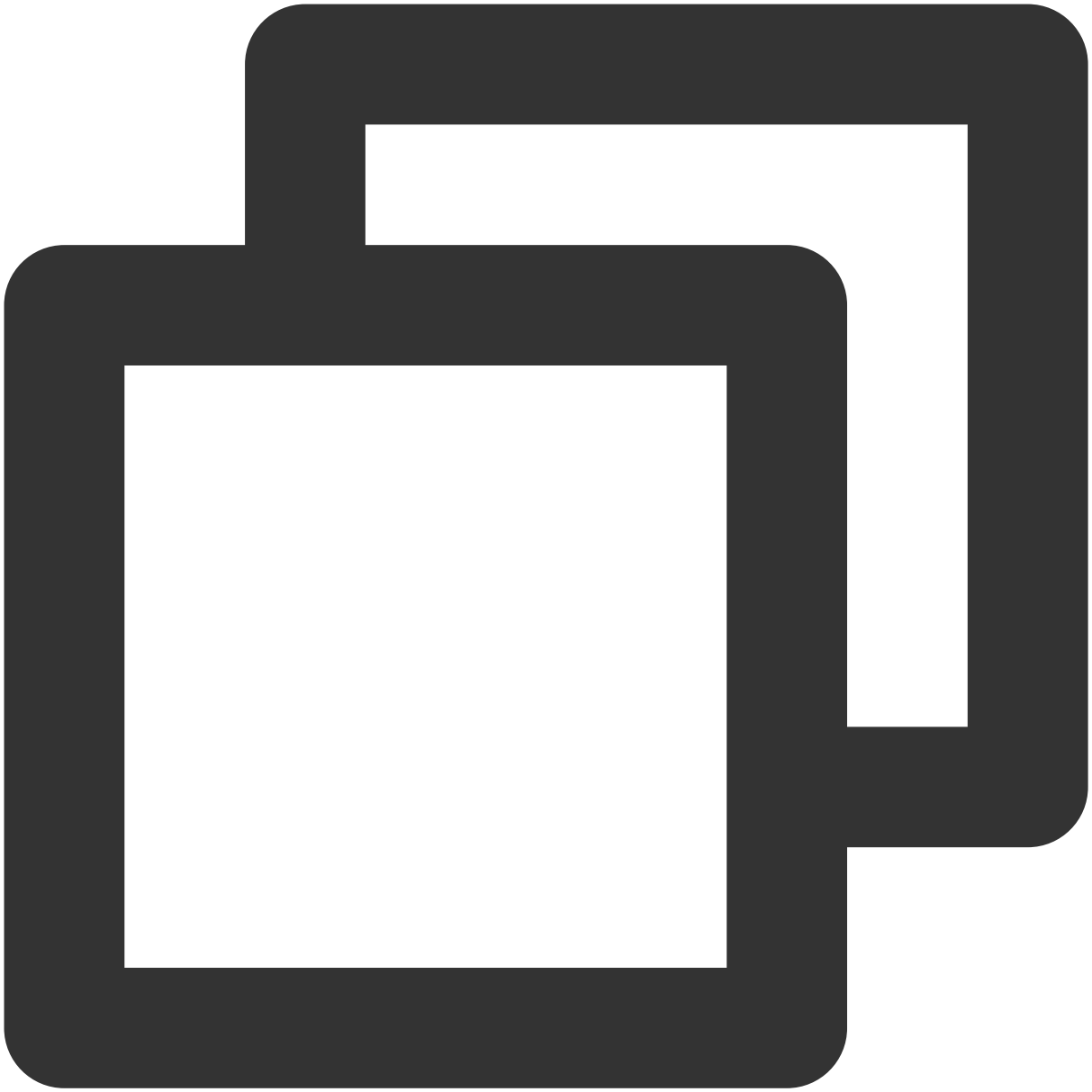
Return：Request body

disconnectOtherRoom

Disconnect from other rooms

Description:

Used for live streaming scenario to disconnect cross-room streaming



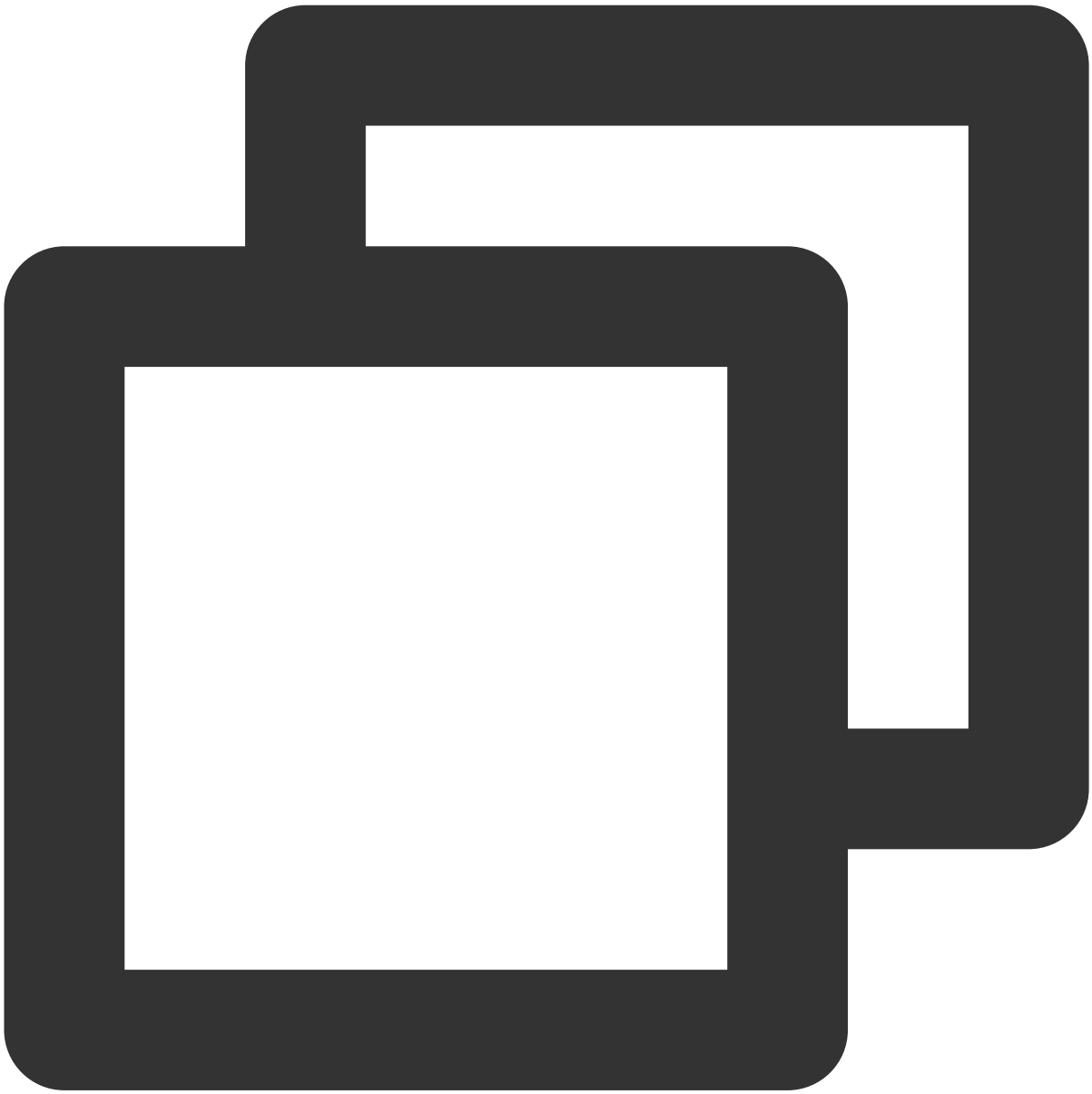
```
void disconnectOtherRoom(TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
callback	TUIRoomDefine.ActionCallback	Disconnect with other rooms Connection result Callback

fetchRoomInfo

Get Room data



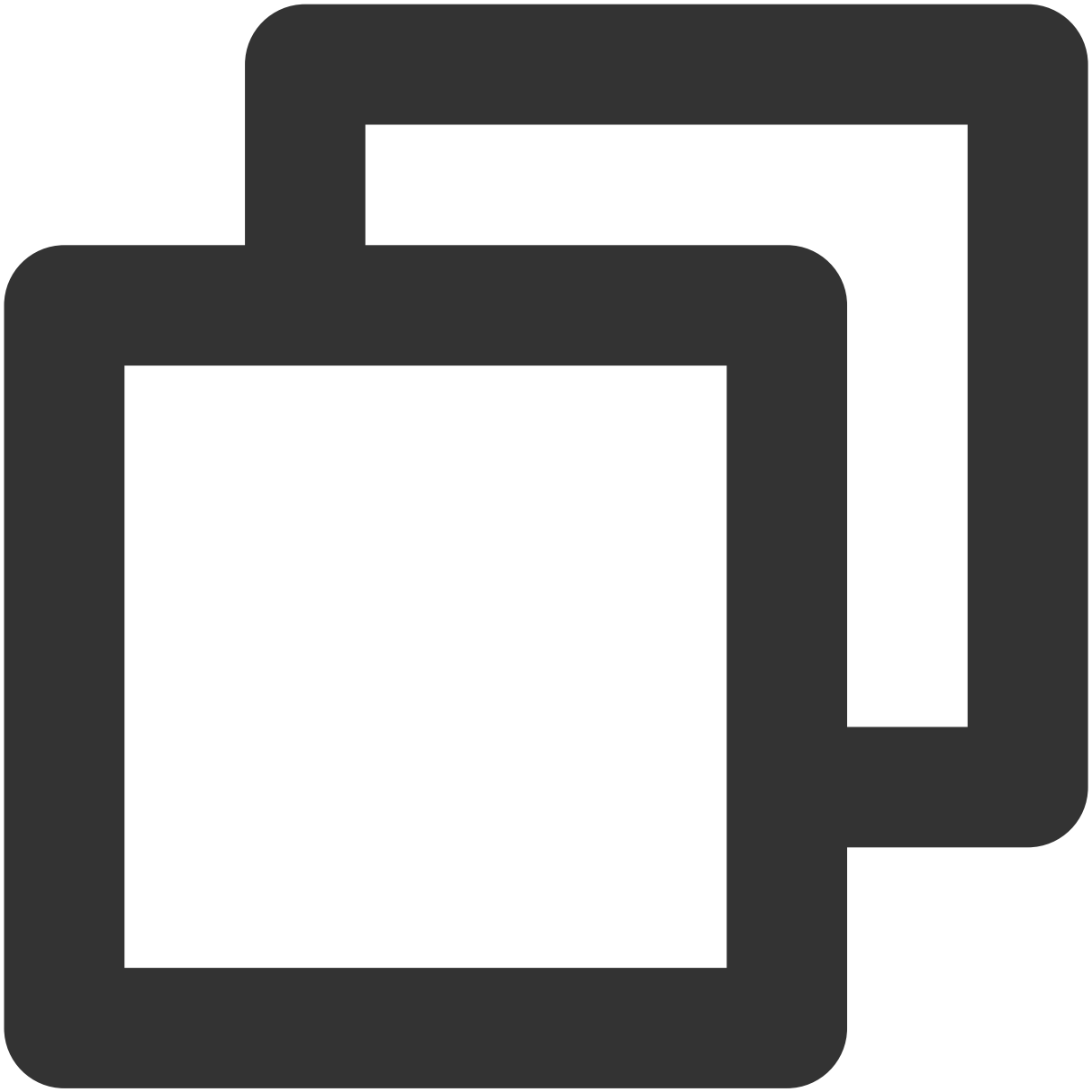
```
void fetchRoomInfo(TUIRoomDefine.GetRoomInfoCallback callback);
```

Parameters:

Parameter	Type	Meaning
callback	TUIRoomDefine.GetRoomInfoCallback	Get Room data Callback

updateRoomNameByAdmin

Update Room ID



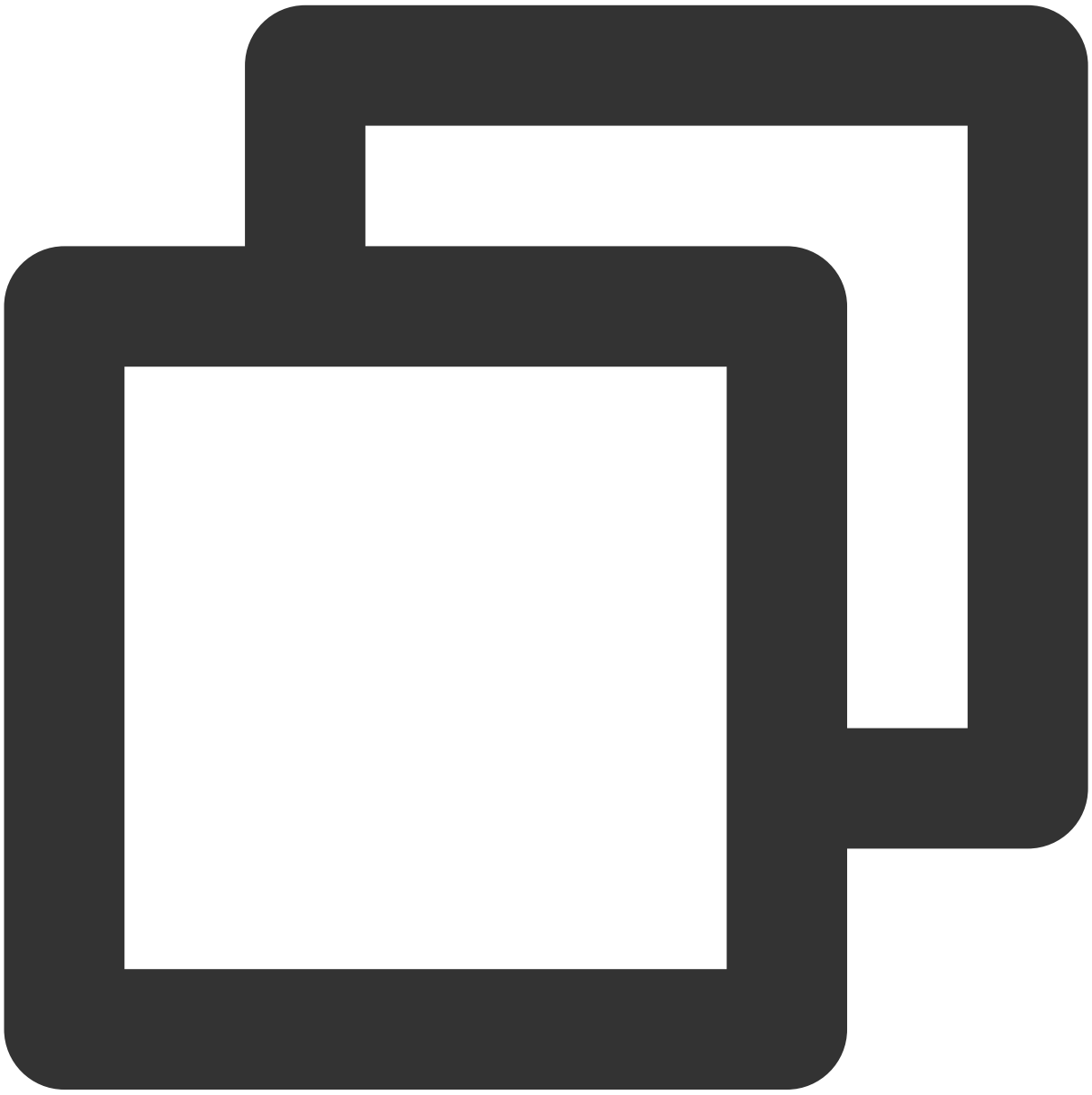
```
void updateRoomNameByAdmin(String roomName, TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
roomName	String	Room ID
callback	TUIRoomDefine.ActionCallback	Update Operation result Callback

updateRoomSpeechModeByAdmin

Set Management mode (only Administrator or Group owner can call)



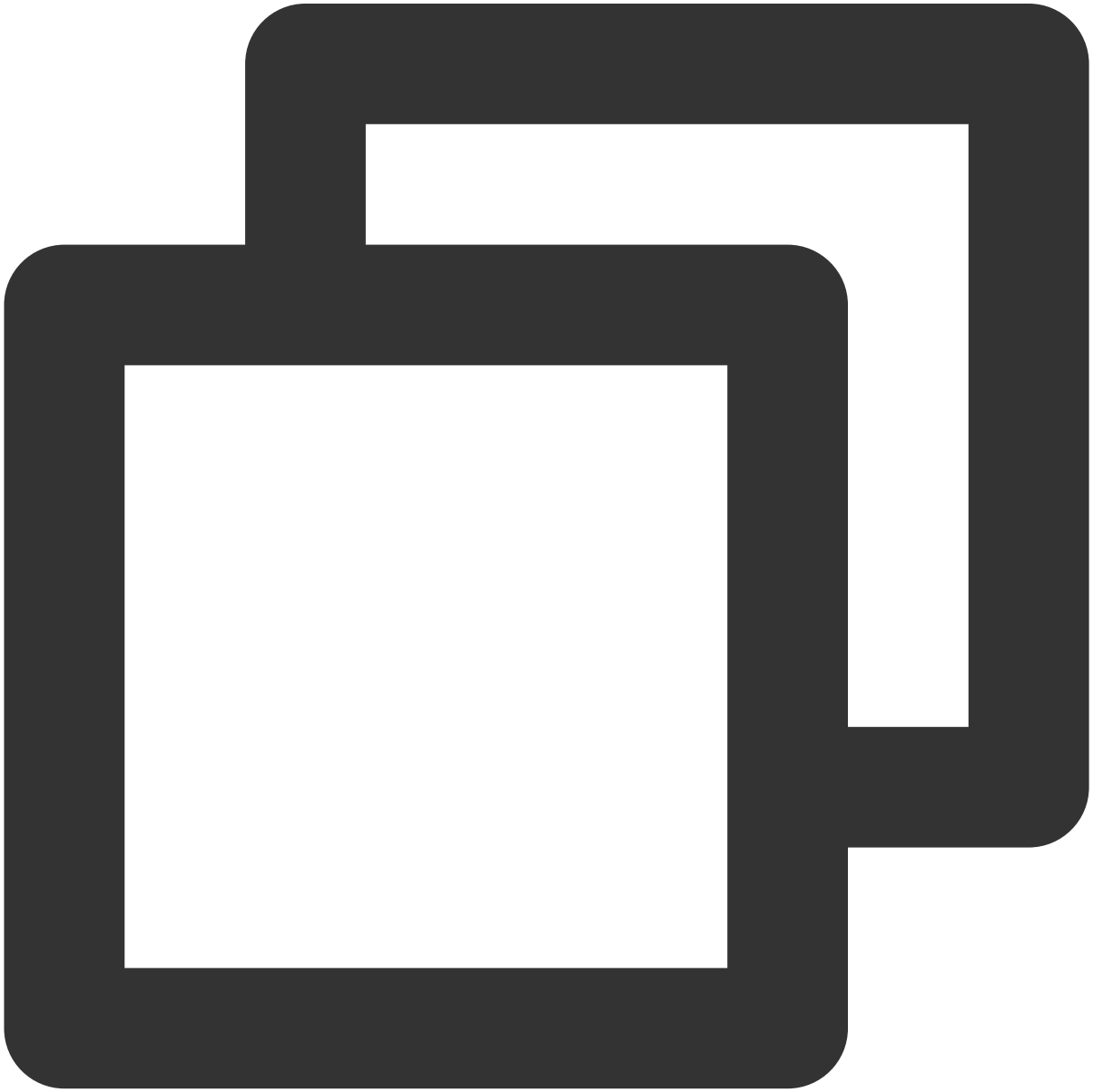
```
void updateRoomSpeechModeByAdmin(TUIRoomDefine.SpeechMode mode, TUIRoomDefine.Actio
```

Parameter	Type	Meaning
mode	TUIRoomDefine.SpeechMode	Management mode

callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

setLocalVideoView

Set Local user Video Rendering View control



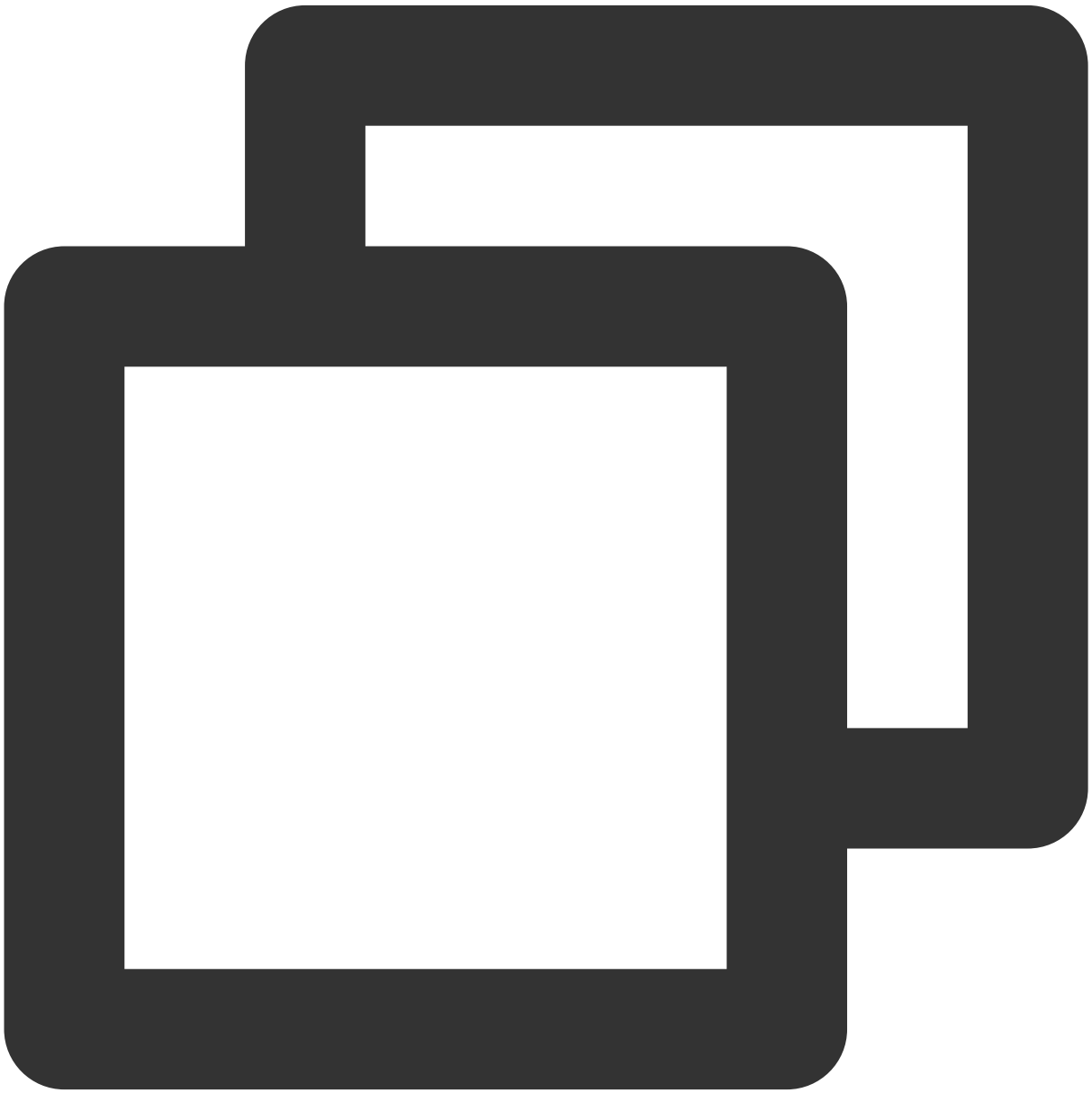
```
void setLocalVideoView(TUIRoomDefine.VideoStreamType streamType,
                       TUIVideoView view);
```

Parameters:

Parameter	Type	Meaning
streamType	TUIRoomDefine.VideoStreamType	Local streams type
view	TUIVideoView	To be rendered view, Video Rendering on this view

openLocalCamera

Open Local Camera, Start Video Capturing



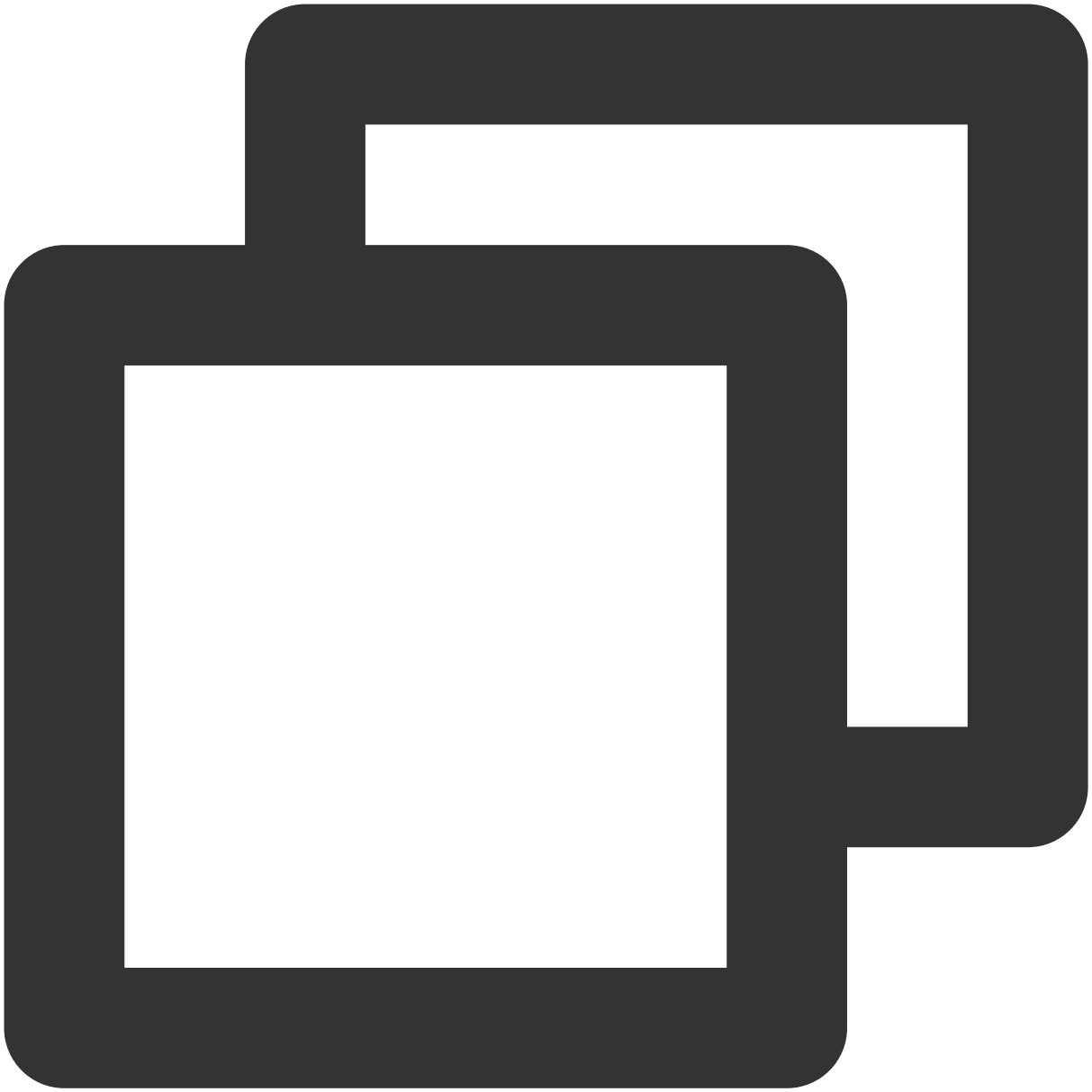
```
void openLocalCamera(boolean isFront,
                     TUIRoomDefine.VideoQuality quality,
                     TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
isFront	boolean	Whether to use Front Camera
quality	TUIRoomDefine.VideoQuality	Video Quality
callback	TUIRoomDefine.ActionCallback	Open Camera Operation result Callback

closeLocalCamera

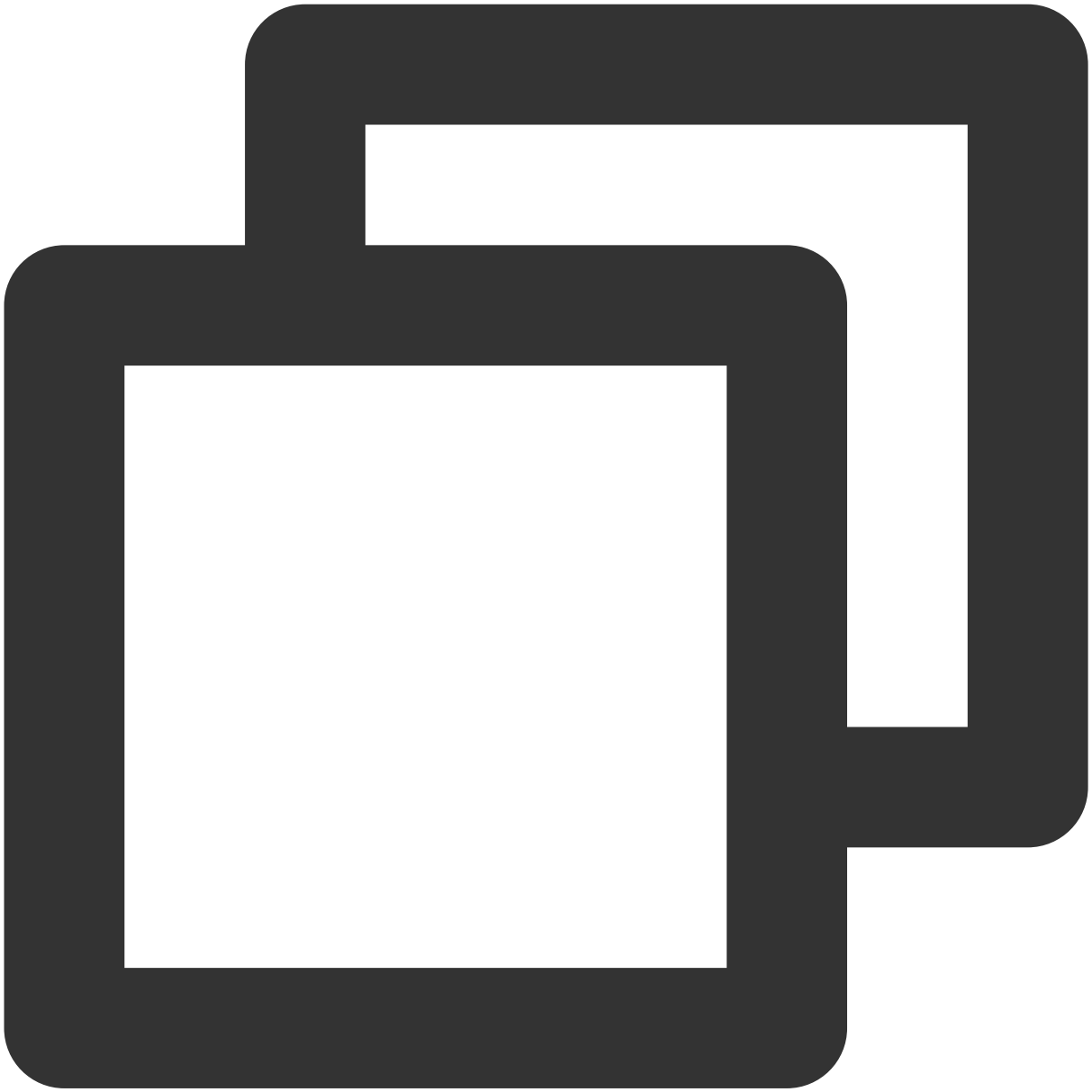
Close Local Camera



```
void closeLocalCamera();
```

updateVideoQuality

Set Local Video Parameter



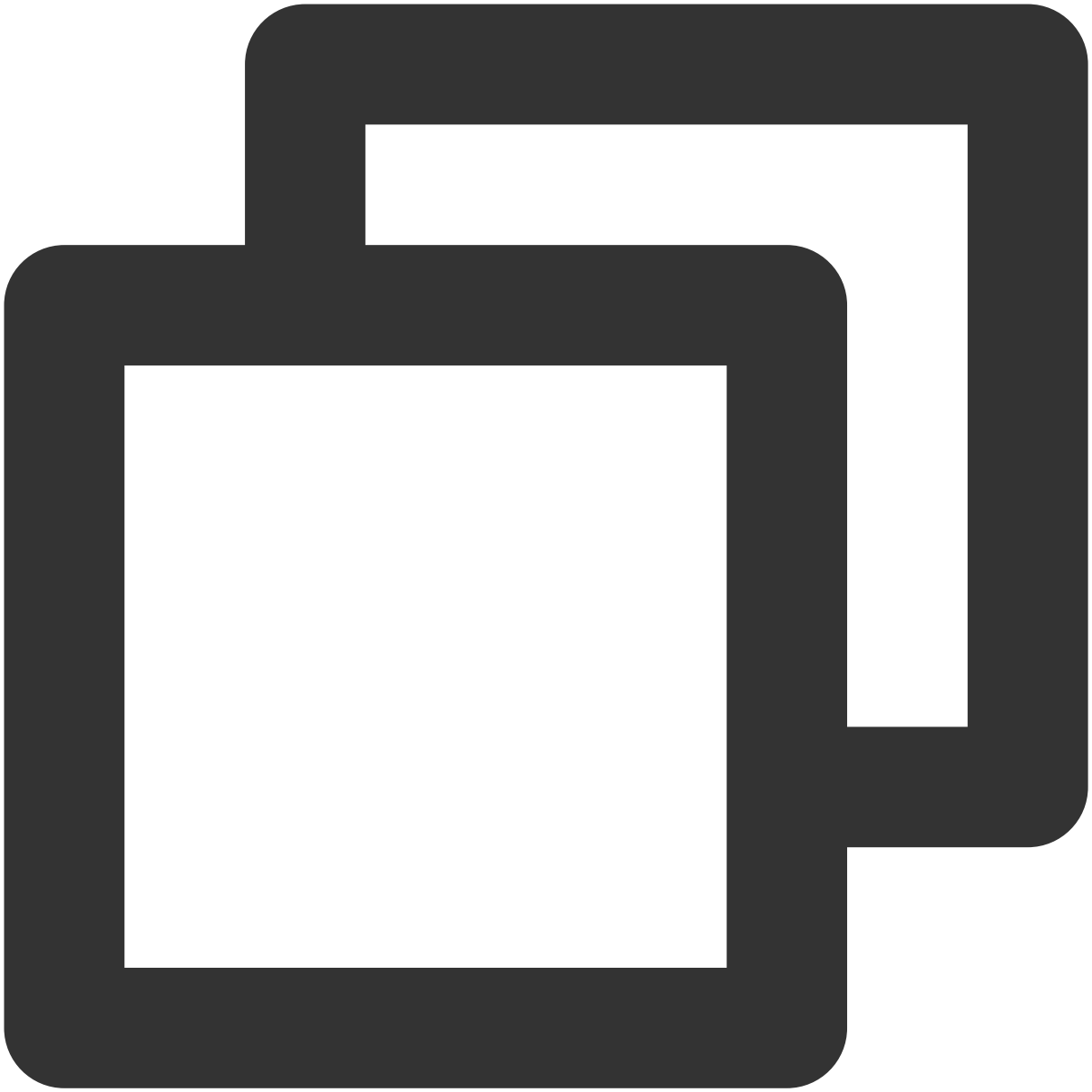
```
void updateVideoQuality(TUIRoomDefine.VideoQuality quality);
```

Parameters:

Parameter	Type	Meaning
quality	TUIRoomDefine.VideoQuality	Video Quality

startScreenSharing

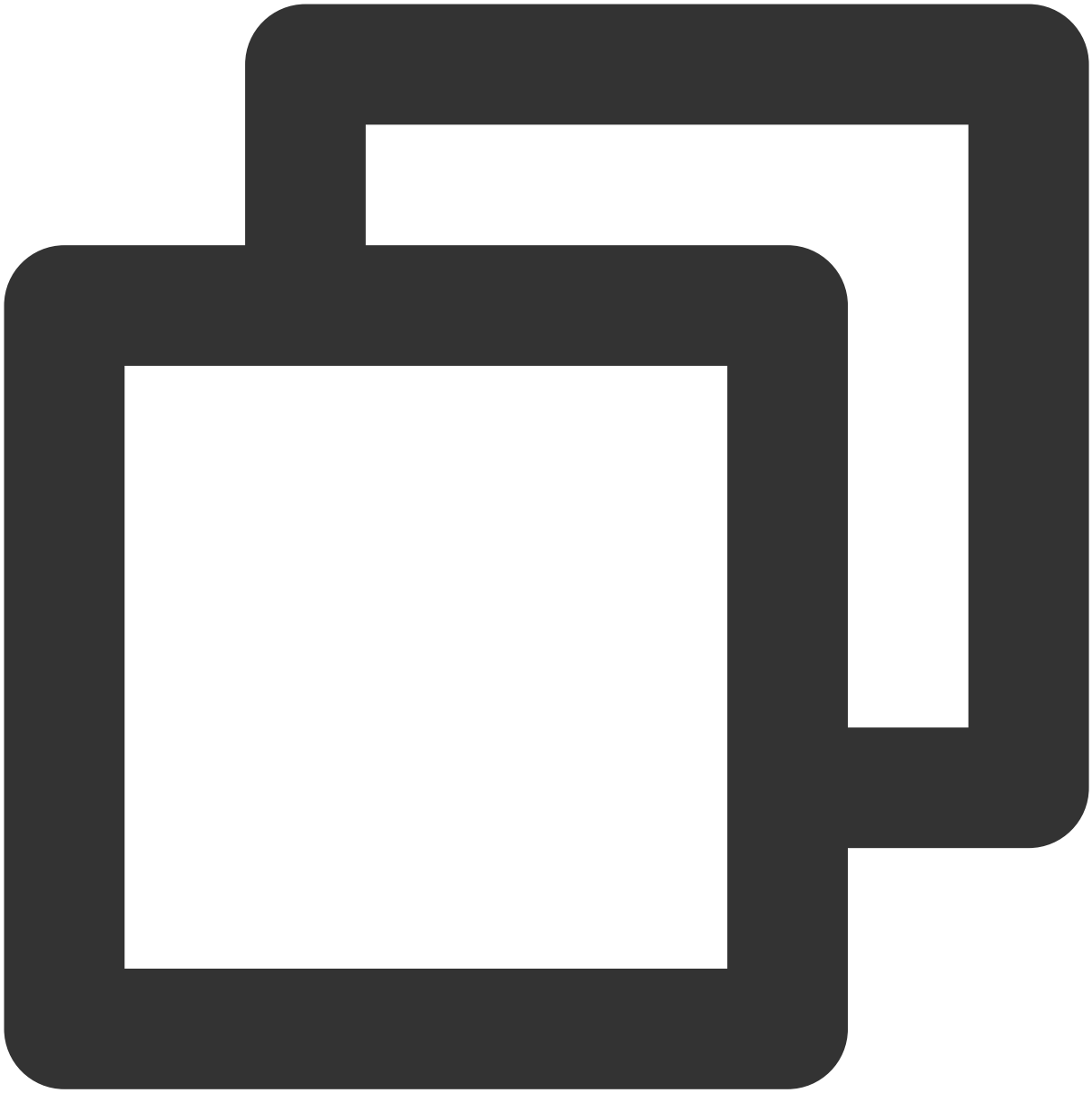
Start Screen sharing



```
void startScreenSharing();
```

stopScreenSharing

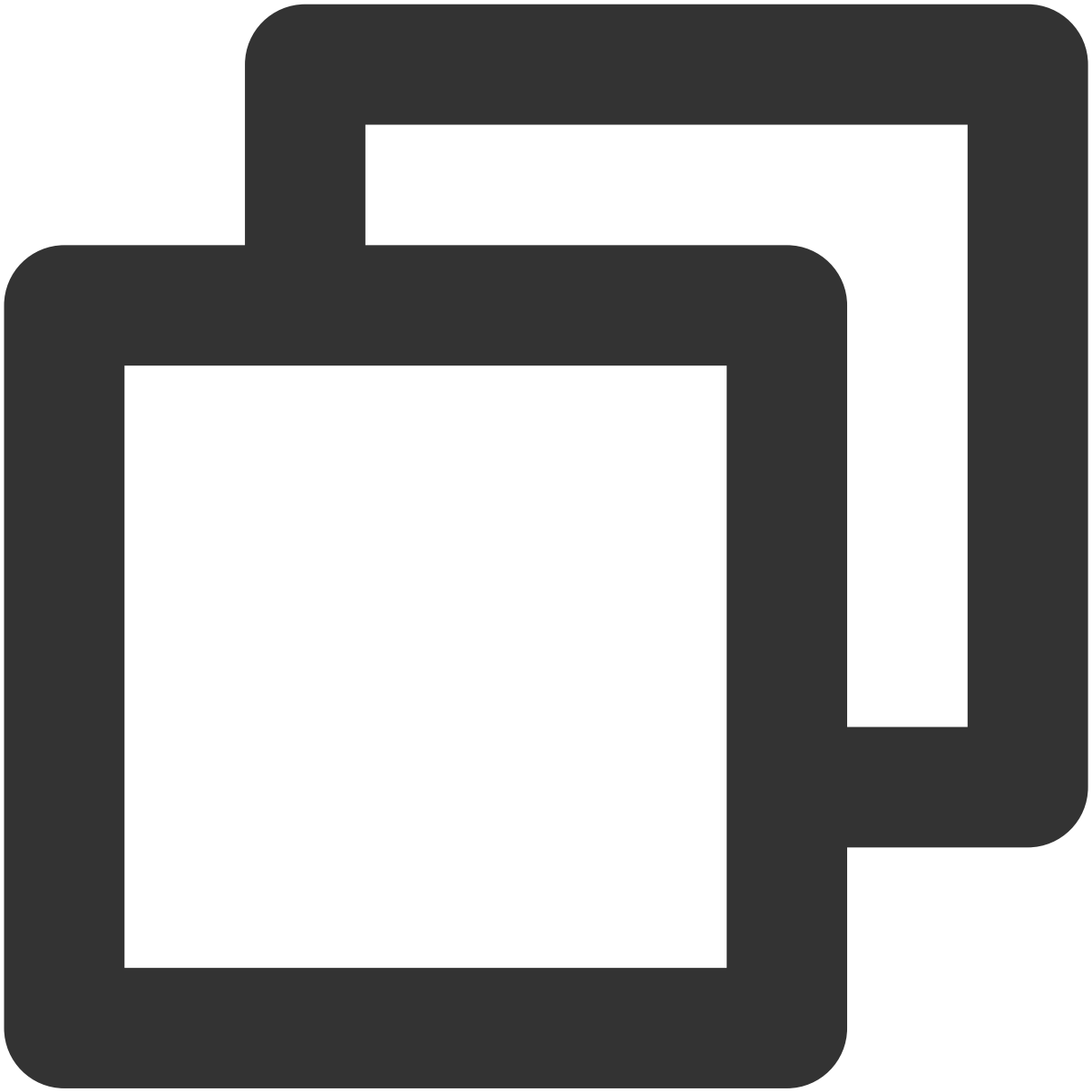
Stop Screen sharing



```
void stopScreenSharing();
```

startPushLocalVideo

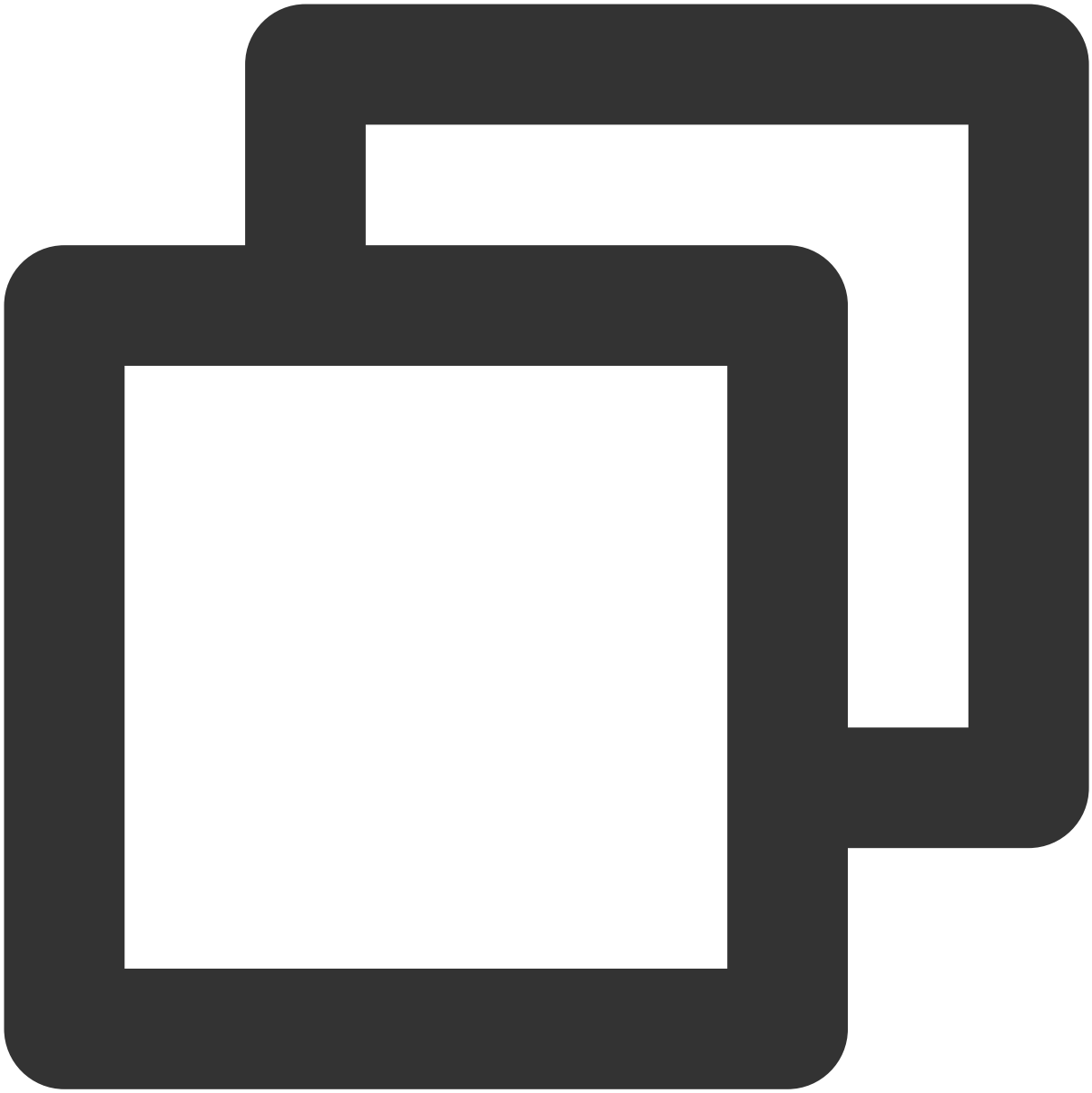
Start pushing Local Video streams to Remote



```
void startPushLocalVideo();
```

stopPushLocalVideo

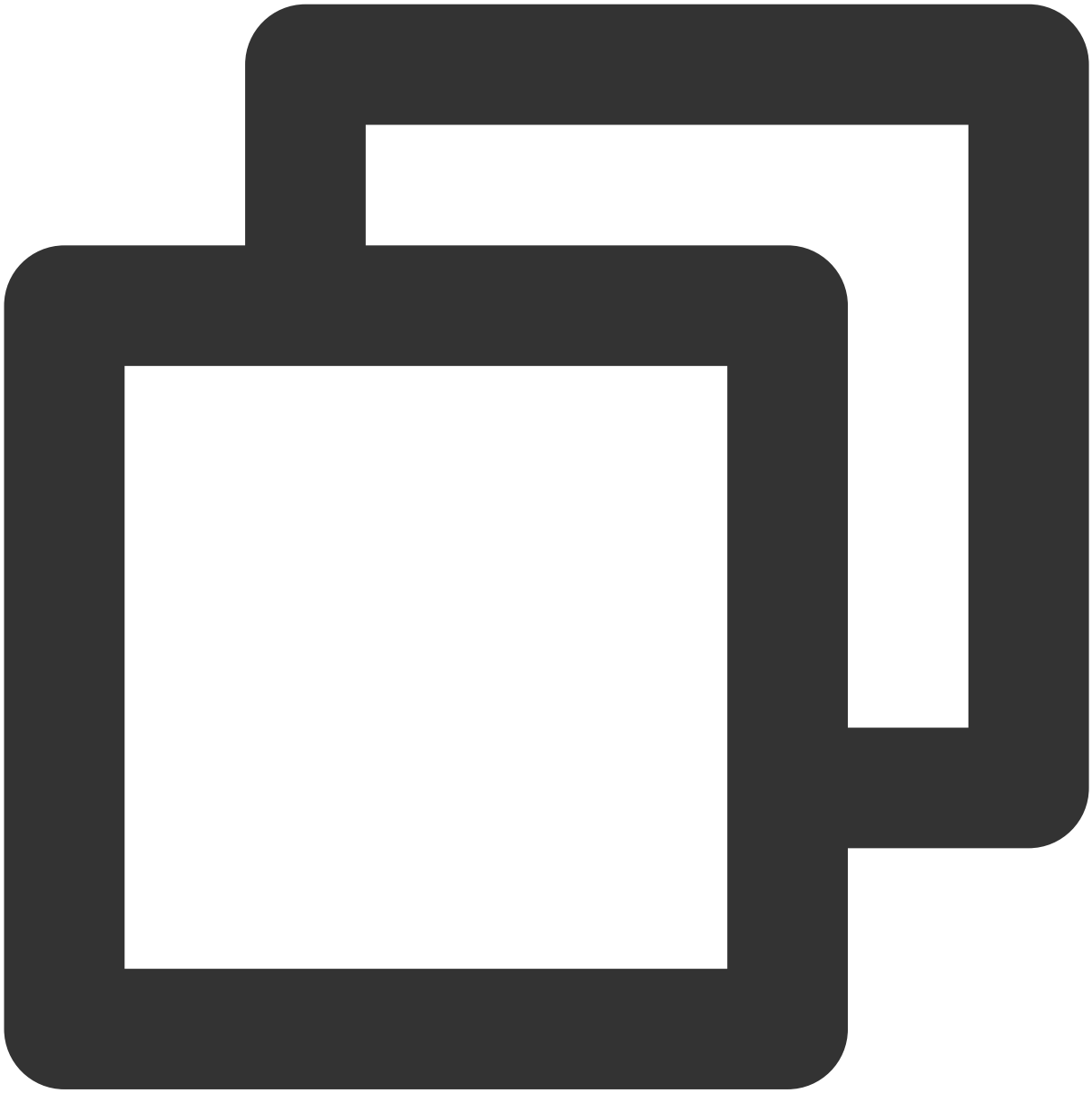
Stop pushing Local Video streams to Remote



```
void stopPushLocalVideo();
```

openLocalMicrophone

Open Local mic

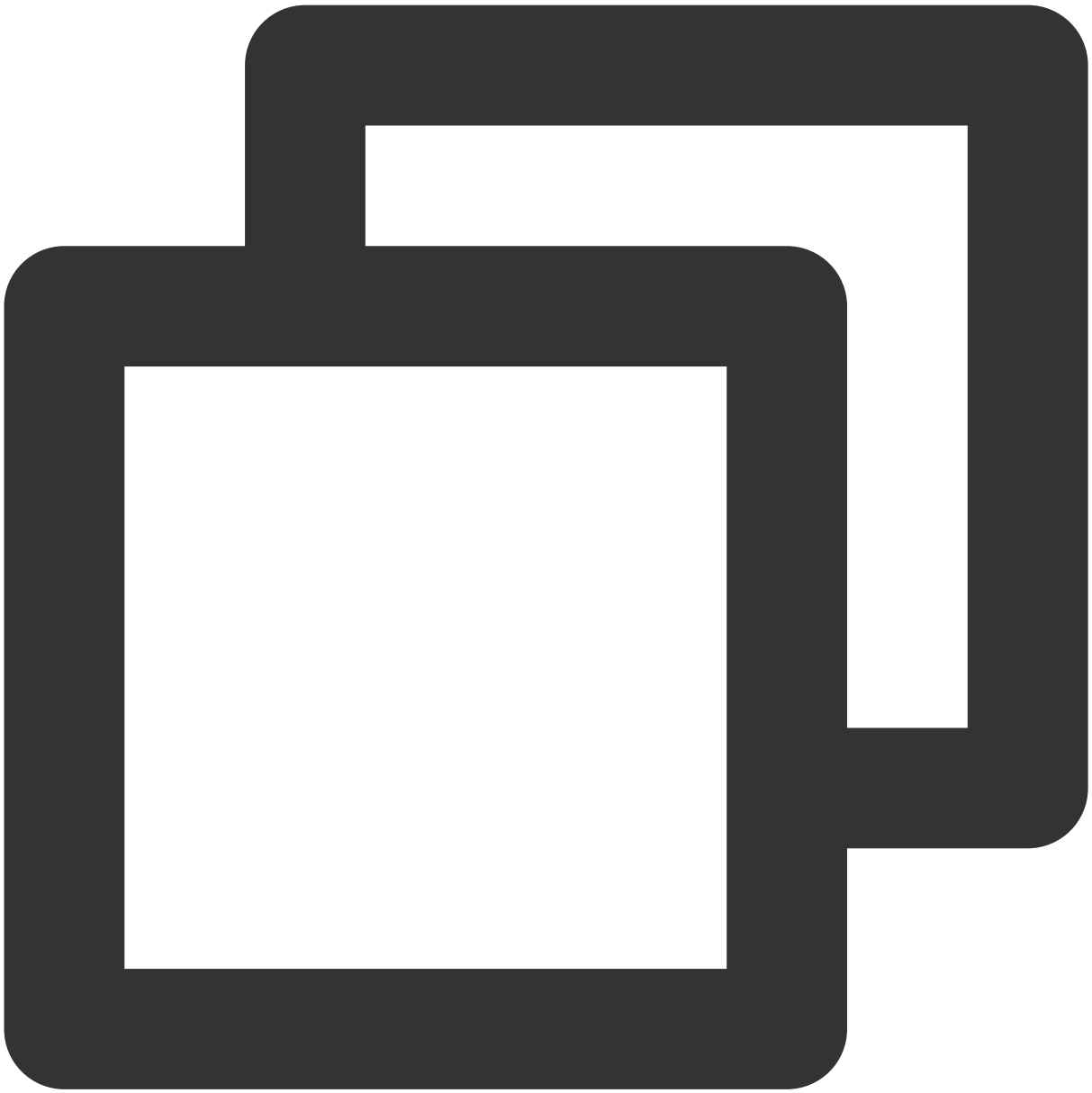


```
void openLocalMicrophone(TUIRoomDefine.AudioQuality quality, TUIRoomDefine.ActionCa
```

Parameter	Type	Meaning
quality	TUIRoomDefine.AudioQuality	Audio Quality
callback	TUIRoomDefine.ActionCallback	Open mic Operation result Callback

closeLocalMicrophone

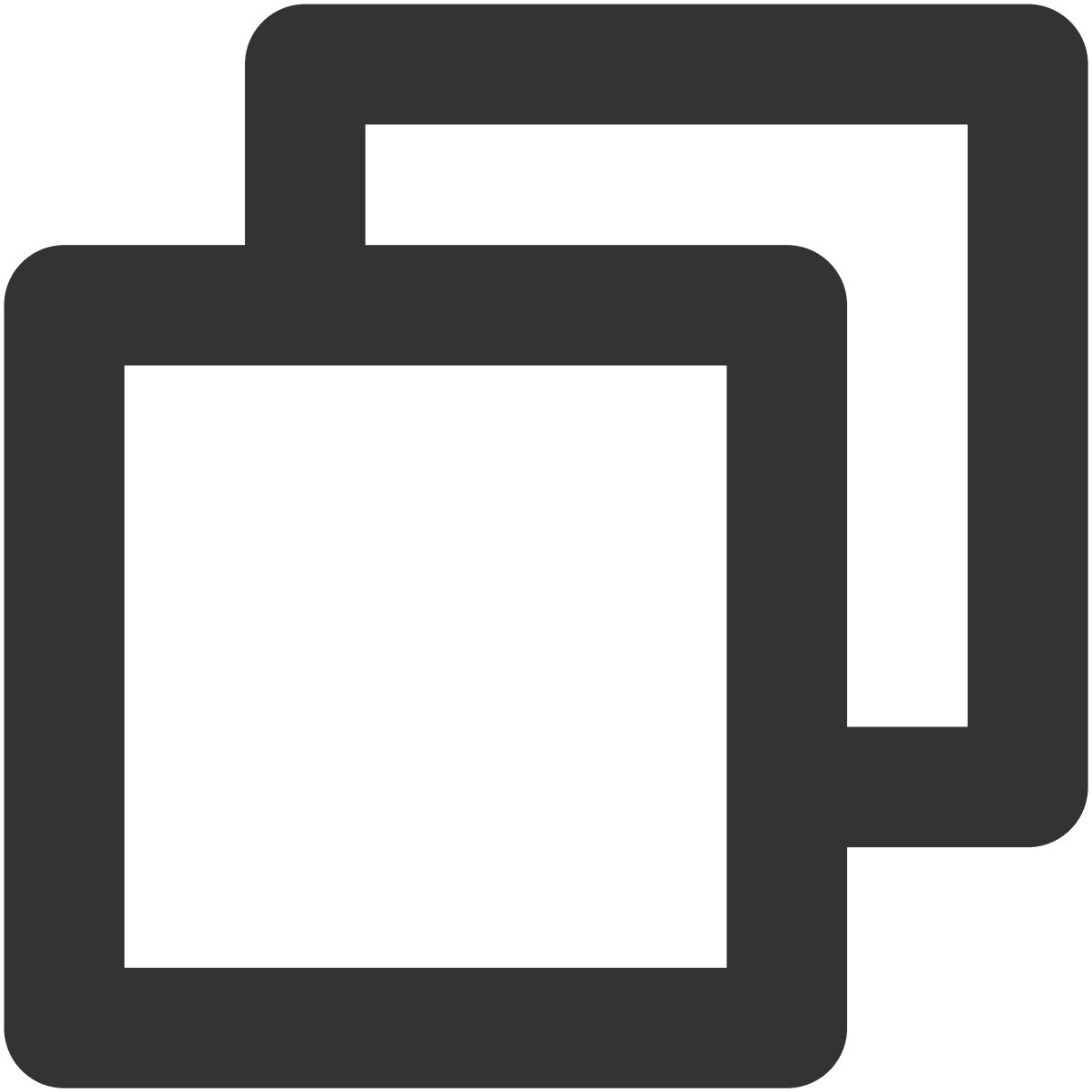
Close Local mic



```
void closeLocalMicrophone();
```

updateAudioQuality

Update Local Audio Codec Quality setting



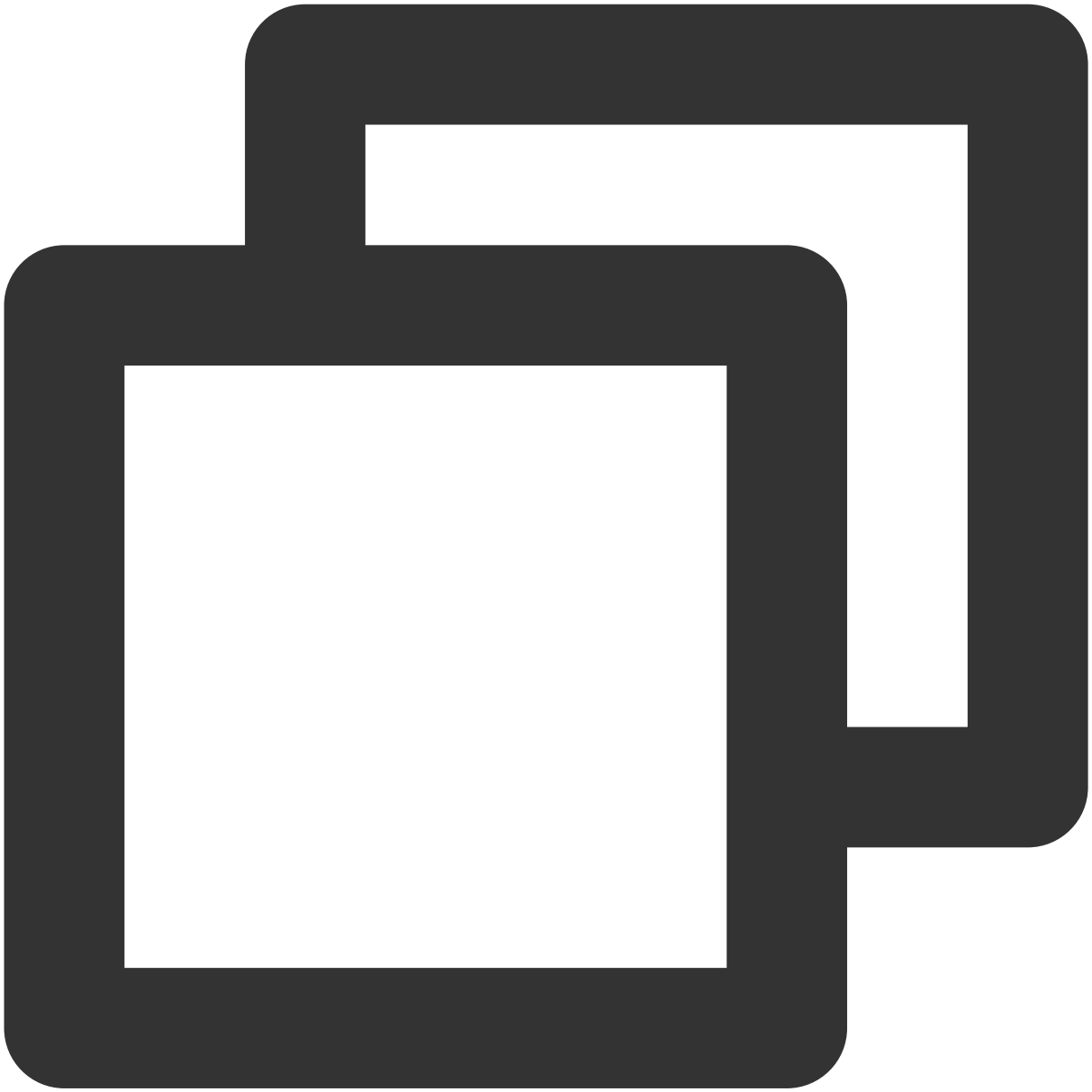
```
void updateAudioQuality(TUIRoomDefine.AudioQuality quality);
```

Parameters:

Parameter	Type	Meaning
quality	TUIRoomDefine.AudioQuality	Audio Quality

startPushLocalAudio

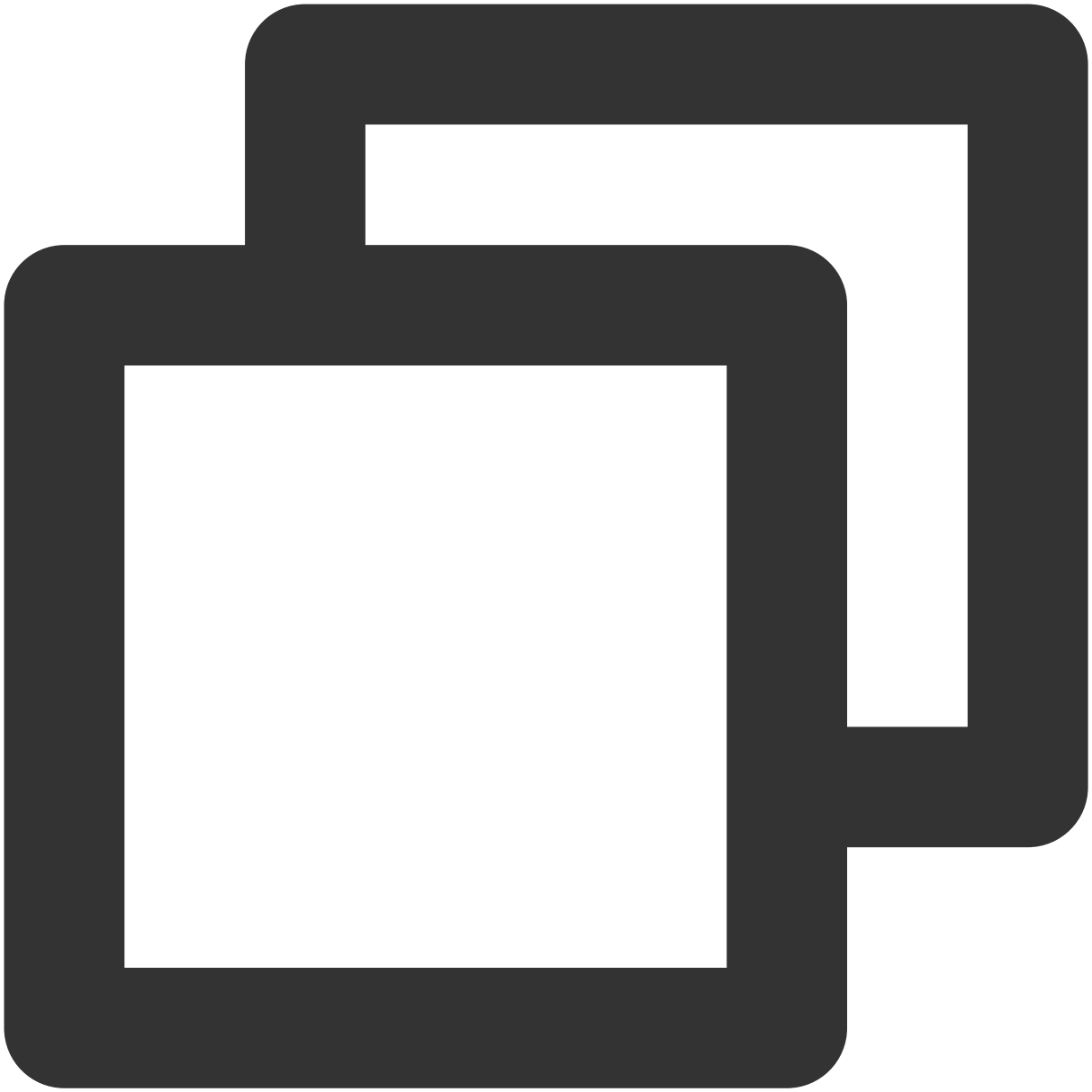
Start pushing Local Audio streams to Remote



```
void startPushLocalAudio();
```

stopPushLocalAudio

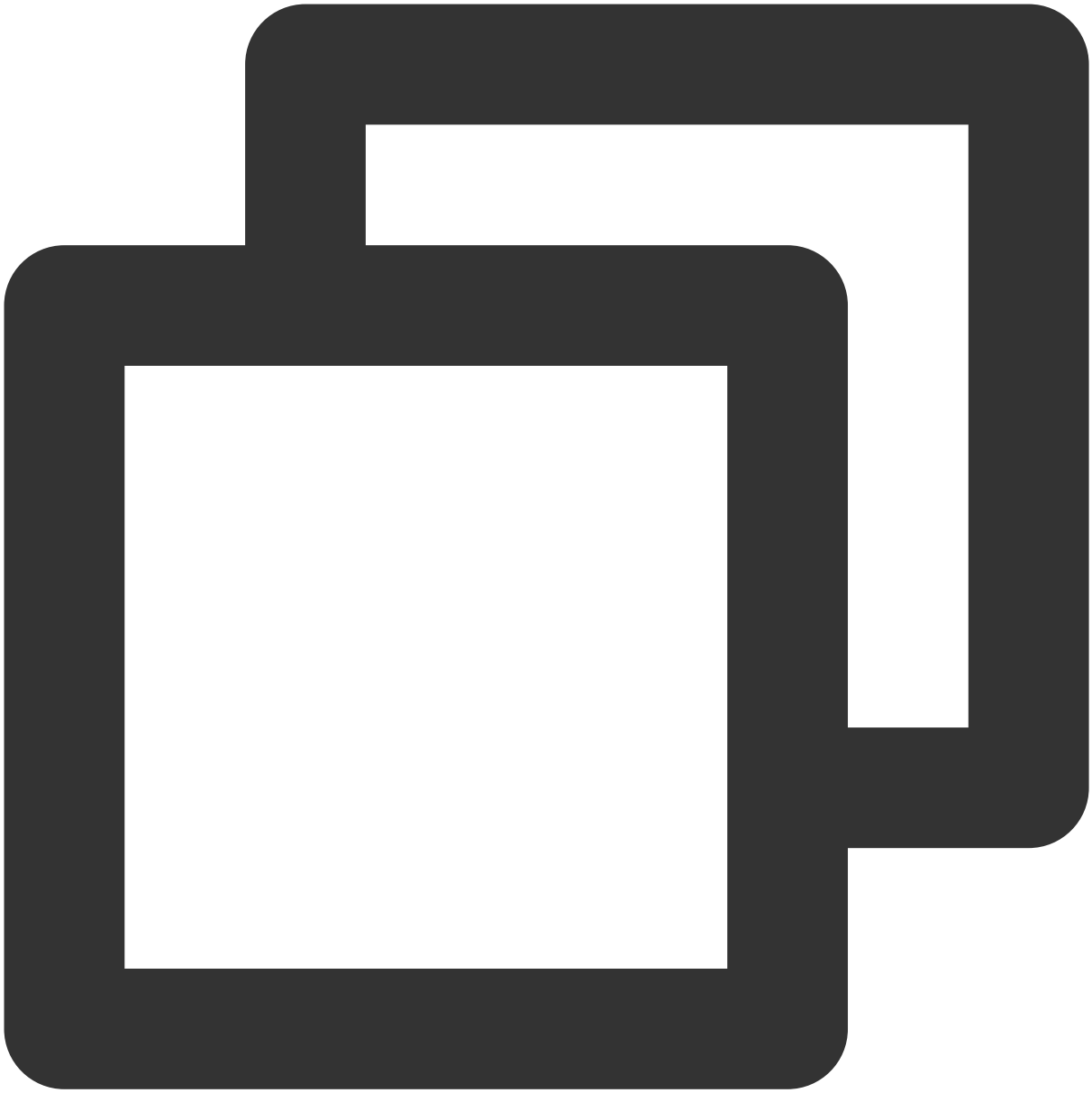
Stop pushing Local Audio streams to Remote



```
void stopPushLocalAudio();
```

setRemoteVideoView

Set Remote user Video Rendering View control



```
void setRemoteVideoView(String userId,
                        TUIRoomDefine.VideoStreamType streamType,
                        TUIVideoView view);
```

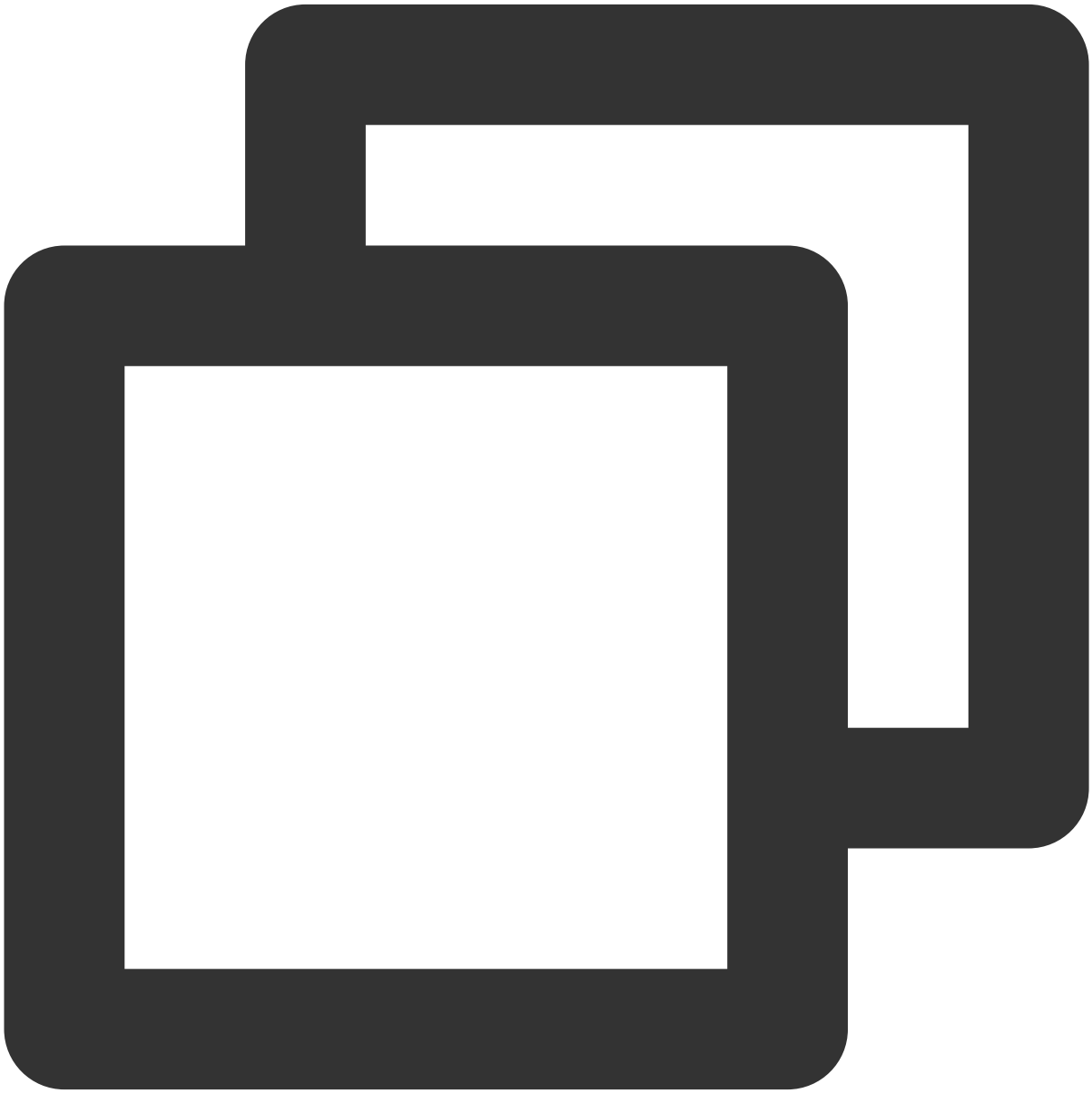
Parameters:

Parameter	Type	Meaning
userId	String	User ID
streamType	TUIRoomDefine.VideoStreamType	User streams type

view	TUIVideoView	Playback Remote user streams view

startPlayRemoteVideo

Start Playback Remote user Video streams



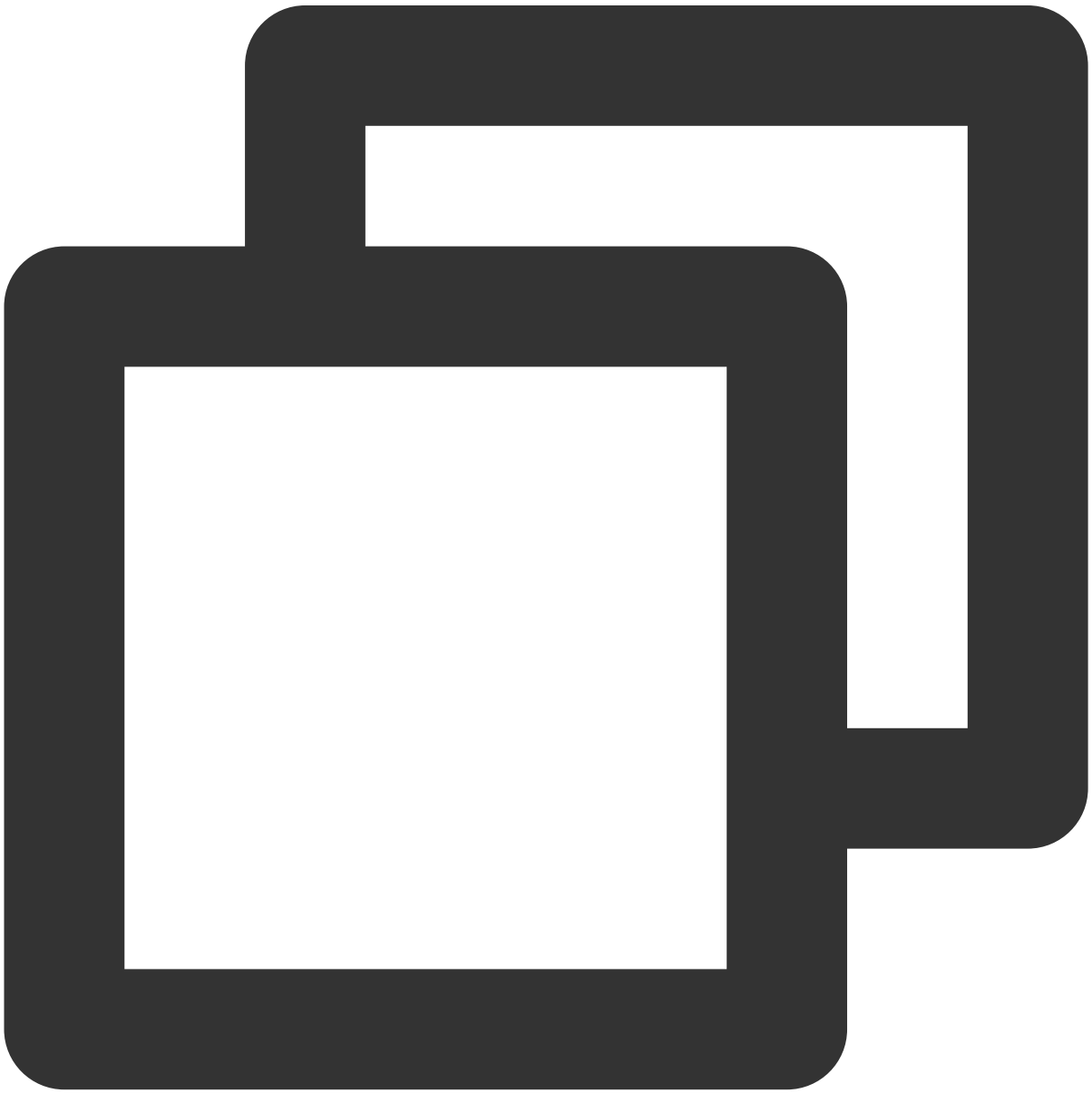
```
void startPlayRemoteVideo(String userId,
                          TUIRoomDefine.VideoStreamType streamType,
                          TUIRoomDefine.PlayCallback callback);
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
streamType	TUIRoomDefine.VideoStreamType	User streams type
callback	TUIRoomDefine.PlayCallback	Playback Operation result Callback

stopPlayRemoteVideo

Stop Playback Remote user Video streams



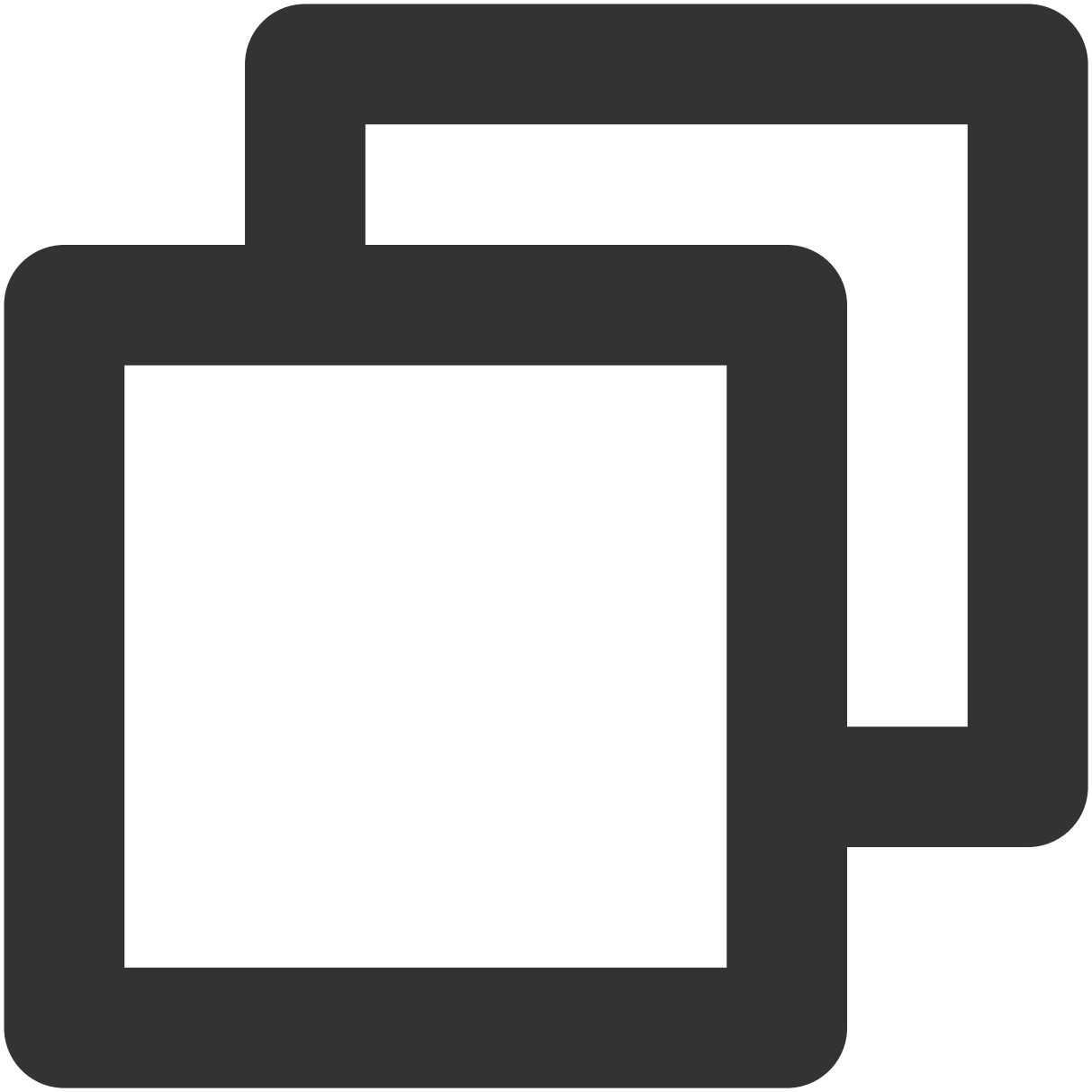
```
void stopPlayRemoteVideo(String userId,TUIRoomDefine.VideoStreamType streamType);
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
streamType	TUIRoomDefine.VideoStreamType	User streams type

muteRemoteAudioStream

Mute Remote user



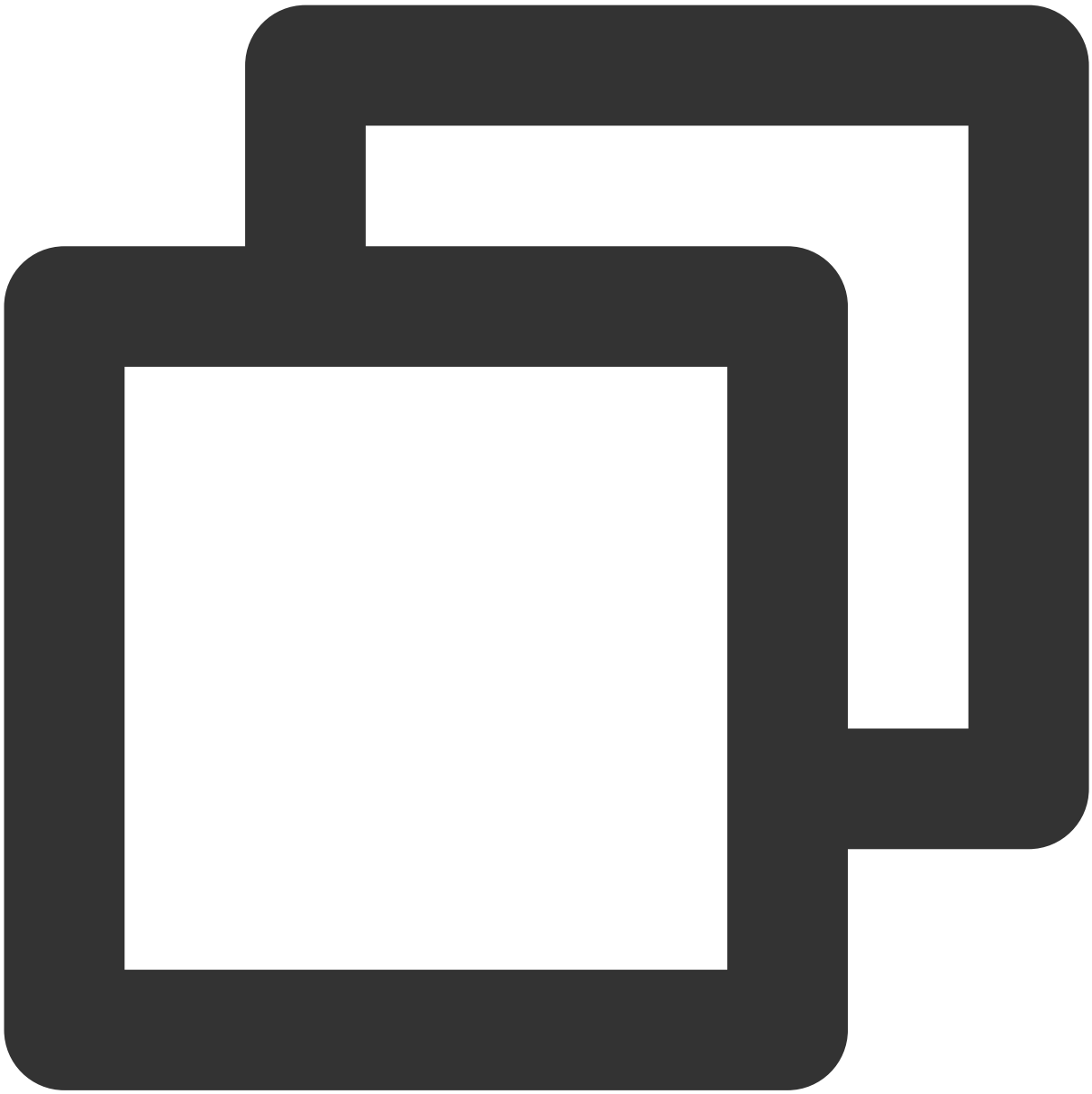
```
void muteRemoteAudioStream(String userId, boolean isMute);
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
isMute	boolean	Whether to mute

getUserList

Get current User list in the room, Note that the maximum number of User list fetched by this Interface is 100



```
void getUserList(long nextSequence, TUIRoomDefine.GetUserListCallback callback);
```

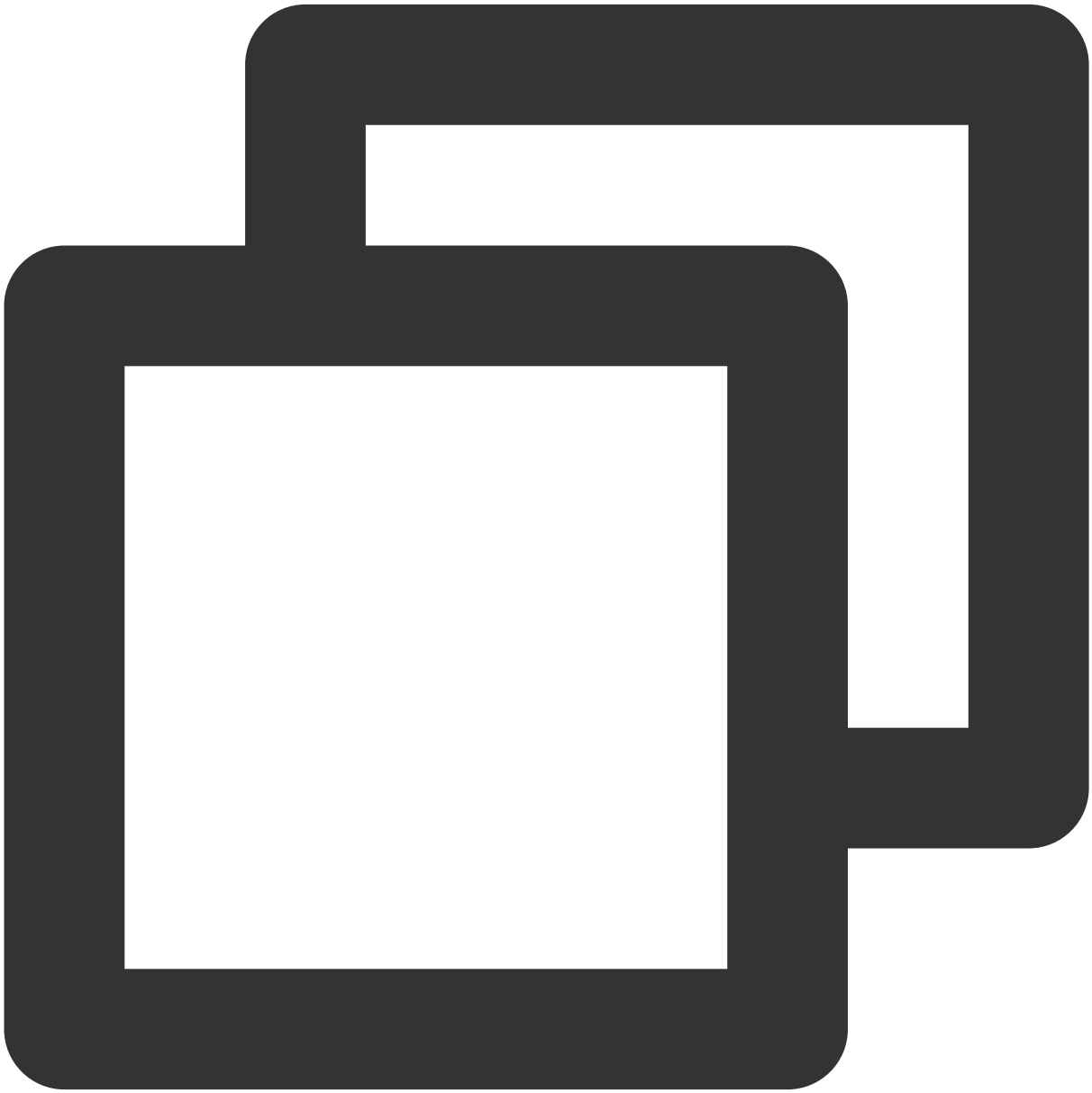
Parameters:

Parameter	Type	Meaning
nextSequence	long	Pagination Fetch Flag, fill in 0 for the first Fetch, if the nextSeq in the Callback is not 0, you need to do Pagination, pass in the nextSeq to Fetch again until the nextSeq in the Callback is 0

callback	TUIRoomDefine.GetUserListCallback	Get User list Callback

getUserInfo

Get User Learn more



```
void getUserInfo(String userId, TUIRoomEngineDef.GetUserInfoCallback callback);
```

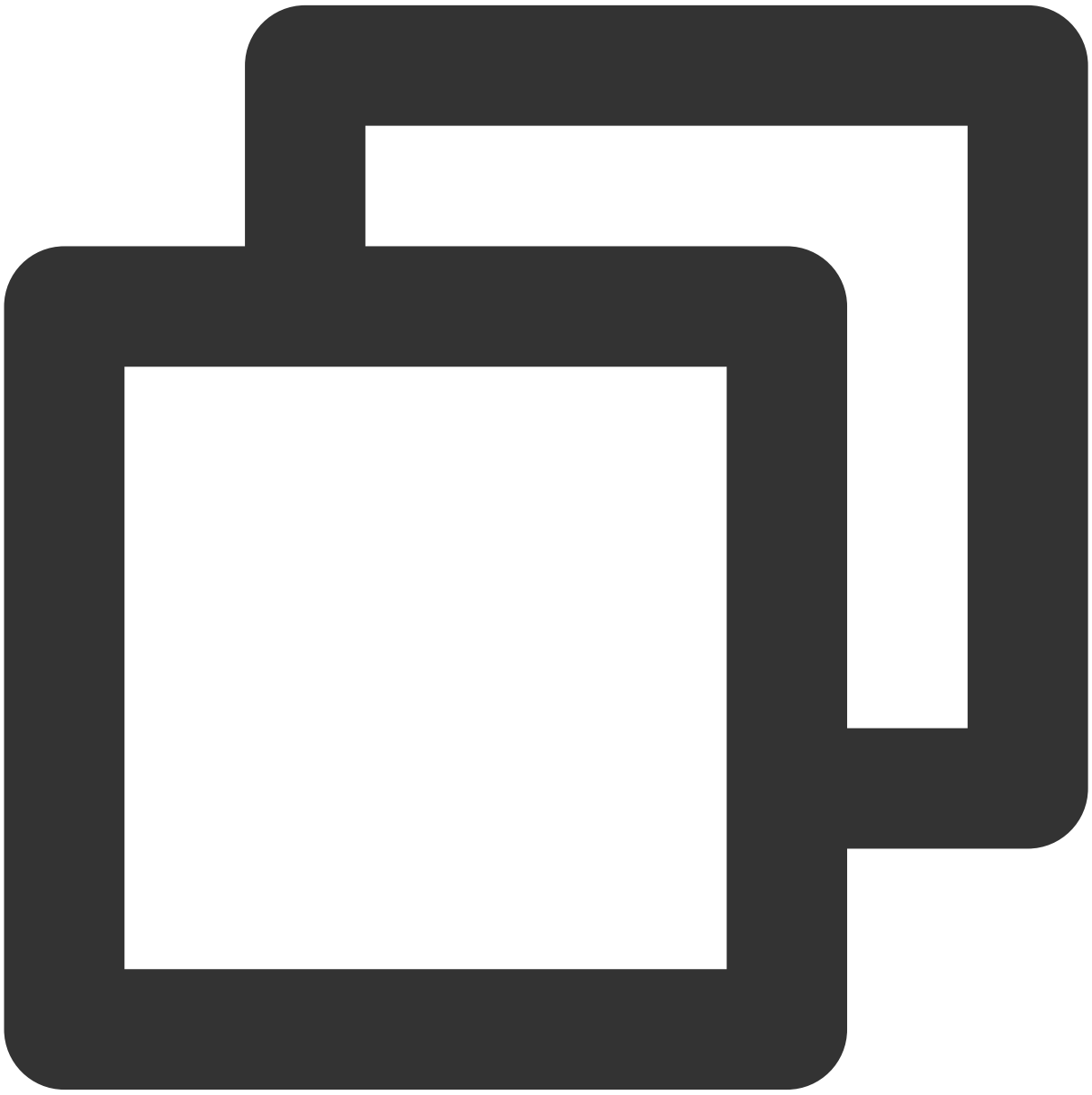
Parameters:

Parameter	Type	Meaning

userId	String	Get Learn more of the user by userId
callback	TUIRoomDefine.GetUserInfoCallback	Get User Learn more Callback

changeUserRole

Change user Role, only Administrator or Group owner can call



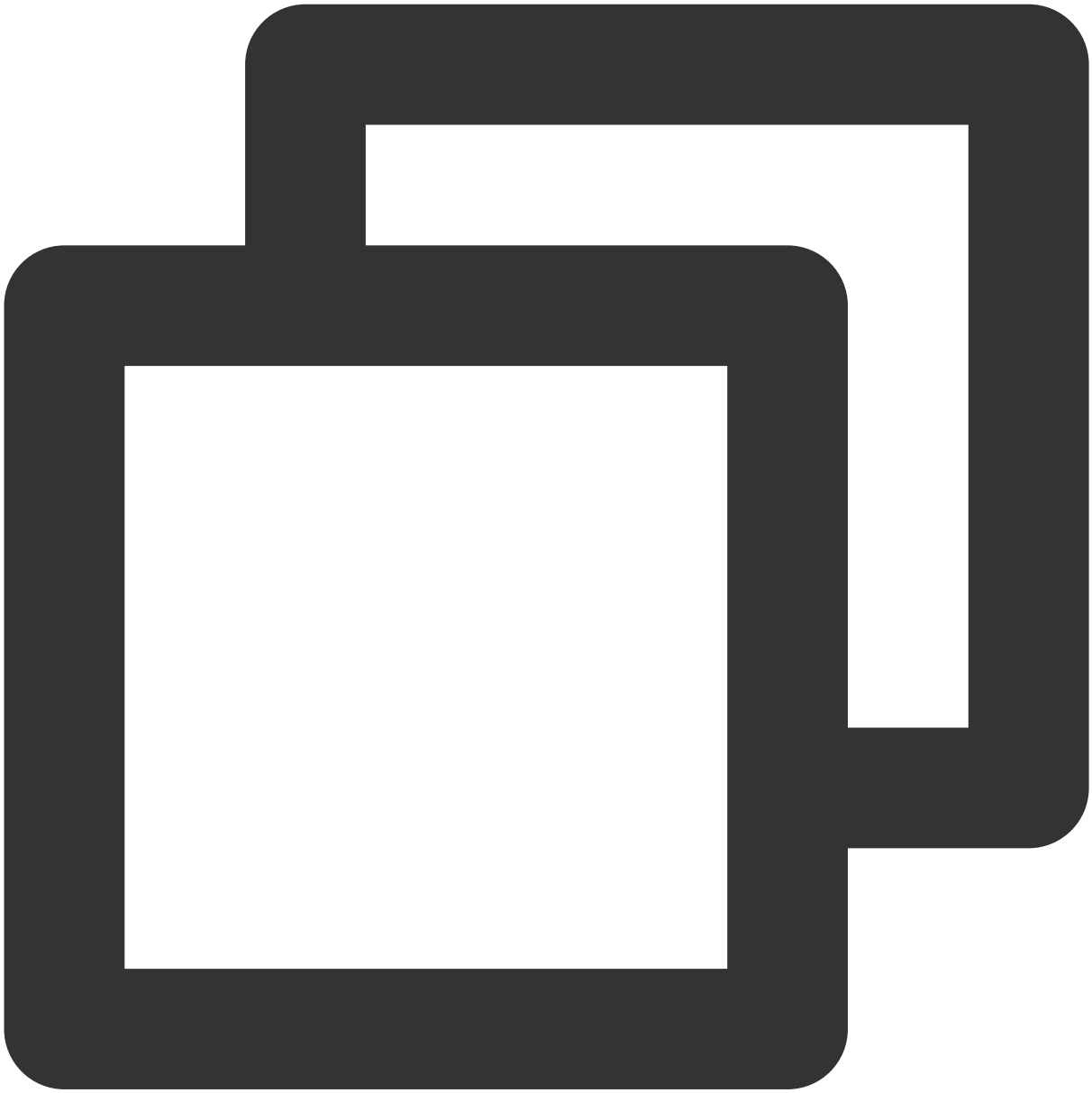
```
void changeUserRole(String userId,
                    TUIRoomDefine.Role role,
                    TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
role	TUIRoomDefine.Role	User Role
callback	TUIRoomDefine.ActionCallback	Change Role Operation result Callback

kickRemoteUserOutOfRoom

Kick user out of the room, only Administrator or Group owner can call



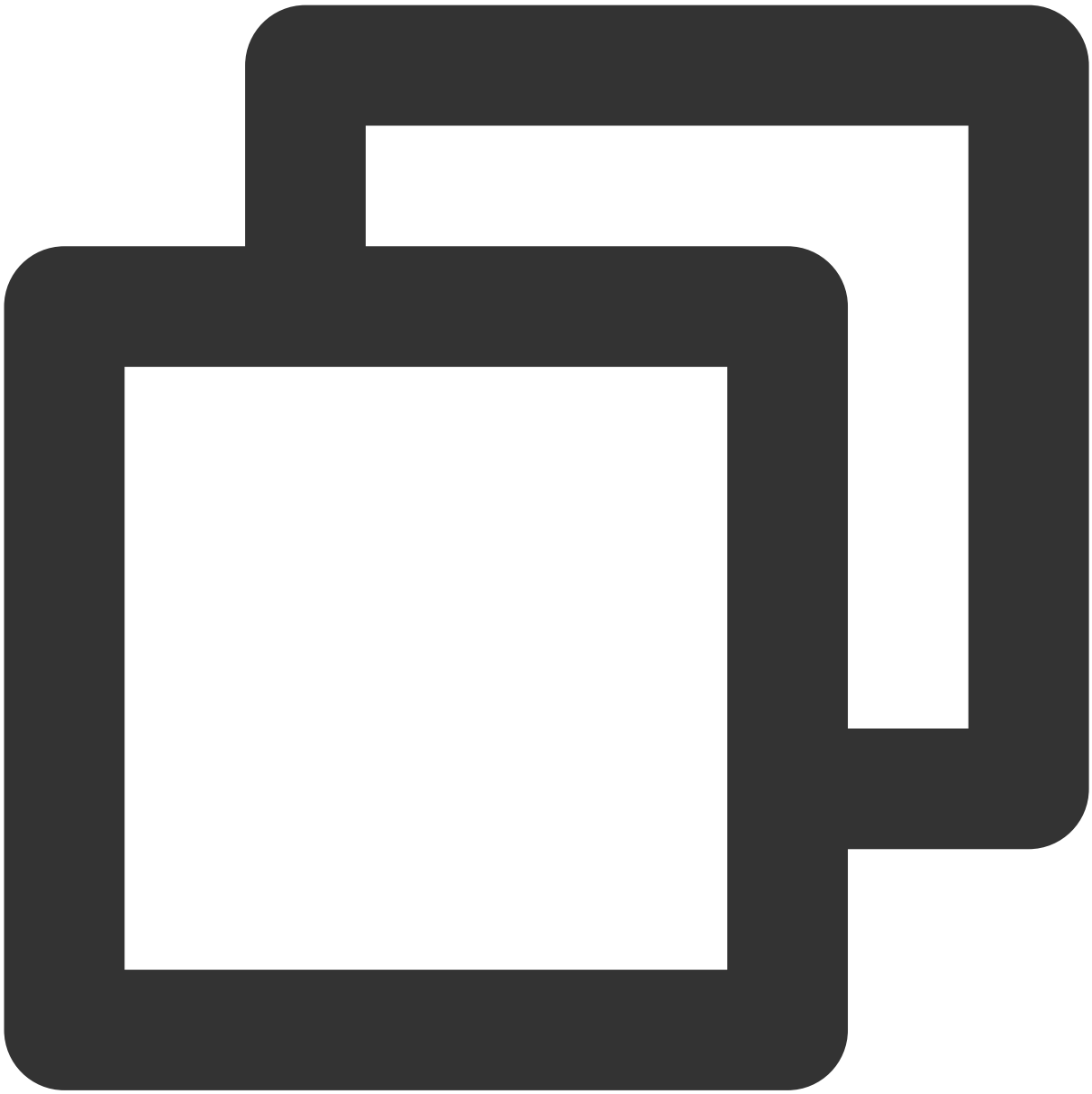
```
void kickRemoteUserOutOfRoom(String userId, TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
callback	TUIRoomDefine.ActionCallback	Operation result Callback

disableDeviceForAllUserByAdmin

Manage Media device for all users, only Administrator or Group owner can call



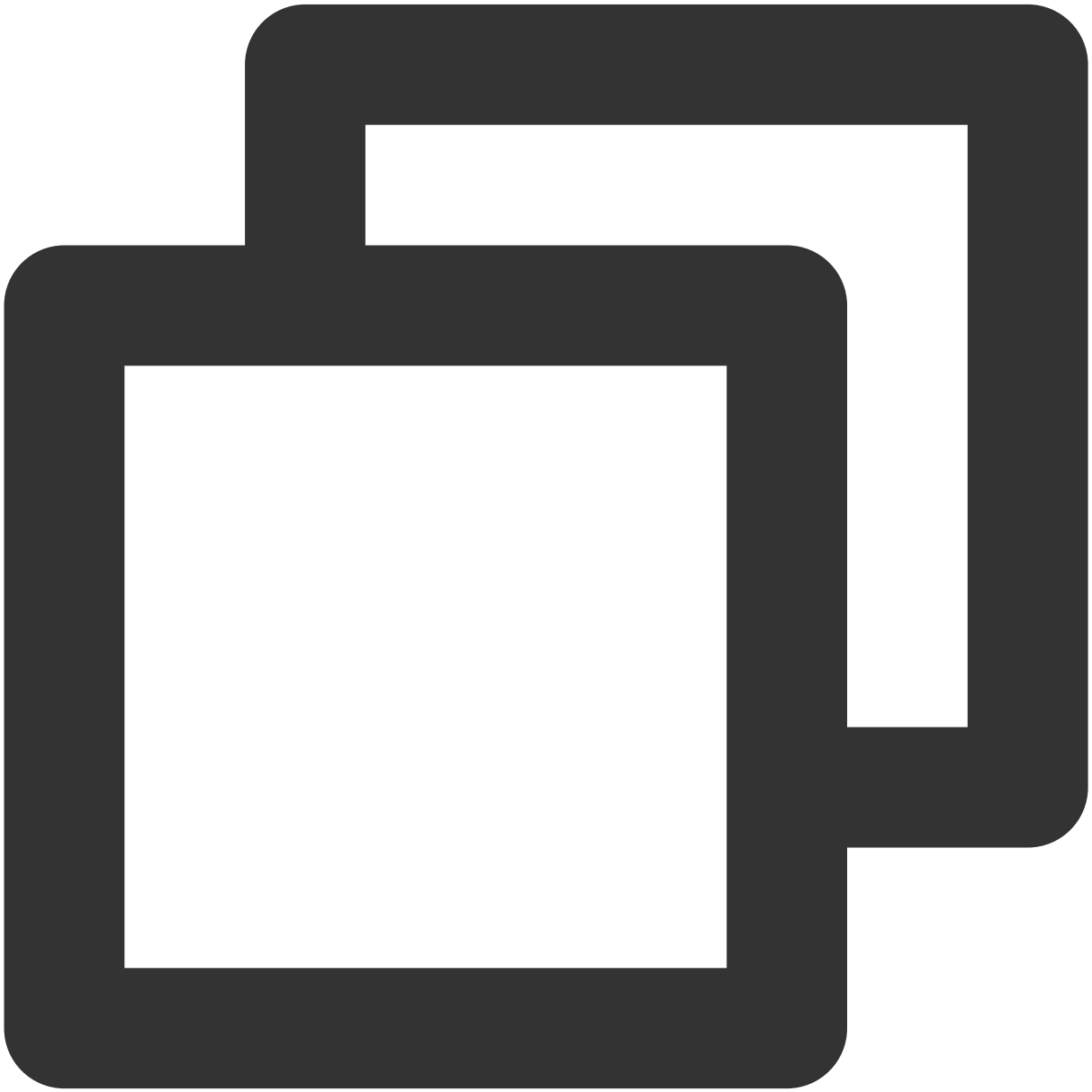
```
void disableDeviceForAllUserByAdmin(TUIRoomDefine.MediaDevice device,
                                    boolean isDisable,
                                    TUIRoomDefine.ActionCallback callback);
```

Parameter	Type	Meaning
device	TUIRoomDefine.MediaDevice	Device
isDisable	boolean	Whether to Disable

callback	TUIRoomDefine.ActionCallback	Operation result Callback

openRemoteDeviceByAdmin

Request Remote user to open Media device, only Administrator or Group owner can call

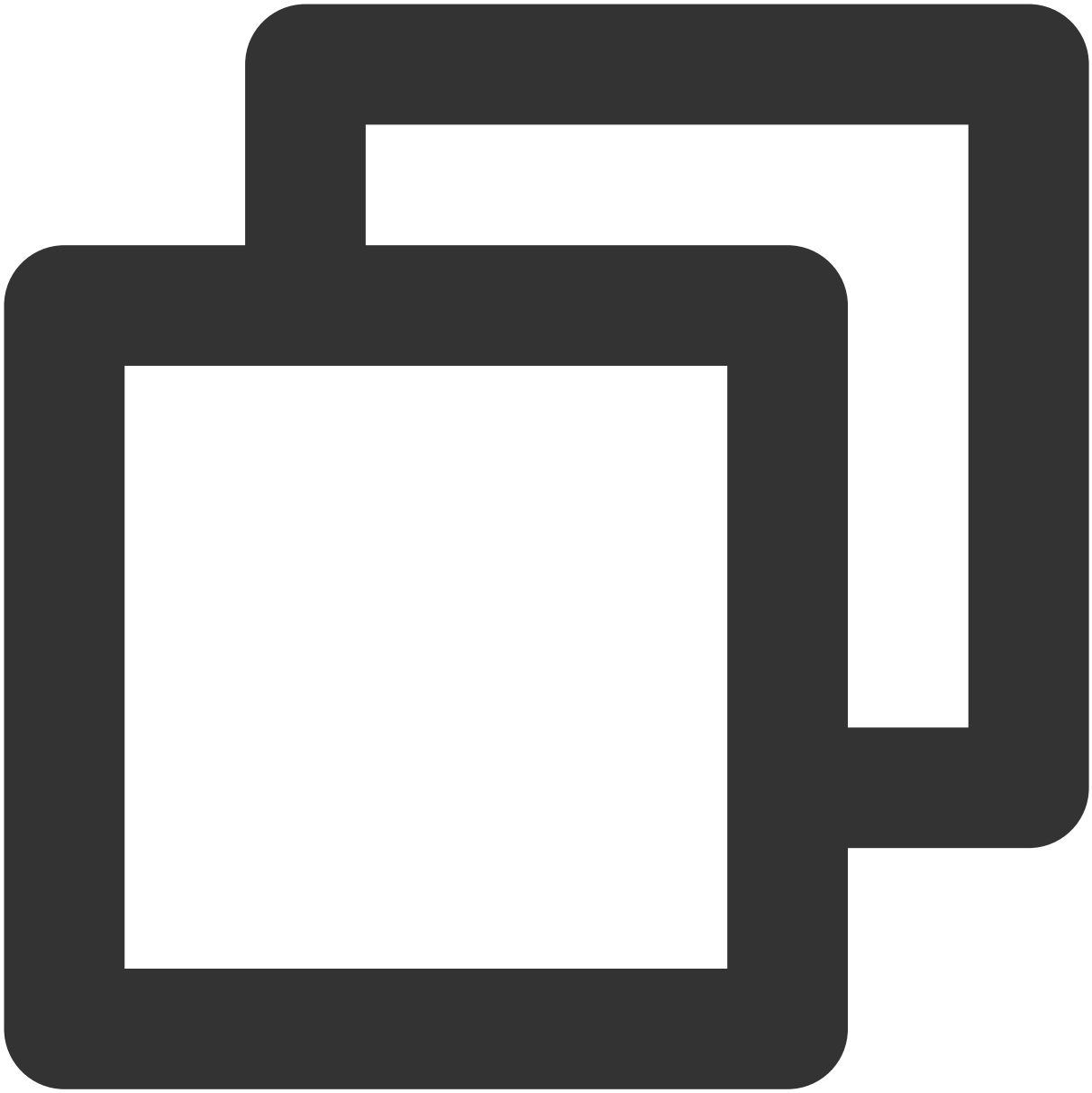


```
TUIRoomDefine.Request openRemoteDeviceByAdmin(String userId,
                                              TUIRoomDefine.MediaDevice device,
                                              int timeout,
                                              TUIRoomDefine.RequestCallback callbac
```


Parameter	Type	Meaning
userId	String	User ID
device	TUIRoomDefine.MediaDevice	Device
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback
callback	TUIRoomDefine.ActionCallback	Operation result Callback

closeRemoteDeviceByAdmin

Close Remote user Media device, only Administrator or Group owner can call

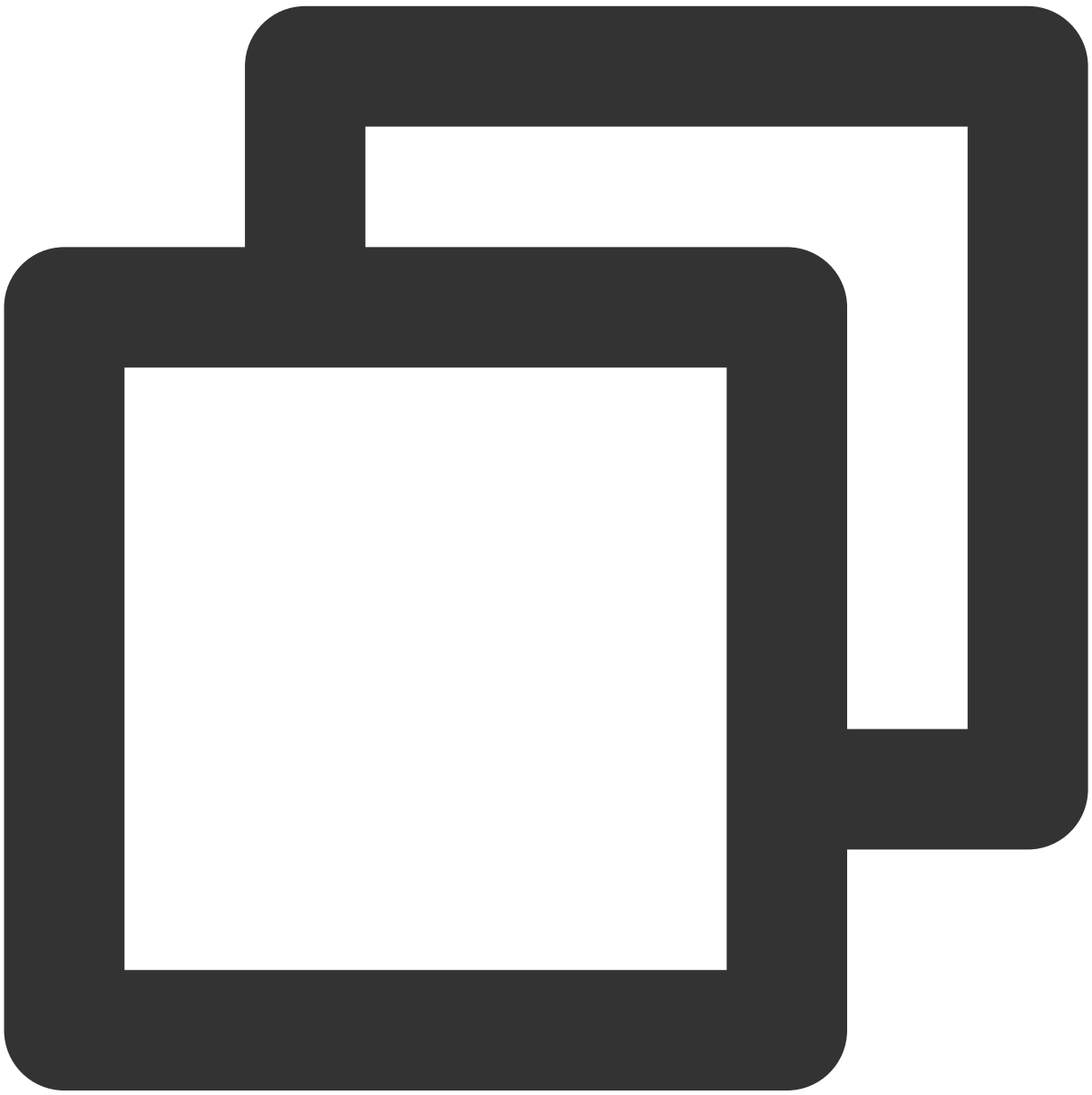


```
void closeRemoteDeviceByAdmin(String userId,
                              TUIRoomDefine.MediaDevice device,
                              TUIRoomDefine.ActionCallback callback);
```

Parameter	Type	Meaning
device	TUIRoomDefine.MediaDevice	Device
isDisable	boolean	Whether to Disable
callback	TUIRoomDefine.ActionCallback	Operation result Callback

applyToAdminToOpenLocalDevice

Lock all users' Media device management



```
TUIRoomDefine.Request applyToAdminToOpenLocalDevice(TUIRoomDefine.MediaDevice devic
                                                    int timeout,
                                                    TUIRoomDefine.RequestCallback c
```

Parameter	Type	Meaning

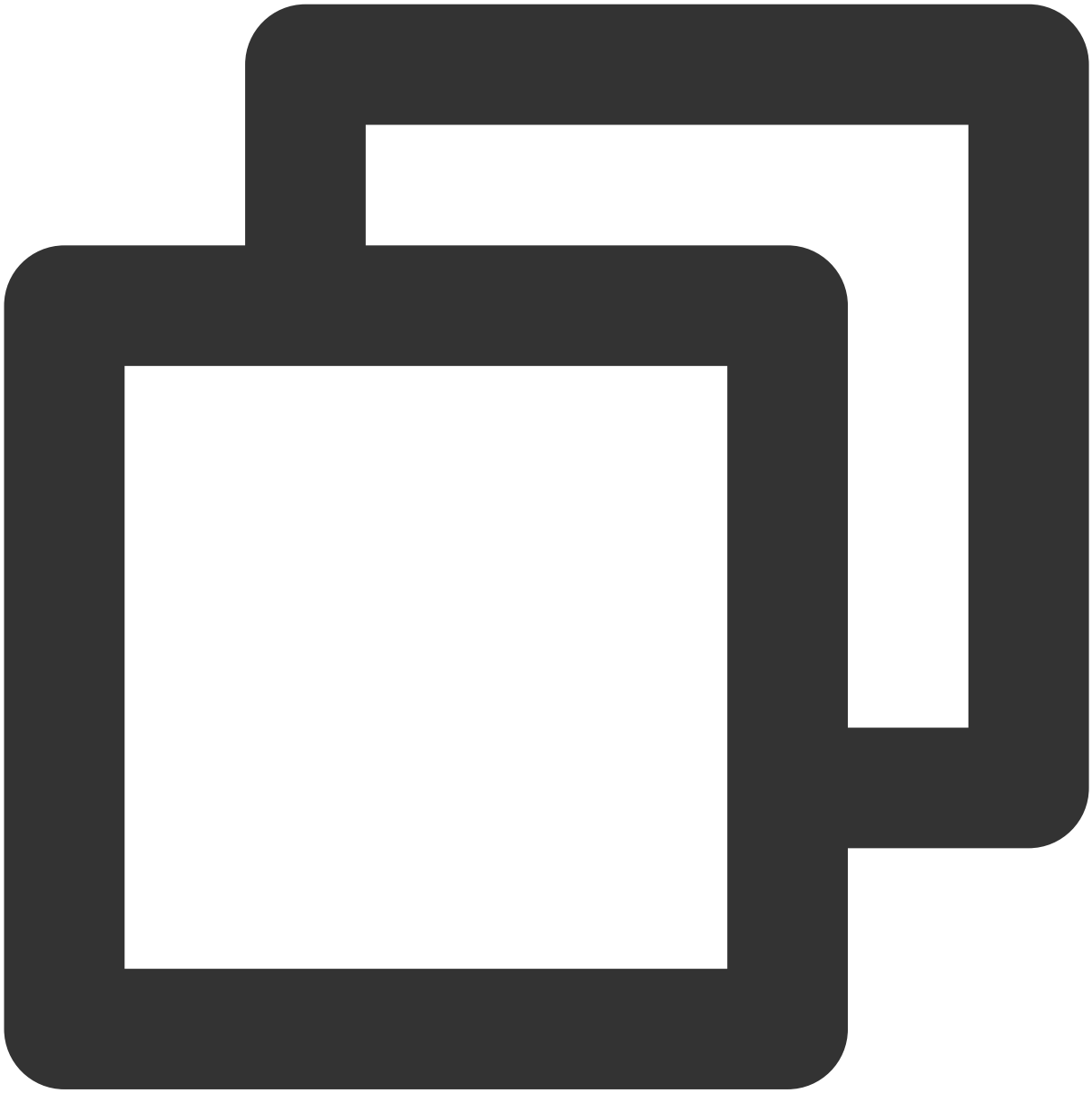
device	TUIRoomDefine.MediaDevice	Device
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback
callback	TUIRoomDefine.ActionCallback	Operation result Callback

setMaxSeatCount

Set Maximum number of seats, only supported when entering the room and creating the room

When roomType is RoomType.CONFERENCE (Education and Conference scene), maxSeatCount value is not limited;

When roomType is RoomType.LIVE_ROOM (Live broadcast scene), maxSeatCount is limited to 16;

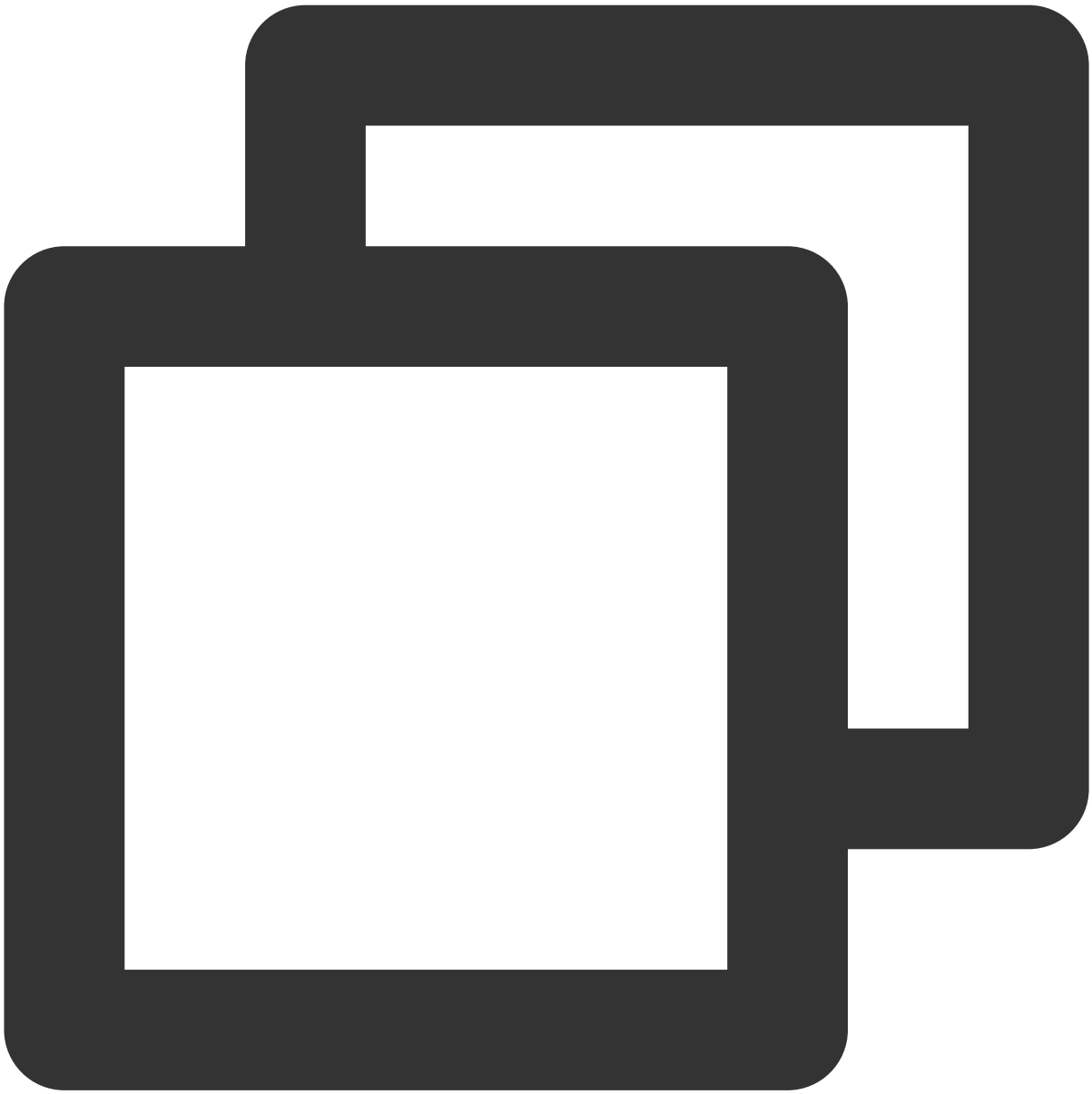


```
void setMaxSeatCount(int maxSeatCount, TUIRoomDefine.ActionCallback callback);
```

Parameter	Type	Meaning
maxSeatCount	int	Maximum number of seats
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

lockSeatByAdmin

Lock seat (including position lock, audio status lock, video status lock)



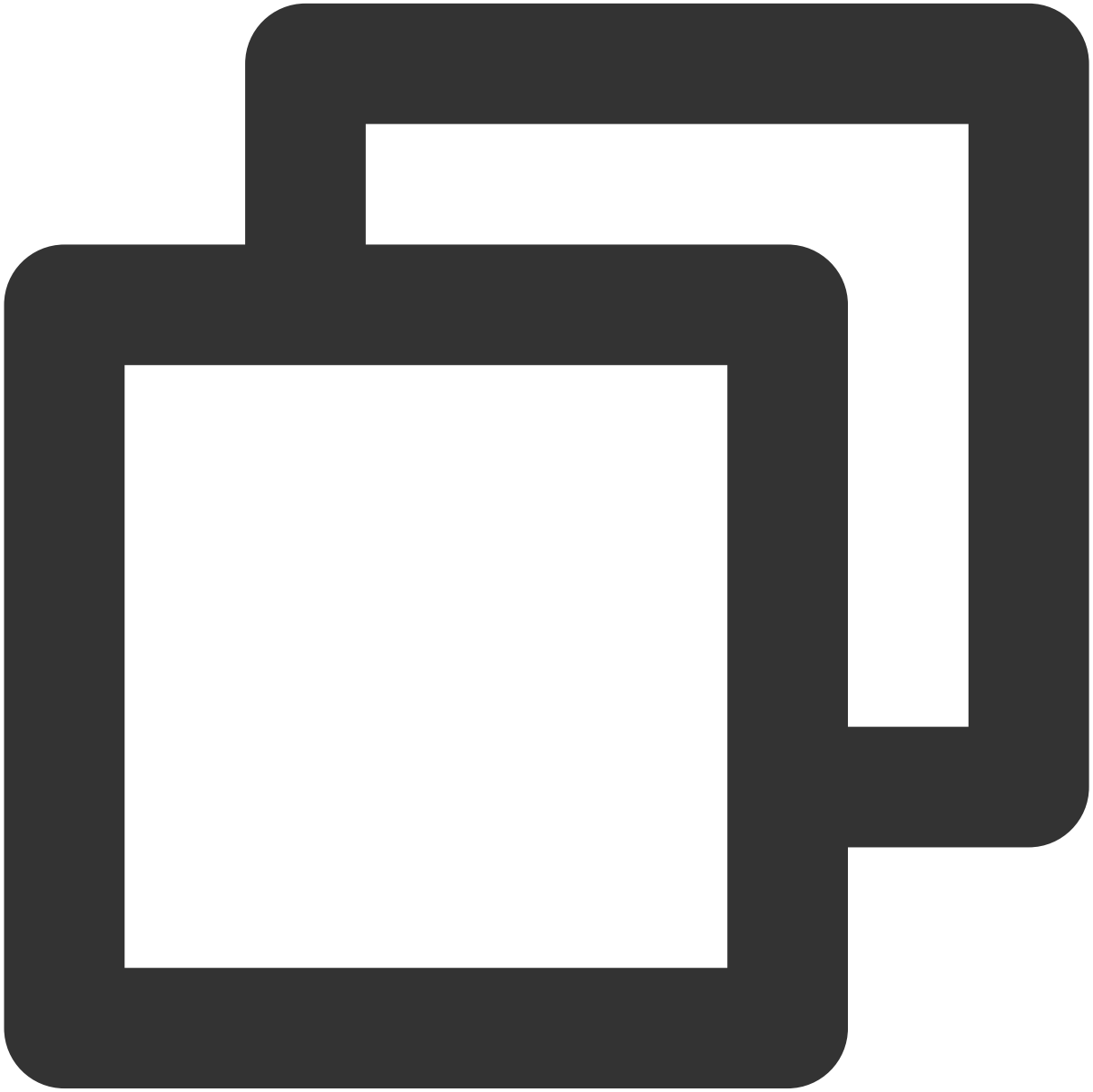
```
void lockSeatByAdmin(int seatIndex,
                     TUIRoomDefine.SeatLockParams lockParams,
                     TUIRoomDefine.ActionCallback callback);
```

Parameter	Type	Meaning
seatIndex	int	Seat number
lockParams	TUIRoomDefine.SeatLockParams	Lock microphone parameter

callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

getSeatList

Get seat list



```
void getSeatList(TUIRoomDefine.GetSeatListCallback callback);
```

Parameter	Type	Meaning

callback	TUIRoomDefine.GetSeatListCallback	Get seat list Callback

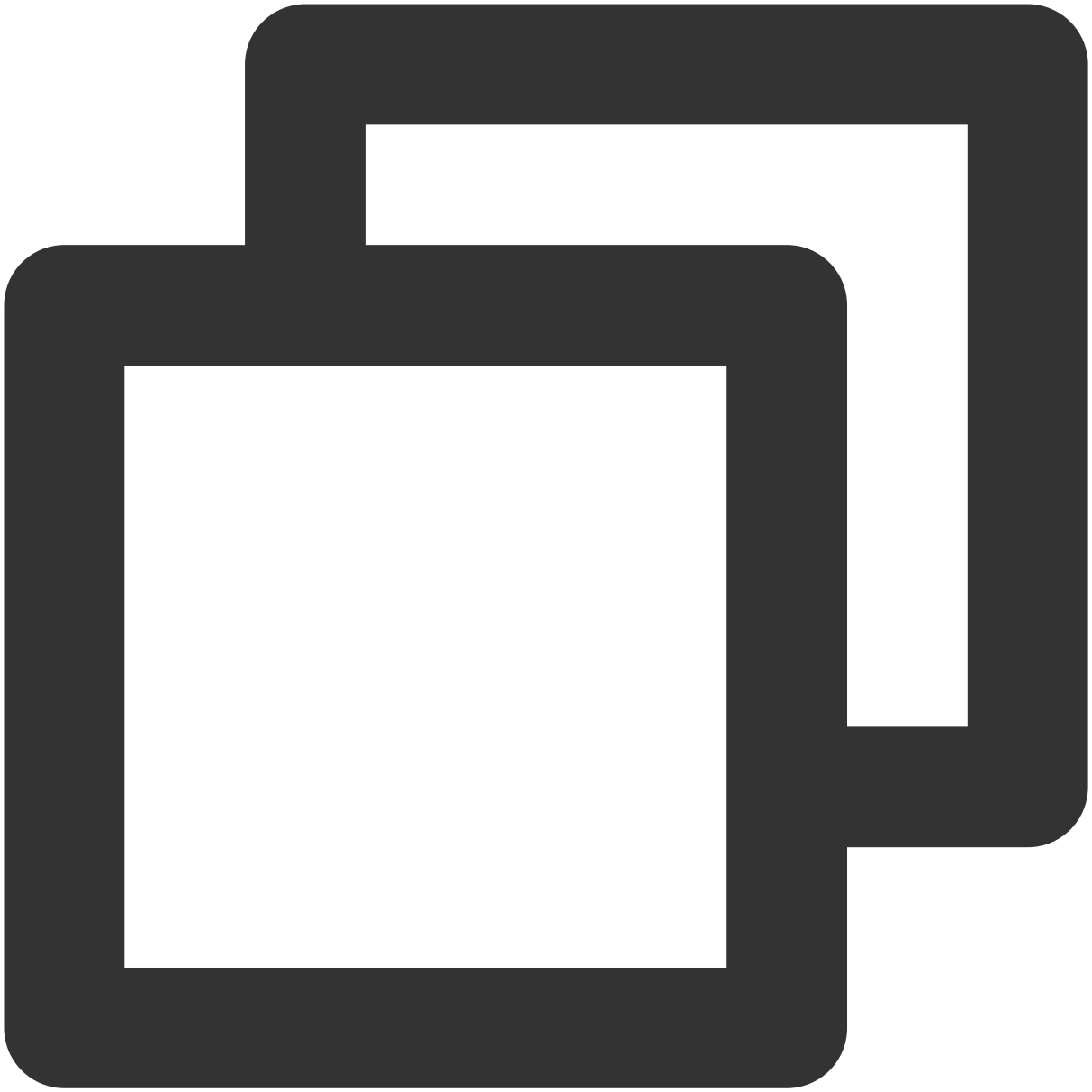
takeSeat

Local on microphone

Explanation:

Conference scene: SPEAK_AFTER_TAKING_SEAT mode requires an application to the host or administrator to allow on microphone, other modes do not support on microphone.

Live broadcast scene: FREE_TO_SPEAK mode can freely on microphone, after on microphone, open microphone to speak; SPEAK_AFTER_TAKING_SEAT mode requires an application to the host or administrator to allow on microphone; other modes do not support on microphone.



```
TUIRoomDefine.Request takeSeat(int seatIndex,
                               int timeout,
                               TUIRoomDefine.RequestCallback callback);
```

Parameters:

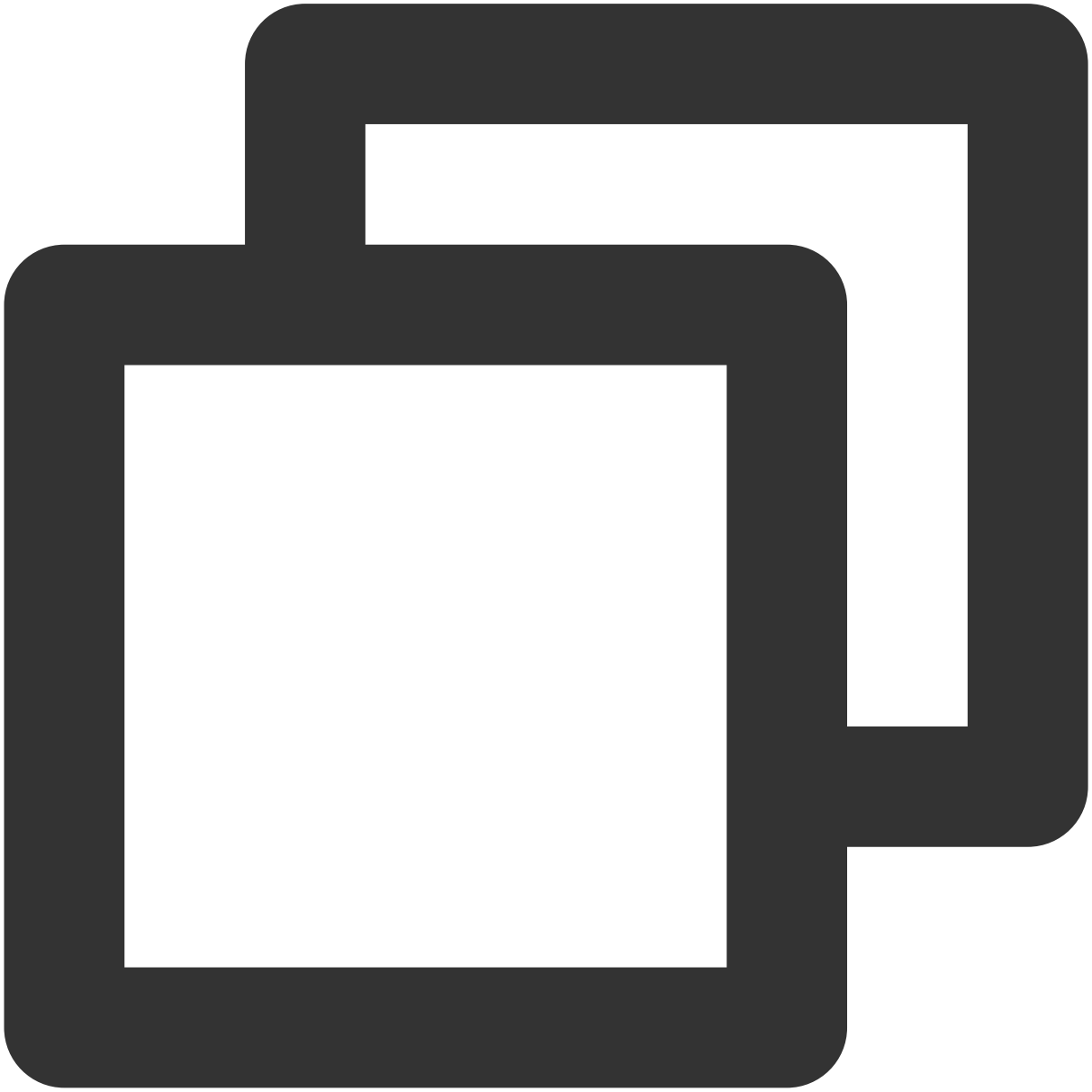
Parameter	Type	Meaning
seatIndex	int	Seat number
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout

		detection and will not trigger timeout Callback
callback	TUIRoomDefine.RequestCallback	Call interface Callback, used to notify the request Callback status

Return: Request body

leaveSeat

Local off microphone



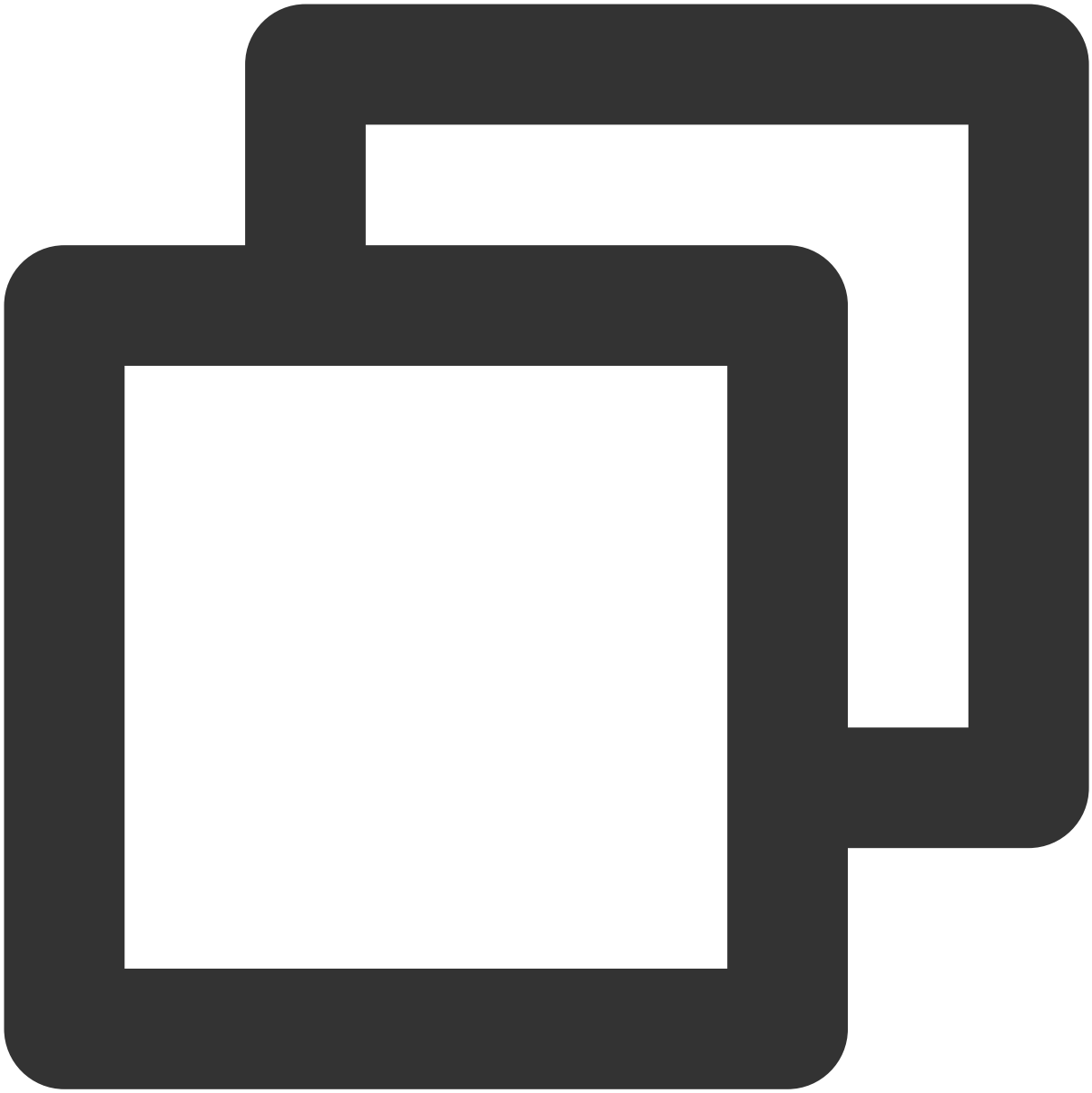
```
void leaveSeat(TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

takeUserOnSeatByAdmin

Host/Administrator Invite User on microphone



```
TUIRoomDefine.Request takeUserOnSeatByAdmin(int seatIndex,
                                            String userId,
                                            int timeout,
                                            TUIRoomDefine.RequestCallback callback)
```

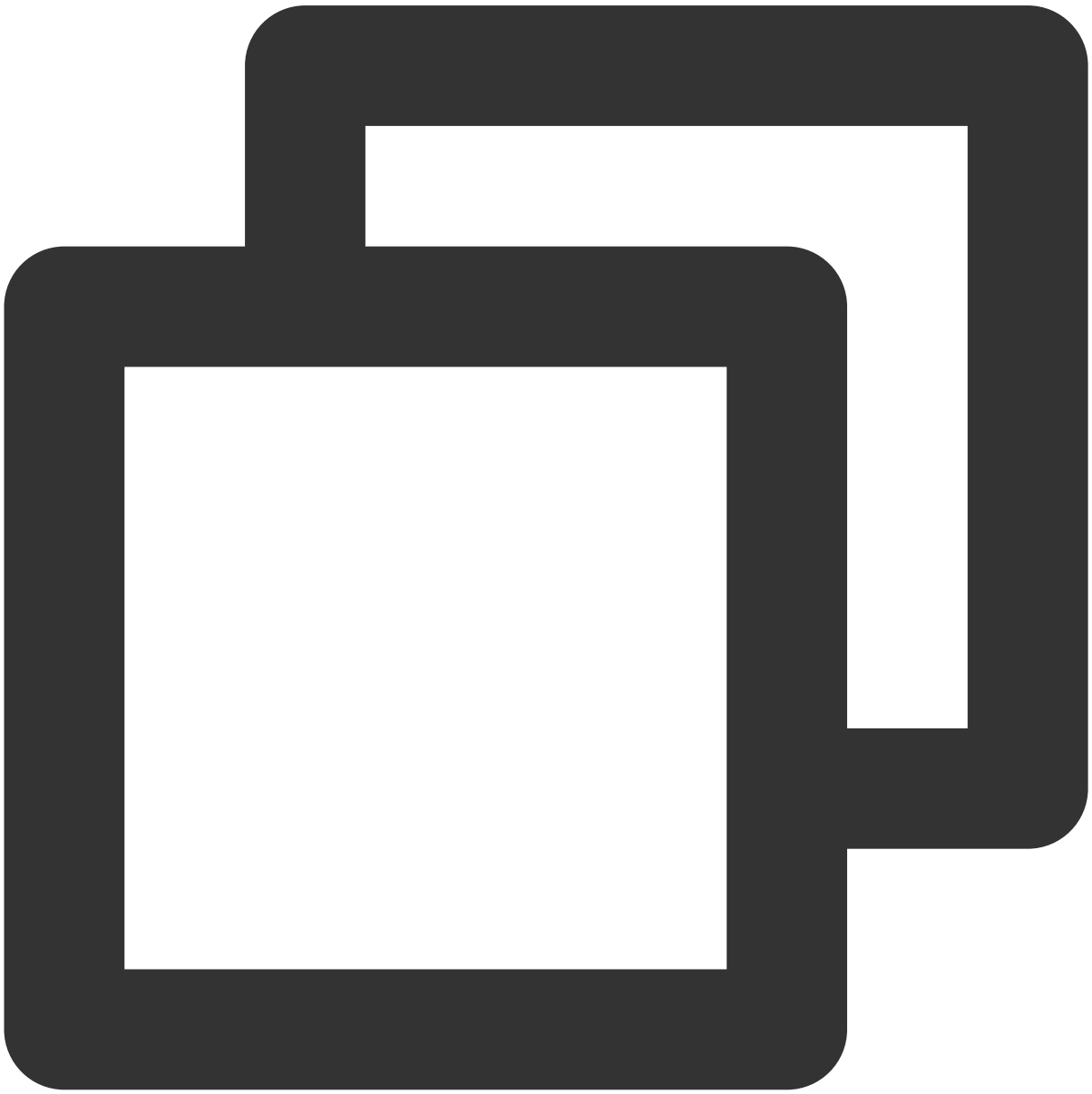
Parameter	Type	Meaning
seatIndex	int	Seat number
userId	String	User ID

timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback
callback	TUIRoomDefine.RequestCallback	Call interface Callback, used to notify the request Callback status

Return: Request body

kickUserOffSeatByAdmin

Host/Administrator Take User off microphone

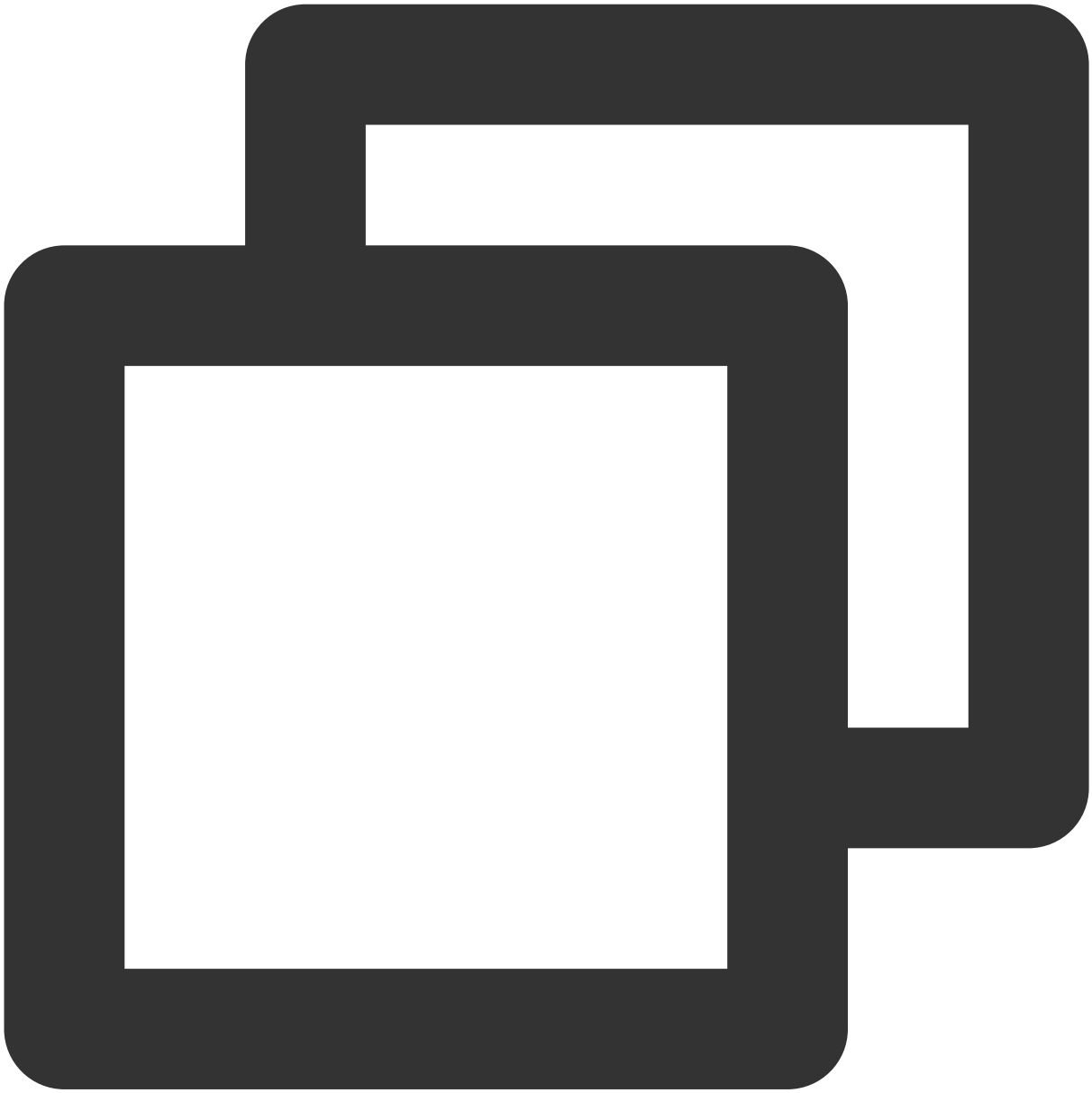


```
void kickUserOffSeatByAdmin(int seatIndex, String userId, TUIRoomDefine.ActionCallb
```

Parameter	Type	Meaning
seatIndex	int	Seat number
userId	String	User ID
callback	TUIRoomDefine.RequestCallback	Call interface Callback, used to notify the request Callback status

sendTextMessage

Send Text message



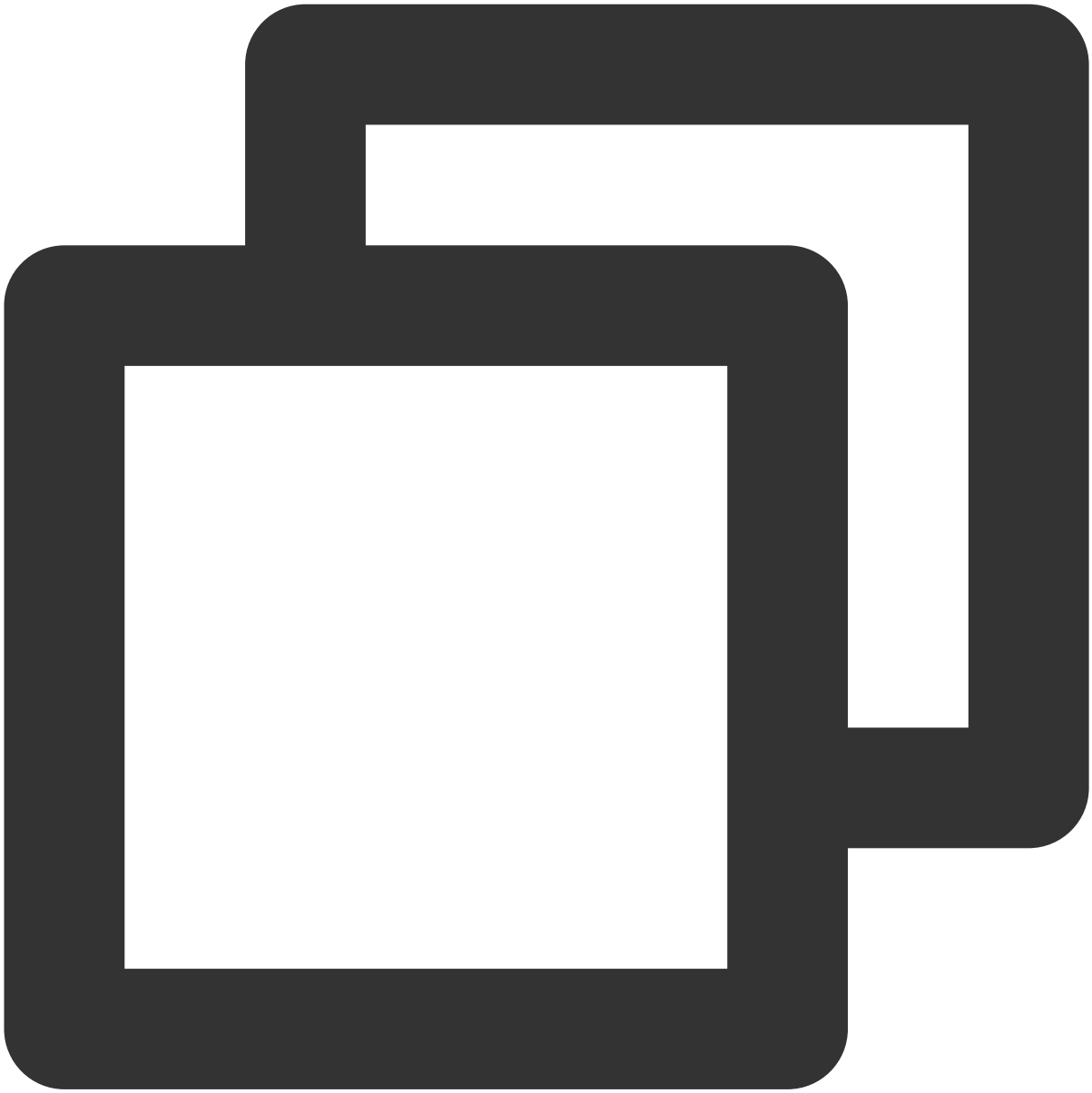
```
void sendTextMessage(String message,
                     TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
message	String	Text message Content
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

sendCustomMessage

Send Custom message



```
void sendCustomMessage(String message,
                       TUIRoomDefine.ActionCallback callback);
```

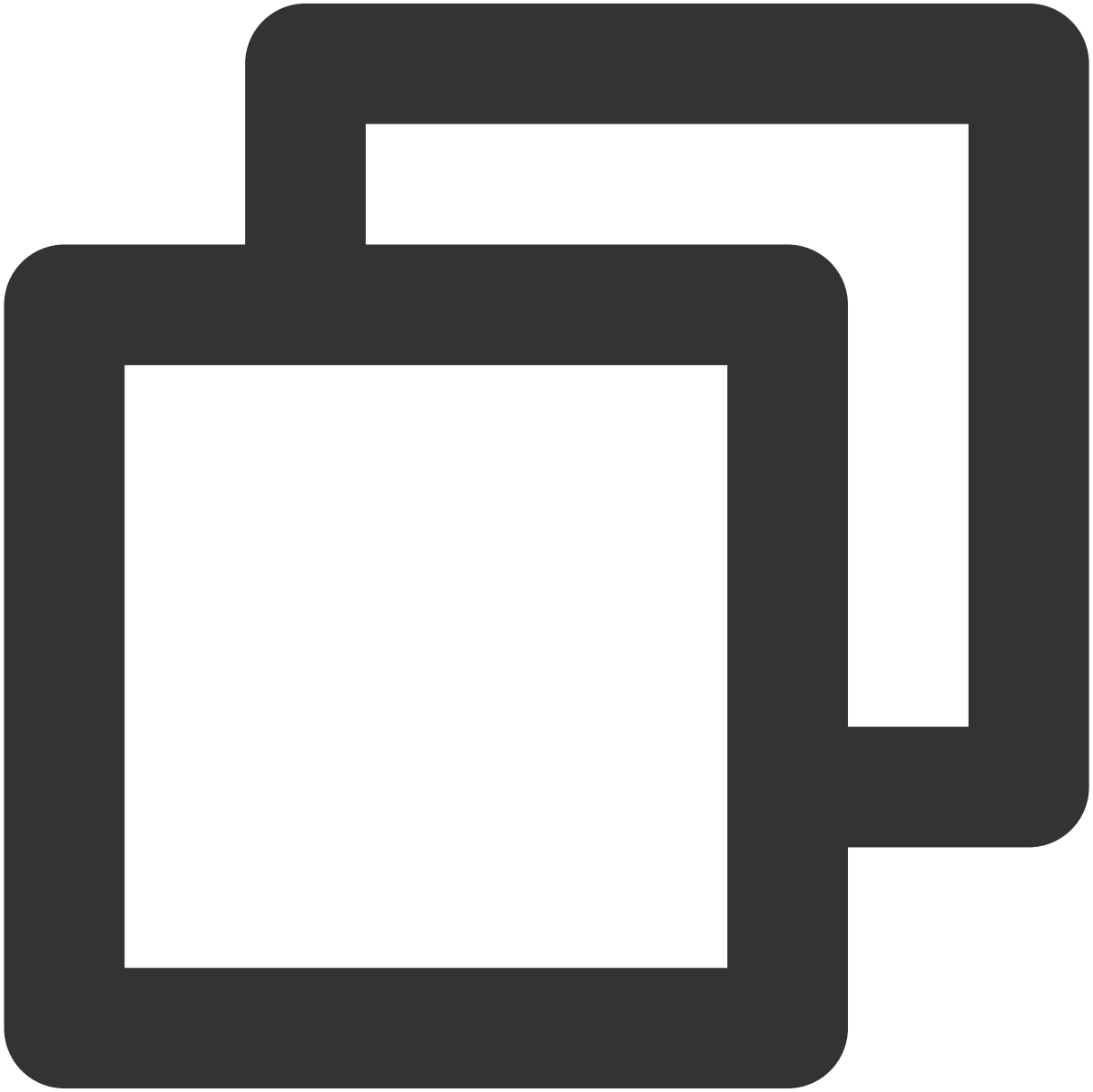
Parameters:

Parameter	Type	Meaning
message	String	Custom message Content

callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

disableSendingMessageByAdmin

Disable Remote user's Text message sending Ability (only Administrator or Group owner can call)

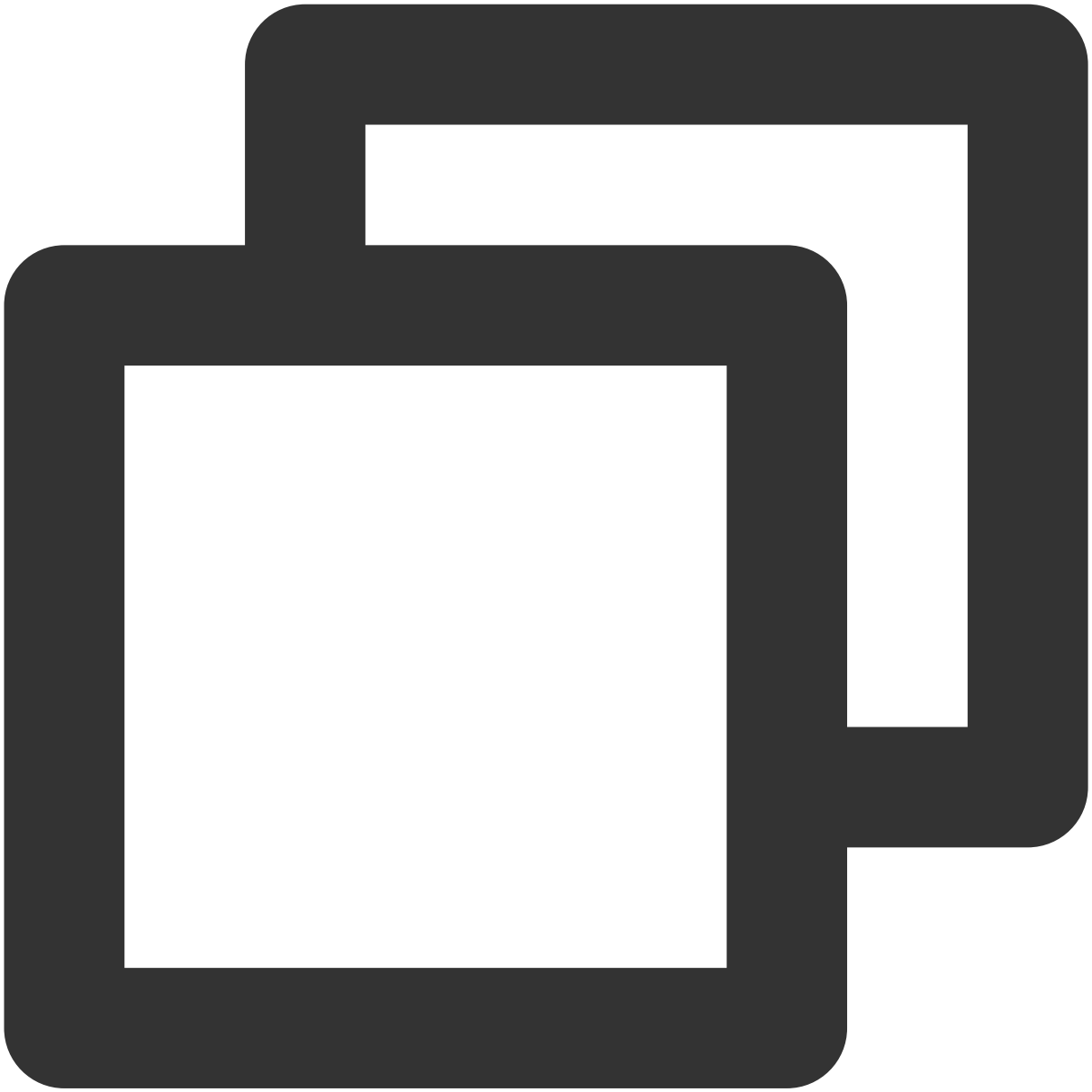


```
void disableSendingMessageByAdmin(String userId,
                                  boolean isDisable,
                                  TUIRoomDefine.ActionCallback callback);
```

Parameter	Type	Meaning
userId	String	User ID
isDisable	boolean	Whether to Disable
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

disableSendingMessageForAllUser

Disable all users' Text message sending Ability (only Administrator or Group owner can call)

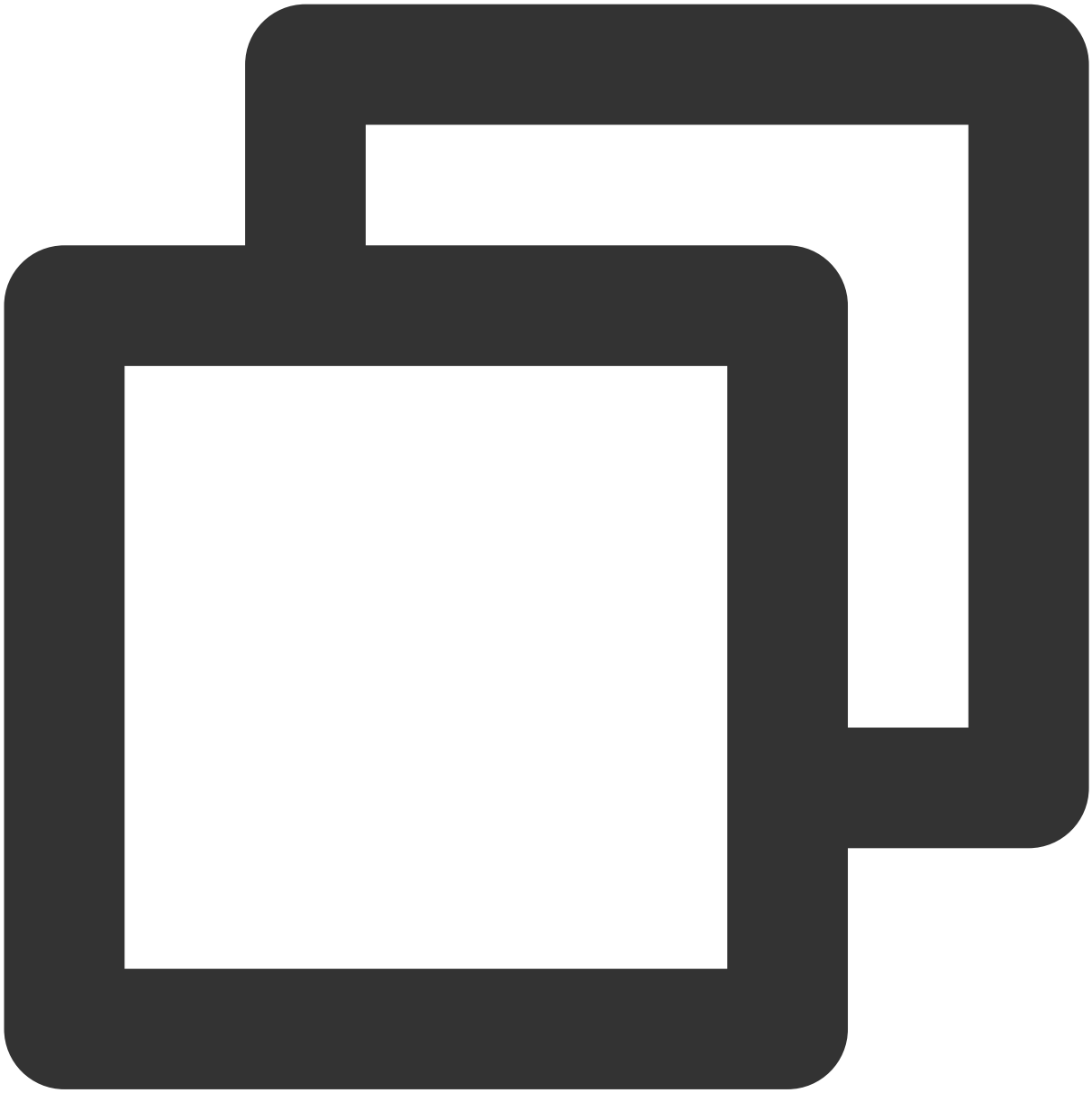


```
void disableSendingMessageForAllUser(boolean isDisable,
                                     TUIRoomDefine.ActionCallback callback);
```

Parameter	Type	Meaning
isDisable	boolean	Whether to Disable
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

cancelRequest

Cancel sent Request



```
void cancelRequest(String requestId, TUIRoomDefine.ActionCallback callback);
```

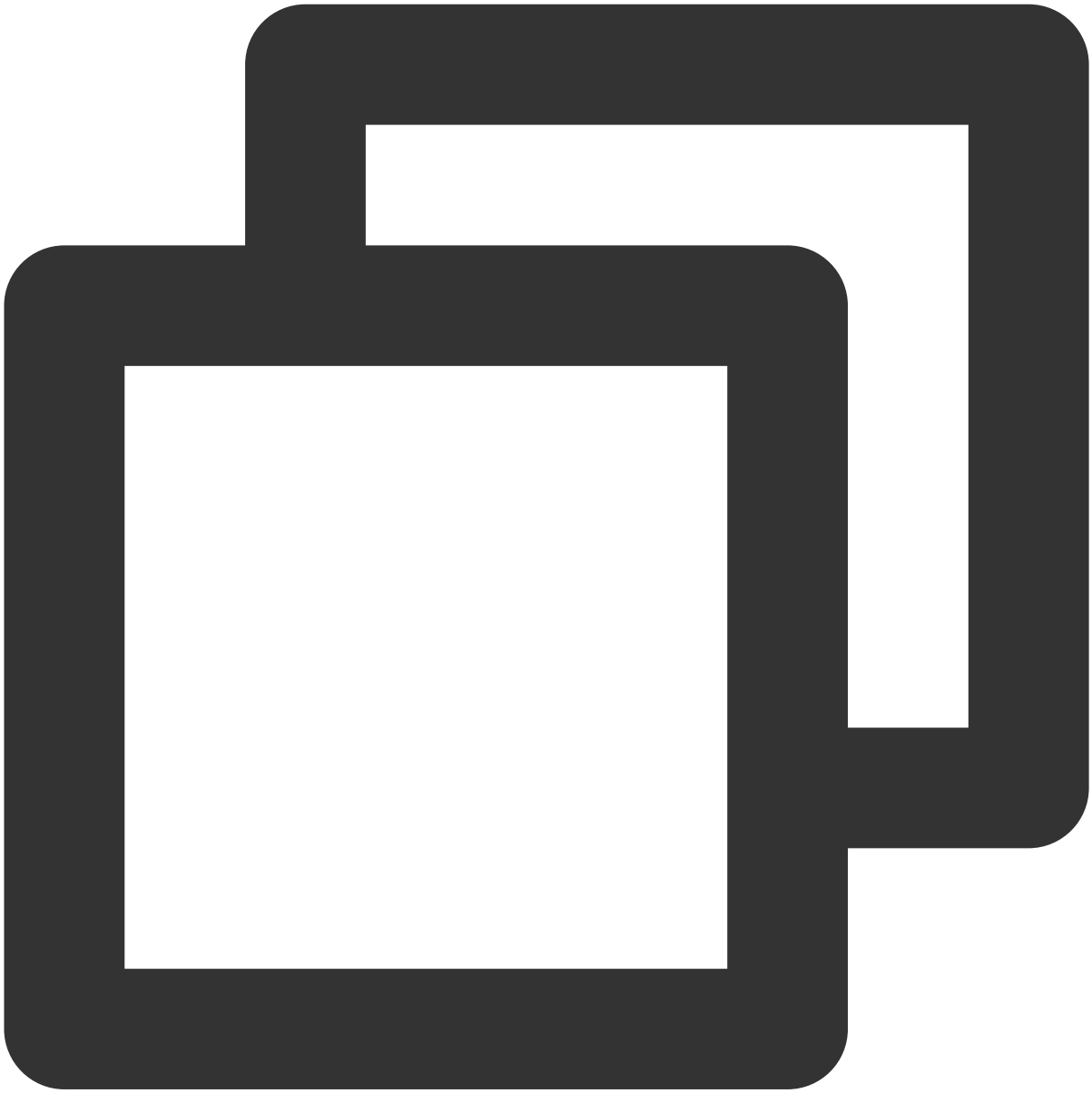
Parameters:

Parameter	Type	Meaning
requestId	String	Request ID
callback	TUIRoomDefine.ActionCallback	Callback of API, used to Notify the Success

		or Failure of the API call

responseRemoteRequest

Reply to Remote user's Request



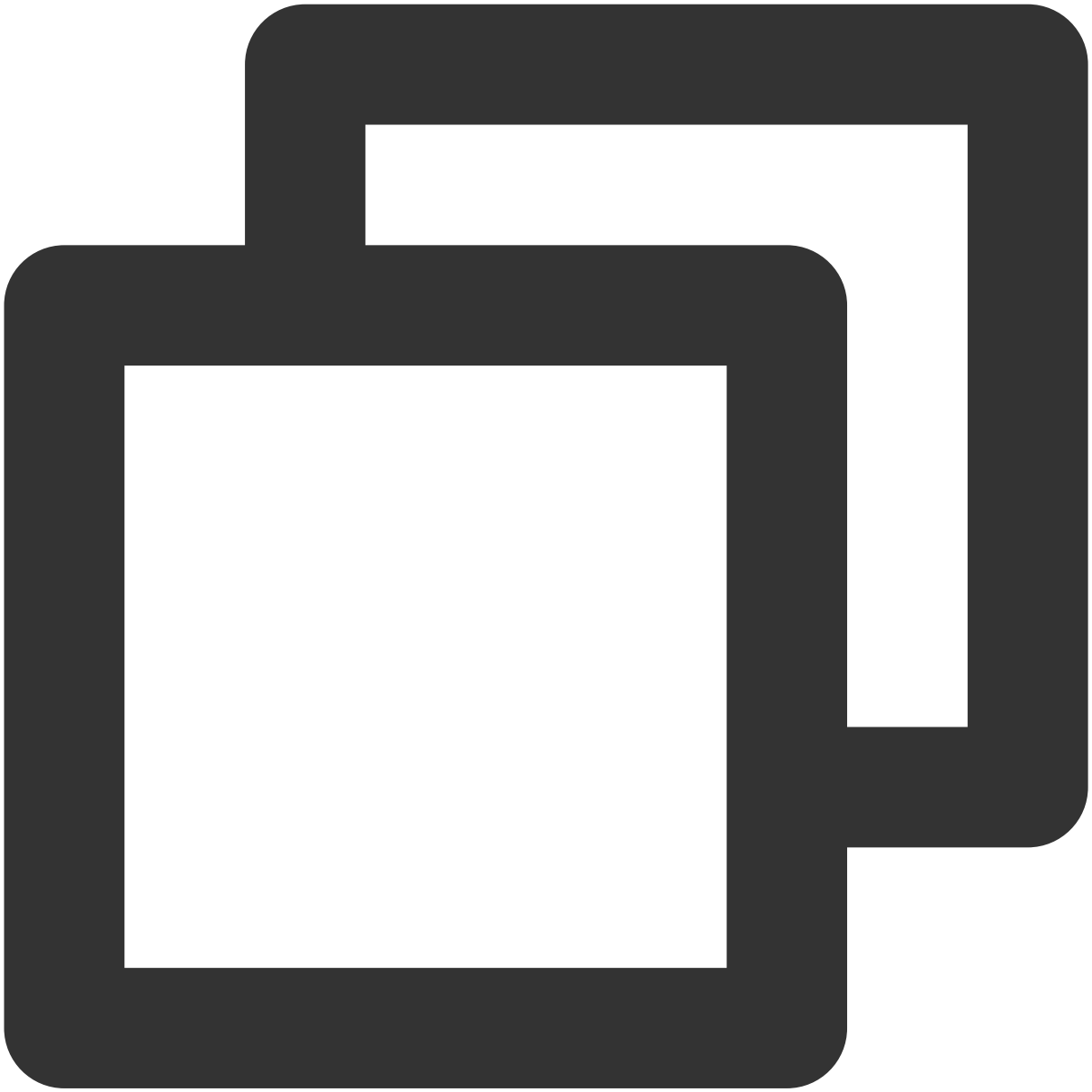
```
void responseRemoteRequest(String requestId,
                           boolean agree,
                           TUIRoomDefine.ActionCallback callback);
```

Parameters:

Parameter	Type	Meaning
requestId	String	Request ID
agree	boolean	Whether to agree
callback	TUIRoomEngineDef.ActionCallback	Callback of API, used to Notify the Success or Failure of the API call

getTRTCCloud

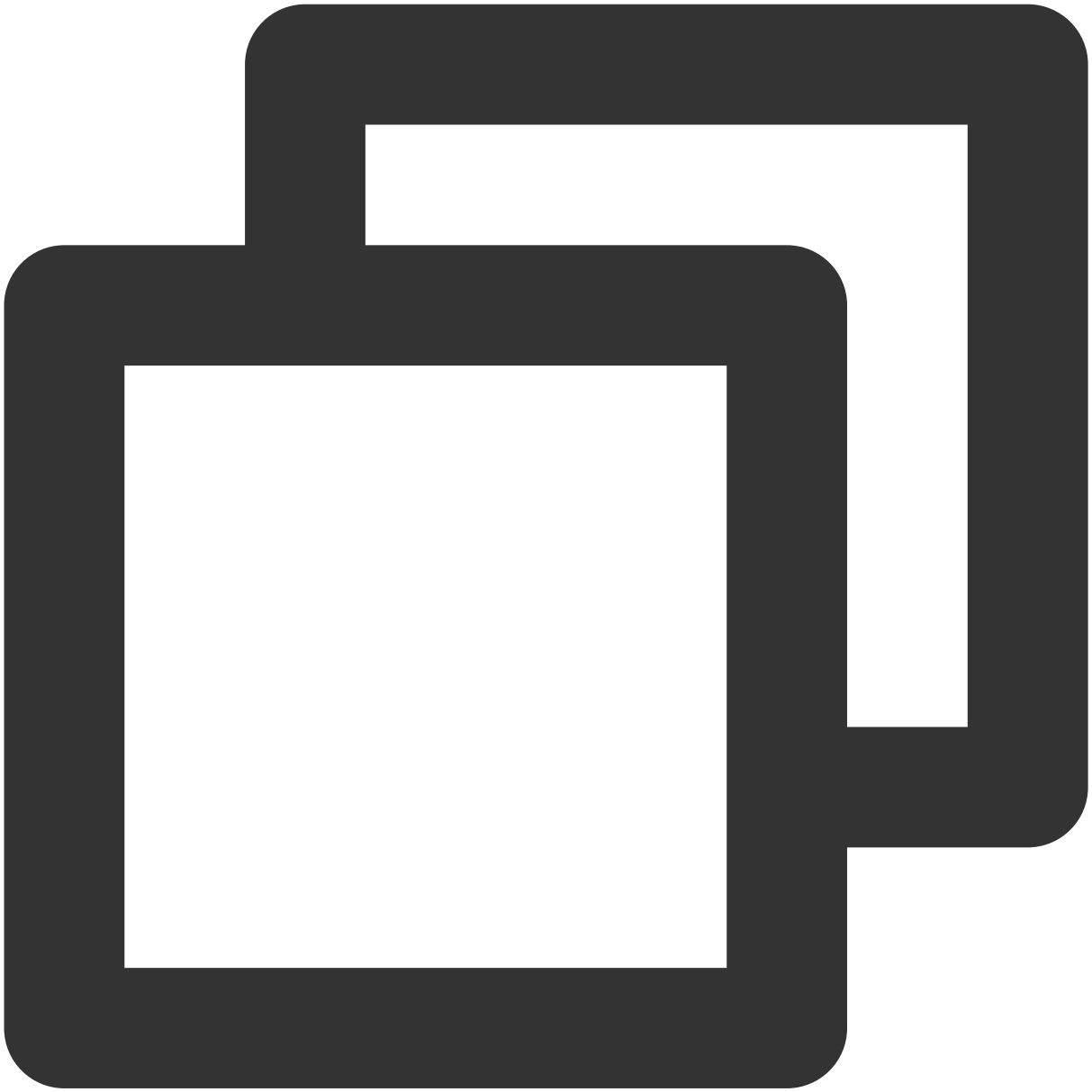
Get TRTCCloud Instance



```
TRTCCloud getTRTCCloud();
```

getDeviceManager

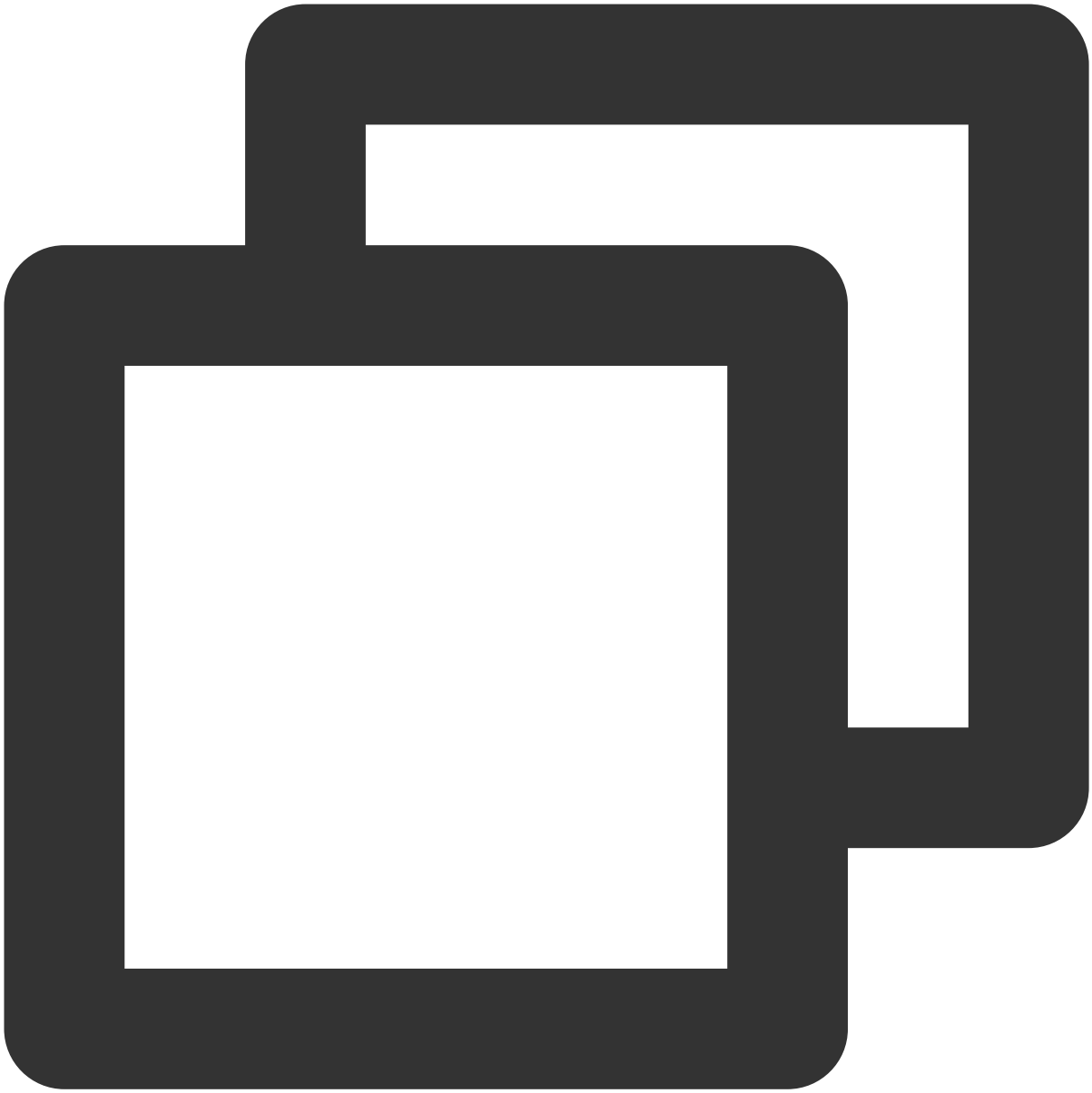
Get deviceManager, you can use deviceManager's method to get Device list, even Device, switch Device and other functions.



```
TXDeviceManager getDeviceManager();
```

getAudioEffectManager

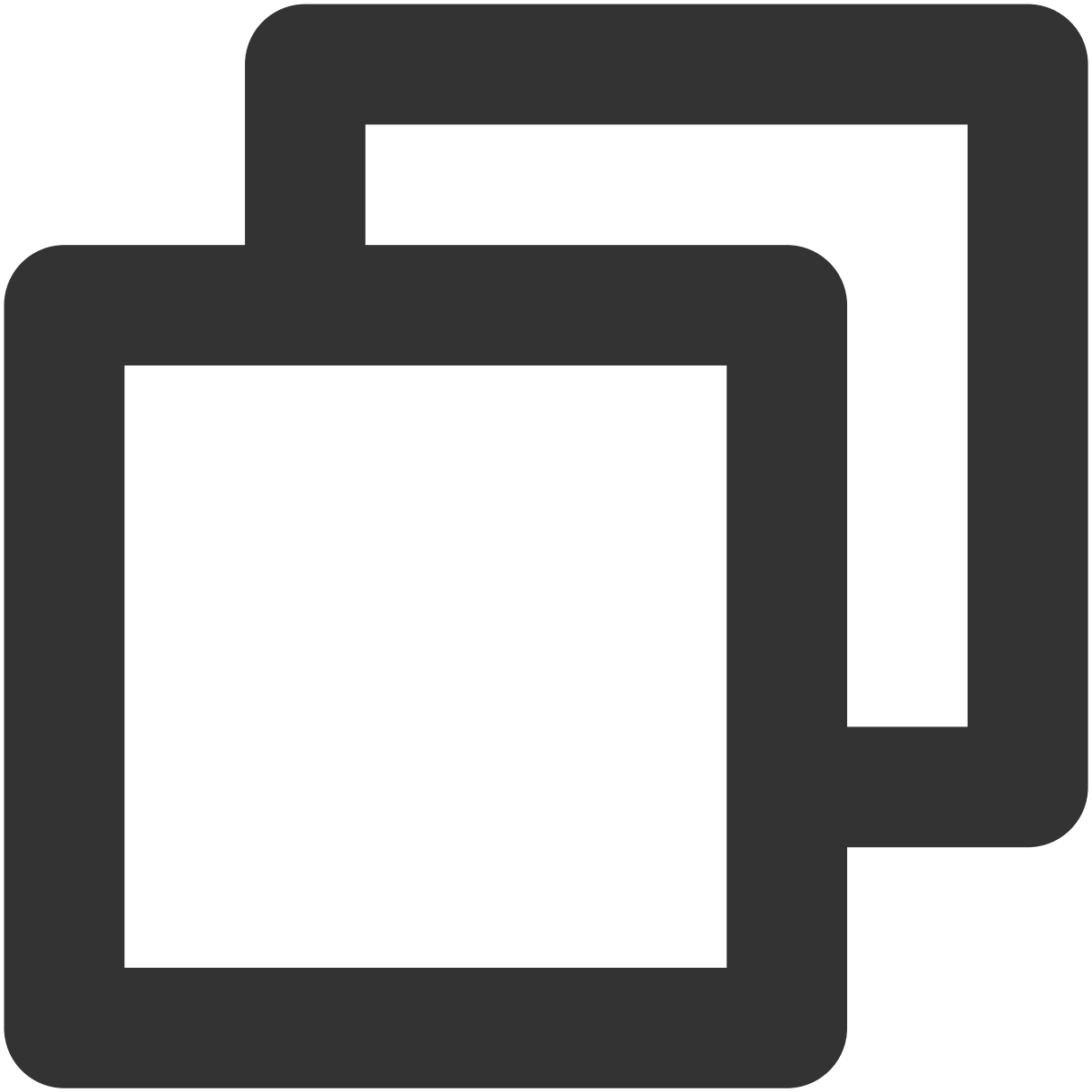
Get Audio management



```
TXAudioEffectManager getAudioEffectManager();
```

getBeautyManager

Get Beauty management object



```
TXBeautyManager getBeautyManager();
```

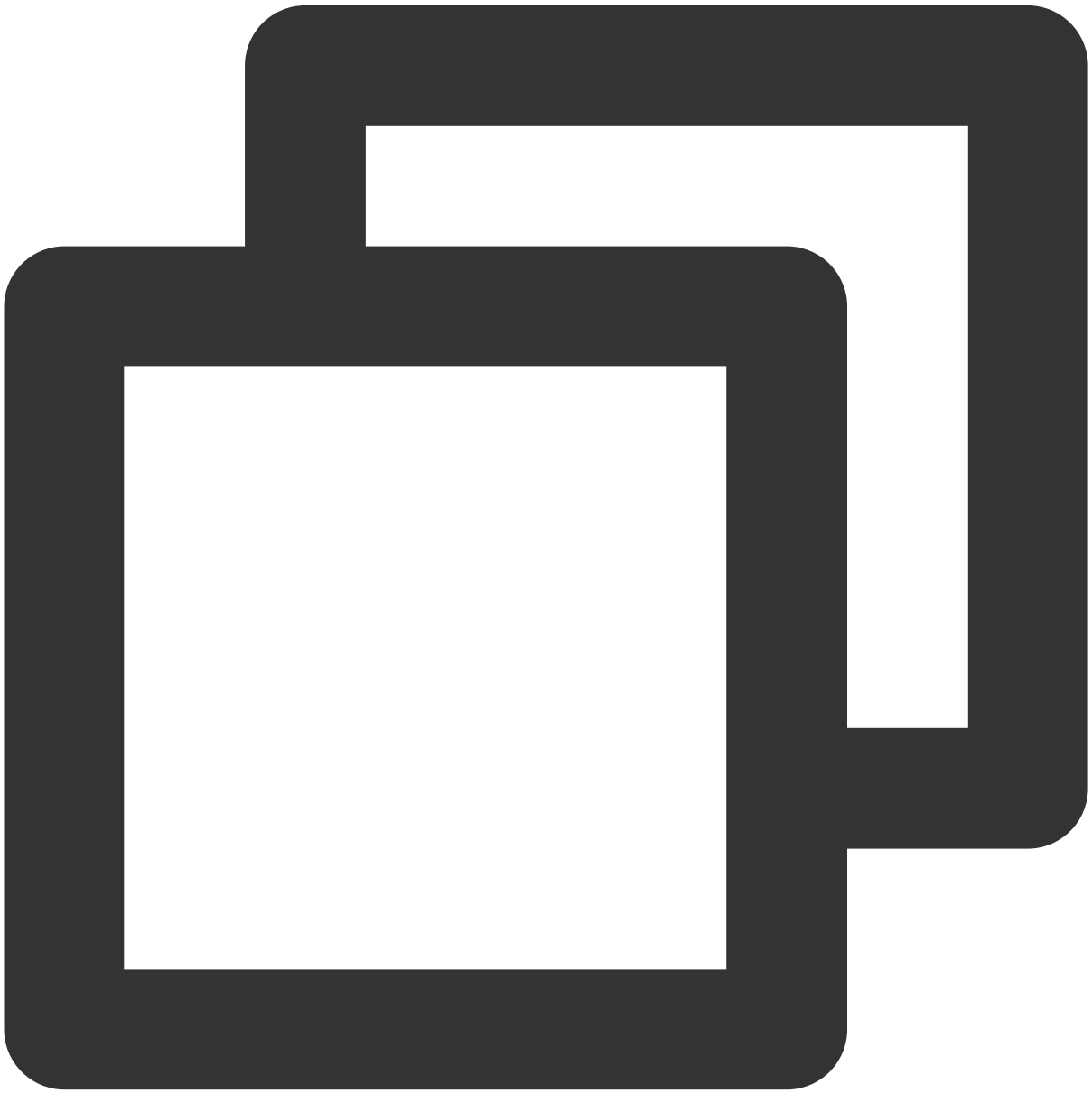
TUIRoomObserver

Last updated：2023-10-24 17:07:24

TUIRoomEngine Event Callback

onError

Error Event Callback

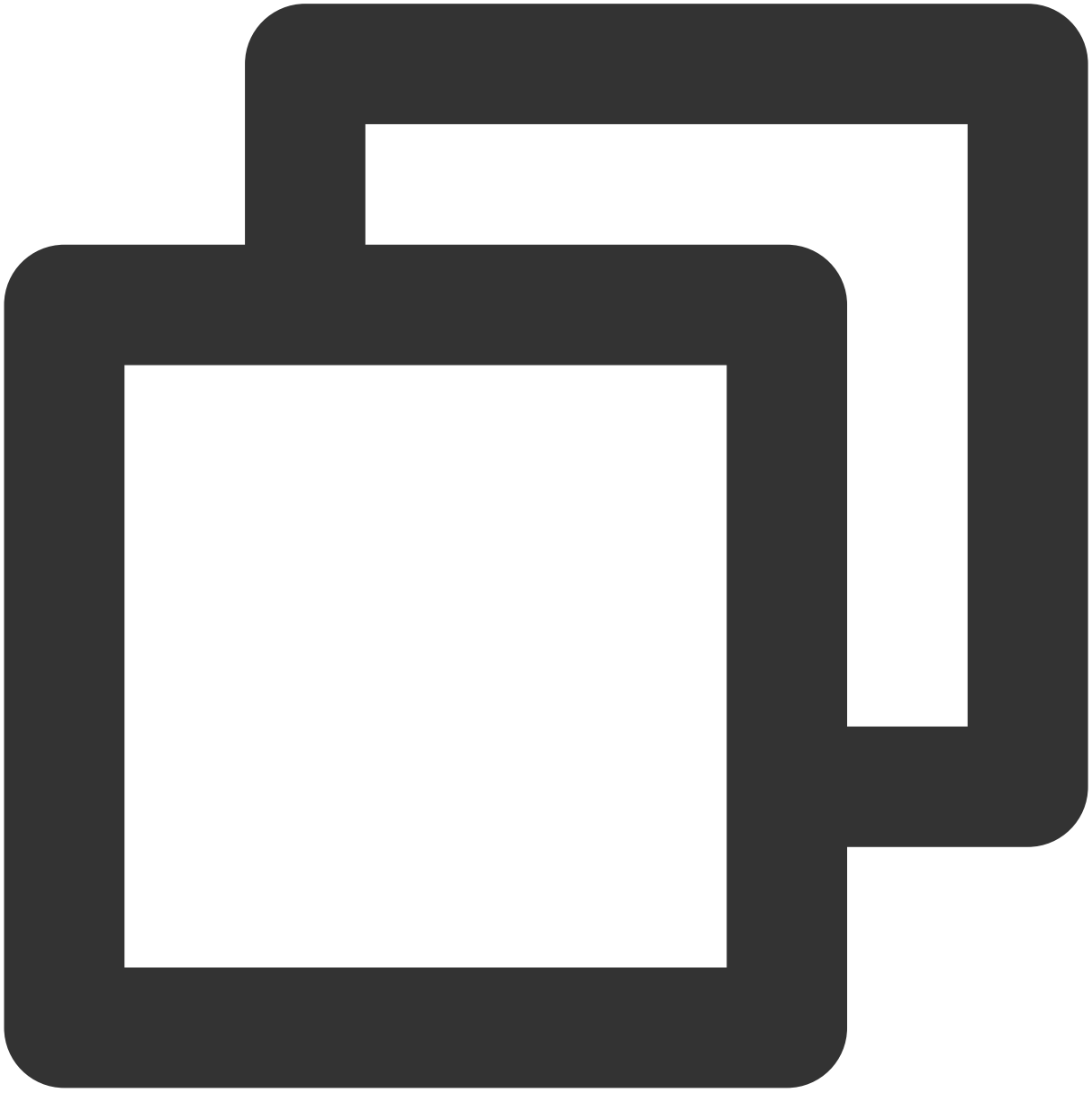


```
void onError(TUICommonDefine.Error errorCode, String message)
```

Parameter	Type	Description
errorCode	TUICommonDefine.Error	Error Code
message	String	Error Message

onKickedOffLine

Other terminals login and get kicked off event.

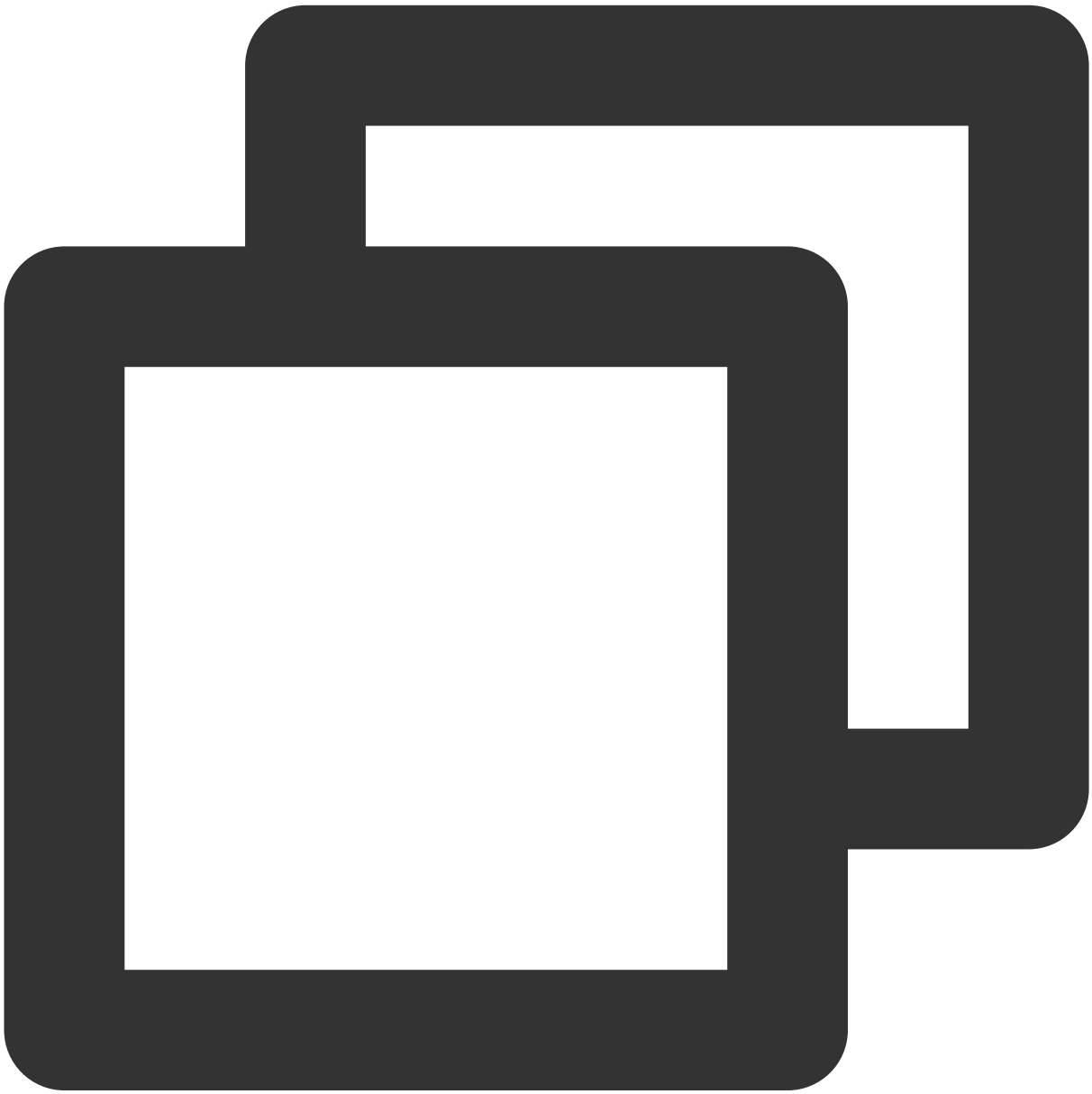


```
void onKickedOffLine(String message)
```

Parameter	Type	Description
message	String	Kicked out description

onUserSigExpired

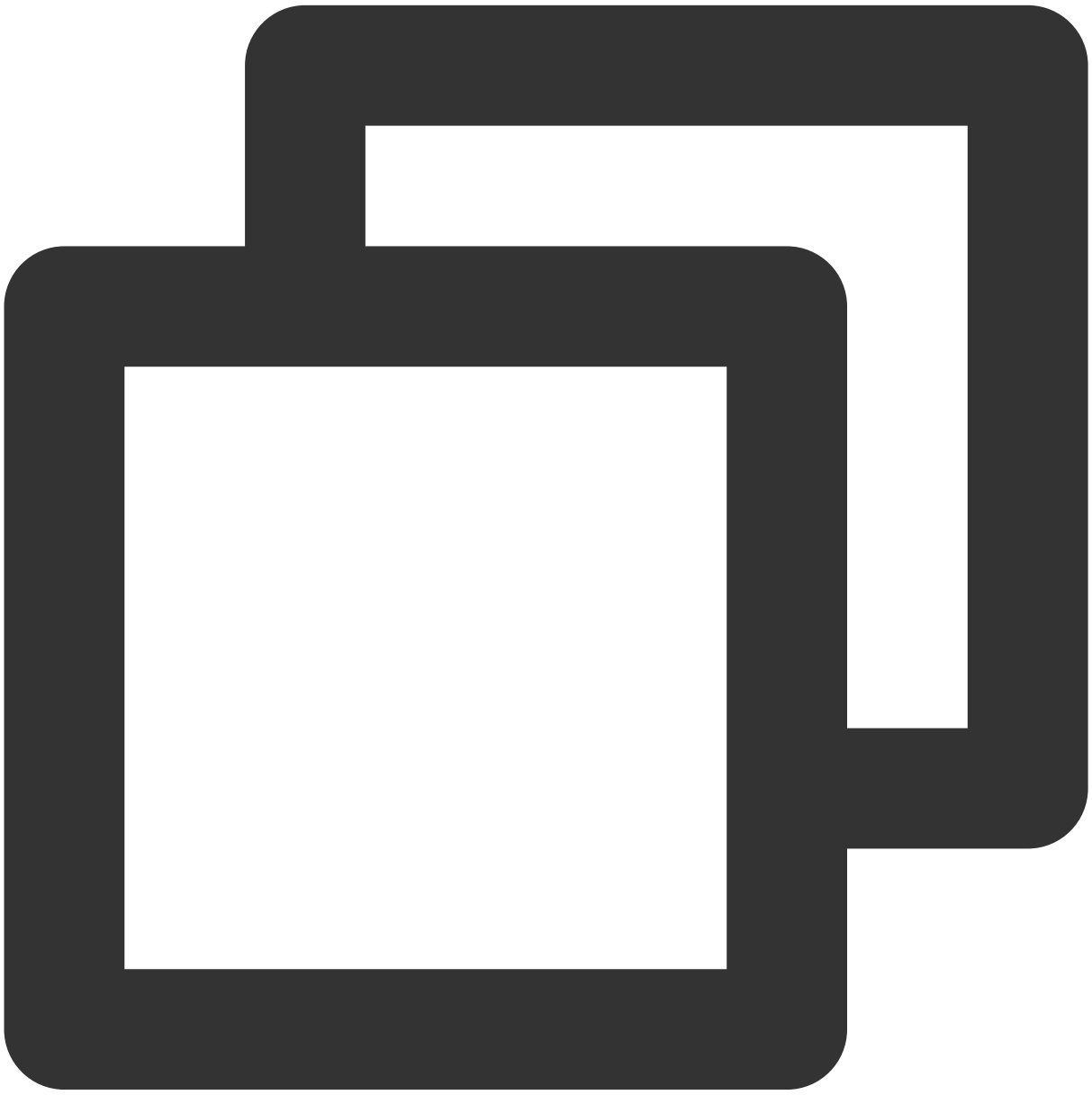
User credential timeout event.



```
void onUserSigExpired()
```

onRoomNameChanged

Room name change event.



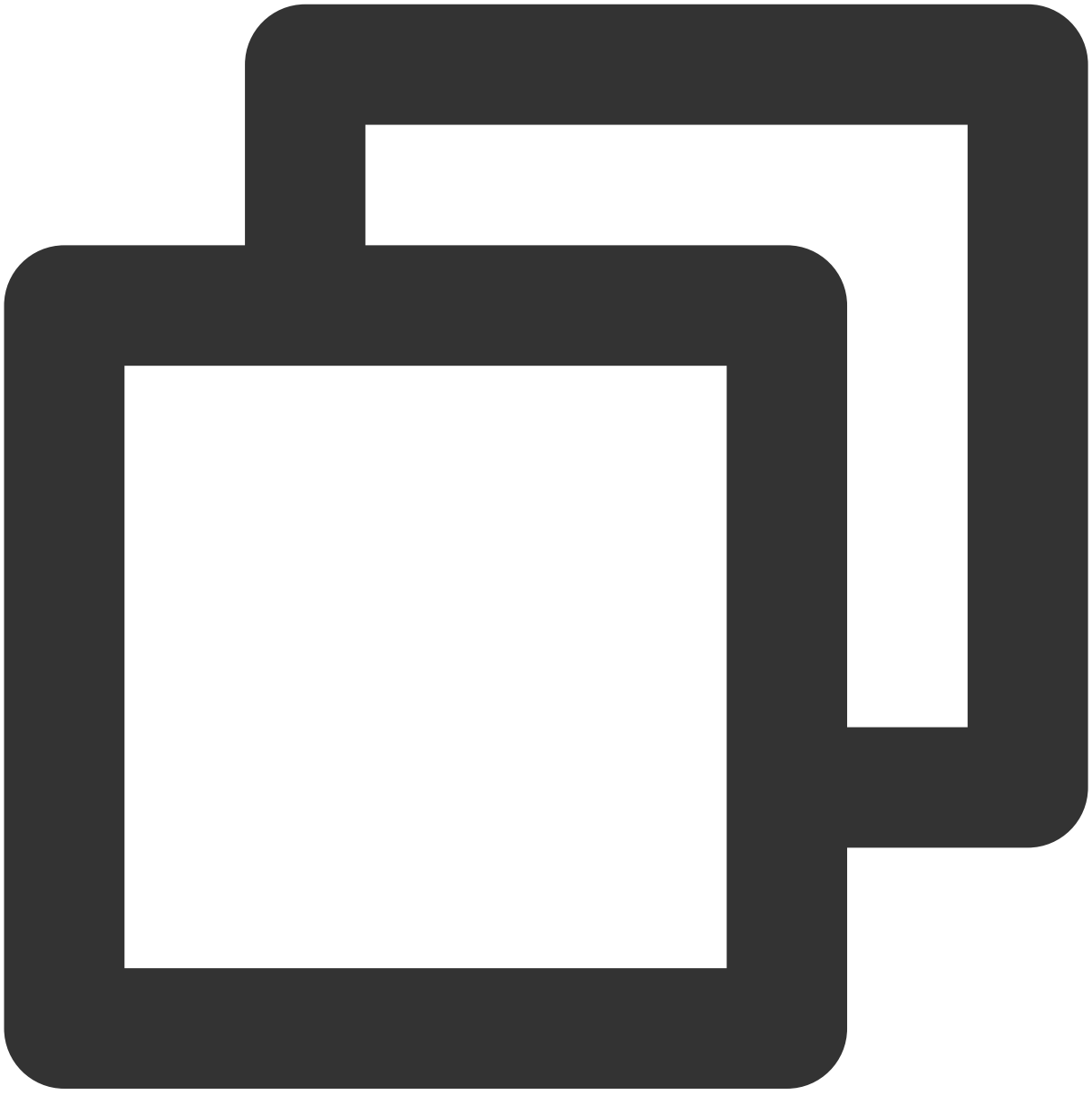
```
void onRoomNameChanged(String roomId, String roomName)
```

Parameter	Type	Description

roomId	String	Room ID
roomName	String	Room Name

onAllUserMicrophoneDisableChanged

Inside the room, all users' mic is disabled event.



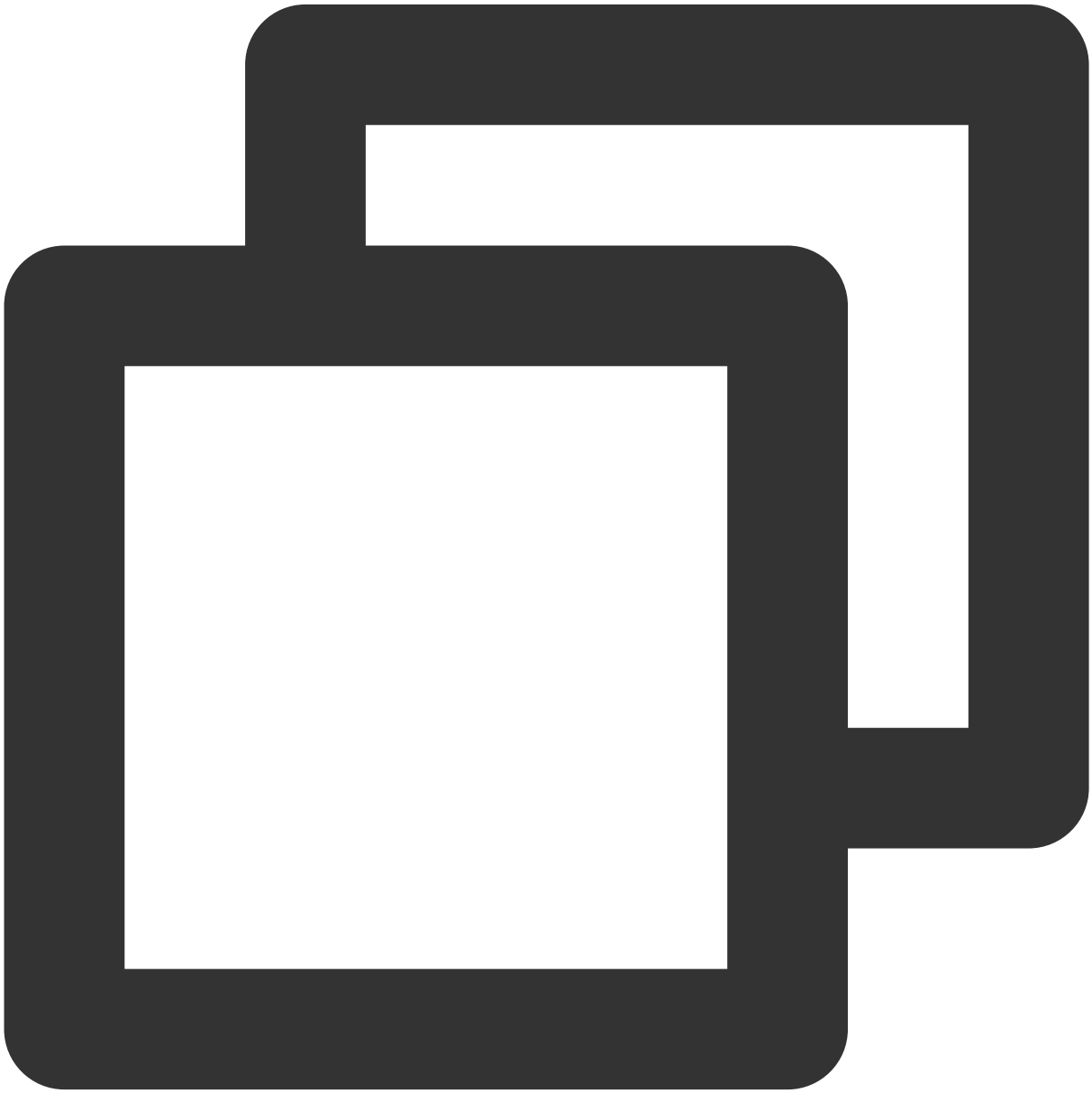
```
void onAllUserMicrophoneDisableChanged(String roomId, boolean isDisable)
```

Parameter	Type	Description

roomId	String	Room ID
isDisable	boolean	Whether it is disabled

onAllUserCameraDisableChanged

All users' Camera in the Room are disabled event.



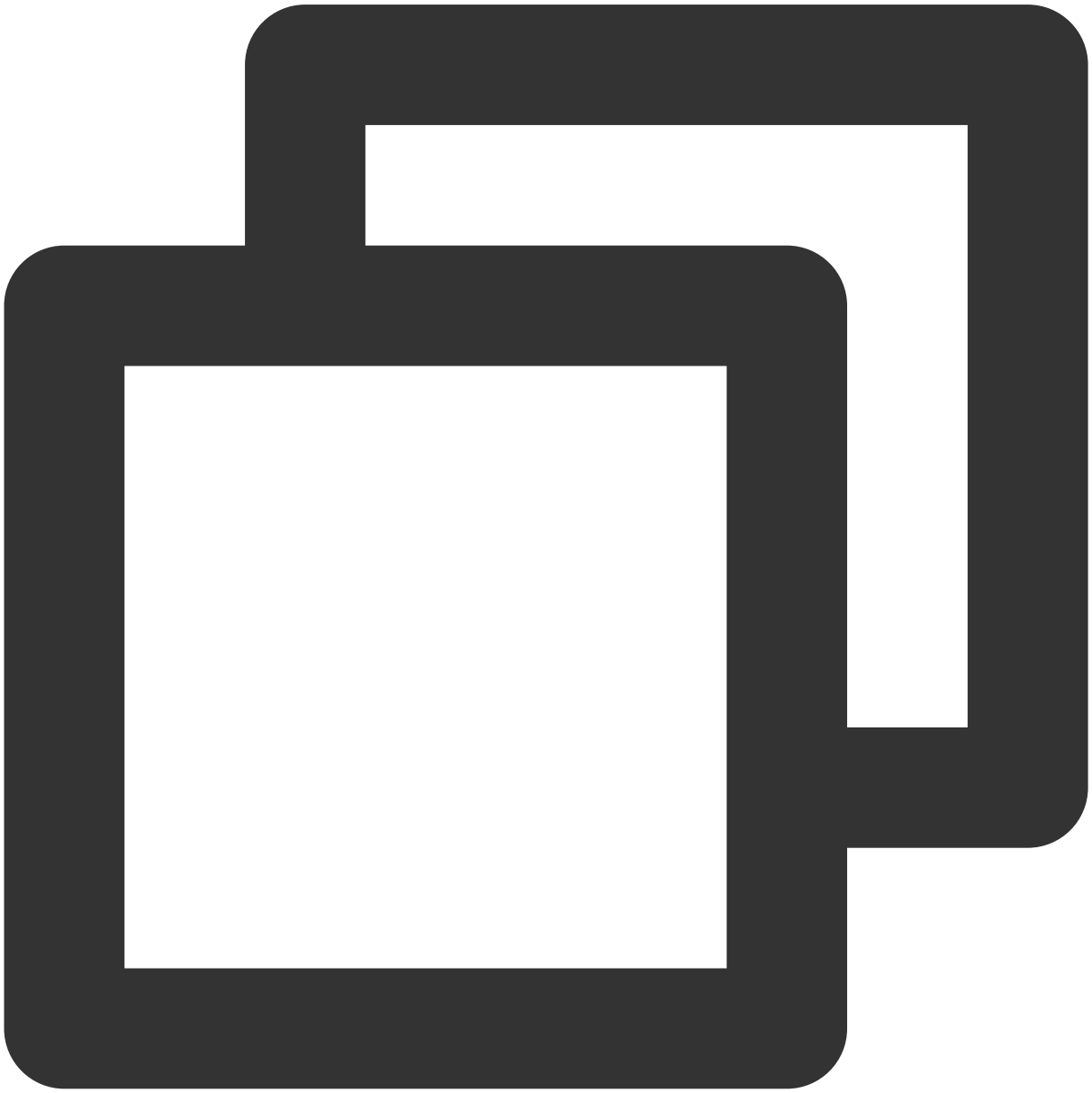
```
void onAllUserCameraDisableChanged(String roomId, boolean isDisable)
```

Parameter	Type	Description

roomId	String	Room ID
isDisable	boolean	Whether it is disabled

onSendMessageForAllUserDisableChanged

Inside the room, all users' text message sending is disabled event.

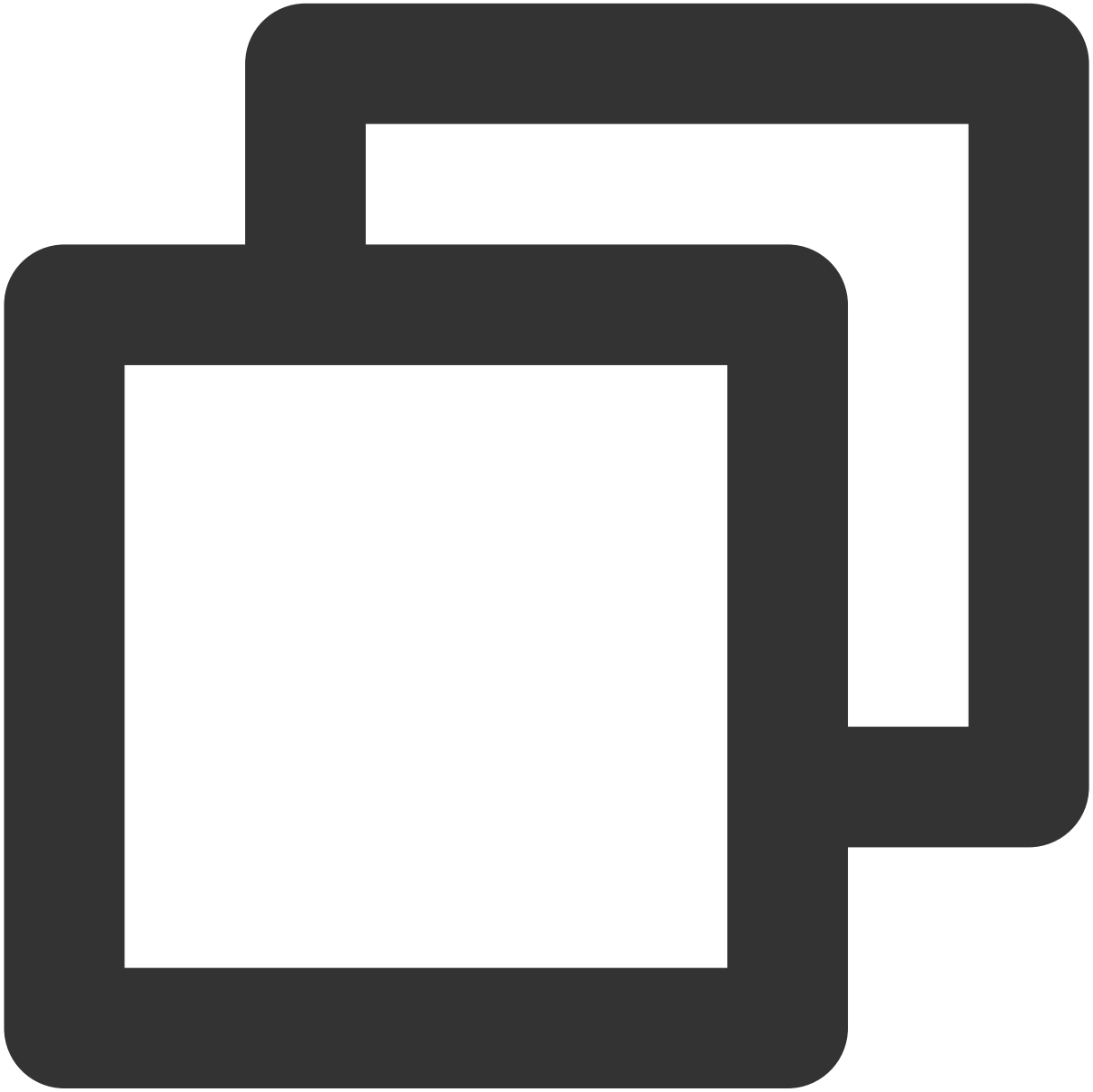


```
void onSendMessageForAllUserDisableChanged(String roomId, boolean isDisable)
```


Parameter	Type	Description
roomId	String	Room ID
isDisable	boolean	Whether it is disabled

onRoomDismissed

Room dissolution event.

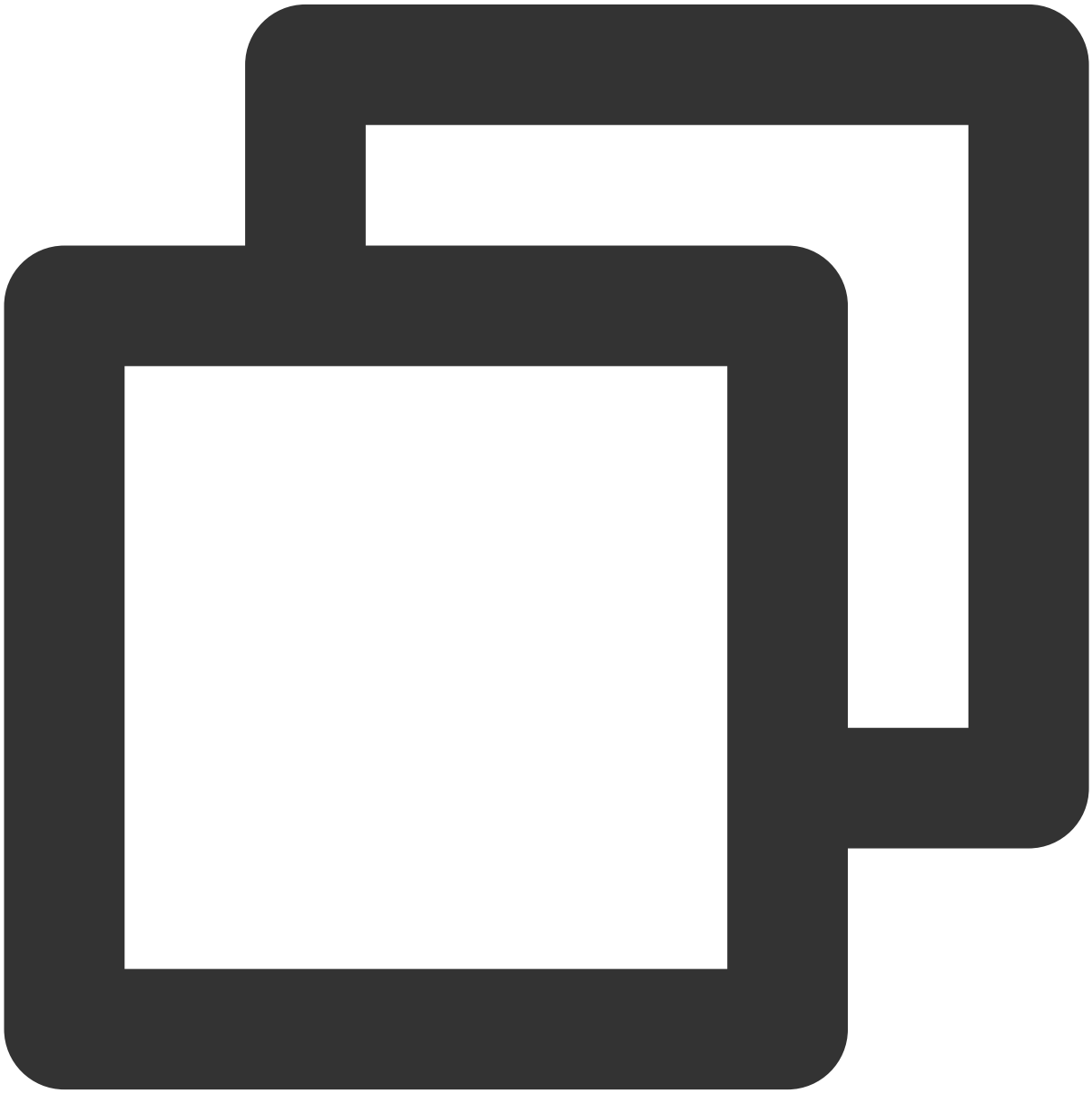


```
void onRoomDismissed(String roomId)
```

Parameter	Type	Description
roomId	String	Room ID

onKickedOutOfRoom

Kick out of the room event



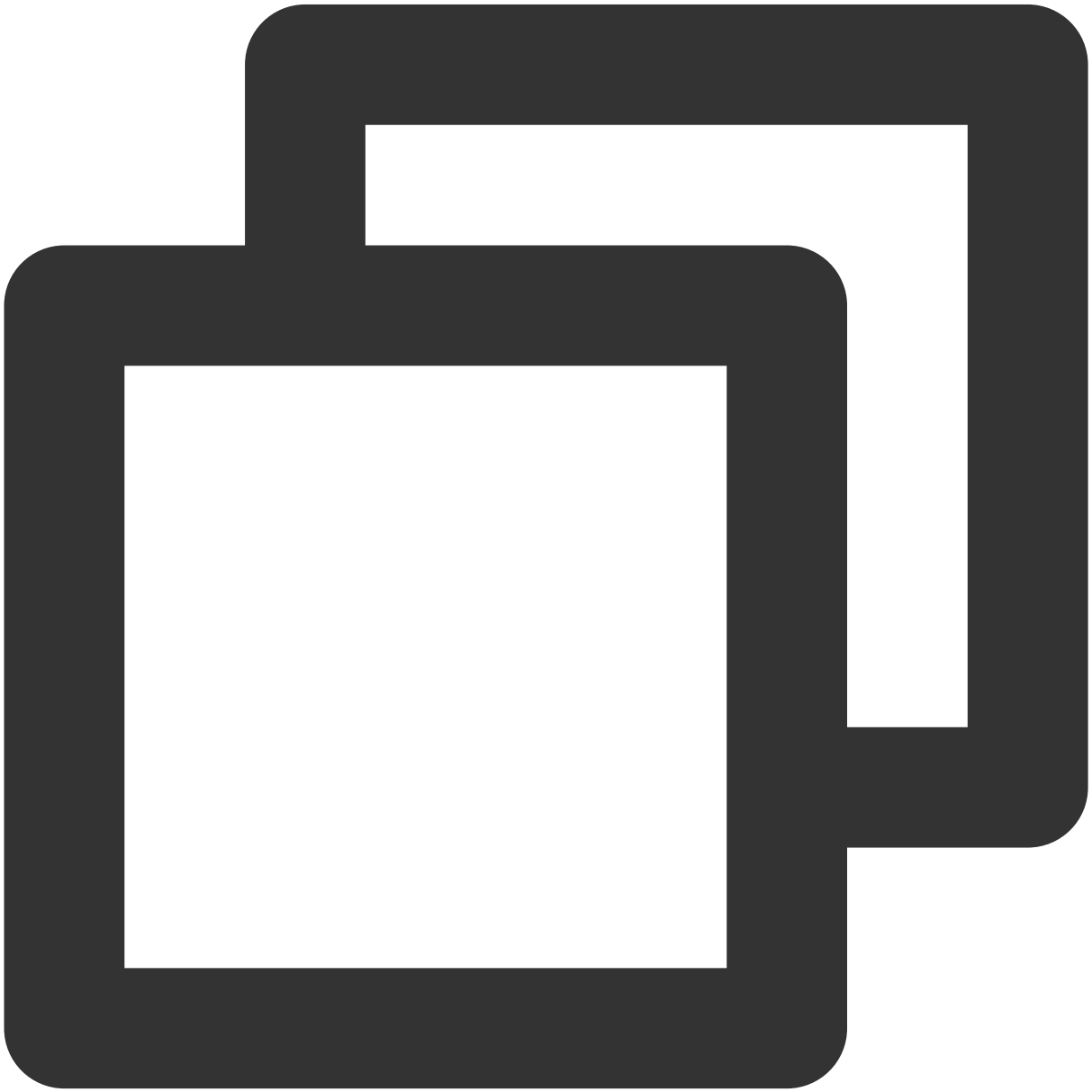
```
void onKickedOutOfRoom(String roomId, String message)
```

Parameter	Type	Description

roomId	String	Room ID
message	String	Description of being kicked out

onRoomSpeechModeChanged

Mic control mode changes in the room.

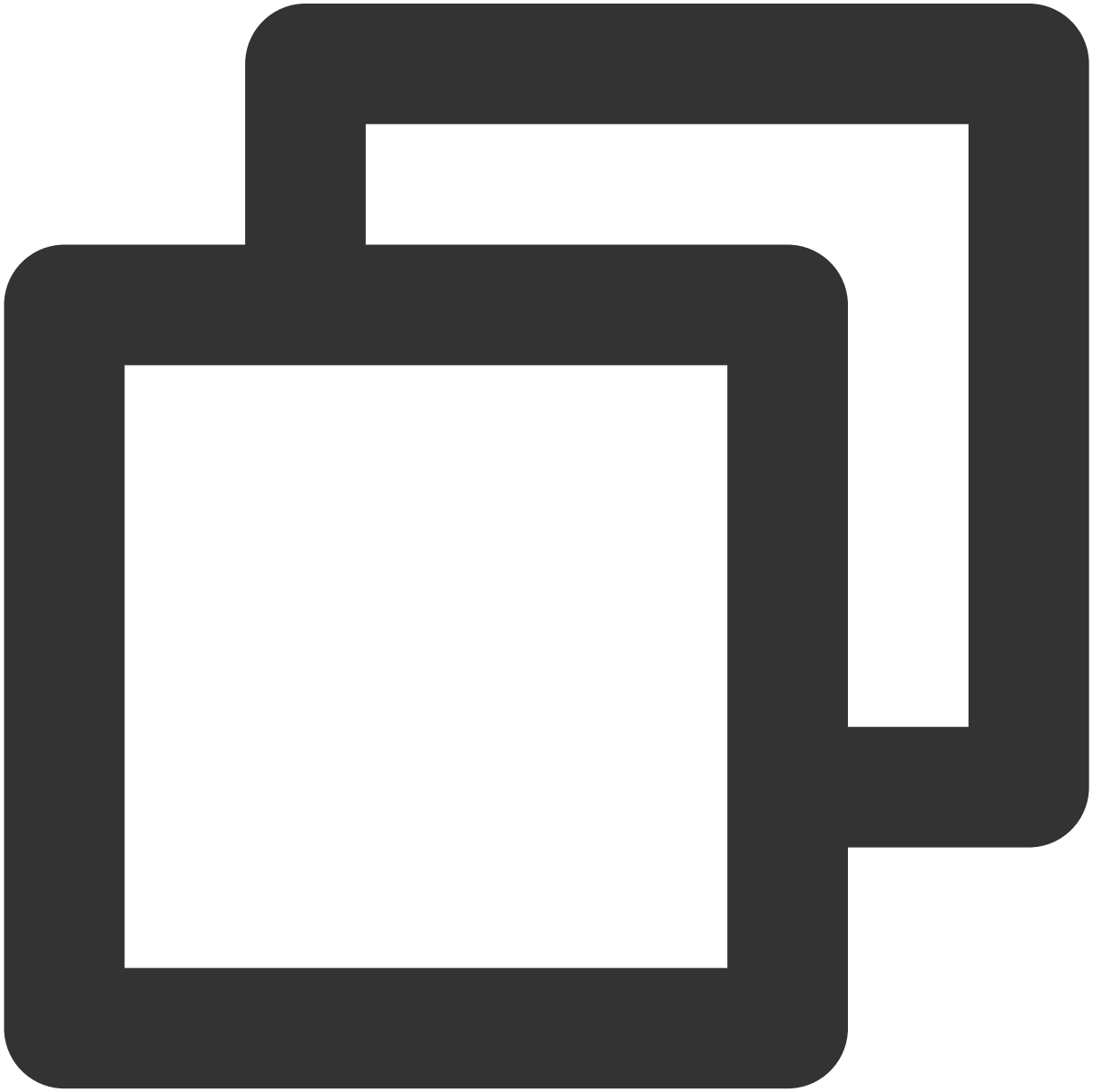


```
void onRoomSpeechModeChanged(String roomId, TUIRoomDefine.SpeechMode speechMode)
```


Parameter	Type	Description
roomId	String	Room ID
speechMode	TUIRoomDefine.SpeechMode	Mic control mode

onRemoteUserEnterRoom

Remote user enters the room event.

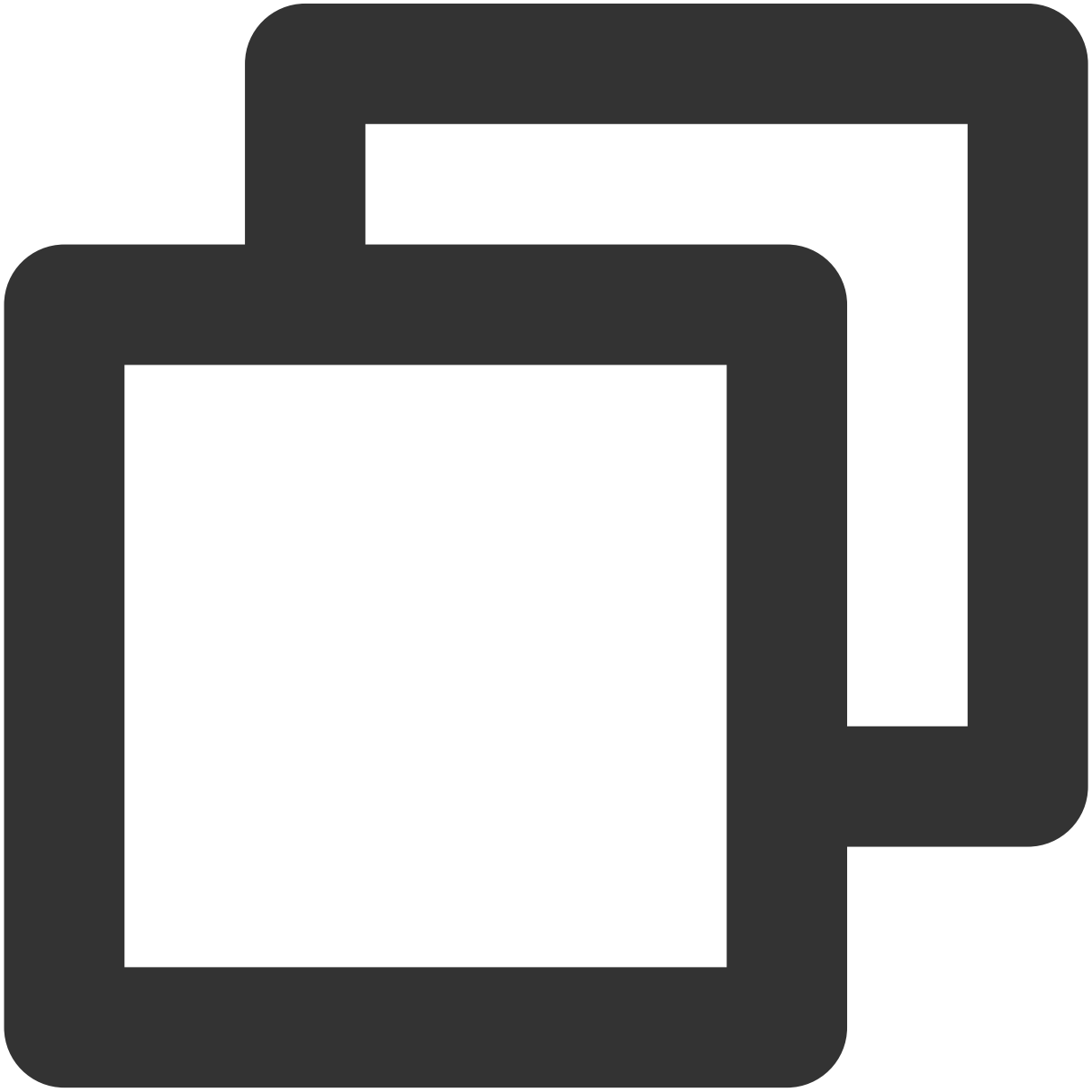


```
void onRemoteUserEnterRoom(String roomId, TUIRoomDefine.UserInfo userInfo)
```

Parameter	Type	Description
roomId	String	Room ID
userInfo	TUIRoomDefine.UserInfo	User information

onRemoteUserLeaveRoom

Remote user leaves the room event.

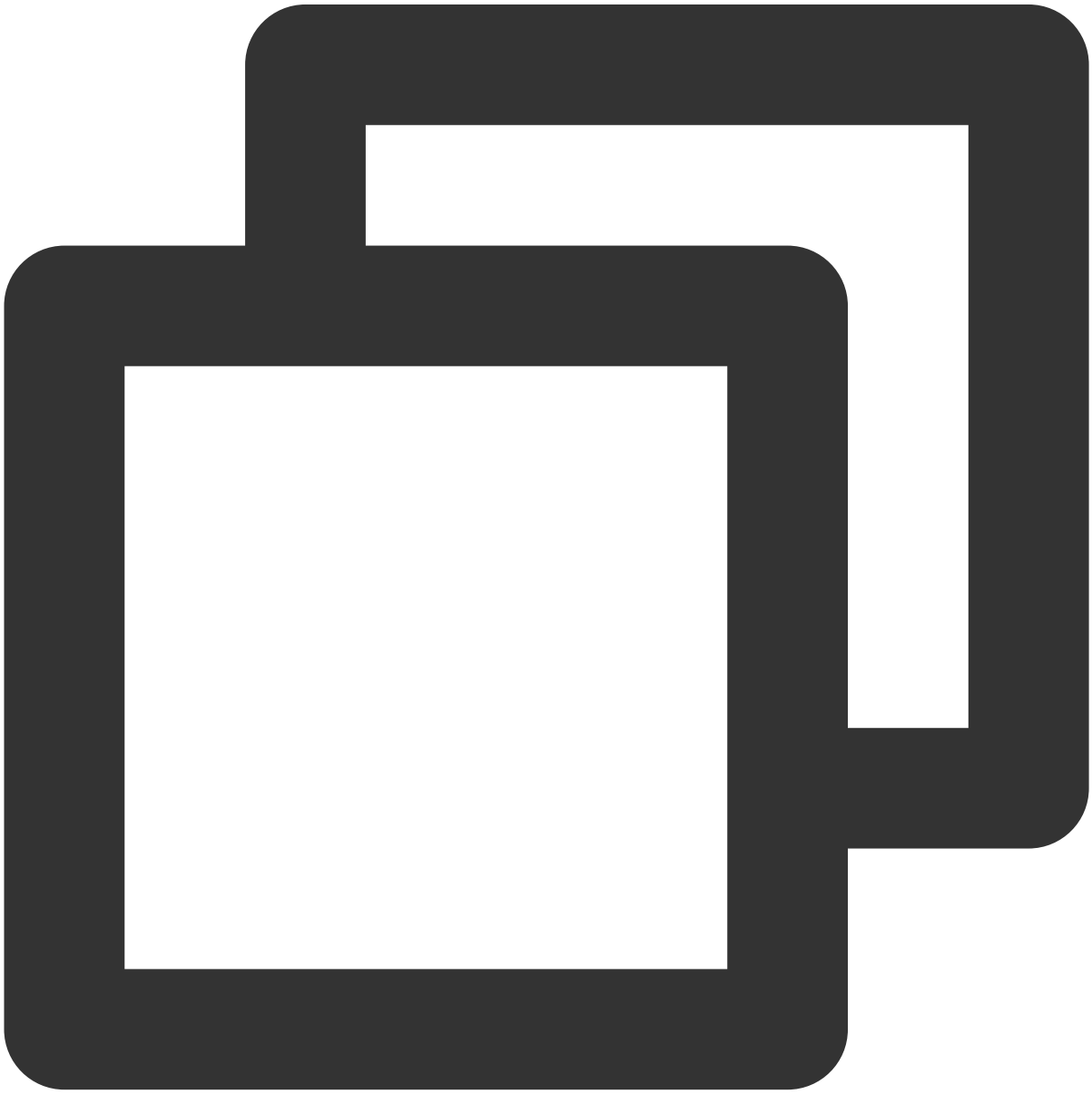


```
void onRemoteUserLeaveRoom(String roomId, TUIRoomDefine.UserInfo userInfo)
```

Parameter	Type	Description
roomId	String	Room ID
userInfo	TUIRoomDefine.UserInfo	User information

onUserRoleChanged

User role changes event.

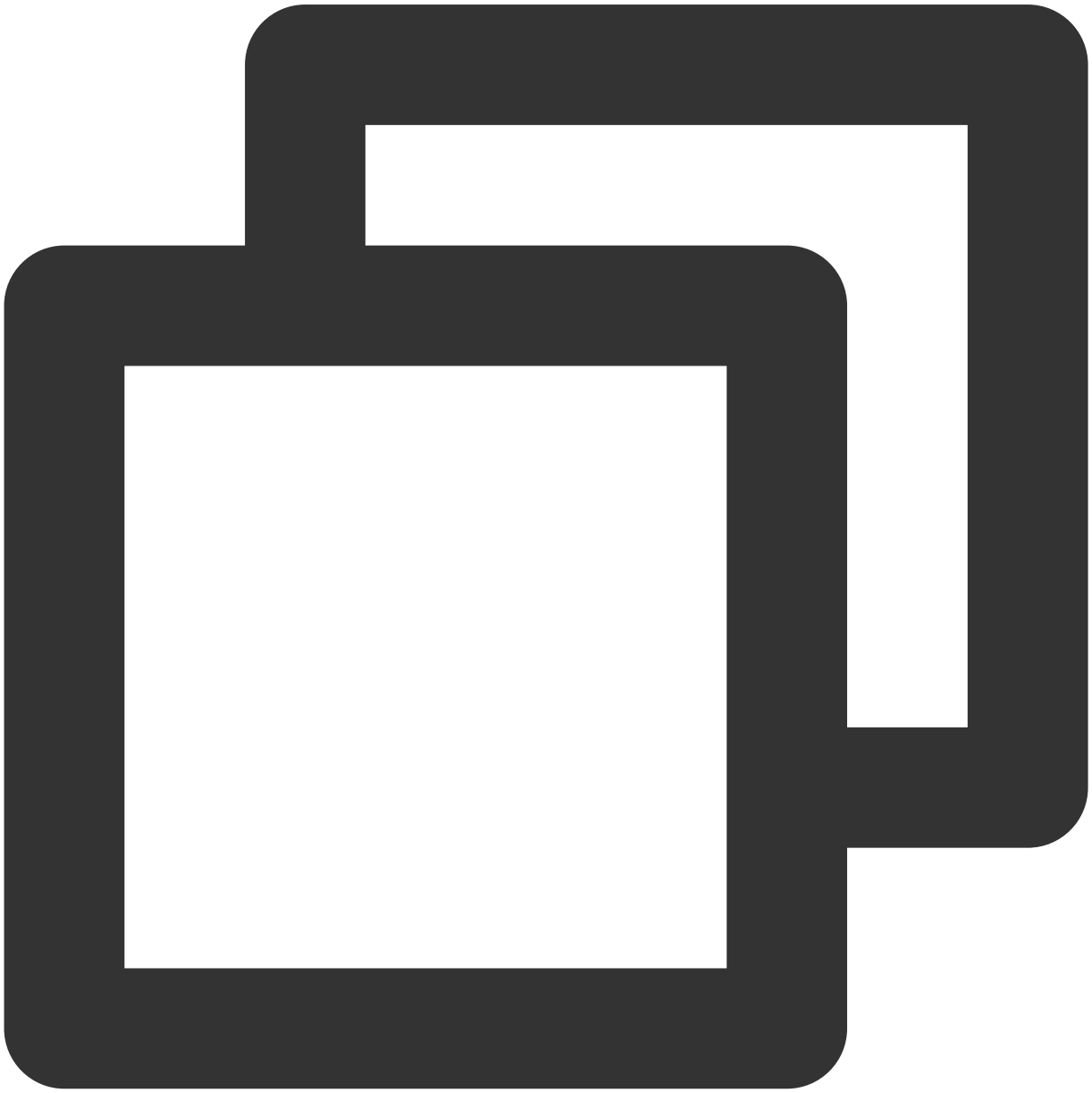


```
void onUserRoleChanged(String userId, TUIRoomDefine.Role role)
```

Parameter	Type	Description
userId	String	User ID
role	TUIRoomDefine.Role	User Role

onUserVideoStateChanged

User Video status changes event.

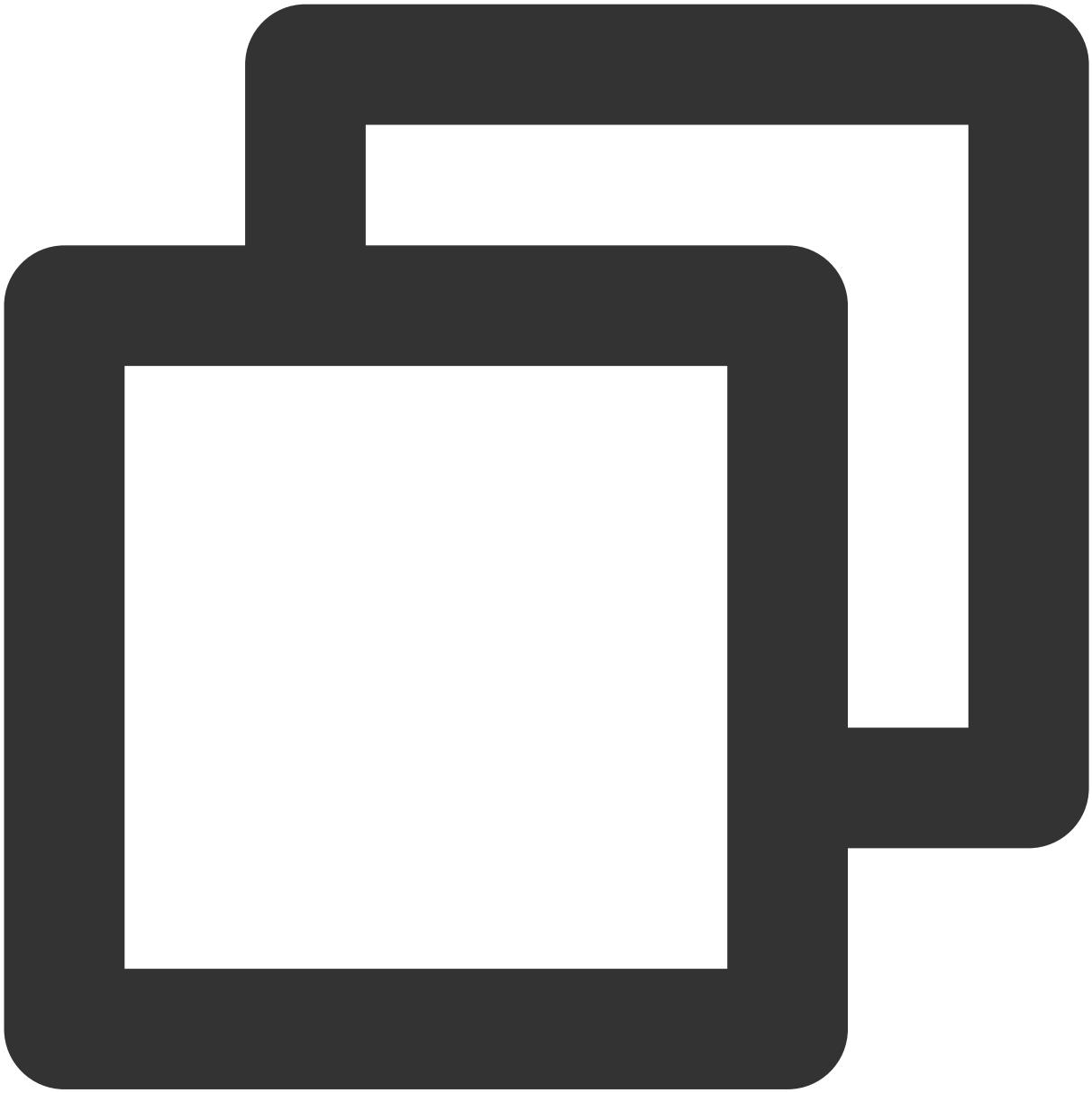


```
void onUserVideoStateChanged(String userId,
                             TUIRoomDefine.VideoStreamType streamType,
                             boolean hasVideo,
                             TUIRoomDefine.ChangeReason reason)
```

Parameter	Type	Description
userId	String	User ID
streamType	TUIRoomDefine.VideoStreamType	Streams type
hasVideo	boolean	Whether there are streams
reason	TUIRoomDefine.ChangeReason	Reason for streams change

onUserAudioStateChanged

User Audio status changes event.

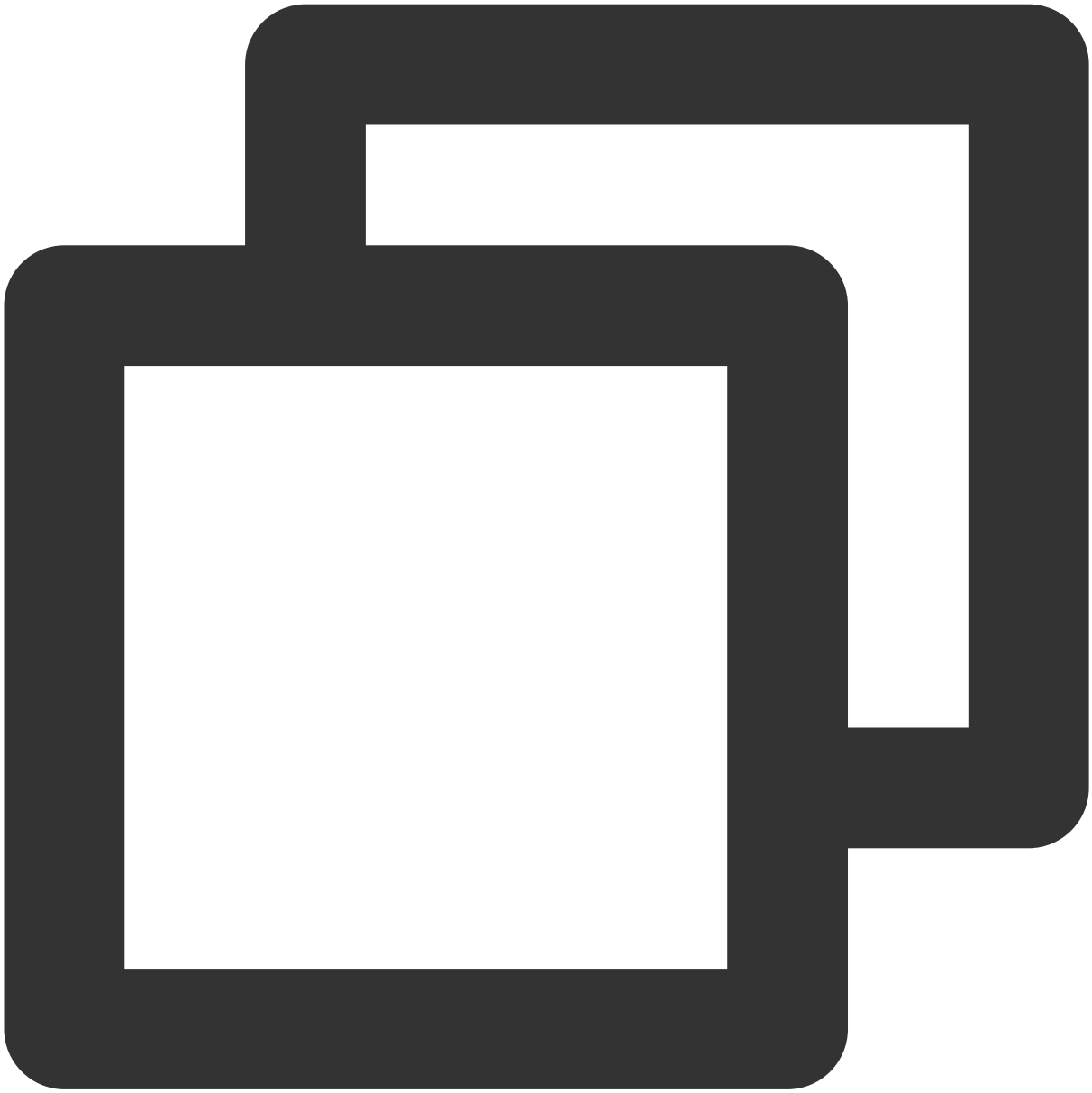


```
void onUserAudioStateChanged(String userId, boolean hasAudio, TUIRoomDefine.ChangeR
```

Parameter	Type	Description
userId	String	User ID
hasAudio	boolean	Whether there are Audio streams
reason	TUIRoomDefine.ChangeReason	Reason for Audio streams change

onUserVoiceVolumeChanged

User volume change event.

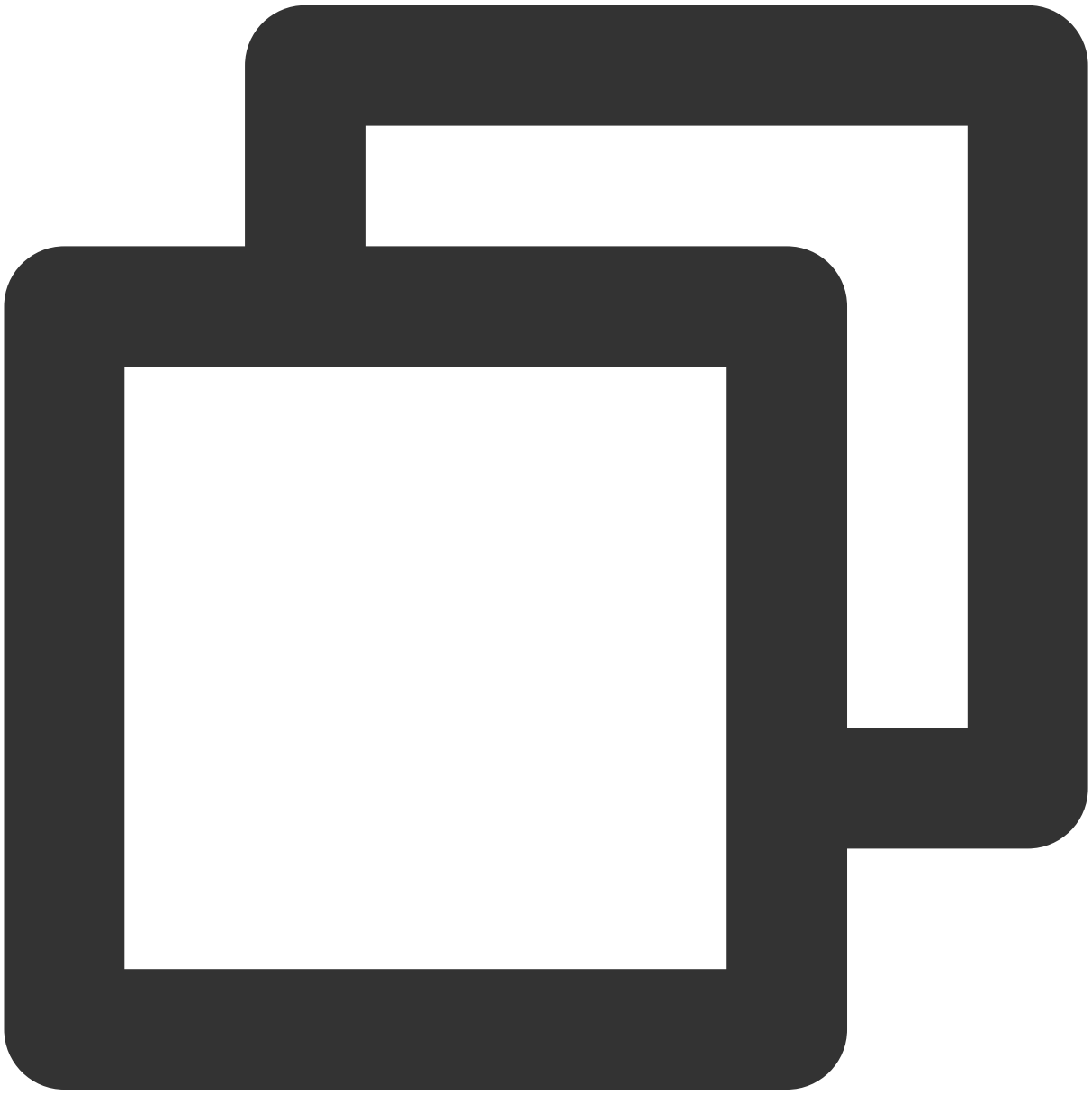


```
void onUserVoiceVolumeChanged(Map<String, Integer> volumeMap)
```

Parameter	Type	Description
volumeMap	Map	User Volume Map key: userId value: Used for carrying the volume size of all speaking users, Value range 0 - 100

onSendMessageForUserDisableChanged

User text message sending ability changes event.



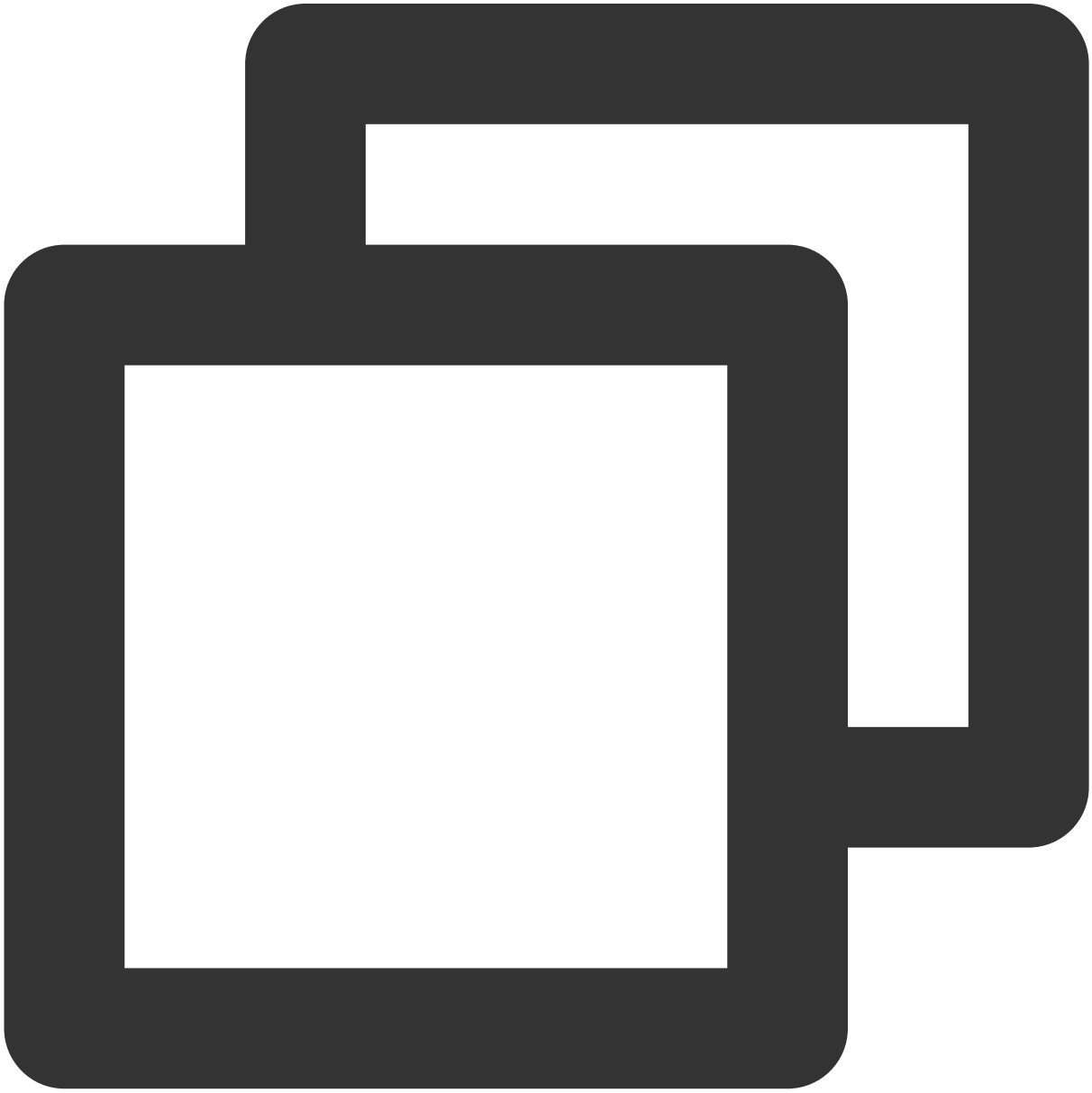
```
void onSendMessageForUserDisableChanged(String roomId, String userId, boolean isDis
```

Parameter	Type	Description
roomId	String	Room ID

userId	String	User ID
isDisable	boolean	Whether it is prohibited to send text messages.

onUserNetworkQualityChanged

User network status change event.



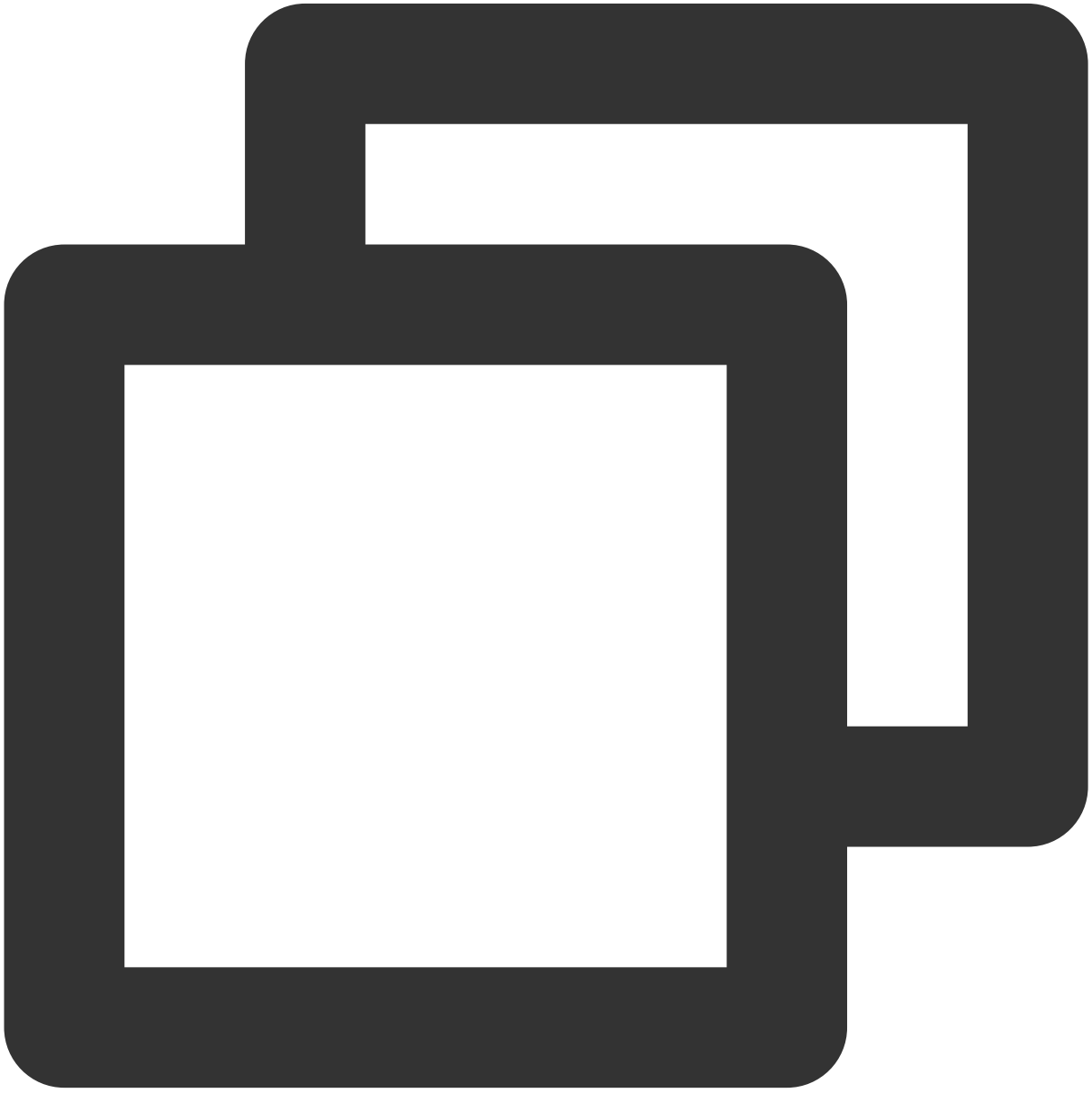
```
void onUserNetworkQualityChanged(Map<String, TUICommonDefine.NetworkInfo> networkMa
```

Parameter	Type	Description

networkMap	Map	User Network Status Map key: userId value: Network Condition

onUserScreenCaptureStopped

Screen Sharing stopped Callback event.

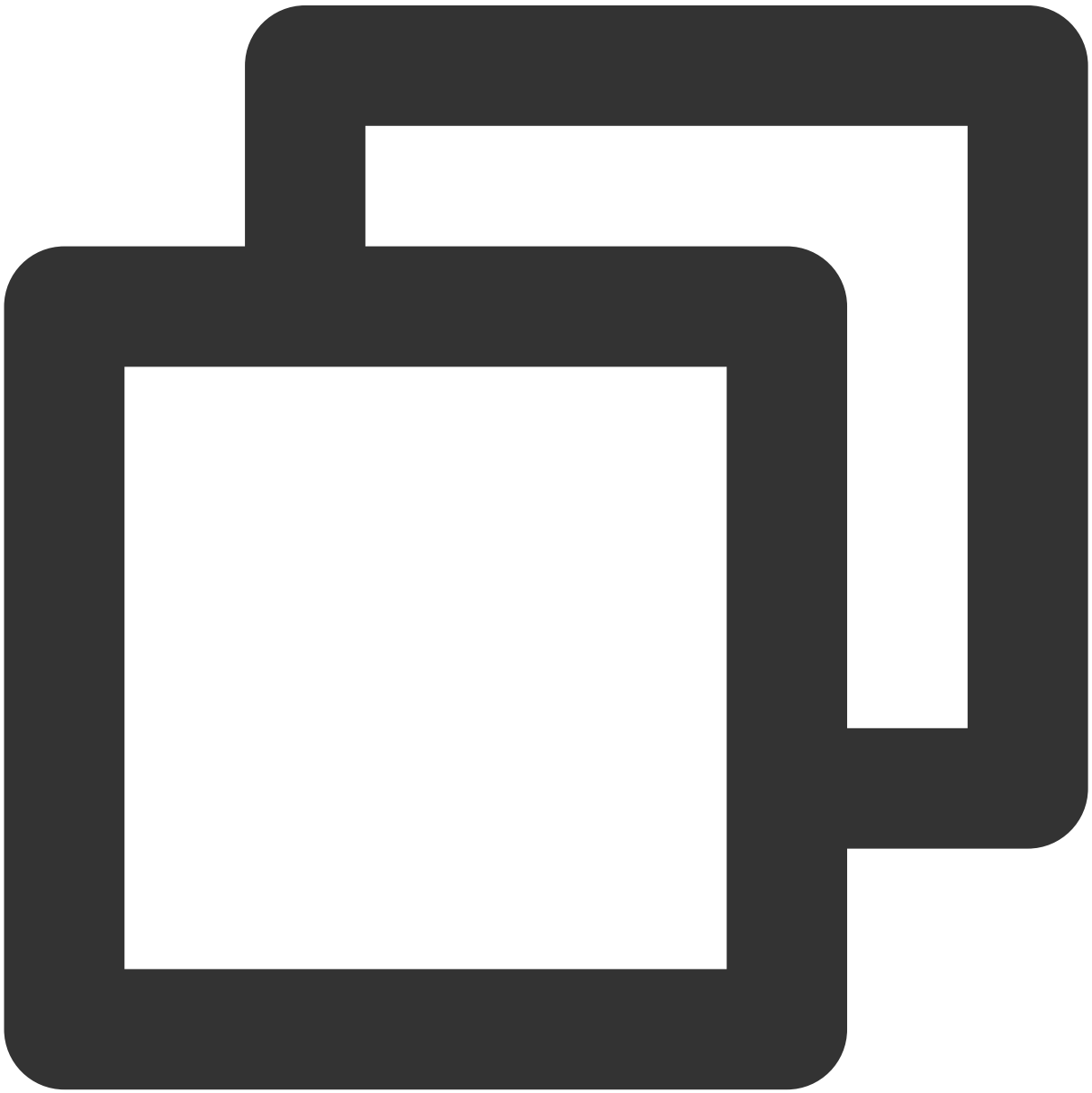


```
void onUserScreenCaptureStopped(int reason)
```


Parameter	Type	Description
reason	int	Stop reason: 0: User actively stops 1: Screen window closing causes the stop 2: Screen Sharing display screen status change (such as interface being unplugged, Projection mode change, etc.)

onRoomMaxSeatCountChanged

Maximum number of mic slots changes event in the room (only effective in meeting type rooms).

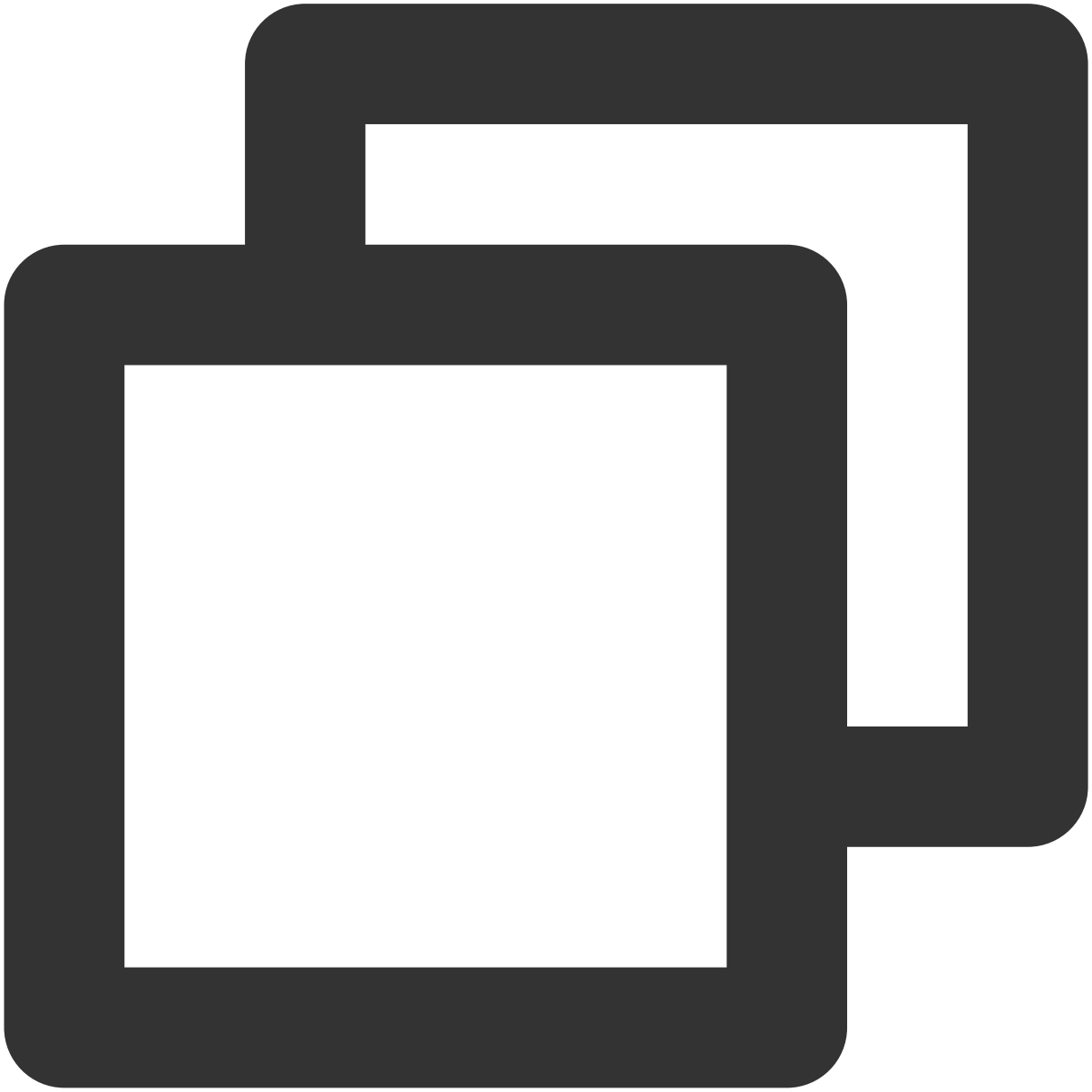


```
void onRoomMaxSeatCountChanged(String roomId, int maxSeatCount)
```

Parameter	Type	Description
roomId	String	Room ID
maxSeatCount	int	Maximum number of mic slots in the room

onSeatListChanged

Mic slot list changes event.

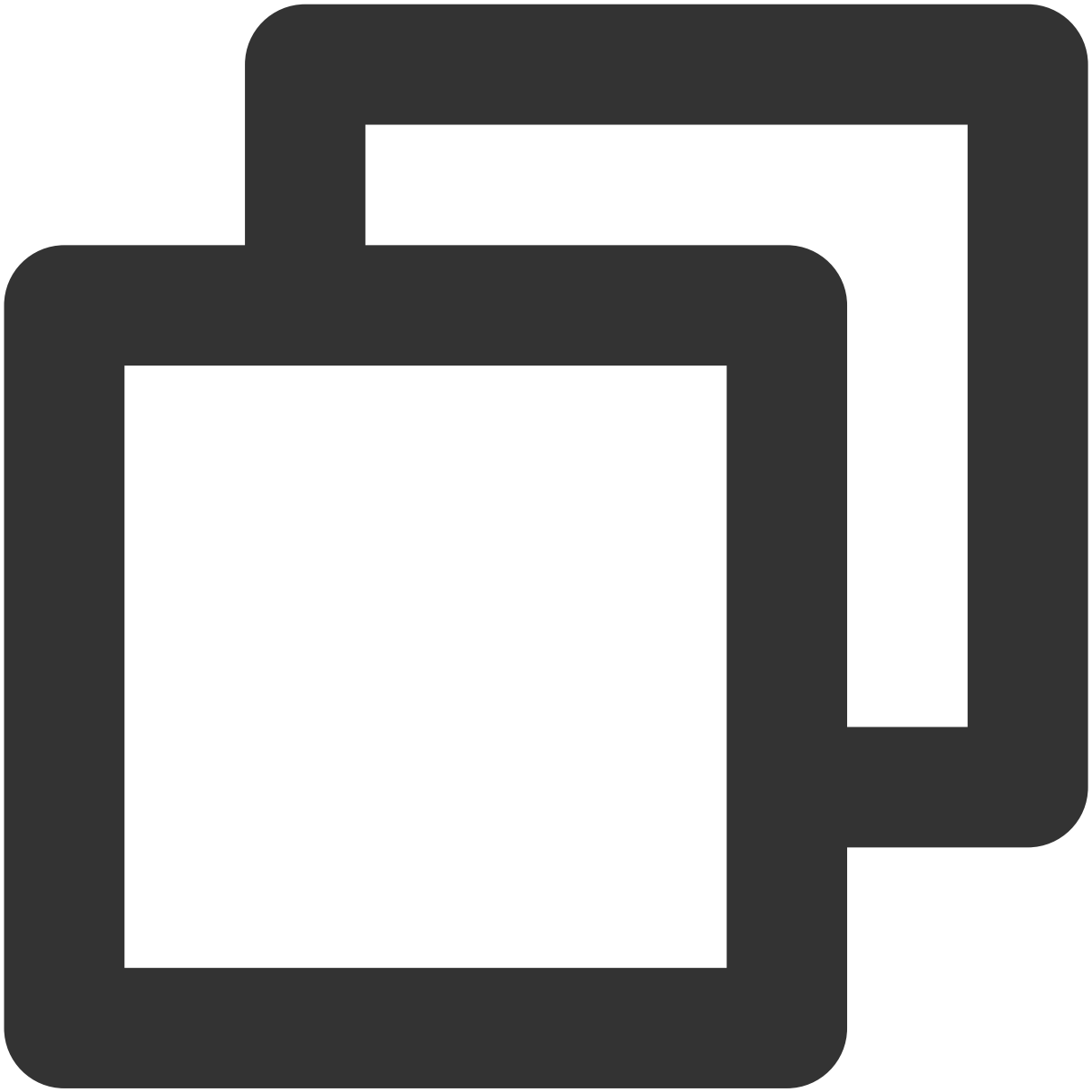


```
void onSeatListChanged(List<TUIRoomDefine.SeatInfo> seatList,
                       List<TUIRoomDefine.SeatInfo> seatedList,
                       List<TUIRoomDefine.SeatInfo> leftList)
```

Parameter	Type	Description
seatList	List<TUIRoomDefine.SeatInfo>	The latest user list on the mic, including newly on mic users
seatedList	List<TUIRoomDefine.SeatInfo>	Newly on mic user list
leftList	List<TUIRoomDefine.SeatInfo>	Newly off mic user list

onKickedOffSeat

Received the event of user being kicked off mic.

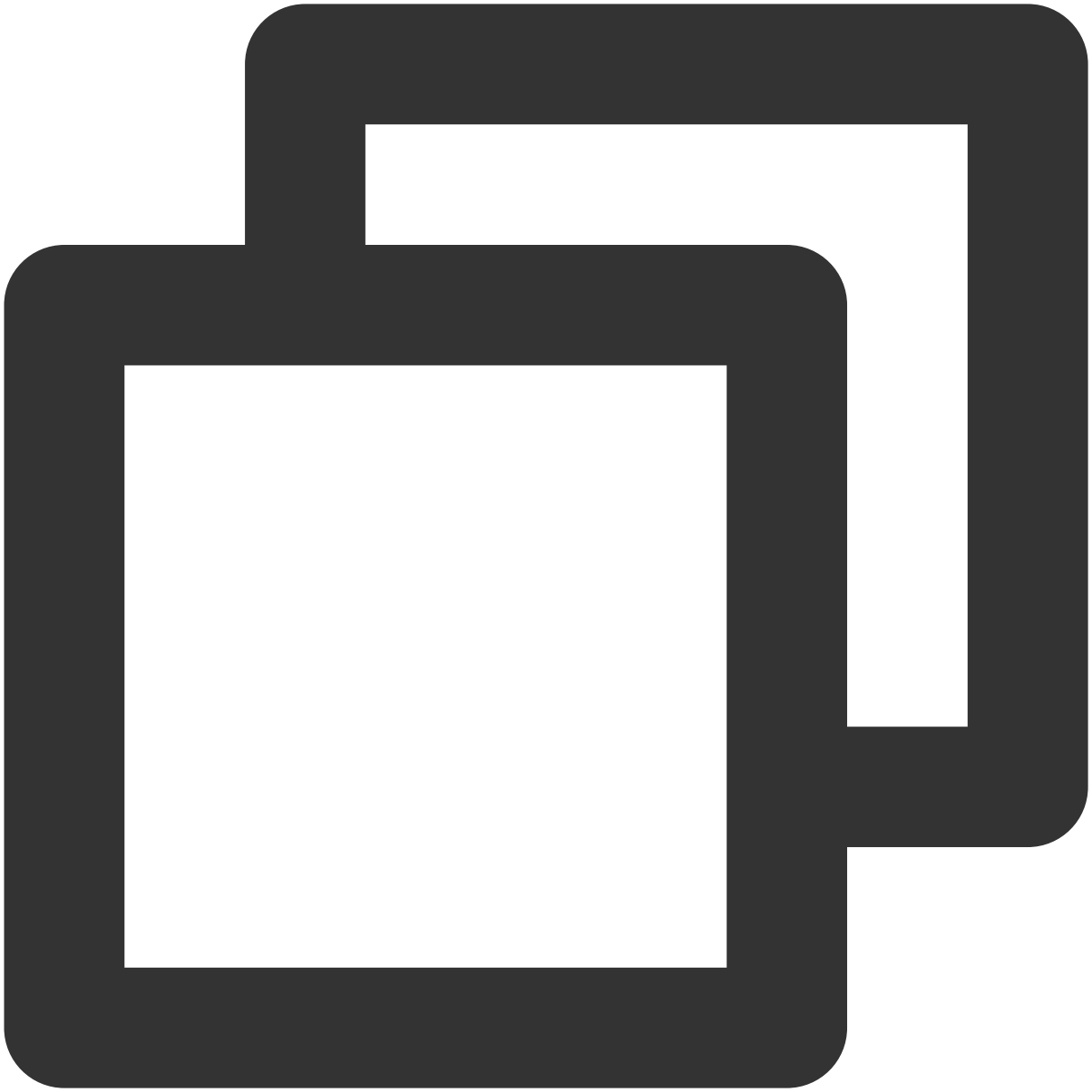


```
void onKickedOffSeat(String userId)
```

Parameter	Type	Description
userId	String	Operate Kick-out of the (Host/Administrator) User ID

onRequestReceived

Received request message event.

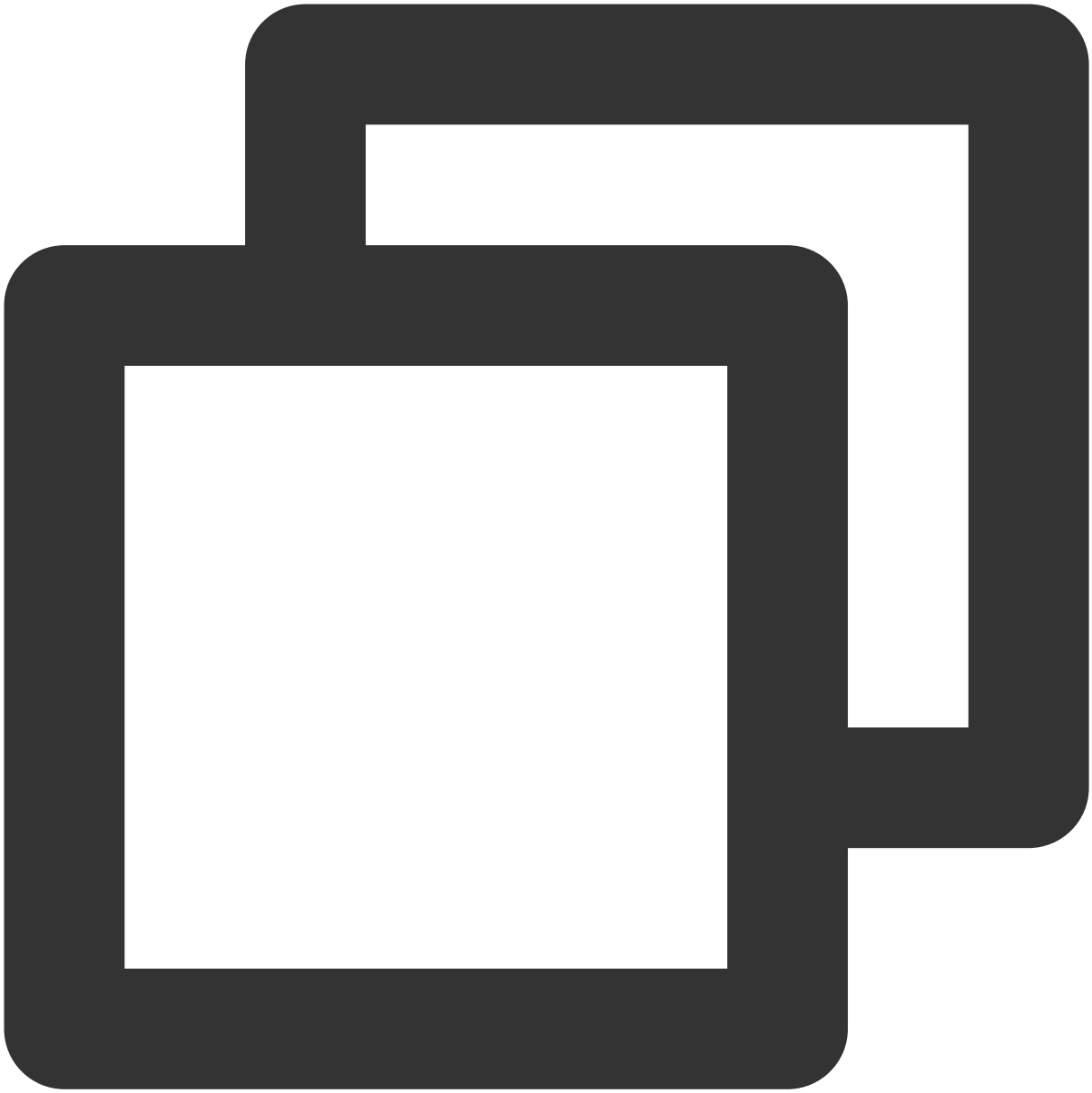


```
void onRequestReceived(TUIRoomDefine.Request request)
```

Parameter	Type	Description
request	TUIRoomDefine.Request	Request content

onRequestCancelled

Received request cancellation event.

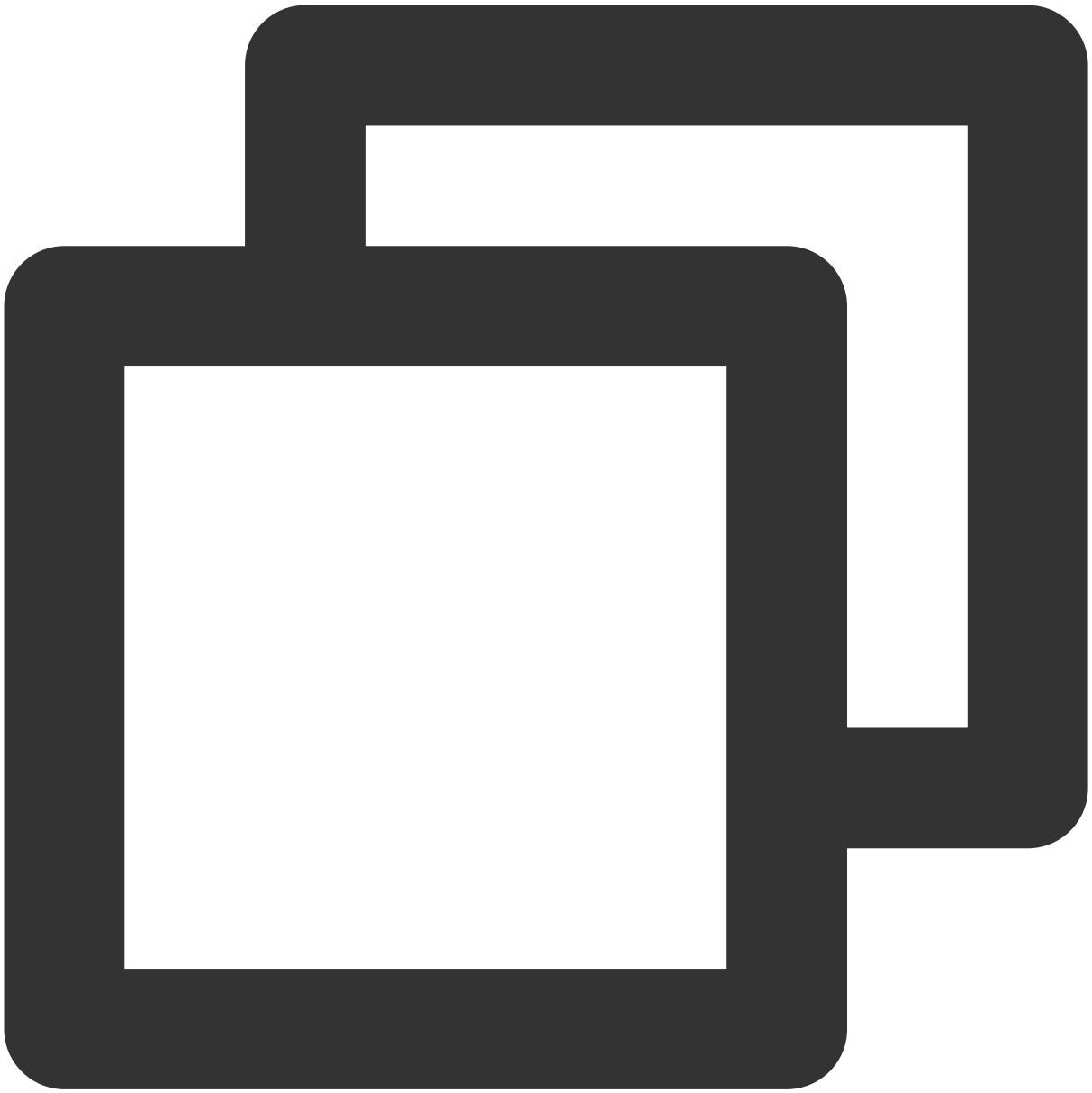


```
void onRequestCancelled(String requestId, String userId)
```

Parameter	Type	Description
requestId	String	Request ID
userId	String	Cancel signaling user ID

onReceiveTextMessage

Received ordinary text message event.

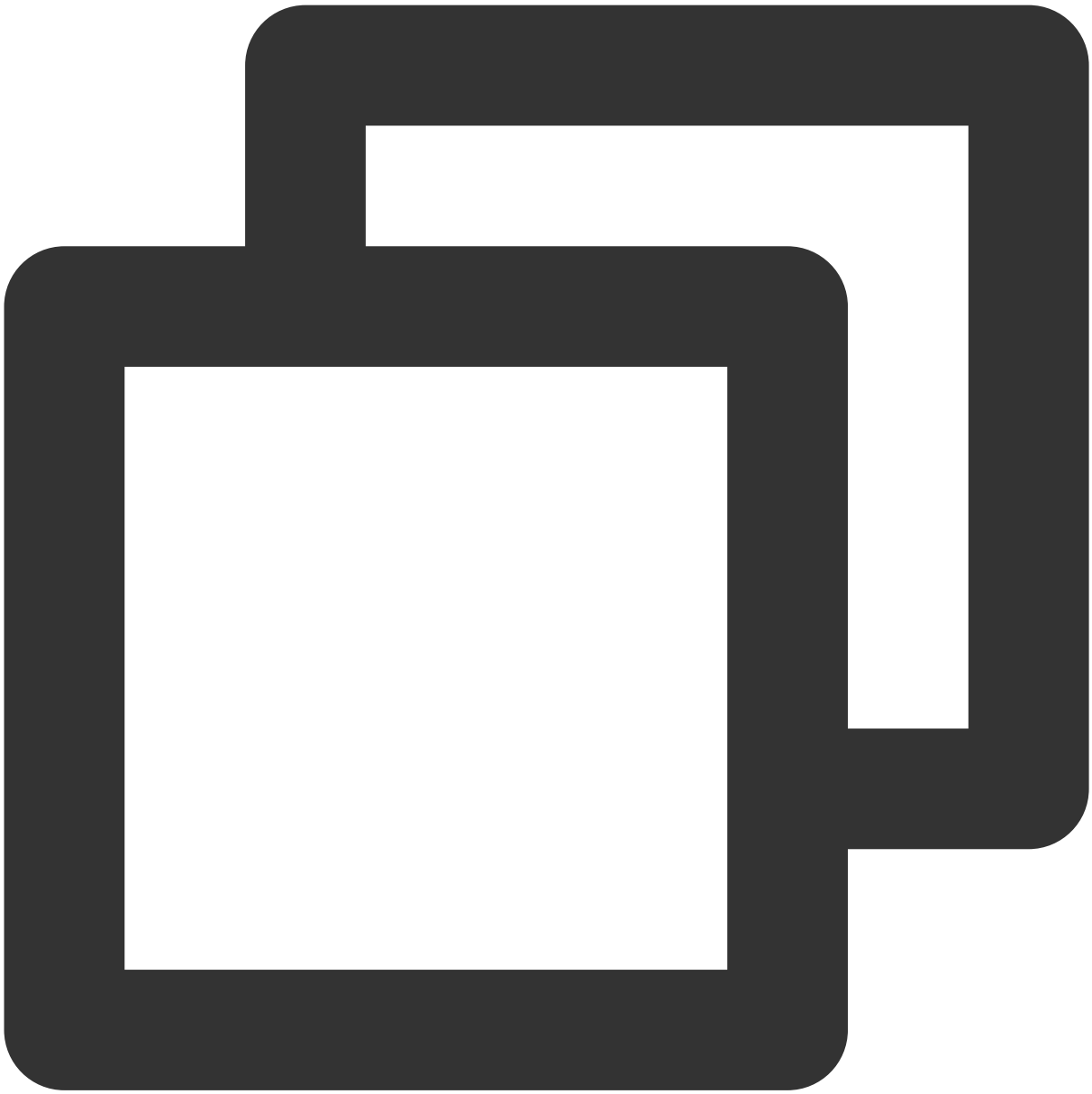


```
void onReceiveTextMessage(String roomId, TUICommonDefine.Message message)
```

Parameter	Type	Description
roomId	String	Room ID
message	TUICommonDefine.Message	Message content

onReceiveCustomMessage

Received custom message event.



```
void onReceiveCustomMessage(String roomId, TUICommonDefine.Message message)
```

Parameter	Type	Description
roomId	String	Room ID
message	TUICommonDefine.Message	Message content

Type Definition

Last updated：2023-10-23 11:30:42

Enumeration Definition

TUIRoomDefine

Type	Description
RoomType	Room Type
SpeechMode	Room Mode
MediaDevice	Room Media Device Type
Role	Room Role Type
VideoQuality	Video Quality
AudioQuality	Audio Quality
VideoStreamType	Video Stream Type
ChangeReason	Change Reason (User audio and video status change operation reason: self-modification or modified by room owner/administrator)
RequestAction	Request Type

TUICommonDefine

Type	Description
NetworkQuality	Network Quality

Common Structure

TUIRoomDefine

Type	Description
RoomInfo	Room data
LoginUserInfo	User Login Information
UserInfo	Room User Information

SeatInfo	Room Seat Information
SeatLockParams	Lock Seat Operation Parameters
UserVoiceVolume	Room User Volume
Request	Signaling Request

TUICommonDefine

Type	Description
NetworkInfo	Network Quality Information
Message	Message

RoomType

Room Type

Enumeration	Value	Description
CONFERENCE	1	Conference Type Room, suitable for conference and education scenarios, this room can enable free speech, apply for speech, go live and other modes.
LIVE_ROOM	2	Live Type Room, suitable for live broadcast scenarios, this room can enable free speech, mic control mode, and the seats in this room are numbered.

SpeechMode

Mic Control Mode

Enumeration	Value	Description
FREE_TO_SPEAK	1	Free speech mode.
APPLY_TO_SPEAK	2	Apply to speak mode. (Only effective in conference type room)
SPEAK_AFTER_TAKING_SEAT	3	Go Live mode.

MediaDevice

Room Media Device Type

Enumeration	Value	Description
MICROPHONE	1	Mic
CAMERA	2	Camera
SCREEN_SHARING	3	Screen Sharing

Role

Room Role Types

Enumeration	Value	Description
ROOM_OWNER	0	Room Owner, generally refers to the creator of the room, the highest authority holder in the room
MANAGER	1	Room Administrator
GENERAL_USER	2	General Member in the room

VideoQuality

Video Quality

Enumeration	Value	Description
Q_360P	1	Low-quality 360P
Q_540P	2	Standard Definition 540P
Q_720P	3	High Definition 720P
Q_1080P	4	Ultra-clear 1080P

AudioQuality

Audio Quality

Enumeration	Value	Description
SPEECH	0	Speech Mode
DEFAULT	1	Default Mode
MUSIC	2	Music Mode

VideoStreamType

Video Stream Type

Enumeration	Value	Description
CAMERA_STREAM	0	High-quality Camera Video Stream
SCREEN_STREAM	1	Screen Sharing Video Stream
CAMERA_STREAM_LOW	2	Low-quality Camera Video Stream

ChangeReason

Change Reason (User audio and video status change operation reason: self-modification or modification by room owner/administrator)

Enumeration	Value	Description
BY_SELF	0	Self-operation
BY_ADMIN	1	Room Owner or Administrator Operation

RequestAction

Request Type

Enumeration	Value	Description
INVALID_ACTION	0	Invalid Request
REQUEST_TO_OPEN_REMOTE_CAMERA	1	Request Remote User to Open Camera
REQUEST_TO_OPEN_REMOTE_MICROPHONE	2	Request Remote User to Open Microphone
REQUEST_TO_CONNECT_OTHER_ROOM	3	Request to Connect to Other Room
REQUEST_TO_TAKE_SEAT	4	Request to Go Live
REQUEST_REMOTE_USER_ON_SEAT	5	Request Remote User to Go Live
REQUEST_APPLY_TO_ADMIN_TO_OPEN_LOCAL_CAMERA	6	Request to Admin to Open Local Camera
REQUEST_APPLY_TO_ADMIN_TO_OPEN_LOCAL_MICROPHONE	7	Request to Admin to

		Open Local Microphone

NetworkQuality

Network Quality

Enumeration	Value	Description
UNKNOWN	0	Undefined
EXCELLENT	1	Current Network is Excellent
GOOD	2	Current Network is Good
POOR	3	Current Network is Average
BAD	4	Current Network is Poor
VERY_BAD	5	Current Network is Very Poor
DOWN	6	Current Network Does Not Meet TRTC's Minimum Requirements

RoomInfo

Room Information

Field	Type	Description
roomId	String	Room ID
ownerId	String	Host ID, default is the room creator (read-only)
roomType	RoomType	Room Type
name	String	Room Name, default is the room ID
speechMode	SpeechMode	Mic Control Mode
isCameraDisableForAllUser	boolean	Whether to Disable Opening Camera (optional when creating a room), default value: false
isMicrophoneDisableForAllUser	boolean	Whether to Disable Opening Microphone (optional when creating a room), default value: false
isMessageDisableForAllUser	boolean	Whether to Disable Sending Messages (optional when creating a room), default value: false
maxSeatCount	int	Maximum Number of Mic Seats (only supported when

		entering the room and creating the room)
enableCDNStreaming	boolean	Whether to Enable CDN Live Streaming (optional when creating a room, for live streaming rooms), default value: false
cdnStreamDomain	String	Live Streaming Push Domain (optional when creating a room, for live streaming rooms), default value: empty
createTime	long	Room Creation Time (read-only)
memberCount	int	Number of Members in the Room (read-only)

LoginUserInfo

User Login Information

Field	Type	Description
userId	String	User ID
userName	String	User Name
avatarUrl	String	User Avatar URL

UserInfo

User Information in the Room

Field	Type	Description
userId	String	User ID
userName	String	User Name
avatarUrl	String	User Avatar URL
userRole	Role	User Role Type
hasAudioStream	boolean	Whether There is Audio Stream, default value: false
hasVideoStream	boolean	Whether There is Video Stream, default value: false
hasScreenStream	boolean	Whether There is Screen Sharing Stream, default value: false

SeatInfo

Seat Information in the Room

Field	Type	Description
index	int	Mic Seat Number
userId	String	User ID
isLocked	boolean	Whether the Mic Seat is Locked, default false
isVideoLocked	boolean	Whether the Mic Seat is Prohibited from Opening Camera, default false
isAudioLocked	boolean	Whether the Mic Seat is Prohibited from Opening Microphone, default false

SeatLockParams

Lock Seat Operation Parameters

Field	Type	Description
lockSeat	boolean	Lock Mic Seat, default false
lockVideo	boolean	Lock Mic Seat Camera, default false
lockAudio	boolean	Lock Mic Seat Microphone, default false

UserVoiceVolume

User Voice Volume in the Room

Field	Type	Description
userId	String	User ID
volume	int	Volume Size, Value range 0 - 100

Request

Signaling Request

Field	Type	Description
requestId	String	Request ID

requestAction	RequestAction	Request Type
userId	String	User ID
content	String	Signaling Content
timestamp	int	Timestamp

NetworkInfo

Network Quality Information

Field	Type	Description
userId	String	User ID
quality	NetworkQuality	Network Quality
upLoss	int	Upstream Packet Loss Rate
downLoss	int	Downstream Packet Loss Rate
delay	int	Network Delay

Message

Message

Field	Type	Description
messageId	String	Message ID
message	String	Message Text
timestamp	long	Message Time
userId	String	Message Sender
userName	String	Message Sender Nickname
avatarUrl	String	Message Sender Avatar

Windows
API Overview

Last updated：2023-10-30 11:01:59

TUIRoomEngine API List

TUIRoomEngine API is the UI-free interface of the Conference Component, which allows you to customize the encapsulation according to your business needs.
TUIRoomEngine

TUIRoomEngine Core Methods

API	Description
createTUIRoomEngine	Create Instance of TUIRoomEngine
destroyTUIRoomEngine	Destroy TUIRoomEngine Instance
login	Login interface, you need to initialize user information before entering the room and perform a series of operations.
logout	Logout interface, there will be actively leave room operation, destroy resources
setSelfInfo	Set local user name and avatar
getSelfInfo	Get local user basic information
addObserver	Set event callback
removeObserver	Remove event callback

Room Related Active Interface

API	Description
createRoom	Create room
destroyRoom	Close the room
enterRoom	Entered room

exitRoom	Leave room
connectOtherRoom	Connect to other room
disConnectOtherRoom	Disconnect from other room
fetchRoomInfo	Get room data
updateRoomNameByAdmin	Update room name(only administrator or group owner can call)
updateRoomSpeechModeByAdmin	Set room management mode (only administrator or group owner can call)

Local User View Rendering, Video Management

API	Description
setLocalVideoView	Set the view control for local user video rendering
openLocalCamera	Open local camera
closeLocalCamera	Close local camera
updateVideoQuality	Update local video codec quality settings
startScreenSharing	Start screen sharing
stopScreenSharing	End screen sharing
getScreenSharingTargetList	Enumerate shareable screens and windows
selectScreenSharingTarget	Select the screen or window to share
startPushLocalVideo	Start pushing local video
stopPushLocalVideo	Stop pushing local video

Local User Audio Management

API	Description
openLocalMicrophone	Open local microphone
closeLocalMicrophone	Close local microphone
updateAudioQuality	Update local audio codec quality settings

startPushLocalAudio	Start pushing local audio
stopPushLocalAudio	Stop pushing local audio

Remote User View Rendering, Video Management

API	Description
setRemoteVideoView	Set the view control for remote user video rendering
startPlayRemoteVideo	Start playing remote user video
stopPlayRemoteVideo	Stop playing remote user video
muteRemoteAudioStream	Mute remote user

Room User Information

API	Description
getUserList	Get the member list in the room
getUserInfo	Get member information

Room User Management

API	Description
changeUserRole	Modify user role (only administrator or group owner can call)
kickRemoteUserOutOfRoom	Kick Remote User out of the Room (Only Administrator or Group Owner can call)

Speech Management in Room

API	Description
disableDeviceForAllUserByAdmin	Control the permission status of whether all users in the current room can open Audio and Video streams capturing devices, such as: Prohibit All from turning on the mic, Prohibit All from turning on the Camera, Prohibit All from turning on Screen Sharing (currently only available in Meeting Scenario, and only Administrator or Group Owner can invoke).

openRemoteDeviceByAdmin	Request Remote User to Open Media Device (Only Administrator or Group Owner can call)
closeRemoteDeviceByAdmin	Close Remote User's Media Device (Only Administrator or Group Owner can call)
applyToAdminToOpenLocalDevice	Request to Open Local Media Device (Available for Ordinary Users)

Microphone Seat Management in Room

API	Description
setMaxSeatCount	Set Maximum Number of Microphone Seats (Only supported when entering the room and creating the room)
getSeatList	Get Microphone Seat List
lockSeatByAdmin	Lock Microphone Seat (Including Position Lock, Audio State Lock, Video State Lock)
takeSeat	Apply to Go Live (Not Required in Free Speech Mode)
leaveSeat	Apply to leave Live (Not Required in Free Speech Mode)
takeUserOnSeatByAdmin	Host/Administrator invites user to go live
kickUserOffSeatByAdmin	Host/Administrator kicks user off the microphone seat

Send Message

API	Description
sendTextMessage	Send Text Message
sendCustomMessage	Send Custom Message
disableSendingMessageByAdmin	Disable Remote User's Text Message Sending Ability (Only Administrator or Group Owner can call)
disableSendingMessageForAllUser	Disable All Users' Text Message Sending Ability (Only Administrator or Group Owner can call) Advanced Feature: Get TRTC Instance

Signaling Management

API	Description
cancelRequest	Cancel Request
responseRemoteRequest	Reply to Request

Advanced Feature: Get TRTC Instance

API	Description
getTRTCCloud	Get TRTC Instance Object
getDeviceManager	Get Device Management Object
getAudioEffectManager	Get Audio Effect Management Object

TTUIRoomObserver Callback Event

TUIRoomObserver is the Callback Event class corresponding to TUIRoomEngine. You can monitor the Callback Events you need through this Callback.
TUIRoomObserver

TUIRoomObserver

Error Callback

API	Description
onError	Error Callback Event

Login Status Event Callback

API	Description
onKickedOffLine	User Kicked Offline Event
onUserSigExpired	User Credential Timeout Event

Room Event Callback

API	Description
onRoomNameChanged	Room Name Change Event
onAllUserMicrophoneDisableChanged	All Users' Microphones Disabled in Room Event
onAllUserCameraDisableChanged	All Users' Cameras Disabled in Room Event
onSendMessageForAllUserDisableChanged	All Users' Text Message Sending Disabled in Room Event
onKickedOutOfRoom	Kicked Out of Room Event
onRoomDismissed	Room Dismissed Event
onRoomSpeechModeChanged	Room Microphone Control Mode Change

Room User Event Callback

API	Description
onRemoteUserEnterRoom	Remote User Entering Room Event
onRemoteUserLeaveRoom	Remote User Leaving Room Event
onUserRoleChanged	User Role Change Event
onUserVideoStateChanged	User Video State Change Event
onUserAudioStateChanged	User Audio State Change Event
onUserVoiceVolumeChanged	User Volume Change Event
onSendMessageForUserDisableChanged	User Text Message Sending Ability Change Event
onUserNetworkQualityChanged	User Network Status Change Event
onUserScreenCaptureStopped	Screen Sharing End Event

Room Microphone Seat Event Callback

API	Description
onRoomMaxSeatCountChanged	Room Maximum Microphone Seat Number Change Event (Only effective in conference type rooms)
onSeatListChanged	Microphone Seat List Change Event

onKickedOffSeat	Received User Kicked Off Microphone Event

Request Signaling Event Callback

API	Description
onRequestReceived	Received Request Message Event
onRequestCancelled	Received Request Cancellation Event

Room Message Event Callback

API	Description
onReceiveTextMessage	Received Normal Text Message Event
onReceiveCustomMessage	Received Custom Message Event

TUIRoomEngine

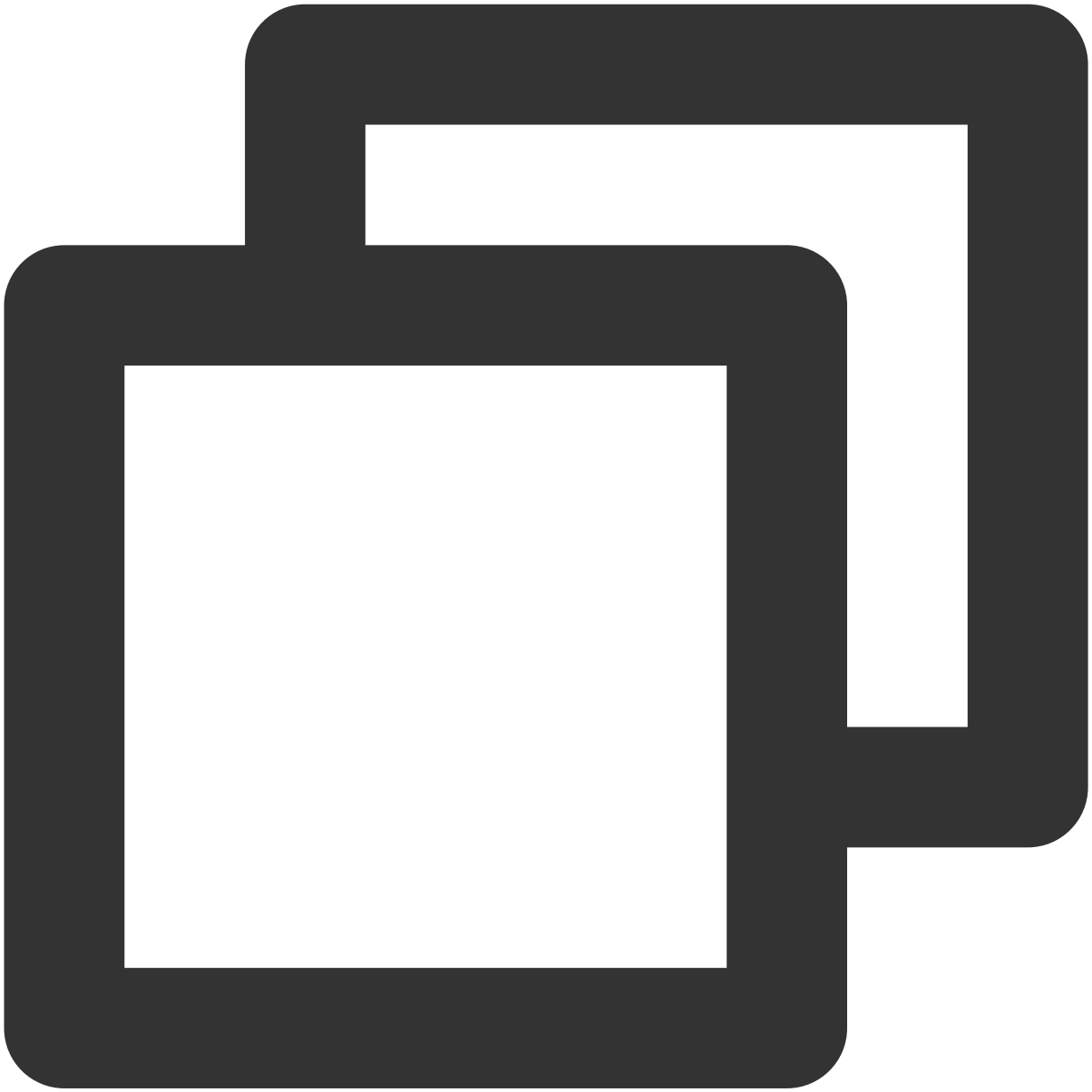
Last updated：2023-10-30 10:57:09

TUIRoomEngine API Introduction

TUIRoomEngine API is a No UI Interface for Conference Component, you can use this API to custom encapsulate according to your business needs.

createTUIRoomEngine

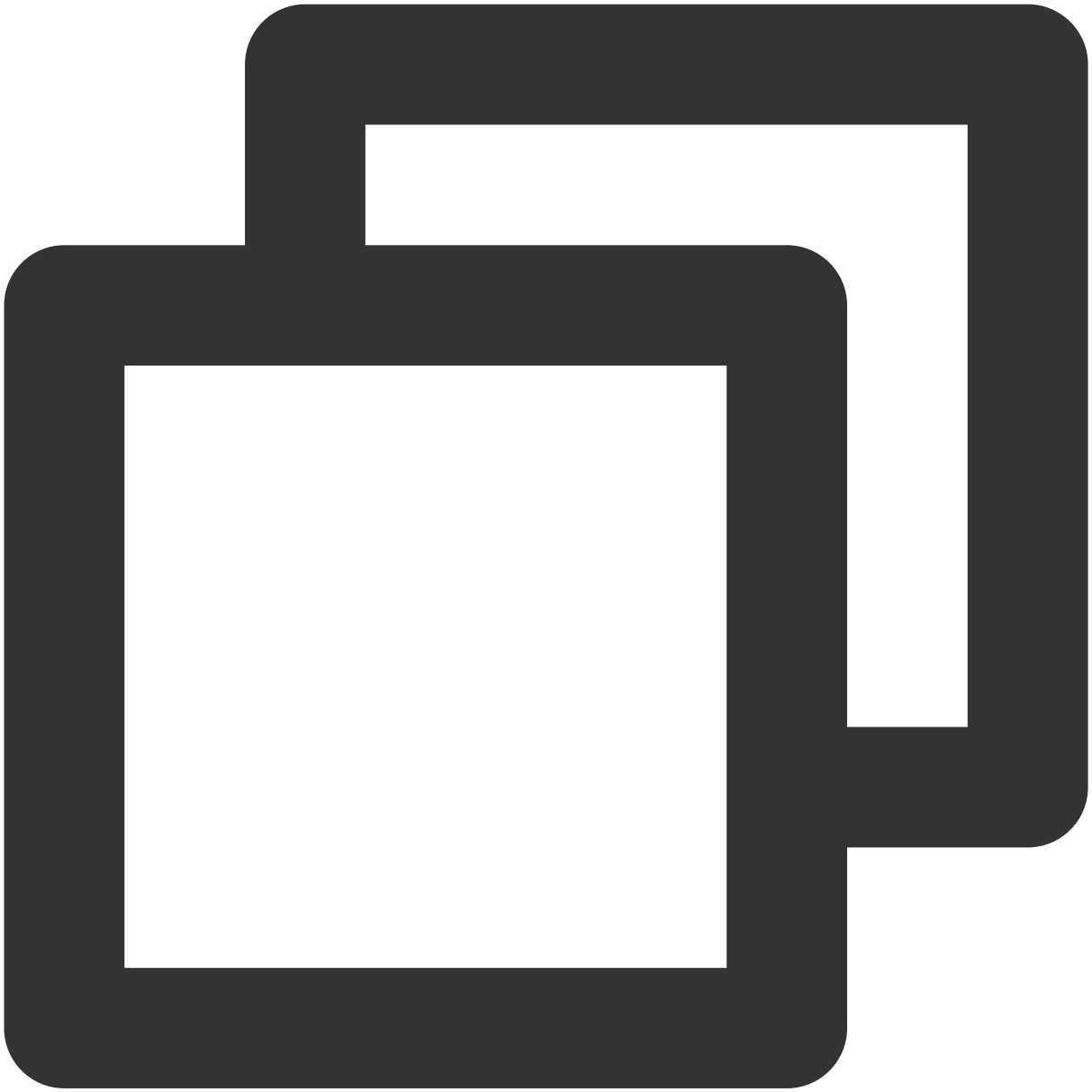
Create TUIRoomEngine Instance



```
tuikit::TUIRoomEngine* createTUIRoomEngine();
```

destroyTUIRoomEngine

Destroy TUIRoomEngine Instance

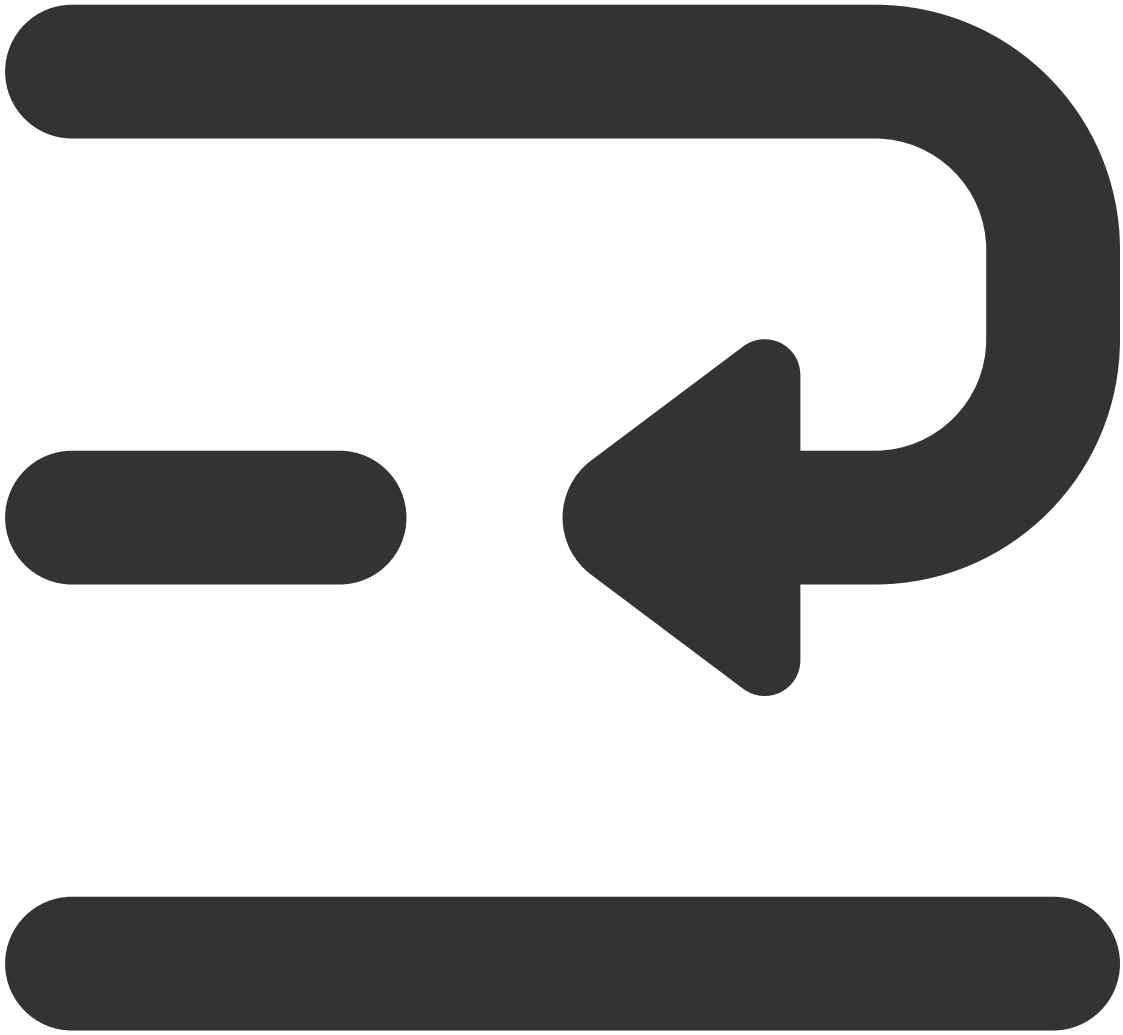


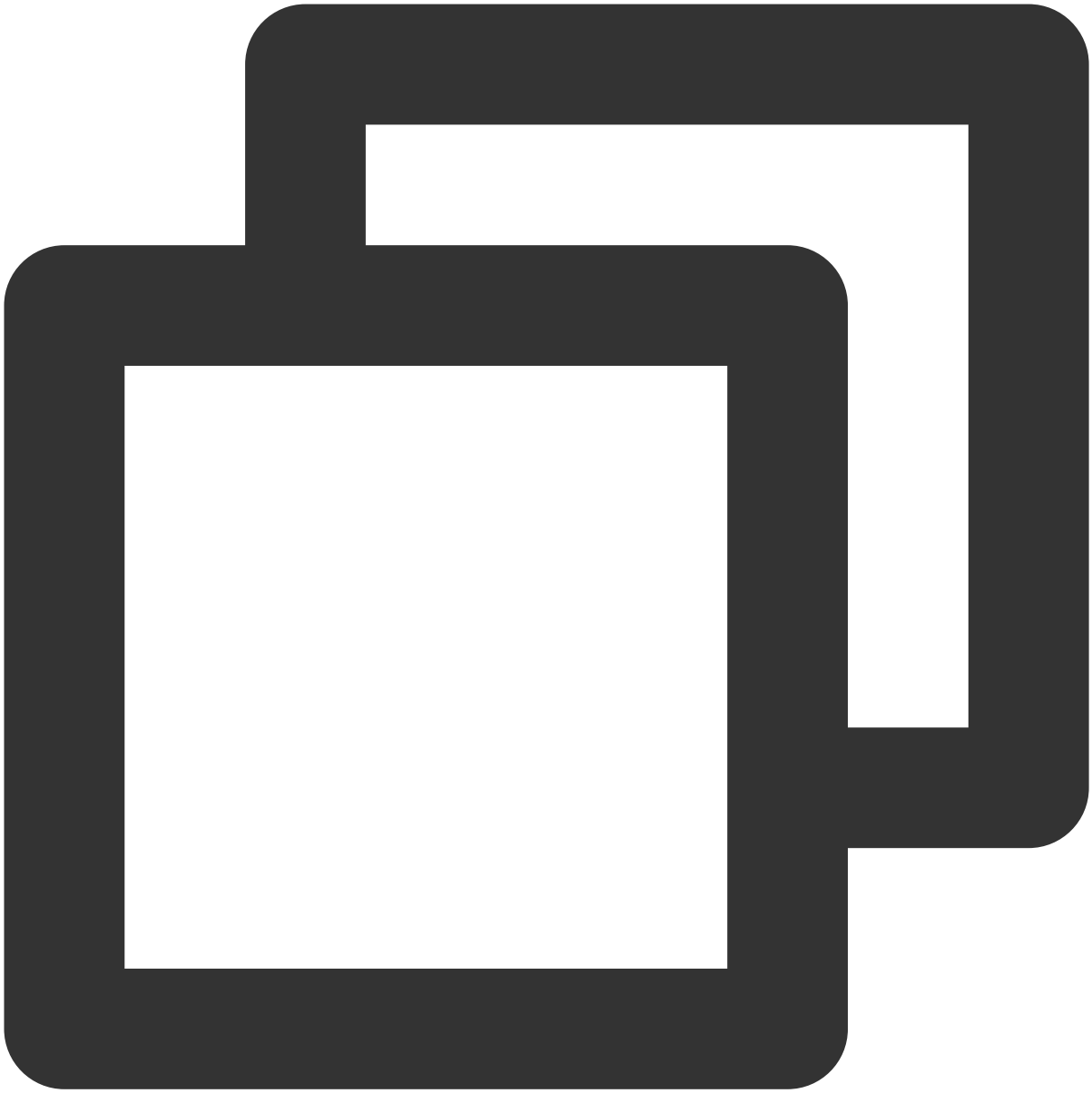
```
void destroyTUIRoomEngine(tuikit::TUIRoomEngine* roomEngine);
```

Parameter	Type	Meaning
roomEngine	tuikit::TUIRoomEngine*	TUIRoomEngine Instance Pointer, this pointer can only be obtained through the CreateTUIRoomEngine Interface.

login

Login interface, you need to initialize user information before entering the room and perform a series of operations.





```
static void login(int sdkAppId, const char* userId, const char* userSig, TUICallbac
```

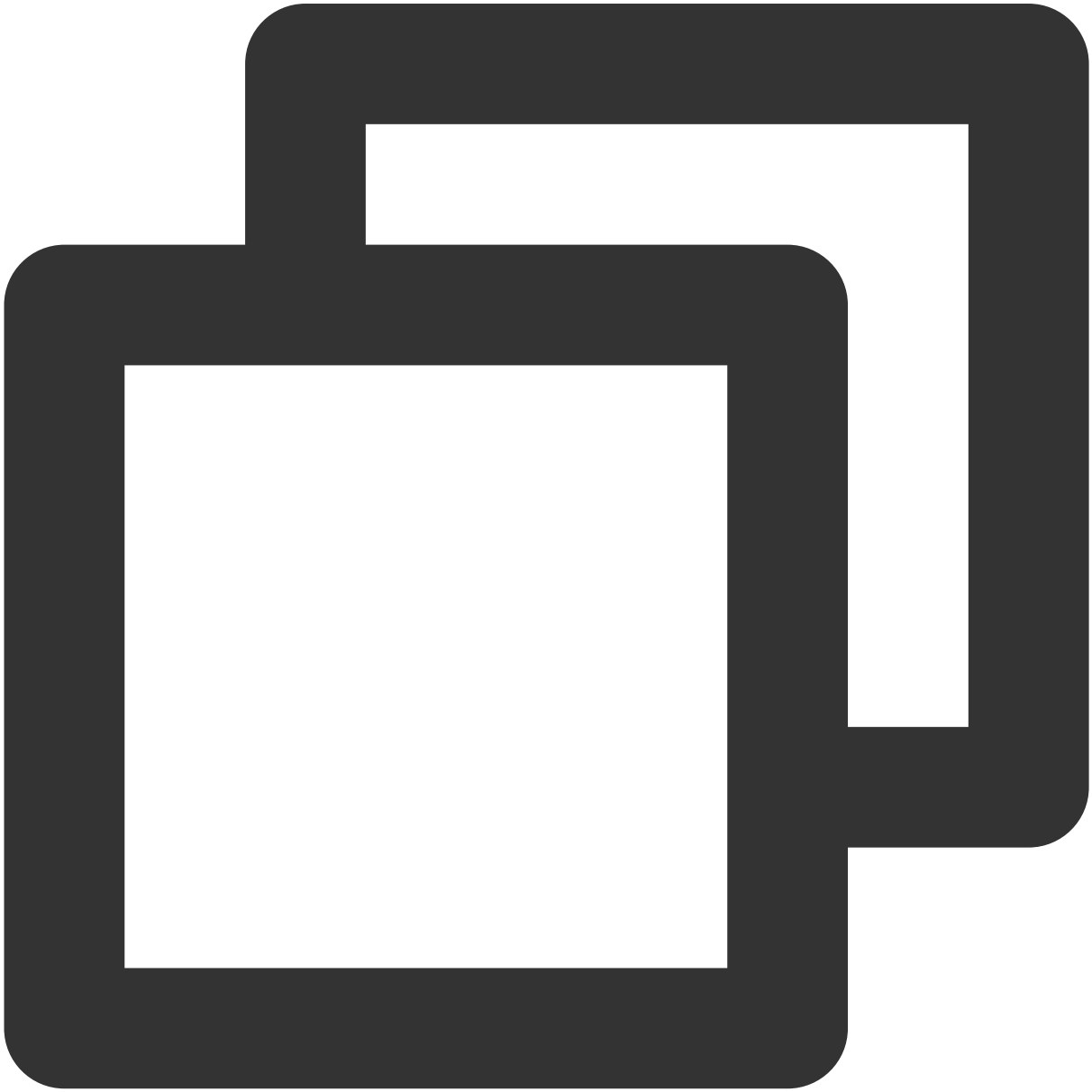
The parameters are as follows:

Parameter	Type	Meaning
sdkAppId	int	SDKAppID of Tencent Cloud communication application
userId	const char*	User ID for Differentiate different users

userSig	const char*	UserSig for Tencent Cloud flow authentication
callback	TUICallback*	API Callback for notifying the success or failure of the interface call

logout

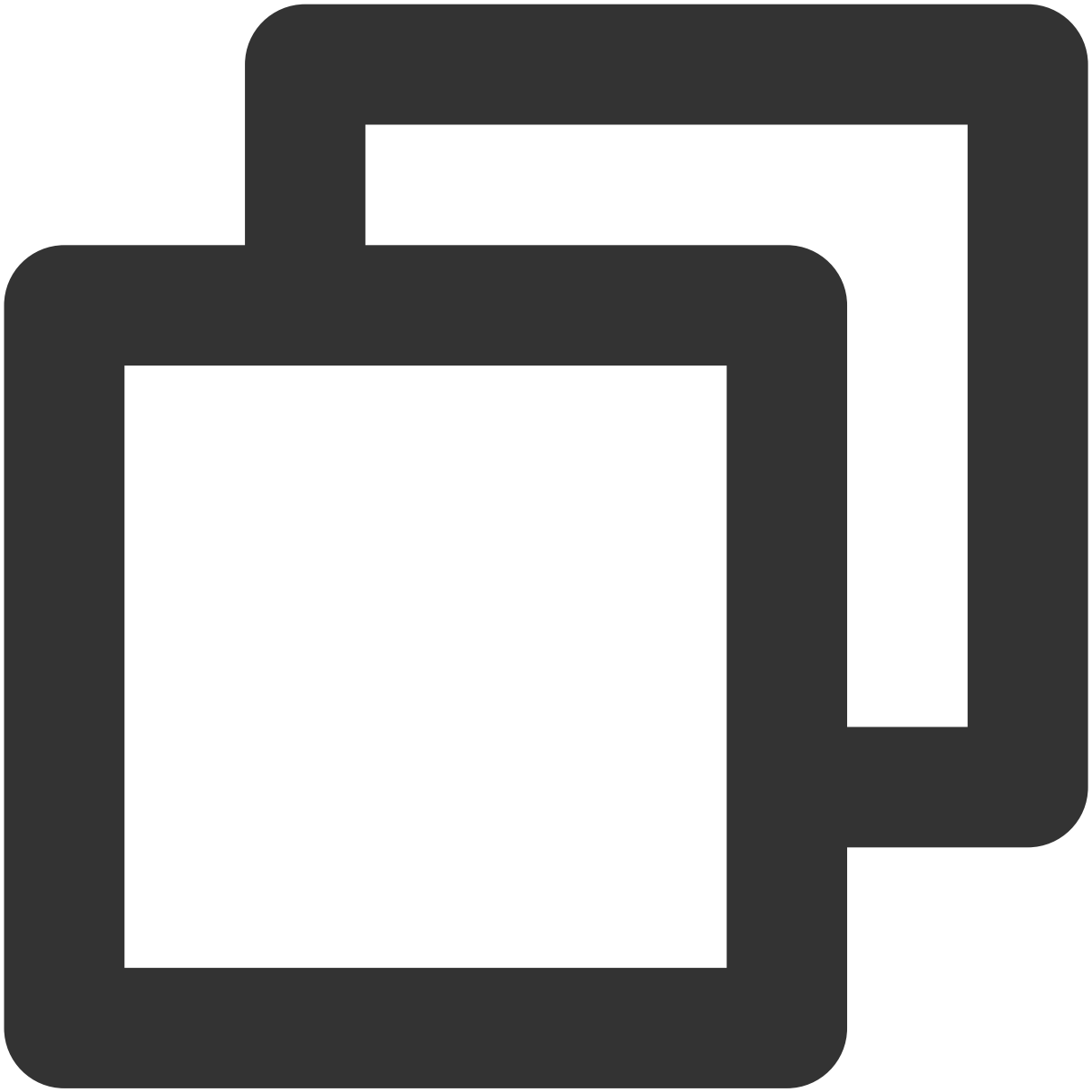
Logout interface, there will be actively leave the room operation, destroy resources.



```
static void logout(TUICallback* callback);
```

setSelfInfo

Set local user name and avatar.



```
static void SetSelfInfo(const char* userName, const char* avatarUrl, TUICallback* c
```

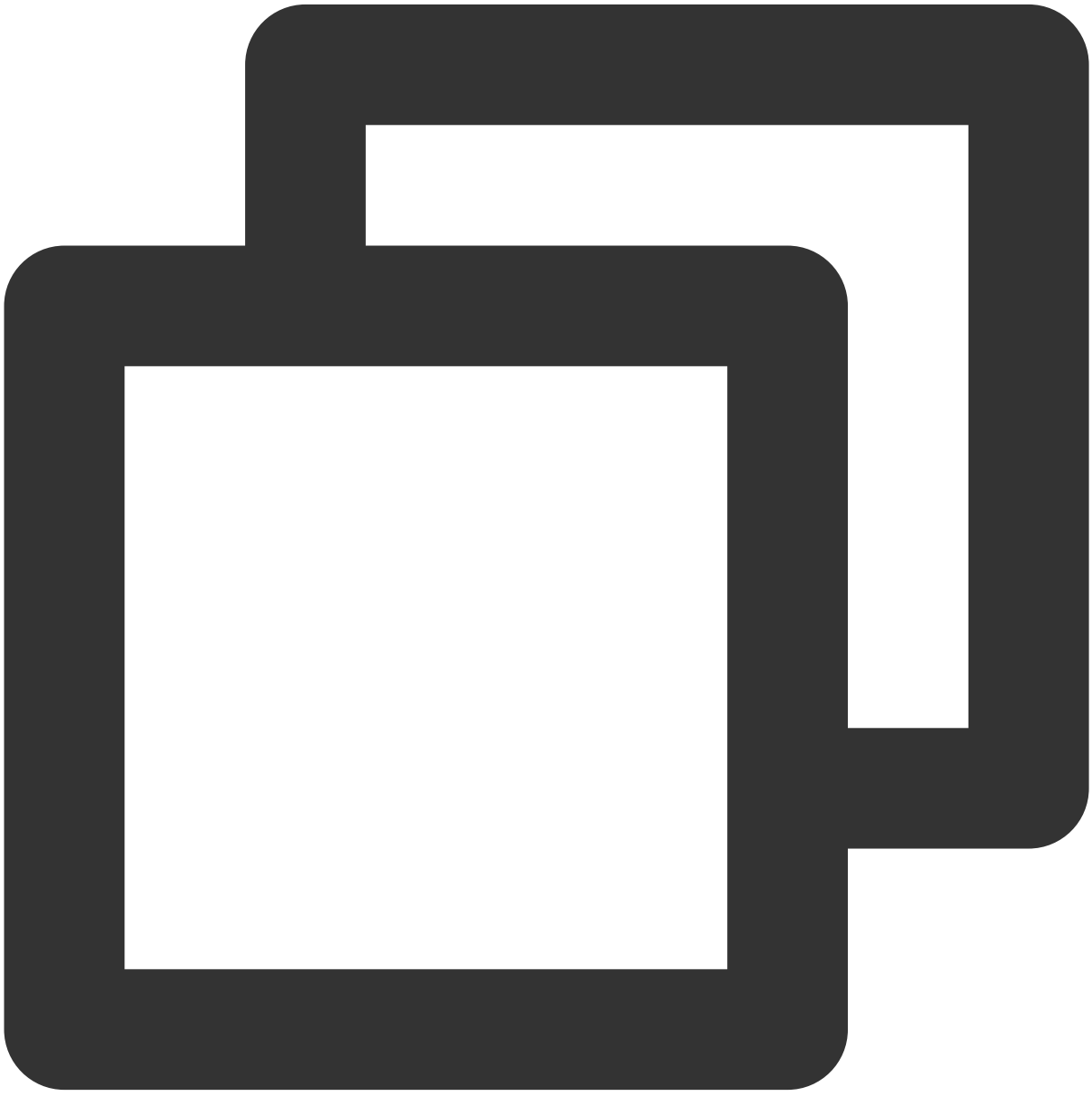
The parameters are as follows:

Parameter	Type	Meaning
userName	const char*	User Name
avatarUrl	const char*	User avatar URL address

callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

getSelfInfo

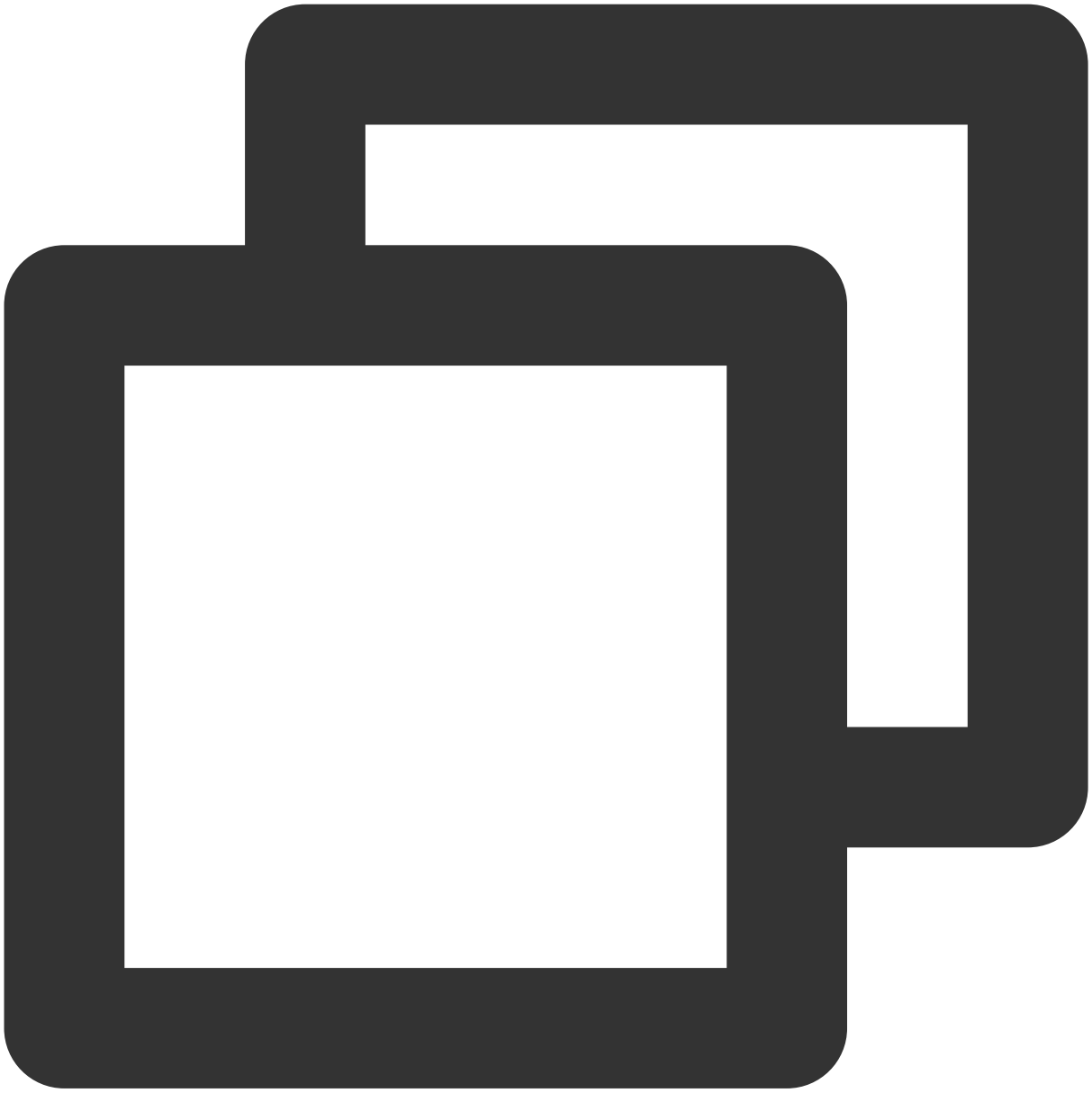
Get the basic information of the local user login.



```
static TUILoginUserInfo GetSelfInfo();
```

addObserver

Add TUIRoomEngine Event Callback.



```
virtual void AddObserver(TUIRoomObserver* observer) = 0;
```

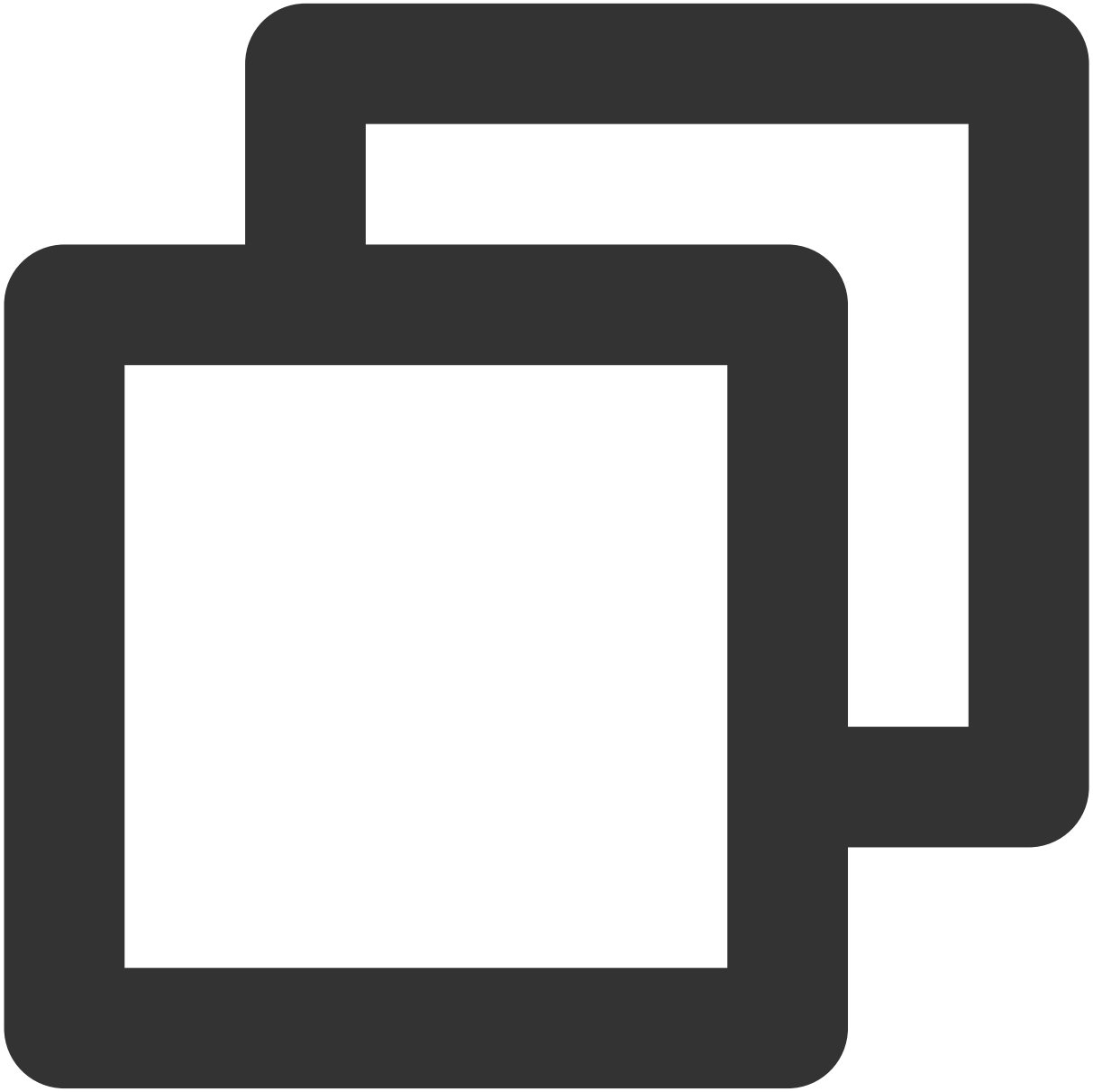
The parameters are as follows:

Parameter	Type	Meaning
observer	TUIRoomObserver*	Callback Instance Pointer, you can get various event notifications (such as: Error Code, Remote User Enter

		Room, Audio and Video Status Parameters, etc.) through TUIRoomObserver.

removeObserver

Remove TUIRoomEngine Event Callback.



```
virtual void removeObserver(TUIRoomObserver* observer) = 0;
```

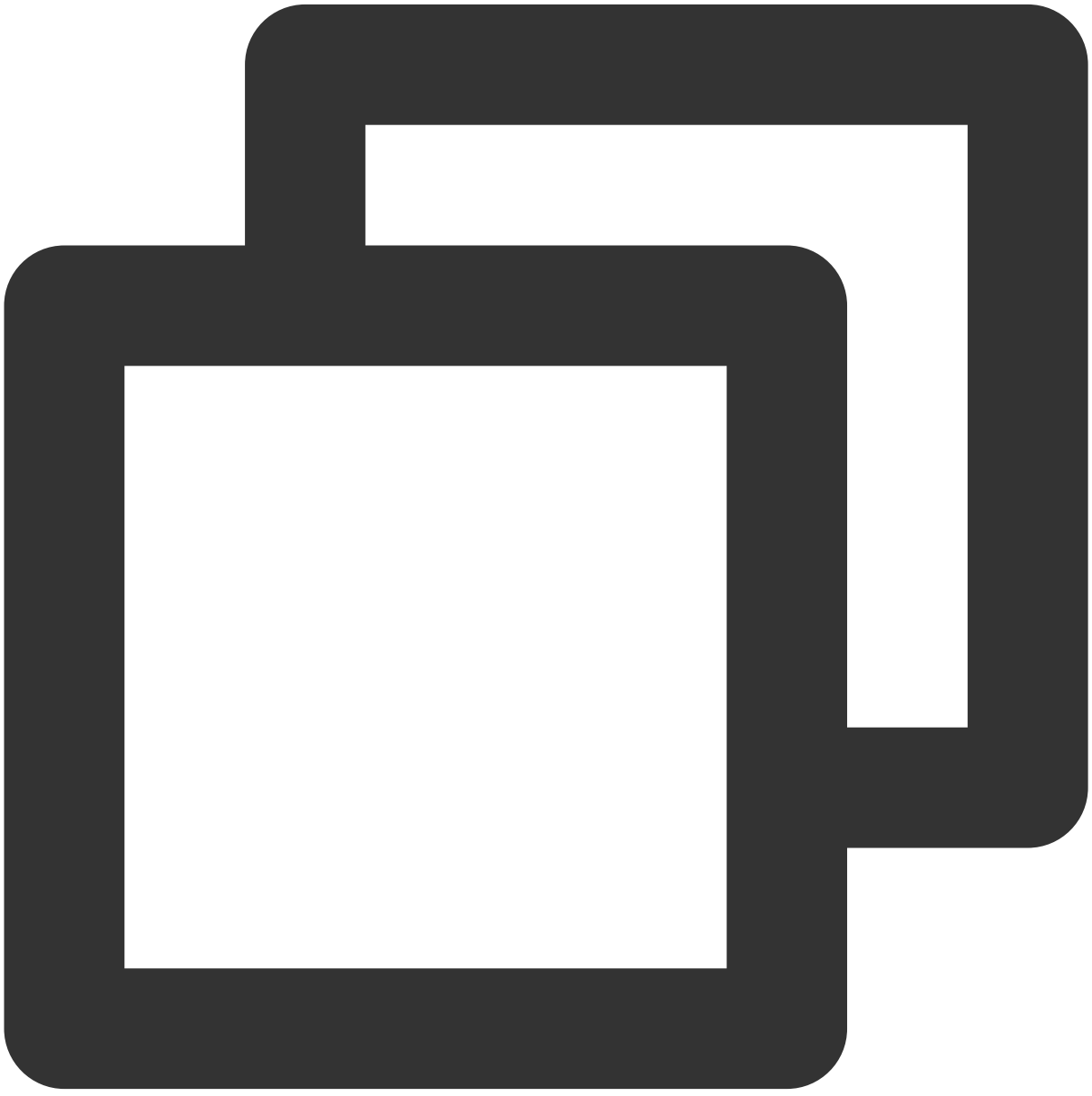
The parameters are as follows:

Parameter	Type	Meaning

observer	TUIRoomObserver*	TUIRoomEngine Event Callback

createRoom

Create room.



```
virtual void createRoom(const TUIRoomInfo& roomInfo, TUICallback* callback) = 0;
```

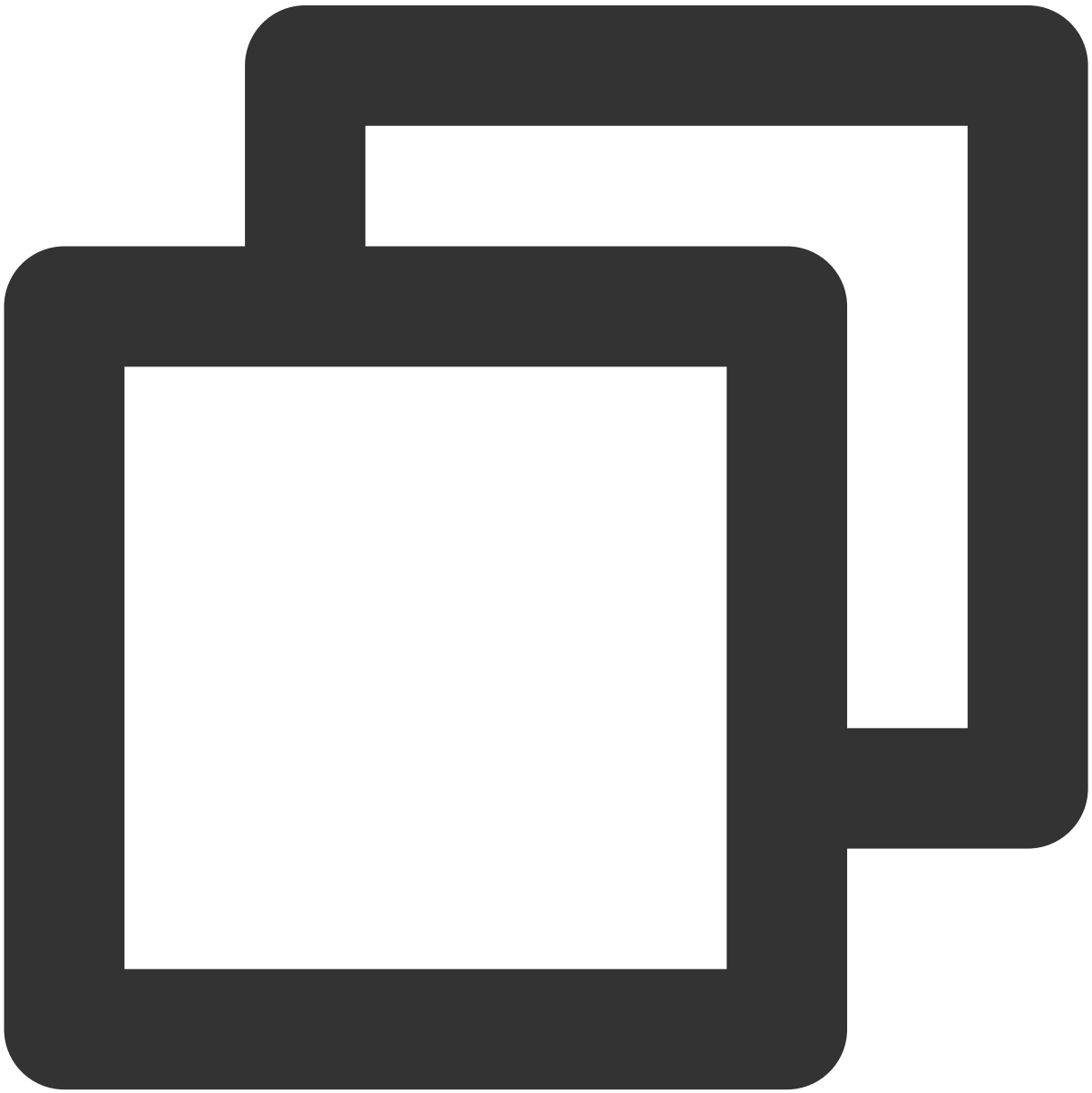
The parameters are as follows:

Parameter	Type	Meaning

roomInfo	const TUIRoomInfo&	Room data
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

destroyRoom

Destroy Room.



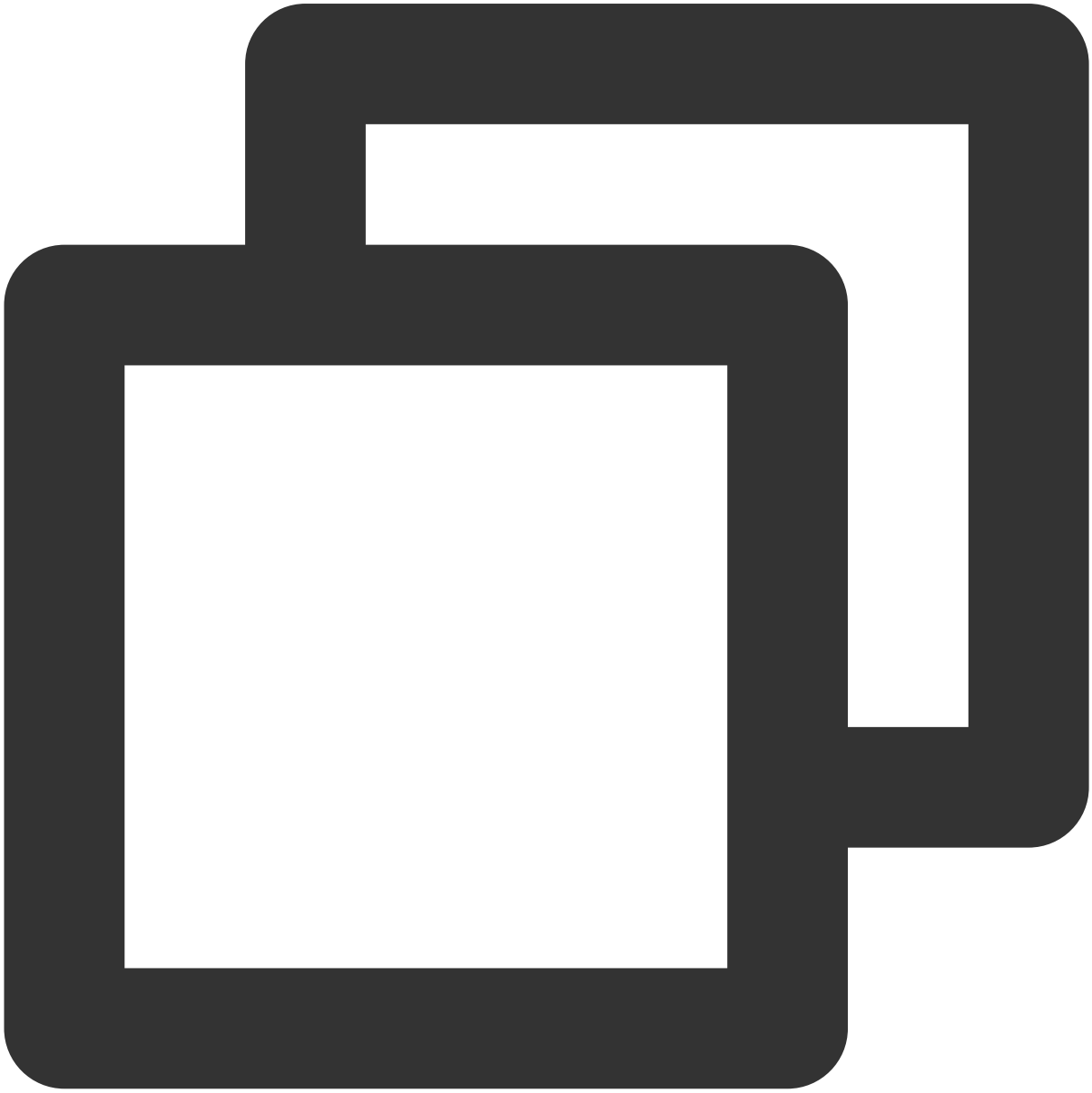
```
virtual void destroyRoom(TUICallback* callback) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

enterRoom

Entered room.



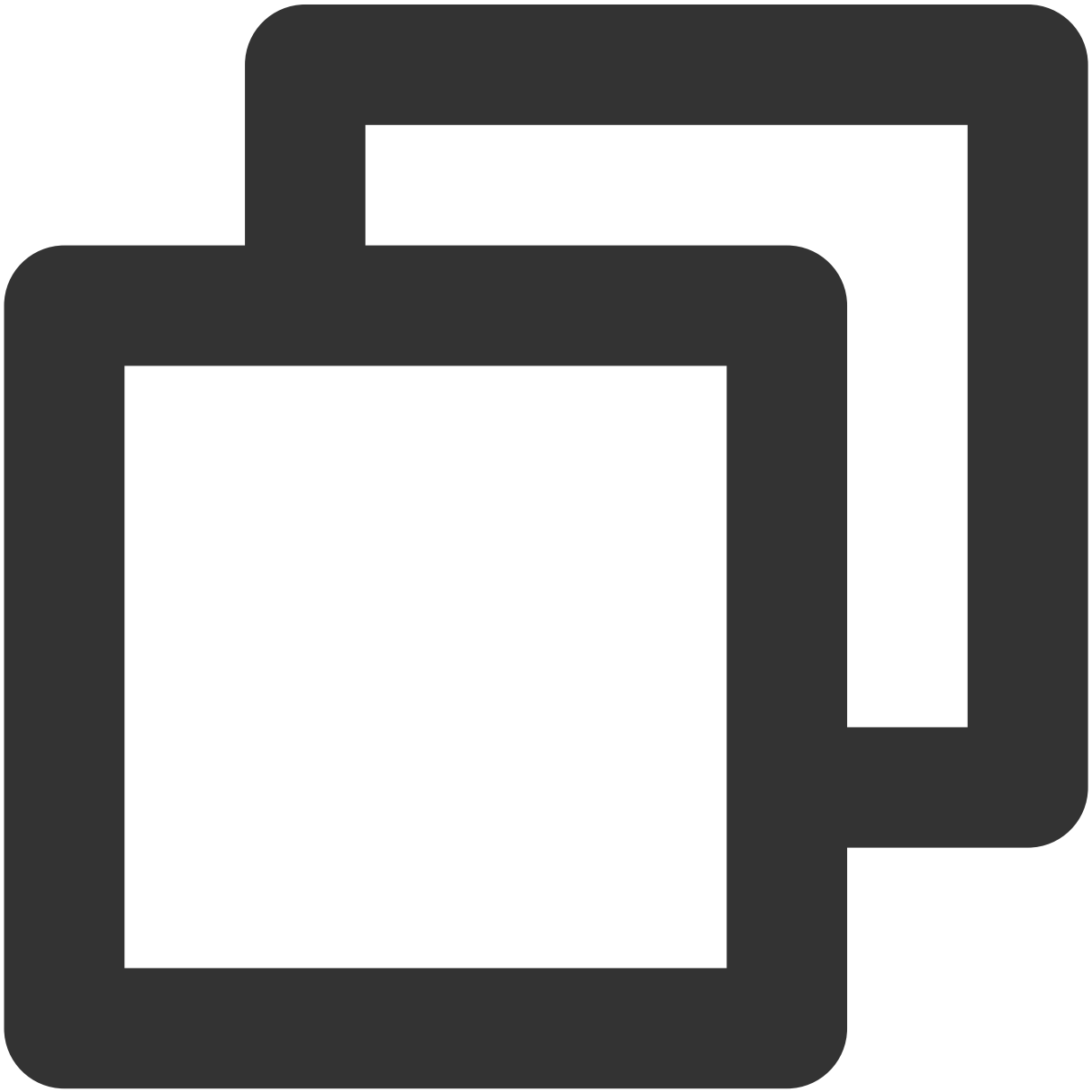
```
virtual void enterRoom(const char* roomId, TUIValueCallback<TUIRoomInfo>* callback)
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
callback	TUIValueCallback<TUIRoomInfo>*	Get the entered Room data Callback

exitRoom

Exit Room.



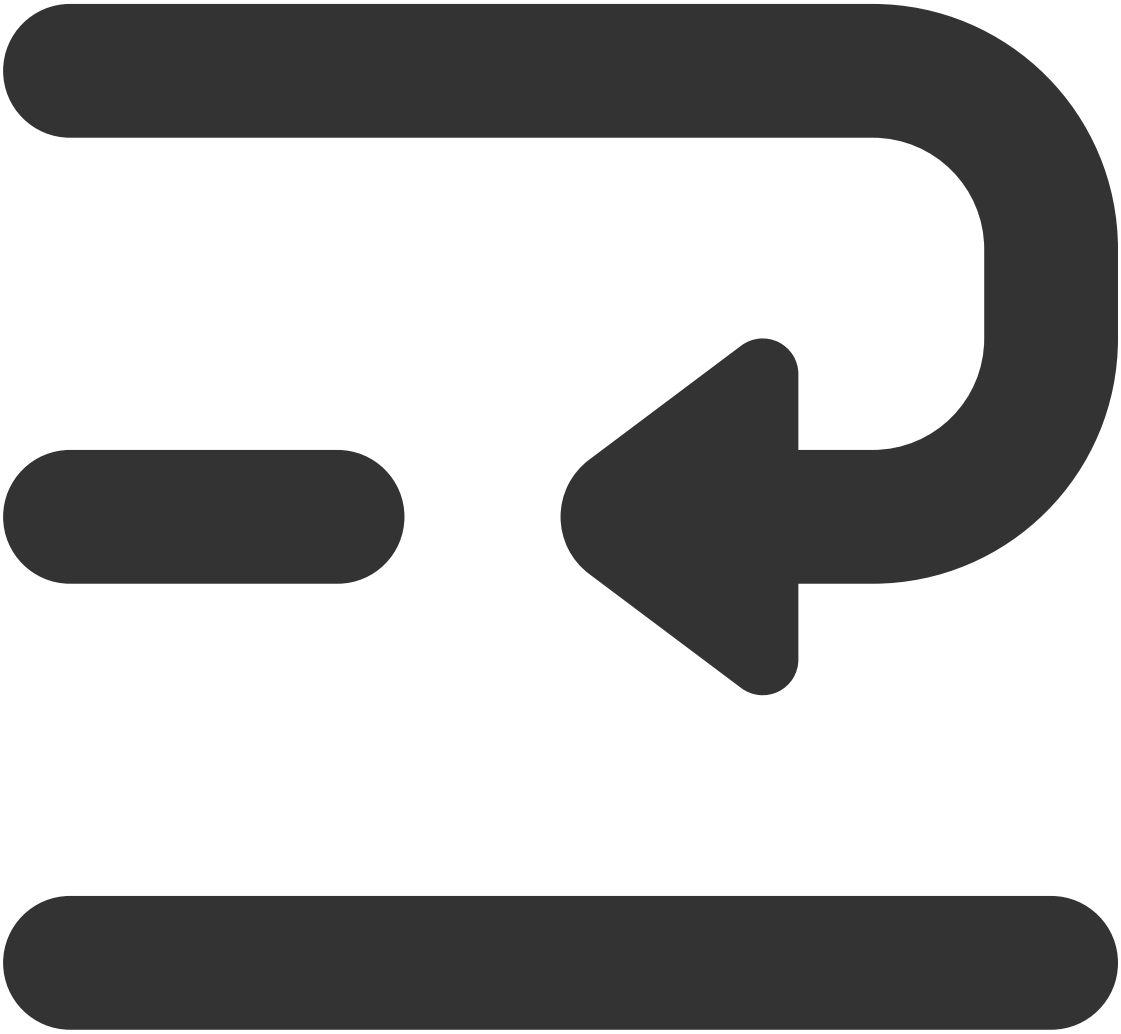
```
virtual void exitRoom(bool syncWaiting, TUICallback* callback) = 0;
```

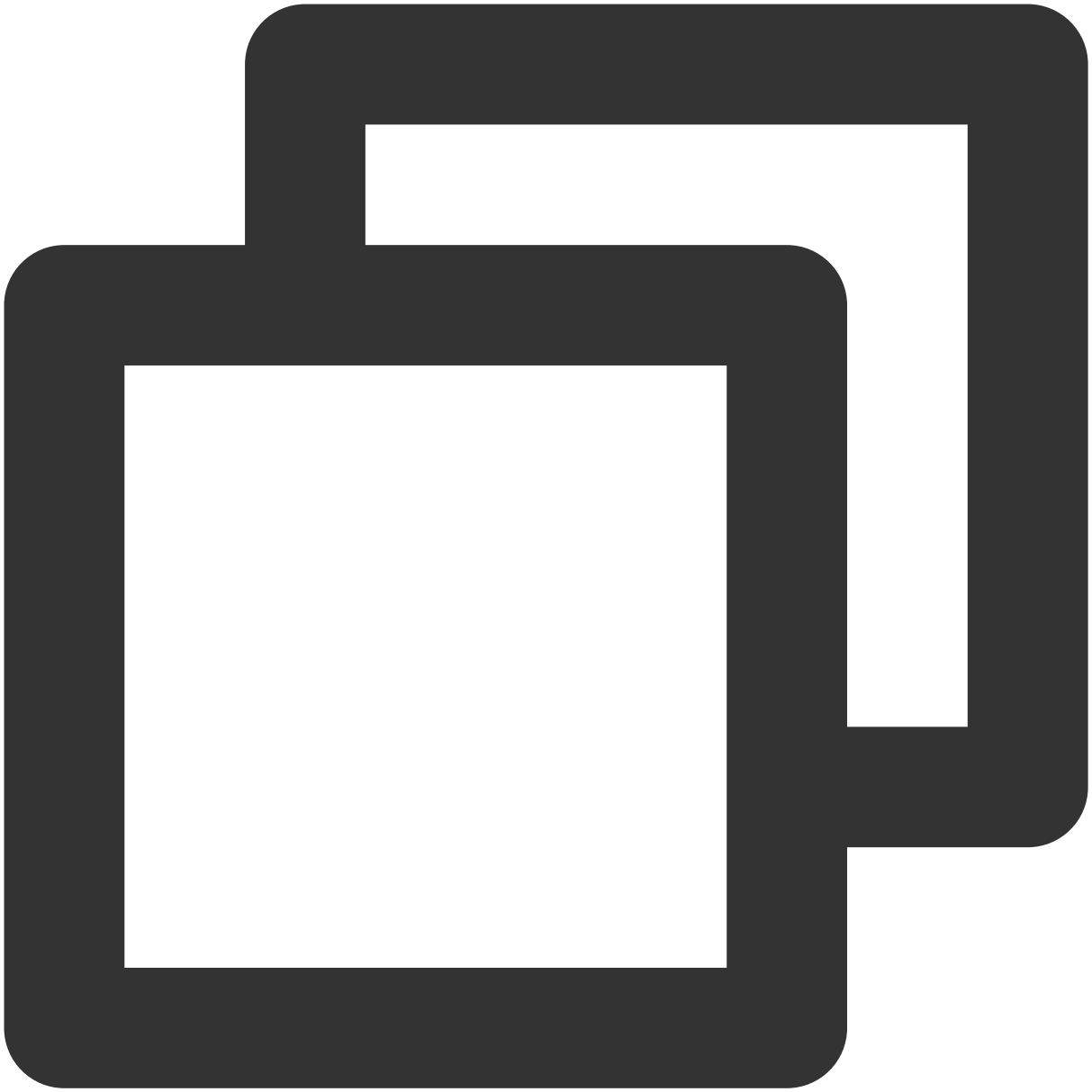
The parameters are as follows:

Parameter	Type	Meaning
syncWaiting	bool	Whether to synchronize leaving the room
callback	TUICallback*	Leave Room Result Callback

connectOtherRoom

Connect to other rooms.





```
virtual TUIRequest connectOtherRoom(const char* roomId, const char* userId, int tim
```

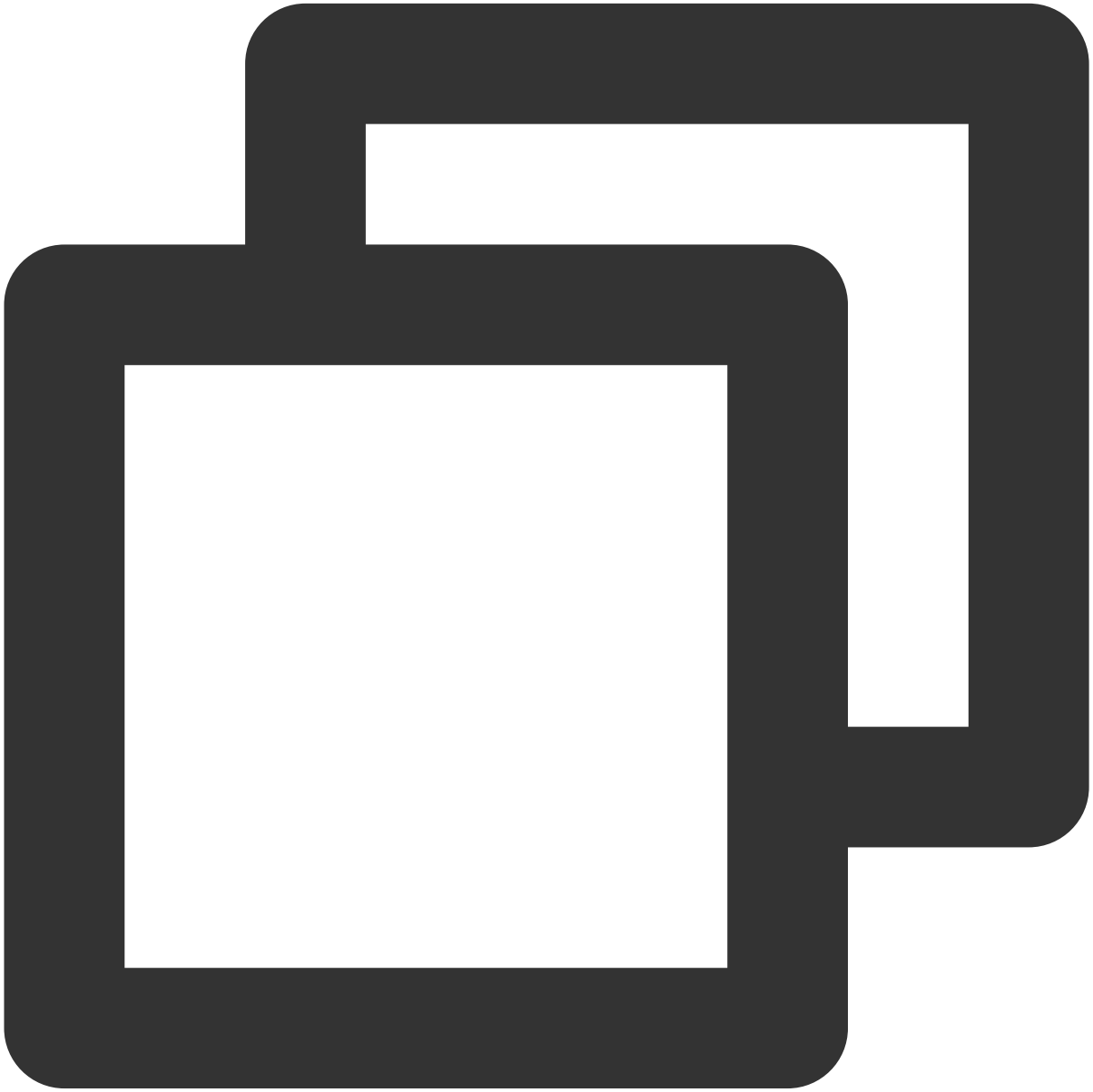
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
userId	const char*	User ID
timeout	int	Time

callback	TUIRequestCallback*	Callback of API, used to Notify the Success or Failure of the API call

disConnectOtherRoom

Disconnect from other rooms



```
virtual void disConnectOtherRoom(TUICallback* callback) = 0;
```

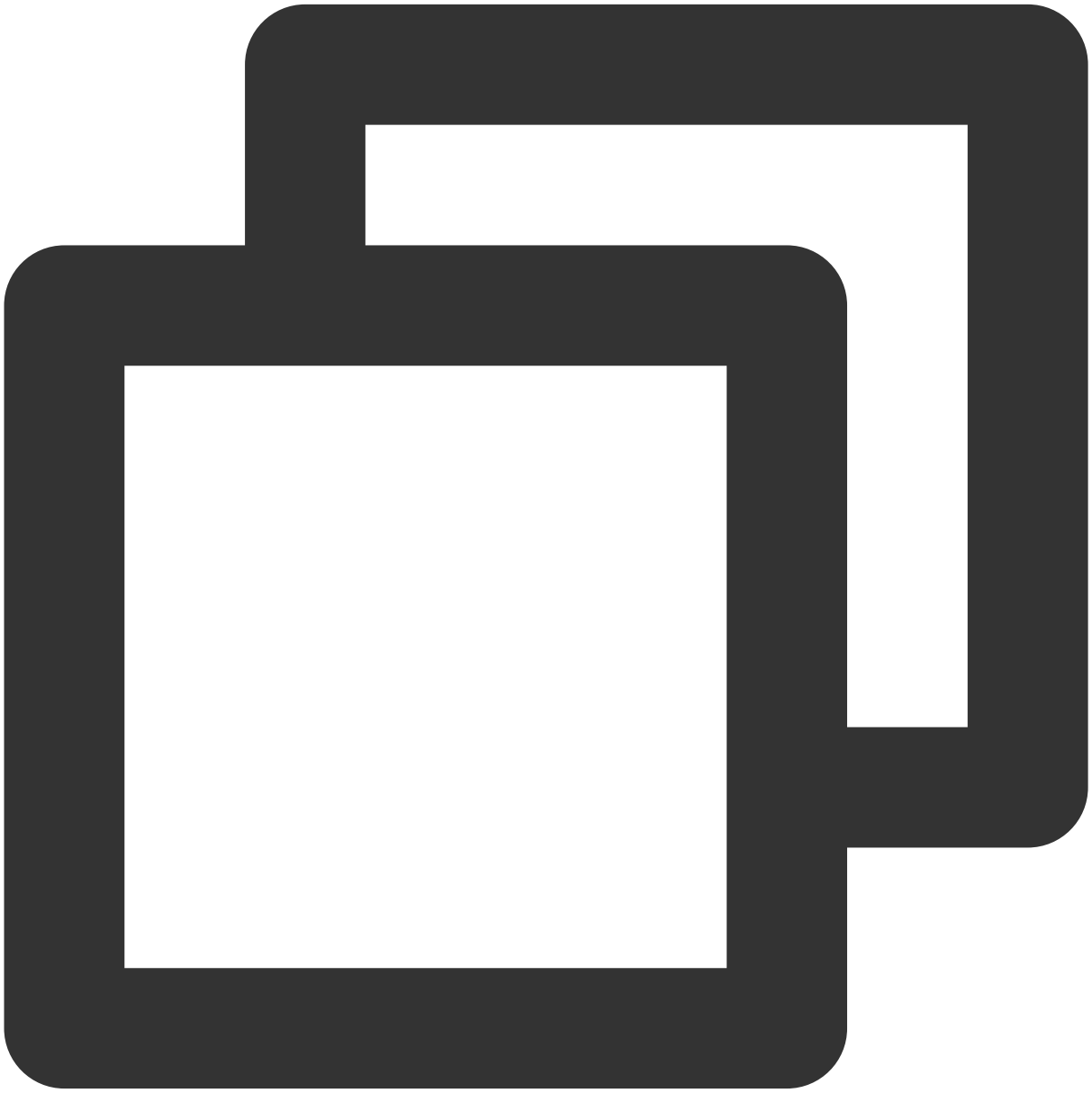
The parameters are as follows:

Parameter	Type	Meaning

callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

fetchRoomInfo

Get Room data.



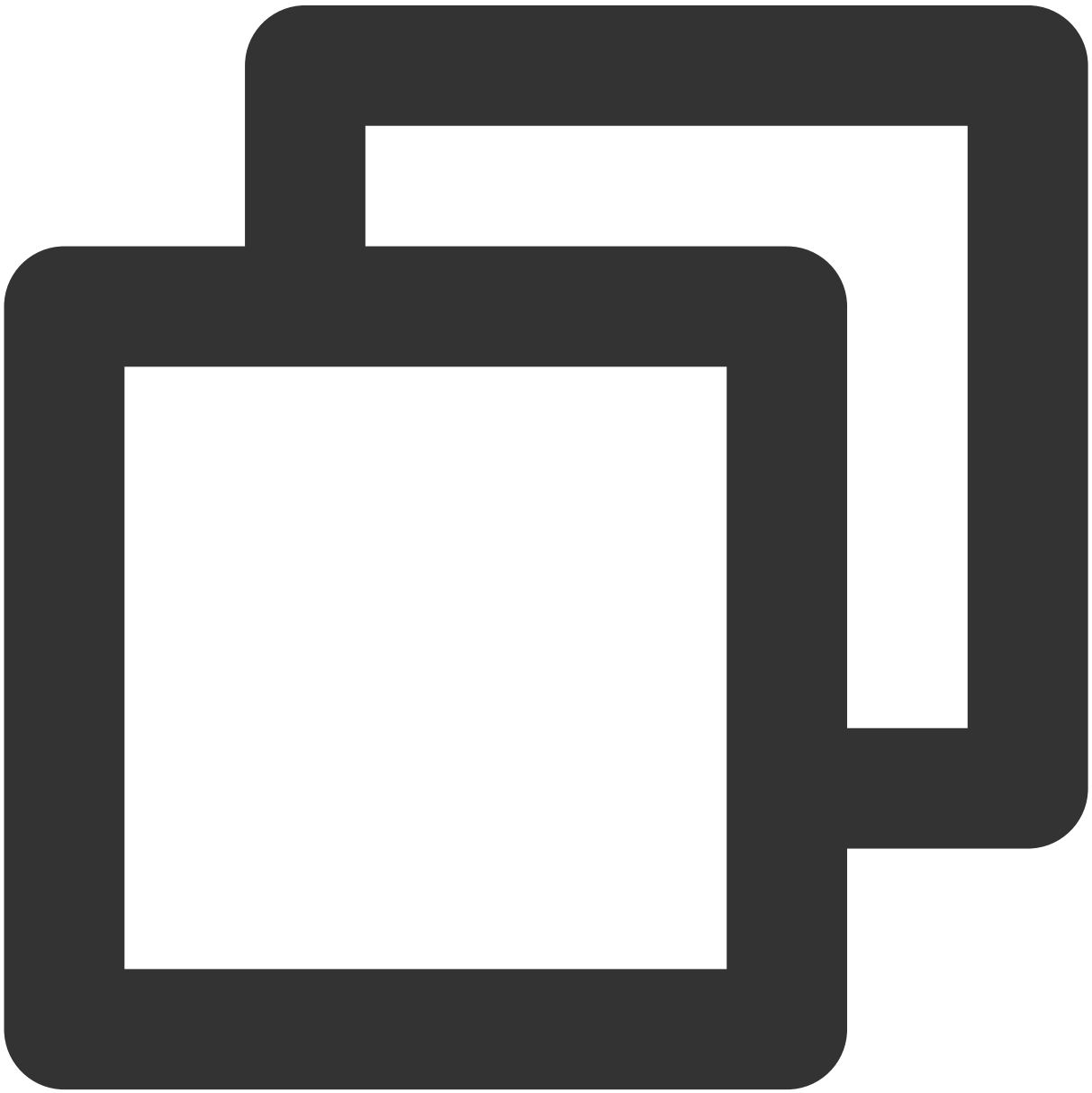
```
virtual void fetchRoomInfo(TUIValueCallback<TUIRoomInfo>* callback) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
callback	TUIValueCallback<TUIRoomInfo>*	Callback of API, used to Notify the Success or Failure of the API call

updateRoomNameByAdmin

Update Room ID



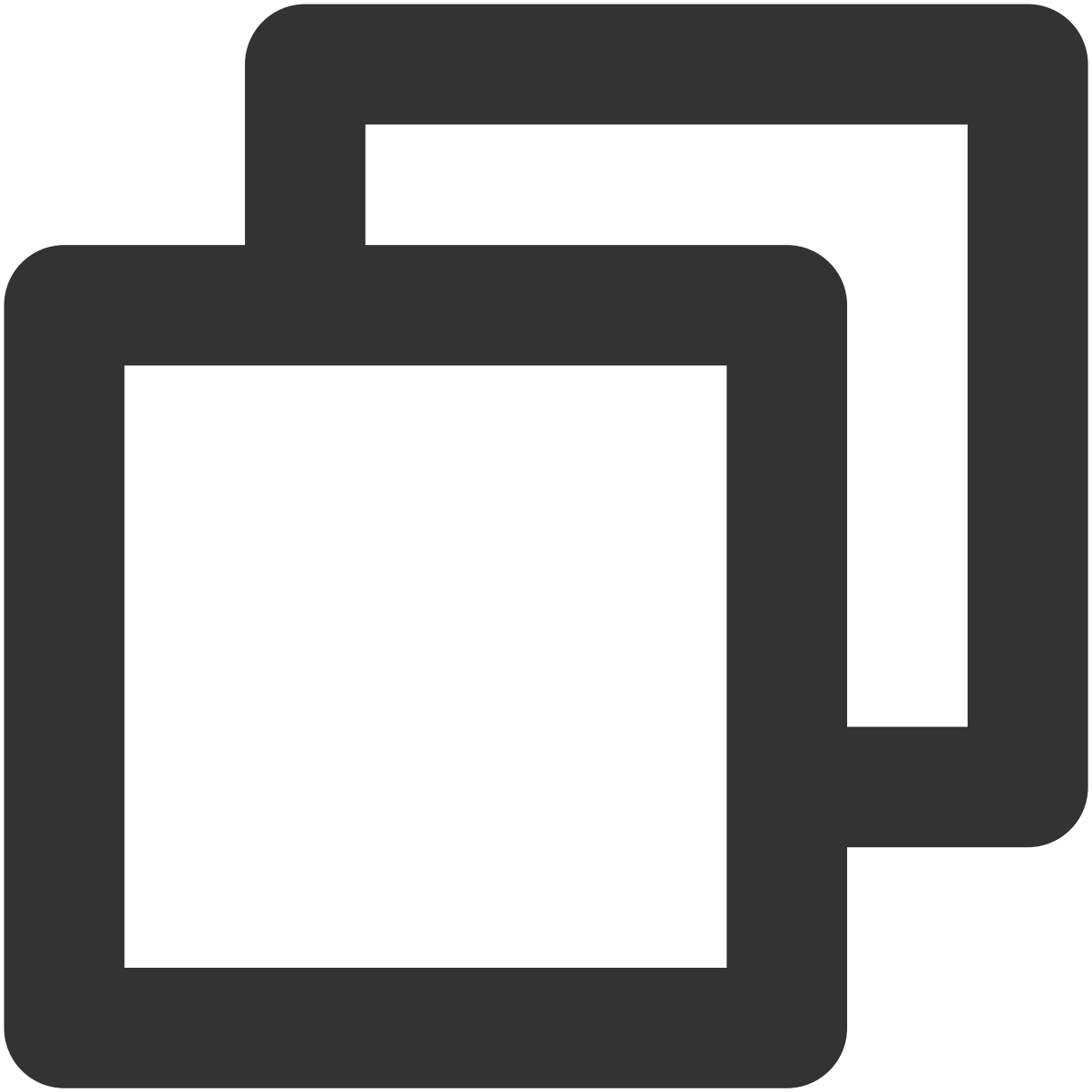
```
virtual void updateRoomNameByAdmin(const char* roomName, TUICallback* callback) = 0
```

The parameters are as follows:

Parameter	Type	Meaning
roomName	const char*	Room ID
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

updateRoomSpeechModeByAdmin

Set Management mode.



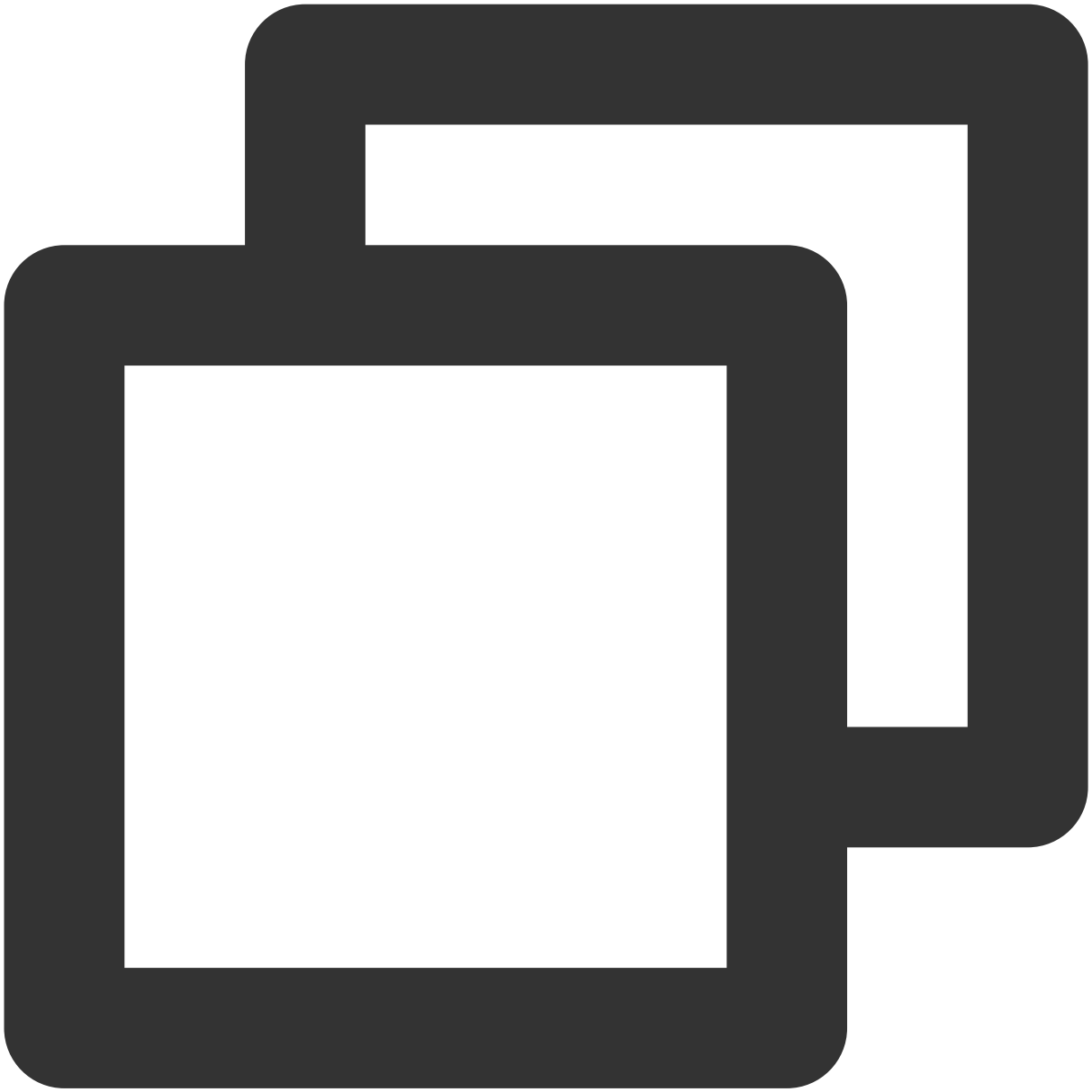
```
virtual void updateRoomSpeechModeByAdmin(TUISpeechMode mode, TUICallback* callback)
```

The parameters are as follows:

Parameter	Type	Meaning
mode	TUISpeechMode	Management mode
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

setLocalVideoView

Set Local user Video Rendering View control



```
virtual void setLocalVideoView(TUIVideoStreamType streamType, const TUIVideoView& v
```

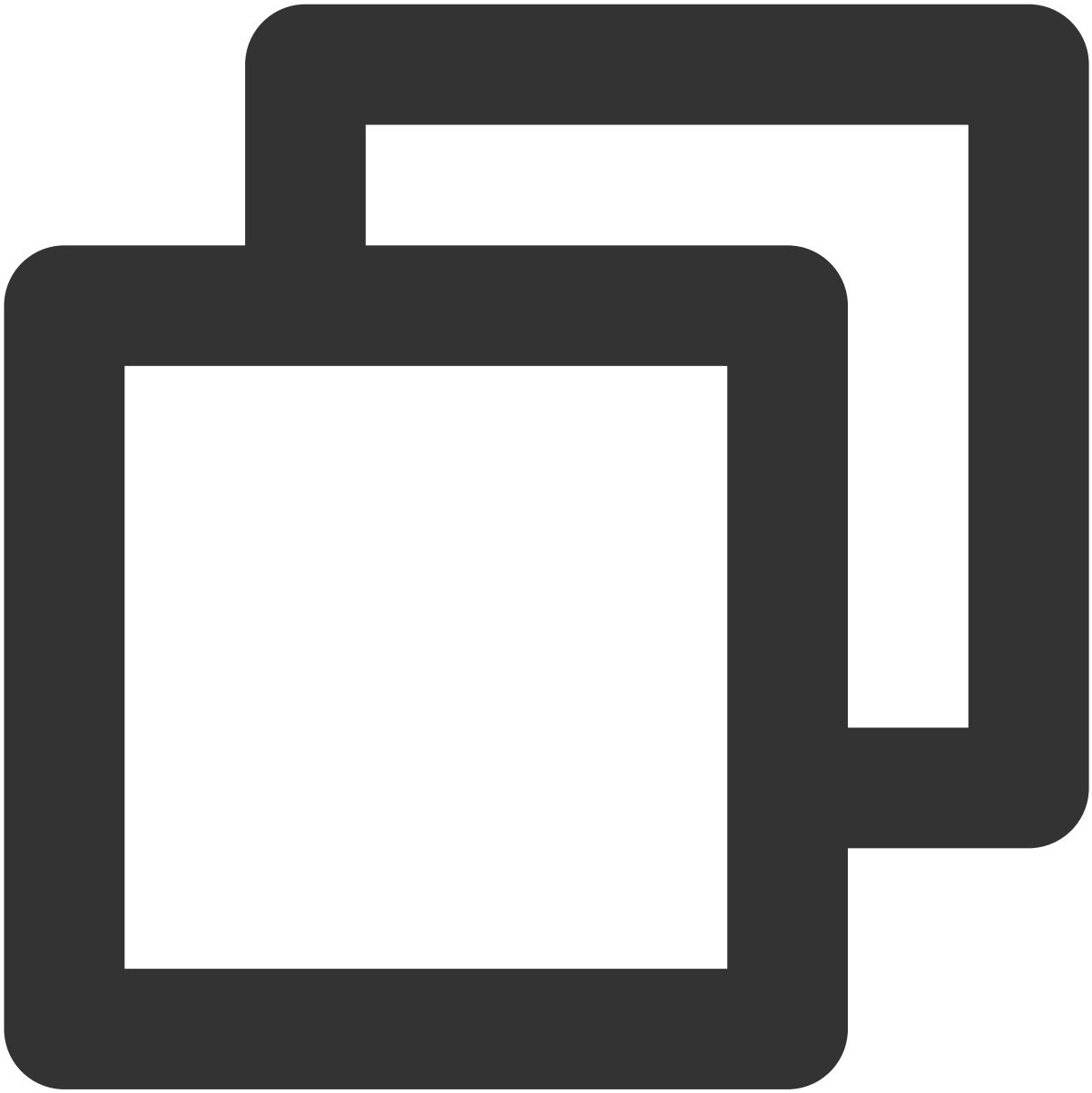
The parameters are as follows:

Parameter	Type	Meaning
streamType	TUIVideoStreamType	Local streams type
view	const	To be rendered view, Video Rendering on this view

	TUIVideoView&	

openLocalCamera

Open Local Camera, Start Video Capturing.



```
virtual void openLocalCamera(bool isFront, TUIVideoQuality quality, TUICallback* ca
```

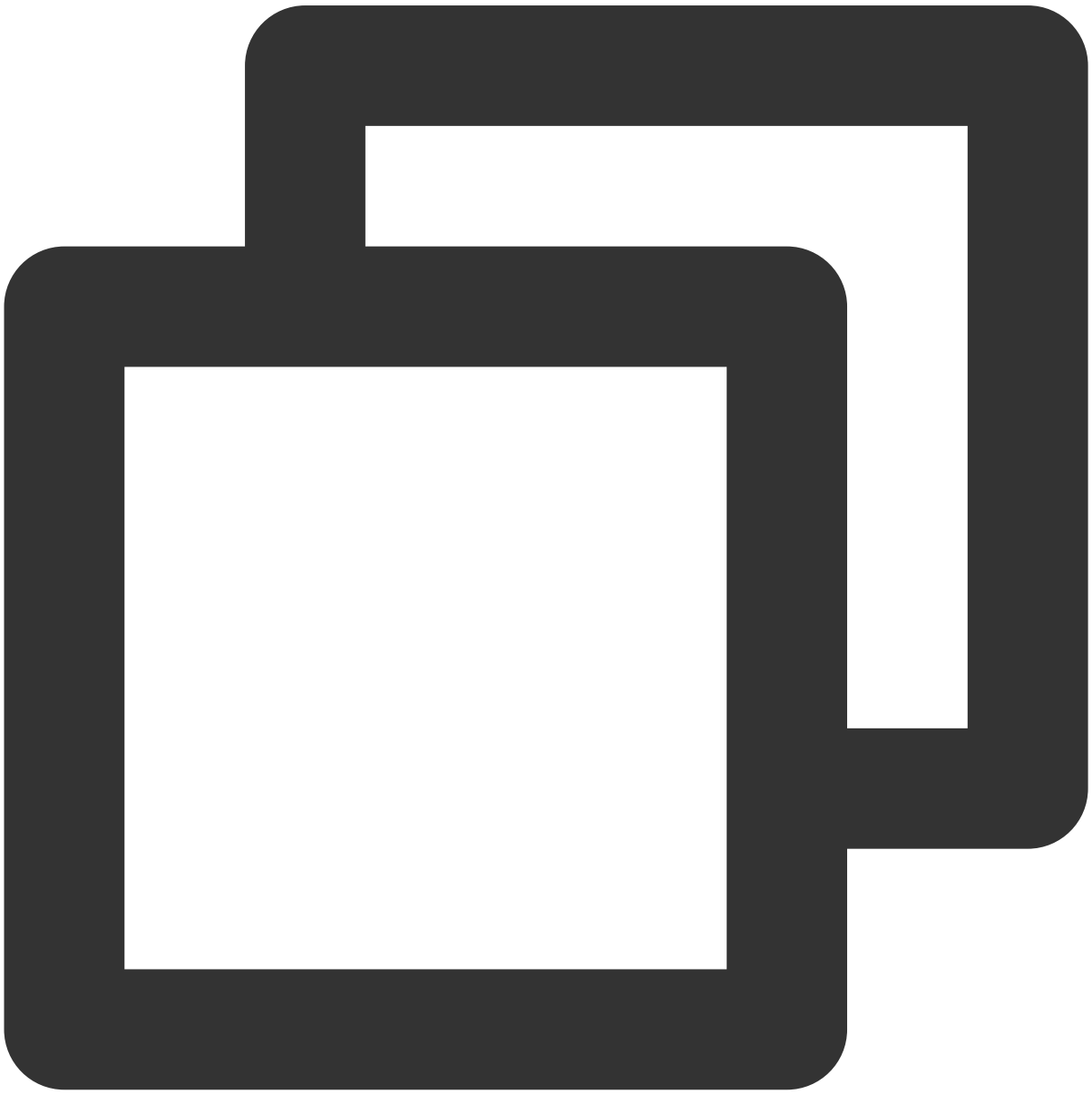
The parameters are as follows:

Parameter	Type	Meaning

isFront	bool	Is it a front Camera (Invalid on Windows)
quality	TUIVideoQuality	Video Quality
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

closeLocalCamera

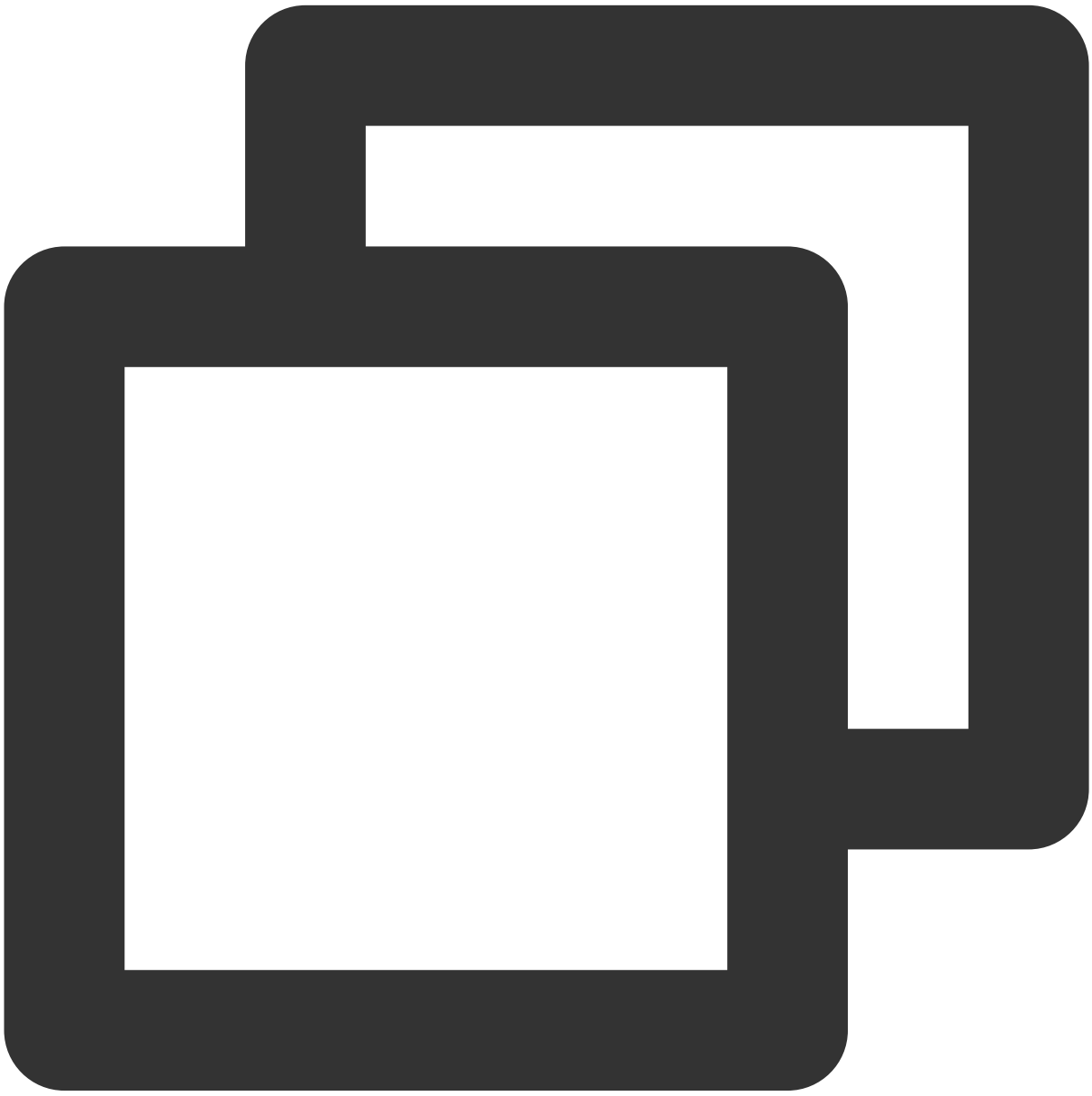
Close Local Camera.



```
virtual void closeLocalCamera() = 0;
```

updateVideoQuality

Set Local Video Parameter.



```
virtual void updateVideoQuality(TUIVideoQuality quality) = 0;
```

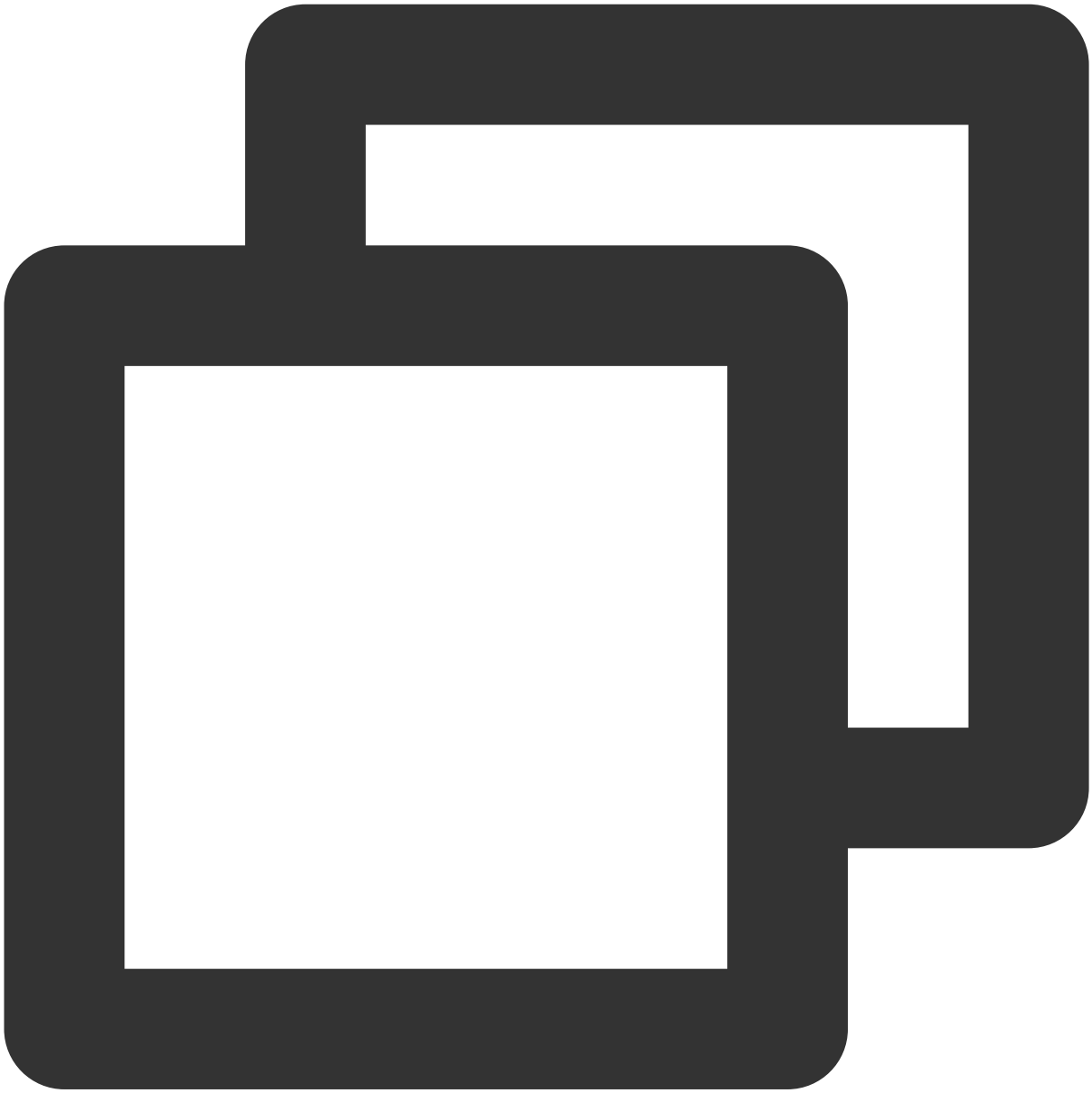
The parameters are as follows:

Parameter	Type	Meaning

quality	TUIVideoQuality	Video Quality

startScreenSharing

Start Screen sharing.



```
virtual void startScreenSharing(const TUISourceId& sourceId, TUICallback* callback)
```

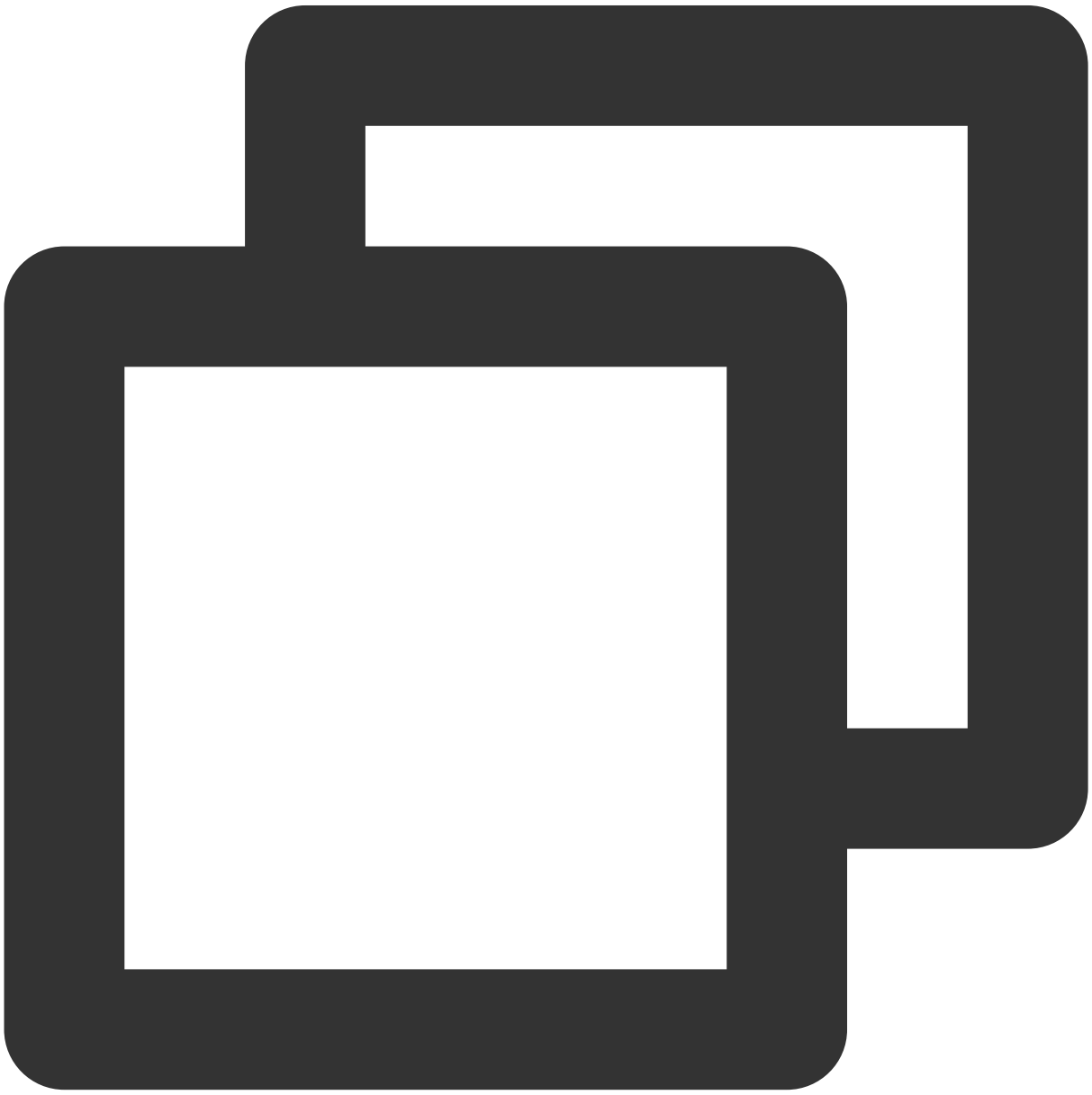
The parameters are as follows:

Parameter	Type	Meaning

sourceId	const TUISourceId&	Handle of the Screen Sharing window or screen, which can be obtained by calling GetScreenSharingTargetList
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

stopScreenSharing

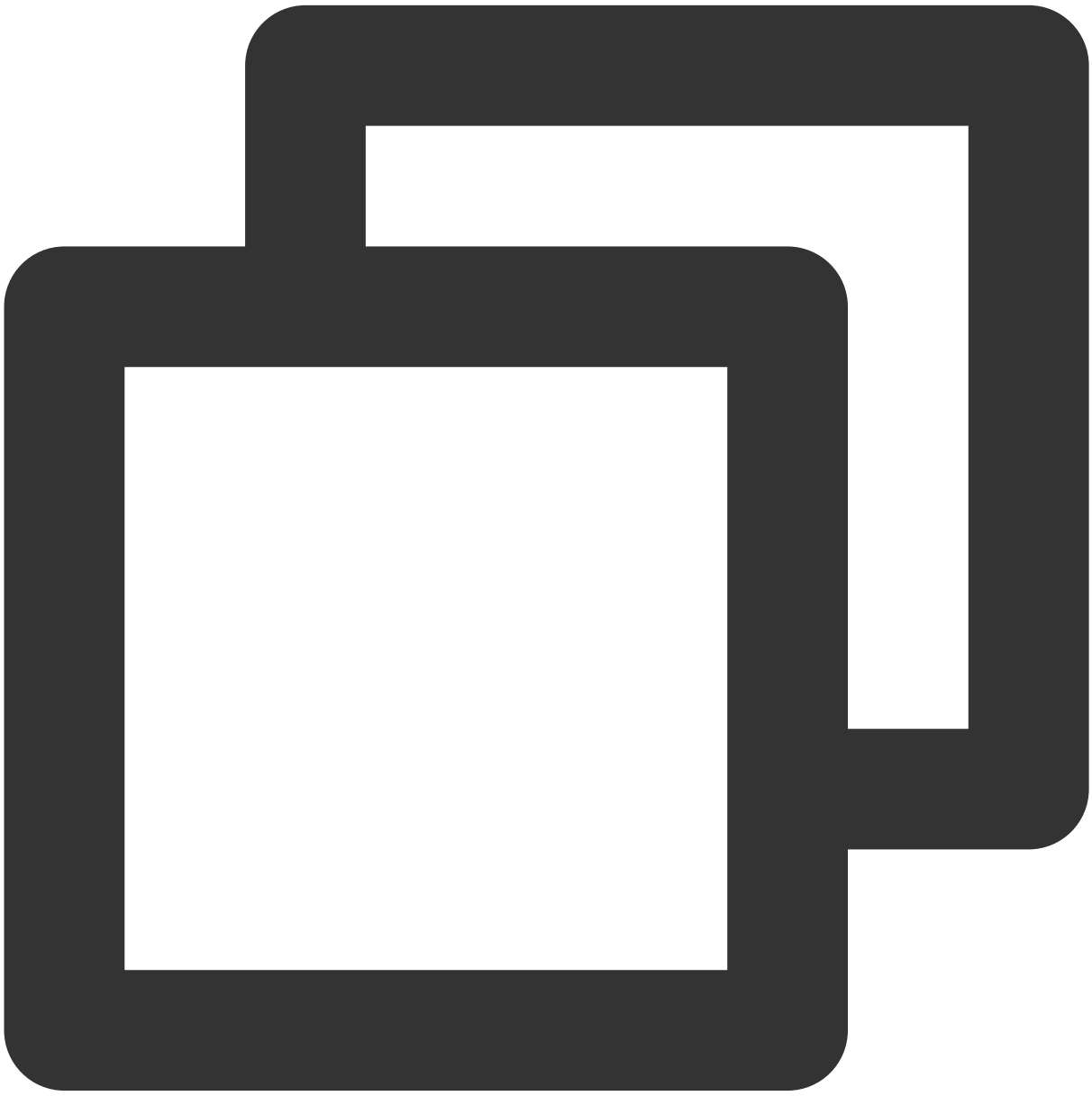
Stop Screen sharing.



```
virtual void stopScreenSharing() = 0;
```

getScreenSharingTargetList

Get Sharing Object List.



```
virtual void getScreenSharingTargetList(TUIListCallback<TUIShareTarget>* list) = 0;
```

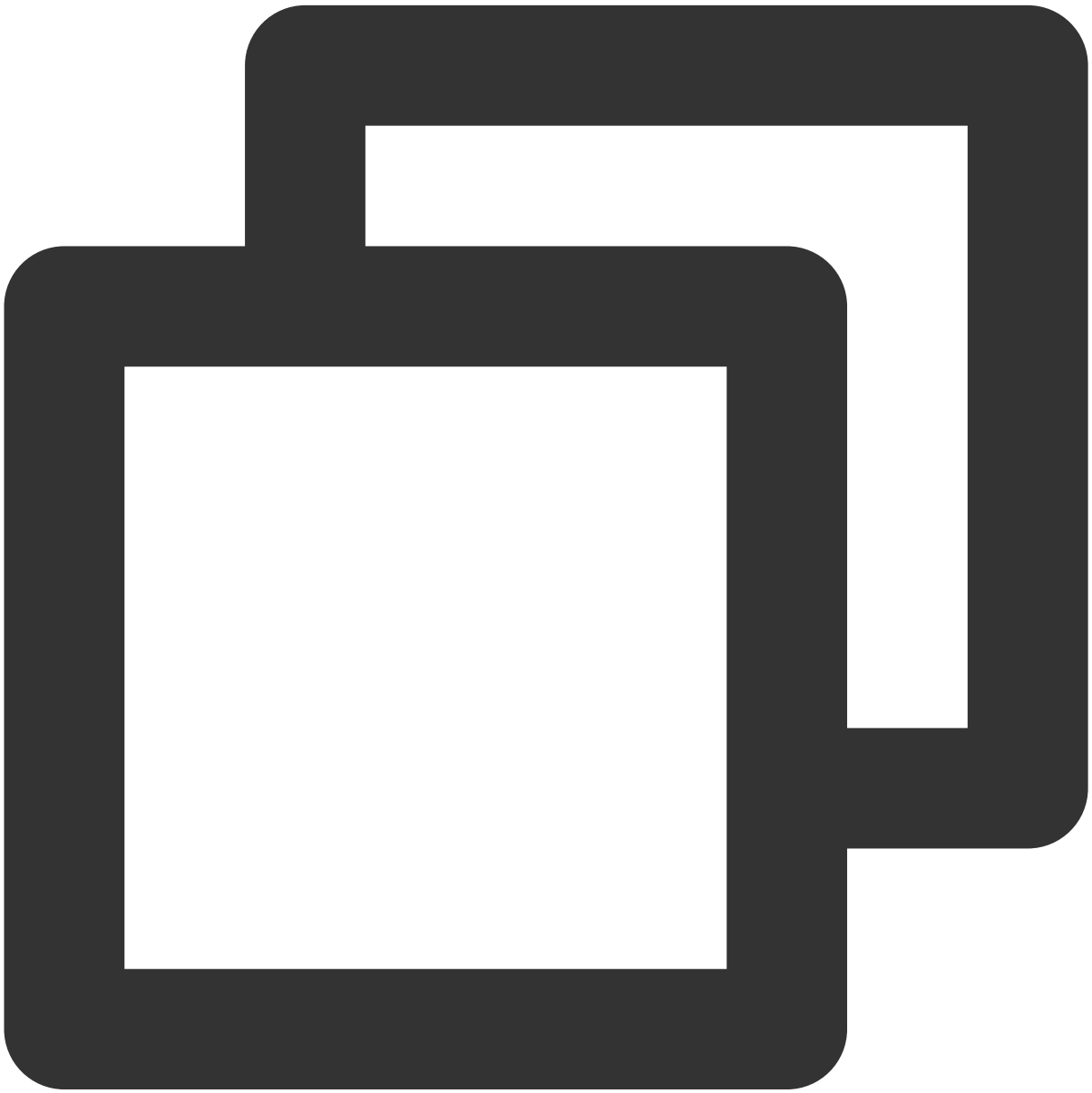
The parameters are as follows:

Parameter	Type	Meaning

list	TUIListCallback<TUIShareTarget>*	Callback of API, used to Notify the Success or Failure of the API call

selectScreenSharingTarget

Select Screen Sharing Target.



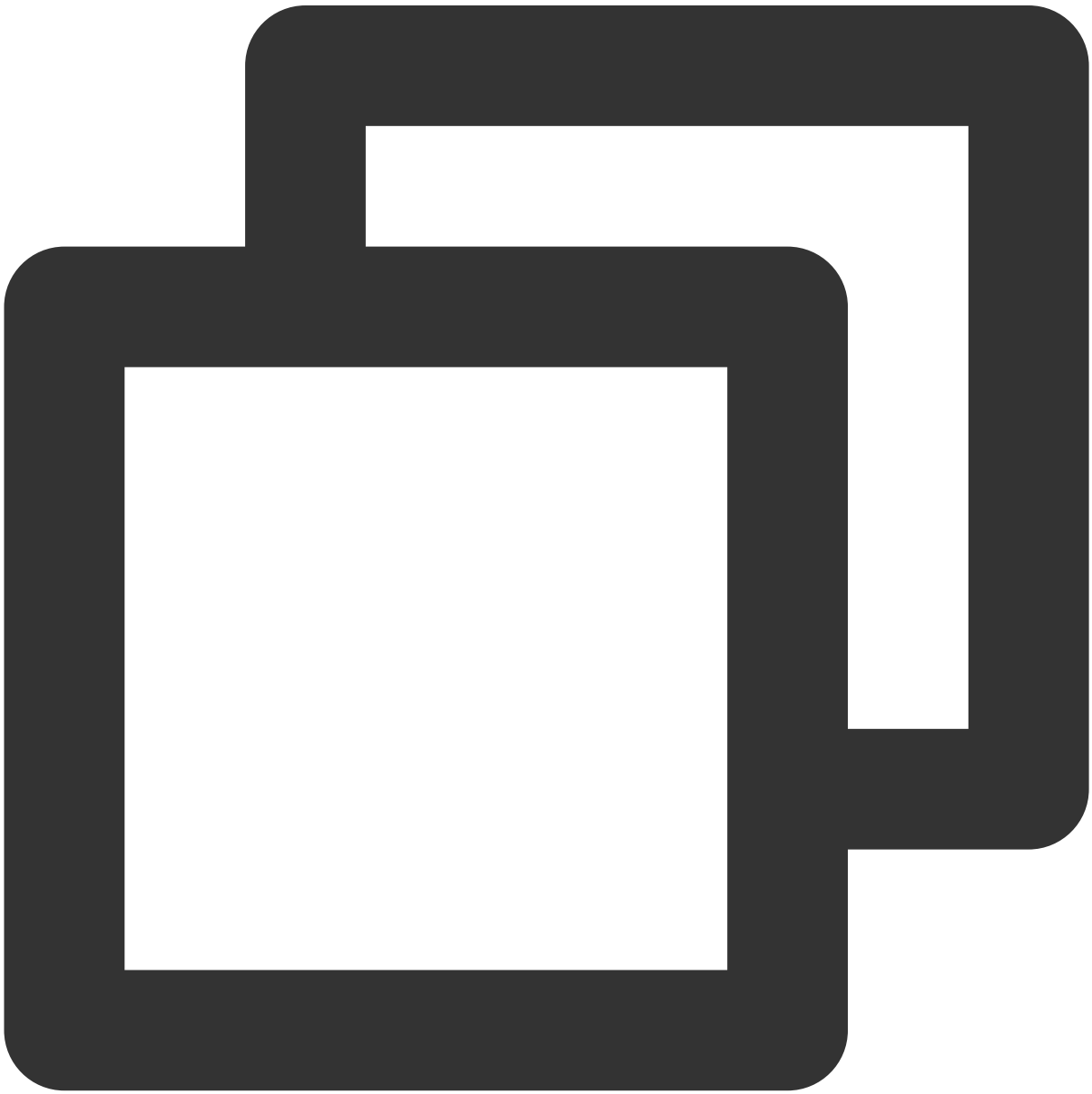
```
virtual void selectScreenSharingTarget(const TUISourceId& sourceId) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
sourceId	const TUISourceId&	Screen Sharing window or screen handle, can call GetScreenSharingTargetList to get.

startPushLocalVideo

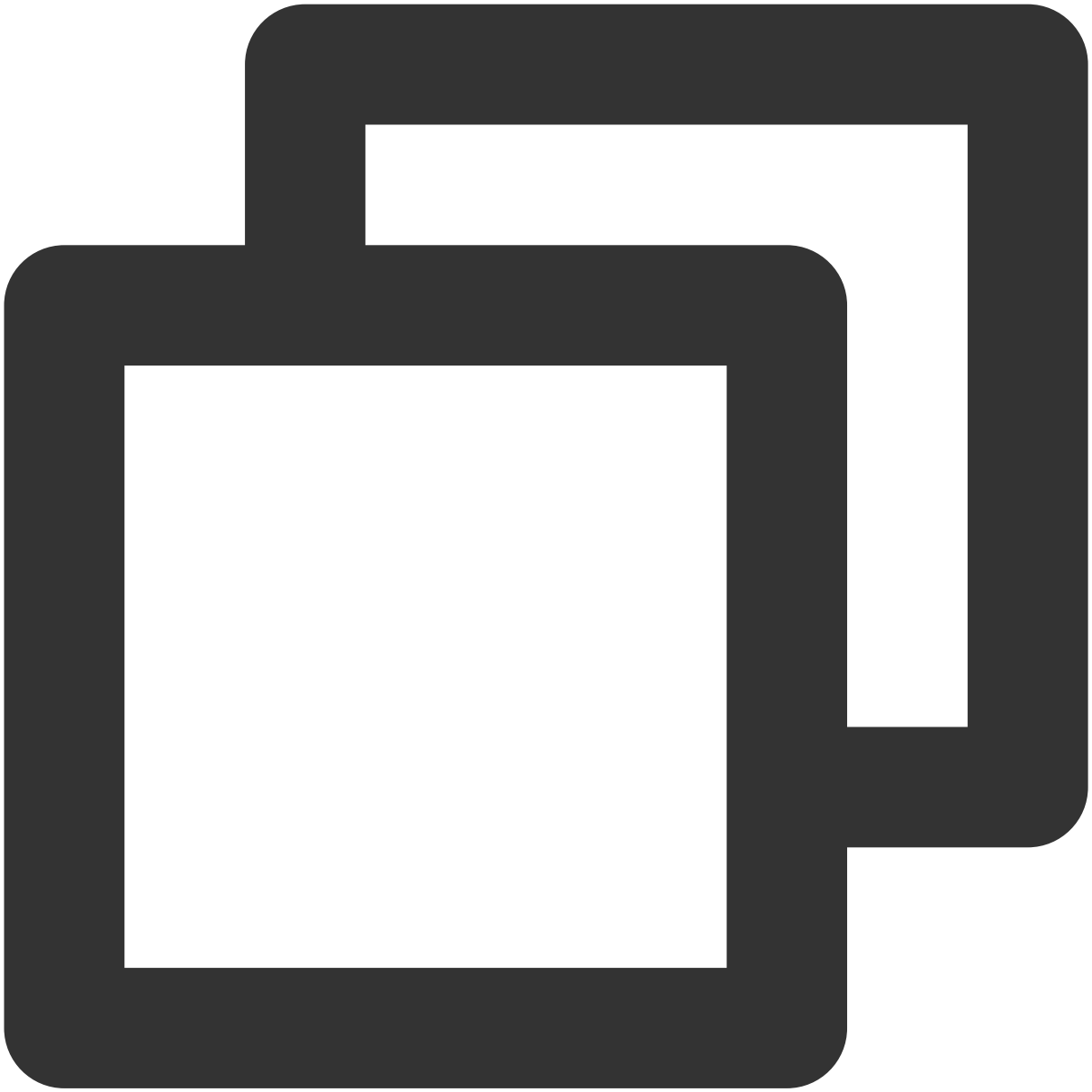
Start Pushing Local Video.



```
virtual void startPushLocalVideo() = 0;
```

stopPushLocalVideo

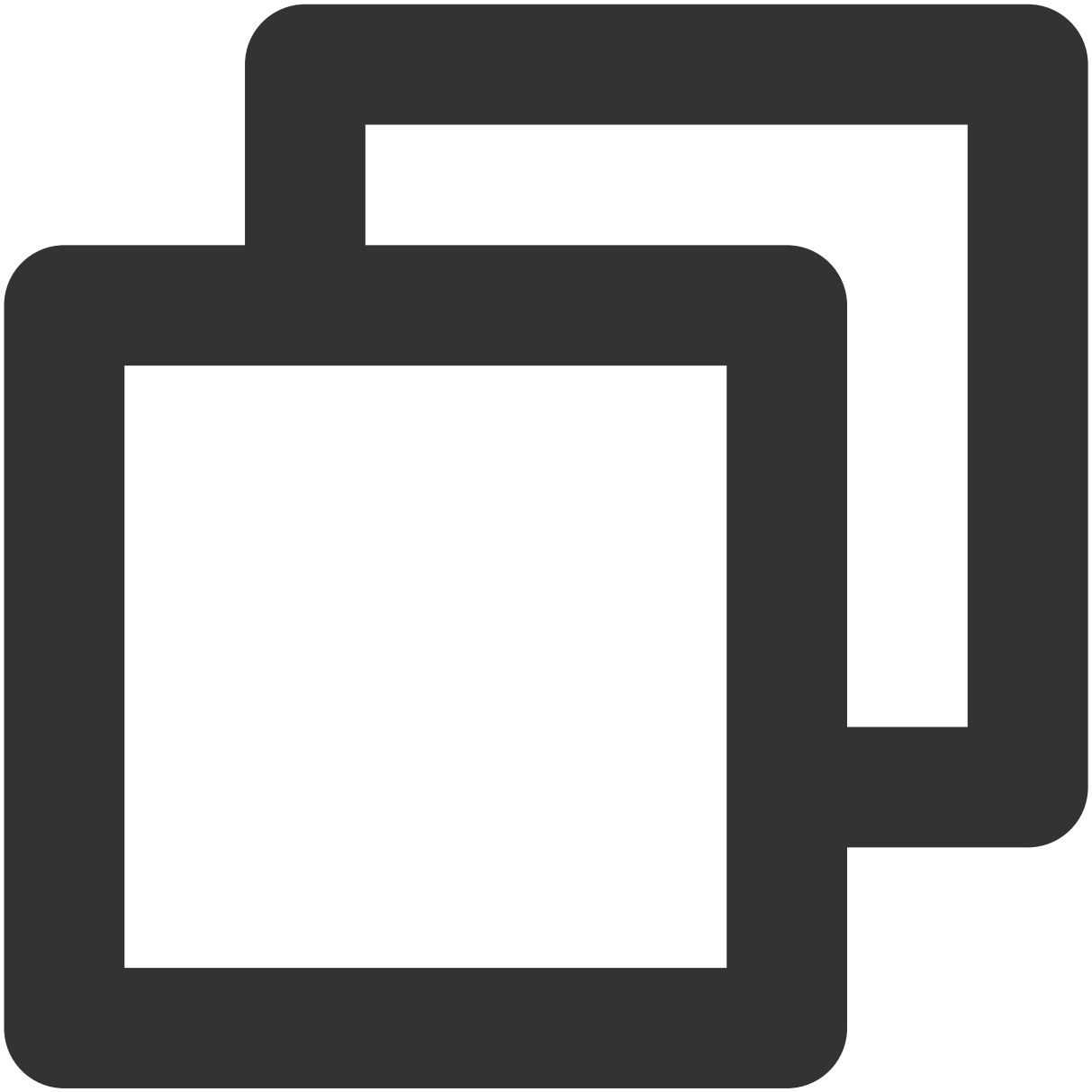
Stop Pushing Local Video.



```
virtual void stopPushLocalVideo() = 0;
```

openLocalMicrophone

Open Local mic.



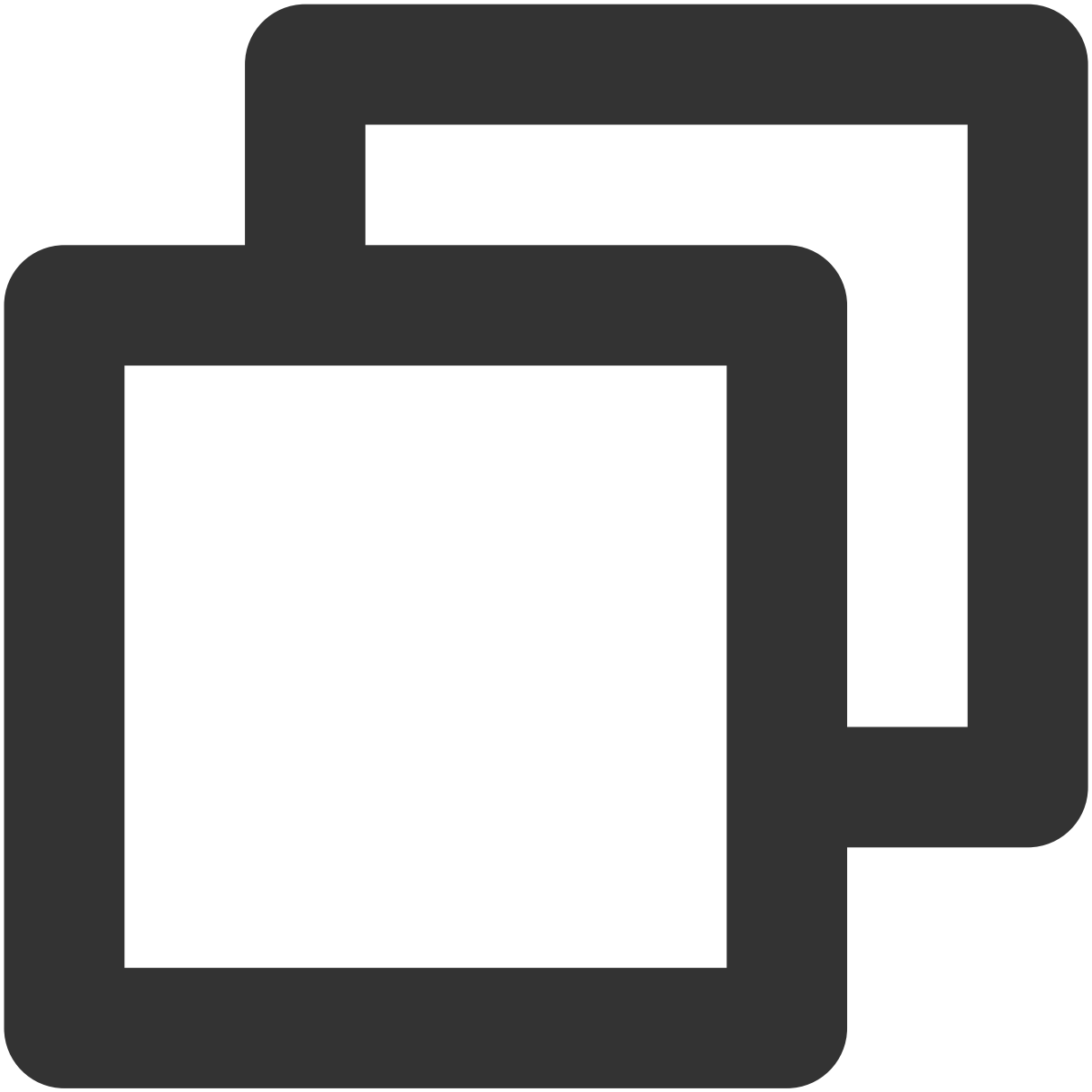
```
virtual void openLocalMicrophone(TUIAudioQuality quality, TUICallback* callback) =
```

The parameters are as follows:

Parameter	Type	Meaning
quality	TUIAudioQuality	Audio Quality
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

closeLocalMicrophone

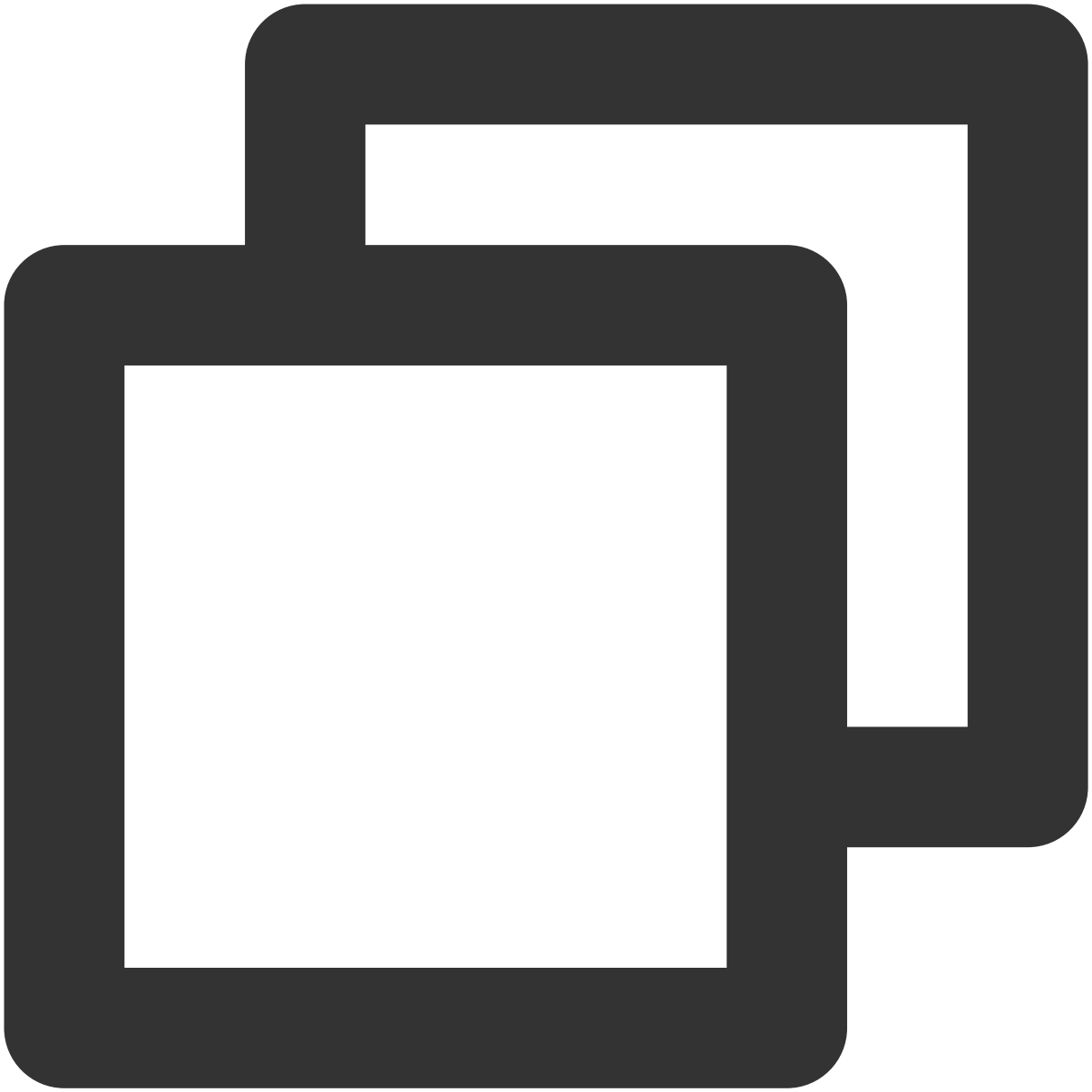
Close Local mic.



```
virtual void closeLocalMicrophone() = 0;
```

updateAudioQuality

Update Local Audio Codec Quality setting.



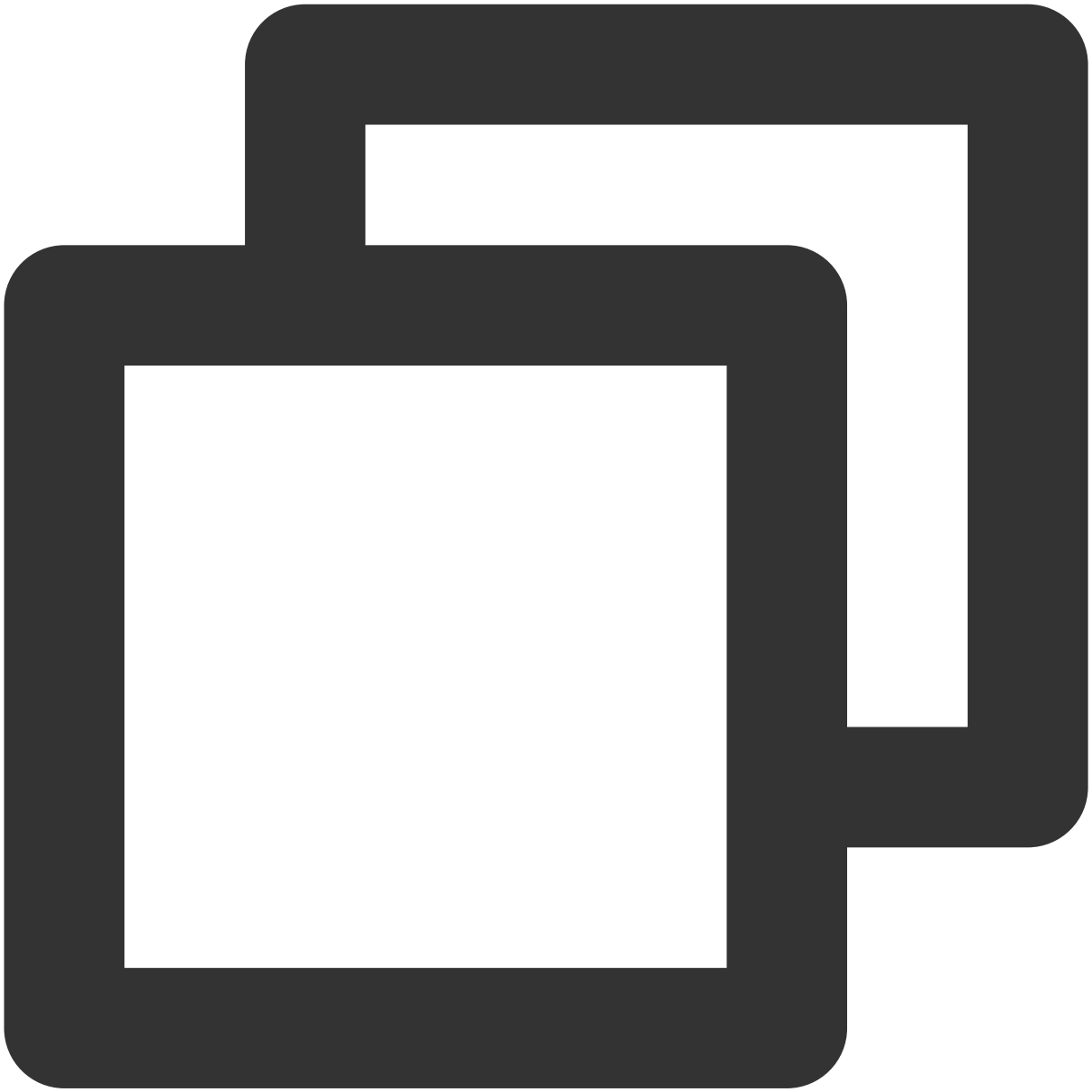
```
virtual void updateAudioQuality(TUIAudioQuality quality) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
quality	TUIAudioQuality	Audio Quality

startPushLocalAudio

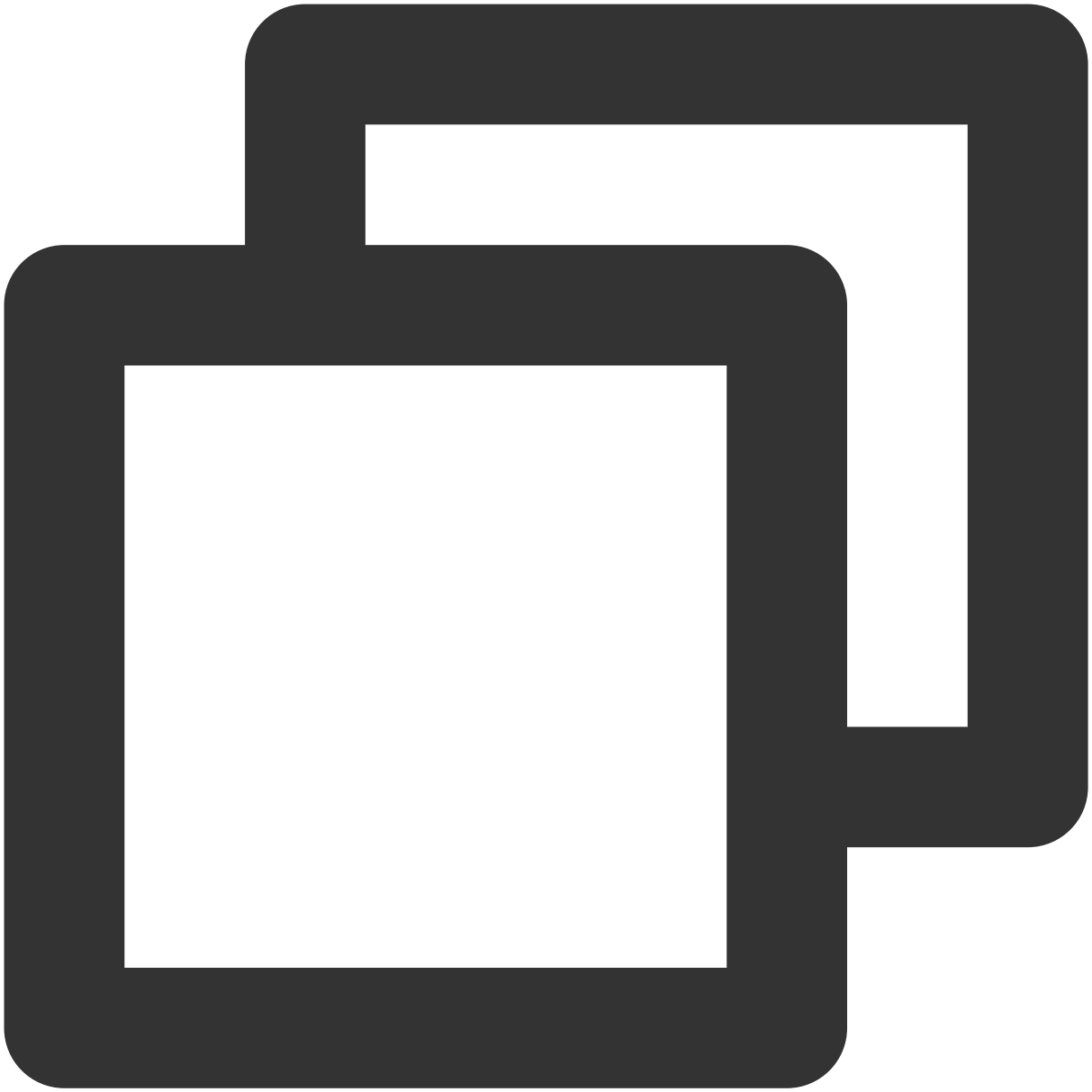
Start Pushing Local Audio.



```
virtual void startPushLocalAudio() = 0;
```

stopPushLocalAudio

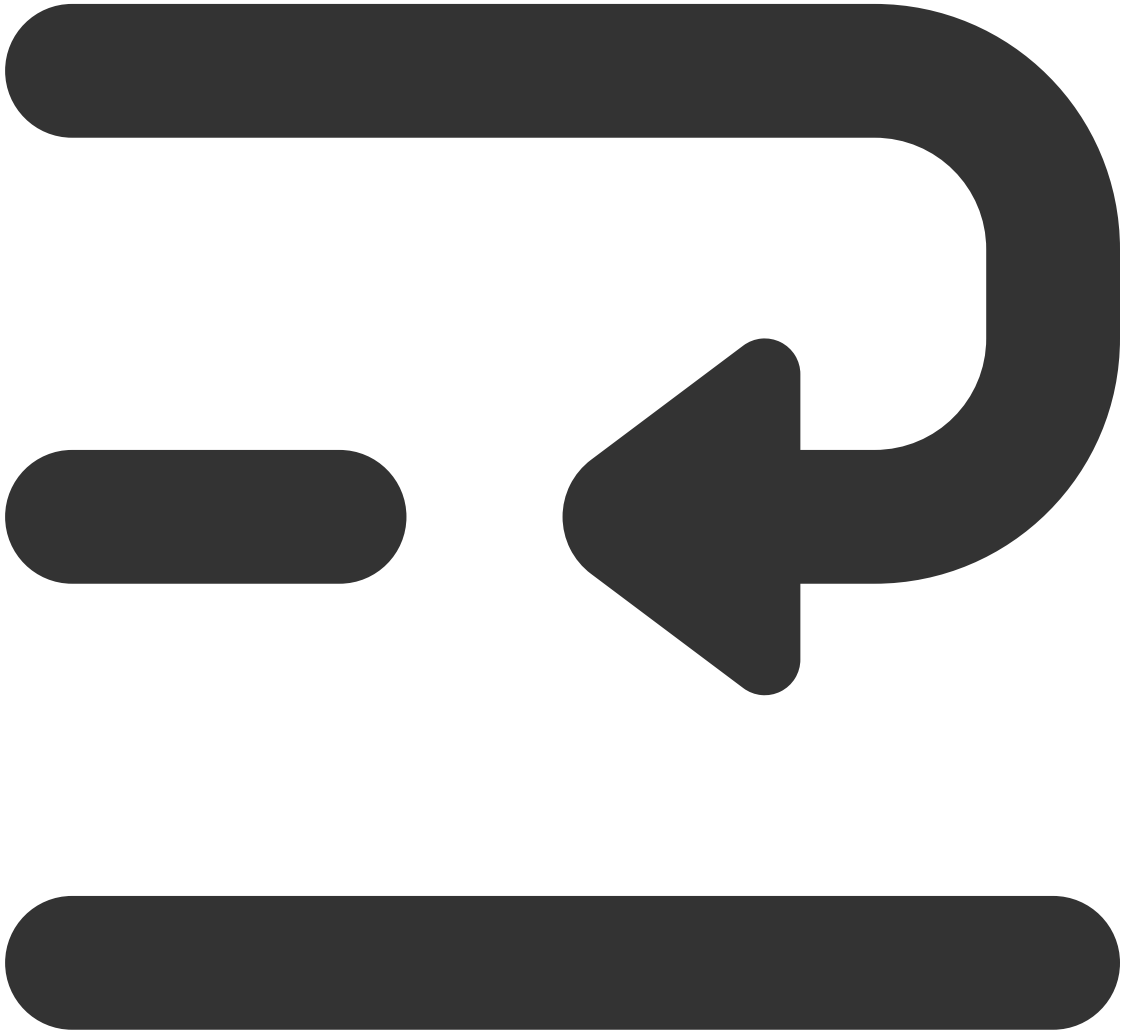
Stop Pushing Local Audio.

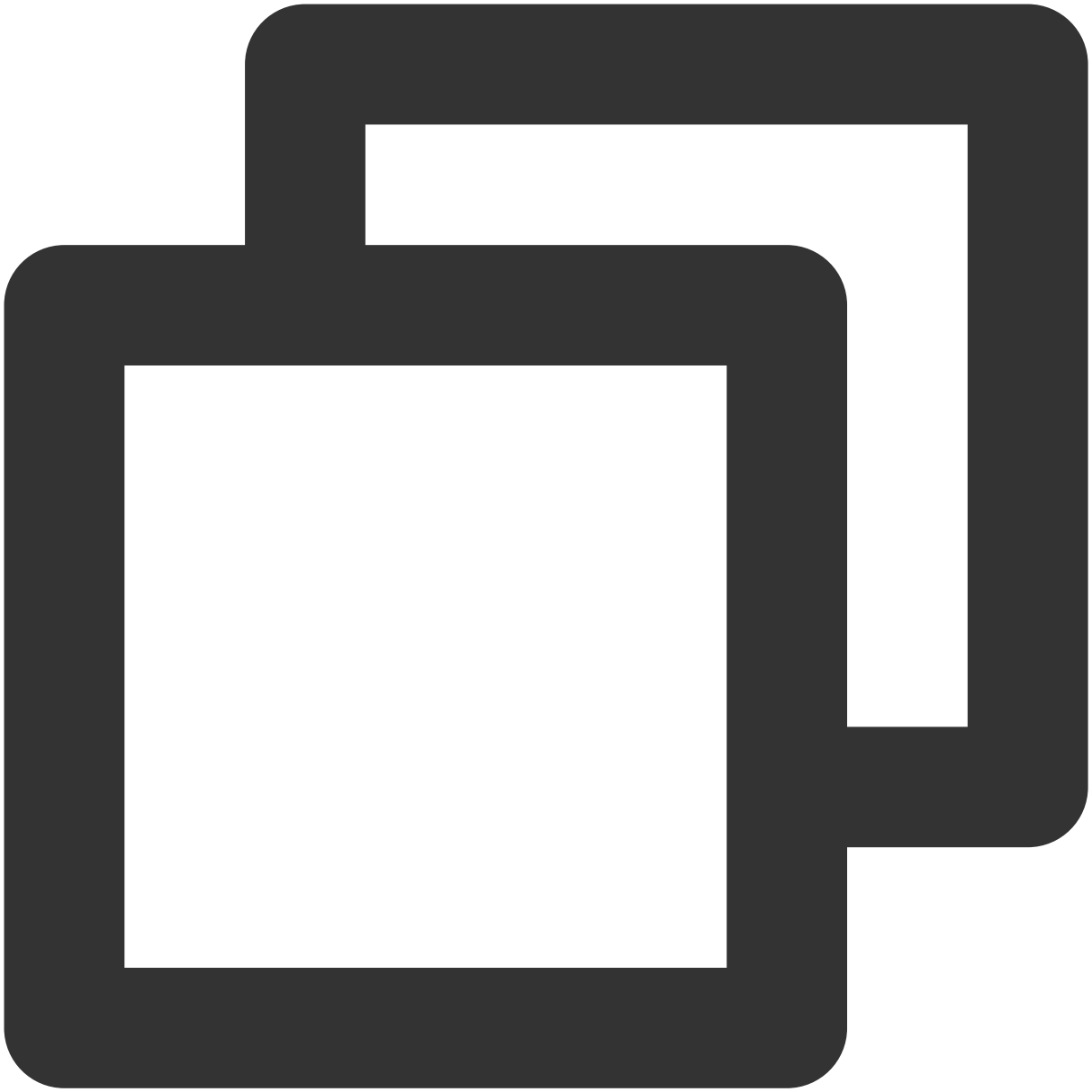


```
virtual void stopPushLocalAudio() = 0;
```

setRemoteVideoView

Set Remote user Video Rendering View control.





```
virtual void setRemoteVideoView(const char* userId, TUIVideoStreamType streamType,
```

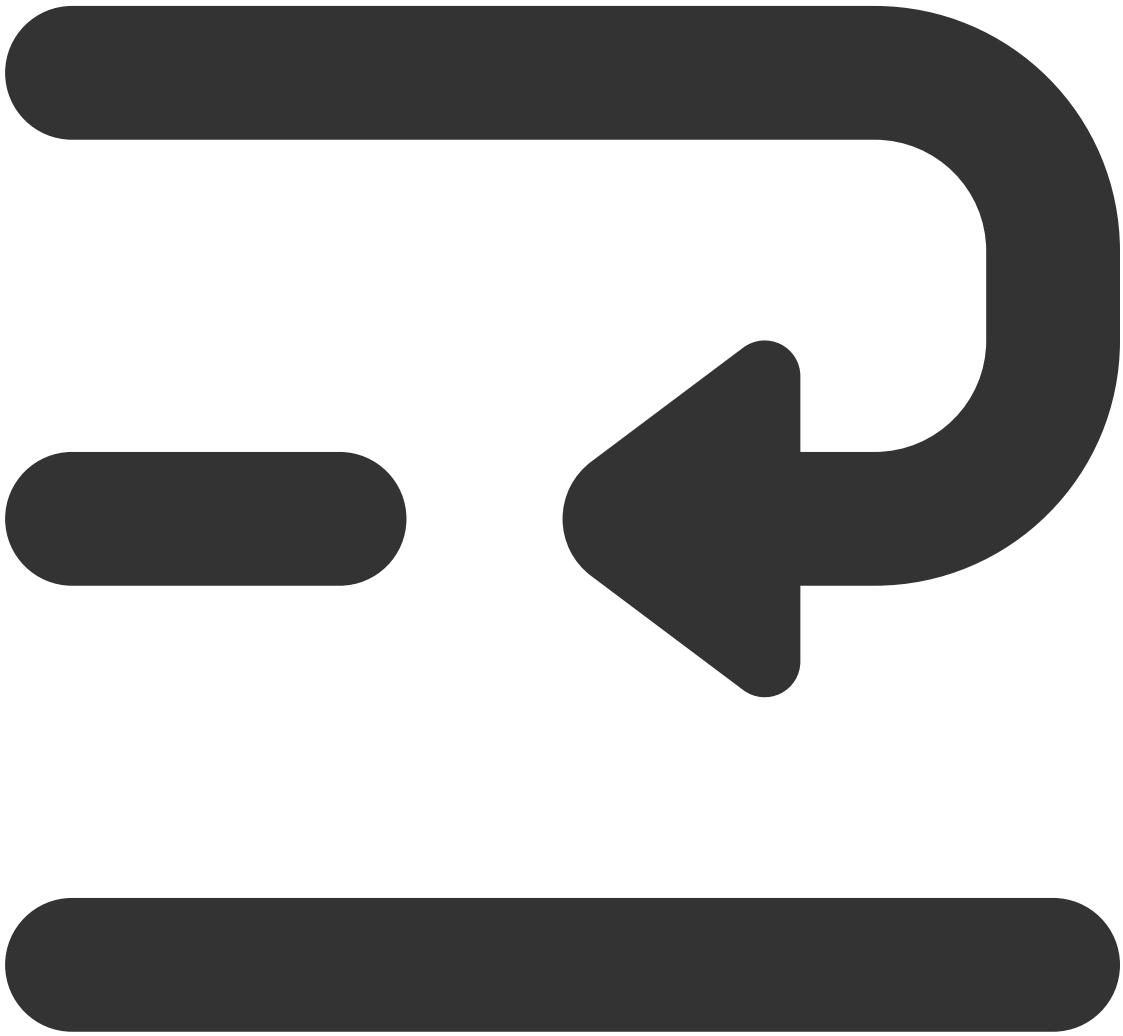
The parameters are as follows:

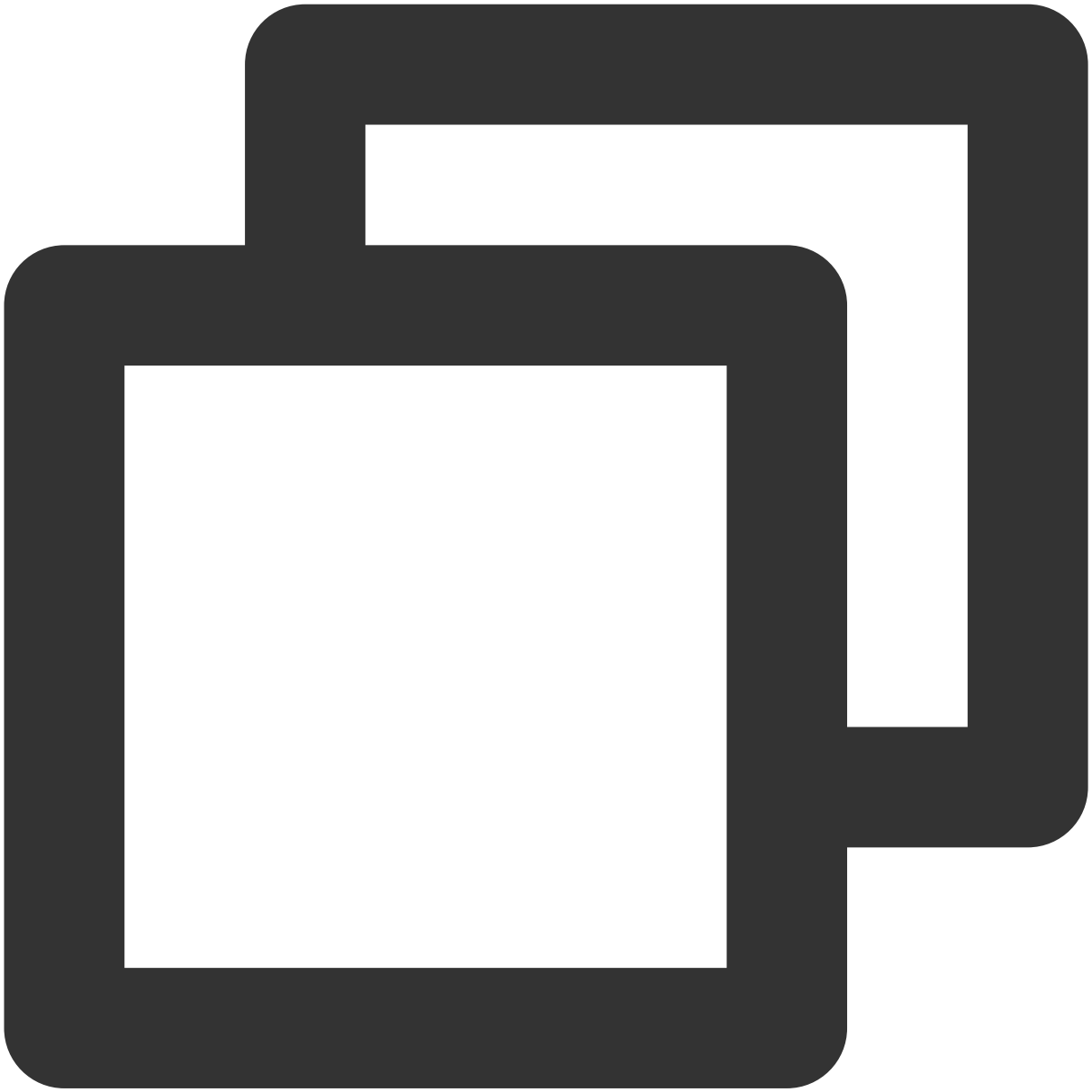
Parameter	Type	Meaning
userId	const char*	Remote User ID
streamType	TUIVideoStreamType	Stream Type
view	const	const TUIVideoView&

	TUIVideoView&	Rendering Window Handle

startPlayRemoteVideo

Start Playback Remote user Video streams





```
virtual void startPlayRemoteVideo(const char* userId, TUIVideoStreamType streamType
```

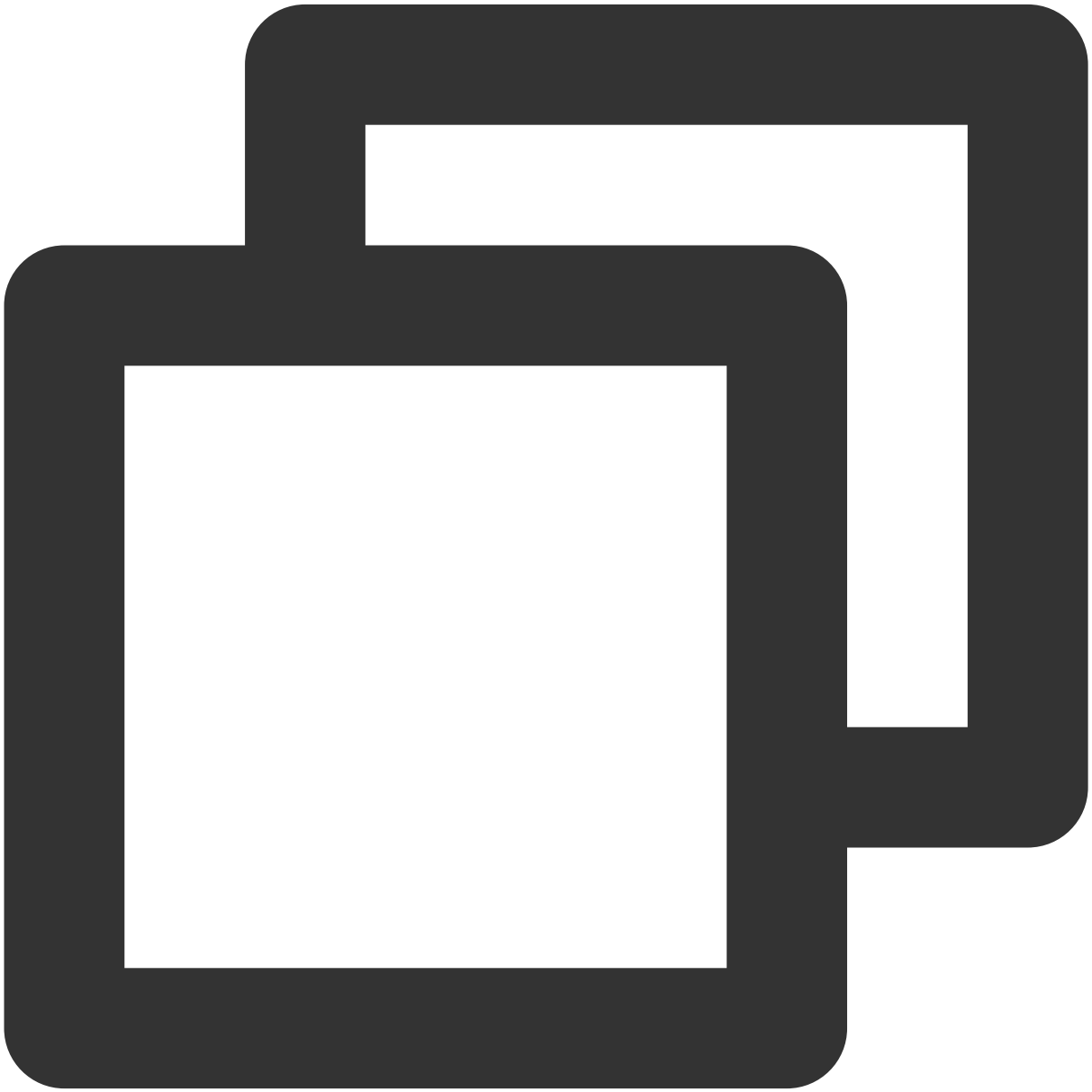
The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
streamType	TUIVideoStreamType	User streams type
callback	TUIPlayCallback*	Callback of API, used to Notify the Success or Failure

		of the API call

stopPlayRemoteVideo

Stop Playback Remote user Video streams.



```
virtual void stopPlayRemoteVideo(const char* userId, TUIVideoStreamType streamType)
```

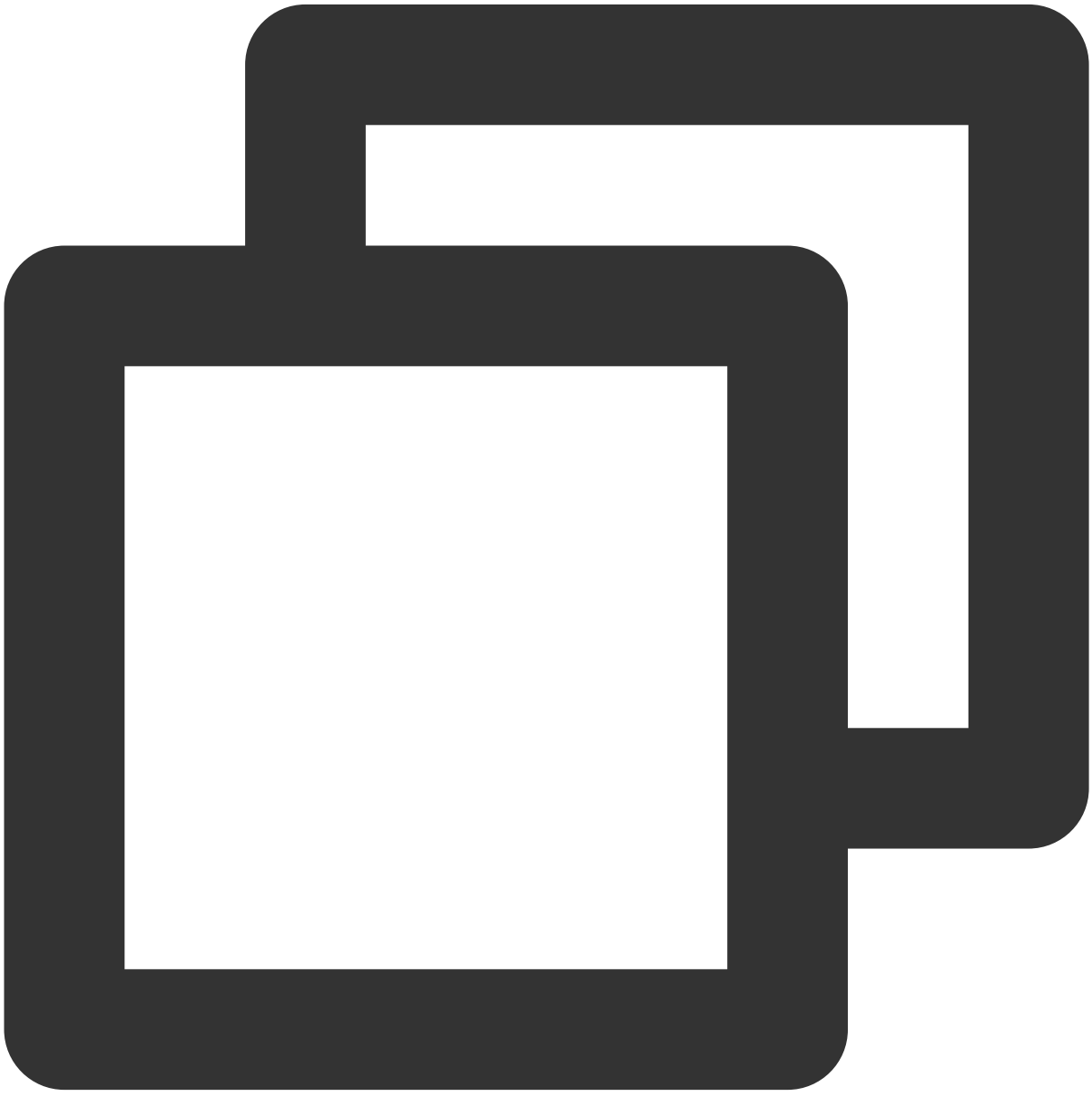
The parameters are as follows:

Parameter	Type	Meaning

userId	const char*	User ID
streamType	TUIVideoStreamType	User streams type

muteRemoteAudioStream

Mute Remote user



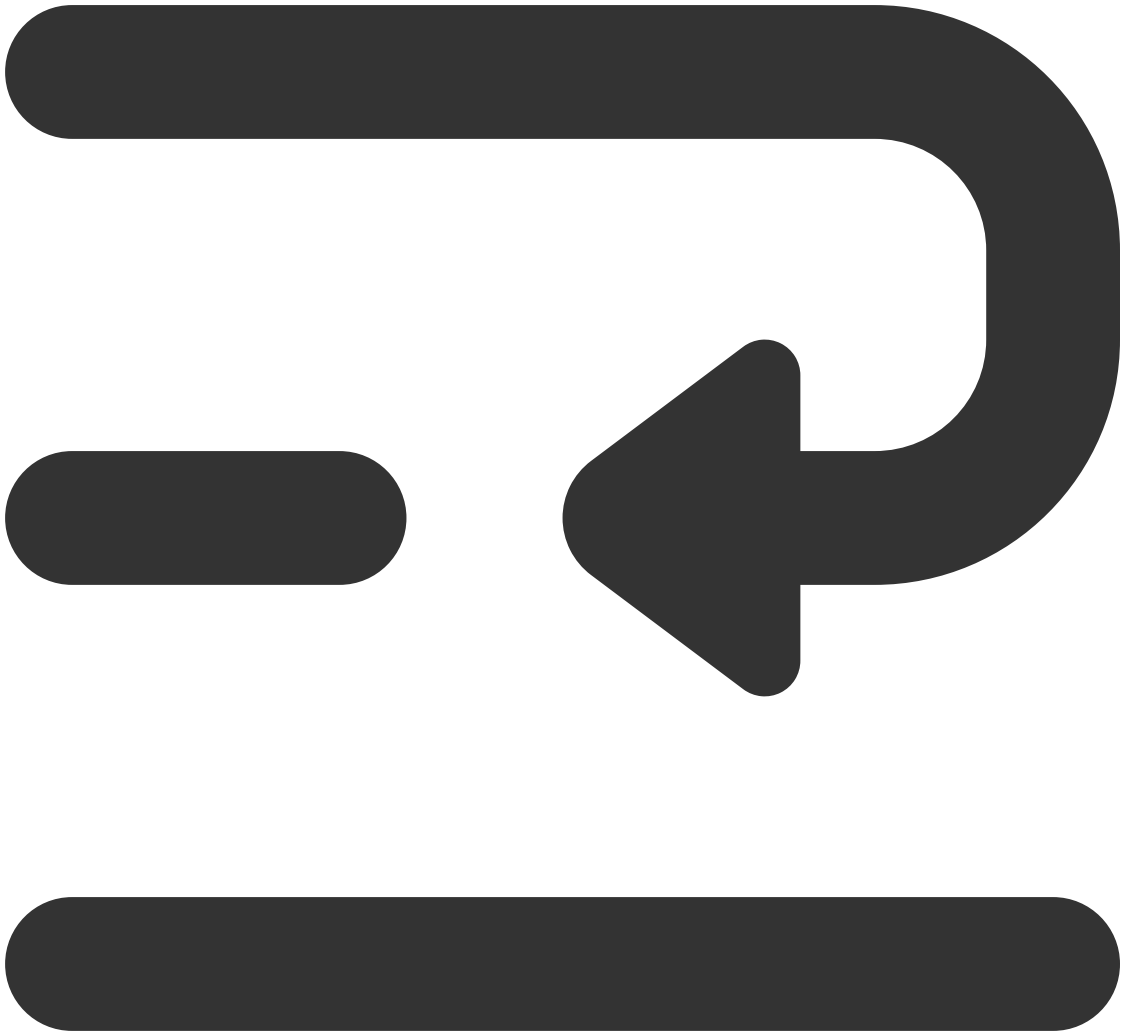
```
virtual void muteRemoteAudioStream(const char* userId, bool isMute) = 0;
```

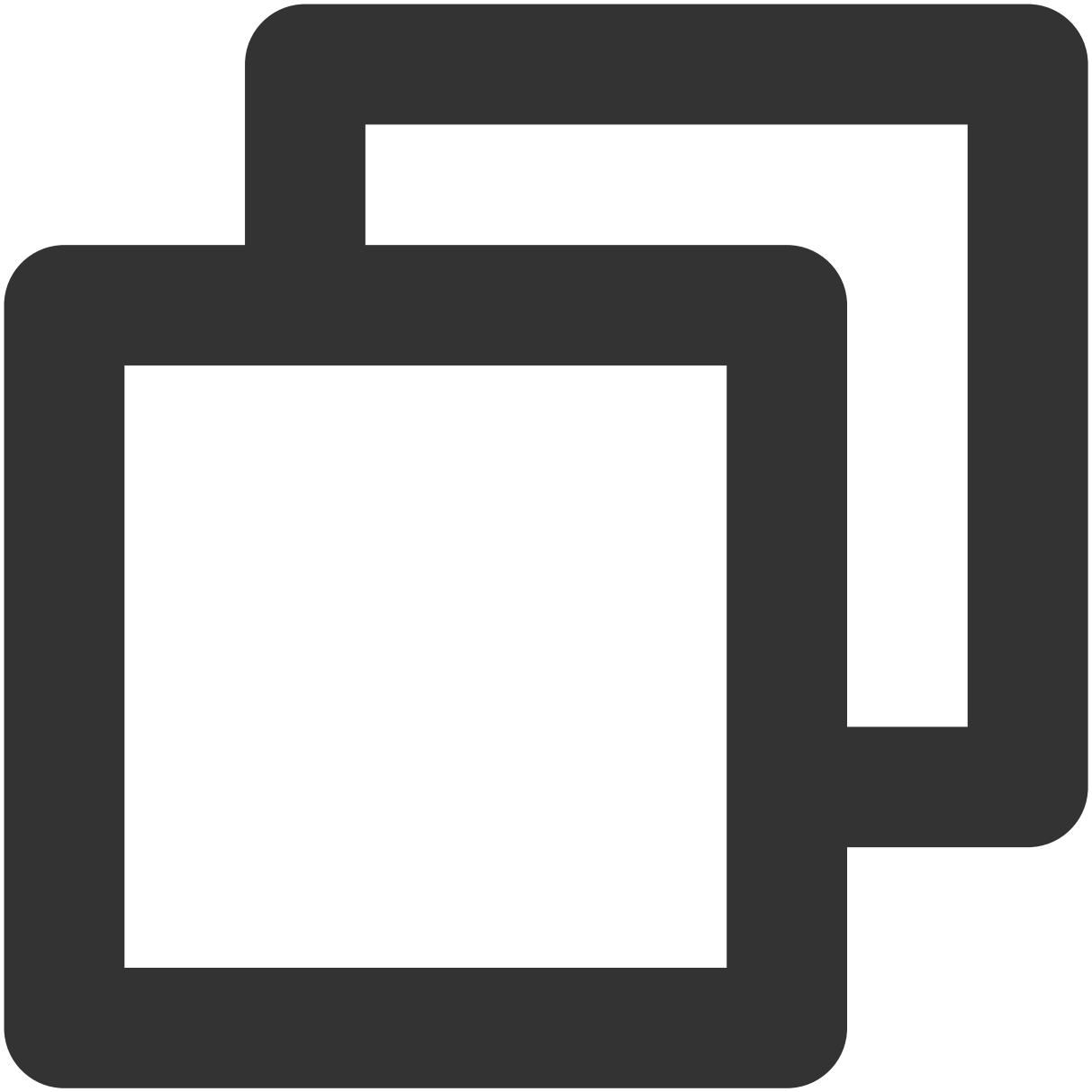
The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
isMute	bool	Whether to mute

getUserList

Get current User list in the room,.





```
virtual void getUserList(uint64_t nextSequence, TUIValueCallback<TUIUserListResult>
```

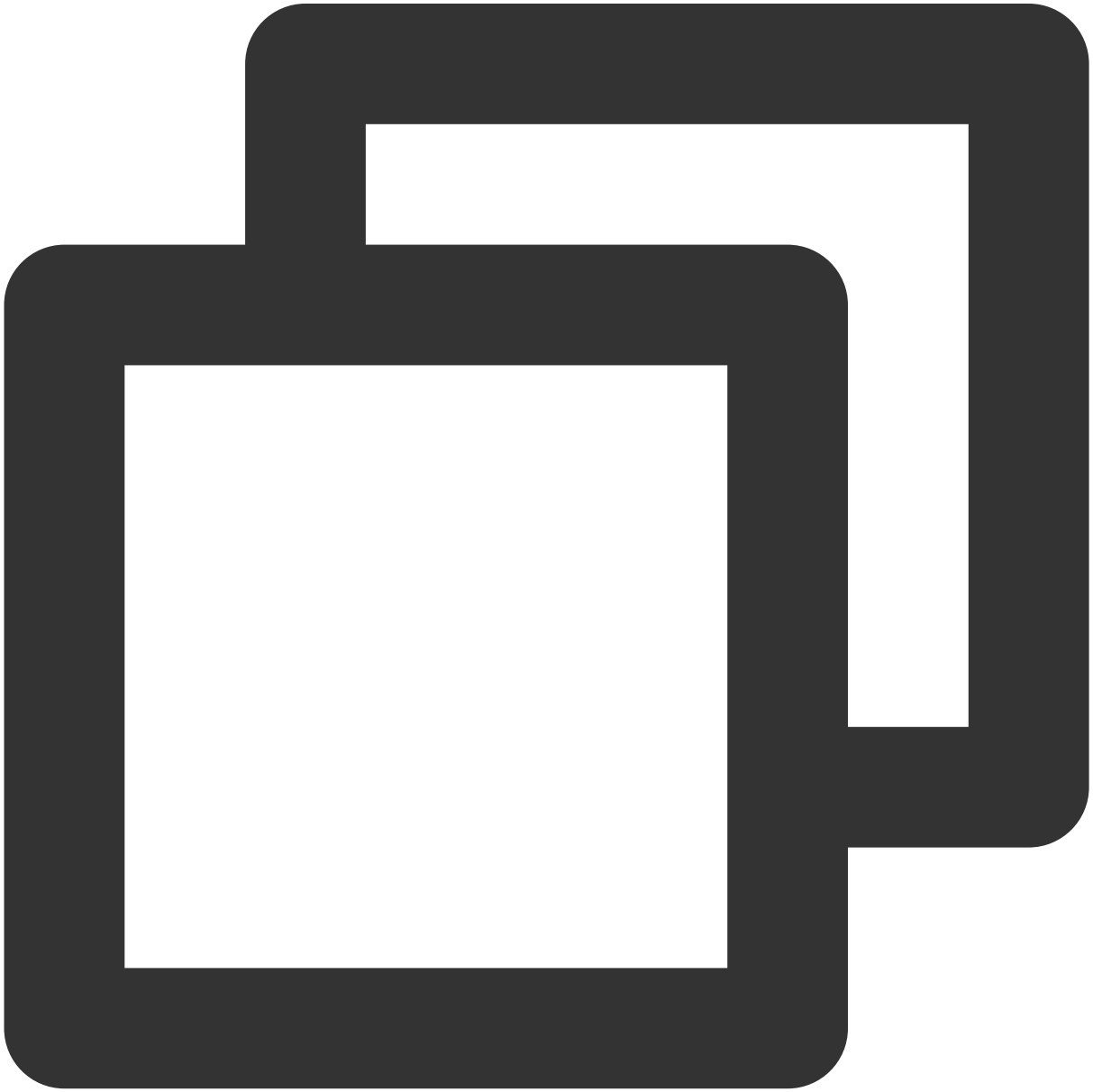
The parameters are as follows:

Parameter	Type	Meaning
nextSequence	uint64_t	Pagination Fetch Flag, fill in 0 for the first Fetch, if the nextSeq in the Callback is not 0, you need to do Pagination, pass in the nextSeq to Fetch again until the nextSeq in the Callback is 0

callback	TUIValueCallback<TUIUserListResult>*	Callback of API, used to Notify the Success or Failure of the API call

getUserInfo

Get User Learn more.



```
virtual void getUserInfo(const char* userId, TUIValueCallback<TUIUserInfo>* callbac
```

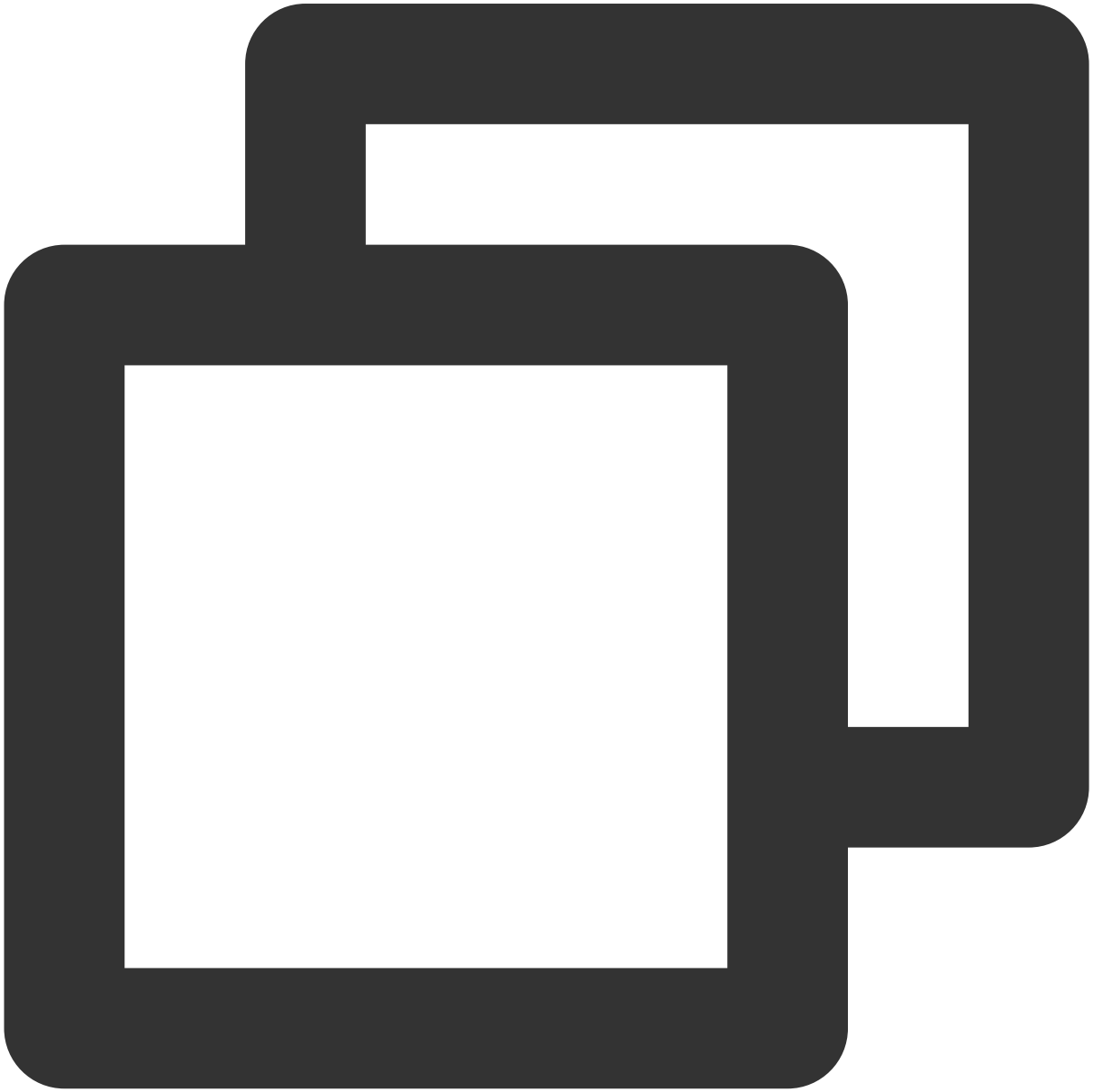
The parameters are as follows:

Parameter	Type	Meaning

userId	const char*	User ID
callback	TUIValueCallback<TUIUserInfo>*	Callback of API, used to Notify the Success or Failure of the API call

changeUserRole

Change user Role, only Administrator or Group owner can call



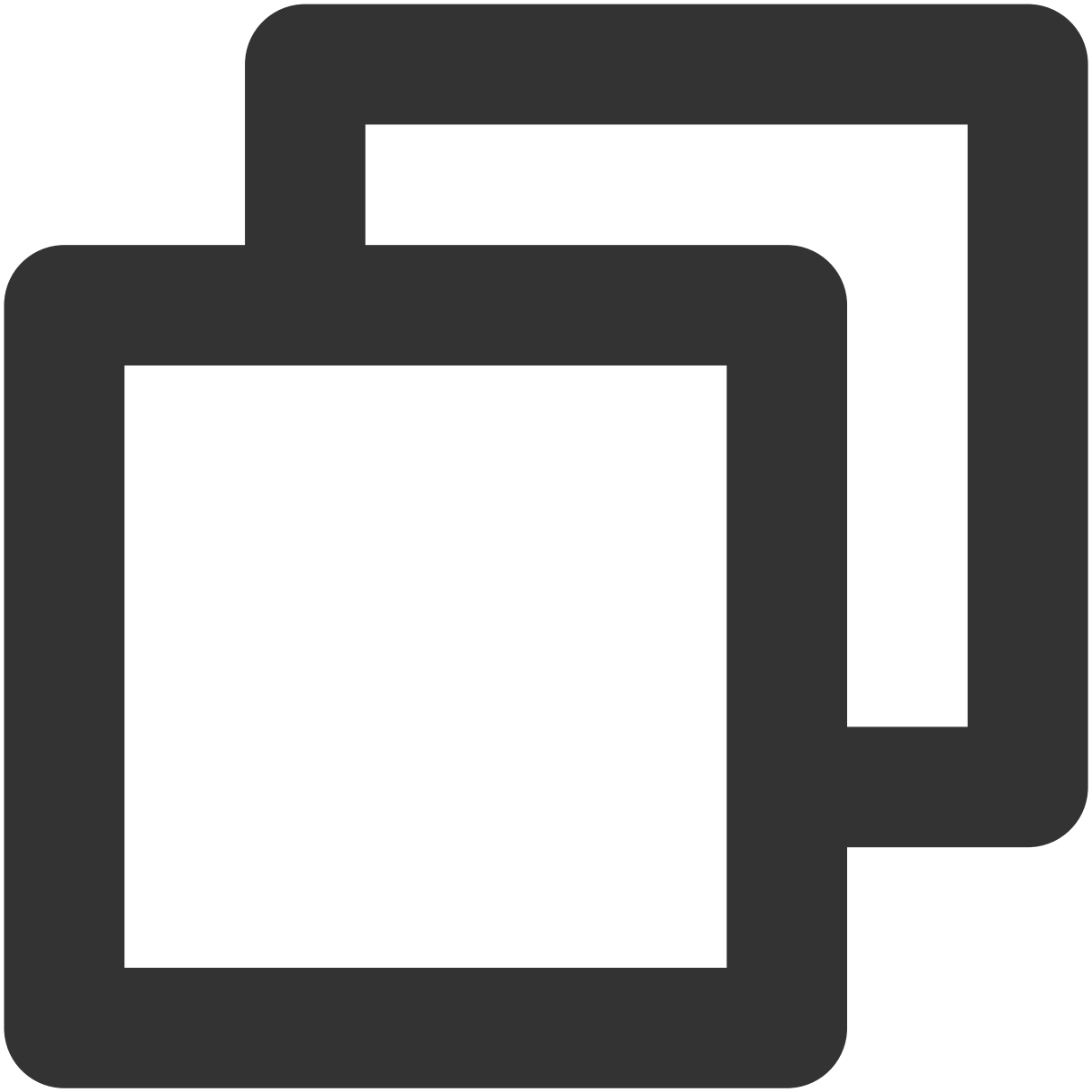
```
virtual void changeUserRole(const char* userId, TUIRole role, TUICallback* callback
```

The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
role	TUIRole	User Role
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

kickRemoteUserOutOfRoom

Kick user out of the room.



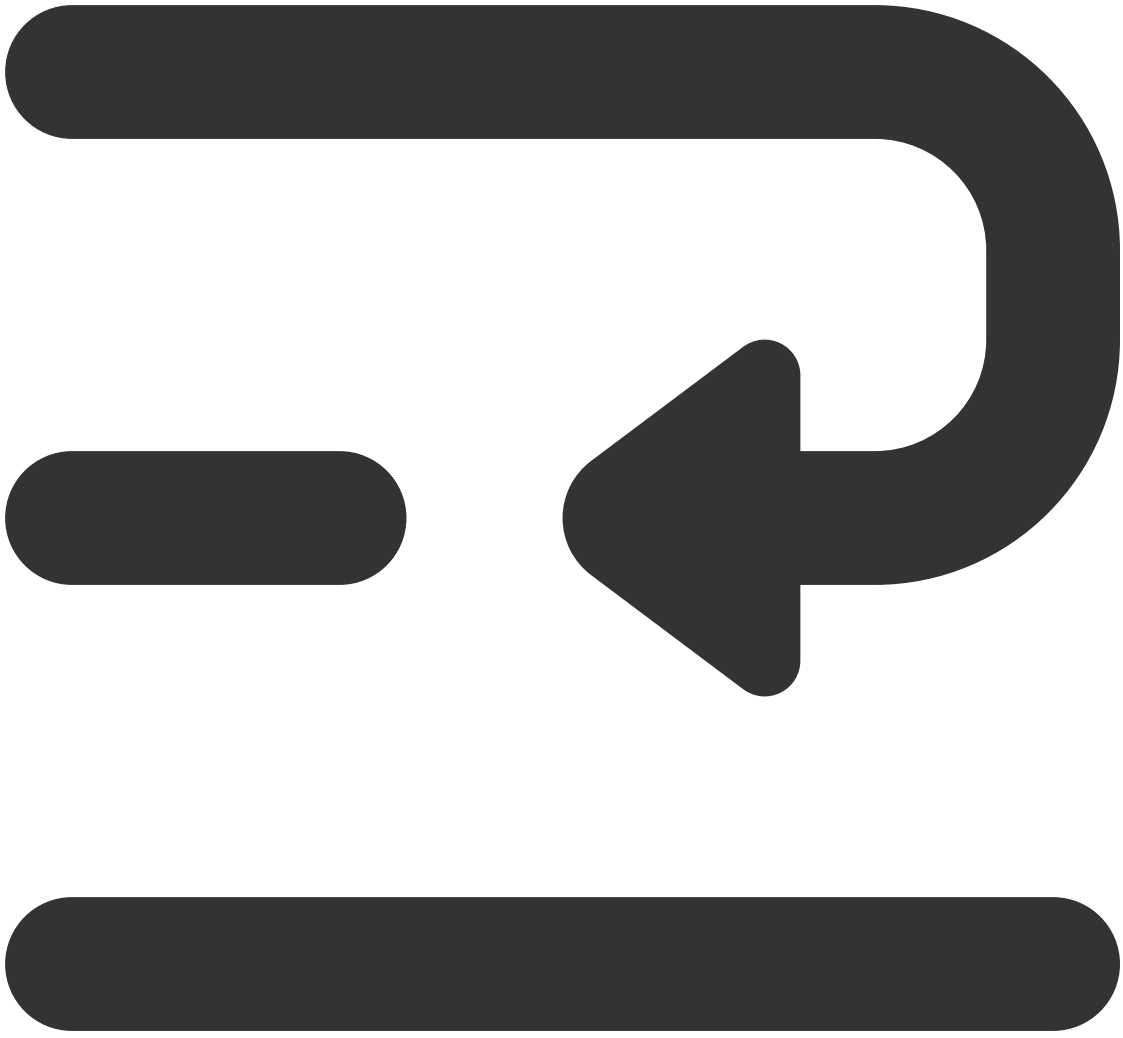
```
virtual void kickRemoteUserOutOfRoom(const char* userId, TUICallback* callback) = 0
```

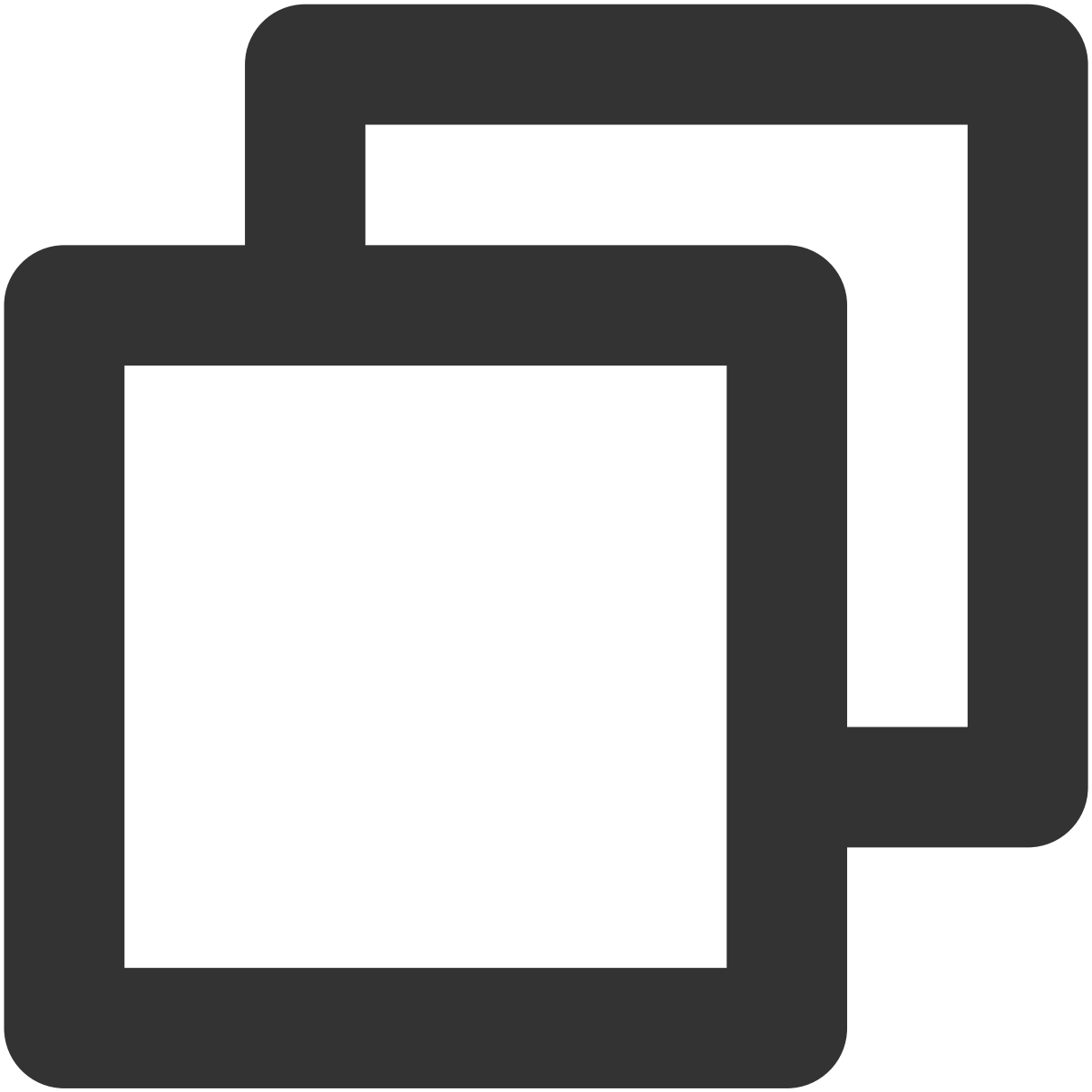
The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

disableDeviceForAllUserByAdmin

Control the permission status of whether all users in the current room can open Audio and Video streams capturing devices, such as: Prohibit All from turning on the mic, Prohibit All from turning on the Camera, Prohibit All from turning on Screen Sharing
(Currently only available in Meeting Scenario, and only Administrator or Group Owner can invoke).





```
virtual void disableDeviceForAllUserByAdmin(TUIMediaDevice device, bool isDisable,
```

The parameters are as follows:

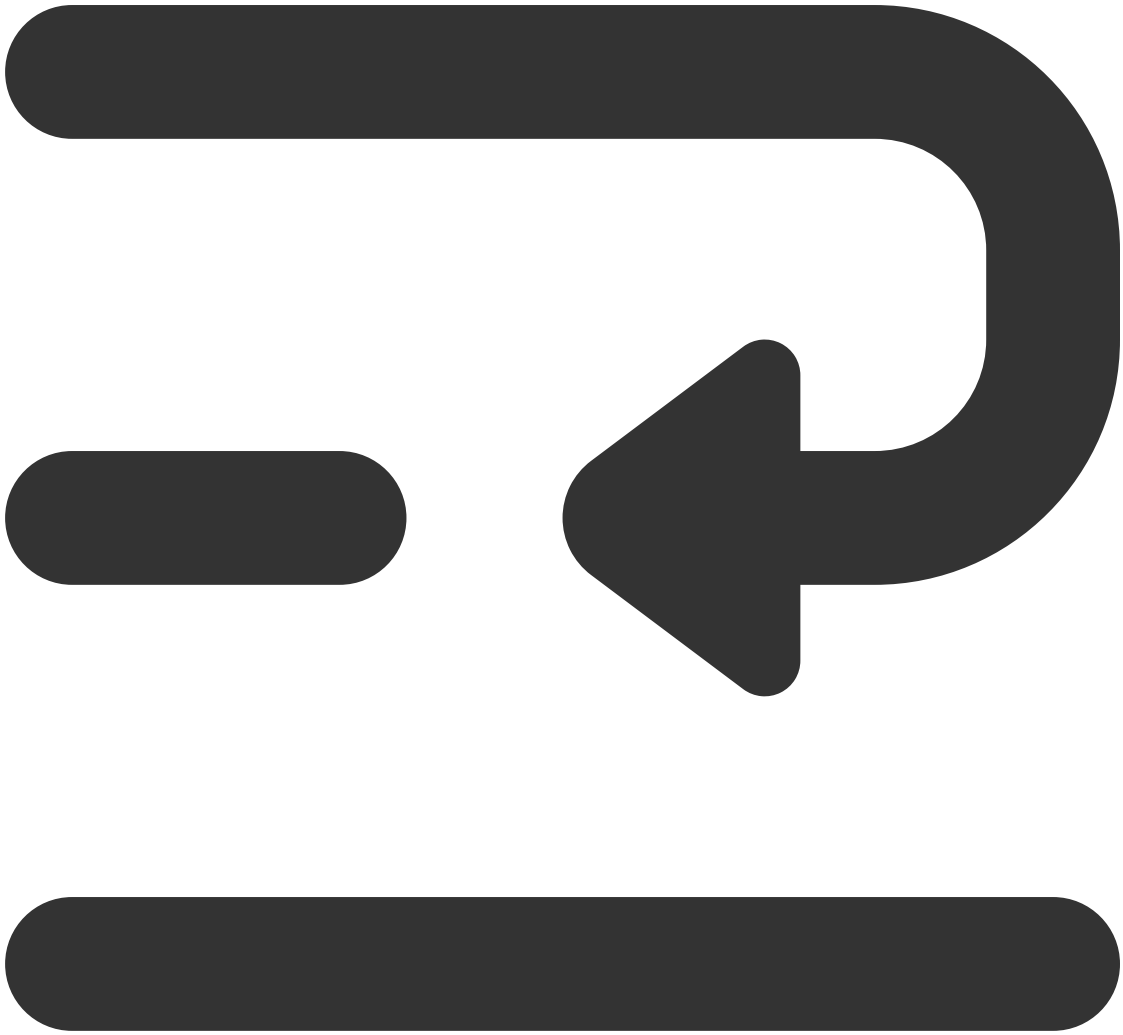
Parameter	Type	Meaning
device	TUIMediaDevice	Device
isDisable	bool	Whether to Disable
callback	TUICallback*	Callback of API, used to Notify the Success or Failure

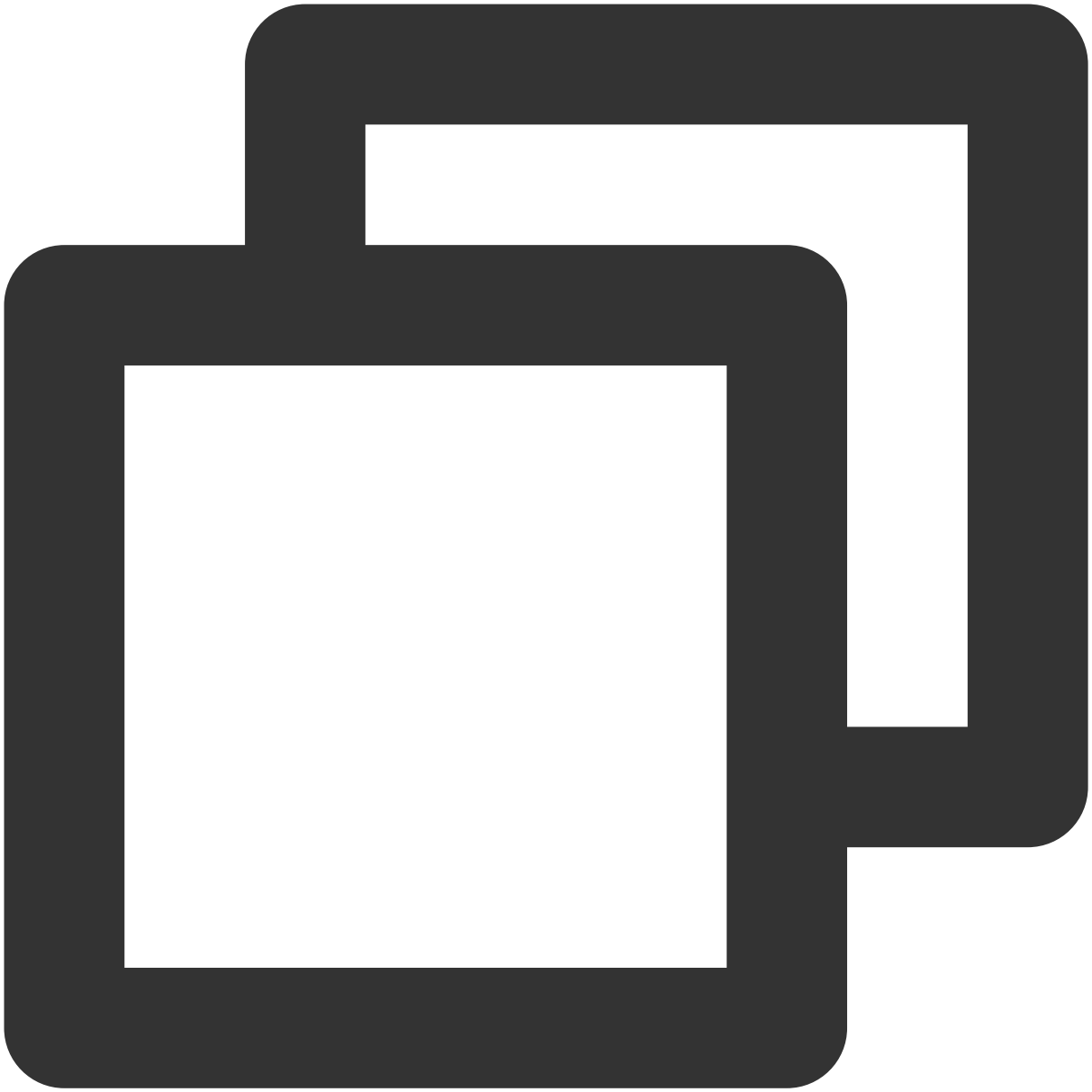
		of the API call

openRemoteDeviceByAdmin

Request remote users to open media devices

(Currently only available in the conference scene, and only administrators or group owners can call).





```
virtual TUIRequest openRemoteDeviceByAdmin(const char* userId, TUIMediaDevice devic
```

The parameters are as follows:

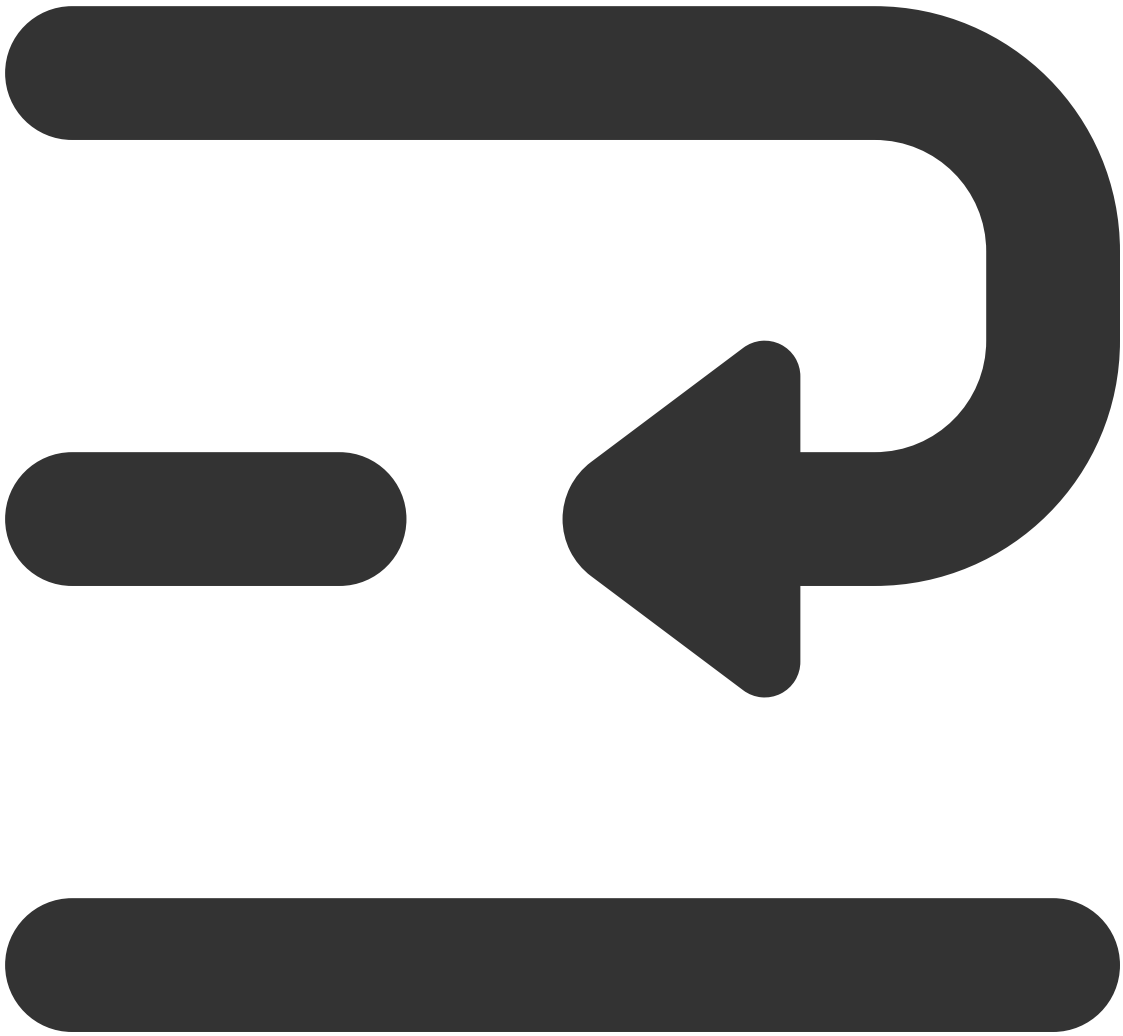
Parameter	Type	Meaning
userId	const char*	User ID
device	TUIMediaDevice	Device
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout

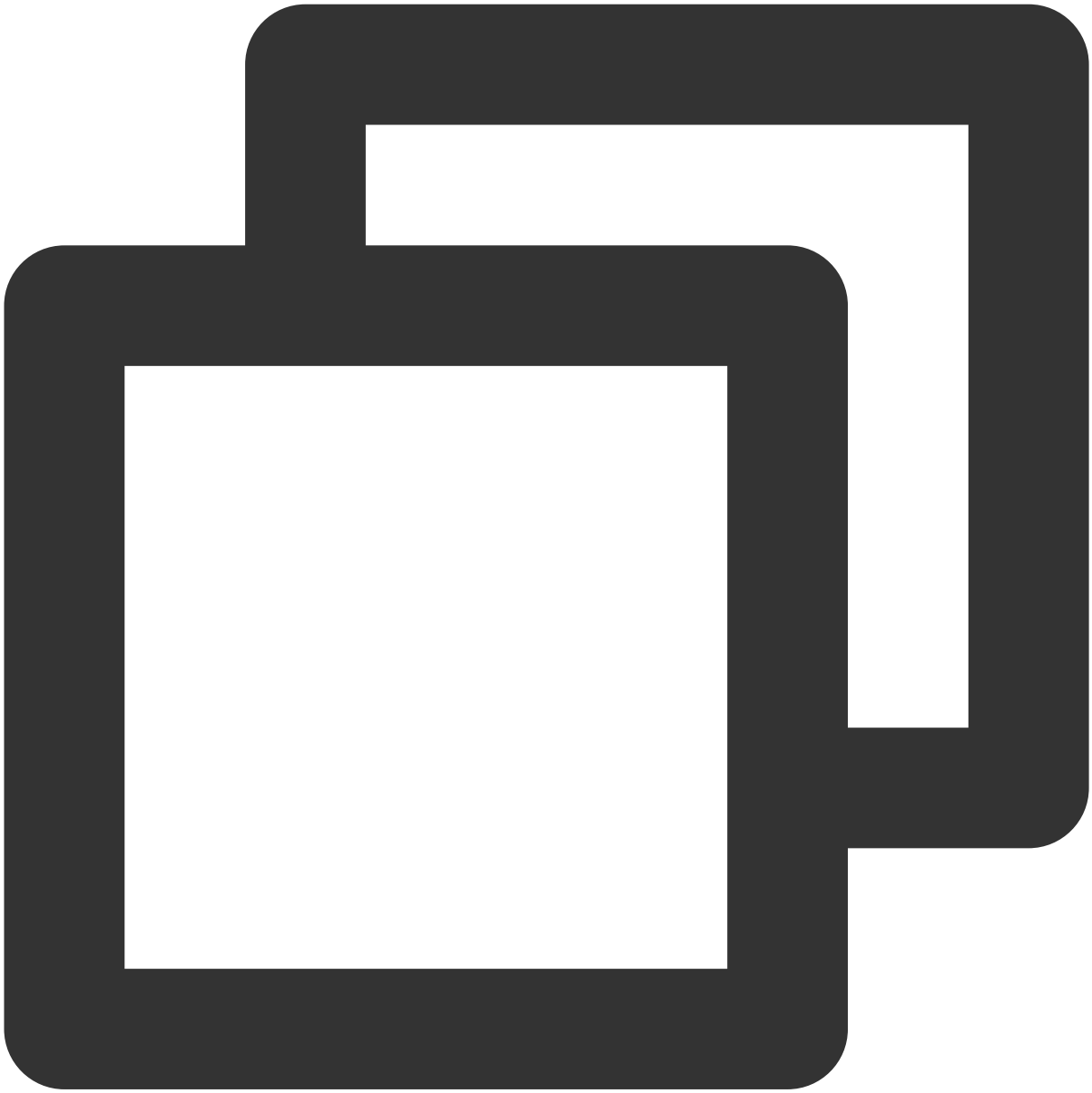
		detection and will not trigger timeout Callback
callback	TUIRequestCallback*	Callback of API, used to Notify the Success or Failure of the API call

closeRemoteDeviceByAdmin

Close remote users' media devices

(Currently only available in the conference scene, and only administrators or group owners can call).





```
virtual void closeRemoteDeviceByAdmin(const char* userId, TUIMediaDevice device, TU
```

The parameters are as follows:

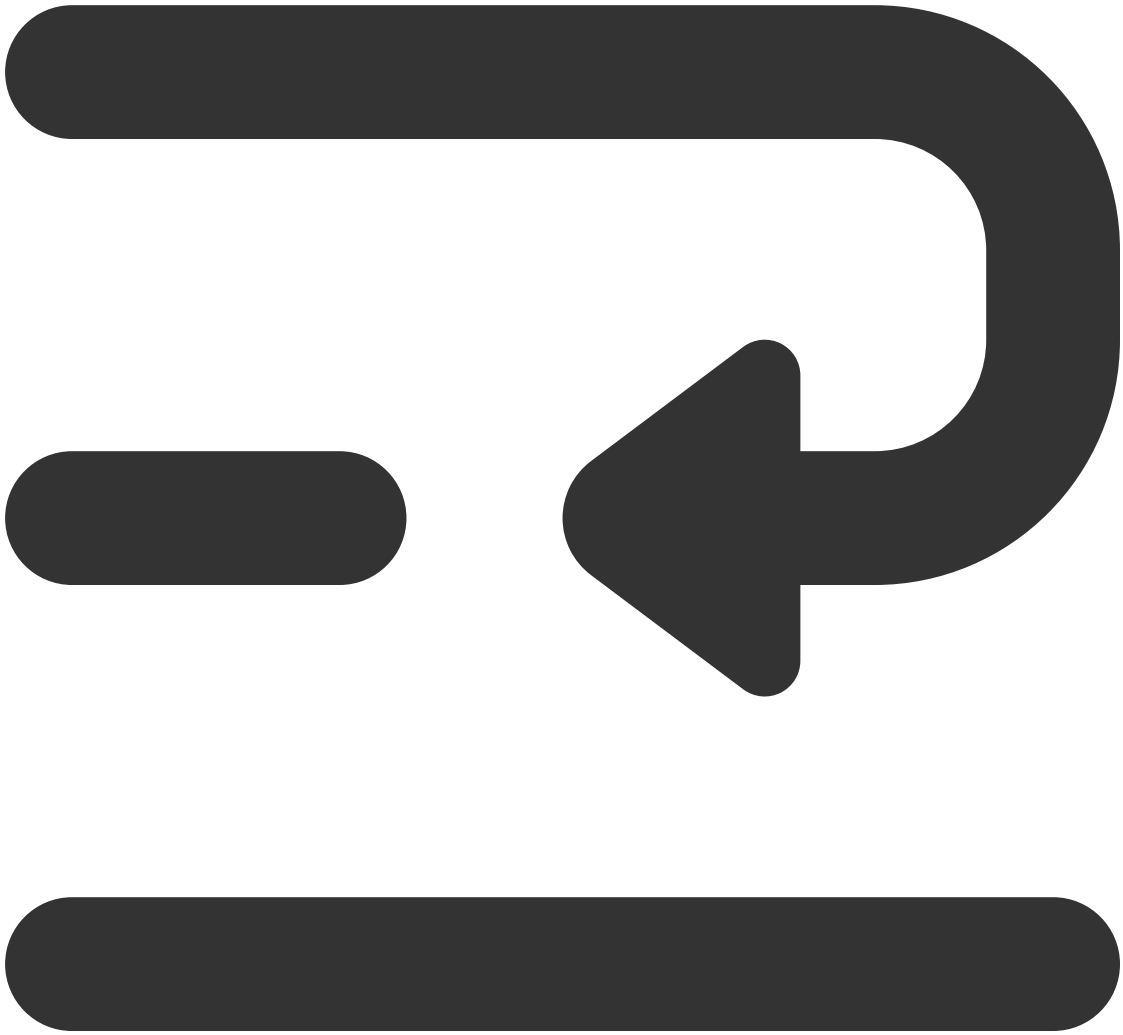
Parameter	Type	Meaning
userId	const char*	User ID
device	TUIMediaDevice	Device
callback	TUICallback*	Callback of API, used to Notify the Success or Failure

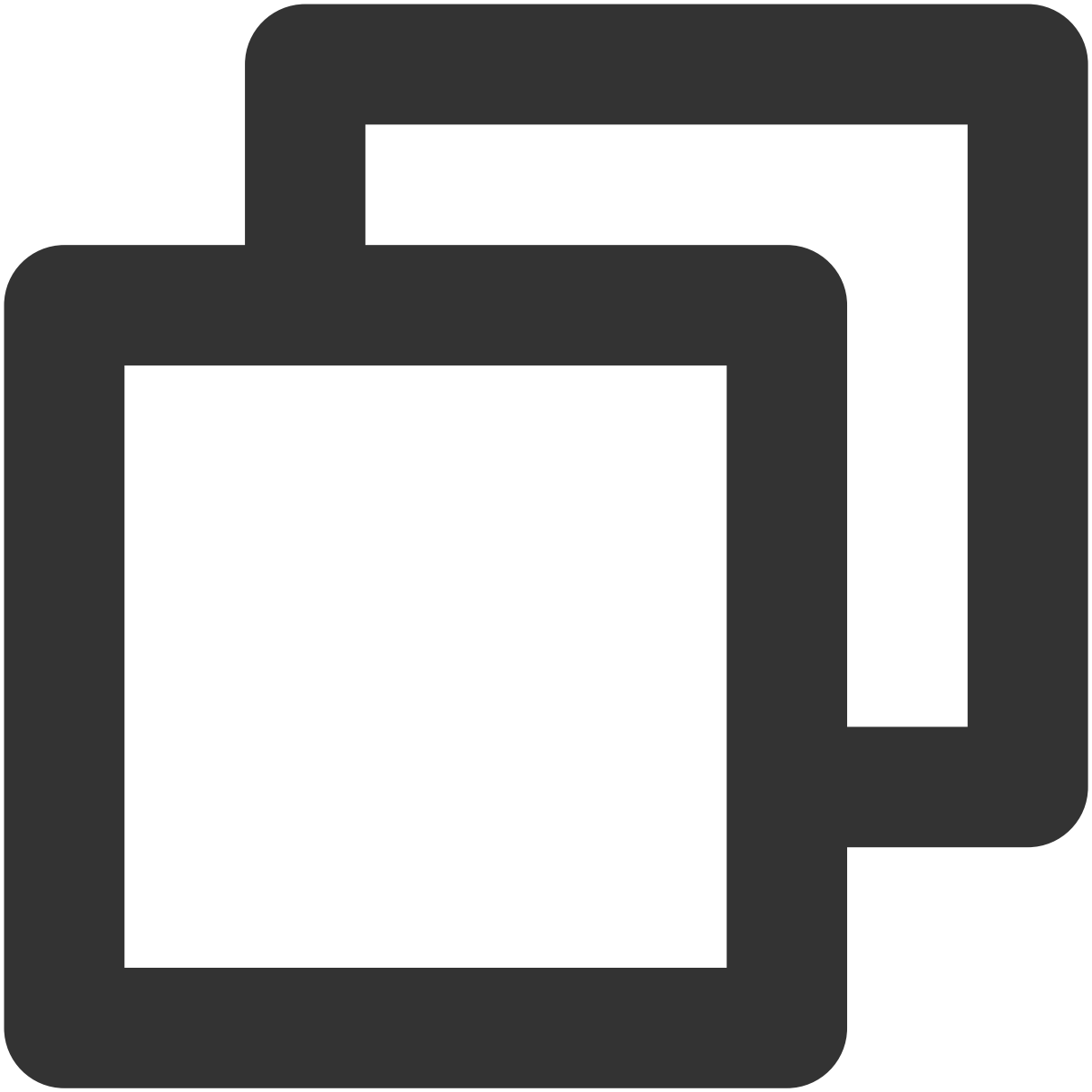
		of the API call

applyToAdminToOpenLocalDevice

Request to open local media devices

(Currently only available in the conference scene, and only ordinary members can call).





```
virtual TUIRequest applyToAdminToOpenLocalDevice(TUIMediaDevice device, int timeout
```

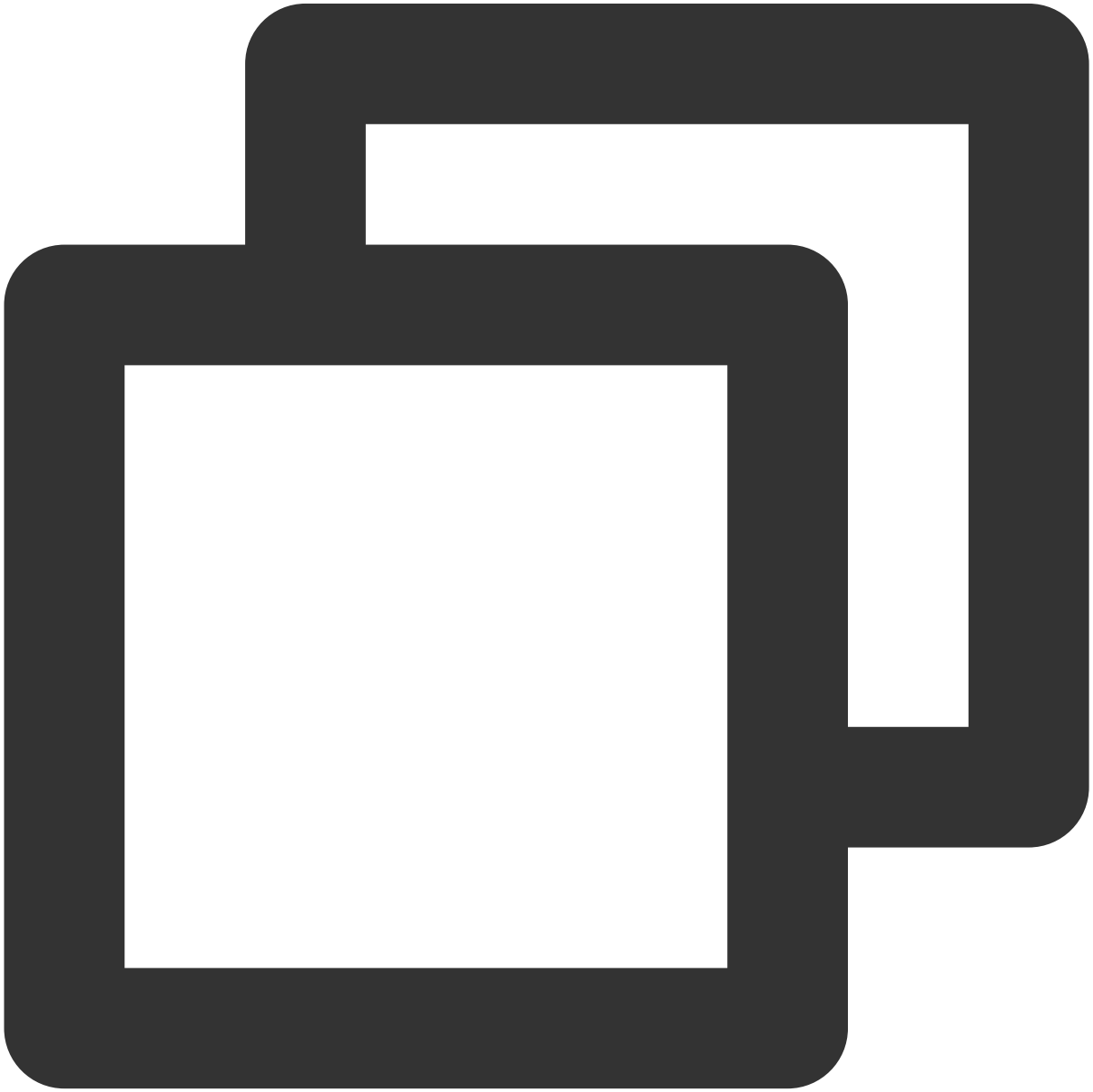
The parameters are as follows:

Parameter	Type	Meaning
device	TUIMediaDevice	Device
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback

callback	TUIRequestCallback*	Callback of API, used to Notify the Success or Failure of the API call

setMaxSeatCount

Set Maximum number of seats, only supported when entering the room and creating the room
When roomType is RoomType.CONFERENCE (Education and Conference scene), maxSeatCount value is not limited;
When roomType is RoomType.LIVE_ROOM (Live broadcast scene), maxSeatCount is limited to 16;



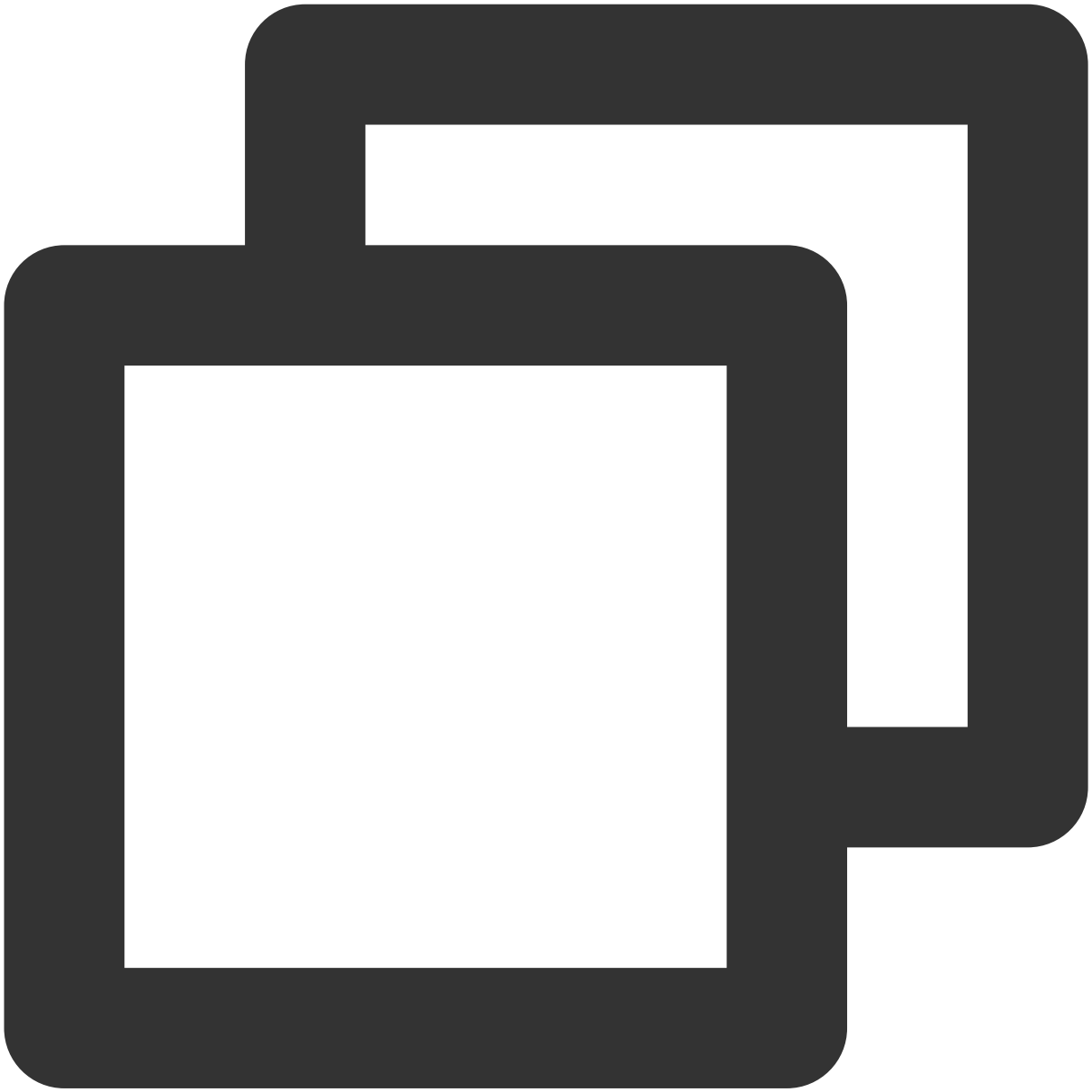
```
virtual void setMaxSeatCount(uint32_t maxSeatCount, TUICallback* callback) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
maxSeatCount	uint32_t	Maximum number of seats
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

getSeatList

Get seat list



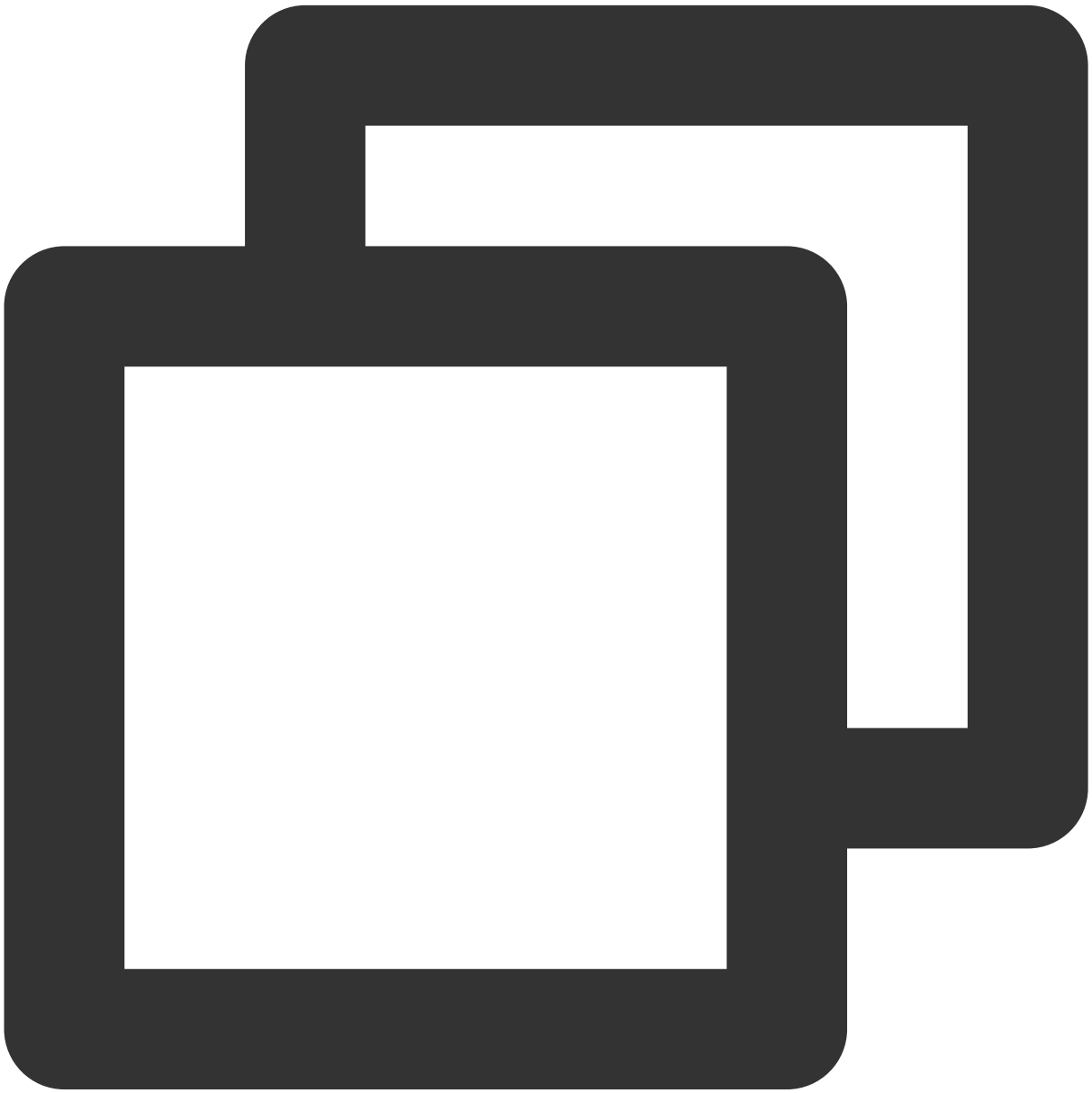
```
virtual void getSeatList(TUIListCallback<TUISeatInfo>* callback) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
callback	TUIListCallback<TUISeatInfo>*	Callback of API, used to Notify the Success or Failure of the API call

lockSeatByAdmin

Lock seat.



```
virtual void lockSeatByAdmin(int seatIndex, const TUISeatLockParams& lockParams, TU
```

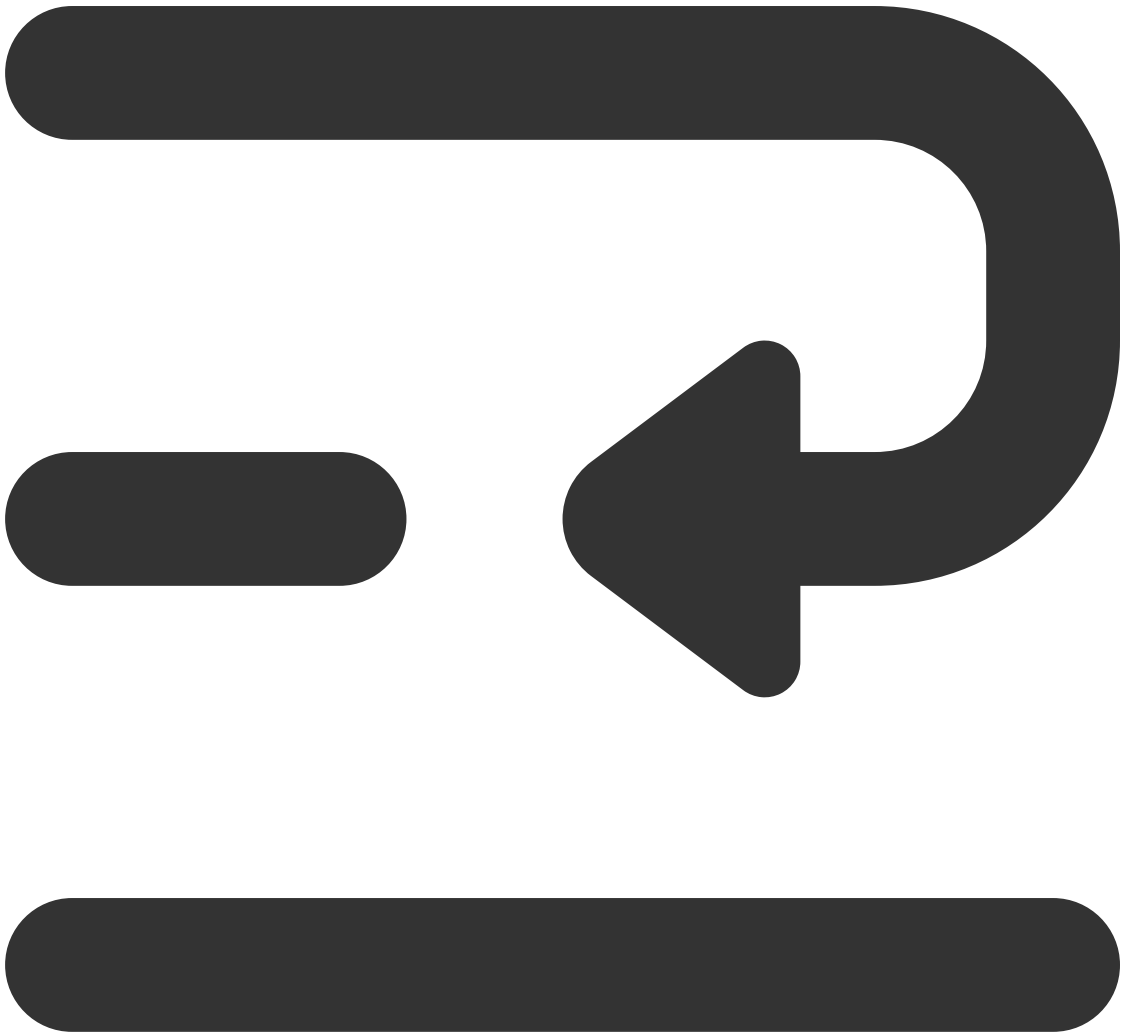
The parameters are as follows:

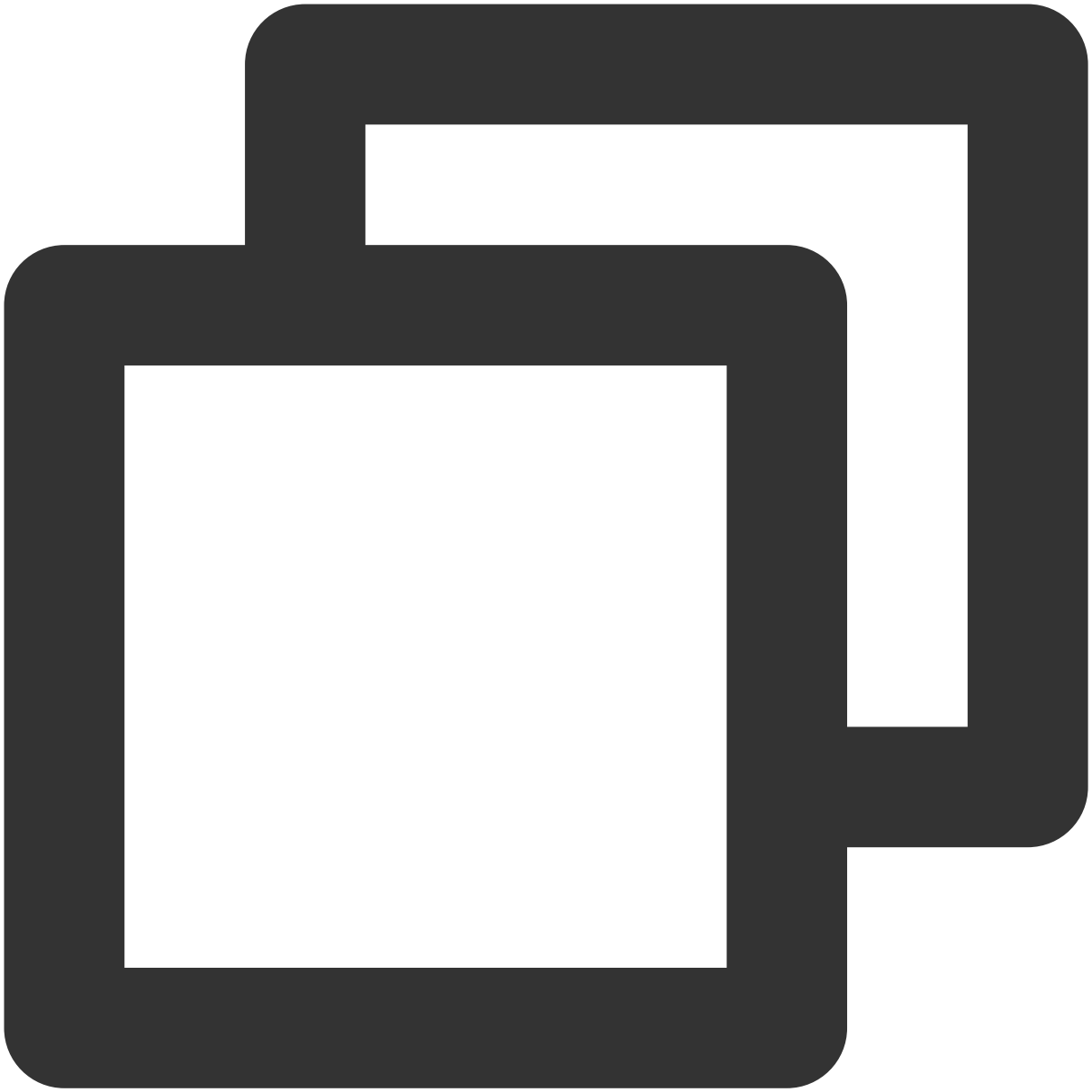
Parameter	Type	Meaning
seatIndex	int	Seat number
lockParams	TUISeatLockParams	Lock microphone parameter

callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

takeSeat

Get seat list.





```
virtual TUIRequest takeSeat(int seatIndex, int timeout, TUIRequestCallback* callbac
```

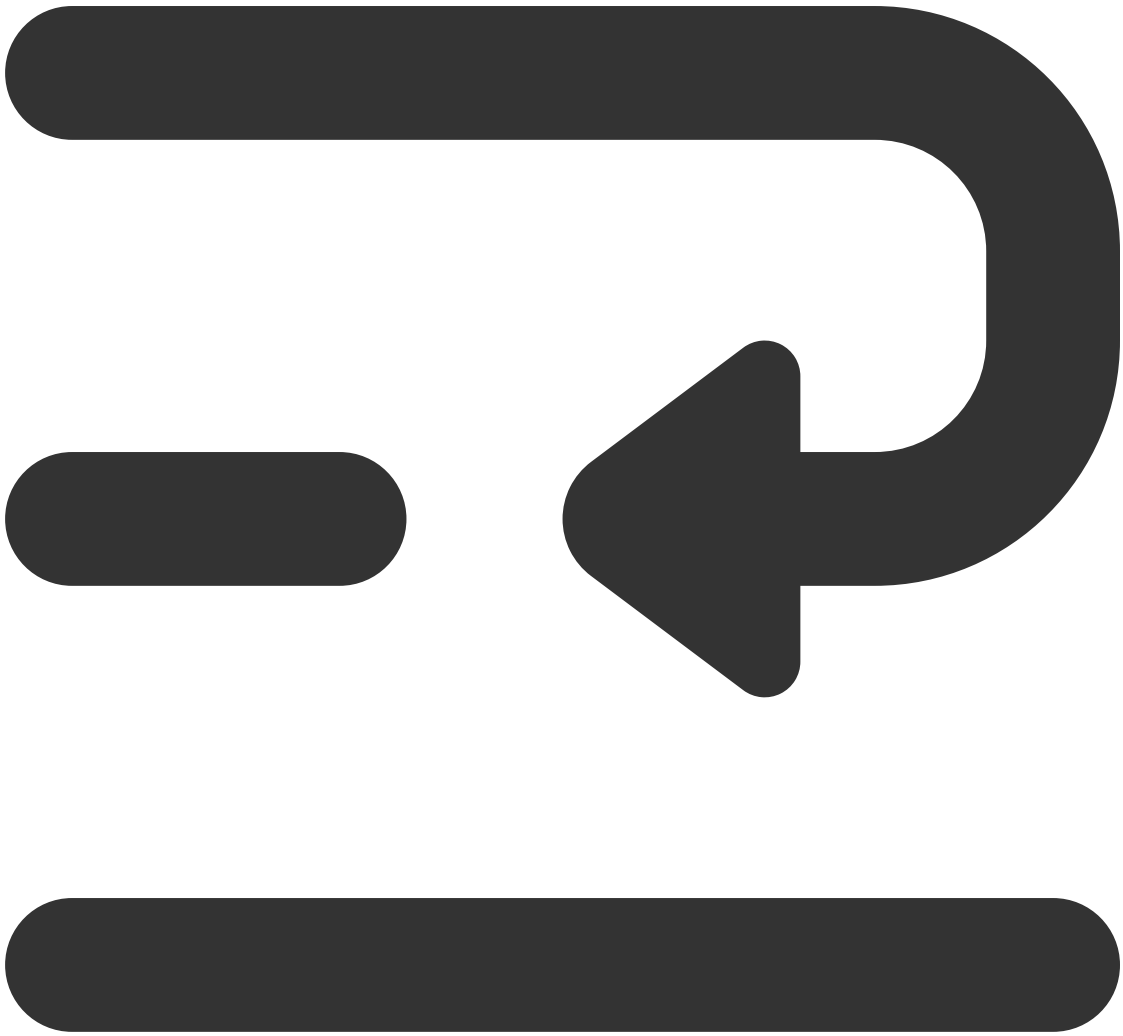
The parameters are as follows:

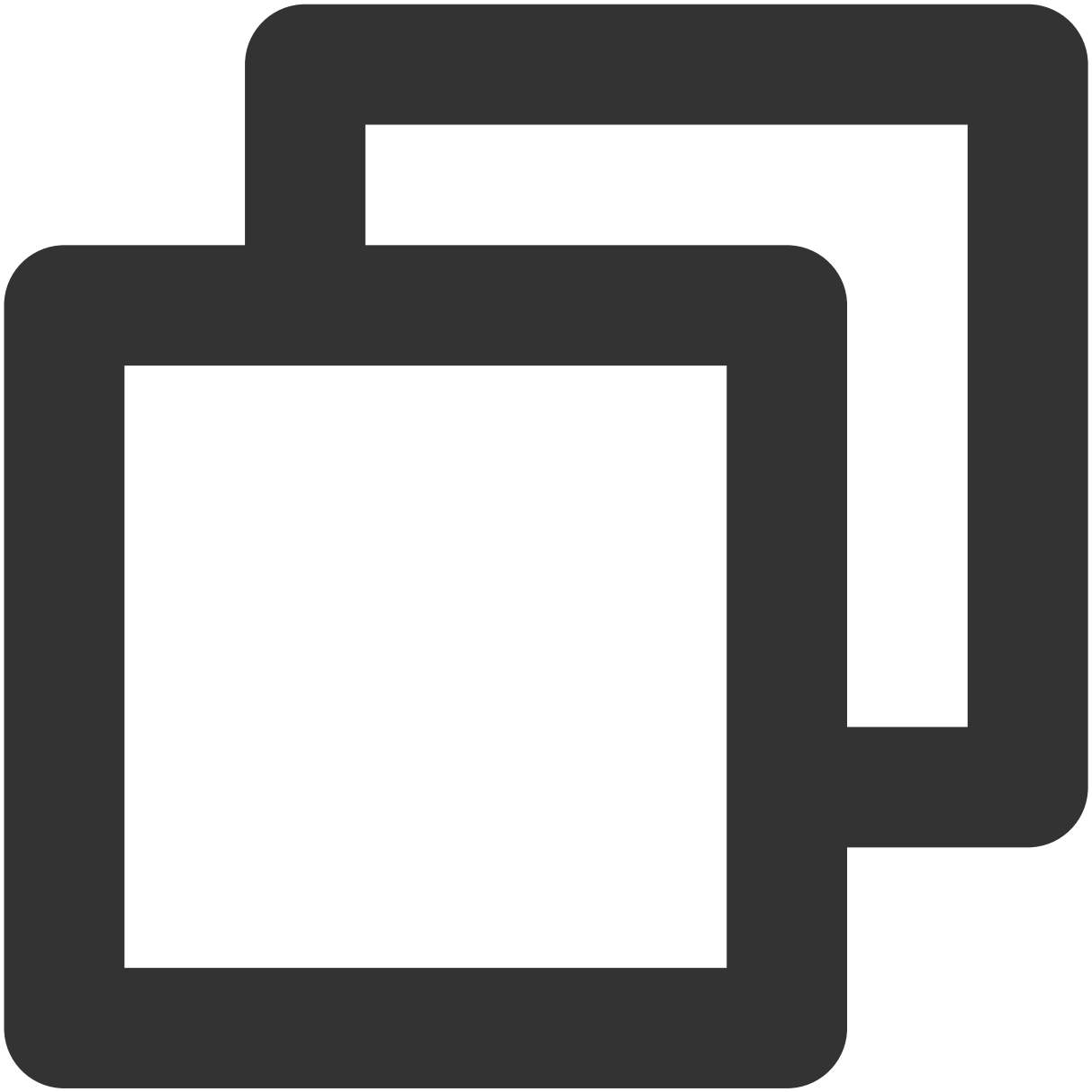
Parameter	Type	Meaning
seatIndex	int	Seat number
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback

callback	TUIRequestCallback*	Callback of API, used to Notify the Success or Failure of the API call

leaveSeat

Local off microphone.





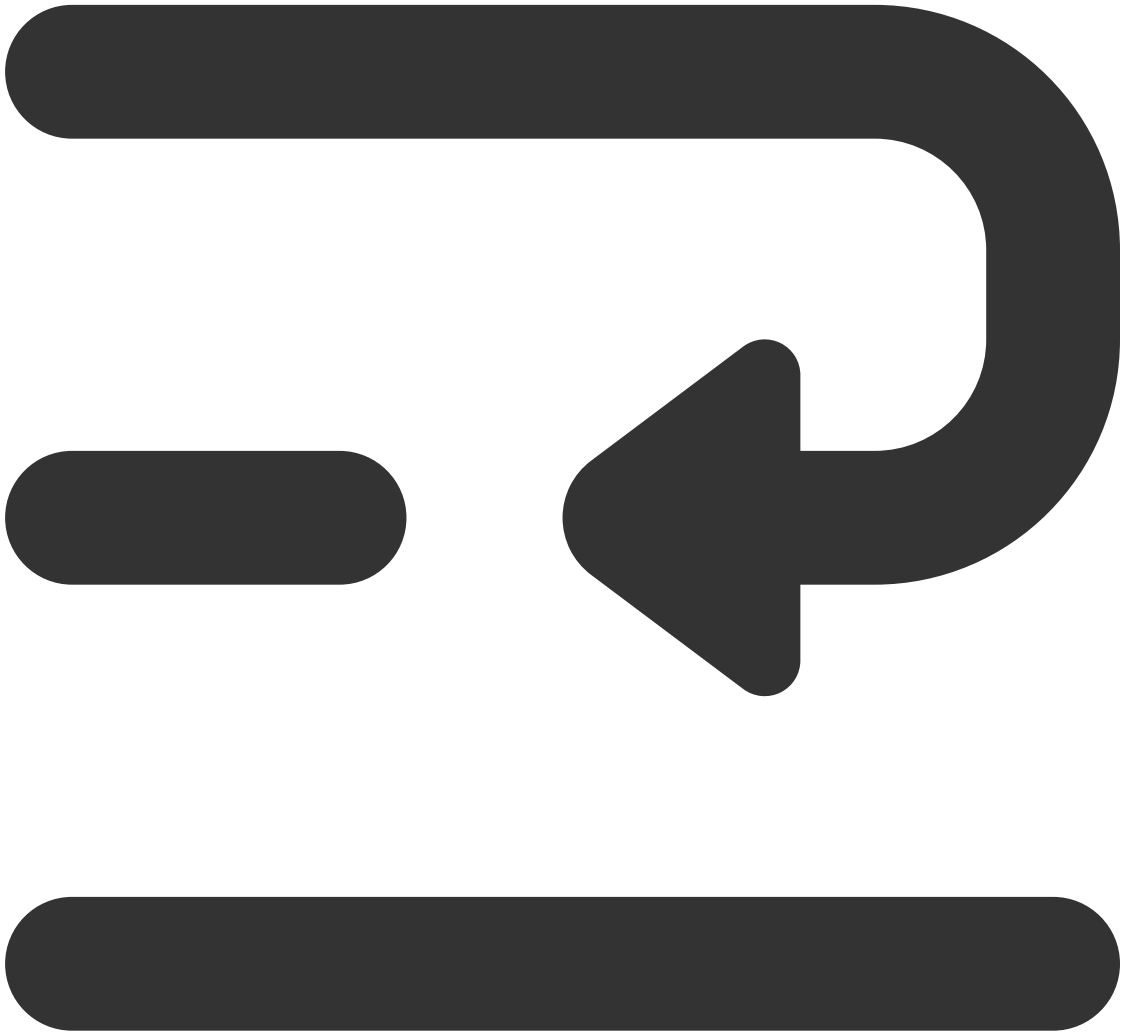
```
virtual void leaveSeat(TUICallback* callback) = 0;
```

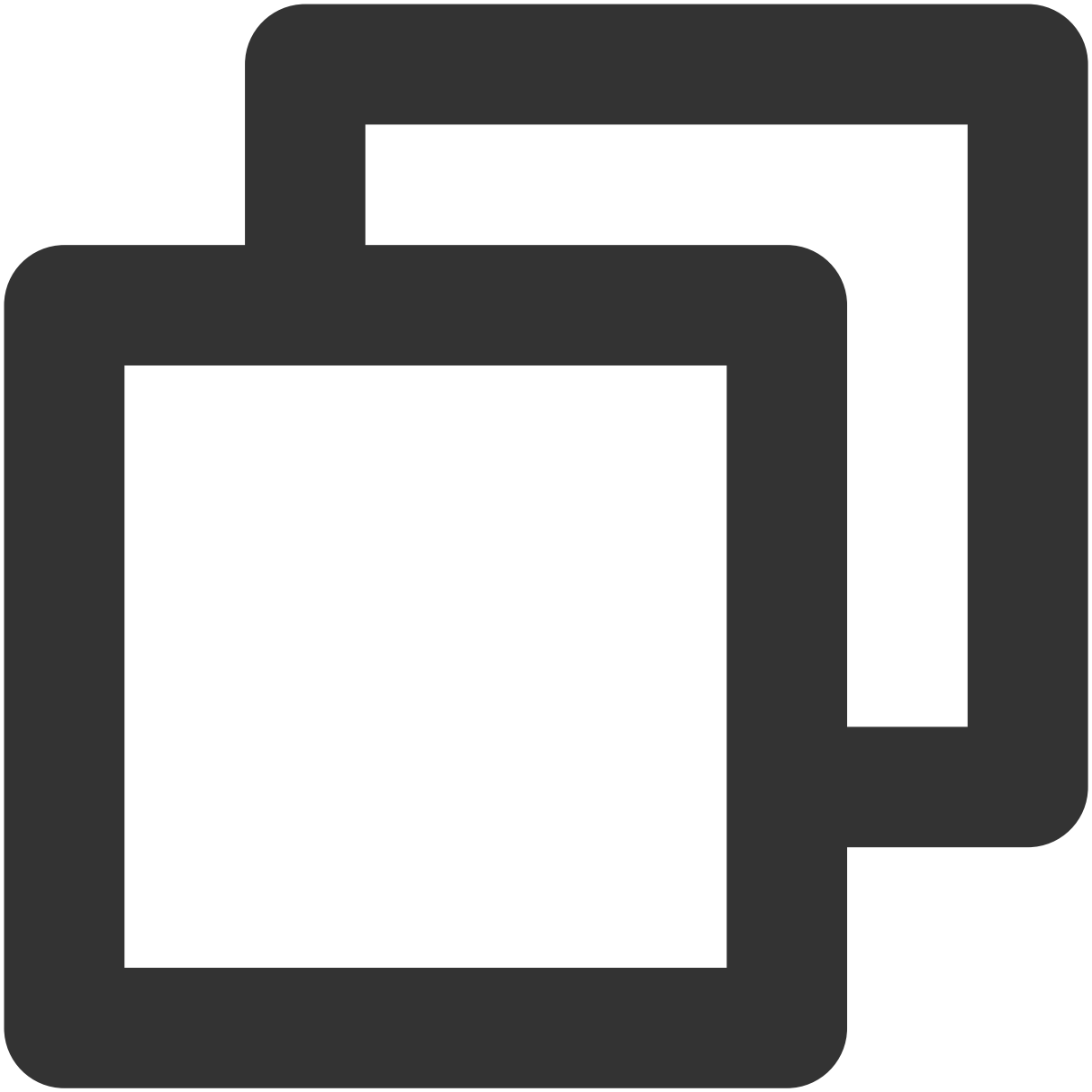
The parameters are as follows:

Parameter	Type	Meaning
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

takeUserOnSeatByAdmin

Host/Administrator Invite User on microphone.





```
virtual TUIRequest takeUserOnSeatByAdmin(int seatIndex, const char* userId, int tim
```

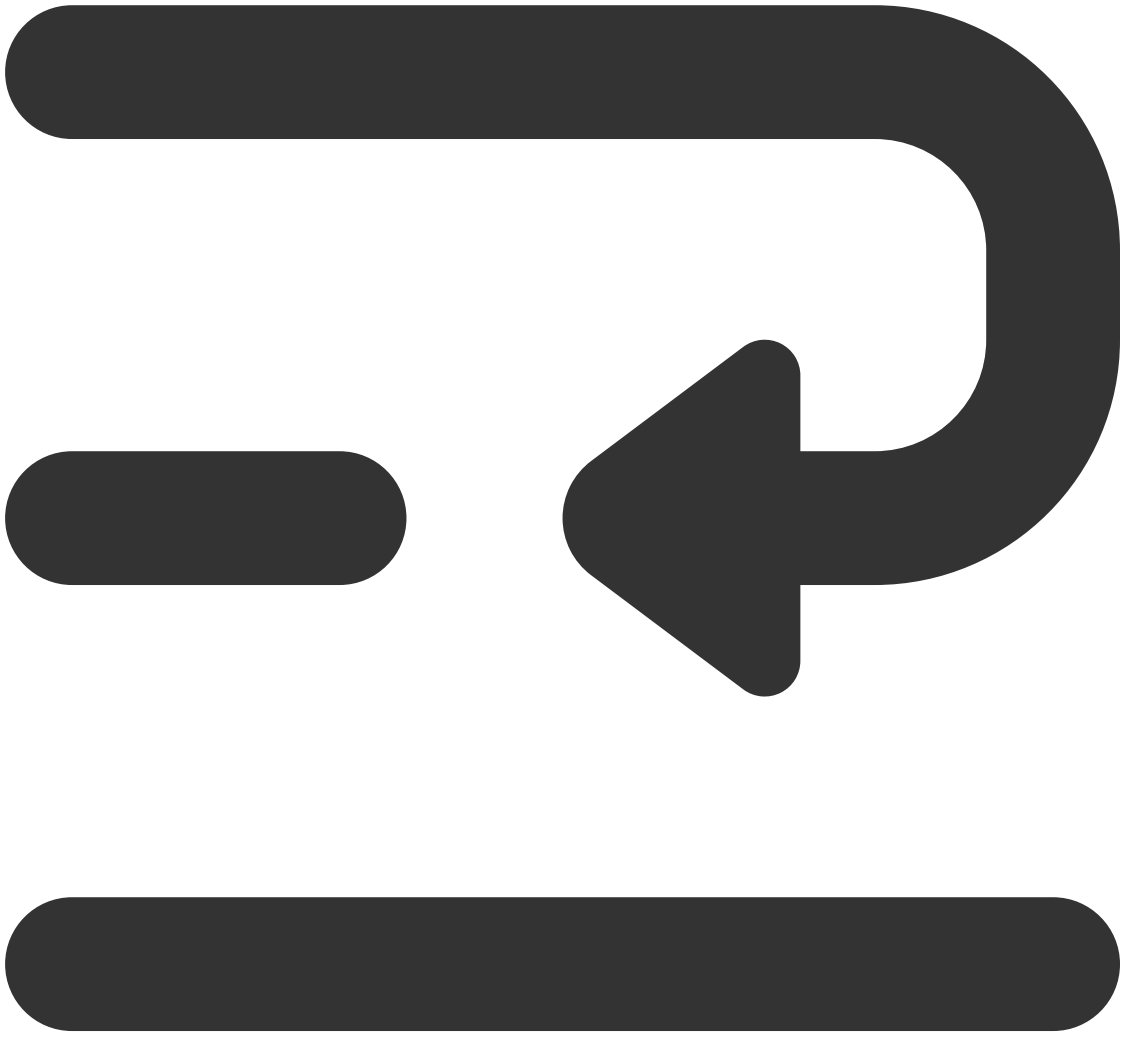
The parameters are as follows:

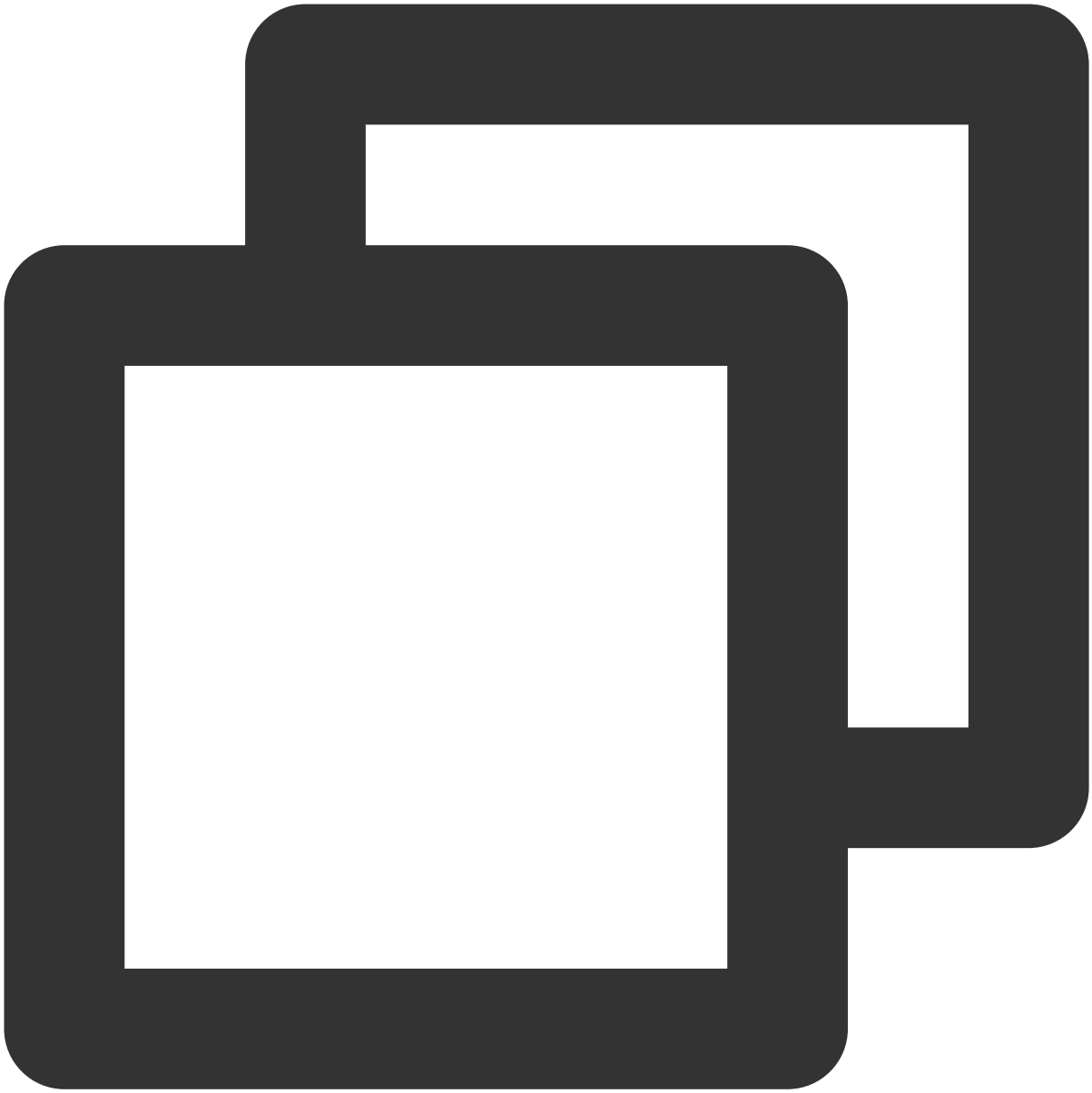
Parameter	Type	Meaning
seatIndex	int	Seat number
userId	const char*	User ID
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout

		detection and will not trigger timeout Callback
callback	TUIRequestCallback*	Callback of API, used to Notify the Success or Failure of the API call

kickUserOffSeatByAdmin

Host/Administrator Take User off microphone.





```
virtual void kickUserOffSeatByAdmin(int seatIndex, const char* userId, TUICallback*
```

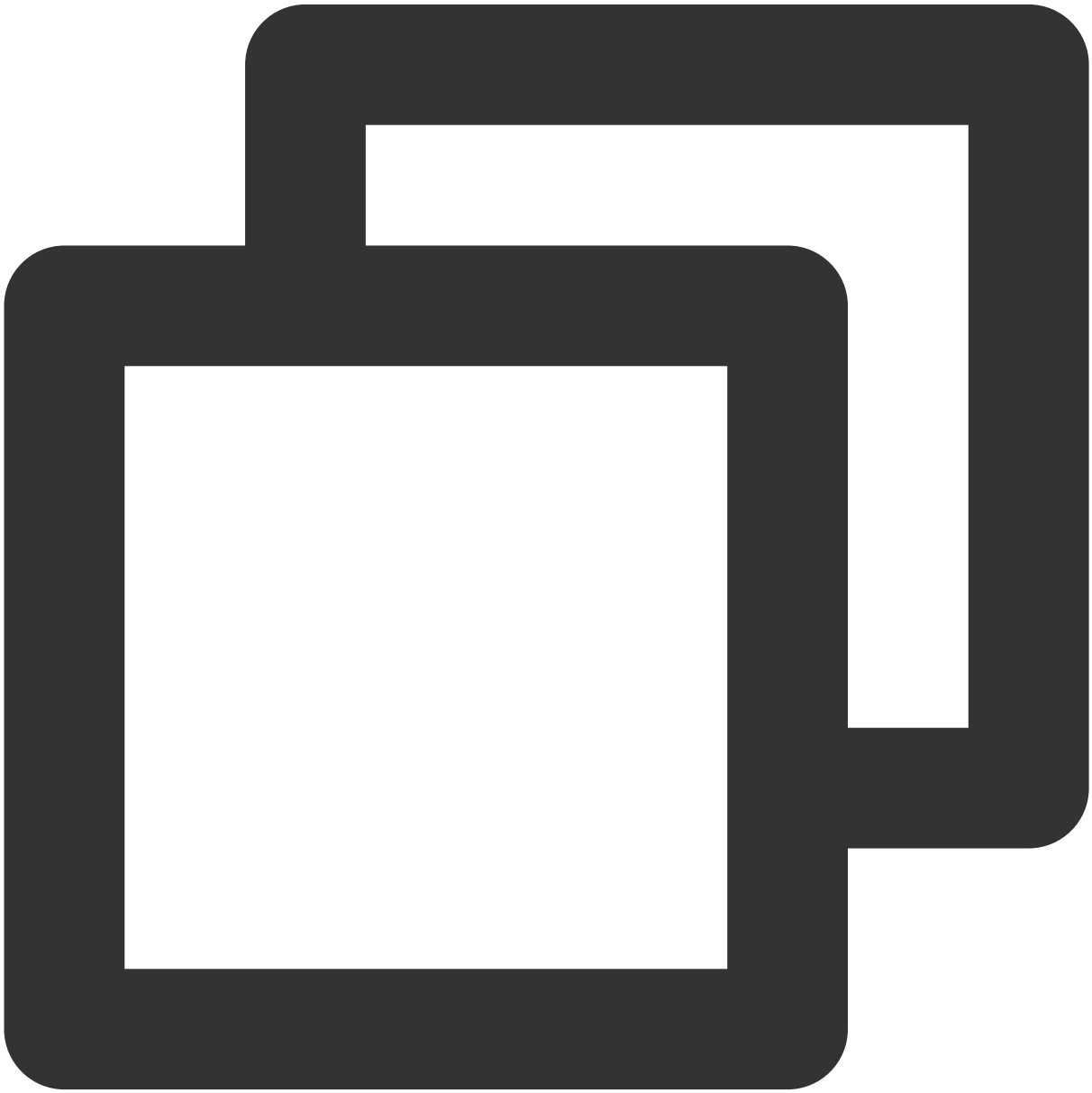
The parameters are as follows:

Parameter	Type	Meaning
seatIndex	int	Seat number
userId	const char*	User ID
callback	TUICallback*	Callback of API, used to Notify the Success or Failure

		of the API call

sendTextMessage

Send Text message.



```
virtual void sendTextMessage(const char* message, TUICallback* callback) = 0;
```

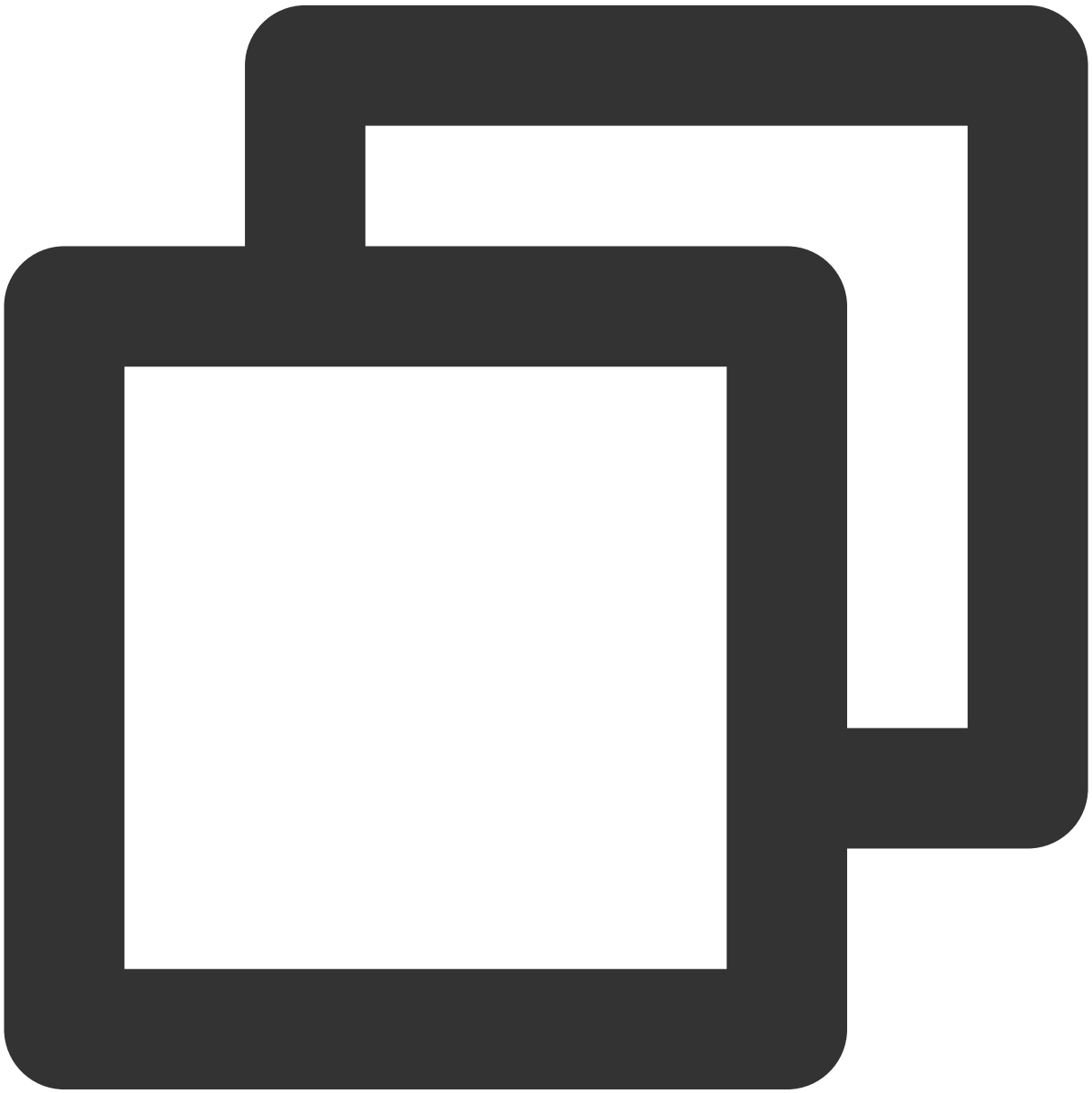
The parameters are as follows:

Parameter	Type	Meaning

message	const char*	Text message Content
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

sendCustomMessage

Send Custom message.



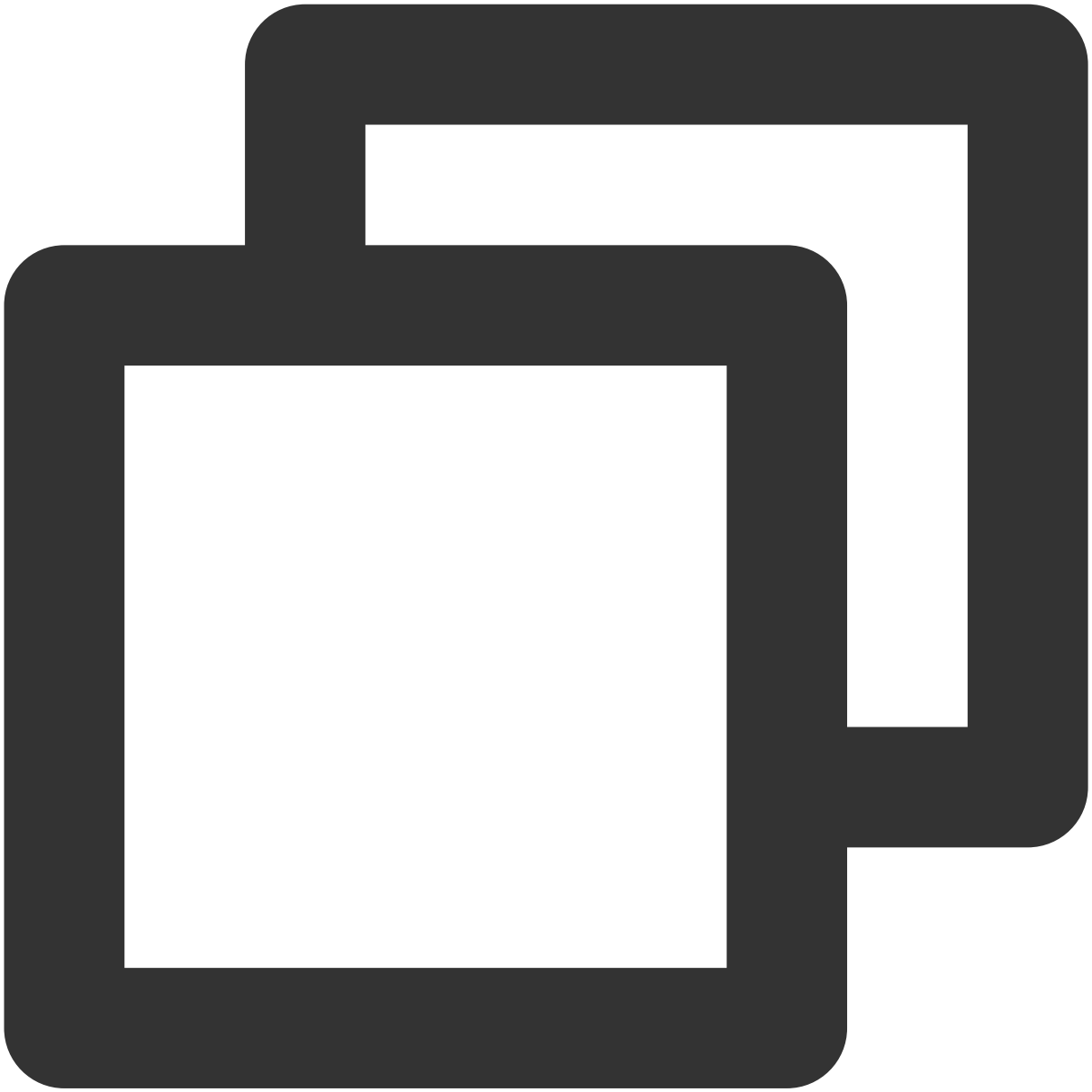
```
virtual void sendCustomMessage(const char* message, TUICallback* callback) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
message	const char*	Custom message Content
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

disableSendingMessageByAdmin

Disable Remote user's Text message sending Ability (only Administrator or Group owner can call).



```
virtual void disableSendingMessageByAdmin(const char* userId, bool isDisable, TUICa
```

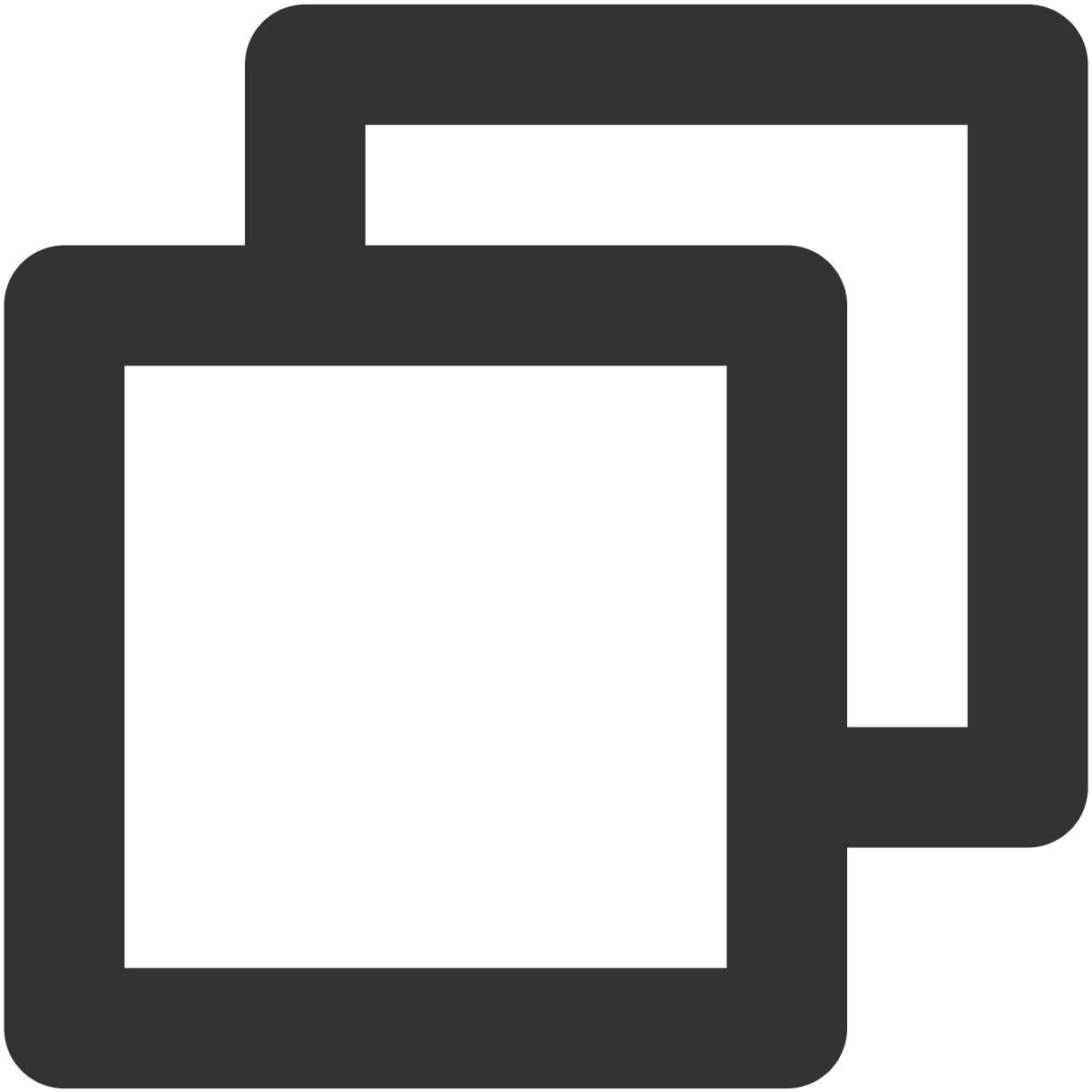
The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
isDisable	bool	Whether to Disable
callback	TUICallback*	Callback of API, used to Notify the Success or Failure

		of the API call

disableSendingMessageForAllUser

Disable all users' Text message sending Ability (only Administrator or Group owner can call)



```
virtual void disableSendingMessageForAllUser(bool isDisable, TUICallback* callback)
```

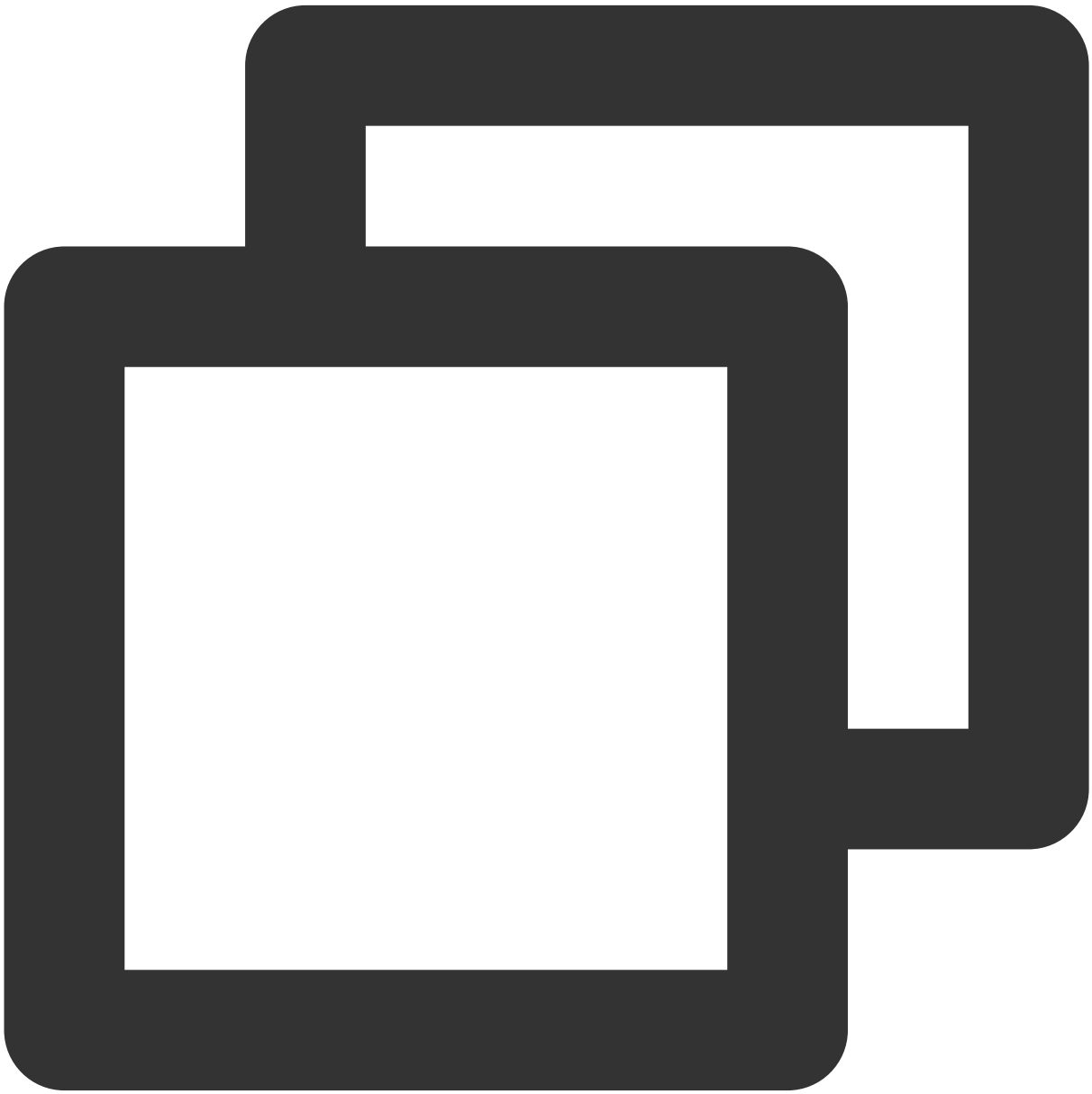
The parameters are as follows:

Parameter	Type	Meaning

isDisable	bool	Whether to Disable
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

cancelRequest

Cancel sent Request.



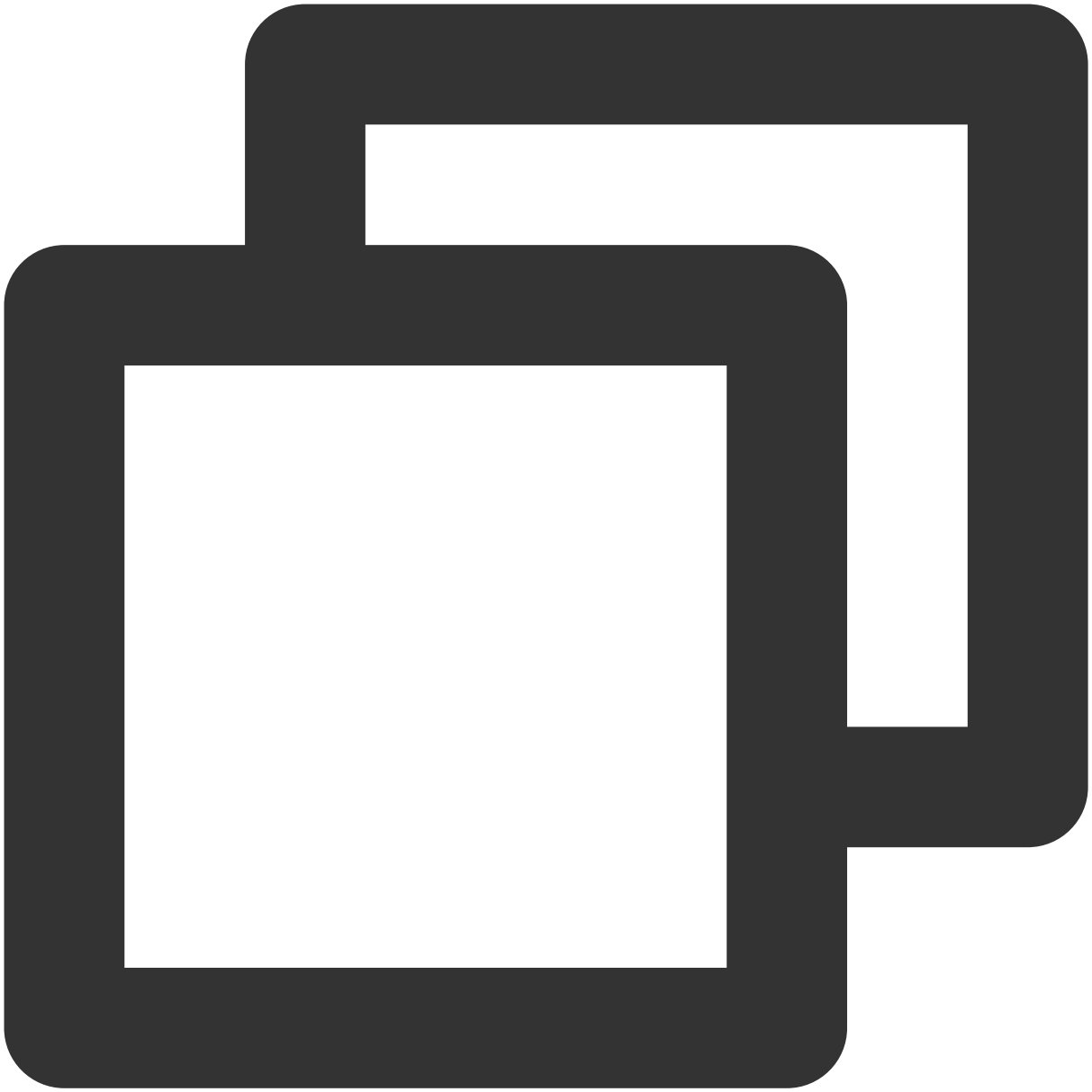
```
virtual void cancelRequest(const char* requestId, TUICallback* callback) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
requestId	const char*	Request ID
callback	TUICallback*	Callback of API, used to Notify the Success or Failure of the API call

responseRemoteRequest

Reply to Remote user's Request.



```
virtual void responseRemoteRequest(const char* requestId, bool agree, TUICallback*
```

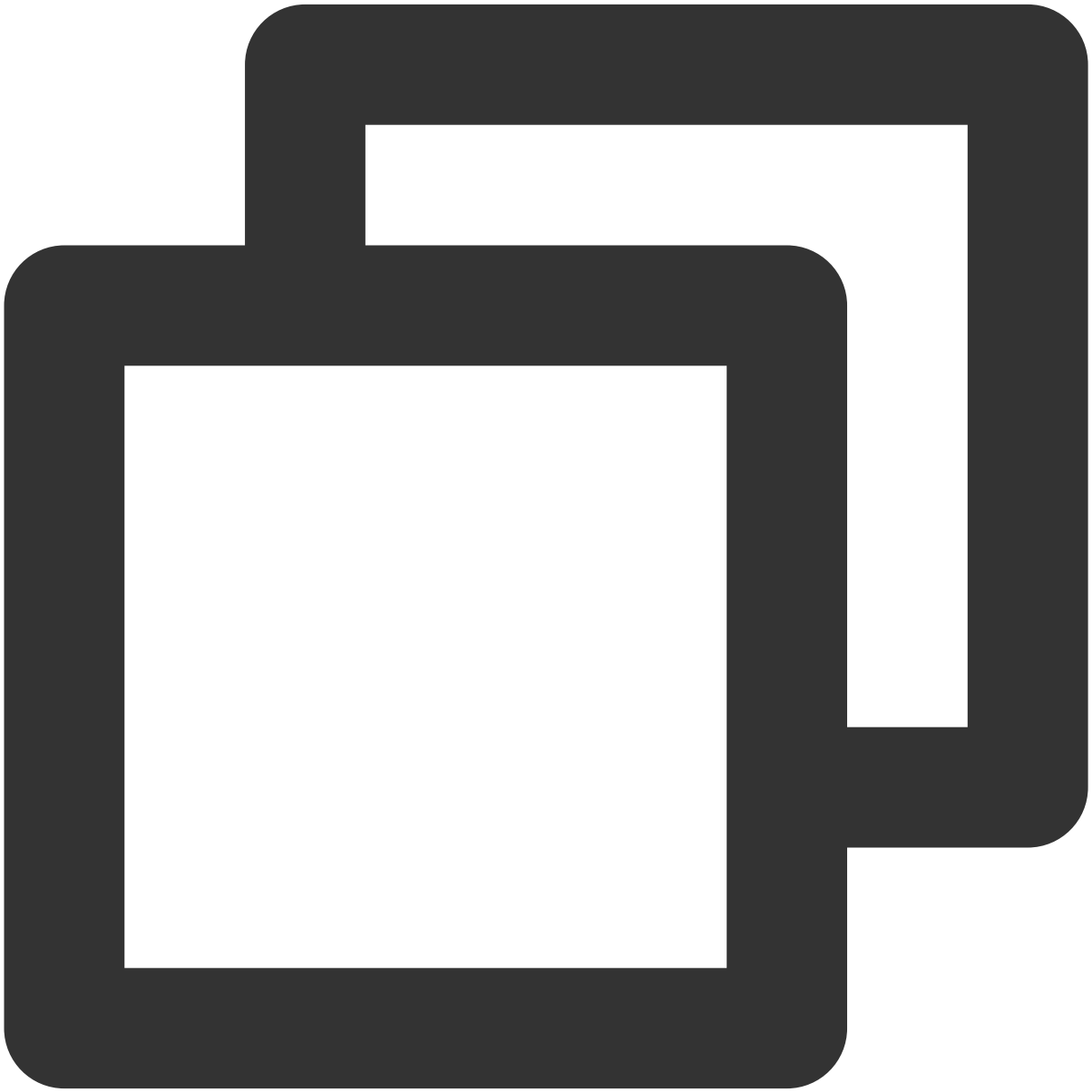
The parameters are as follows:

Parameter	Type	Meaning
requestId	const char*	Request ID
agree	bool	Whether to agree
callback	TUICallback*	Callback of API, used to Notify the Success or Failure

		of the API call

getTRTCCloud

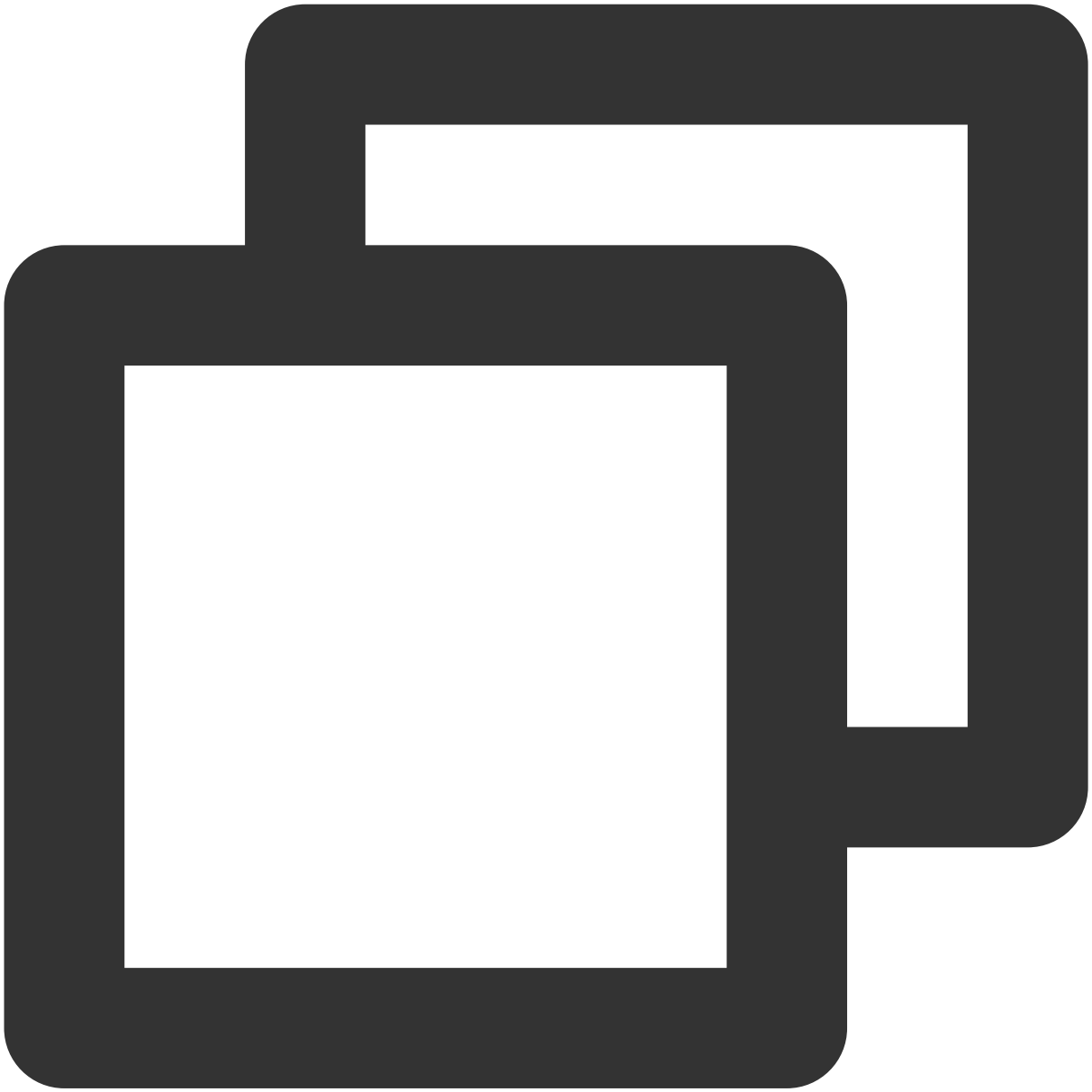
Get TRTCCloud Instance.



```
virtual void* getTRTCCloud() = 0;
```

getDeviceManager

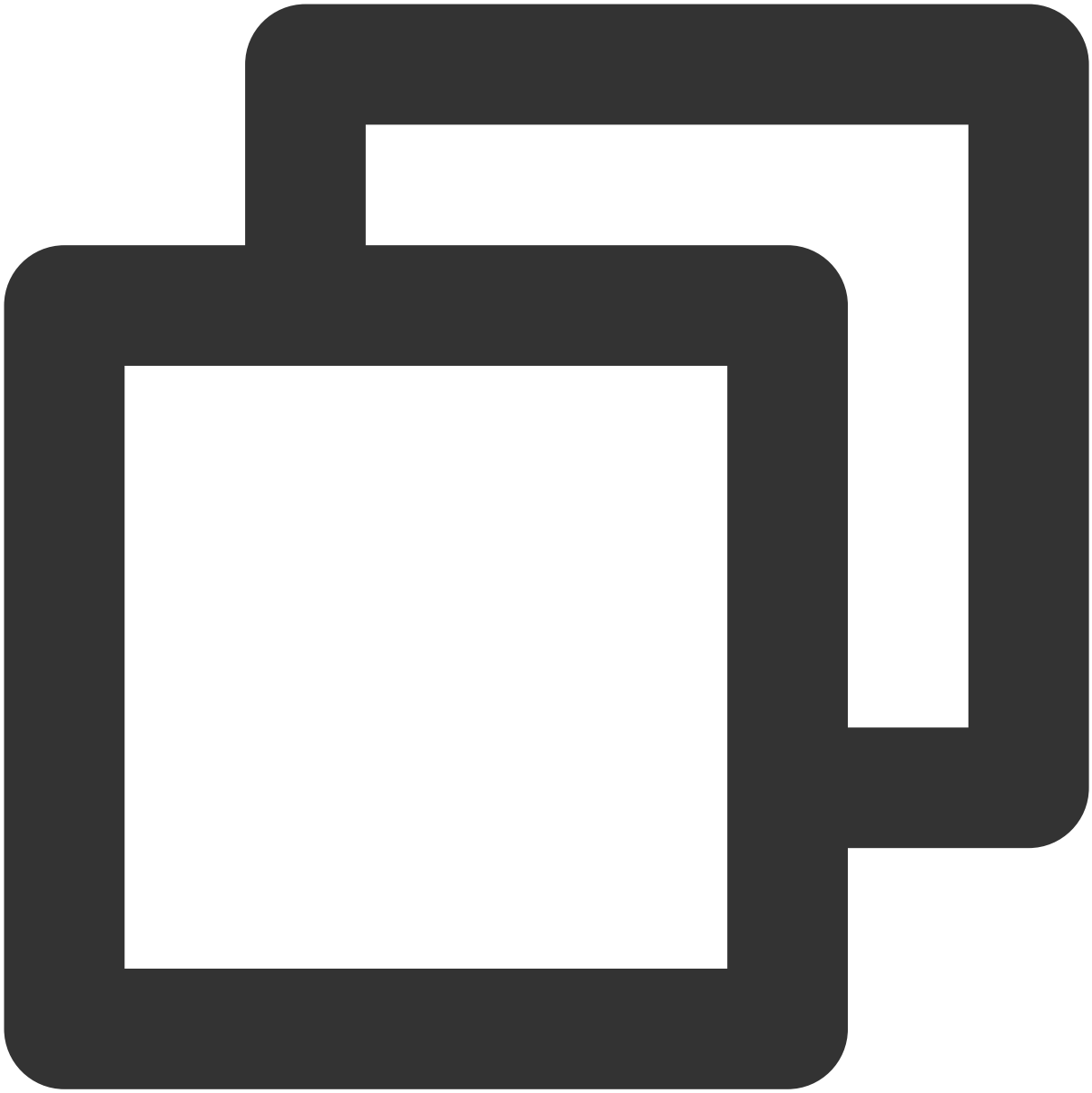
Get deviceManager.



```
virtual liteav::ITXDeviceManager* getDeviceManager() = 0;
```

getAudioEffectManager

Get Audio management.



```
virtual liteav::ITXAudioEffectManager* getAudioEffectManager() = 0;
```

TUIRoomObserver

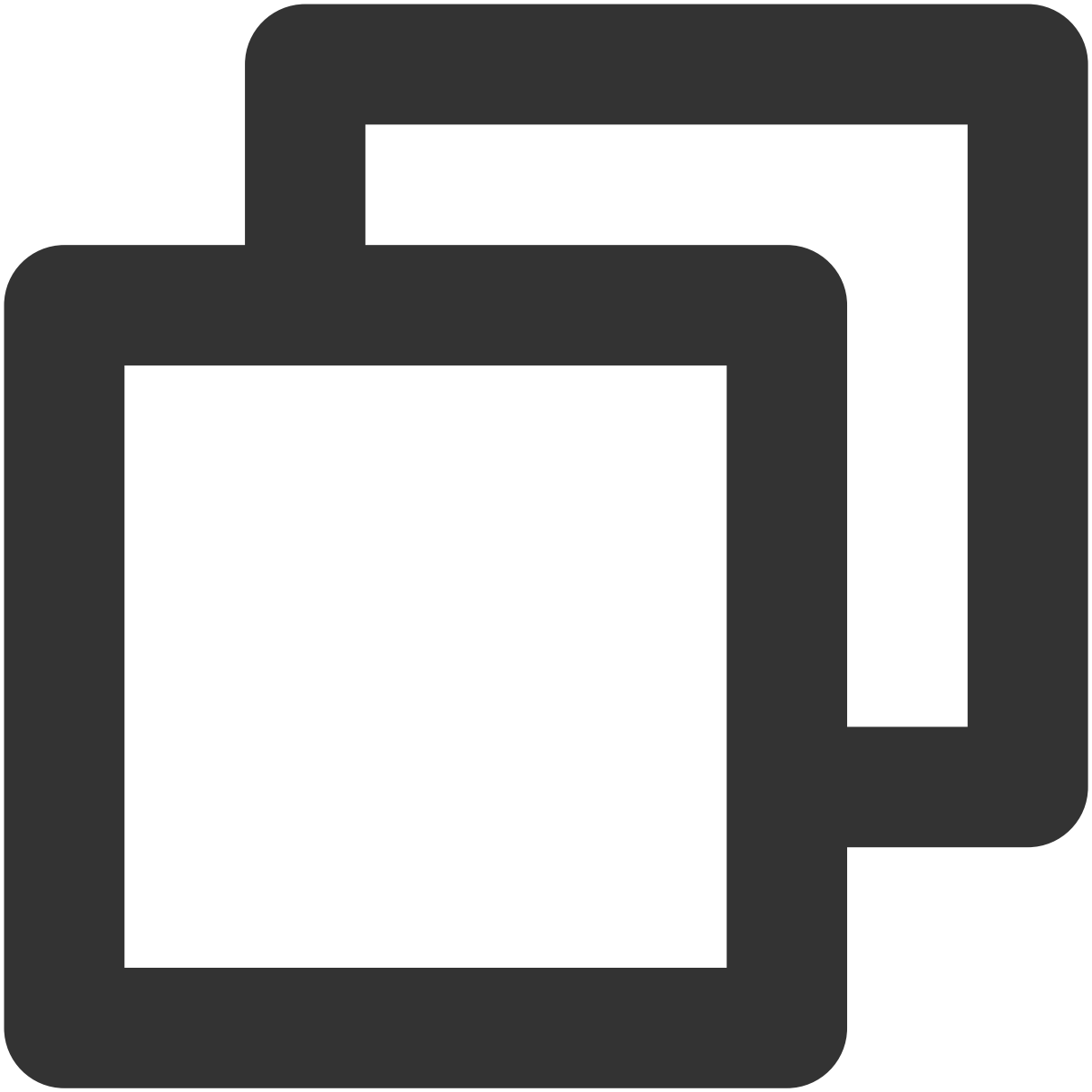
Last updated：2023-10-30 11:01:03

TUIRoomObserver Callback Event Details

The TUIRoomObserver class is the corresponding Callback Event class for TUIRoomEngine. You can listen to the Callback Events you are interested in through this Callback Interface.

onError

Error Event Callback



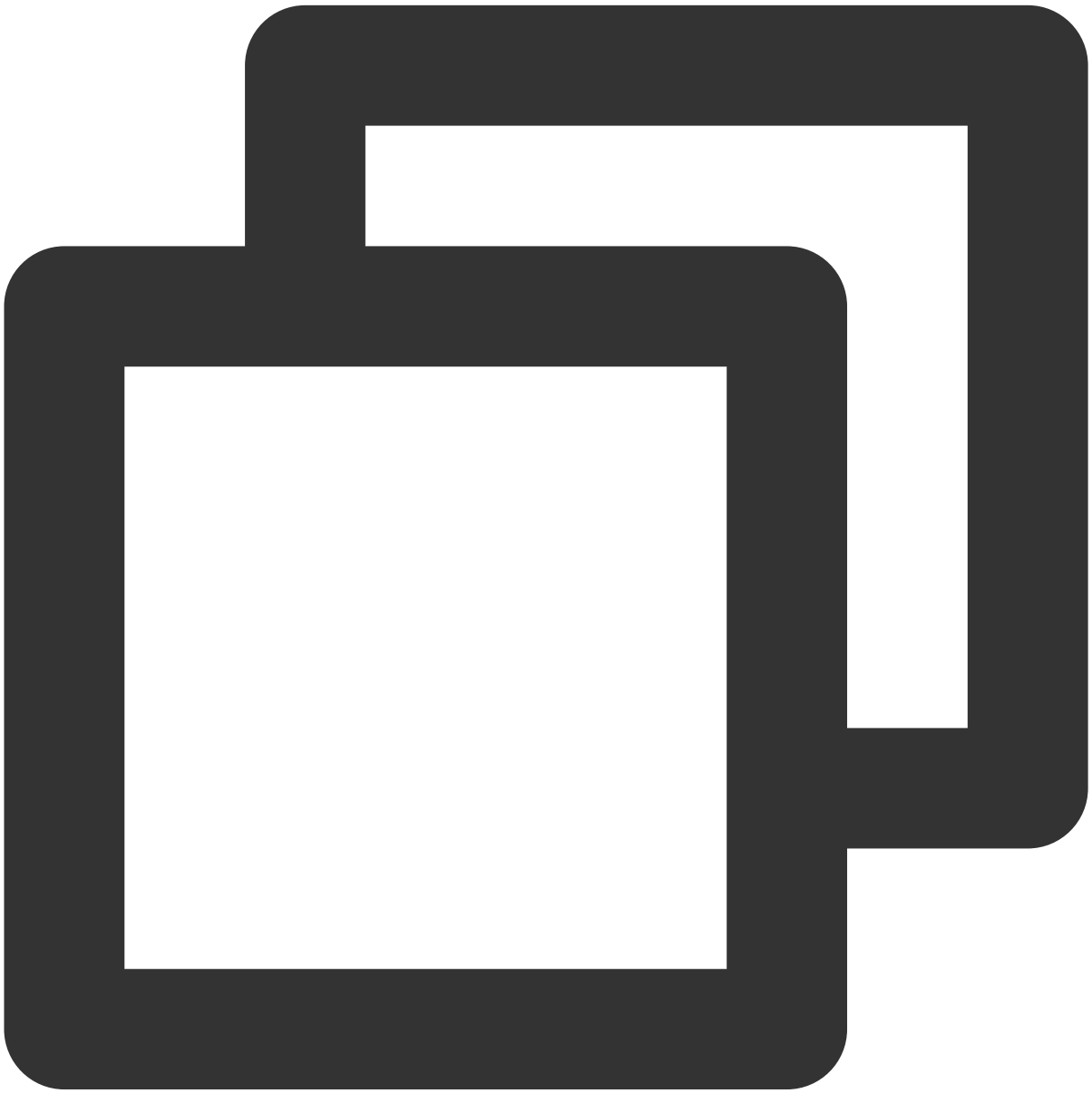
```
virtual void onError(TUIError errorCode, const char* message) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
errorCode	TUIError	Error Code
message	const char*	Error Message

onKickedOffLine

Other terminals login and get kicked off event.



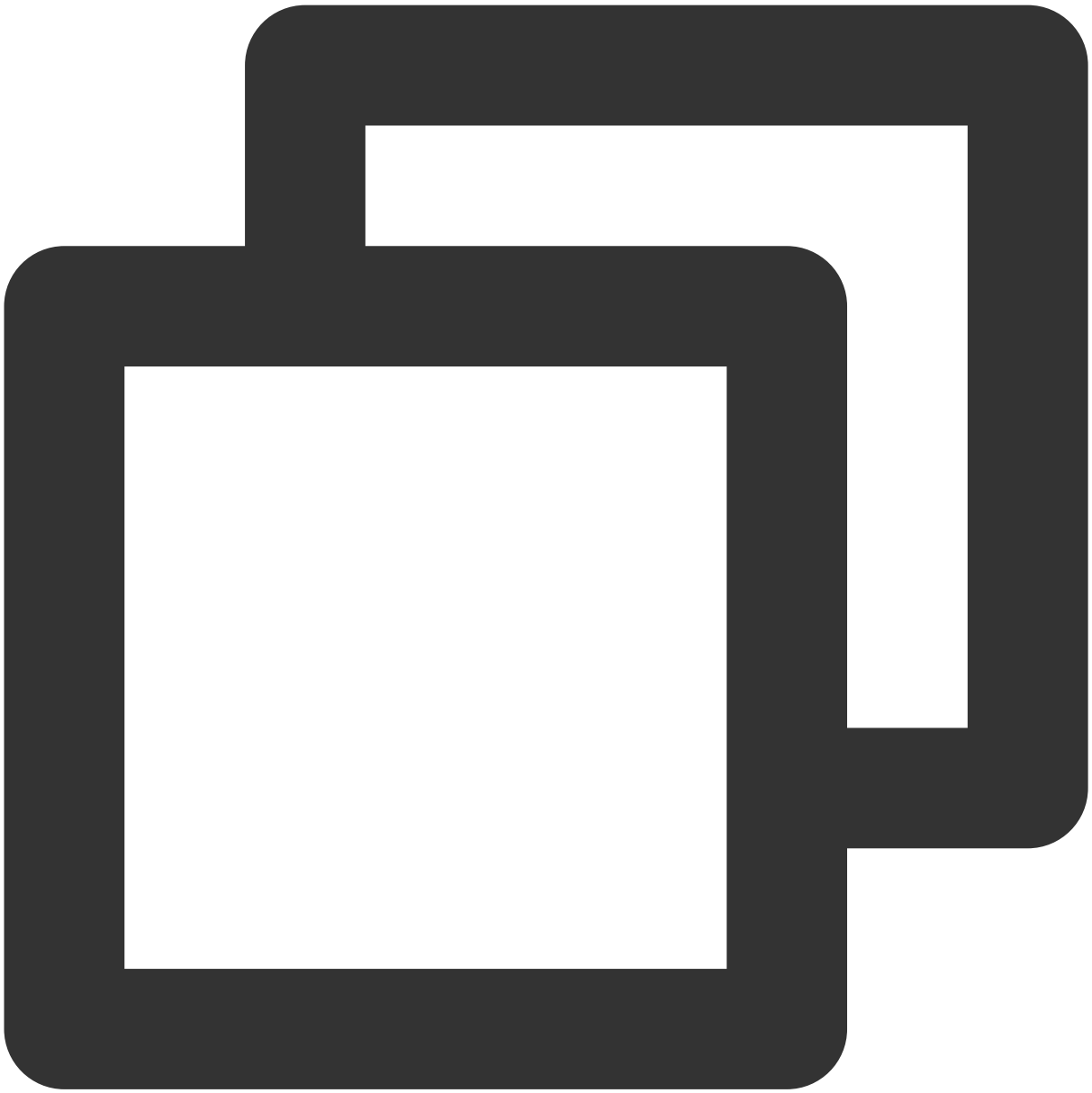
```
virtual void onKickedOffLine(const char* message) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
message	const char*	Kicked out description

onUserSigExpired

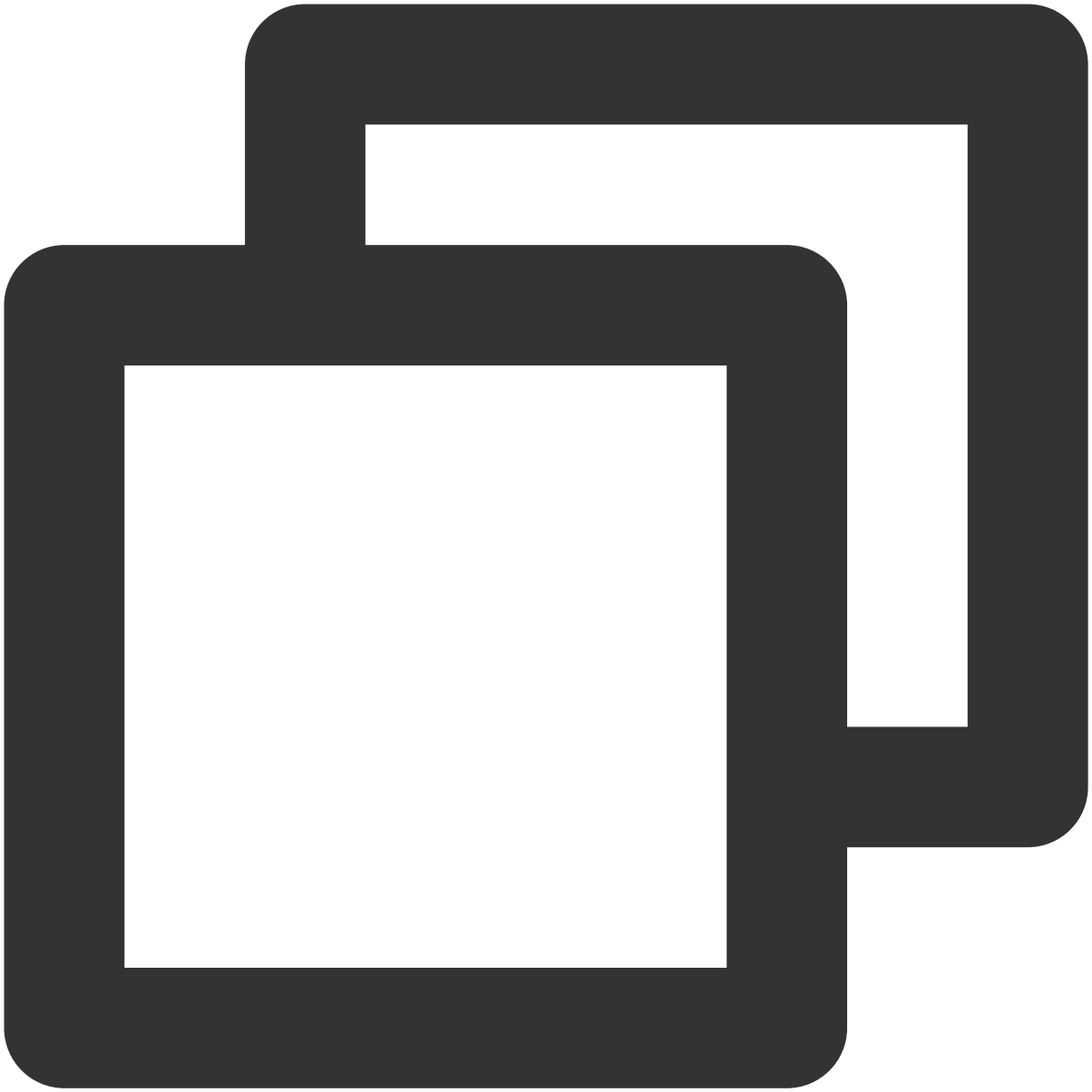
User credential timeout event.



```
virtual void onUserSigExpired() = 0;
```

onRoomNameChanged

Room name change event.



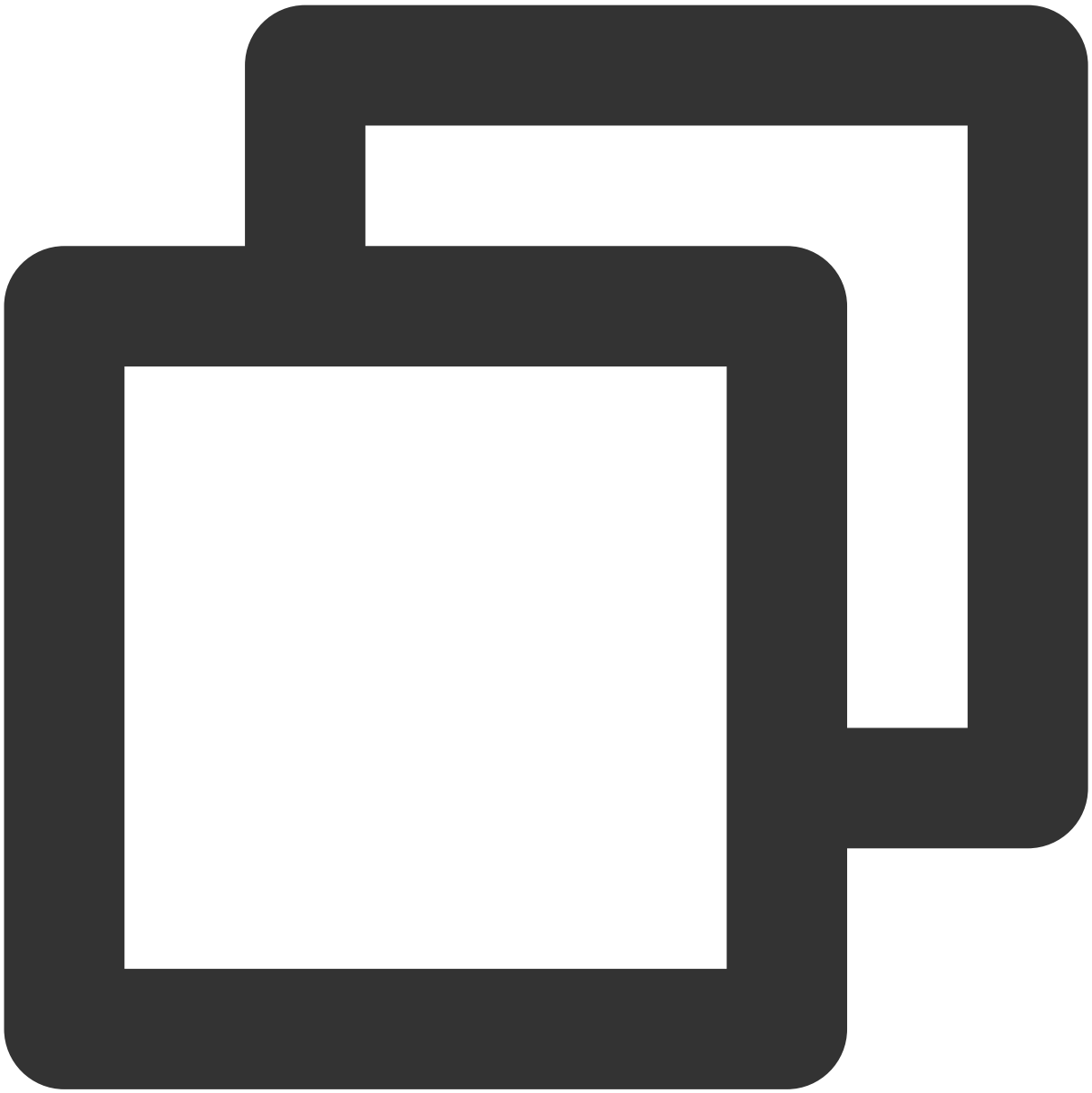
```
virtual void onRoomNameChanged(const char* roomId, const char* roomName) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
roomName	const char*	Room Name

onAllUserMicrophoneDisableChanged

Inside the room, all users' mic is disabled event.



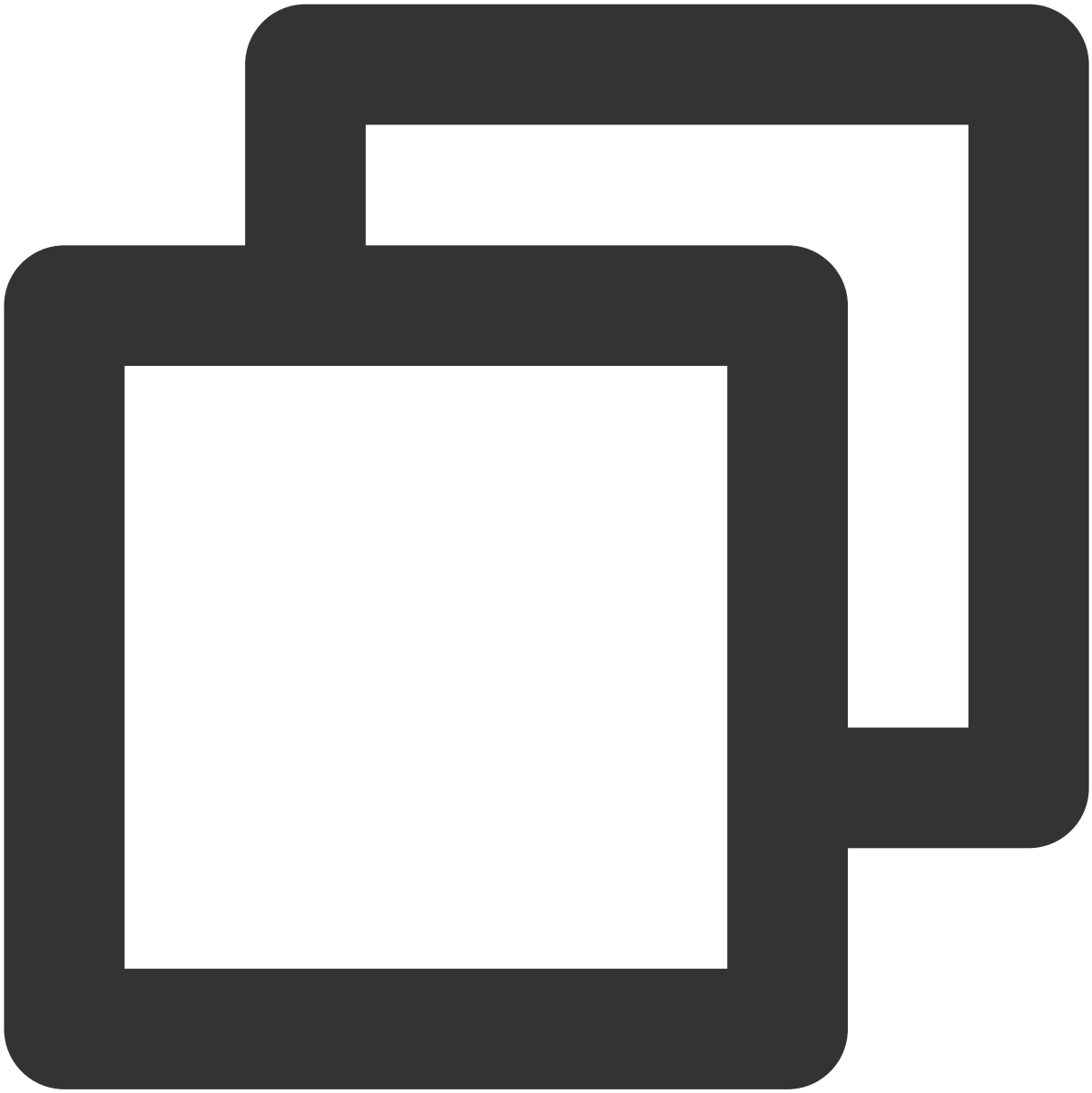
```
virtual void onAllUserMicrophoneDisableChanged(const char* roomId, bool isDisable)
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
isDisable	bool	Whether it is disabled

onAllUserCameraDisableChanged

All users' Camera in the Room are disabled event.



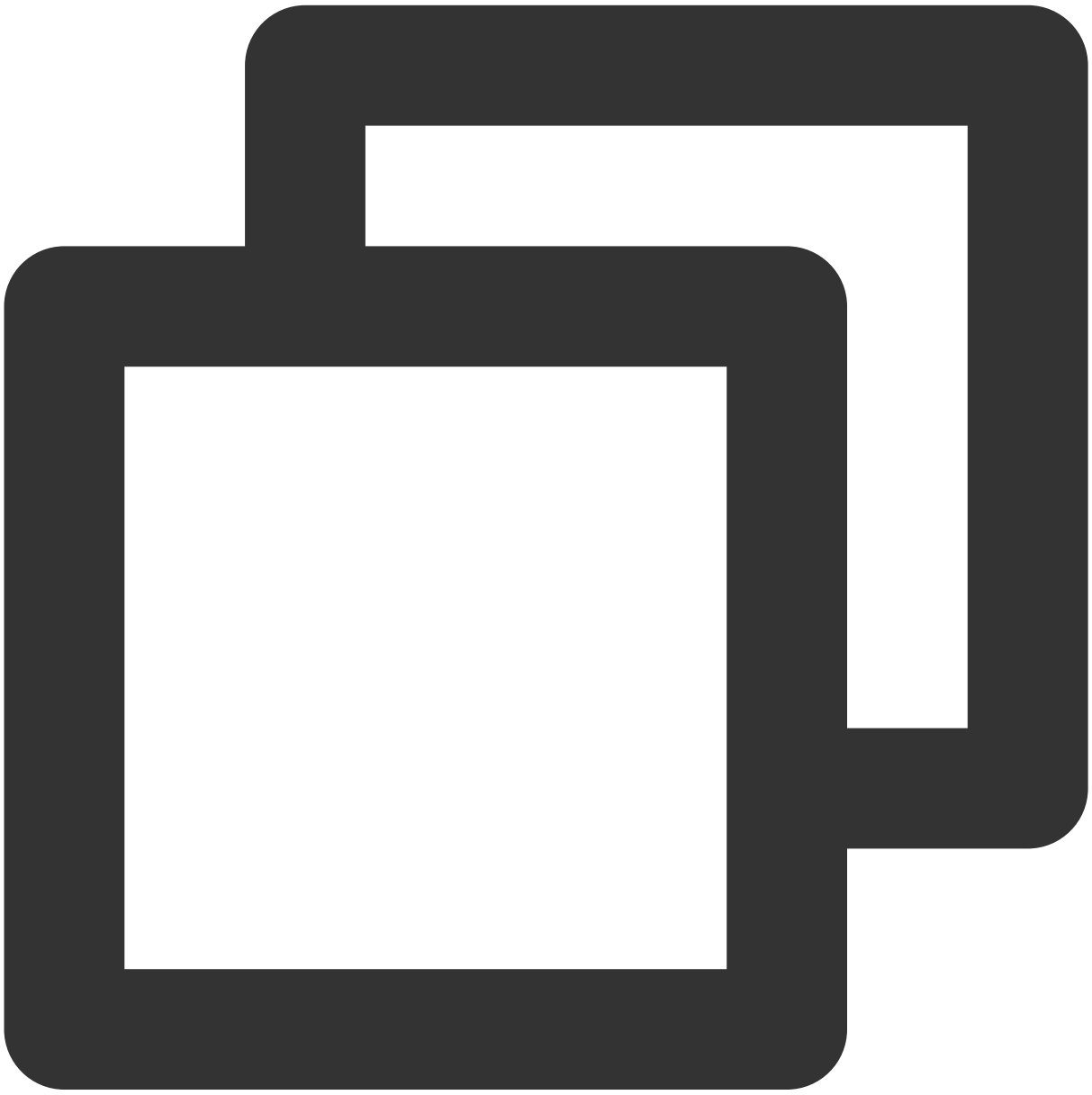
```
virtual void onAllUserCameraDisableChanged(const char* roomId, bool isDisable) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
isDisable	bool	Whether it is disabled

onSendMessageForAllUserDisableChanged

Inside the room, all users' text message sending is disabled event.



```
virtual void onSendMessageForAllUserDisableChanged(const char* roomId, bool isDisab
```

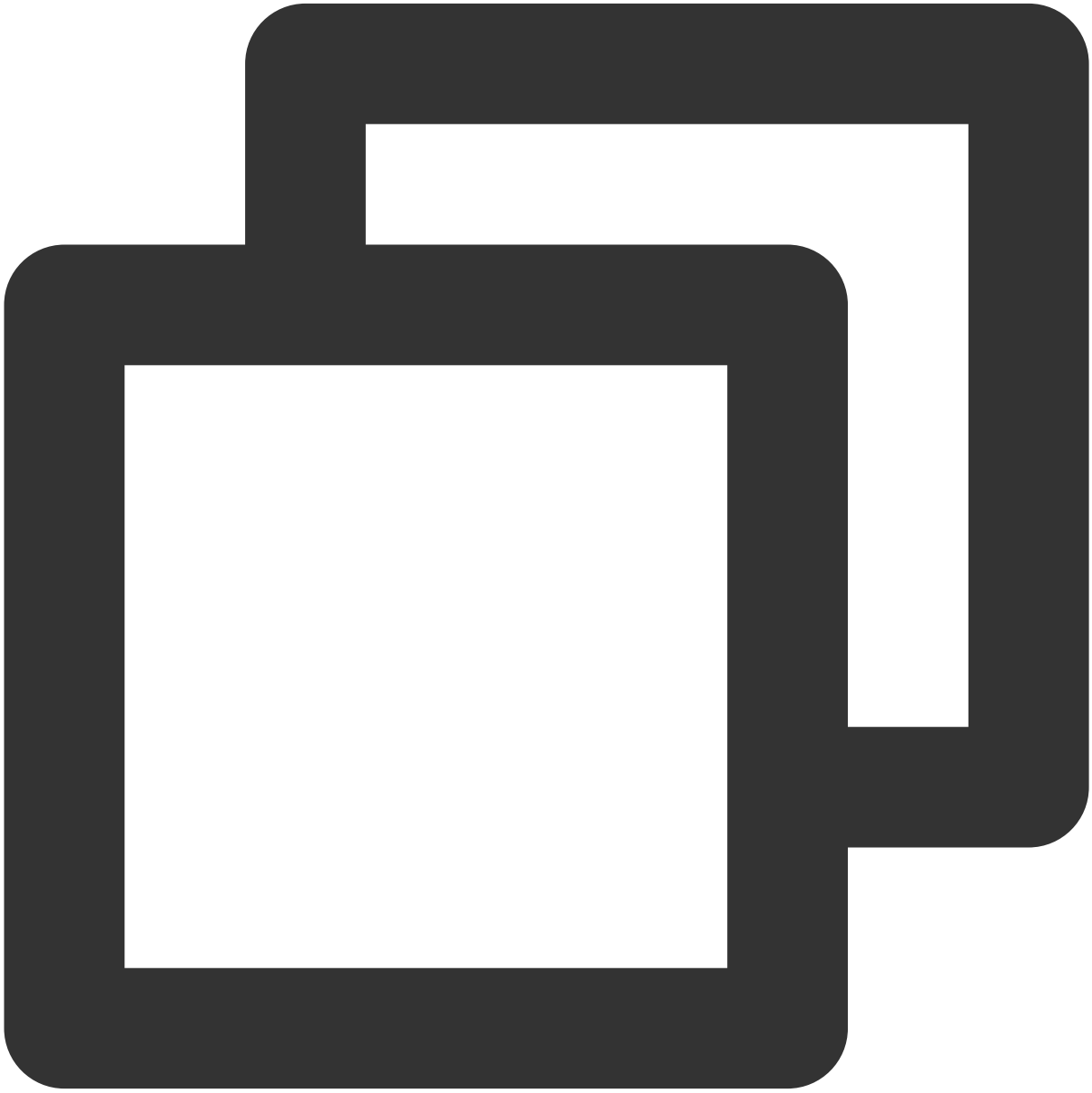
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID

isDisable	bool	Whether it is disabled

onRoomDismissed

Room dissolution event.



```
virtual void onRoomDismissed(const char* roomId) = 0;
```

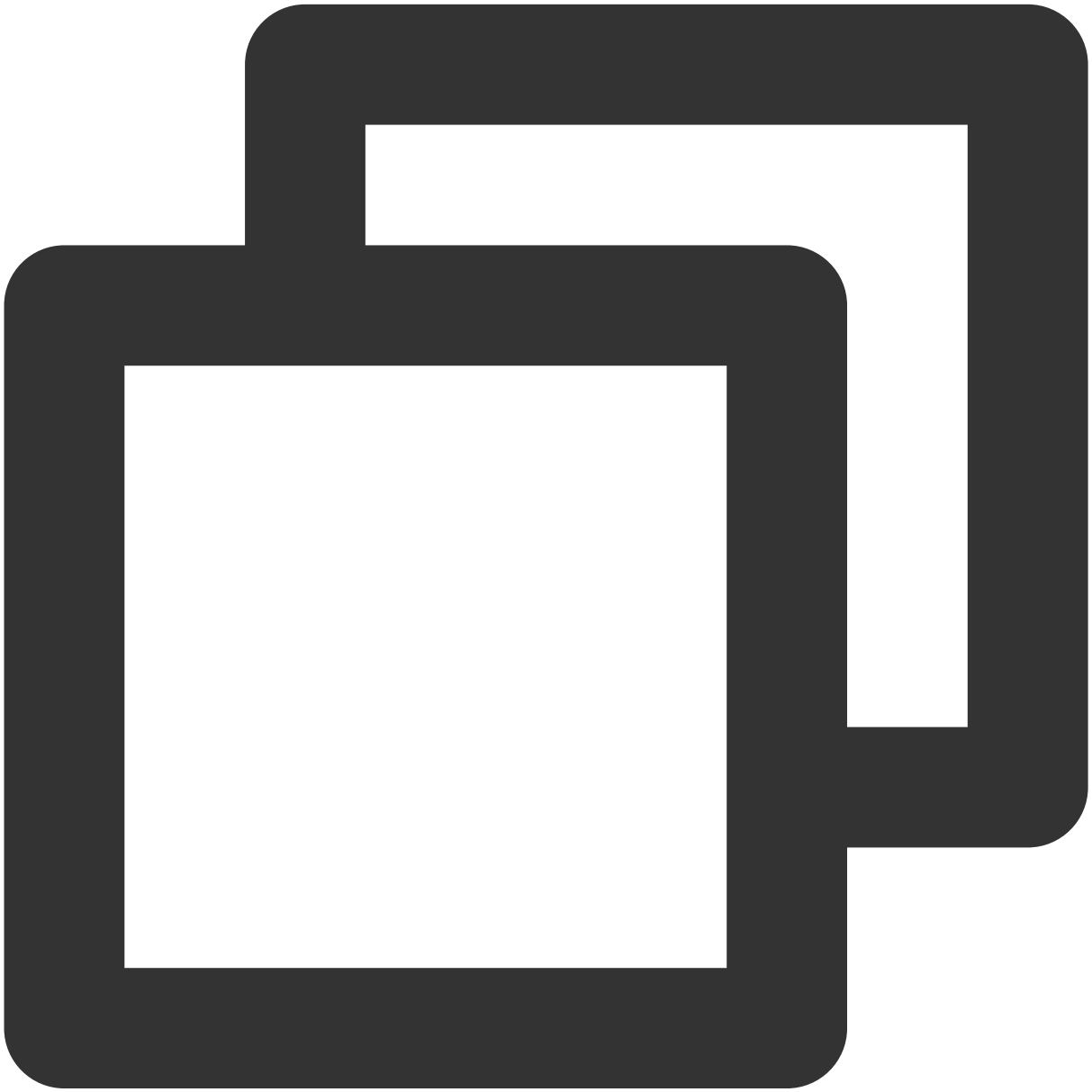
The parameters are as follows:

Parameter	Type	Meaning

roomId	const char*	Room ID

onKickedOutOfRoom

Kicked out of the room event.



```
virtual void onKickedOutOfRoom(const char* roomId, const char* message) = 0;
```

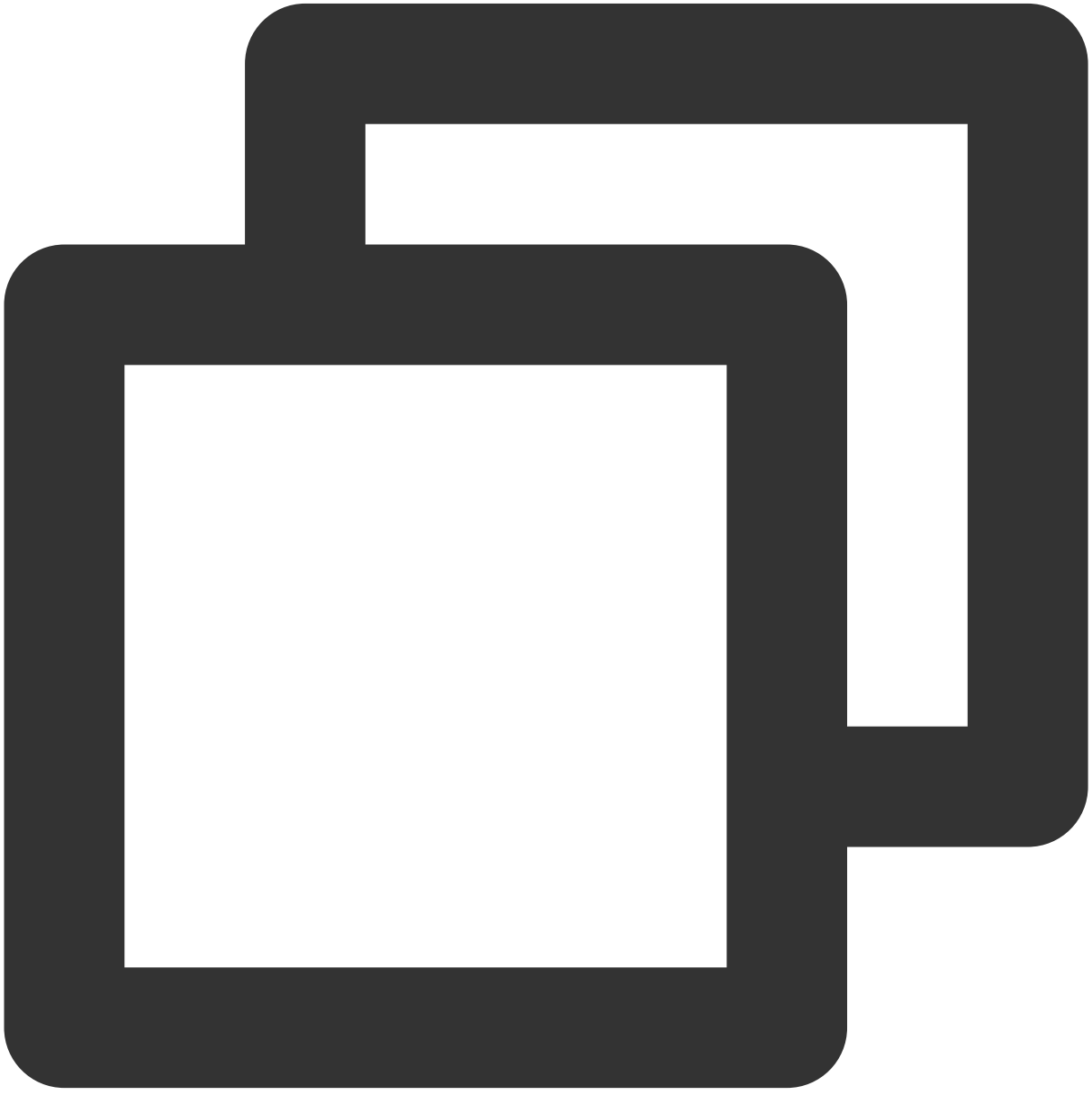
The parameters are as follows:

Parameter	Type	Meaning

roomId	const char*	Room ID
message	const char*	Description of being kicked out

onRoomSpeechModeChanged

Mic control mode changes in the room.



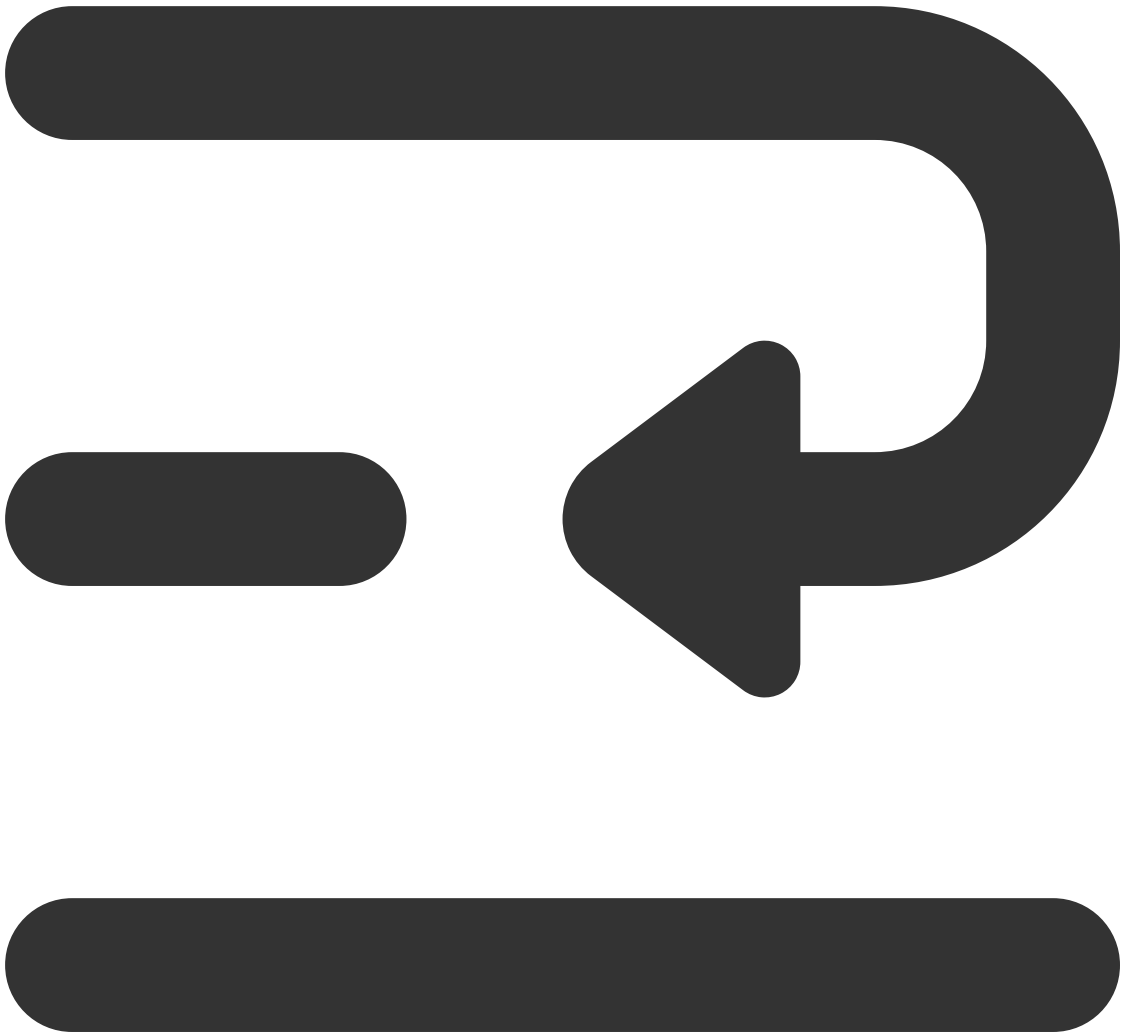
```
virtual void onRoomSpeechModeChanged(const char* roomId, TUISpeechMode speechMode)
```

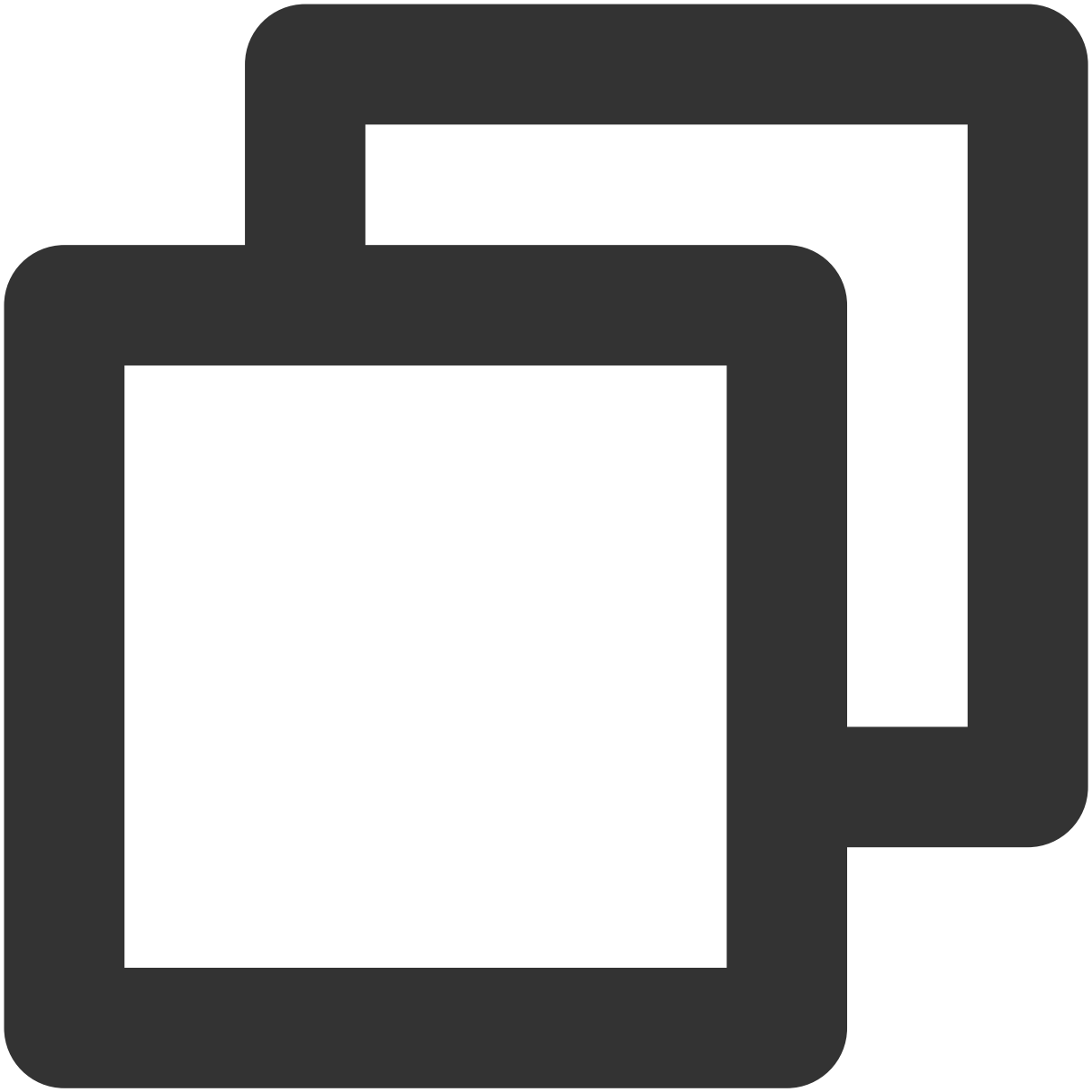
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
speechMode	TUISpeechMode	Mic control mode

onRemoteUserEnterRoom

Remote user enters the room event.





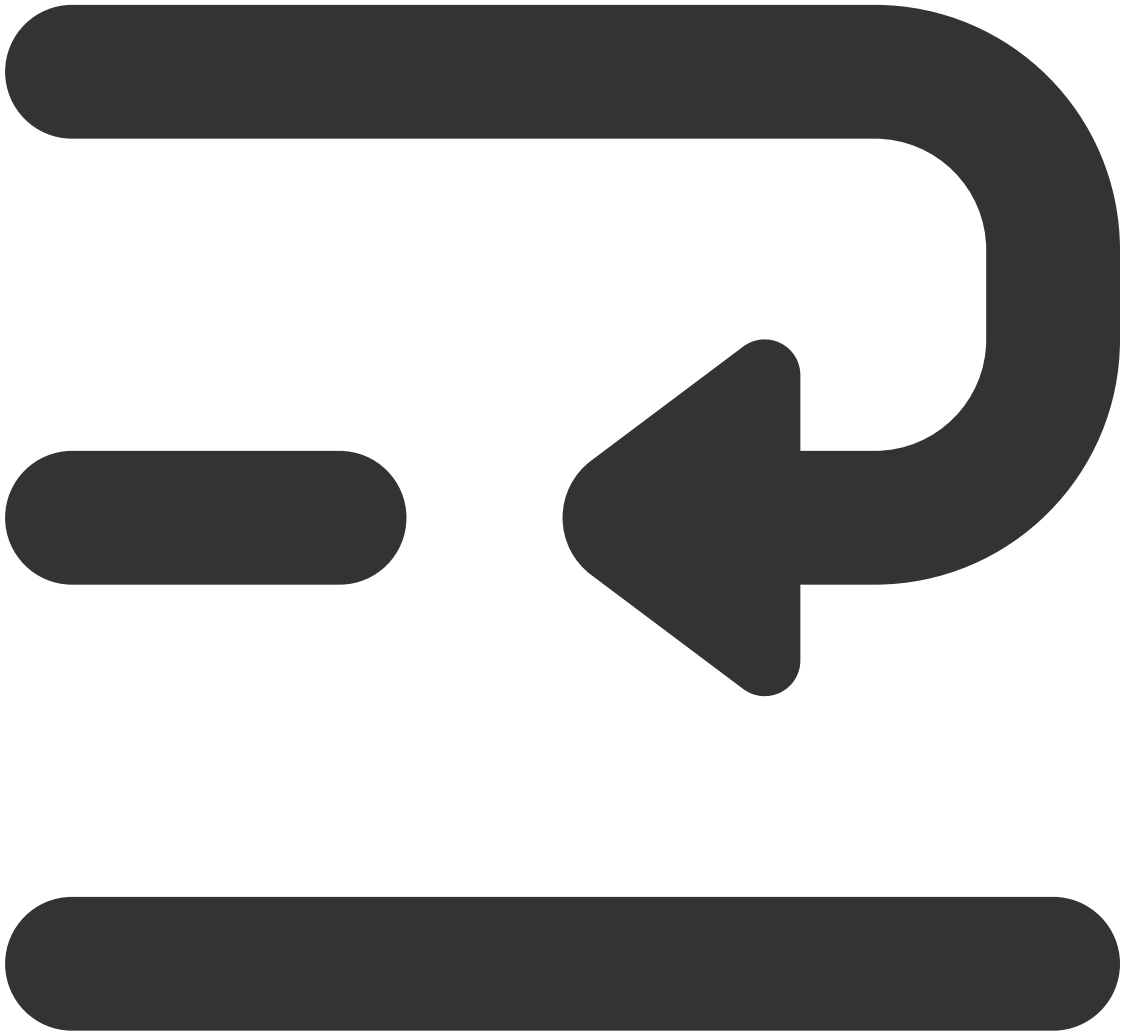
```
virtual void onRemoteUserEnterRoom(const char* roomId, const TUIUserInfo& userInfo)
```

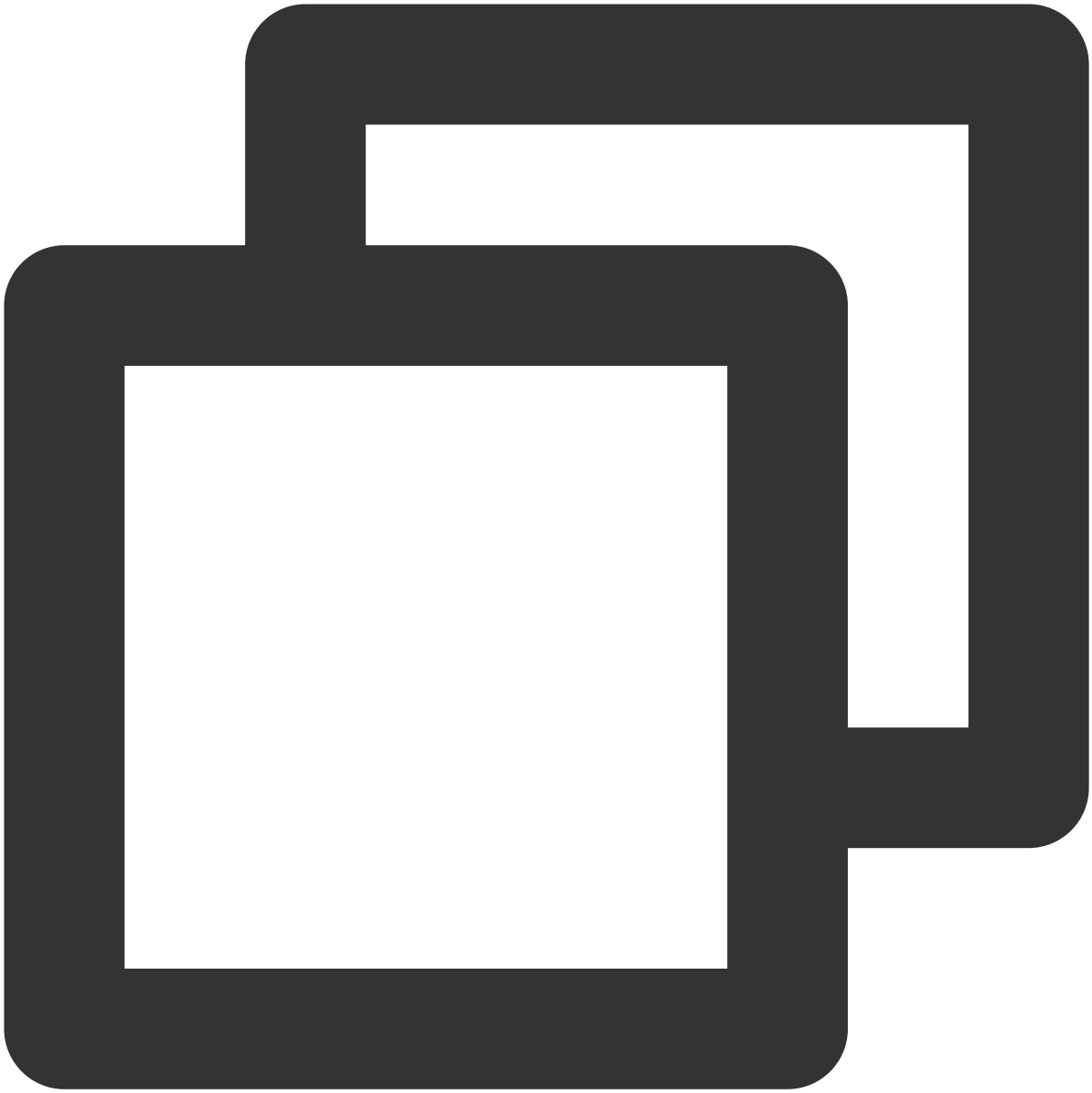
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
userInfo	const TUIUserInfo&	User information

onRemoteUserLeaveRoom

Remote user leaves the room event.





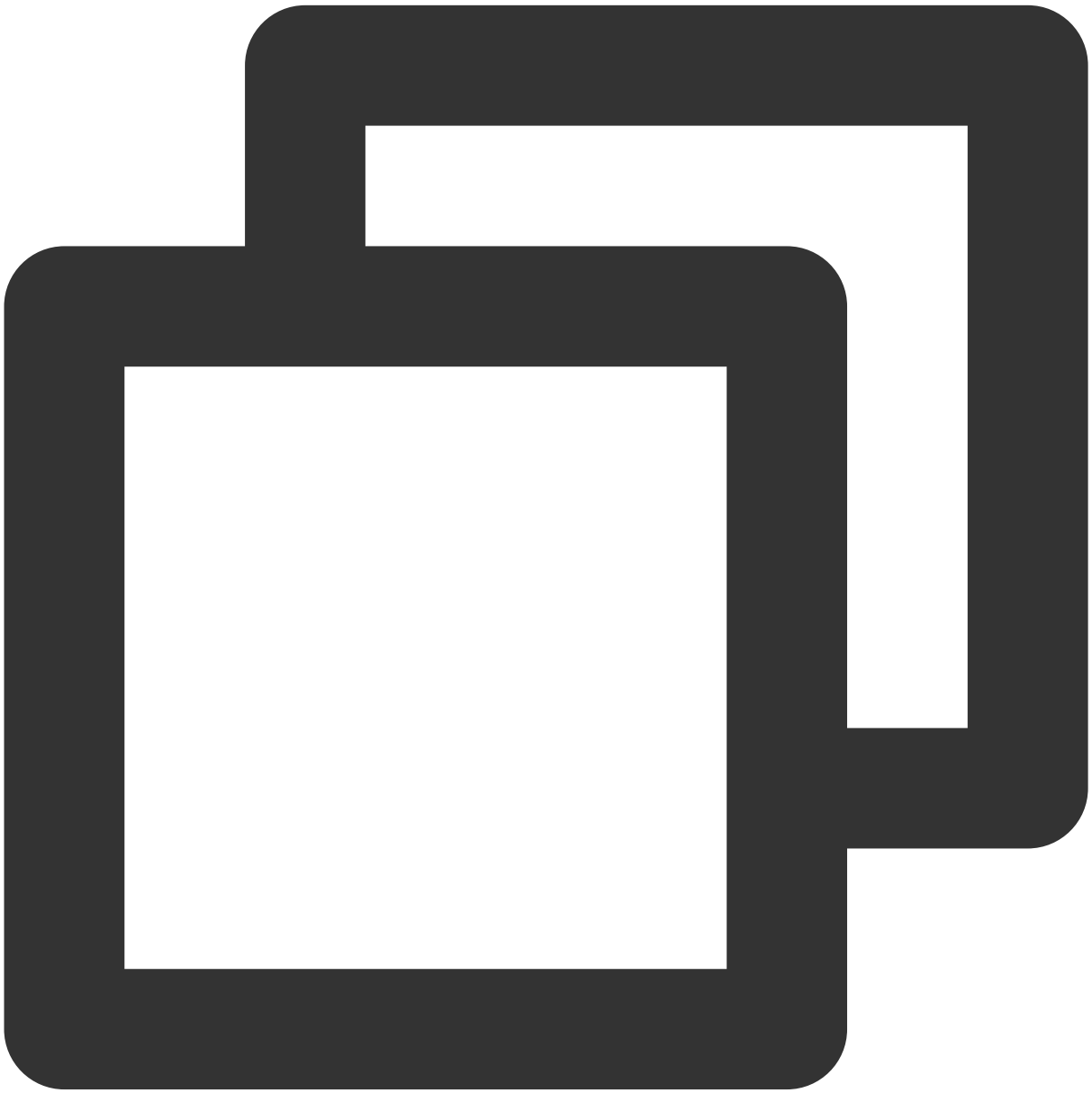
```
virtual void OnRemoteUserLeaveRoom(const char* roomId, const TUIUserInfo& userInfo)
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
userInfo	const TUIUserInfo&	User information

onUserRoleChanged

User role changes event.



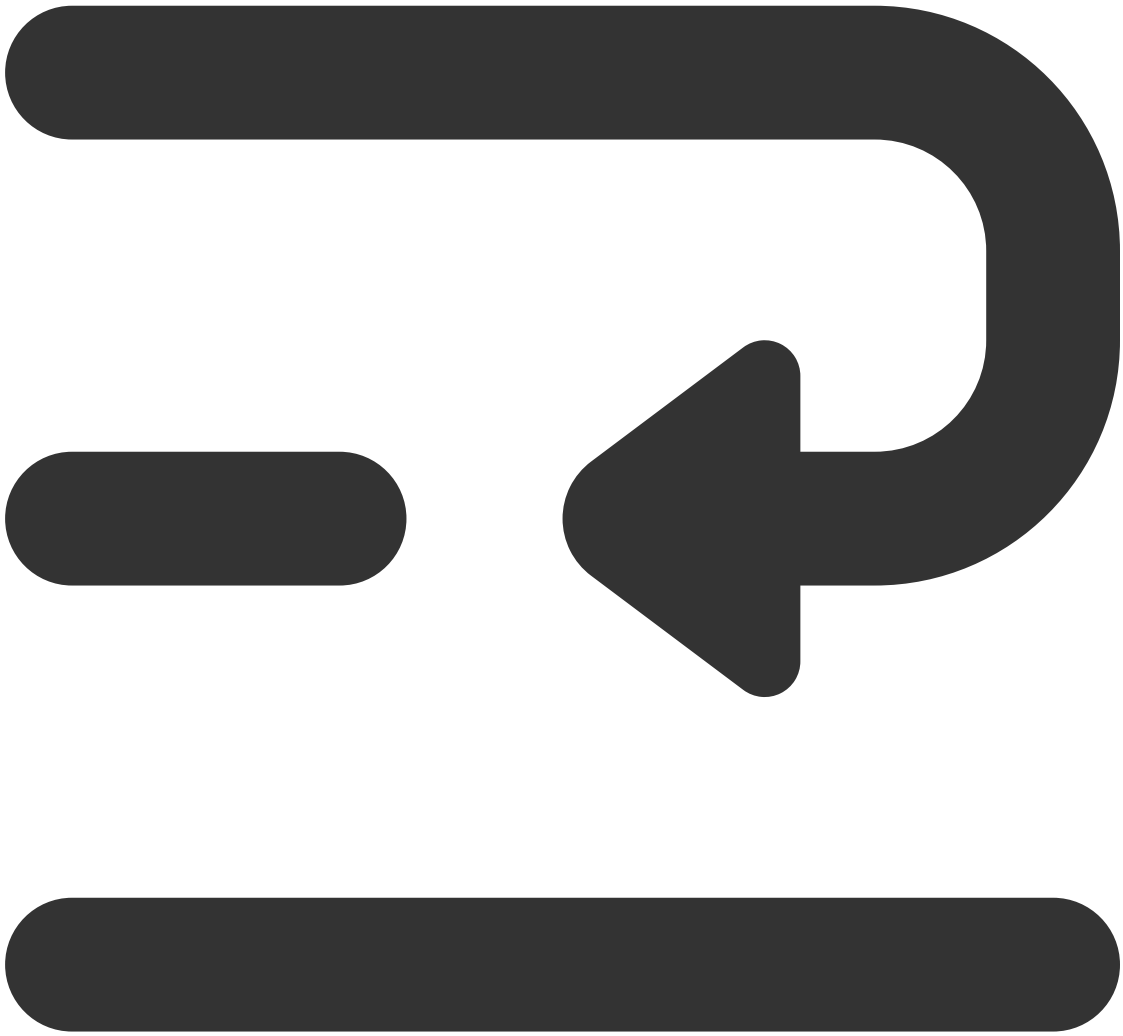
```
virtual void onUserRoleChanged(const char* userId, const TUIRole& userRole) = 0;
```

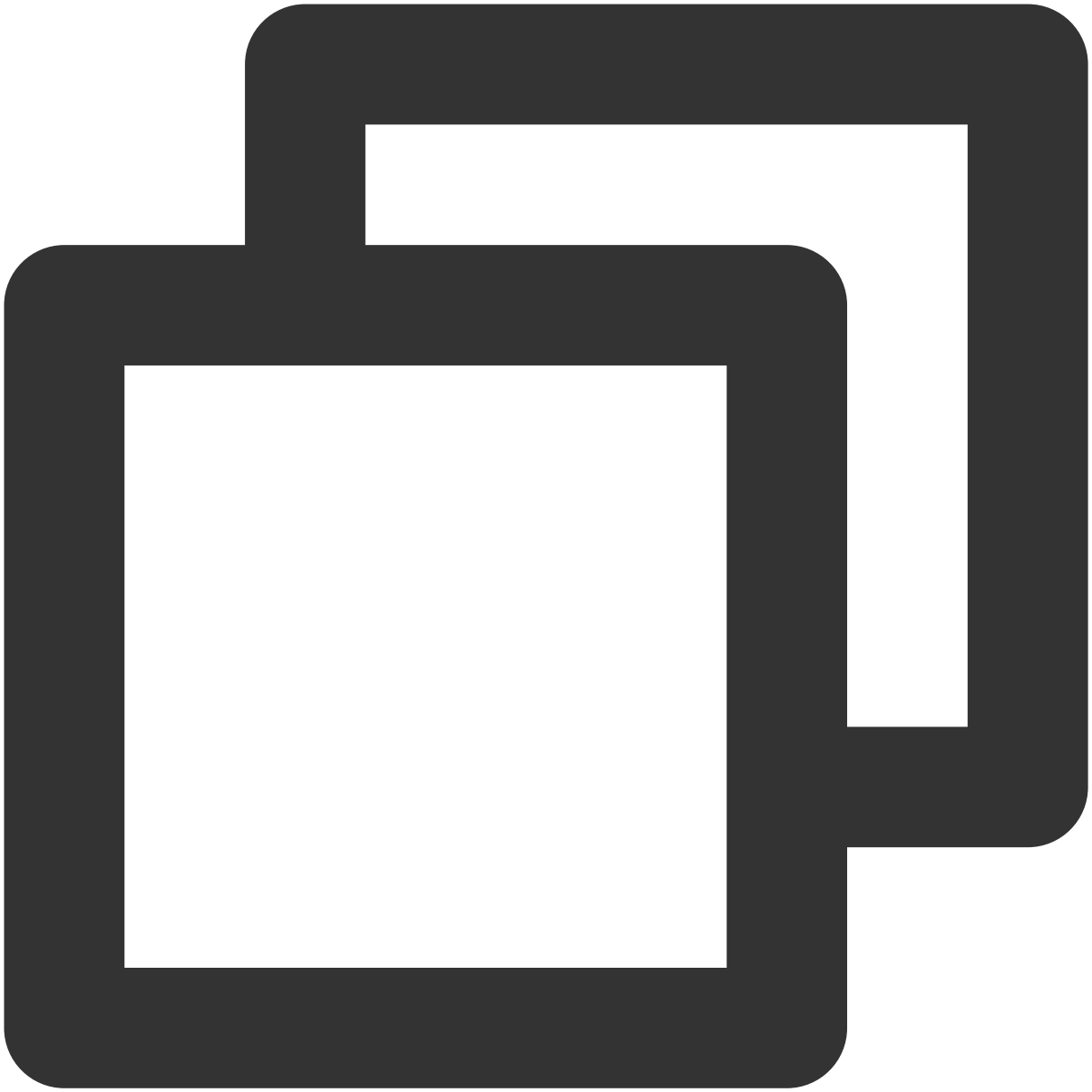
The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
userRole	const TUIRole&	User Role

onUserVideoStateChanged

User Video status changes event.





```
virtual void onUserVideoStateChanged(const char* userId, TUIVideoStreamType streamT
```

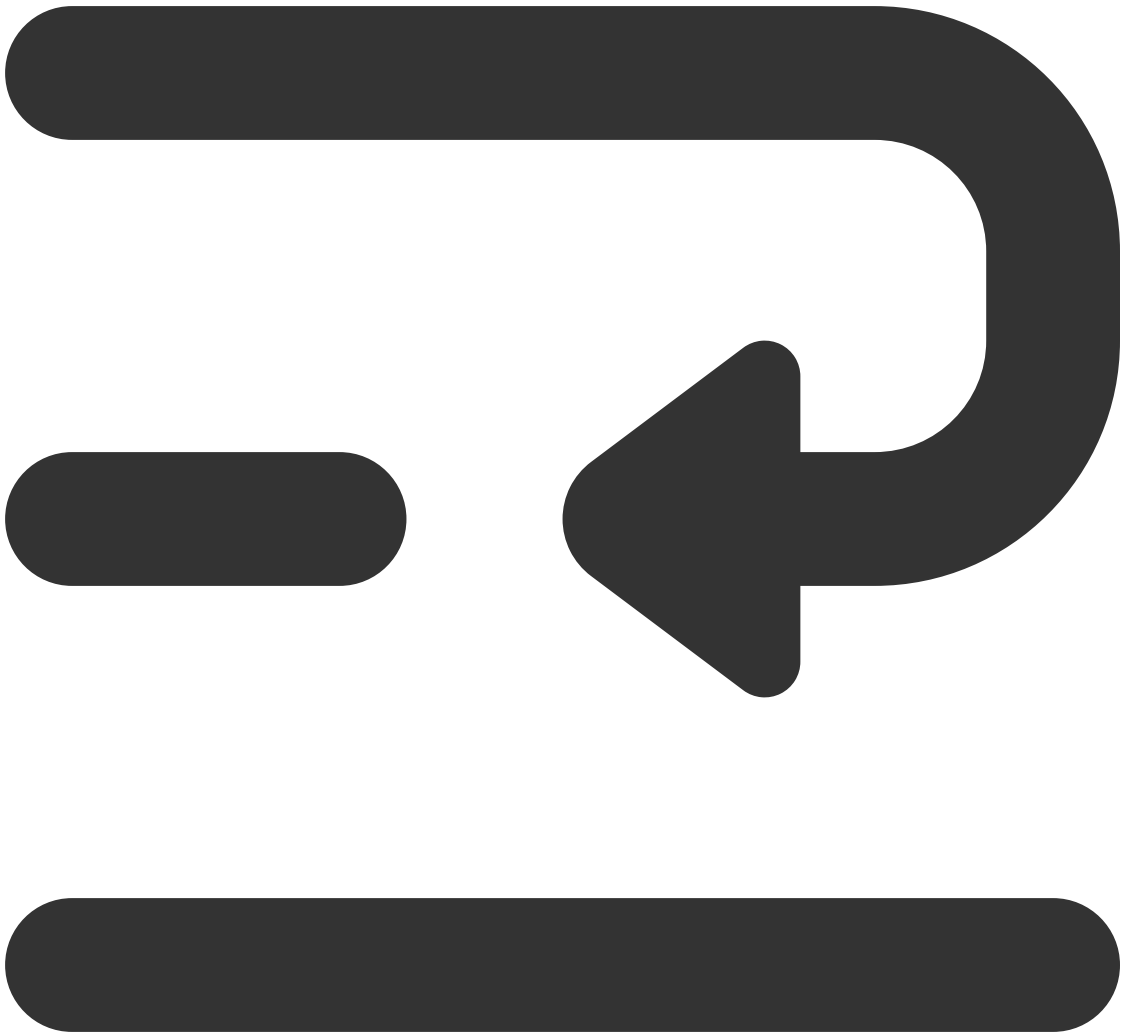
The parameters are as follows:

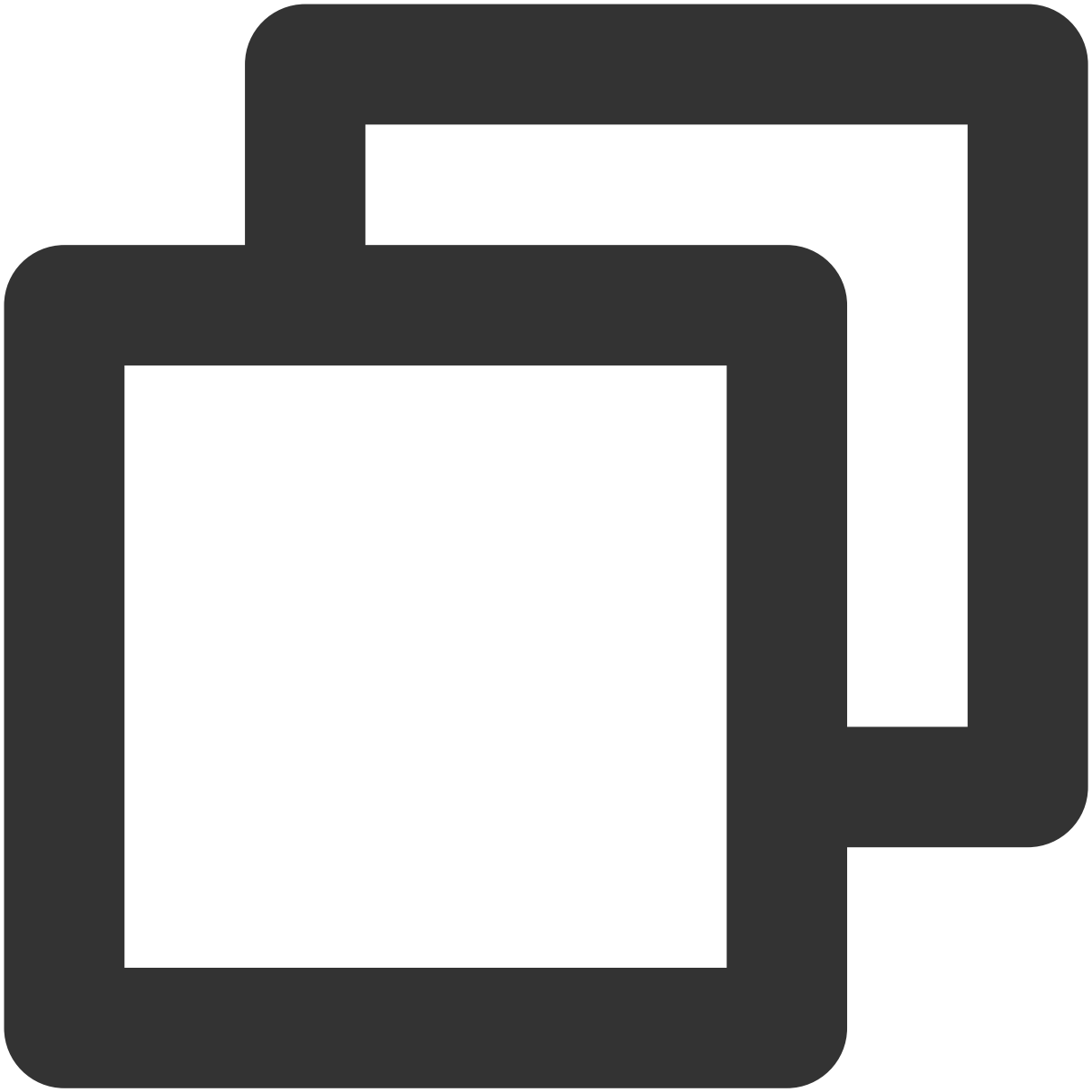
Parameter	Type	Meaning
userId	const char*	User ID
streamType	TUIVideoStreamType	Streams type
hasVideo	bool	Whether there are streams

reason	TUIChangeReason	Reason for streams change

onUserAudioStateChanged

User Audio status changes event.





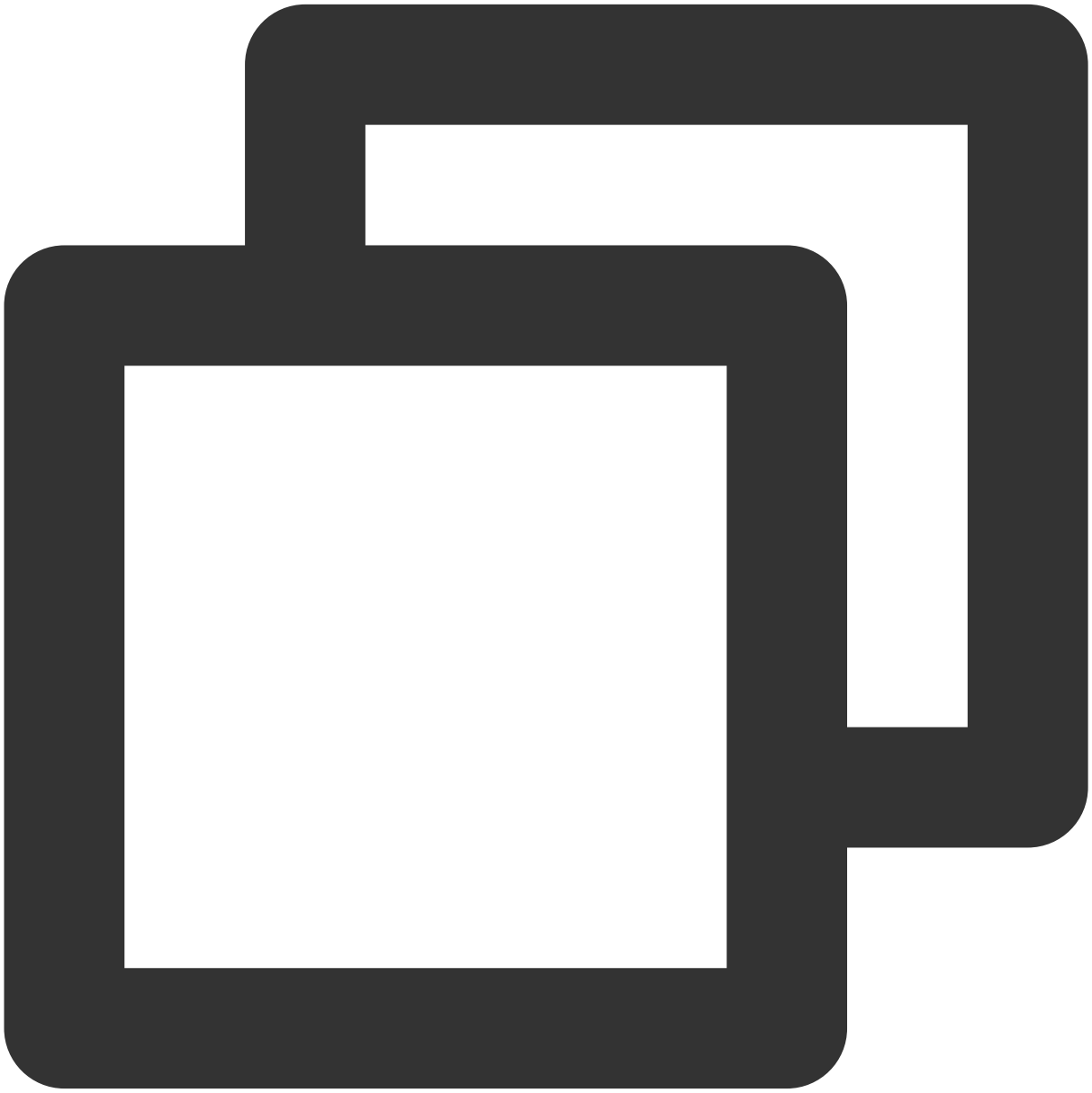
```
virtual void onUserAudioStateChanged(const char* userId, bool hasAudio, TUIChangeRe
```

The parameters are as follows:

Parameter	Type	Meaning
userId	const char*	User ID
hasAudio	bool	Whether there are Audio streams
reason	TUIChangeReason	Reason for Audio streams change

onUserVoiceVolumeChanged

User volume change event.



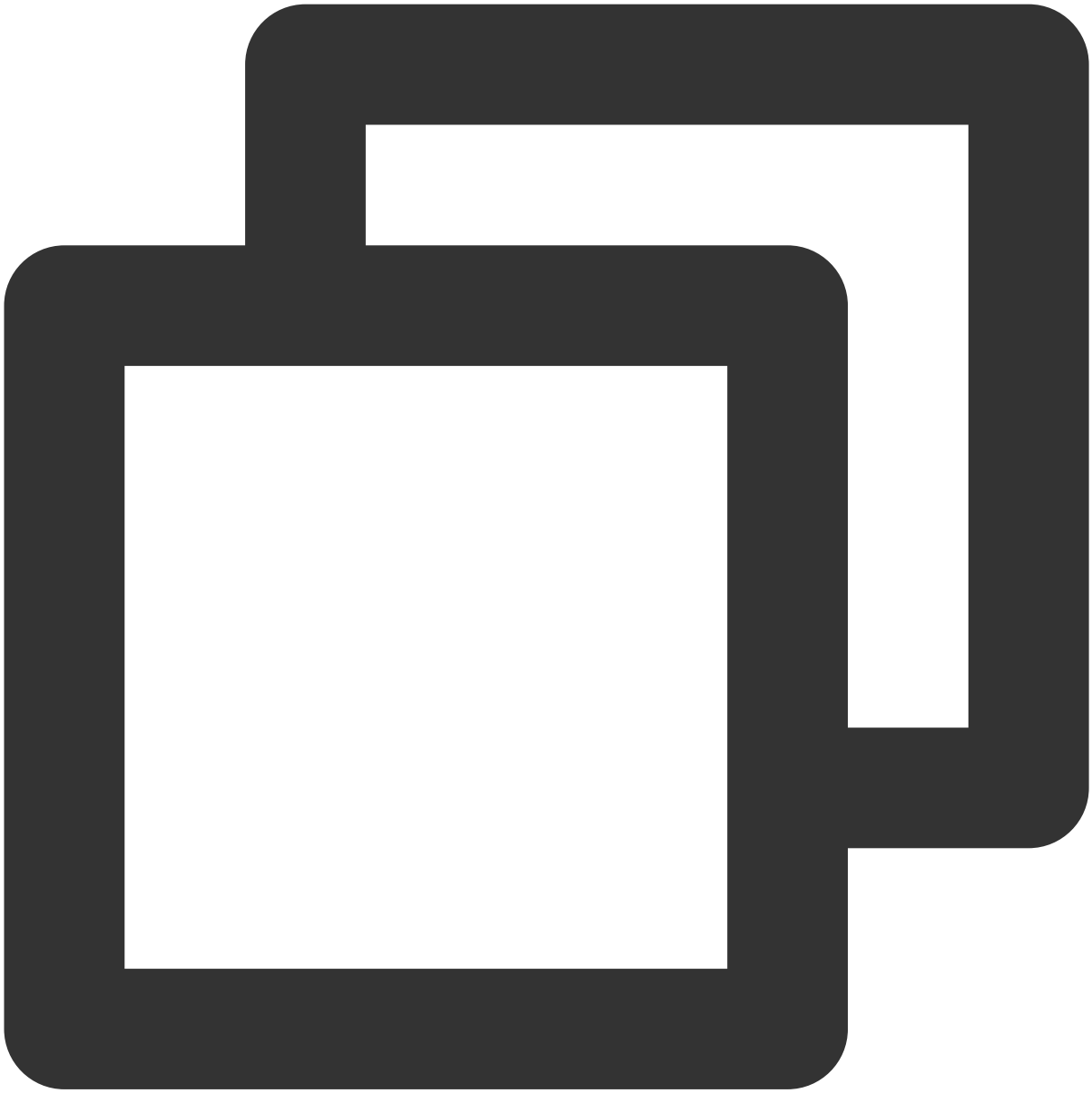
```
virtual void onUserVoiceVolumeChanged(TUIMap<const char*, int>* volumeMap) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
volumeMap	TUIMap<const char*, int>*	User Volume Map

onSendMessageForUserDisableChanged

User text message sending ability changes event.



```
virtual void onSendMessageForUserDisableChanged(const char* roomId, const char* use
```

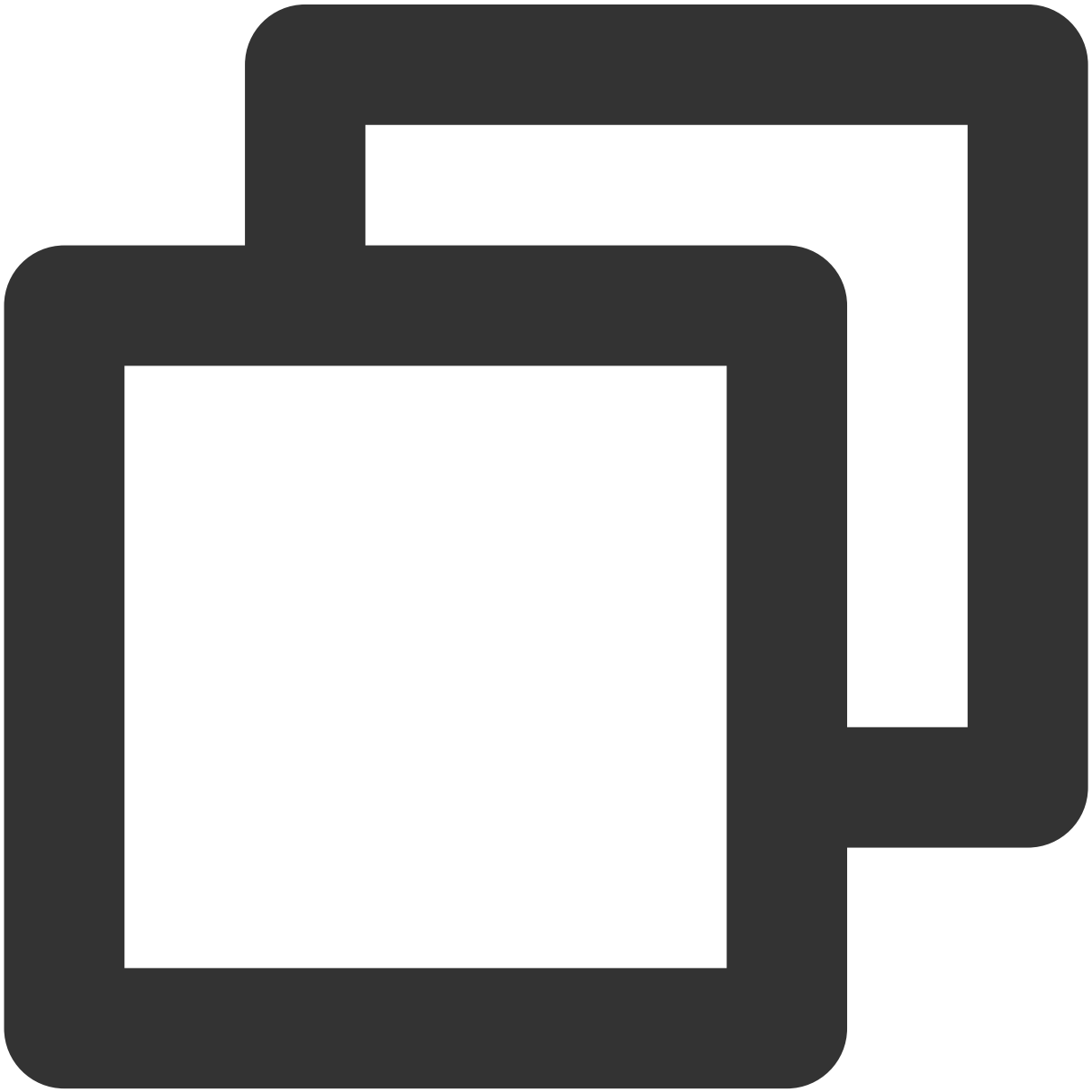
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
userId	const char*	User ID

isDisable	bool	Whether the user is prohibited from sending messages, true: The user is prohibited from sending text and custom messages; false: The user is allowed to send text and custom messages.

onUserNetworkQualityChanged

User network status change event.



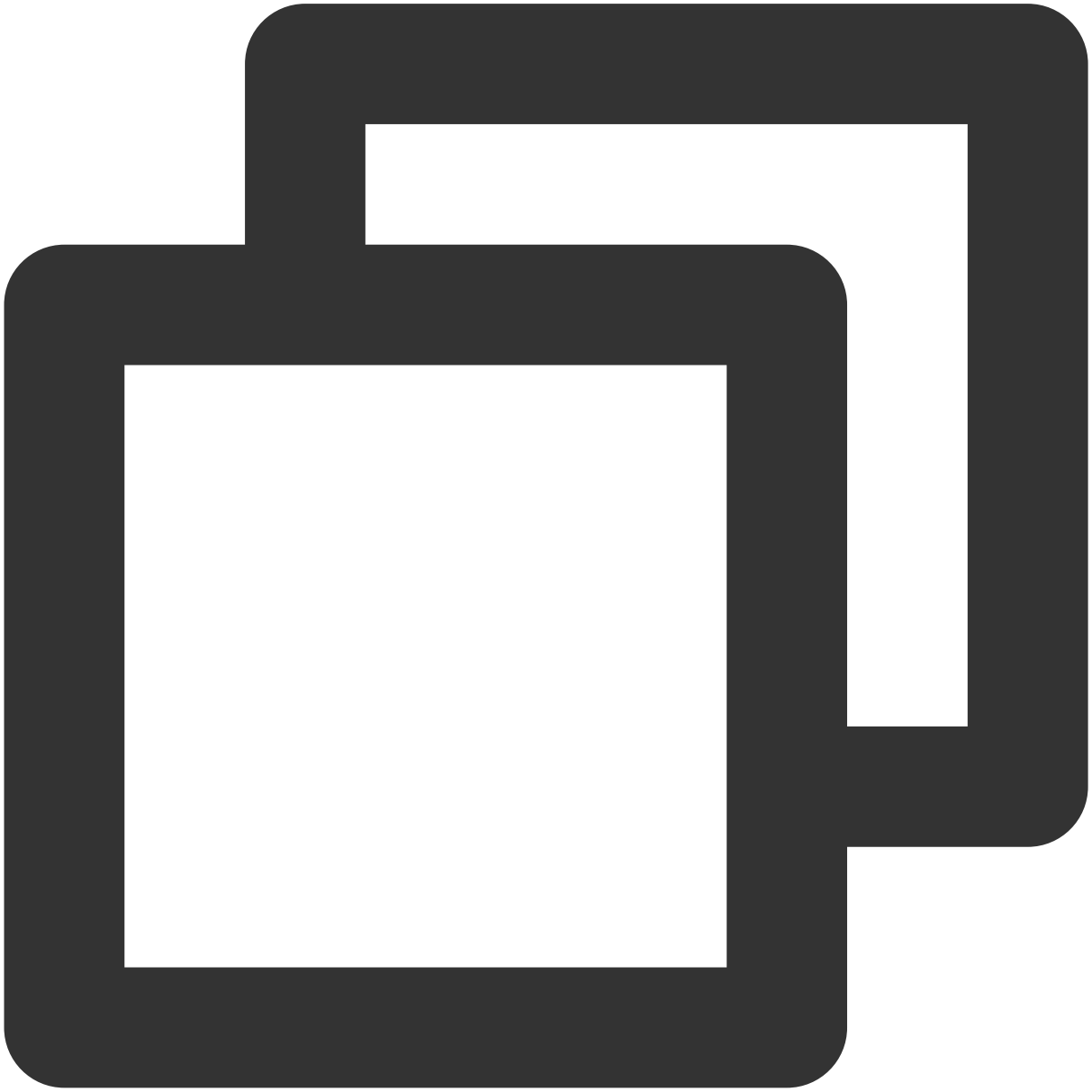
```
virtual void onUserNetworkQualityChanged(TUIList<TUINetwork>* networkList) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
networkList	TUIList<TUINetwork>*	User network status list

onUserScreenCaptureStopped

Screen Sharing stopped Callback event.



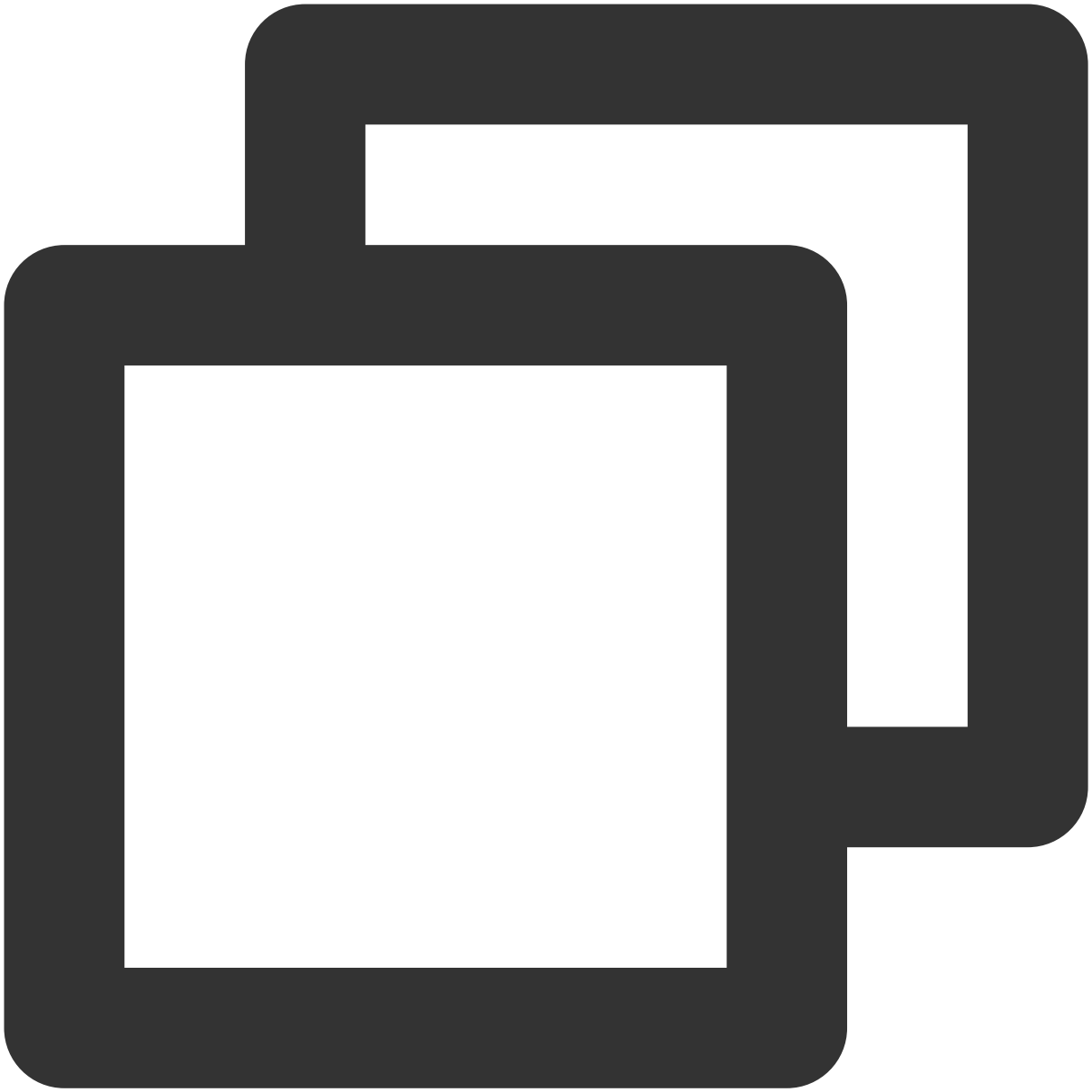
```
virtual void onUserScreenCaptureStopped(int reason) = 0;
```

The parameters are as follows:

Parameter	Type	Meaning
reason	int	Stop reason: 0: User actively stops 1: Screen window closing causes the stop 2: Screen Sharing display screen status change (such as interface being unplugged, Projection mode change, etc.)

onRoomMaxSeatCountChanged

Maximum number of mic slots changes event in the room (only effective in meeting type rooms).



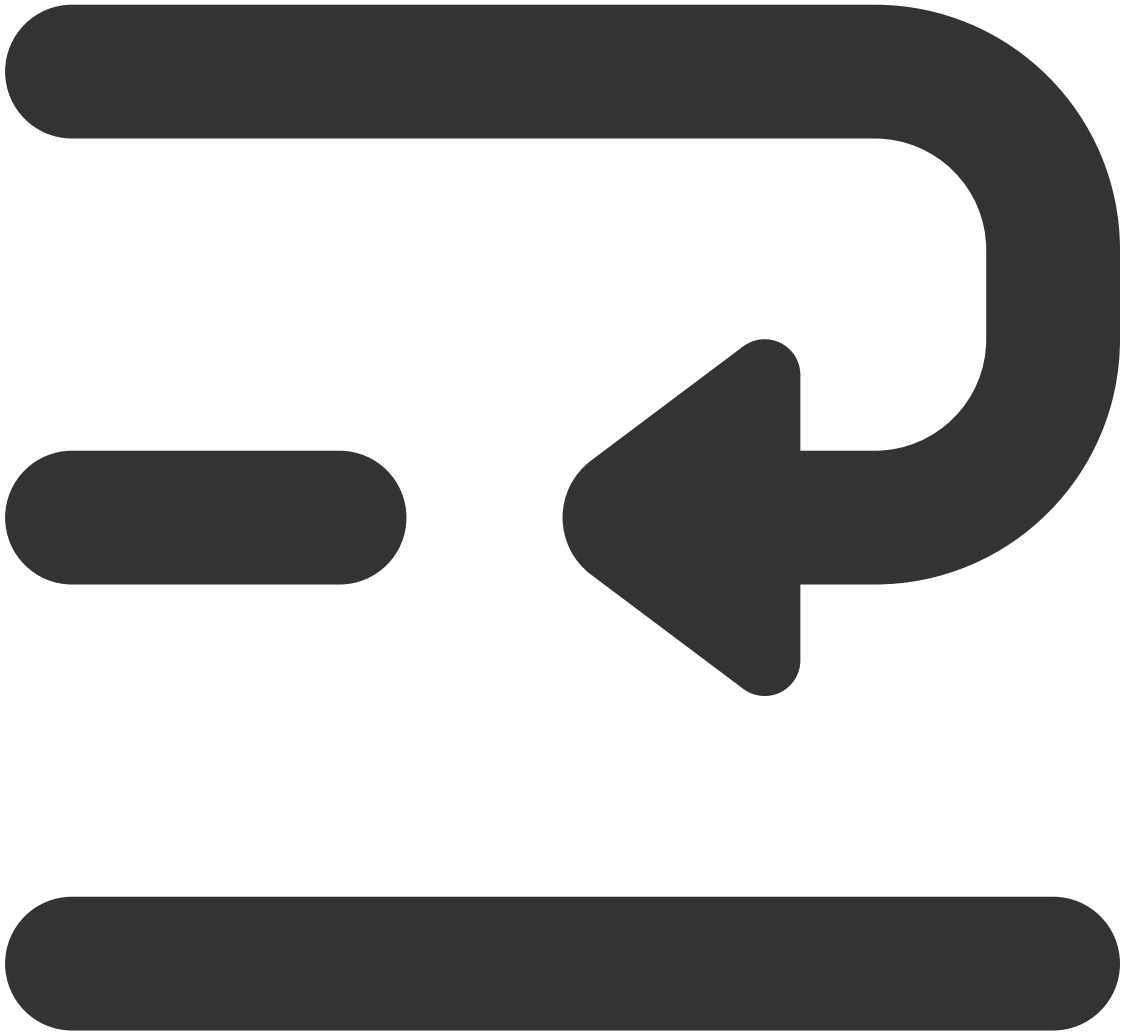
```
virtual void onRoomMaxSeatCountChanged(const char* roomId, int maxSeatCount) = 0;
```

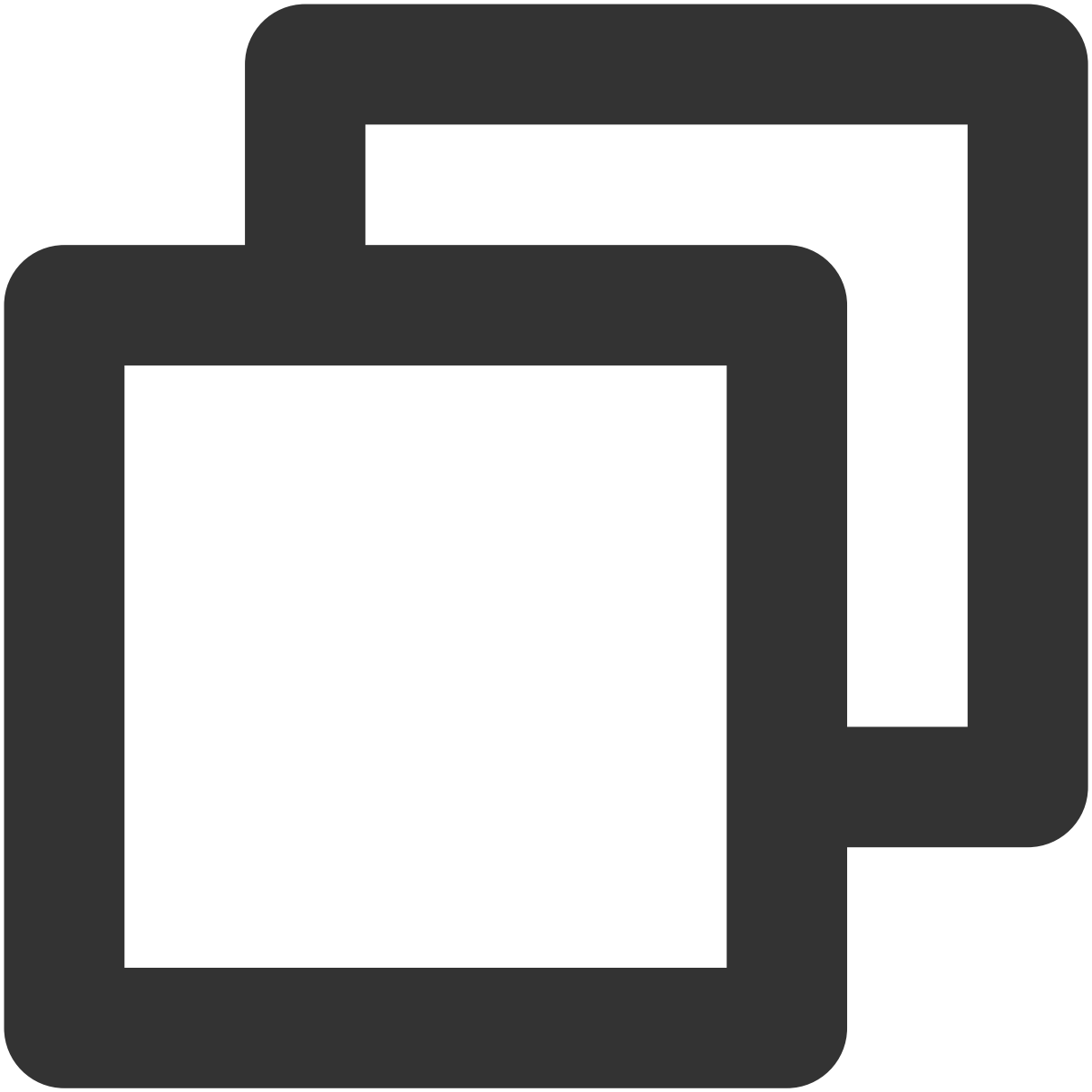
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
maxSeatCount	int	Maximum number of mic slots in the room

onSeatListChanged

Mic slot list changes event.





```
virtual void onSeatListChanged(TUIList<TUISeatInfo>* seatList, TUIList<TUISeatInfo>
```

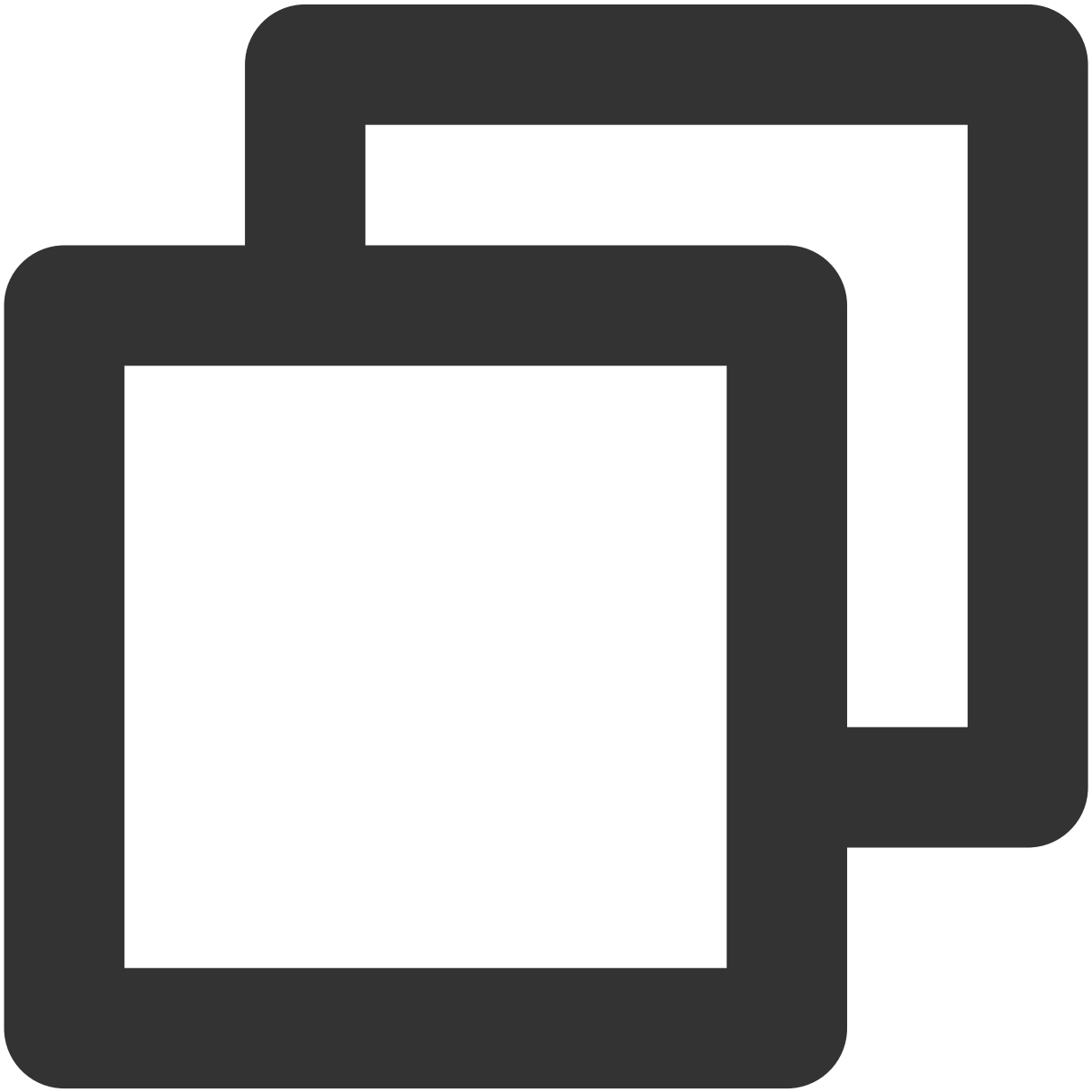
The parameters are as follows:

Parameter	Type	Meaning
seatList	TUIList<TUISeatInfo>*	The latest user list on the mic, including newly on mic users
usersSeated	TUIList<TUISeatInfo>*	Newly on mic user list

usersLeft	TUIList<TUISeatInfo>*	Newly off mic user list

onKickedOffSeat

Received the event of user being kicked off mic.



```
virtual void onKickedOffSeat(const char* userId) = 0;
```

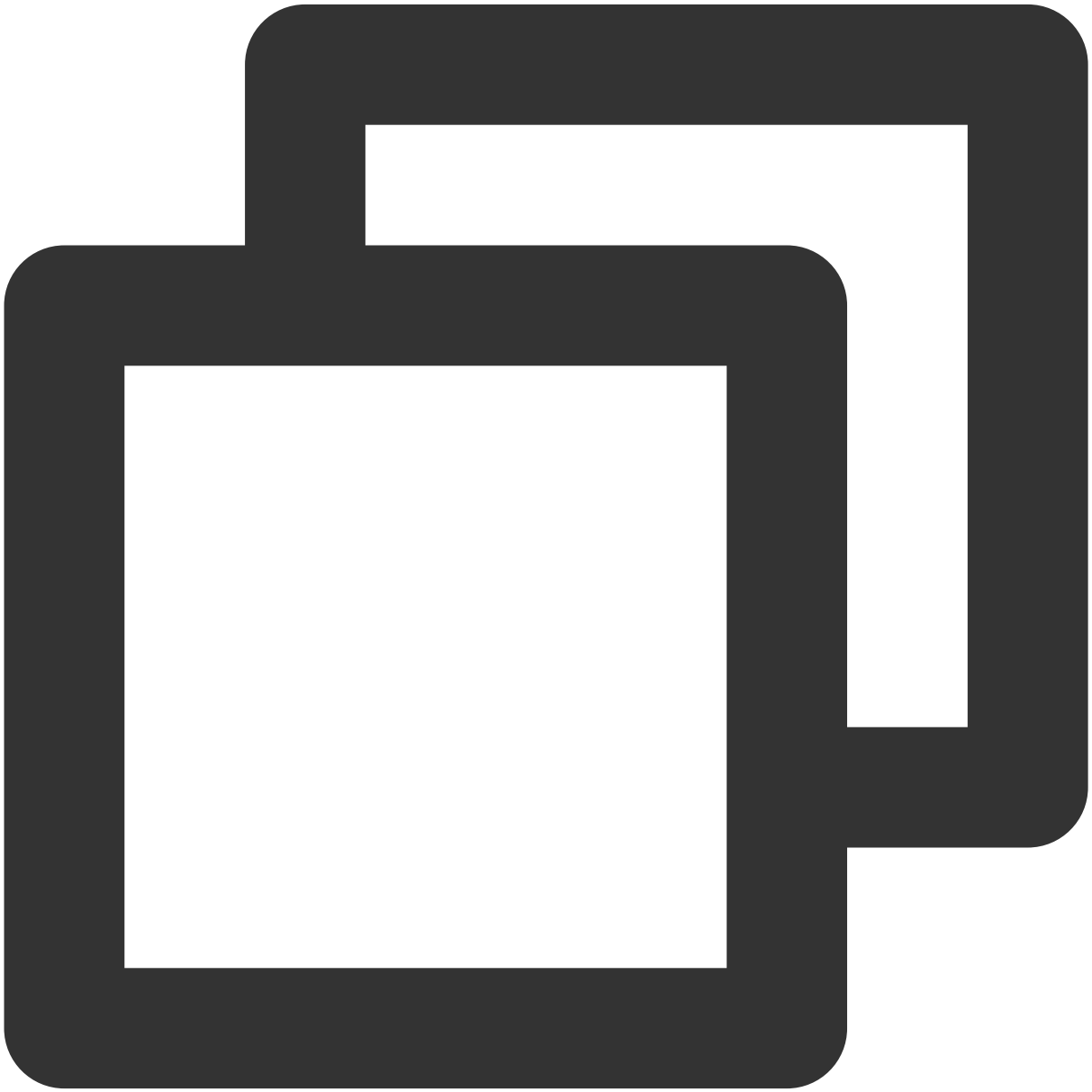
The parameters are as follows:

Parameter	Type	Meaning

userId	const char*	User ID

onRequestReceived

Received request message event.



```
virtual void onRequestReceived(const TUIRequest* request) = 0;
```

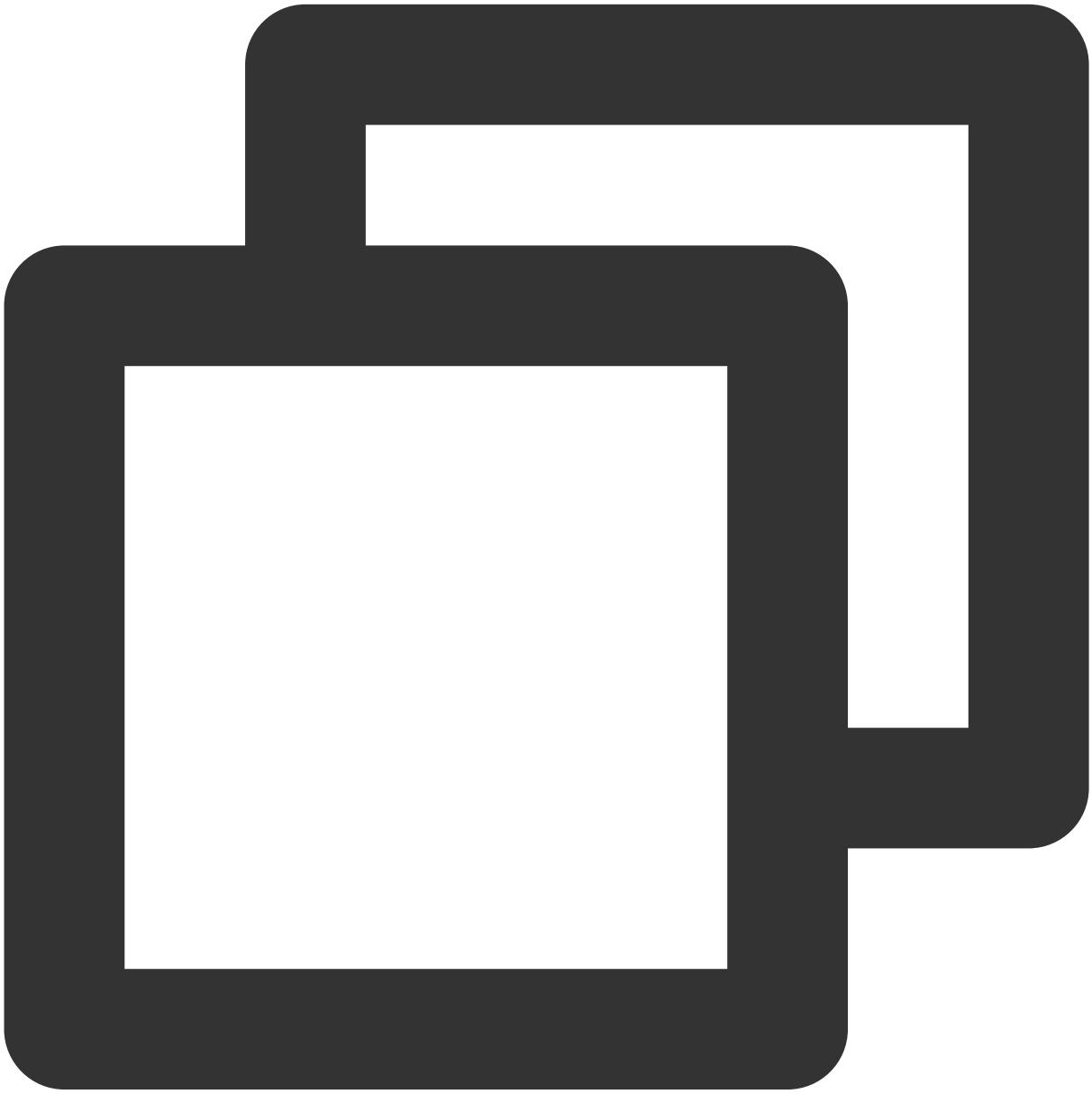
The parameters are as follows:

Parameter	Type	Meaning

request	const TUIRequest*	Request content

onRequestCancelled

Received request cancellation event.



```
virtual void OnRequestCancelled(const char* requestId, const char* userId) = 0;
```

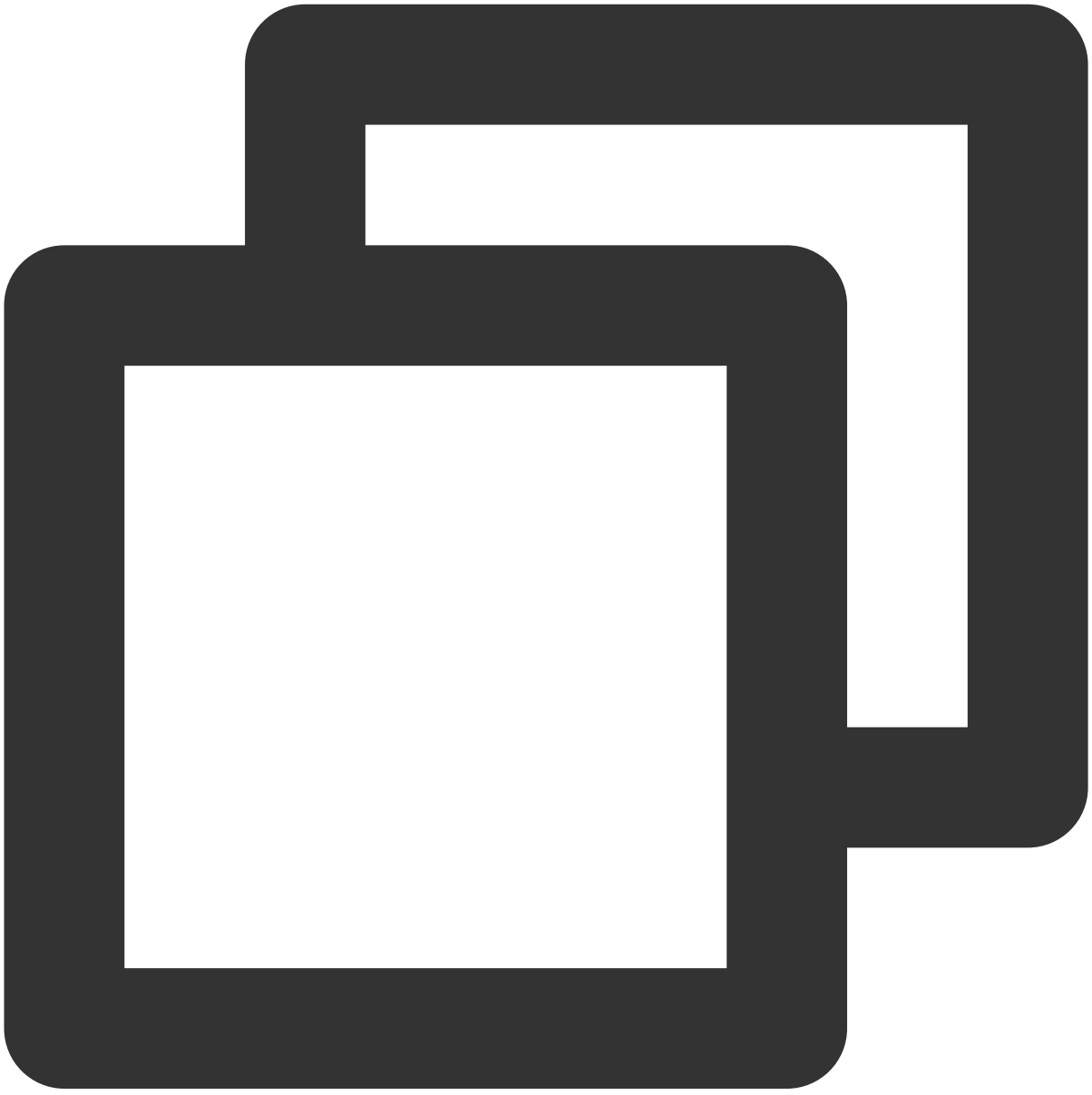
The parameters are as follows:

Parameter	Type	Meaning

requestId	const char*	Request ID
userId	const char*	User ID

onReceiveTextMessage

Received ordinary text message event.



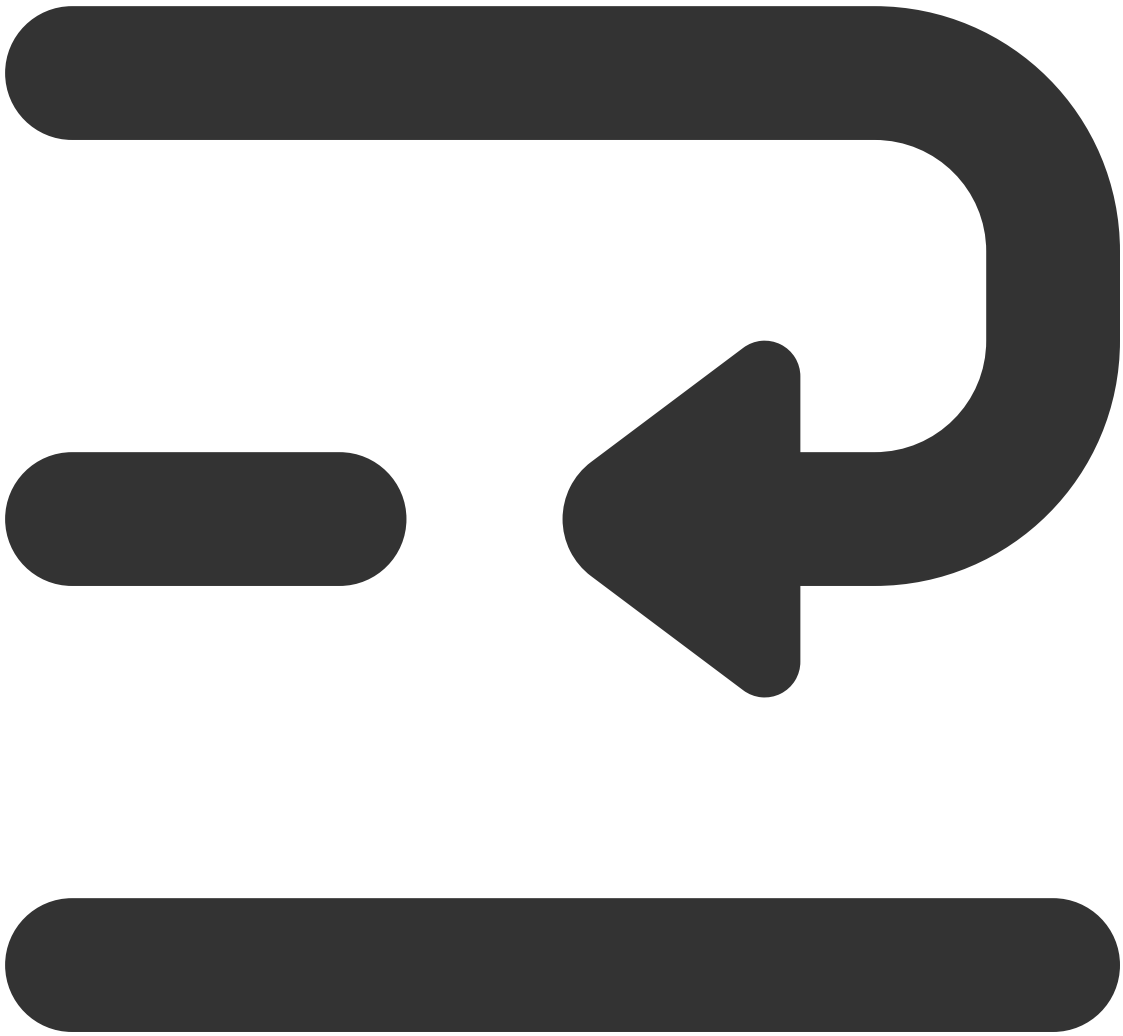
```
virtual void onReceiveTextMessage(const char* roomId, const TUIMessage& message) =
```

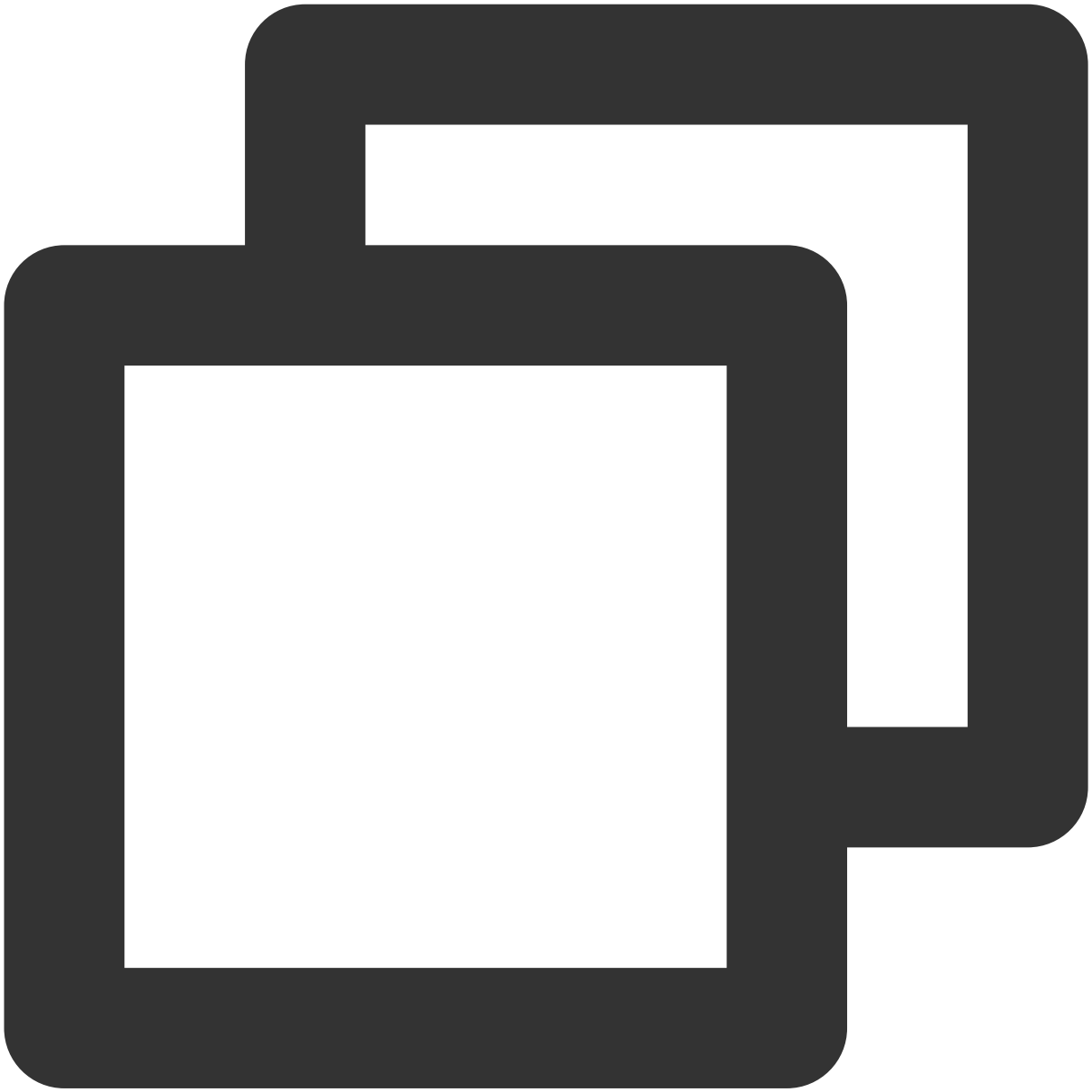
The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
message	const TUIMessage&	Message content

onReceiveCustomMessage

Received custom message event.





```
virtual void onReceiveCustomMessage(const char* roomId, const TUIMessage& message)
```

The parameters are as follows:

Parameter	Type	Meaning
roomId	const char*	Room ID
message	const TUIMessage&	Message content

Type Definition

Last updated：2023-10-30 10:55:29

Enumeration Definition

TUIRoomDefine

Type	Description
TUIRoomType	Room Type
TUISpeechMode	Mic Control Mode
TUIMediaDevice	Room Media Device Type
TUIRole	Room Role Type
TUIVideoQuality	Video Quality
TUIAudioQuality	Audio Quality
TUIVideoStreamType	Video Stream Type
TUIChangeReason	Change Reason (User audio and video status change operation reason: self-modification or modified by room owner/administrator)
TUICaptureSourceType	Screen Sharing Capture Source Type
TUIRequestAction	Request Type

TUICommonDefine

Type	Description
TUINetworkQuality	Network Quality

Common Structure

TUIRoomDefine

Type	Description
TUIRoomInfo	Room data
TUILoginUserInfo	User Login Information

TUIUserInfo	Room User Information
TUISeatInfo	Room Seat Information
TUISeatLockParams	Lock Seat Operation Parameters
TUIUserVoiceVolume	Room User Volume
TUIRequest	Signaling Request
TUIShareTarget	Screen Sharing Capture Source Information

TUICommonDefine

Type	Description
TUINetworkInfo	Network Quality Information
TUIMessage	Message
TUIImageBuffer	Image Info

TUIRoomType

Room Type

Enumeration	Value	Description
kConference	1	Conference Type Room, suitable for conference and education scenarios, this room can enable free speech, apply for speech, go live and other modes.
kLivingRoom	2	Live Type Room, suitable for live broadcast scenarios, this room can enable free speech, mic control mode, and the seats in this room are numbered.

TUISpeechMode

Mic Control Mode

Enumeration	Value	Description
kFreeToSpeak	1	Free speech mode.
kApplyToSpeak	2	Apply to speak mode. (Only effective in conference type room)

kApplySpeakAfterTakingSeat	3	Go Live mode.

TUIMediaDevice

Room Media Device Type

Enumeration	Value	Description
kMicrophone	1	Mic
kCamera	2	Camera
kApplyScreenSharing	3	Screen Sharing

TUIRole

Room Role Types

Enumeration	Value	Description
kRoomOwner	0	Room Owner, generally refers to the creator of the room, the highest authority holder in the room
kAdministrator	1	Room Administrator
kGeneralUser	2	General Member in the room

TUIVideoQuality

Video Quality

Enumeration	Value	Description
kVideoQuality_360P	1	Low-quality 360P
kVideoQuality_540P	2	Standard Definition 540P
kVideoQuality_720P	3	High Definition 720P
kVideoQuality_1080P	4	Ultra-clear 1080P

TUIAudioQuality

Audio Quality

Enumeration	Value	Description

kAudioQualitySpeech	0	Speech Mode
kAudioQualityDefault	1	Default Mode
kAudioQualityMusic	2	Music Mode

TUIVideoStreamType

Video Stream Type

Enumeration	Value	Description
kCameraStream	0	High-quality Camera Video Stream
kScreenStream	1	Screen Sharing Video Stream
kCameraStreamLow	2	Low-quality Camera Video Stream

TUIChangeReason

Change Reason (User audio and video status change operation reason: self-modification or modification by room owner/administrator)

Enumeration	Value	Description
kChangedBySelf	0	Self-operation
kChangedByAdmin	1	Room Owner or Administrator Operation

TUICaptureSourceType

Screen Sharing Capture Source Type

Enumeration	Value	Description
kUnknown	-1	Undefined
kWindow	0	Window
kScreen	1	Screen

TUIRequestAction

Request Type

Enumeration	Value	Description
kInvalidAction	0	Invalid Request

kRequestToOpenRemoteCamera	1	Request Remote User to Open Camera
kRequestToOpenRemoteMicrophone	2	Request Remote User to Open Microphone
kRequestToConnectOtherRoom	3	Request to Connect to Other Room
kRequestToTakeSeat	4	Request to Go Live
kRequestRemoteUserOnSeat	5	Request Remote User to Go Live
kApplyToAdminToOpenLocalCamera	6	Request to Admin to Open Local Camera
kApplyToAdminToOpenLocalMicrophone	7	Request to Admin to Open Local Microphone

TUINetworkQuality

Network Quality

Enumeration	Value	Description
kQualityUnknown	0	Undefined
kQualityExcellent	1	Current Network is Excellent
kQualityGood	2	Current Network is Good
kQualityPoor	3	Current Network is Average
kQualityBad	4	Current Network is Poor
kQualityVeryBad	5	Current Network is Very Poor
kQualityDown	6	Current Network Does Not Meet TRTC's Minimum Requirements

TUIRoomInfo

Room Information

Field	Type	Description
roomId	const char*	Room ID
ownerId	const char*	Host ID, default is the room creator (read-only)

roomType	TUIRoomType	Room Type
name	const char*	Room Name, default is the room ID
speechMode	TUISpeechMode	Mic Control Mode
isCameraDisableForAllUser	bool	Whether to Disable Opening Camera (optional when creating a room), default value: false
isMicrophoneDisableForAllUser	bool	Whether to Disable Opening Microphone (optional when creating a room), default value: false
isMessageDisableForAllUser	bool	Whether to Disable Sending Messages (optional when creating a room), default value: false
maxSeatCount	int	Maximum Number of Mic Seats
createTime	long	Room Creation Time (read-only)
memberCountt	int	Number of Members in the Room (read-only)

TUILoginUserInfo

User Login Information

Field	Type	Description
userId	const char*	User ID
userName	const char*	User Name
avatarUrl	const char*	User Avatar URL

TUIUserInfo

User Information in the Room

Field	Type	Description
userId	const char*	User ID
userName	const char*	User Name
avatarUrl	const char*	User Avatar URL

userRole	TUIRole	User Role Type
hasAudioStream	bool	Whether There is Audio Stream, default value: false
hasVideoStream	bool	Whether There is Video Stream, default value: false
hasScreenStream	bool	Whether There is Screen Sharing Stream, default value: false

TUISeatInfo

Seat Information in the Room

Field	Type	Description
index	int	Mic Seat Number
userId	const char*	User ID
isLocked	bool	Whether the Mic Seat is Locked, default false
isVideoLocked	bool	Whether the Mic Seat is Prohibited from Opening Camera, default false
isAudioLocked	bool	Whether the Mic Seat is Prohibited from Opening Microphone, default false

TUISeatLockParams

Lock Seat Operation Parameters

Field	Type	Description
lockSeat	bool	Lock Mic Seat, default false
lockVideo	bool	Lock Mic Seat Camera, default false
lockAudio	bool	Lock Mic Seat Microphone, default false

TUIUserVoiceVolume

User Voice Volume in the Room

Field	Type	Description
userId	const char*	User ID
volume	int	Volume Size, Value range 0 - 100

TUIRequest

Signaling Request

Field	Type	Description
requestId	uint32_t	Request ID
requestAction	TUIRequestAction	Request Type
userId	const char*	User ID
content	const char*	Signaling Content
timestamp	uint32_t	Timestamp

TUIShareTarget

Screen Sharing Capture Source Information

Field	Type	Description
id	TUISourceId	Capturing Source ID, for windows, this field represents the window ID; for screens, this field represents the display ID
sourceType	TUICaptureSourceType	Capturing Source Type
sourceName	const char*	Capturing Source Name
thumbnailImage	TUIImageBuffer	Thumbnail
iconImage	TUIImageBuffer	Icon
isMinimized	bool	Whether to Minimize

TUINetworkInfo

Network Quality Information

Field	Type	Description

userId	const char*	User ID
quality	TUINetworkQuality	Network Quality
upLoss	int	Upstream Packet Loss Rate
downLoss	int	Downstream Packet Loss Rate
delay	int	Network Delay

TUIMessage

Message

Field	Type	Description
messageId	const char*	Message ID
message	const char*	Message Text
timestamp	int64_t	Message Time
userId	const char*	Message Sender
userName	const char*	Message Sender Nickname
avatarUrl	const char*	Message Sender Avatar

TUIImageBuffer

Image Info

Field	Type	Description
buffer	const char*	Image Data Cache Address
length	uint32_t	Length
width	uint32_t	Width
height	uint32_t	Height

Web
API Overview

Last updated：2023-11-16 14:29:38

TUIRoomKit (UI included Component)

TUIRoomKit API List

API	Description
init	Initialize TUIRoomKit Component
createRoom	Host creates room
enterRoom	Regular member enters room

TUIRoomKit Event type

Event	Description
onCreateRoom	Room event callback for creating room
onEnterRoom	Entered room callback
onDestroyRoom	Destroy room callback
onExitRoom	Regular member exits room callback
onKickedOutOfRoom	Regular member is kicked out of room by host notification
onKickedOffLine	User account logged in elsewhere, kicked off line
onUserSigExpired	User UserSig expired, please re-obtain UserSig

TUIRoomEngine (No UI interface)

TUIRoomEngine API List

TUIRoomEngine Static method

API	Description

once	Listen to TUIRoomEngine ready event. **Note: All methods except TUIRoomEngine.init must be executed after listening to the TUIRoomEngine ready event and the TUIRoomEngine.init method is executed successfully.**
login	Login to TUIRoomEngine
setSelfInfo	Set the current user's basic information (username, user avatar)
getSelfInfo	Get the current user's basic information (username, user avatar)
logout	Logout from TUIRoomEngine

RoomEngine Room Management API

API	Description
createRoom	Create room
enterRoom	Entered room
destroyRoom	Close the room
exitRoom	Leave room
fetchRoomInfo	Get room data
updateRoomNameByAdmin	Update the room's name (Only group owner or administrator can call)
updateRoomSpeechModeByAdmin	Update the room's speech mode (Only group owner or administrator can call)
getUserList	Get the current room user list
getUserInfo	Get user Learn more

roomEngine Audio Video API

API	Description
setLocalVideoView	Set the view control for local user video rendering
openLocalCamera	Open local camera

closeLocalCamera	Close local camera
openLocalMicrophone	Open local microphone
closeLocalMicrophone	Close local microphone
updateVideoQuality	Update local video codec quality settings
updateAudioQuality	Update local audio codec quality settings
startScreenSharing	Start screen sharing
stopScreenSharing	End screen sharing
startPushLocalVideo	Start pushing local video
stopPushLocalVideo	Stop pushing local video
startPushLocalAudio	Start pushing local audio
stopPushLocalAudio	Stop pushing local audio
setRemoteVideoView	Set the view control for remote user video rendering
startPlayRemoteVideo	Start playing remote user video
stopPlayRemoteVideo	Stop playing remote user video
muteRemoteAudioStream	Mute remote user

roomEngine Member Management API

API	Description
openRemoteDeviceByAdmin	Request remote user to open media device
applyToAdminToOpenLocalDevice	Participant applies to the host to open the device
closeRemoteDeviceByAdmin	Close remote user's media device
cancelRequest	Cancel the sent request
responseRemoteRequest	Reply to remote user's request
changeUserRole	Change user's role
kickRemoteUserOutOfRoom	Kick user out of the room
disableDeviceForAllUserByAdmin	Disable/Enable all users' media devices

disableSendingMessageForAllUser	Disable/Enable all users to send messages
disableSendingMessageByAdmin	Disable/Enable a user to send messages

roomEngine Microphone Management API

API	Description
setMaxSeatCount	Set room microphone position maximum value
getSeatList	Get microphone position information
takeSeat	Get microphone position
leaveSeat	Release microphone position
takeUserOnSeatByAdmin	Invite others to go live (only room host and administrator can call this method)
kickUserOffSeatByAdmin	Kick others off the microphone position (only room host and administrator can call this method)
lockSeatByAdmin	Lock a microphone position status (only room host and administrator can call this method)

roomEngine Message Sending API

API	Description
sendTextMessage	Send text message
sendCustomMessage	Send custom message

roomEngine Device Management API

API	Description
getCameraDevicesList	Get camera device list
getMicDevicesList	Get mic device list
getSpeakerDevicesList	Get speaker device list
setCurrentCameraDevice	Set the camera device to use
setCurrentMicDevice	Set the mic device to use
setCurrentSpeakerDevice	Set the speaker device to use

getCurrentCameraDevice	Get the currently used camera device
getCurrentMicDevice	Get the currently used mic device
getCurrentSpeakerDevice	Get the currently used speaker device
startCameraDeviceTest	Start camera device test
stopCameraDeviceTest	Stop camera device test

roomEngine Event Listening API

API	Description
on	Listen to TUIRoomEvents event
off	Cancel listening to TUIRoomEvents event

roomEngine Other API

API	Description
getTRTCCloud	Get trtcCloud instance
getTIM	Get tim instance

TUIRoomEngine Event Type

TUIRoomEvent is the Callback Event class corresponding to TUIRoomEngine. You can listen to the Callback Events you are interested in through this callback.

EVENT	Description
TUIRoomEvents.onError	Error Event
TUIRoomEvents.onKickedOutOfRoom	Kick out of room event
TUIRoomEvents.onKickedOffLine	User Kicked Offline Event
TUIRoomEvents.onUserSigExpired	User Credential Timeout Event
TUIRoomEvents.onRoomDismissed	Room Dismissed Event
TUIRoomEvents.onRoomNameChanged	Room Name Change Event
TUIRoomEvents.onRoomSpeechModeChanged	Room Microphone Control Mode Change

TUIRoomEvents.onAllUserCameraDisableChanged	All Users' Cameras Disabled in Room Event
TUIRoomEvents.onAllUserMicrophoneDisableChanged	All Users' Microphones Disabled in Room Event
TUIRoomEvents.onSendMessageForAllUserDisableChanged	All Users' Text Message Sending Disabled in Room Event
TUIRoomEvents.onRoomMaxSeatCountChanged	Maximum number of microphone slots in the room modification event
TUIRoomEvents.onRemoteUserEnterRoom	Remote user Entered room event
TUIRoomEvents.onRemoteUserLeaveRoom	Remote user leaving room event
TUIRoomEvents.onUserRoleChanged	Role change event
TUIRoomEvents.onUserVideoStateChanged	Video Status change event
TUIRoomEvents.onUserAudioStateChanged	Audio Status change event
TUIRoomEvents.onSendMessageForUserDisableChanged	Send message status event
TUIRoomEvents.onUserVoiceVolumeChanged	Volume change event
TUIRoomEvents.onUserNetworkQualityChanged	Network quality change event
TUIRoomEvents.onSeatListChanged	Mic position list change event
TUIRoomEvents.onKickedOffSeat	Kicked off the mic event
TUIRoomEvents.onRequestReceived	Request received event
TUIRoomEvents.onRequestCancelled	Request cancelled event
TUIRoomEvents.onReceiveTextMessage	Receive text message event
TUIRoomEvents.onReceiveCustomMessage	Receive custom message event
TUIRoomEvents.onDeviceChange	Device change event
TUIRoomEvents.onUserScreenCaptureStopped	Screen sharing stopped event When a user uses the built-in browser's stop sharing button to end Screen Sharing, the user will receive the 'onUserScreenCaptureStopped' event to modify the Sharing status.

TUIRoomKit

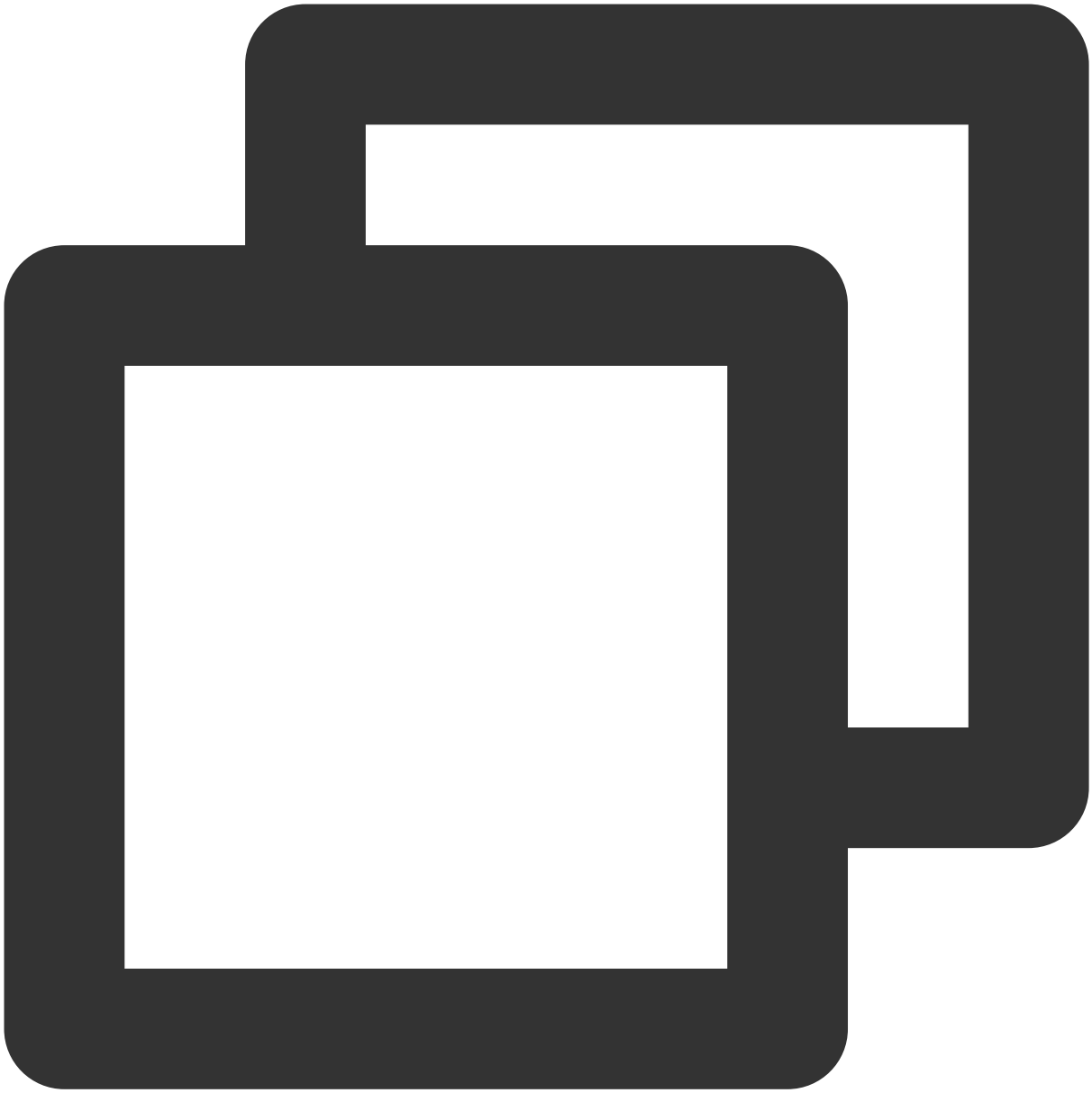
Last updated：2023-11-16 14:21:03

API Introduction

TUIRoomKit API is a human video conference component with UI interface. By using TUIRoomKit API, you can quickly implement a WeChat-like audio/video call scenario through a simple interface. If you want to experience and debug the video conference effect, please read the Quick Start Demo. If you want to embed our features directly into your project, please read the Quick Access (TUIRoomKit).

API Overview

Reference the TUIRoomKit component in the page. For example, import the TUIRoomKit component in the `App.vue` component.
TUIRoomKit component divides users into host role and regular member role. The component provides init, createRoom, and enterRoom methods externally.
Hosts and regular members can initialize the application and user data to the TUIRoomKit component through the init method. The host can create and join a room through the createRoom method, and regular members can join the room created by the host through the enterRoom method.



```
<template>
  <room ref="TUIRoomRef"></room>
</template>

<script setup lang="ts">
import { ref, onMounted } from 'vue';
// Import the TUIRoom Component, make sure the import path is correct
import Room from './TUIRoom/index.vue';
// Get the TUIRoom Component element, used to call the TUIRoom Component method
const TUIRoomRef = ref();
```

```
onMounted(async () => {
  // Initialize the TUIRoom component
  // The host needs to initialize the TUIRoom component before creating a room
  // Regular members need to initialize the TUIRoom component before entering a roo
  await TUIRoomRef.value.init({
    // To get the sdkAppId, please refer to Step 1
    sdkAppId: 0,
    // The unique identifier of the user in your business
    userId: '',
    // For local development and debugging, you can quickly generate userSig on the
    // Note that userSig and userId have a one-to-one correspondence
    userSig: '',
    // The nickname used by the user in your business
    userName: '',
    // The avatar URL used by the user in your business
    avatarUrl: '',
  })
  // By default, execute the create room operation, and you can choose to execute t
  await handleCreateRoom();
})

  // The host creates a room, and this method is called only when creating a room
async function handleCreateRoom() {
  // roomId is the room number entered by the user, and roomId must be of type stri
  // roomMode includes 'FreeToSpeak' (free speech mode) and 'SpeakAfterTakingSeat'
  // roomParam specifies the default behavior of the user when entering the room (w
  const roomId = '123456';
  const roomMode = 'FreeToSpeak';
  const roomParam = {
    isOpenCamera: true,
    isOpenMicrophone: true,
  }
  try {
    await TUIRoomRef.value.createRoom({ roomId, roomName: roomId, roomMode, roomPar
  } catch (error: any) {
    alert('TUIRoomKit.createRoom error: ' + error.message);
  }
}

// Regular members enter the room, and this method is called when regular members e
async function handleEnterRoom() {
   // roomId is the room number entered by the user, and roomId must be of type str
   // roomParam specifies the default behavior of the user when entering the room (
  const roomId = '123456';
  const roomParam = {
    isOpenCamera: true,
    isOpenMicrophone: true,
```

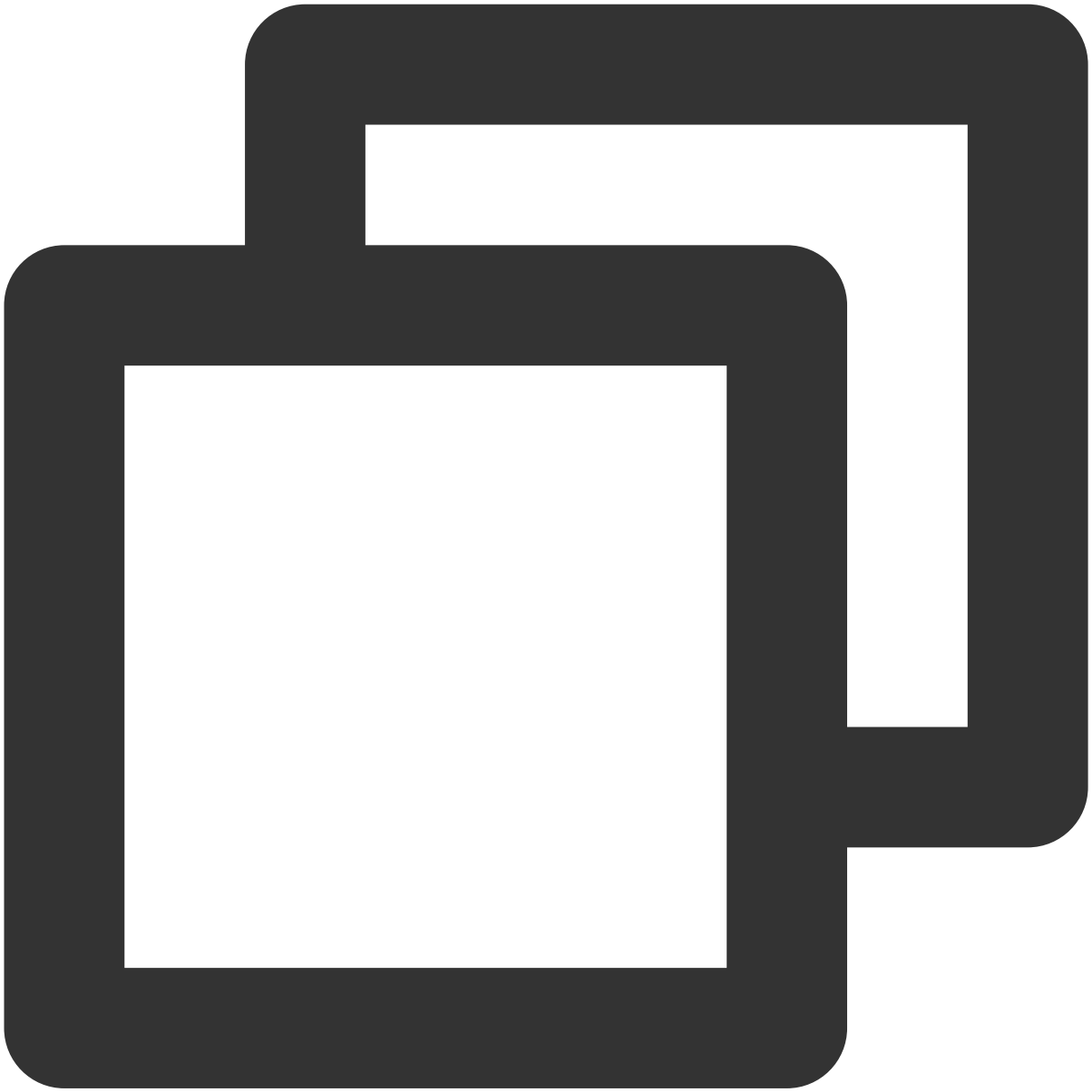
```
  }
  try {
    await TUIRoomRef.value.enterRoom({ roomId, roomParam });
  } catch (error: any) {
    alert('TUIRoomKit.enterRoom error: ' + error.message);
  }
}
</script>

<style lang="scss">
html, body {
    width: 100%;
    height: 100%;
    margin: 0;
}

#app {
  width: 100%;
  height: 100%;
  * {
    box-sizing: border-box;
  }
}
</style>
```

API Details

TUIRoomkit Interface

init

Initialize TUIRoomKit Data, any user using TUIRoomKIt needs to call the init method.



```
TUIRoomRef.value.init(roomData);
```

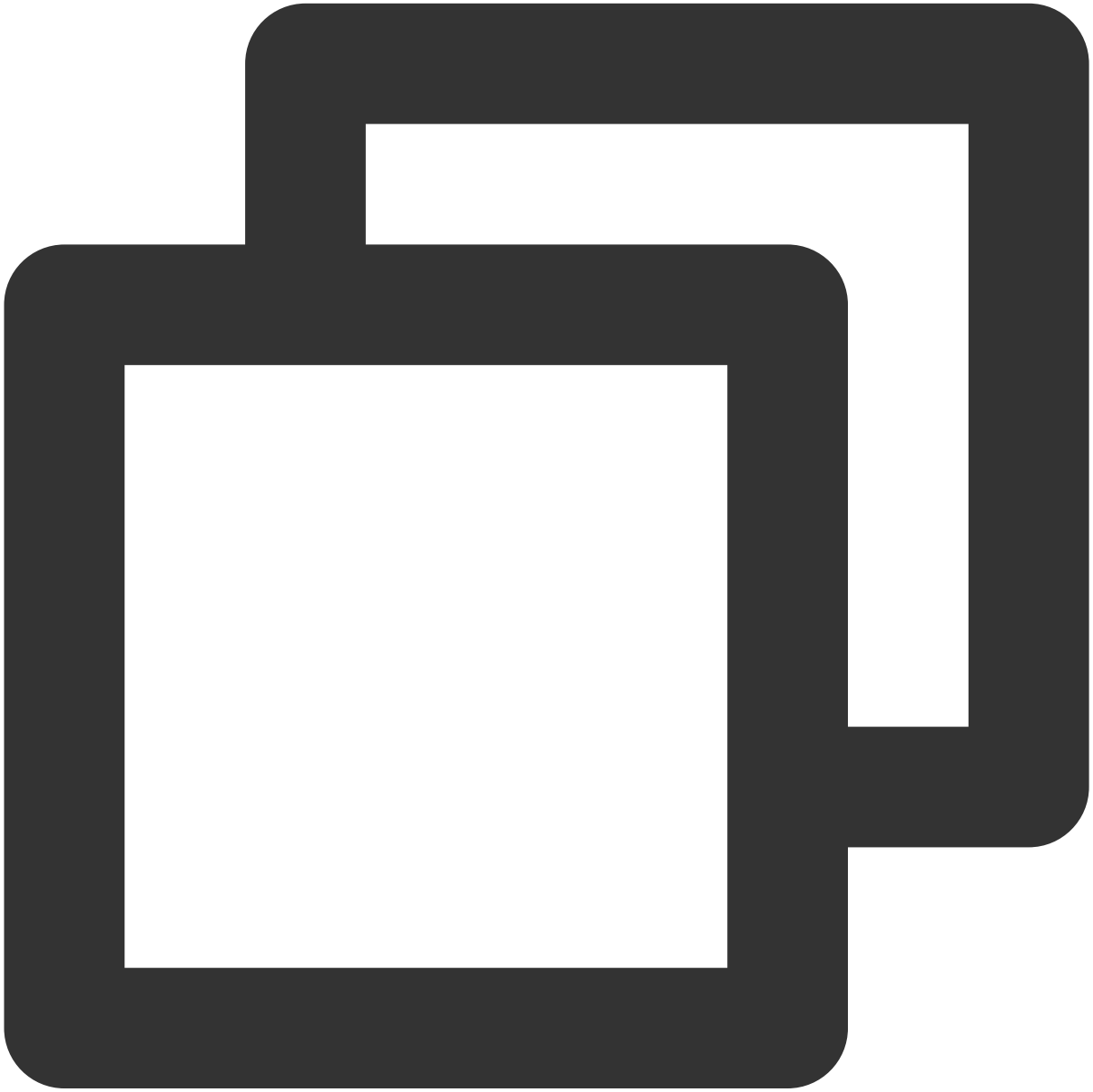
The parameters are shown in the table below:

Parameter	Type	Meaning
roomData	object	-
roomData.sdkAppId	number	Customer's SDKAppId
roomData.userId	string	User's Unique ID

roomData.userSig	string	User's UserSig
roomData.userName	string	User's Nickname
roomData.avatarUrl	string	User's Avatar URL

createRoom

Host creates a room.



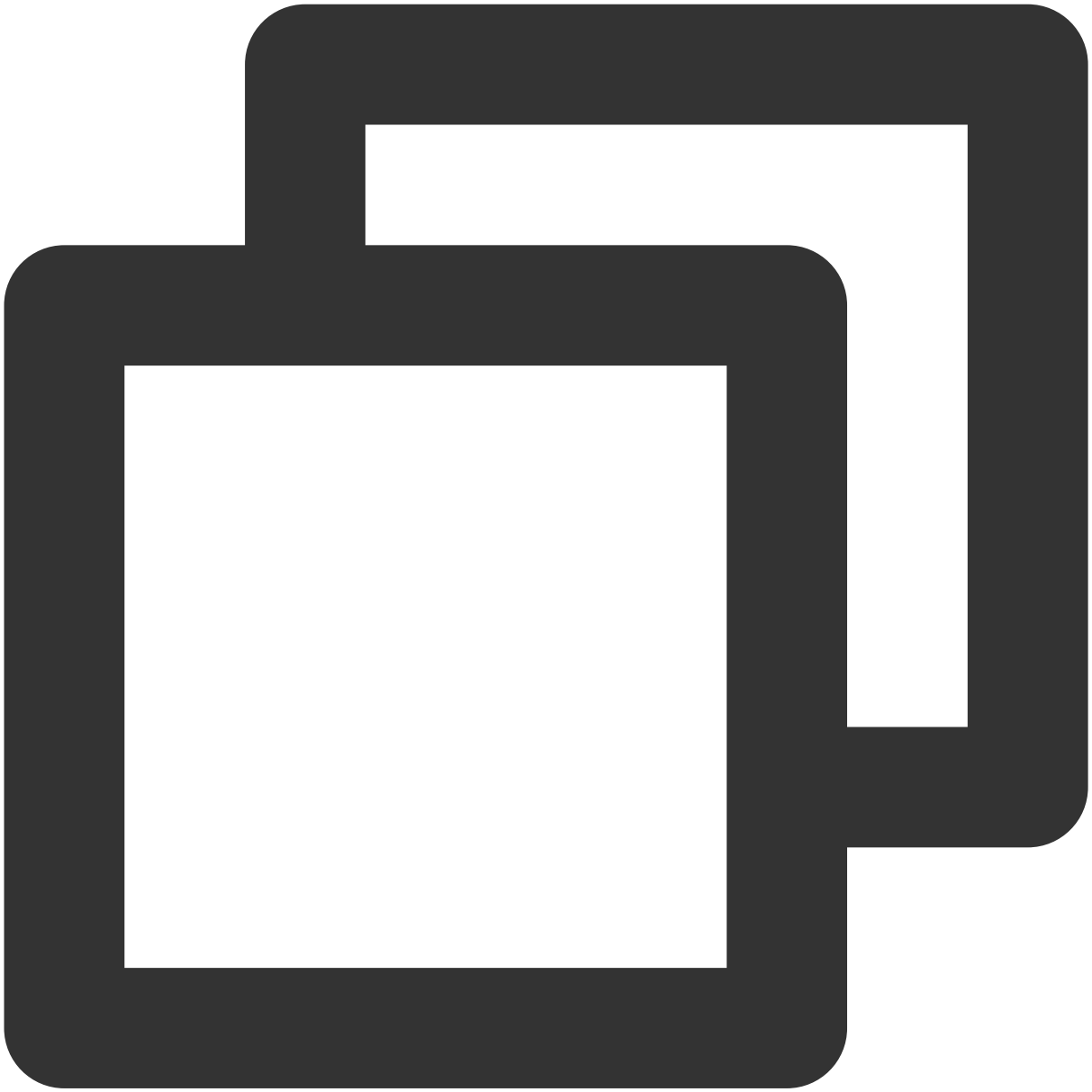
```
TUIRoomRef.value.createRoom(roomId, roomMode, roomParam);
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
roomMode	string	Room mode, FreeToSpeak (Free Speech Mode) and SpeakAfterTakingSeat (Onstage Speech Mode), default is FreeToSpeak
roomParam	Object	Optional
roomParam.isOpenCamera	string	Optional, whether to open the camera when entering the room, default is closed
roomParam.isOpenMicrophone	string	Optional, whether to open the mic when entering the room, default is closed
roomParam.defaultCameraId	string	Optional, default Camera device ID
roomParam.defaultMicrophoneId	string	Optional, default mic device ID
roomParam.defaultSpeakerId	String	Optional, default Speaker device ID

enterRoom

Regular member joins the room.



```
TUIRoomRef.value.enterRoom(roomId, roomParam);
```

The parameters are shown in the table below:

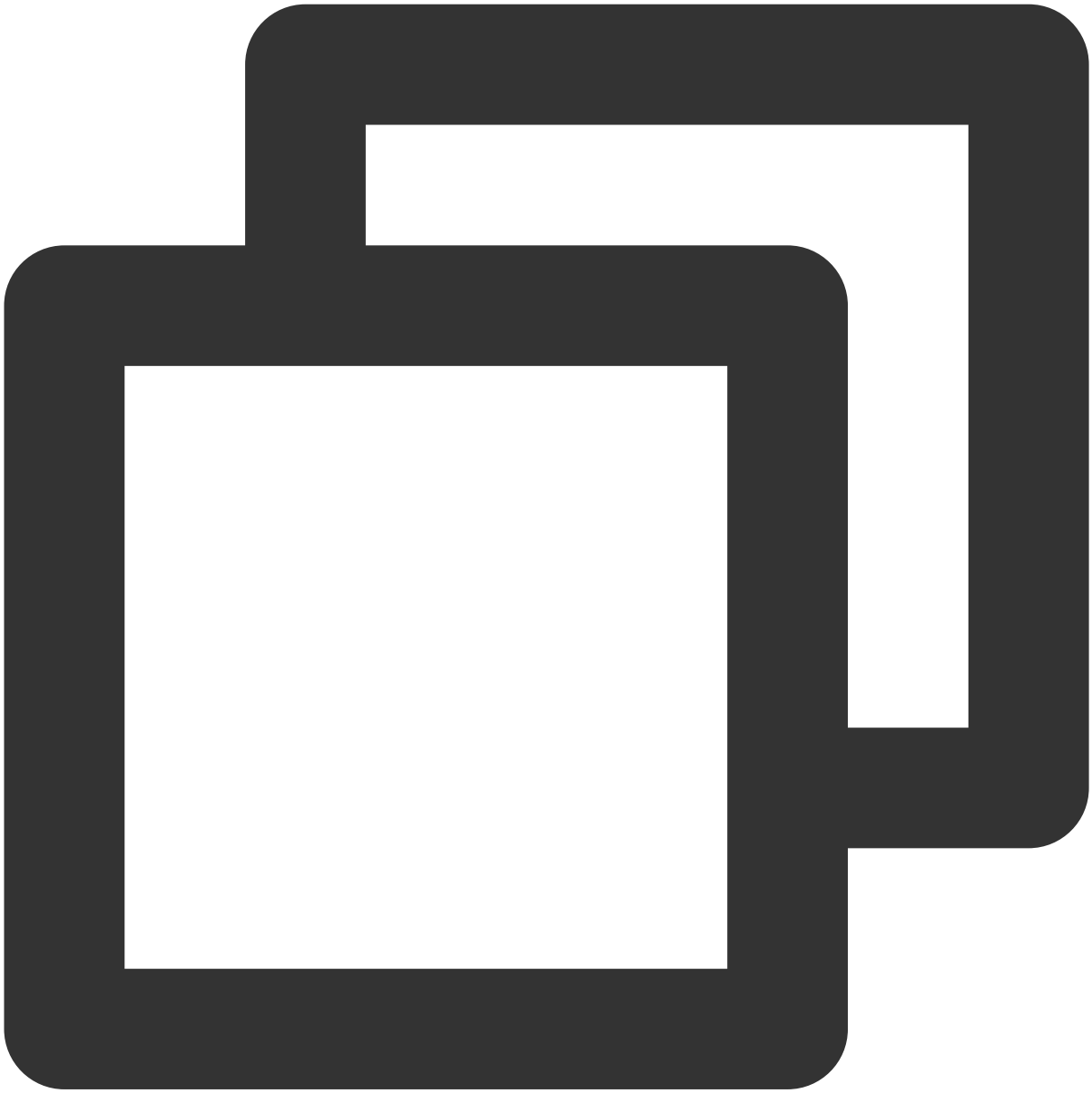
Parameter	Type	Meaning
roomId	string	Room ID
roomParam	Object	Optional
roomParam.isOpenCamera	string	Optional, whether to open the camera when entering the room,

		default is closed
roomParam.isOpenMicrophone	string	Optional, whether to open the mic when entering the room, default is closed
roomParam.defaultCameraId	string	Optional, default Camera device ID
roomParam.defaultMicrophoneId	string	Optional, default mic device ID
roomParam.defaultSpeakerId	String	Optional, default Speaker device ID

TUIRoomkit Event

onCreateRoom

Create room Callback.

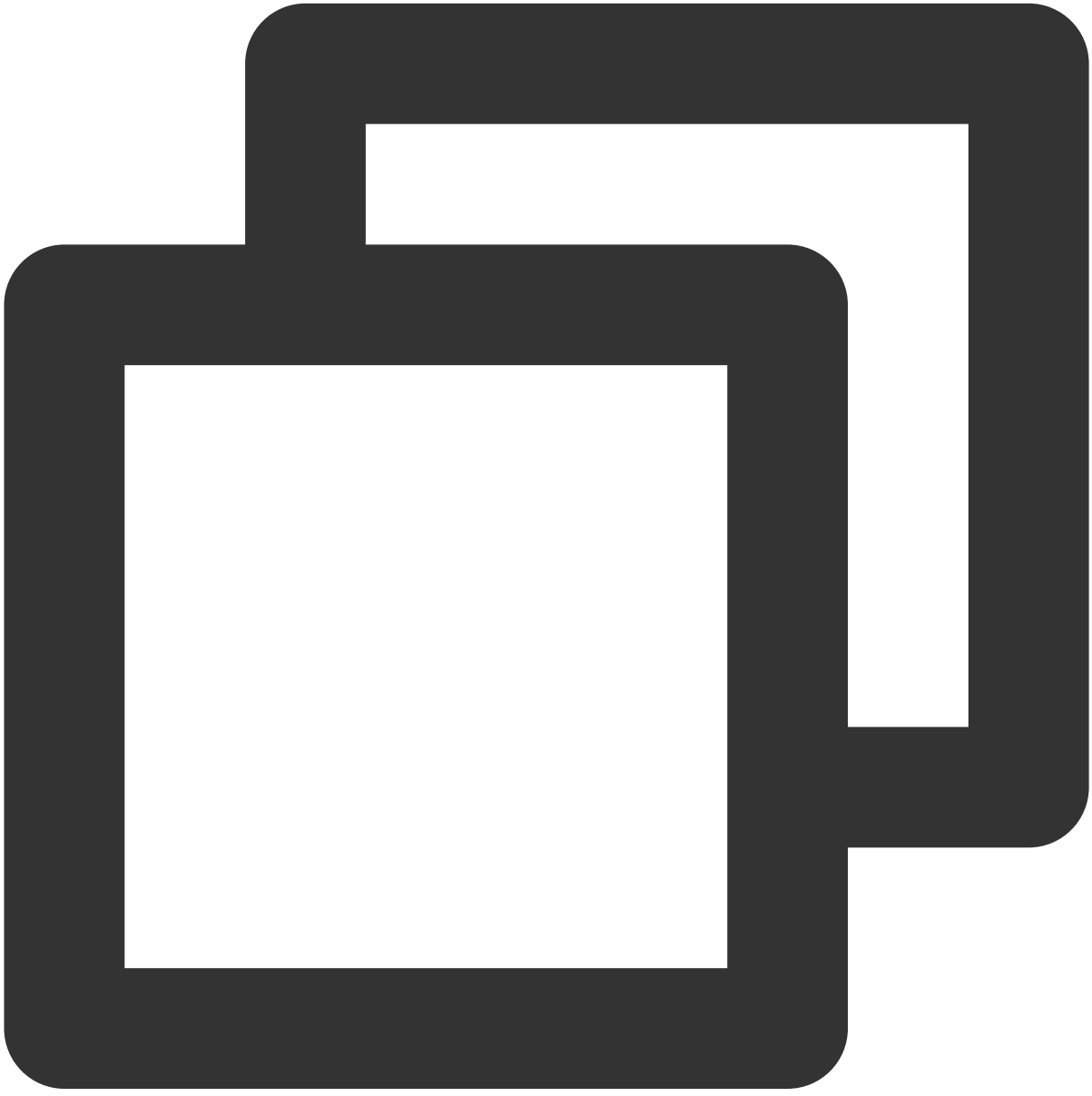


```
<template>
  <room ref="TUIRoomRef" @on-create-room="onCreateRoom"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onCreateRoom(info) {
    if (info.code === 0) {
      console.log('Create room Success')
```

```
    }
  }
</script>
```

onEnterRoom

Entered room Callback.

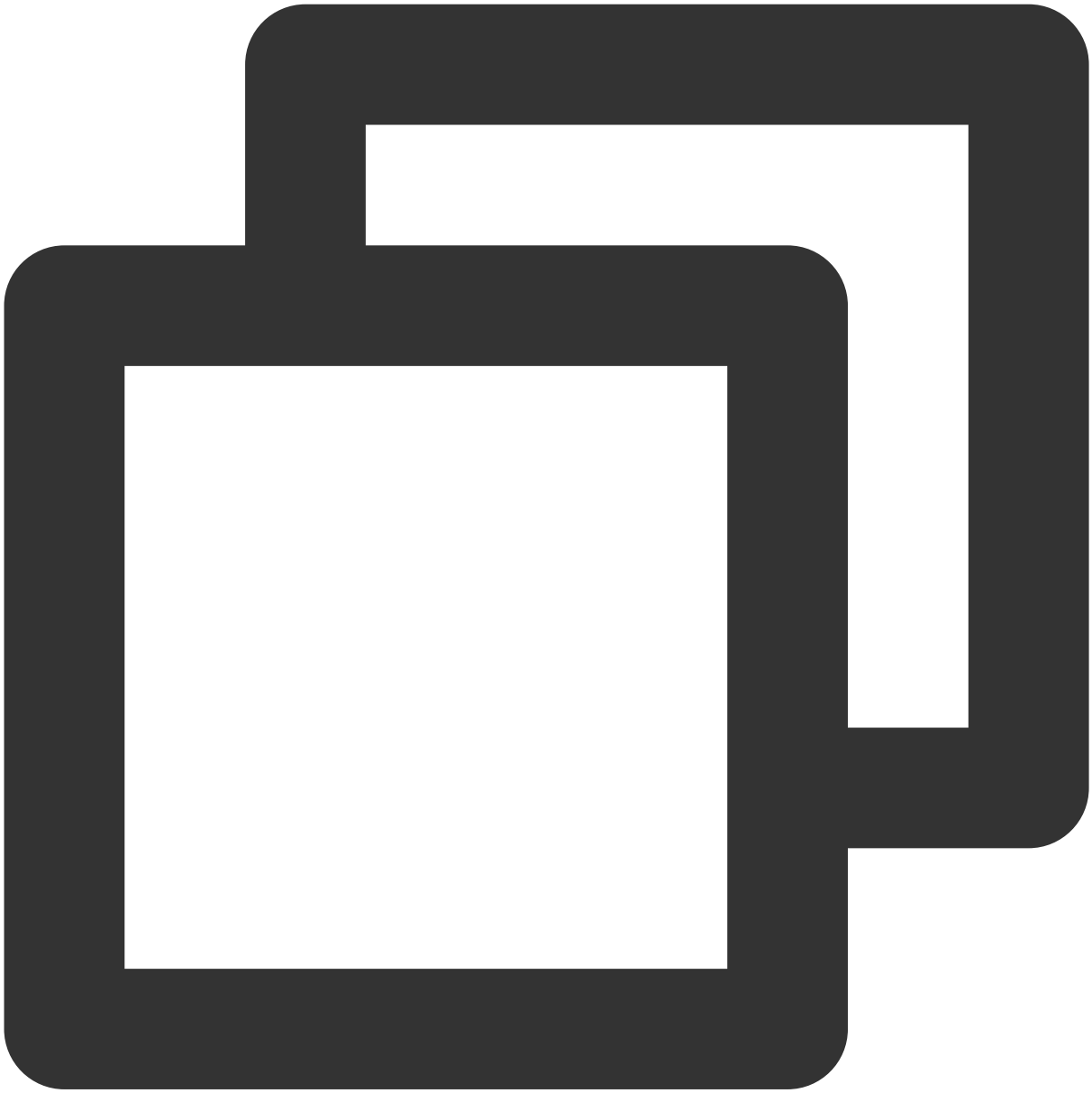


```
<template>
  <room ref="TUIRoomRef" @on-enter-room="onEnterRoom"></room>
</template>
```

```
<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onEnterRoom(info) {
    if (info.code === 0) {
      console.log('Entered room Success')
    }
  }
</script>
```

onDestroyRoom

Host destroys room Callback.

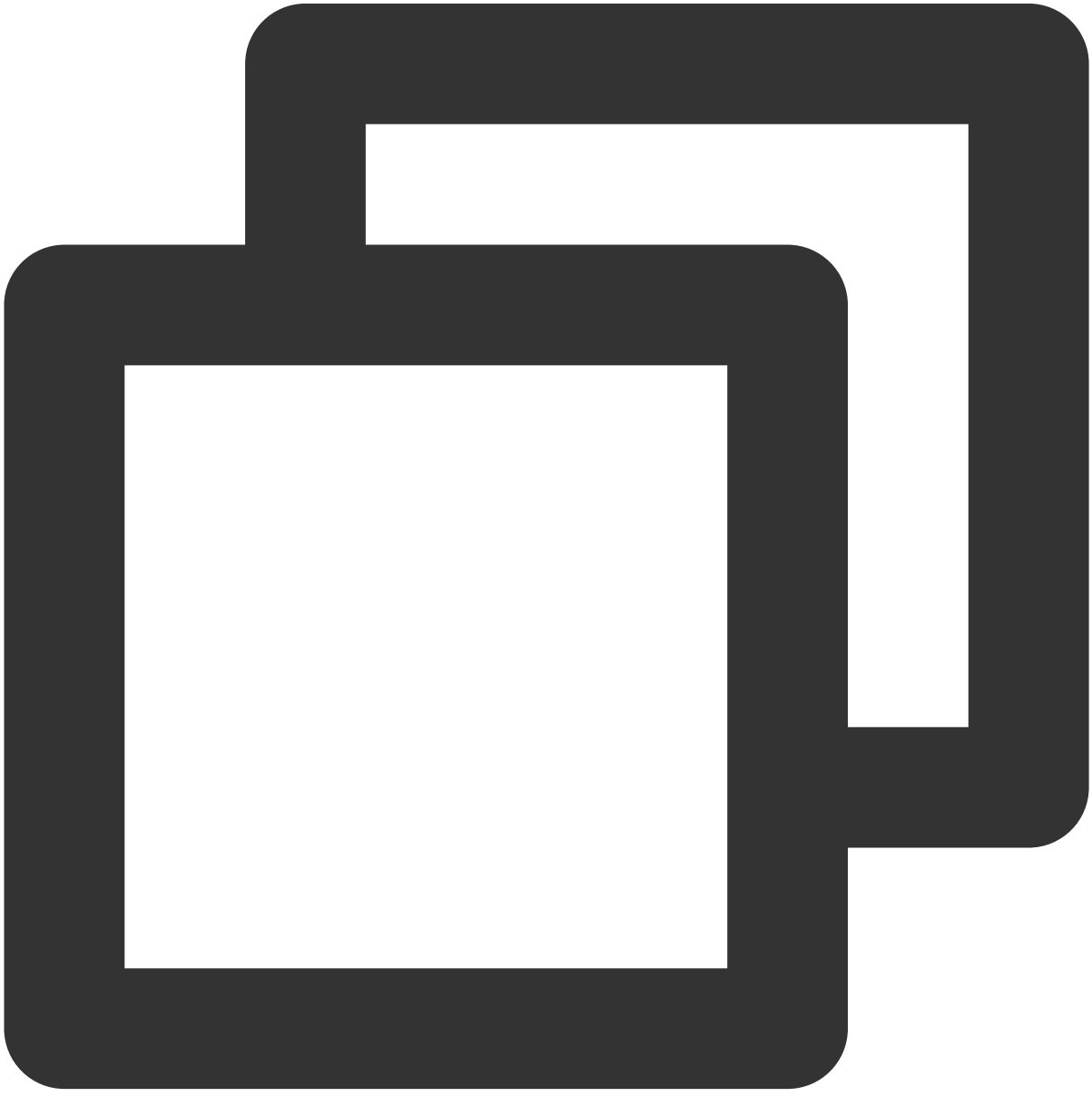


```
<template>
  <room ref="TUIRoomRef" @on-destroy-room="onDestroyRoom"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onDestroyRoom(info) {
    if (info.code === 0) {
      console.log('Host destroys room Success')
```

```
    }
  }
</script>
```

onExitRoom

Regular member exits room Callback.

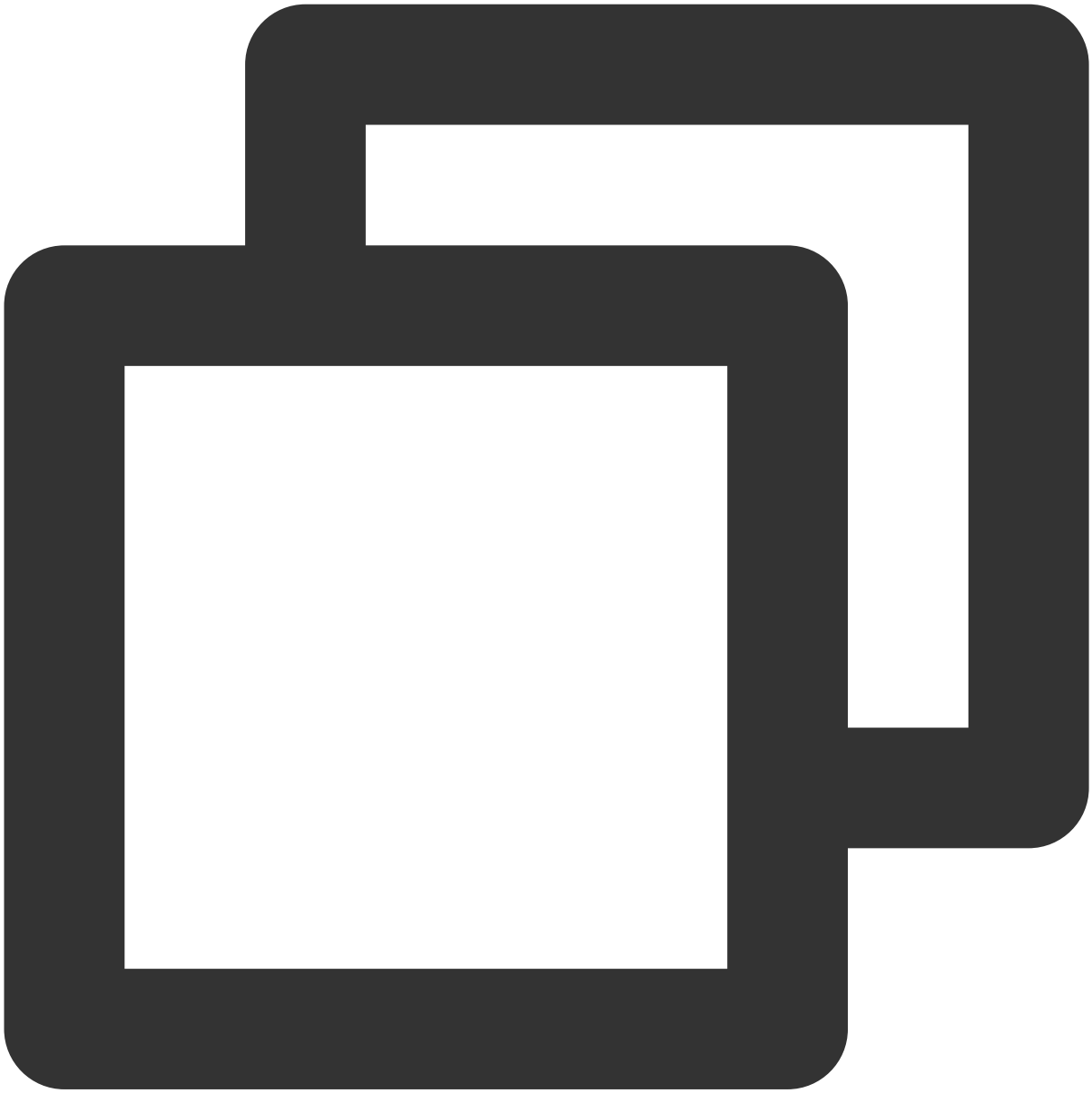


```
<template>
  <room ref="TUIRoomRef" @on-exit-room="onExitRoom"></room>
</template>
```

```
<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onExitRoom(info) {
    if (info.code === 0) {
      console.log('Regular member exits room Success')
    }
  }
</script>
```

onKickedOutOfRoom

Regular member is kicked out of room by host Notification.

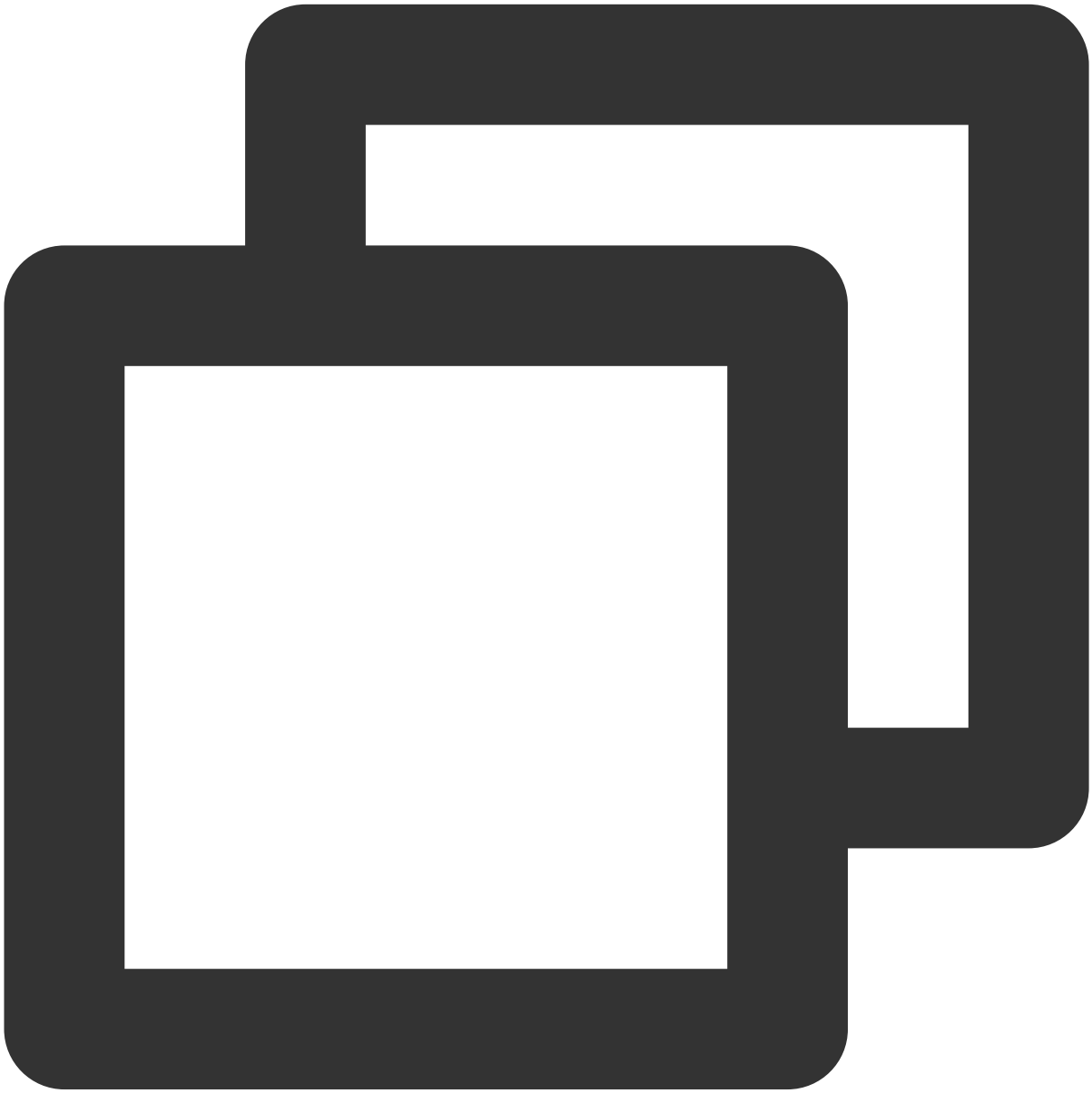


```
<template>
  <room ref="TUIRoomRef" @on-kicked-out-of-room="onKickedOutOfRoom"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onKickedOutOfRoom({ roomId, message }) {
    console.log('Regular member is kicked out of room by host', roomId, message);
  }
```

```
</script>
```

onKickedOffLine

User account logged in elsewhere, kicked offline.

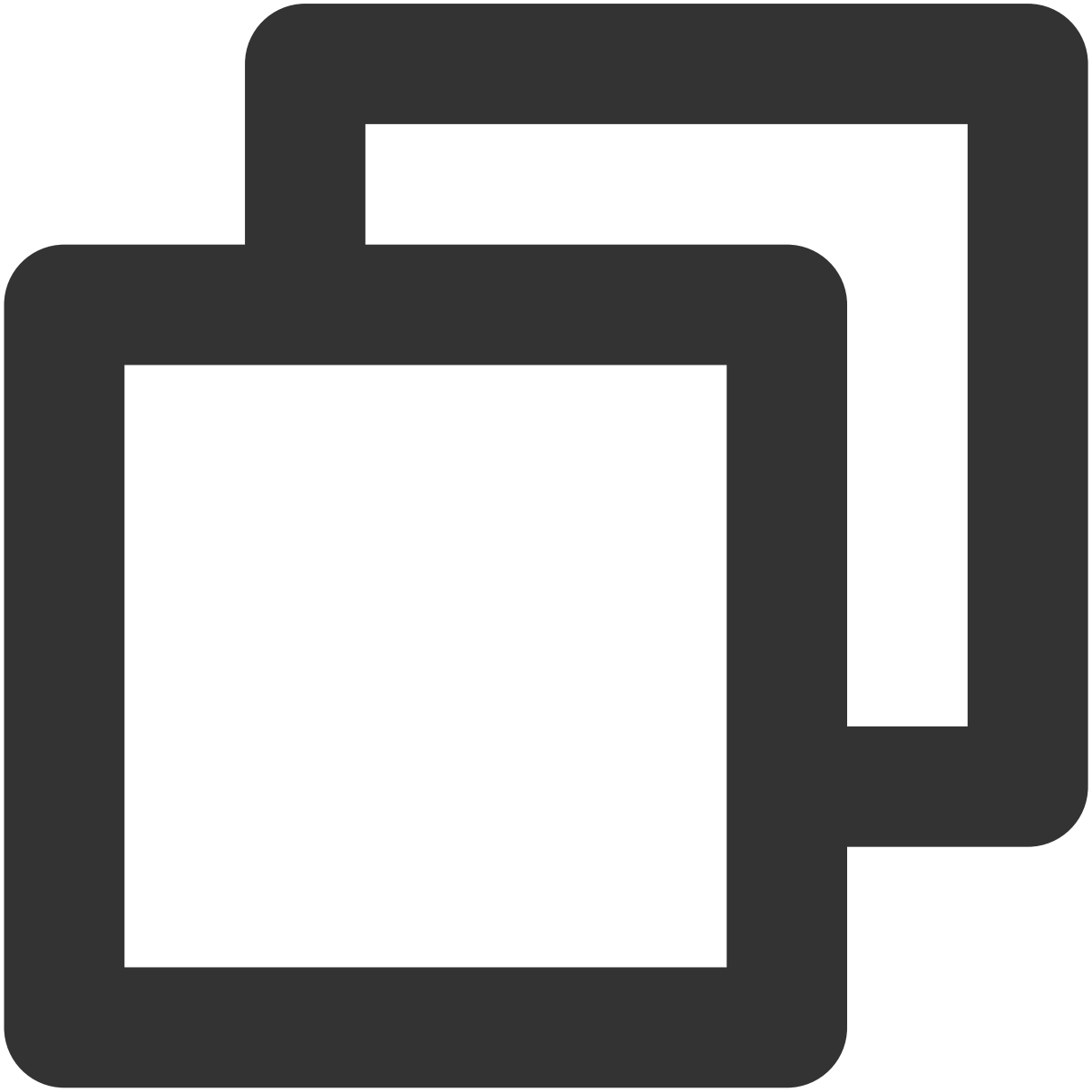


```
<template>
  <room ref="TUIRoomRef" @on-kick-off-line="onKickedOffLine"></room>
</template>

<script setup lang="ts">
```

```
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onKickedOffLine({ message }) {
    console.log('Member kicked offline', message);
  }
</script>
```

onUserSigExpired

User userSig expired, please regenerate userSig.



```
<template>
  <room ref="TUIRoomRef" @on-user-sig-expired="onUserSigExpired"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onUserSigExpired() {
    console.log('User userSig expired, please regenerate userSig.');
  }
</script>
```

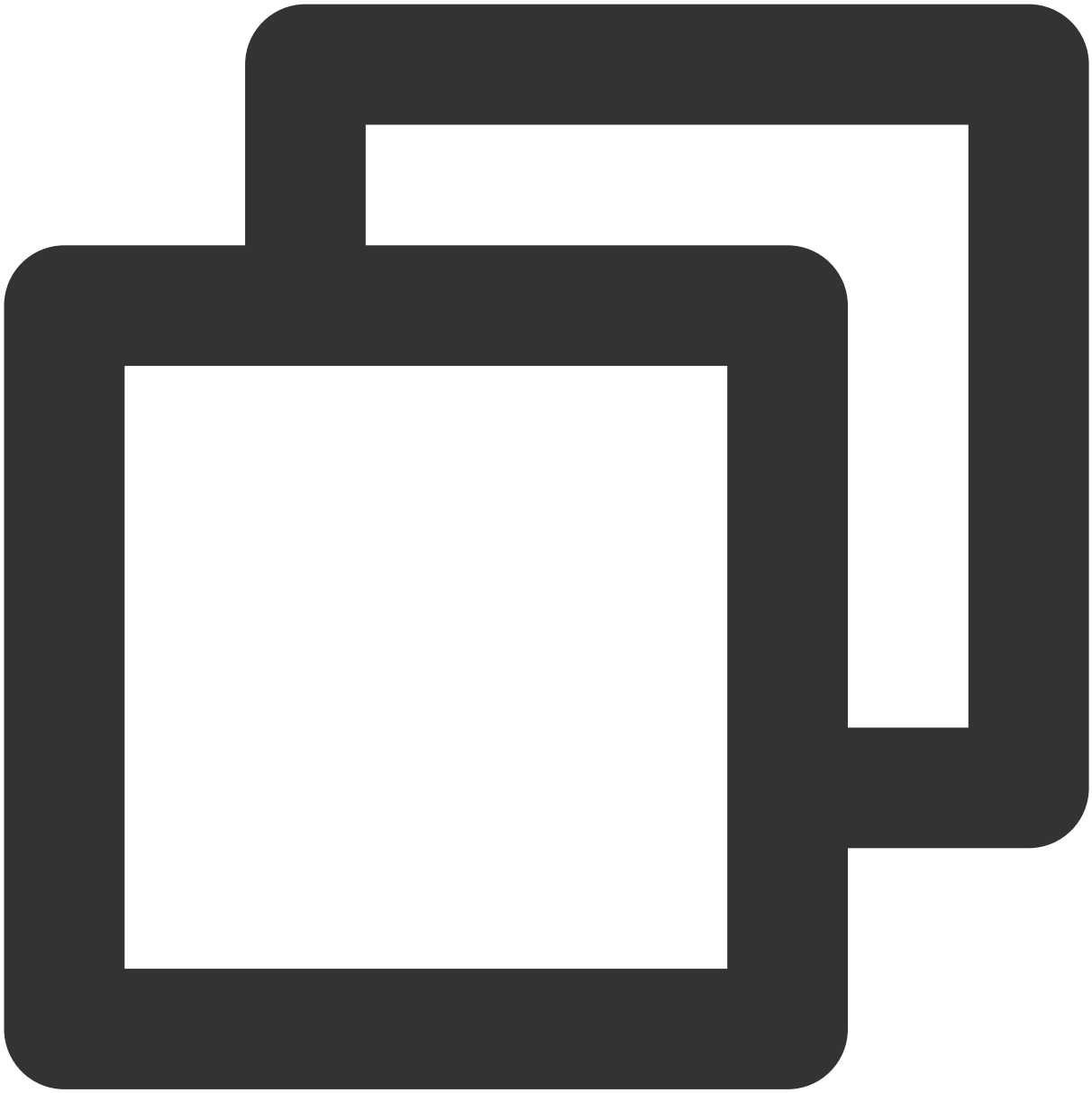
TUIRoomEngine

Last updated：2024-01-10 17:26:33

TUIRoomEngine Introduction

TUIRoomEngine SDK provides Room Management, Multi-person Tencent Real-Time Communication, Screen Sharing, Member Management, Instant Messaging, and other features.

Installation Method:



```
// Use npm
npm i @tencentcloud/tuiroom-engine-js --save

// Use pnpm
pnpm i @tencentcloud/tuiroom-engine-js --save

// Use yarn
yarn add @tencentcloud/tuiroom-engine-js
```

TUIRoomEngine API

TUIRoomEngine Static Method

API	Description
once	**Listening to the TUIRoomEngine ready Event. Note: All methods other than TUIRoomEngine.login must be executed after listening to the TUIRoomEngine ready event and the successful execution of the TUIRoomEngine.login method.**
login	Login to TUIRoomEngine
setSelfInfo	Setting the current user's Basic information (Username, User Avatar)
getSelfInfo	Get the current user's Basic information (Username, User Avatar)
logout	Logout of TUIRoomEngine

roomEngine Room Management API

API	Description
createRoom	Create Room
enterRoom	Enter Room
destroyRoom	Destroy Room
exitRoom	Exit Room
fetchRoomInfo	Get Room data
updateRoomNameByAdmin	Update Name (Call by Group Owner or Administrator only)
updateRoomSpeechModeByAdmin	Update Speaking Mode (Call by Group Owner or Administrator only)
getUserList	Get User List
getUserInfo	Learn more about the user

roomEngine Audio Video API

API	Description

setLocalVideoView	Set Local Stream Rendering Position
openLocalCamera	Capturing Local Camera Video streams
closeLocalCamera	Close Local Camera
openLocalMicrophone	Open Local mic
closeLocalMicrophone	Close Local mic
updateVideoQuality	Set Local Video Parameters
updateAudioQuality	Set Local Audio Parameters
startScreenSharing	Start Screen Sharing
stopScreenSharing	Stop Screen Sharing
startPushLocalVideo	Start Pushing Local Video streams to Remote
stopPushLocalVideo	Stop Pushing Local Video streams to Remote
startPushLocalAudio	Start Pushing Local Audio Stream to Remote
stopPushLocalAudio	Stop Pushing Local Audio Stream to Remote
setRemoteVideoView	Set Remote Stream Rendering Area
startPlayRemoteVideo	Start Playback Remote User Video streams
stopPlayRemoteVideo	Stop Playback Remote User Video streams
muteRemoteAudioStream	Stop Remote User Audio Stream

roomEngine Member Management API

API	Description
openRemoteDeviceByAdmin	Request Remote User to Open Media Device
applyToAdminToOpenLocalDevice	Participant Apply to Host to Open Device
closeRemoteDeviceByAdmin	Close Remote User Media Device
cancelRequest	Cancel Sent Request
responseRemoteRequest	Reply to Remote User Request
changeUserRole	Change User Role

kickRemoteUserOutOfRoom	Kick Out User from Room
disableDeviceForAllUserByAdmin	Disable/Enable All Users' Media Device
disableSendingMessageForAllUser	Disallow/Allow All Users to Send Message
disableSendingMessageByAdmin	Disallow/Allow Specific User to Send Message

roomEngine Mic Position Management API

API	Description
setMaxSeatCount	Set Room Maximum Value
getSeatList	Get Mic Position Information
takeSeat	Get Mic Position
leaveSeat	Release Mic Position
takeUserOnSeatByAdmin	Invite Others to Go Live (Only Room Host and Administrator can invoke this method)
kickUserOffSeatByAdmin	Kick Others Off the Mic (Only Room Host and Administrator can invoke this method)
lockSeatByAdmin	Lock a Specific Mic Position Status (Only Room Host and Administrator can invoke this method)

roomEngine Message Sending API

API	Description
sendTextMessage	Send Text Message
sendCustomMessage	Send Custom Message

roomEngine Device Management API

API	Description
getCameraDevicesList	Get Camera Device List
getMicDevicesList	Get Mic Device List
getSpeakerDevicesList	Get Speaker Device List

setCurrentCameraDevice	Set to Use Camera
setCurrentMicDevice	Set to Use Mic
setCurrentSpeakerDevice	Set to Use Speaker
getCurrentCameraDevice	Get the Currently Used Camera
getCurrentMicDevice	Get the Currently Used Mic
getCurrentSpeakerDevice	Get the Currently Used Speaker
startCameraDeviceTest	Start Camera Test
stopCameraDeviceTest	Stop Camera Test

roomEngine Event Listening API

API	Description
on	Listen to TUIRoomEvents
off	Cancel Listening to TUIRoomEvents

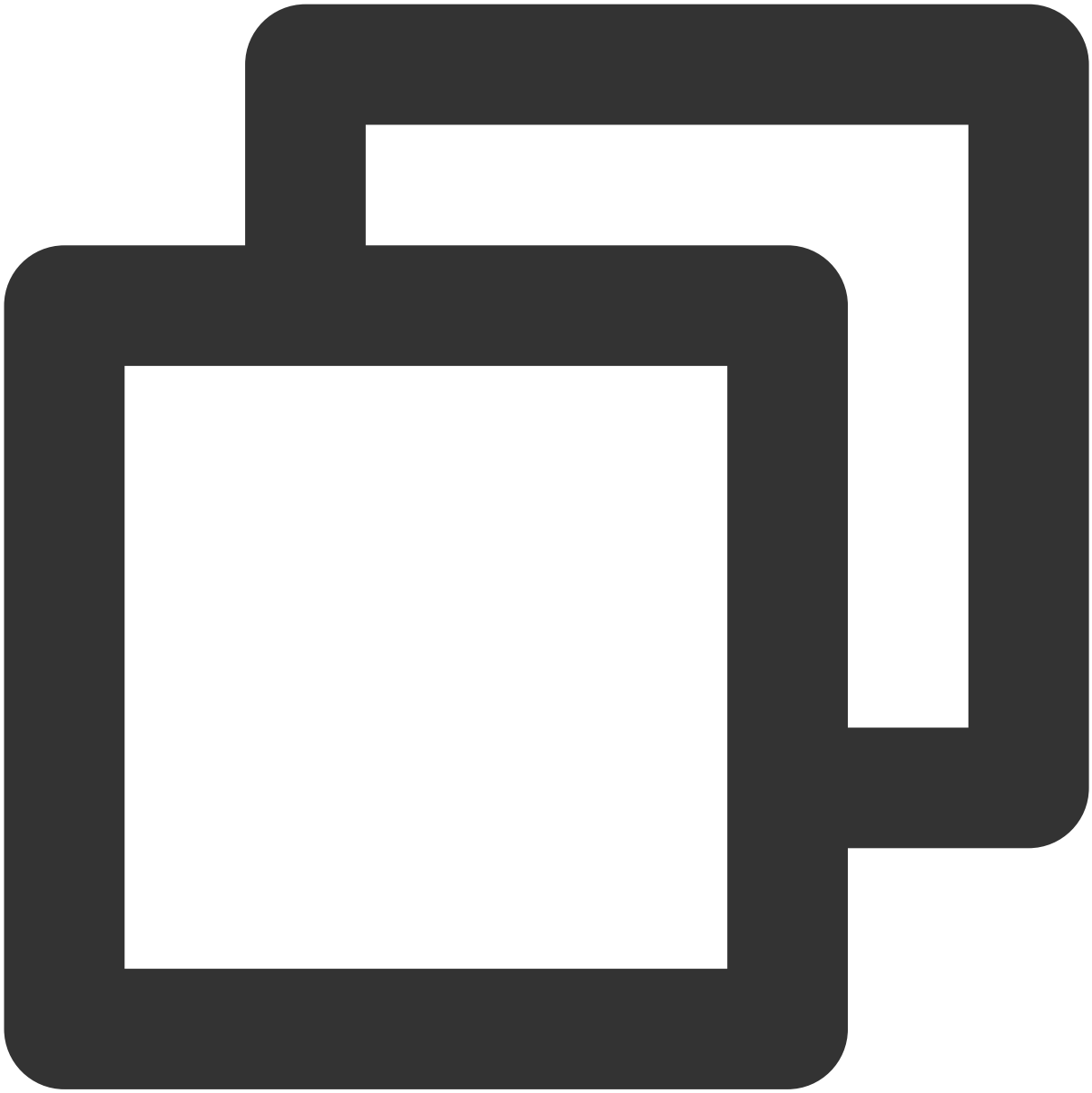
roomEngine Other API

API	Description
getTRTCCloud	Get trtcCloud Instance
getTIM	Get tim Instance

API Details

once

Monitor TUIRoomEngine 'ready' Event



```
TUIRoomEngine.once('ready', () => {
  const roomEngine = new TUIRoomEngine();

  await TUIRoomEngine.login({
    sdkAppId: 0,   // Fill in the sdkAppId you applied for
    userId: '',    // Fill in the userId corresponding to your business
    userSig: '',   // Fill in the userSig calculated by the server or locally
  });

  await roomEngine.createRoom({
    roomId: '12345',   // Enter your Room ID, note that the Room ID is required to
```

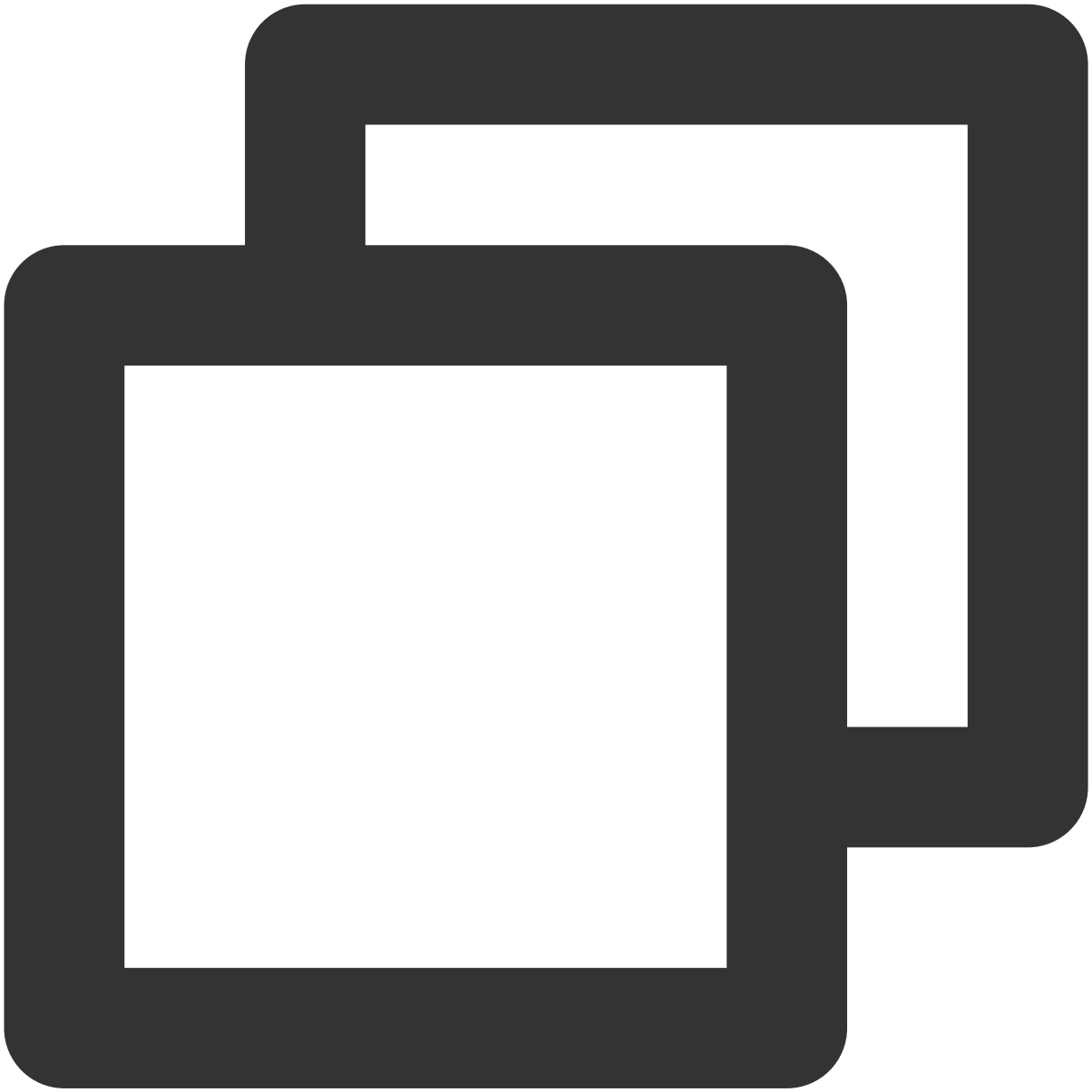
```
    name: 'Test Room',     // Enter your room name, the default room name is roomId
    roomType: TUIRoomType.kGroup, // Set the room type to TUIRoomType.kGroup type
  });
});
```

login

Description:

In version v1.0.0, this interface is named TUIRoomEngine.init, please use TUIRoomEngine.login to log in TUIRoomEngine in v1.0.1 and above versions.

You must log in to TUIRoomEngine before you can call other methods of TUIRoomEngine and its instances.



```
// Login TUIRoomEngine
await TUIRoomEngine.login({
 sdkAppId: 0,   // Fill in the sdkAppId you applied for
 userId: '',    // Fill in the userId corresponding to your business
 userSig: '',   // Fill in the userSig calculated by the server or locally
});
```

Parameter:

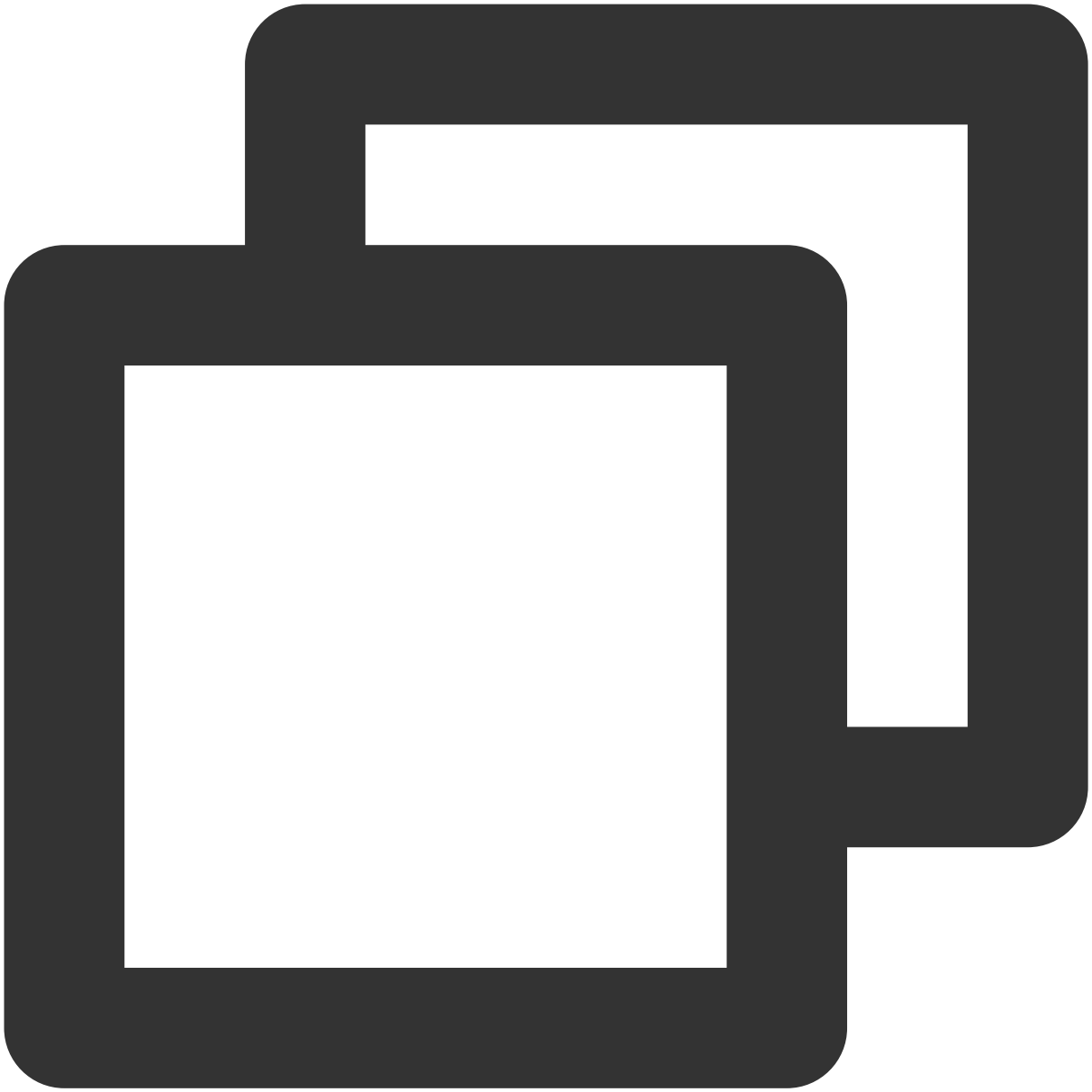
Parameter	Type	Description	Default Value	Meaning

sdkAppId	number	Required	-	After clicking Application Management > Create Application in the Tencent Real-Time Communication Console, you can get the sdkAppId information in Application Info.
userId	string	Required	-	It is recommended to limit the user ID length to 32 bytes, and only allow uppercase and lowercase English letters (a-zA-Z), numbers (0-9), underscores, and hyphens.
userSig	string	Required	-	UserSig signature Please refer to UserSig related for the method of calculating userSig.
tim	TIM	Not Required	-	If you want to use more capabilities of the Chat SDK while accessing roomEngine, you can pass the created tim instance into TUIRoomEngine. For the creation method of tim instance, please refer to TIM.create.

Returns *Promise<void>*

setSelfInfo

Set current user Basic information (Username, User avatar)



```
// Set current user Username and User avatar
await TUIRoomEngine.setSelfInfo({
 userName: '',     // Enter your New username
 avatarUrl: '',    // Enter your New avatar URL
});
```

Parameter:

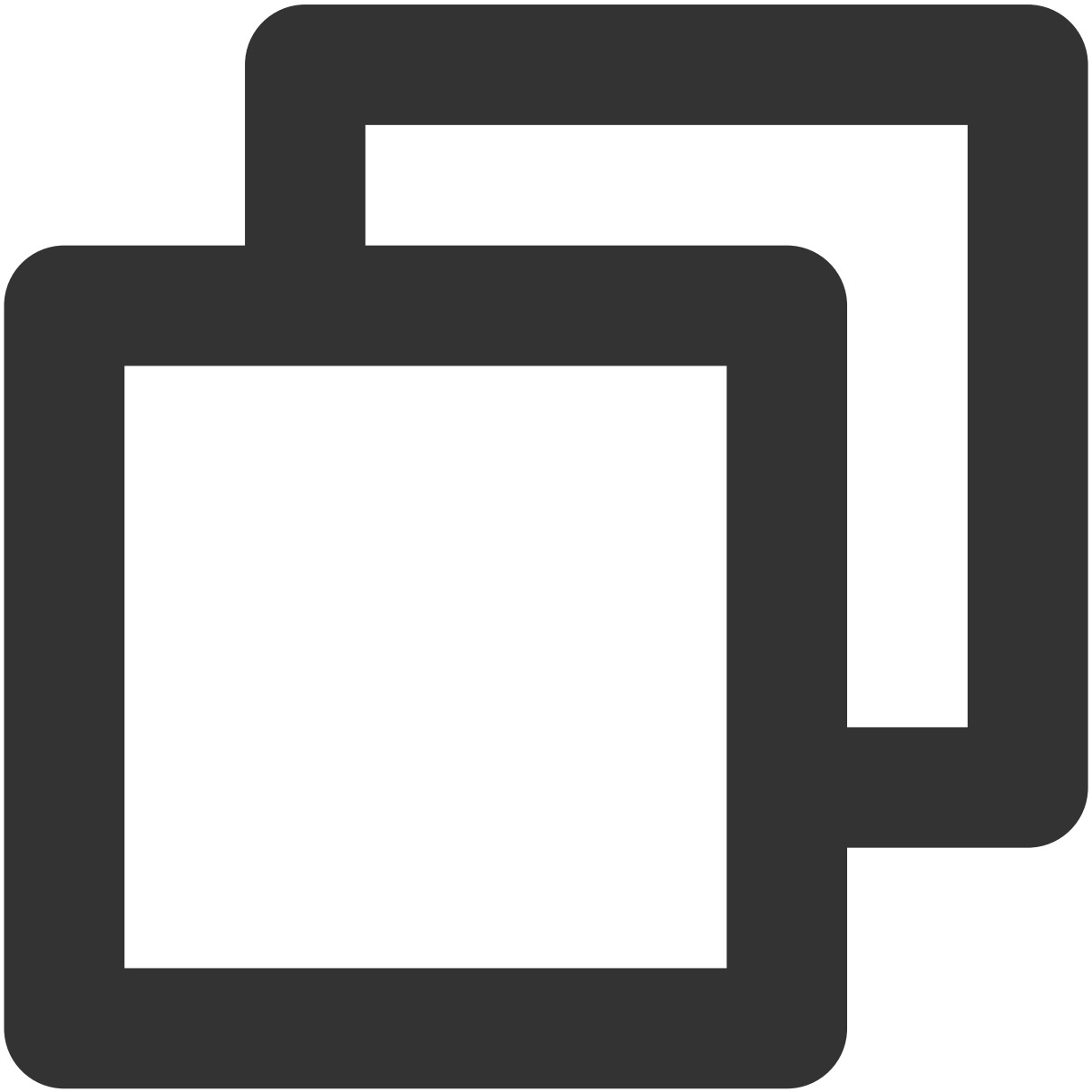
Parameter	Type	Description	Default Value	Meaning
userName	string	Required	-	User Name

avatarUrl	string	Required	-	User avatar

Returns *Promise<void>*

getSelfInfo

Get current user Basic information (Username, User avatar)



```
// Get current user Username and User avatar
```

```
const loginUserInfo = await TUIRoomEngine.getSelfInfo();
```

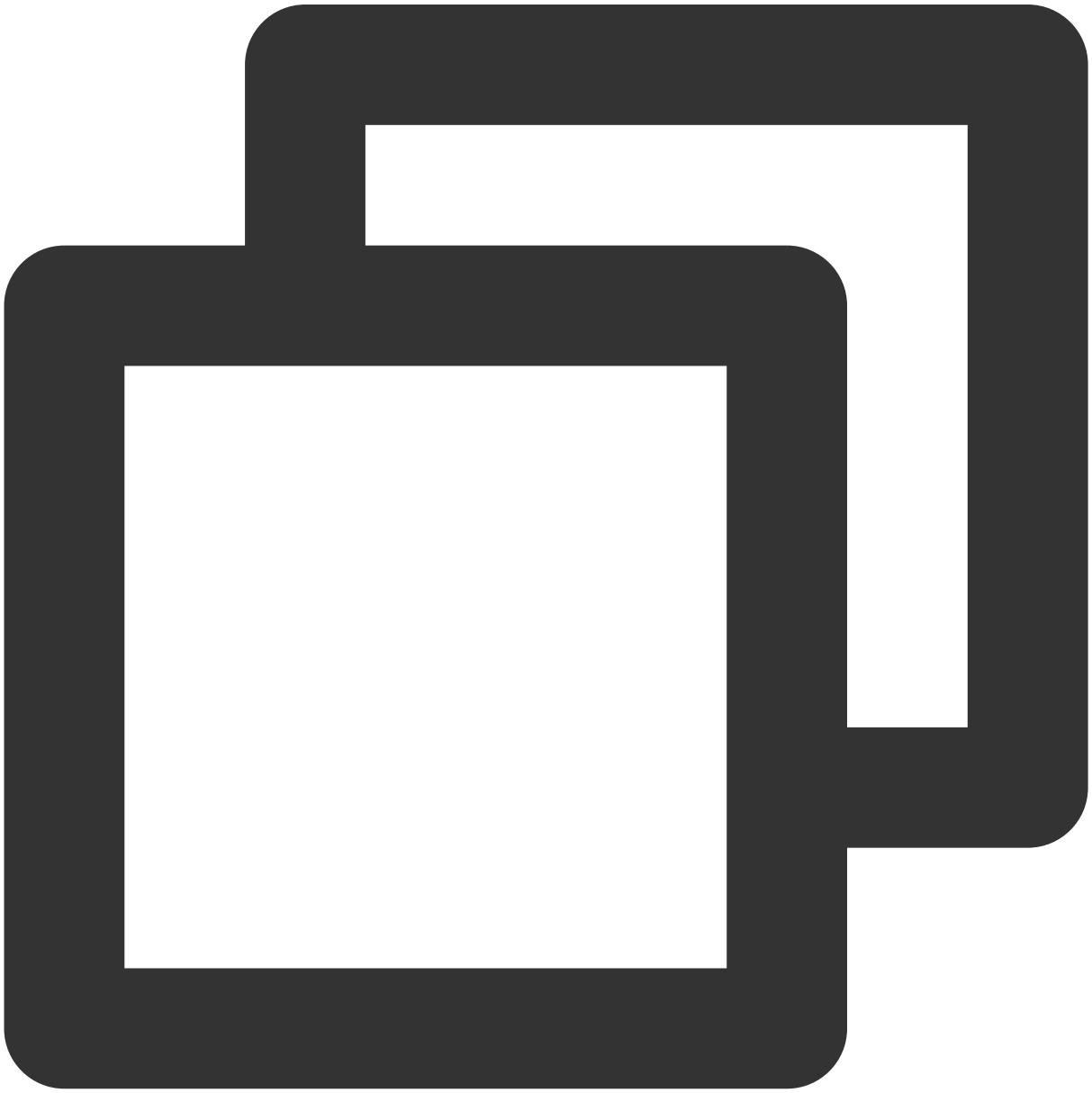
Returns *Promise*<TUILoginUserInfo> *loginUserInfo*

logout

Description:

Interface since v1.0.1 Version support.

Logout TUIRoomEngine

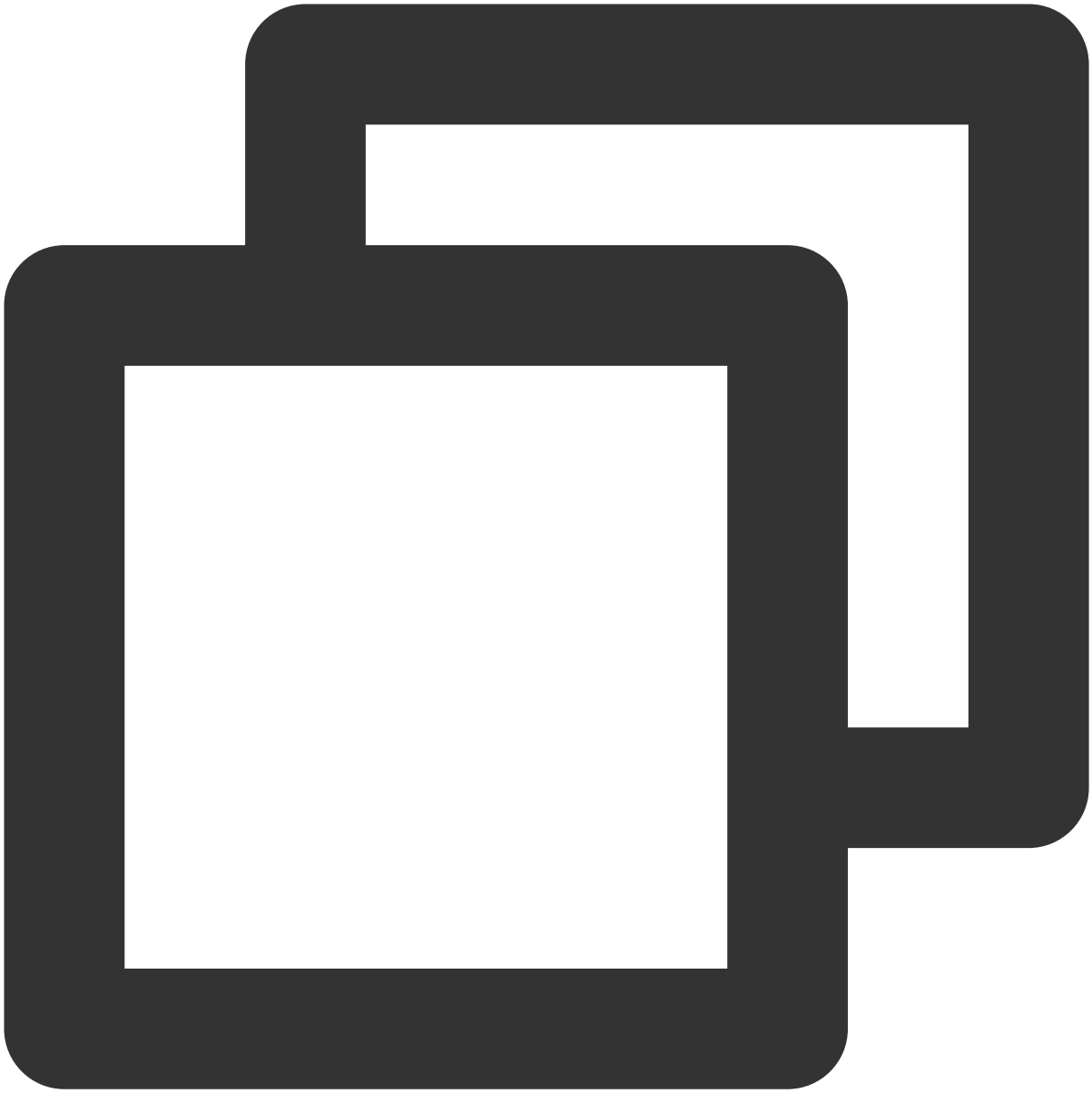


```
// Logout TUIRoomEngine
await TUIRoomEngine.logout();
```

Returns *Promise<void>*

createRoom

Host creates room, Call createRoom User is the room owner. When creating a room, you can set Room ID, Room name, Room type, Speaking mode, Whether to allow users to join and enable audio and video, Send message and other functions.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({
    roomId: '12345',   // Enter your Room ID, note that the Room ID must be a strin
    roomName: 'Test Room',     // Enter your Room Name, the default Room Name is ro
    roomType: TUIRoomType.kConference, // Set the Room Type to TUIRoomType.kConfere
    speechMode: TUISpeechMode.kFreeToSpeak, // Set the speech mode to free speech m
    isMicrophoneDisableForAllUser: false,  // Allow users to turn on their mic when
    isCameraDisableForAllUser: false,  // Allow users to turn on their Camera when
    isMessageDisableForAllUser: false,  // Allow users to send messages when joinin
});
```

Parameter:

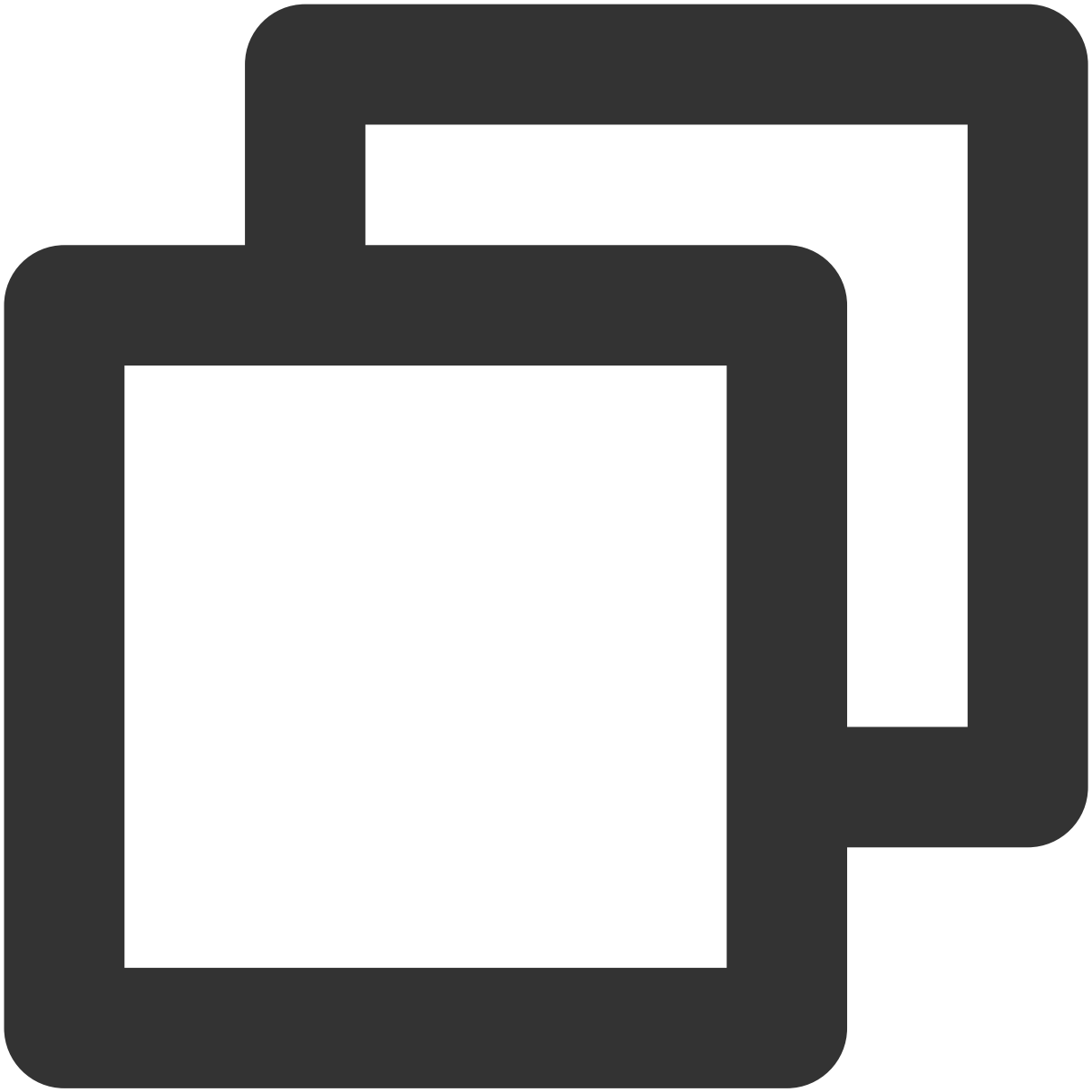
Parameter	Type	Description	Default Value	Mea
roomId	string	Required	-	Roo byte char Engl Num Spa { } | ^
roomName	string	Optional	roomId	Roo canr
roomType	TUIRoomType	Optional	TUIRoomType.kConference	Roo Offic remo roon TUII E-cc roon TUII
speechMode	TUISpeechMode	Optional	TUISpeechMode.kFreeToSpeak	Spe For (edu Set TUI can defa Set TUI do n defa to ap or m and mod Set TUI user get and For broa

				Set TUI for h Set TUI host TUI TUI mod
isMicrophoneDisableForAllUser	boolean	Optional	false	Enal mute
isCameraDisableForAllUser	boolean	Optional	false	Enal not e
isMessageDisableForAllUser	boolean	Optional	false	Allo proh
maxSeatCount	number	Optional	-	Max For (edu is nc For broa max
enableCDNStreaming	boolean	Optional	false	Enal
cdnStreamDomain	string	Optional	''	Pusl

Returns *Promise<void>*

enterRoom

Entered room interface



```
const roomEngine = new TUIRoomEngine();
const roomInfo = await roomEngine.enterRoom({
    roomId: '12345',
});
```

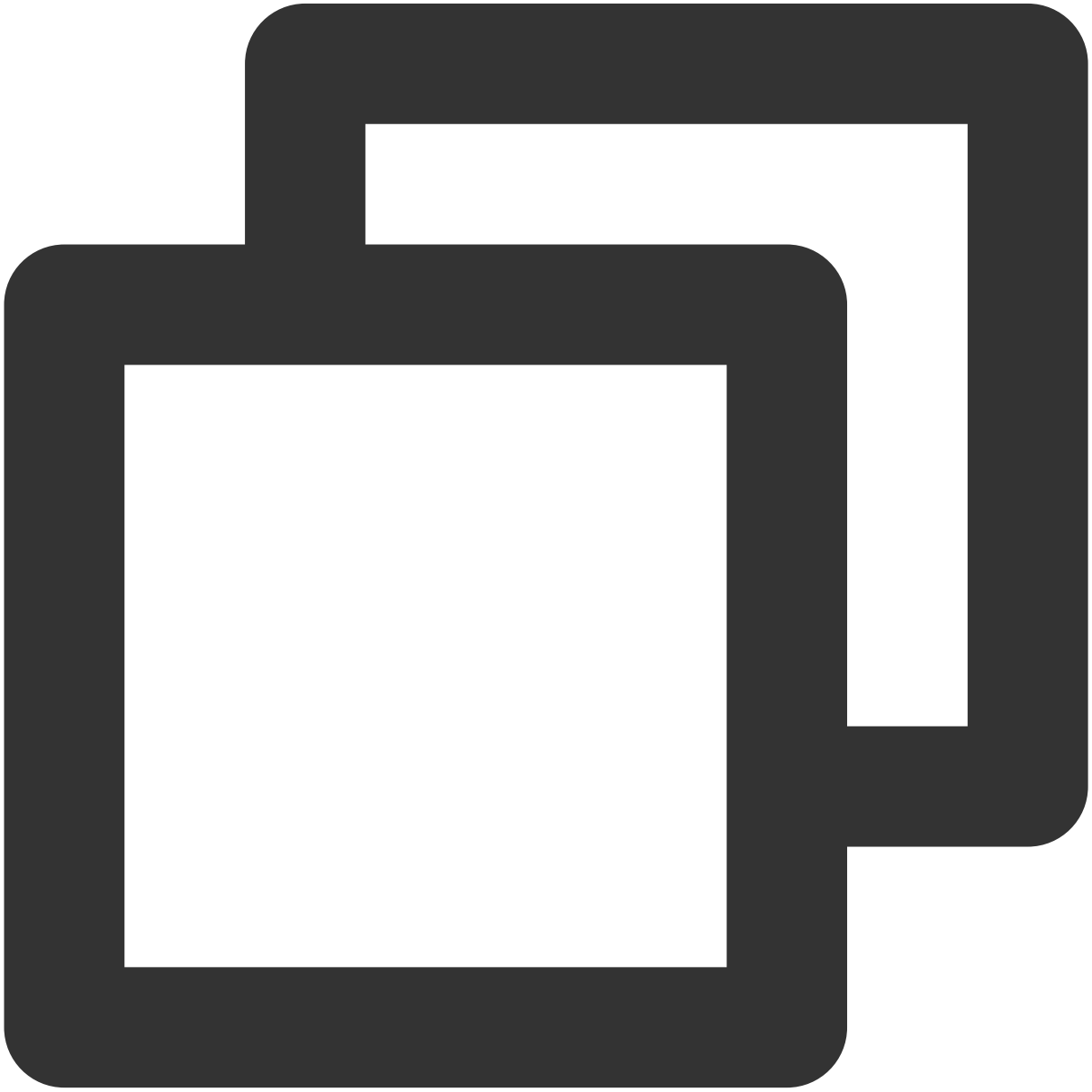
Parameter:

Parameter	Type	Description	Default Value	Meaning
roomId	string	Required	-	Room ID

Returns Promise<TUIRoomInfo> roomInfo
This interface returns the current Room data

destroyRoom

Close the room interface, the room must be closed by the room owner, and the room cannot be entered after it is closed.



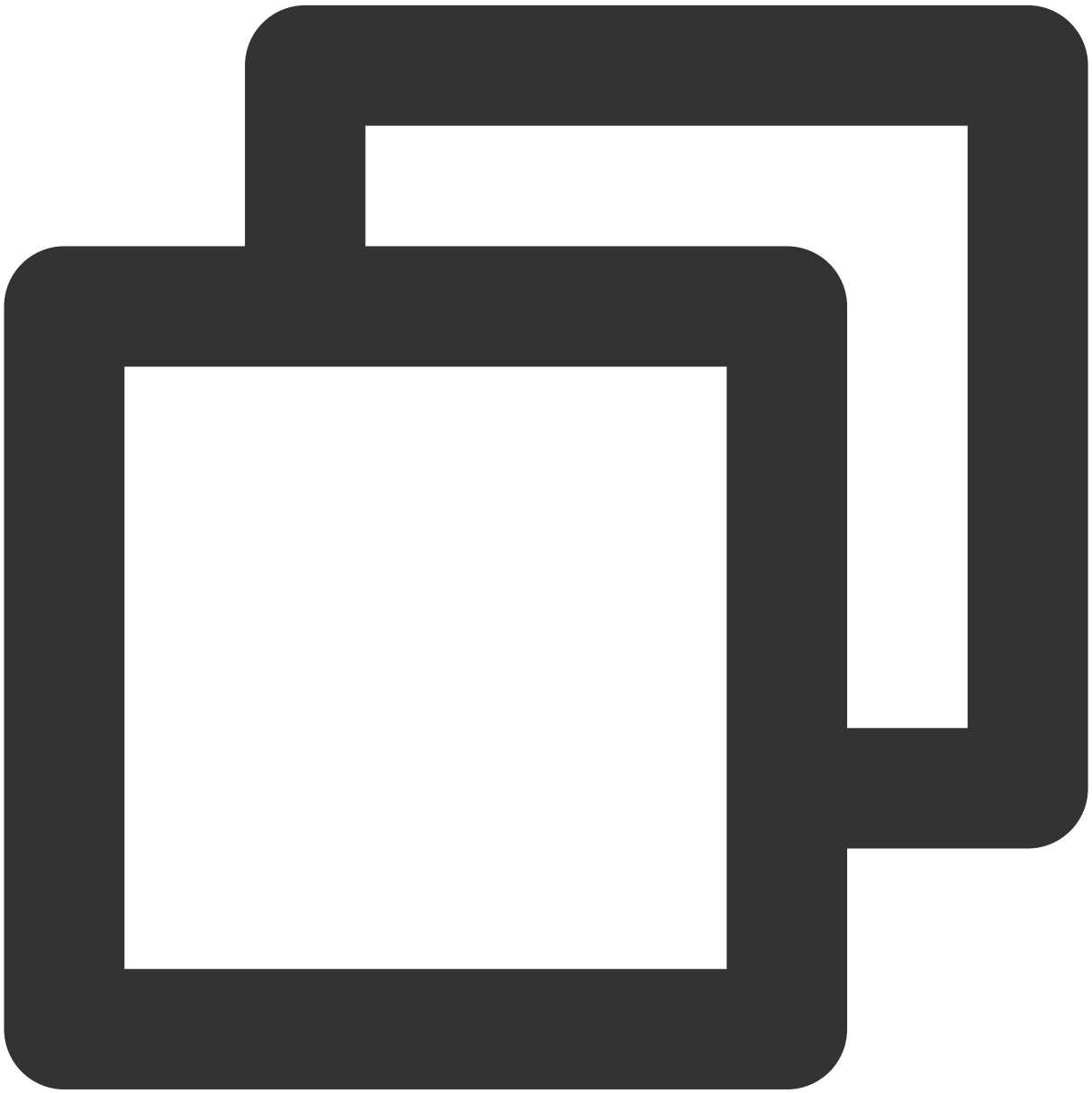
```
const roomEngine = new TUIRoomEngine();
```

```
await roomEngine.destroyRoom();
```

Returns *Promise<void>*

exitRoom

Leave the room interface, users can leave the room through exitRoom after executing enterRoom.

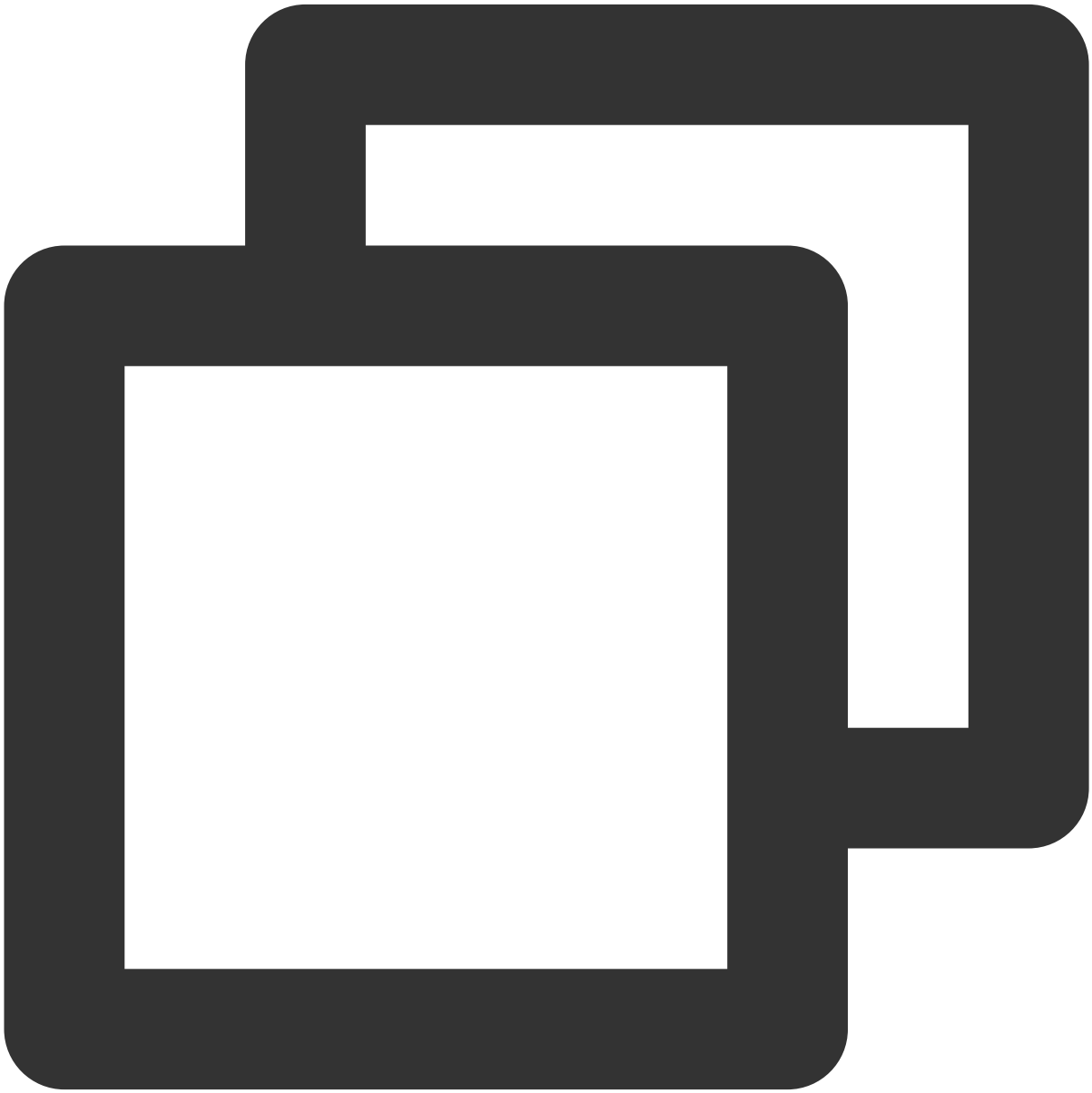


```
const roomEngine = new TUIRoomEngine();
await roomEngine.exitRoom();
```

Returns *Promise<void>*

fetchRoomInfo

Get Room information

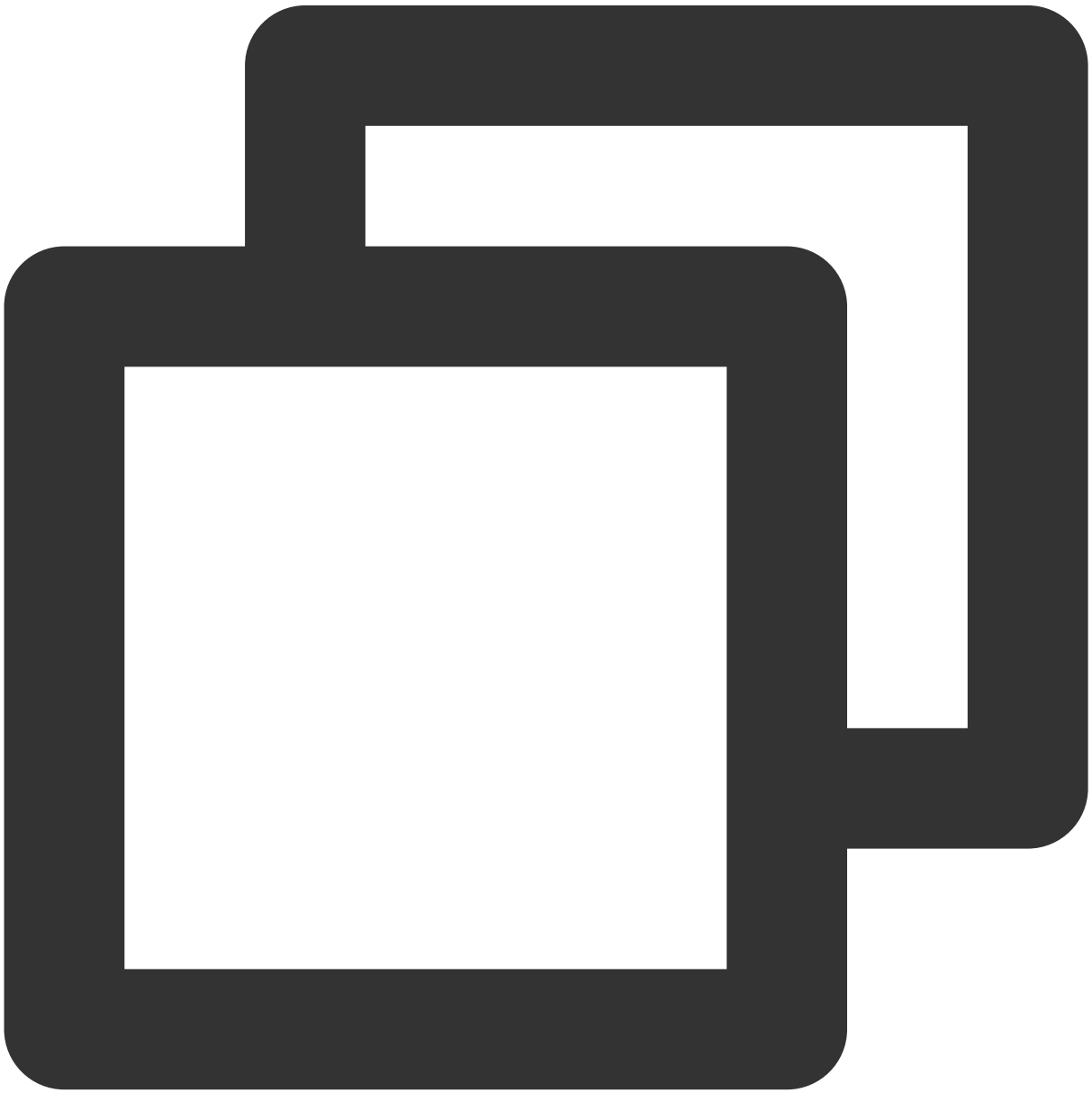


```
const roomEngine = new TUIRoomEngine();
const roomInfo = roomEngine.fetchRoomInfo();
```

Returns：*Promise<TUIRoomInfo> roomInfo*

updateRoomNameByAdmin

Update the current room's name (only group owner or admin can invoke)



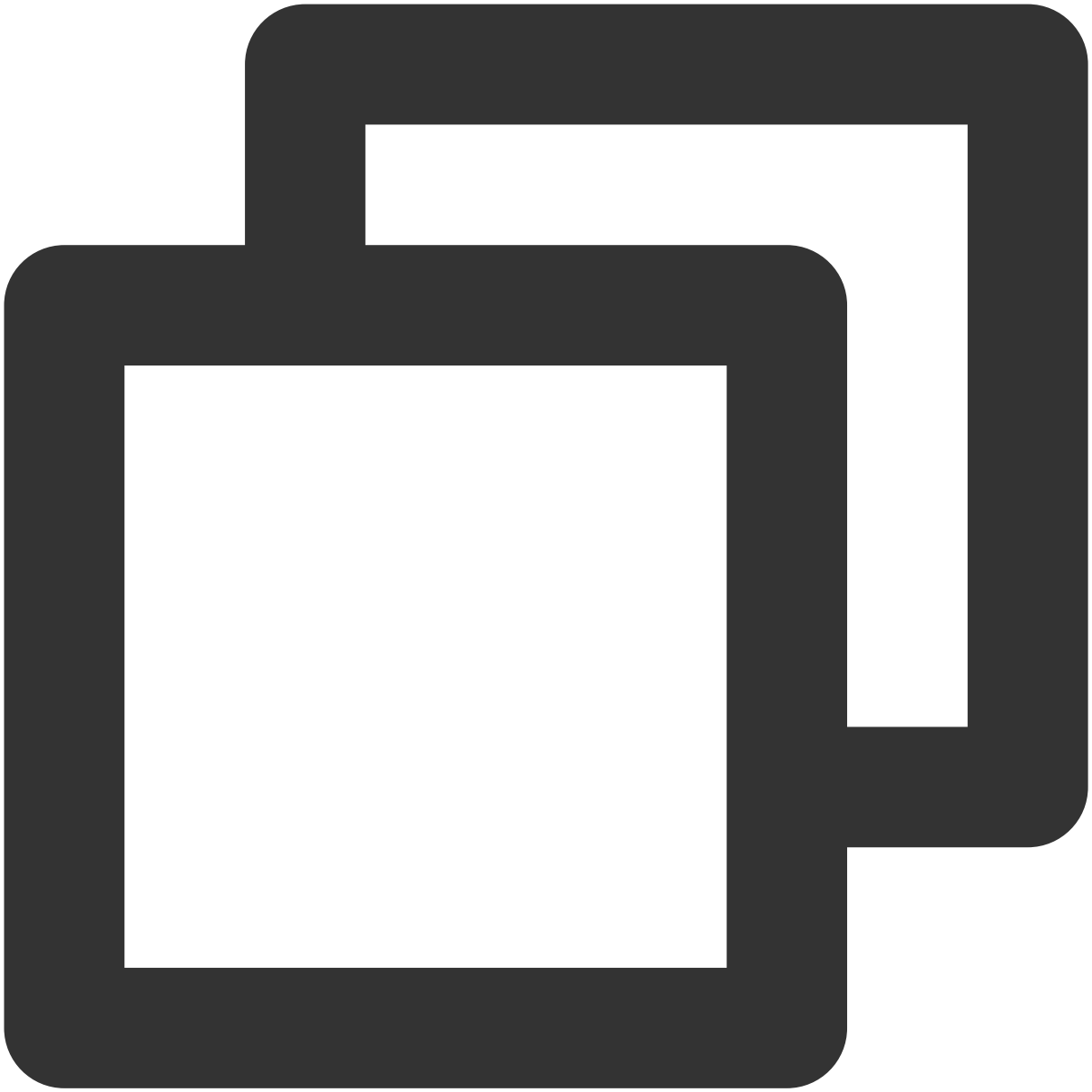
```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({ roomId: '12345' });
await roomEngine.updateRoomNameByAdmin({ roomName: 'NewName' });
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
roomName	string	Required	-	Update the room's name, with the requirement that roomName is not an empty string

updateRoomSpeechModeByAdmin

Update the room's speaking mode (only group owner or admin can invoke)



```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({ roomId: '12345' });
await roomEngine.updateRoomSpeechModeByAdmin({
  speechMode: TUISpeechMode.kSpeakAfterTakingSeat  // Update to Go Live Speaking mo
});
```

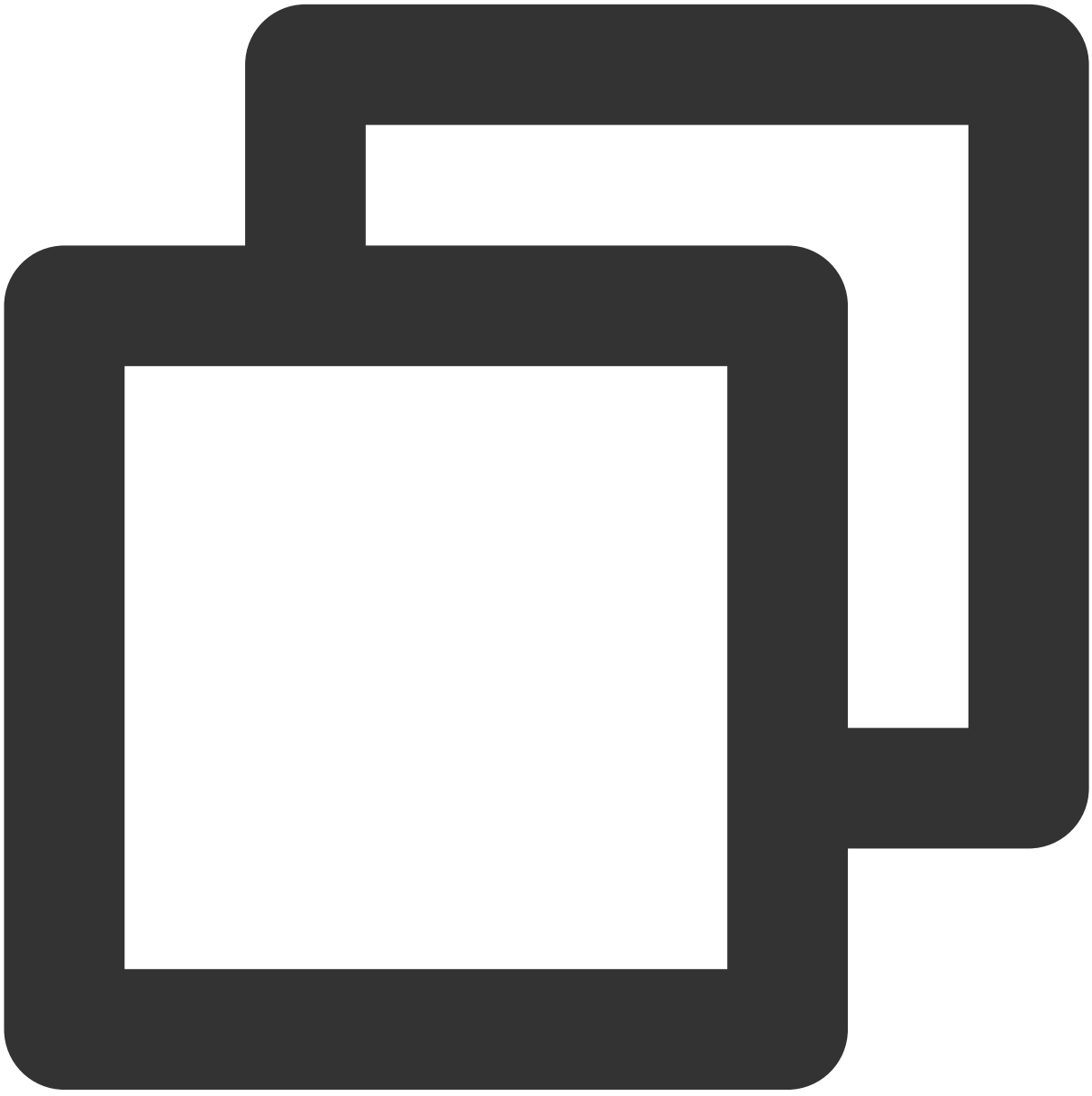
Parameter:

Parameter	Type	Description	Default Value	Meaning

speechMode	TUISpeechMode	Required	-	Update the room's speaking mode

getUserList

Get the current room's user list, note that the maximum number of user lists fetched by this interface is 100



```
const roomEngine = new TUIRoomEngine();
const userList = [];
let result;
```

```
do {
  result = await globalProperties.roomEngine.getUserList();
  userList.push(...result.userInfoList);
} while (result.nextSequence !== 0)
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
nextSequence	number	Optional	0	Offset, default is to start fetching users from 0

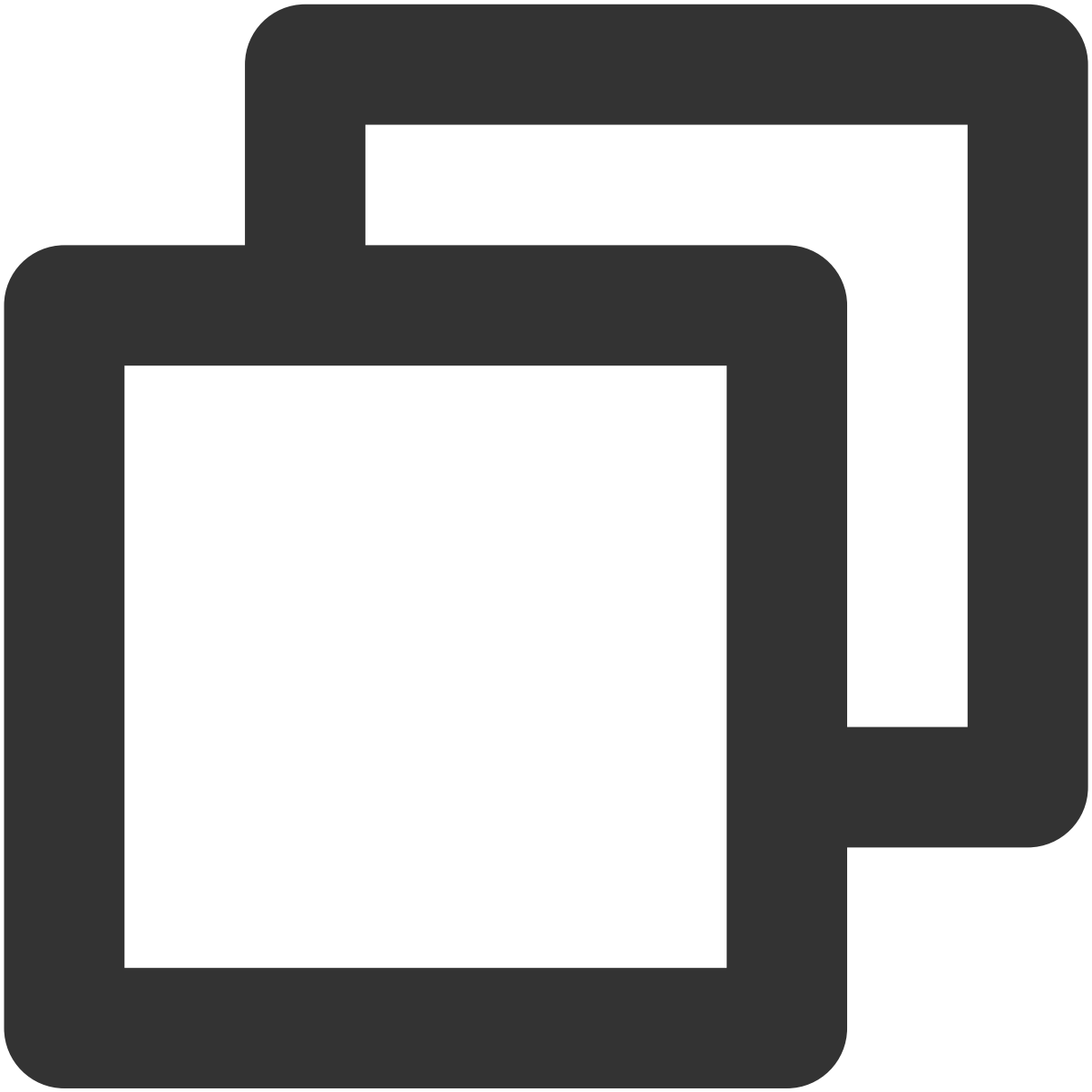
Returns：*Promise<Array> result*

result.nextSequence is the offset for fetching group users next time, if result.nextSequence is 0, it means that all userList have been fetched

result.userInfoList is the userList fetched this time

getUserInfo

Get the detailed information of the user



```
const roomEngine = new TUIRoomEngine();
const userList = [];
const userInfo = await roomEngine.getUserInfo({
    userId: 'user_12345',
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning

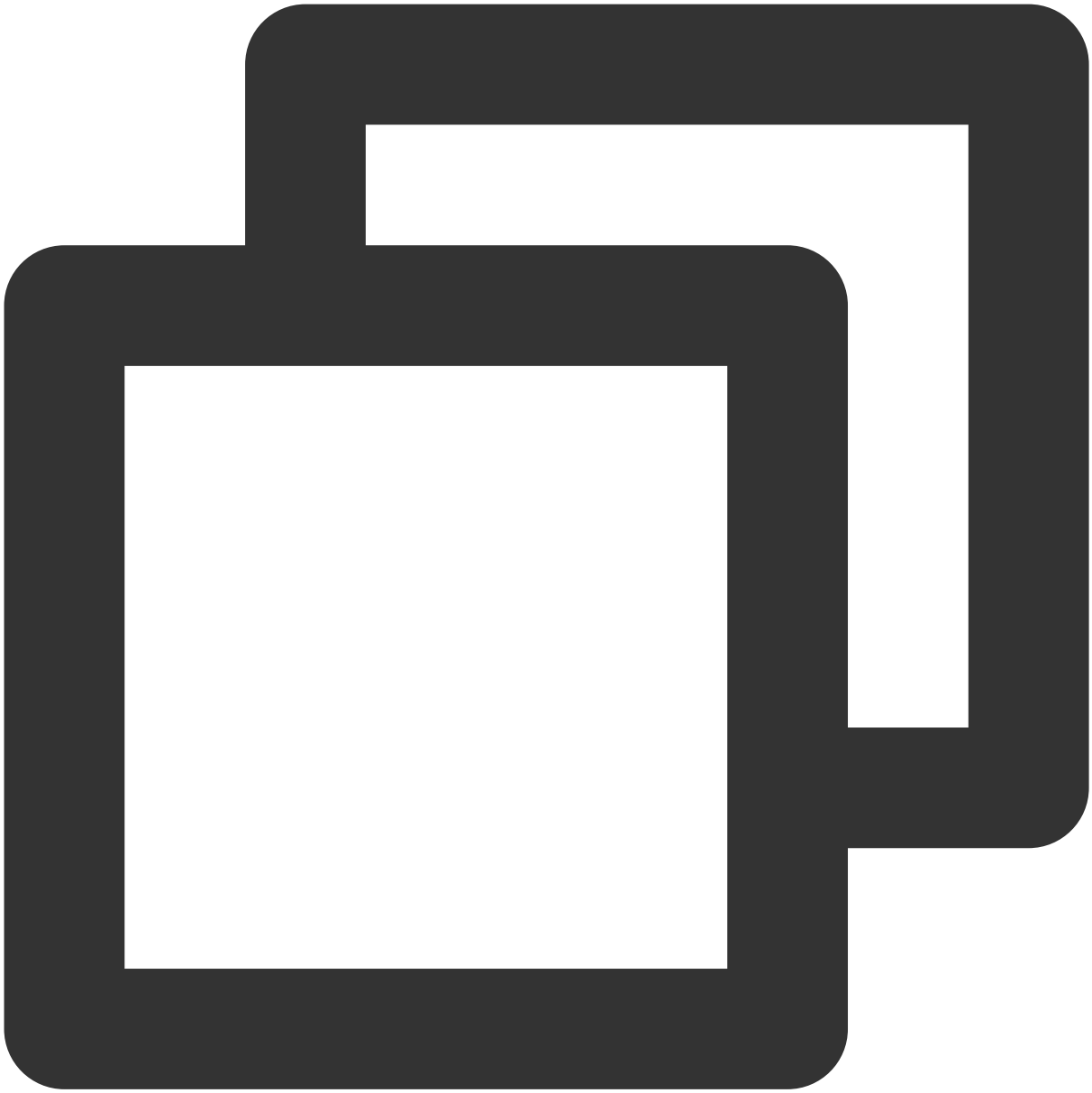
userId	string	Required	-	Get the detailed information of the user according to userId

Returns：*Promise<Array<*TUIUserInfo*>> userInfoList*

This interface returns the user information of the specified user

setLocalVideoView

Set the rendering position of the local stream



```
const roomEngine = new TUIRoomEngine();

// Set the playback area of the local camera stream to the div element with id 'pre
await roomEngine.setLocalVideoView({
  streamType: TUIVideoStreamType.kCameraStream,
  view: 'preview-camera',
});

// Set the playback area of the local screen sharing stream to the div element with
await roomEngine.setLocalVideoView({
  streamType: TUIVideoStreamType.kScreenStream,
```

```
  view: 'preview-screen',
});
```

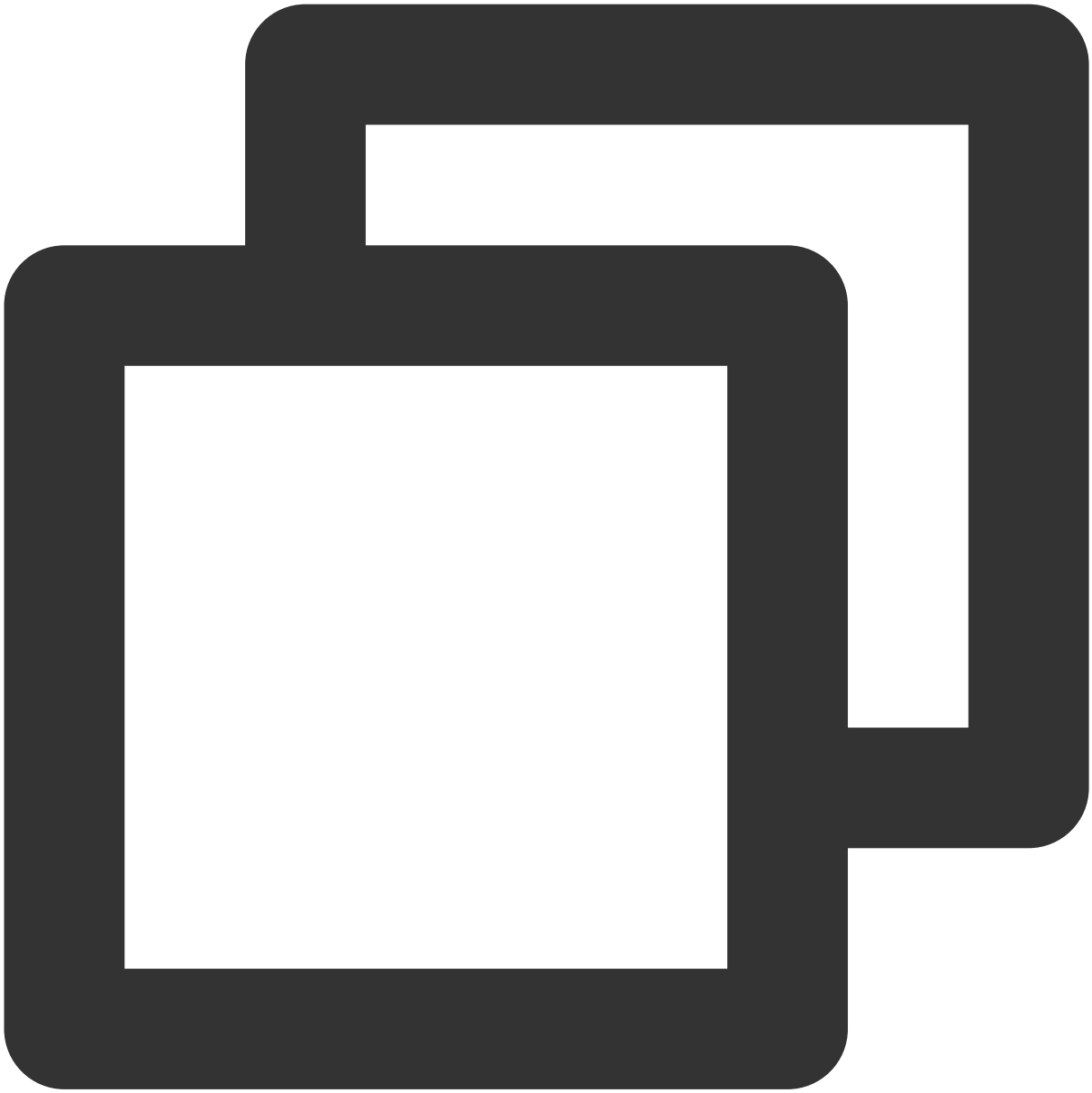
Parameter:

Parameter	Type	Description	Default Value	Meaning
streamType	TUIVideoStreamType	Required	-	Local stream type
view	string	Required	-	The id of the div element corresponding to the streamType

Returns：*Promise<void>*

openLocalCamera

Open the local camera and start capturing video streams

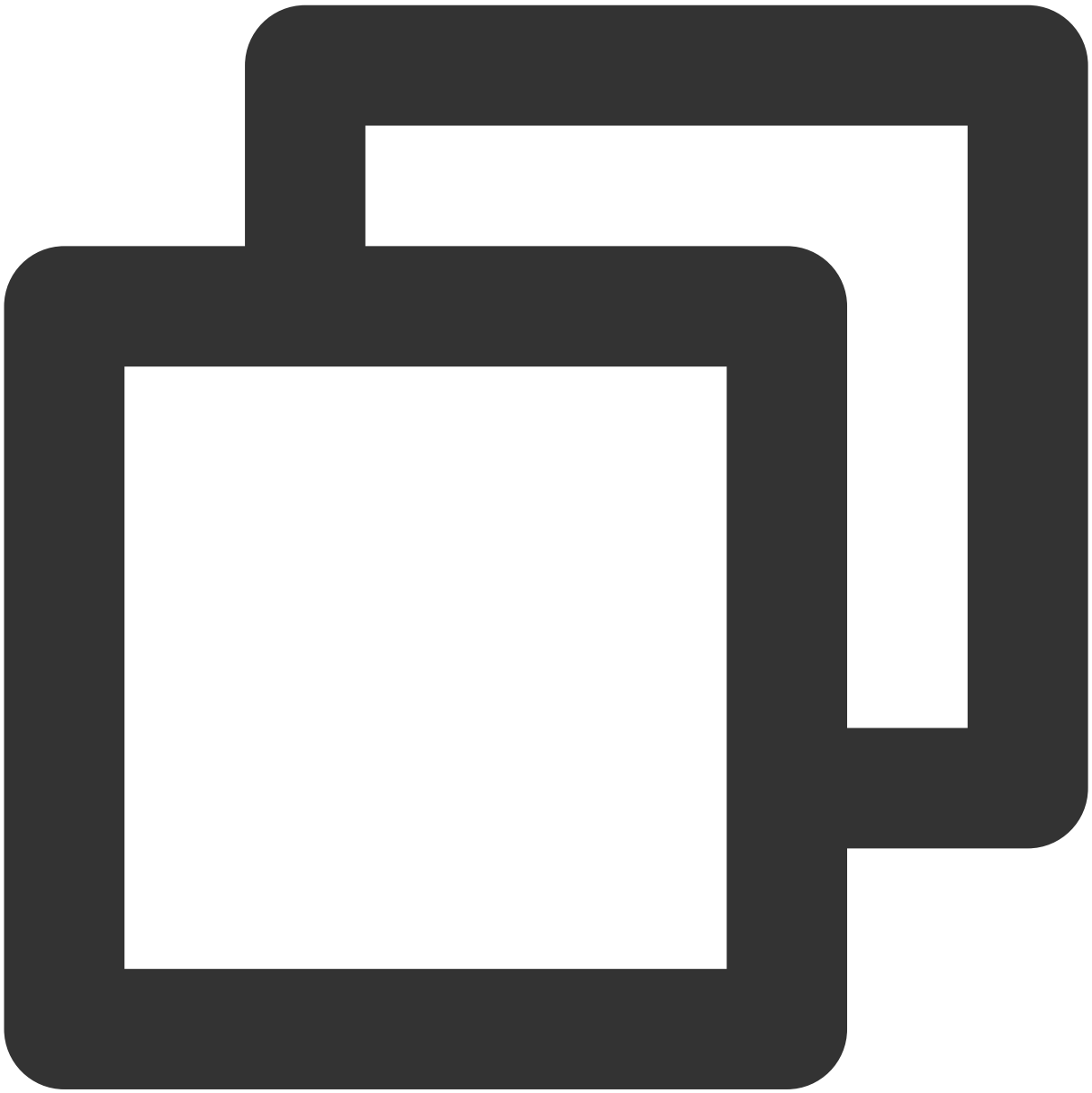


```
const roomEngine = new TUIRoomEngine();
await roomEngine.setLocalVideoView({
  streamType: TUIVideoStreamType.kCameraStream,
  view: 'preview-camera',
});
await roomEngine.openLocalCamera();
```

Returns：*Promise<void>*

closeLocalCamera

Close the local camera

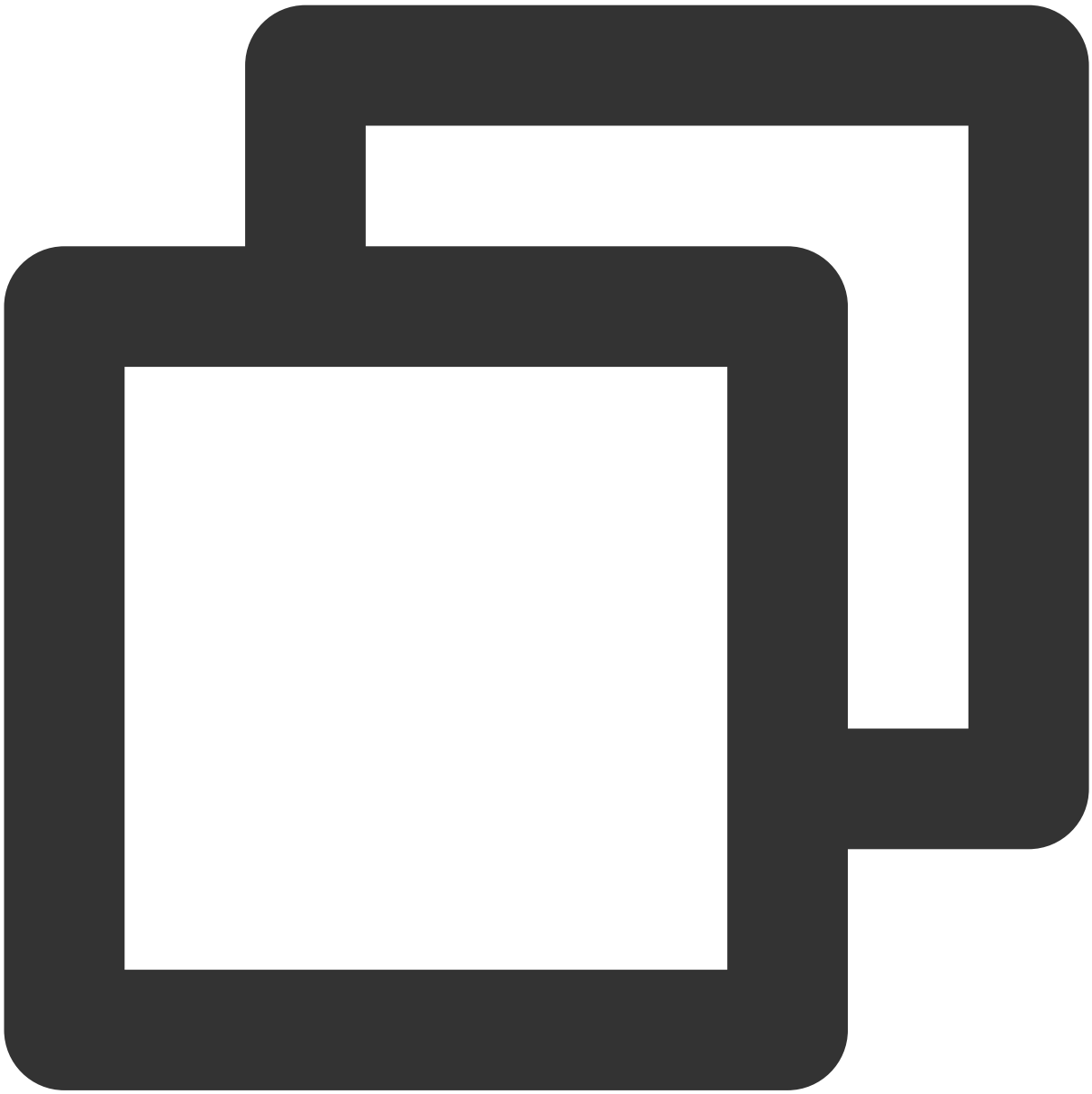


```
const roomEngine = new TUIRoomEngine();
await roomEngine.closeLocalCamera();
```

Returns：*Promise<void>*

openLocalMicrophone

Open the local mic and start capturing audio streams

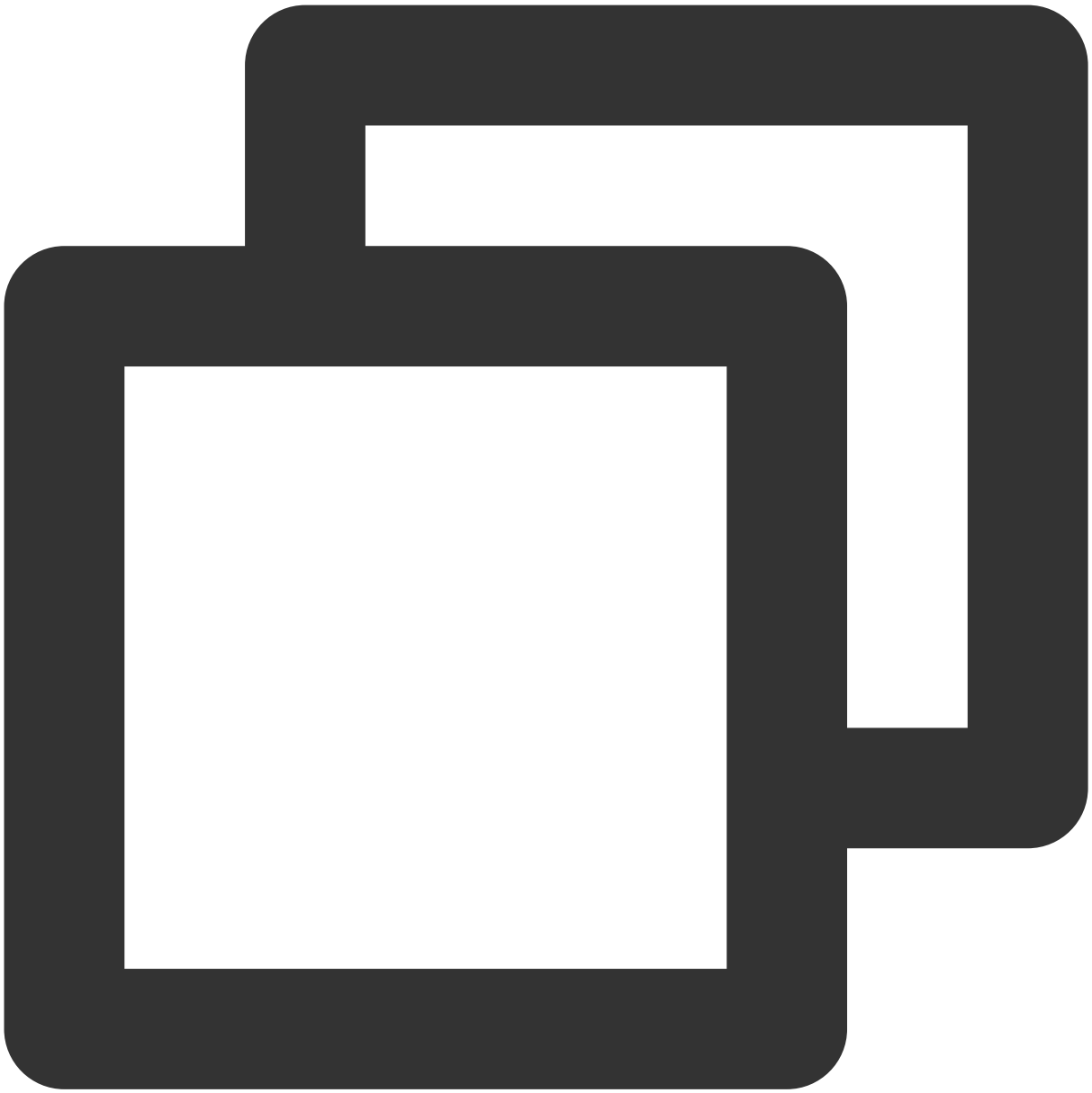


```
const roomEngine = new TUIRoomEngine();
await roomEngine.openLocalMicrophone();
```

Returns：*Promise<void>*

closeLocalMicrophone

Close the local mic

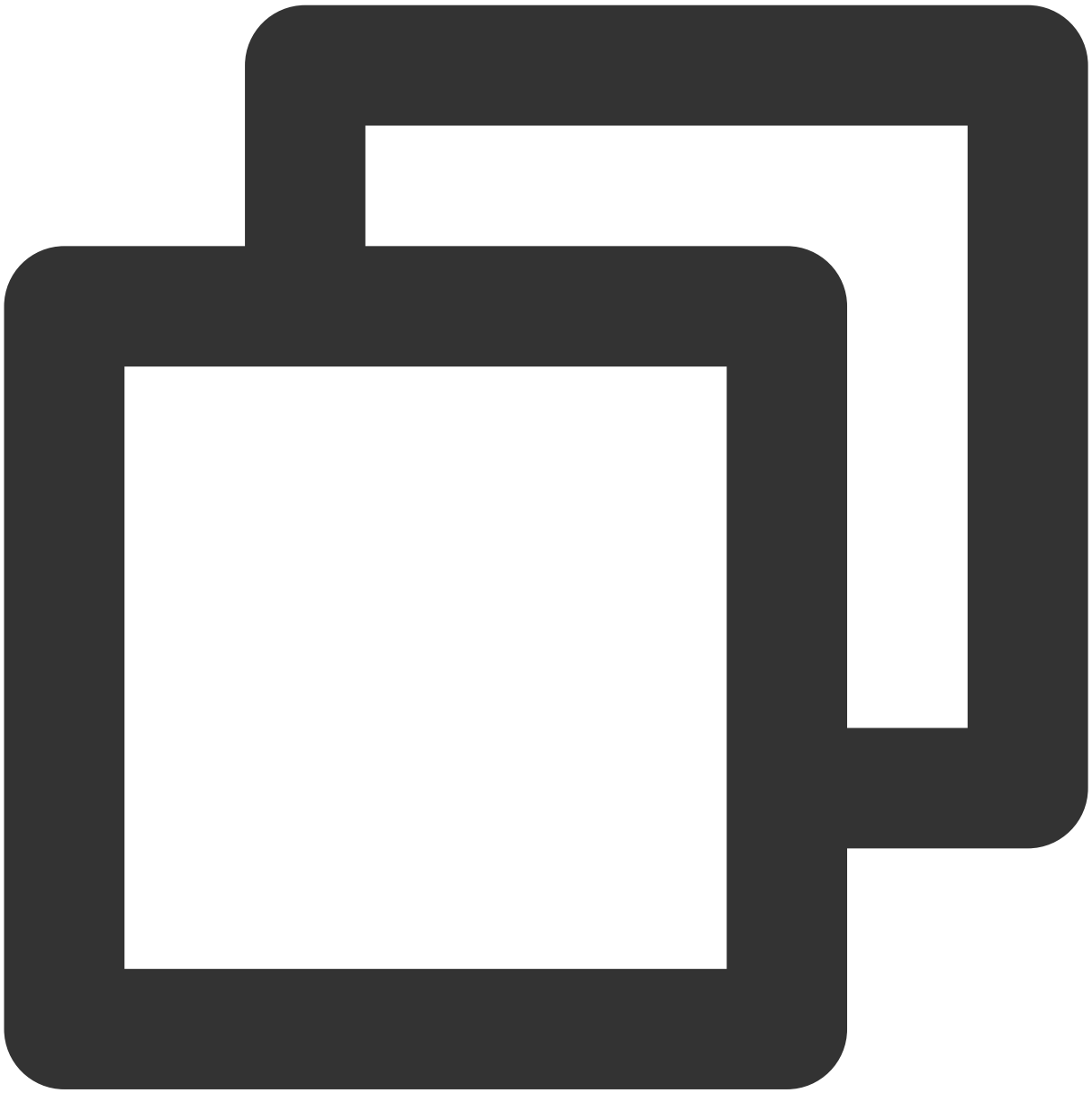


```
const roomEngine = new TUIRoomEngine();
await roomEngine.closeLocalMicrophone();
```

Returns：*Promise<void>*

updateVideoQuality

Set the codec parameters of the local video stream, default is TUIVideoProfile.kVideoQuality_720P



```
const roomEngine = new TUIRoomEngine();
await roomEngine.updateVideoQuality({
    quality: TUIVideoQuality.kVideoQuality_540p,
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
quality	TUIVideoQuality	Required	-	Clear TUIVideoProfile.kVideoQuality_360P SD TUIVideoProfile.kVideoQuality_540P HD TUIVideoProfile.kVideoQuality_720P Full HD TUIVideoProfile.kVideoQuality_1080P

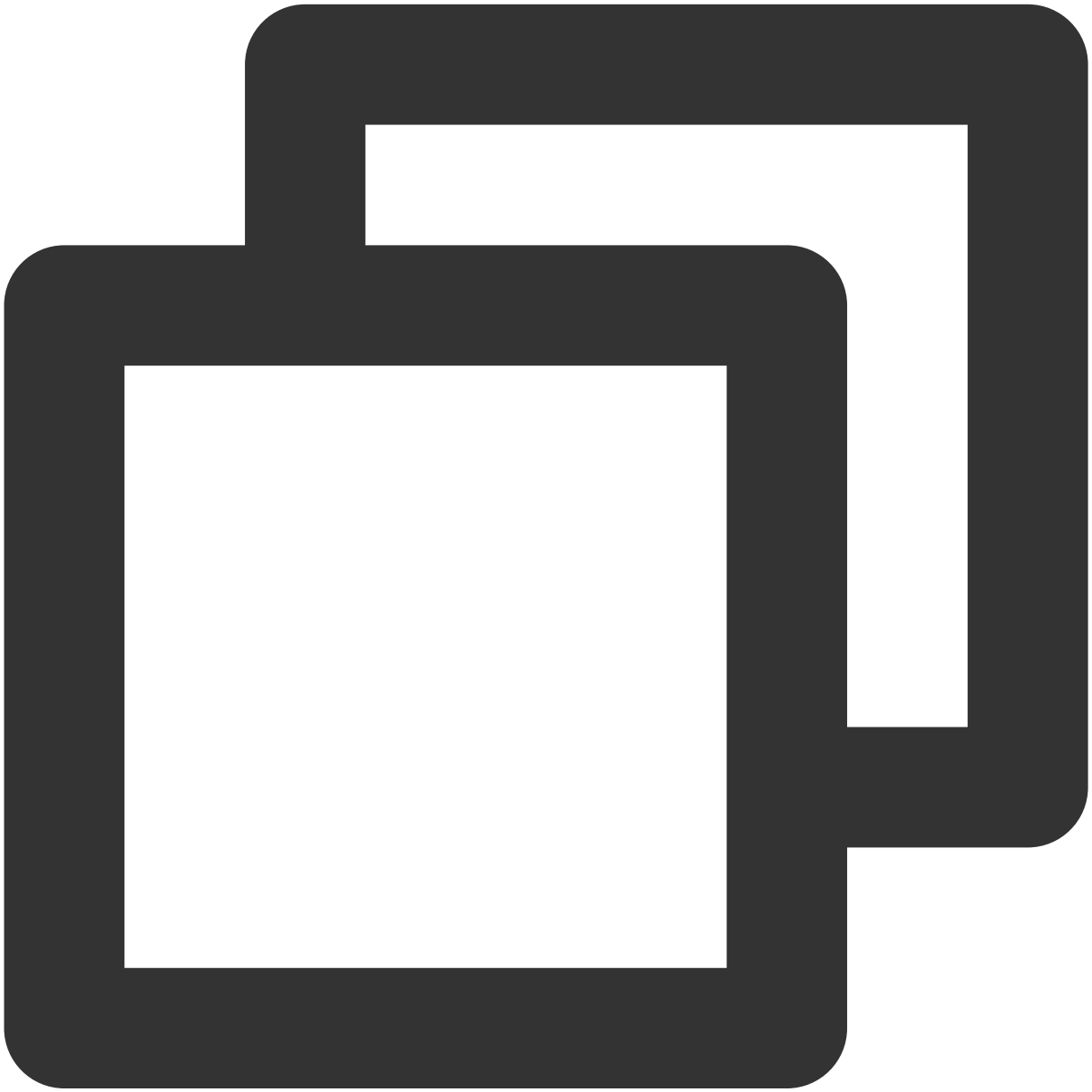
Returns：*Promise<void>*

updateAudioQuality

Set Local Audio Parameters

Note:

This method needs to be set before openLocalMicrophone, otherwise it will not take effect.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setLocalAudioProfile({
    audioProfile: TUIAudioProfile.kAudioProfileSpeech,
});
```

Parameter:

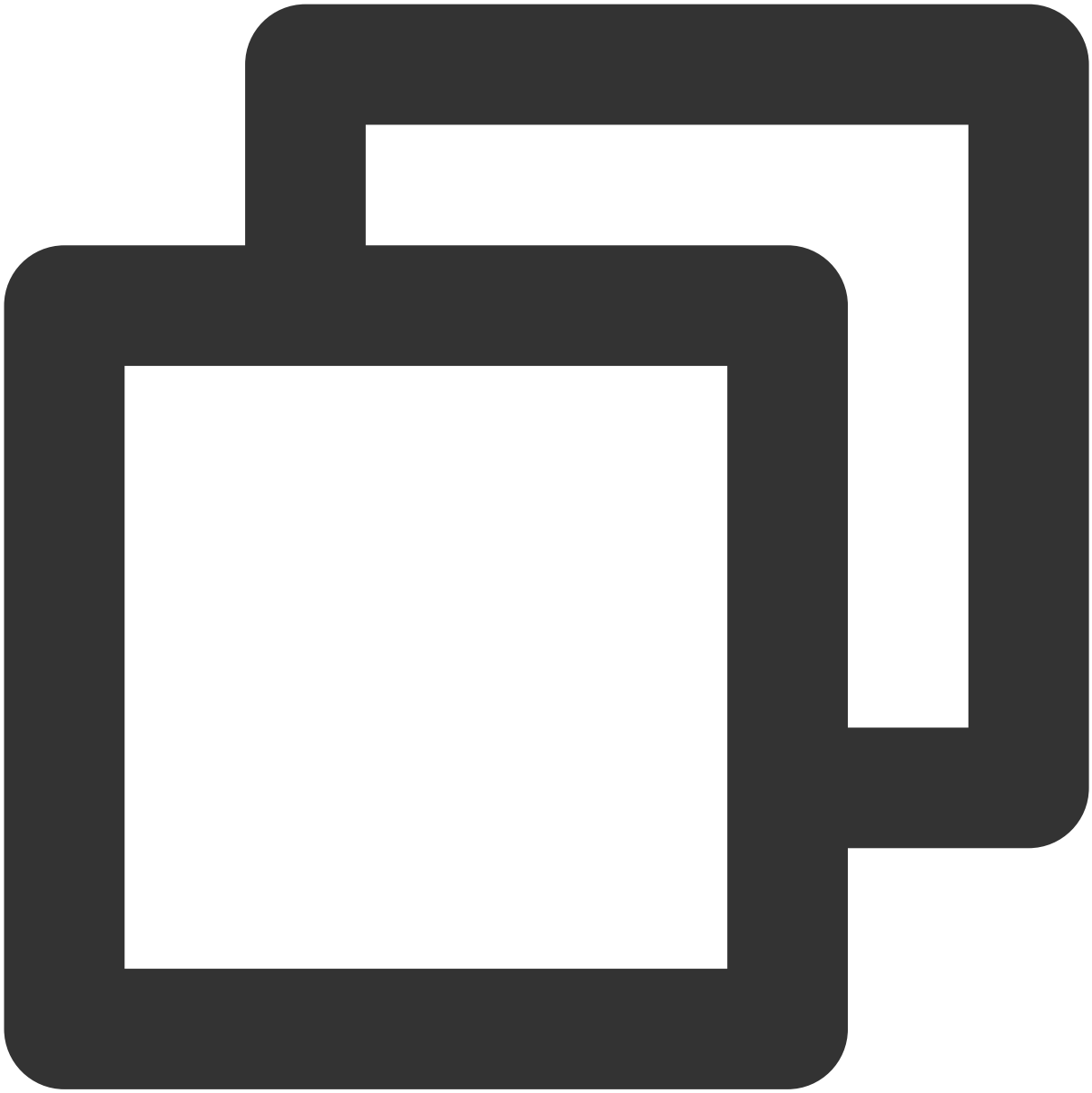
Parameter	Type	Description	Default Value	Meaning
audioProfile	TUIAudioProfile	Required	-	TUIAudioProfile.kAudioProfileSpeech: Speech

				Mode; Sample rate: 16k TUIAudioProfile.kAudioProfileDefault: Standard Mode (or Default Mode); Sample rate: 48k TUIAudioProfile.kAudioProfileMusic: Music Mode; Sample rate: 48k

Returns：*Promise<void>*

startScreenSharing

Start Screen Sharing



```
const roomEngine = new TUIRoomEngine();
// Set the playback area of the local screen sharing stream to the div element wit
await roomEngine.setLocalRenderView({
 streamType: TUIVideoStreamType.kScreenStream,
 view: 'preview-screen',
});
// example 1: Start Screen Sharing
await roomEngine.startScreenSharing();
// example 2: Start Screen Sharing(Capturing System Audio)
await roomEngine.startScreenSharing({ screenAudio: true });
```

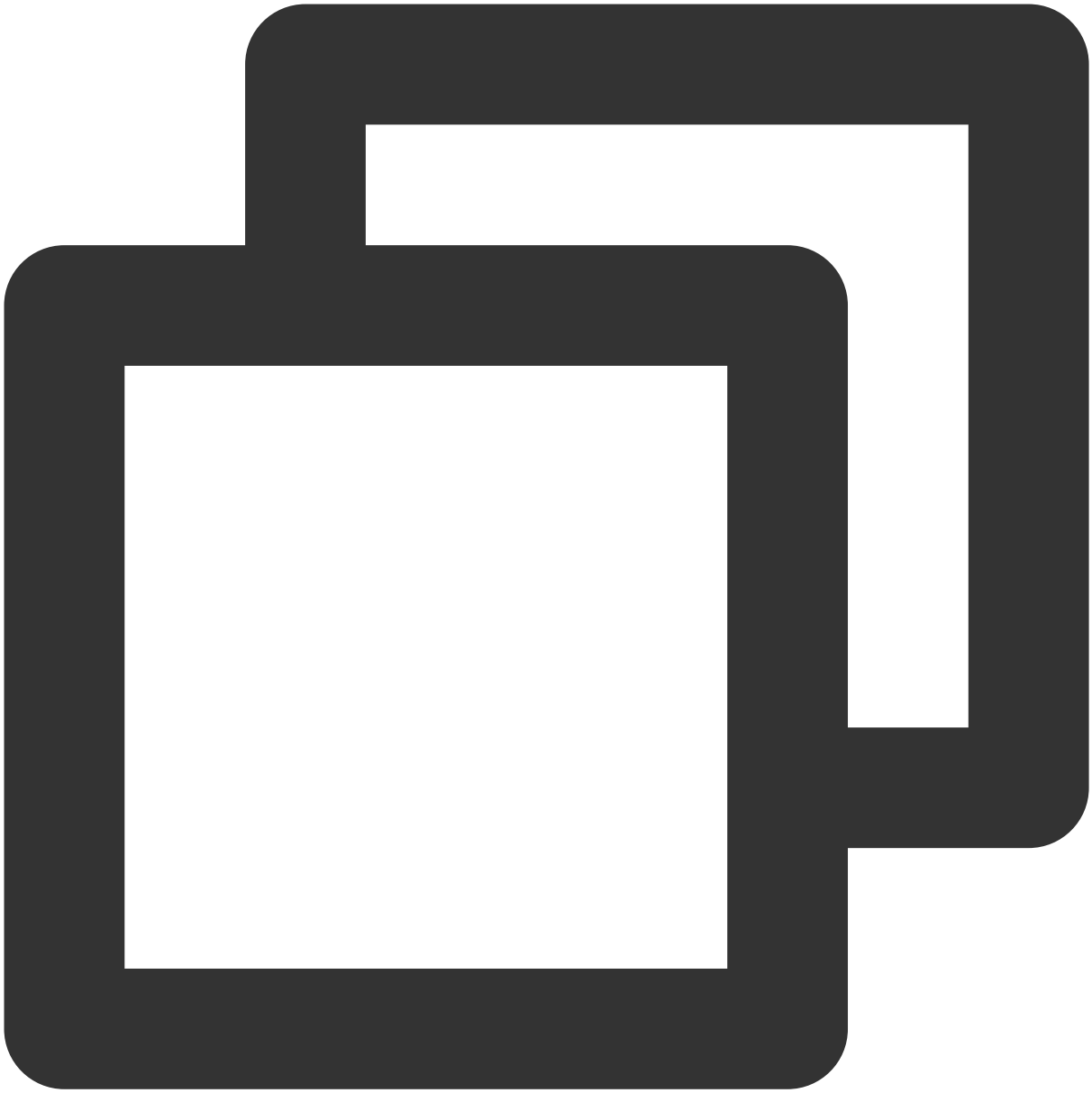
Parameter:

Parameter	Type	Description	Default Value	Meaning
screenAudio	boolean	Optional	false	Whether web screen sharing can optionally share system sound, screenAudio default value is false

Returns：*Promise<void>*

stopScreenSharing

Stop Screen Sharing

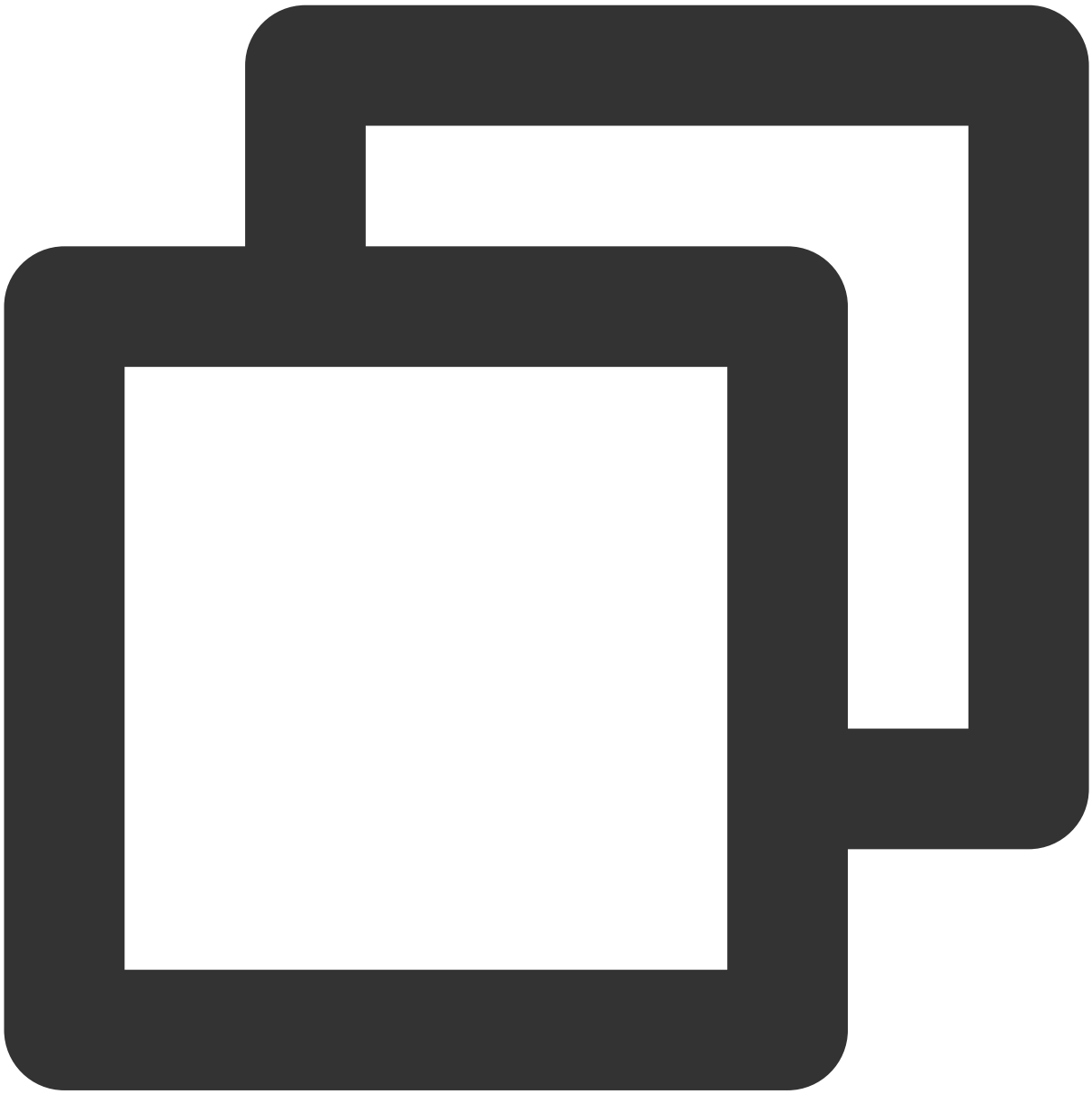


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopScreenSharing();
```

Returns：*Promise<void>*

startPushLocalVideo

After entering the room, the local video stream will be pushed to the remote by default. This interface is used to re-push the local video stream to the remote after stopping the push.

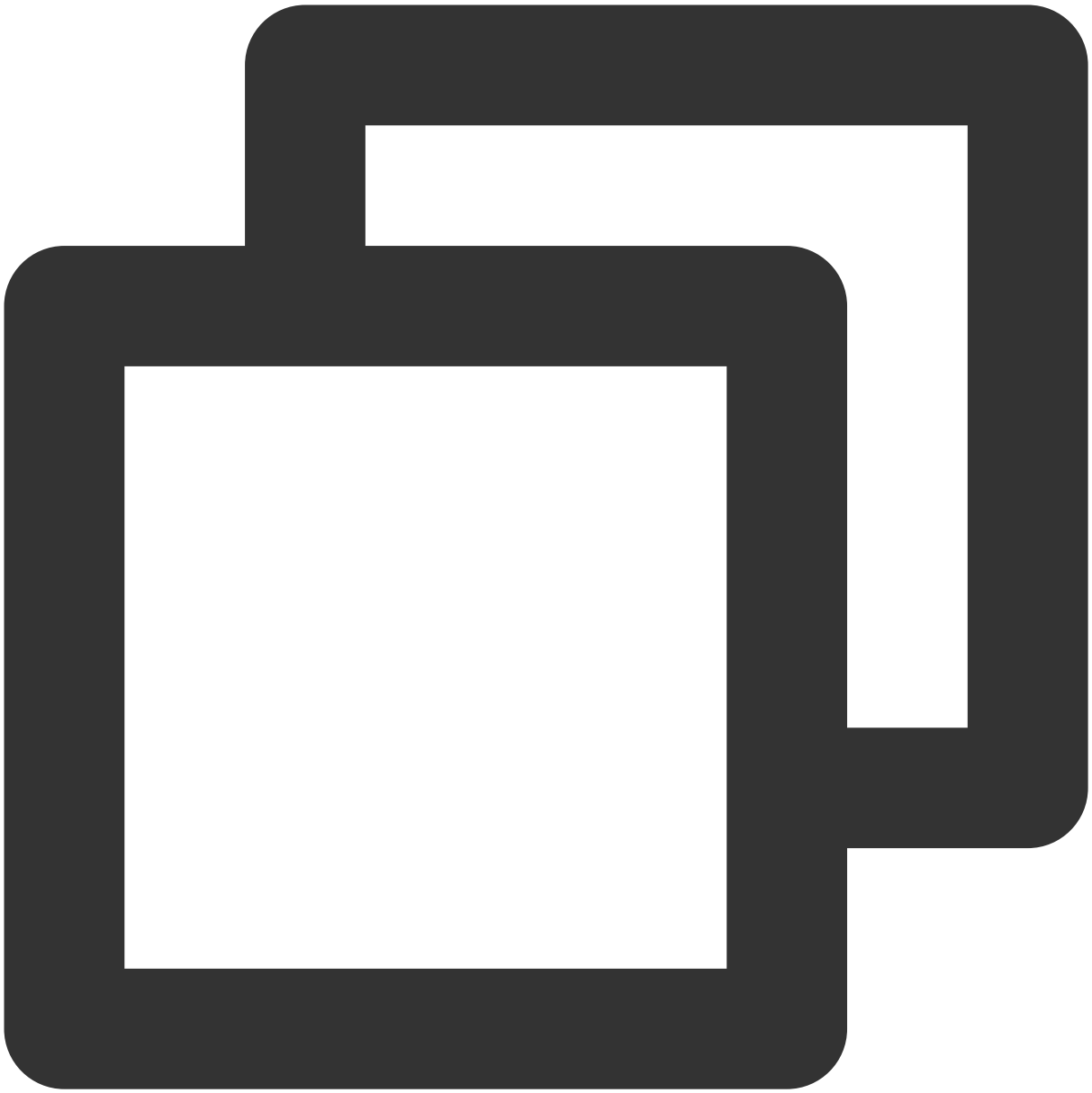


```
const roomEngine = new TUIRoomEngine();
await roomEngine.startPushLocalVideo();
```

Returns：*Promise<void>*

stopPushLocalVideo

Stop Pushing Local Video Stream to Remote

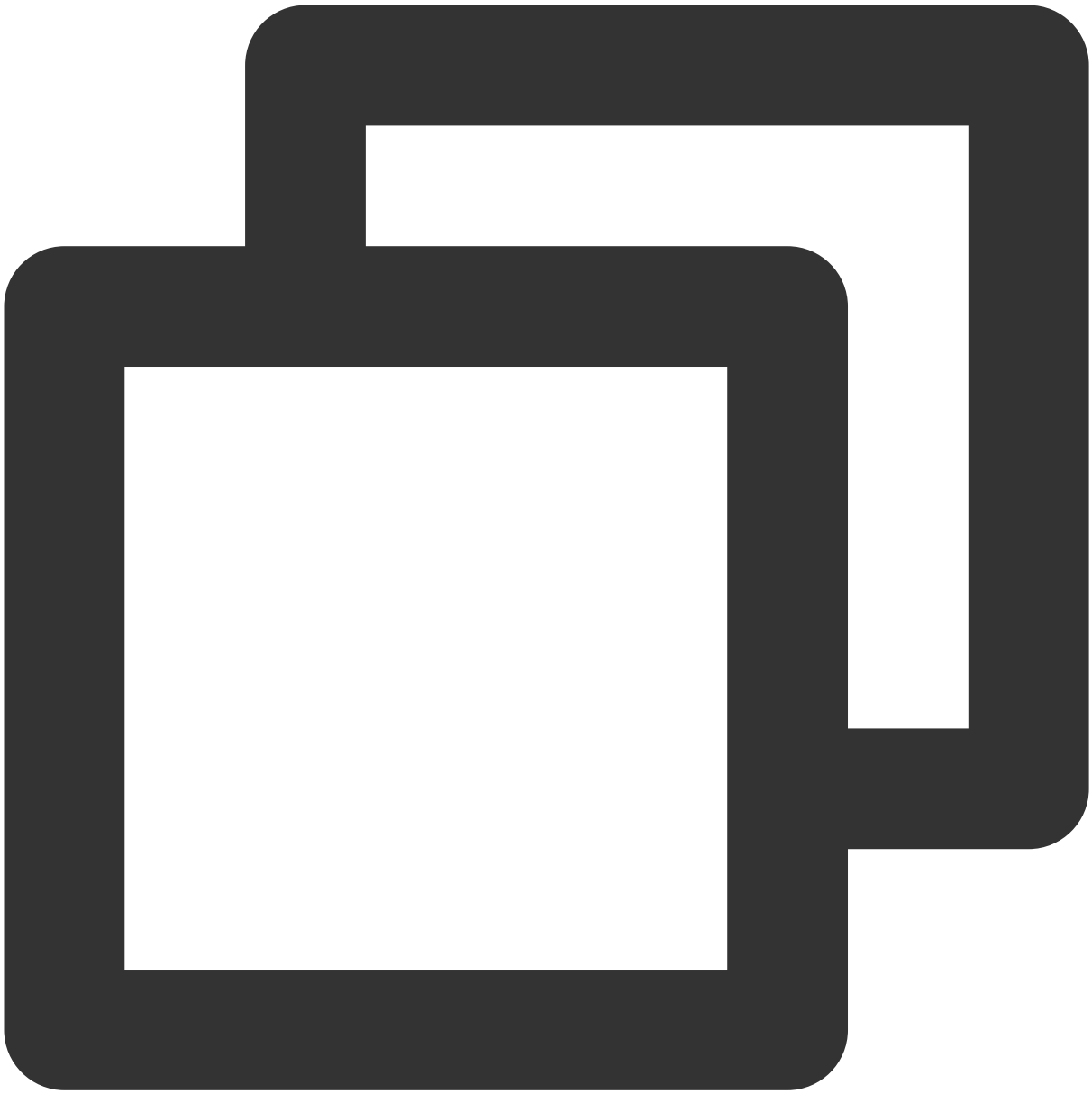


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopPushLocalVideo();
```

Returns：*Promise<void>*

startPushLocalAudio

After entering the room, the local audio stream will be pushed to the remote by default. This interface is used to re-push the local audio stream to the remote after stopping the push.

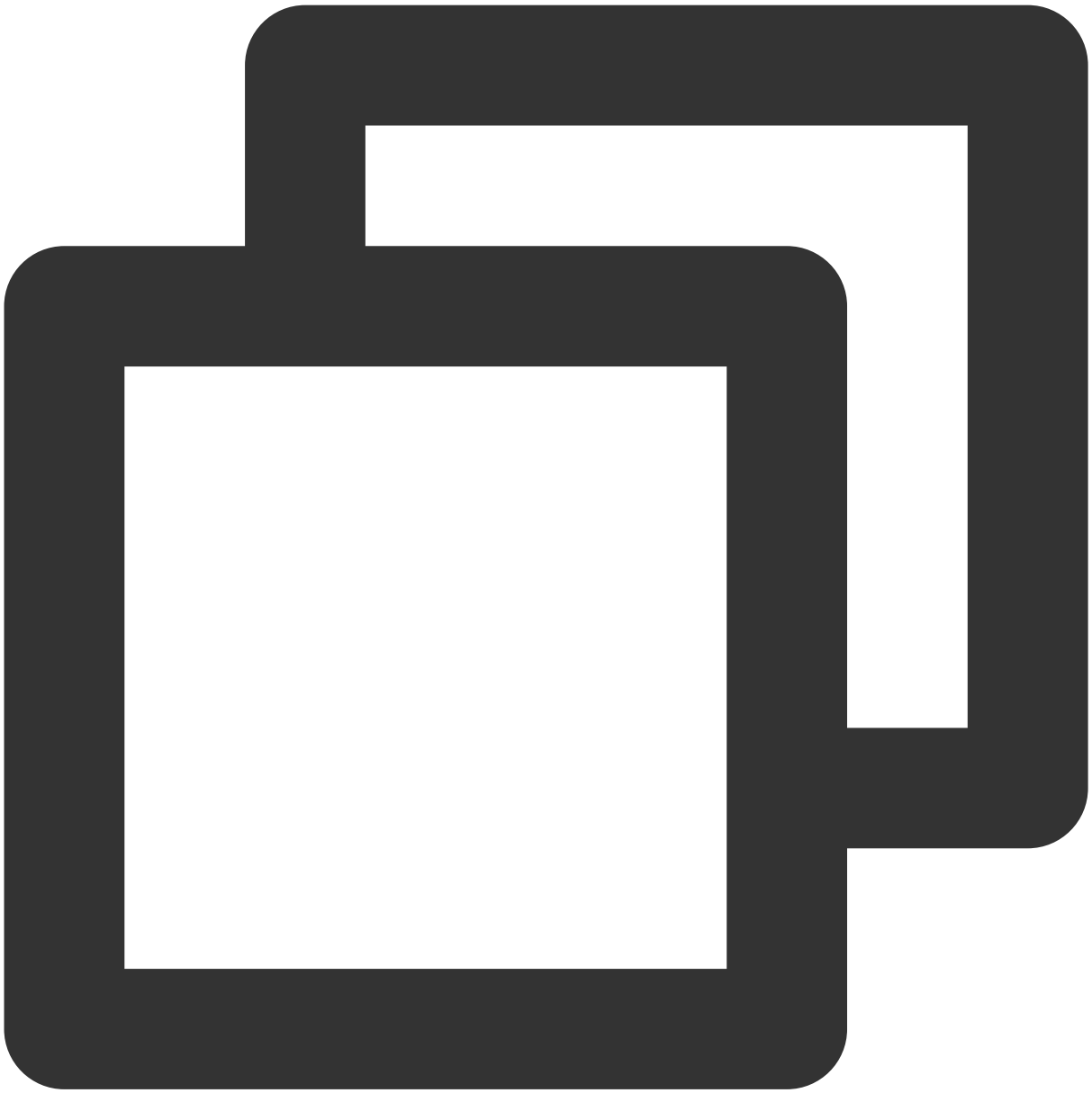


```
const roomEngine = new TUIRoomEngine();
await roomEngine.startPushLocalAudio();
```

Returns：*Promise<void>*

stopPushLocalAudio

Stop Pushing Local Audio Stream to Remote

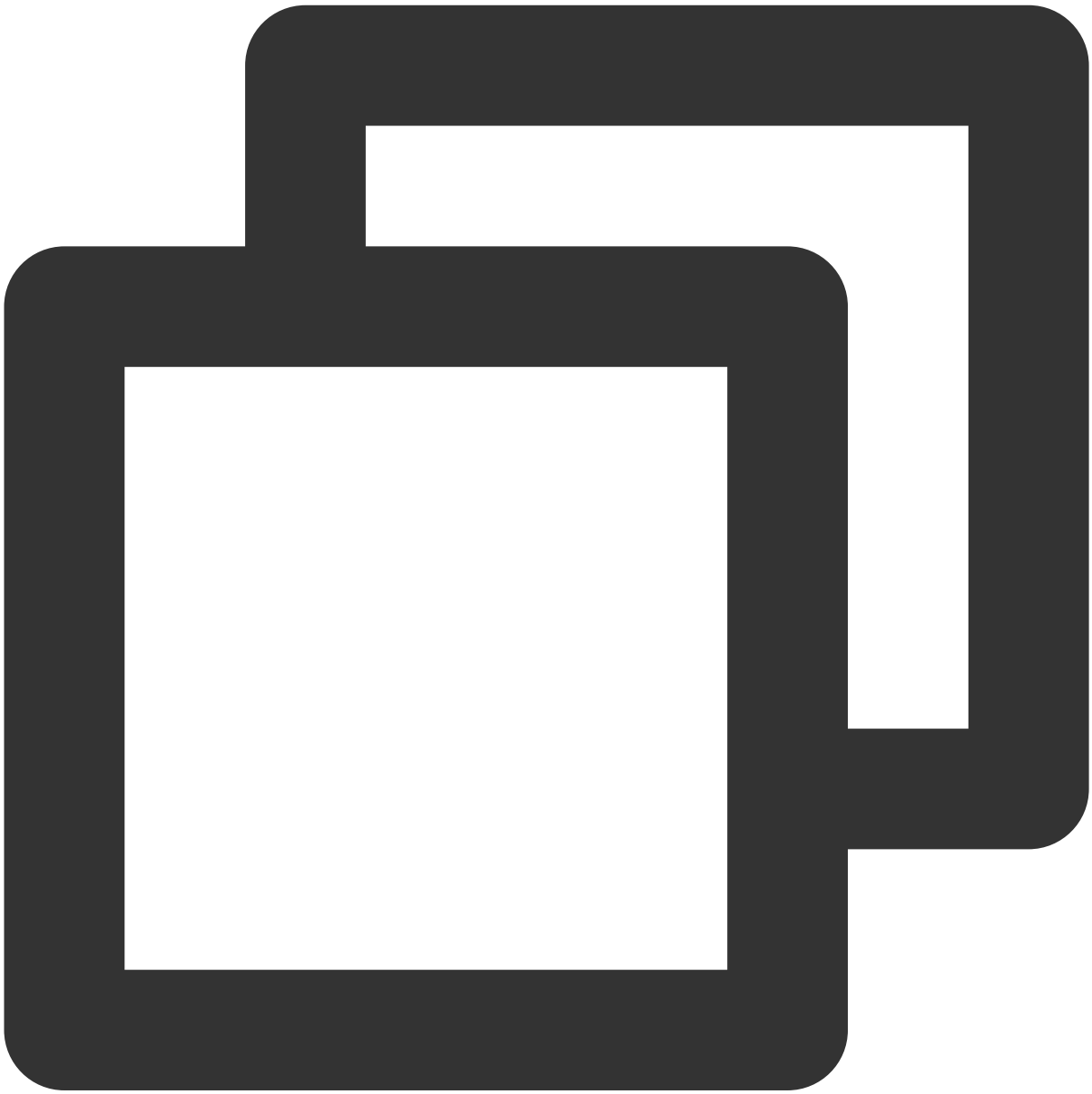


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopPushLocalAudio();
```

Returns：*Promise<void>*

setRemoteVideoView

Set Remote Stream Rendering Area



```
const roomEngine = new TUIRoomEngine();

// Set the remote user's video stream to play in the area with id 'remote_preview_c
await roomEngine.setRemoteVideoView({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kCameraStream,
   view: 'remote_preview_camera',
});
// Set the remote user's screen sharing stream to play in the area with id 'remote_
```

```
await roomEngine.setRemoteVideoView({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kScreenStream,
   view: 'remote_preview_screen',
});
```

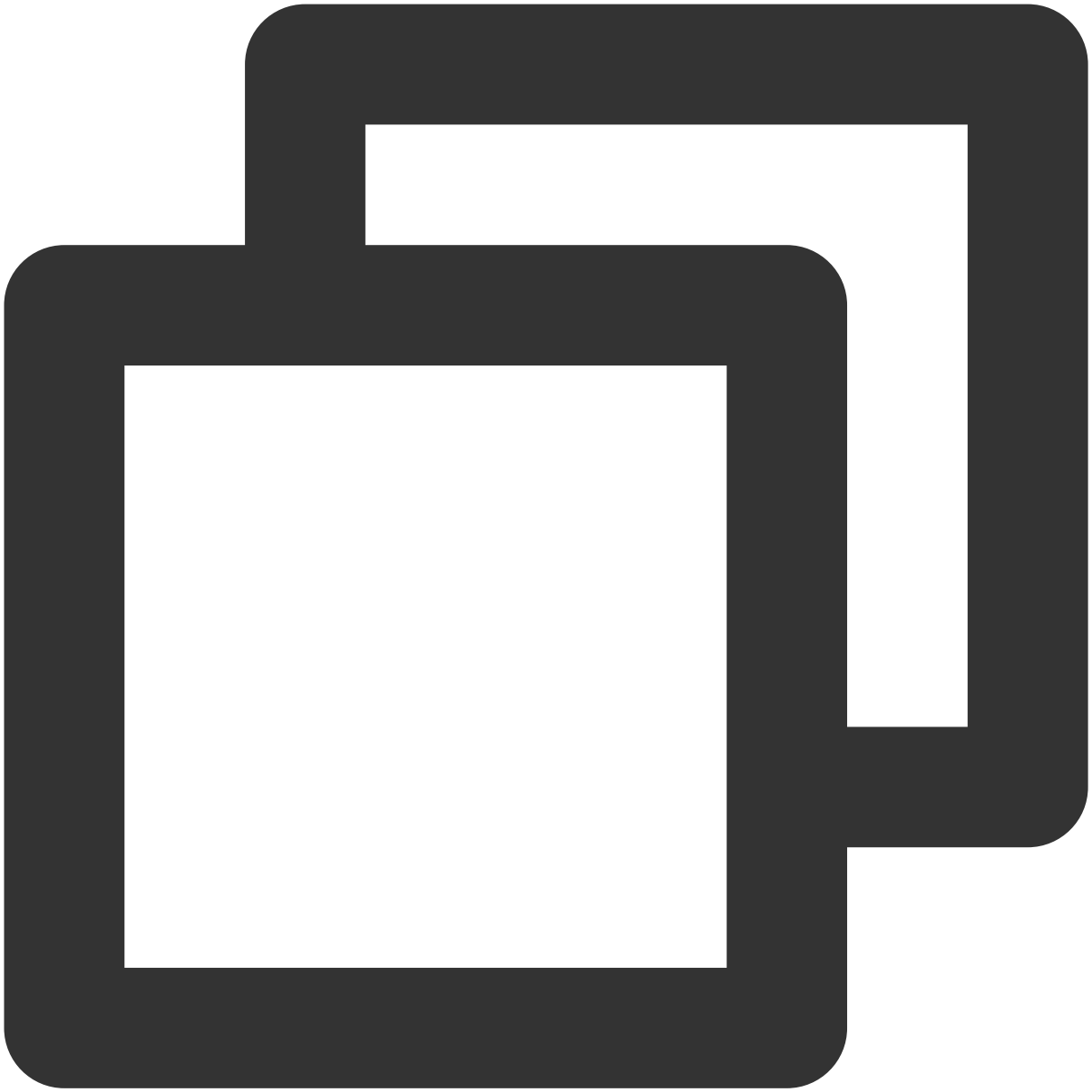
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
streamType	TUIVideoStreamType	Required	-	User Stream Type
view	string	Required	-	The id of the div element playing the remote user's stream

Returns：*Promise<void>*

startPlayRemoteVideo

Start Playback of Remote User Video Stream



```
const roomEngine = new TUIRoomEngine();
await roomEngine.startPlayRemoteVideo({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kCameraStream,
});
```

Parameter:

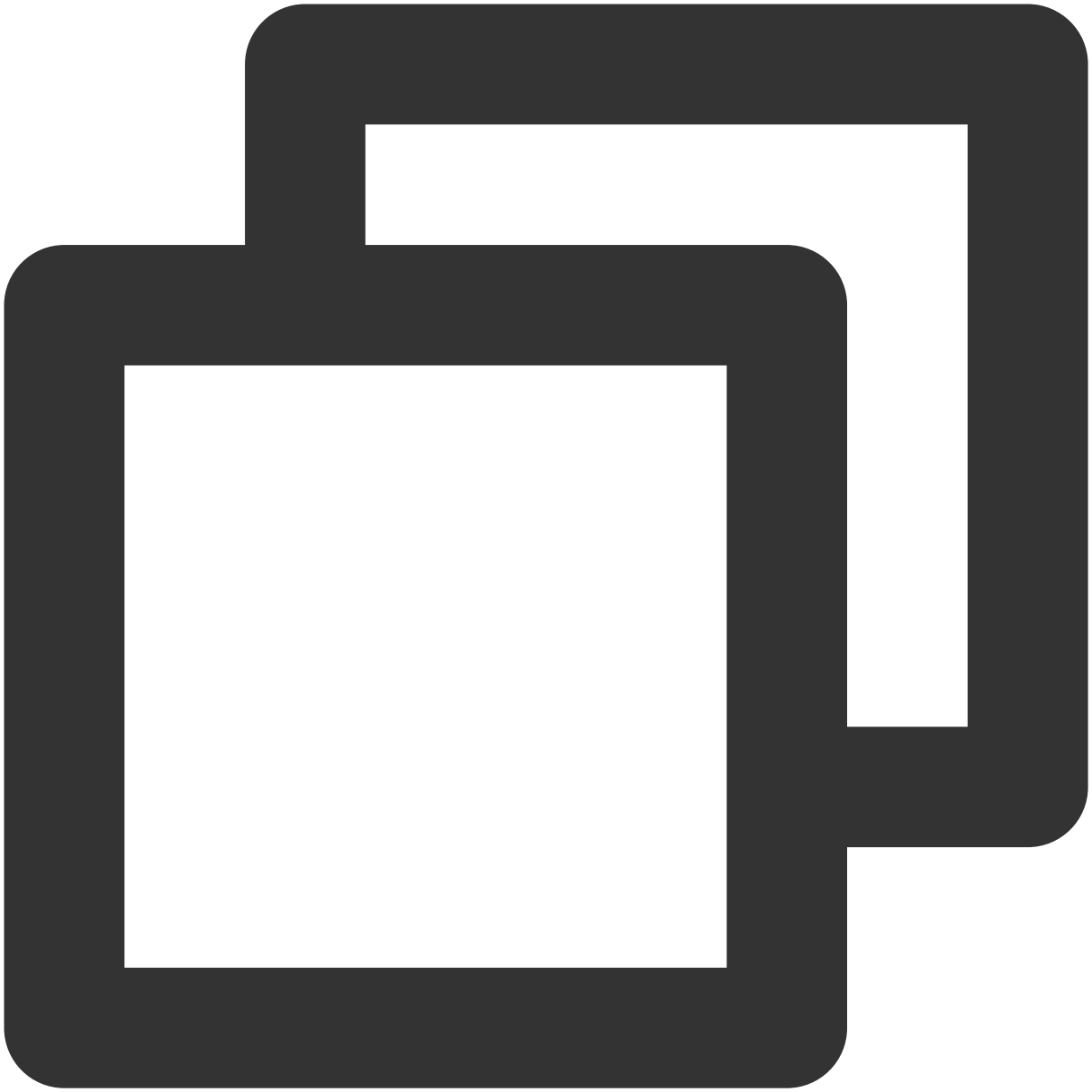
Parameter	Type	Description	Default Value	Meaning

userId	string	Required	-	User ID
streamType	TUIVideoStreamType	Required	-	User Stream Type TUIVideoStreamType.kCameraStream Video Stream TUIVideoStreamType.kScreenStream Screen Sharing Stream TUIVideoStreamType.kCameraStreamLow Low Definition Video Stream

Returns：*Promise<void>*

stopPlayRemoteVideo

Stop Playback of Remote User Video Stream



```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopPlayRemoteVideo({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kCameraStream,
});
```

Parameter:

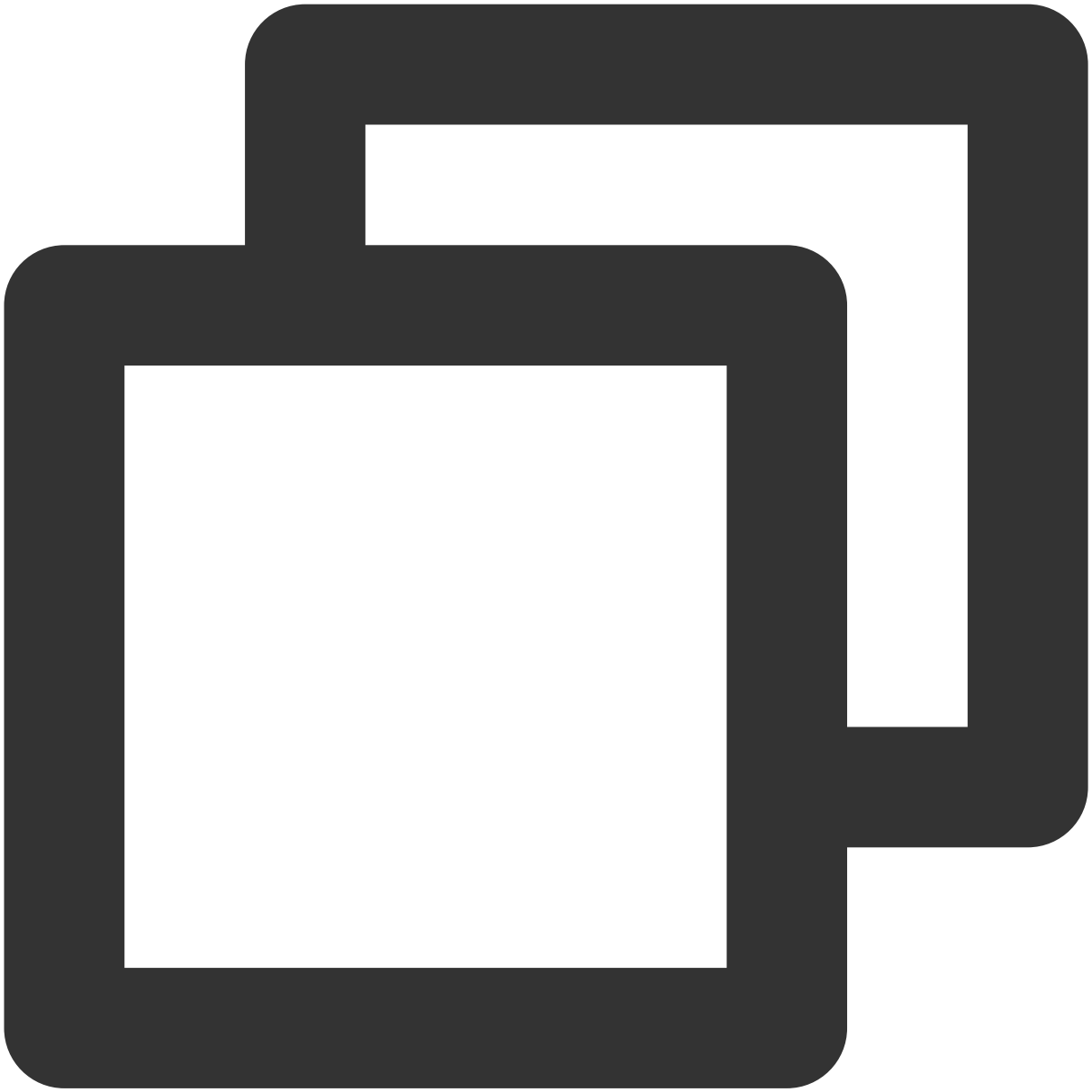
Parameter	Type	Description	Default Value	Meaning

userId	string	Required	-	User ID
streamType	TUIVideoStreamType	Required	-	User Stream Type TUIVideoStreamType.kCameraStream Video Stream TUIVideoStreamType.kScreenStream Screen Sharing Stream TUIVideoStreamType.kCameraStreamLow Low Definition Video Stream

Returns：*Promise<void>*

muteRemoteAudioStream

Stop Remote User's Audio Stream



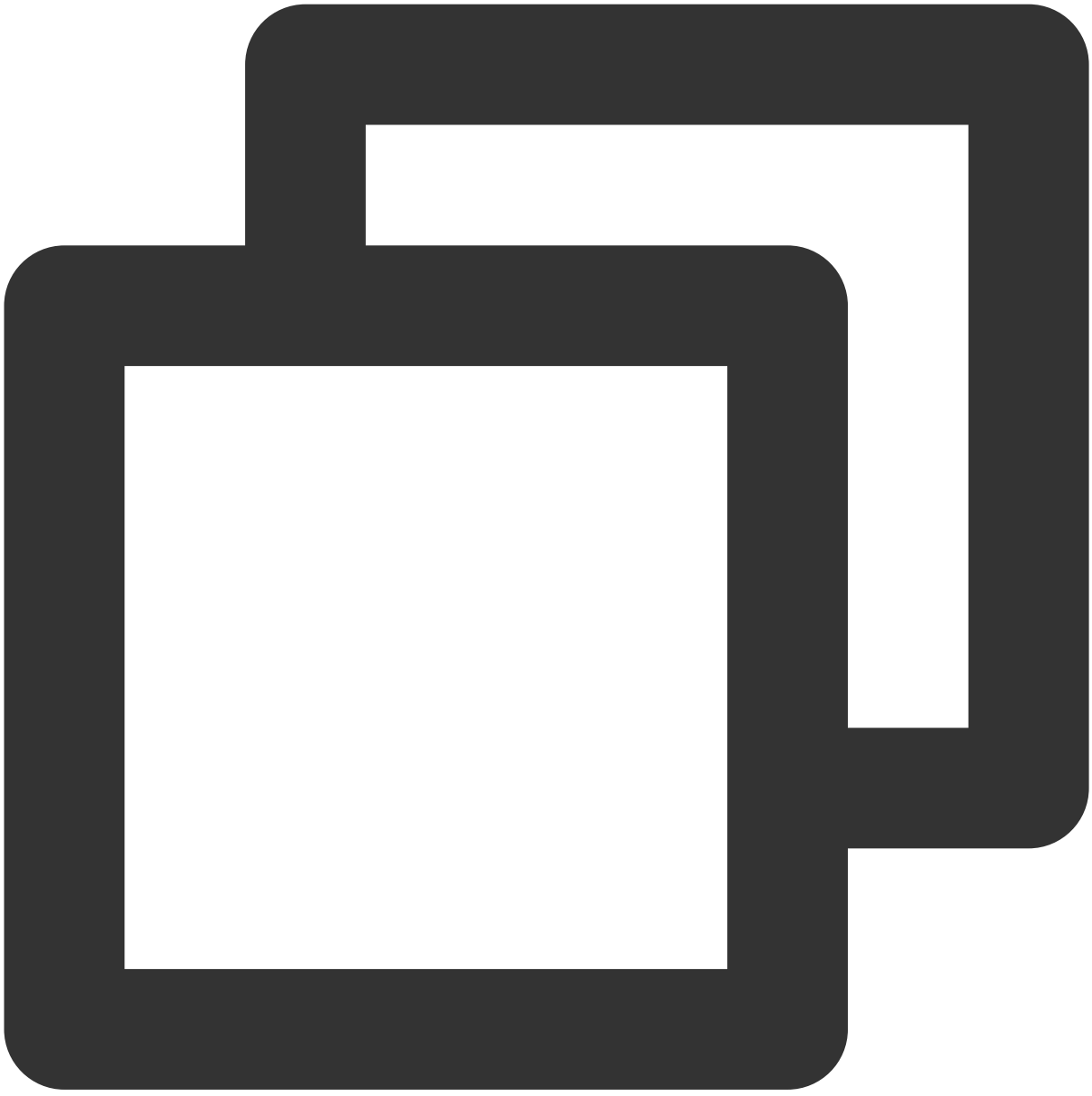
```
const roomEngine = new TUIRoomEngine();
await roomEngine.muteRemoteAudioStream({
  userId: 'user_1234',
  isMute: true,
});
```

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID

isMute	boolean	Required	-	Whether to Stop Remote User's Audio

openRemoteDeviceByAdmin

Request Remote User to Open Media Device



```
const roomEngine = new TUIRoomEngine();
const requestId = roomEngine.openRemoteDeviceByAdmin({
    userId: 'user_1234',
```

```
    device: TUIMediaDevice.kMicrophone  //The requested device is a mic
    timeout: 0,
    requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
     switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
       case TUIRequestCallbackType.kRequestRejected:
         // Request Rejected
         break;
       case TUIRequestCallbackType.kRequestCancelled:
         // Request Canceled
         break;
       case TUIRequestCallbackType.kRequestTimeout:
         // Request Timeout
         break;
       case TUIRequestCallbackType.kRequestError:
         // Request Error
         break;
       default:
         break;
     }
   },
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
device	TUIMediaDevice	Required	-	Media Device Type (Camera/Mic/Screen Sharing)
timeout	number	Required	-	Timeout Time. If timeout is set to 0, there is no timeout time
requestCallback	Function	Required	Empty Function	Request Callback, used to notify the initiator of the request being accepted/rejected/canceled/timeout/error

Returns：*Promise<string> requestId*

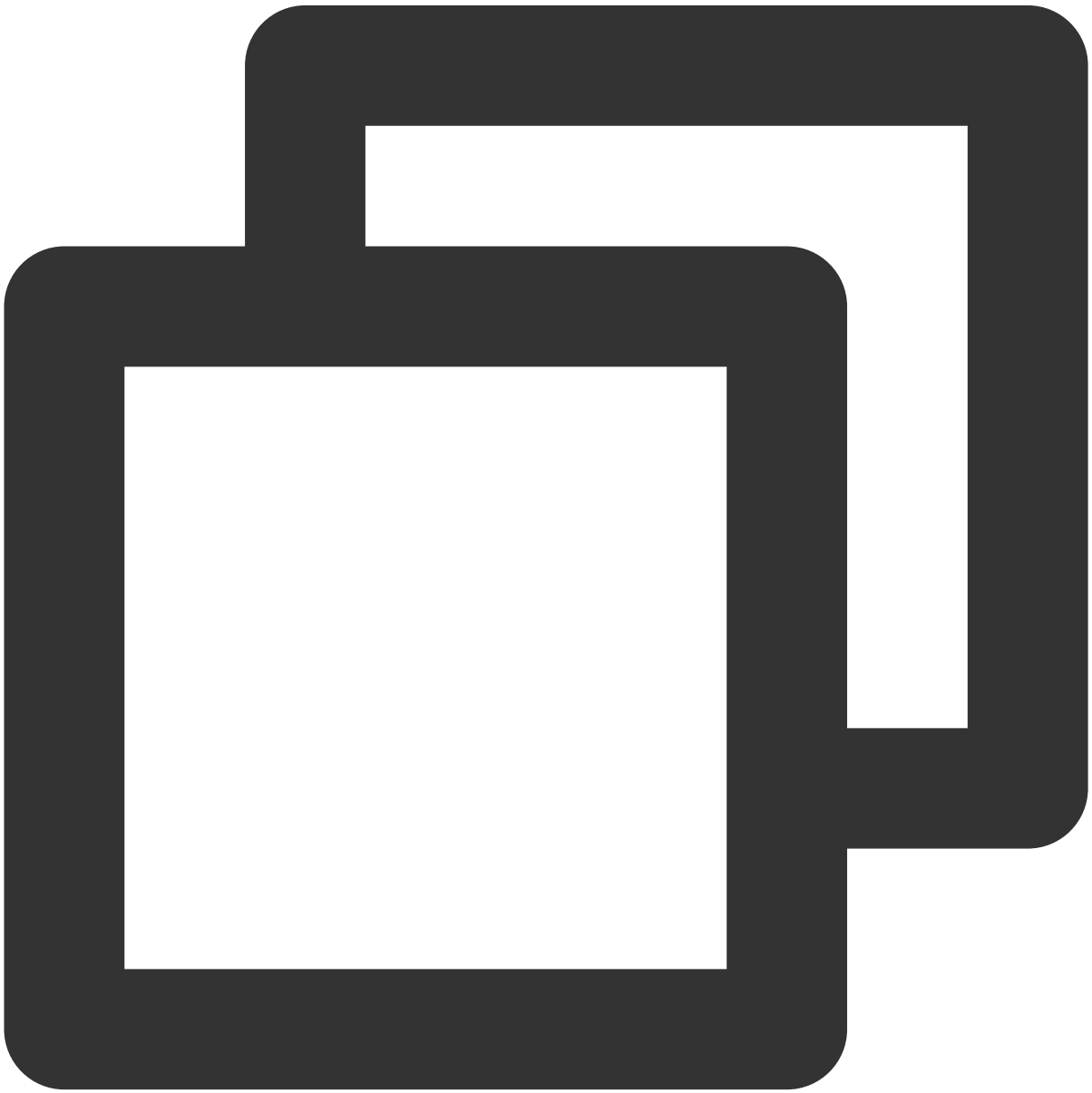
This interface returns requestId, users can use this requestId to call cancelRequest interface to cancel the request.

Description:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

applyToAdminToOpenLocalDevice

Participant applies to the host to open the device



```
const roomEngine = new TUIRoomEngine();
const requestId = roomEngine.applyToAdminToOpenLocalDevice({
```

```
    device: TUIMediaDevice.kMicrophone  //The requested device is a mic
    timeout: 0,
    requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
     switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
       case TUIRequestCallbackType.kRequestRejected:
         // Request Rejected
         break;
       case TUIRequestCallbackType.kRequestCancelled:
         // Request Canceled
         break;
       case TUIRequestCallbackType.kRequestTimeout:
         // Request Timeout
         break;
       case TUIRequestCallbackType.kRequestError:
         // Request Error
         break;
       default:
         break;
     }
   },
});
```

Parameter:

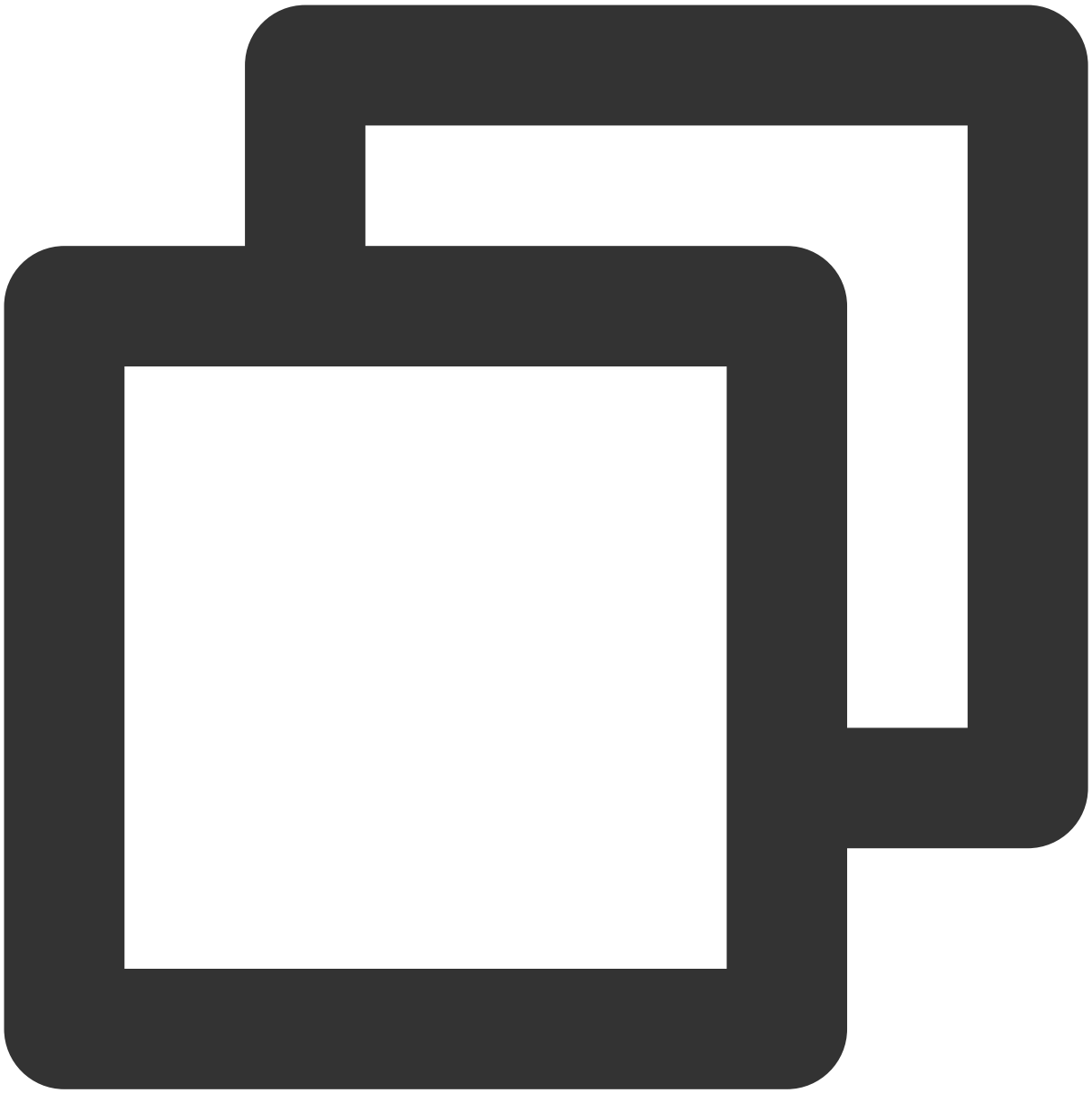
Parameter	Type	Description	Default Value	Meaning
device	TUIMediaDevice	Required	-	Media Device Type (Camera/Mic/Screen Sharing)
timeout	number	Required	-	Timeout Time. If timeout is set to 0, there is no timeout time
requestCallback	Function	Optional	Empty Function	Request Callback, used to notify the initiator of the request being accepted/rejected/canceled/timeout/error

Returns：*Promise<string> requestId*

This interface returns requestId, users can use this requestId to call cancelRequest interface to cancel the request

closeRemoteDeviceByAdmin

Close Remote User Media Device



```
const roomEngine = new TUIRoomEngine();
await roomEngine.closeRemoteDeviceByAdmin({
   userId: 'user_1234',
   device: TUIMediaDevice.kMicrophone, //Close mic
 });
```

Parameter:

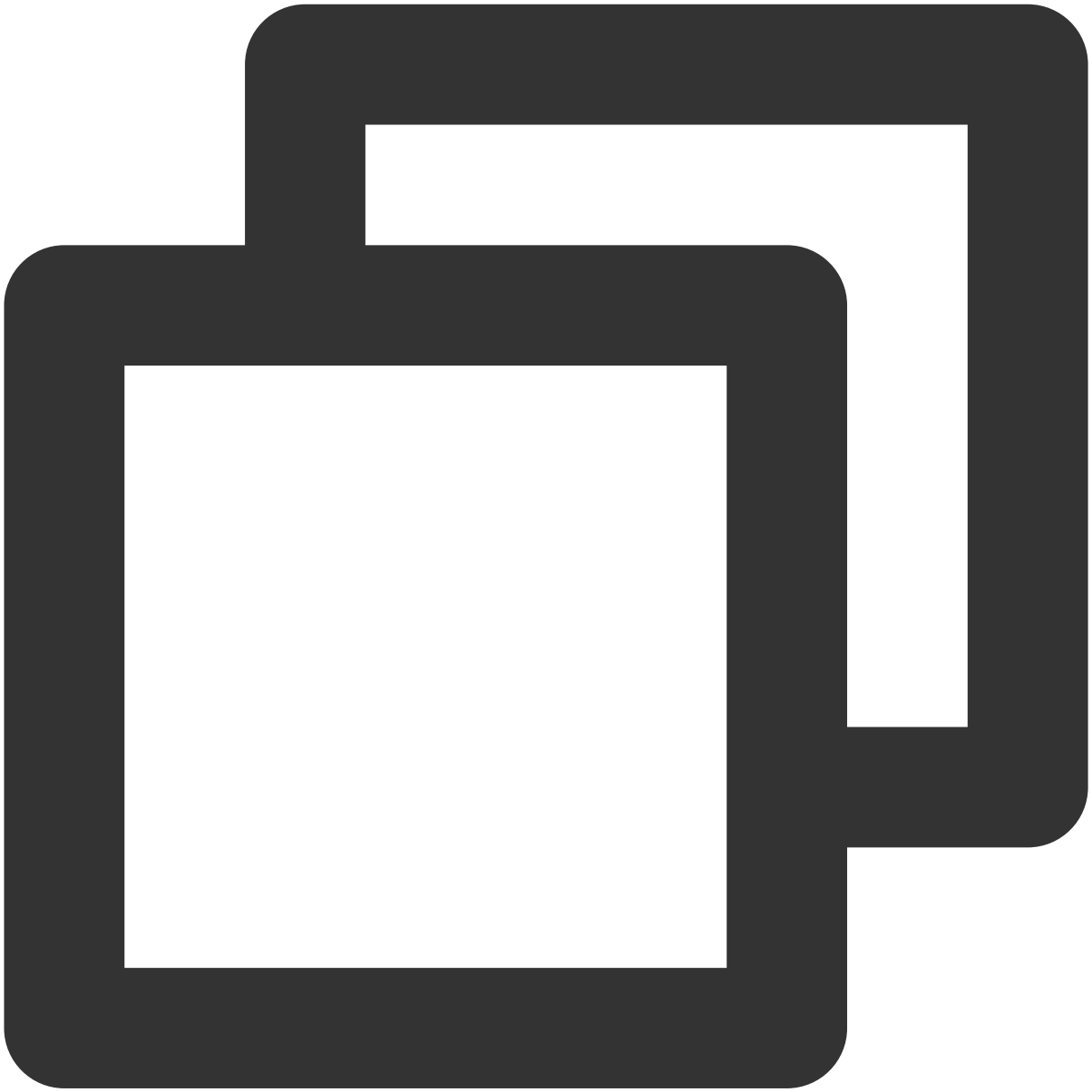
Parameter	Type	Description	Default Value	Meaning

userId	string	Required	-	User ID
device	TUIMediaDevice	Required	-	Media Device Type (Camera/Mic/Screen Sharing)

Returns：*Promise<void>*

cancelRequest

Cancel Already Sent Request



```
const roomEngine = new TUIRoomEngine();
await roomEngine.cancelRequest({
   requestId: '',    // Please use Actual requestId
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
requestId	string	Required	-	Request ID

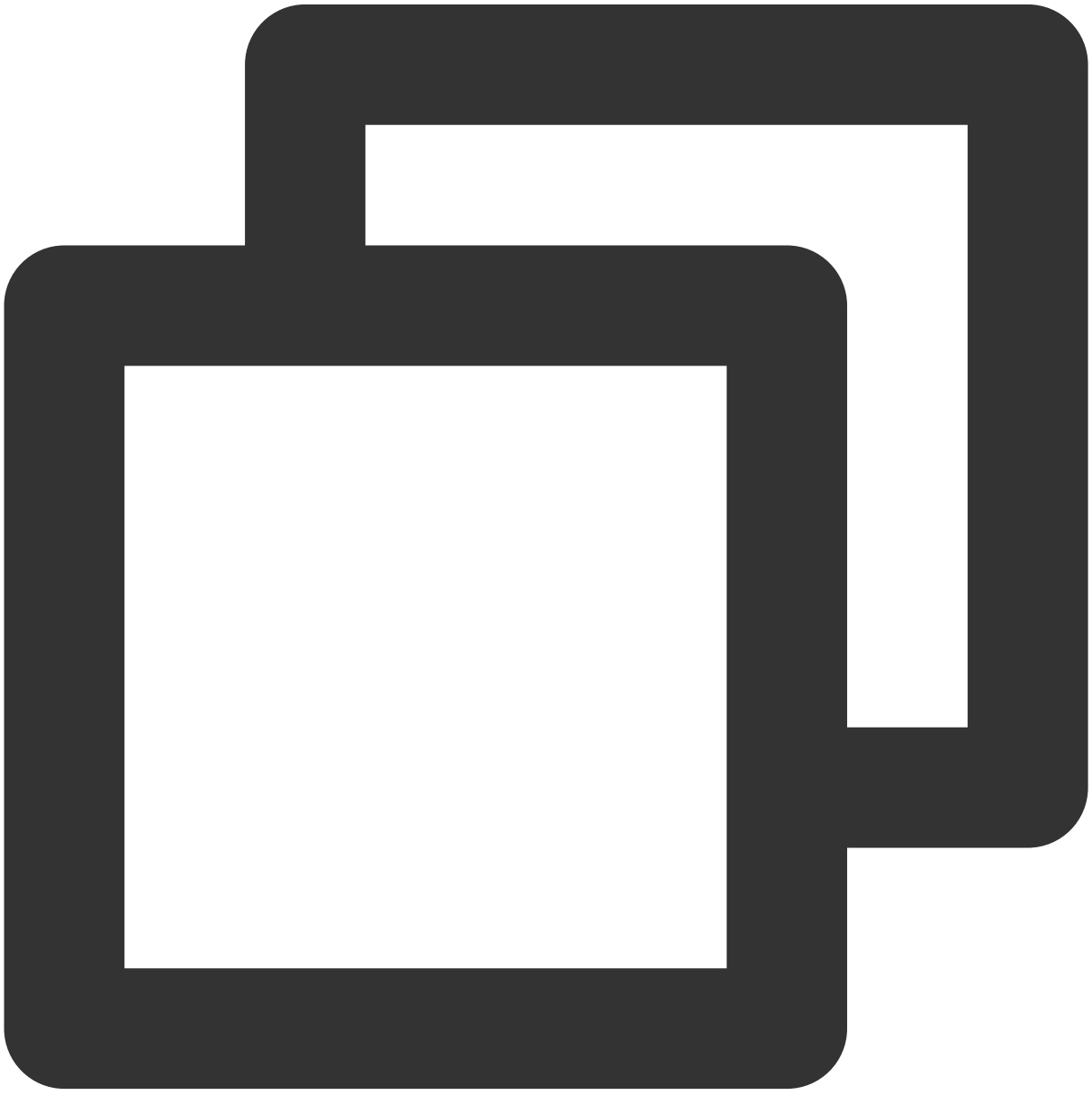
Returns：*Promise<void>*

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

responseRemoteRequest

Reply to Remote User's Request



```
const roomEngine = new TUIRoomEngine();
// Agree to Remote User's Request
await roomEngine.responseRemoteRequest({
 requestId: '',    // Please use Actual requestId
 agree: true,
});
// Reject Remote User's Request
await roomEngine.responseRemoteRequest({
 requestId: '',    // Please use Actual requestId
 agree: false,
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
requestId	string	Required	-	Request ID
agree	boolean	Required	-	Whether to Agree

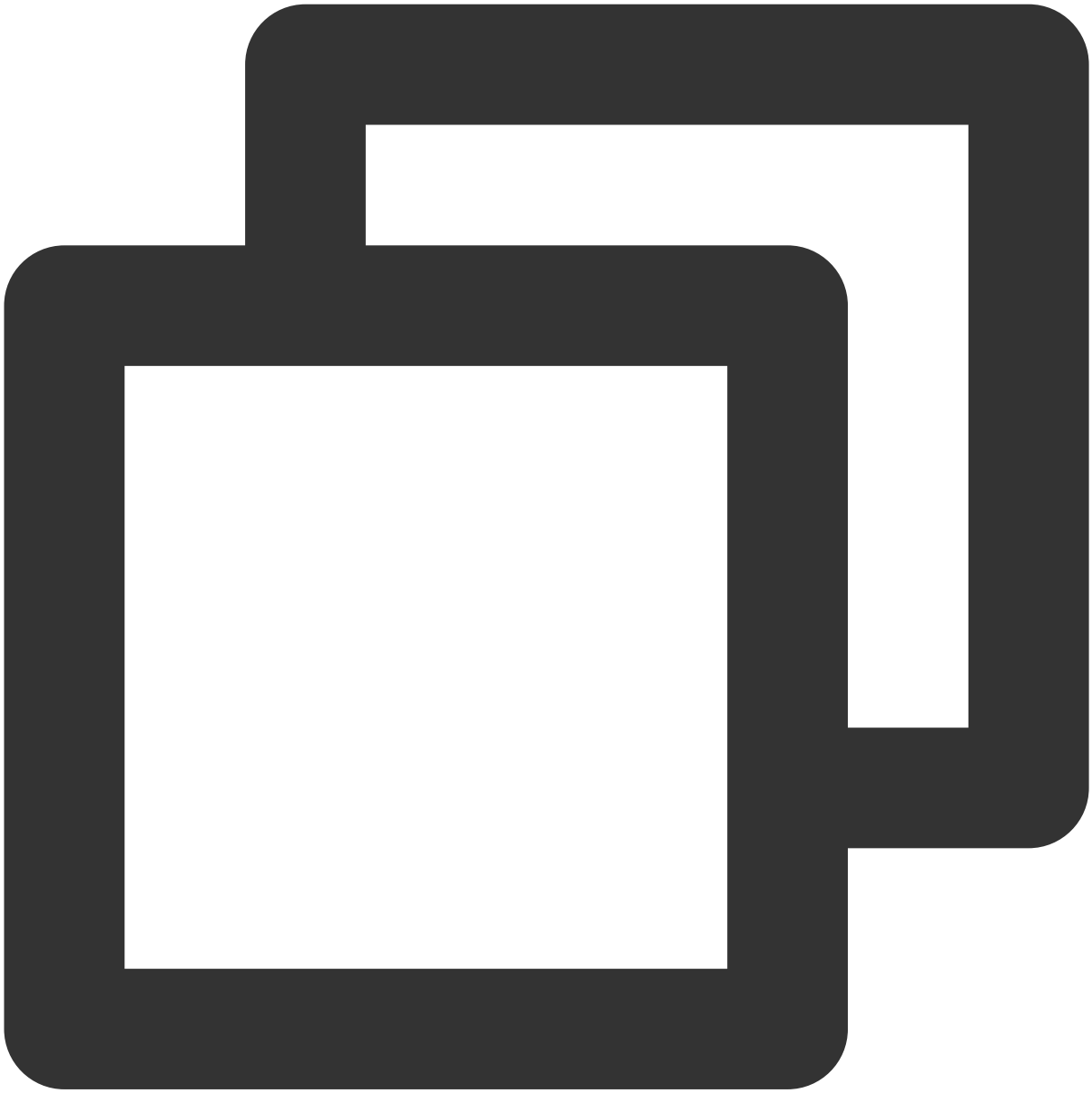
Returns：*Promise<void>*

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

disableDeviceForAllUserByAdmin

Prohibit/Allow All Users to Open Media Device (This Interface is invalid for Room Owner and Administrator)



```
// Example 1: Prohibit All Users to Open Mic
await roomEngine.disableDeviceForAllUserByAdmin({
  device: TUIMediaDevice.kMicrophone,
  isDisable: true,
})
// Example 2: Allow All Users to Open Mic
await roomEngine.disableDeviceForAllUserByAdmin({
  device: TUIMediaDevice.kMicrophone,
  isDisable: false,
})
```

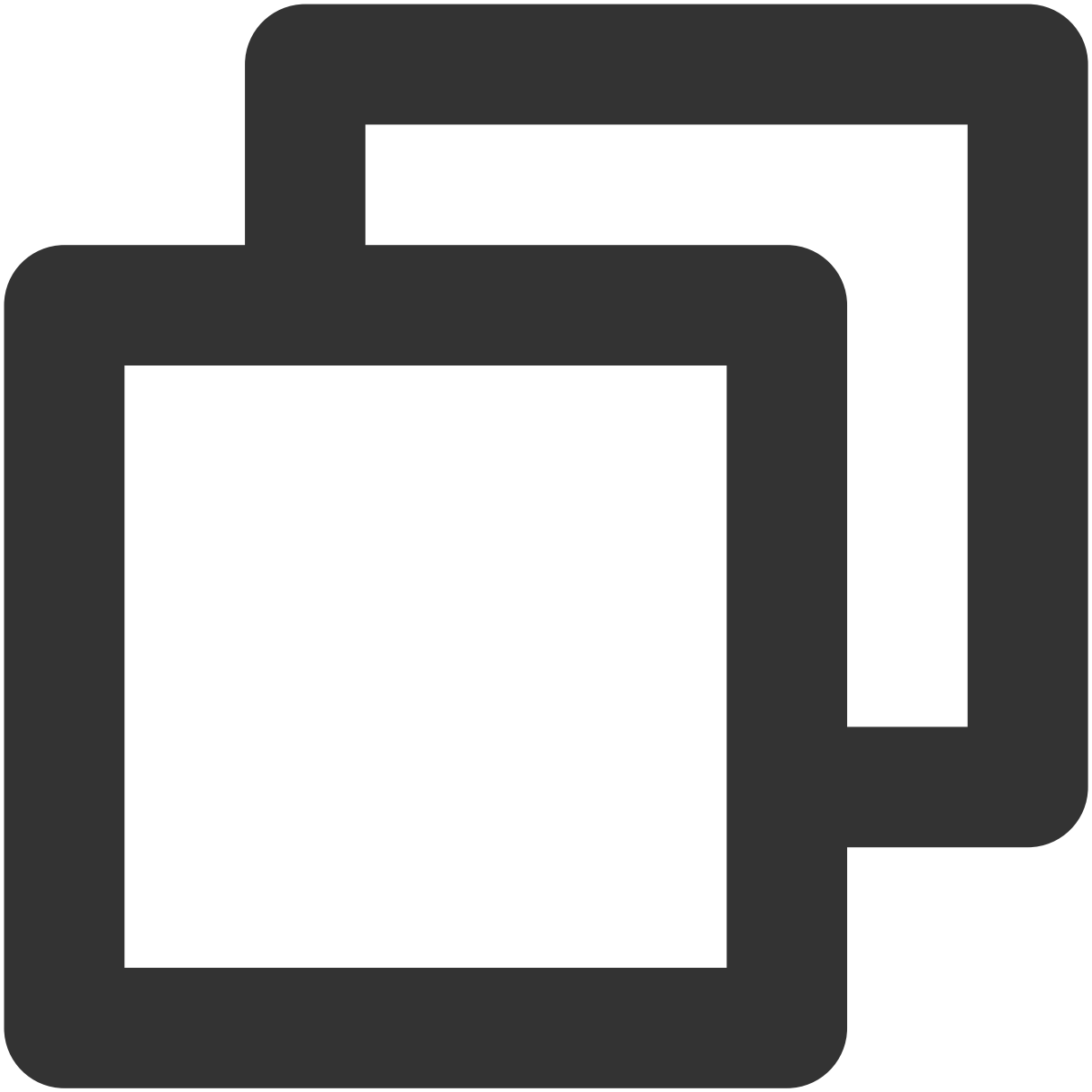
Parameter:

Parameter	Type	Description	Default Value	Meaning
device	TUIMediaDevice	Required	-	Disabled Media Device Type (Camera/Mic/Screen Sharing)
isDisable	boolean	Required	-	Whether it is Prohibited

Returns：*Promise<void>*

disableSendingMessageForAllUser

Whether All Users are Allowed to Send Messages (This Interface is invalid for Room Owner and Administrator)



```
await roomEngine.disableSendingMessageForAllUser({
  isDisable: true,
});
```

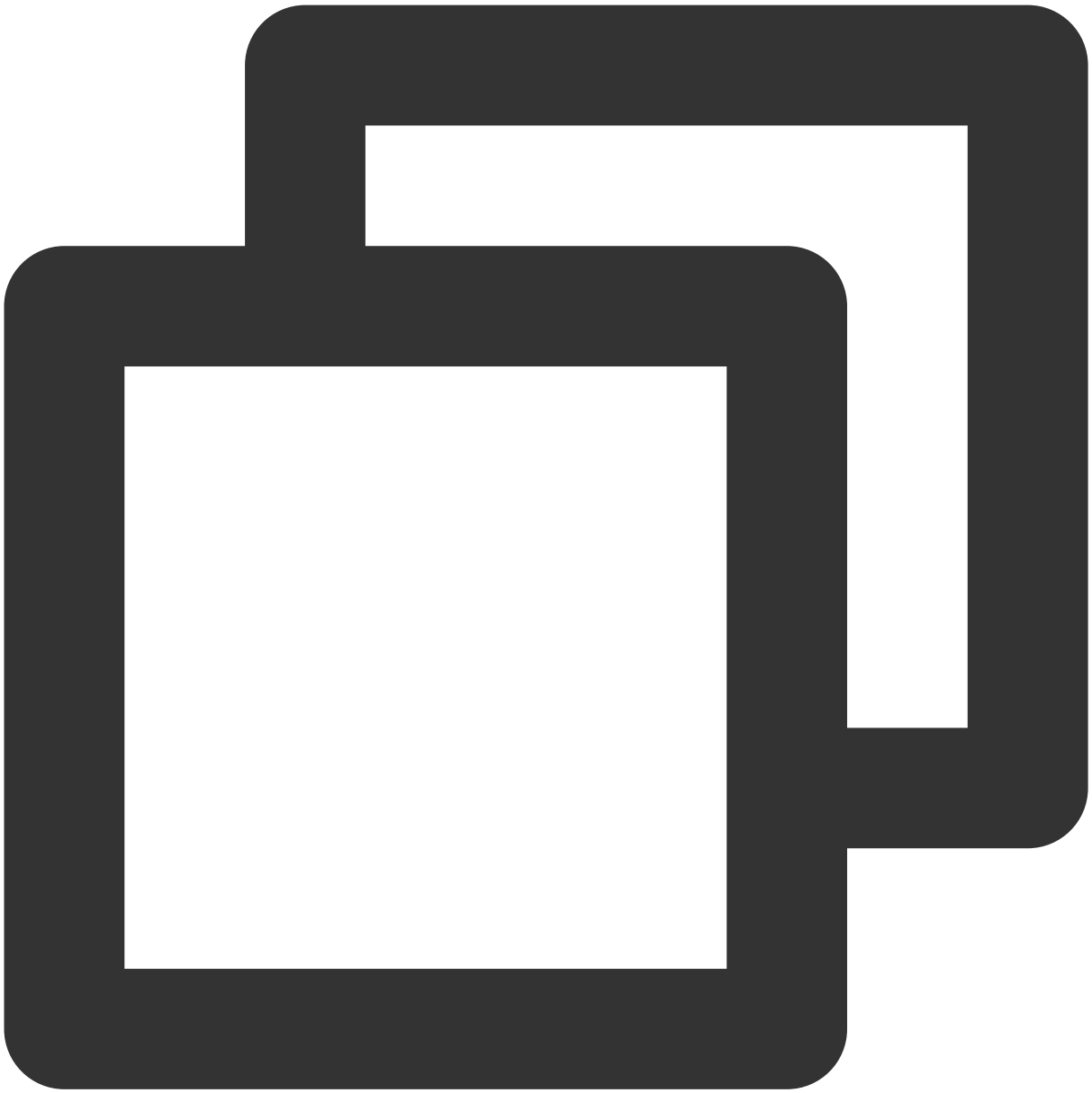
Parameter:

Parameter	Type	Description	Default Value	Meaning
isDisable	boolean	Required	-	Whether it is Disabled

Returns：*Promise<void>*

disableSendingMessageByAdmin

Whether Specific User is Allowed to Send Messages



```
await roomEngine.disableSendingMessageByAdmin({
  userId: 'user_1234',
  isDisable: true,
```

```
});
```

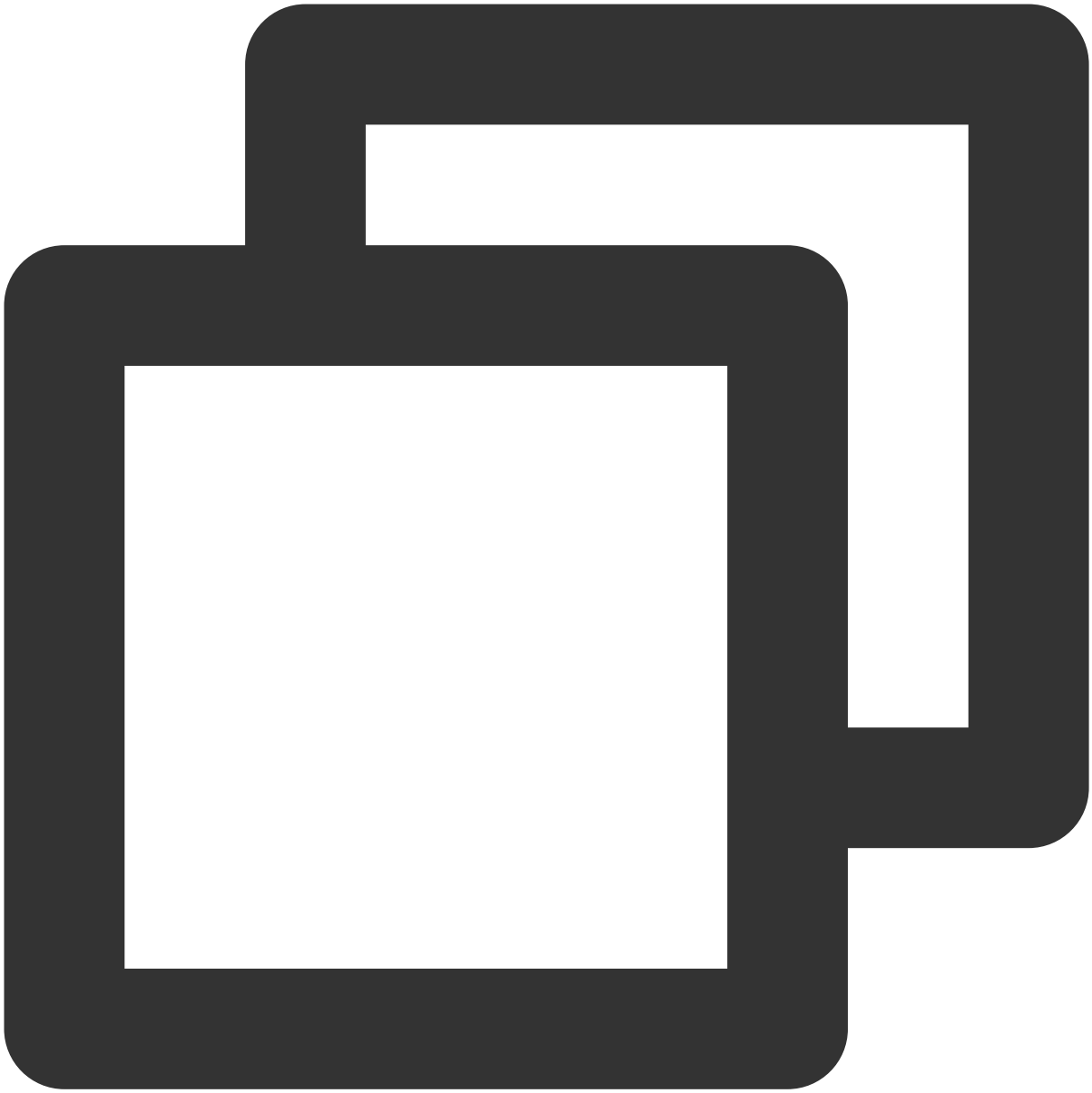
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
isDisable	boolean	Required	-	Whether it is Disabled

Returns：*Promise<void>*

changeUserRole

Change User's Role (Only the Host can call this Interface)



```
const roomEngine = new TUIRoomEngine();

// Transfer the Room to User user_1234
await roomEngine.changeUserRole({
   userId: 'user_1234',
   role: TUIRole.kRoomOwner,
});

// Set user_1234 as Room Administrator
await roomEngine.changeUserRole({
  userId: 'user_1234',
```

```
  userRole: TUIRole.kAdministrator,
});
```

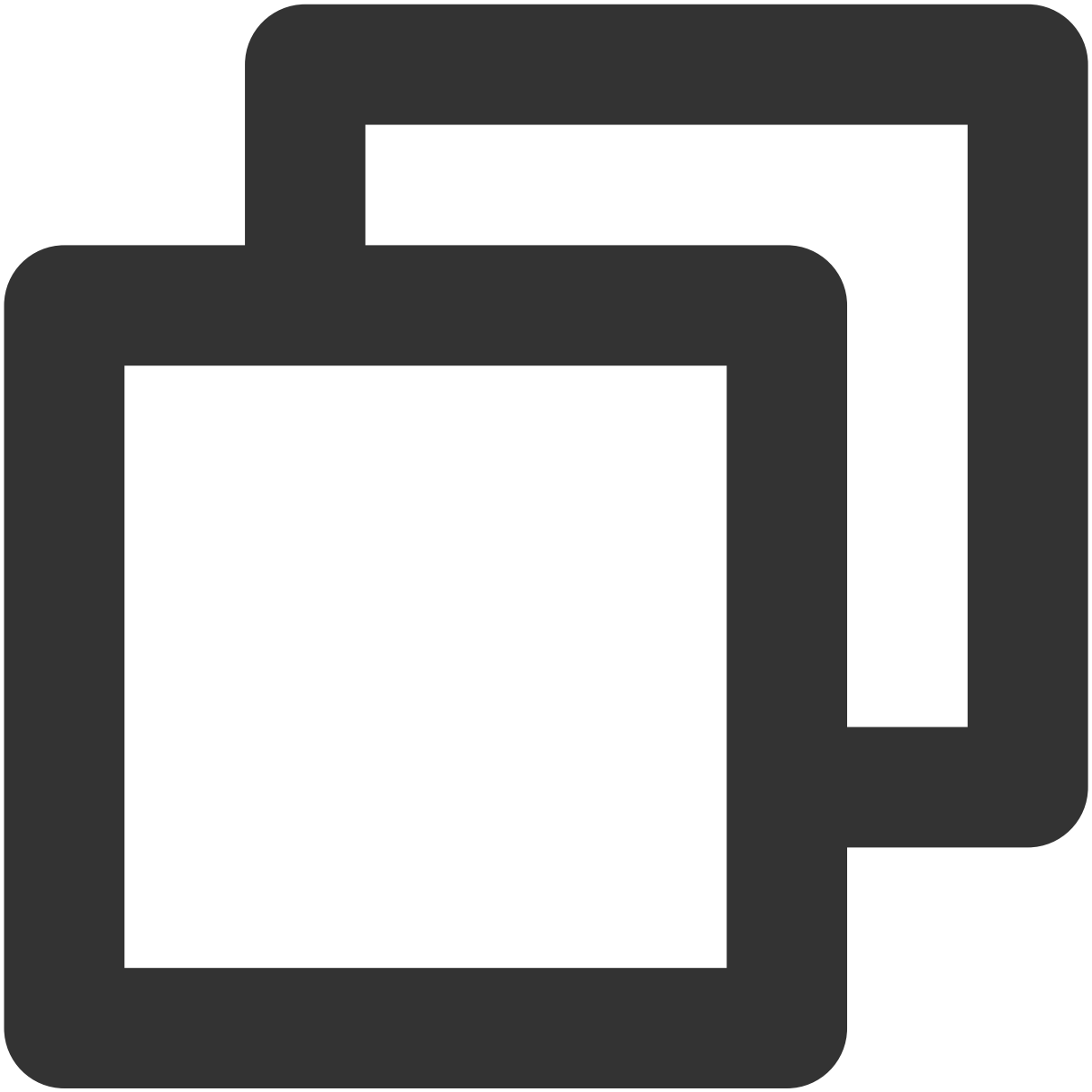
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
userRole	TUIRole	Required	-	User Role Host TUIRole.kRoomOwner Administrator TUIRole.kAdministrator General Member TUIRole.kGeneralUser

Returns：*Promise<void>*

kickRemoteUserOutOfRoom

Kick Out User from Room (Only Host and Administrator can call this Interface)



```
const roomEngine = new TUIRoomEngine();
await roomEngine.kickRemoteUserOutOfRoom({
   userId: 'user_1234',
});
```

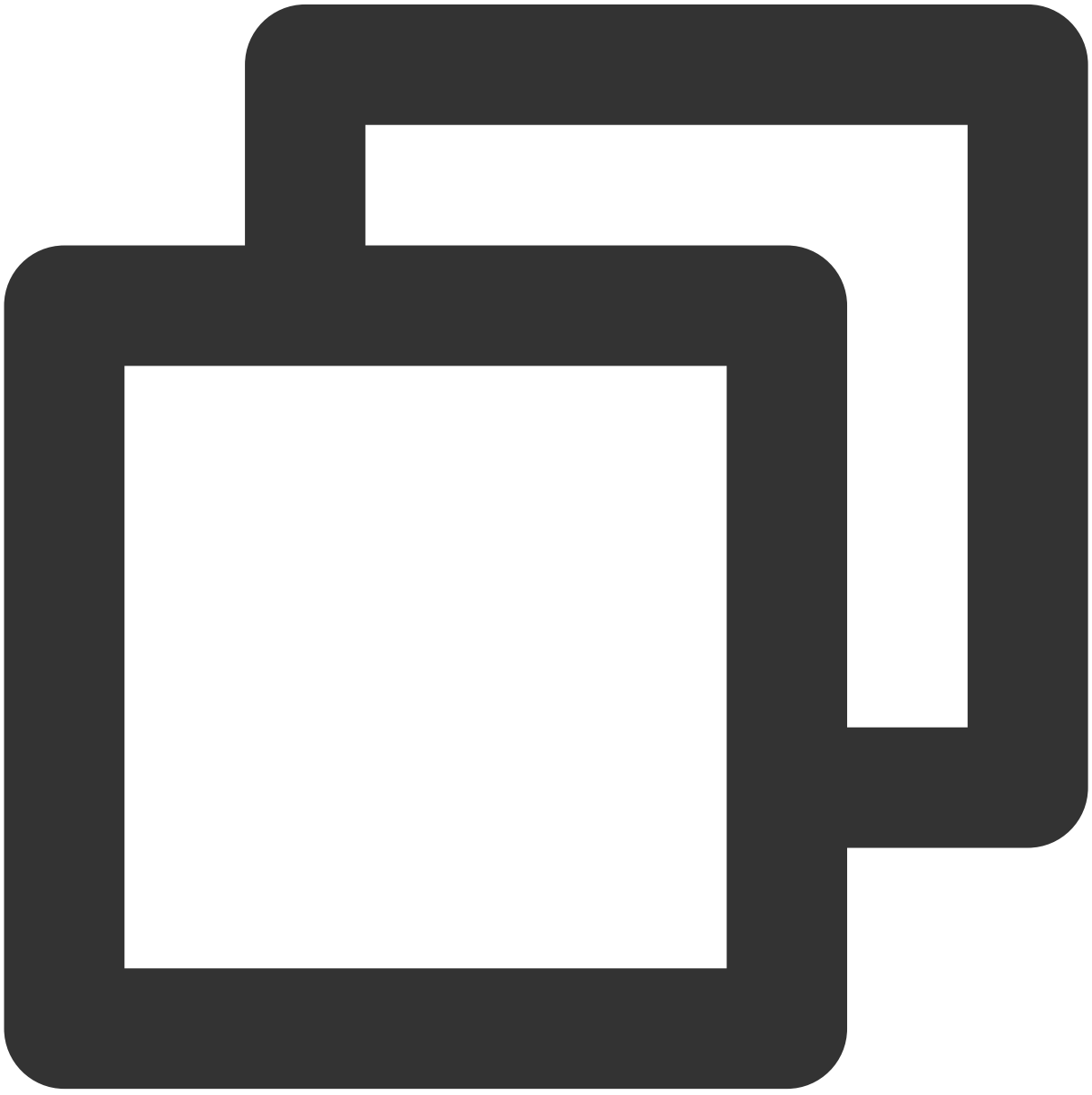
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID

Returns：*Promise<void>*

setMaxSeatCount

Set Room Seat Maximum Value
When roomType is TUIRoomType.kConference (Education and Conference Scene), maxSeatCount value is not limited;
When roomType is TUIRoomType.kLivingRoom (Live Scene), maxSeatCount is limited to 16;



```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({ roomId: '12345' });
await roomEngine.setMaxSeatCount({ maxSeatCount: 16 })
```

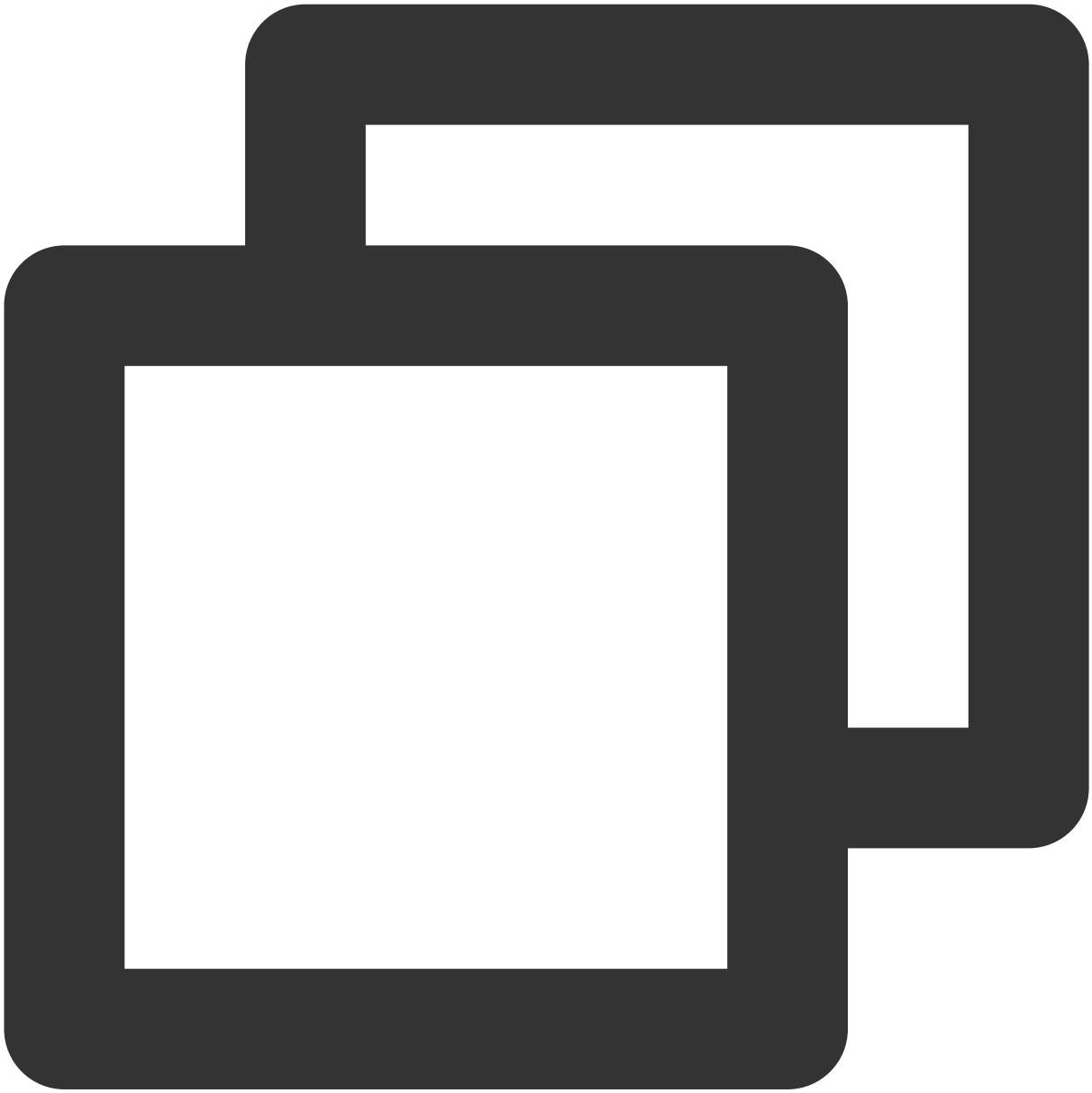
Parameter:

Parameter	Type	Description	Default Value	Meaning
maxSeatCount	number	Required	-	Set Room Seat Maximum Value

Returns：Promise<void>

getSeatList

Get Seat List



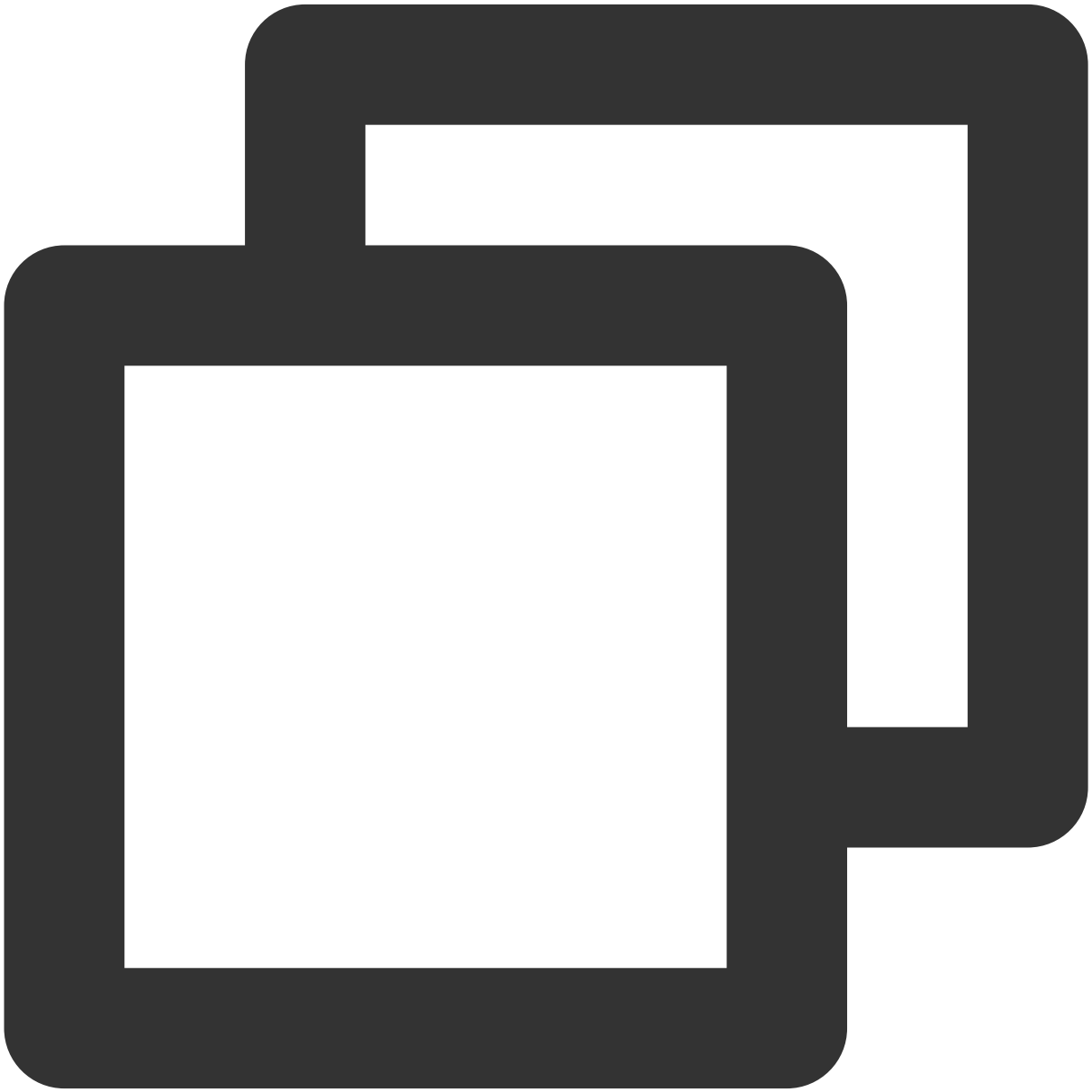
```
const roomEngine = new TUIRoomEngine();
const seatList = await roomEngine.getSeatList();
```

Returns：*Promise<*TUISeatInfo*[]>* seatList

seatList for the Current Room's All Seat List

takeSeat

Mic-off Users can call takeSeat to become Mic-on Users, only Mic-on Users can Publish Local stream.
When roomInfo.roomType is TUIRoomType.kConference and roomInfo.speechMode is TUISpeechMode.kSpeakAfterTakingSeat, General Users need to Wait for the Host/Administrator's Agreement to become Mic-on Users after calling takeSeat method.
When roomInfo.roomType is TUIRoomType.kLivingRoom and roomInfo.speechMode is TUISpeechMode.kFreeToSpeak, General Users become Mic-on Users after calling takeSeat method Successfully. Host & Administrator become Mic-on Users after calling takeSeat Successfully.
Changes of Mic-on Users are Notified to All Users through TUIRoomEvents.onSeatListChanged.



```
const roomEngine = new TUIRoomEngine();
```

```
// Scenario 1: Host/Administrator Go Live
// Scenario 2: When roomInfo.roomType is TUIRoomType.kConference
// and roomInfo.speechMode is TUISpeechMode.kSpeakAfterTakingSeat, General Users Go
await roomEngine.takeSeat({
 seatIndex: -1,
 timeout: 0,
});

// Scenario 3: When roomInfo.enableSeatControl is true, General Users Go Live
const requestId = await roomEngine.instance?.takeSeat({
   seatIndex: -1,
   timeout: 0,
   requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
      switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
       case TUIRequestCallbackType.kRequestRejected:
         // Request Rejected
         break;
       case TUIRequestCallbackType.kRequestCancelled:
         // Request Canceled
         break;
       case TUIRequestCallbackType.kRequestTimeout:
         // Request Timeout
         break;
       case TUIRequestCallbackType.kRequestError:
         // Request Error
         break;
       default:
         break;
   }
 },
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Seat index, set to -1 when there is No Serial Number
timeout	number	Required	-	Timeout. If timeout is set to 0, there is no Timeout
requestCallback	Function	Optional	Empty Function	Callback, used to Notify Initiator of Request being Accepted/Rejected/Cancelled/Timeout/Error

Returns：Promise<string> requestId

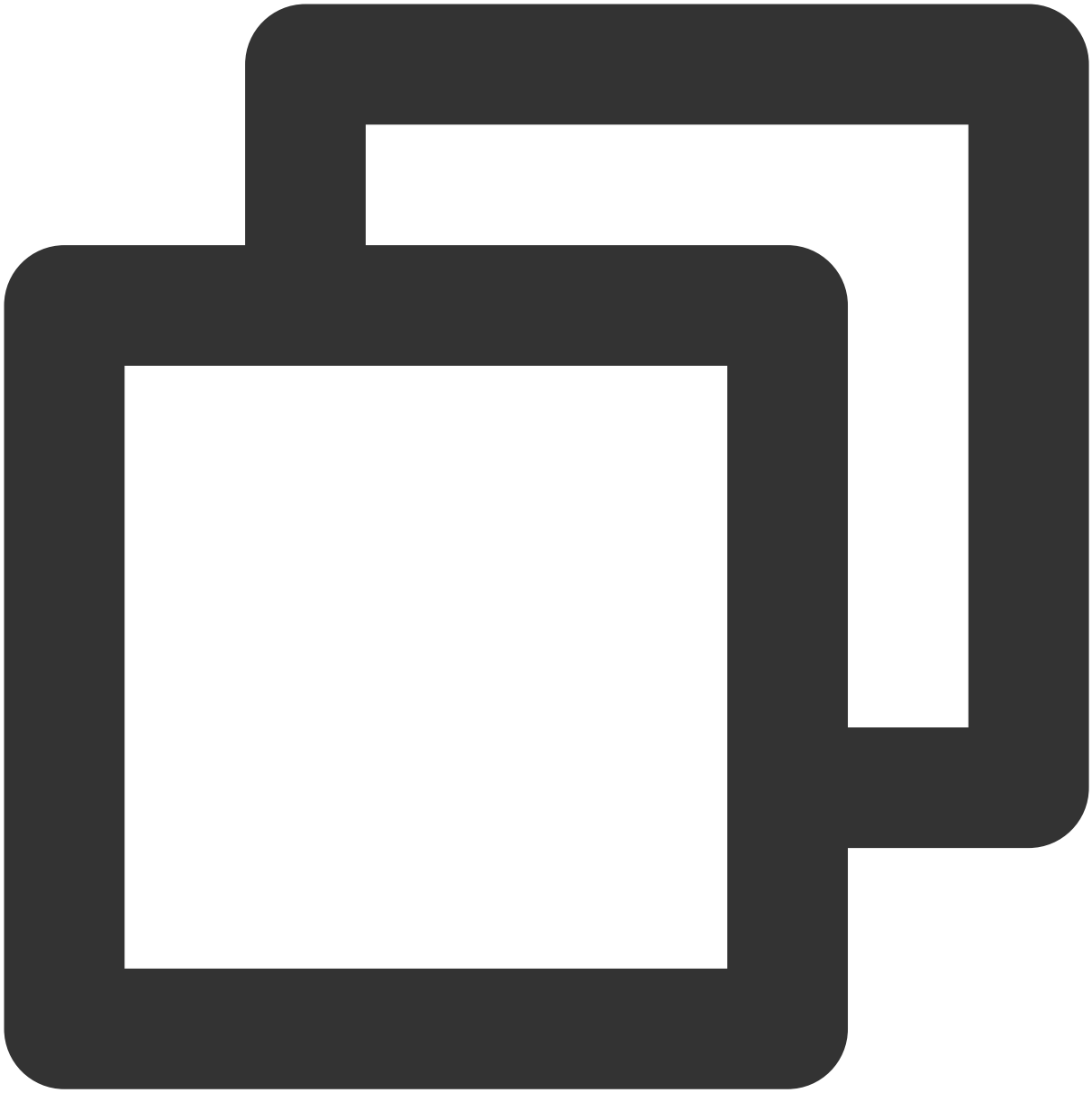
When roomInfo.enableSeatControl is true, General Users call this Interface to return requestId, General Users can use this requestId to call cancelRequest Interface to cancel Go Live Request。

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

leaveSeat

Release Seat

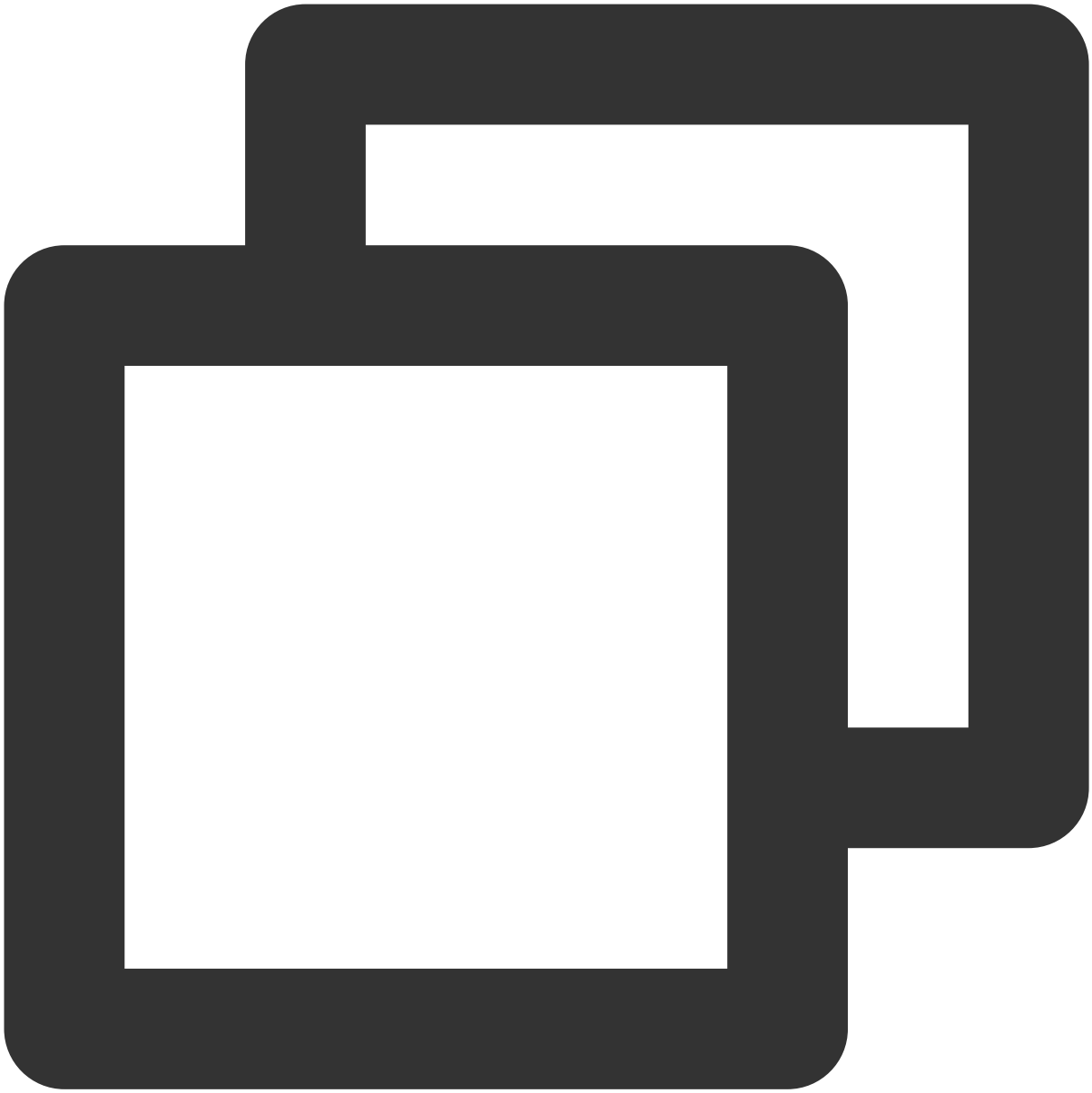


```
const roomEngine = new TUIRoomEngine();
await roomEngine.leaveSeat();
```

Returns：*Promise<void>*

takeUserOnSeatByAdmin

Invite Others to Go Live



```
const roomEngine = new TUIRoomEngine();
const requestId = roomEngine.takeUserOnSeatByAdmin({
    seatIndex: 0,
    userId: 'user_1234',
    timeout: 0,
    requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
     switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
       case TUIRequestCallbackType.kRequestRejected:
```

```
          // Request Rejected
          break;
        case TUIRequestCallbackType.kRequestCancelled:
          // Request Canceled
          break;
        case TUIRequestCallbackType.kRequestTimeout:
          // Request Timeout
          break;
        case TUIRequestCallbackType.kRequestError:
          // Request Error
          break;
        default:
          break;
      }
    },
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Seat index
userId	string	Required	-	User ID
timeout	number	Required	-	Timeout. If timeout is set to 0, there is no Timeout
requestCallback	Function	Optional	Empty Function	Callback, used to Notify Initiator of Request being Accepted/Rejected/Cancelled/Timeout/Error

Returns：*Promise<string>* requestId

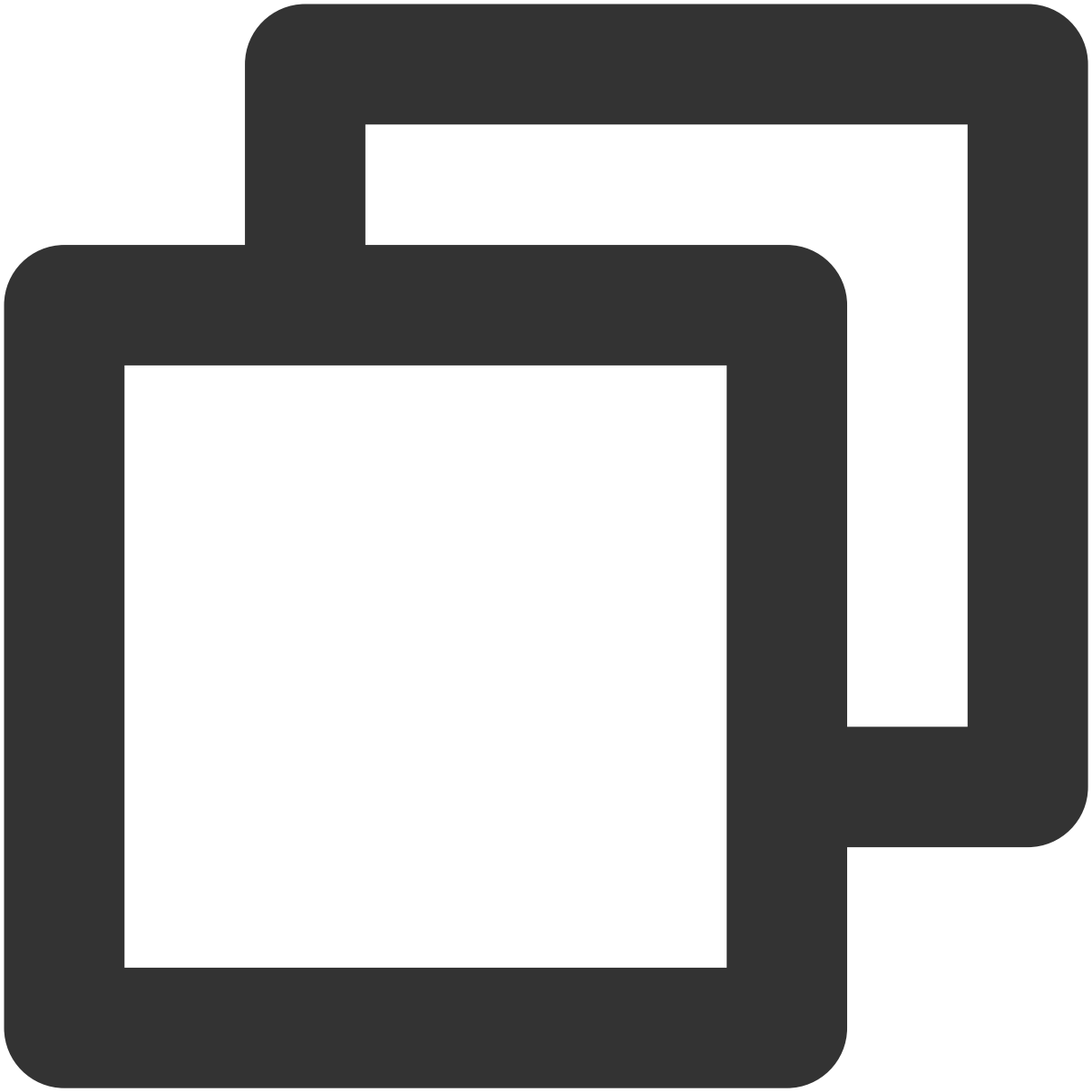
This Interface returns requestId, Users can use this requestId to call cancelRequest Interface to cancel Request

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number

kickUserOffSeatByAdmin

Ask others to get off the mic



```
const roomEngine = new TUIRoomEngine();
const requestId = await roomEngine.kickUserOffSeatByAdmin({
   seatIndex: 0,
   userId: 'user_1234',
});
```

Parameter:

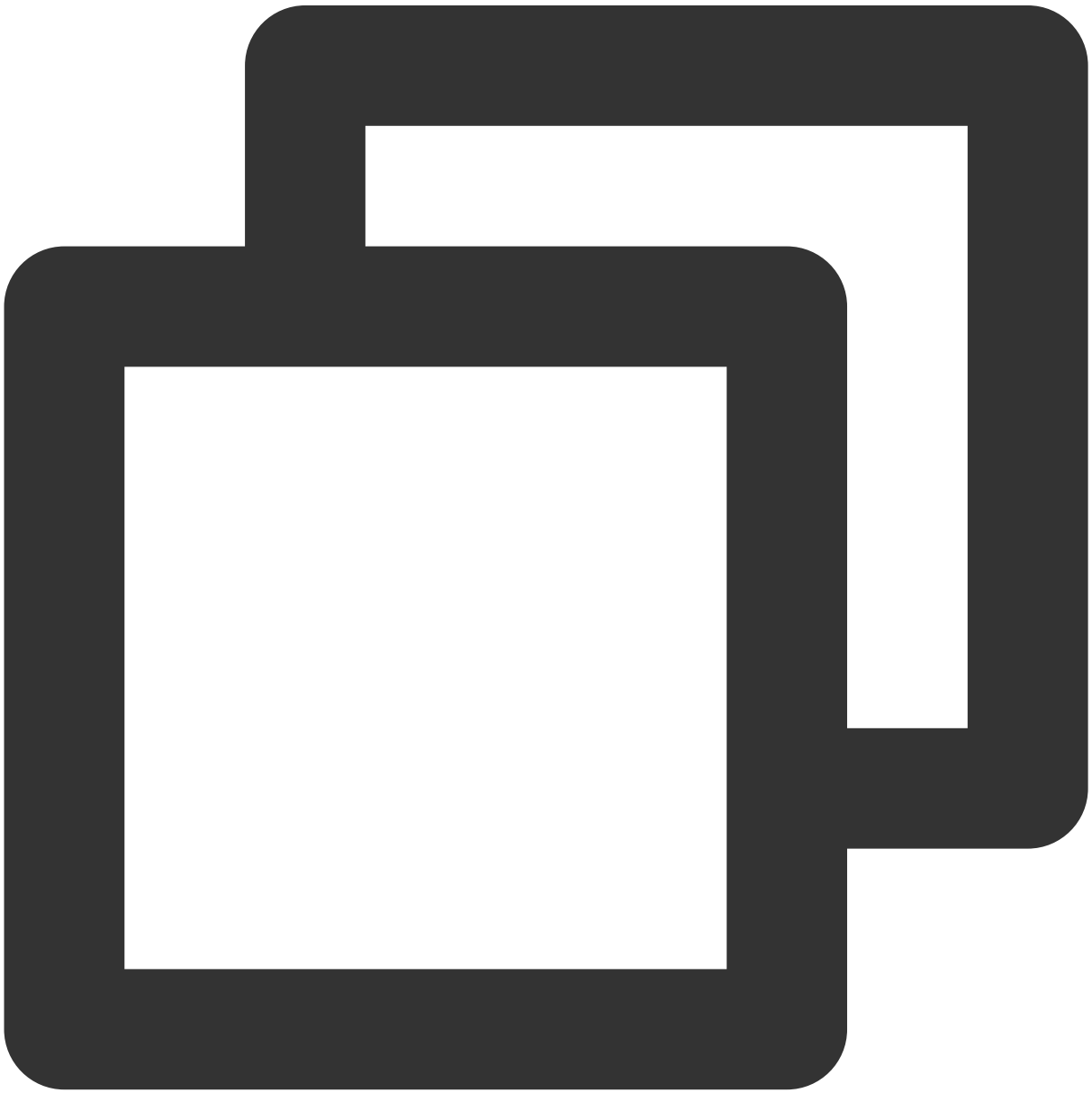
Parameter	Type	Description	Default Value	Meaning

seatIndex	number	Required	-	Seat index
userId	string	Required	-	User ID

Returns：*Promise<void>*

lockSeatByAdmin

Lock a certain mic position status (Only the room host and administrator can call this method)



```
const roomEngine = new TUIRoomEngine();
await roomEngine.lockSeatByAdmin({
   seatIndex: 0,
   lockParams: {
      lockSeat: true,
      lockVideo: true,
      lockAudio: true,
   },
});
```

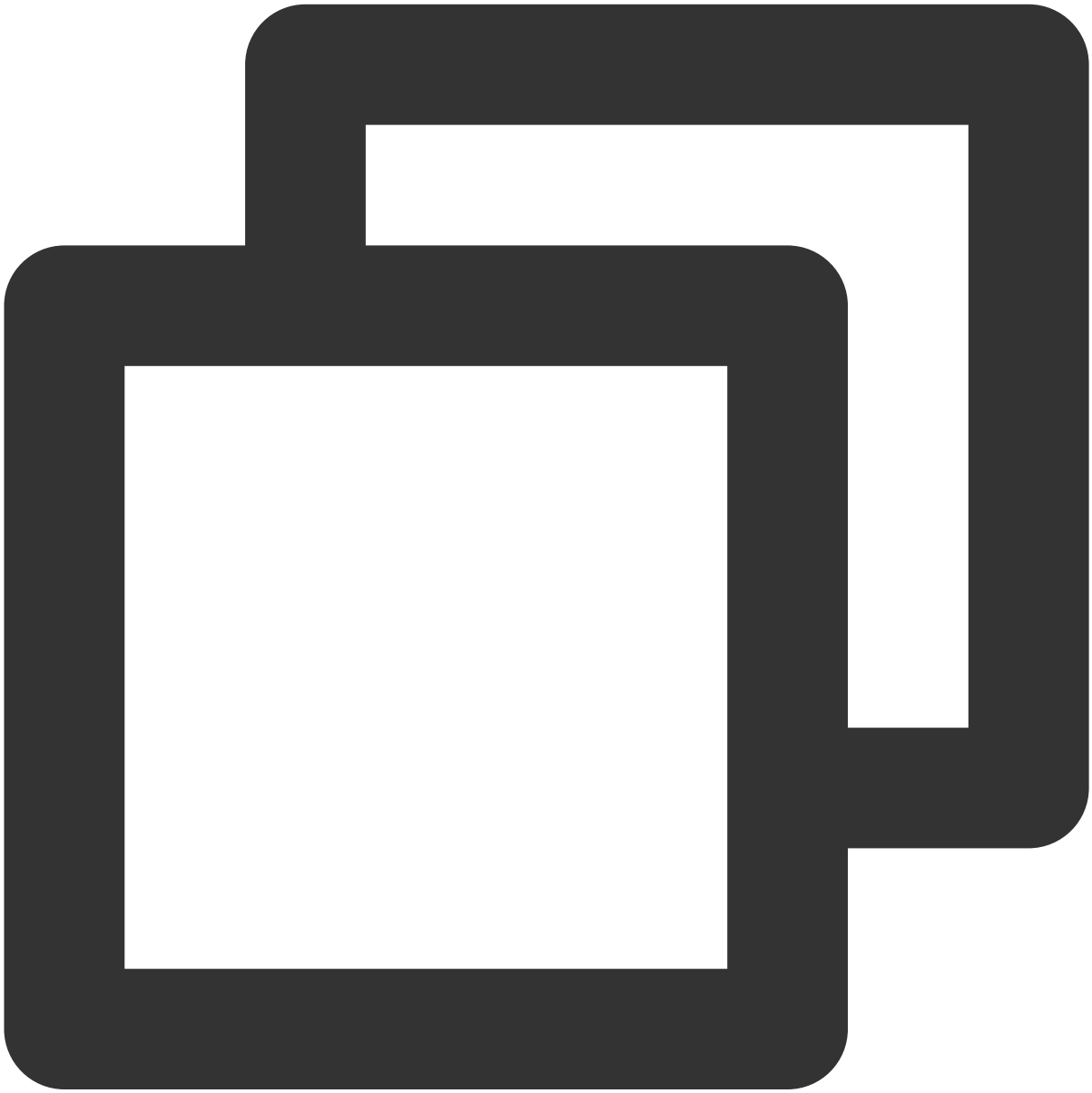
Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Mic position index
lockParams	TUISeatLockParams	Required	-	Lock mic parameter

Returns：*Promise<void>*

sendTextMessage

Send text message



```
const roomEngine = new TUIRoomEngine();
await roomEngine.sendTextMessage({
 messageText: 'hello, everyone',
});
```

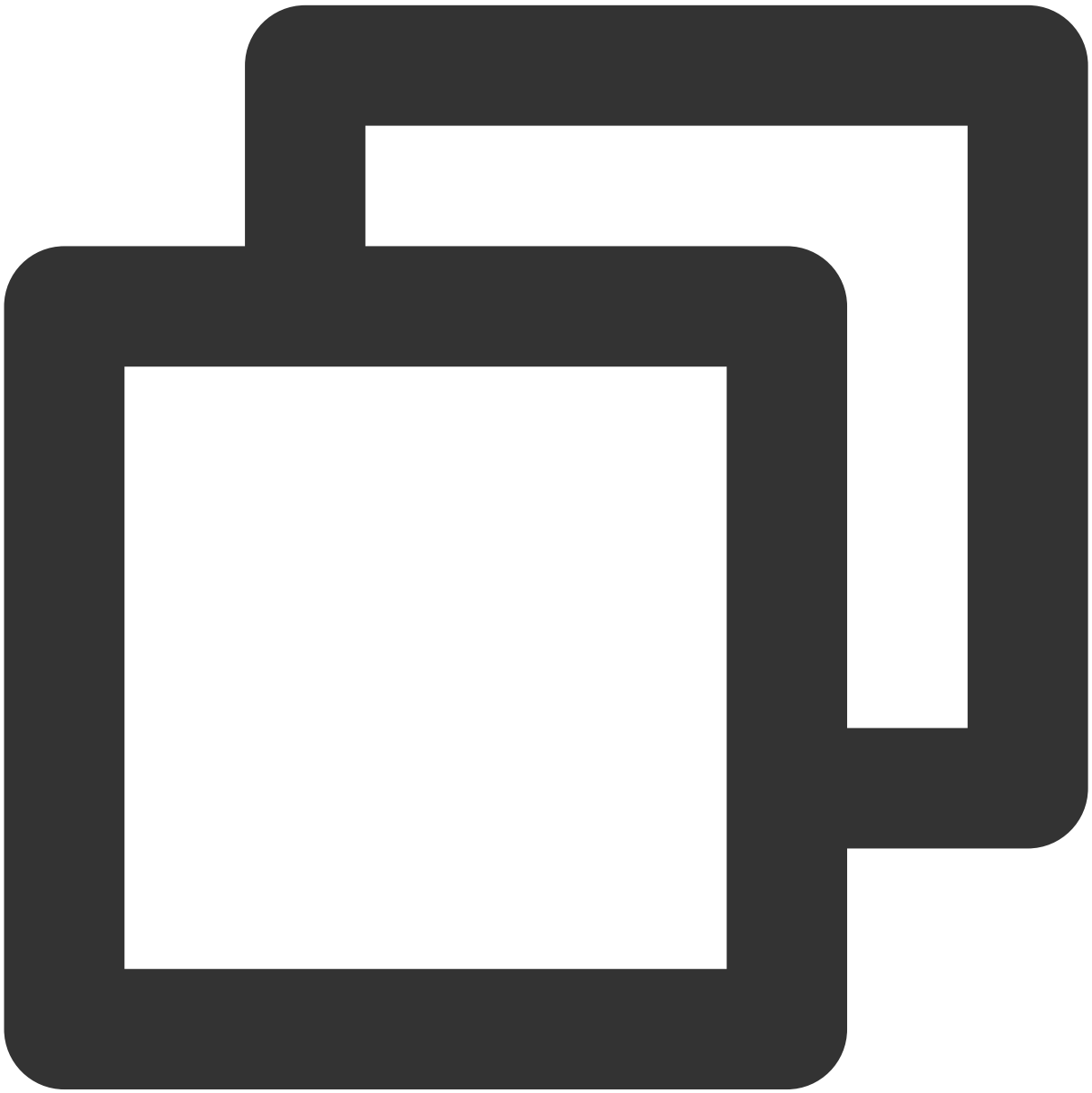
Parameter:

Parameter	Type	Description	Default Value	Meaning
messageText	string	Required	-	Text message content

Returns：*Promise<void>*

sendCustomMessage

Send custom message



```
const roomEngine = new TUIRoomEngine();
await roomEngine.sendCustomMessage({
 messageText: '{ data:'', description: ''}',
```

```
});
```

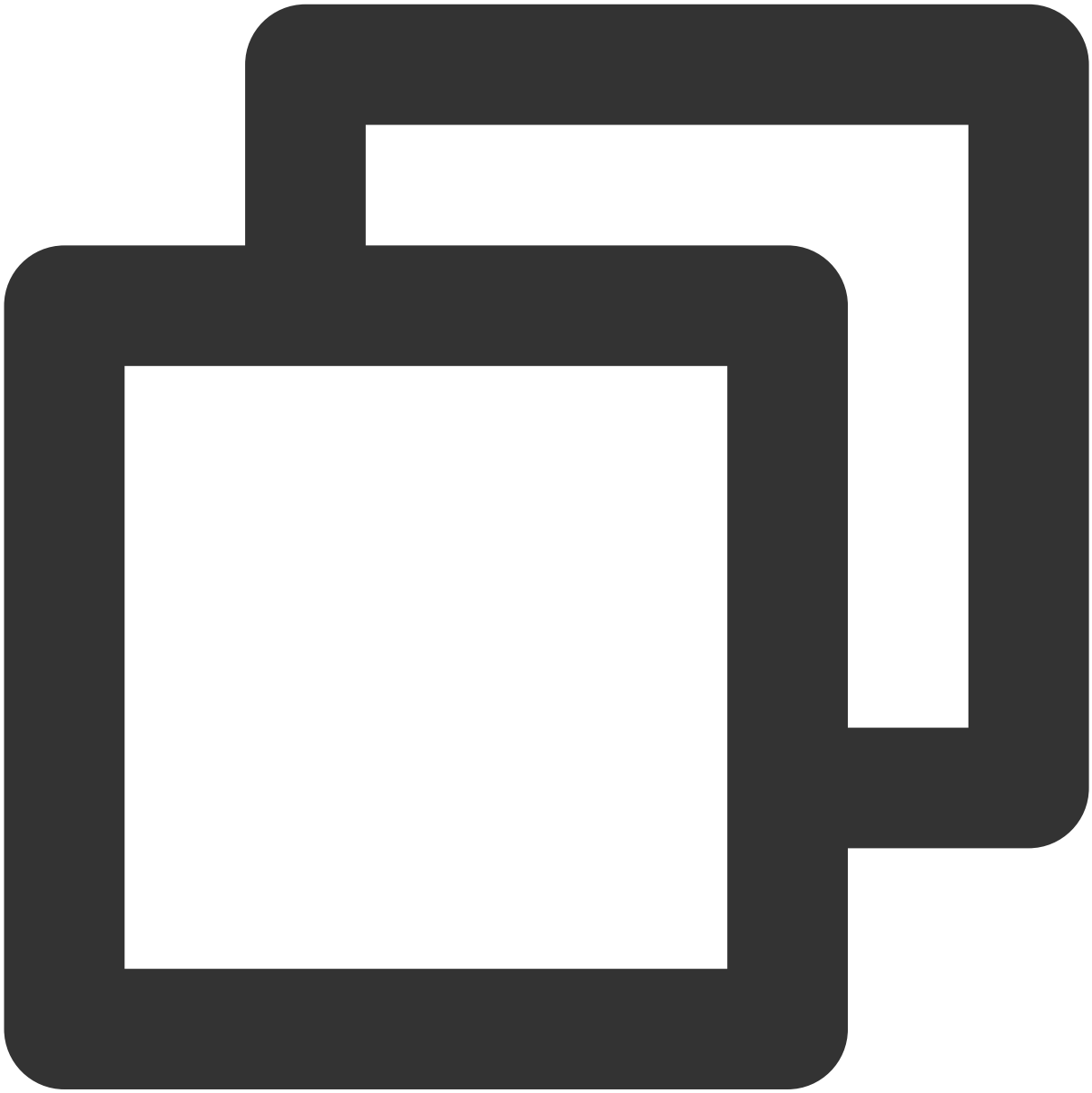
Parameter:

Parameter	Type	Description	Default Value	Meaning
messageText	string	Required	-	Custom message content

Returns：*Promise<void>*

getCameraDevicesList

Get camera device list

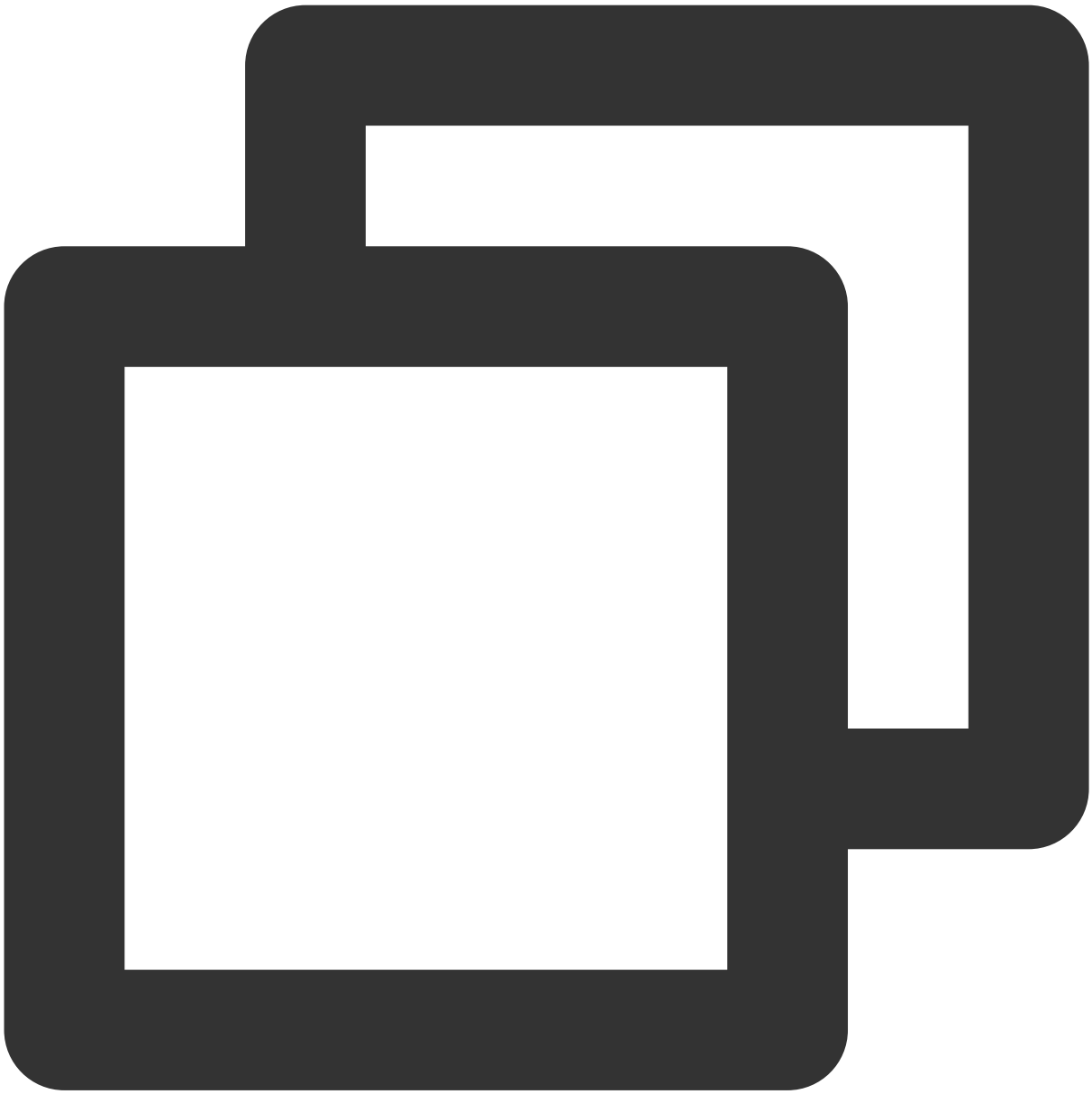


```
const roomEngine = new TUIRoomEngine();
const cameraList = await roomEngine.getCameraDevicesList();
for (i = 0; i < cameraList.length; i++) {
   var camera = cameraList[i];
   console.info("camera deviceName: " + camera.deviceName + " deviceId:" + camera.
}
```

Returns: *Promise*<TRTCDeviceInfo*[]*> cameraList

getMicDevicesList

Get mic device list

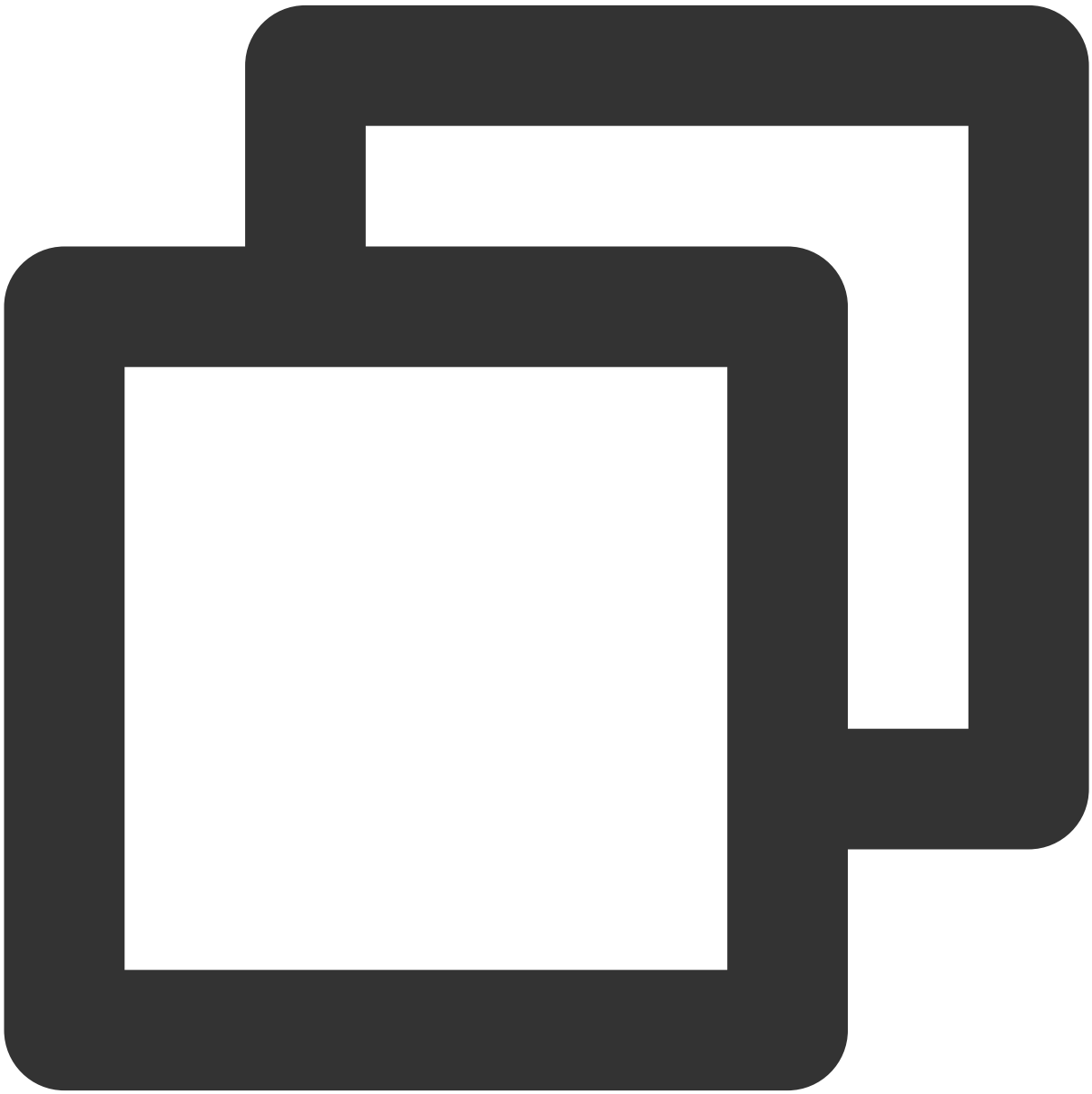


```
const roomEngine = new TUIRoomEngine();
const micList = await roomEngine.getMicDevicesList();
for (i = 0; i < micList.length; i++) {
   var mic = micList[i];
   console.info("mic deviceName: " + mic.deviceName + " deviceId:" + mic.deviceId)
}
```

Returns: *Promise*<TRTCDeviceInfo*[]*> micList

getSpeakerDevicesList

Get speaker device list



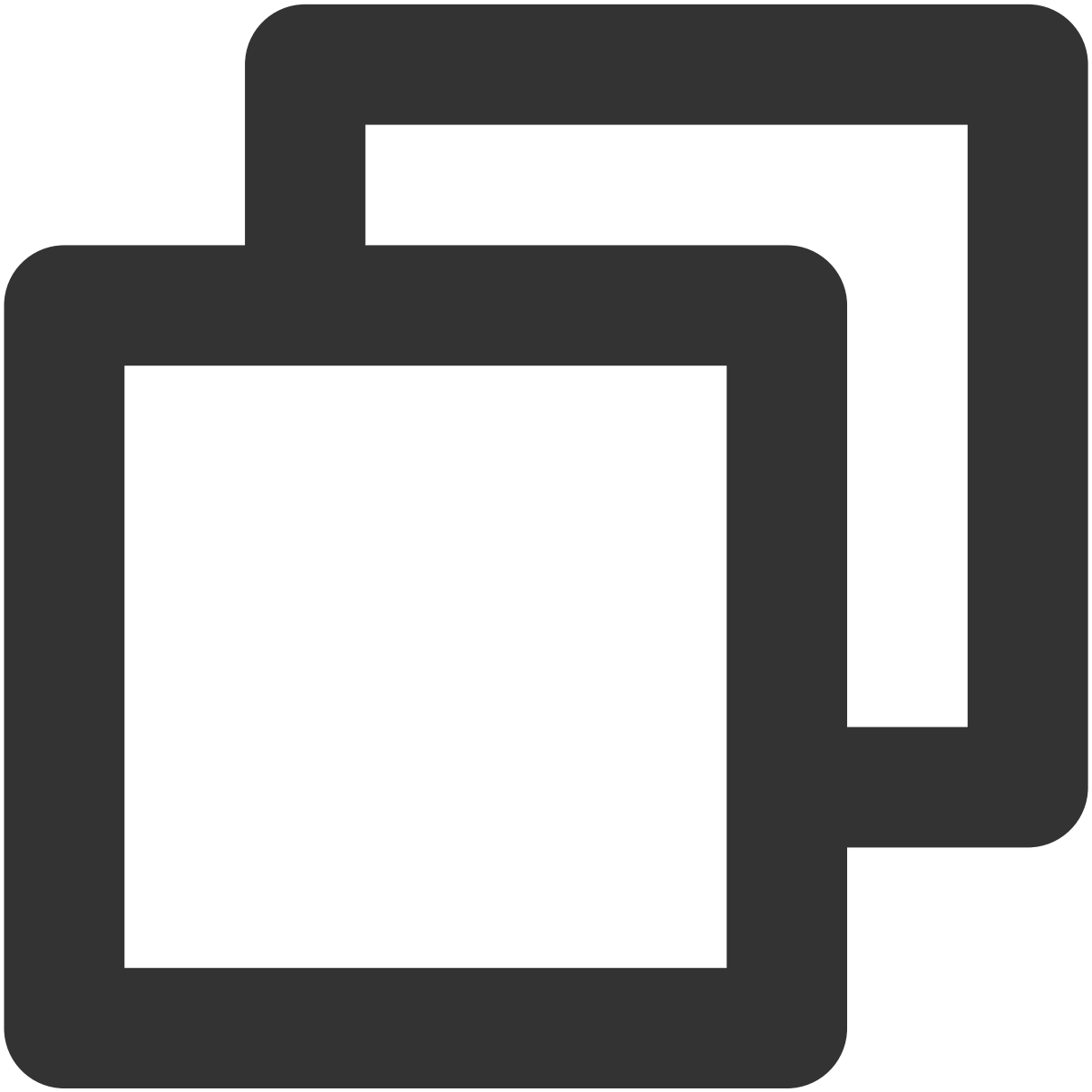
```
const roomEngine = new TUIRoomEngine();
const speakerList = await roomEngine.getSpeakerDevicesList();
for (i = 0; i < speakerList.length; i++) {
```

```
    var speaker = speakerList[i];
    console.info("speaker deviceName: " + speaker.deviceName + " deviceId:" + speak
}
```

Returns: *Promise*<TRTCDeviceInfo*[]*> speakerList

setCurrentCameraDevice

Set the camera device to be used



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setCurrentCameraDevice({ deviceId: '' });
```

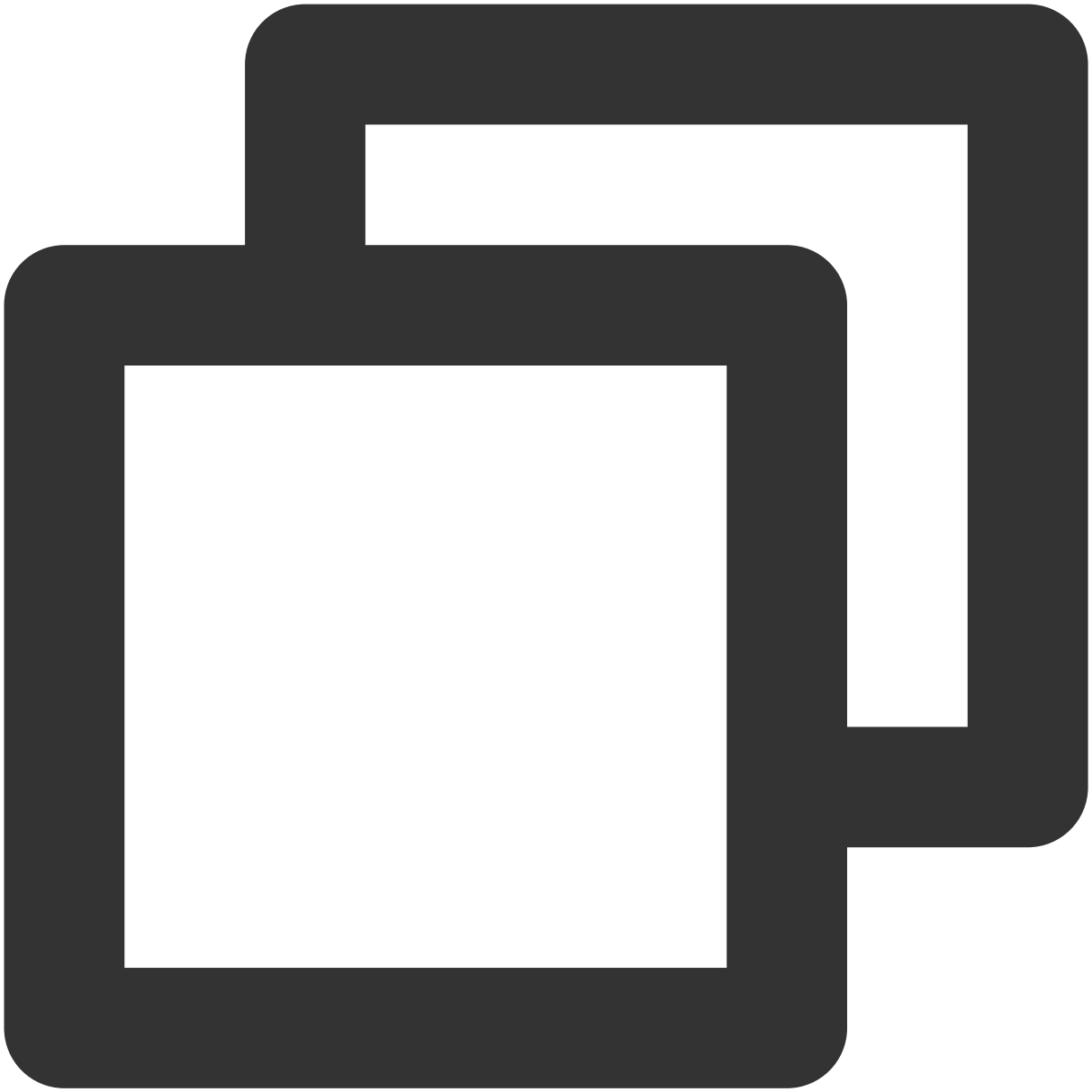
Parameter:

Parameter	Type	Description	Default Value	Meaning
deviceId	string	Required	-	Device ID obtained from getCameraDevicesList

Returns：*void*

setCurrentMicDevice

Set the mic device to be used



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setCurrentMicDevice({ deviceId: '' });
```

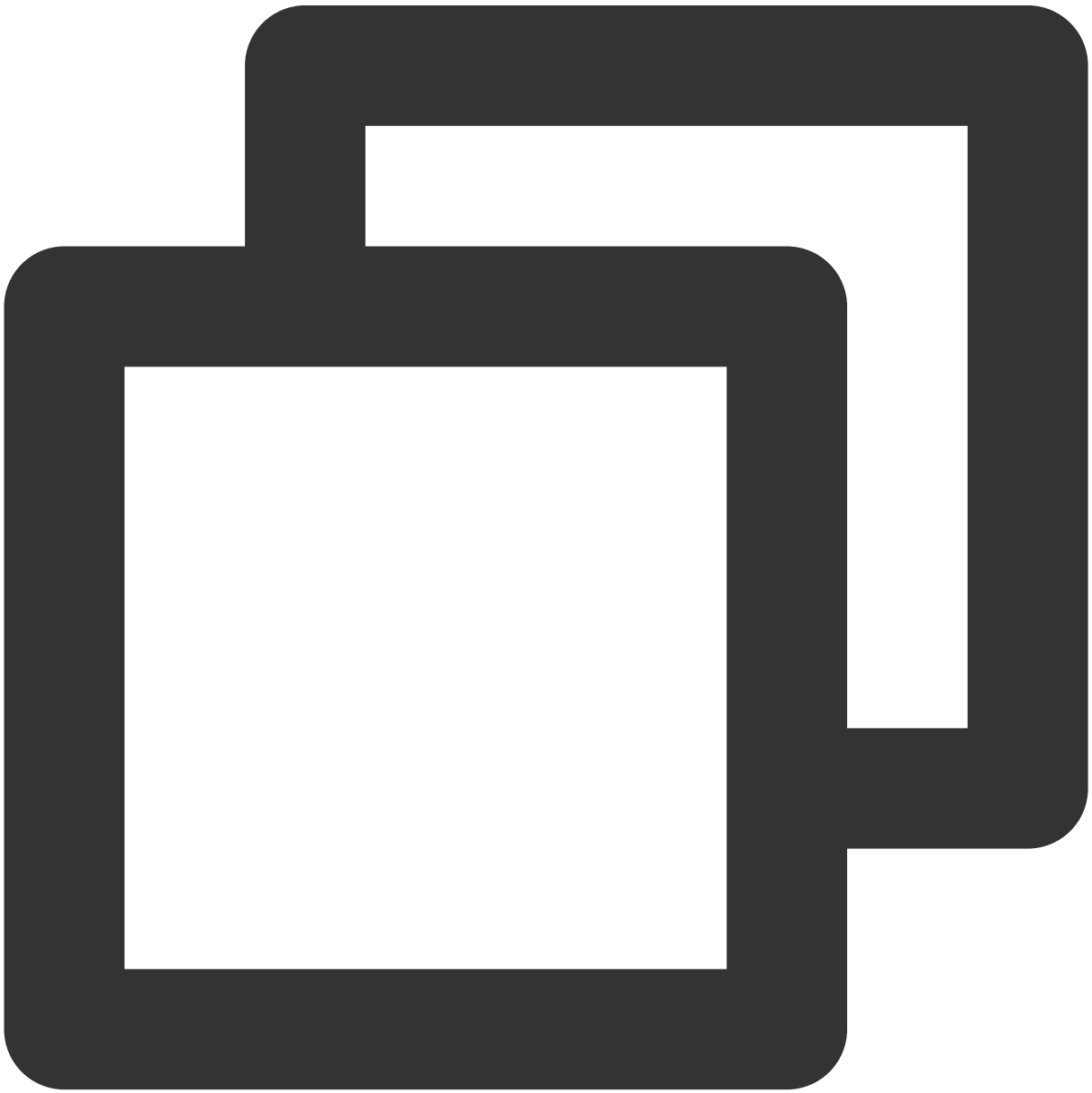
Parameter:

Parameter	Type	Description	Default Value	Meaning
deviceId	string	Required	-	Device ID obtained from getMicDevicesList

Returns：*void*

setCurrentSpeakerDevice

Set the speaker device to be used



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setCurrentSpeakerDevice({ deviceId: '' });
```

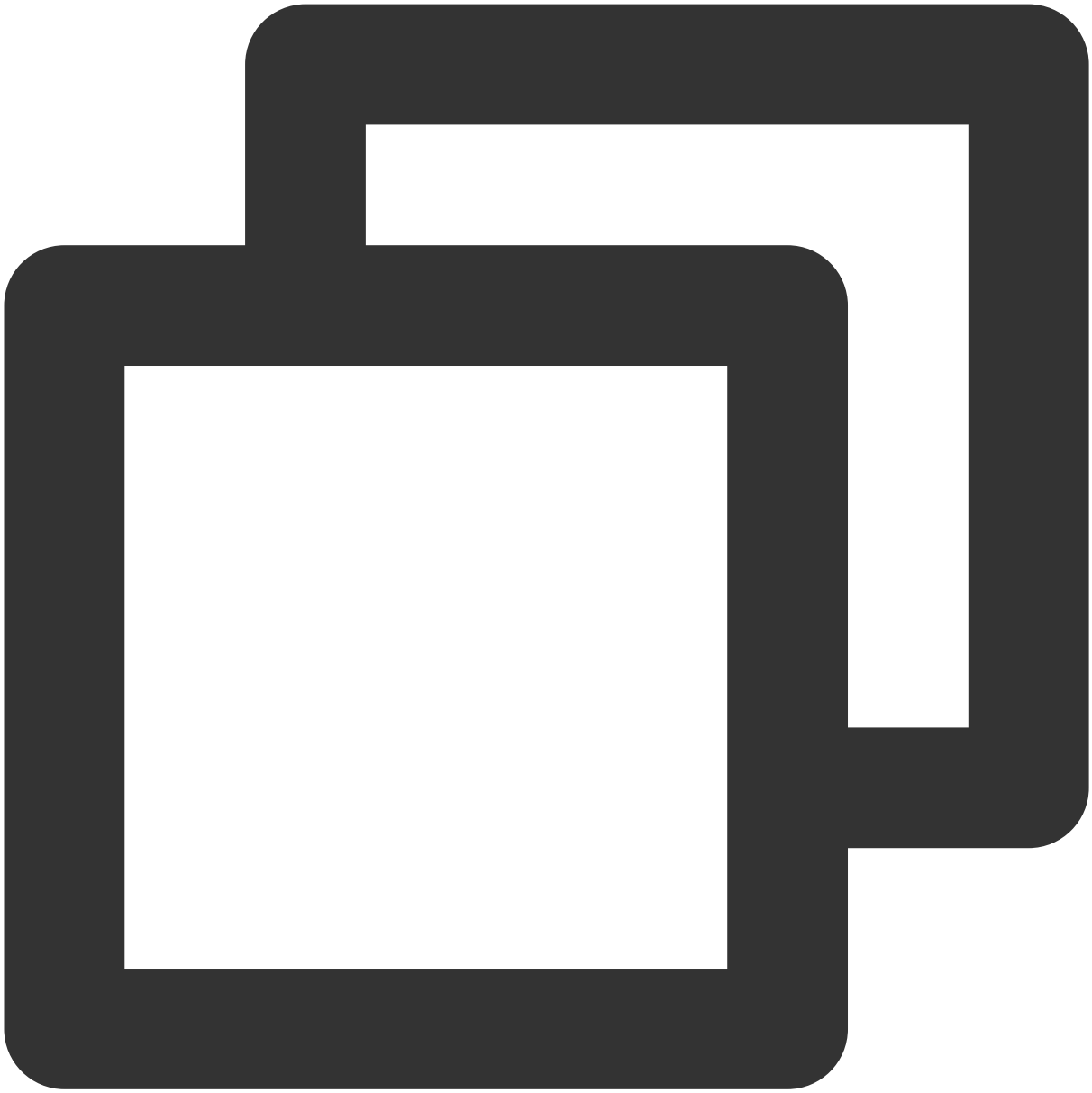
Parameter:

Parameter	Type	Description	Default Value	Meaning
deviceId	string	Required	-	Device ID obtained from getSpeakerDevicesList

Returns：*void*

getCurrentCameraDevice

Get the currently used camera device



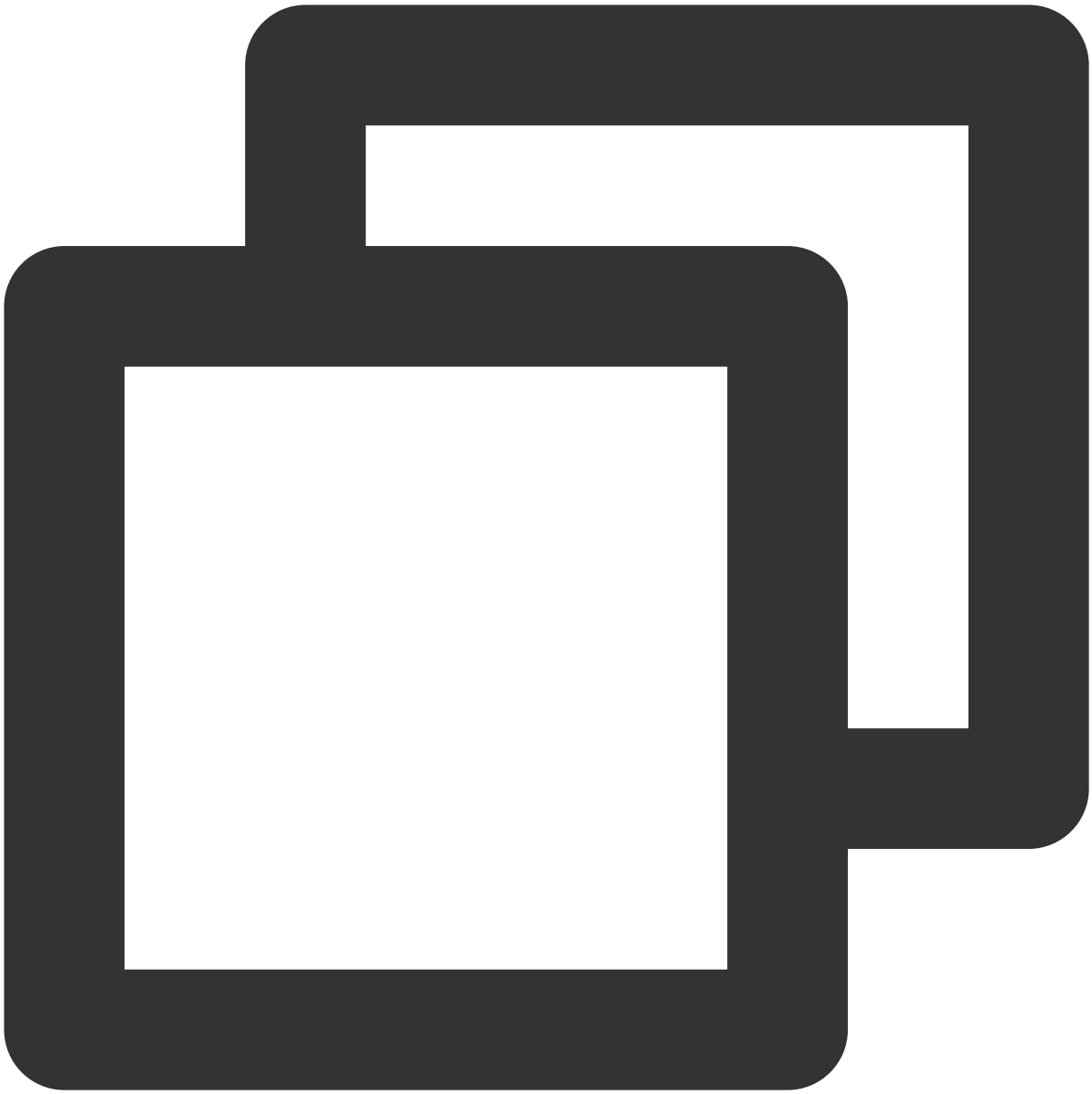
```
const roomEngine = new TUIRoomEngine();
const currentCameraDevice = roomEngine.getCurrentCameraDevice();
```

Returns：TRTCDeviceInfo

Device information, can get device ID and device name

getCurrentMicDevice

Get the currently used mic device



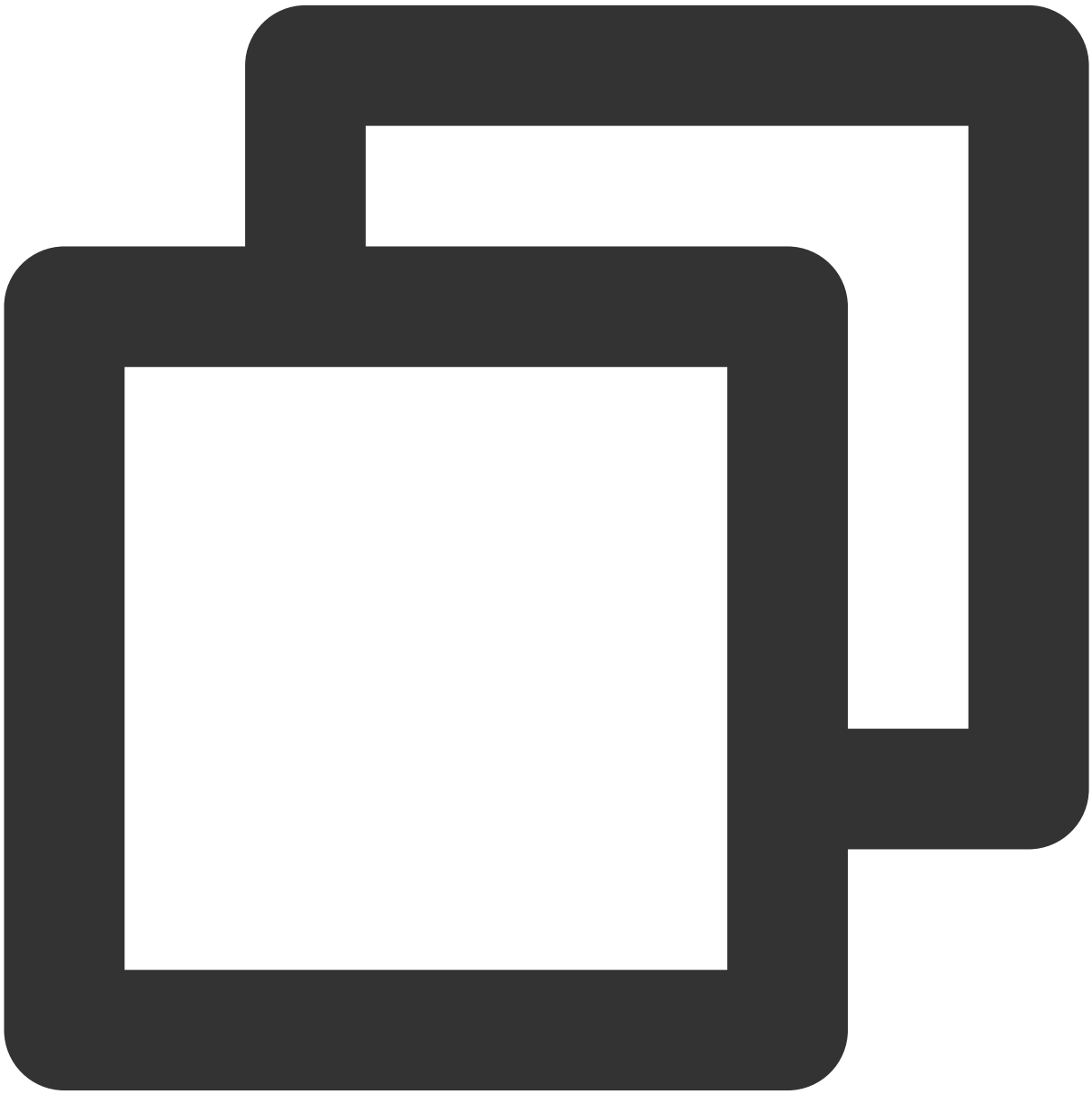
```
const roomEngine = new TUIRoomEngine();
const currentMicDevice = roomEngine.getCurrentMicDevice();
```

Returns：TRTCDeviceInfo

Device information, can get device ID and device name

getCurrentSpeakerDevice

Get the currently used speaker device



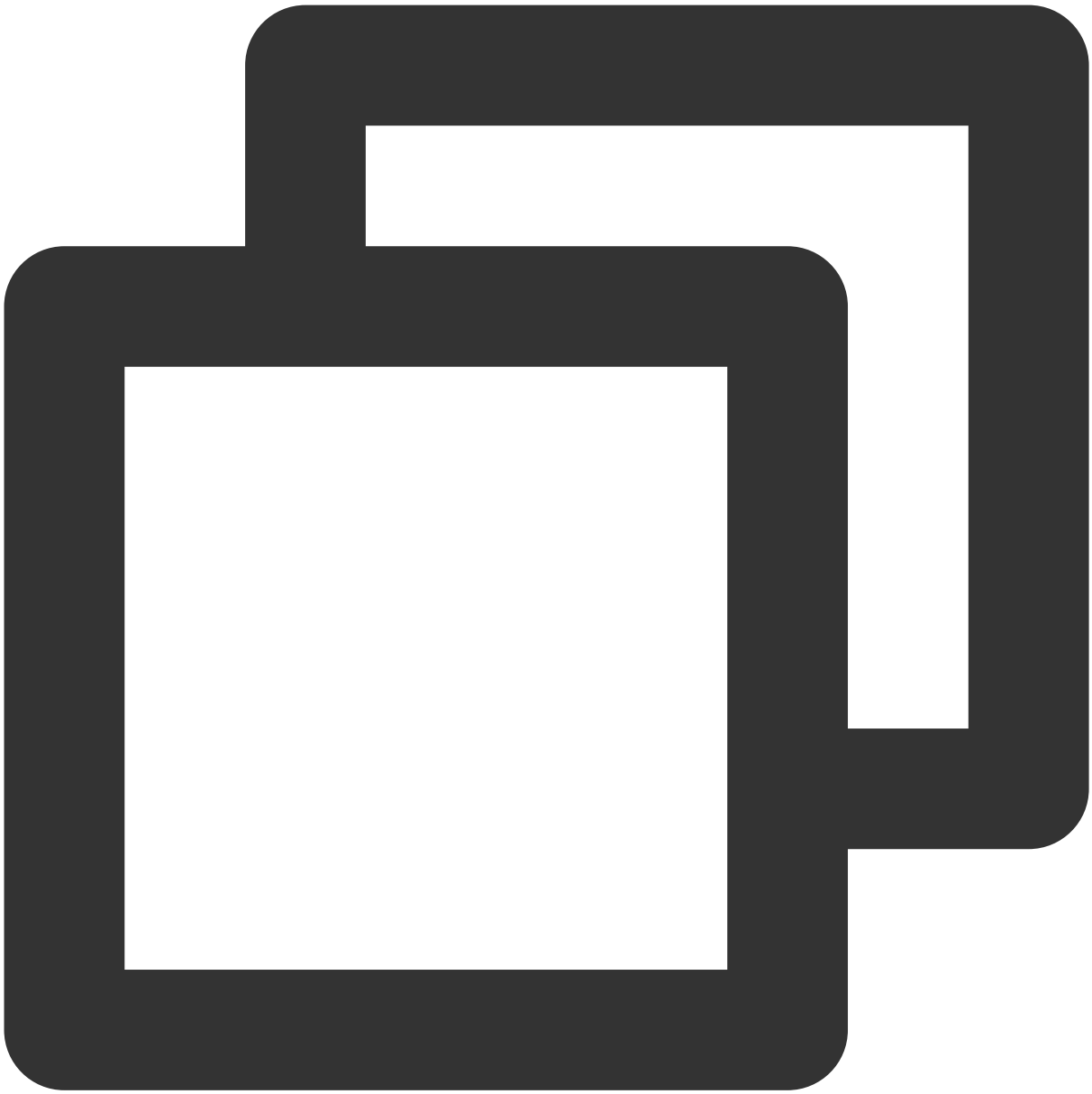
```
const roomEngine = new TUIRoomEngine();
const currentSpeakerDevice = roomEngine.getCurrentSpeakerDevice();
```

Returns：TRTCDeviceInfo

Device information, can get device ID and device name

startCameraDeviceTest

Start camera test



```
const roomEngine = new TUIRoomEngine();
await roomEngine.startCameraDeviceTest({ view: 'test-preview' });
```

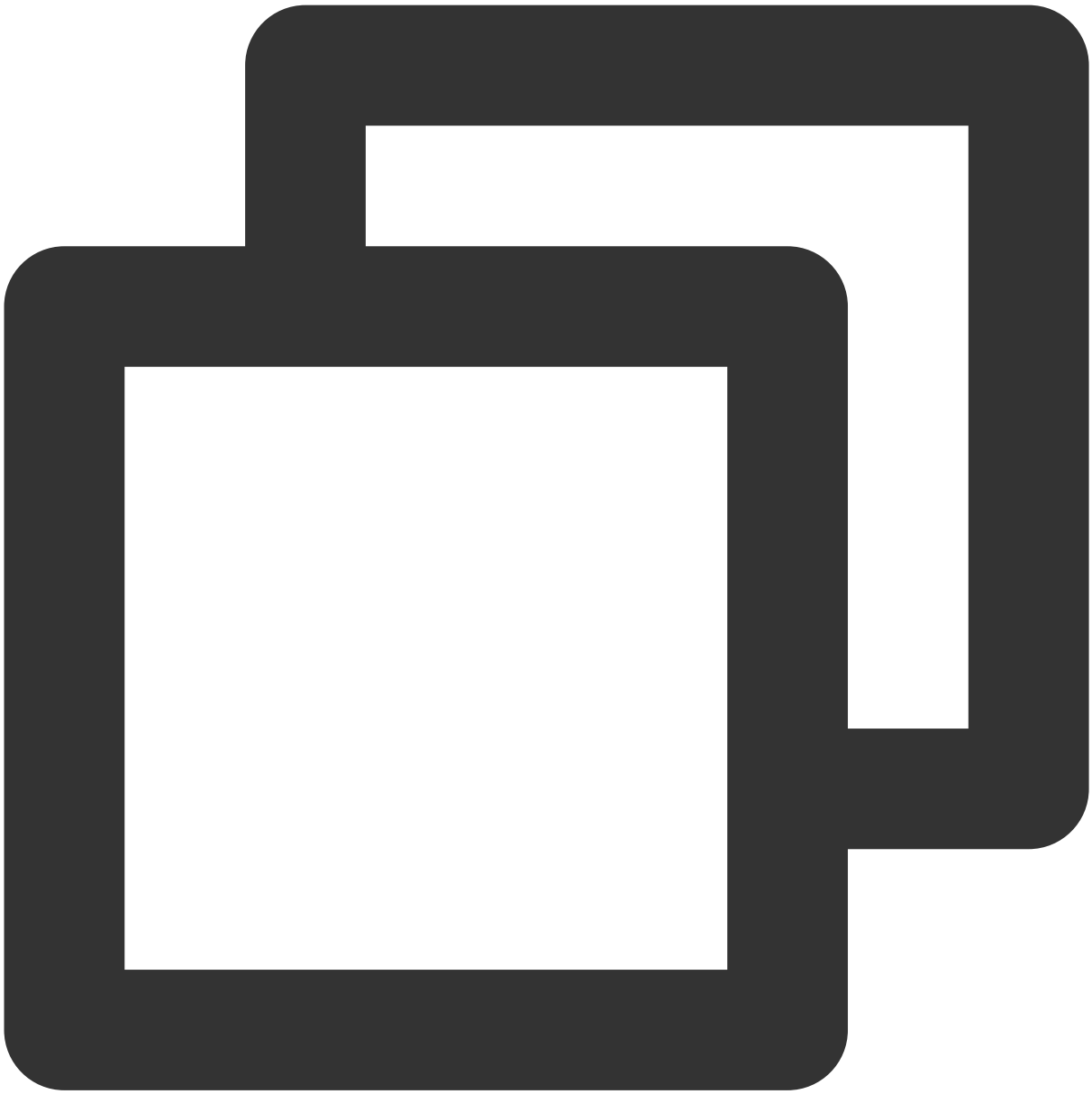
Parameter:

Parameter	Type	Description	Default Value	Meaning
view	string	Required	-	Display the video area of the camera test, the input view is the Id of the div element carrying the preview screen

Returns：*Promise<void>*

stopCameraDeviceTest

Stop camera test

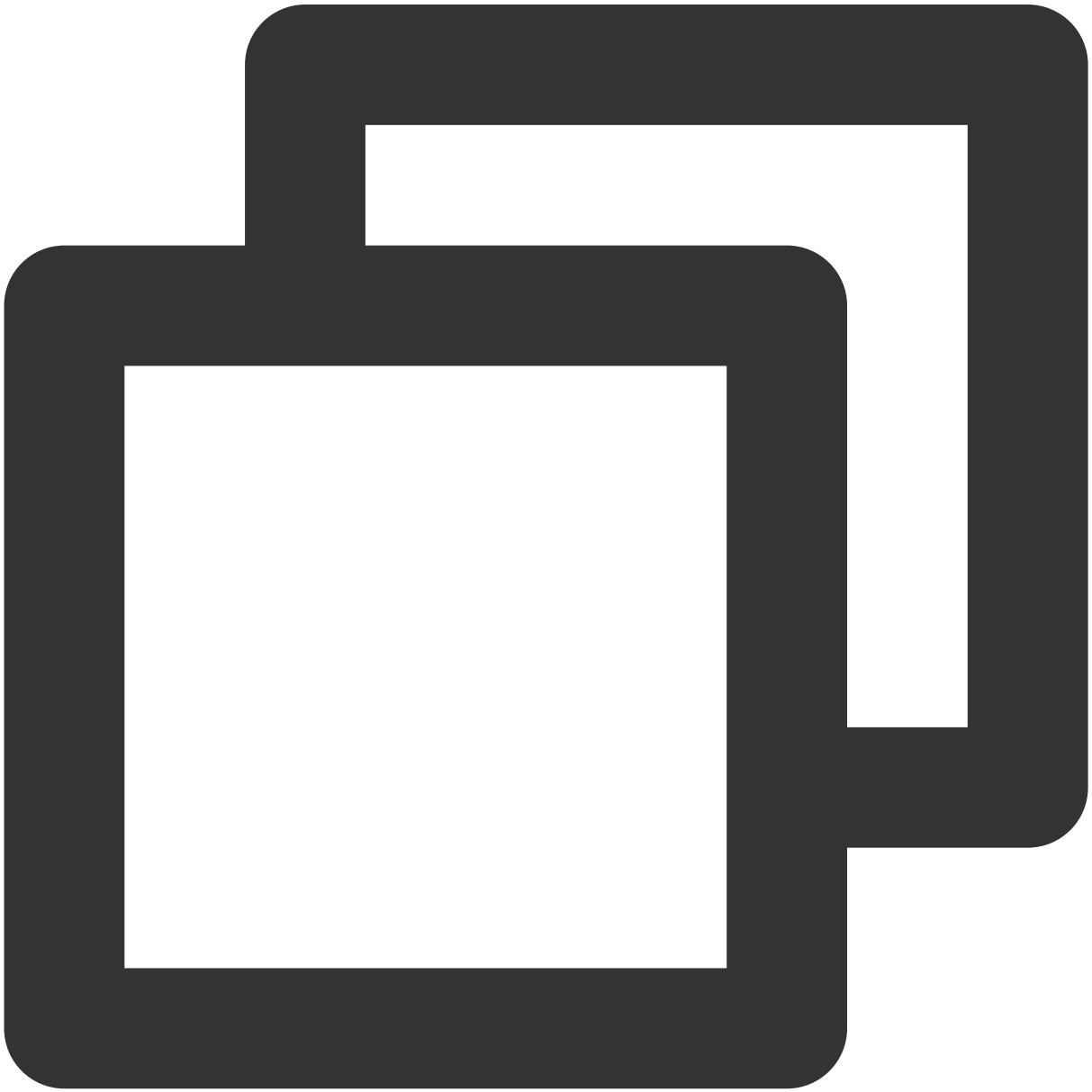


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopCameraDeviceTest();
```

Returns：*Promise<void>*

on

Listen to roomEngine events



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(event, func);
```

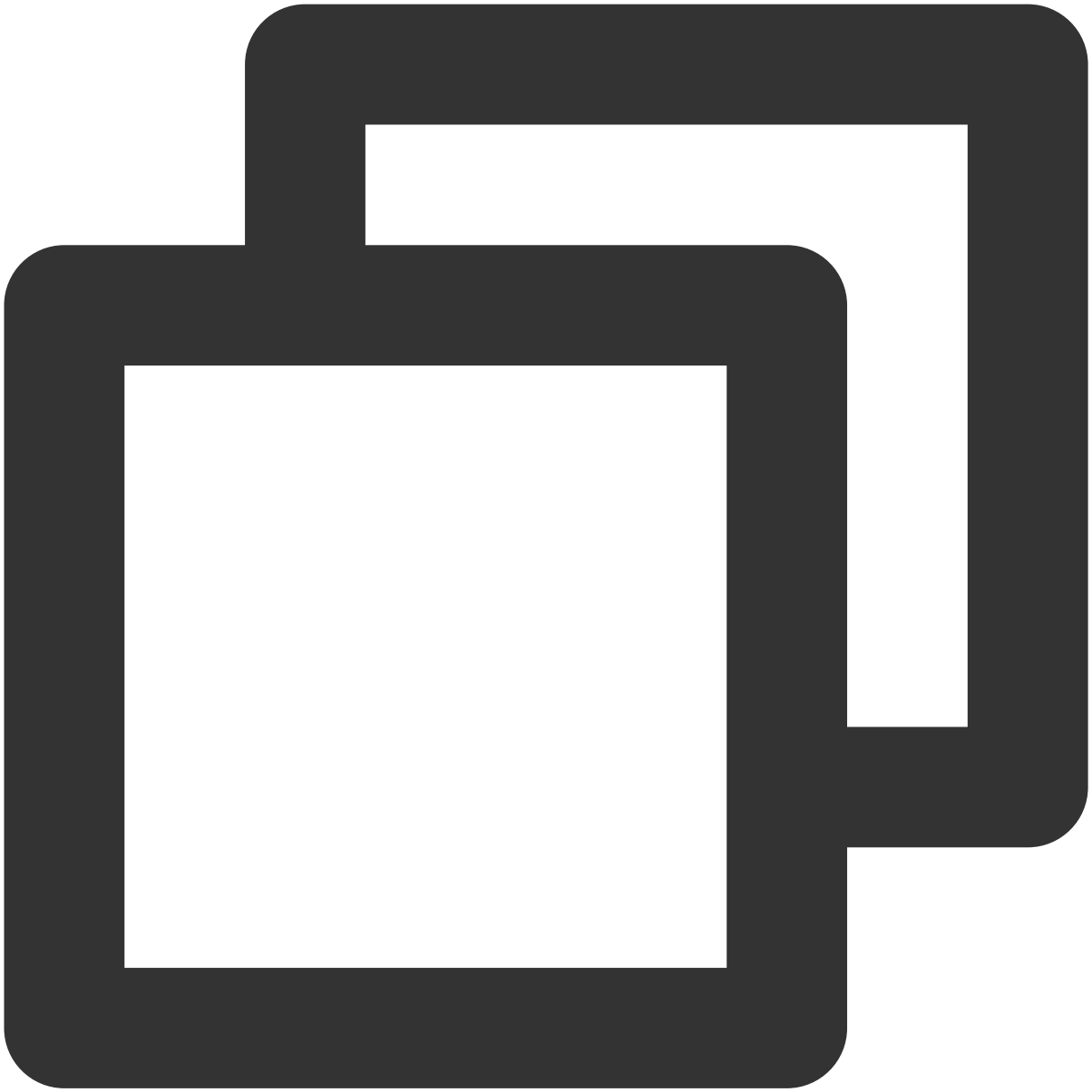
Parameter:

Parameter	Type	Description	Default Value	Meaning
event	TUIRoomEvents	Required	-	TUIRoomEngine event list
func	Function	Required	-	Event callback function

Returns：*void*

off

Cancel listening to roomEngine events



```
const roomEngine = new TUIRoomEngine();
roomEngine.off(event, func);
```

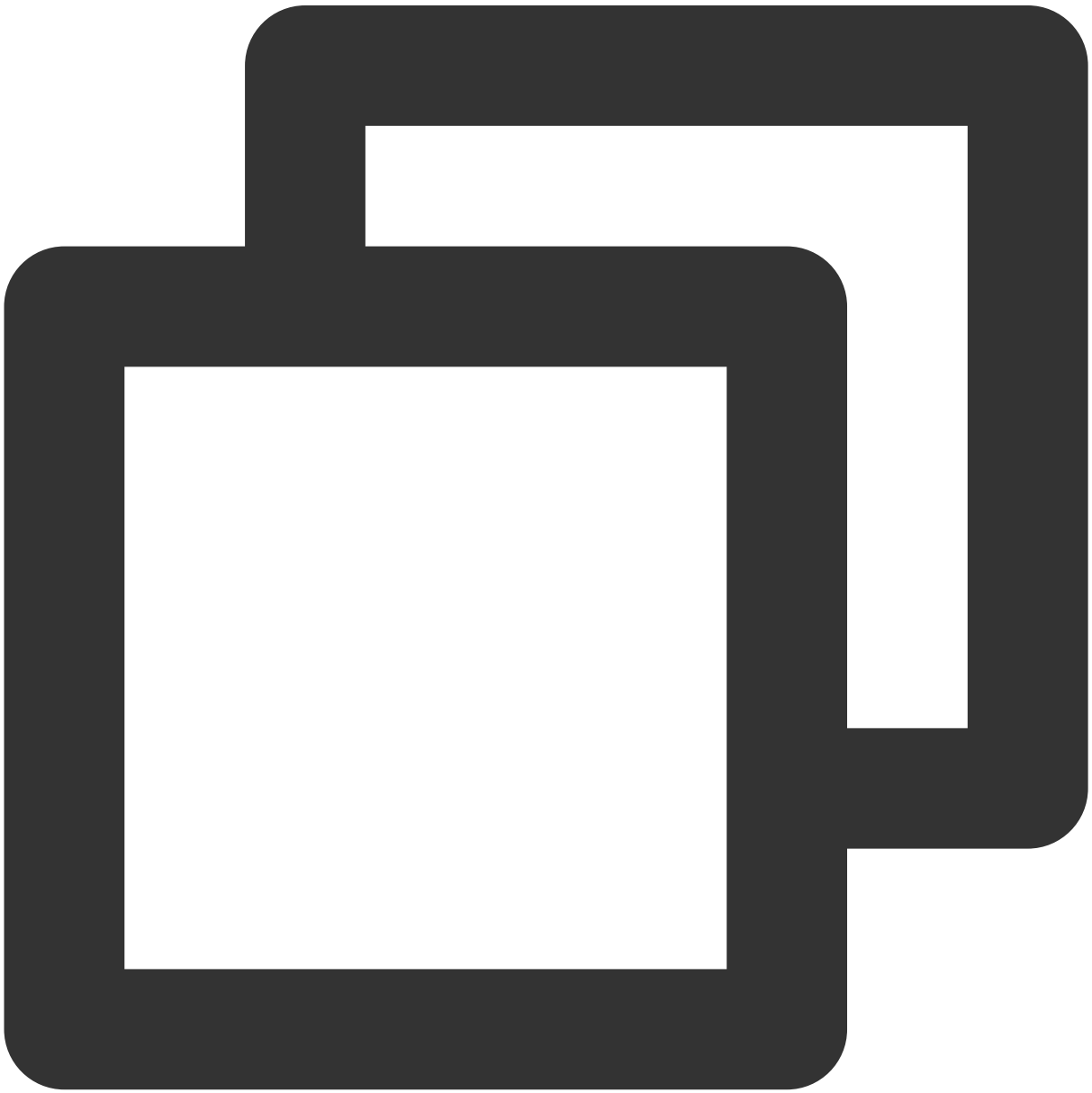
Parameter:

Parameter	Type	Description	Default Value	Meaning
event	TUIRoomEvents	Required	-	TUIRoomEngine event list
func	Function	Required	-	Event callback function

Returns：*void*

getTRTCCloud

Get trtcCloud instance, for web-side trtcCloud capabilities, please check: TRTCCloud API documentation

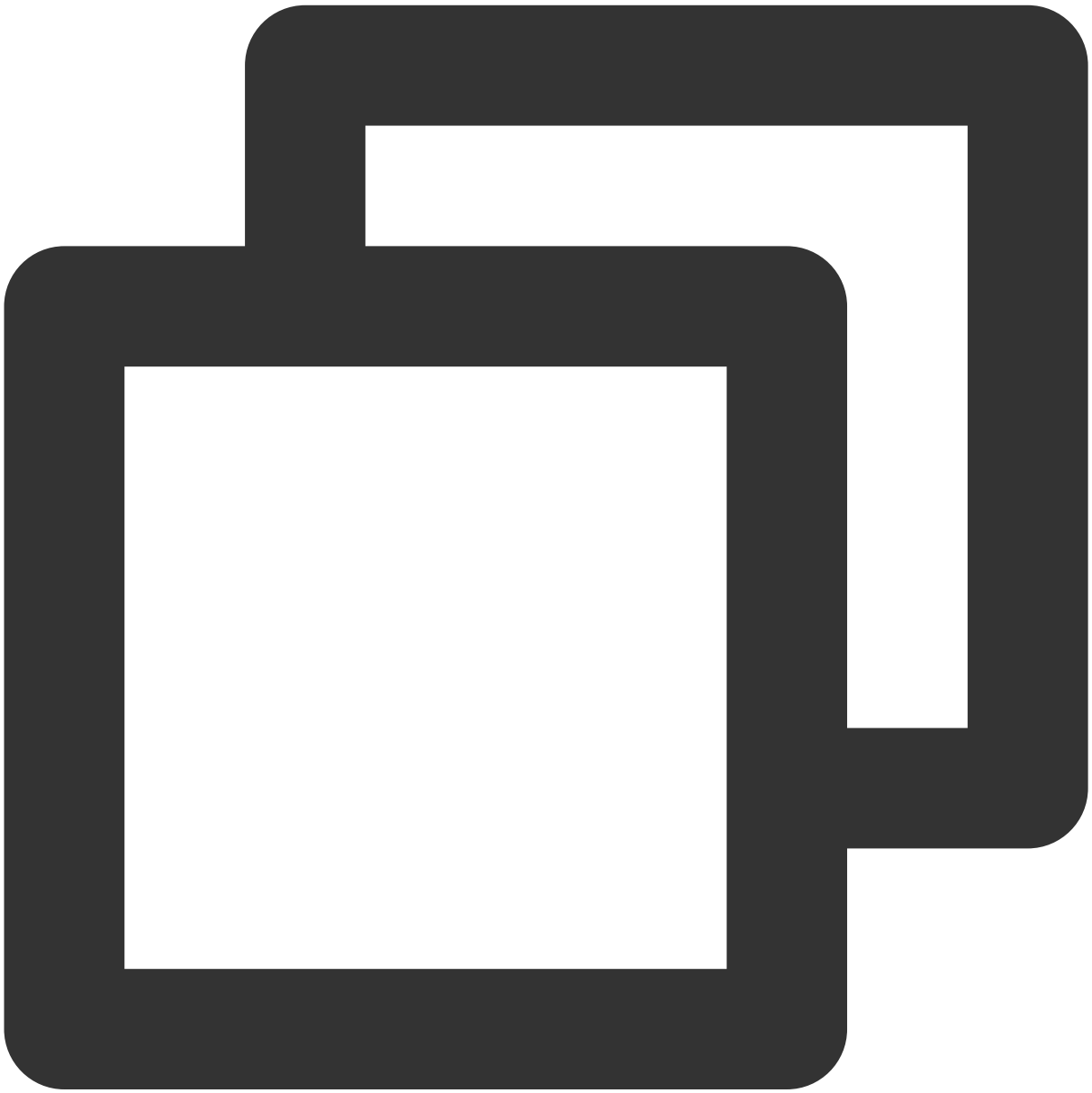


```
const roomEngine = new TUIRoomEngine();
const trtcCloud = roomEngine.getTRTCCloud();
```

Returns：TRTCCloud

getTIM

Get tim instance, for web-side tim capabilities, please check: IM API documentation



```
const roomEngine = new TUIRoomEngine();
const trtcCloud = roomEngine.getTIM();
```

Returns：*TIM*

TUIRoomEvents

Last updated：2023-11-14 17:25:21

TUIRoomEvent API Introduction

TUIRoomEvent API is the Event Interface for Audio/Video call Component.

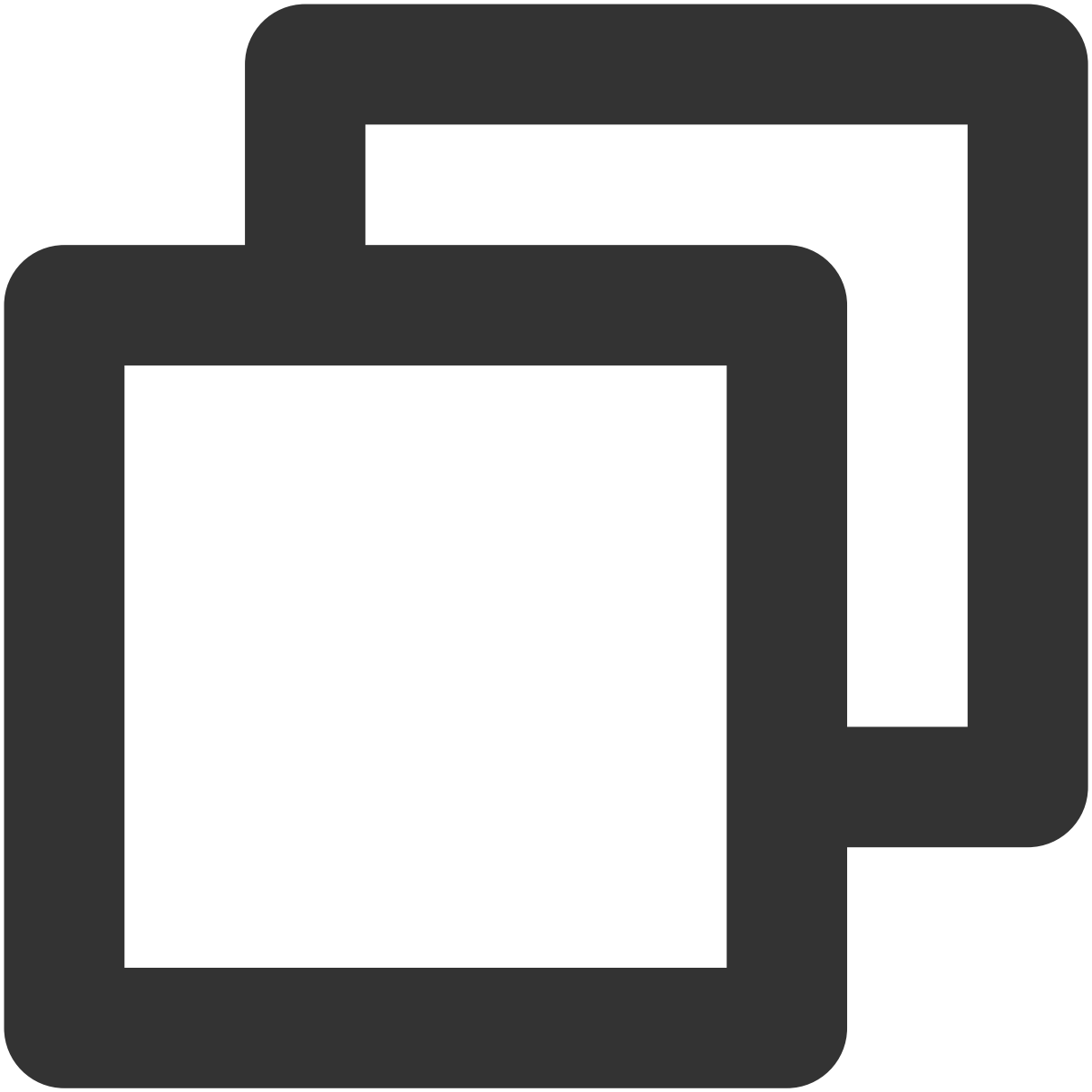
Event list

EVENT	Description
TUIRoomEvents.onError	Error Event
TUIRoomEvents.onKickedOutOfRoom	Kicked out of room event
TUIRoomEvents.onKickedOffLine	Current user Kicked off line event
TUIRoomEvents.onUserSigExpired	UserSig Expiration Event
TUIRoomEvents.onRoomDismissed	Host Destroy Room Event
TUIRoomEvents.onRoomNameChanged	Room Name Change Event
TUIRoomEvents.onRoomSpeechModeChanged	Room Speech Mode Change Event
TUIRoomEvents.onAllUserCameraDisableChanged	All members Camera Usage Permission Change Event
TUIRoomEvents.onAllUserMicrophoneDisableChanged	All members Mic Usage Permission Change Event
TUIRoomEvents.onSendMessageForAllUserDisableChanged	All members Send Message Status Change Event
TUIRoomEvents.onRoomMaxSeatCountChanged	Room Maximum Seat Count Change Event
TUIRoomEvents.onRemoteUserEnterRoom	Remote User Entered Room Event
TUIRoomEvents.onRemoteUserLeaveRoom	Remote User Leave Room Event
TUIRoomEvents.onUserRoleChanged	User Role Change Event
TUIRoomEvents.onUserVideoStateChanged	User Video Status Change Event

TUIRoomEvents.onUserAudioStateChanged	User Audio Status Change Event
TUIRoomEvents.onSendMessageForUserDisableChanged	User Send Message Status Event
TUIRoomEvents.onUserVoiceVolumeChanged	User Volume Change Event
TUIRoomEvents.onUserNetworkQualityChanged	User Network Quality Change Event
TUIRoomEvents.onSeatListChanged	Seat List Change Event
TUIRoomEvents.onKickedOffSeat	User Kicked off Seat Event
TUIRoomEvents.onRequestReceived	Request Received Event
TUIRoomEvents.onRequestCancelled	Request Cancelled Event
TUIRoomEvents.onReceiveTextMessage	Receive Text Message Event
TUIRoomEvents.onReceiveCustomMessage	Receive Custom Message Event
TUIRoomEvents.onDeviceChange	Device Change Event
TUIRoomEvents.onUserScreenCaptureStopped	Screen Sharing Stopped Event When the user uses the built-in browser stop sharing button to end screen sharing, the user will receive the 'onUserScreenCaptureStopped' event to modify the screen sharing status.

onError

Error Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onError, (error) => {
 console.log('TUIRoomError error', error);
})
```

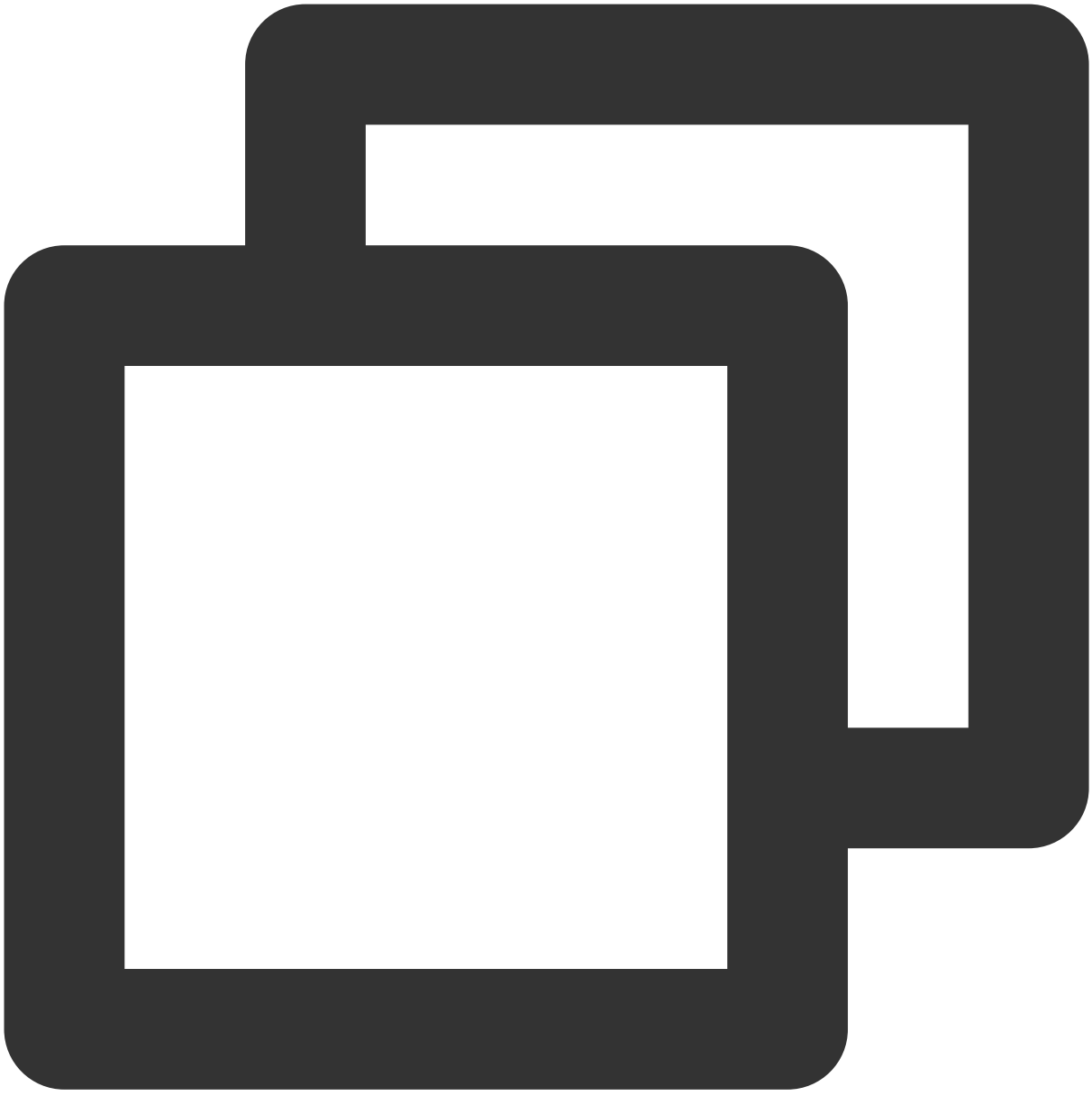
The parameters are shown in the table below:

Parameter	Type	Meaning
code	number	Error Code

message	string	Error Information

onKickedOutOfRoom

Kicked out of room event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onKickedOutOfRoom, ({ roomId, message }) => {
  console.log('roomEngine.onKickedOutOfRoom', roomId, message);
```

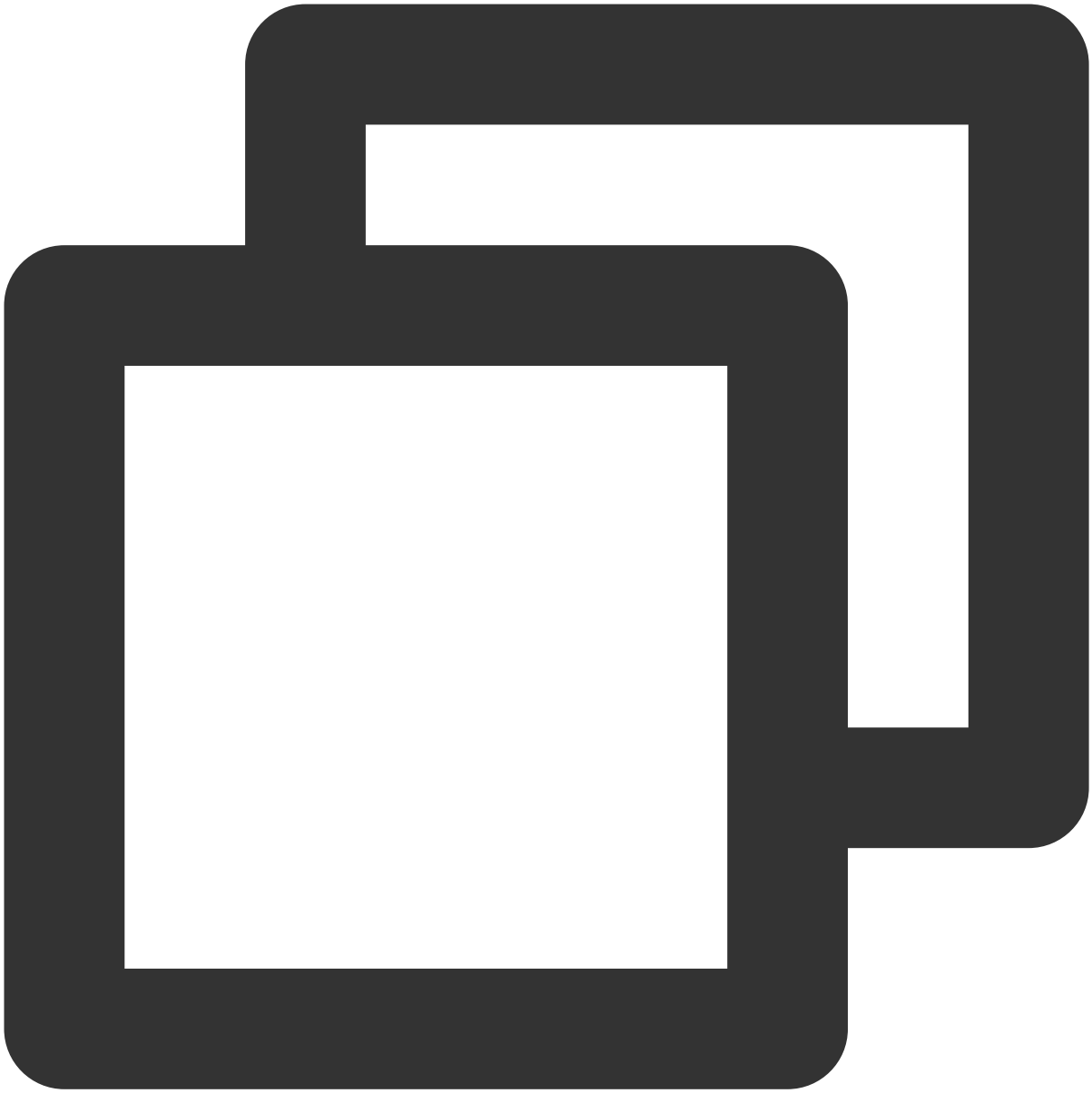
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
message	string	Kicked out of room information

onKickedOffLine

Current user Kicked off line event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onKickedOffLine, ({ message }) => {
  console.log('roomEngine.onKickedOffLine', message);
});
```

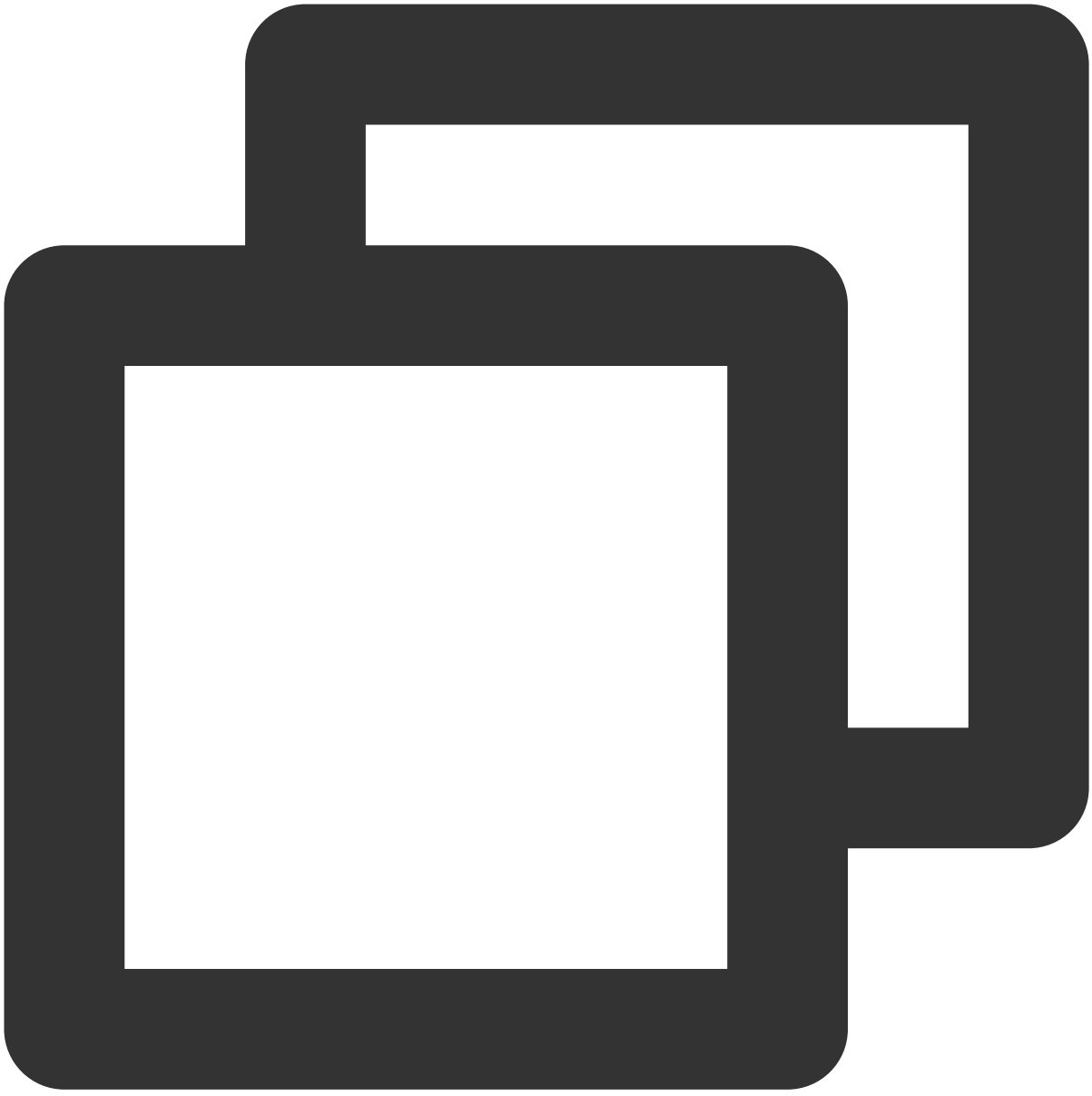
The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID

message	string	User logged in on other end information

onUserSigExpired

UserSig Expiration Event

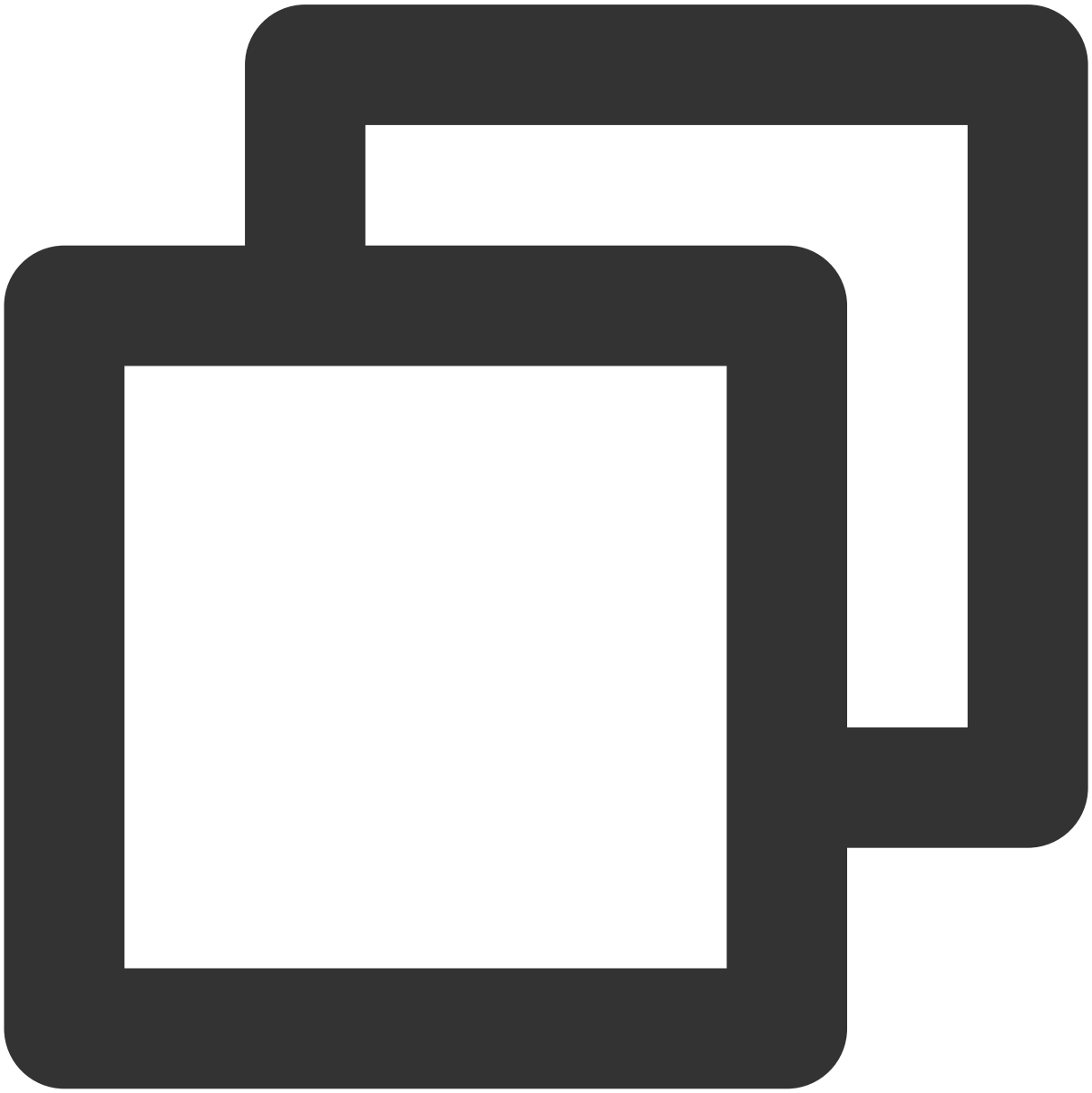


```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserSigExpired, () => {
  console.log('roomEngine.onUserSigExpired');
```

```
});
```

onRoomDismissed

Host Destroy Room Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomDismissed, ({ roomId }) => {
  console.log('roomEngine.onRoomDismissed', roomId);
```

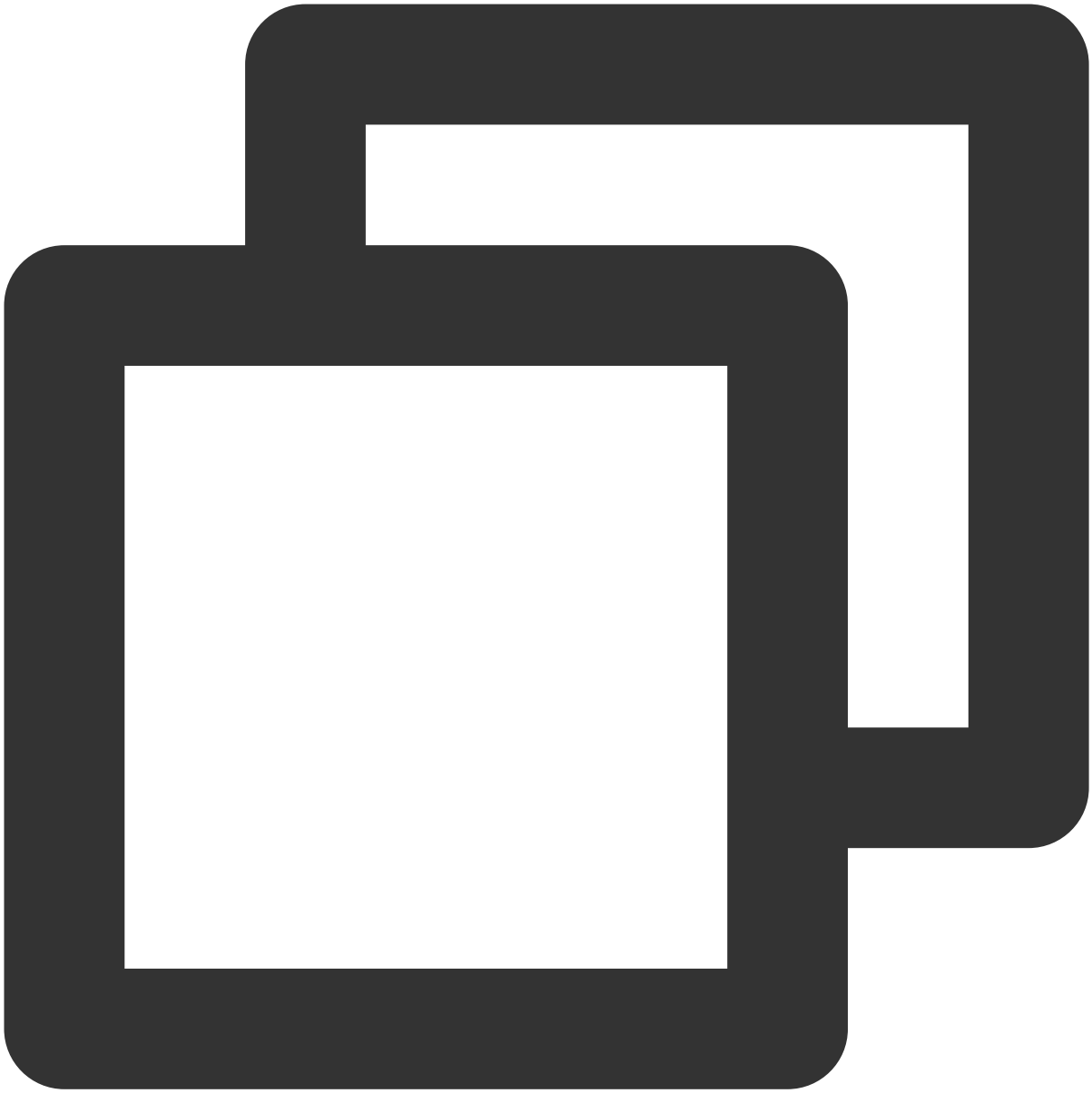
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID

onRoomNameChanged

Room ID Modification Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomNameChanged, ({ roomId, roomName }) => {
  console.log('roomEngine.onRoomNameChanged', roomId, roomName);
});
```

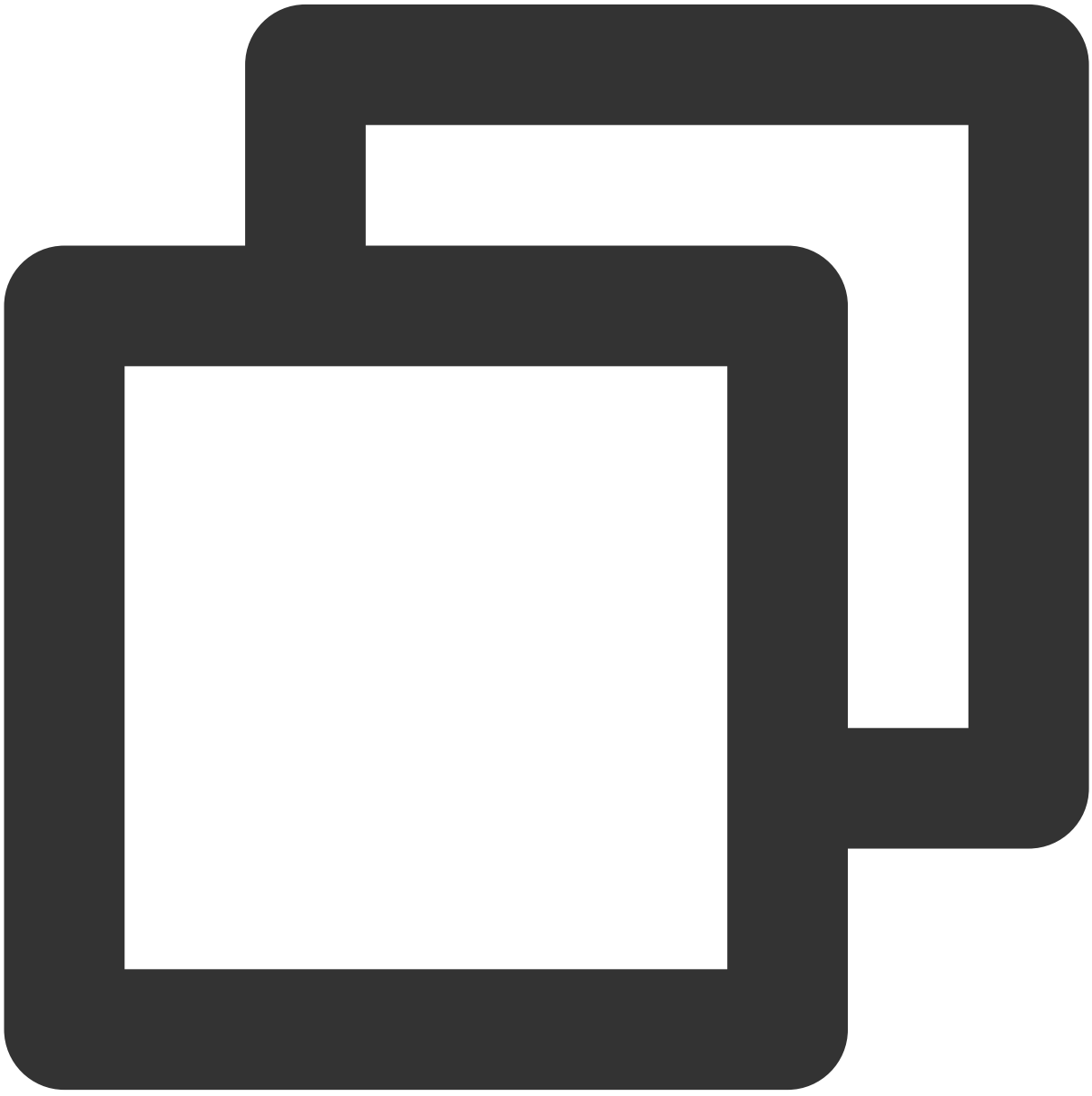
The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID

roomName	string	Room Name

onRoomSpeechModeChanged

Room Name Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomSpeechModeChanged, ({ roomId, speechMode }) => {
  console.log('roomEngine.onRoomSpeechModeChanged', roomId, speechMode);
```

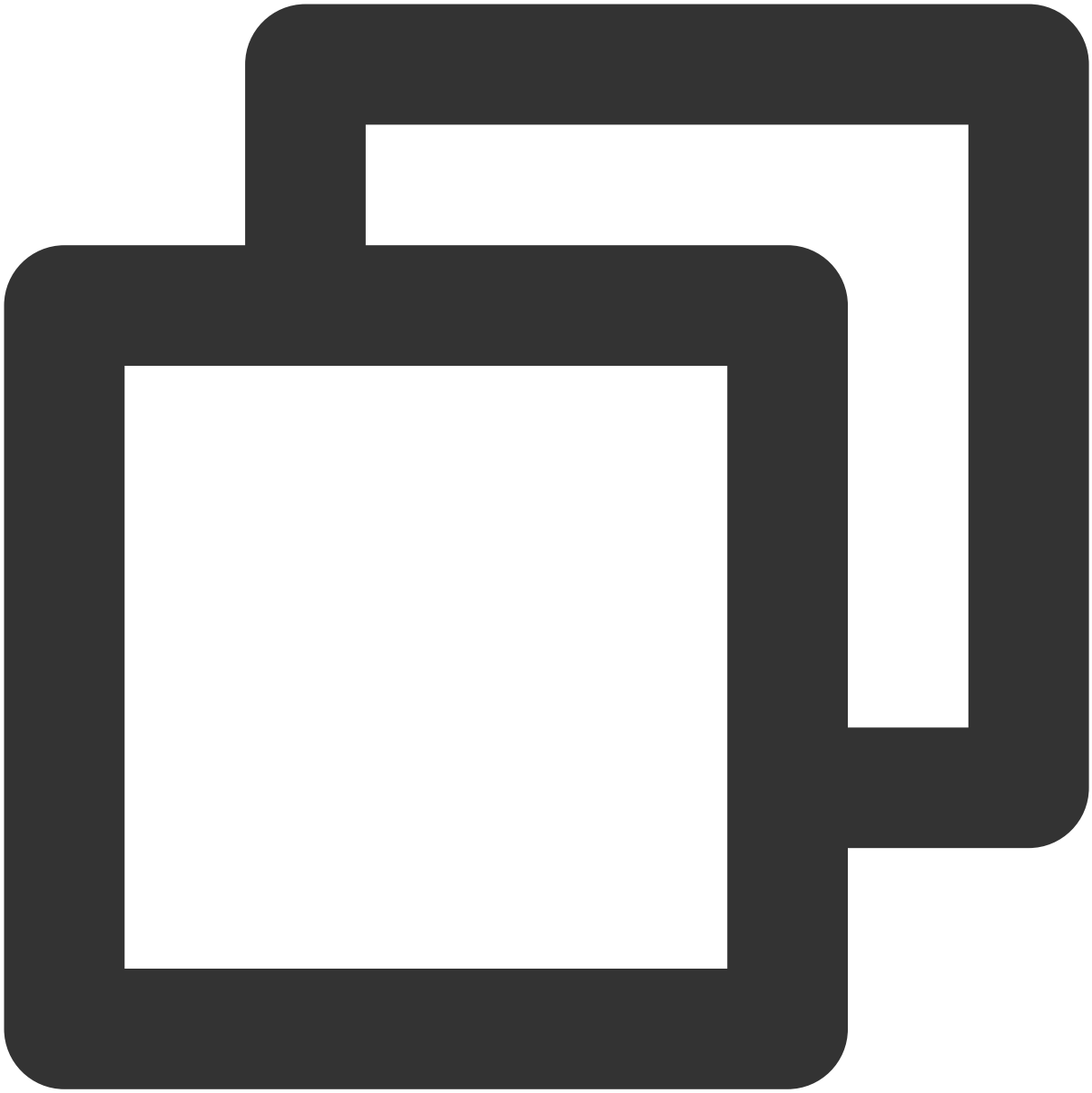
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
speechMode	TUISpeechMode	Speech Mode

onAllUserCameraDisableChanged

All members Camera Usage Permission Change Event



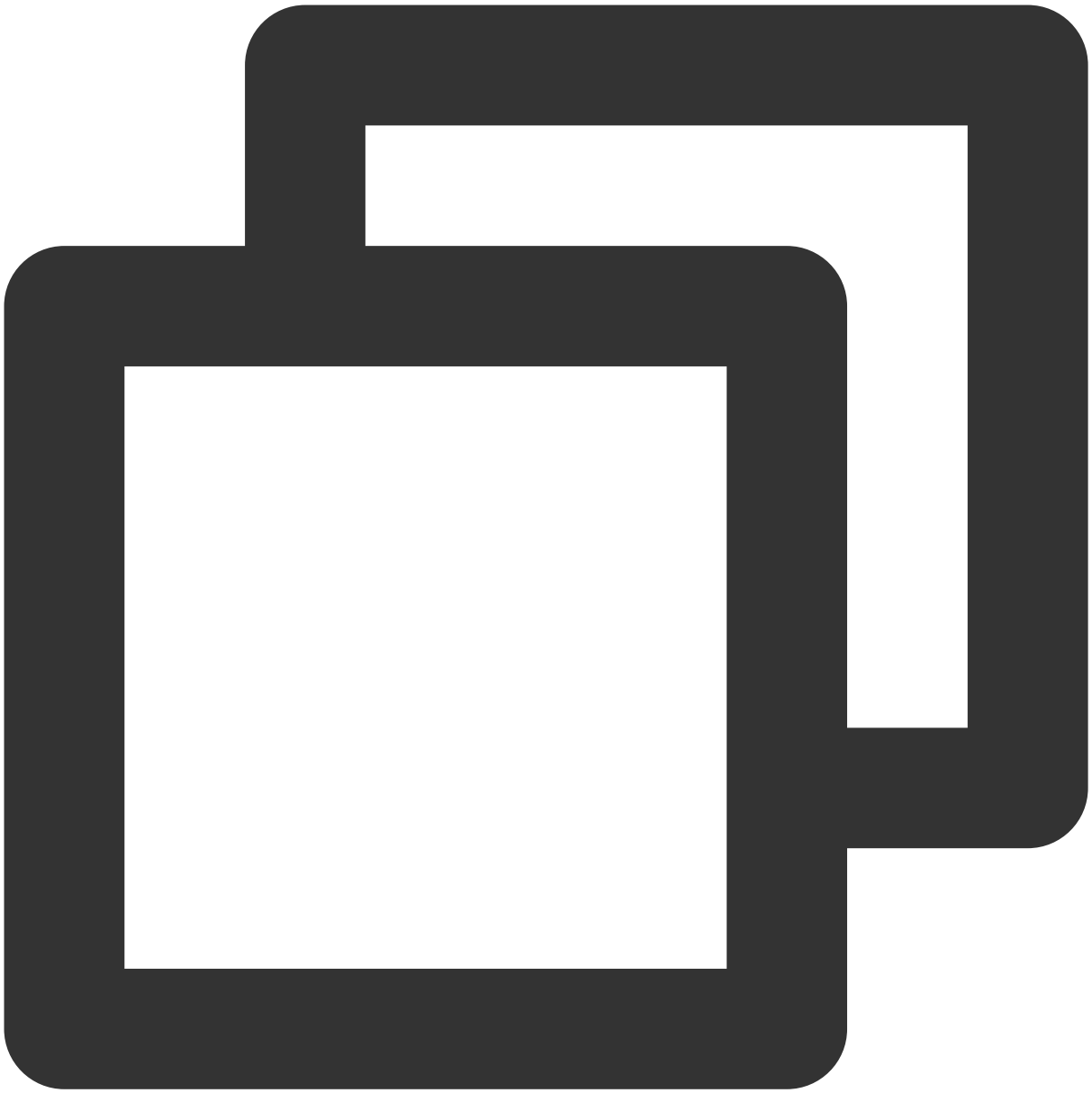
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onAllUserCameraDisableChanged, ({ isDisable }) => {
  console.log('roomEngine.onAllUserCameraDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Camera Usage

onAllUserMicrophoneDisableChanged

All members Mic Usage Permission Change Event



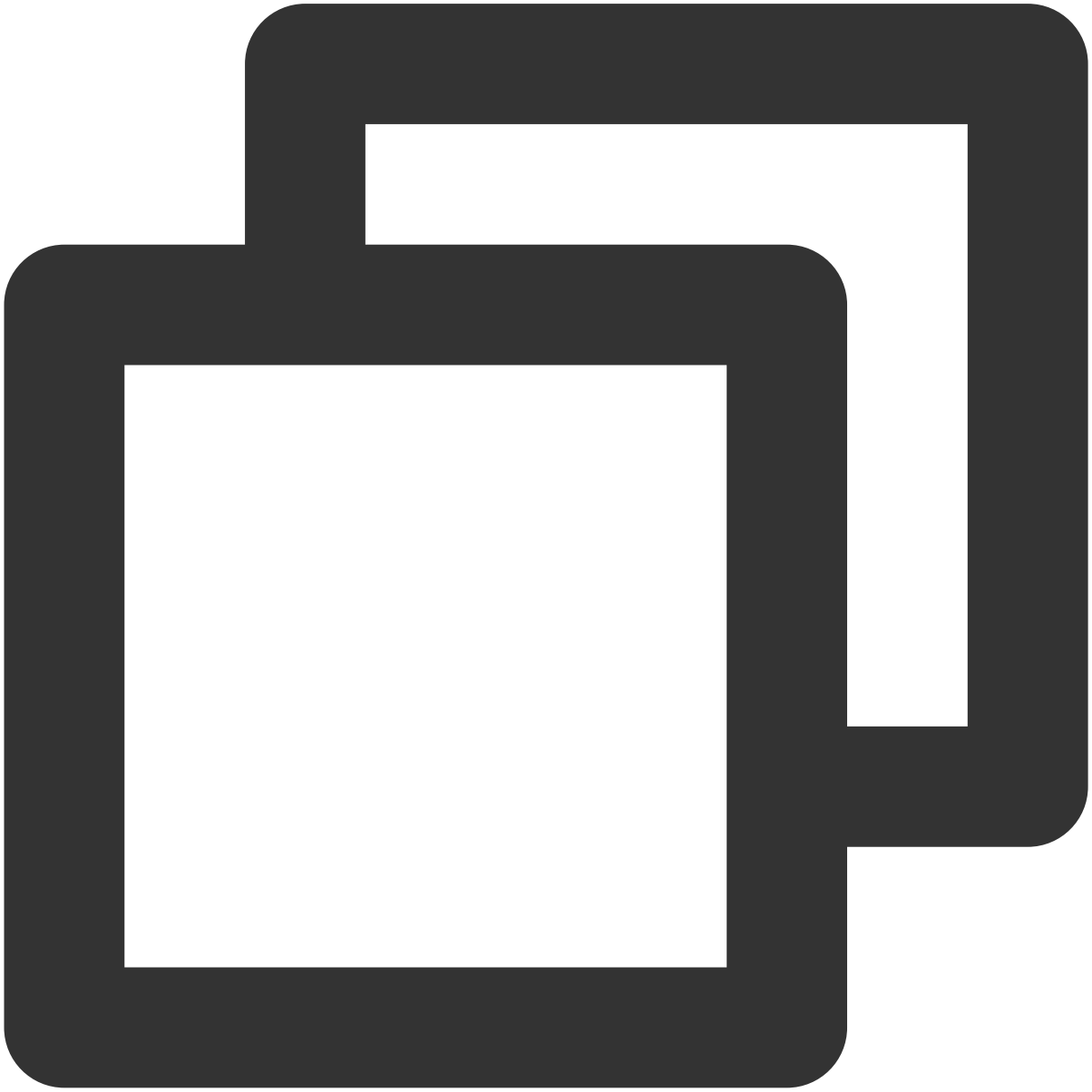
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onAllUserMicrophoneDisableChanged, ({ isDisable }) => {
  console.log('roomEngine.onAllUserMicrophoneDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Mic Usage

onSendMessageForAllUserDisableChanged

All members Send Message Permission Change Event



```
const roomEngine = new TUIRoomEngine();
```

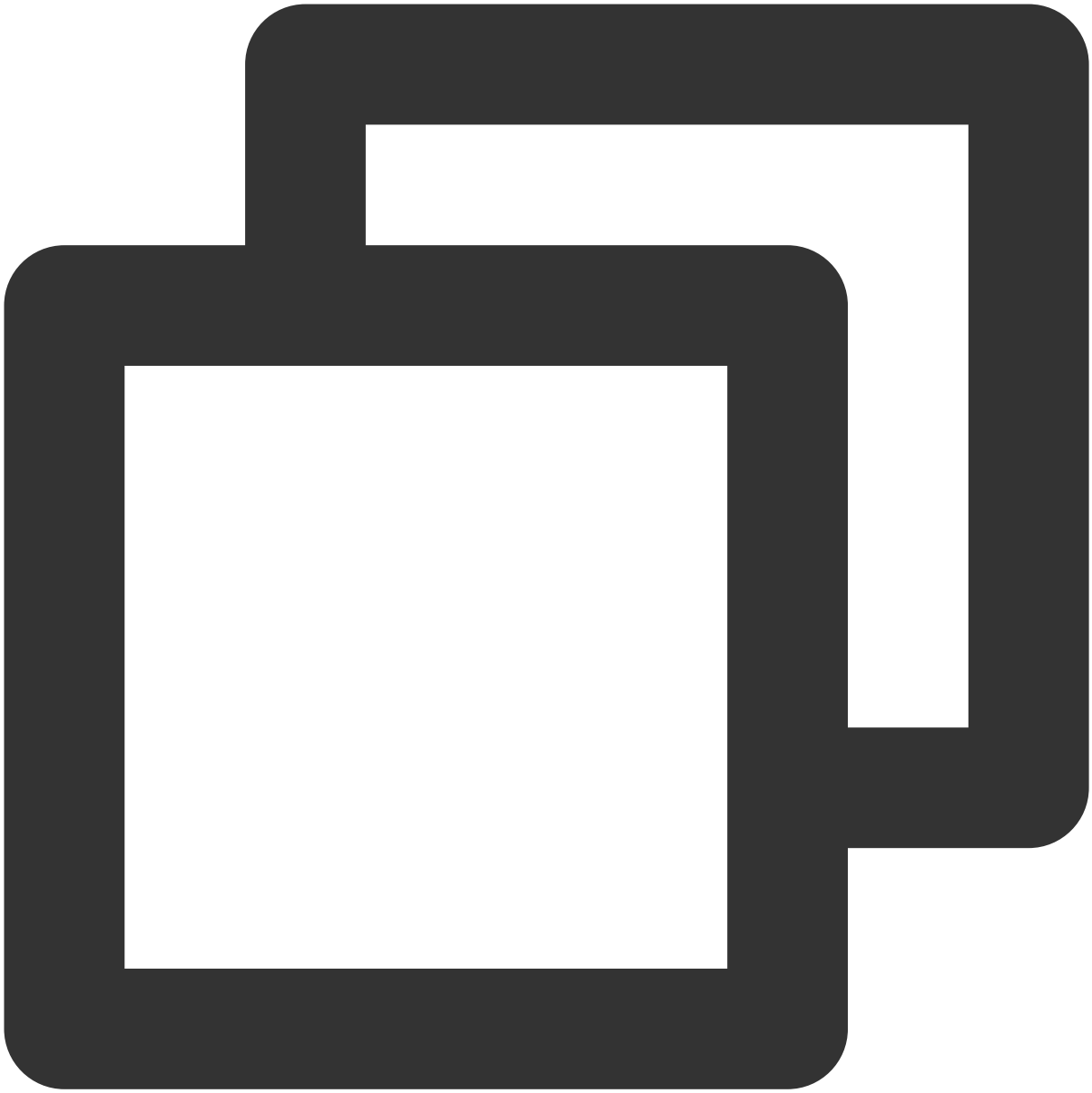
```
roomEngine.on(TUIRoomEvents.onSendMessageForAllUserDisableChanged, ({ isDisable }) =>
  console.log('roomEngine.onSendMessageForAllUserDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Sending Text Message

onRoomMaxSeatCountChanged

Room Maximum Seat Count Change Event



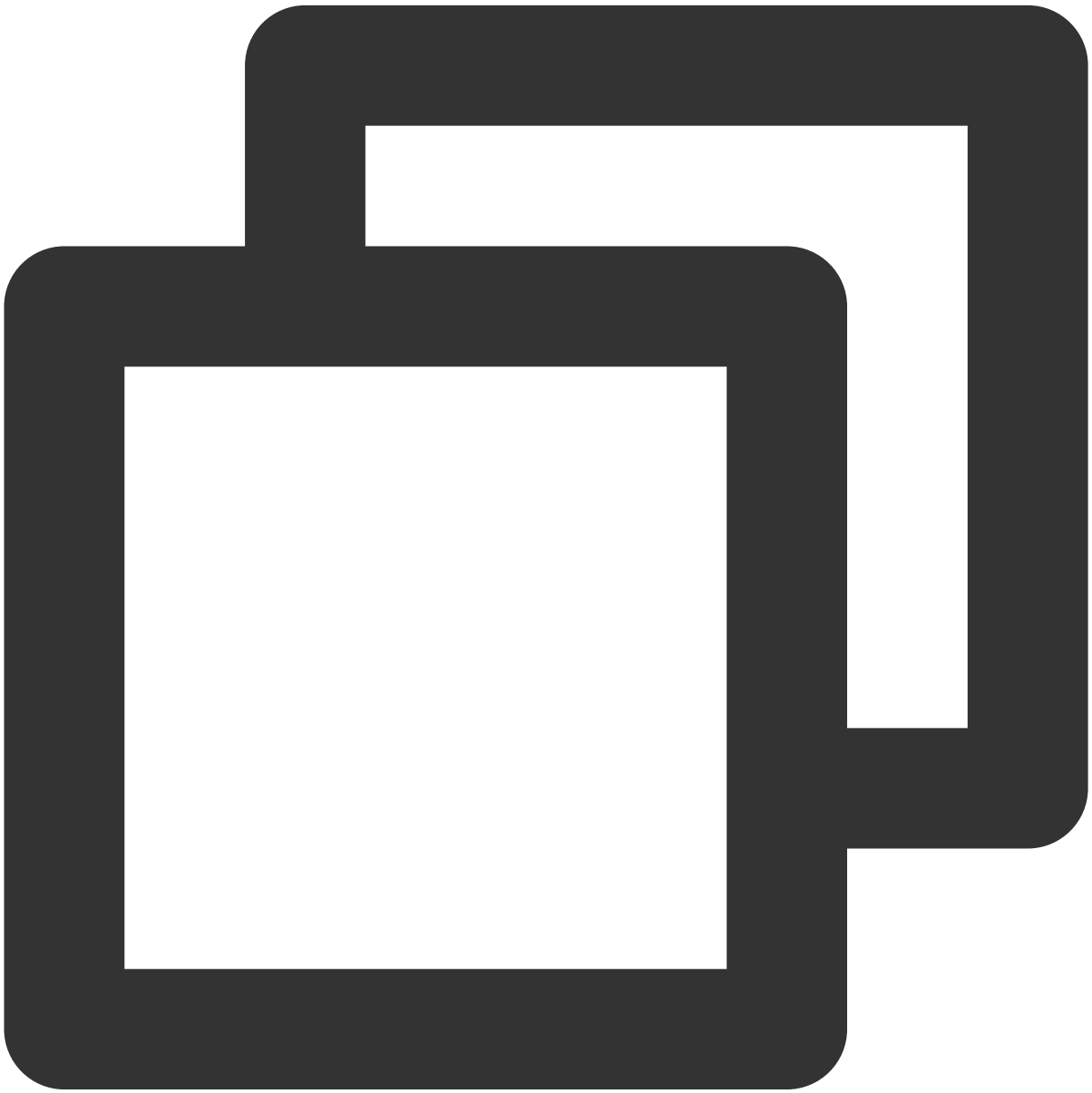
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomMaxSeatCountChanged, ({ maxSeatNumber }) => {
  console.log('roomEngine.onRoomMaxSeatCountChanged', maxSeatNumber);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
maxSeatNumber	number	Maximum Seat Count

onRemoteUserEnterRoom

Remote User Entered Room Event



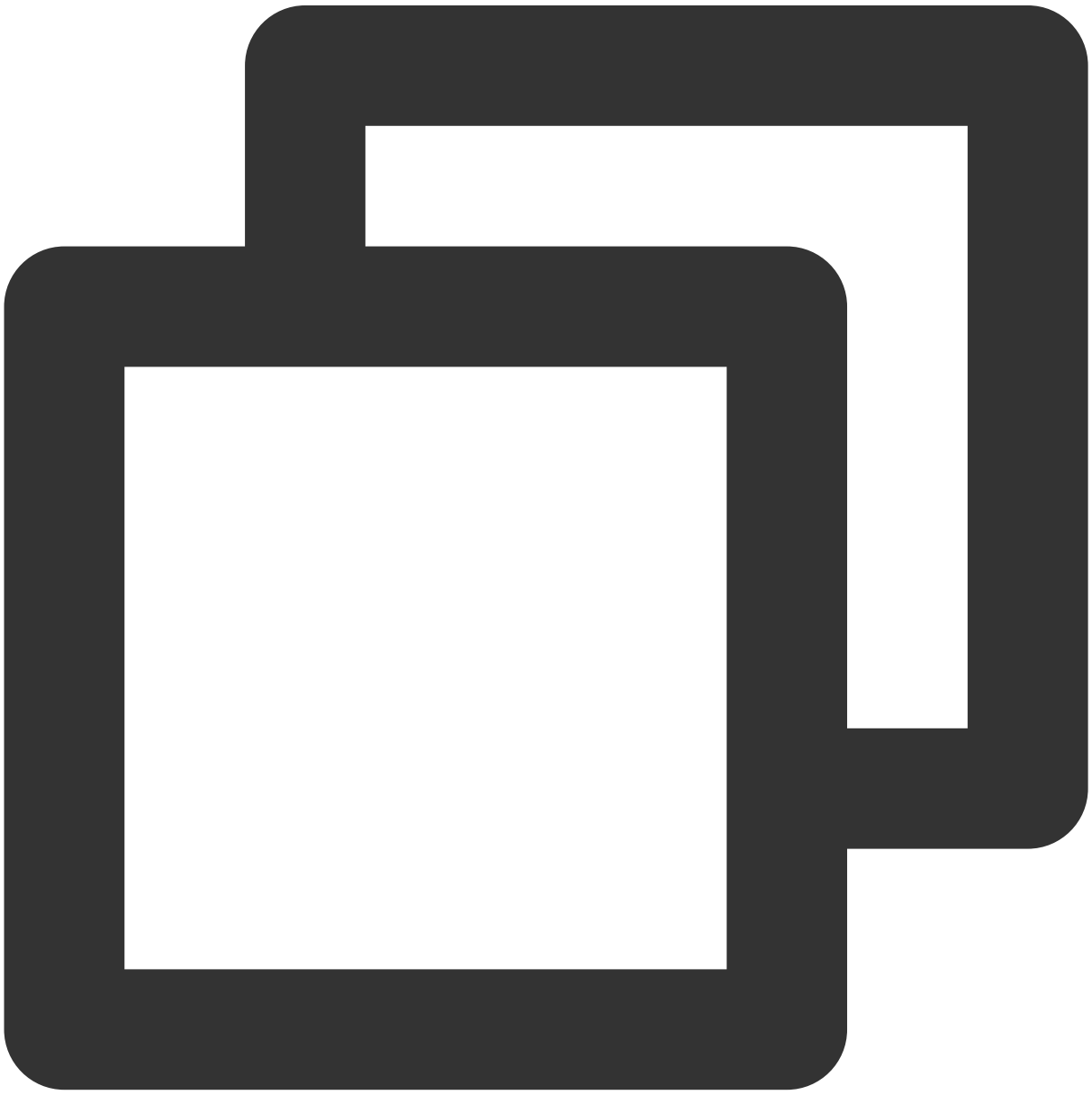
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRemoteUserEnterRoom, ({ roomId, userInfo }) => {
  console.log('roomEngine.onRemoteUserEnterRoom', roomId, userInfo);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
userInfo	TUIUserInfo	User Information

onRemoteUserLeaveRoom

Remote User Leave Room Event



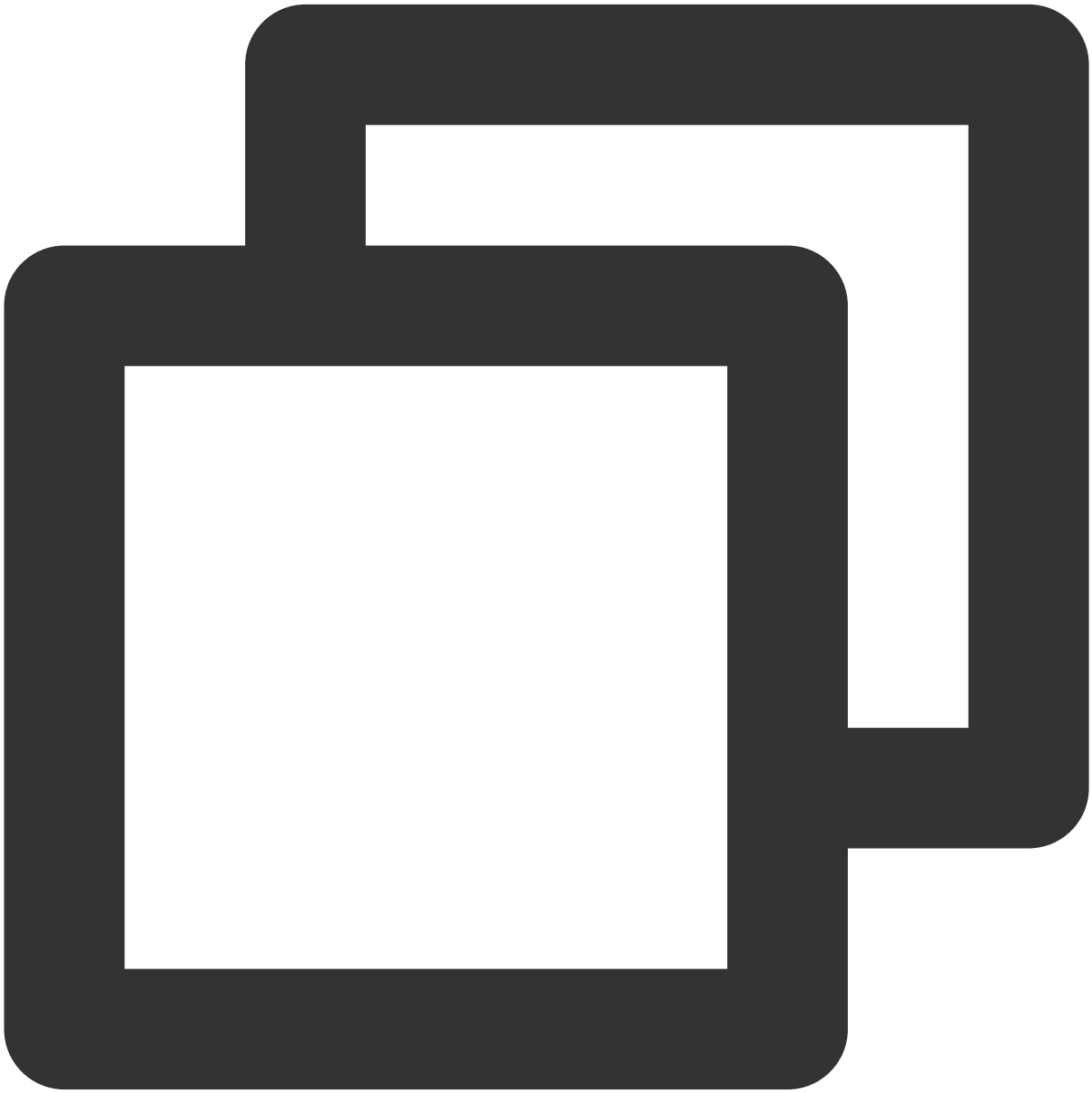
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRemoteUserLeaveRoom, ({ roomId, userInfo }) => {
  console.log('roomEngine.onRemoteUserLeaveRoom', roomId, userInfo);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
userInfo	TUIUserInfo	User Information

onUserRoleChanged

User Role Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserRoleChanged, ({ userId, userRole }) => {
  console.log('roomEngine.onUserRoleChanged', userId, userRole);
});
```

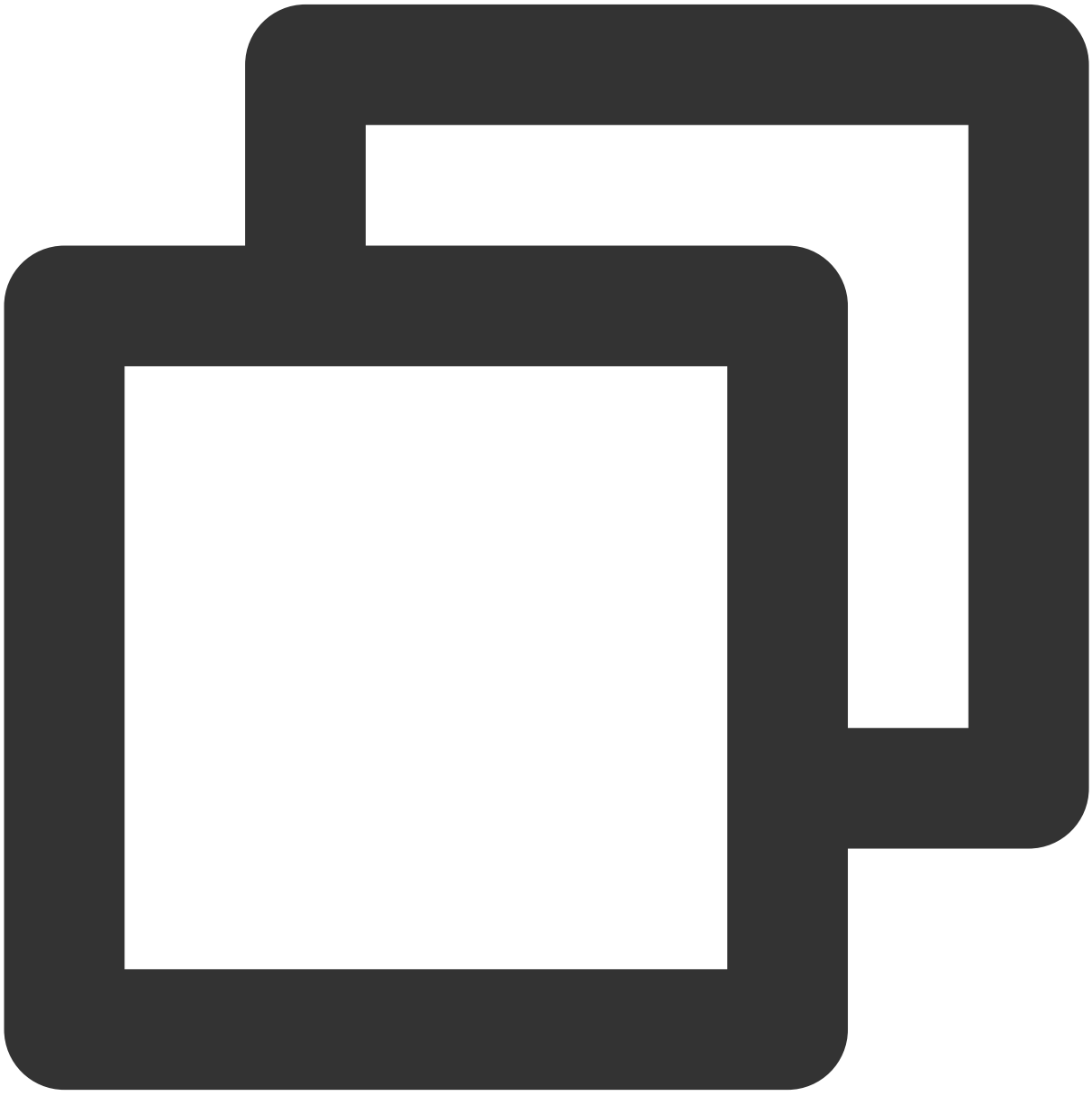
The parameters are shown in the table below:

Parameter	Type	Meaning
userId	string	User Id

userRole	TUIRole	User Changed Role

onUserVideoStateChanged

User Video Status Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserVideoStateChanged, ({ userId, streamType, hasVide
  console.log('roomEngine.onUserVideoStateChanged', userId, streamType, hasVideo, r
```

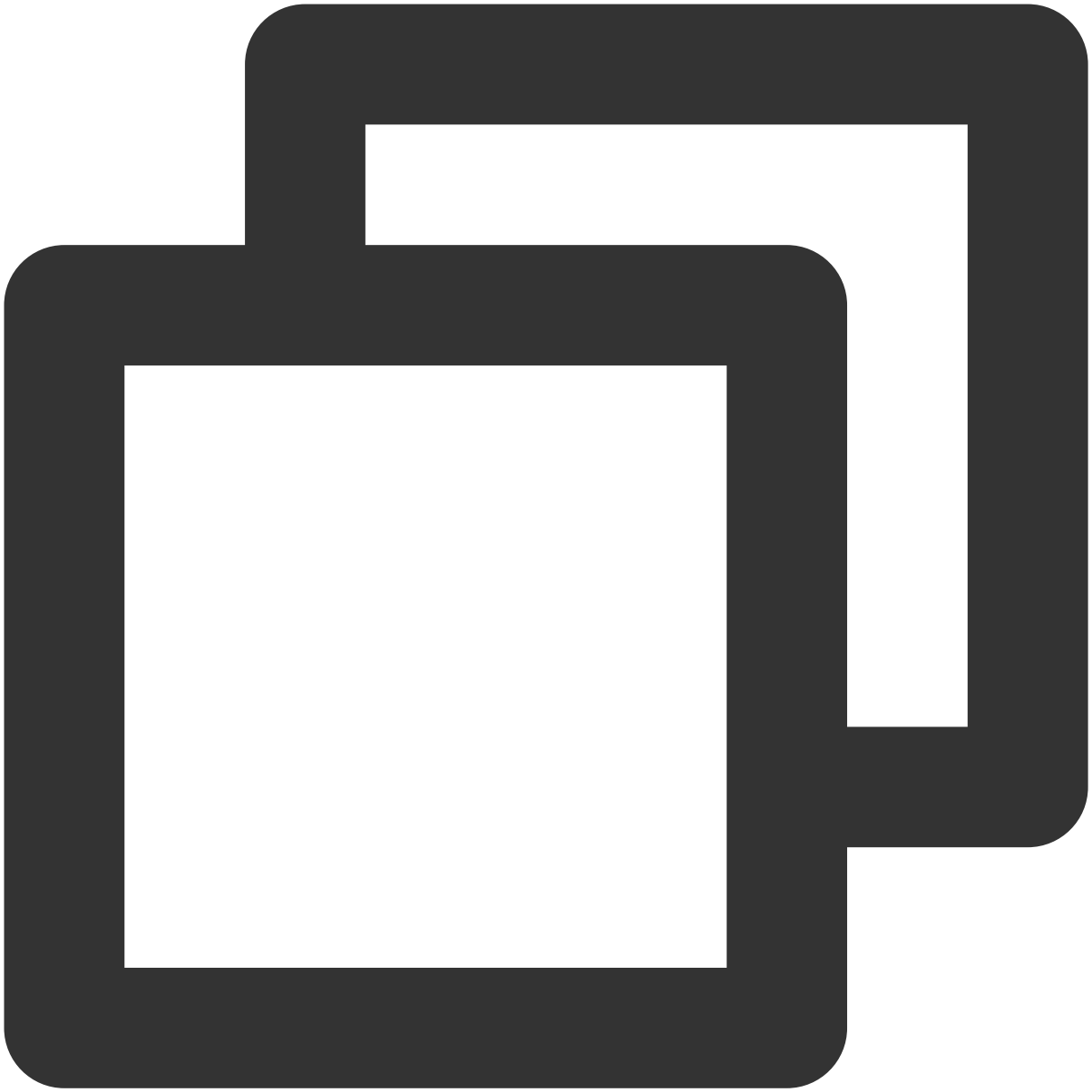
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
userId	string	User Id
streamType	TUIVideoStreamType	User Stream Type
hasVideo	boolean	Has Video streams
reason	TUIChangeReason	Change Reason, Self-operation/Host-operation

onUserAudioStateChanged

User Audio Status Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserAudioStateChanged, ({ userId, hasAudio, reason }) =>
  console.log('roomEngine.onUserAudioStateChanged', userId, hasAudio, reason);
});
```

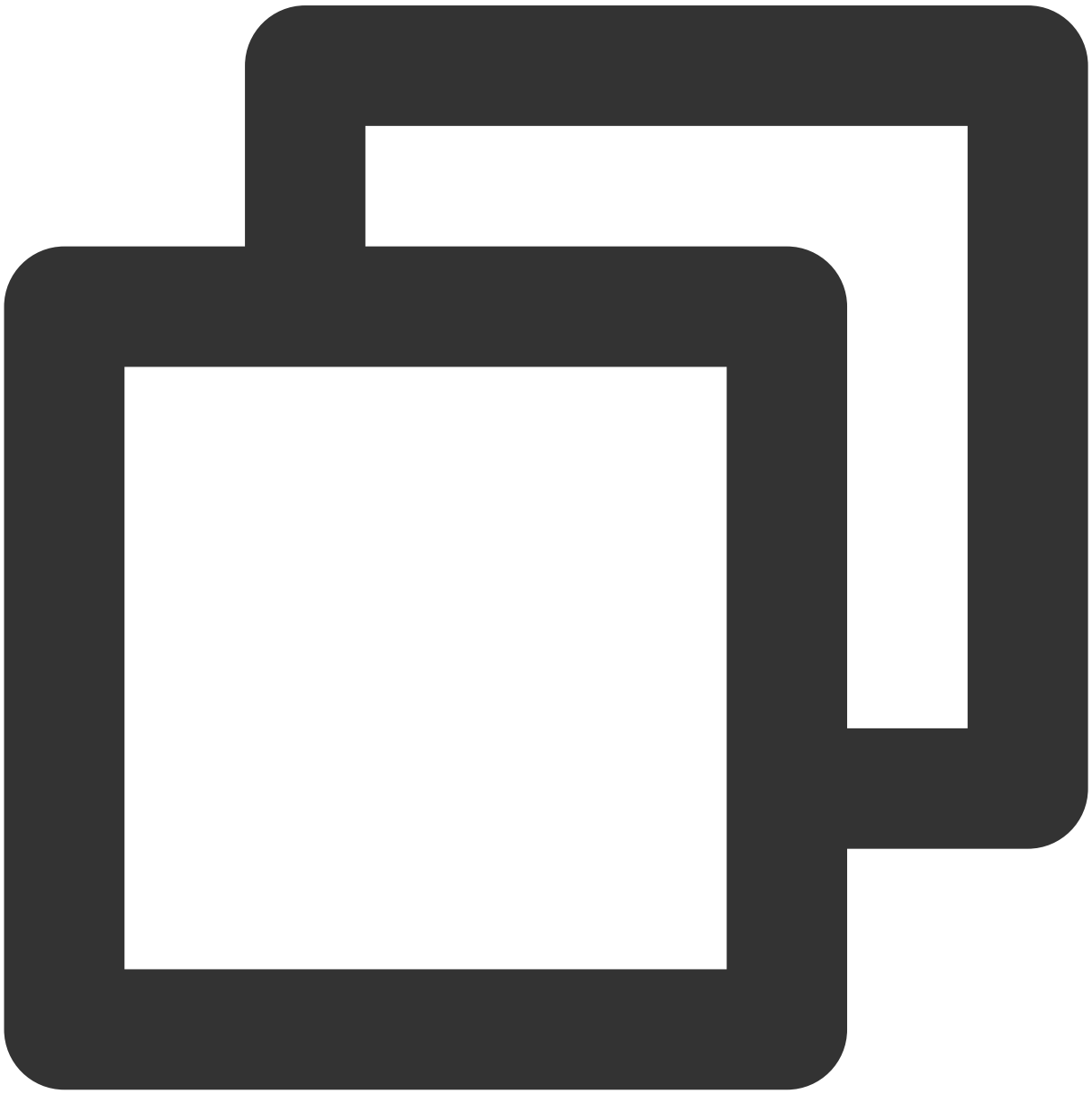
The parameters are shown in the table below:

Parameter	Type	Meaning
userId	string	User Id

hasVideo	boolean	Has Audio streams
reason	TUIChangeReason	Change Reason, Self-operation/Host-operation

onSendMessageForUserDisableChanged

Member Camera Usage Permission Change Event



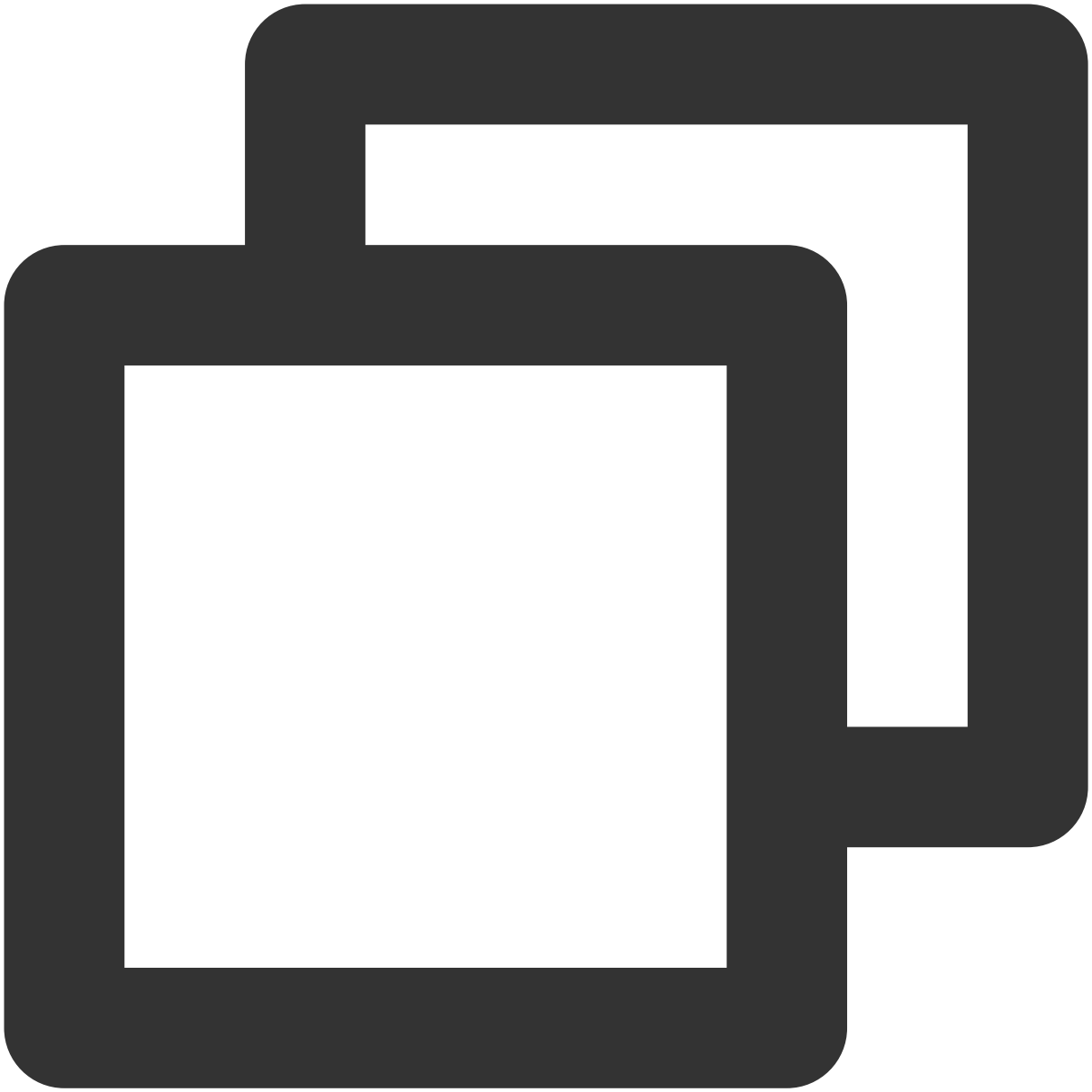
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onSendMessageForAllUserDisableChanged, ({ isDisable }) =>
  console.log('roomEngine.onSendMessageForAllUserDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Sending Text Message

onUserVoiceVolumeChanged

User Volume Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserVoiceVolumeChanged, ({ userVolumeList }) => {
  userVolumeList.forEach(userVolume => {
    console.log('roomEngine.onUserVoiceVolumeChanged', userVolume.userId, userVolum
  })
});
```

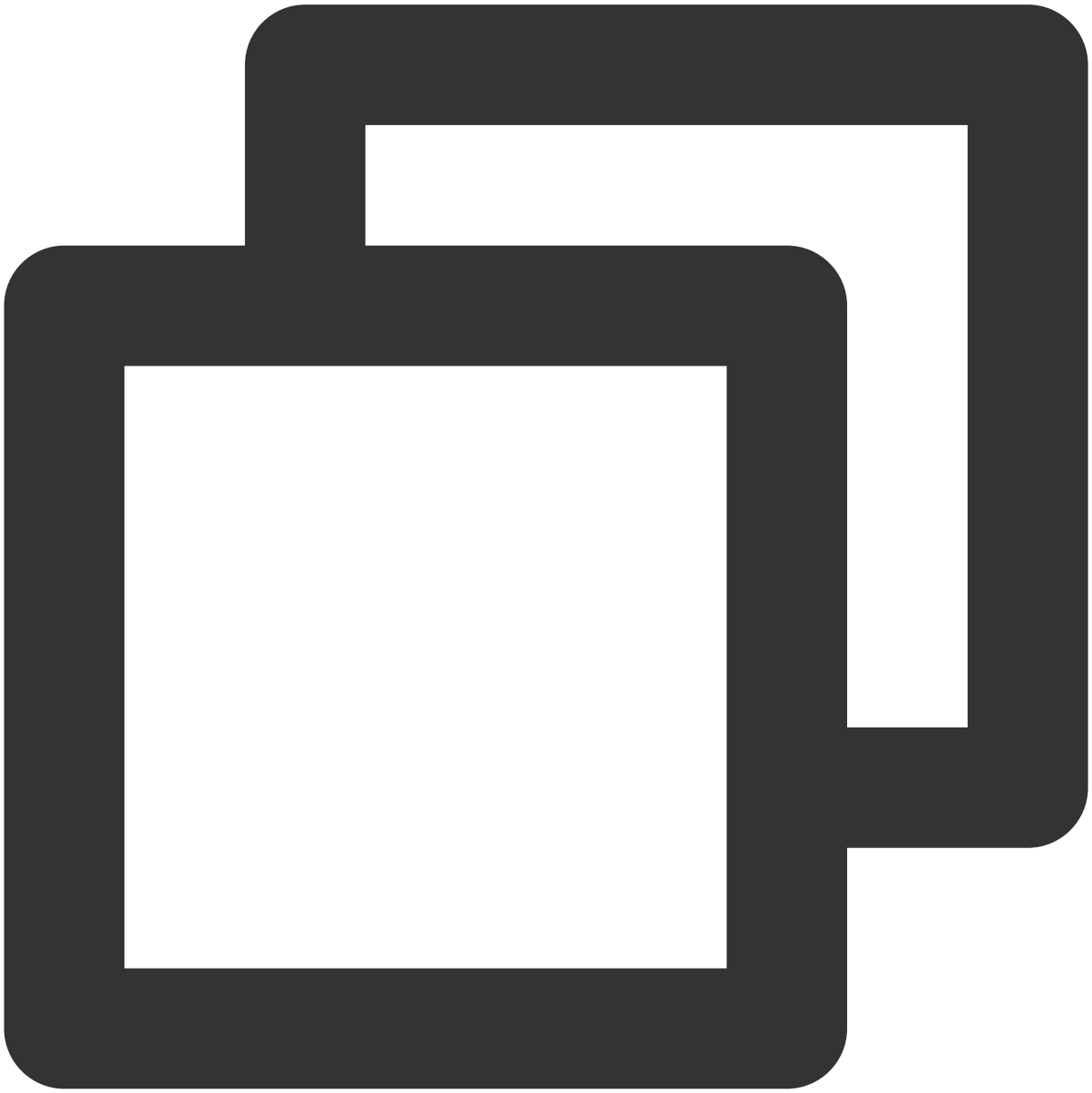
The parameters are shown in the table below:

Parameter	Type	Meaning

userVolumeList	Array.<object>	Volume of all users in the room, including userId and volume information, volume range is 1-100

onUserNetworkQualityChanged

User Network Quality Change Event



```
const roomEngine = new TUIRoomEngine();
```

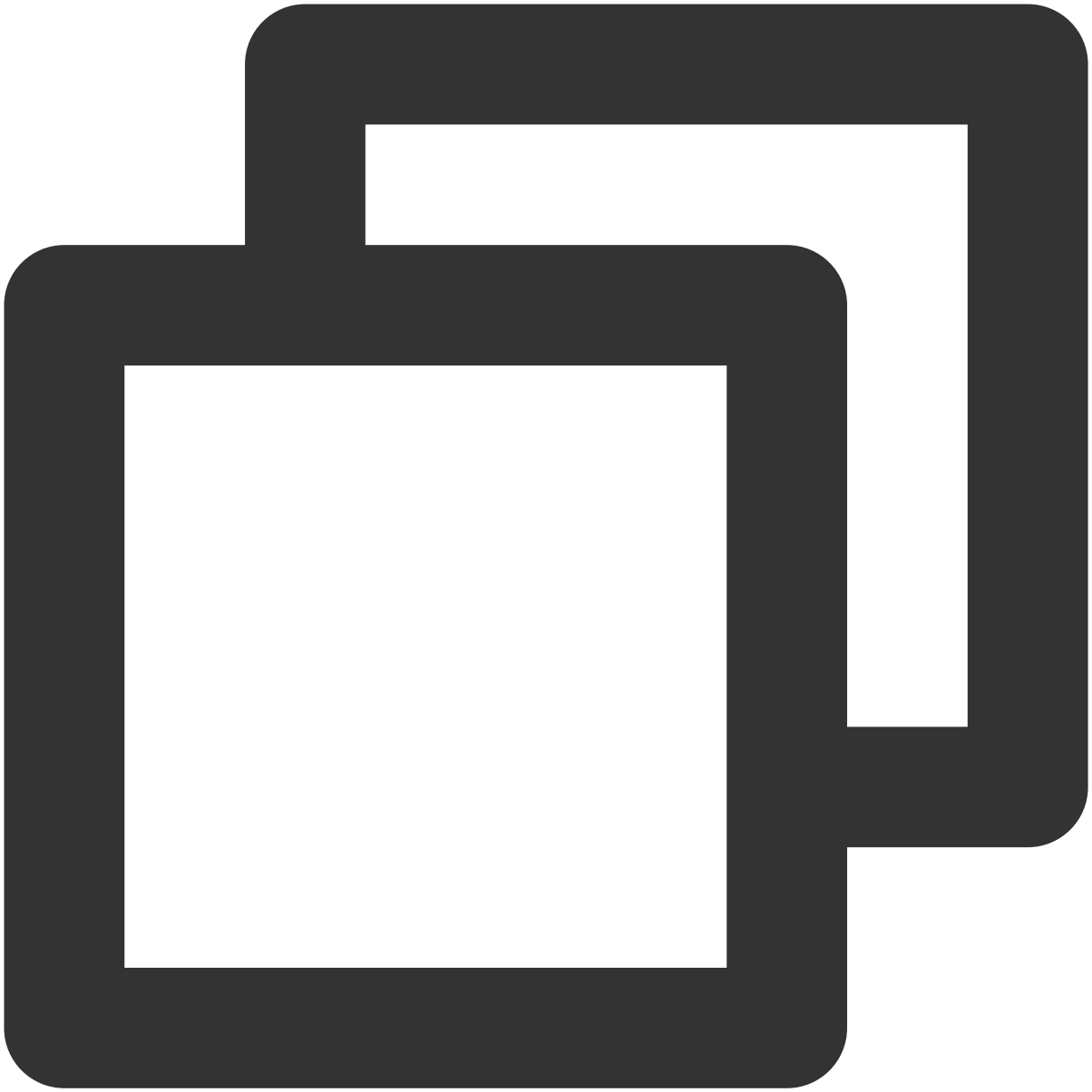
```
roomEngine.on(TUIRoomEvents.onUserNetworkQualityChanged, ({ userNetworkList }) => {
  userNetworkList.forEach(userNetwork => {
    console.log('roomEngine.onUserNetworkQualityChanged', userNetwork.userId, userN
  })
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
networkMap	TUINetworkQuality	Traverse Network Quality Level

onSeatListChanged

Seat List Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onSeatListChanged, ({ seatList, seatedList, leftList }) =>
  console.log('roomEngine.onSeatListChanged',seatList, seatedList, leftList);
});
```

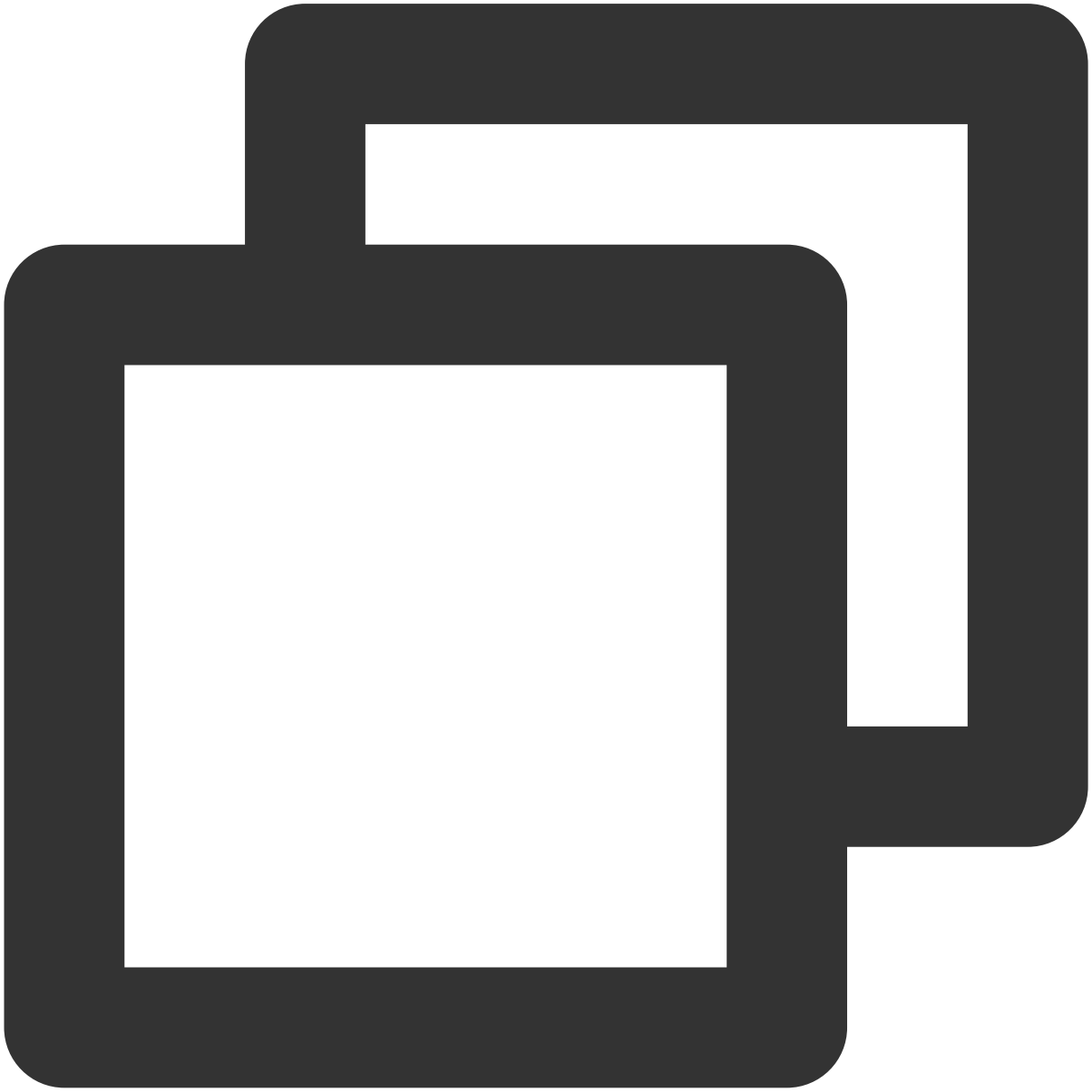
The parameters are shown in the table below:

Parameter	Type	Meaning
seatList	Array.<TUISeatInfo>	Seat List

seatedList	Array.<TUISeatInfo>	New Seat Information
leftList	Array.<TUISeatInfo>	Left Seat Information

onKickedOffSeat

Seat List Change Event



```
const roomEngine = new TUIRoomEngine();
```

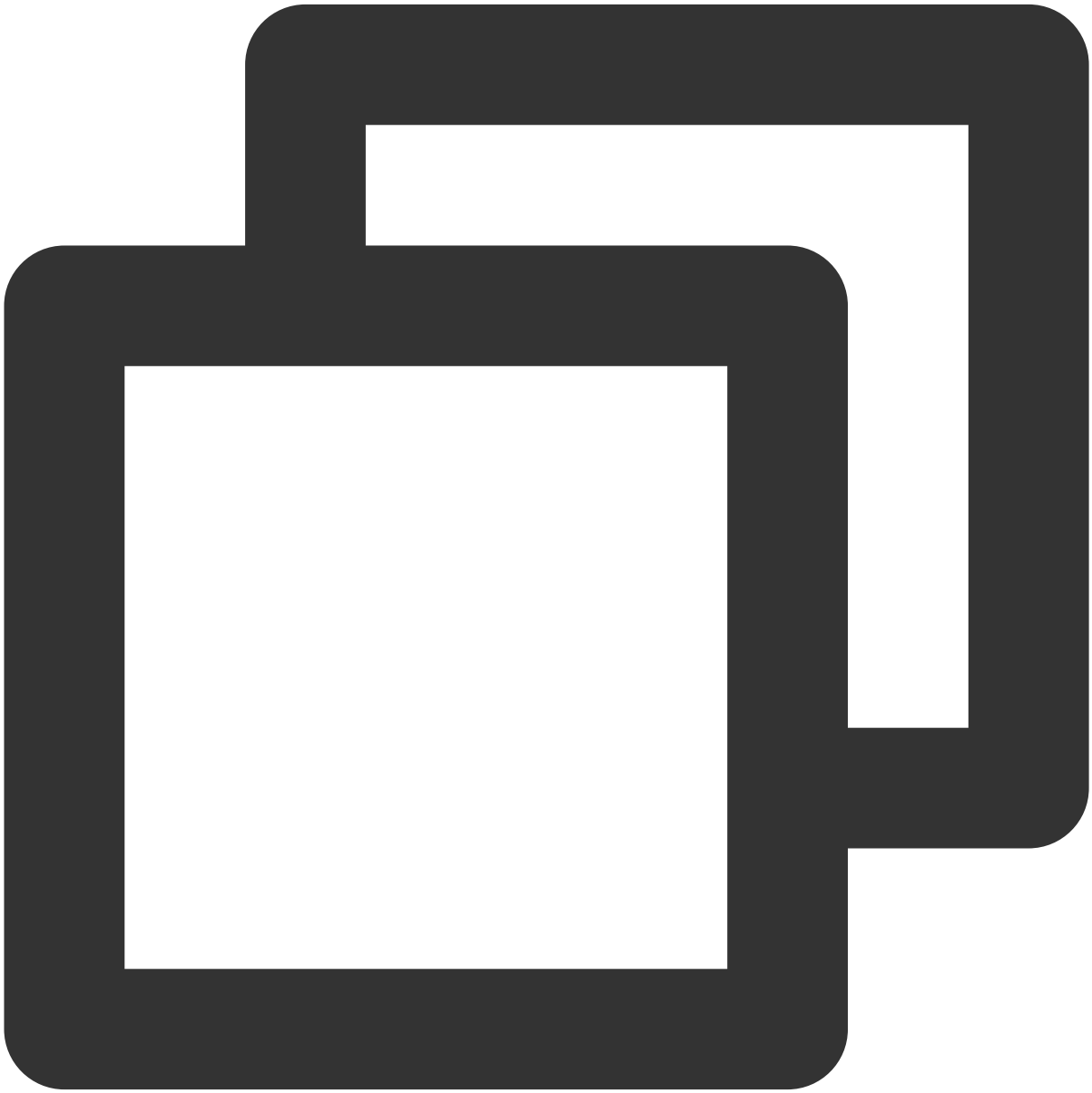
```
roomEngine.on(TUIRoomEvents.onKickedOffSeat, ({ userId }) => {
  console.log('roomEngine.onKickedOffSeat', userId);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
userId	String	Kicked off Seat User Id

onRequestReceived

Error Event



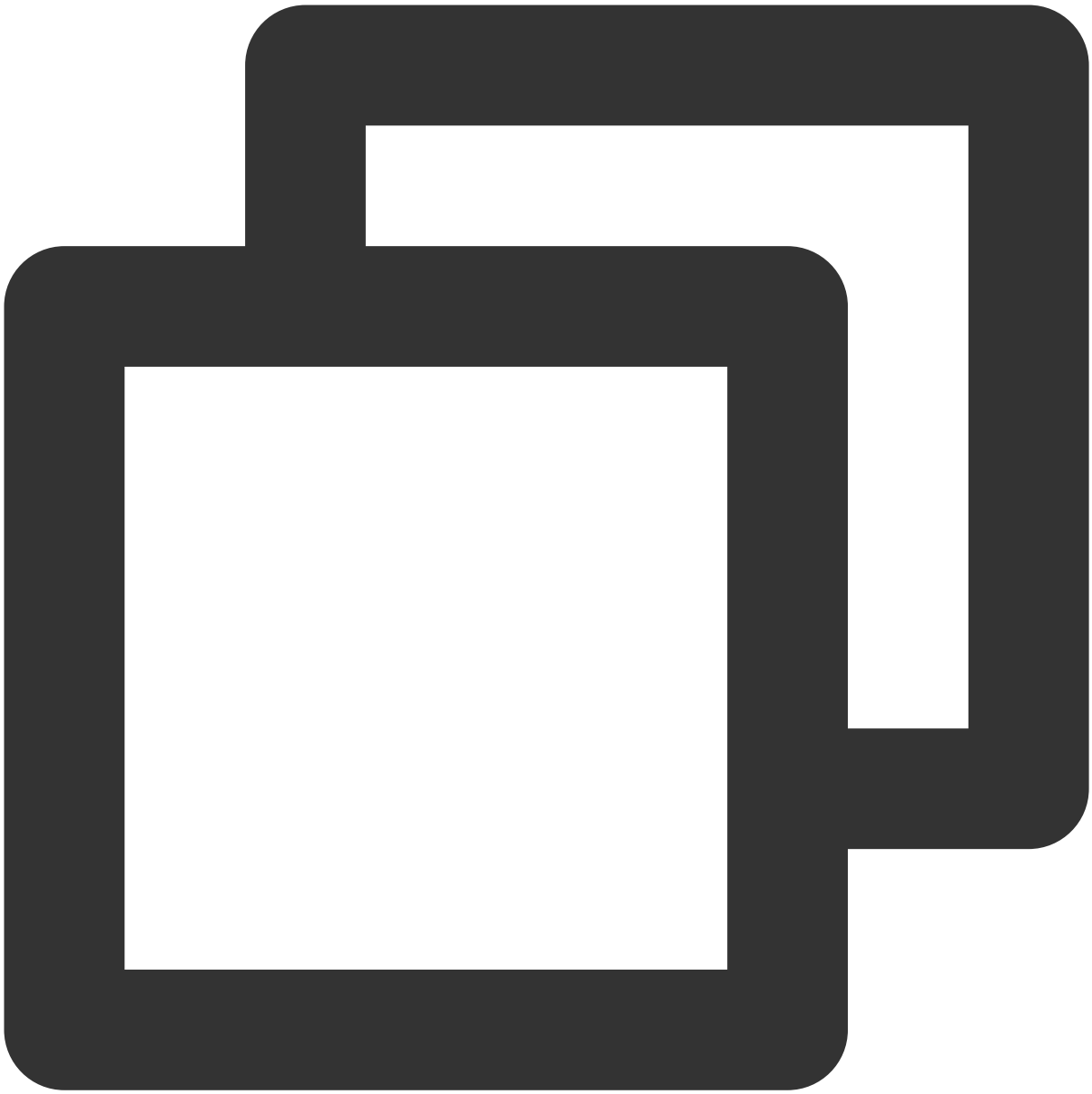
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRequestReceived, ({ request }) => {
  console.log('roomEngine.onRequestReceived', request);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
request	TUIRequest	Request Received

onRequestCancelled

Request Cancelled Event



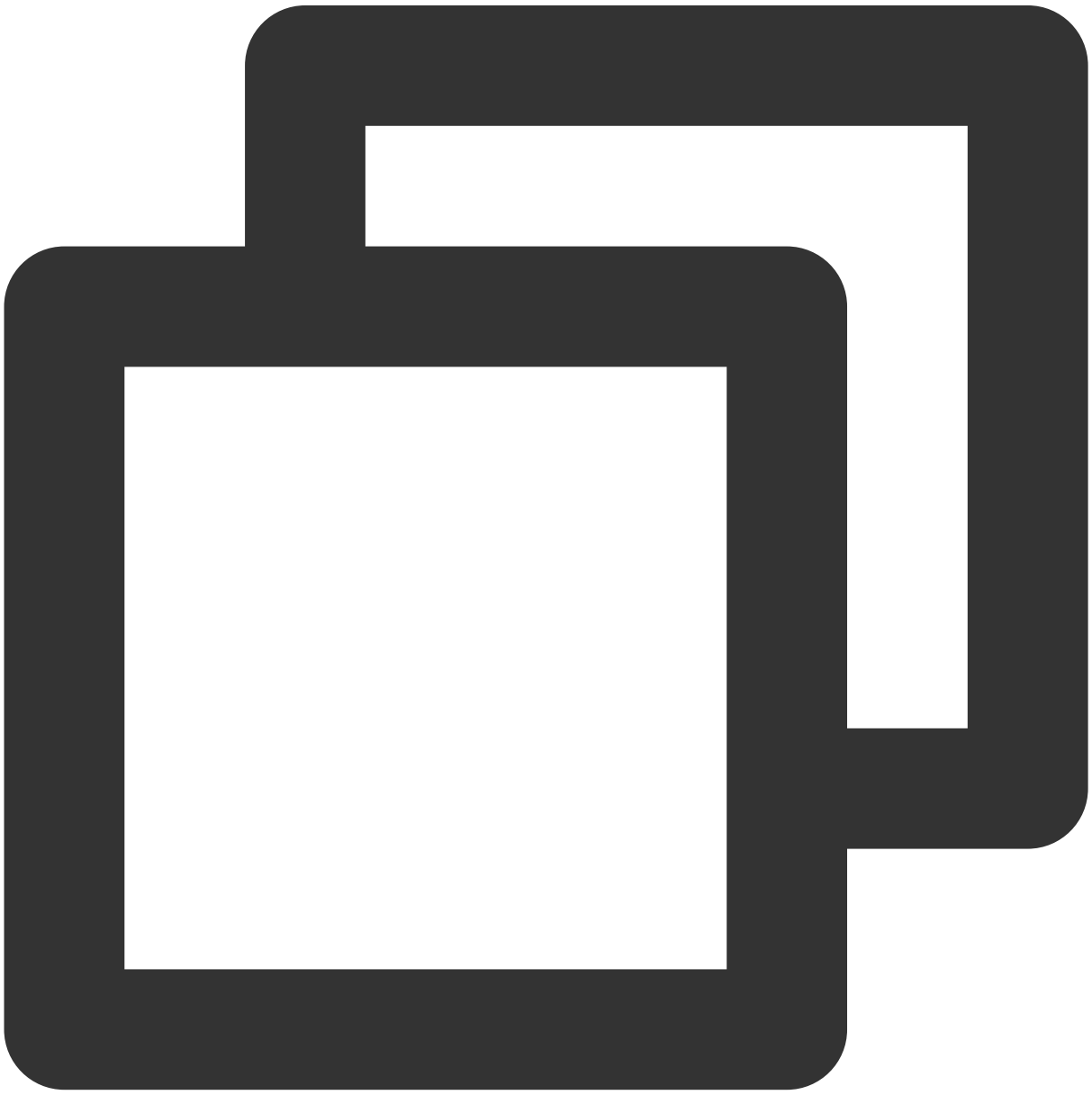
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRequestCancelled, ({ requestId, userId }) => {
  console.log('roomEngine.onRequestCancelled', requestId, userId);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
requestId	string	Request Id
userId	string	User Id of Cancelled Request

onReceiveTextMessage

Receive Text Message Event



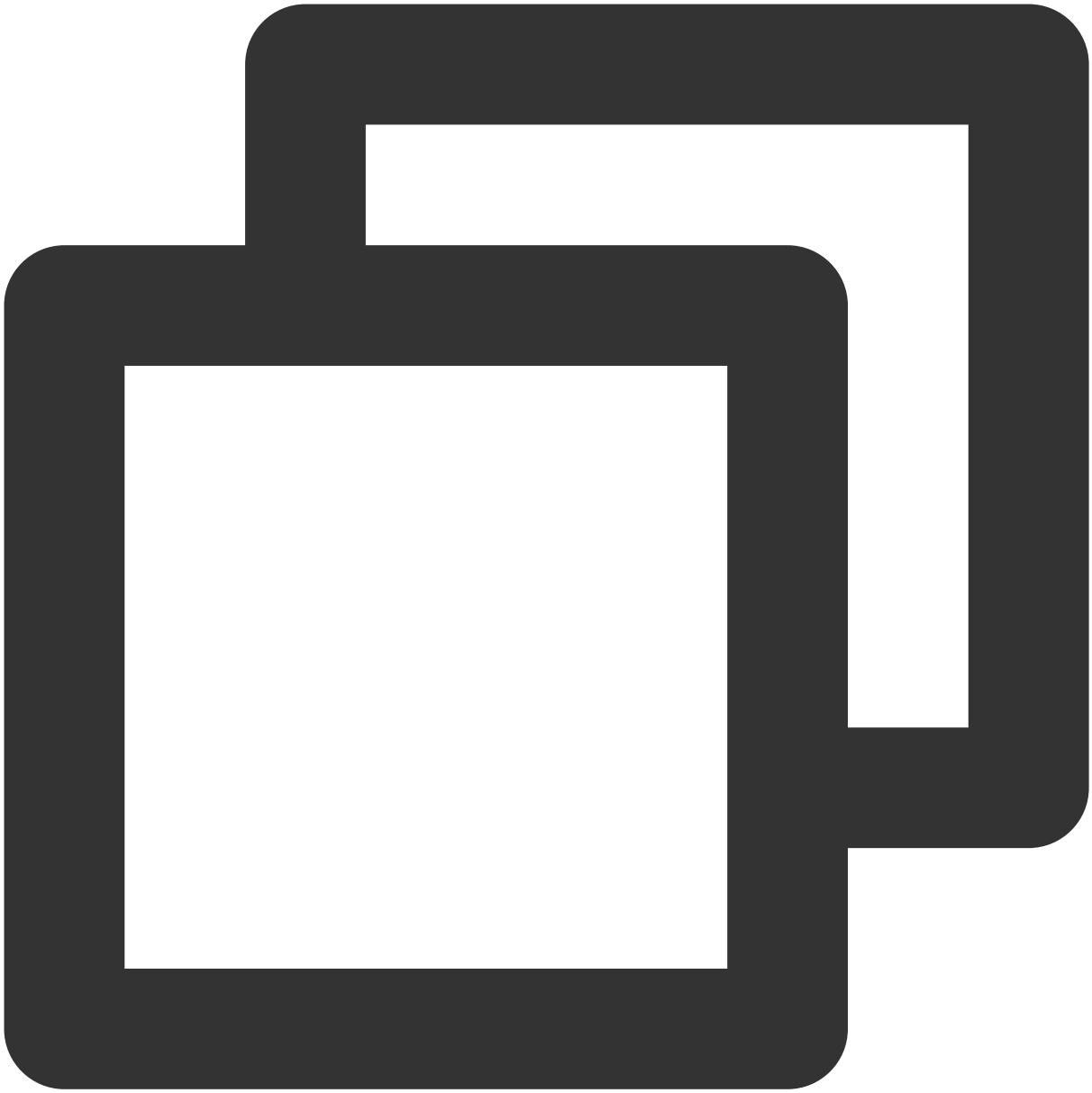
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onReceiveTextMessage, ({ roomId, message }) => {
  console.log('roomEngine.onReceiveTextMessage', roomId, message);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room Id
message	TUIMessage	Receive Text Message

onReceiveCustomMessage

Receive Custom Message Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onReceiveCustomMessage, ({ roomId, message }) => {
  console.log('roomEngine.onReceiveCustomMessage', roomId, message);
});
```

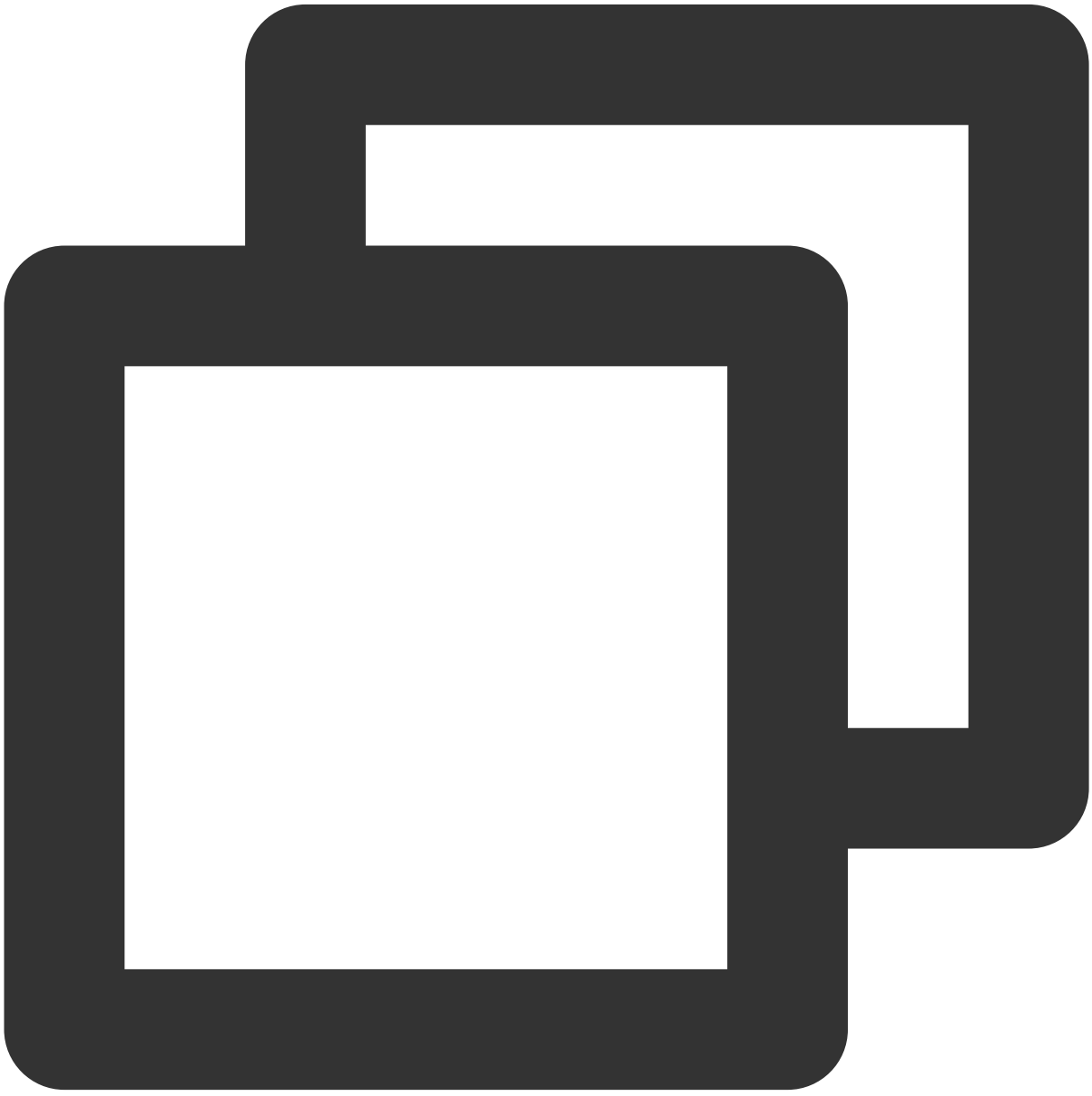
The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room Id

message	TUIMessage	Receive Text Message

onDeviceChange

Device Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onDeviceChange, ({ deviceId, type, state }) => {
  console.log('roomEngine.onDeviceChange', deviceId, type, state);
```

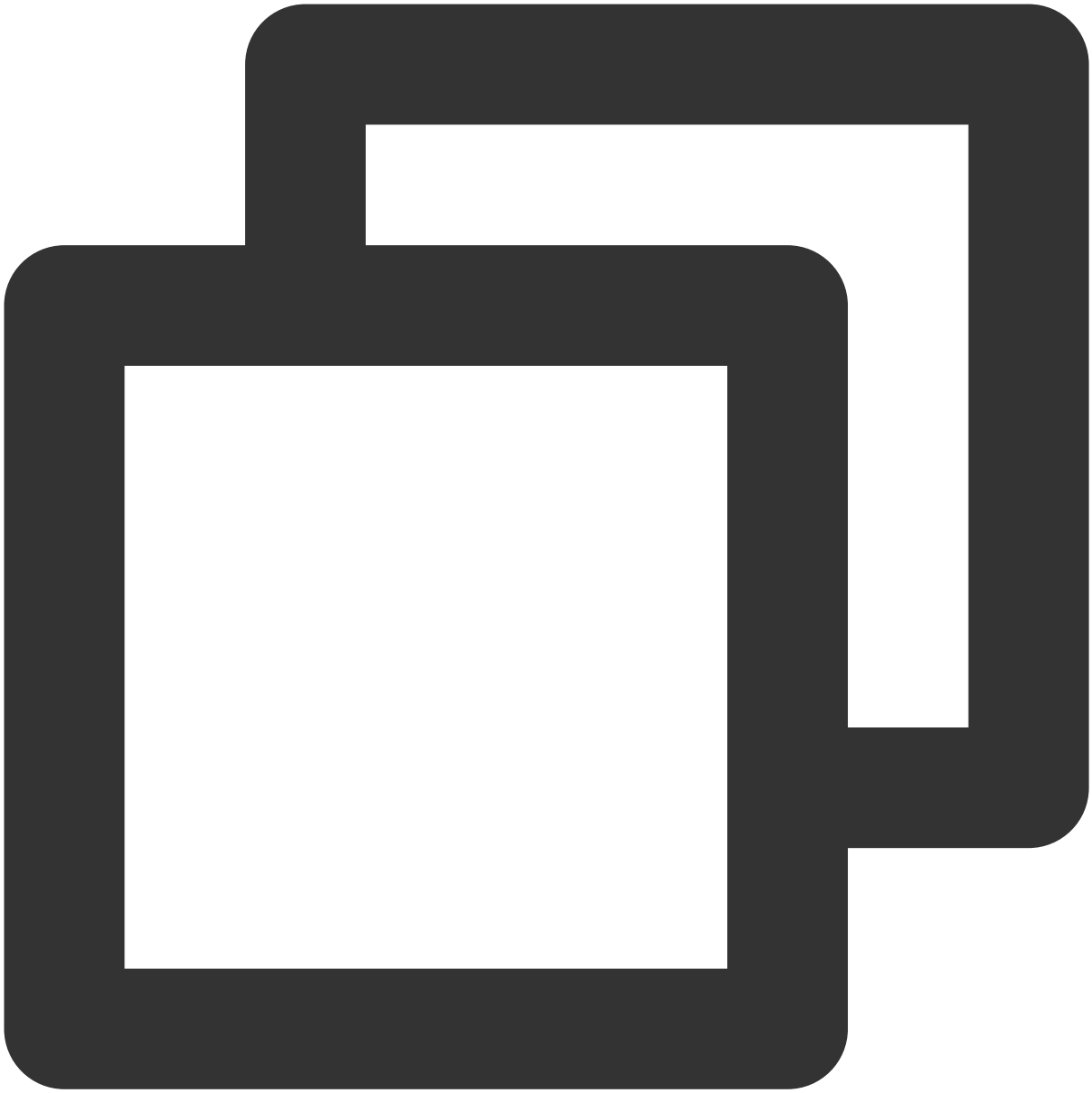
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
deviceId	string	Device Id
type	TRTCDeviceType	Device Type
state	TRTCDeviceState	Device Change Status

onUserScreenCaptureStopped

Screen Sharing Stopped Event, when the user uses the built-in browser stop sharing button to end screen sharing, the user will receive the ' `onUserScreenCaptureStopped` ' event to modify the screen sharing status.



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserScreenCaptureStopped, () => {
  console.log('roomEngine.onUserScreenCaptureStopped', deviceId, type, state);
});
```

TUIRoomEngine Defines

Last updated：2023-11-14 17:05:09

Introduction to Key Type Definition of TUIRoomEnigne web side.

Enumeration Value

TUIRole

User Role, TUIRoomEngine provides three user roles, which are Host, Administrator, and Regular User.

Field	Type	Description
kRoomOwner	number	Host Role
kAdministrator	number	Administrator Role
kGeneralUser	number	Regular User Role

TUIVideoProfile

Video Resolution

Field	Type	Description
kLowDefinition	number	Low Resolution
kStandardDefinition	number	SD
kHighDefinition	number	HD
kSuperDefinition	number	Ultra HD

TUIAudioProfile

Audio Resolution

Field	Type	Description
kAudioProfileSpeech	number	Voice Mode
kAudioProfileDefault	number	Standard Mode (Default Mode)
kAudioProfileMusic	number	Music Mode

TUIVideoStreamType

Streams Type

Field	Type	Description
kCameraStream	number	Camera Streams
kScreenStream	number	Screen Sharing Streams
kCameraStreamLow	number	Low Resolution Camera Streams

TUINetworkQuality

Network Status

Field	Type	Description
kQualityUnknown	number	Network Condition Unknown
kQualityExcellent	number	Network Condition Excellent
kQualityGood	number	Network Condition Good
kQualityPoor	number	Network Condition Fair
kQualityBad	number	Network Condition Poor
kQualityVeryBad	number	Network Condition Very Poor
kQualityDown	number	Network Connection Disconnected

TUIRoomType

Room Type

Field	Type	Description
kGroup	number	Group Type Room, suitable for conference and educational scene, the microphone position in this room is unordered and has no quantity limit
kOpen	number	Open Type Room, suitable for live streaming scene, the microphone position in this room is ordered and has a quantity limit

TUISpeechMode

Speech Type

Field	Type	Description
kFreeToSpeak	number	Free Speech Mode
kApplyToSpeak	number	Hand-raising Speech Mode
kSpeakAfterTakingSeat	number	Speak After Sitting (Grab Microphone Position)

TUICaptureSourceType

Screen Sharing Type

Field	Type	Description
kWindow	number	Sharing Target is a specific Windows or Mac window todo (only for electron)
kScreen	number	Sharing Target is the entire Windows desktop or Mac desktop

TUIChangeReason

Change Reason (Audio and Video Status Change Operation Reason: Self-initiated modification or modified by room owner/administrator)

Field	Type	Description
kChangedBySelf	number	Self-operation
kChangedByAdmin	number	Room Owner or Administrator Operation

TUIRequestAction

Room Type

Field	Type	Description
kInvalidAction	number	Invalid Operation
kRequestToOpenRemoteCamera	number	Request Remote Camera On
kRequestToOpenRemoteMicrophone	number	Request Remote Mic On
kRequestToConnectOtherRoom	number	Request Remote Cross-room Streaming, web side temporarily unsupported
kRequestToTakeSeat	number	Request Go Live

kRequestRemoteUserOnSeat	number	Request Remote Go Live

TUIRequestCallbackType

Request Type

Field	Type	Description
kRequestAccepted	number	Peer Accepted
kRequestRejected	number	Peer Rejected
kRequestCancelled	number	Request Canceled
kRequestTimeout	number	Request Timeout
kRequestError	number	Request Error

Type Definition

TUIRoomInfo

Room data, user can use roomEngine.getRoomInfo to get room data.

Field	Type	Description
roomId	string	Room Number, String Type Room Number
roomType	TUIRoomType	Room Type
owner	string	Host's userId
name	string	Room ID
createTime	string	Creation time
roomMemberCount	number	Current total number of people in the room
maxSeatCount	number	Maximum number of microphone positions in the room
enableVideo	boolean	Allow users to join and turn on Audio
enableAudio	boolean	Allow users to join and turn on Video
enableMessage	boolean	Allow users to join and send messages
enableSeatControl	boolean	Enable microphone position control

TUIUserInfo

User Information

Field	Type	Description
userId	string	User Id
userName	string	User Name
avatarUrl	string	User Avatar
userRole	TUIRole	User Role
hasAudioStream	boolean	Whether there are Audio streams
hasVideoStream	boolean	Whether there are Video streams
hasScreenStream	boolean	Whether there is Screen Sharing stream

TUIMessage

Message Information

Field	Type	Description
messageId	string	Message Id
message	string	Message
timestamp	number	Timestamp information, accurate to seconds
userId	string	User Id
userName	string	User name
avatarUrl	string	User Avatar

TUIRequest

Request Information

Field	Type	Description
requestAction	TUIRequestAction	Request Type
timestamp	number	Request Initiation Time
requestId	string	Request Id v1.0.2 and above versions requestId type is string;

		v1.0.0 and v1.0.1 versions requestId type is number;
userId	string	Initiate Request's User Id
content	string	Other Content

TUIRequestCallback

Request Callback Information

Field	Type	Description
requestCallbackType	TUIRequestCallbackType	Request Callback Type, Accept/Reject/Cancel/Timeout/Error
requestId	string	Request Id v1.0.2 and above versions requestId type is string; v1.0.0 and v1.0.1 versions requestId type is number;
userId	string	User Id
code	number	Request Response Code
message	string	Request Status Supplemental Description

TUISeatInfo

Microphone Position Information

Field	Type	Description
index	number	Microphone Position Number
userId	string	Microphone Position Correspondence's User Id
locked	boolean	Whether the current microphone position is locked
videoMuted	boolean	Whether the current microphone position prohibits Video
audioMuted	boolean	Whether the current microphone position prohibits Audio

Electron
API Overview

Last updated：2024-02-29 10:57:30

TUIRoomEngine (No UI interface)

TUIRoomEngine Static method

API	Description
once	**Listen to TUIRoomEngine ready event. Note: All methods except TUIRoomEngine.init must be executed after listening to the TUIRoomEngine ready event and the TUIRoomEngine.init method is executed successfully.**
login	Login to TUIRoomEngine
setSelfInfo	Set the current user's basic information (username, user avatar)
getSelfInfo	Get the current user's basic information (username, user avatar)
logout	Logout from TUIRoomEngine

RoomEngine Room Management API

API	Description
createRoom	Create room
enterRoom	Entered room
destroyRoom	Close the room
exitRoom	Leave room
fetchRoomInfo	Get room data
updateRoomNameByAdmin	Update the room's name (Only group owner or administrator can call)
updateRoomSpeechModeByAdmin	Update the room's speech mode (Only group owner or administrator can call)
getUserList	Get the current room user list

getUserInfo	Get user Learn more

roomEngine Audio Video API

API	Description
setLocalVideoView	Set the view control for local user video rendering
openLocalCamera	Open local camera
closeLocalCamera	Close local camera
openLocalMicrophone	Open local microphone
closeLocalMicrophone	Close local microphone
updateVideoQuality	Update local video codec quality settings
updateAudioQuality	Update local audio codec quality settings
startPushLocalVideo	Start pushing local video
stopPushLocalVideo	Stop pushing local video
startPushLocalAudio	Start pushing local audio
stopPushLocalAudio	Stop pushing local audio
setRemoteVideoView	Set the view control for remote user video rendering
startPlayRemoteVideo	Start playing remote user video
stopPlayRemoteVideo	Stop playing remote user video
muteRemoteAudioStream	Mute remote user

roomEngine Member Management API

API	Description
openRemoteDeviceByAdmin	Request remote user to open media device
applyToAdminToOpenLocalDevice	Participant applies to the host to open the device
closeRemoteDeviceByAdmin	Close remote user's media device
cancelRequest	Cancel the sent request

responseRemoteRequest	Reply to remote user's request
changeUserRole	Change user's role
kickRemoteUserOutOfRoom	Kick user out of the room
disableDeviceForAllUserByAdmin	Disable/Enable all users' media devices
disableSendingMessageForAllUser	Disable/Enable all users to send messages
disableSendingMessageByAdmin	Disable/Enable a user to send messages

roomEngine Screen Sharing API

API	Description
startScreenSharingElectron	Start screen sharing
stopScreenSharingElectron	End screen sharing
getScreenSharingTarget	Get Screen Sharing List
selectScreenSharingTarget	Switch Screen Sharing Window

roomEngine Microphone Management API

API	Description
setMaxSeatCount	Set Room Microphone Maximum
getSeatList	Get Microphone Information
takeSeat	Get Microphone
leaveSeat	Release Microphone
takeUserOnSeatByAdmin	Invite Others to Go Live (Only the Host and Administrator can call this method)
kickUserOffSeatByAdmin	Kick Off Microphone (Only the Host and Administrator can call this method)
lockSeatByAdmin	Lock a Microphone Status (Only the Host and Administrator can call this method)

roomEngine Message Sending API

API	Description
sendTextMessage	Send text message

sendCustomMessage	Send custom message

roomEngine Device Management API

API	Description
getCameraDevicesList	Get camera device list
getMicDevicesList	Get mic device list
getSpeakerDevicesList	Get speaker device list
setCurrentCameraDevice	Set the camera device to use
setCurrentMicDevice	Set the mic device to use
setCurrentSpeakerDevice	Set the speaker device to use
getCurrentCameraDevice	Get the currently used camera device
getCurrentMicDevice	Get the currently used mic device
getCurrentSpeakerDevice	Get the currently used speaker device
startCameraDeviceTest	Start camera device test
stopCameraDeviceTest	Stop camera device test

roomEngine Event Listening API

API	Description
on	Listen to TUIRoomEvents event
off	Cancel listening to TUIRoomEvents event

roomEngine Other API

API	Description
getTRTCCloud	Get trtcCloud instance
getTIM	Get tim instance

Event Type Definition

TUIRoomEvent is the Callback Event class corresponding to TUIRoomEngine. You can listen to Callback Events of interest through this callback.

EVENT	Description
TUIRoomEvents.onError	Error Event
TUIRoomEvents.onKickedOutOfRoom	Kick out of room event
TUIRoomEvents.onKickedOffLine	User Kicked Offline Event
TUIRoomEvents.onUserSigExpired	User Credential Timeout Event
TUIRoomEvents.onRoomDismissed	Room Dismissed Event
TUIRoomEvents.onRoomNameChanged	Room Name Change Event
TUIRoomEvents.onRoomSpeechModeChanged	Room Microphone Control Mode Change
TUIRoomEvents.onAllUserCameraDisableChanged	All Users' Cameras Disabled in Room Event
TUIRoomEvents.onAllUserMicrophoneDisableChanged	All Users' Microphones Disabled in Room Event
TUIRoomEvents.onSendMessageForAllUserDisableChanged	All Users' Text Message Sending Disabled in Room Event
TUIRoomEvents.onRoomMaxSeatCountChanged	Maximum number of microphone slots in the room modification event
TUIRoomEvents.onRemoteUserEnterRoom	Remote user Entered room event
TUIRoomEvents.onRemoteUserLeaveRoom	Remote user leaving room event
TUIRoomEvents.onUserRoleChanged	Role change event
TUIRoomEvents.onUserVideoStateChanged	Video Status change event
TUIRoomEvents.onUserAudioStateChanged	Audio Status change event
TUIRoomEvents.onSendMessageForUserDisableChanged	Send message status event
TUIRoomEvents.onUserVoiceVolumeChanged	Volume change event
TUIRoomEvents.onUserNetworkQualityChanged	Network quality change event
TUIRoomEvents.onSeatListChanged	Mic position list change event
TUIRoomEvents.onKickedOffSeat	Kicked off the mic event

TUIRoomEvents.onRequestReceived	Request received event
TUIRoomEvents.onRequestCancelled	Request cancelled event
TUIRoomEvents.onReceiveTextMessage	Receive text message event
TUIRoomEvents.onReceiveCustomMessage	Receive custom message event
TUIRoomEvents.onDeviceChange	Device change event
TUIRoomEvents.onUserScreenCaptureStopped	Screen sharing stopped event When a user uses the built-in browser's stop sharing button to end Screen Sharing, the user will receive the 'onUserScreenCaptureStopped' event to modify the Sharing status.

TUIRoomKit

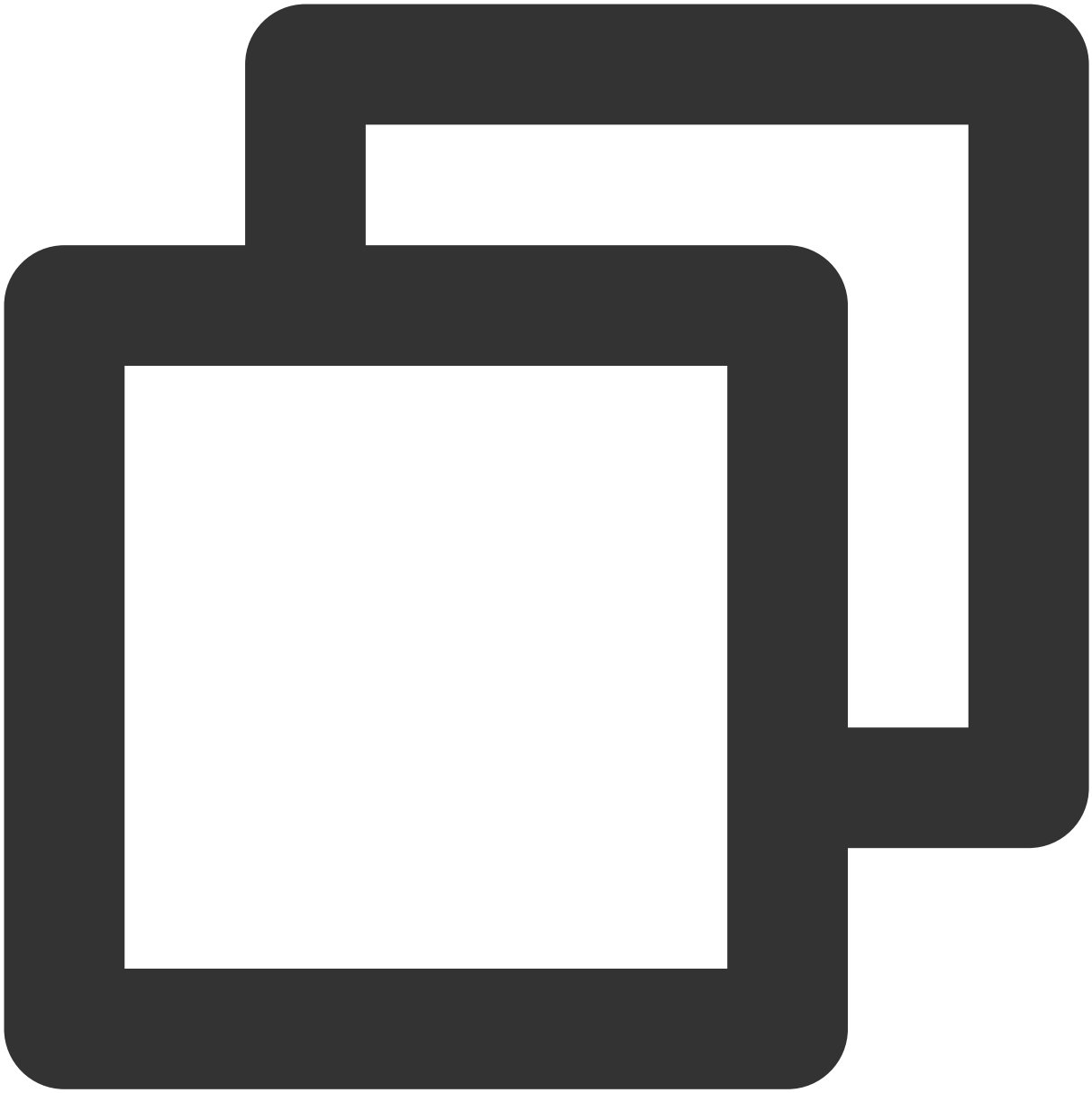
Last updated：2023-11-16 14:48:02

API API Introduction

TUIRoomKit API is a human video conference component with UI interface. By using TUIRoomKit API, you can quickly implement a WeChat-like audio/video call scenario through a simple interface. If you want to experience and debug the video conference effect, please read the Quick Start Demo. If you want to embed our features directly into your project, please read the Quick Access (TUIRoomKit).

API Overview

Reference the TUIRoomKit component in the page. For example, import the TUIRoomKit component in the `App.vue` component.
TUIRoomKit component divides users into host role and regular member role. The component provides init, createRoom, and enterRoom methods externally.
Hosts and regular members can initialize the application and user data to the TUIRoomKit component through the init method. The host can create and join a room through the createRoom method, and regular members can join the room created by the host through the enterRoom method.



```
<template>
    <room ref="TUIRoomRef"></room>
</template>

<script setup lang="ts">
    import { ref, onMounted } from 'vue';
    // Import the TUIRoom Component, make sure the import path is correct
    import Room from './TUIRoom/index.vue';
    // Get the TUIRoom Component element, used to call the TUIRoom Component method
    const TUIRoomRef = ref();
```

```
 onMounted(async () => {
    // Initialize the TUIRoom component
    // The host needs to initialize the TUIRoom component before creating a roo
    // Regular members need to initialize the TUIRoom component before entering
    await TUIRoomRef.value.init({
        // To get the sdkAppId, please refer to Step 1
        sdkAppId: 0,
        // The unique identifier of the user in your business
        userId: '',
        // For local development and debugging, you can quickly generate userSi
        // Note that userSig and userId have a one-to-one correspondence
        userSig: '',
        // The nickname used by the user in your business
        userName: '',
        // The avatar URL used by the user in your business
        avatarUrl: '',
    })
     // By default, execute the create room operation, and you can choose to ex
    await handleCreateRoom();
})

    // The host creates a room, this method is only called when creating a room
async function handleCreateRoom() {
    // roomId is the room number entered by the user, and roomId must be of typ
    // roomMode includes 'FreeToSpeak' (free speech mode) and 'SpeakAfterTaking
    // roomParam specifies the default behavior of the user when entering the r
    const roomId = '123456';
    const roomMode = 'FreeToSpeak';
    const roomParam = {
        isOpenCamera: true,
        isOpenMicrophone: true,
    };
    const createRoomInfo = {
        roomId,
        roomName: 'User defined room name' || roomId,
        roomMode,
        roomParam
    };
    await TUIRoomRef.value.createRoom(createRoomInfo);
}

    // Regular members enter the room, and this method is called when regular m
async function handleEnterRoom() {
    // roomId is the room number entered by the user, and roomId must be of typ
    // roomParam specifies the default behavior of the user when entering the r
    const roomId = '123456';
    const roomParam = {
```

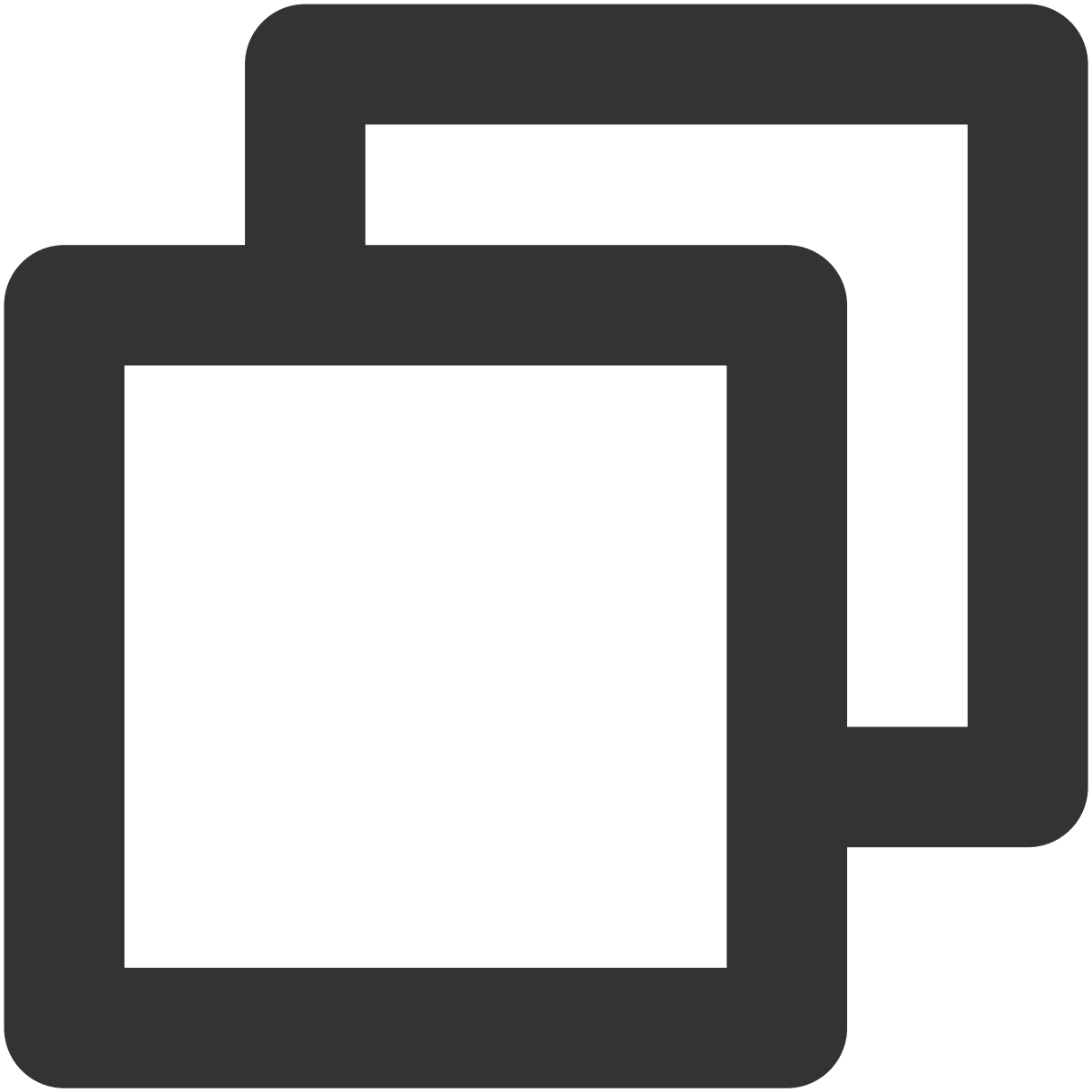
```
            isOpenCamera: true,
            isOpenMicrophone: true,
        };
        const enterRoomInfo = {
            roomId,
            roomParam
        };
        await TUIRoomRef.value.enterRoom(enterRoomInfo);
    }
</script>

<style>
html, body {
    width: 100%;
    height: 100%;
    margin: 0;
}

#app {
    width: 100%;
    height: 100%;
}
</style>
```

API Details

TUIRoomkit Interface

init

Initialize TUIRoomKit Data, any user using TUIRoomKIt needs to call the init method.



```
TUIRoomRef.value.init(roomData);
```

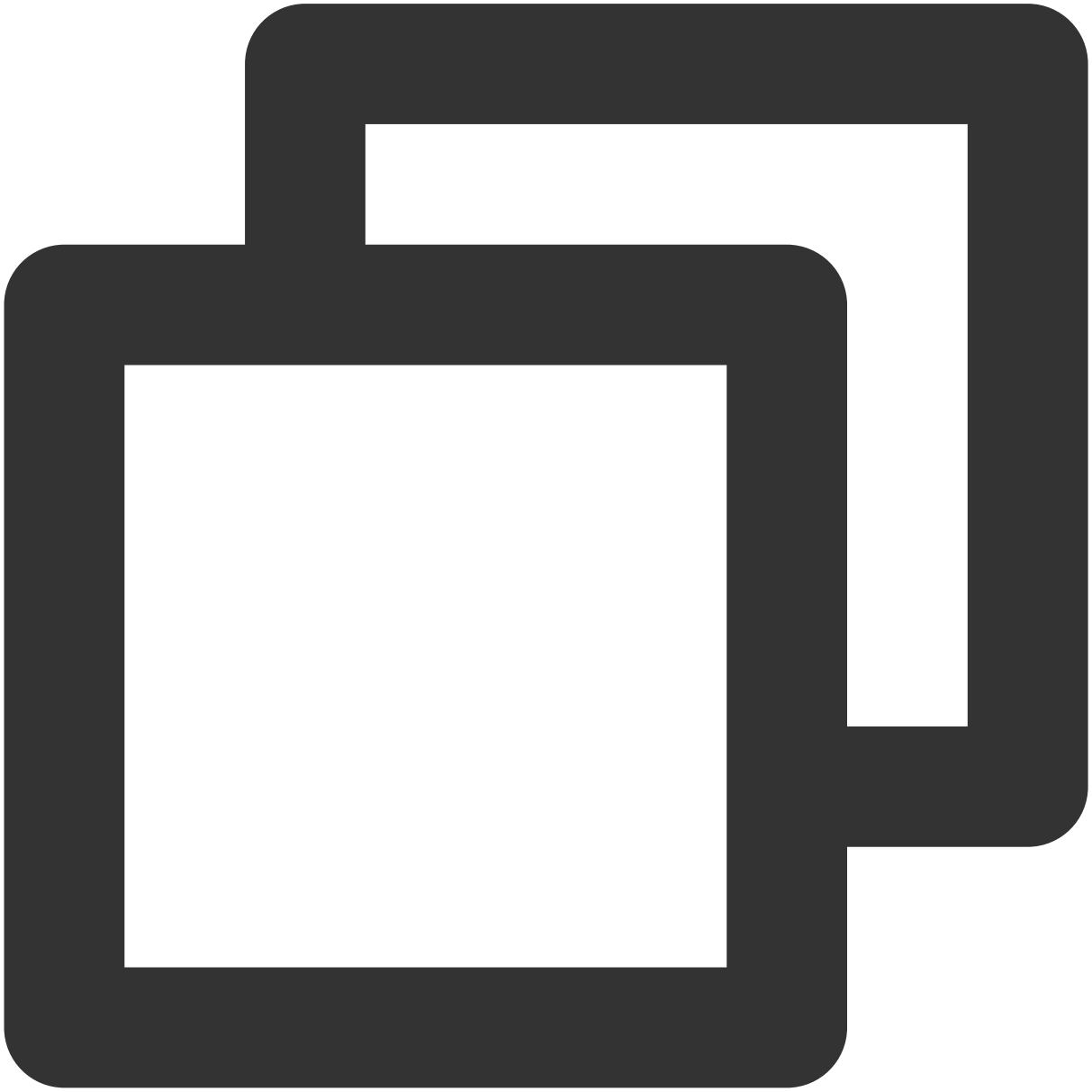
The parameters are shown in the table below:

Parameter	Type	Meaning
roomData	object	-
roomData.sdkAppId	number	Customer's SDKAppId
roomData.userId	string	User's Unique ID

roomData.userSig	string	User's UserSig
roomData.userName	string	User's Nickname
roomData.avatarUrl	string	User's Avatar URL

createRoom

Host creates a room.



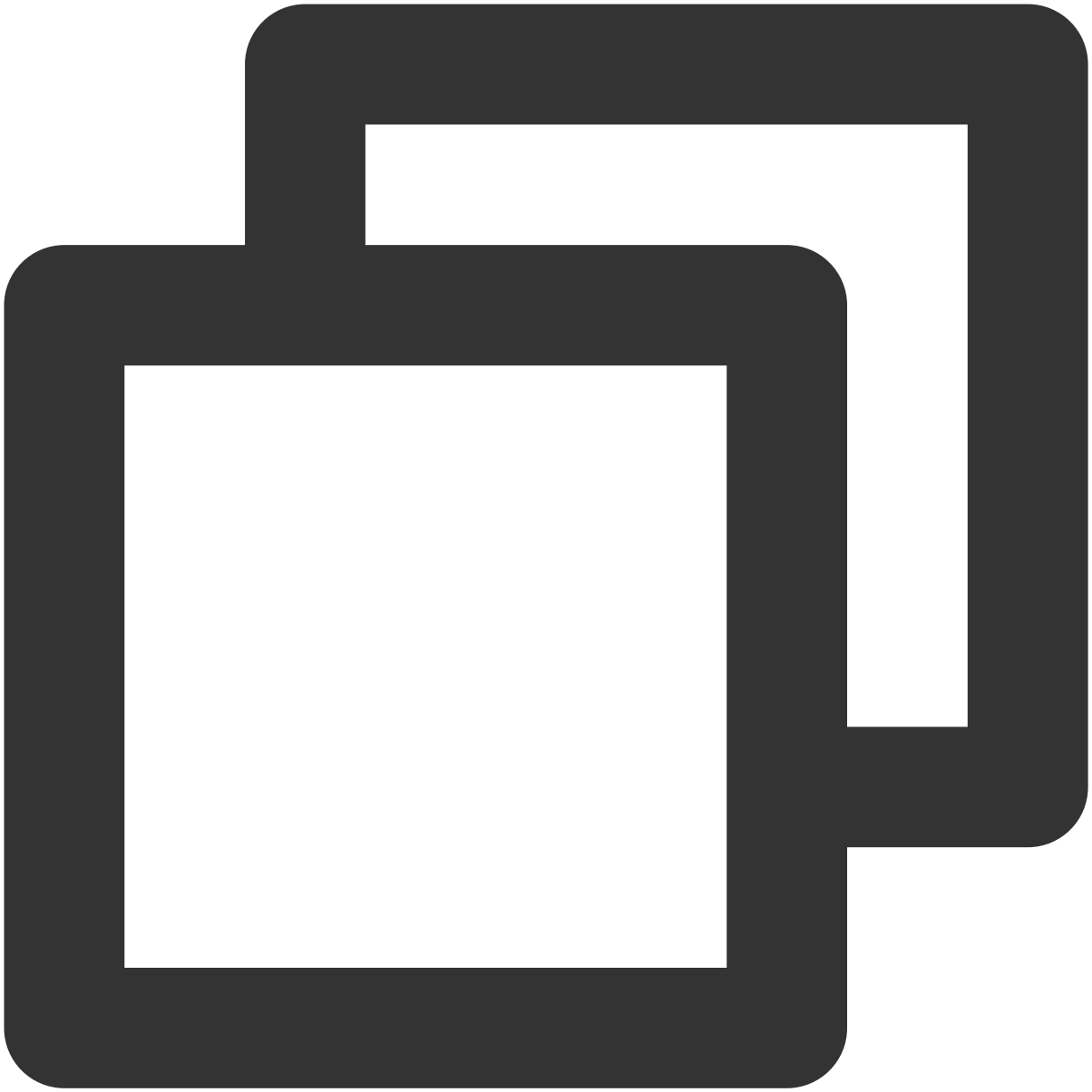
```
TUIRoomRef.value.createRoom(roomId, roomMode, roomParam);
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
roomMode	string	Room mode, FreeToSpeak (Free Speech Mode) and SpeakAfterTakingSeat (Onstage Speech Mode), default is FreeToSpeak
roomParam	Object	Optional
roomParam.isOpenCamera	string	Optional, whether to open the camera when entering the room, default is closed
roomParam.isOpenMicrophone	string	Optional, whether to open the mic when entering the room, default is closed
roomParam.defaultCameraId	string	Optional, default Camera device ID
roomParam.defaultMicrophoneId	string	Optional, default mic device ID
roomParam.defaultSpeakerId	String	Optional, default Speaker device ID

enterRoom

Regular member joins the room.



```
TUIRoomRef.value.enterRoom(roomId, roomParam);
```

The parameters are shown in the table below:

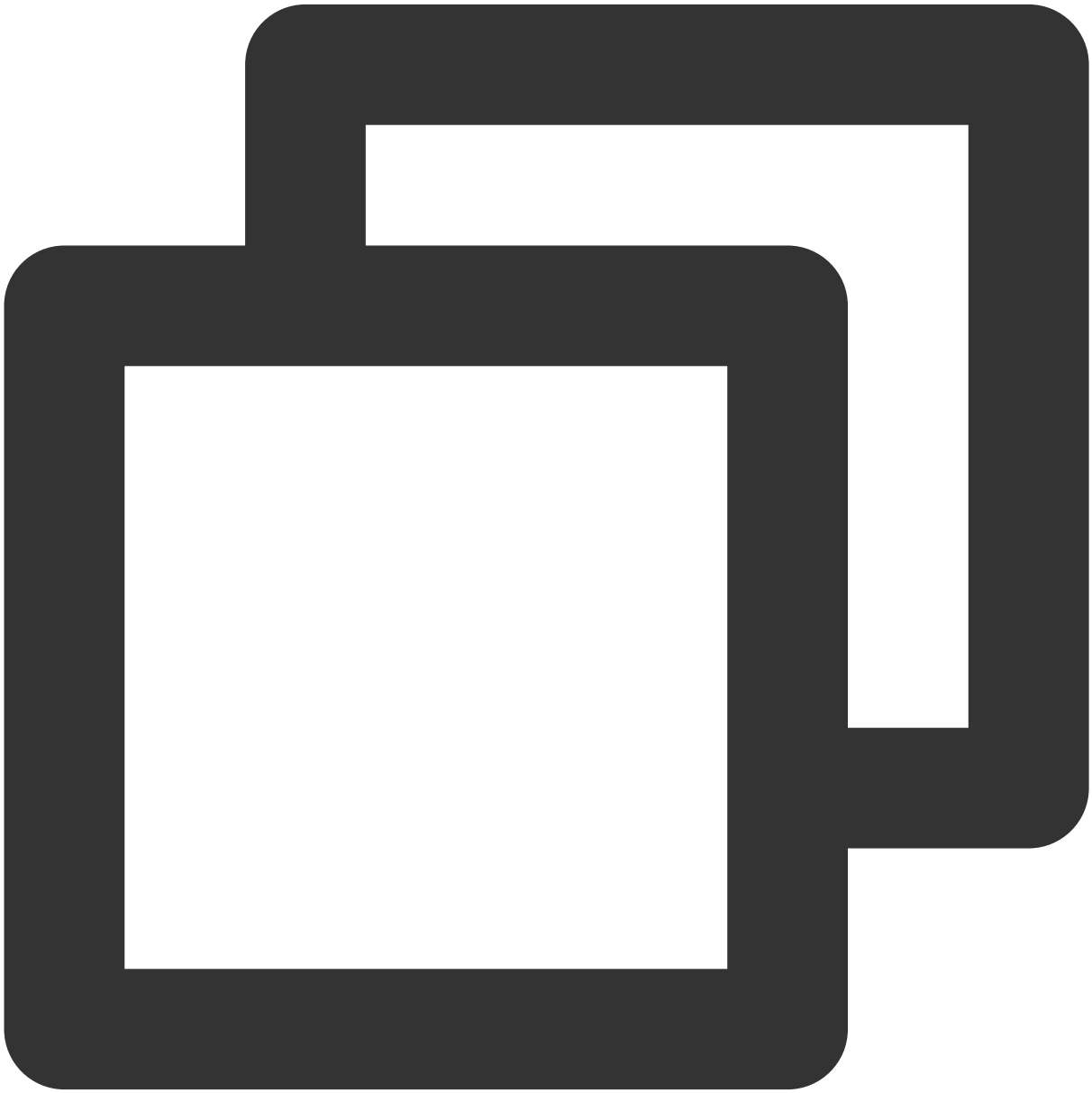
Parameter	Type	Meaning
roomId	string	Room ID
roomParam	Object	Optional
roomParam.isOpenCamera	string	Optional, whether to open the camera when entering the

		room, default is closed
roomParam.isOpenMicrophone	string	Optional, whether to open the mic when entering the room, default is closed
roomParam.defaultCameraId	string	Optional, default Camera device ID
roomParam.defaultMicrophoneId	string	Optional, default mic device ID
roomParam.defaultSpeakerId	String	Optional, default Speaker device ID

TUIRoomkit Event

onCreateRoom

Create room Callback.

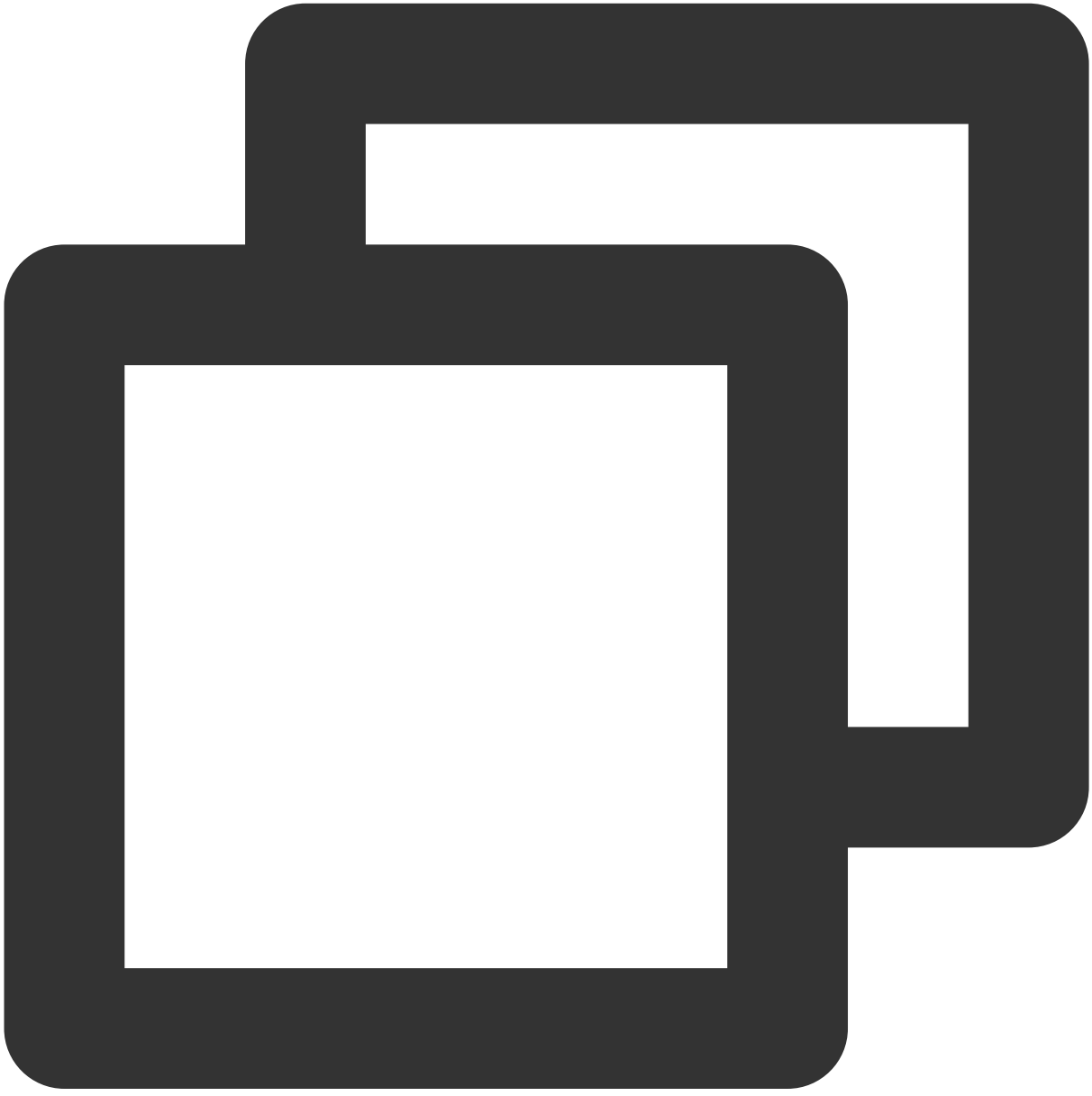


```
<template>
  <room ref="TUIRoomRef" @on-create-room="onCreateRoom"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onCreateRoom(info) {
    if (info.code === 0) {
      console.log('Room created successfully')
```

```
    }
  }
</script>
```

onEnterRoom

Entered room Callback.

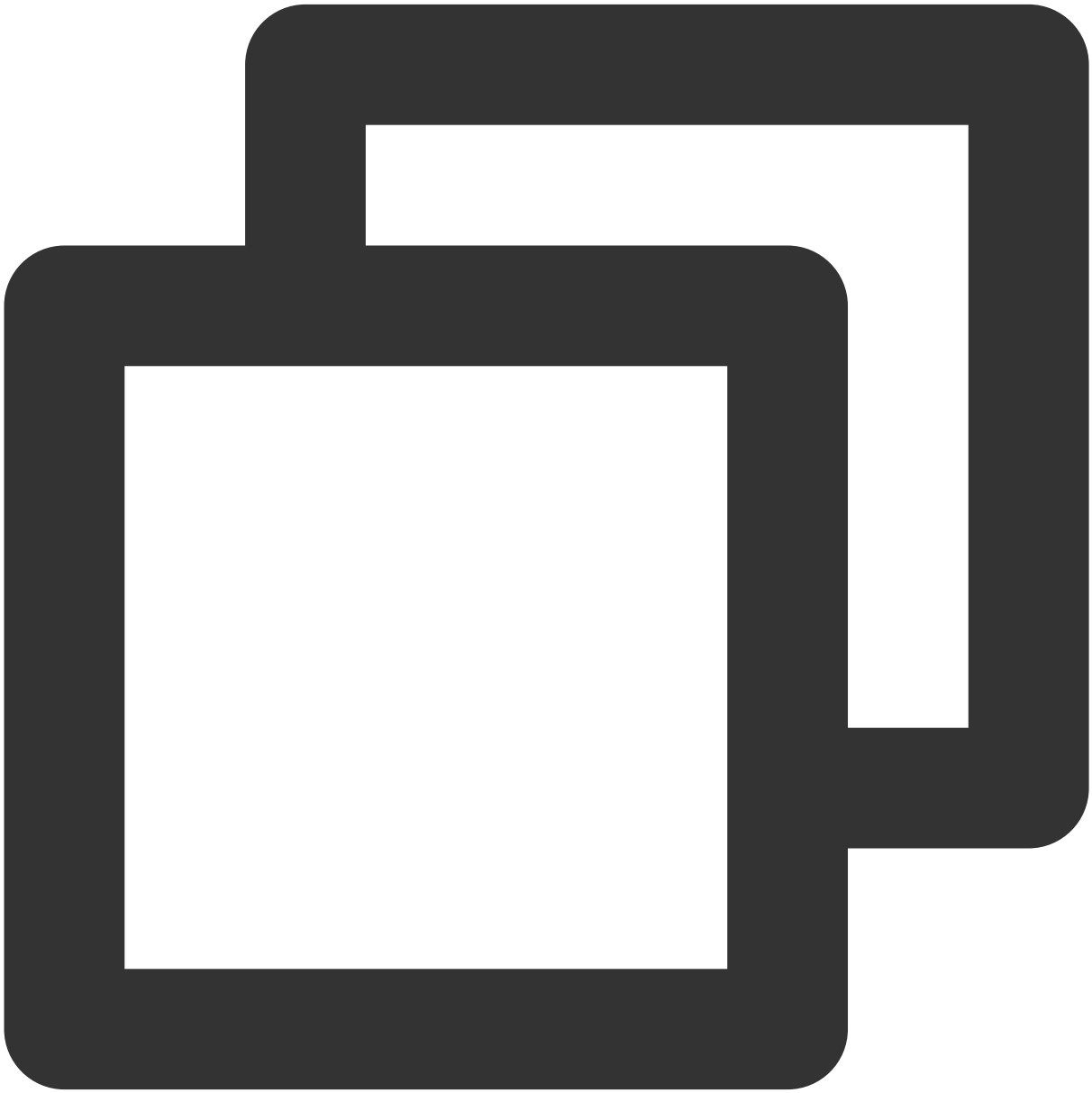


```
<template>
  <room ref="TUIRoomRef" @on-enter-room="onEnterRoom"></room>
</template>
```

```
<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onEnterRoom(info) {
    if (info.code === 0) {
      console.log('Entered room Success')
    }
  }
</script>
```

onDestroyRoom

Host destroys room Callback.

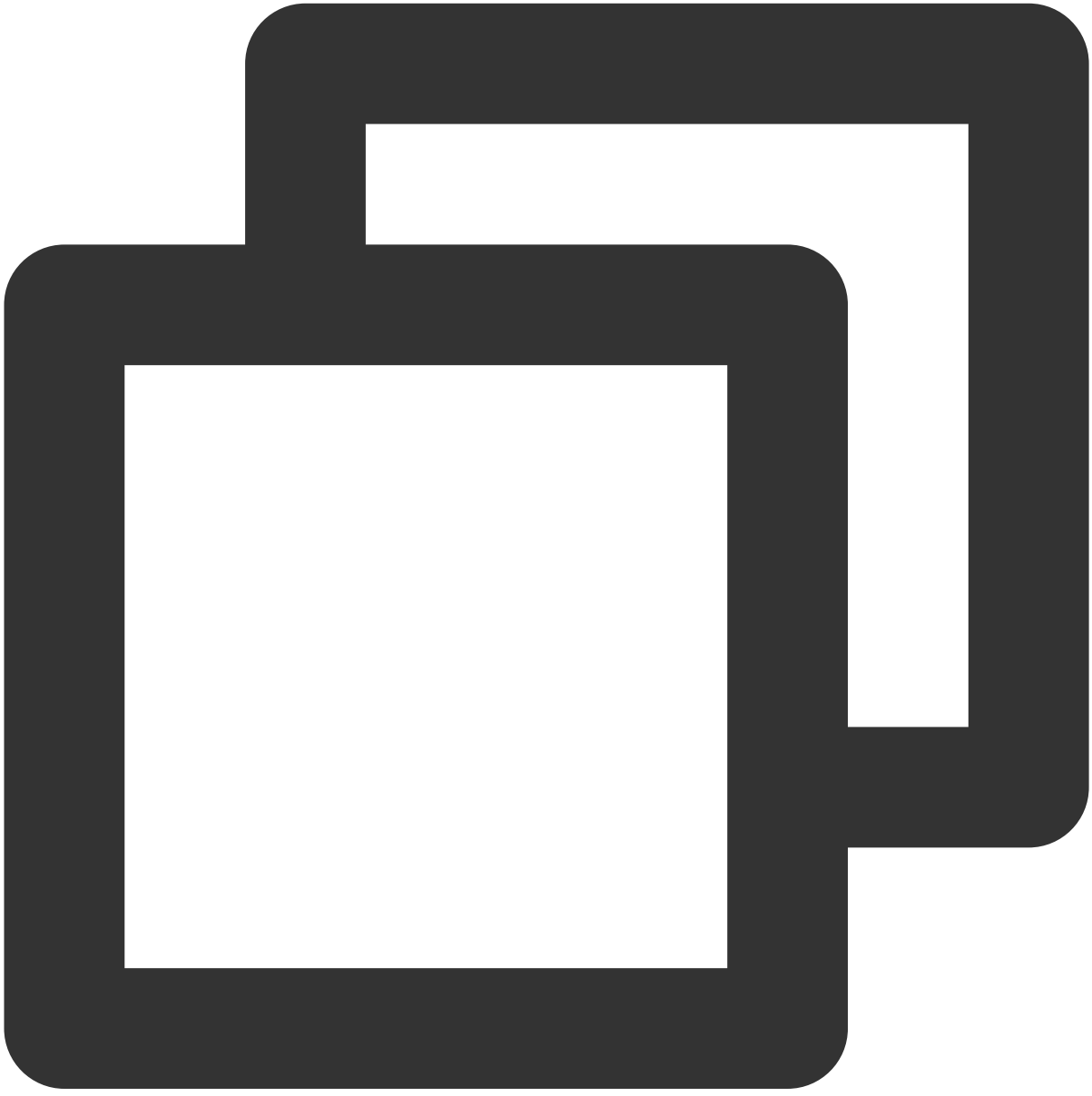


```
<template>
  <room ref="TUIRoomRef" @on-destroy-room="onDestroyRoom"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onDestroyRoom(info) {
    if (info.code === 0) {
      console.log('Host destroys room Success')
```

```
    }
  }
</script>
```

onExitRoom

Regular member exits room Callback.

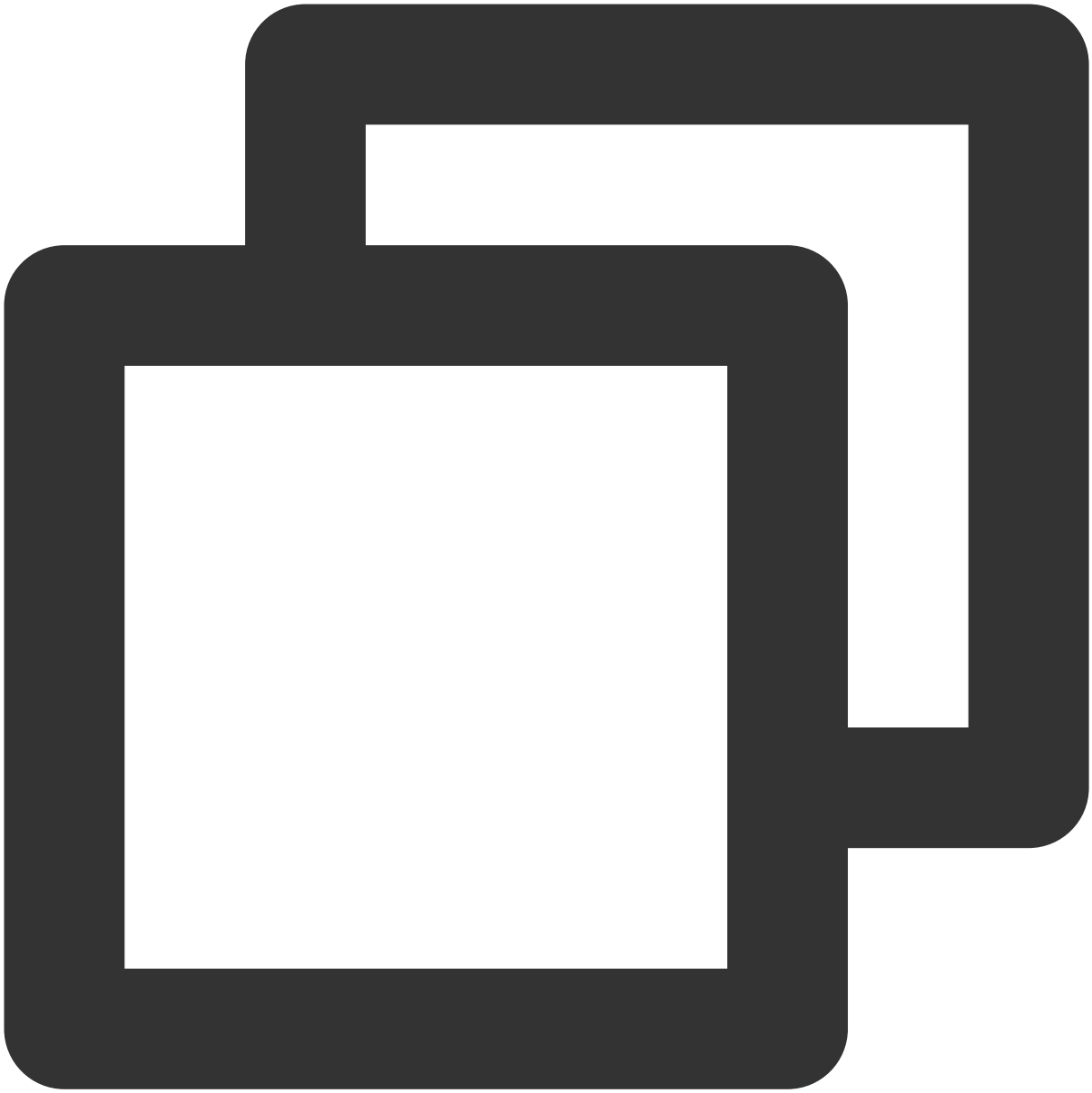


```
<template>
  <room ref="TUIRoomRef" @on-exit-room="onExitRoom"></room>
</template>
```

```
<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onExitRoom(info) {
    if (info.code === 0) {
      console.log('Regular member exits room Success')
    }
  }
</script>
```

onKickedOutOfRoom

Regular member is kicked out of room by host Notification.

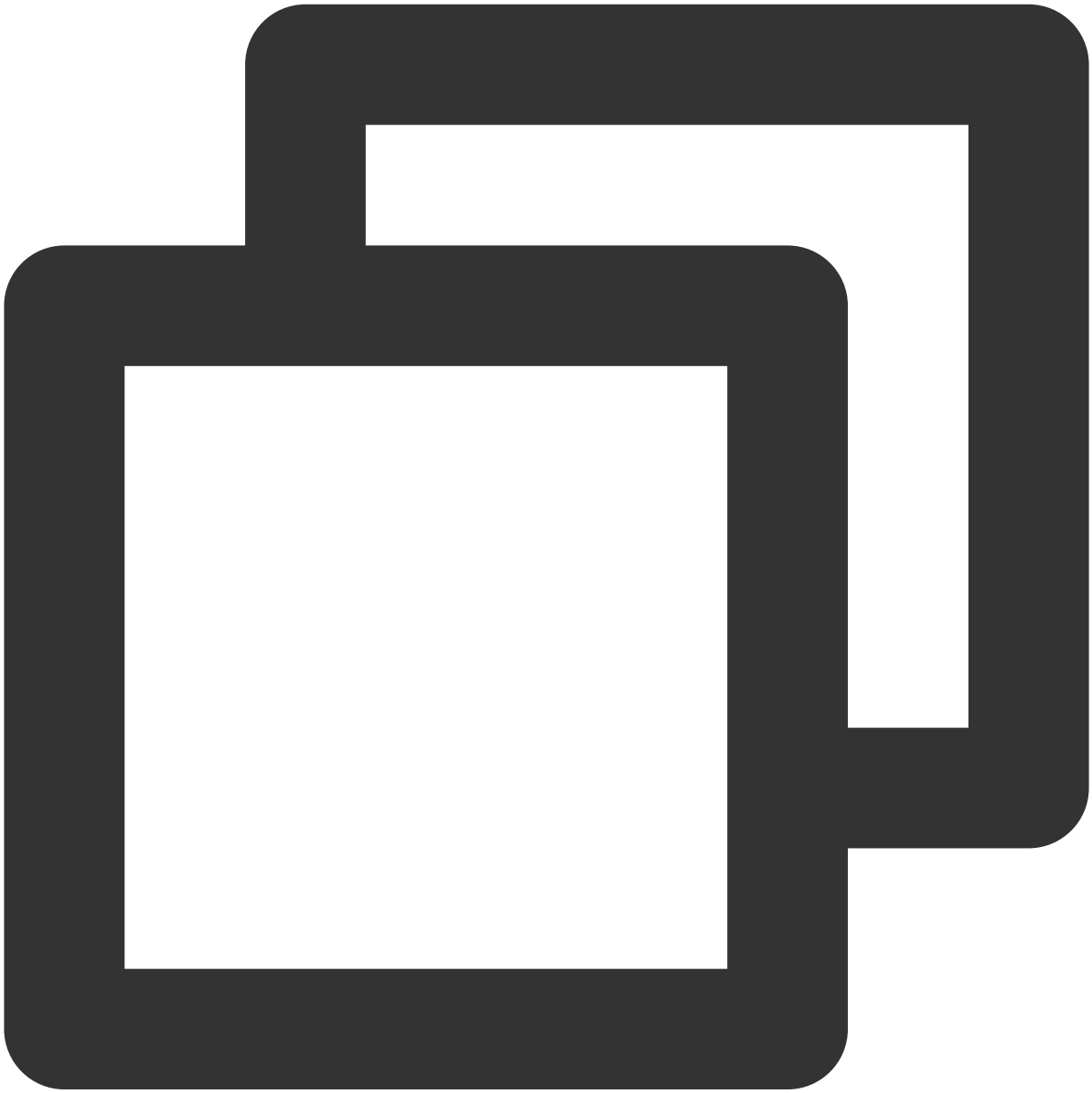


```
<template>
  <room ref="TUIRoomRef" @on-kicked-out-of-room="onKickedOutOfRoom"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onKickedOutOfRoom({ roomId, message }) {
    console.log('Regular member is kicked out of room by host', roomId, message);
  }
```

```
</script>
```

onKickedOffLine

User account logged in elsewhere, kicked offline.

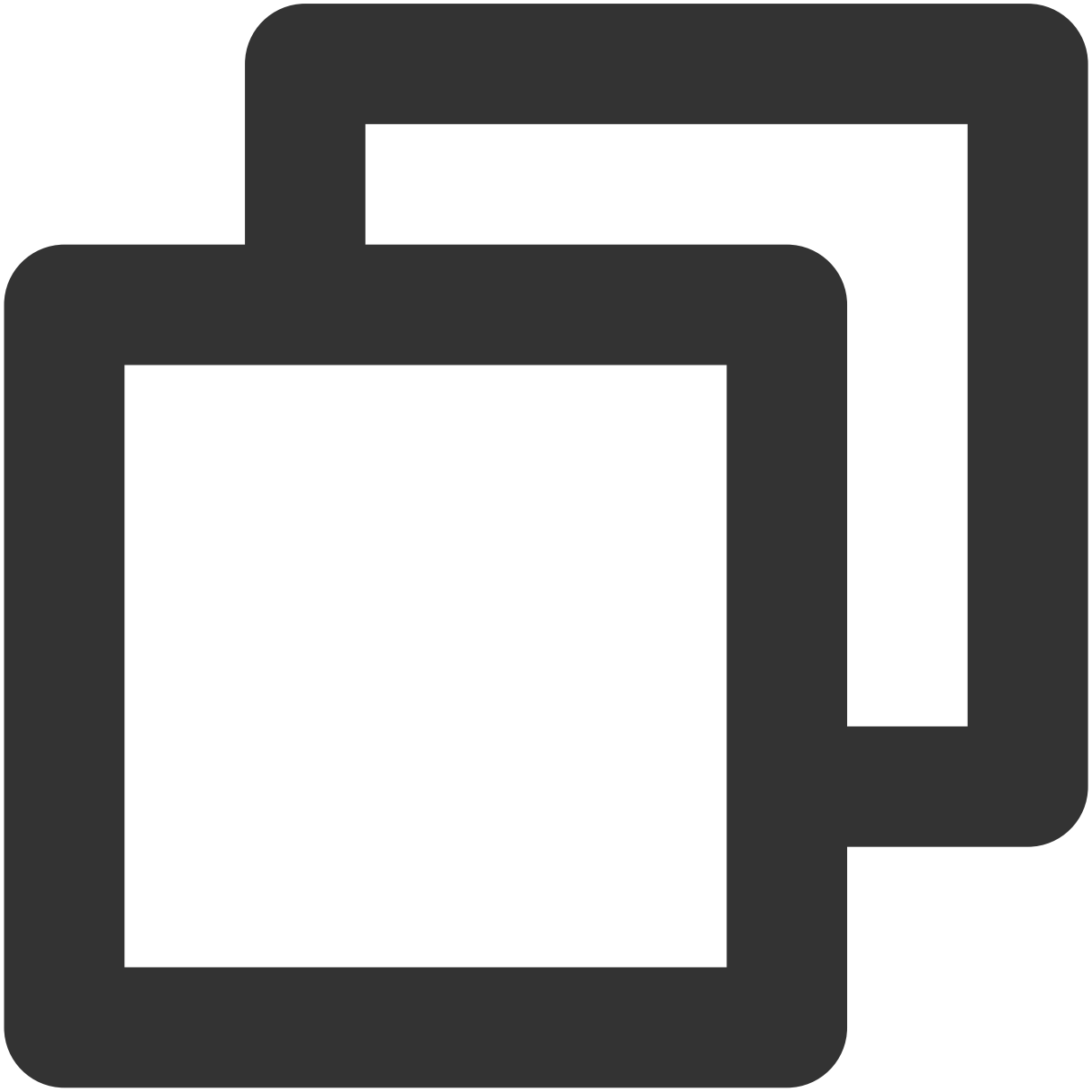


```
<template>
  <room ref="TUIRoomRef" @on-kick-off-line="onKickedOffLine"></room>
</template>

<script setup lang="ts">
```

```
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onKickedOffLine({ message }) {
    console.log('Member kicked offline', message);
  }
</script>
```

onUserSigExpired

User userSig expired, please regenerate userSig.



```
<template>
  <room ref="TUIRoomRef" @on-user-sig-expired="onUserSigExpired"></room>
</template>

<script setup lang="ts">
  // Import TUIRoom Component, make sure the import path is correct
  import Room from './TUIRoom/index.vue';

  function onUserSigExpired() {
    console.log('User userSig expired, please regenerate userSigg.');
  }
</script>
```

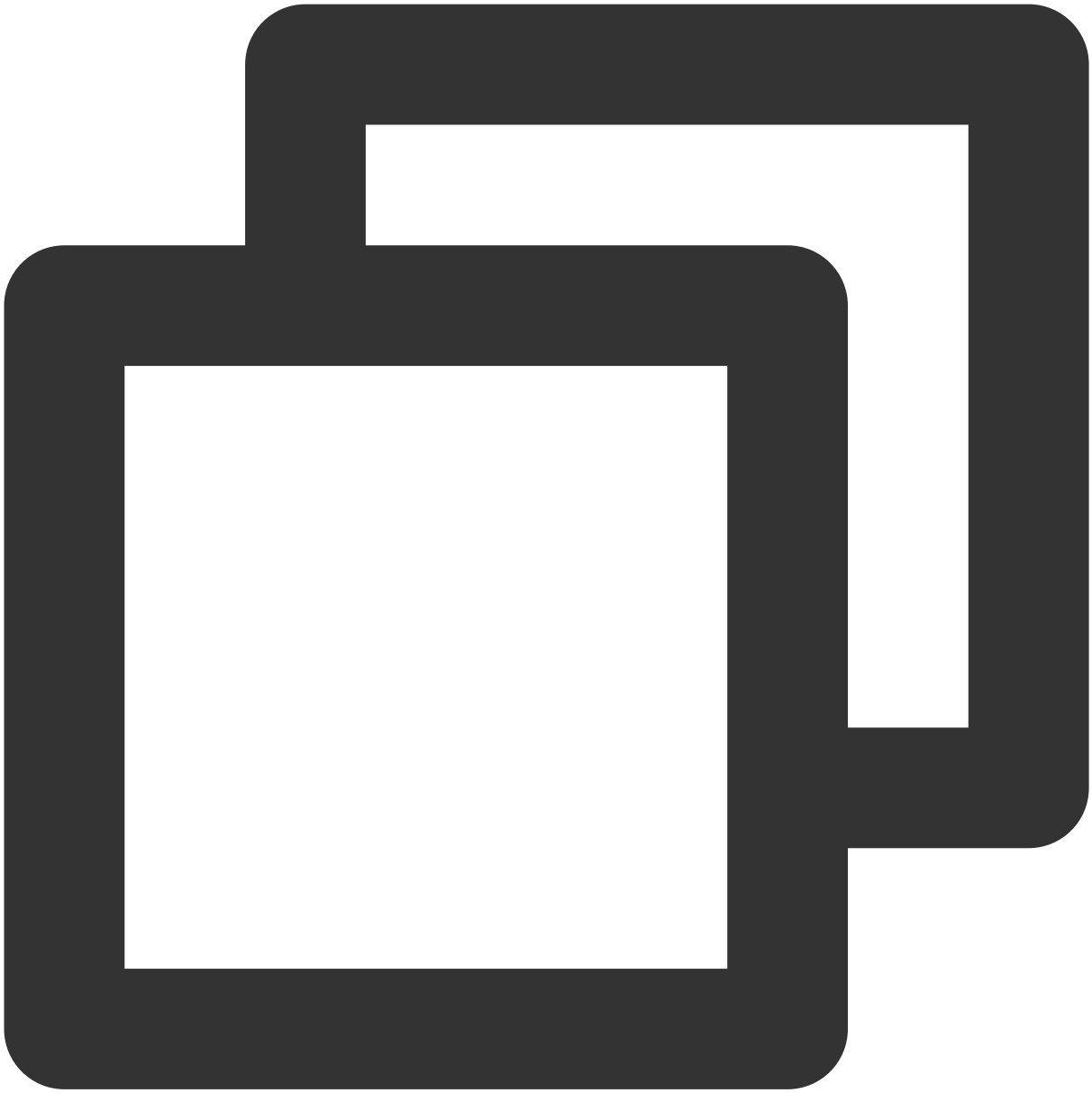
TUIRoomEngine

Last updated：2023-11-16 14:46:30

TUIRoomEngine Introduction

TUIRoomEngine SDK provides Room Management, Multi-person Tencent Real-Time Communication, Screen Sharing, Member Management, Instant Messaging, and other features.

Installation Method:



```
// Use npm
npm i @tencentcloud/tuiroom-engine-electron --save

// Use pnpm
pnpm i @tencentcloud/tuiroom-engine-electron --save

// Use yarn
yarn add @tencentcloud/tuiroom-engine-electron
```

TUIRoomEngine API

TUIRoomEngine Static Method

API	Description
once	**Listening to the TUIRoomEngine ready Event. Note: All methods other than TUIRoomEngine.login must be executed after listening to the TUIRoomEngine ready event and the successful execution of the TUIRoomEngine.login method.**
login	Login to TUIRoomEngine
setSelfInfo	Setting the current user's Basic information (Username, User Avatar)
getSelfInfo	Get the current user's Basic information (Username, User Avatar)
logout	Logout of TUIRoomEngine

roomEngine Room Management API

API	Description
createRoom	Create Room
enterRoom	Enter Room
destroyRoom	Destroy Room
exitRoom	Exit Room
fetchRoomInfo	Get Room data
updateRoomNameByAdmin	Update Name (Call by Group Owner or Administrator only)
updateRoomSpeechModeByAdmin	Update Speaking Mode (Call by Group Owner or Administrator only)
getUserList	Get User List
getUserInfo	Learn more about the user

roomEngine Audio Video API

API	Description
setLocalVideoView	Set Local Stream Rendering Position

openLocalCamera	Capturing Local Camera Video streams
closeLocalCamera	Close Local Camera
openLocalMicrophone	Open Local mic
closeLocalMicrophone	Close Local mic
updateVideoQuality	Set Local Video Parameters
updateAudioQuality	Set Local Audio Parameters
startPushLocalVideo	Start Pushing Local Video streams to Remote
stopPushLocalVideo	Stop Pushing Local Video streams to Remote
startPushLocalAudio	Start Pushing Local Audio Stream to Remote
stopPushLocalAudio	Stop Pushing Local Audio Stream to Remote
setRemoteVideoView	Set Remote Stream Rendering Area
startPlayRemoteVideo	Start Playback Remote User Video streams
stopPlayRemoteVideo	Stop Playback Remote User Video streams
muteRemoteAudioStream	Stop Remote User Audio Stream

roomEngine Member Management API

API	Description
openRemoteDeviceByAdmin	Request Remote User to Open Media Device
applyToAdminToOpenLocalDevice	Participant Apply to Host to Open Device
closeRemoteDeviceByAdmin	Close Remote User Media Device
cancelRequest	Cancel Sent Request
responseRemoteRequest	Reply to Remote User Request
changeUserRole	Change User Role
kickRemoteUserOutOfRoom	Kick Out User from Room
disableDeviceForAllUserByAdmin	Disable/Enable All Users' Media Device
disableSendingMessageForAllUser	Disallow/Allow All Users to Send Message

disableSendingMessageByAdmin	Disallow/Allow Specific User to Send Message

roomEngine Screen Sharing API

API	Description
startScreenSharingElectron	Start Screen Sharing
stopScreenSharingElectron	Stop Screen Sharing
getScreenSharingTarget	Obtain Screen Sharing List
selectScreenSharingTarget	Switch Screen Sharing Window

roomEngine Mic Position Management API

API	Description
setMaxSeatCount	Set Room Maximum Value
getSeatList	Get Mic Position Information
takeSeat	Get Mic Position
leaveSeat	Release Mic Position
takeUserOnSeatByAdmin	Invite Others to Go Live (Only Room Host and Administrator can invoke this method)
kickUserOffSeatByAdmin	Kick Others Off the Mic (Only Room Host and Administrator can invoke this method)
lockSeatByAdmin	Lock a Specific Mic Position Status (Only Room Host and Administrator can invoke this method)

roomEngine Message Sending API

API	Description
sendTextMessage	Send Text Message
sendCustomMessage	Send Custom Message

roomEngine Device Management API

API	Description
getCameraDevicesList	Get Camera Device List
getMicDevicesList	Get Mic Device List
getSpeakerDevicesList	Get Speaker Device List
setCurrentCameraDevice	Set to Use Camera
setCurrentMicDevice	Set to Use Mic
setCurrentSpeakerDevice	Set to Use Speaker
getCurrentCameraDevice	Get the Currently Used Camera
getCurrentMicDevice	Get the Currently Used Mic
getCurrentSpeakerDevice	Get the Currently Used Speaker
startCameraDeviceTest	Start Camera Test
stopCameraDeviceTest	Stop Camera Test

roomEngine Event Listening API

API	Description
on	Listen to TUIRoomEvents
off	Cancel Listening to TUIRoomEvents

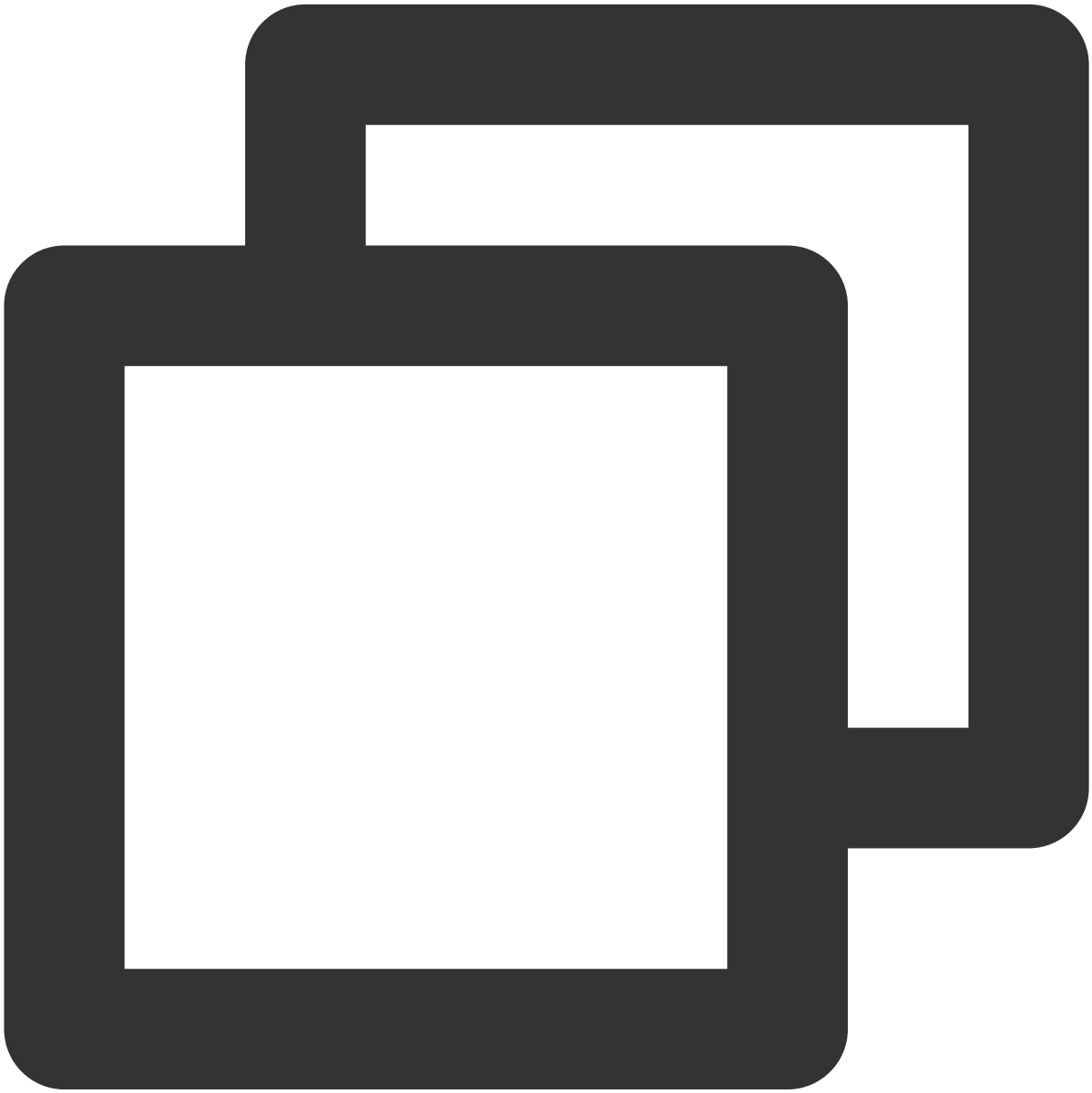
roomEngine Other API

API	Description
getTRTCCloud	Get trtcCloud Instance
getTIM	Get tim Instance

API Details

once

Monitor TUIRoomEngine 'ready' Event



```
TUIRoomEngine.once('ready', () => {
  const roomEngine = new TUIRoomEngine();

  await TUIRoomEngine.init({
    sdkAppId: 0,   // Fill in the sdkAppId you applied for
    userId: '',    // Fill in the userId corresponding to your business
    userSig: '',   // Fill in the userSig calculated by the server or locally
  });

  await roomEngine.createRoom({
    roomId: '12345',   // Enter your Room ID, note that the Room ID is required to
```

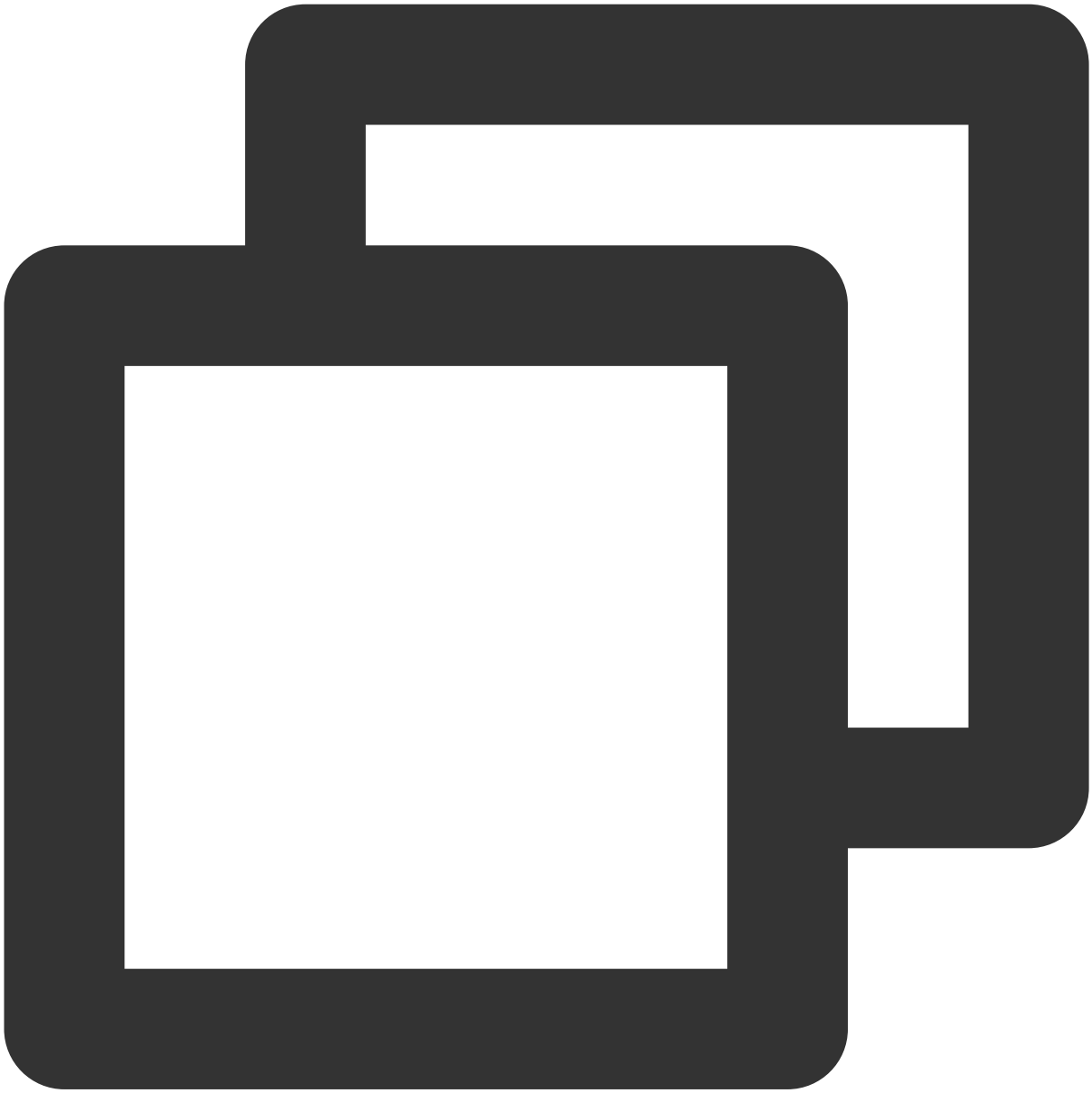
```
    name: 'Test Room',     // Enter your room name, the default room name is roomId
    roomType: TUIRoomType.kGroup, // Set the room type to TUIRoomType.kGroup type
  });
});
```

login

Description:

In version v1.0.0, this interface is named TUIRoomEngine.init, please use TUIRoomEngine.login to log in TUIRoomEngine in v1.0.1 and above versions.

You must log in to TUIRoomEngine before you can call other methods of TUIRoomEngine and its instances.



```
// Login TUIRoomEngine
await TUIRoomEngine.login({
 sdkAppId: 0,   // Fill in the sdkAppId you applied for
 userId: '',    // Fill in the userId corresponding to your business
 userSig: '',   // Fill in the userSig calculated by the server or locally
});
```

Parameter:

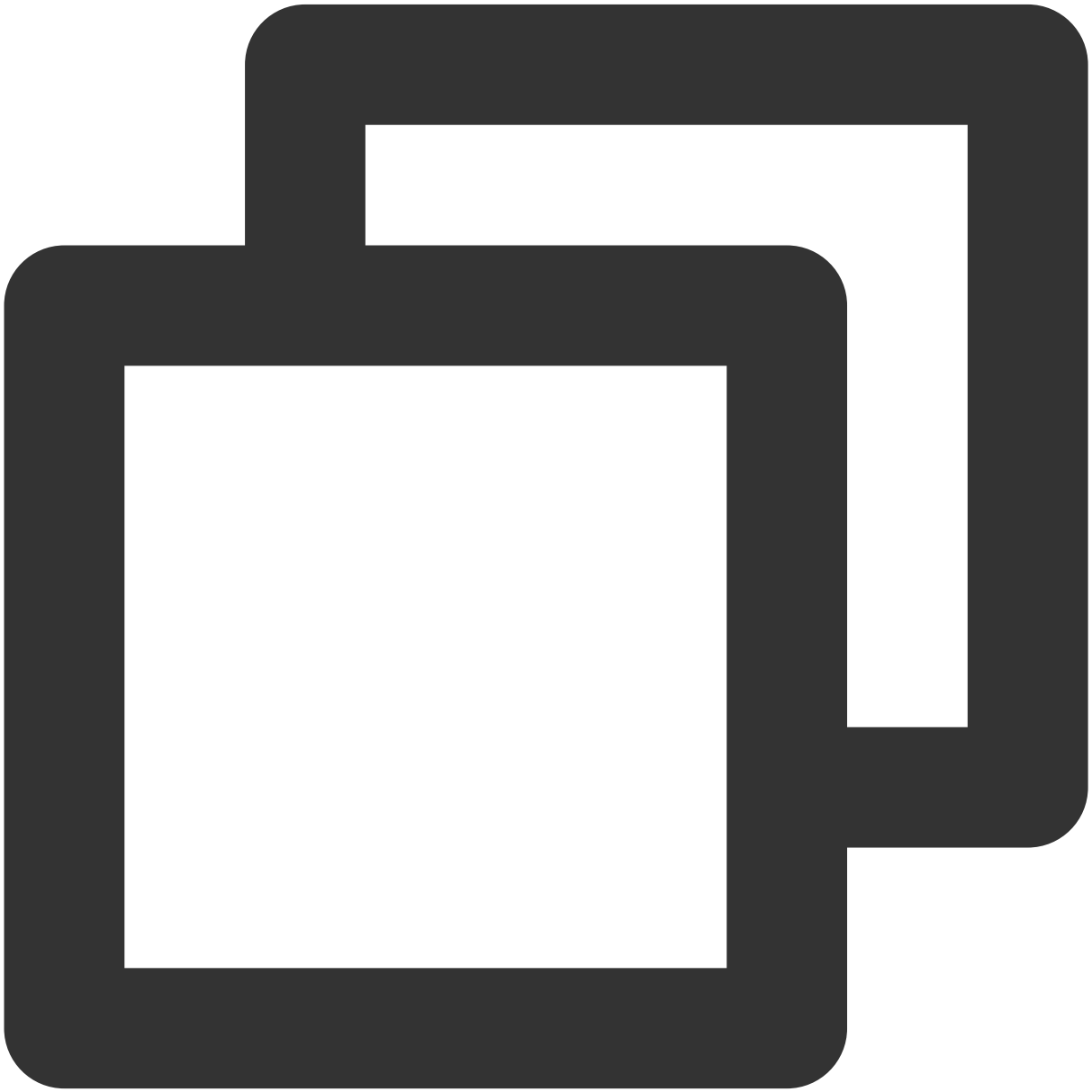
Parameter	Type	Description	Default Value	Meaning

sdkAppId	number	Required	-	After clicking Application Management > Create Application in the Tencent Real-Time Communication Console, you can get the sdkAppId information in Application Info.
userId	string	Required	-	It is recommended to limit the user ID length to 32 bytes, and only allow uppercase and lowercase English letters (a-zA-Z), numbers (0-9), underscores, and hyphens.
userSig	string	Required	-	UserSig signature Please refer to UserSig related for the method of calculating userSig.
tim	TIM	Not Required	-	If you want to use more capabilities of the Chat SDK while accessing roomEngine, you can pass the created tim instance into TUIRoomEngine. For the creation method of tim instance, please refer to TIM.create.

Returns *Promise<void>*

setSelfInfo

Set current user Basic information (Username, User avatar).



```
// Set current user Username and User avatar
await TUIRoomEngine.setSelfInfo({
 userName: '',     // Enter your New username
 avatarUrl: '',    // Enter your New avatar URL
});
```

Parameter:

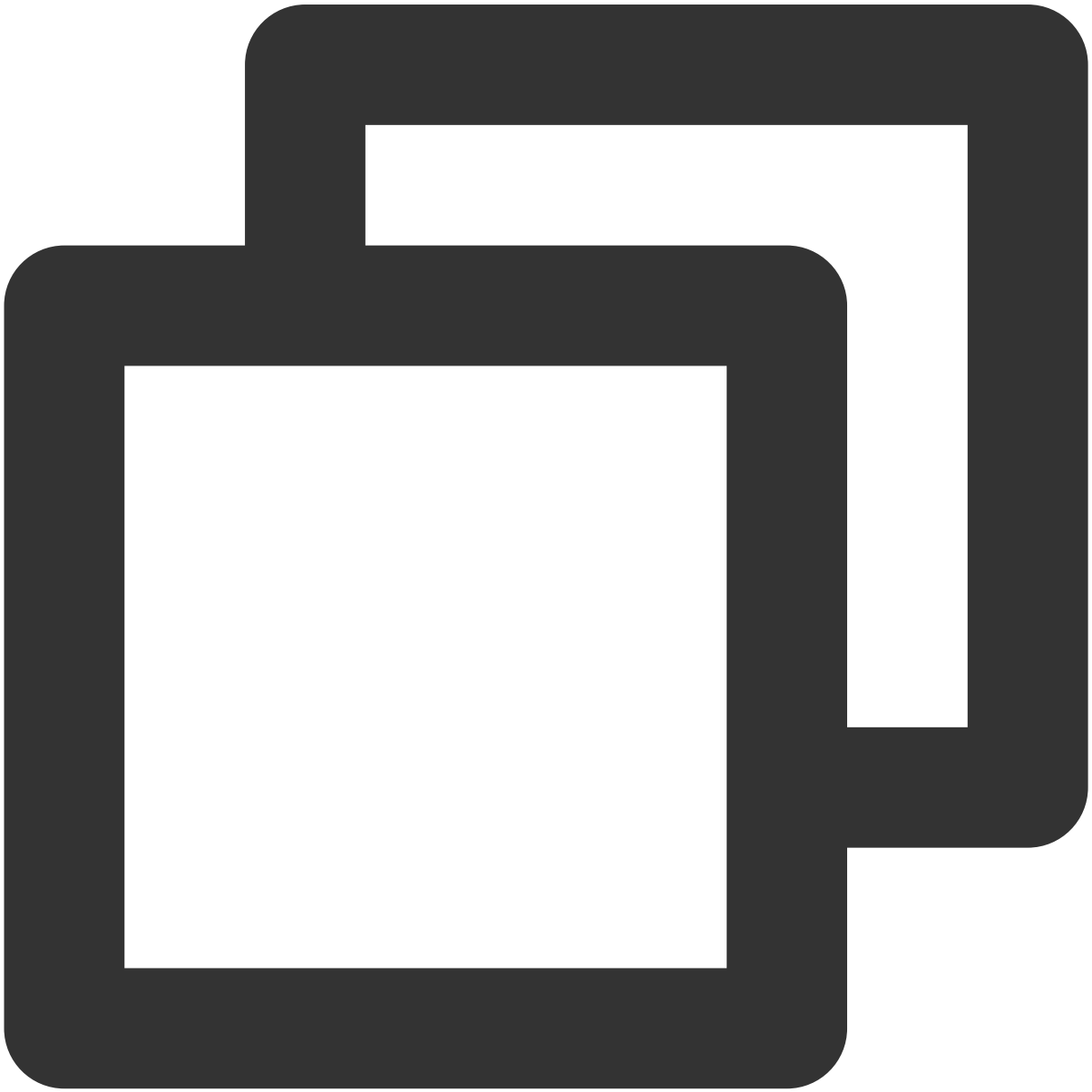
Parameter	Type	Description	Default Value	Meaning

userName	string	Required	-	User Name
avatarUrl	string	Required	-	User avatar

Returns *Promise<void>*

getSelfInfo

Get current user Basic information (Username, User avatar).



```
// Get current user Username and User avatar
```

```
const loginUserInfo = await TUIRoomEngine.getSelfInfo();
```

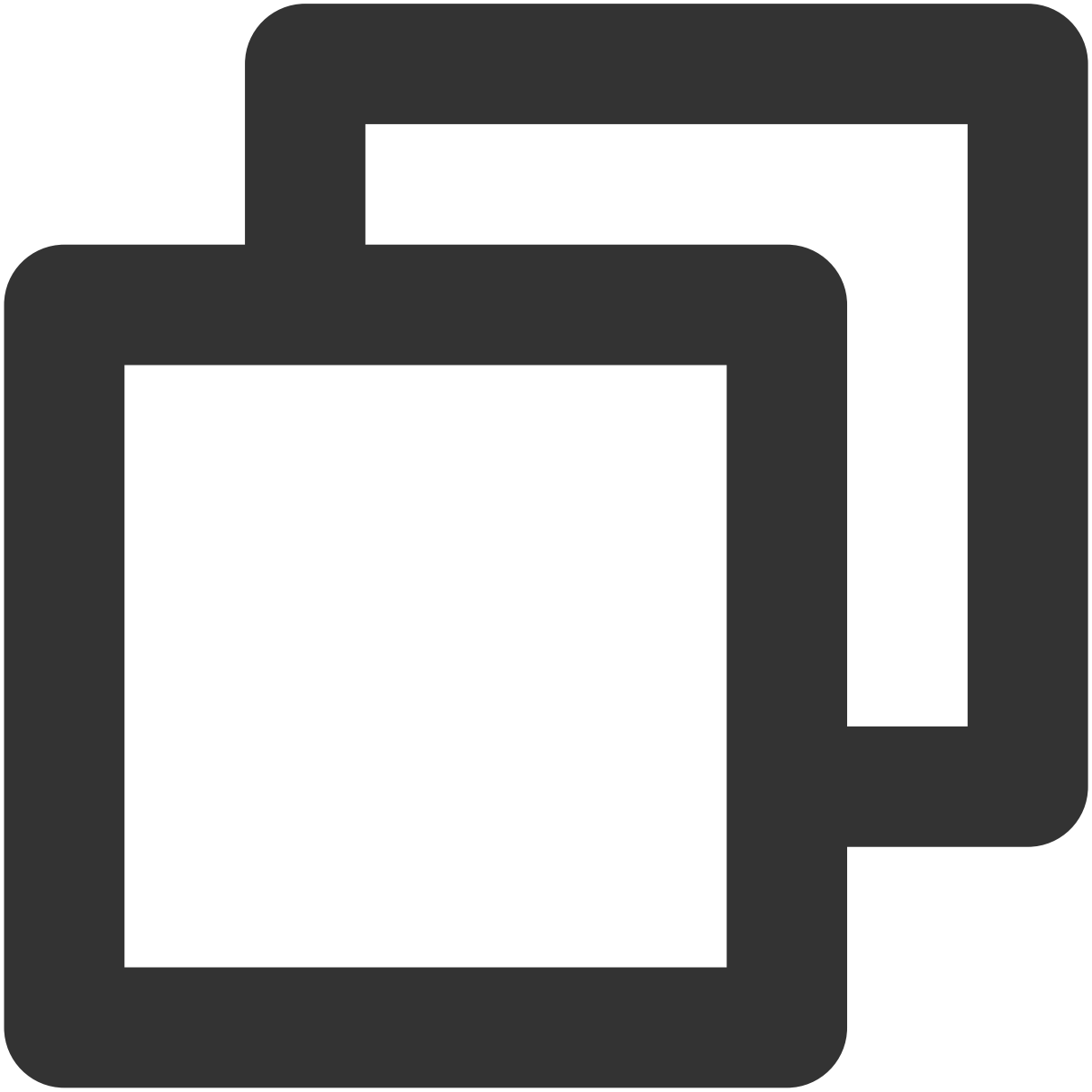
Returns *Promise*<TUILoginUserInfo> *loginUserInfo*

logout

Description:

Interface since v1.0.1 Version support.

Logout TUIRoomEngine



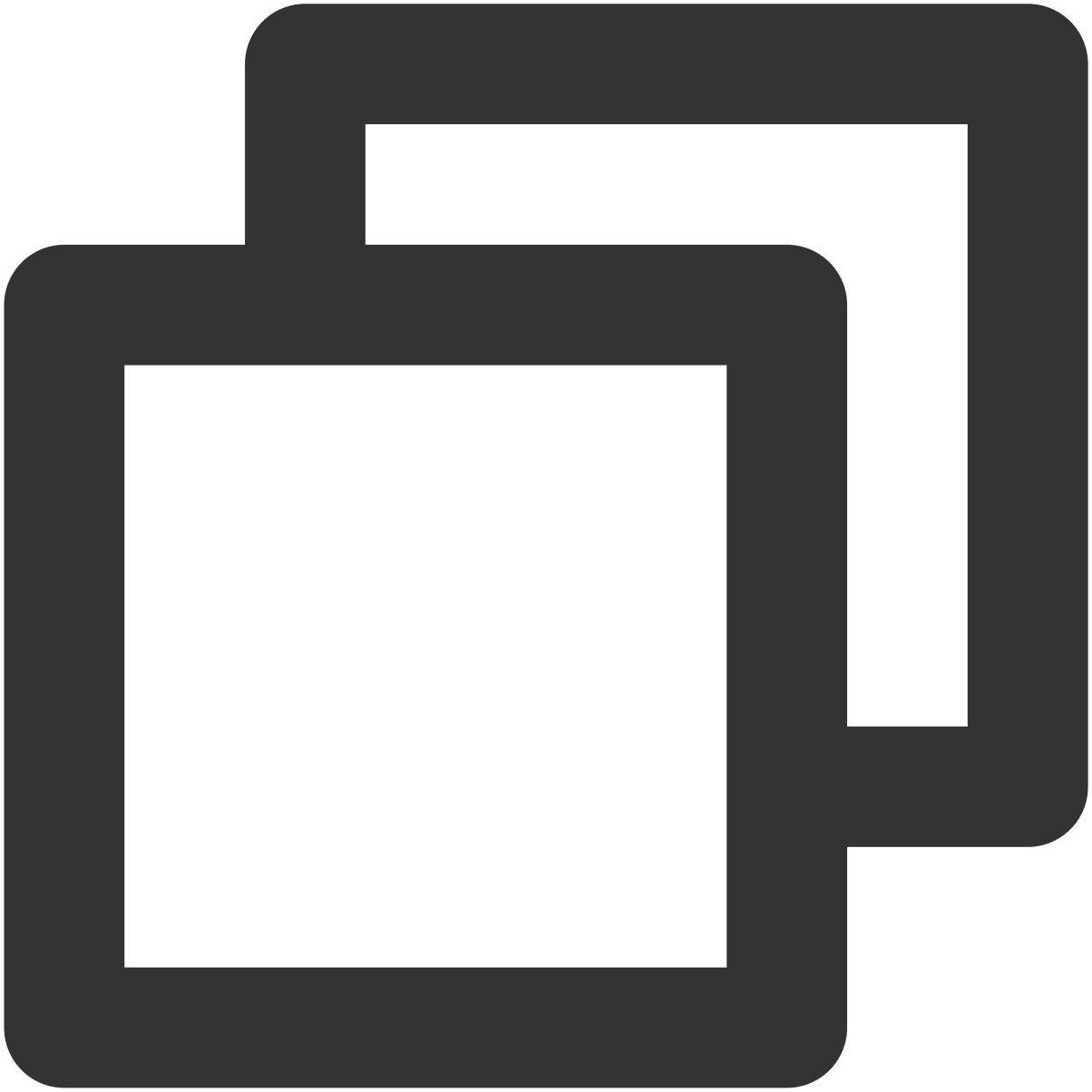
```
// Logout TUIRoomEngine
```

```
await TUIRoomEngine.logout();
```

Returns *Promise<void>*

createRoom

Host creates room, Call createRoom User is the room owner. When creating a room, you can set Room ID, Room name, Room type, Speaking mode, Whether to allow users to join and enable audio and video, Send message and other functions.



```
const roomEngine = new TUIRoomEngine();
```

```
await roomEngine.createRoom({
    roomId: '12345',   // Enter your Room ID, note that the Room ID must be a strin
    roomName: 'Test Room',     // Enter your Room Name, the default Room Name is ro
    roomType: TUIRoomType.kConference, // Set the Room Type to TUIRoomType.kConfere
    speechMode: TUISpeechMode.kFreeToSpeak, // Set the speech mode to free speech m
    isMicrophoneDisableForAllUser: false,  // Allow users to turn on their mic when
    isCameraDisableForAllUser: false,  // Allow users to turn on their Camera when
    isMessageDisableForAllUser: false,  // Allow users to send messages when joinin
});
```

Parameter:

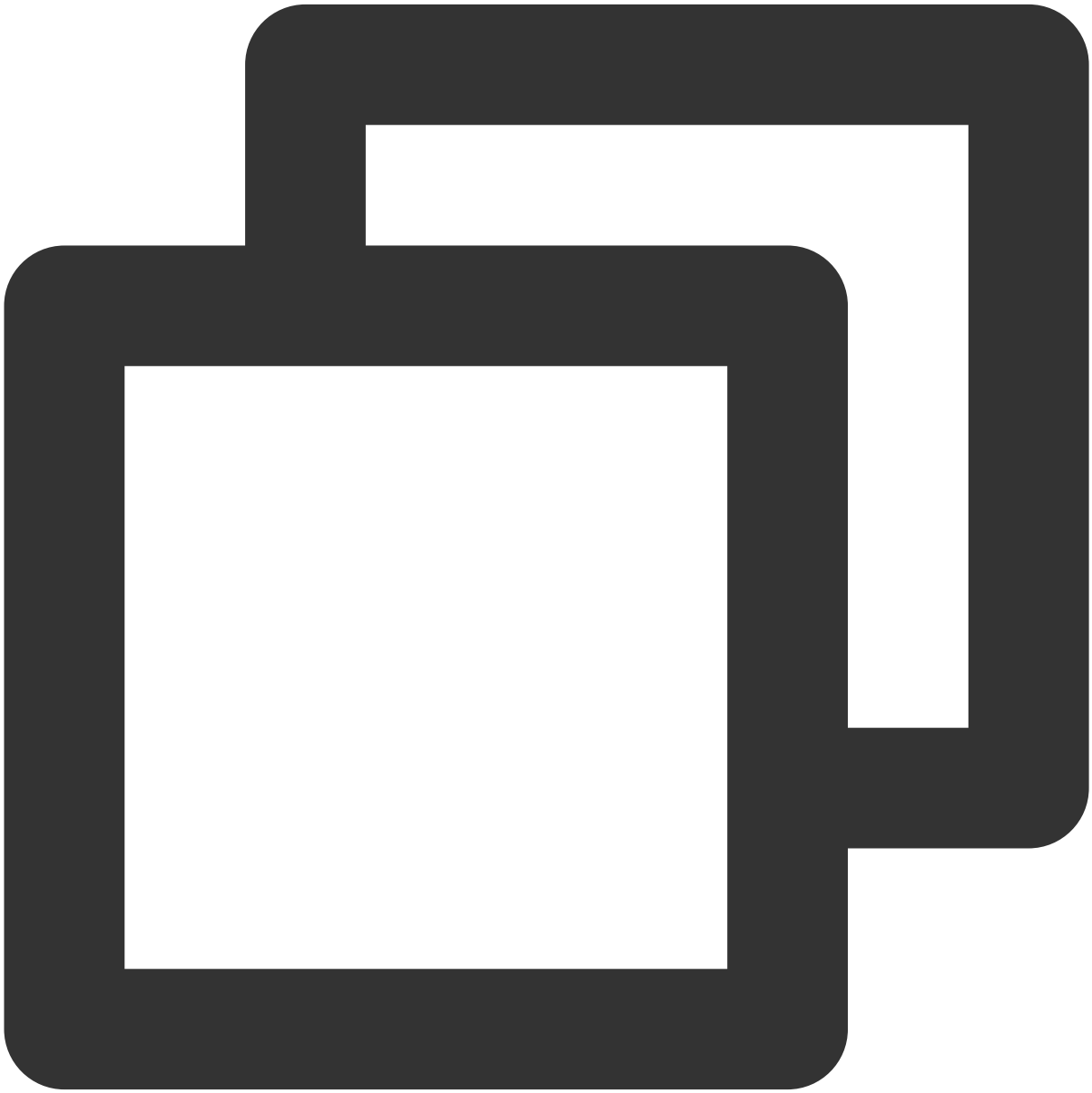
Parameter	Type	Description	Default Value	Mea
roomId	string	Required	-	Roo byte char Engl Num Spa { } | '
roomName	string	Optional	roomId	Roo canr
roomType	TUIRoomType	Optional	TUIRoomType.kConference	Roo Offic remo roon TUII E-cc roon TUII
speechMode	TUISpeechMode	Optional	TUISpeechMode.kFreeToSpeak	Spe For (edu Set TUIS can defa Set TUIS do n defa to ap or m

				and mod Set TUI user get and For broa Set TUI for h Set TUI host TUI TUI mod
isMicrophoneDisableForAllUser	boolean	Optional	false	Enal mute
isCameraDisableForAllUser	boolean	Optional	false	Enal not e
isMessageDisableForAllUser	boolean	Optional	false	Allo proh
maxSeatCount	number	Optional	-	Max For (edu is nc For broa max
enableCDNStreaming	boolean	Optional	false	Enal
cdnStreamDomain	string	Optional	''	Pusl

Returns *Promise<void>*

enterRoom

Entered room interface.



```
const roomEngine = new TUIRoomEngine();
const roomInfo = await roomEngine.enterRoom({
    roomId: '12345',
});
```

Parameter:

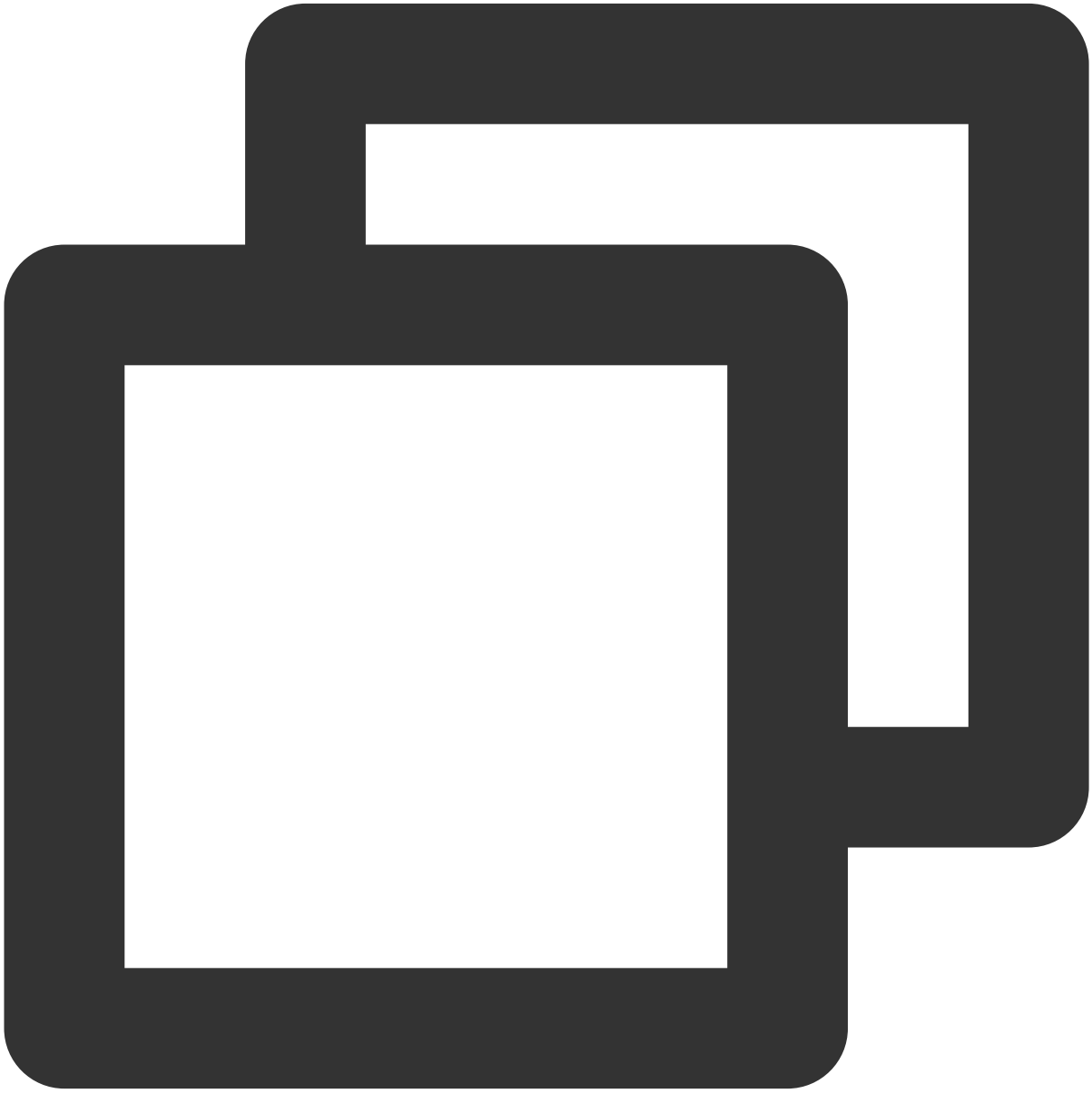
Parameter	Type	Description	Default Value	Meaning
roomId	string	Required	-	Room ID

Returns *Promise<*TUIRoomInfo*> roomInfo*

This interface returns the current Room data

destroyRoom

Close the room interface, the room must be closed by the room owner, and the room cannot be entered after it is closed.

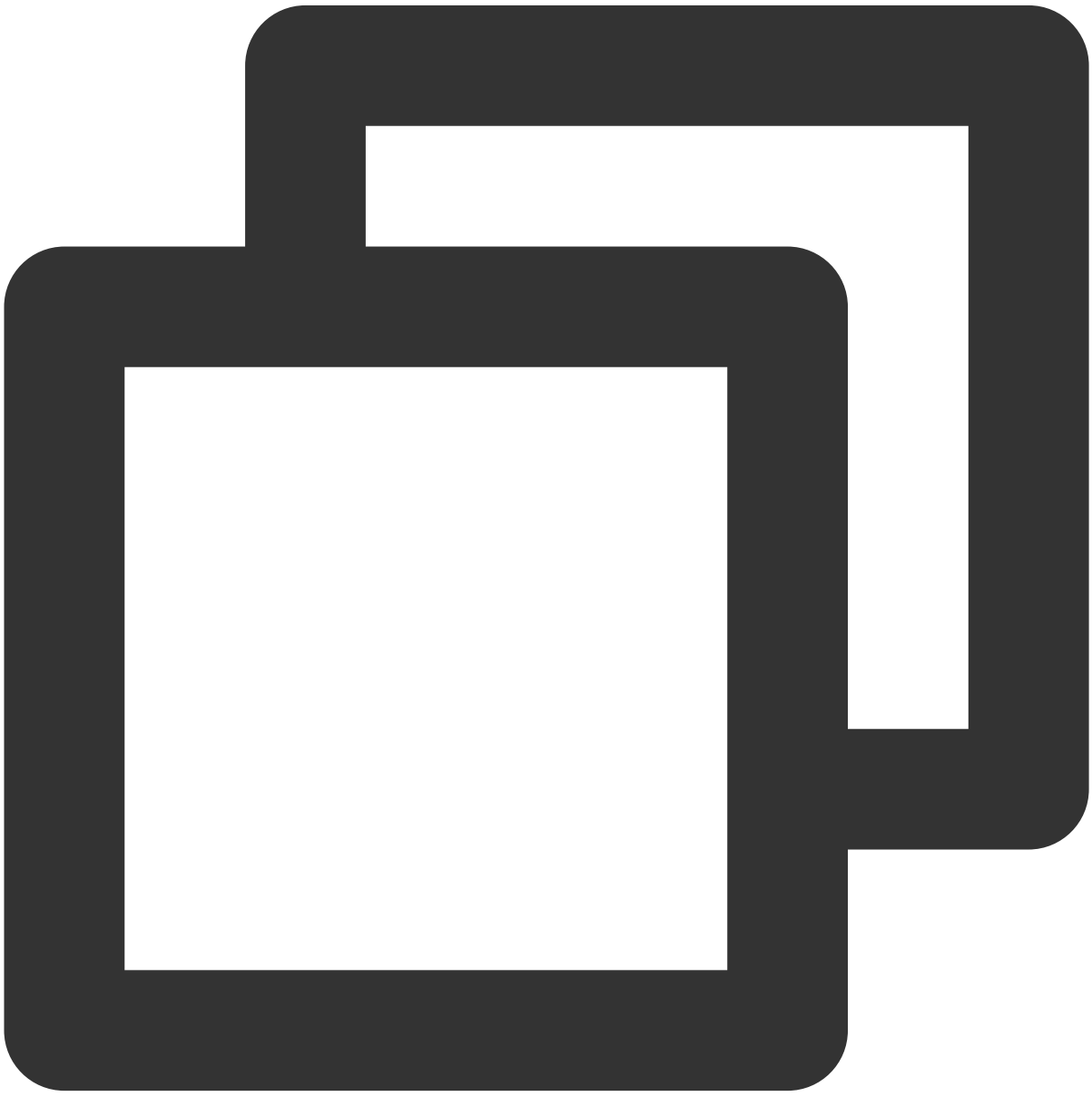


```
const roomEngine = new TUIRoomEngine();
await roomEngine.destroyRoom();
```

Returns *Promise<void>*

exitRoom

Leave the room interface, users can leave the room through exitRoom after executing enterRoom.

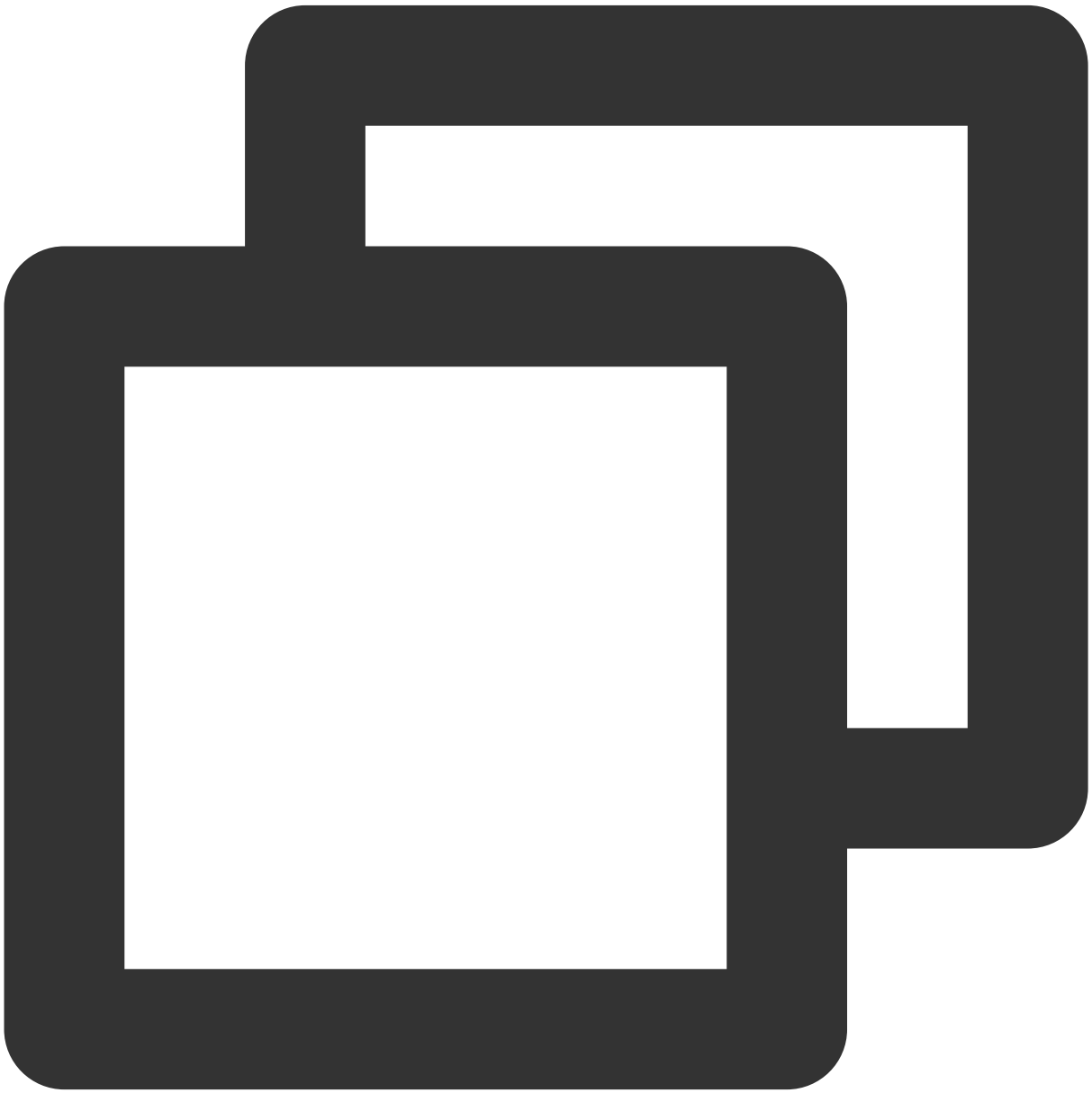


```
const roomEngine = new TUIRoomEngine();
await roomEngine.exitRoom();
```

Returns *Promise<void>*

fetchRoomInfo

Get Room information.

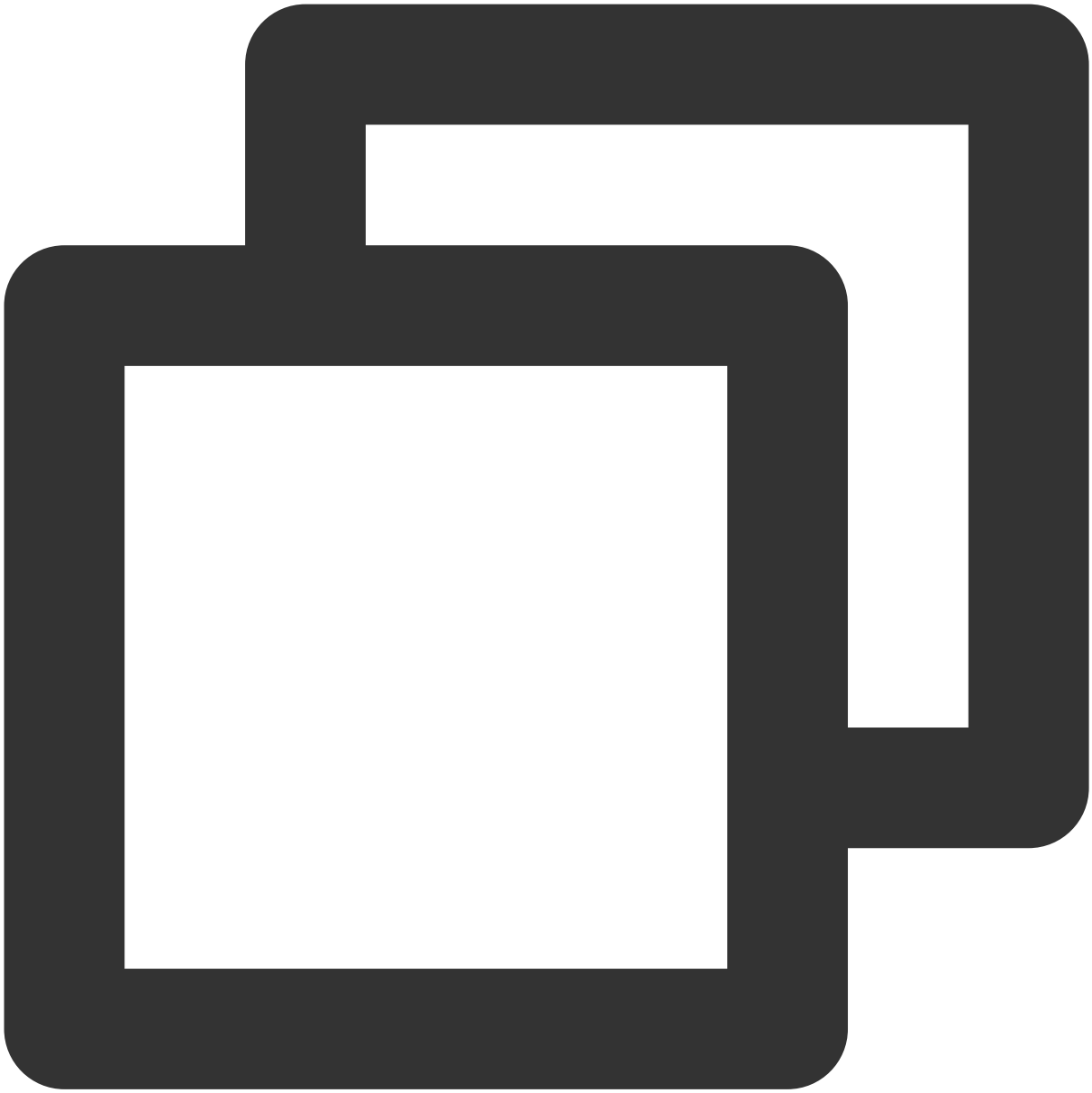


```
const roomEngine = new TUIRoomEngine();
const roomInfo = roomEngine.fetchRoomInfo();
```

Returns：*Promise<*TUIRoomInfo*> roomInfo*

updateRoomNameByAdmin

Update the current room's name (only group owner or admin can invoke).



```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({ roomId: '12345' });
await roomEngine.updateRoomNameByAdmin({ roomName: 'new name' });
```

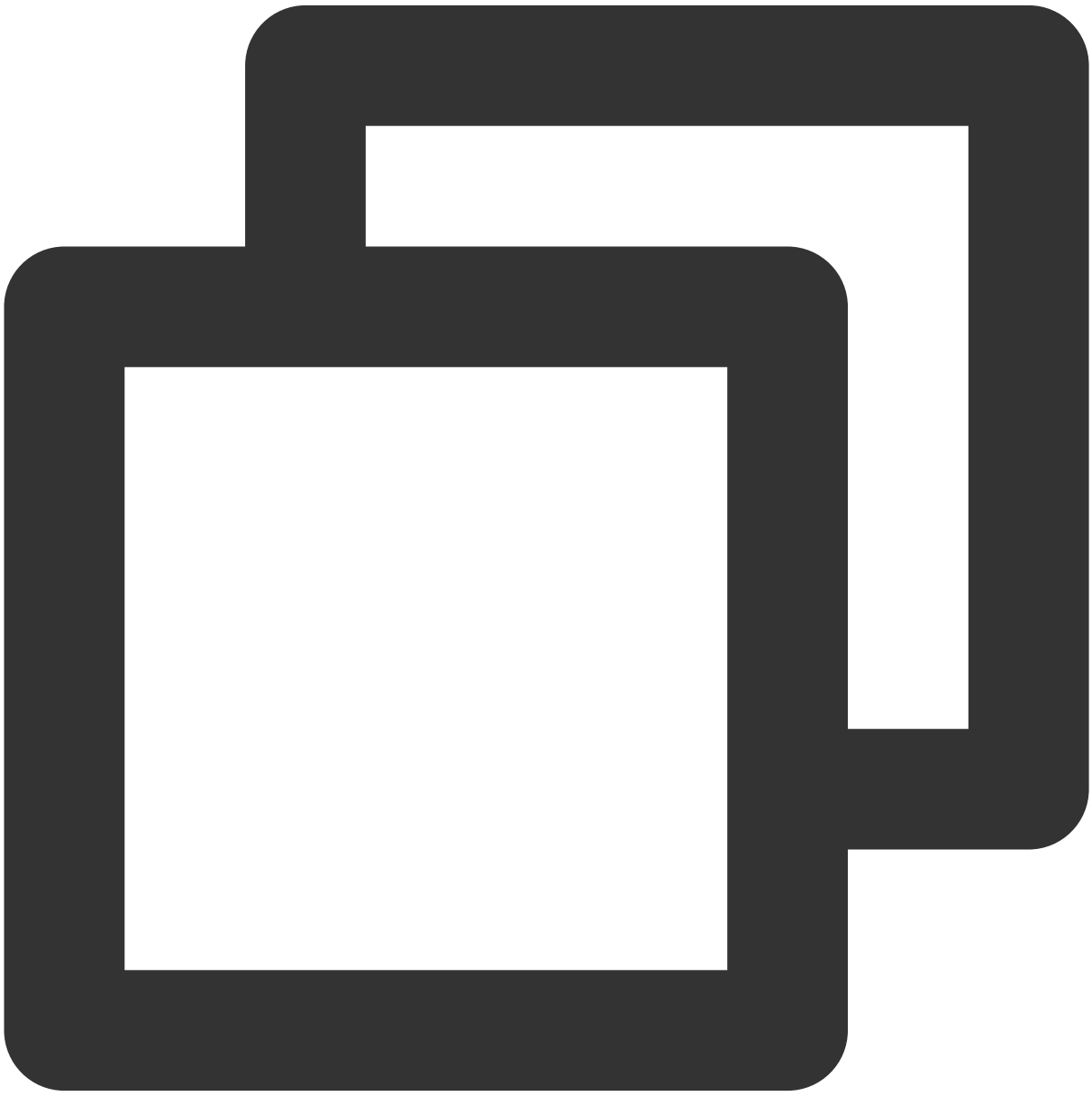
Parameter:

Parameter	Type	Description	Default Value	Meaning
roomName	string	Required	-	Update the room's name, with the requirement that roomName is not an empty string

Returns *Promise<void>*

updateRoomSpeechModeByAdmin

Update the room's speaking mode (only group owner or admin can invoke).



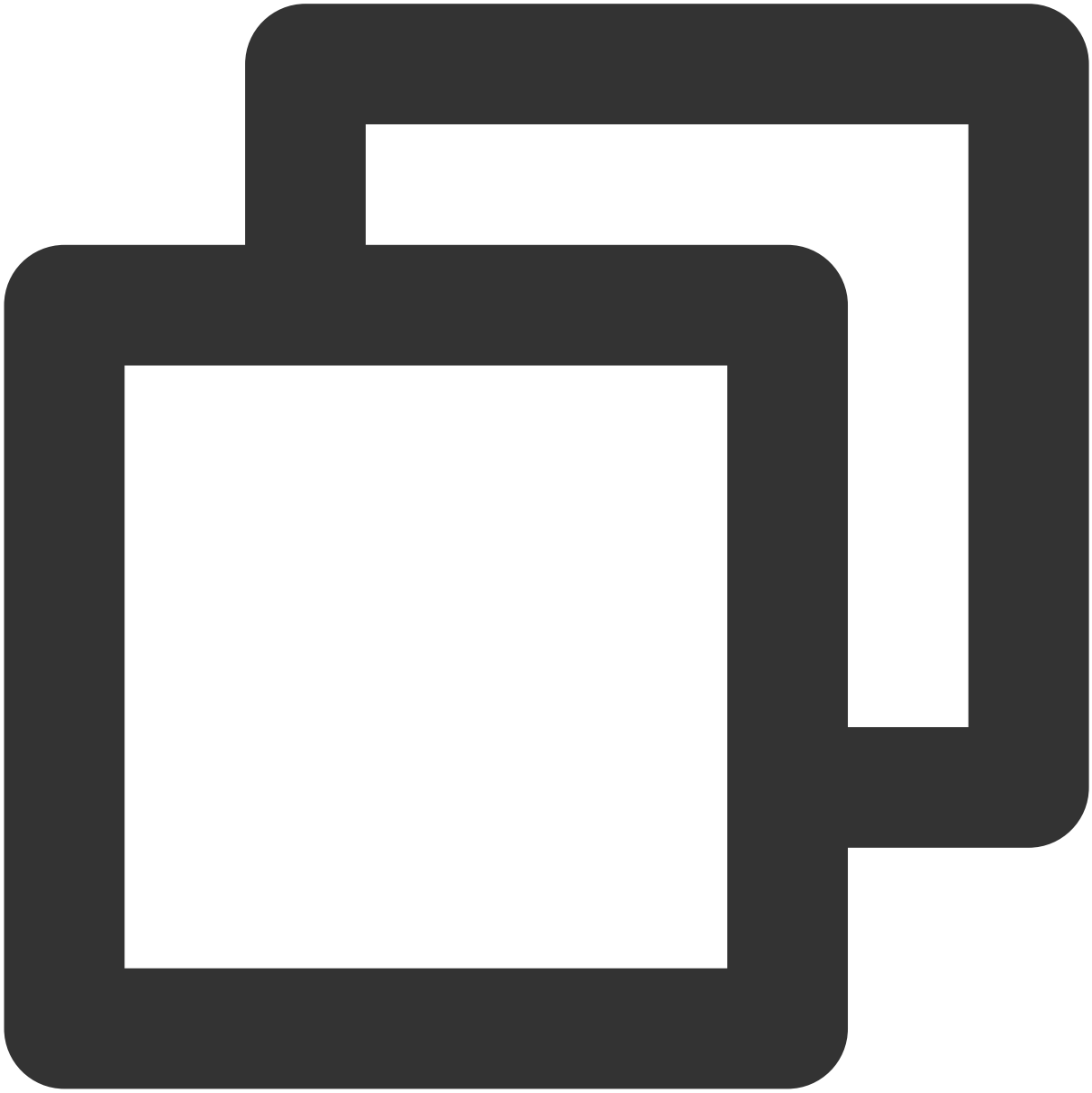
```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({ roomId: '12345' });
await roomEngine.updateRoomSpeechModeByAdmin({
  speechMode: TUISpeechMode.kSpeakAfterTakingSeat  // Update to Go Live Speaking mo
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
speechMode	TUISpeechMode	Required	-	Update the room's speaking mode

getUserList

Get the current room's user list, note that the maximum number of user lists fetched by this interface is 100.



```
const roomEngine = new TUIRoomEngine();
```

```
const userList = [];
let result;
do {
  result = await globalProperties.roomEngine.getUserList();
  userList.push(...result.userInfoList);
} while (result.nextSequence !== 0)
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
nextSequence	number	Optional	0	Offset, default is to start fetching users from 0

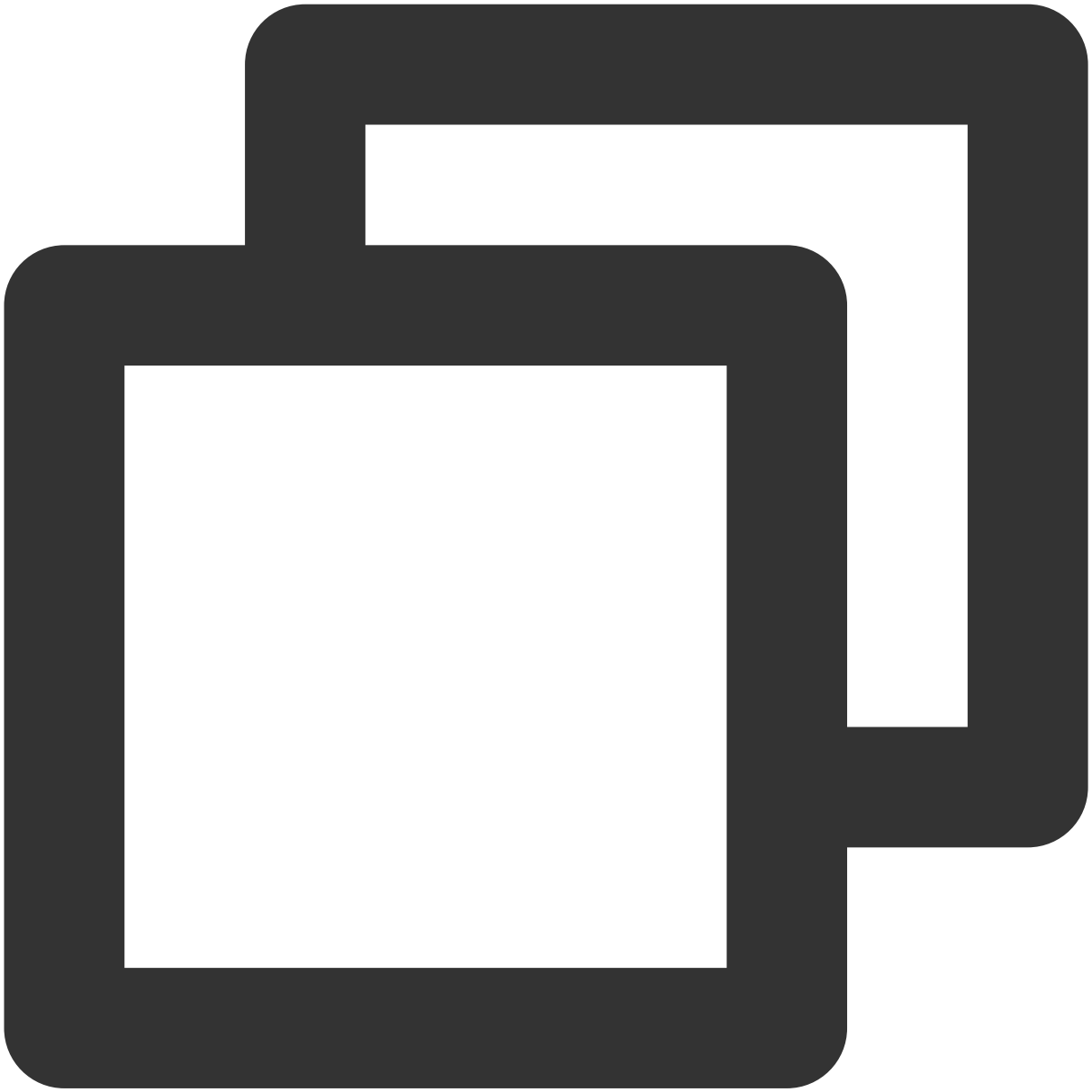
Returns：*Promise<object> result*

result.nextSequence is the offset for fetching group users next time, if result.nextSequence is 0, it means that all userList have been fetched

result.userInfoList is the userList fetched this time

getUserInfo

Get the detailed information of the user.



```
const roomEngine = new TUIRoomEngine();
const userList = [];
const userInfo = await roomEngine.getUserInfo({
    userId: 'user_12345',
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	Get the detailed information of the user

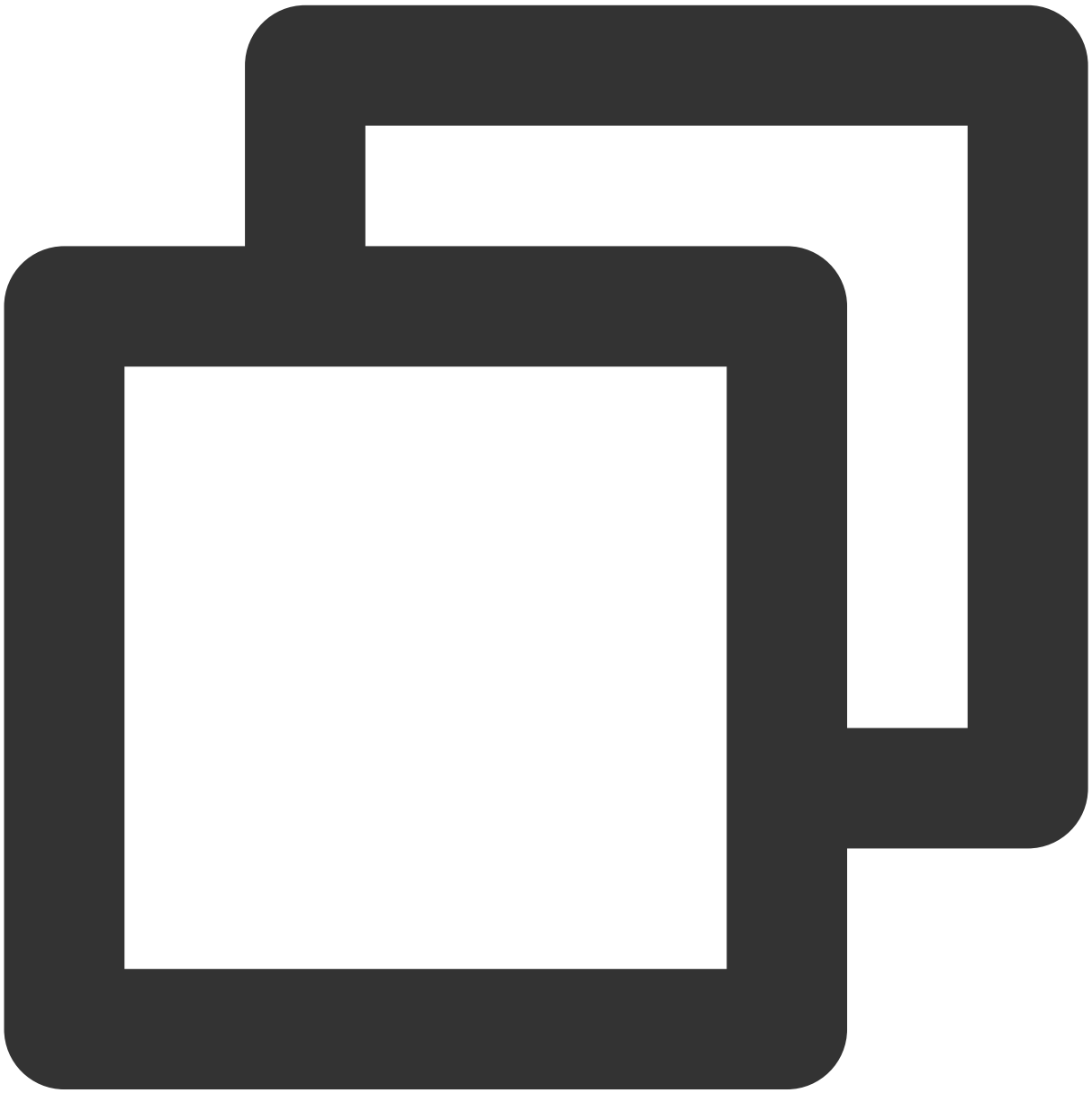
				according to userId

Returns：*Promise<*TUIUserInfo*> userInfo*

This interface returns the user information of the specified user

setLocalVideoView

Set the rendering position of the local stream.



```
const roomEngine = new TUIRoomEngine();
```

```
// Set the playback area of the local camera stream to the div element with id 'pre
await roomEngine.setLocalVideoView({
  streamType: TUIVideoStreamType.kCameraStream,
  view: 'preview-camera',
});

// Set the playback area of the local screen sharing stream to the div element with
await roomEngine.setLocalVideoView({
  streamType: TUIVideoStreamType.kScreenStream,
  view: 'preview-screen',
});
```

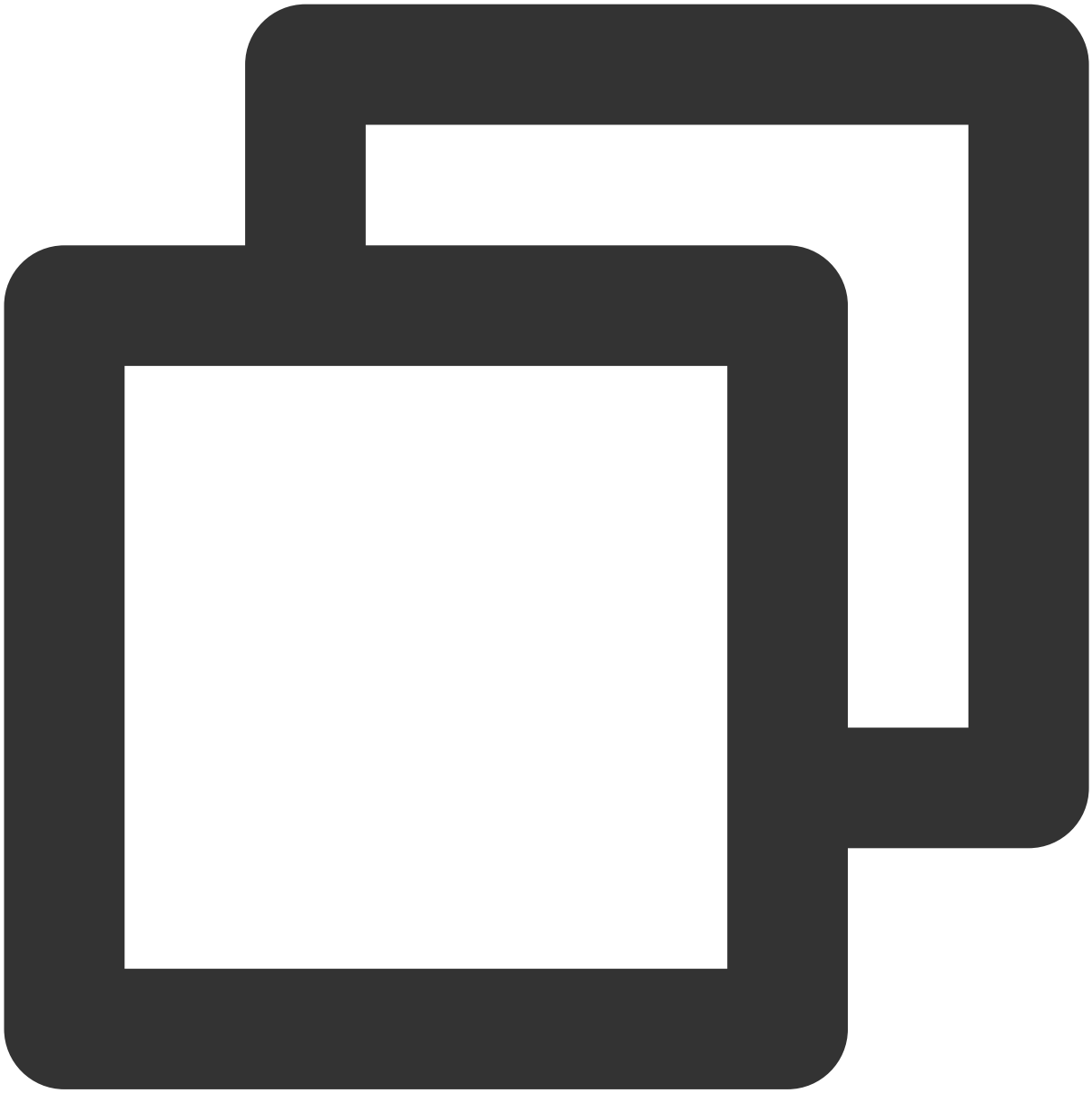
Parameter:

Parameter	Type	Description	Default Value	Meaning
streamType	TUIVideoStreamType	Required	-	Local stream type
view	string	Required	-	The id of the div element corresponding to the streamType

Returns：*Promise<void>*

openLocalCamera

Open the local camera and start capturing video streams.

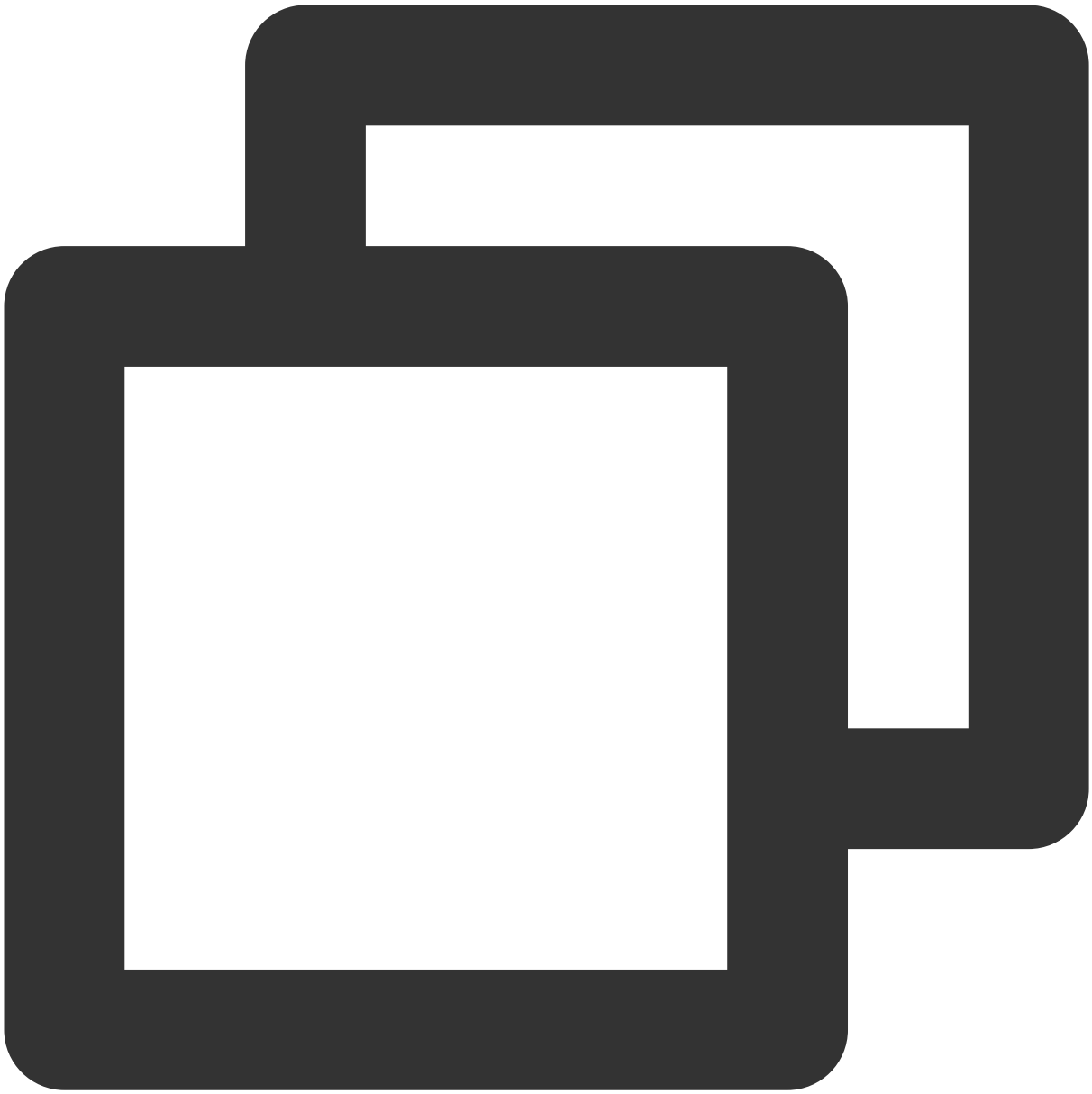


```
const roomEngine = new TUIRoomEngine();
await roomEngine.setLocalVideoView({
  streamType: TUIVideoStreamType.kCameraStream,
  view: 'preview-camera',
});
await roomEngine.openLocalCamera();
```

Returns：*Promise<void>*

closeLocalCamera

Close the local camera.

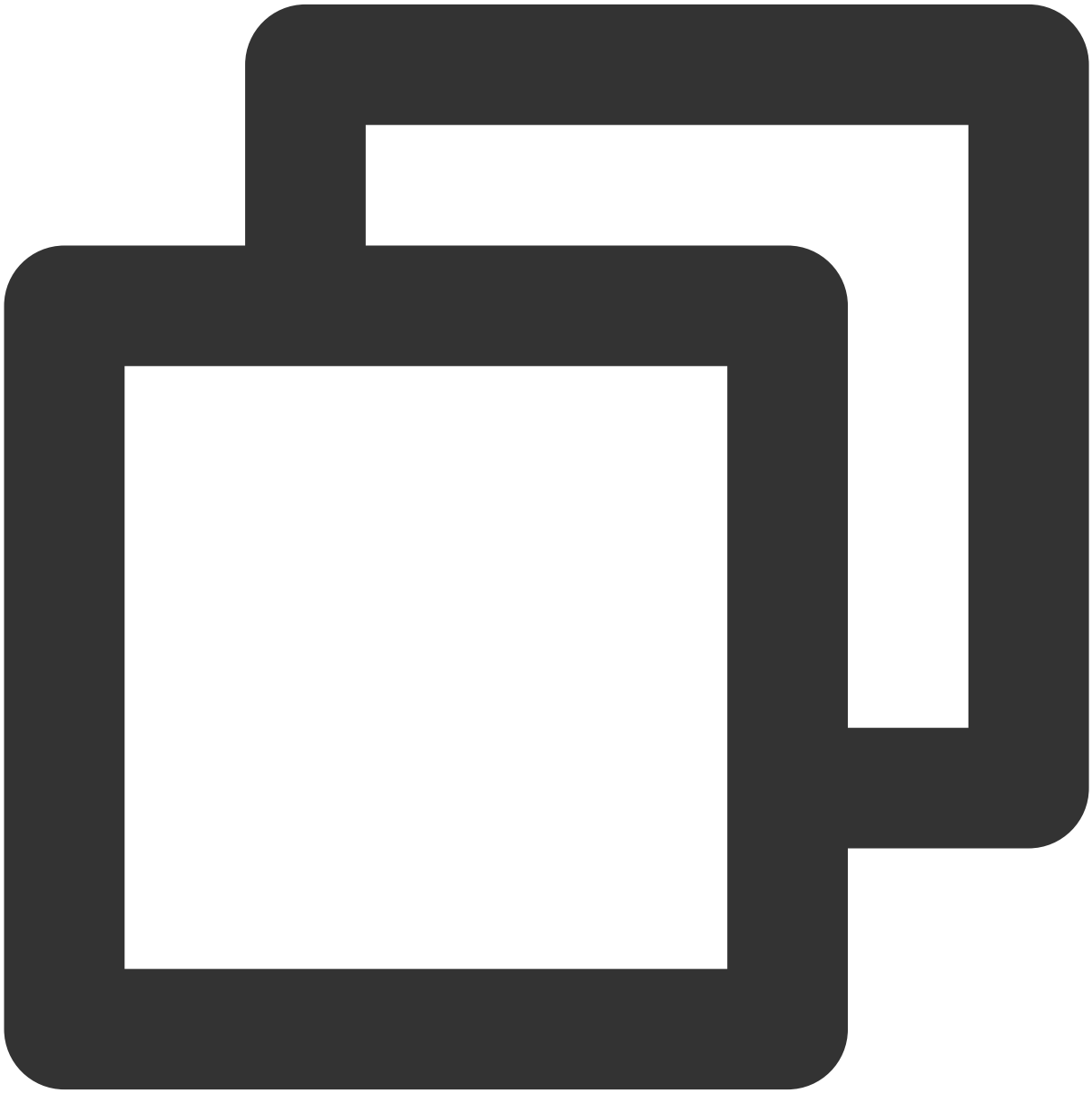


```
const roomEngine = new TUIRoomEngine();
await roomEngine.closeLocalCamera();
```

Returns：*Promise<void>*

openLocalMicrophone

Open the local mic and start capturing audio streams.

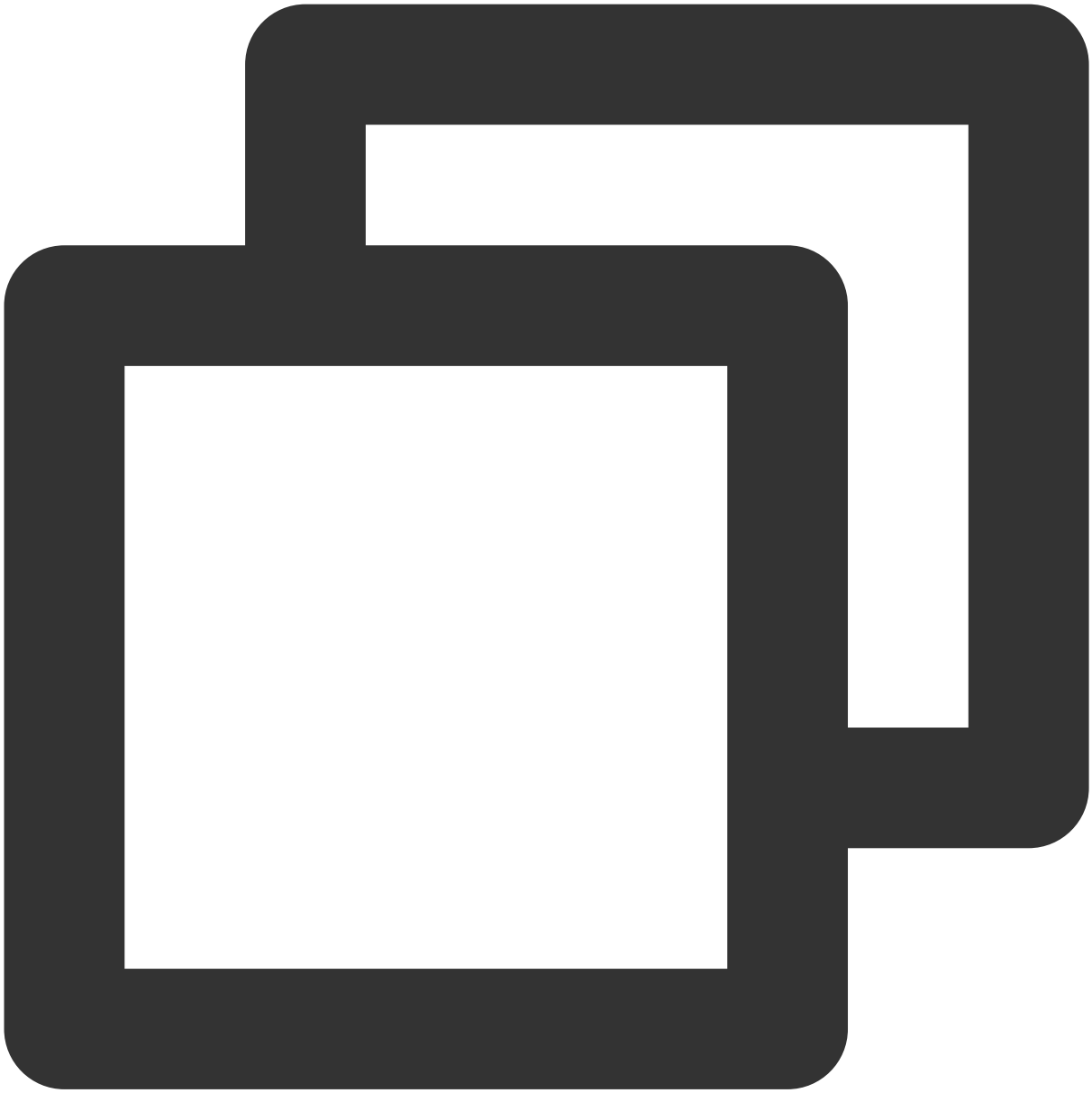


```
const roomEngine = new TUIRoomEngine();
await roomEngine.openLocalMicrophone();
```

Returns：*Promise<void>*

closeLocalMicrophone

Close the local mic.

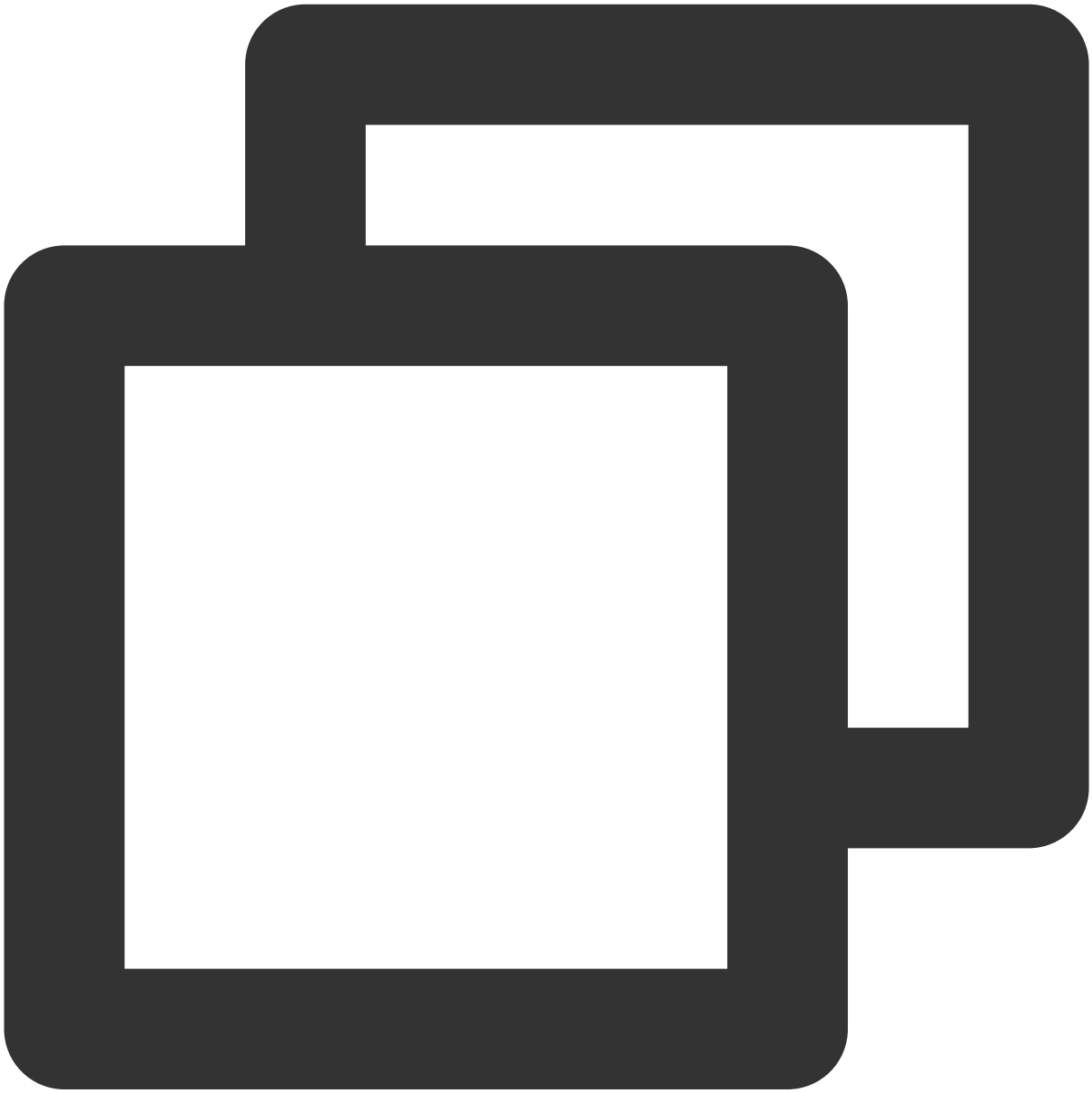


```
const roomEngine = new TUIRoomEngine();
await roomEngine.closeLocalMicrophone();
```

Returns：*Promise<void>*

updateVideoQuality

Set the codec parameters of the local video stream, default is TUIVideoProfile.kVideoQuality_720P.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.updateVideoQuality({
    quality: TUIVideoQuality.kVideoQuality_540p,
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
quality	TUIVideoQuality	Required	-	Clear TUIVideoProfile.kVideoQuality_360P

				SD TUIVideoProfile.kVideoQuality_540P HD TUIVideoProfile.kVideoQuality_720P Full HD TUIVideoProfile.kVideoQuality_1080P

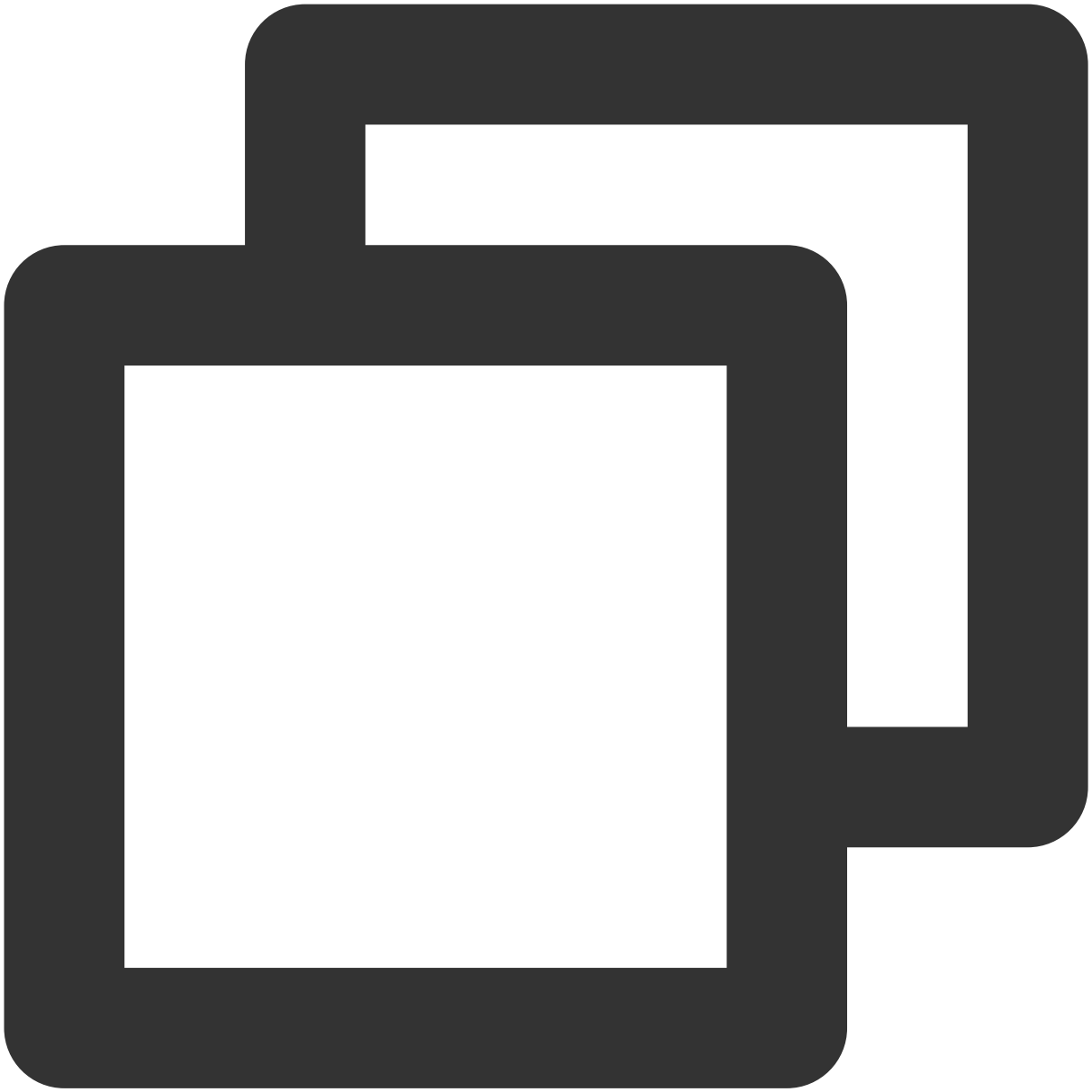
Returns：*Promise<void>*

updateAudioQuality

Set Local Audio Parameters.

Note:

This method needs to be set before openLocalMicrophone, otherwise it will not take effect.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setLocalAudioProfile({
    audioProfile: TUIAudioProfile.kAudioProfileSpeech,
});
```

Parameter:

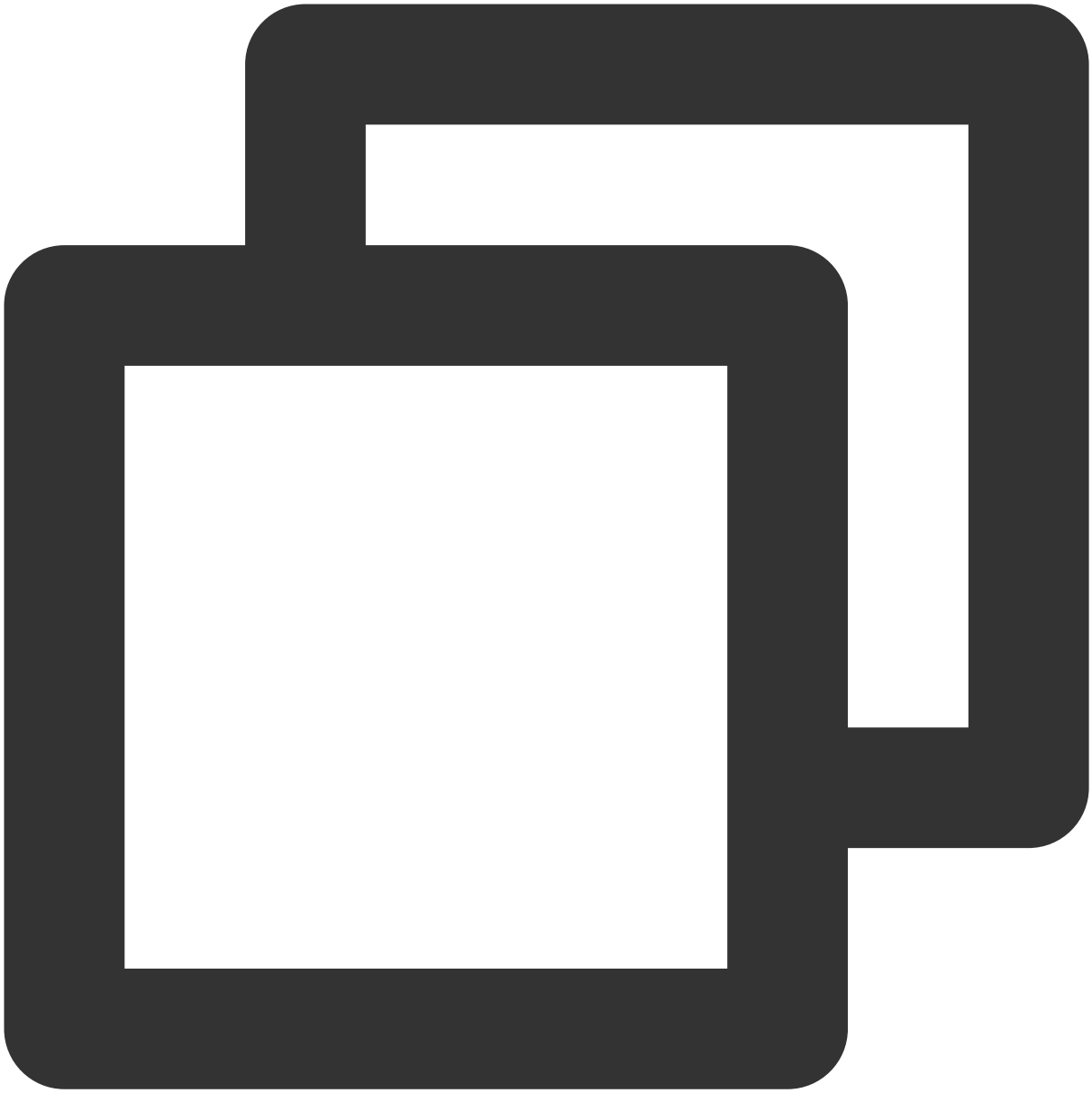
Parameter	Type	Description	Default Value	Meaning
audioProfile	TUIAudioProfile	Required	-	TUIAudioProfile.kAudioProfileSpeech: Speech

				Mode; Sample rate: 16k TUIAudioProfile.kAudioProfileDefault: Standard Mode (or Default Mode); Sample rate: 48k TUIAudioProfile.kAudioProfileMusic: Music Mode; Sample rate: 48k

Returns：*Promise<void>*

startPushLocalVideo

After entering the room, the local video stream will be pushed to the remote by default. This interface is used to re-push the local video stream to the remote after stopping the push.

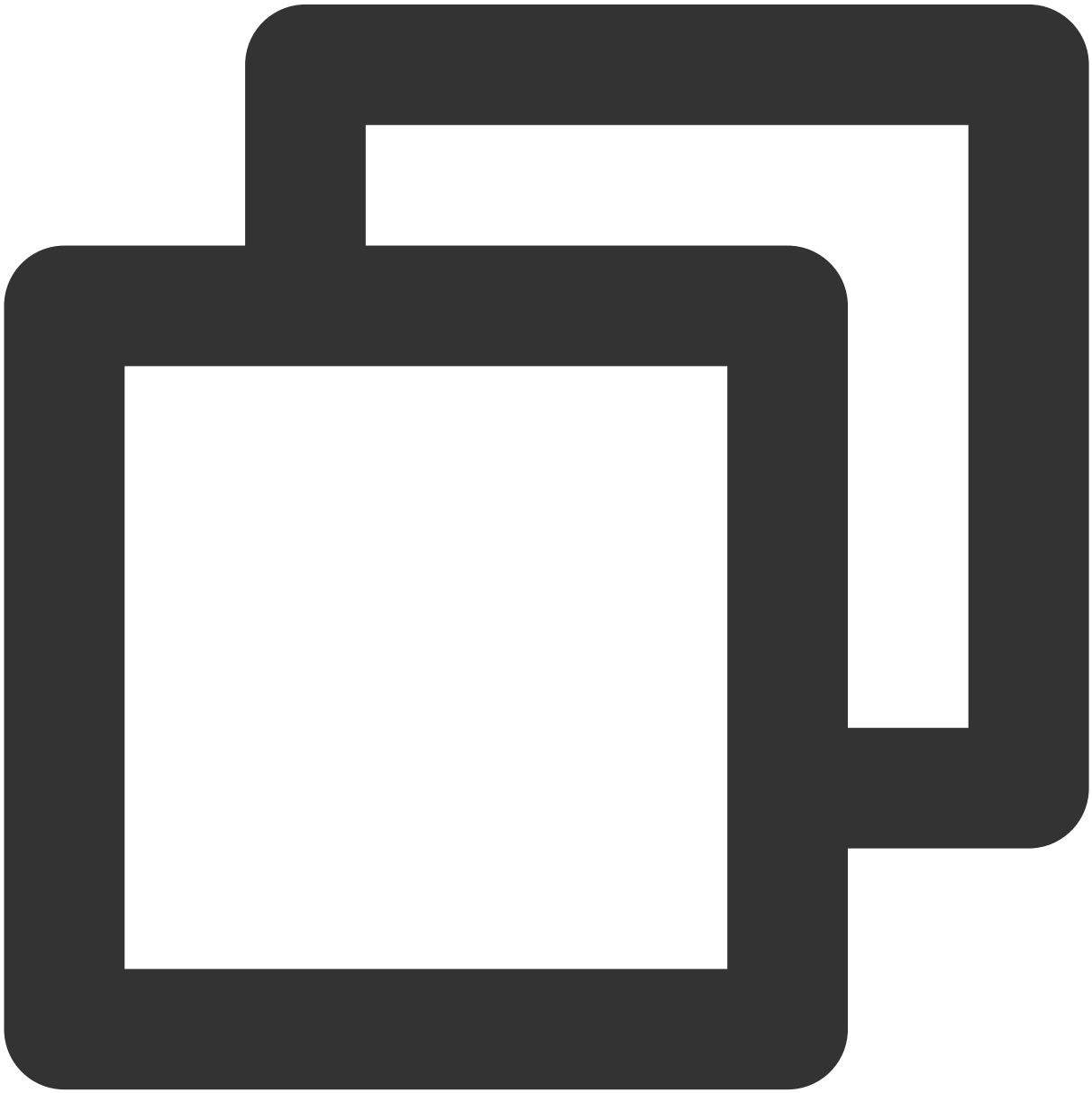


```
const roomEngine = new TUIRoomEngine();
await roomEngine.startPushLocalVideo();
```

Returns：*Promise<void>*

stopPushLocalVideo

Stop Pushing Local Video Stream to Remote.

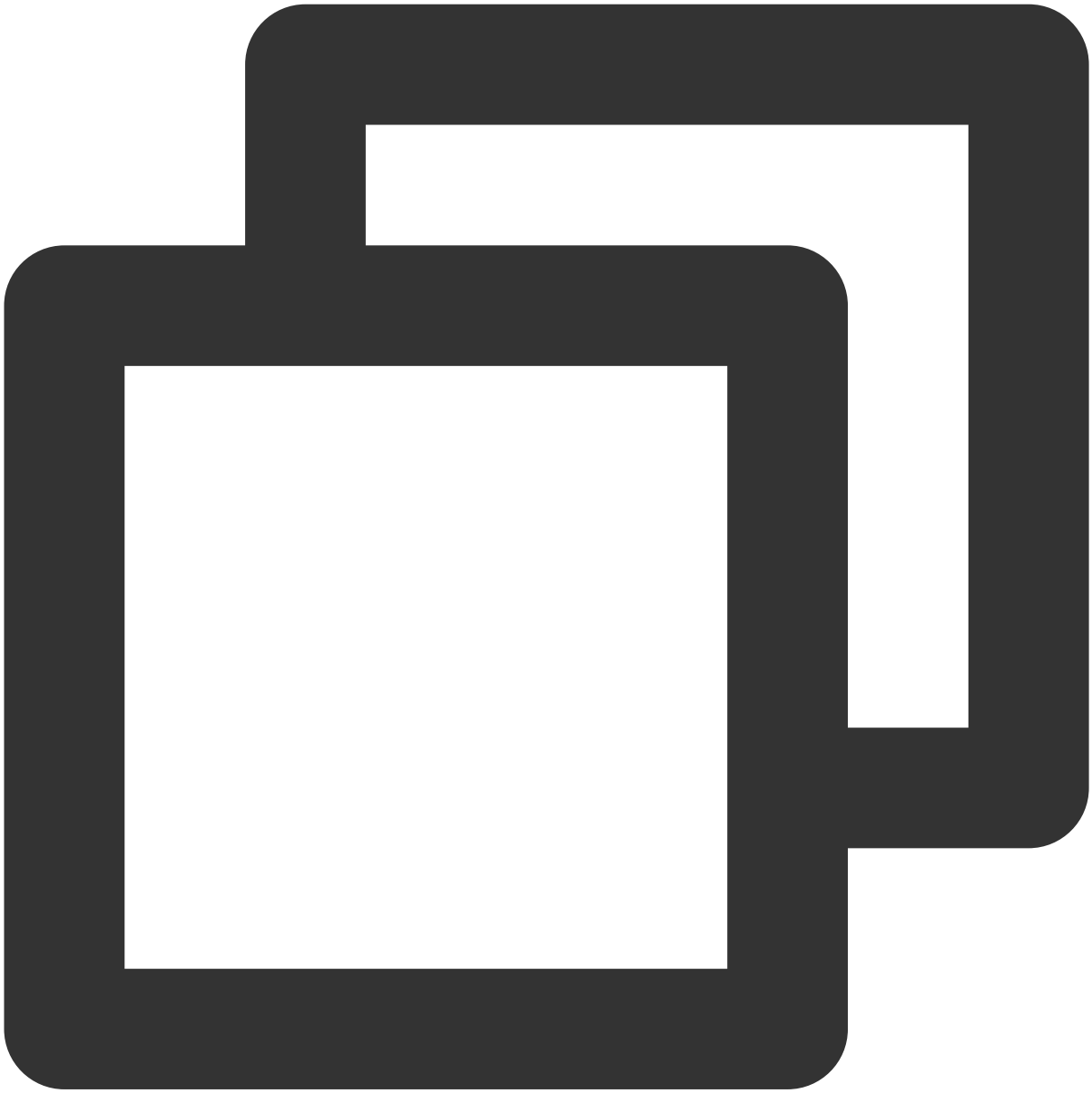


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopPushLocalVideo();
```

Returns：*Promise<void>*

startPushLocalAudio

After entering the room, the local audio stream will be pushed to the remote by default. This interface is used to re-push the local audio stream to the remote after stopping the push.

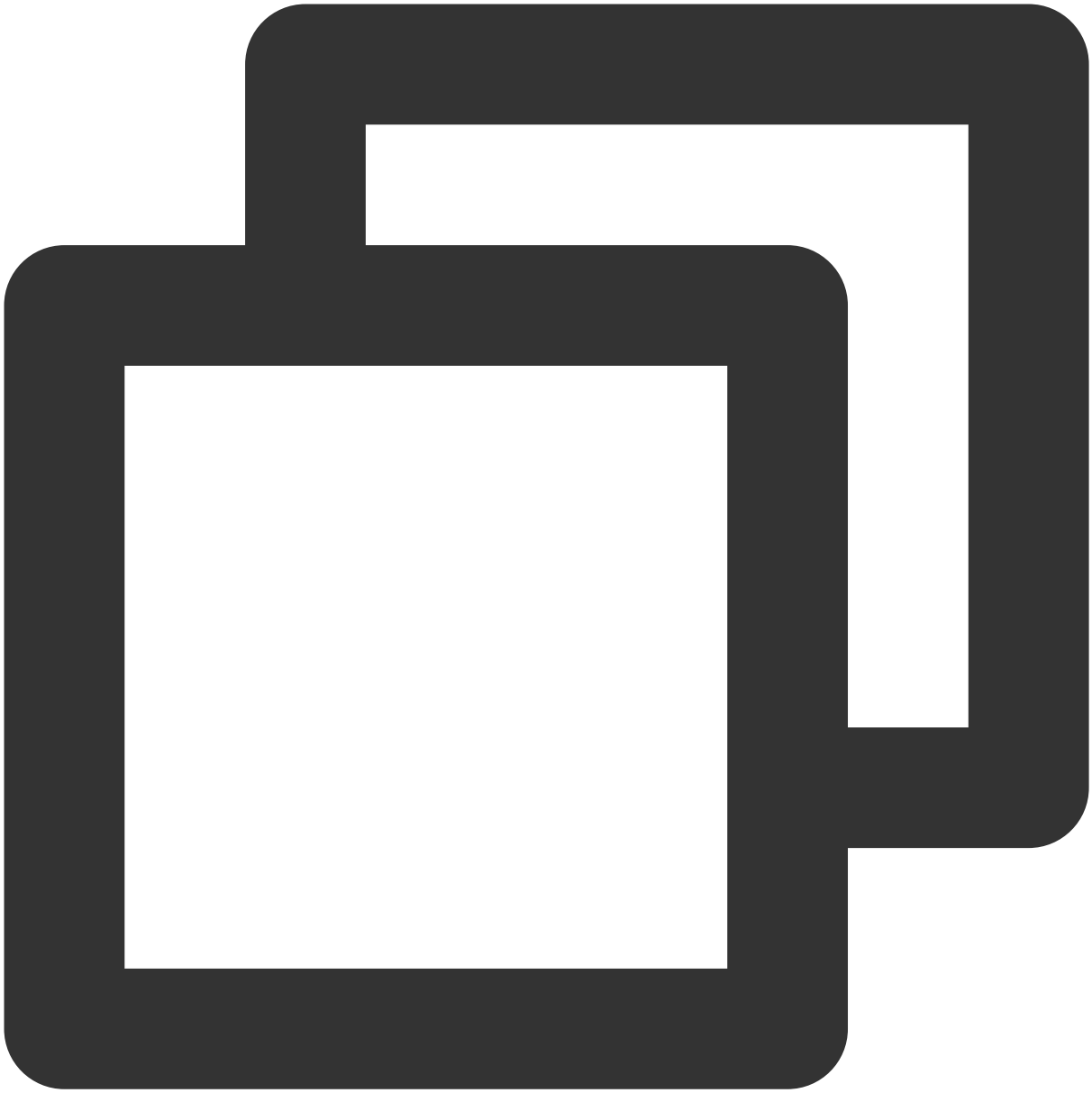


```
const roomEngine = new TUIRoomEngine();
await roomEngine.startPushLocalAudio();
```

Returns：*Promise<void>*

stopPushLocalAudio

Stop Pushing Local Audio Stream to Remote.

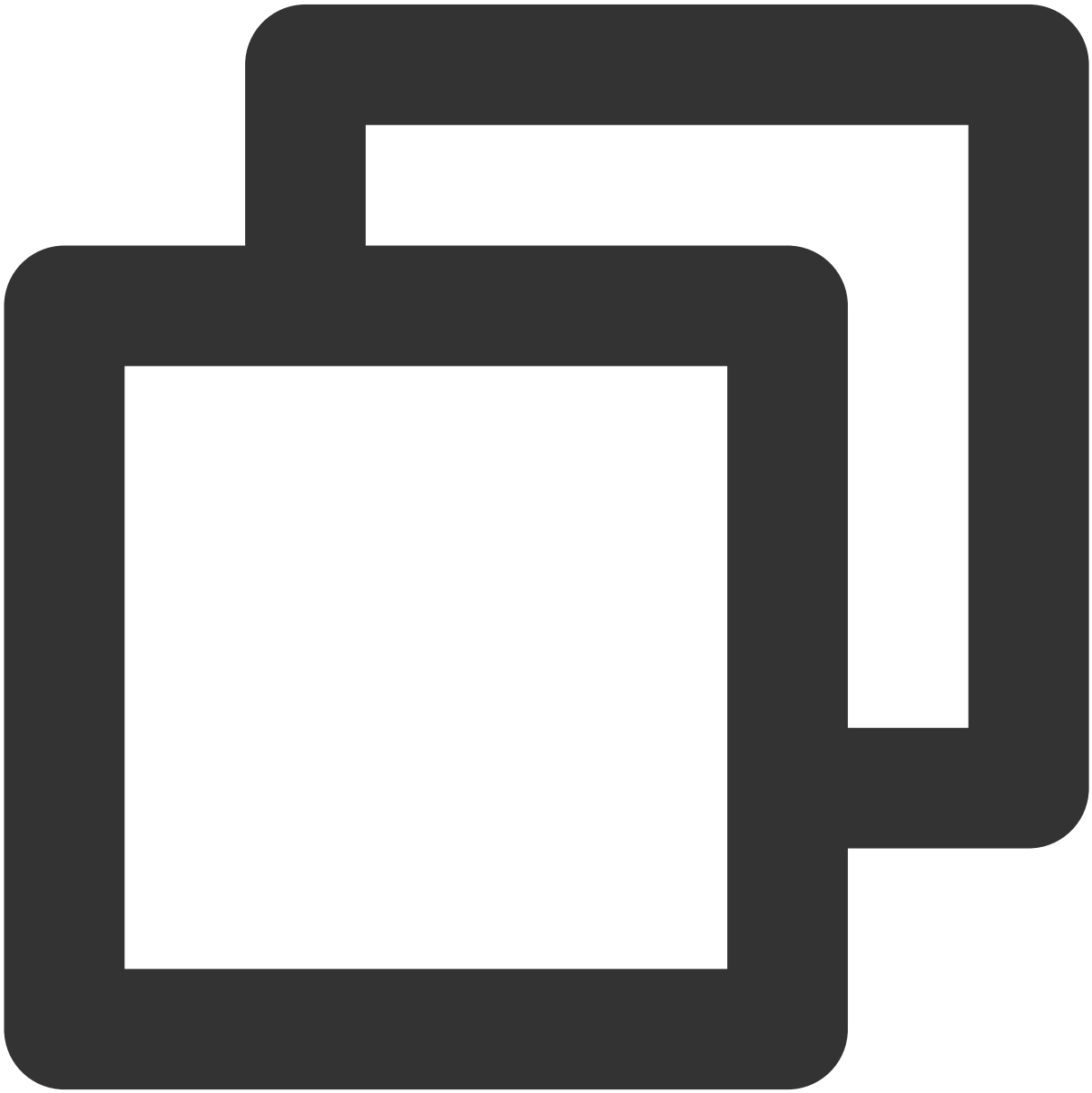


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopPushLocalAudio();
```

Returns：*Promise<void>*

setRemoteVideoView

Set Remote Stream Rendering Area.



```
const roomEngine = new TUIRoomEngine();

// Set the remote user's video stream to play in the area with id 'remote_preview_c
await roomEngine.setRemoteVideoView({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kCameraStream,
   view: 'remote_preview_camera',
});
// Set the remote user's screen sharing stream to play in the area with id 'remote_
await roomEngine.setRemoteVideoView({
   userId: 'user_1234',
```

```
    streamType: TUIVideoStreamType.kScreenStream,
    view: 'remote_preview_screen',
});
```

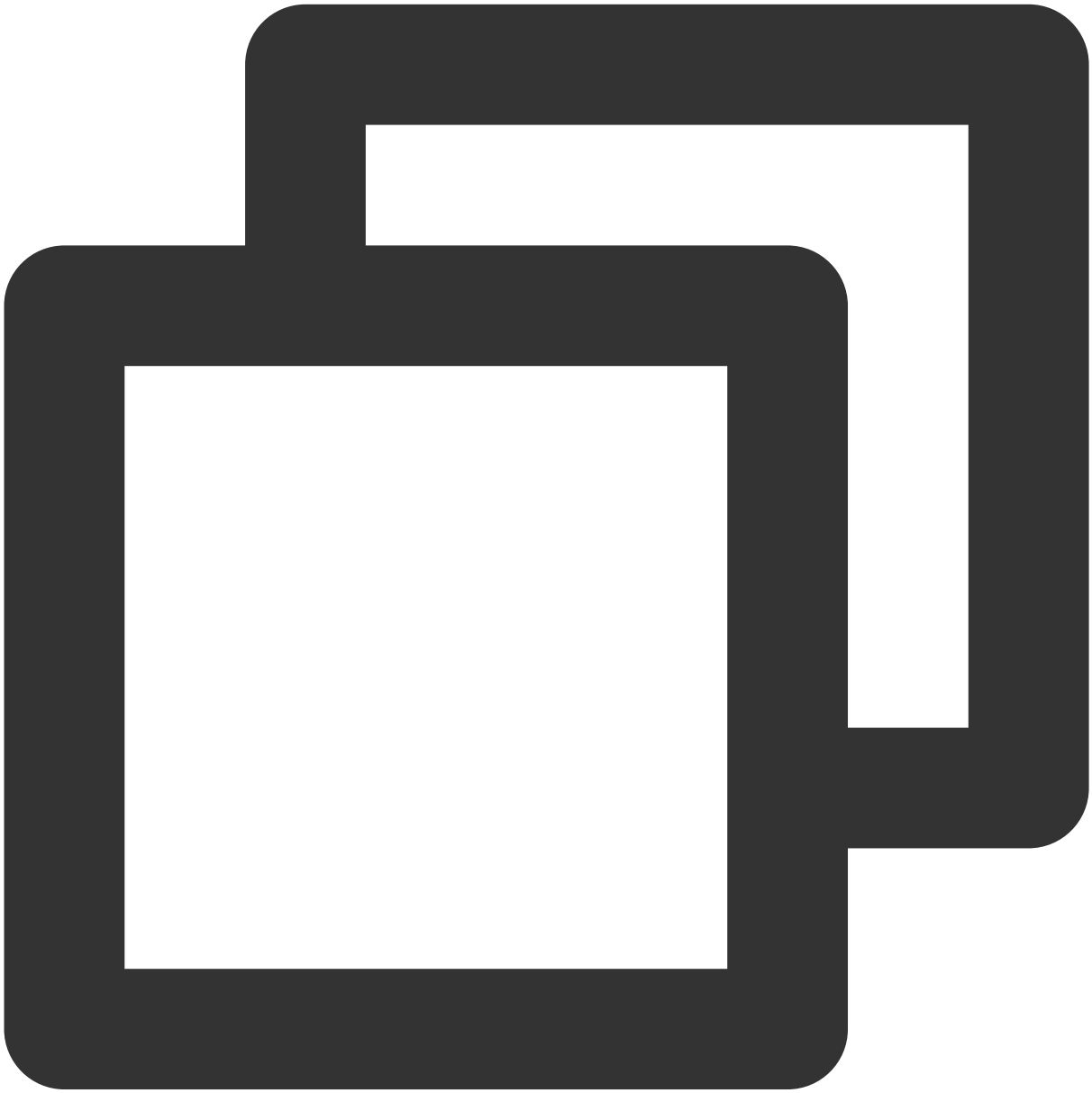
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
streamType	TUIVideoStreamType	Required	-	User Stream Type
view	string	Required	-	The id of the div element playing the remote user's stream

Returns：*Promise<void>*

startPlayRemoteVideo

Start Playback of Remote User Video Stream.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.startPlayRemoteVideo({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kCameraStream,
});
```

Parameter:

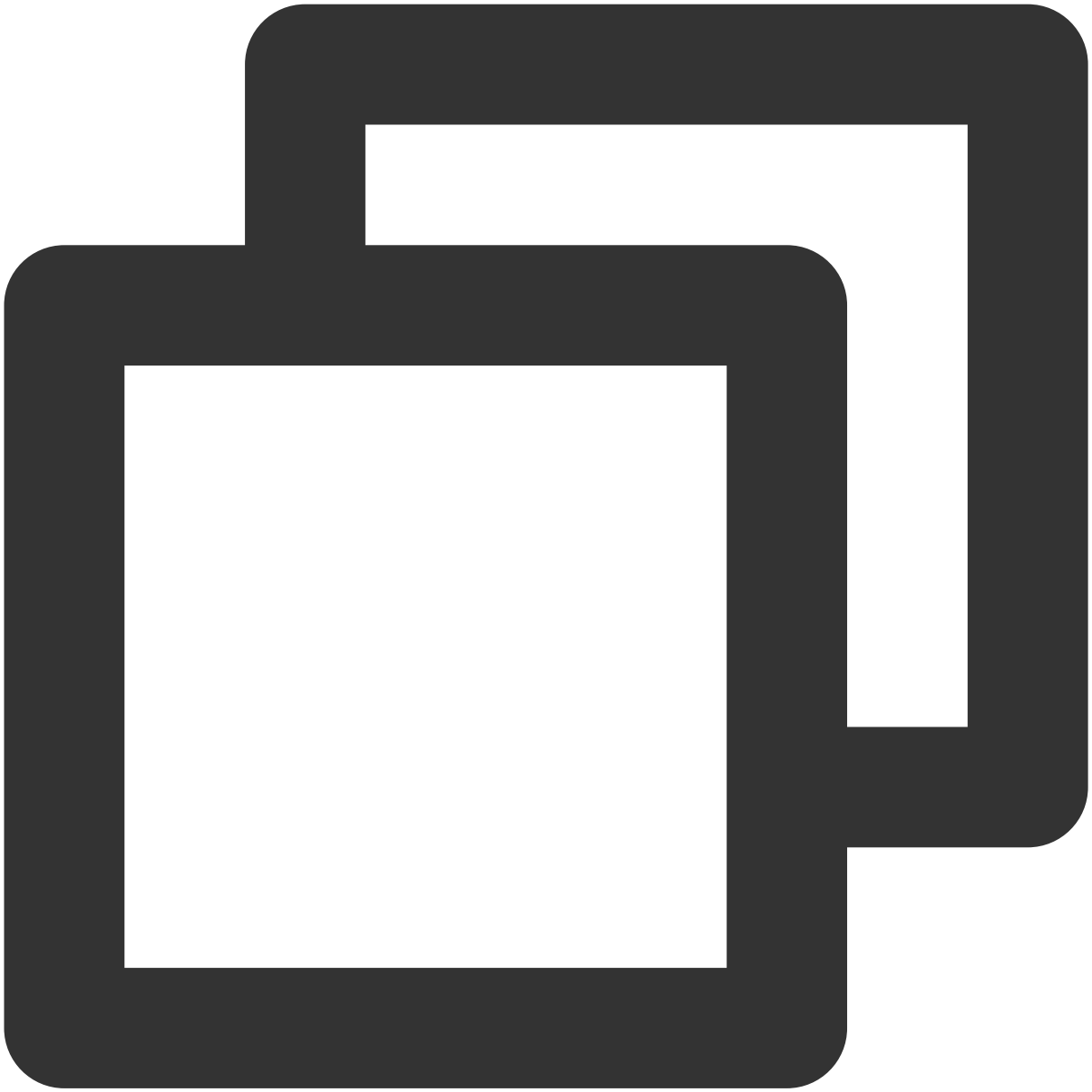
Parameter	Type	Description	Default Value	Meaning

userId	string	Required	-	User ID
streamType	TUIVideoStreamType	Required	-	User Stream Type TUIVideoStreamType.kCameraStream Video Stream TUIVideoStreamType.kScreenStream Screen Sharing Stream TUIVideoStreamType.kCameraStreamLow Low Definition Video Stream

Returns：*Promise<void>*

stopPlayRemoteVideo

Stop Playback of Remote User Video Stream.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopPlayRemoteVideo({
   userId: 'user_1234',
   streamType: TUIVideoStreamType.kCameraStream,
});
```

Parameter:

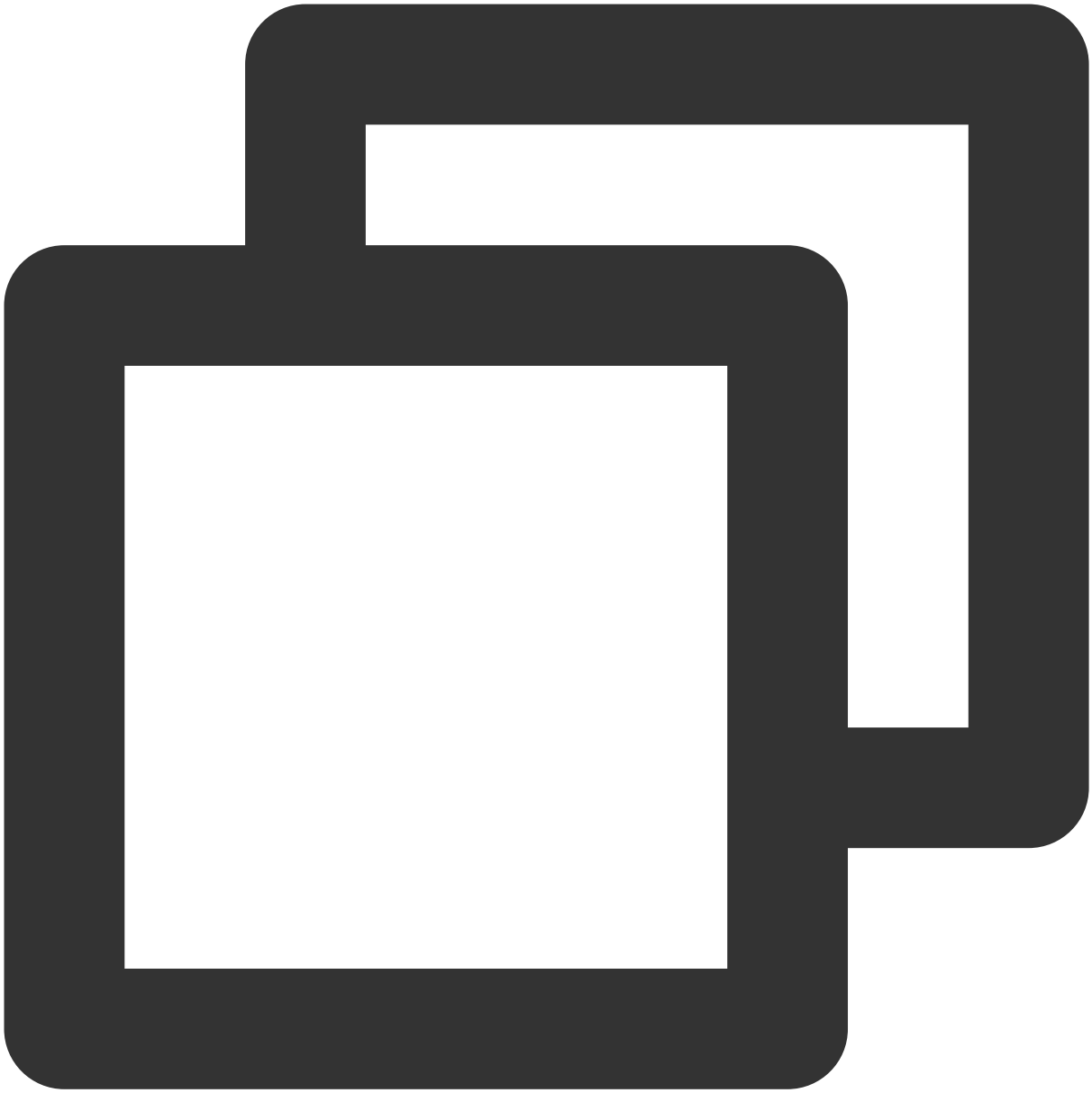
Parameter	Type	Description	Default Value	Meaning

userId	string	Required	-	User ID
streamType	TUIVideoStreamType	Required	-	User Stream Type TUIVideoStreamType.kCameraStream Video Stream TUIVideoStreamType.kScreenStream Screen Sharing Stream TUIVideoStreamType.kCameraStreamLow Low Definition Video Stream

Returns：*Promise<void>*

muteRemoteAudioStream

Stop Remote User's Audio Stream.

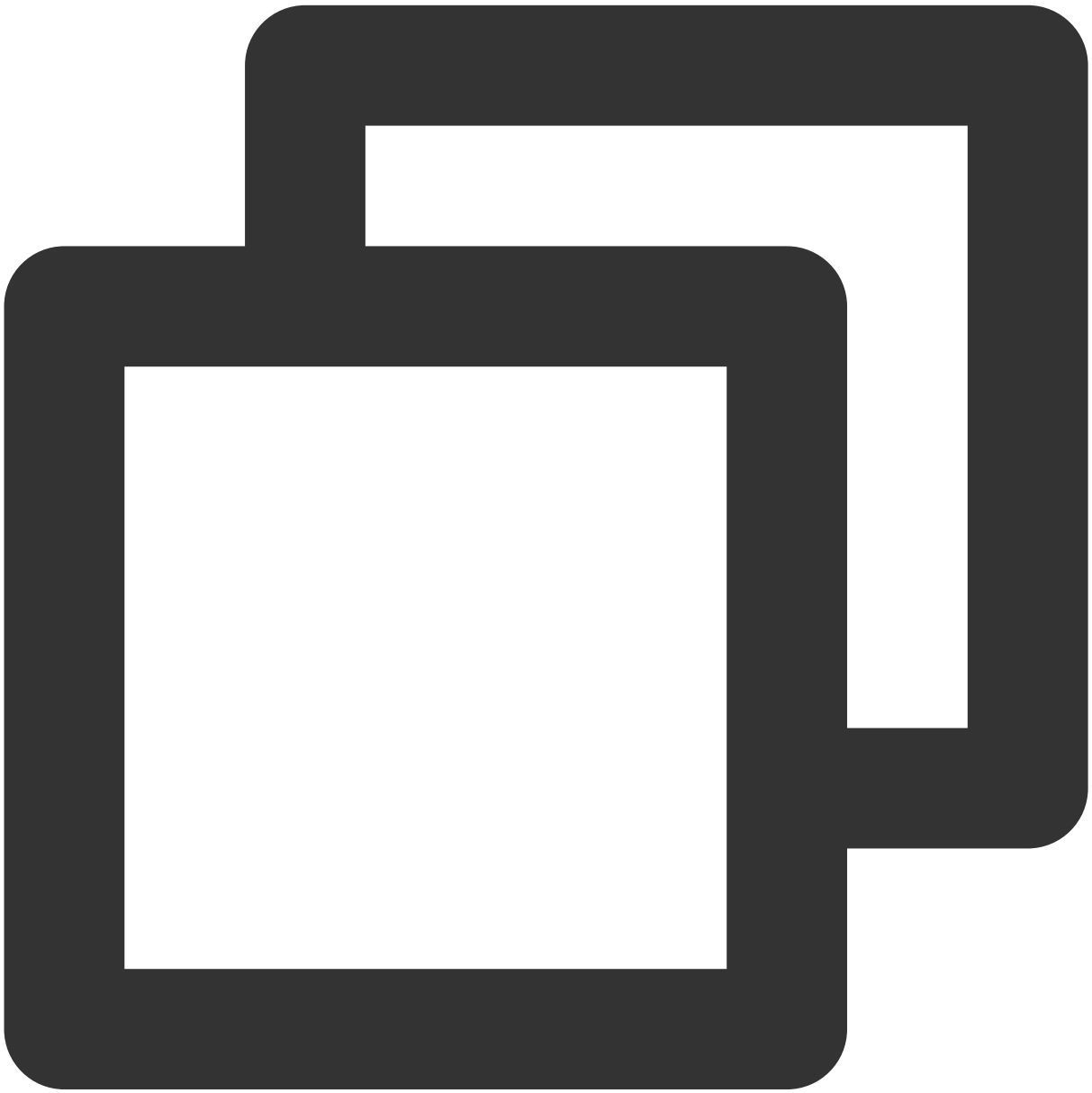


```
const roomEngine = new TUIRoomEngine();
await roomEngine.muteRemoteAudioStream({
  userId: 'user_1234',
  isMute: true,
});
```

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
isMute	boolean	Required	-	Whether to Stop Remote User's Audio

openRemoteDeviceByAdmin

Request Remote User to Open Media Device.



```
const roomEngine = new TUIRoomEngine();
const requestId = roomEngine.openRemoteDeviceByAdmin({
    userId: 'user_1234',
    device: TUIMediaDevice.kMicrophone  //The requested device is a mic
    timeout: 0,
    requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
```

```
      switch (requestCallbackType) {
        case TUIRequestCallbackType.kRequestAccepted:
          // Request Accepted
          break;
        case TUIRequestCallbackType.kRequestRejected:
          // Request Rejected
          break;
        case TUIRequestCallbackType.kRequestCancelled:
          // Request Canceled
          break;
        case TUIRequestCallbackType.kRequestTimeout:
          // Request Timeout
          break;
        case TUIRequestCallbackType.kRequestError:
          // Request Error
          break;
        default:
          break;
      }
    },
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
device	TUIMediaDevice	Required	-	Media Device Type (Camera/Mic/Screen Sharing)
timeout	number	Required	-	Timeout Time. If timeout is set to 0, there is no timeout time
requestCallback	Function	Optional	Empty Function	Request Callback, used to notify the initiator of the request being accepted/rejected/canceled/timeout/error

Returns：*Promise<string> requestId*

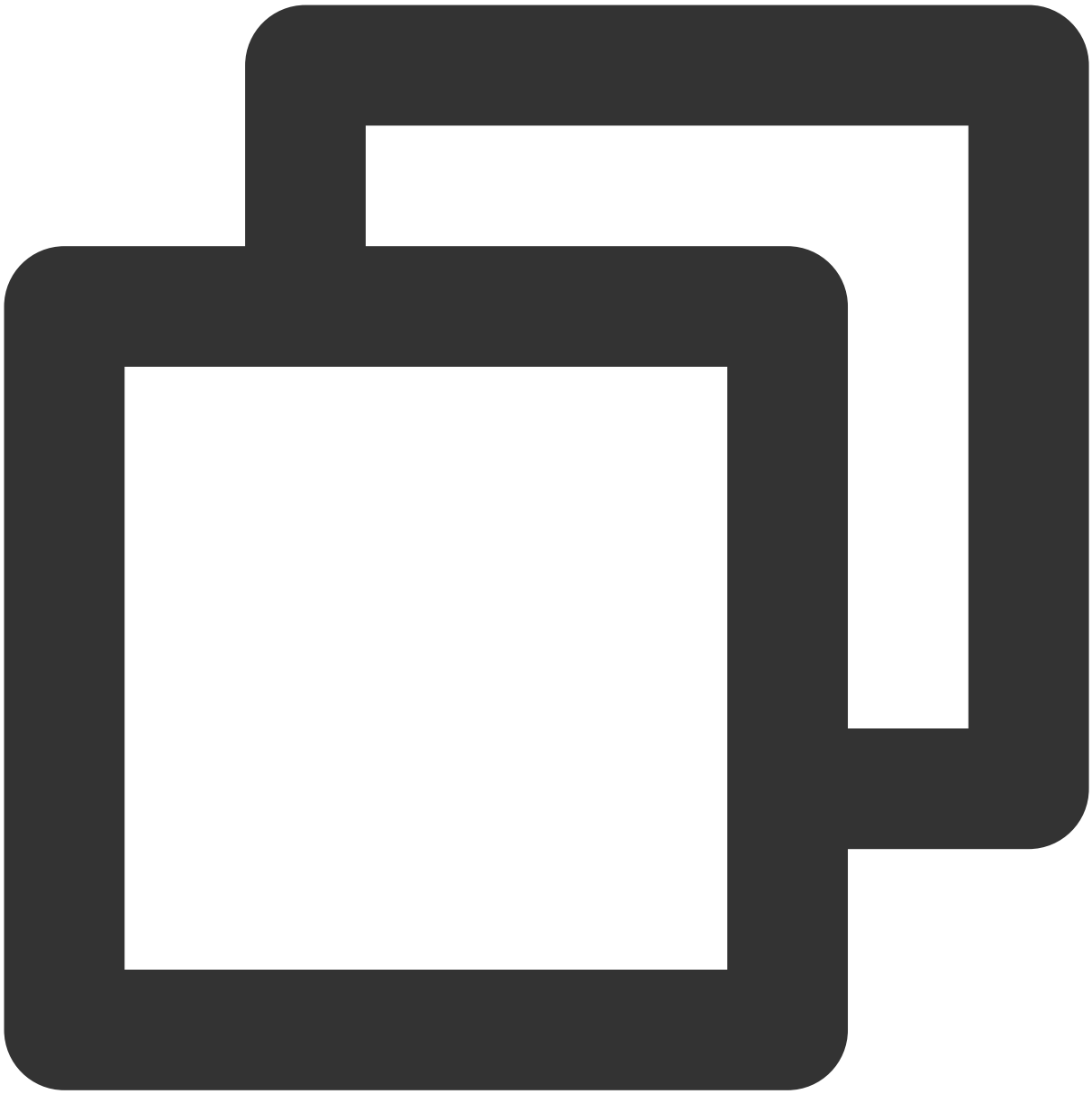
This interface returns requestId, users can use this requestId to call cancelRequest interface to cancel the request.

Description:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

applyToAdminToOpenLocalDevice

Participant applies to the host to open the device.



```
const roomEngine = new TUIRoomEngine();
const requestId = roomEngine.applyToAdminToOpenLocalDevice({
    device: TUIMediaDevice.kMicrophone  //The requested device is a mic
    timeout: 0,
    requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
     switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
```

```
        case TUIRequestCallbackType.kRequestRejected:
          // Request Rejected
          break;
        case TUIRequestCallbackType.kRequestCancelled:
          // Request Canceled
          break;
        case TUIRequestCallbackType.kRequestTimeout:
          // Request Timeout
          break;
        case TUIRequestCallbackType.kRequestError:
          // Request Error
          break;
        default:
          break;
      }
    },
  });
```

Parameter:

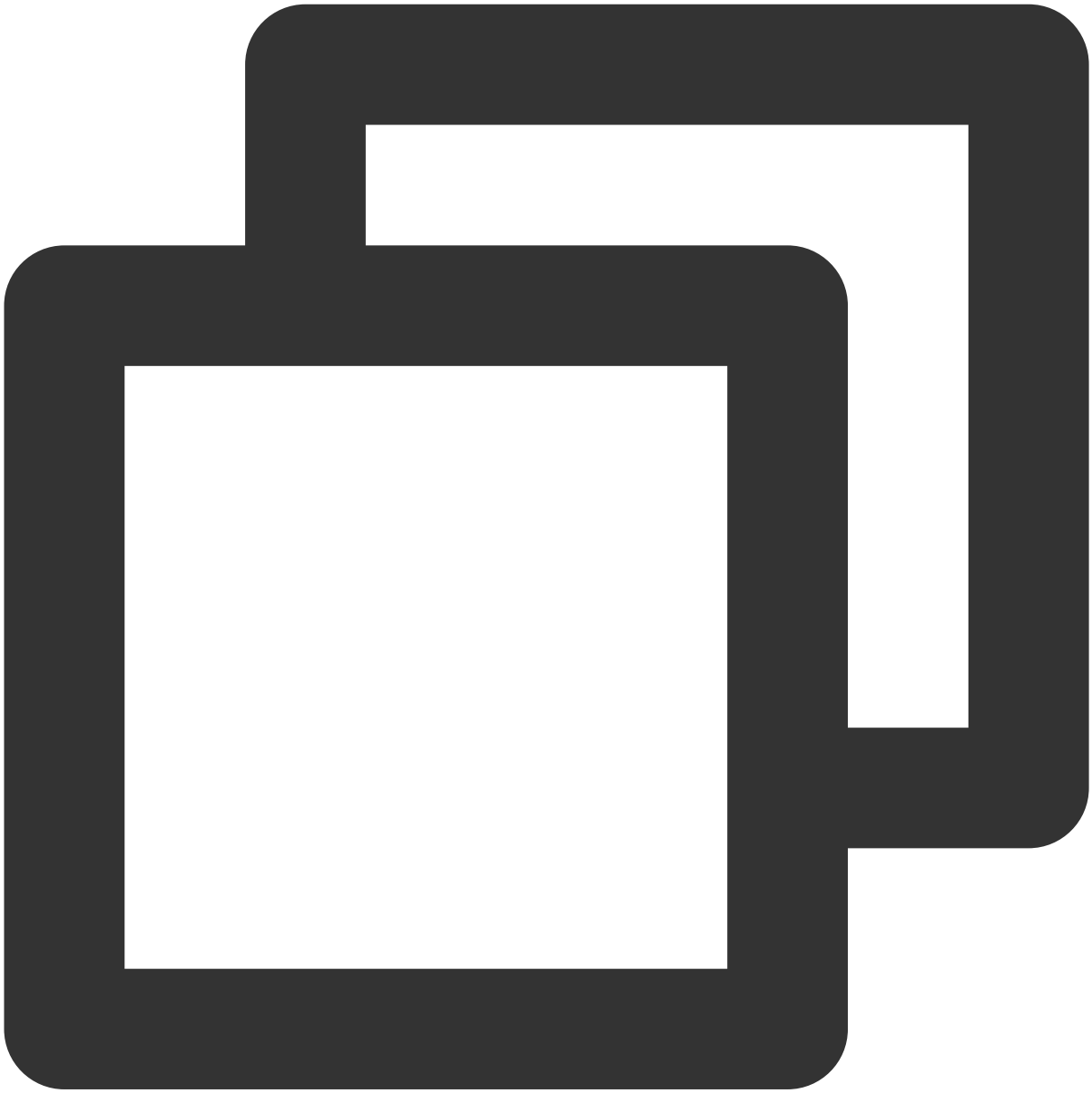
Parameter	Type	Description	Default Value	Meaning
device	TUIMediaDevice	Required	-	Media Device Type (Camera/Mic/Screen Sharing)
timeout	number	Required	-	Timeout Time. If timeout is set to 0, there is no timeout time
requestCallback	Function	Optional	Empty Function	Request Callback, used to notify the initiator of the request being accepted/rejected/canceled/timeout/error

Returns：*Promise<string> requestId*

This interface returns requestId, users can use this requestId to call cancelRequest interface to cancel the request.

closeRemoteDeviceByAdmin

Close Remote User Media Device.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.closeRemoteDeviceByAdmin({
   userId: 'user_1234',
   device: TUIMediaDevice.kMicrophone, //Close mic
 });
```

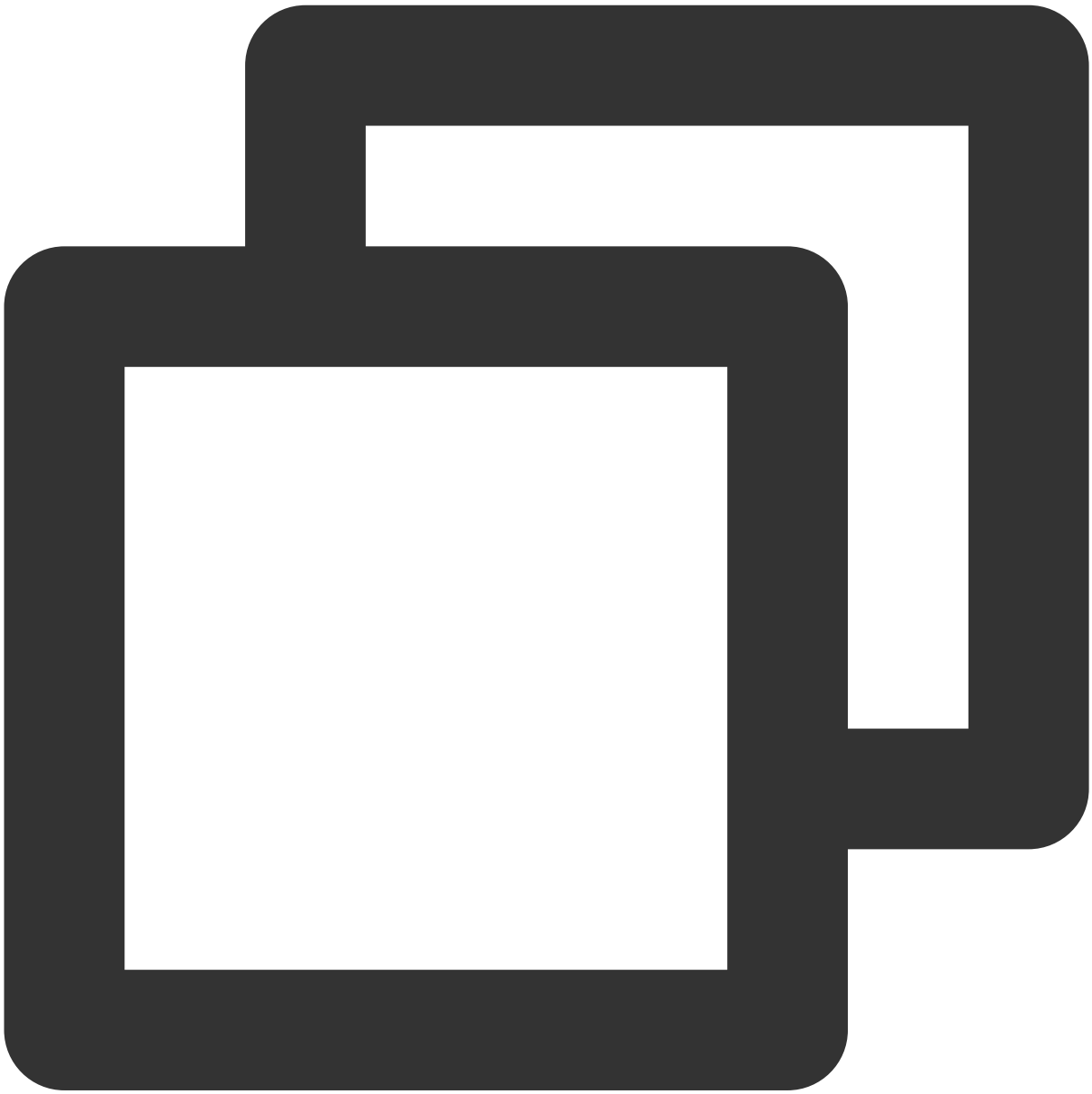
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID

device	TUIMediaDevice	Required	-	Media Device Type (Camera/Mic/Screen Sharing)

cancelRequest

Cancel Already Sent Request.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.cancelRequest({
   requestId: '',    // Please use Actual requestId
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
requestId	string	Required	-	Request ID

Returns：*Promise<string>* requestId

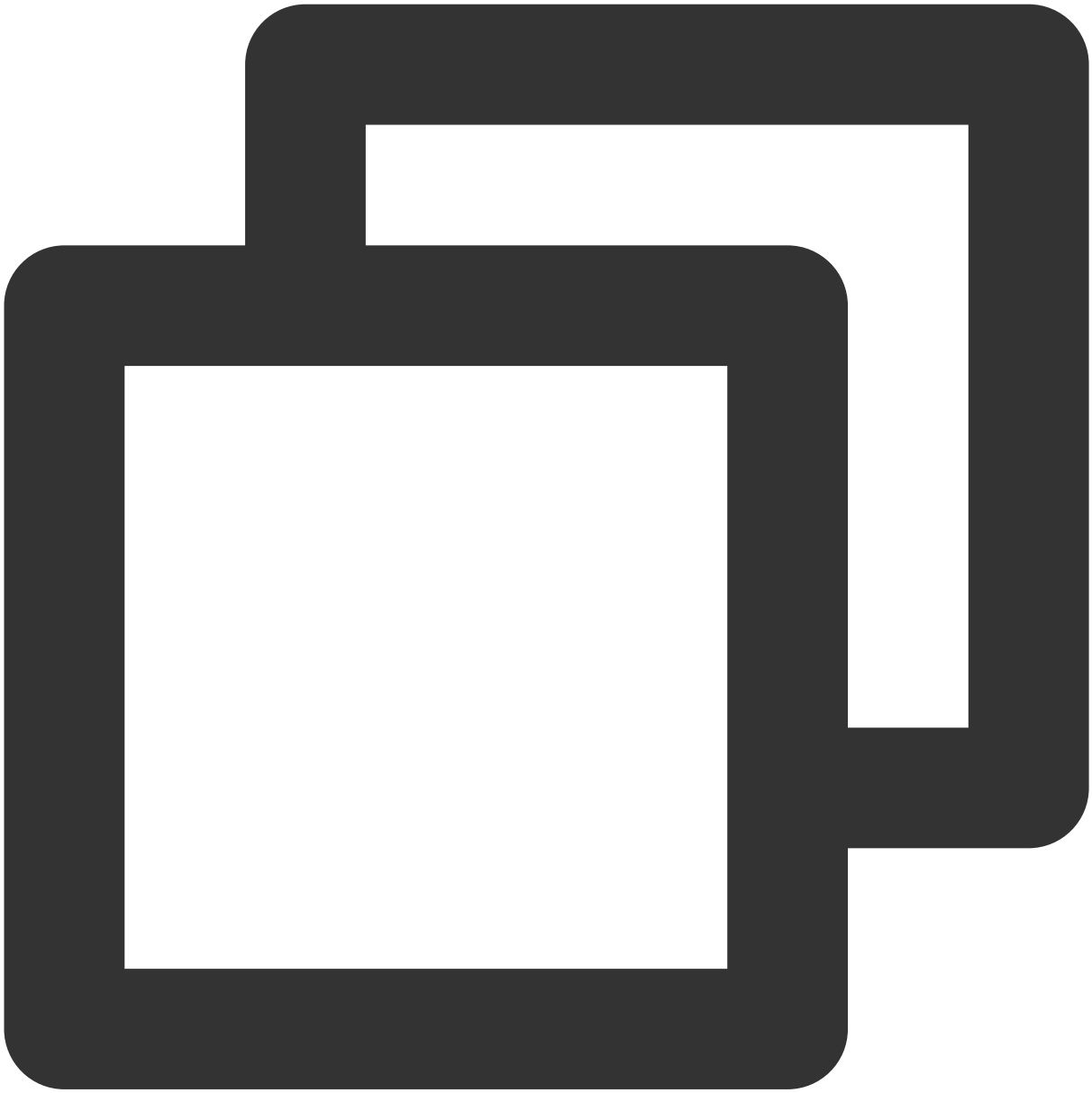
This interface returns requestId, users can use this requestId to call cancelRequest interface to cancel the request

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

responseRemoteRequest

Reply to Remote User's Request.



```
const roomEngine = new TUIRoomEngine();
// Agree to Remote User's Request
await roomEngine.responseRemoteRequest({
 requestId: '',    // Please use Actual requestId
 agree: true,
});
// Reject Remote User's Request
await roomEngine.responseRemoteRequest({
 requestId: '',    // Please use Actual requestId
 agree: false,
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
requestId	string	Required	-	Request ID
agree	boolean	Required	-	Whether to Agree

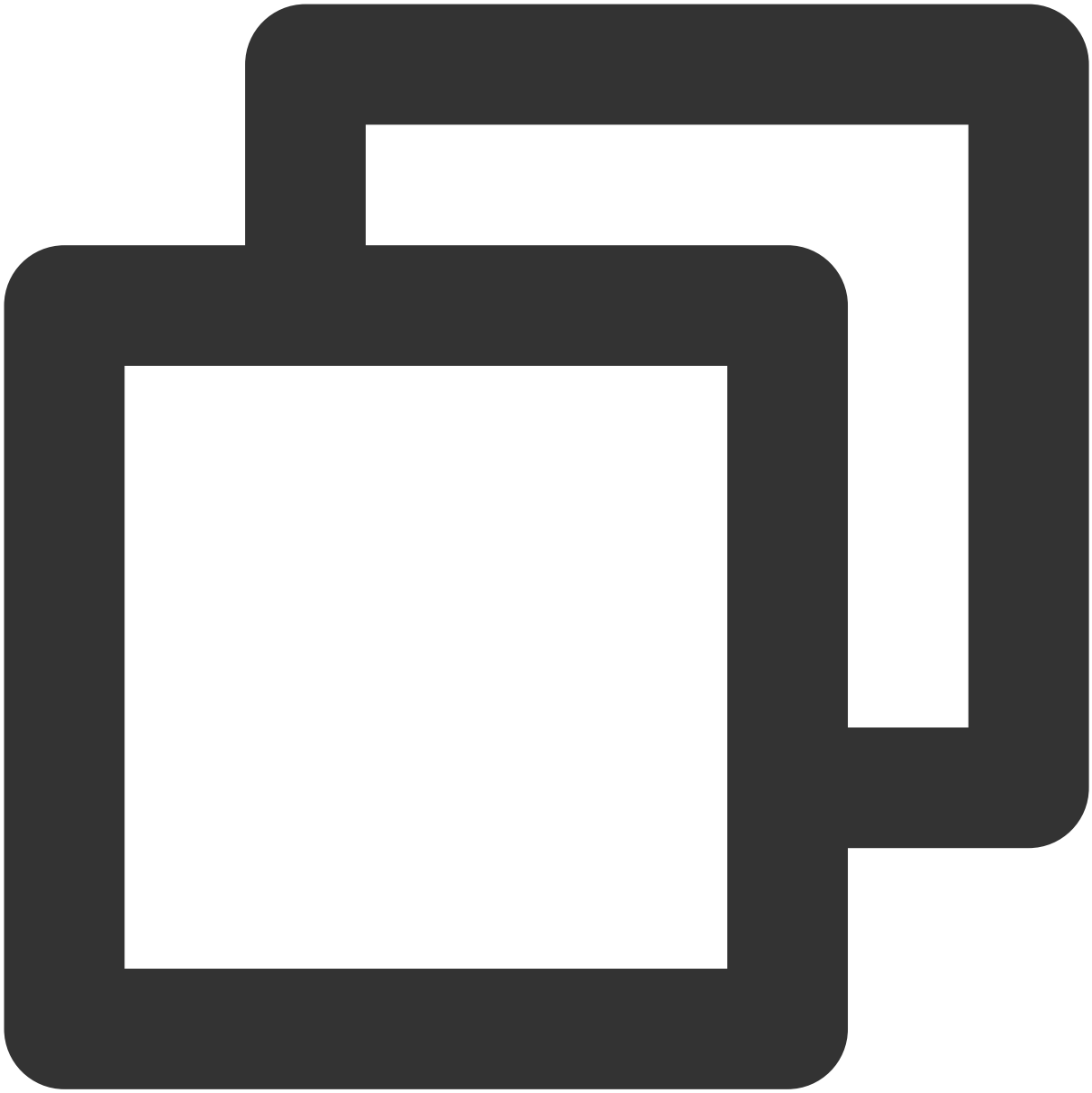
Returns：*Promise<void>*

Note：

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

disableDeviceForAllUserByAdmin

Prohibit/Allow All Users to Open Media Device (This Interface is invalid for Room Owner and Administrator).



```
// Example 1: Prohibit All Users to Open Mic
await roomEngine.disableDeviceForAllUserByAdmin({
  device: TUIMediaDevice.kMicrophone,
  isDisable: true,
})
// Example 2: Allow All Users to Open Mic
await roomEngine.disableDeviceForAllUserByAdmin({
  device: TUIMediaDevice.kMicrophone,
  isDisable: false,
})
```

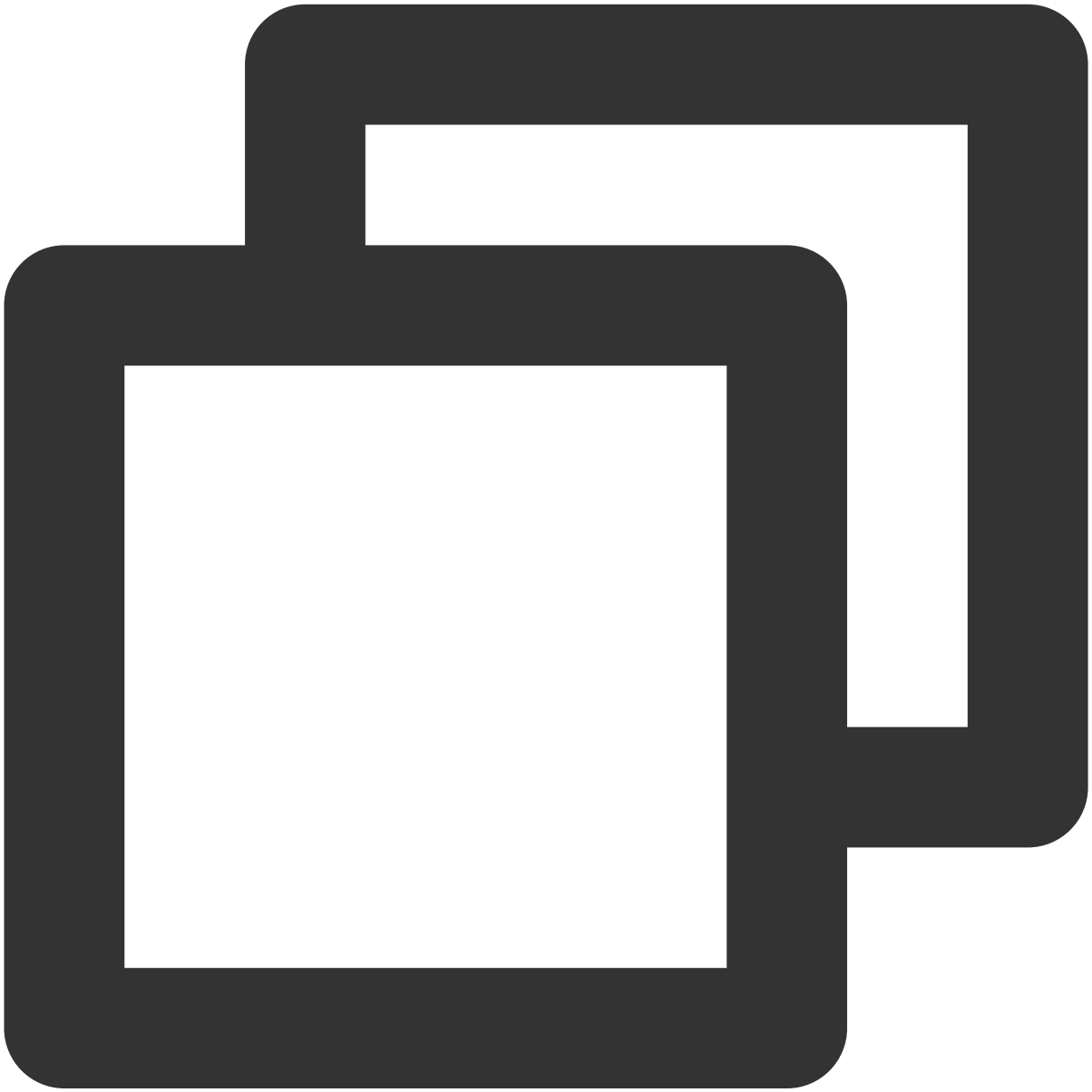
Parameter:

Parameter	Type	Description	Default Value	Meaning
device	TUIMediaDevice	Required	-	Disabled Media Device Type (Camera/Mic/Screen Sharing)
isDisable	boolean	Required	-	Whether it is Prohibited

Returns：*Promise<void>*

disableSendingMessageForAllUser

Whether All Users are Allowed to Send Messages (This Interface is invalid for Room Owner and Administrator).



```
await roomEngine.disableSendingMessageForAllUser({
  isDisable: true,
});
```

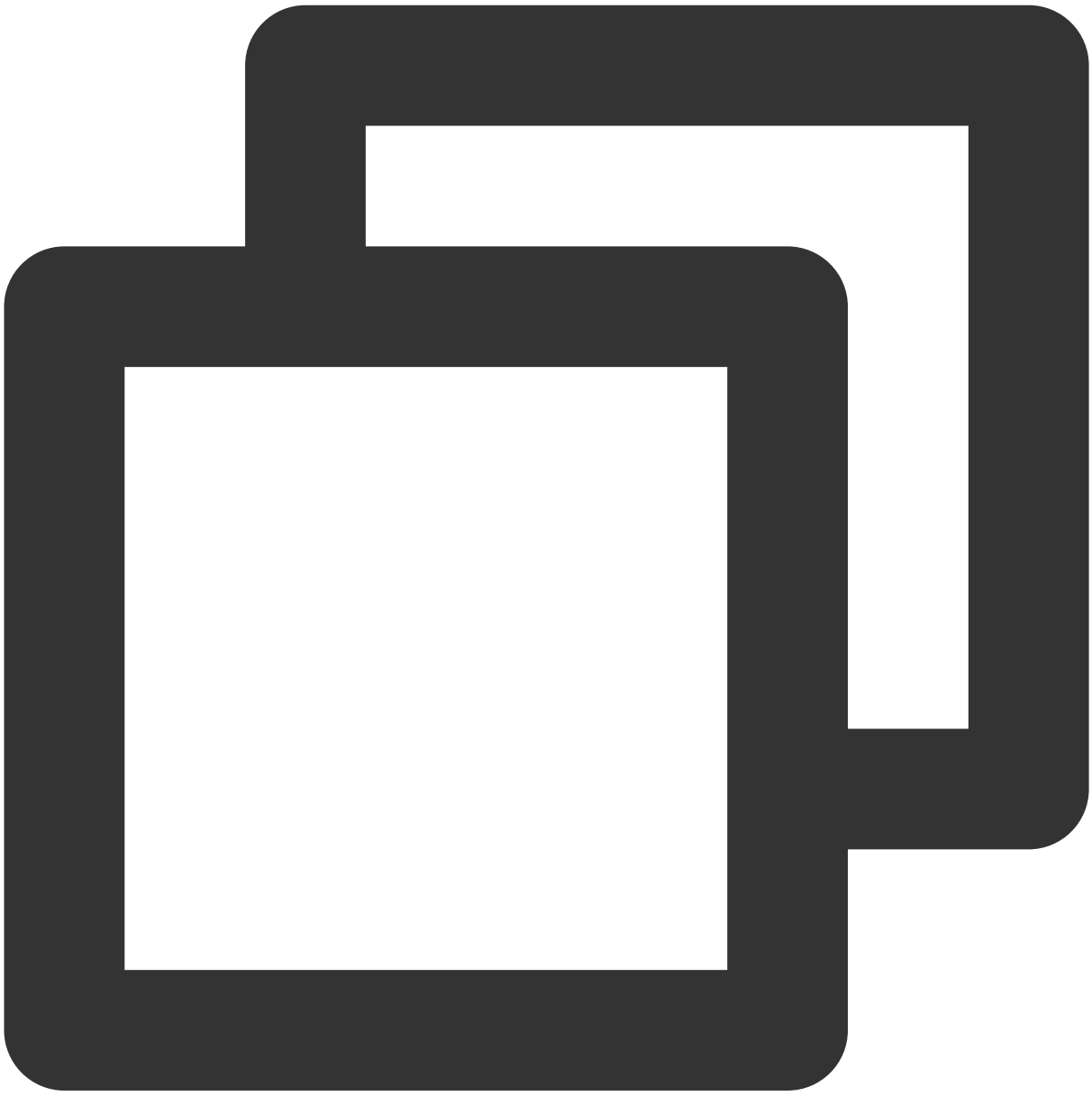
Parameter:

Parameter	Type	Description	Default Value	Meaning
isDisable	boolean	Required	-	Whether it is Disabled

Returns：*Promise<void>*

disableSendingMessageByAdmin

Whether Specific User is Allowed to Send Messages.



```
await roomEngine.disableSendingMessageByAdmin({
  userId: 'user_1234',
  isDisable: true,
});
```

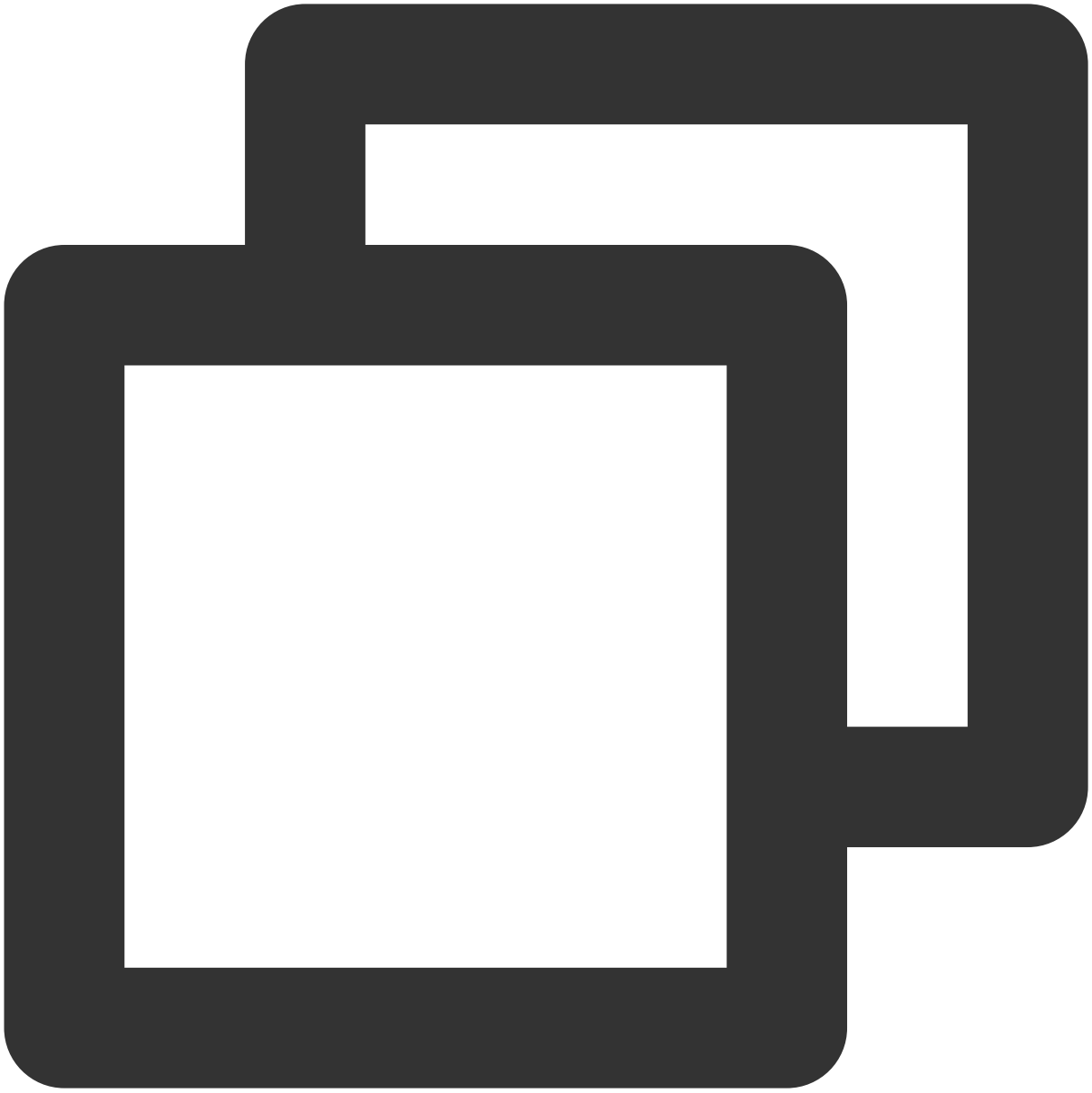
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
isDisable	boolean	Required	-	Whether it is Disabled

Returns：*Promise<void>*

changeUserRole

Change User's Role (Only the Host can call this Interface).



```
const roomEngine = new TUIRoomEngine();

// Transfer the Room to User user_1234
await roomEngine.changeUserRole({
   userId: 'user_1234',
   role: TUIRole.kRoomOwner,
});

// Set user_1234 as Room Administrator
await roomEngine.changeUserRole({
  userId: 'user_1234',
  userRole: TUIRole.kAdministrator,
});
```

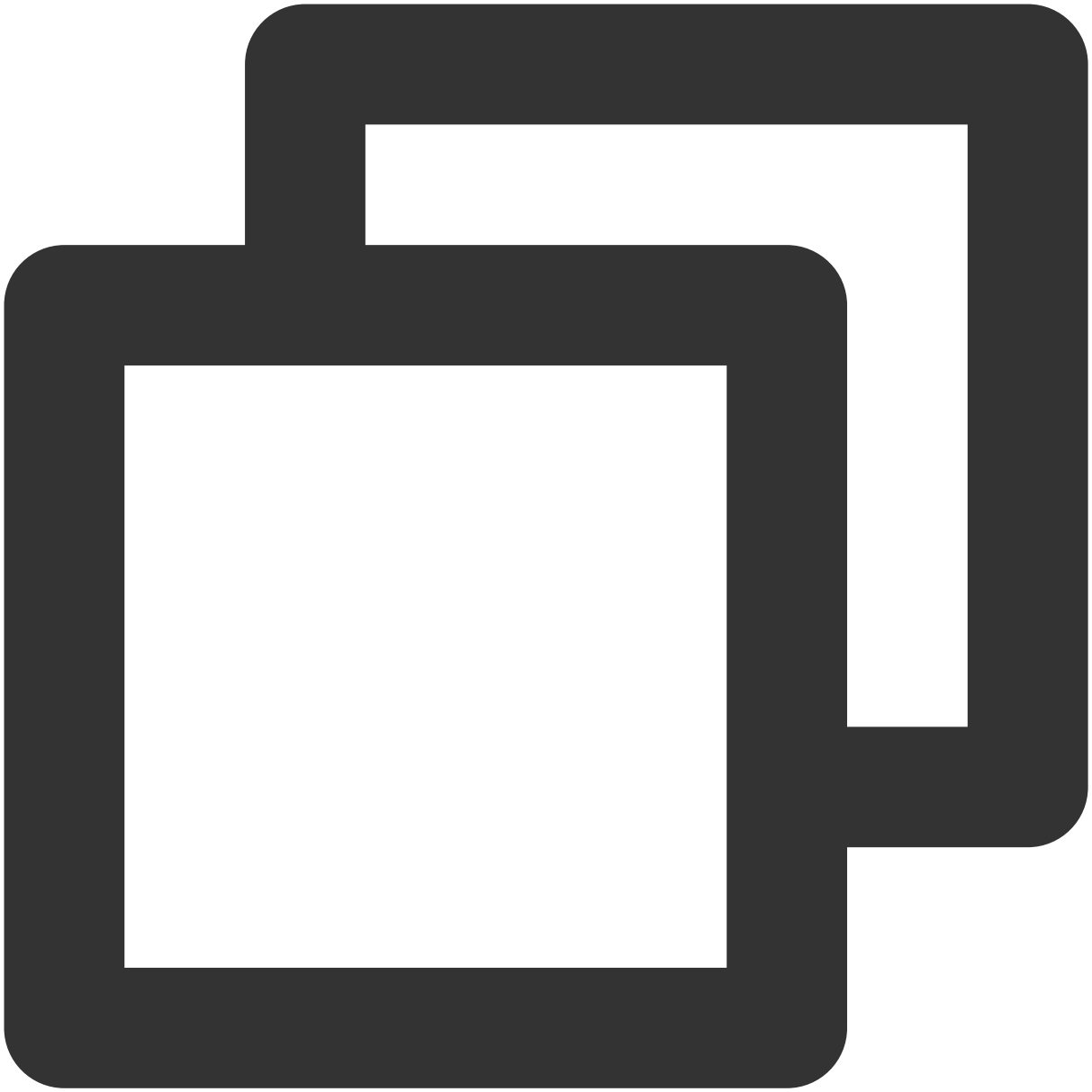
Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID
userRole	TUIRole	Required	-	User Role Host TUIRole.kRoomOwner Administrator TUIRole.kAdministrator General Member TUIRole.kGeneralUser

Returns：*Promise<void>*

kickRemoteUserOutOfRoom

Kick Out User from Room (Only Host and Administrator can call this Interface).



```
const roomEngine = new TUIRoomEngine();
await roomEngine.kickRemoteUserOutOfRoom({
   userId: 'user_1234',
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
userId	string	Required	-	User ID

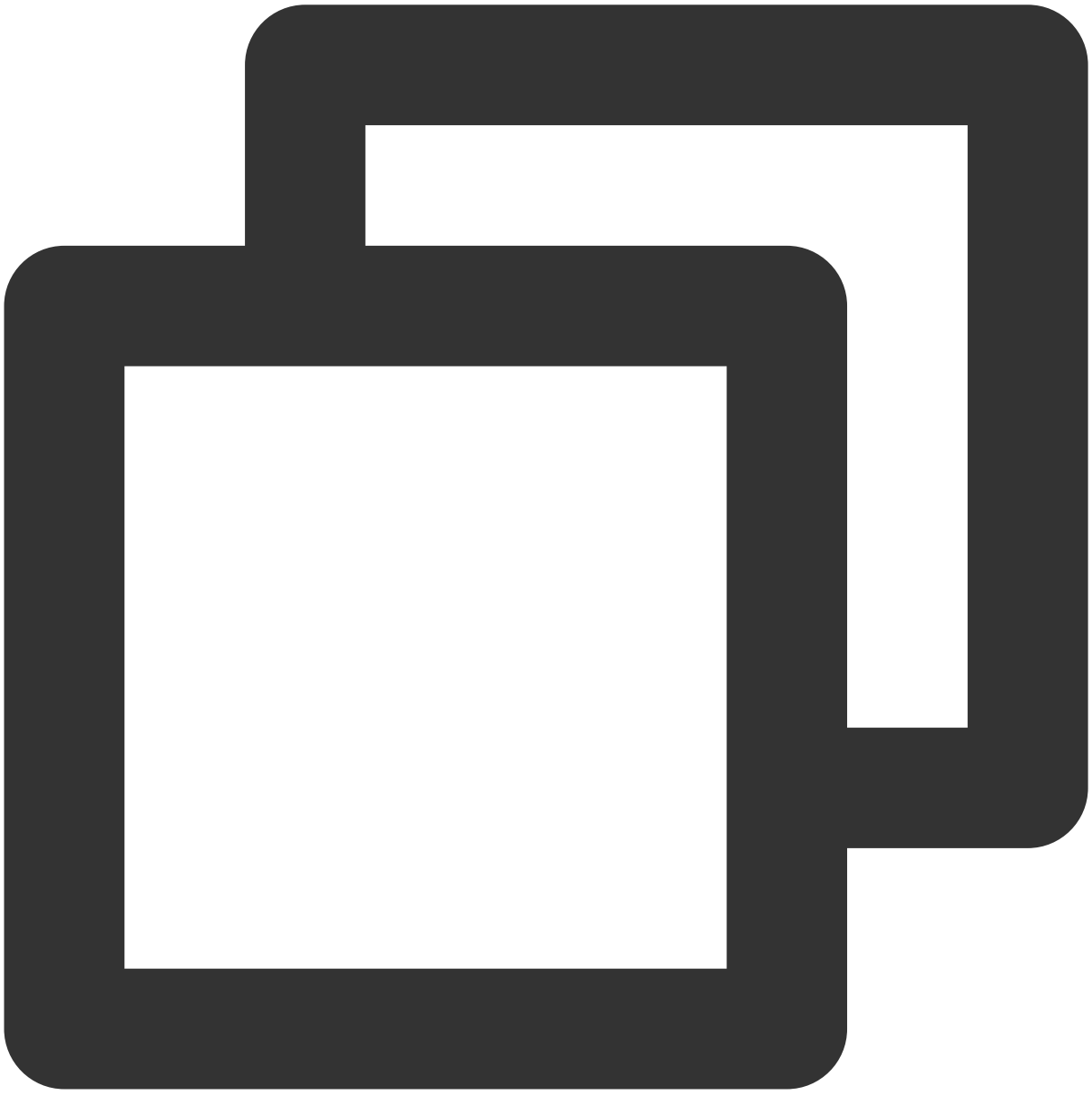
Returns：*Promise<void>*

setMaxSeatCount

Set Room Seat Maximum Value

When roomType is TUIRoomType.kConference (Education and Conference Scene), maxSeatCount value is not limited;

When roomType is TUIRoomType.kLivingRoom (Live Scene), maxSeatCount is limited to 16;



```
const roomEngine = new TUIRoomEngine();
await roomEngine.createRoom({ roomId: '12345' });
```

```
await roomEngine.setMaxSeatCount({ maxSeatCount: 16 })
```

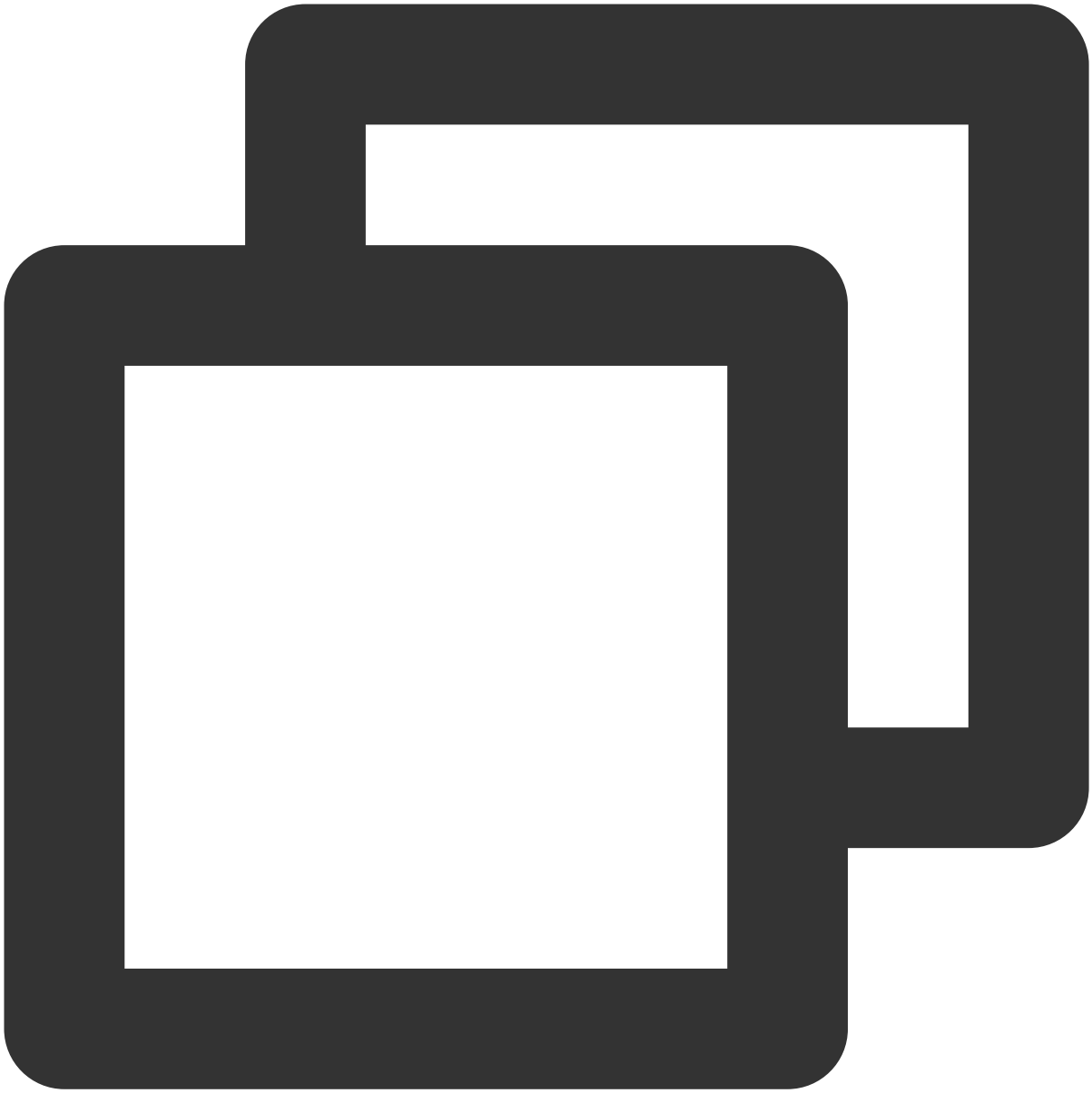
Parameter:

Parameter	Type	Description	Default Value	Meaning
maxSeatCount	number	Required	-	Set Room Seat Maximum Value

Returns：Promise<void>

getSeatList

Get Seat List



```
const roomEngine = new TUIRoomEngine();
const seatList = await roomEngine.getSeatList();
```

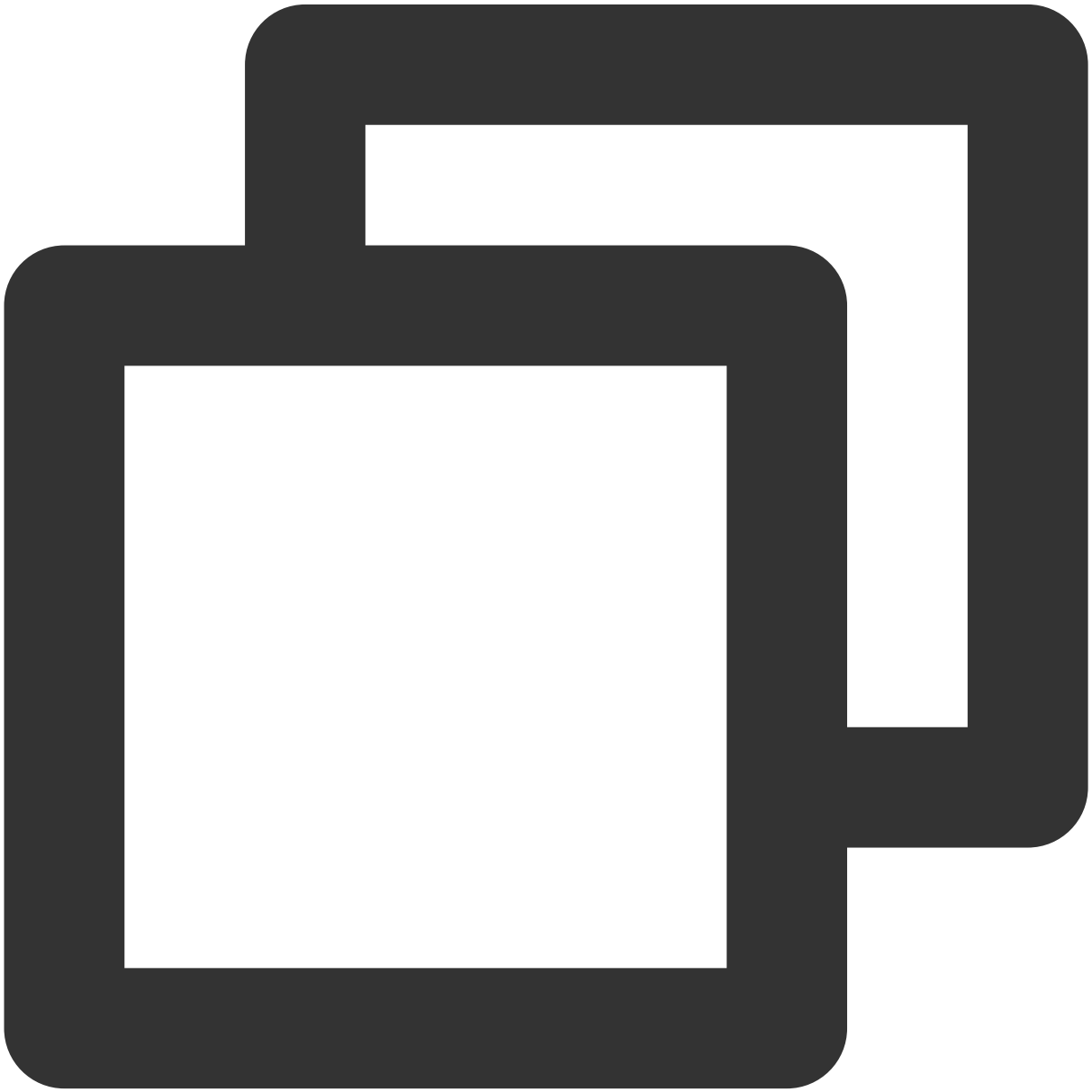
Returns：*Promise<*TUISeatInfo*[]>* seatList

seatList for the Current Room's All Seat List

takeSeat

Mic-off Users can call takeSeat to become Mic-on Users, only Mic-on Users can Publish Local stream.

When roomInfo.roomType is TUIRoomType.kConference and roomInfo.speechMode is TUISpeechMode.kSpeakAfterTakingSeat, General Users need to Wait for the Host/Administrator's Agreement to become Mic-on Users after calling takeSeat method.
When roomInfo.roomType is TUIRoomType.kLivingRoom and roomInfo.speechMode is TUISpeechMode.kFreeToSpeak, General Users become Mic-on Users after calling takeSeat method Successfully. Host & Administrator become Mic-on Users after calling takeSeat Successfully.
Changes of Mic-on Users are Notified to All Users through TUIRoomEvents.onSeatListChanged.



```
const roomEngine = new TUIRoomEngine();
// Scenario 1: Host/Administrator Go Live
```

```
// Scenario 2: When roomInfo.roomType is TUIRoomType.kConference
// and roomInfo.speechMode is TUISpeechMode.kSpeakAfterTakingSeat, General Users Go
await roomEngine.takeSeat({
 seatIndex: -1,
 timeout: 0,
});

// Scenario 3: When roomInfo.enableSeatControl is true, General Users Go Live
const requestId = await roomEngine.instance?.takeSeat({
   seatIndex: -1,
   timeout: 0,
   requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
      switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
       case TUIRequestCallbackType.kRequestRejected:
         // Request Rejected
         break;
       case TUIRequestCallbackType.kRequestCancelled:
         // Request Canceled
         break;
       case TUIRequestCallbackType.kRequestTimeout:
         // Request Timeout
         break;
       case TUIRequestCallbackType.kRequestError:
         // Request Error
         break;
       default:
         break;
   }
 },
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Seat index, set to -1 when there is No Serial Number
timeout	number	Required	-	Timeout. If timeout is set to 0, there is no Timeout
requestCallback	Function	Optional	Empty Function	Callback, used to Notify Initiator of Request being Accepted/Rejected/Cancelled/Timeout/Error

Returns：Promise<string> requestId

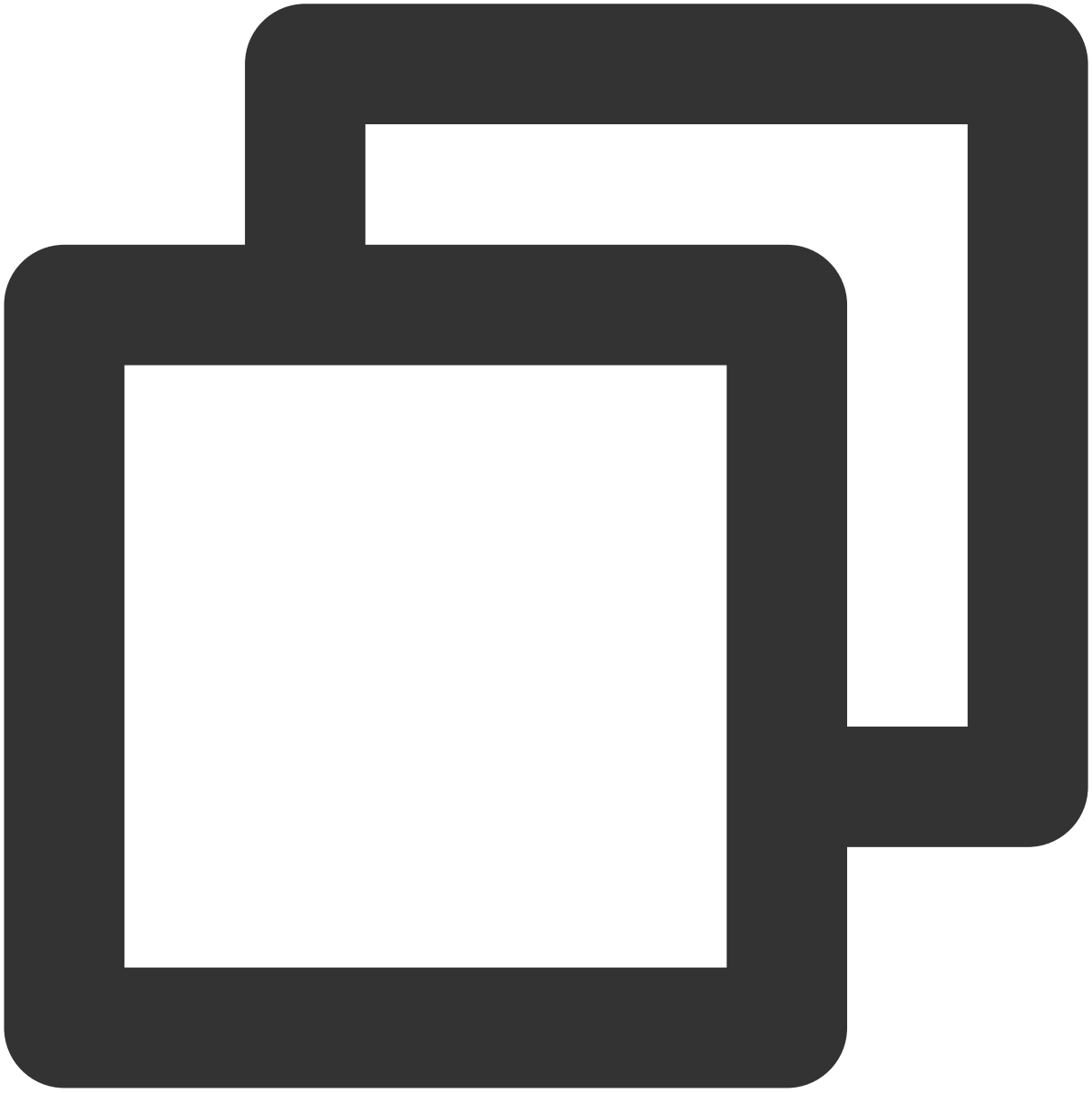
When roomInfo.enableSeatControl is true, General Users call this Interface to return requestId, General Users can use this requestId to call cancelRequest Interface to cancel Go Live Request。

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

leaveSeat

Release Seat.

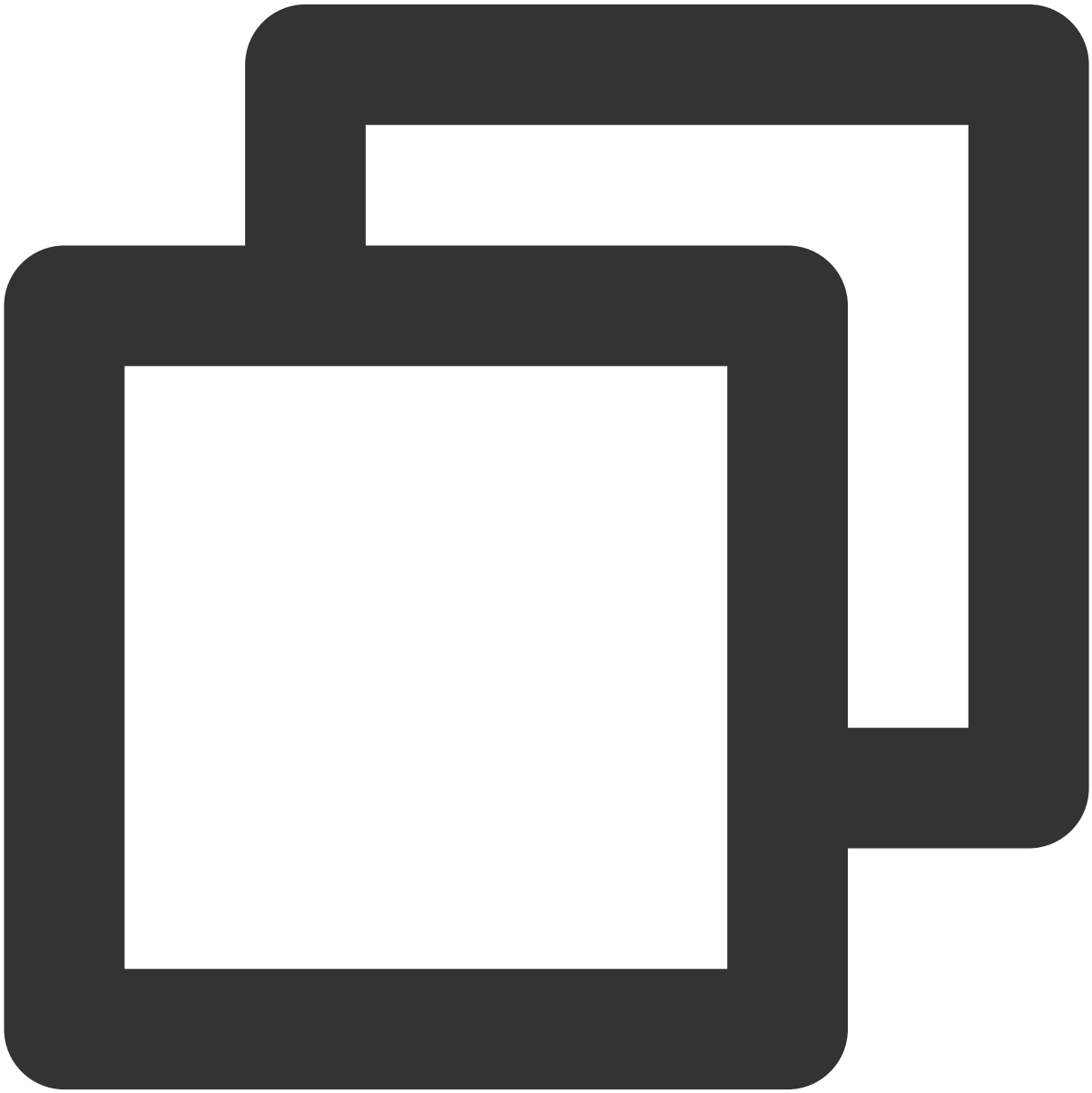


```
const roomEngine = new TUIRoomEngine();
await roomEngine.leaveSeat();
```

Returns：*Promise<void>*

takeUserOnSeatByAdmin

Invite Others to Go Live.



```
const roomEngine = new TUIRoomEngine();
const requestId = roomEngine.takeUserOnSeatByAdmin({
    seatIndex: 0,
```

```
    userId: 'user_1234',
    timeout: 0,
    requestCallback: ({ requestCallbackType, requestId, userId, code, message }) =>
     switch (requestCallbackType) {
       case TUIRequestCallbackType.kRequestAccepted:
         // Request Accepted
         break;
       case TUIRequestCallbackType.kRequestRejected:
         // Request Rejected
         break;
       case TUIRequestCallbackType.kRequestCancelled:
         // Request Canceled
         break;
       case TUIRequestCallbackType.kRequestTimeout:
         // Request Timeout
         break;
       case TUIRequestCallbackType.kRequestError:
         // Request Error
         break;
       default:
         break;
     }
   },
});
```

Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Seat index
userId	string	Required	-	User ID
timeout	number	Required	-	Timeout. If timeout is set to 0, there is no Timeout
requestCallback	Function	Optional	Empty Function	Callback, used to Notify Initiator of Request being Accepted/Rejected/Cancelled/Timeout/Error

Returns：*Promise<string> requestId*

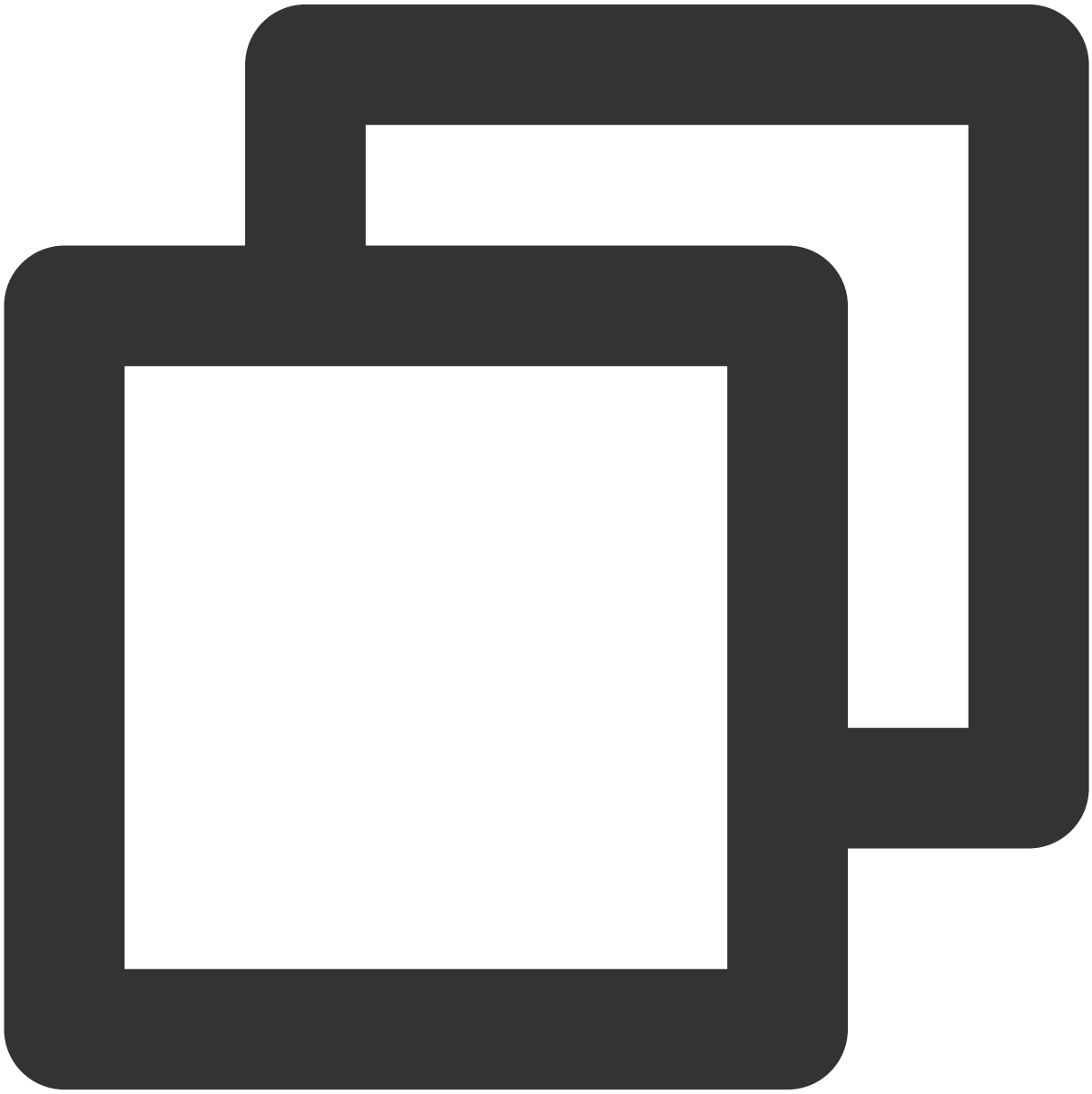
This Interface returns requestId, Users can use this requestId to call cancelRequest Interface to cancel Request.

Note:

In v1.0.2 and above, the requestId returned by this interface is of type string; in v1.0.0 and v1.0.1, the requestId returned by this interface is of type number;

kickUserOffSeatByAdmin

Ask others to get off the mic



```
const roomEngine = new TUIRoomEngine();
const requestId = await roomEngine.kickUserOffSeatByAdmin({
   seatIndex: 0,
   userId: 'user_1234',
});
```

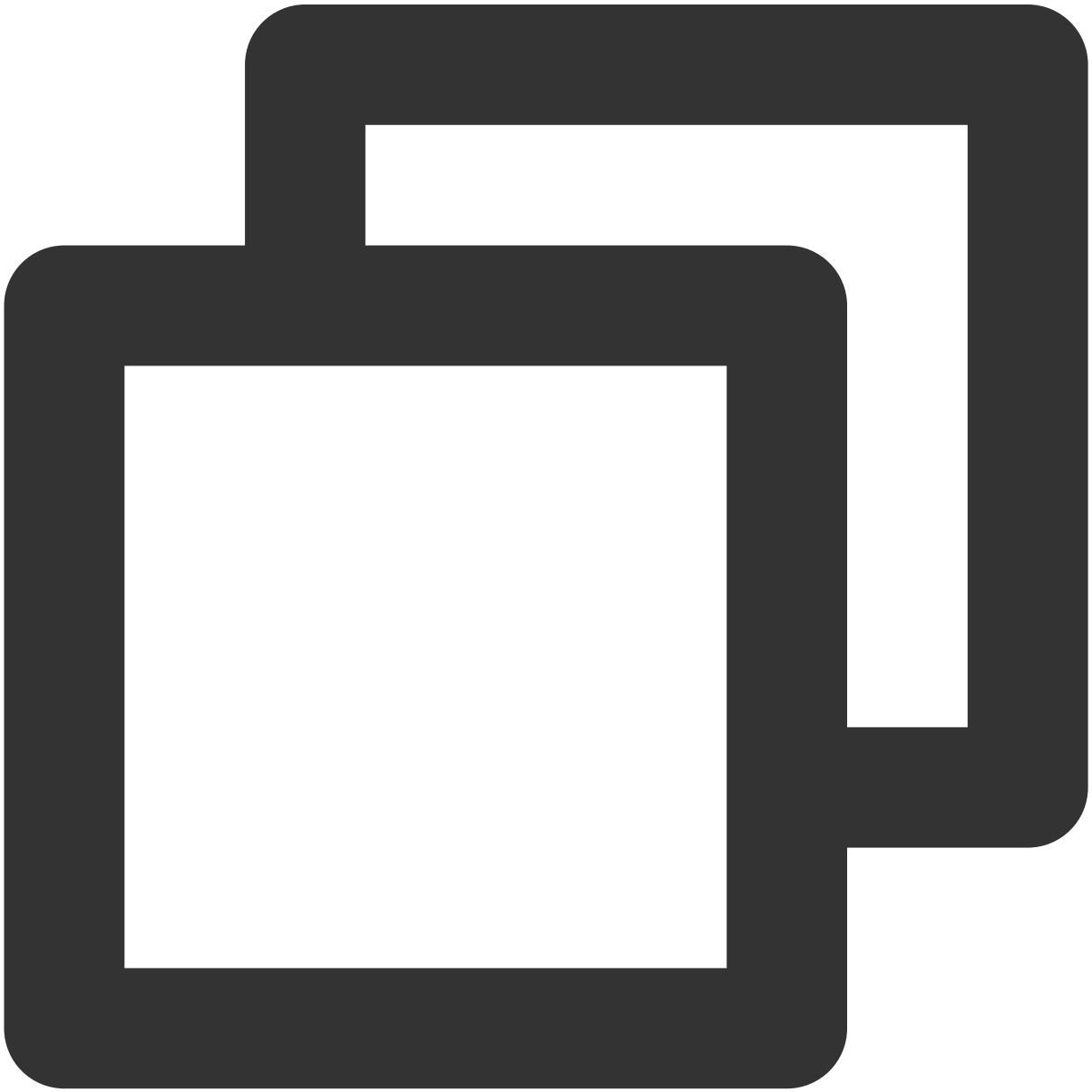
Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Seat index
userId	string	Required	-	User ID

Returns：*Promise<void>*

lockSeatByAdmin

Lock a certain mic position status (Only the room host and administrator can call this method).



```
const roomEngine = new TUIRoomEngine();
await roomEngine.lockSeatByAdmin({
   seatIndex: 0,
   lockParams: {
      lockSeat: true,
      lockVideo: true,
      lockAudio: true,
   },
});
```

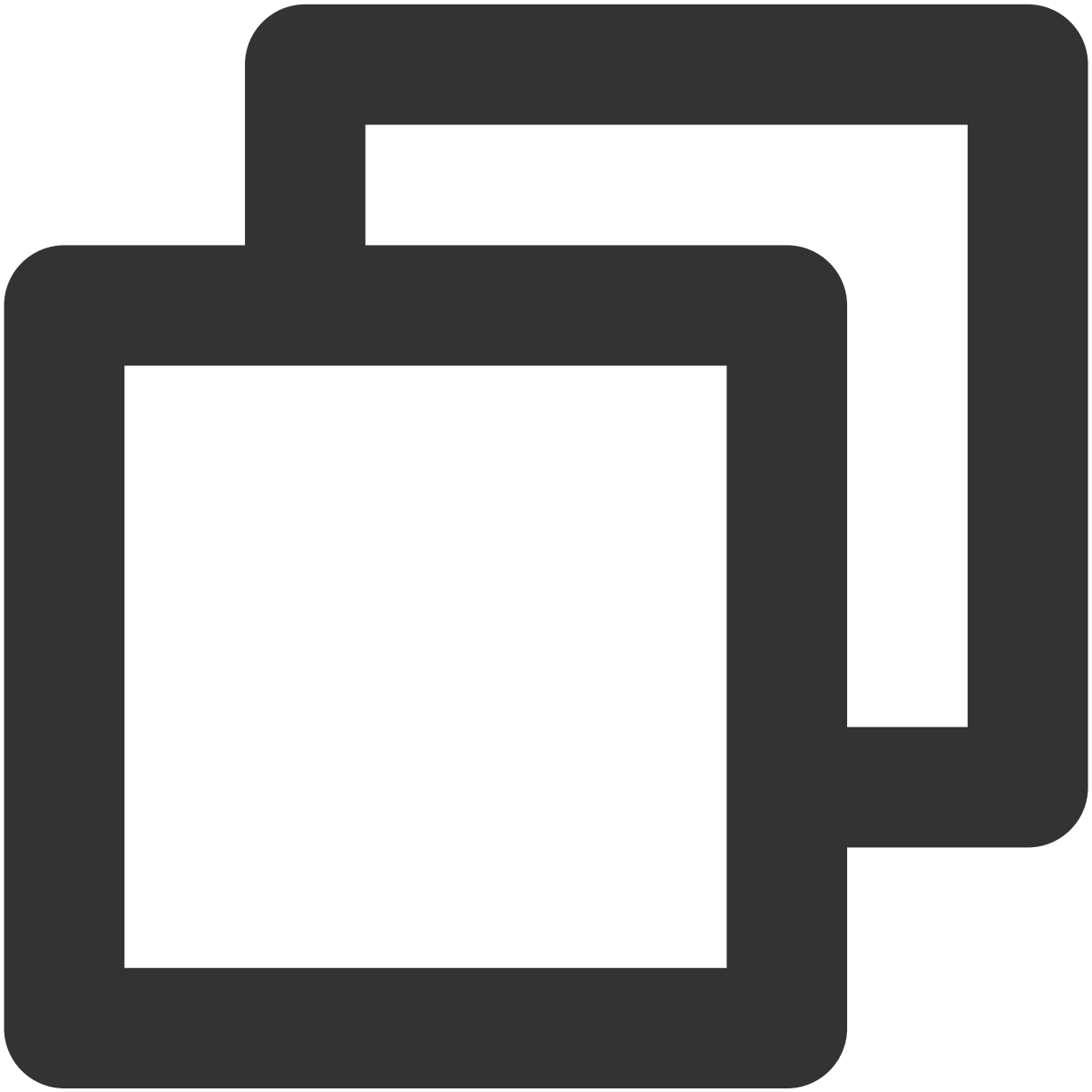
Parameter:

Parameter	Type	Description	Default Value	Meaning
seatIndex	number	Required	-	Mic position index
lockParams	TUISeatLockParams	Required	-	Lock mic parameter

Returns：*Promise<void>*

startScreenSharingElectron

Start Screen Sharing Electron。



```
const roomEngine = new TUIRoomEngine();
await roomEngine.startScreenSharingElectron('targetId');
```

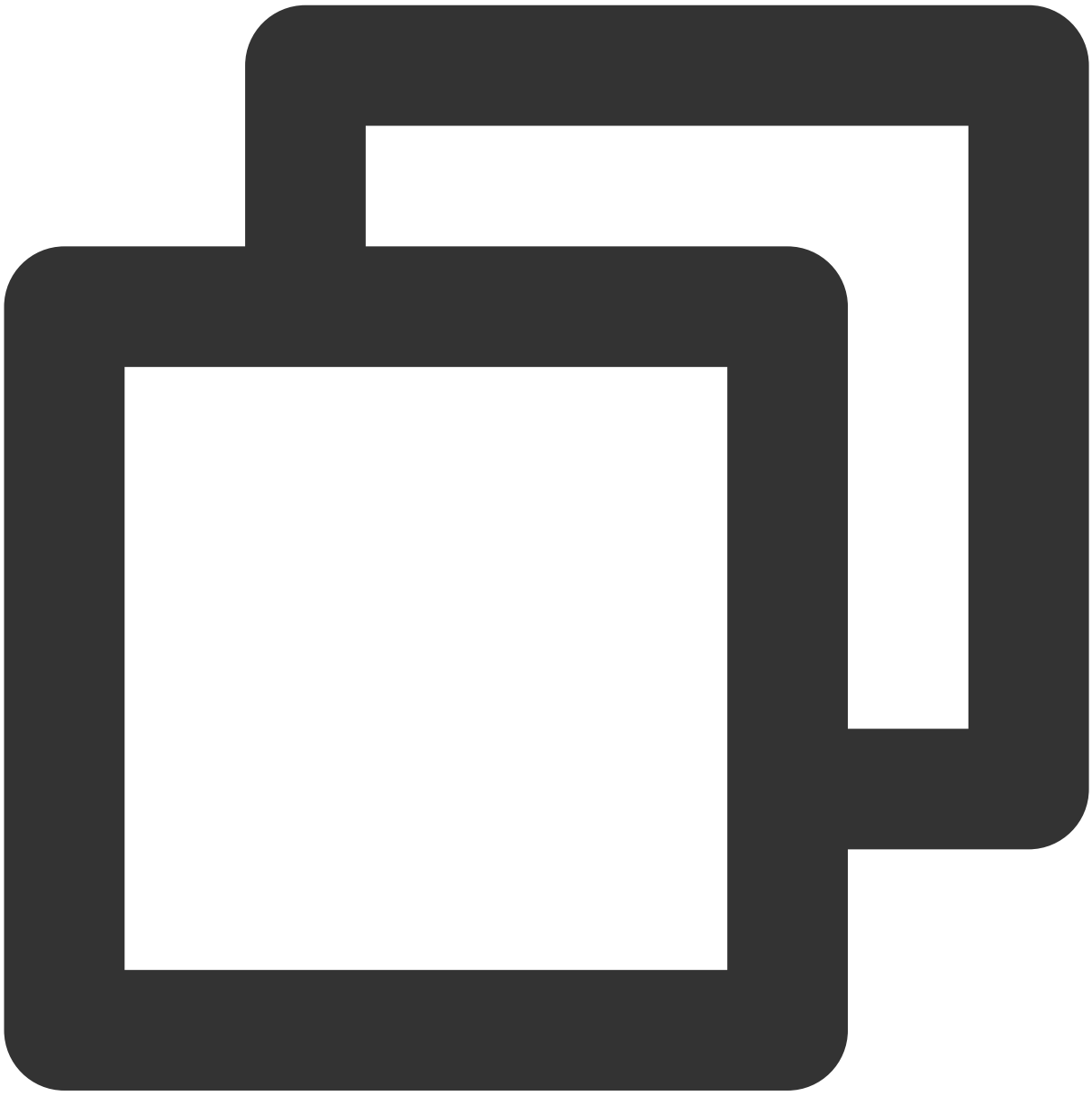
Parameter:

Parameter	Type	Description	Default Value	Meaning
targetId	string	Optional	-	Sharing Window ID, can be obtained from getScreenSharingTarget

Returns：*Promise<void>*

stopScreenSharingElectron

Stop Screen Sharing Electron。

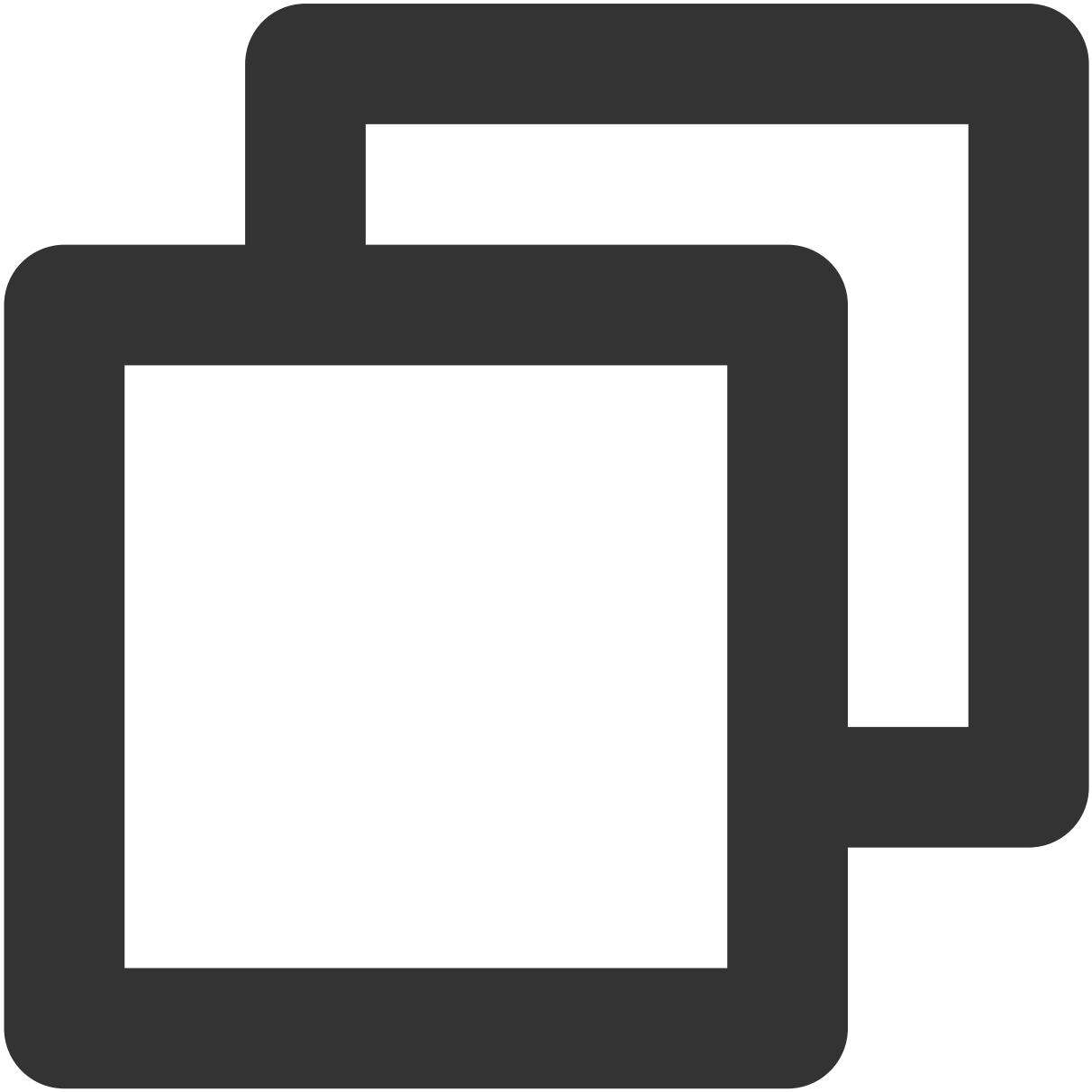


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopScreenSharingElectron();
```

Returns：*Promise<void>*

getScreenSharingTarget

Get Screen Sharing list Electron。

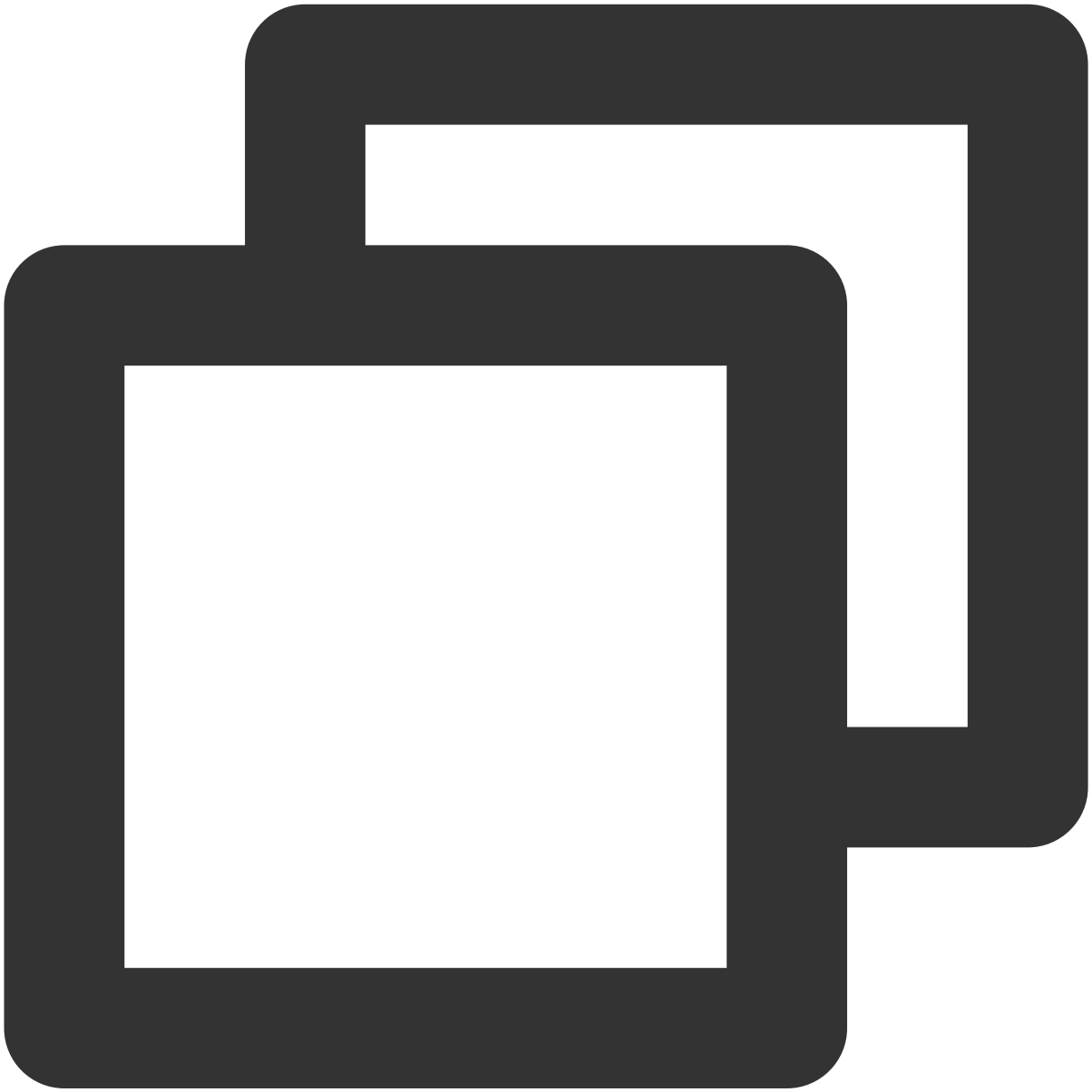


```
const roomEngine = new TUIRoomEngine();
const screenList = await roomEngine.getScreenSharingTarget();
```

Returns：*Promise<void>*

selectScreenSharingTarget

Switch Screen Sharing Window Electron。



```
const roomEngine = new TUIRoomEngine();
await roomEngine.selectScreenSharingTarget('targetId');
```

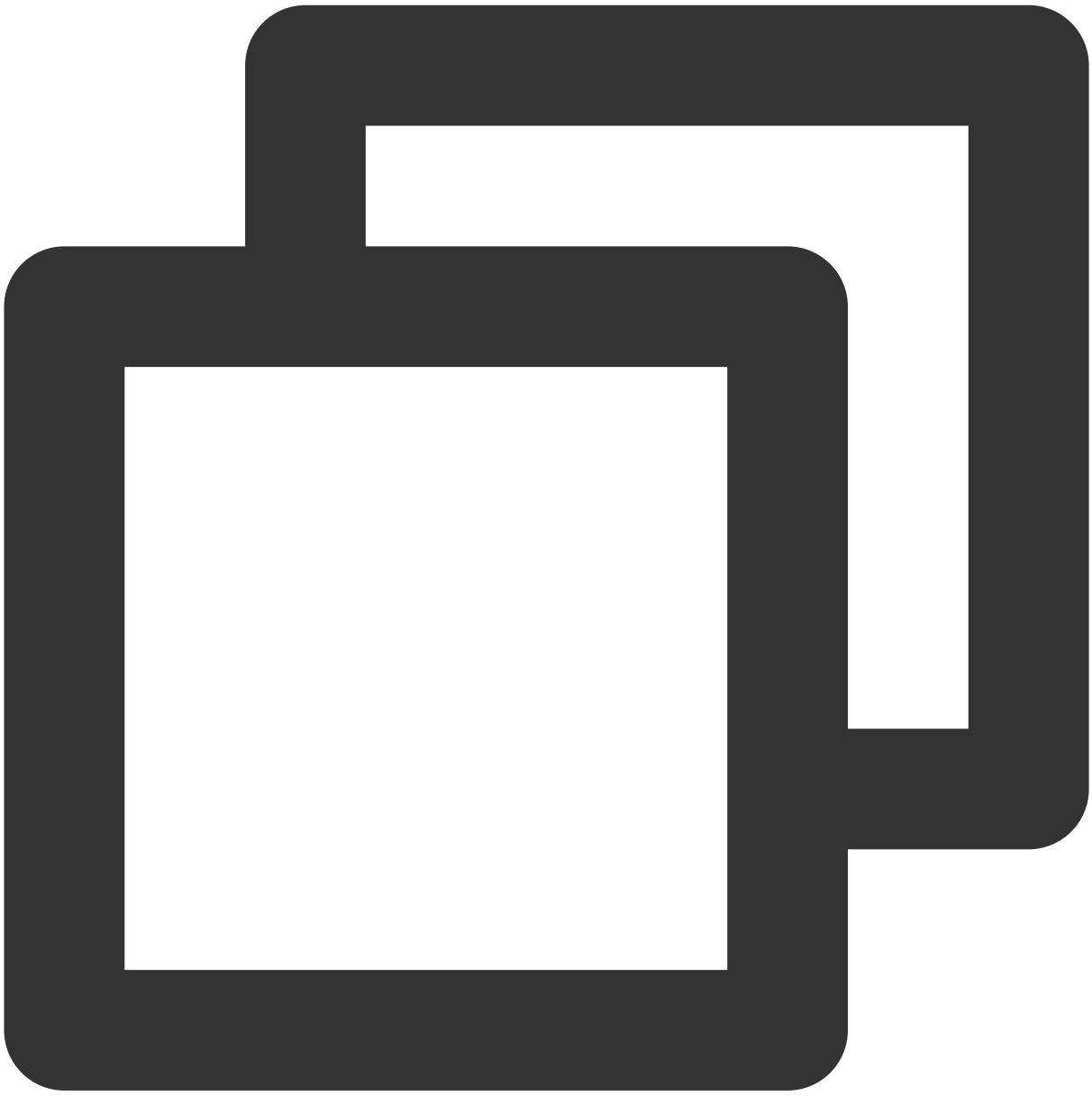
Parameter:

Parameter	Type	Description	Default Value	Meaning
targetId	string	Required	-	Sharing Window ID, can be obtained from getScreenSharingTarget

Returns：*Promise<void>*

sendTextMessage

Send text message.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.sendTextMessage({
 messageText: 'hello, everyone',
});
```

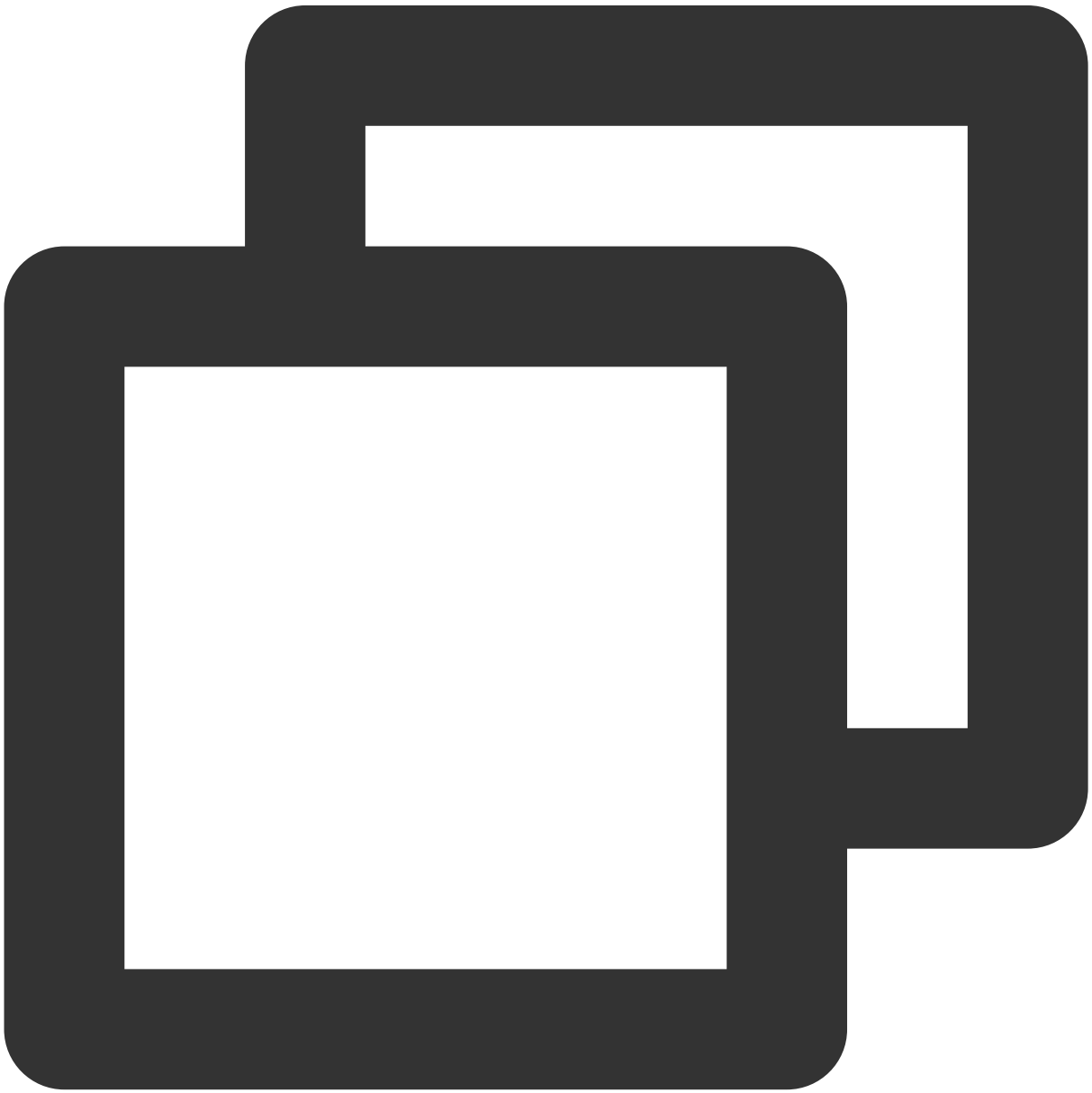
Parameter:

Parameter	Type	Description	Default Value	Meaning
messageText	string	Required	-	Text message content

Returns：*Promise<void>*

sendCustomMessage

Send custom message.



```
const roomEngine = new TUIRoomEngine();
```

```
await roomEngine.sendCustomMessage({
 messageText: '{ data:'', description: ''}',
});
```

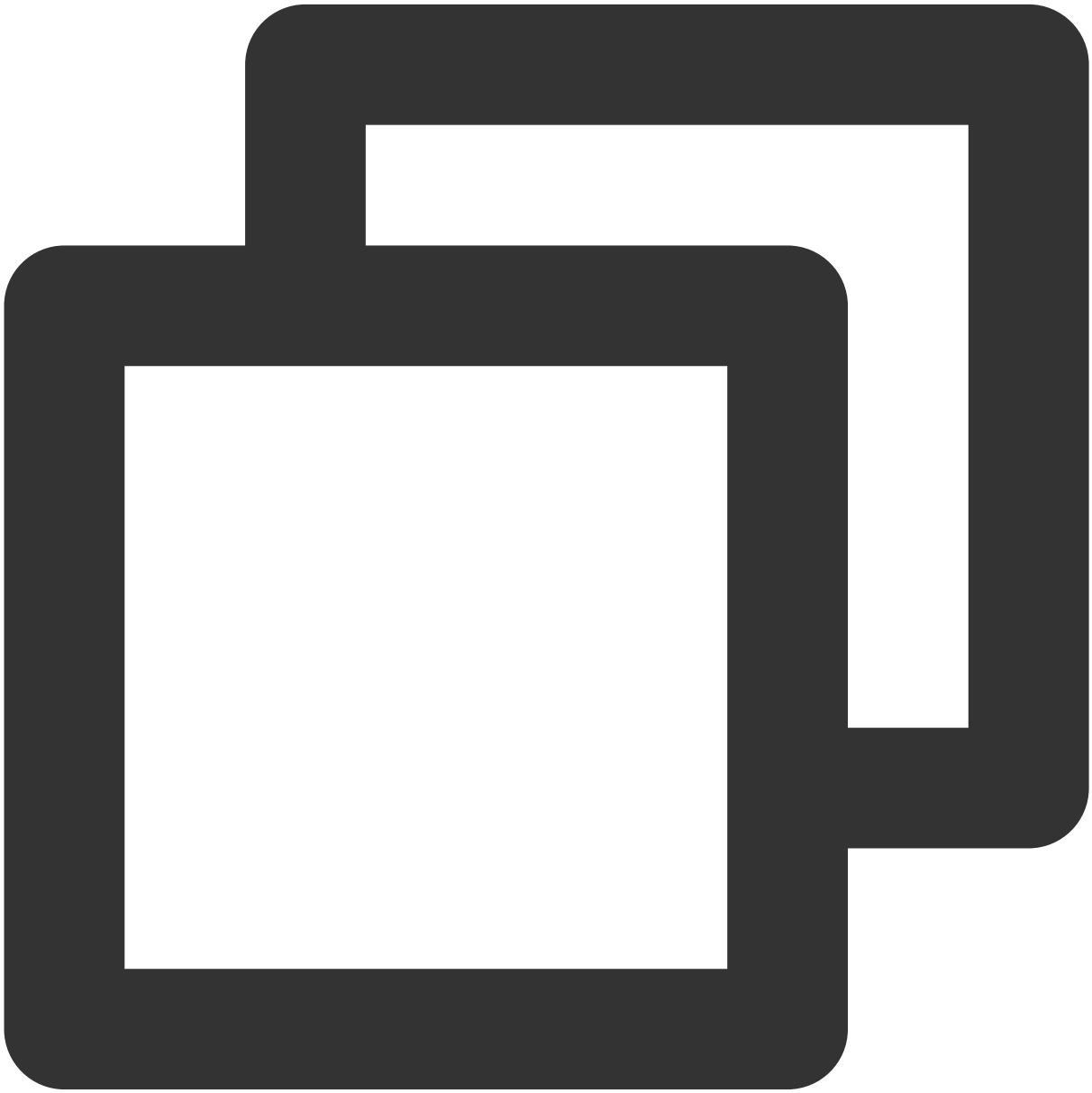
Parameter:

Parameter	Type	Description	Default Value	Meaning
messageText	string	Required	-	Custom message content

Returns：*Promise<void>*

getCameraDevicesList

Get camera device list.

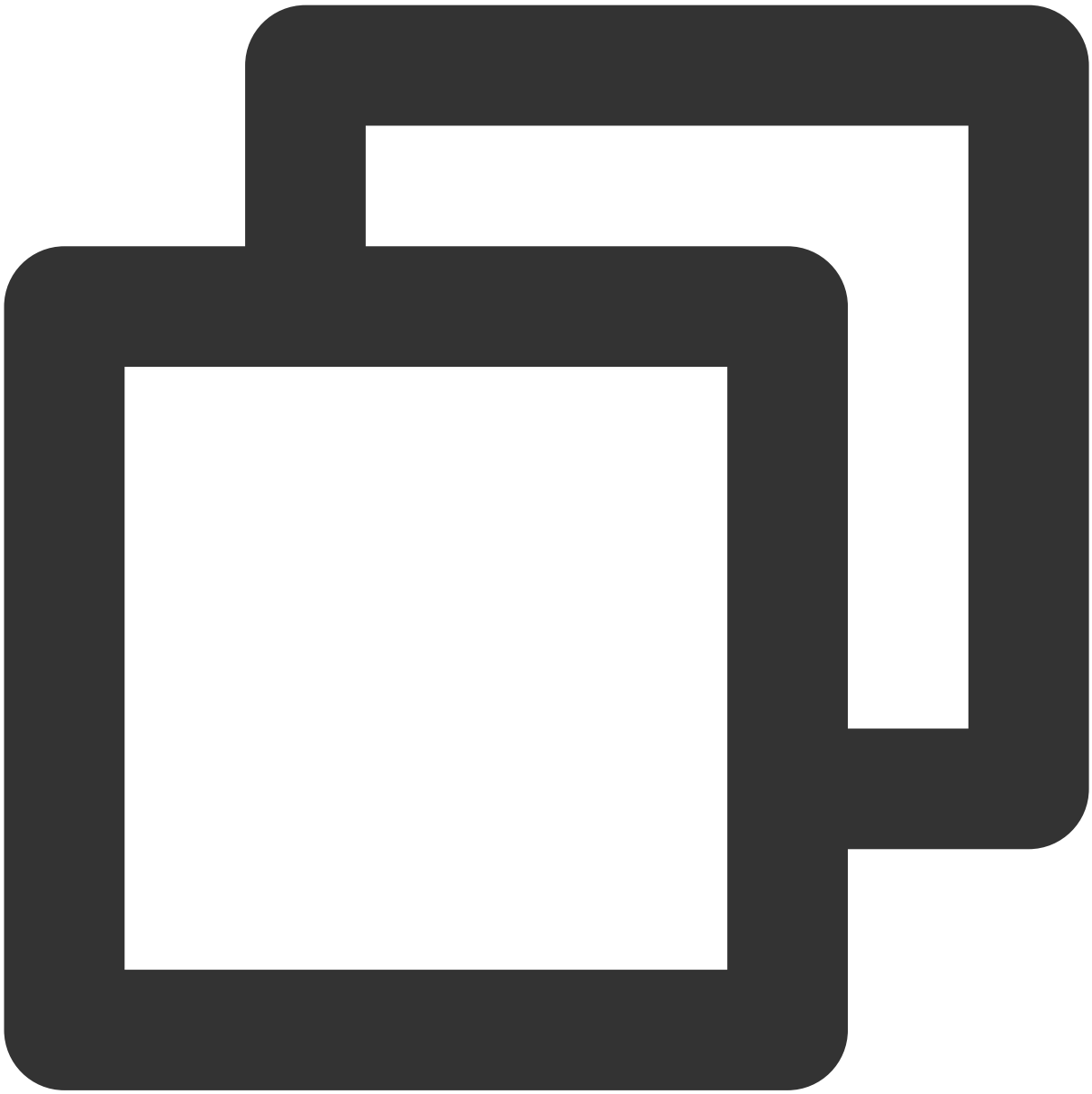


```
const roomEngine = new TUIRoomEngine();
const cameraList = await roomEngine.getCameraDevicesList();
for (i = 0; i < cameraList.length; i++) {
   var camera = cameraList[i];
   console.info("camera deviceName: " + camera.deviceName + " deviceId:" + camera.
}
```

Returns: *Promise*<TRTCDeviceInfo*[]*> cameraList

getMicDevicesList

Get mic device list.

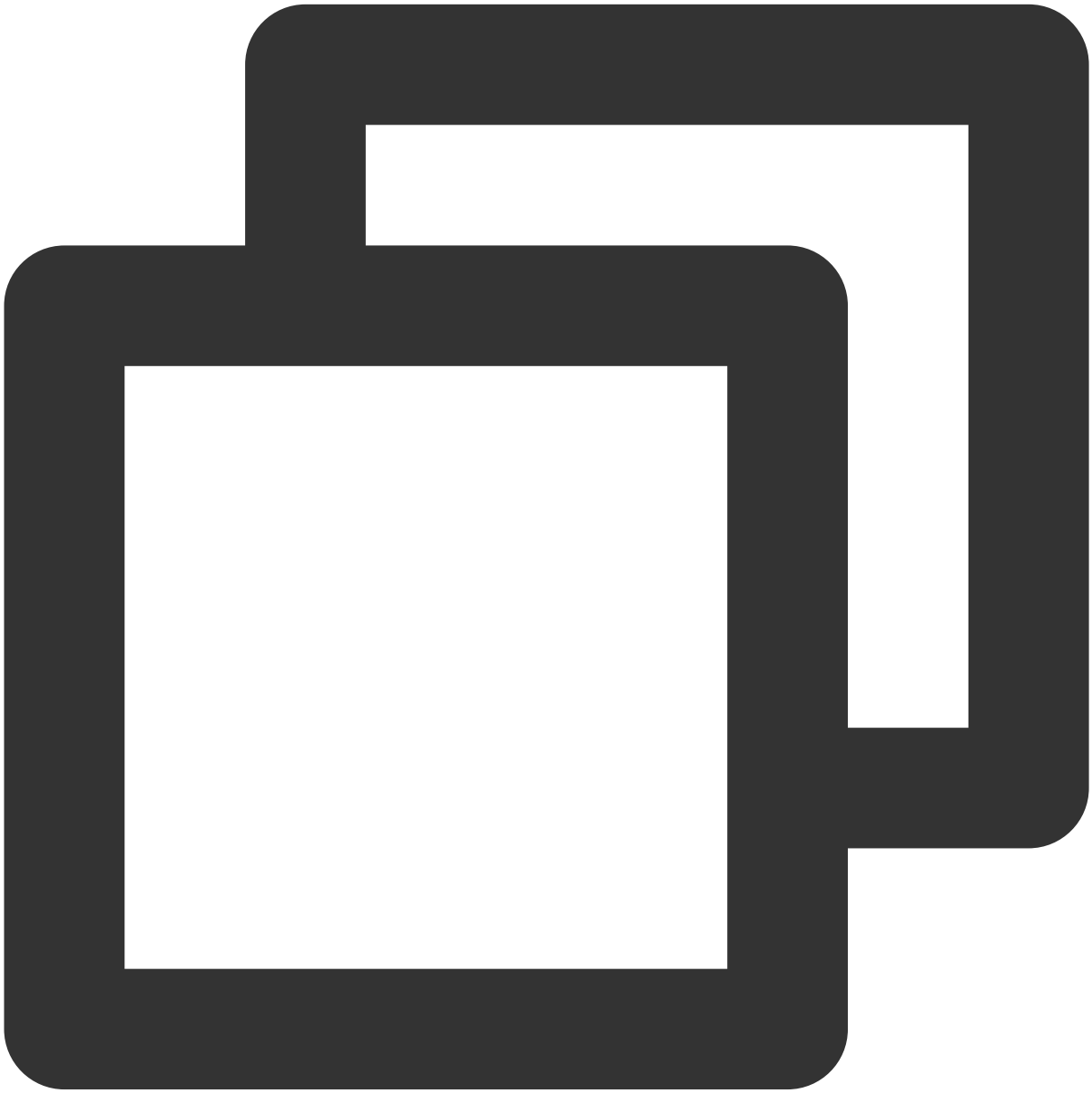


```
const roomEngine = new TUIRoomEngine();
const micList = await roomEngine.getMicDevicesList();
for (i = 0; i < micList.length; i++) {
   var mic = micList[i];
   console.info("mic deviceName: " + mic.deviceName + " deviceId:" + mic.deviceId)
}
```

Returns: *Promise<*TRTCDeviceInfo*[]>* micList

getSpeakerDevicesList

Get speaker device list.

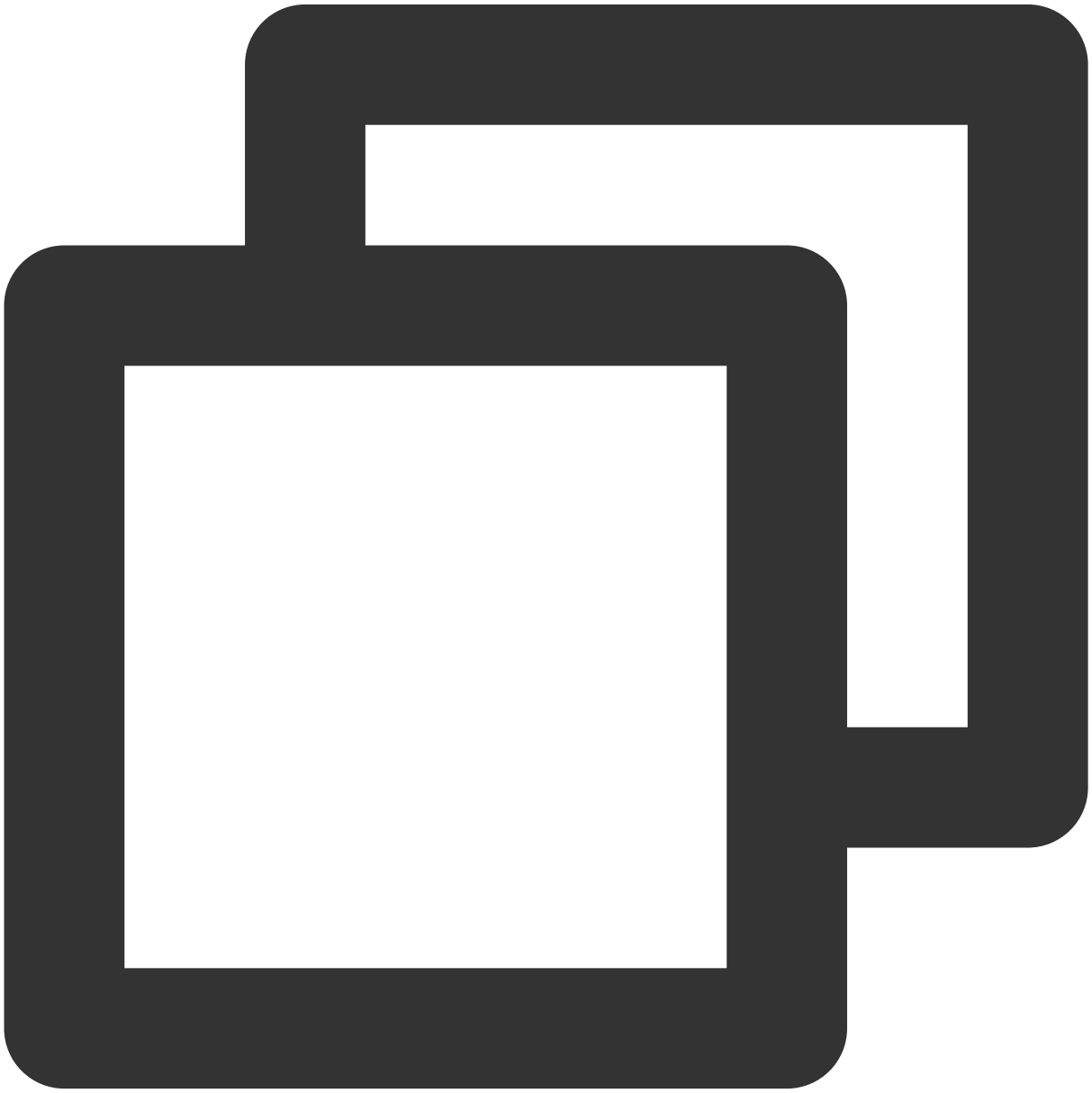


```
const roomEngine = new TUIRoomEngine();
const speakerList = await roomEngine.getSpeakerDevicesList();
for (i = 0; i < speakerList.length; i++) {
   var speaker = speakerList[i];
   console.info("speaker deviceName: " + speaker.deviceName + " deviceId:" + speak
}
```

Returns: *Promise<*TRTCDeviceInfo*[]>* speakerList

setCurrentCameraDevice

Set the camera device to be used.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setCurrentCameraDevice({ deviceId: '' });
```

Parameter:

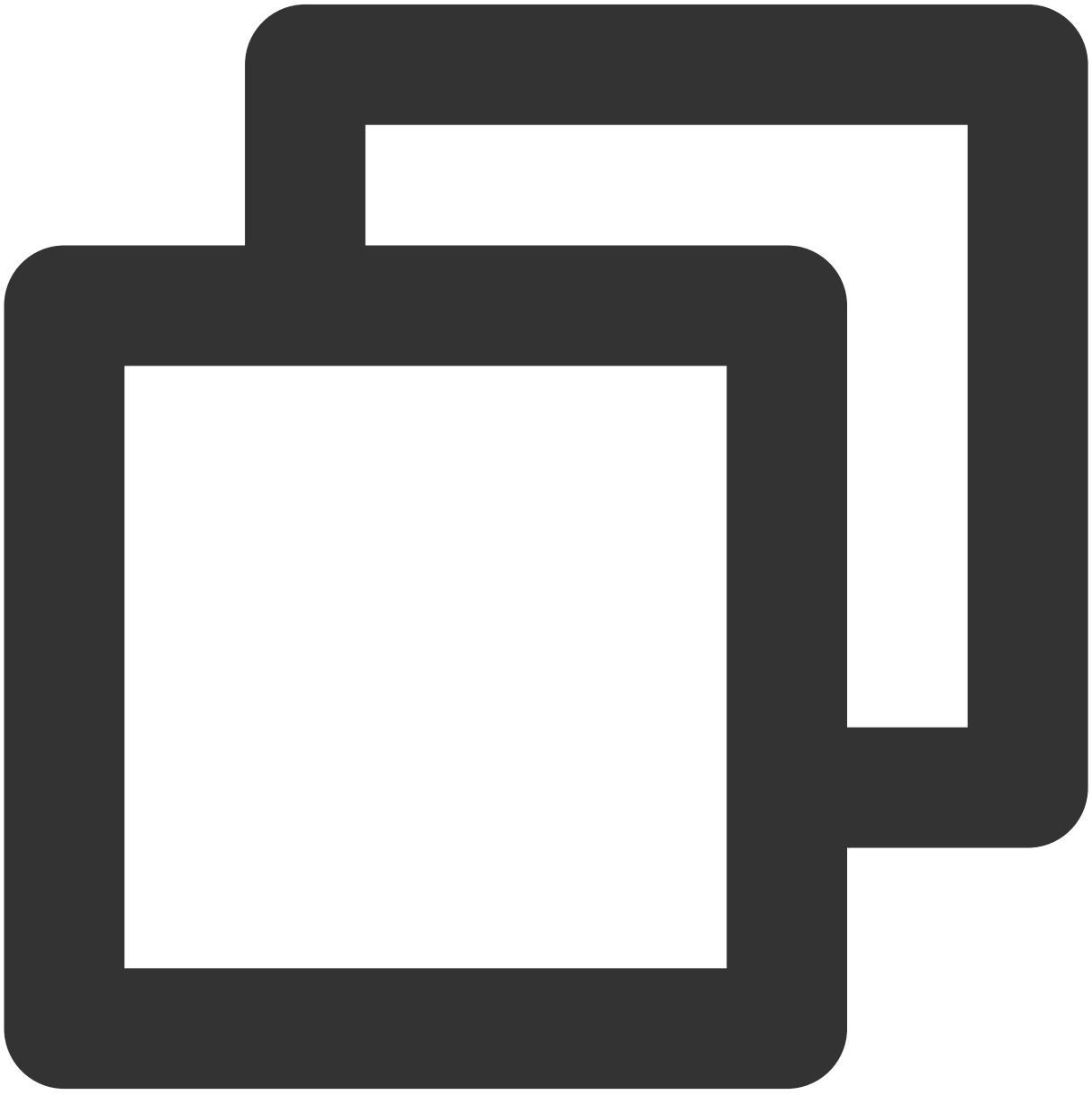
Parameter	Type	Description	Default Value	Meaning

deviceId	string	Required	-	Device ID obtained from getCameraDevicesList

Returns：***void***

setCurrentMicDevice

Set the mic device to be used.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setCurrentMicDevice({ deviceId: '' });
```

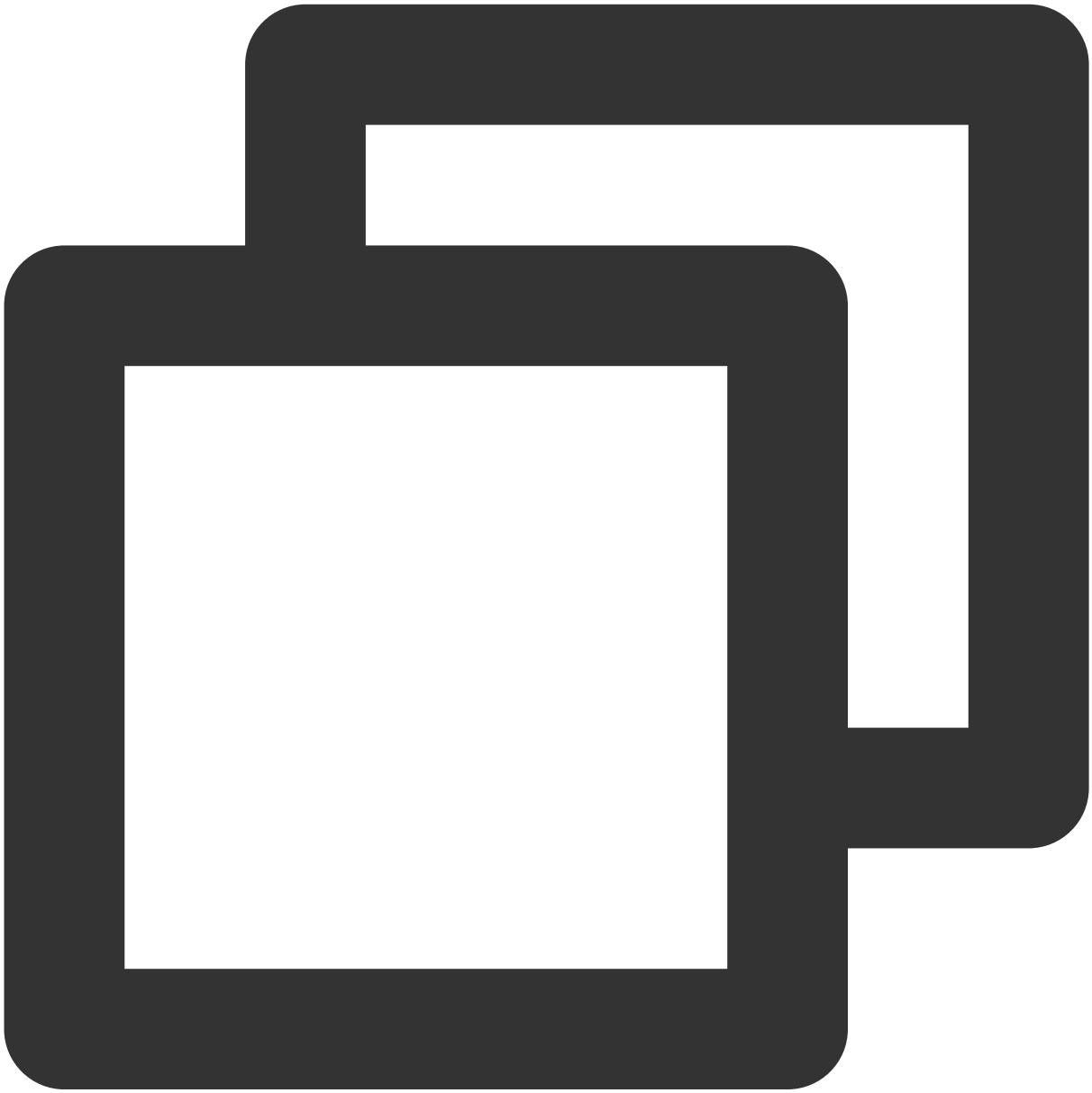
Parameter:

Parameter	Type	Description	Default Value	Meaning
deviceId	string	Required	-	Device ID obtained from getSpeakerDevicesList

Returns：***void***

setCurrentSpeakerDevice

Get the currently used camera device.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.setCurrentSpeakerDevice({ deviceId: '' });
```

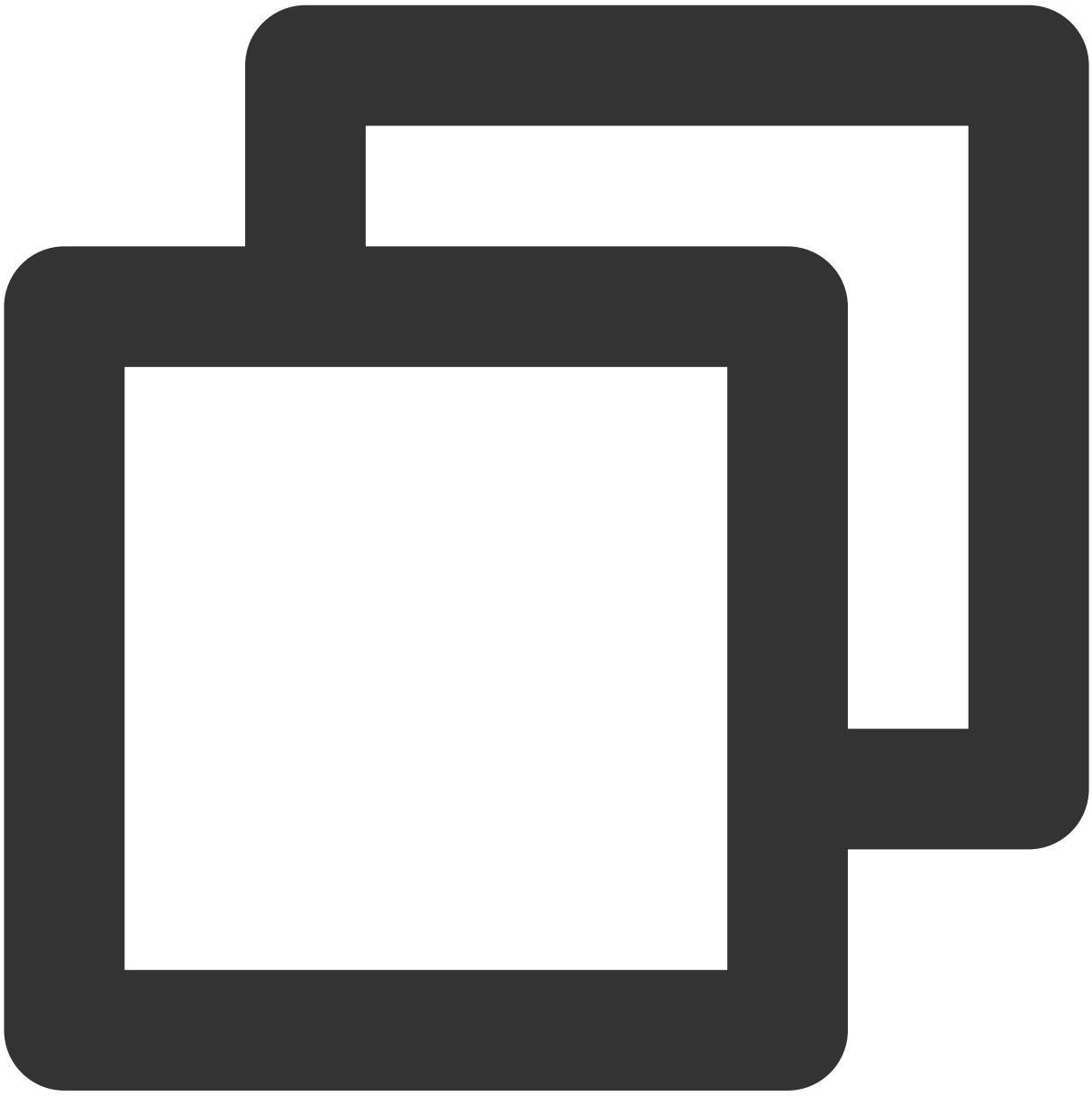
Parameter:

Parameter	Type	Description	Default Value	Meaning
deviceId	string	Required	-	Device ID obtained from getSpeakerDevicesList

Returns：*void*

getCurrentCameraDevice

Get the currently used camera device.



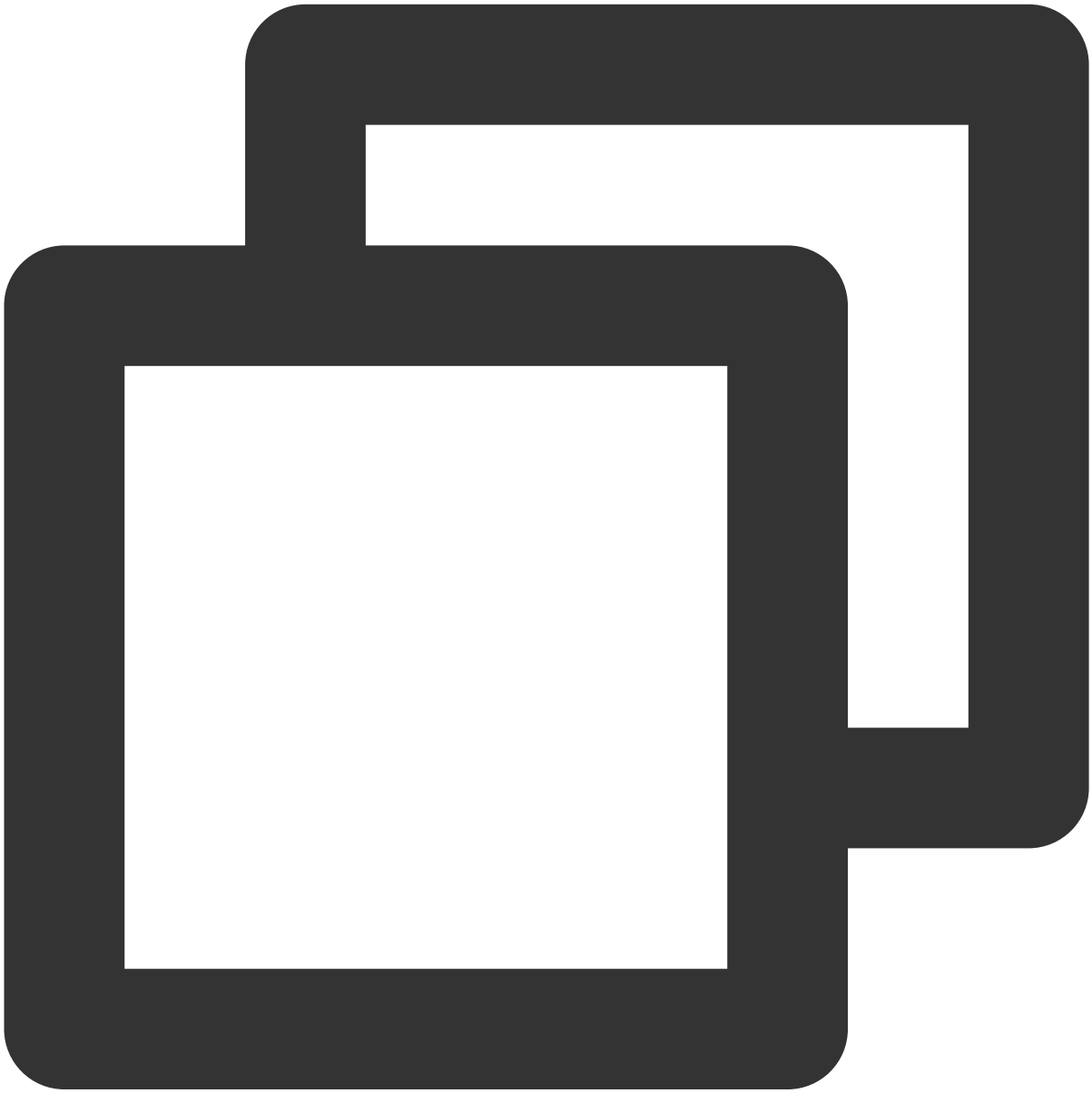
```
const roomEngine = new TUIRoomEngine();
const currentCameraDevice = roomEngine.getCurrentCameraDevice();
```

Returns：TRTCDeviceInfo

Device information, can get device ID and device name

getCurrentMicDevice

Get the currently used mic device.



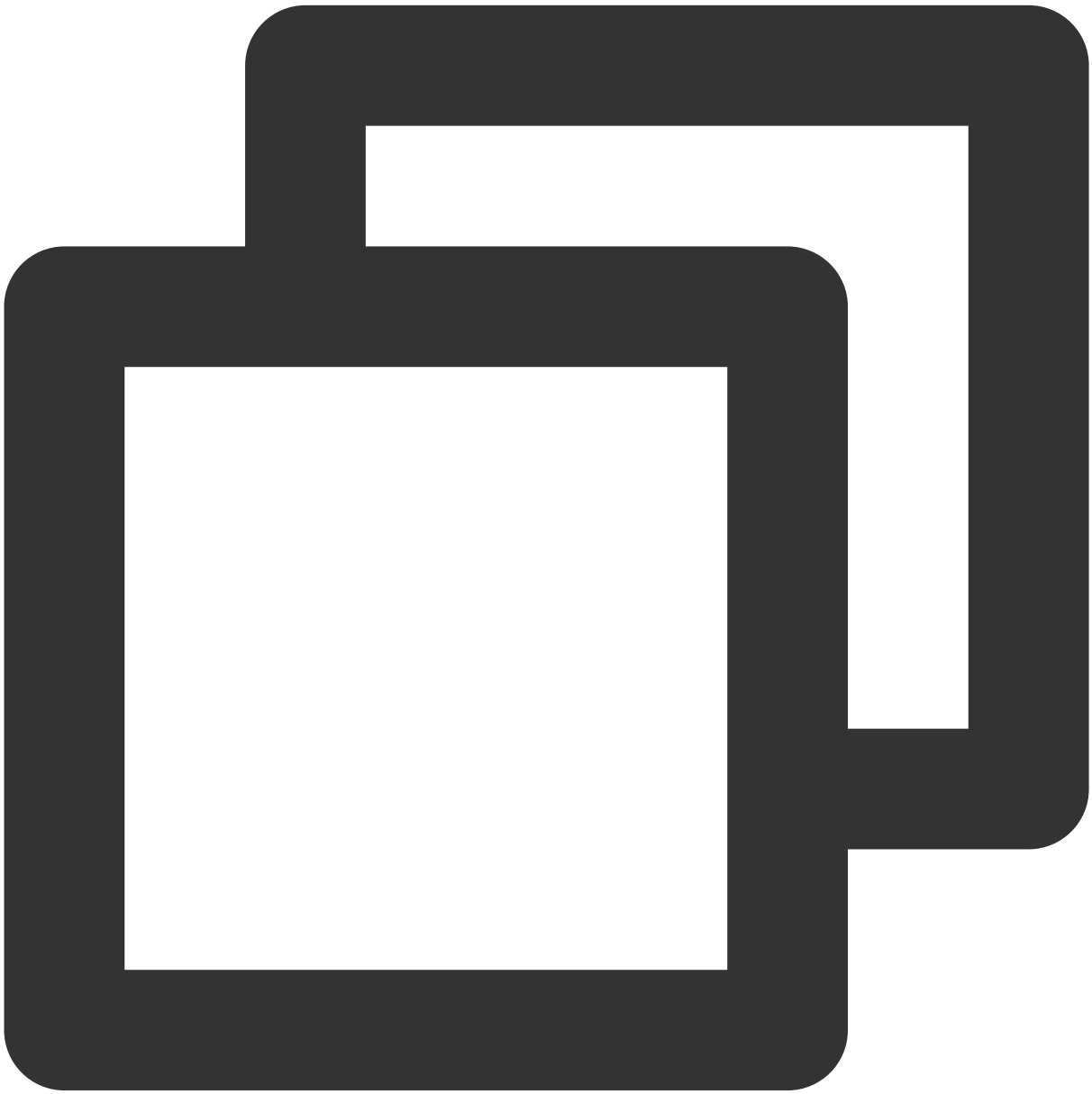
```
const roomEngine = new TUIRoomEngine();
const currentMicDevice = roomEngine.getCurrentMicDevice();
```

Returns：TRTCDeviceInfo

Device information, can get device ID and device name

getCurrentSpeakerDevice

Get the currently used speaker device.



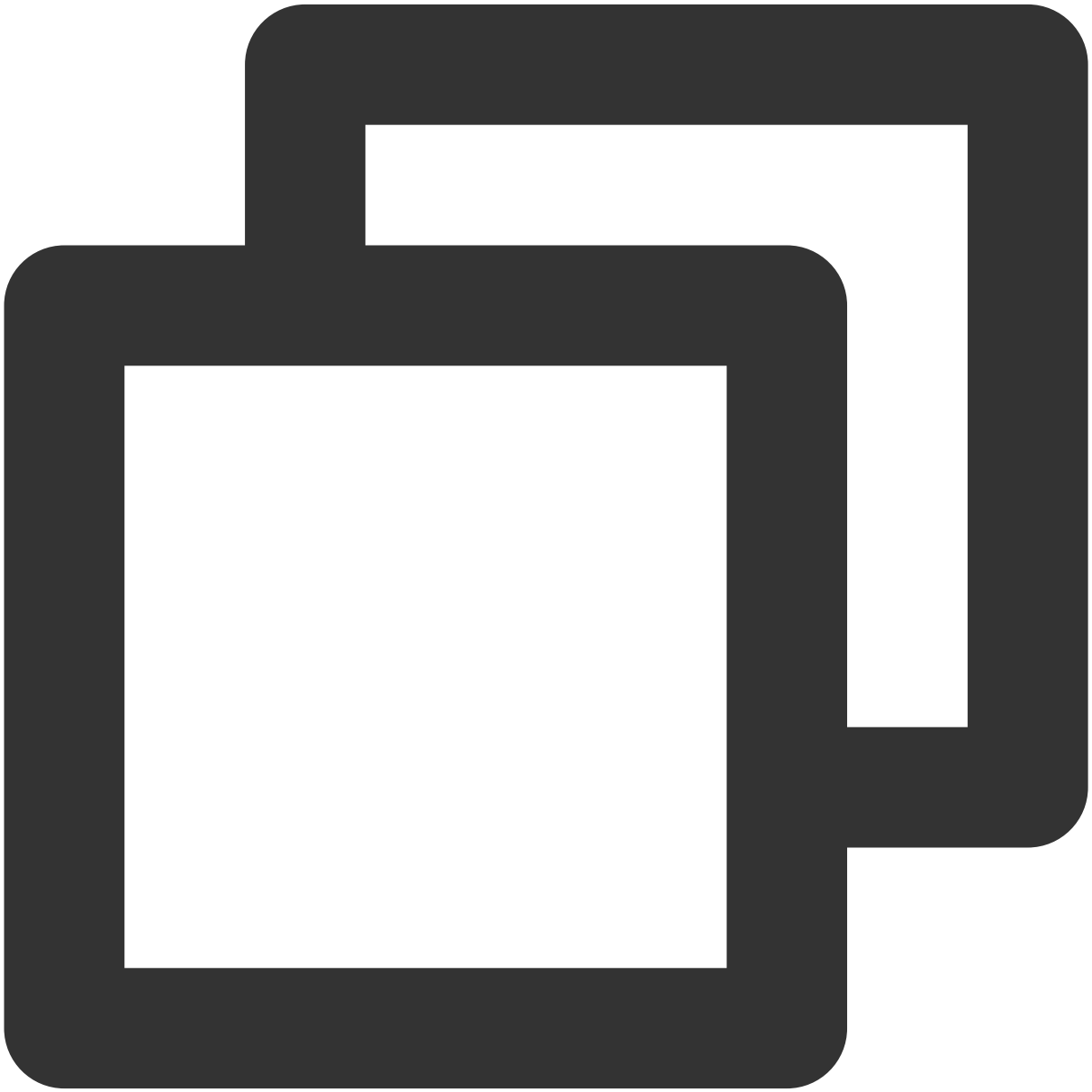
```
const roomEngine = new TUIRoomEngine();
const currentSpeakerDevice = roomEngine.getCurrentSpeakerDevice();
```

Returns：TRTCDeviceInfo

Device information, can get device ID and device name

startCameraDeviceTest

Start camera test.



```
const roomEngine = new TUIRoomEngine();
await roomEngine.startCameraDeviceTest({ view: 'test-preview' });
```

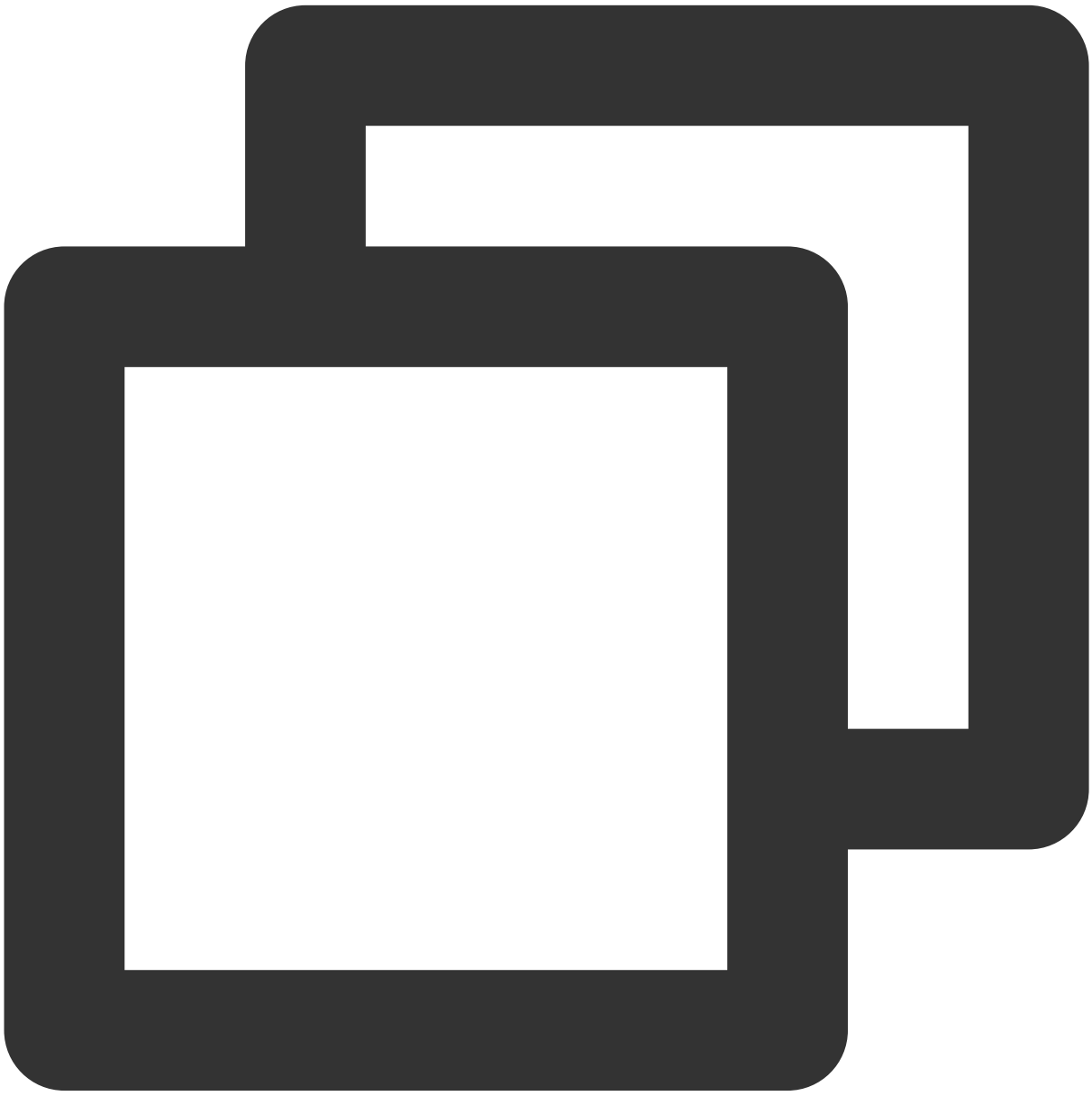
Parameter:

Parameter	Type	Description	Default Value	Meaning
view	string	Required	-	Display the video area of the camera test, the input view is the Id of the div element carrying the preview screen

Returns：*Promise<void>*

stopCameraDeviceTest

Stop camera test.

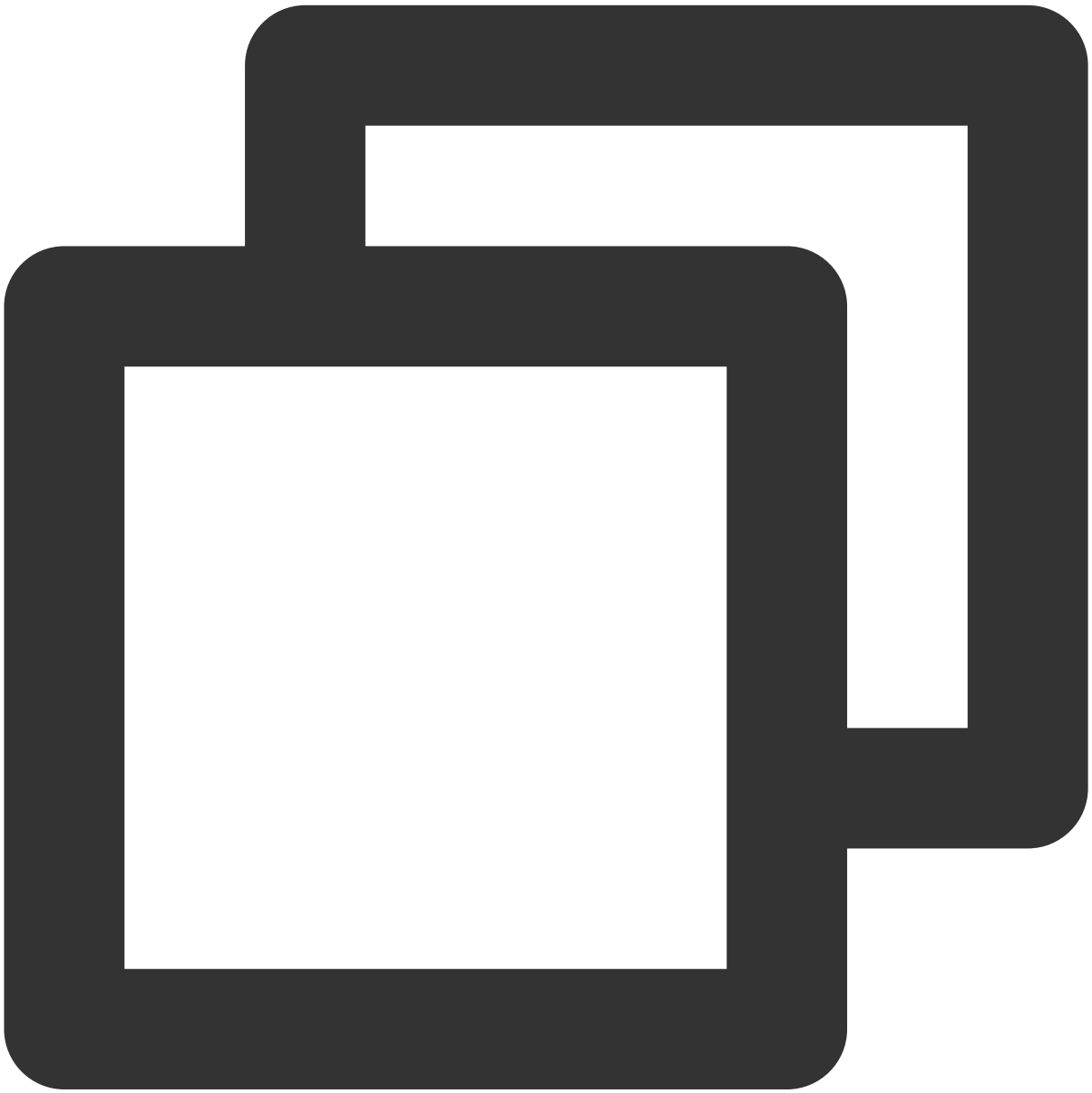


```
const roomEngine = new TUIRoomEngine();
await roomEngine.stopCameraDeviceTest();
```

Returns：*Promise<void>*

on

Listen to roomEngine events.



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(event, func);
```

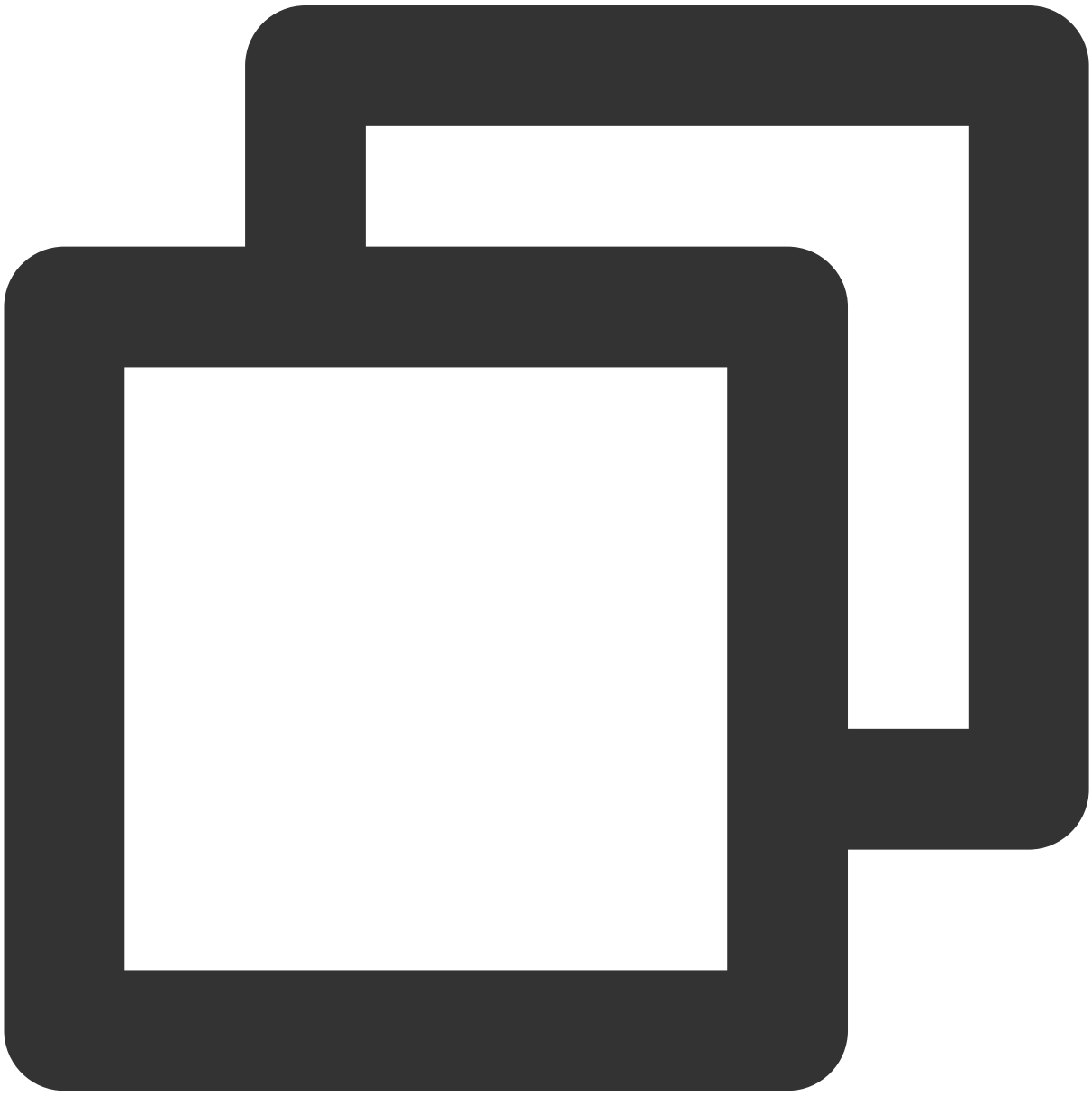
Parameter:

Parameter	Type	Description	Default Value	Meaning
event	TUIRoomEvents	Required	-	TUIRoomEngine event list
func	Function	Required	-	Event callback function

Returns：***void***

off

Cancel listening to roomEngine events



```
const roomEngine = new TUIRoomEngine();
roomEngine.off(event, func);
```

Parameter:

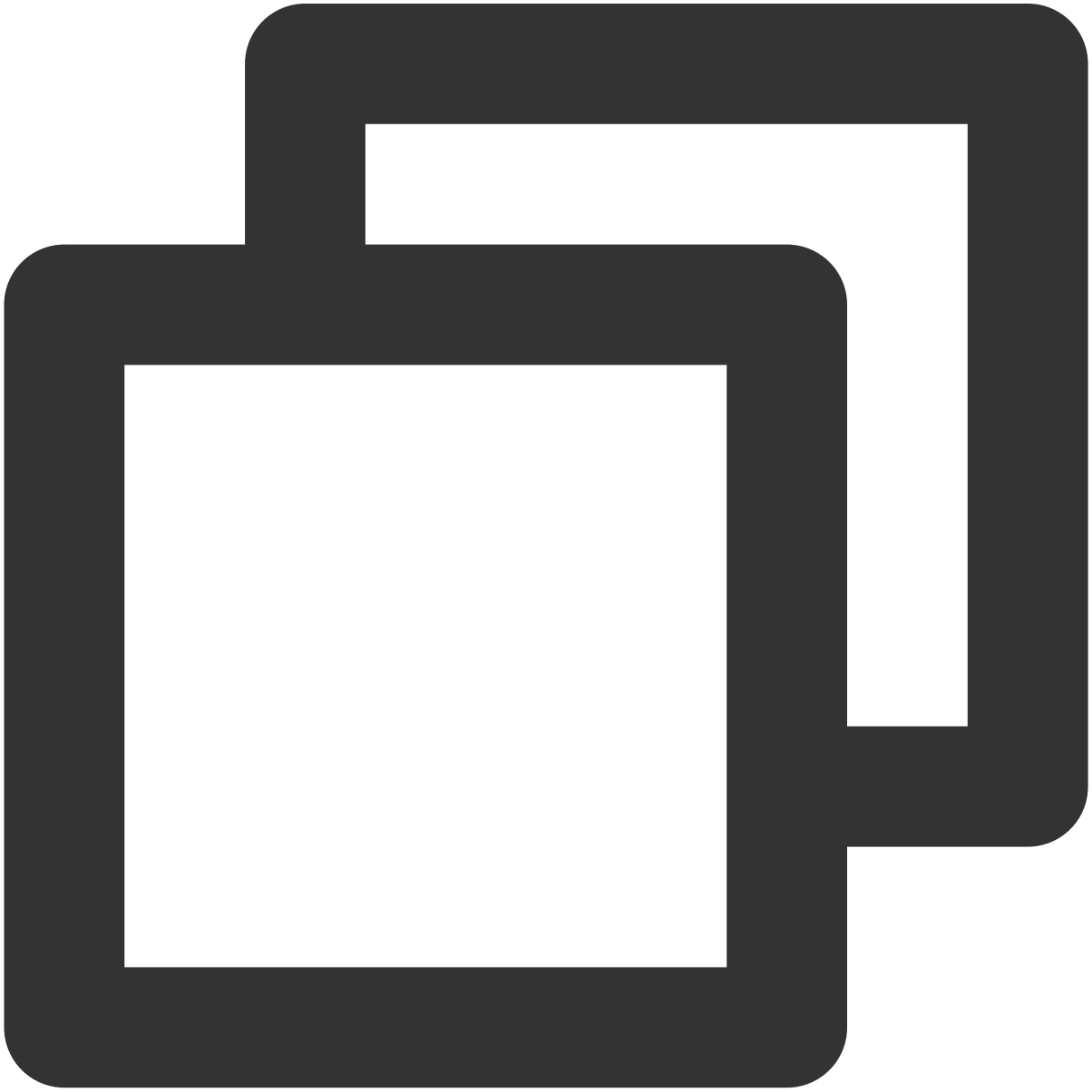
Parameter	Type	Description	Default Value	Meaning

event	TUIRoomEvents	Required	-	TUIRoomEngine event list
func	Function	Required	-	Event callback function

Returns：***void***

getTRTCCloud

Get trtcCloud instance, for web-side trtcCloud capabilities, please check: TRTCCloud API documentation.



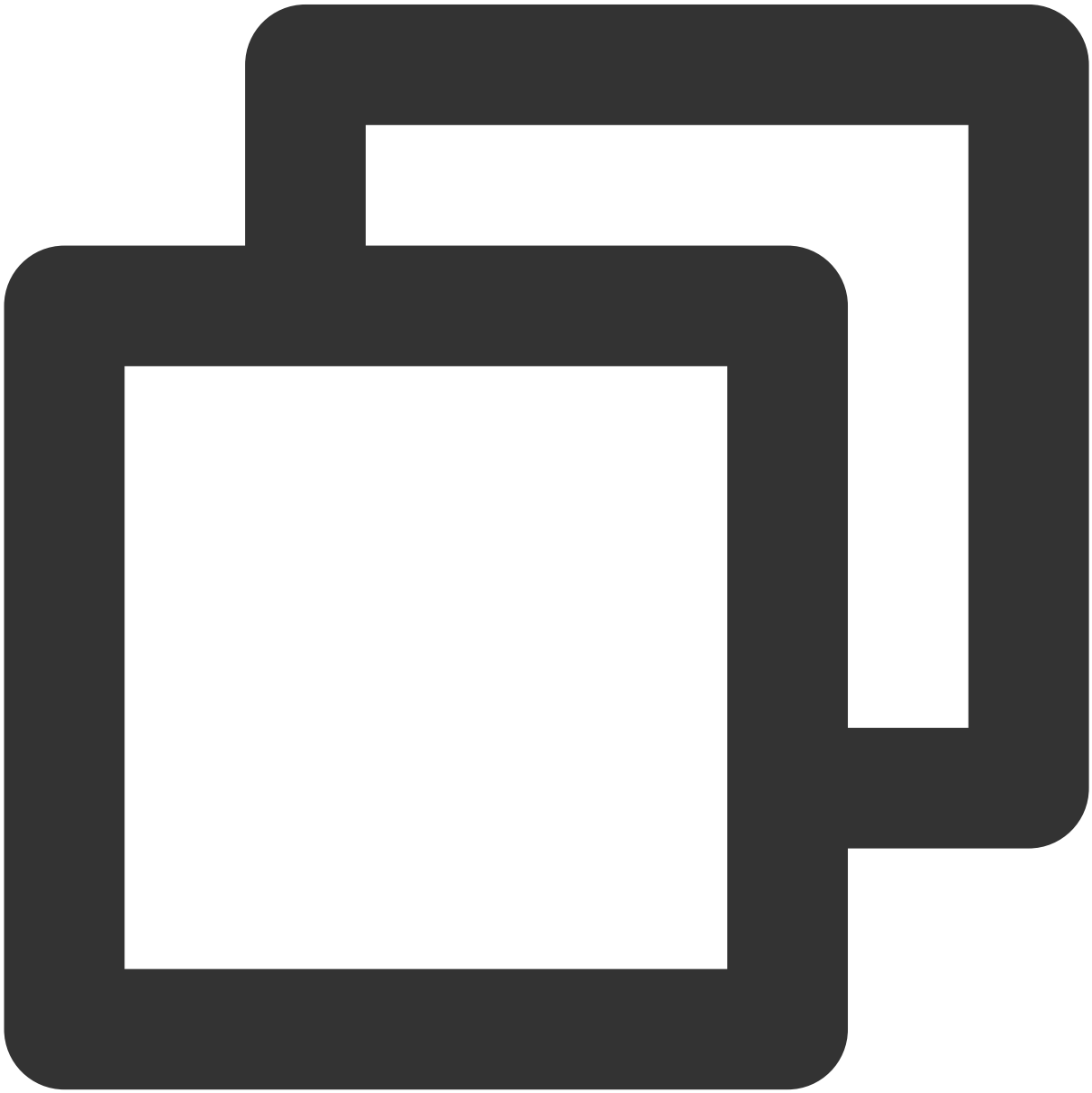
```
const roomEngine = new TUIRoomEngine();
```

```
const trtcCloud = roomEngine.getTRTCCloud();
```

Returns：TRTCCloud

getTIM

Get tim instance, for web-side tim capabilities, please check: IM API documentation



```
const roomEngine = new TUIRoomEngine();
const trtcCloud = roomEngine.getTIM();
```

Returns：*TIM*

TUIRoomEvent

Last updated：2023-11-22 11:26:33

TUIRoomEvent API Introduction

TUIRoomEvent API is the Event Interface for Multiplayer Component.

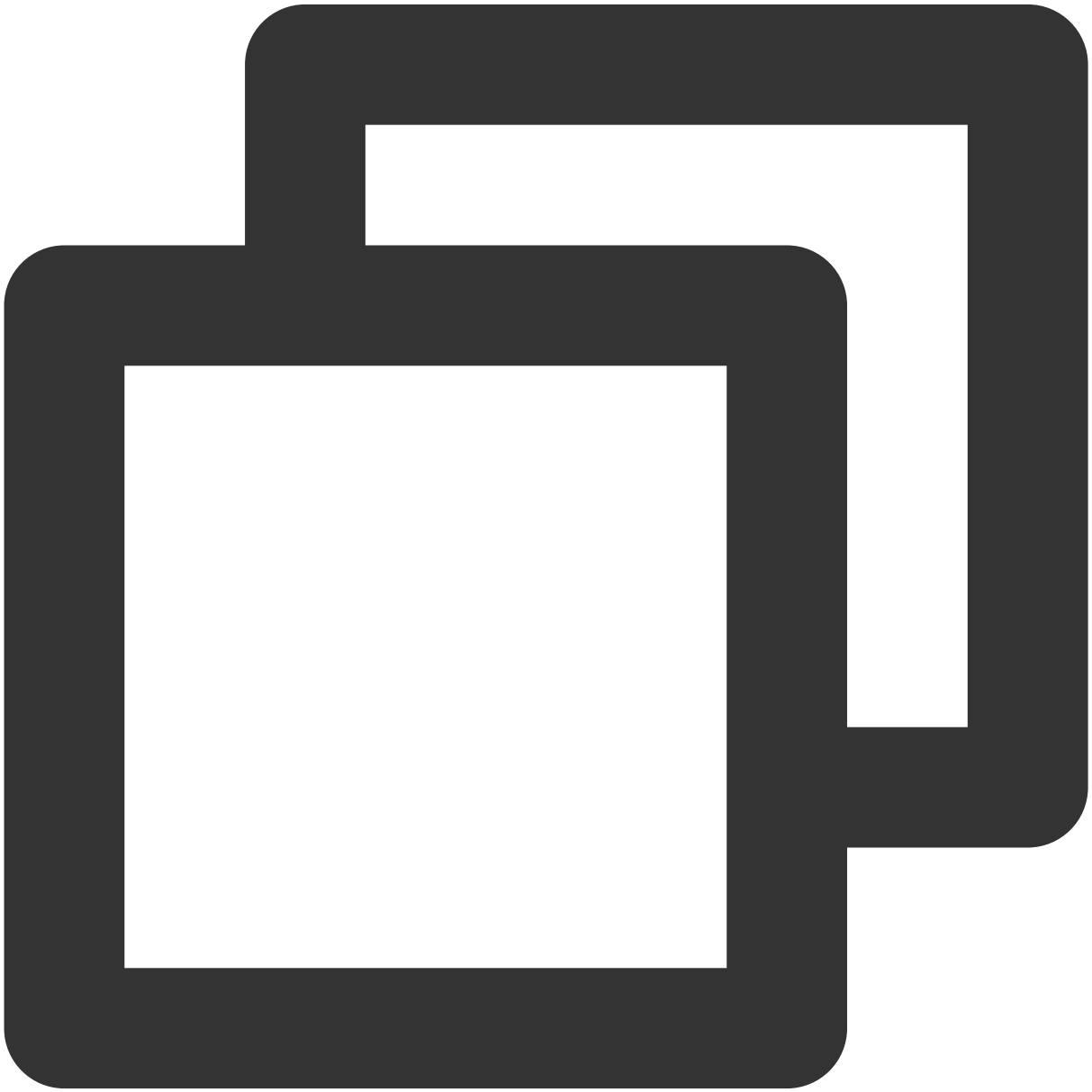
Event list

EVENT	Description
TUIRoomEvents.onError	Error Event
TUIRoomEvents.onKickedOutOfRoom	Kicked out of room event
TUIRoomEvents.onKickedOffLine	Current user Kicked off line event
TUIRoomEvents.onUserSigExpired	UserSig Expiration Event
TUIRoomEvents.onRoomDismissed	Host Destroy Room Event
TUIRoomEvents.onRoomNameChanged	Room Name Change Event
TUIRoomEvents.onRoomSpeechModeChanged	Room Speech Mode Change Event
TUIRoomEvents.onAllUserCameraDisableChanged	All members Camera Usage Permission Change Event
TUIRoomEvents.onAllUserMicrophoneDisableChanged	All members Mic Usage Permission Change Event
TUIRoomEvents.onSendMessageForAllUserDisableChanged	All members Send Message Status Change Event
TUIRoomEvents.onRoomMaxSeatCountChanged	Room Maximum Seat Count Change Event
TUIRoomEvents.onRemoteUserEnterRoom	Remote User Entered Room Event
TUIRoomEvents.onRemoteUserLeaveRoom	Remote User Leave Room Event
TUIRoomEvents.onUserRoleChanged	User Role Change Event
TUIRoomEvents.onUserVideoStateChanged	User Video Status Change Event

TUIRoomEvents.onUserAudioStateChanged	User Audio Status Change Event
TUIRoomEvents.onSendMessageForUserDisableChanged	User Send Message Status Event
TUIRoomEvents.onUserVoiceVolumeChanged	User Volume Change Event
TUIRoomEvents.onUserNetworkQualityChanged	User Network Quality Change Event
TUIRoomEvents.onSeatListChanged	Seat List Change Event
TUIRoomEvents.onKickedOffSeat	User Kicked off Seat Event
TUIRoomEvents.onRequestReceived	Request Received Event
TUIRoomEvents.onRequestCancelled	Request Cancelled Event
TUIRoomEvents.onReceiveTextMessage	Receive Text Message Event
TUIRoomEvents.onReceiveCustomMessage	Receive Custom Message Event
TUIRoomEvents.onDeviceChange	Device Change Event
TUIRoomEvents.onUserScreenCaptureStopped	Screen Sharing Stopped Event When the user uses the built-in browser stop sharing button to end screen sharing, the user will receive the 'onUserScreenCaptureStopped' event to modify the screen sharing status.

onError

Error Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onError, (error) => {
 console.log('TUIRoomError error', error);
})
```

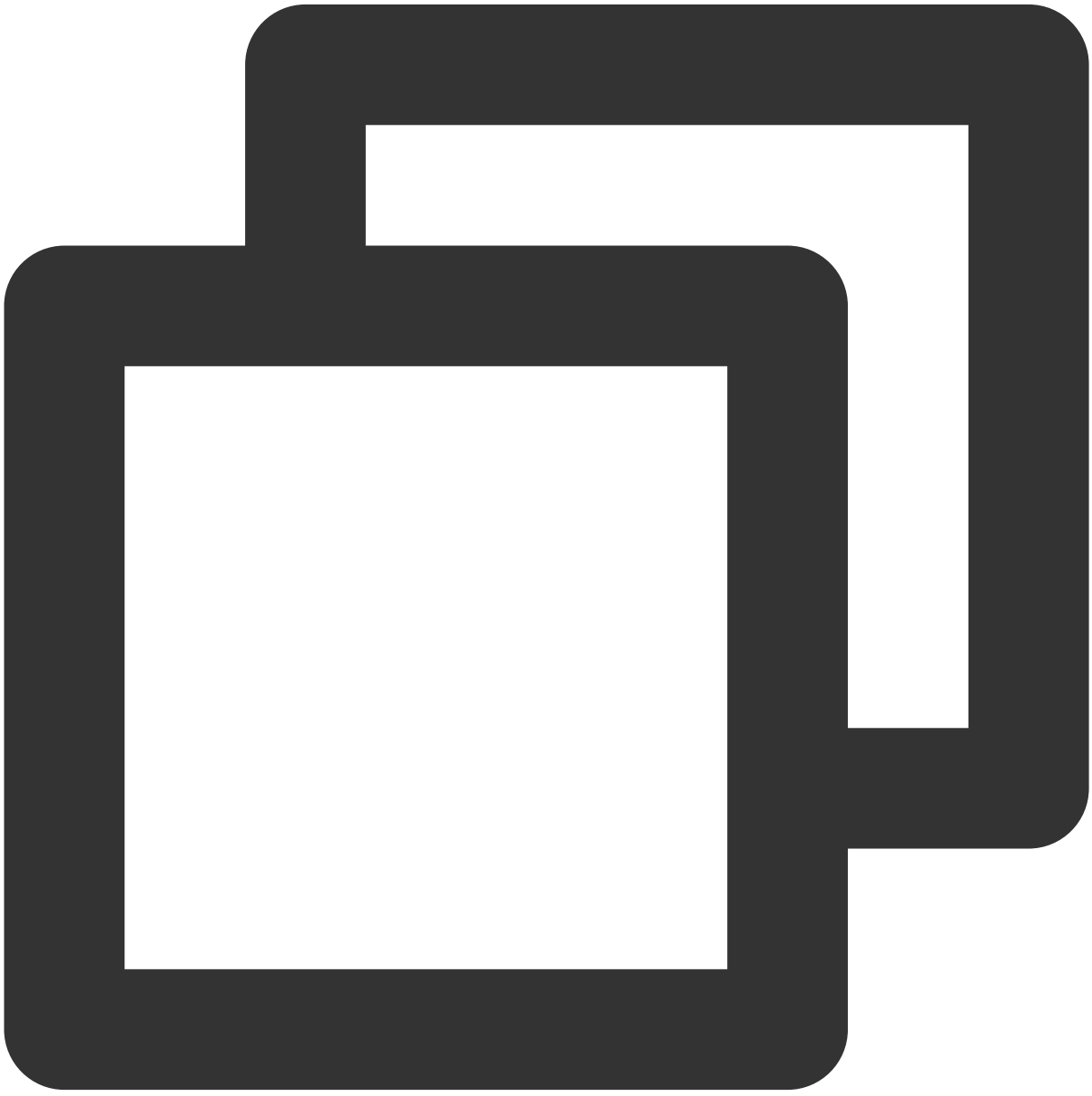
The parameters are shown in the table below:

Parameter	Type	Meaning
code	number	Error Code

message	string	Error Information

onKickedOutOfRoom

Kicked out of room event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onKickedOutOfRoom, ({ roomId, message }) => {
  console.log('roomEngine.onKickedOutOfRoom', roomId, message);
```

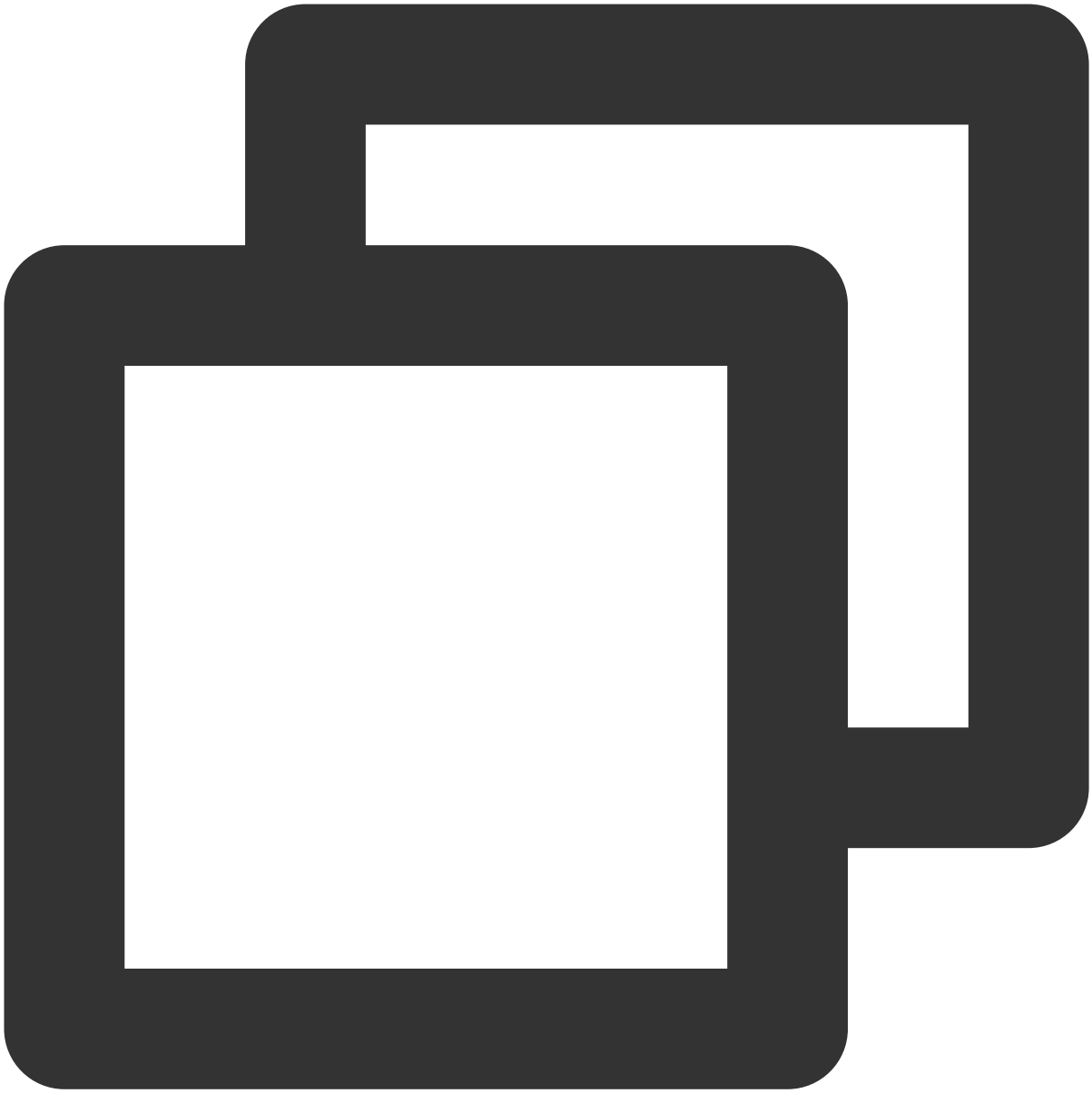
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
message	string	Kicked out of room information

onKickedOffLine

Current user Kicked off line event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onKickedOffLine, ({ message }) => {
  console.log('roomEngine.onKickedOffLine', message);
});
```

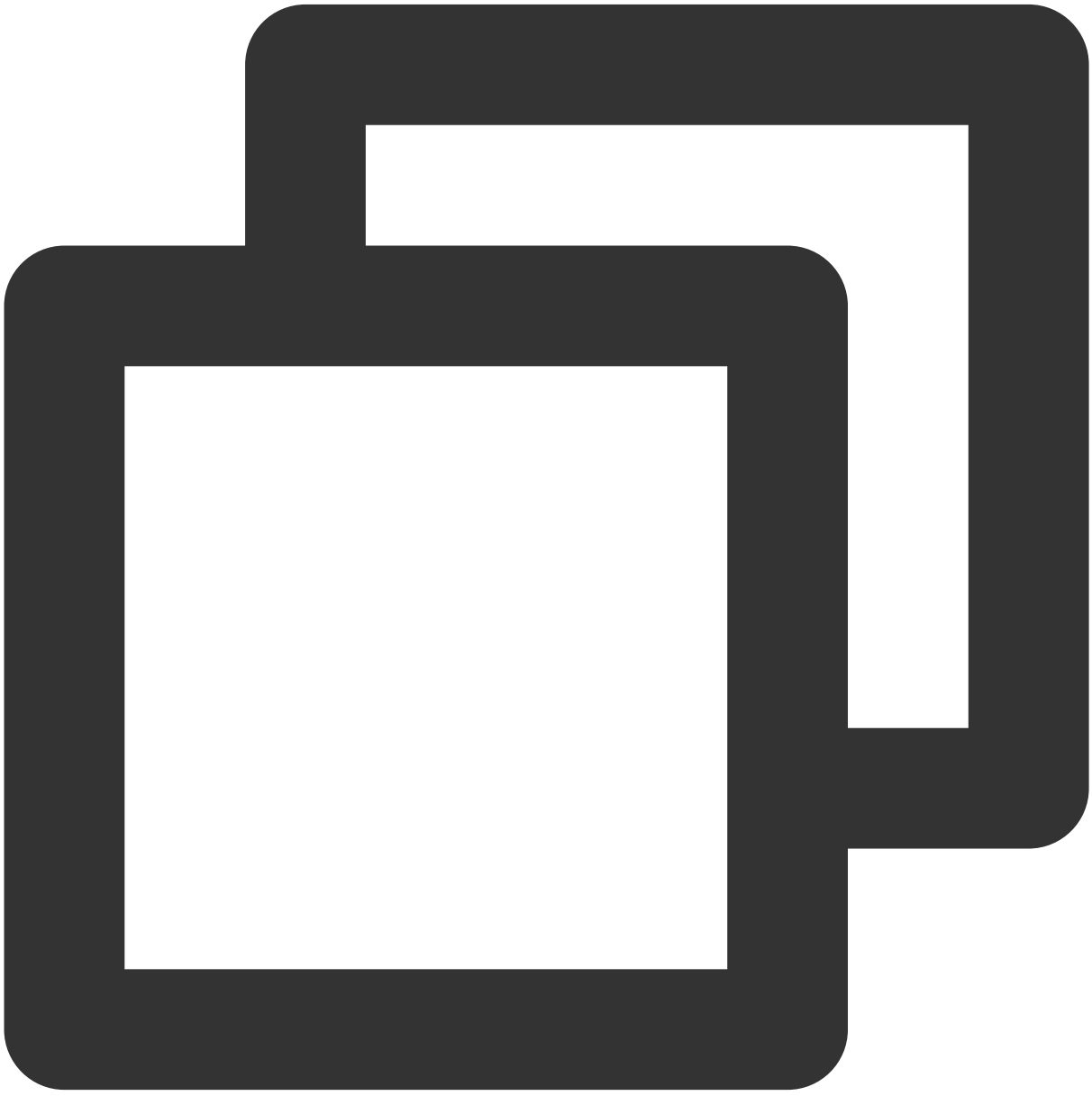
The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID

message	string	User logged in on other end information

onUserSigExpired

UserSig Expiration Event

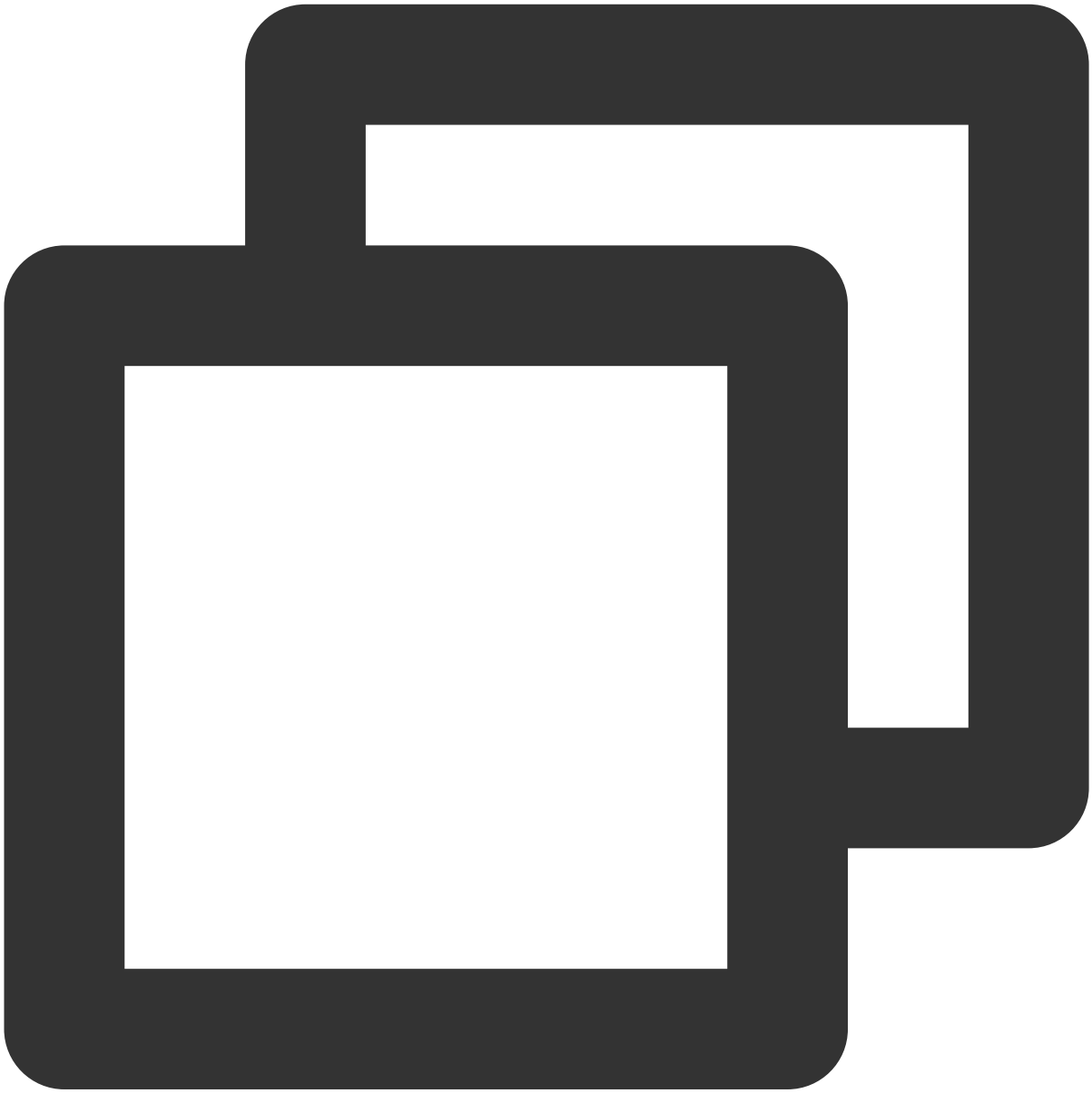


```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserSigExpired, () => {
  console.log('roomEngine.onUserSigExpired');
```

```
});
```

onRoomDismissed

Host Destroy Room Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomDismissed, ({ roomId }) => {
  console.log('roomEngine.onRoomDismissed', roomId);
```

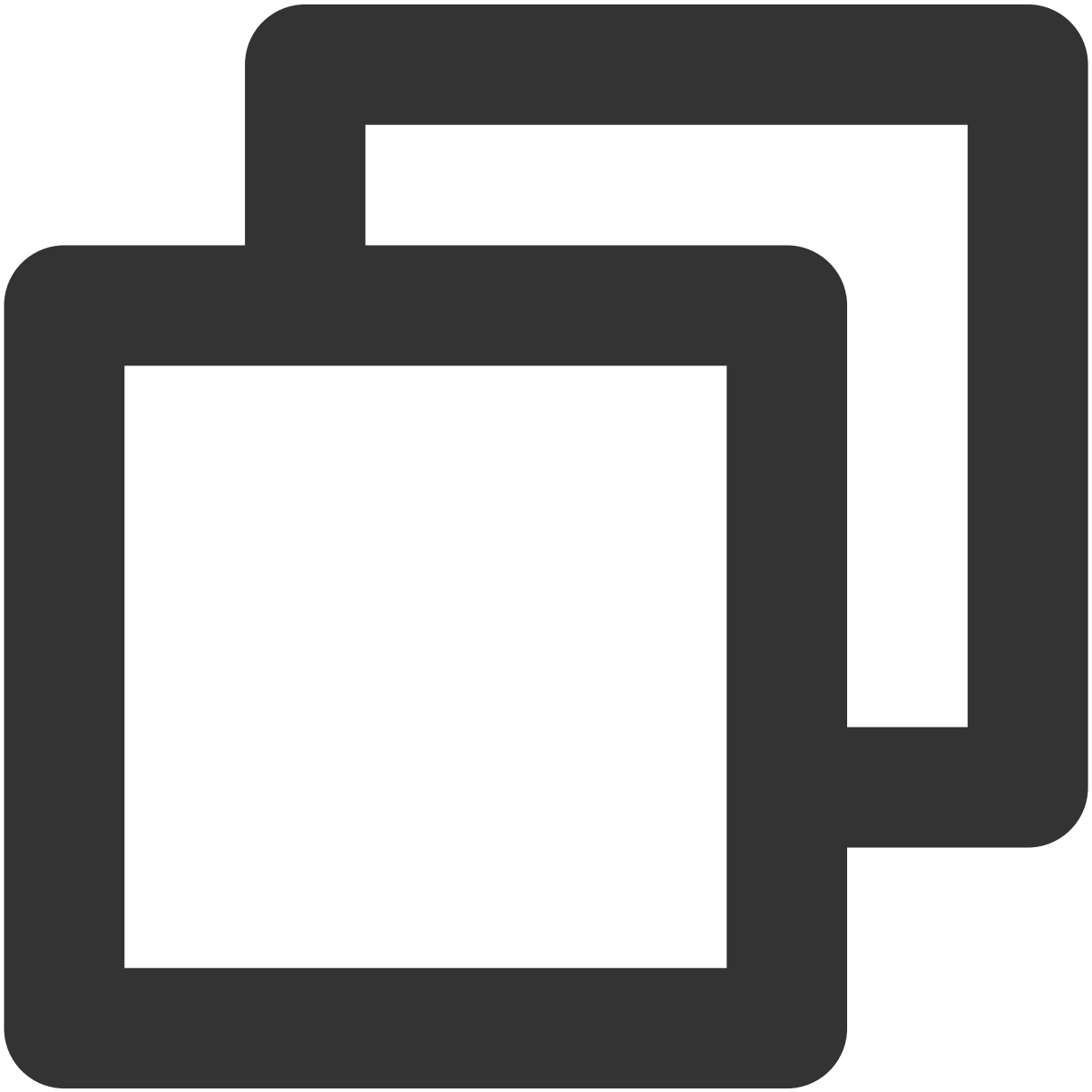
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID

onRoomNameChanged

Room ID Modification Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomNameChanged, ({ roomId, roomName }) => {
  console.log('roomEngine.onRoomNameChanged', roomId, roomName);
});
```

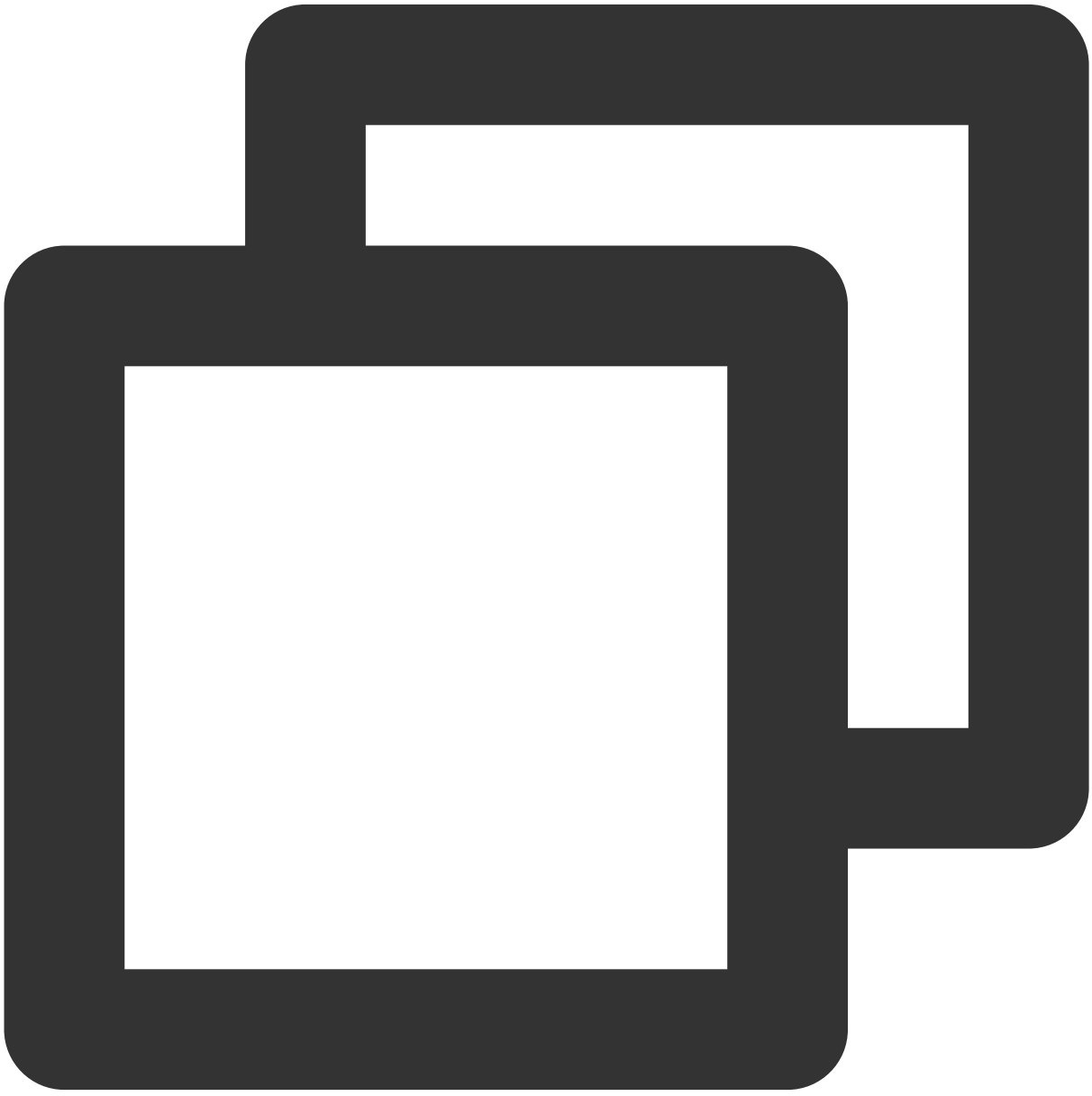
The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID

roomName	string	Room Name

onRoomSpeechModeChanged

Room Name Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomSpeechModeChanged, ({ roomId, speechMode }) => {
  console.log('roomEngine.onRoomSpeechModeChanged', roomId, speechMode);
```

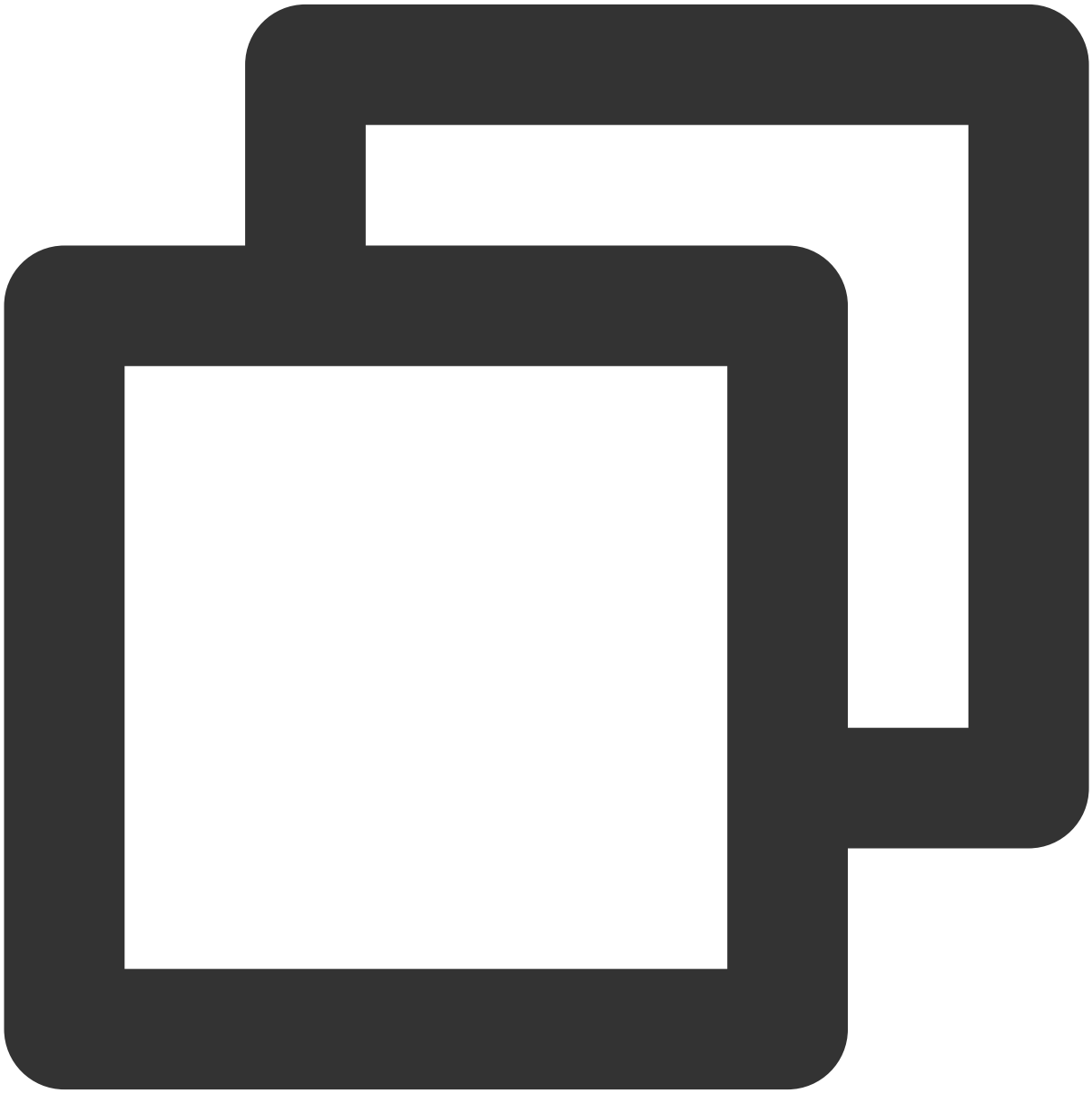
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
speechMode	TUISpeechMode	Speech Mode

onAllUserCameraDisableChanged

All members Camera Usage Permission Change Event



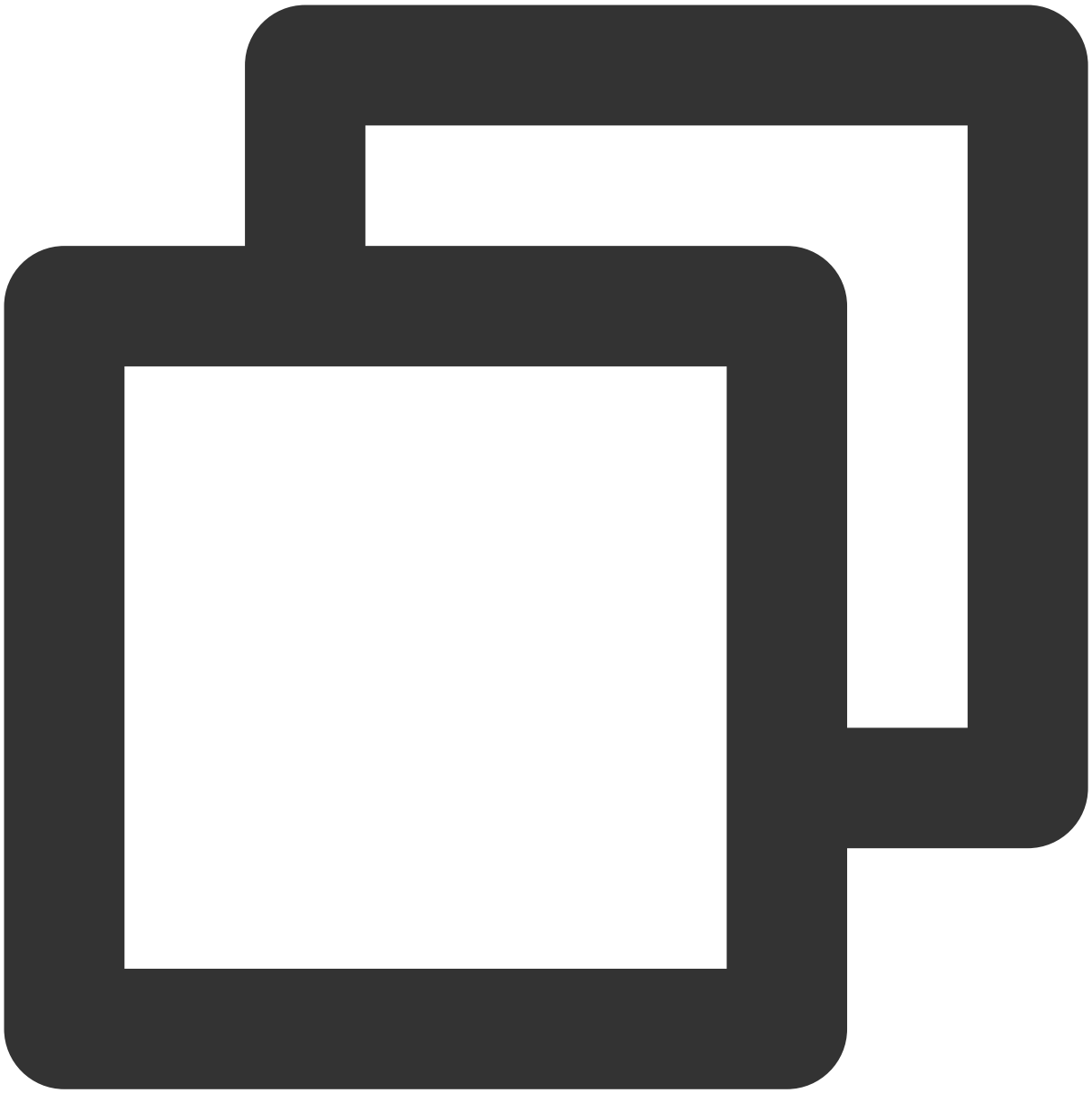
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onAllUserCameraDisableChanged, ({ isDisable }) => {
  console.log('roomEngine.onAllUserCameraDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Camera Usage

onAllUserMicrophoneDisableChanged

All members Mic Usage Permission Change Event



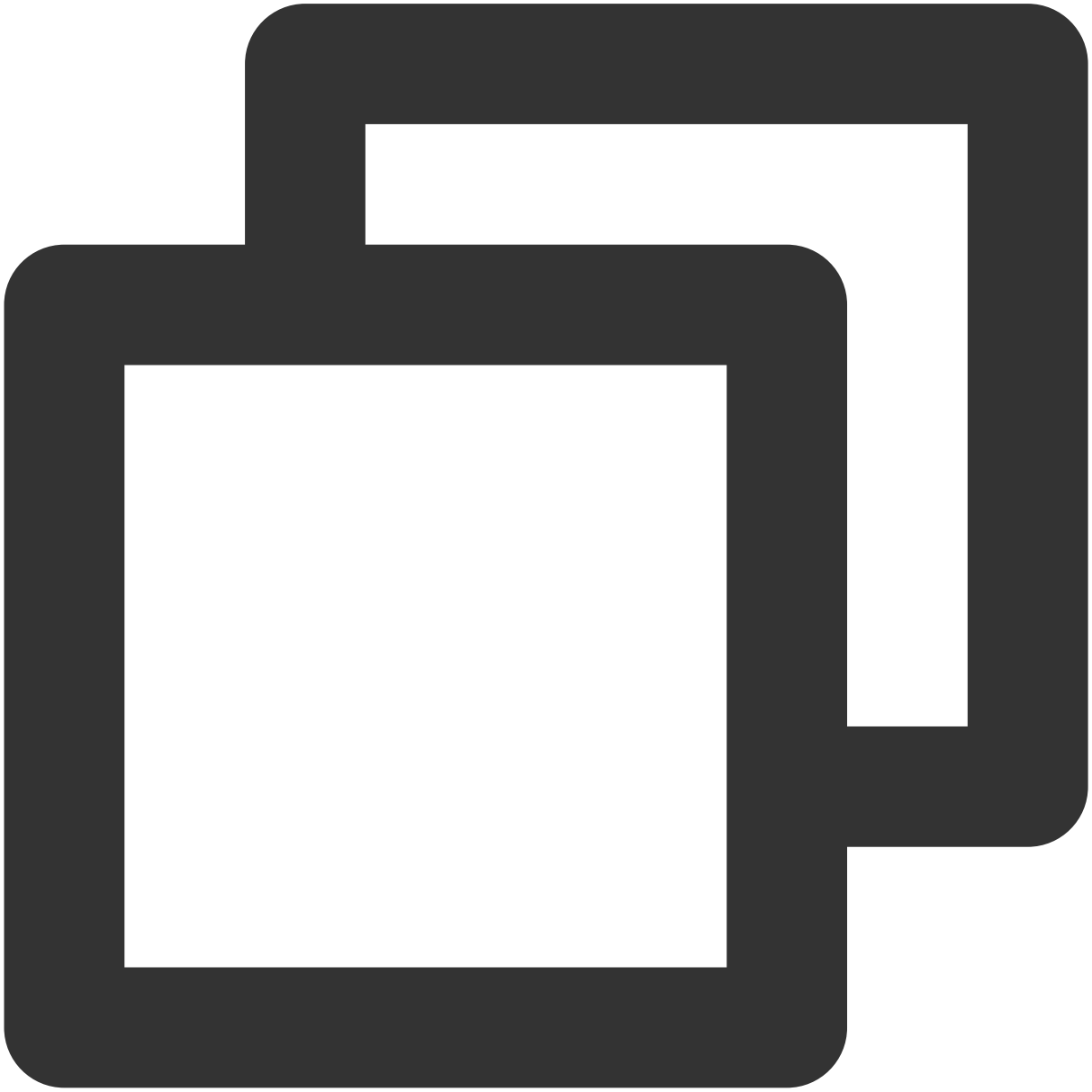
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onAllUserMicrophoneDisableChanged, ({ isDisable }) => {
  console.log('roomEngine.onAllUserMicrophoneDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Mic Usage

onSendMessageForAllUserDisableChanged

All members Send Message Permission Change Event



```
const roomEngine = new TUIRoomEngine();
```

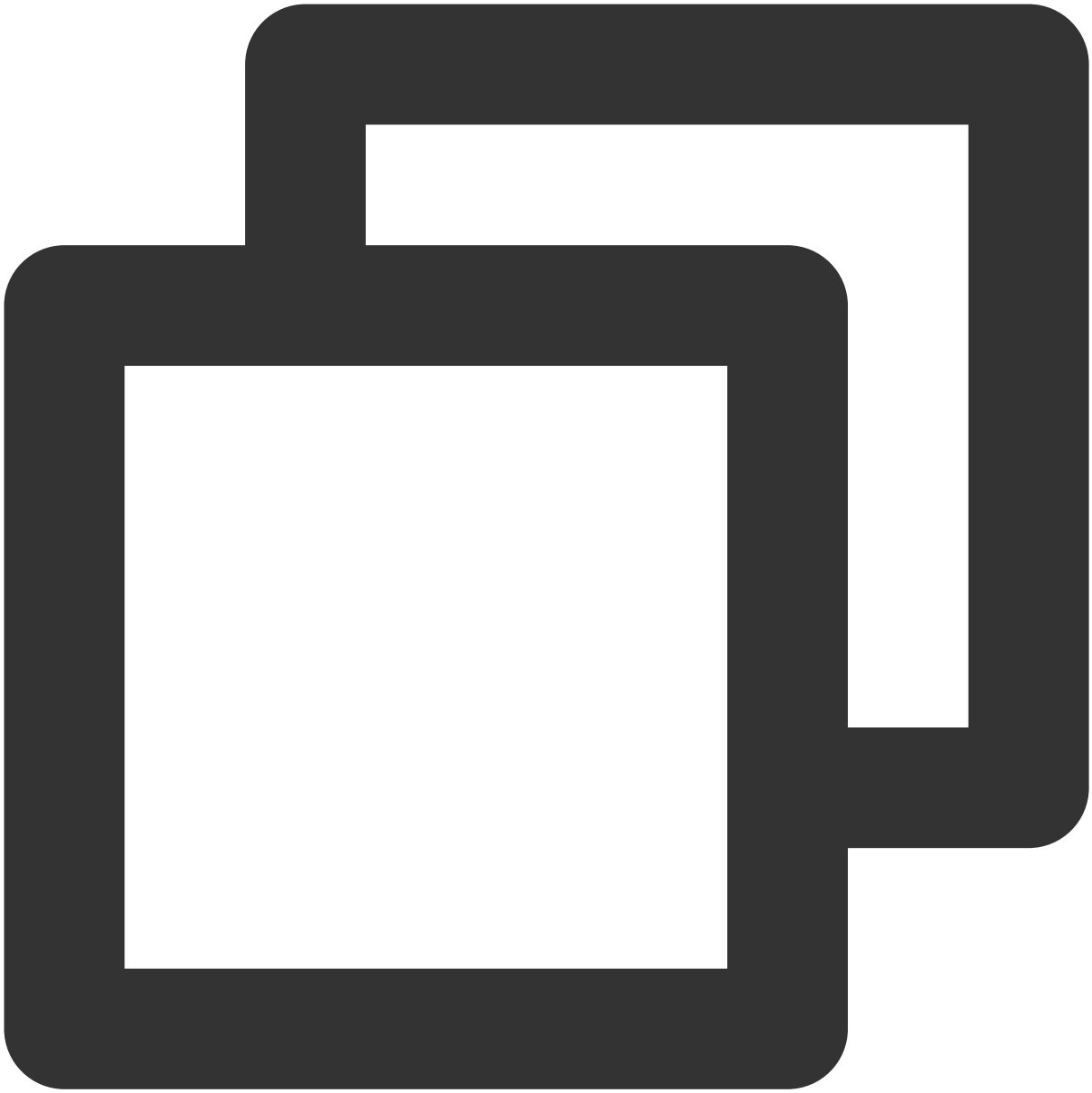
```
roomEngine.on(TUIRoomEvents.onSendMessageForAllUserDisableChanged, ({ isDisable }) =>
  console.log('roomEngine.onSendMessageForAllUserDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Sending Text Message

onRoomMaxSeatCountChanged

Room Maximum Seat Count Change Event



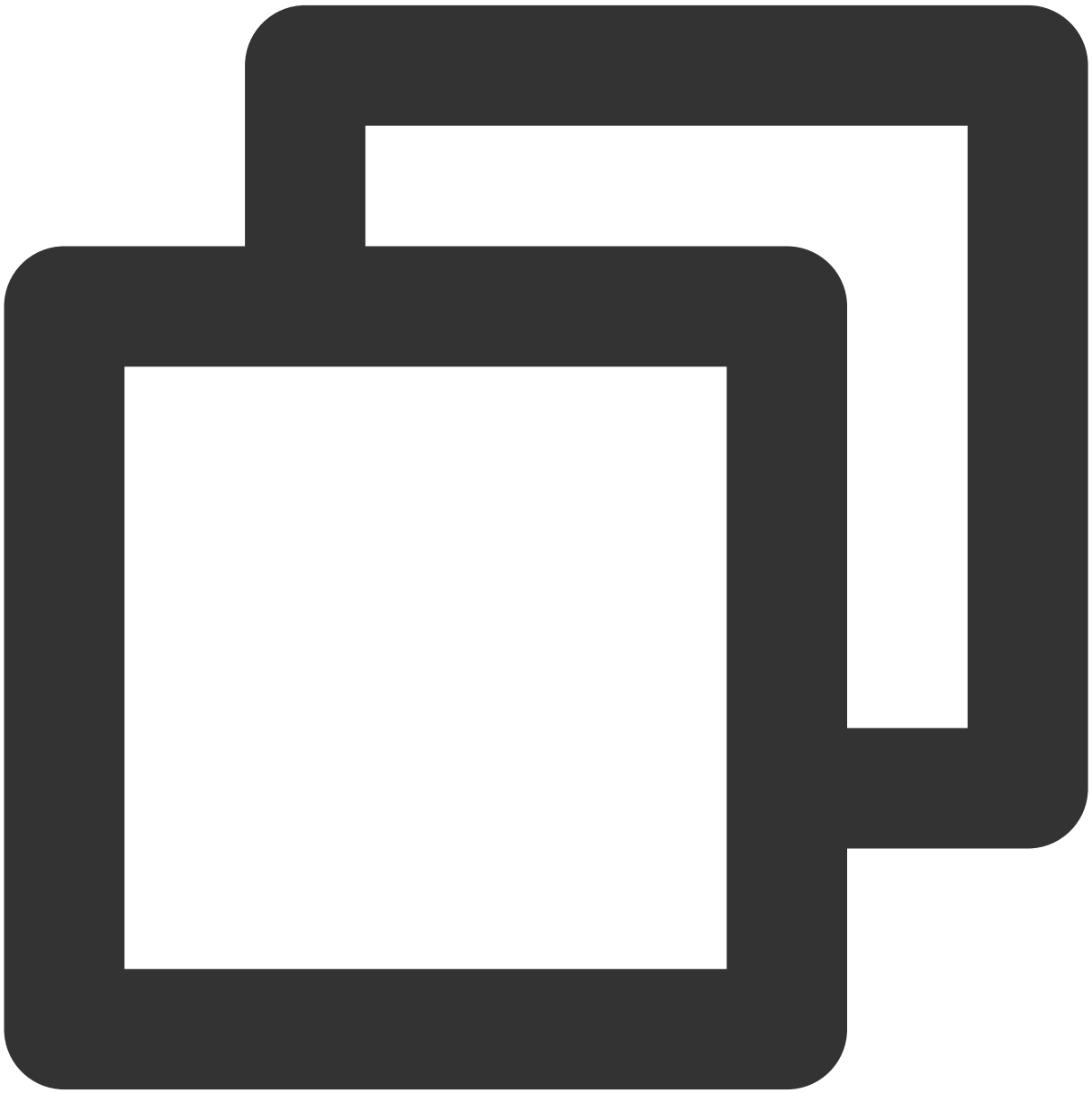
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRoomMaxSeatCountChanged, ({ maxSeatNumber }) => {
  console.log('roomEngine.onRoomMaxSeatCountChanged', maxSeatNumber);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
maxSeatNumber	number	Maximum Seat Count

onRemoteUserEnterRoom

Remote User Entered Room Event



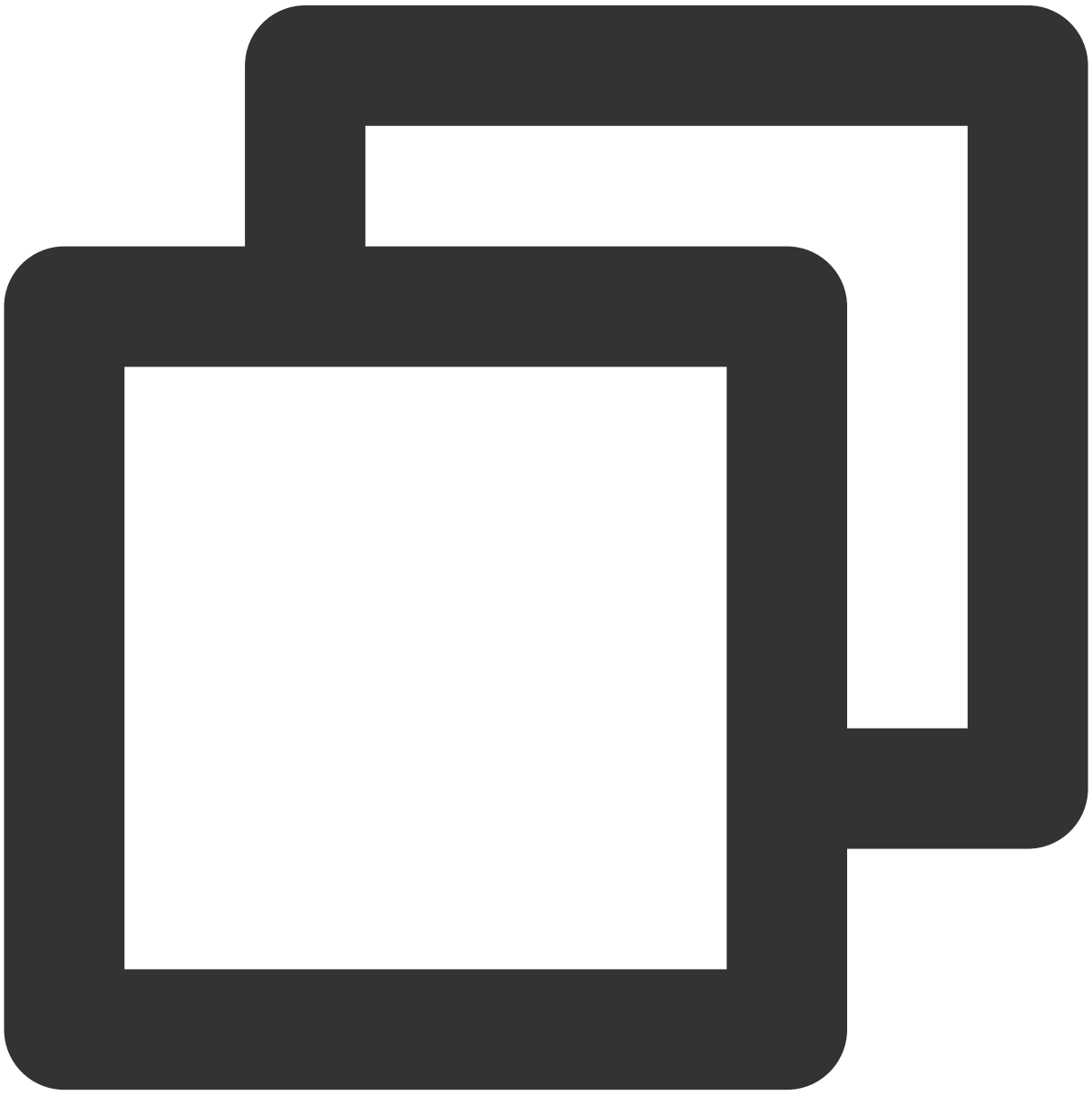
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRemoteUserEnterRoom, ({ roomId, userInfo }) => {
  console.log('roomEngine.onRemoteUserEnterRoom', roomId, userInfo);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
userInfo	TUIUserInfo	User Information

onRemoteUserLeaveRoom

Remote User Leave Room Event



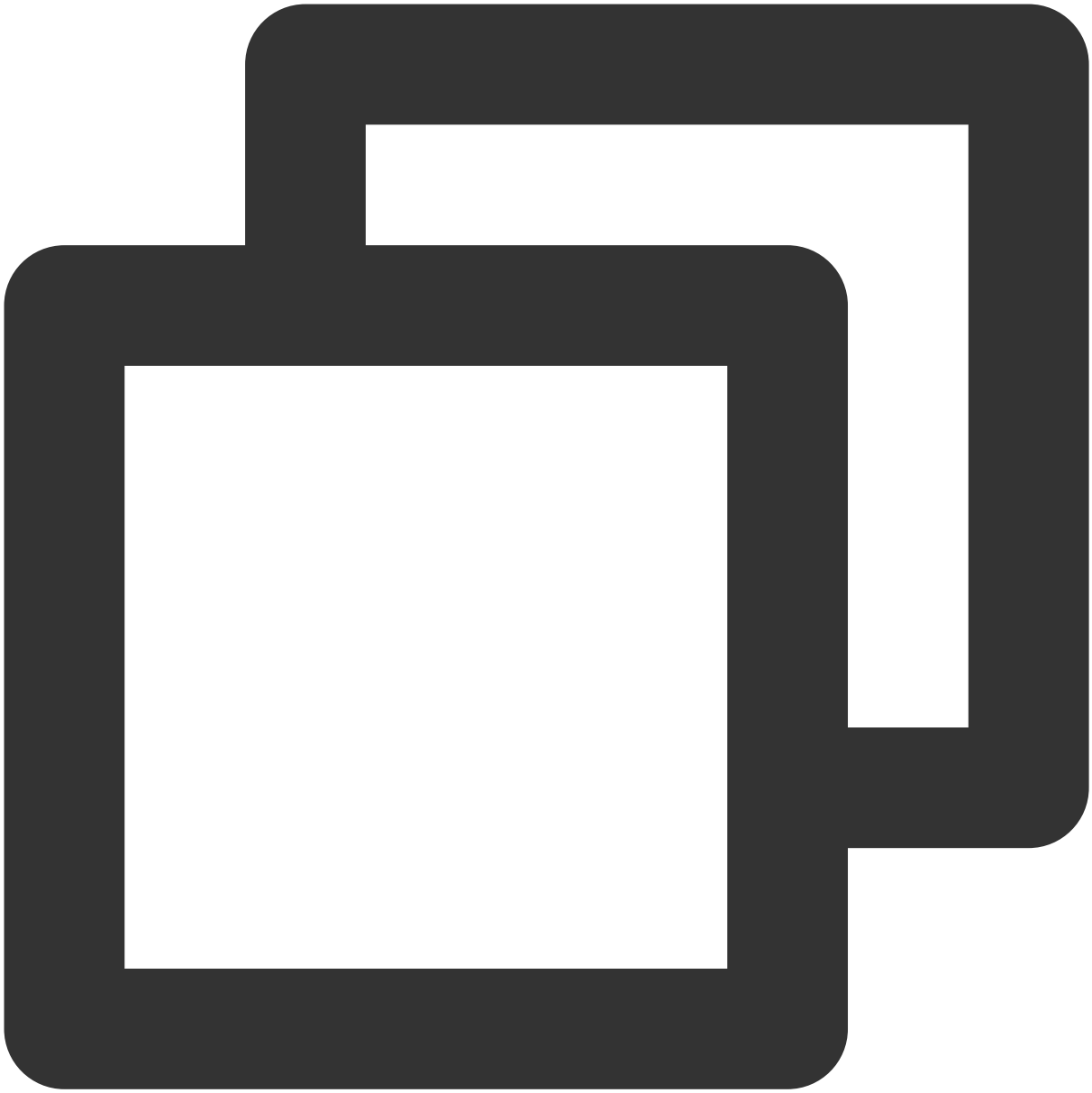
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRemoteUserLeaveRoom, ({ roomId, userInfo }) => {
  console.log('roomEngine.onRemoteUserLeaveRoom', roomId, userInfo);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room ID
userInfo	TUIUserInfo	User Information

onUserRoleChanged

User Role Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserRoleChanged, ({ userId, userRole }) => {
  console.log('roomEngine.onUserRoleChanged', userId, userRole);
});
```

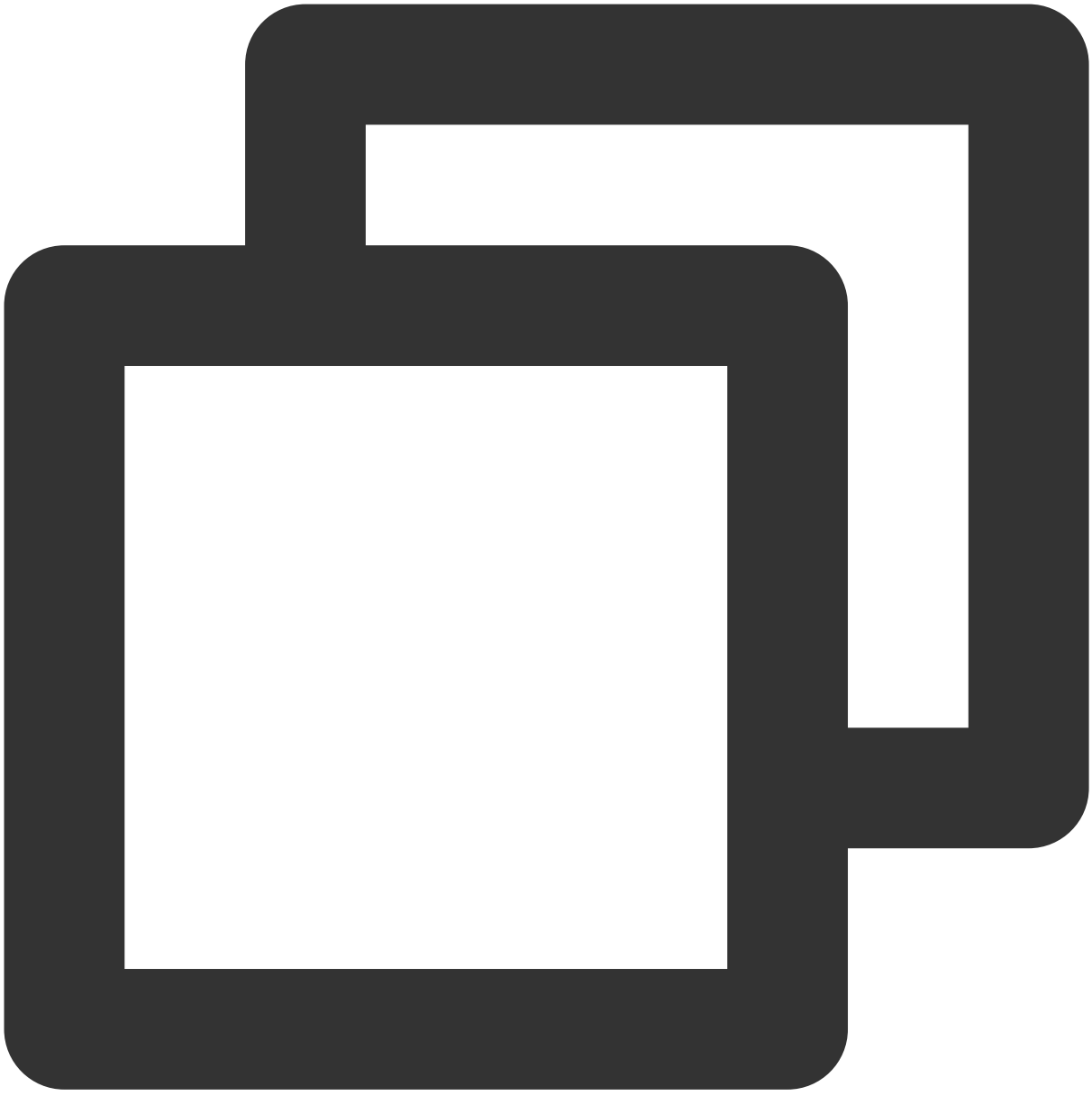
The parameters are shown in the table below:

Parameter	Type	Meaning
userId	string	User Id

userRole	TUIRole	User Changed Role

onUserVideoStateChanged

User Video Status Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserVideoStateChanged, ({ userId, streamType, hasVide
  console.log('roomEngine.onUserVideoStateChanged', userId, streamType, hasVideo, r
```

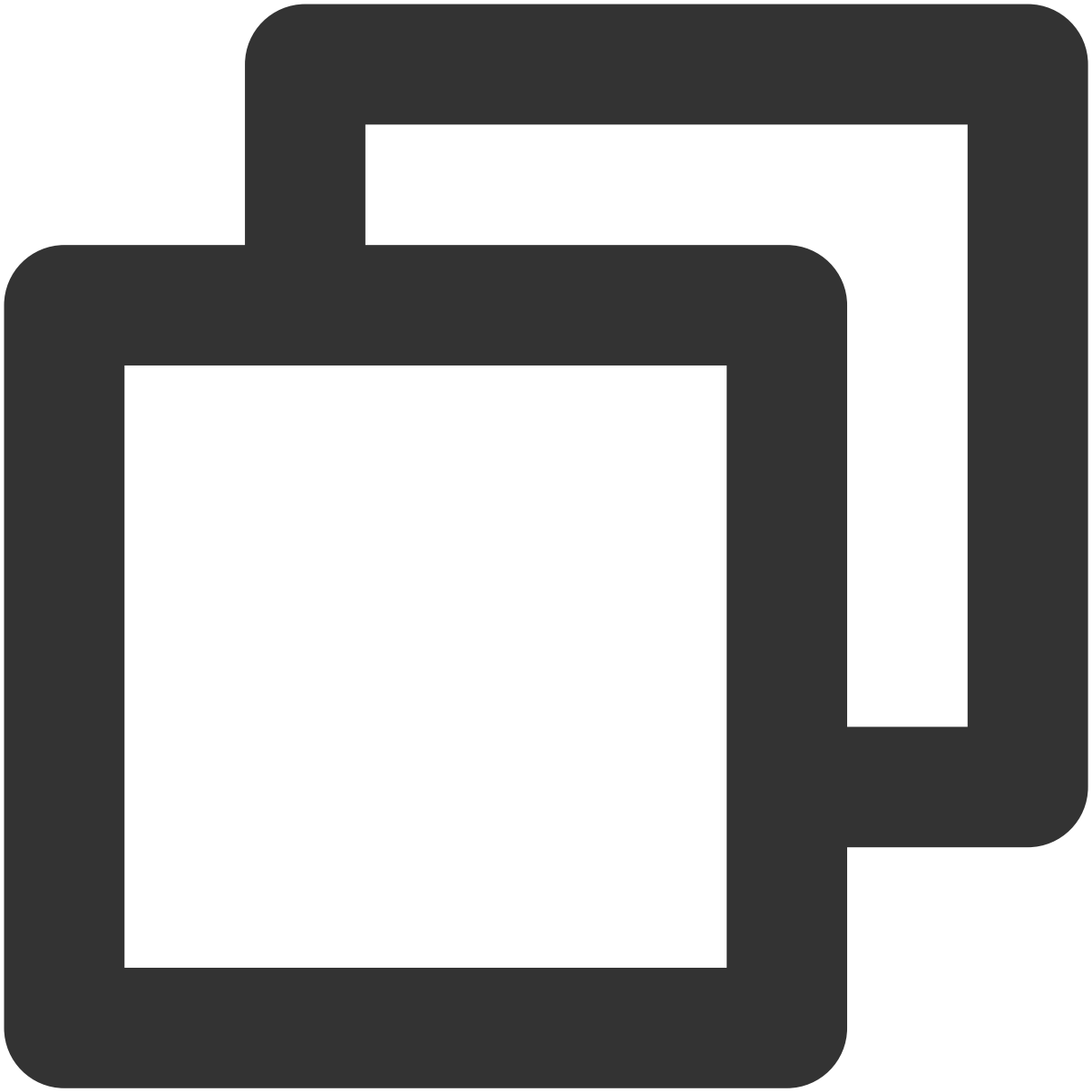
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
userId	string	User Id
streamType	TUIVideoStreamType	User Stream Type
hasVideo	boolean	Has Video streams
reason	TUIChangeReason	Change Reason, Self-operation/Host-operation

onUserAudioStateChanged

User Audio Status Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserAudioStateChanged, ({ userId, hasAudio, reason }) =>
  console.log('roomEngine.onUserAudioStateChanged', userId, hasAudio, reason);
});
```

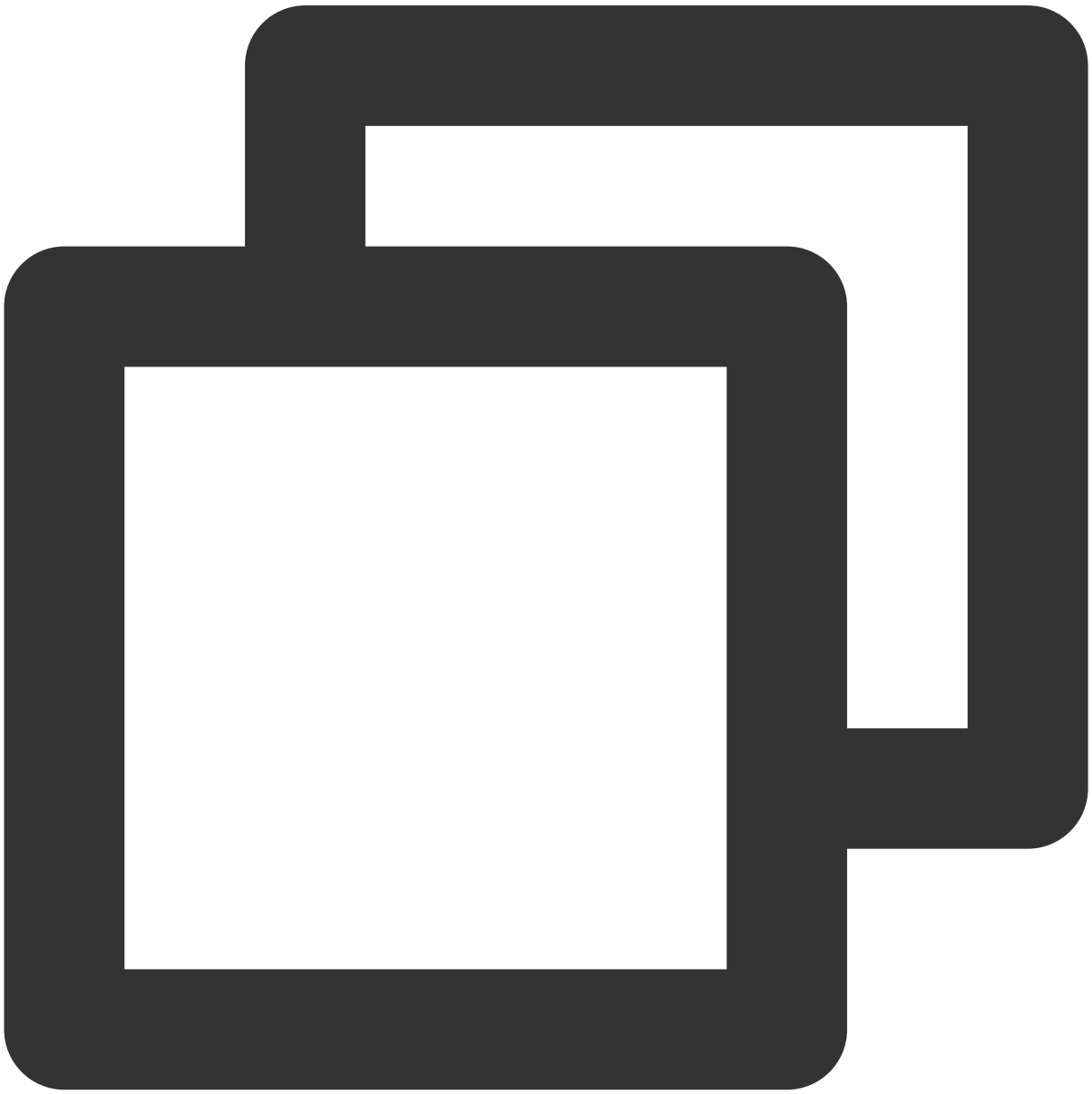
The parameters are shown in the table below:

Parameter	Type	Meaning
userId	string	User Id

hasVideo	boolean	Has Audio streams
reason	TUIChangeReason	Change Reason, Self-operation/Host-operation

onSendMessageForUserDisableChanged

Member Camera Usage Permission Change Event



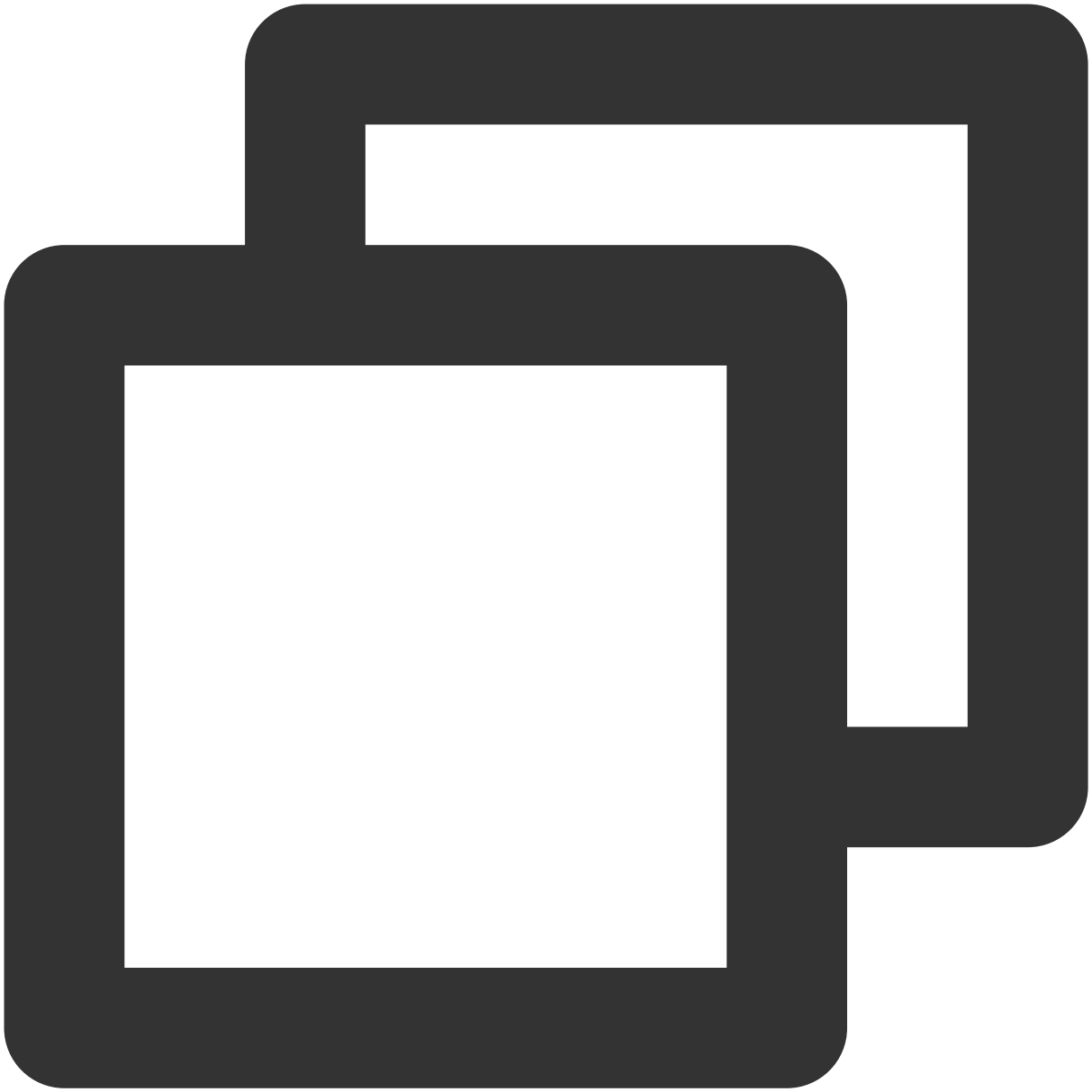
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onSendMessageForAllUserDisableChanged, ({ isDisable }) =>
  console.log('roomEngine.onSendMessageForAllUserDisableChanged', isDisable);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
isDisable	boolean	Allow Sending Text Message

onUserVoiceVolumeChanged

User Volume Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserVoiceVolumeChanged, ({ userVolumeList }) => {
  userVolumeList.forEach(userVolume => {
    console.log('roomEngine.onUserVoiceVolumeChanged', userVolume.userId, userVolum
  })
});
```

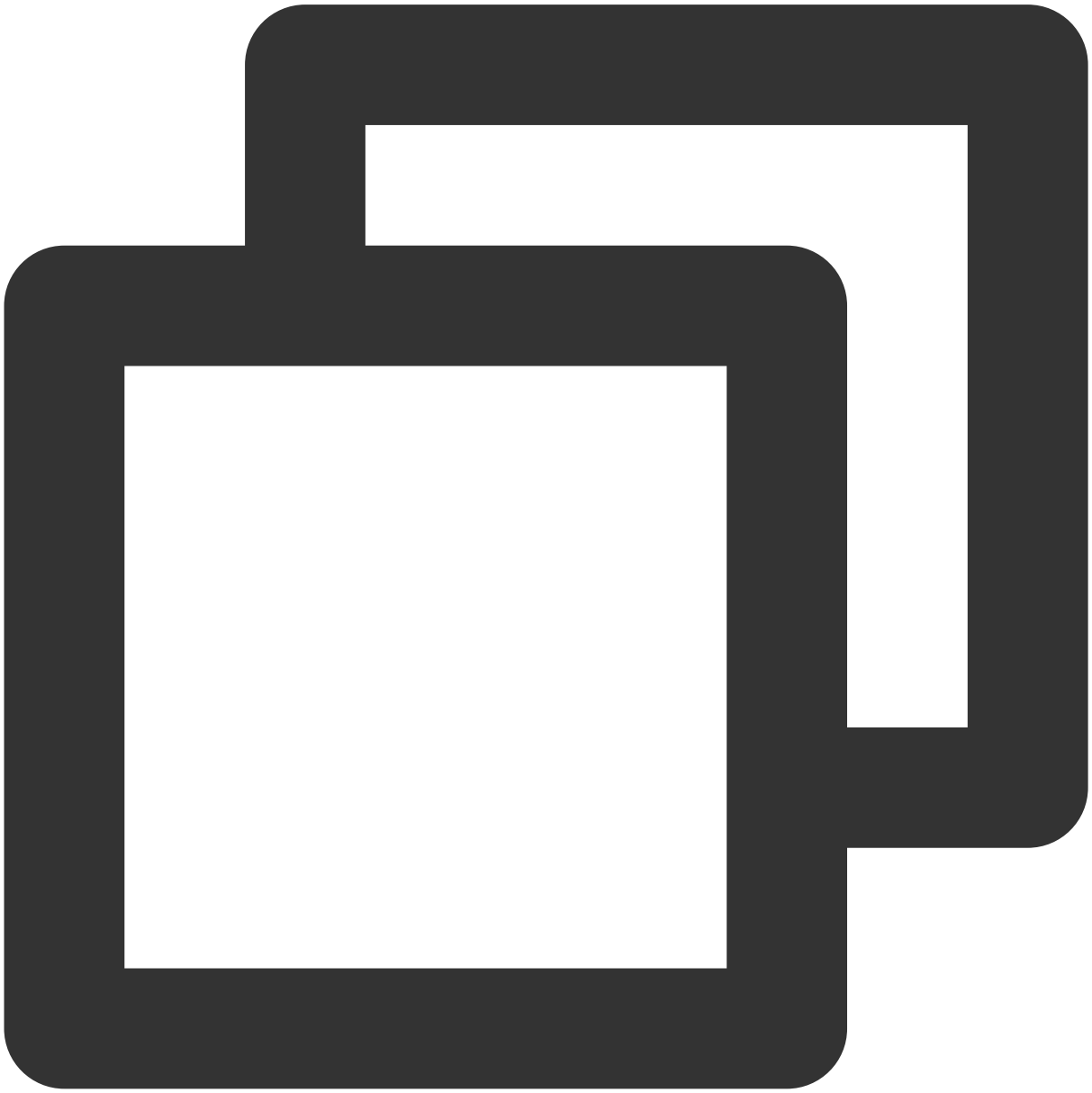
The parameters are shown in the table below:

Parameter	Type	Meaning

userVolumes	Array.<TRTCVolumeInfo>	Volume of all users in the room, including userId and volume information, volume range is 1-100

onUserNetworkQualityChanged

User Network Quality Change Event



```
const roomEngine = new TUIRoomEngine();
```

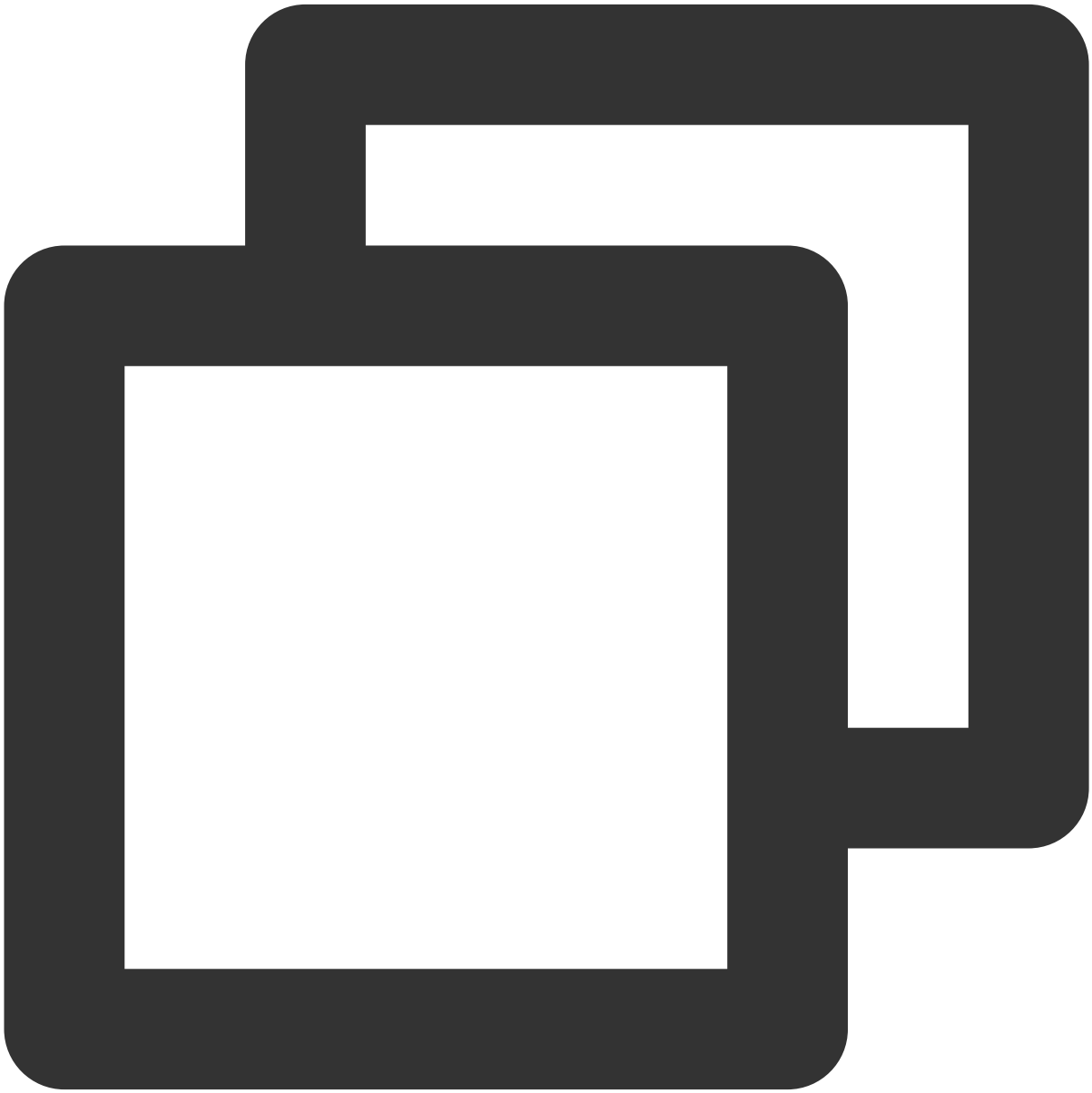
```
roomEngine.on(TUIRoomEvents.onUserNetworkQualityChanged, ({ userNetworkList }) => {
  userNetworkList.forEach(userNetwork => {
    console.log('roomEngine.onUserNetworkQualityChanged', userNetwork.userId, userN
  })
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
networkMap	TUINetworkQuality	Traverse Network Quality Level

onSeatListChanged

Seat List Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onSeatListChanged, ({ seatList, seatedList, leftList }) =>
  console.log('roomEngine.onSeatListChanged',seatList, seatedList, leftList);
});
```

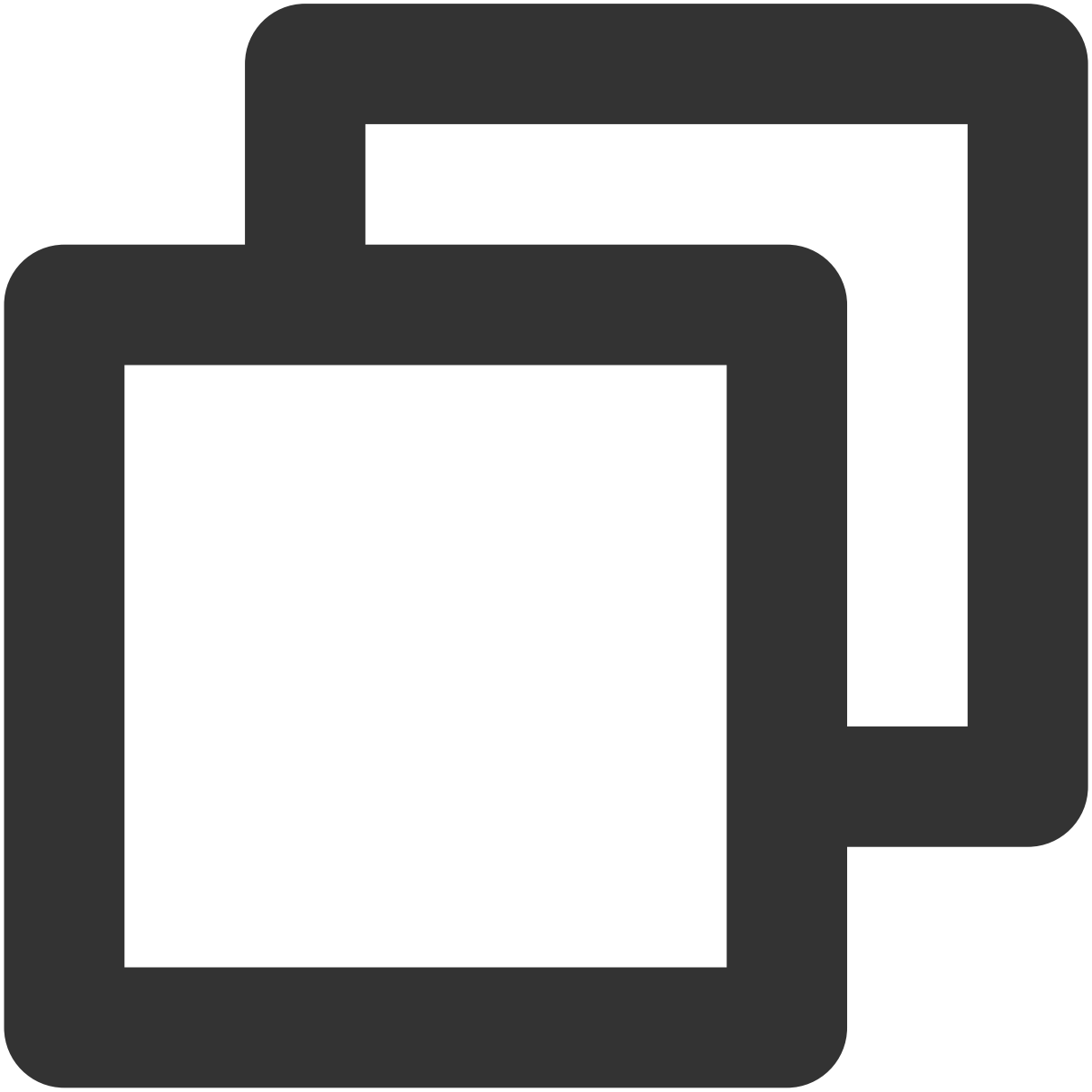
The parameters are shown in the table below:

Parameter	Type	Meaning
seatList	Array.<TUISeatInfo>	Seat List

seatedList	Array.<TUISeatInfo>	New Seat Information
leftList	Array.<TUISeatInfo>	Left Seat Information

onKickedOffSeat

Seat List Change Event



```
const roomEngine = new TUIRoomEngine();
```

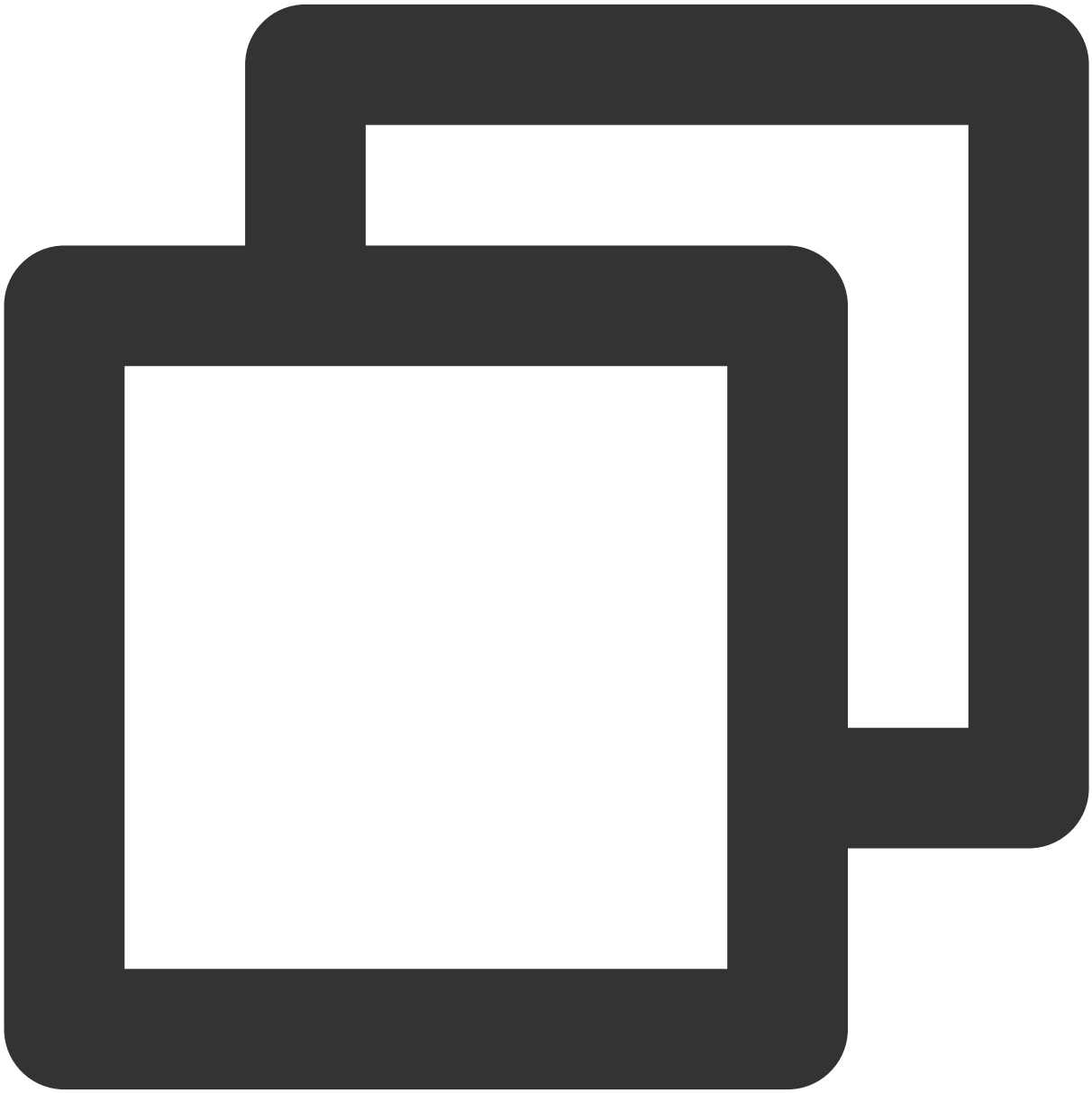
```
roomEngine.on(TUIRoomEvents.onKickedOffSeat, ({ userId }) => {
  console.log('roomEngine.onKickedOffSeat', userId);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
userId	String	Kicked off Seat User Id

onRequestReceived

Error Event



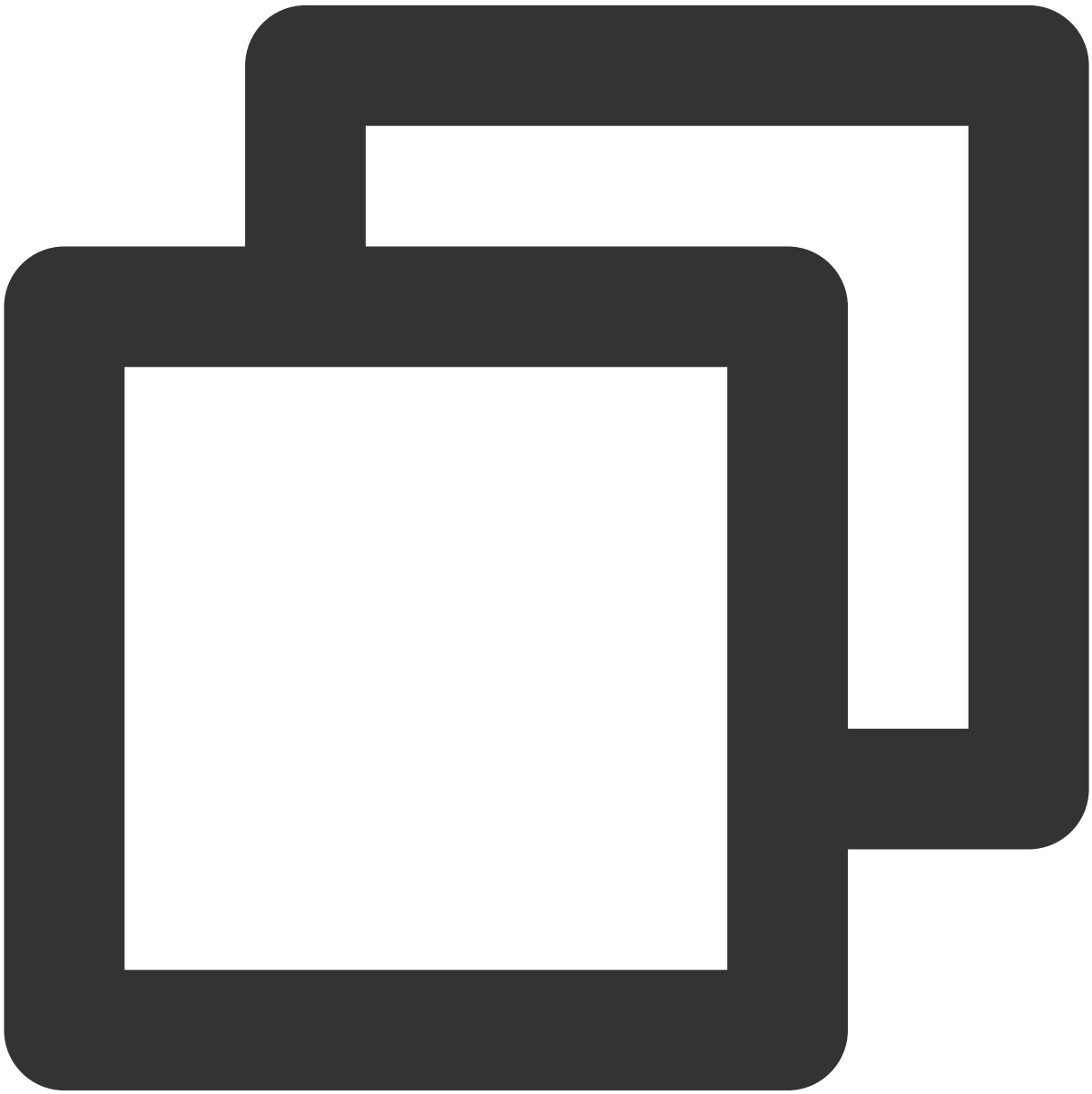
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRequestReceived, ({ request }) => {
  console.log('roomEngine.onRequestReceived', request);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
request	TUIRequest	Request Received

onRequestCancelled

Request Cancelled Event



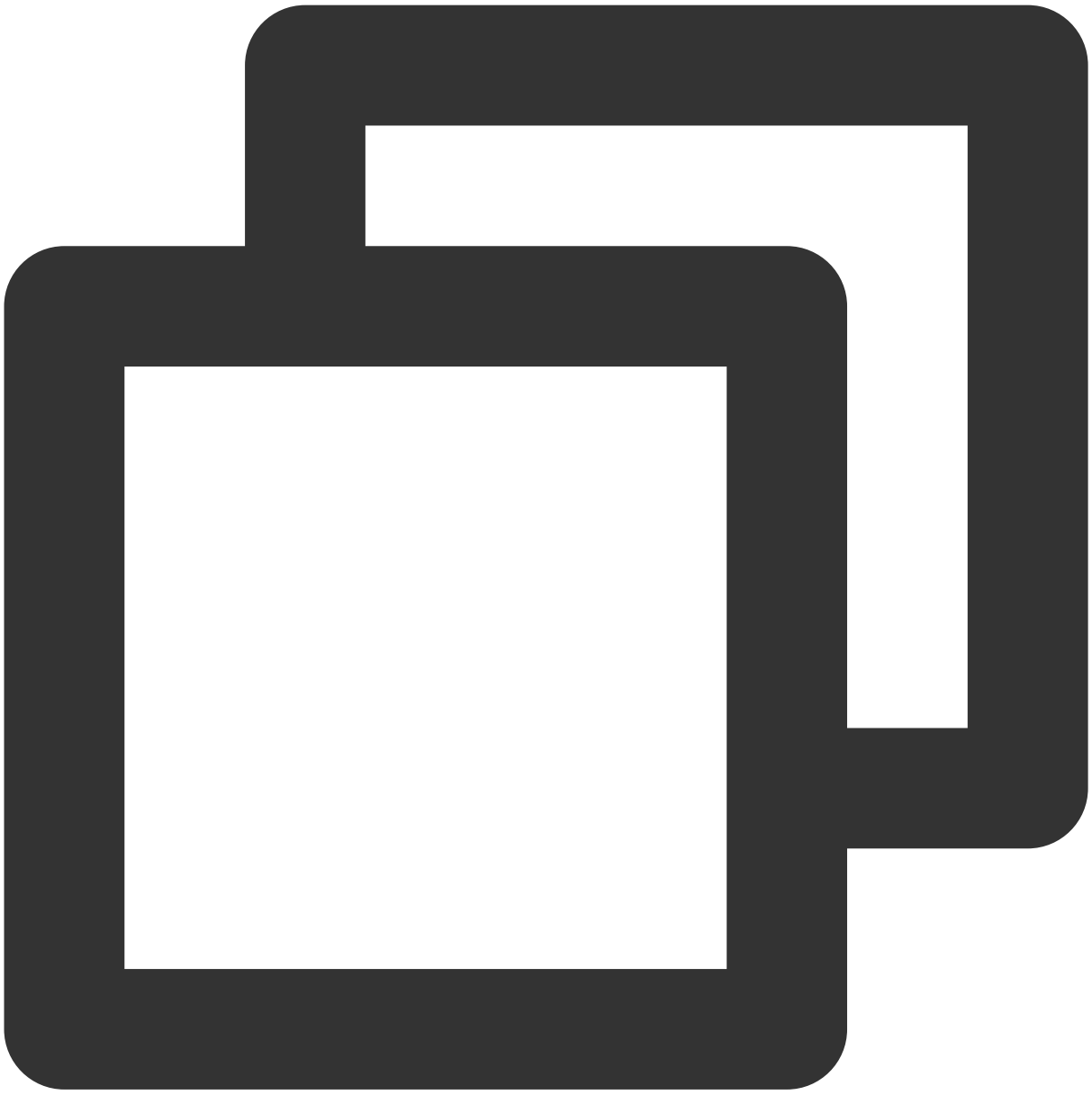
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onRequestCancelled, ({ requestId, userId }) => {
  console.log('roomEngine.onRequestCancelled', requestId, userId);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
requestId	string	Request Id
userId	string	User Id of Cancelled Request

onReceiveTextMessage

Receive Text Message Event



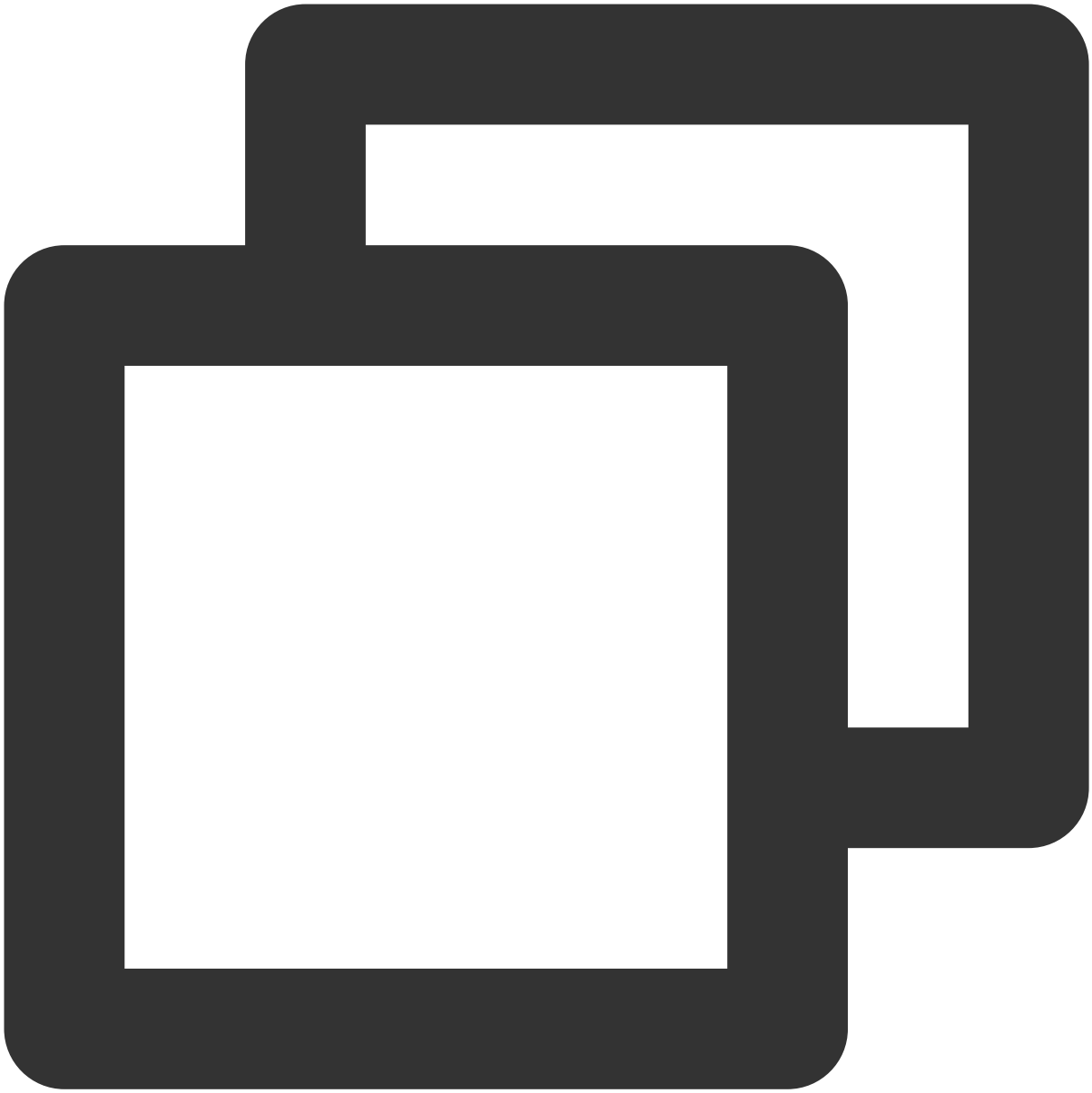
```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onReceiveTextMessage, ({ roomId, message }) => {
  console.log('roomEngine.onReceiveTextMessage', roomId, message);
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room Id
message	TUIMessage	Receive Text Message

onReceiveCustomMessage

Receive Custom Message Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onReceiveCustomMessage, ({ roomId, message }) => {
  console.log('roomEngine.onReceiveCustomMessage', roomId, message);
});
```

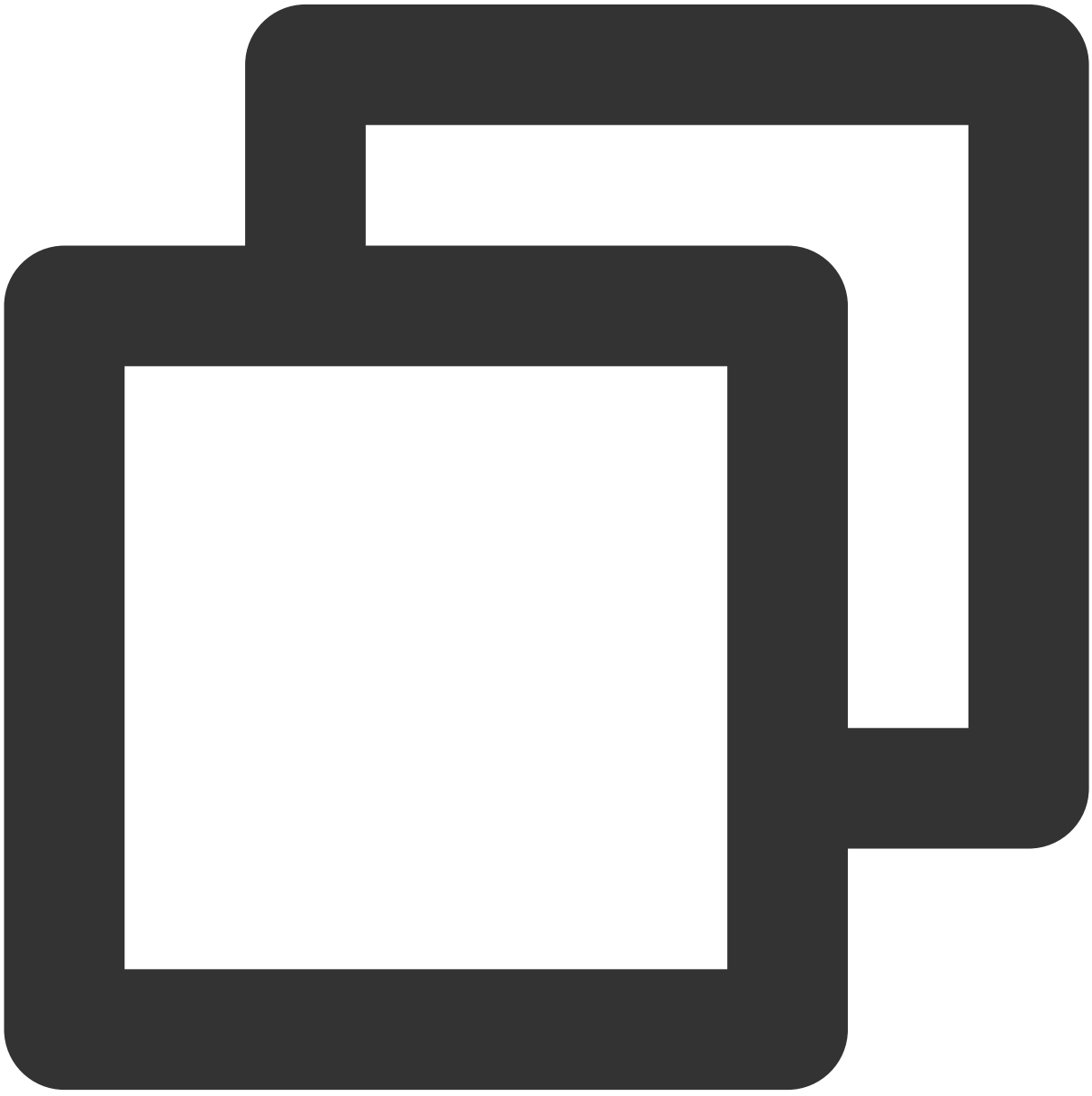
The parameters are shown in the table below:

Parameter	Type	Meaning
roomId	string	Room Id

message	TUIMessage	Receive Text Message

onDeviceChange

Device Change Event



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onDeviceChange, ({ deviceId, type, state }) => {
  console.log('roomEngine.onReceiveCustomMessage', deviceId, type, state);
```

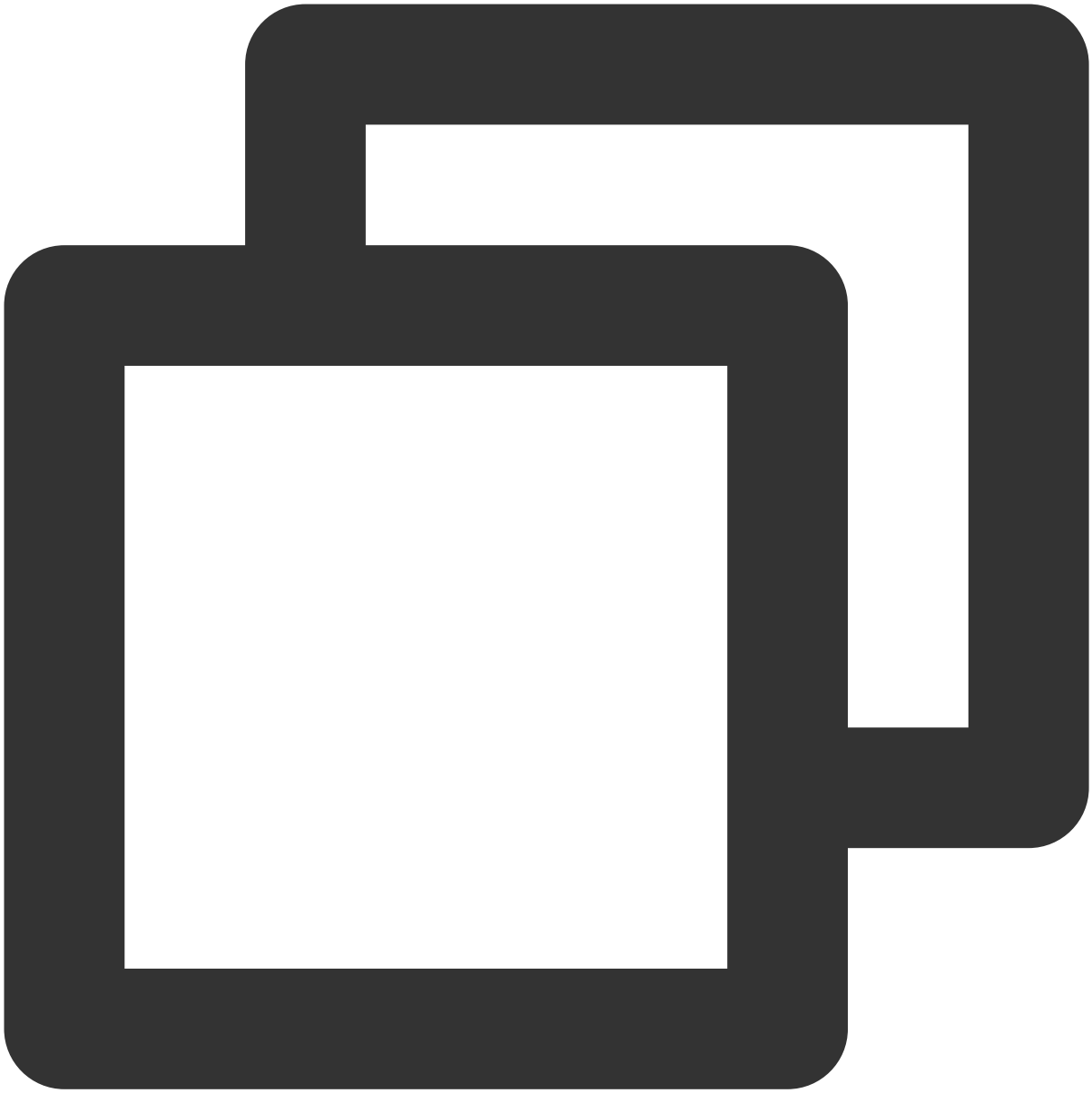
```
});
```

The parameters are shown in the table below:

Parameter	Type	Meaning
deviceId	string	Device Id
type	TRTCDeviceType	Device Type
state	TRTCDeviceState	Device Change Status

onUserScreenCaptureStopped

Screen Sharing Stopped Event, when the user uses the built-in browser stop sharing button to end screen sharing, the user will receive the ' `onUserScreenCaptureStopped` ' event to modify the screen sharing status.



```
const roomEngine = new TUIRoomEngine();
roomEngine.on(TUIRoomEvents.onUserScreenCaptureStopped, () => {
  console.log('roomEngine.onReceiveCustomMessage', deviceId, type, state);
});
```

TUIRoomEngine Defines

Last updated：2023-11-16 14:33:35

Introduction to Key Type Definition of TUIRoomEnigne Electron side.

Enumeration Value

TUIRole

User Role, TUIRoomEngine provides three user roles, which are Host, Administrator, and Regular User.

Field	Type	Description
kRoomOwner	number	Host Role
kAdministrator	number	Administrator Role
kGeneralUser	number	Regular User Role

TUIVideoQuality

Video Resolution

Field	Type	Description
kVideoQuality_360p	number	Low Quality, Resolution is 640 * 360
kVideoQuality_540p	number	SD, Resolution is 960 * 540
kVideoQuality_720p	number	HD, Resolution is 1280 * 720
kVideoQuality_1080p	number	Ultra HD, Resolution is 1920 * 1080

TUIAudioProfile

Audio Resolution

Field	Type	Description
kAudioProfileSpeech	number	Voice Mode
kAudioProfileDefault	number	Standard Mode (Default Mode)
kAudioProfileMusic	number	Music Mode

TUIVideoStreamType

Streams Type

Field	Type	Description
kCameraStream	number	Camera Streams
kScreenStream	number	Screen Sharing Streams
kCameraStreamLow	number	Low Resolution Camera Streams

TUINetworkQuality

Network Status

Field	Type	Description
kQualityUnknown	number	Network Condition Unknown
kQualityExcellent	number	Network Condition Excellent
kQualityGood	number	Network Condition Good
kQualityPoor	number	Network Condition Fair
kQualityBad	number	Network Condition Poor
kQualityVeryBad	number	Network Condition Very Poor
kQualityDown	number	Network Connection Disconnected

TUIRoomType

Room Type

Field	Type	Description
kGroup	number	Group Type Room, suitable for conference and educational scene, the microphone position in this room is unordered and has no quantity limit
kOpen	number	Open Type Room, suitable for live streaming scene, the microphone position in this room is ordered and has a quantity limit

TUISpeechMode

Speech Type

Field	Type	Description
kFreeToSpeak	number	Free Speech Mode
kApplyToSpeak	number	Hand-raising Speech Mode
kSpeakAfterTakingSeat	number	Speak After Sitting (Grab Microphone Position)

TUICaptureSourceType

Screen Sharing Type

Field	Type	Description
kWindow	number	Sharing Target is a specific Windows or Mac window todo (only for electron)
kScreen	number	Sharing Target is the entire Windows desktop or Mac desktop

TUIChangeReason

Change Reason (Audio and Video Status Change Operation Reason: Self-initiated modification or modified by room owner/administrator)

Field	Type	Description
kChangedBySelf	number	Self-operation
kChangedByAdmin	number	Room Owner or Administrator Operation

TUIMediaDevice

Field	Type	Description
kMicrophone	number	Mic
kCamera	number	Camera
kScreen	number	Screen Sharing

TUIRequestAction

Room Type

Field	Type	Description

kInvalidAction	number	Invalid Operation
kRequestToOpenRemoteCamera	number	Request Remote Camera On
kRequestToOpenRemoteMicrophone	number	Request Remote Mic On
kRequestToConnectOtherRoom	number	Request Remote Cross-room Streaming, web side temporarily unsupported
kRequestToTakeSeat	number	Request Go Live
kRequestRemoteUserOnSeat	number	Request Remote Go Live

TUIRequestCallbackType

Request Type

Field	Type	Description
kRequestAccepted	number	Peer Accepted
kRequestRejected	number	Peer Rejected
kRequestCancelled	number	Request Canceled
kRequestTimeout	number	Request Timeout
kRequestError	number	Request Error

Type Definition

TUILoginUserInfo

Current Logged-in User Information

Field	Type	Description
userId	string	Login User's ID
userName	string	Login User's Name
avatarUrl	string	Login User's Avatar

TUIRoomInfo

Room data, user can use roomEngine.getRoomInfo to get room data.

Field	Type	Description
roomId	string	Room Number, String Type Room Number
roomType	TUIRoomType	Room Type
owner	string	Host's userId
name	string	Room ID
createTime	string	Creation time
roomMemberCount	number	Current total number of people in the room
maxSeatCount	number	Maximum number of microphone positions in the room
enableVideo	boolean	Allow users to join and turn on Audio
enableAudio	boolean	Allow users to join and turn on Video
enableMessage	boolean	Allow users to join and send messages
enableSeatControl	boolean	Enable microphone position control

TUIUserInfo

User Information

Field	Type	Description
userId	string	User Id
userName	string	User Name
avatarUrl	string	User Avatar
userRole	TUIRole	User Role
hasAudioStream	boolean	Whether there are Audio streams
hasVideoStream	boolean	Whether there are Video streams
hasScreenStream	boolean	Whether there is Screen Sharing stream

TUIMessage

Message Information

Field	Type	Description

messageId	string	Message Id
message	string	Message
timestamp	number	Timestamp information, accurate to seconds
userId	string	User Id
userName	string	User name
avatarUrl	string	User Avatar

TUIRequest

Request Information

Field	Type	Description
requestAction	TUIRequestAction	Request Type
timestamp	number	Request Initiation Time
requestId	string	Request Id v1.0.2 and above versions requestId type is string; v1.0.0 and v1.0.1 versions requestId type is number;
userId	string	Initiate Request's User Id
content	string	Other Content

TUIRequestCallback

Request Callback Information

Field	Type	Description
requestCallbackType	TUIRequestCallbackType	Request Callback Type, Accept/Reject/Cancel/Timeout/Error
requestId	string	Request Id v1.0.2 and above versions requestId type is string; v1.0.0 and v1.0.1 versions requestId type is number;
userId	string	User Id
code	number	Request Response Code

message	string	Request Status Supplemental Description

TUISeatInfo

Microphone Position Information

Field	Type	Description
index	number	Microphone Position Number
userId	string	Microphone Position Correspondence's User Id
locked	boolean	Whether the current microphone position is locked
videoMuted	boolean	Whether the current microphone position prohibits Video
audioMuted	boolean	Whether the current microphone position prohibits Audio

TUISeatLockParams

Microphone Lock Status

Field	Type	Description
lockSeat	boolean	Lock Microphone Position
lockVideo	boolean	Lock Microphone Position Video
lockAudio	boolean	Lock Microphone Position Audio

TUINetwork

Network Information

Field	Type	Description
userId	string	User ID
quality	TUINetworkQuality	Network Quality
upLoss	number	Upstream Packet Loss Rate, Unit (%) The smaller the value, the better, currently only local users have this information
downLoss	number	Downstream Packet Loss Rate, Unit (%) The smaller the value, the better, currently only local users have

		this information
delay	number	Network Latency, Unit ms, currently only local users have this information

Flutter
API Overview

Last updated：2023-11-21 15:20:12

TUIRoomEngine API List

TUIRoomEngine API is the Audio/Video call Component's No UI Interface, you can use this set of API to customize packaging according to your business needs.
TUIRoomEngine

TUIRoomEngine Core Methods

API	Description
createInstance	Create TUIRoomEngine Instance
destroyInstance	Destroy TUIRoomEngine Instance
login	Login interface, you need to initialize user information before entering the room and perform a series of operations.
logout	Logout interface, there will be actively leave room operation, destroy resources
setSelfInfo	Set local user name and avatar
setLoginUserInfo	Set login user information
getSelfInfo	Get local user basic information
addObserver	Set event callback
removeObserver	Remove event callback

Room Related Active Interface

API	Description
createRoom	Create room
destroyRoom	Close the room

enterRoom	Entered room
exitRoom	Leave room
connectOtherRoom	Connect to other room
disconnectOtherRoom	Disconnect from other room
fetchRoomInfo	Get room data
updateRoomNameByAdmin	Update room name
updateRoomSpeechModeByAdmin	Set room management mode (only administrator or group owner can call)

Local User View Rendering, Video Management

API	Description
setLocalVideoView	Set the view control for local user video rendering
openLocalCamera	Open local camera
closeLocalCamera	Close local camera
updateVideoQuality	Update local video codec quality settings
updateVideoQualityEx	Set the encoding parameters of video encoder
setVideoResolutionMode	Set the resolution mode of video encoder
enableGravitySensor	Enable the gravity sensor
startPushLocalVideo	Start pushing local video
stopPushLocalVideo	Stop pushing local video
startScreenSharing	Start screen sharing
stopScreenSharing	Stop screen sharing

Local User Audio Management

API	Description
openLocalMicrophone	Open local microphone
closeLocalMicrophone	Close local microphone

updateAudioQuality	Update local audio codec quality settings
muteLocalAudio	Mute local audio
unMuteLocalAudio	UnMute local audio

Remote User View Rendering, Video Management

API	Description
setRemoteVideoView	Set the view control for remote user video rendering
startPlayRemoteVideo	Start playing remote user video
stopPlayRemoteVideo	Stop playing remote user video
muteRemoteAudioStream	Mute remote user

Room User Information

API	Description
getUserList	Get the member list in the room
getUserInfo	Get member information

Room User Management

API	Description
changeUserRole	Modify user role (only administrator or group owner can call)
kickRemoteUserOutOfRoom	Kick Remote User out of the Room (Only Administrator or Group Owner can call)
addCategoryTagForUsers	Add category tags to users (Only Administrator or Group Owner can call)
removeCategoryTagForUsers	Remove category tags to users (Only Administrator or Group Owner can call)
getUserListByTag	Get user information in the room based on tags

Speech Management in Room

API	Description
disableDeviceForAllUserByAdmin	Control the permission status of whether all users in the current room can open Audio and Video streams capturing devices, such as: Prohibit all from turning on the mic, Prohibit all from turning on the Camera, Prohibit all from turning on Screen Sharing (currently only available in meeting scenes, and only administrators or group owners can invoke).
openRemoteDeviceByAdmin	Request Remote User to Open Media Device (Only Administrator or Group Owner can call)
closeRemoteDeviceByAdmin	Close Remote User's Media Device (Only Administrator or Group Owner can call)
applyToAdminToOpenLocalDevice	Request to Open Local Media Device (Available for Ordinary Users)

Microphone Seat Management in Room

API	Description
setMaxSeatCount	Set Maximum Number of Microphone Seats (Only supported when entering the room and creating the room)
getSeatList	Get Microphone Seat List
lockSeatByAdmin	Lock Microphone Seat (Including Position Lock, Audio State Lock, Video State Lock)
takeSeat	Apply to Go Live (Not Required in Free Speech Mode)
leaveSeat	Apply to leave the live (Not Required in Free Speech Mode)
takeUserOnSeatByAdmin	Host/Administrator invites user to go live
kickUserOffSeatByAdmin	Host/Administrator kicks user off the microphone seat

Signaling Management

API	Description
cancelRequest	Cancel Request
responseRemoteRequest	Reply to Request

Send Message

API	Description
sendTextMessage	Send Text Message
sendCustomMessage	Send Custom Message
disableSendingMessageByAdmin	Disable Remote User's Text Message Sending Ability (Only Administrator or Group Owner can call)
disableSendingMessageForAllUser	Disable All Users' Text Message Sending Ability (Only Administrator or Group Owner can call) Advanced Feature: Get TRTC Instance

Advanced Features

API	Description
switchCamera	Switch front/rear camera
setBeautyLevel	Set beauty level
setWhitenessLevel	Set whiteness level

Debugging related

API	Description
callExperimentalAPI	Call experimental api

TUIRoomObserver Callback Event

TUIRoomObserver is the Callback Event class corresponding to TUIRoomEngine. You can monitor the Callback Events you need through this Callback.
TUIRoomObserver

TUIRoomObserver

Error Callback

API	Description
onError	Error Callback Event

Login Status Event Callback

API	Description
onKickedOffLine	User Kicked Offline Event
onUserSigExpired	User Credential Timeout Event

Room Event Callback

API	Description
onRoomNameChanged	Room Name Change Event
onAllUserMicrophoneDisableChanged	All Users' Microphones Disabled in Room Event
onAllUserCameraDisableChanged	All Users' Cameras Disabled in Room Event
onSendMessageForAllUserDisableChanged	All Users' Text Message Sending Disabled in Room Event
onKickedOutOfRoom	Room Dismissed Event
onRoomDismissed	Kicked Out of Room Event
onRoomSpeechModeChanged	Room Microphone Control Mode Change

Room User Event Callback

API	Description
onRemoteUserEnterRoom	Remote User Entering Room Event
onRemoteUserLeaveRoom	Remote User Leaving Room Event
onUserRoleChanged	User Role Change Event
onUserVideoStateChanged	User Video State Change Event
onUserAudioStateChanged	User Audio State Change Event
onUserVoiceVolumeChanged	User Volume Change Event
onSendMessageForUserDisableChanged	User Text Message Sending Ability Change Event

onUserNetworkQualityChanged	User Network Status Change Event
onUserScreenCaptureStopped	Screen Sharing End Event

Room Microphone Seat Event Callback

API	Description
onRoomMaxSeatCountChanged	Room Maximum Microphone Seat Number Change Event (Only effective in conference type rooms)
onSeatListChanged	Microphone Seat List Change Event
onKickedOffSeat	Received User Kicked Off Microphone Event

Request Signaling Event Callback

API	Description
onRequestReceived	Received Request Message Event
onRequestCancelled	Received Request Cancellation Event

Room Message Event Callback

API	Description
onReceiveTextMessage	Received Normal Text Message Event
onReceiveCustomMessage	Received Custom Message Event

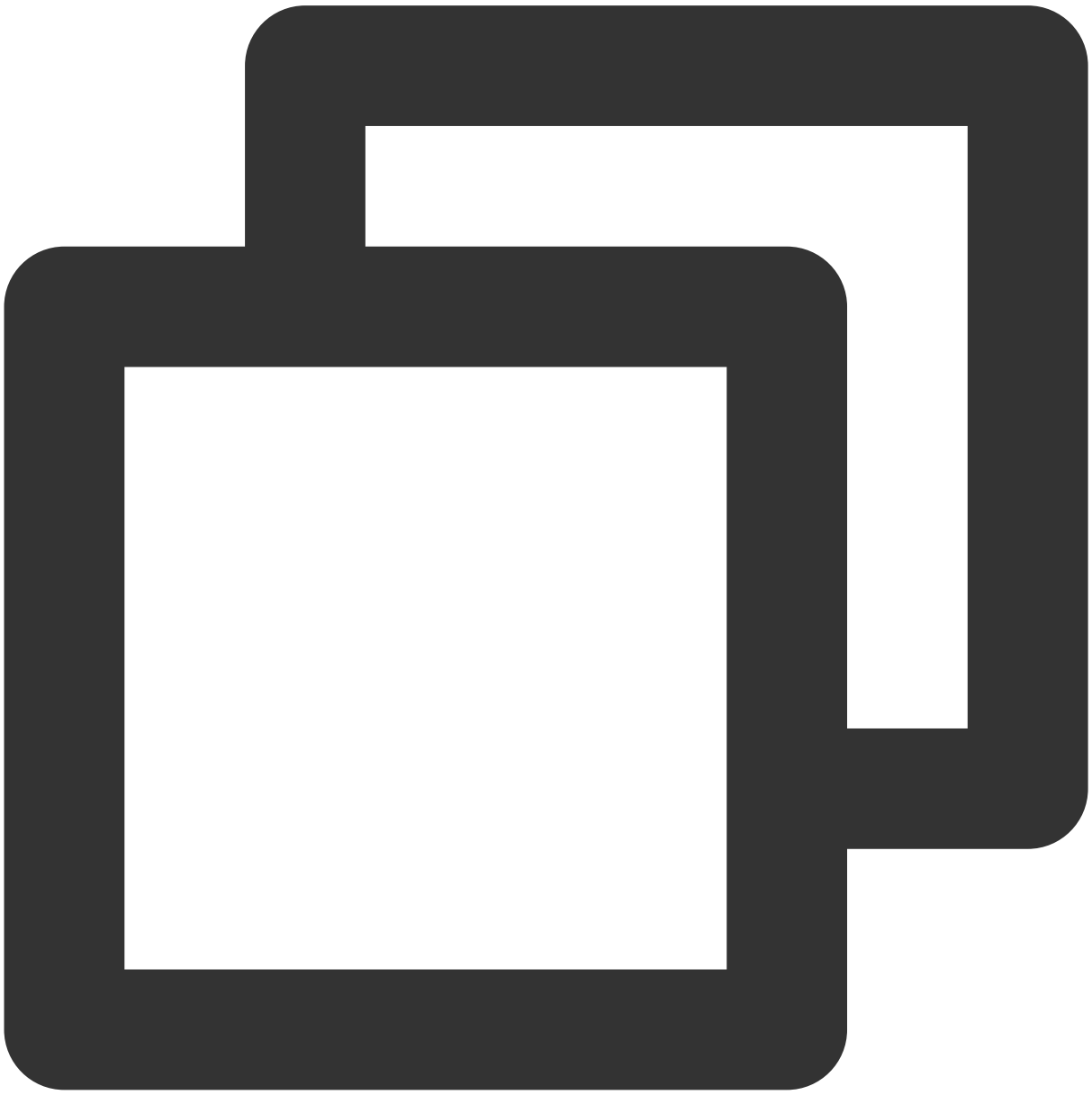
TUIRoomObserver

Last updated：2023-11-14 16:34:53

TUIRoomEngine Event Callback

onError

Error Event.

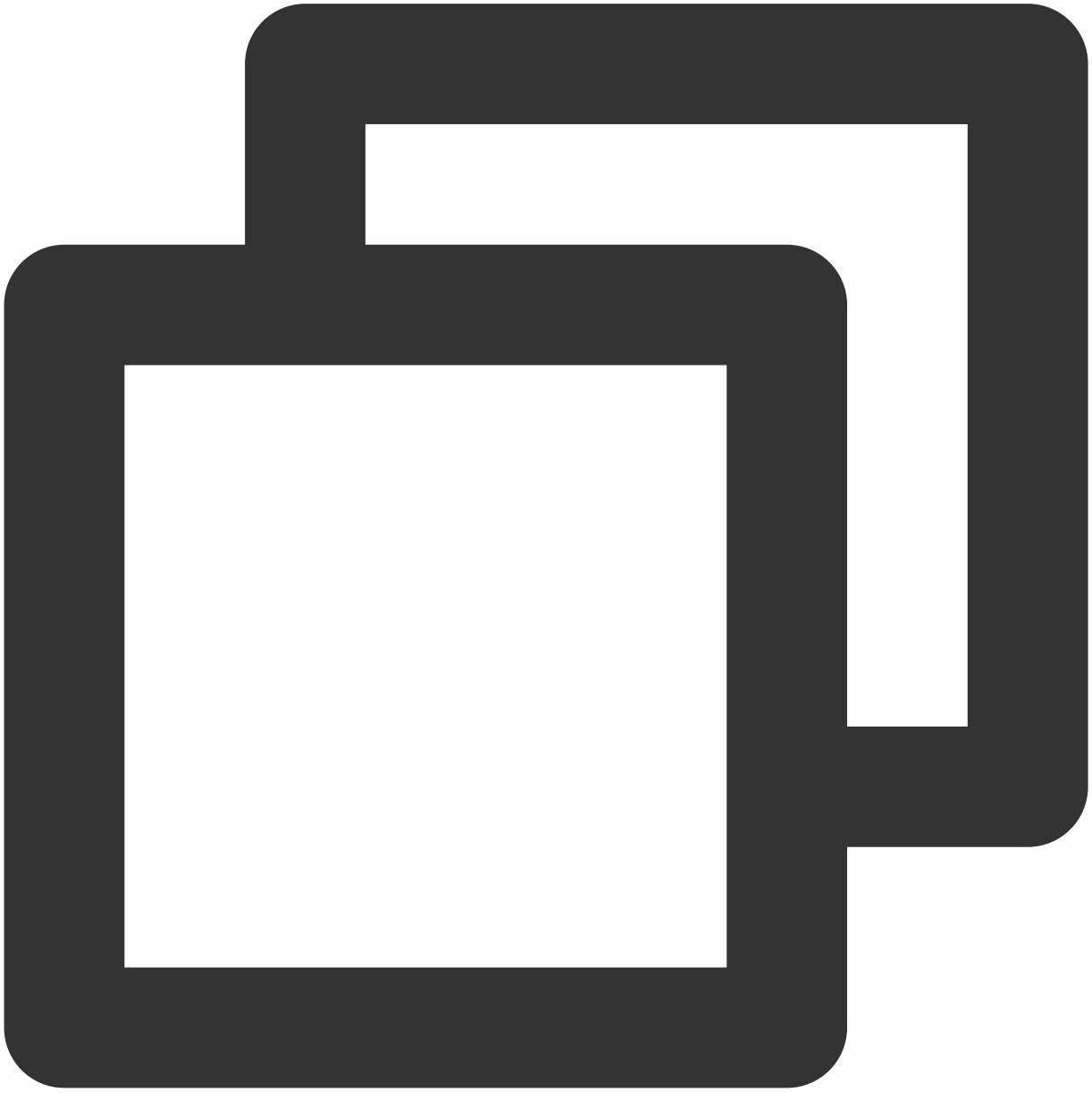


```
OnError onError = (TUIError errorCode, String message) {}
```

Parameter	Type	Description
errorCode	TUIError	Error Code
message	String	Error Message

onKickedOffLine

Other terminals login and get kicked off event.

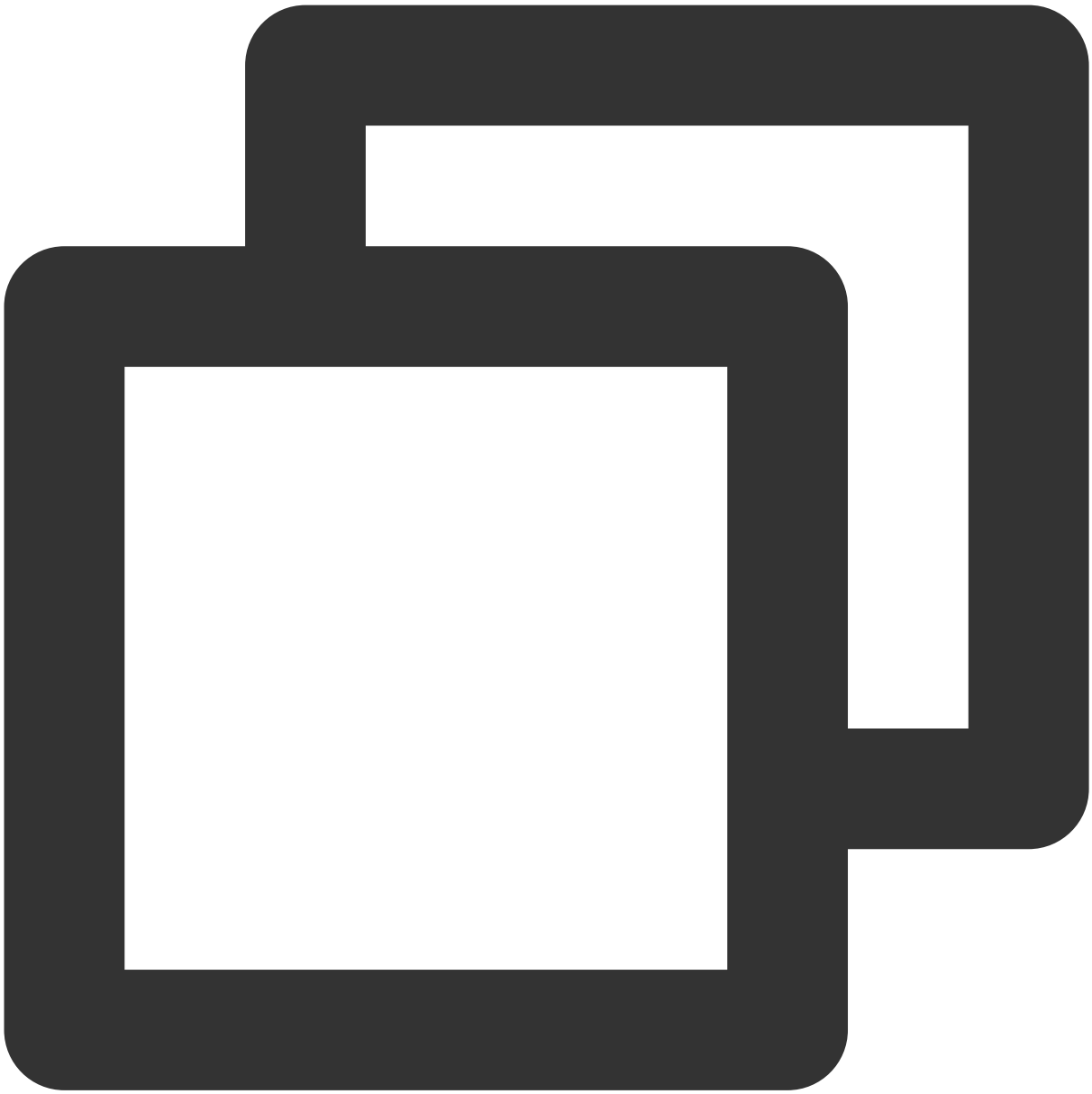


```
OnKickedOffLine onKickedOffLine = (String message) {}
```

Parameter	Type	Description
message	String	Kicked out description

onUserSigExpired

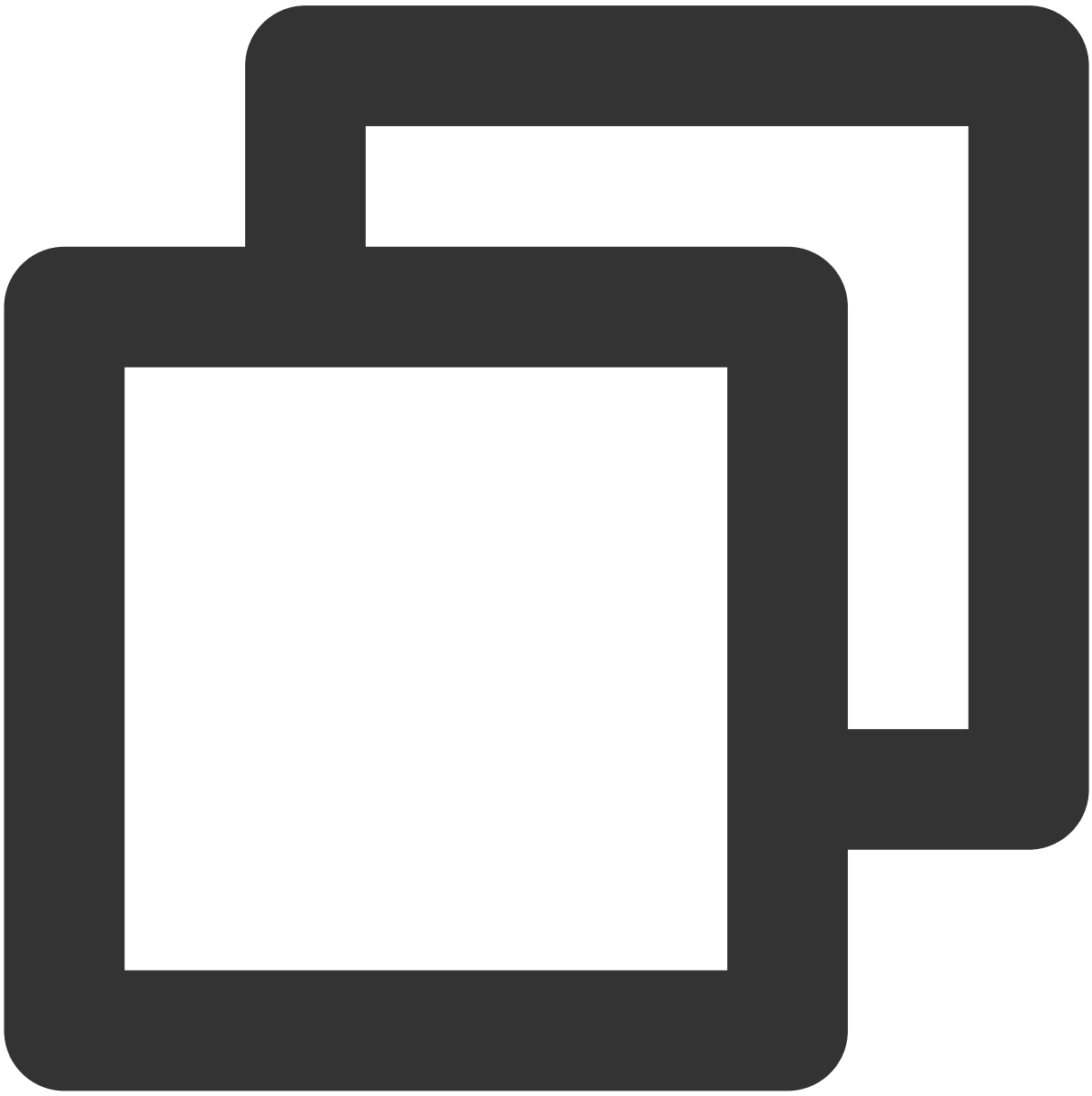
User credential timeout event.



```
OnUserSigExpired onUserSigExpired = () {}
```

onRoomNameChanged

Room name change event.



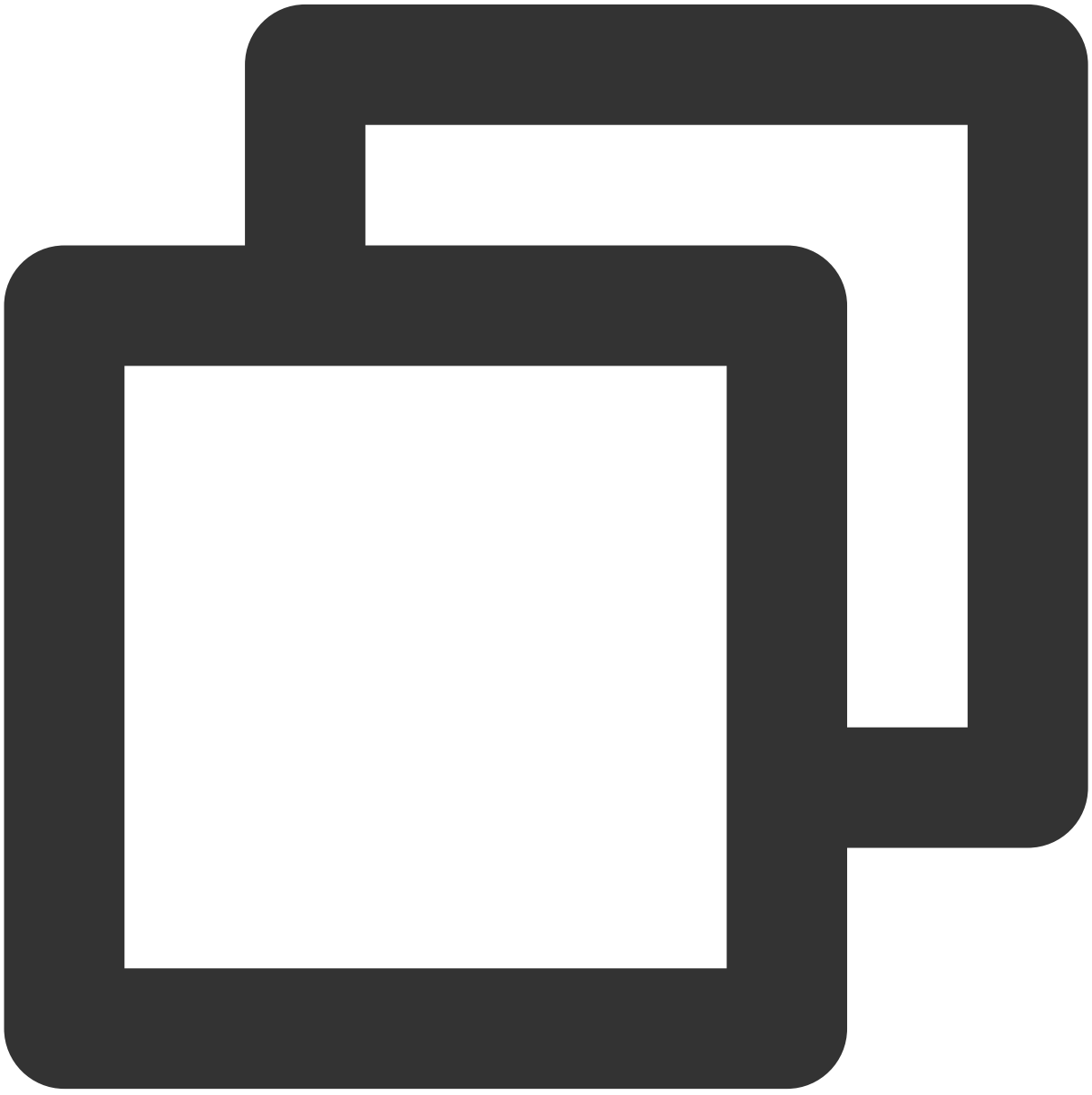
```
OnRoomNameChanged onRoomNameChanged = (String roomId, String roomName) {}
```

Parameter	Type	Description

roomId	String	Room ID
roomName	String	Room Name

onAllUserMicrophoneDisableChanged

Inside the room, all users' mic is disabled event.



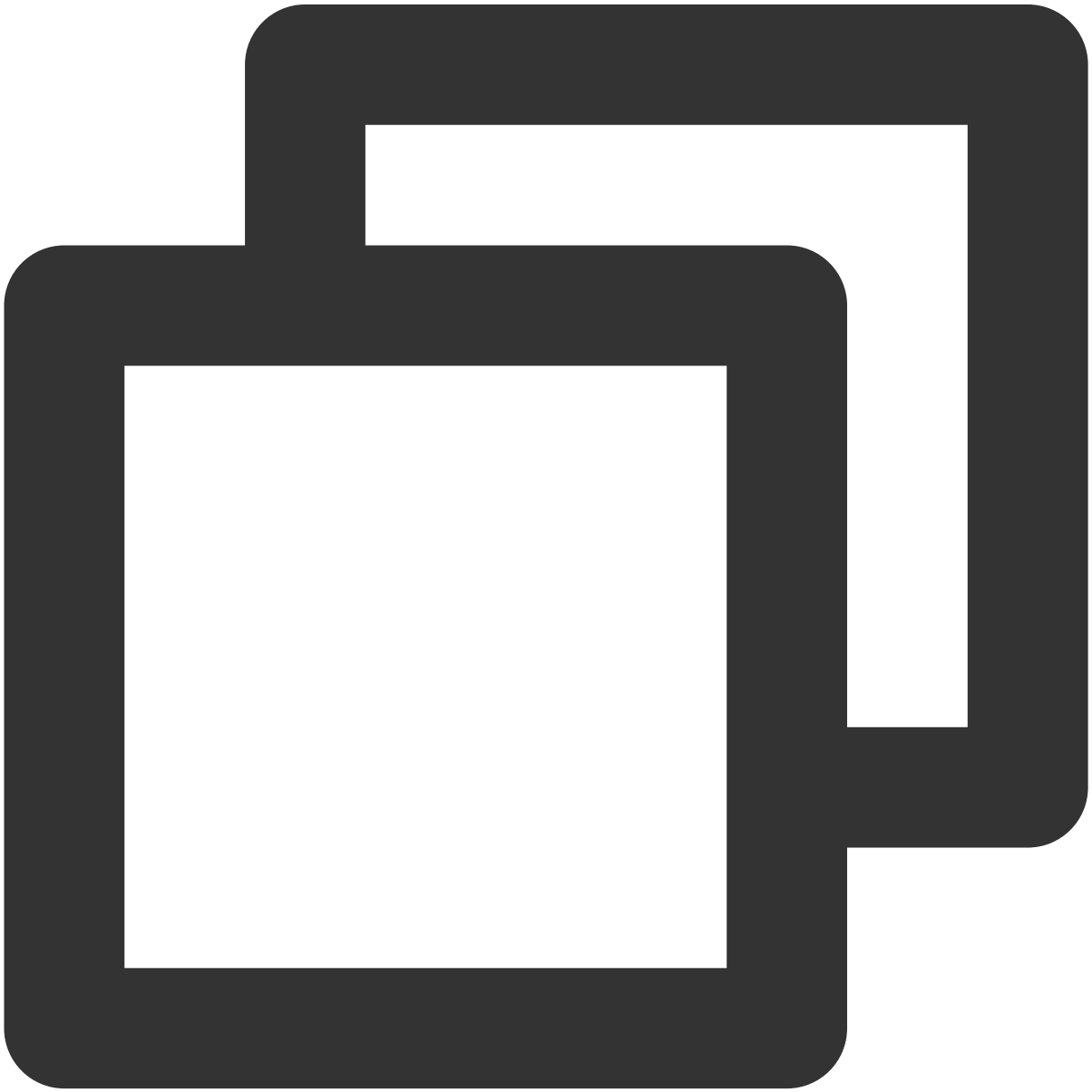
```
OnAllUserMicrophoneDisableChanged onAllUserMicrophoneDisableChanged = (String roomI
```

Parameter	Type	Description

roomId	String	Room ID
isDisable	bool	Whether it is disabled

onAllUserCameraDisableChanged

All users' Camera in the Room are disabled event.



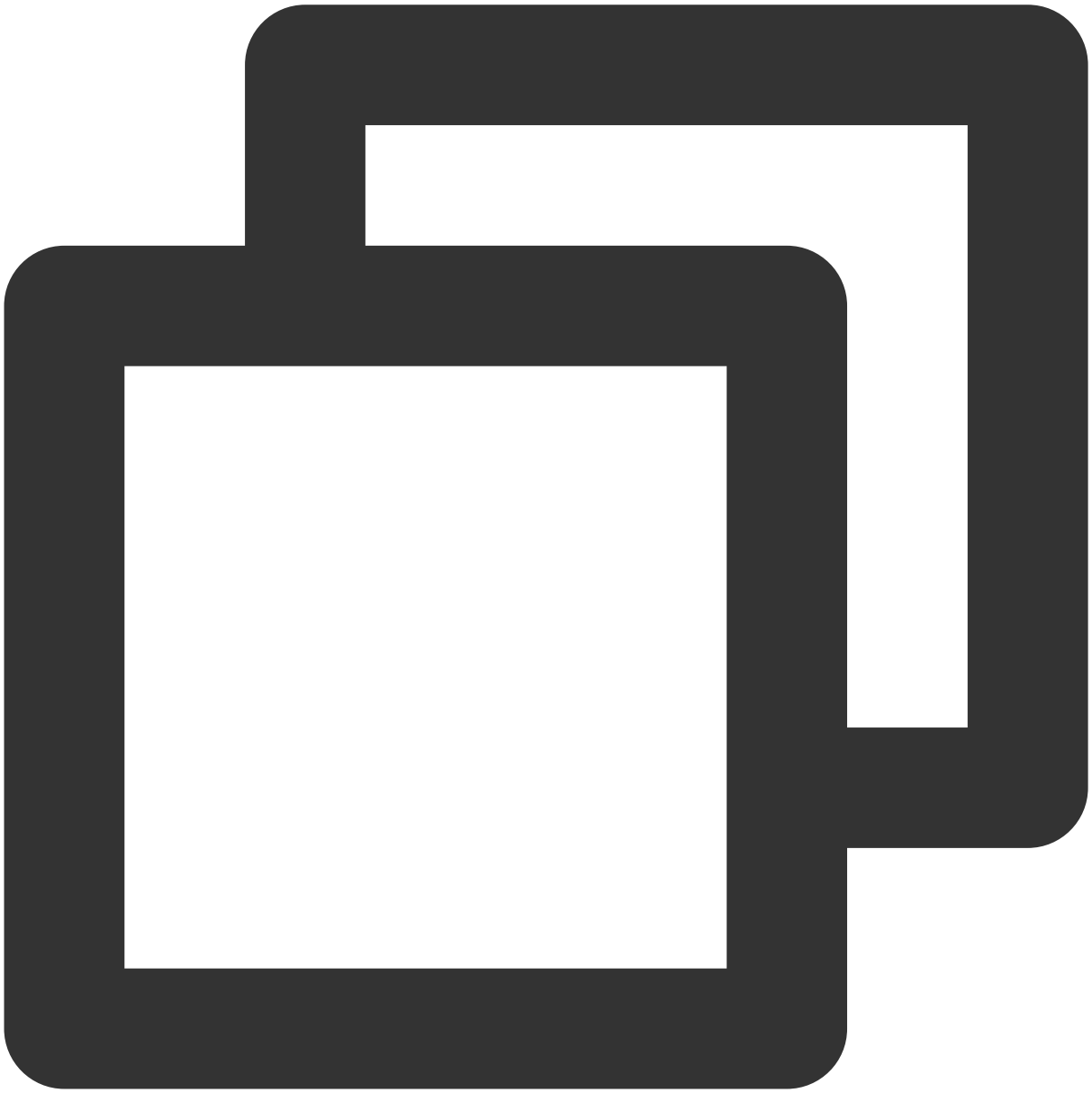
```
OnAllUserCameraDisableChanged onAllUserCameraDisableChanged = (String roomId, bool
```

Parameter	Type	Description

roomId	String	Room ID
isDisable	bool	Whether it is disabled

onSendMessageForAllUserDisableChanged

Inside the room, all users' text message sending is disabled event.

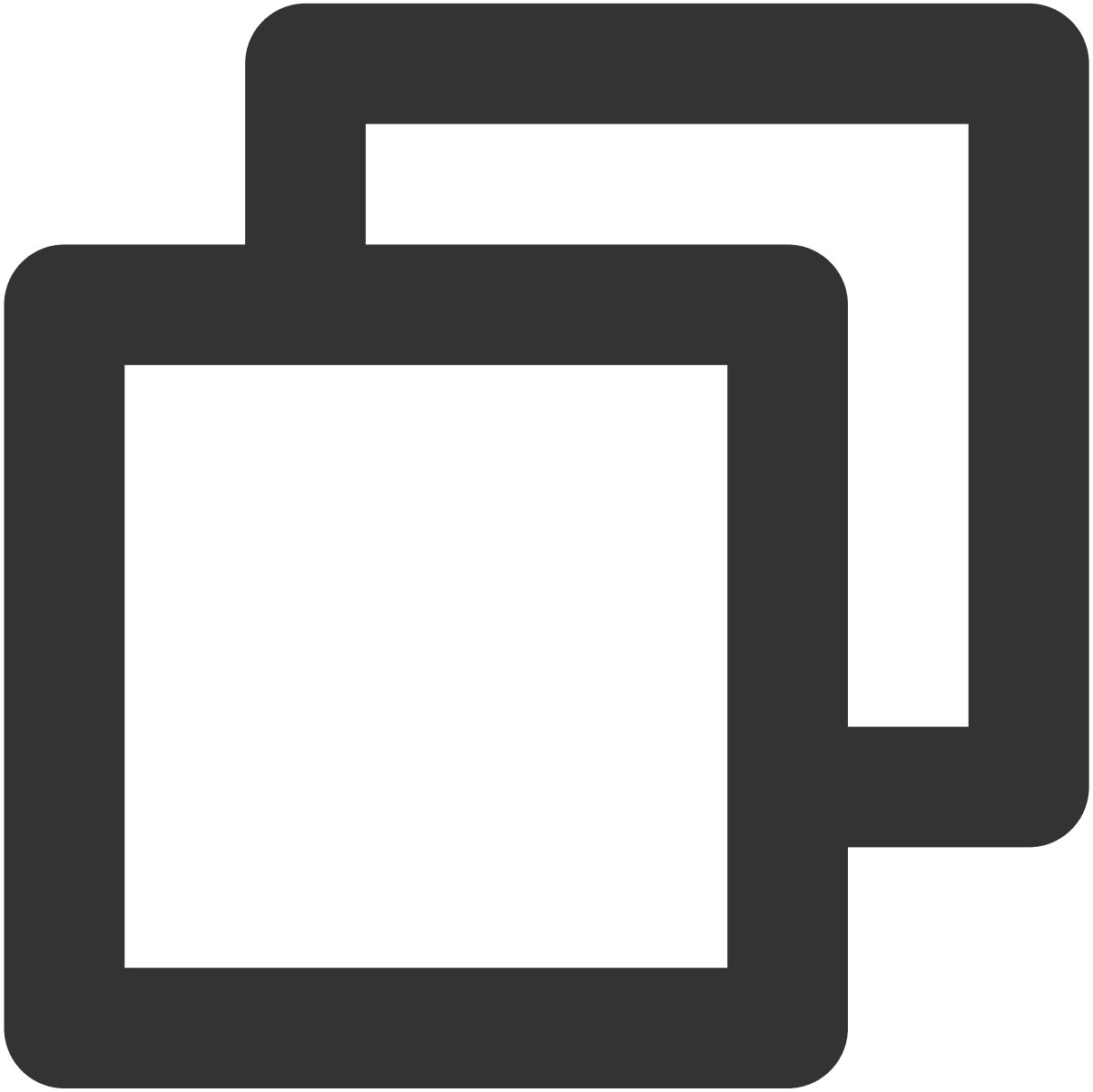


```
OnSendMessageForAllUserDisableChanged onSendMessageForAllUserDisableChanged = (Stri
```


Parameter	Type	Description
roomId	String	Room ID
isDisable	bool	Whether it is disabled

onRoomDismissed

Room dissolution event.

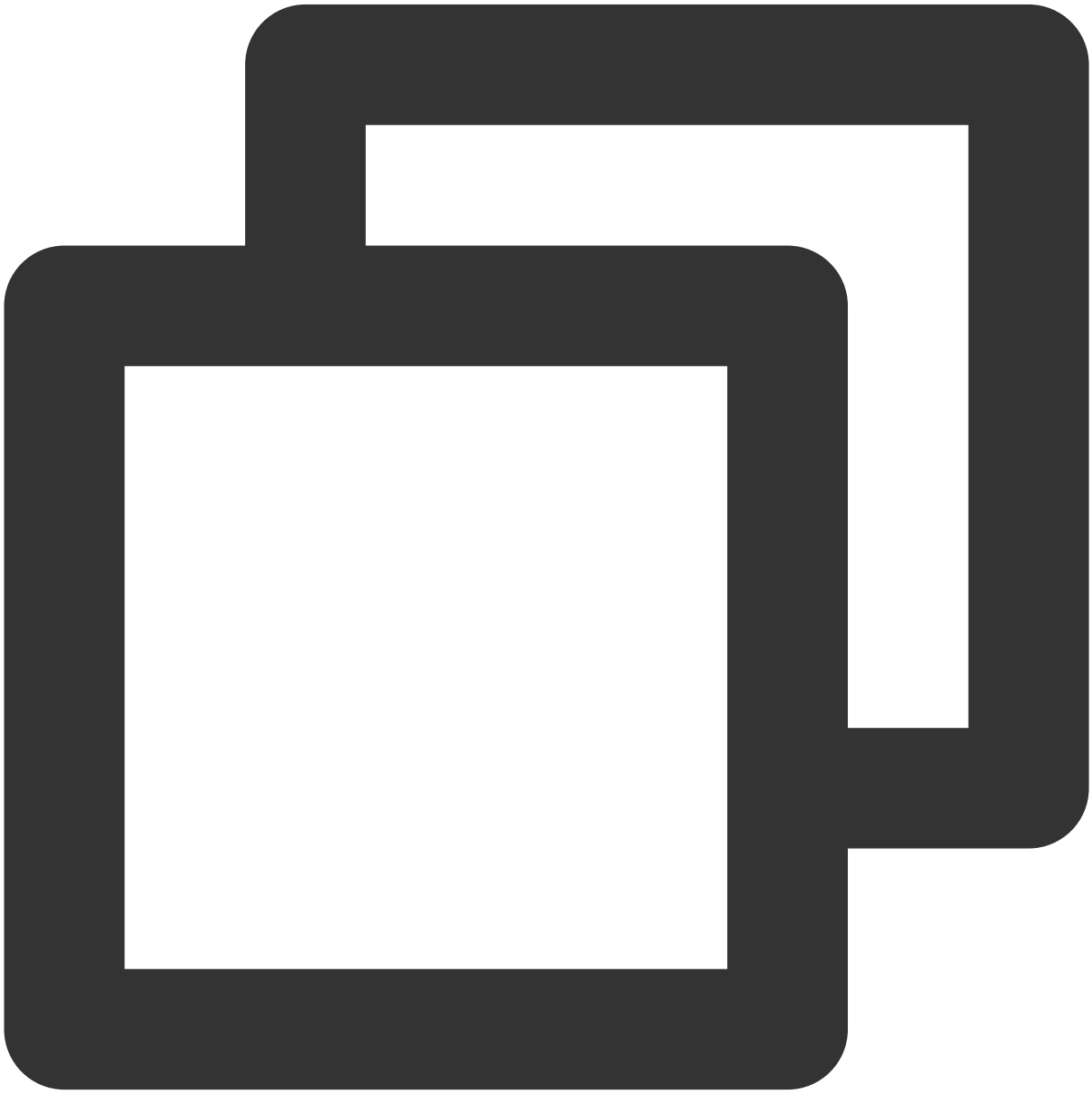


```
OnRoomDismissed onRoomDismissed = (String roomId) {}
```

Parameter	Type	Description
roomId	String	Room ID

onKickedOutOfRoom

Kick out of the room event



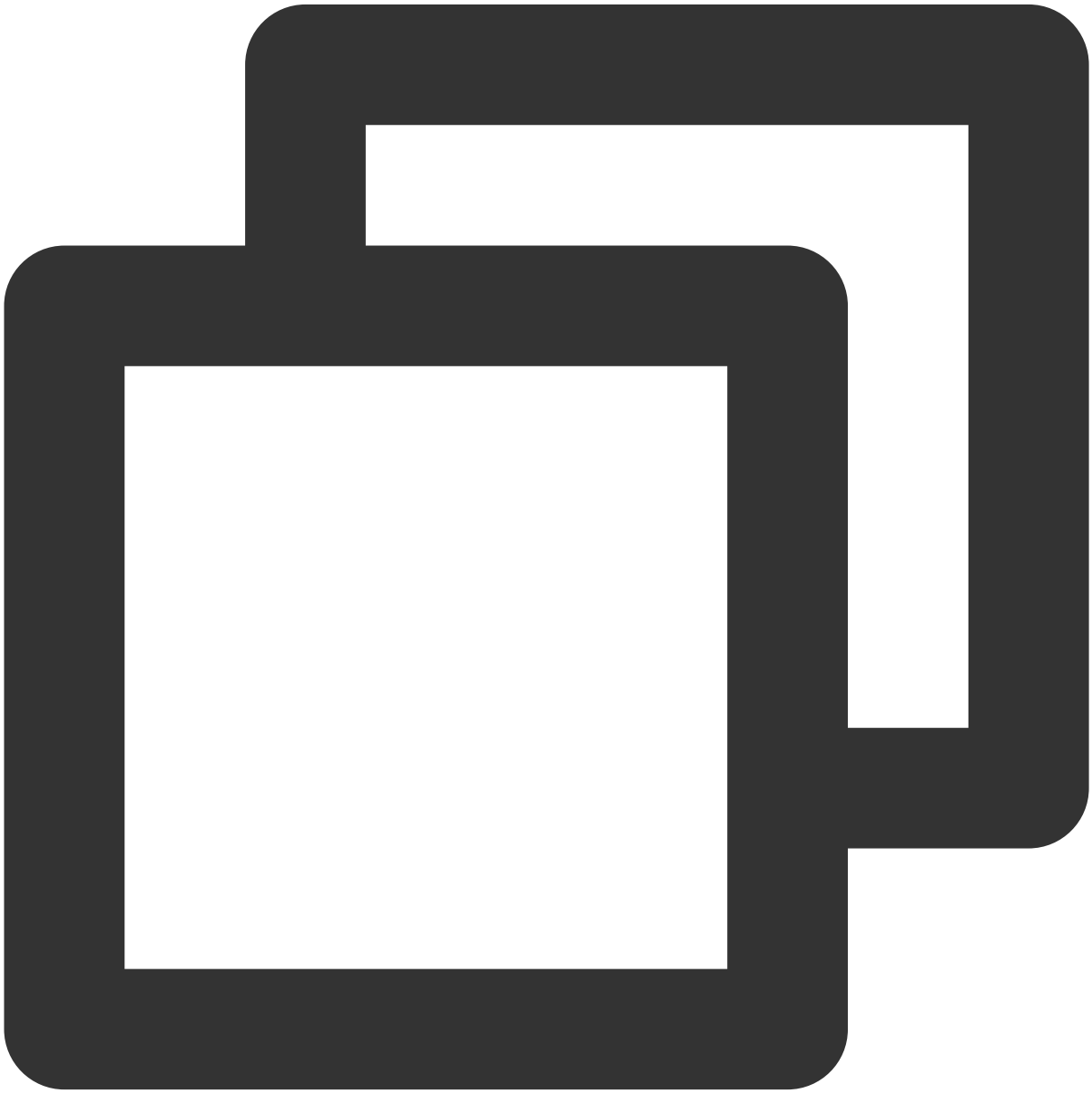
```
OnKickedOutOfRoom onKickedOutOfRoom = (String roomId, String message) {}
```

Parameter	Type	Description

roomId	String	Room ID
message	String	Description of being kicked out

onRoomSpeechModeChanged

Mic control mode changes in the room.

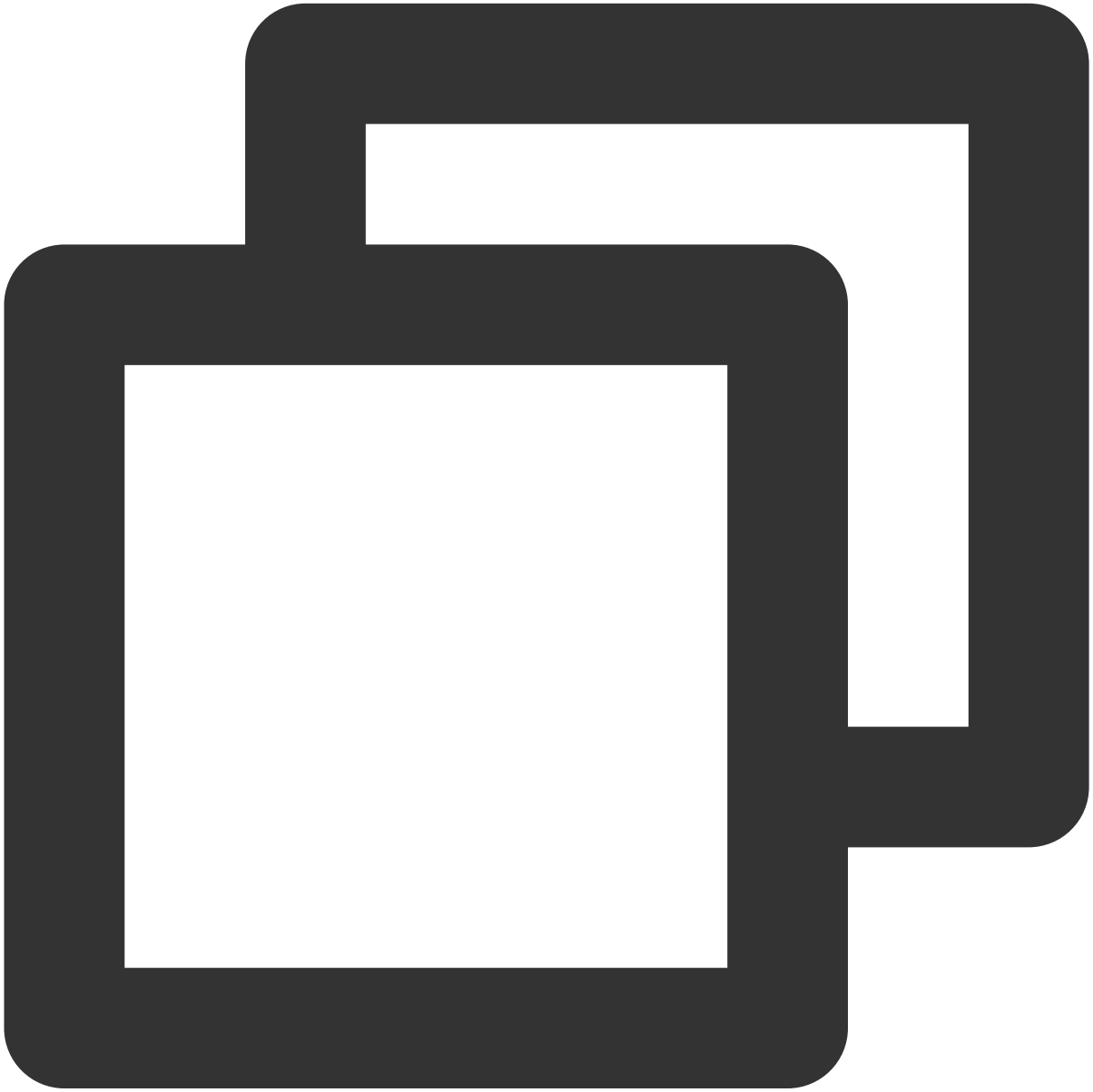


```
OnRoomSpeechModeChanged onRoomSpeechModeChanged = (String roomId, TUISpeechMode spe
```


Parameter	Type	Description
roomId	String	Room ID
speechMode	TUISpeechMode	Mic control mode

onRemoteUserEnterRoom

Remote user enters the room event.

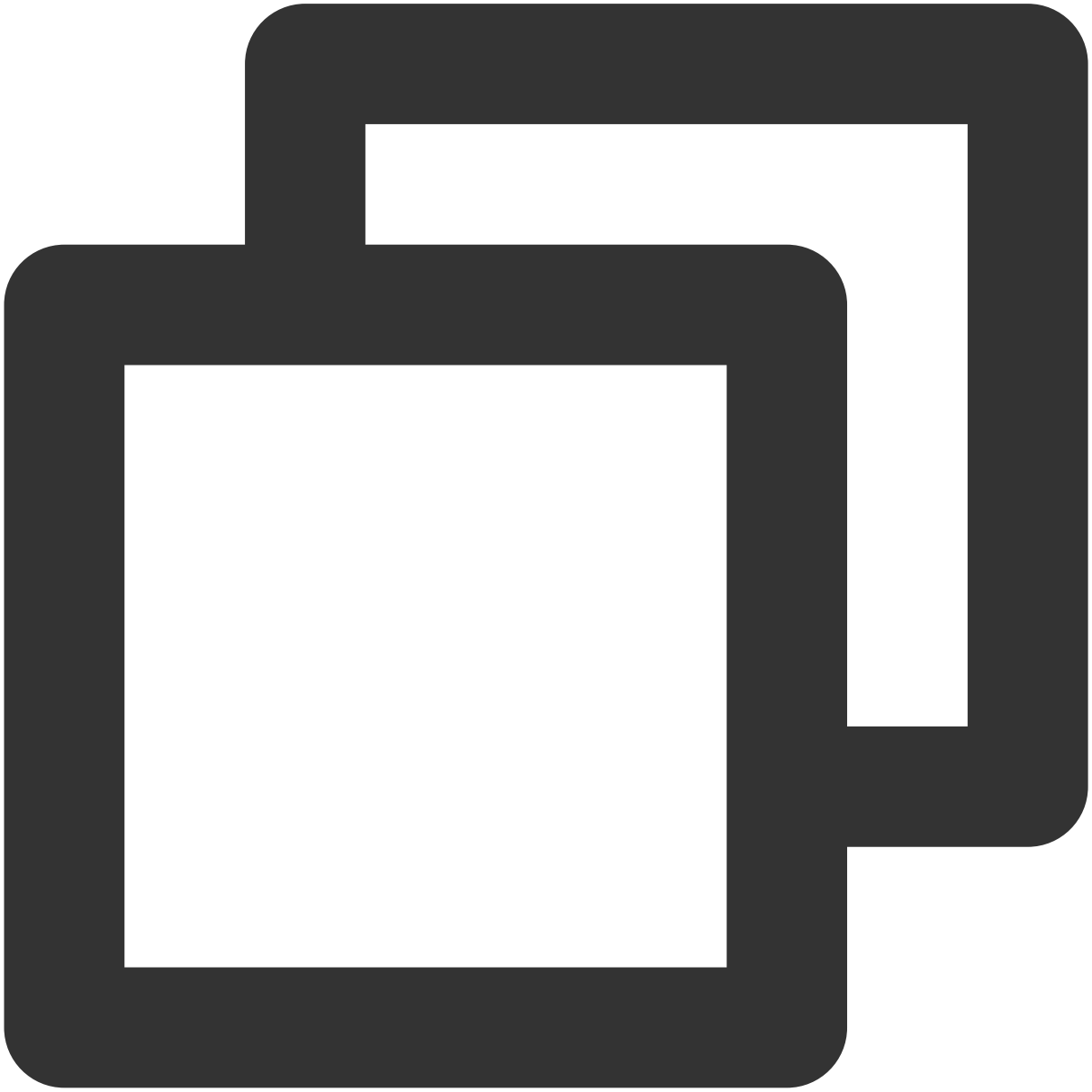


```
OnRemoteUserEnterRoom onRemoteUserEnterRoom = (String roomId, TUIUserInfo userInfo)
```

Parameter	Type	Description
roomId	String	Room ID
userInfo	TUIUserInfo	User information

onRemoteUserLeaveRoom

Remote user leaves the room event.

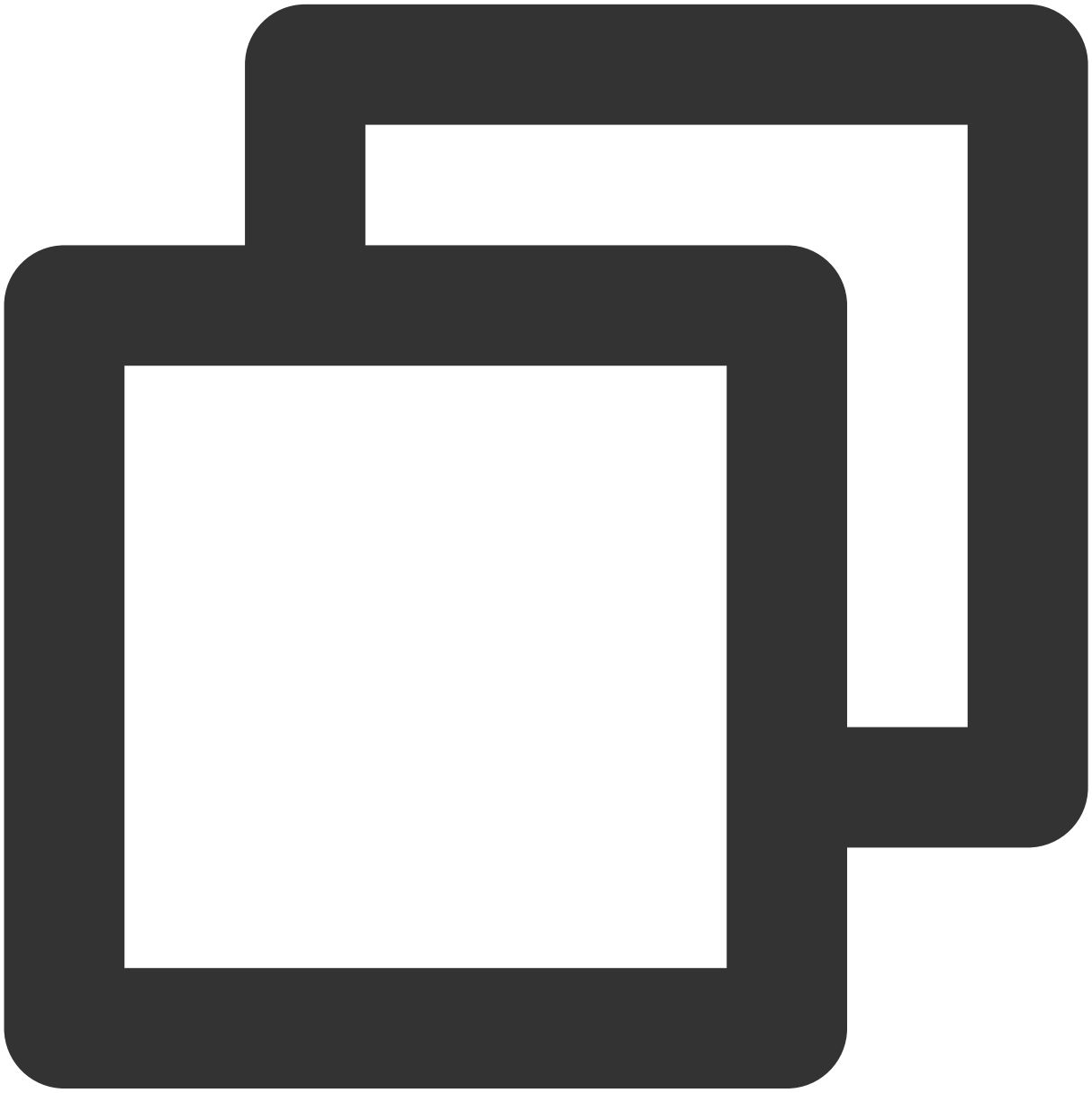


```
OnRemoteUserLeaveRoom onRemoteUserLeaveRoom = (String roomId, TUIUserInfo userInfo)
```

Parameter	Type	Description
roomId	String	Room ID
userInfo	TUIUserInfo	User information

onUserRoleChanged

User role changes event.

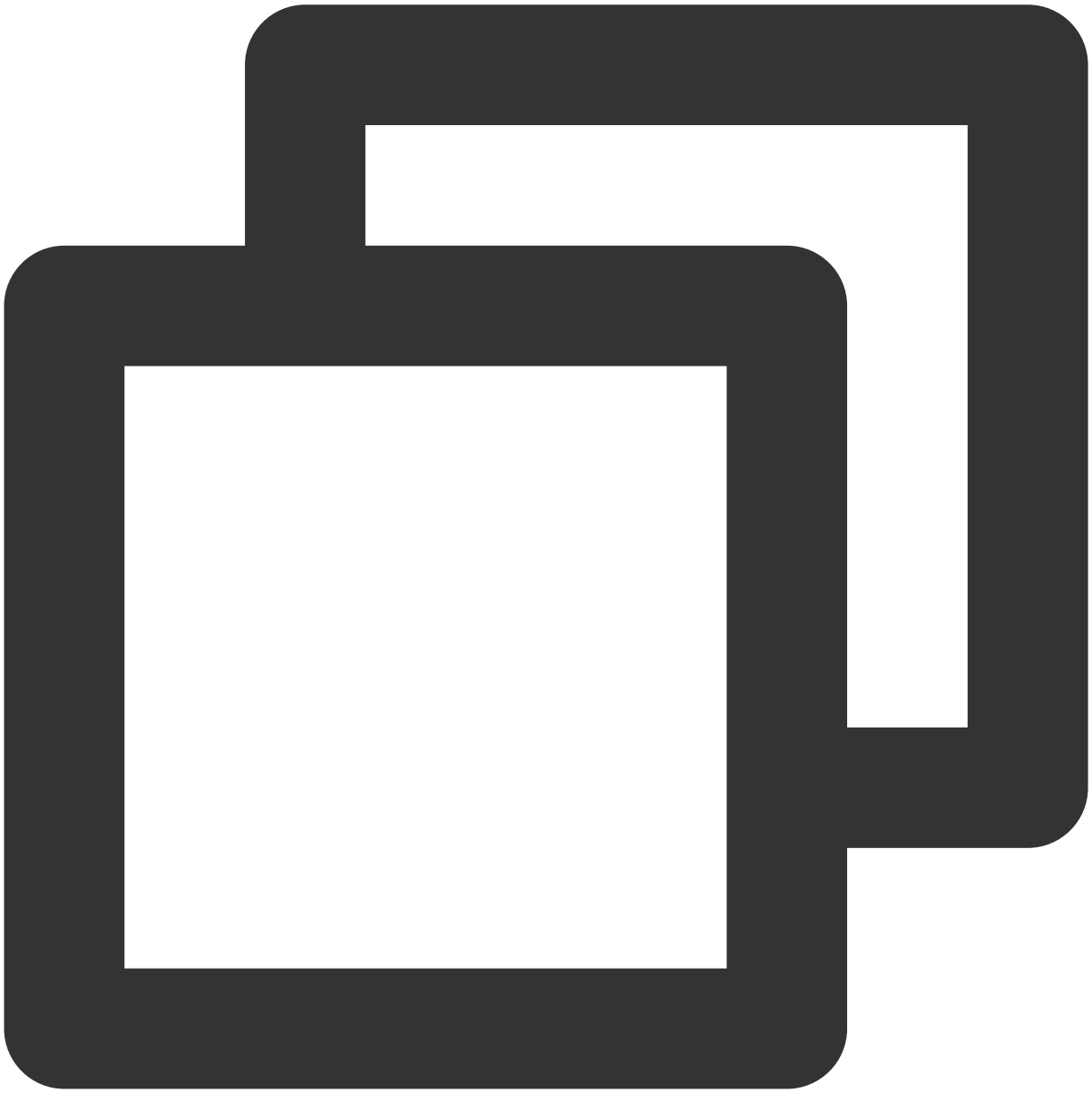


```
OnUserRoleChanged onUserRoleChanged = (String userId, TUIRole role) {}
```

Parameter	Type	Description
userId	String	User ID
role	TUIRole	User Role

onUserVideoStateChanged

User Video status changes event.

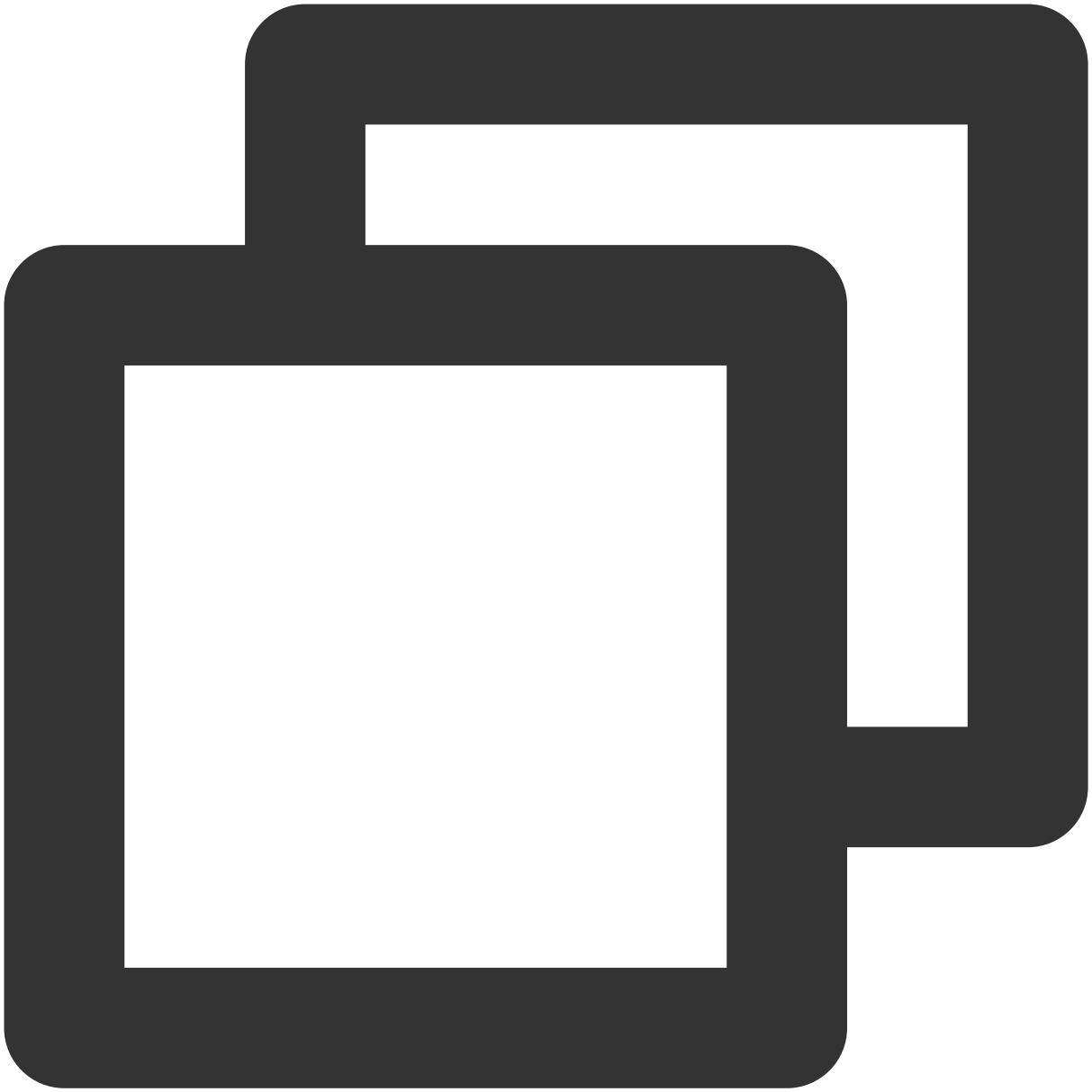


```
OnUserVideoStateChanged onUserVideoStateChanged = (String userId, TUIVideoStreamTyp
```

Parameter	Type	Description
userId	String	User ID
streamType	TUIVideoStreamType	Streams type
hasVideo	bool	Whether there are streams
reason	TUIChangeReason	Reason for streams change

onUserAudioStateChanged

User Audio status changes event.

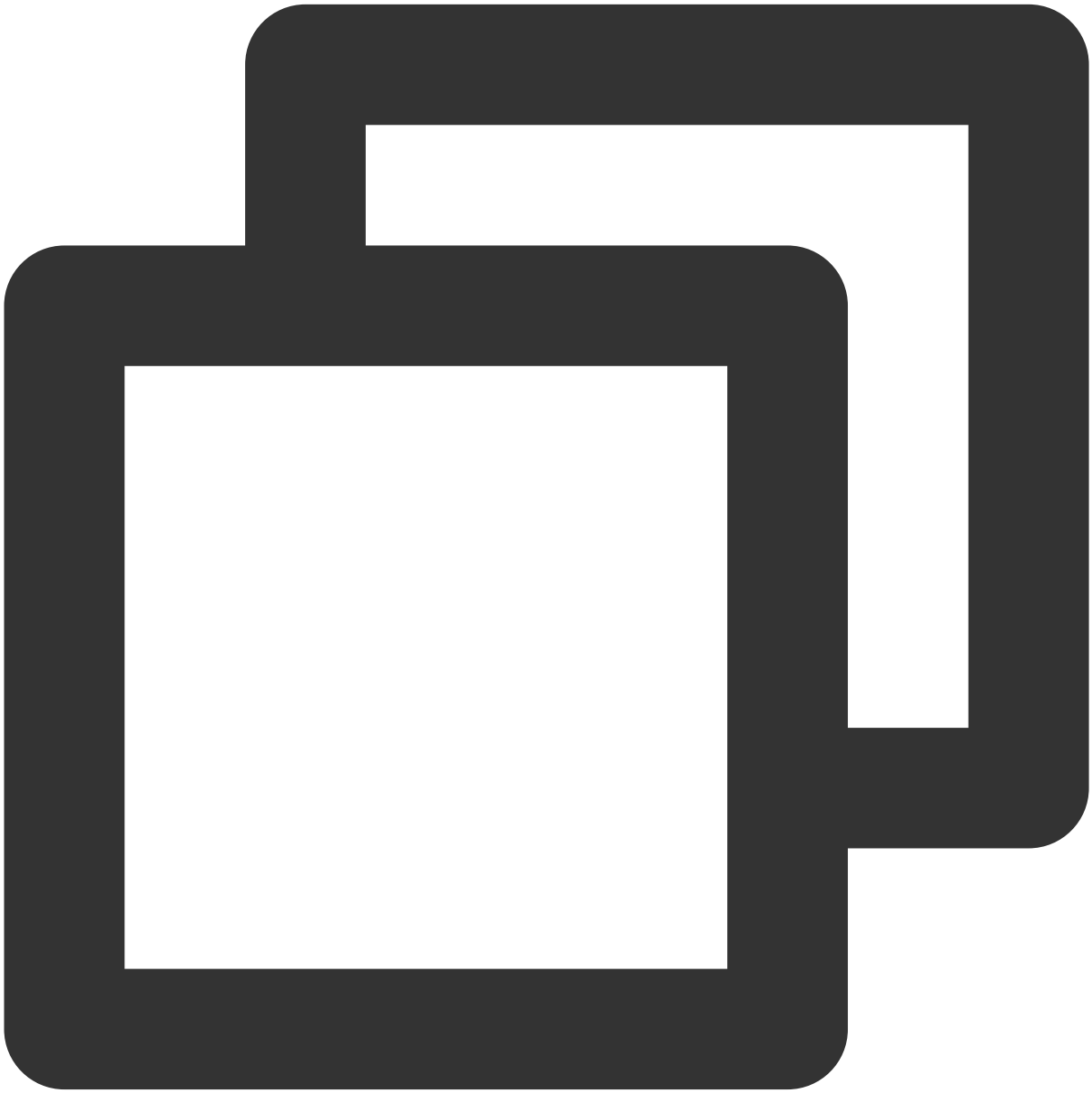


```
OnUserAudioStateChanged onUserAudioStateChanged = (String userId, bool hasAudio, TU
```

Parameter	Type	Description
userId	String	User ID
hasAudio	bool	Whether there are Audio streams
reason	TUIChangeReason	Reason for Audio streams change

onUserVoiceVolumeChanged

User volume change event.

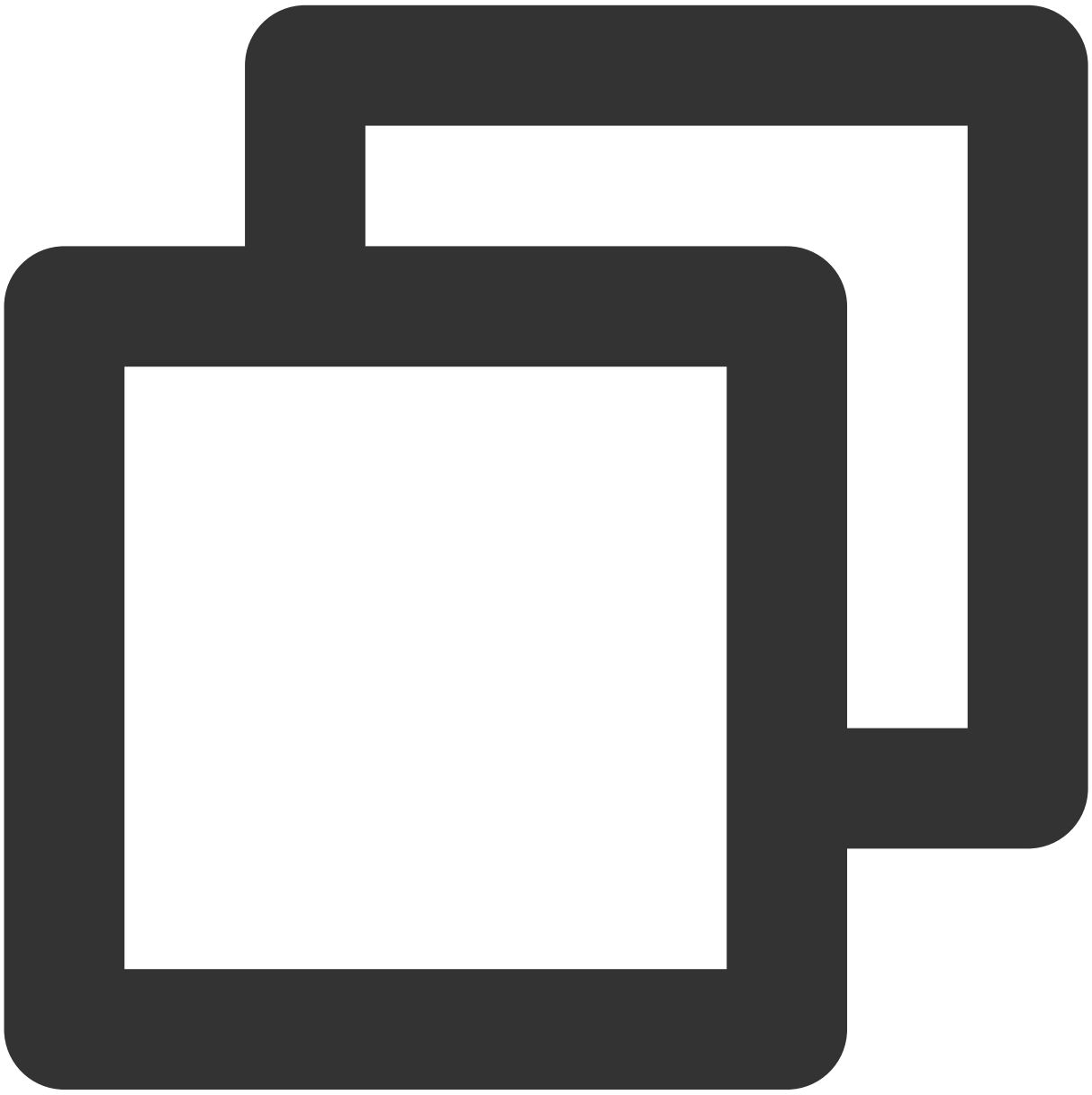


```
OnUserVoiceVolumeChanged onUserVoiceVolumeChanged = (Map<String, int> volumeMap) {}
```

Parameter	Type	Description
volumeMap	Map	User Volume Map key: userId value: Used for carrying the volume size of all speaking users, Value range 0 - 100

onSendMessageForUserDisableChanged

User text message sending ability changes event.



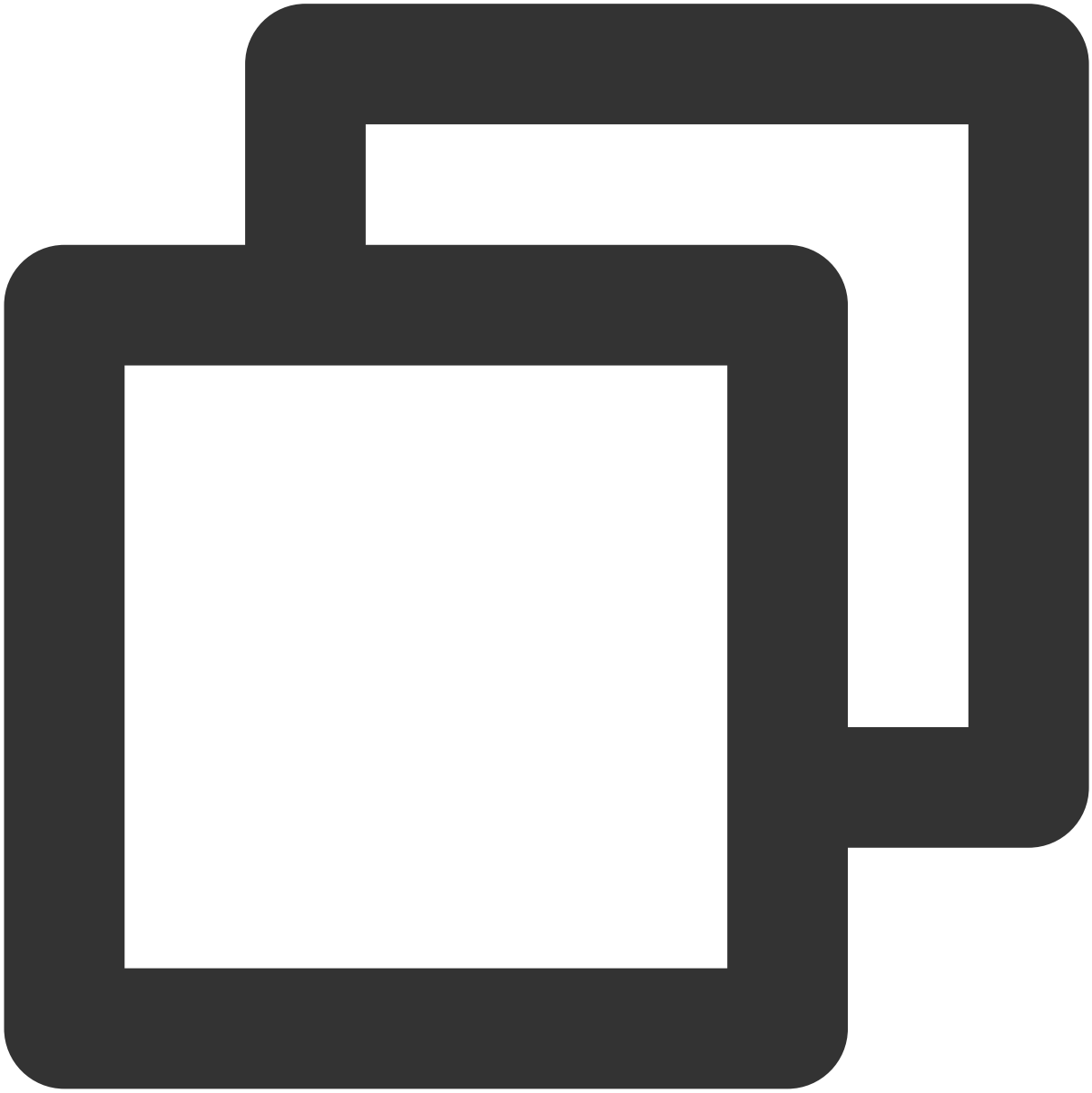
```
OnSendMessageForUserDisableChanged onSendMessageForUserDisableChanged = (String roo
```

Parameter	Type	Description
roomId	String	Room ID

userId	String	User ID
isDisable	bool	Whether it is prohibited to send text messages.

onUserNetworkQualityChanged

User network status change event.



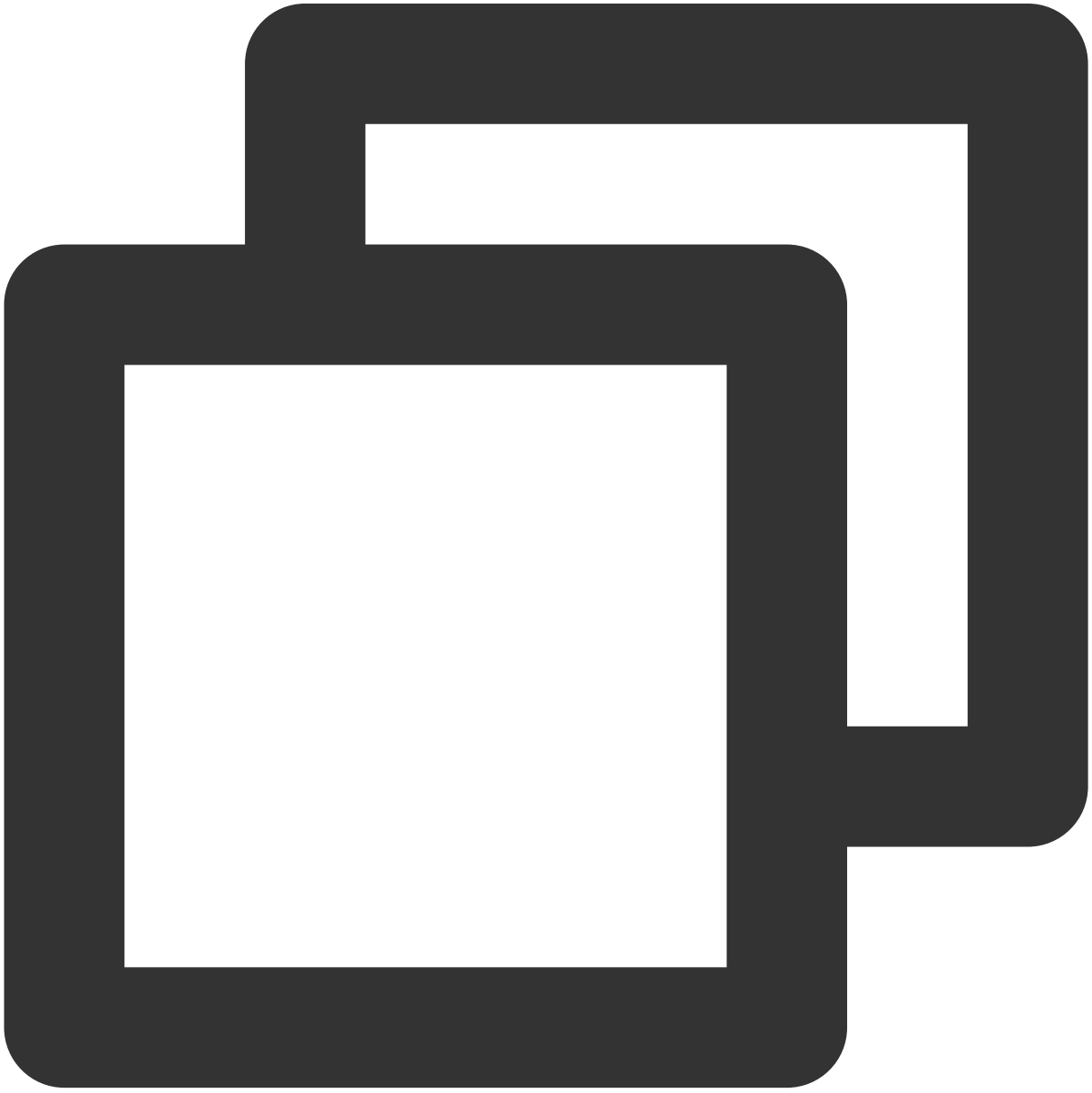
```
OnUserNetworkQualityChanged onUserNetworkQualityChanged = (Map<String, TUINetwork>
```

Parameter	Type	Description

networkMap	Map	User Network Status Map key: userId value: Network Condition

onUserScreenCaptureStopped

Screen Sharing stopped Callback event.

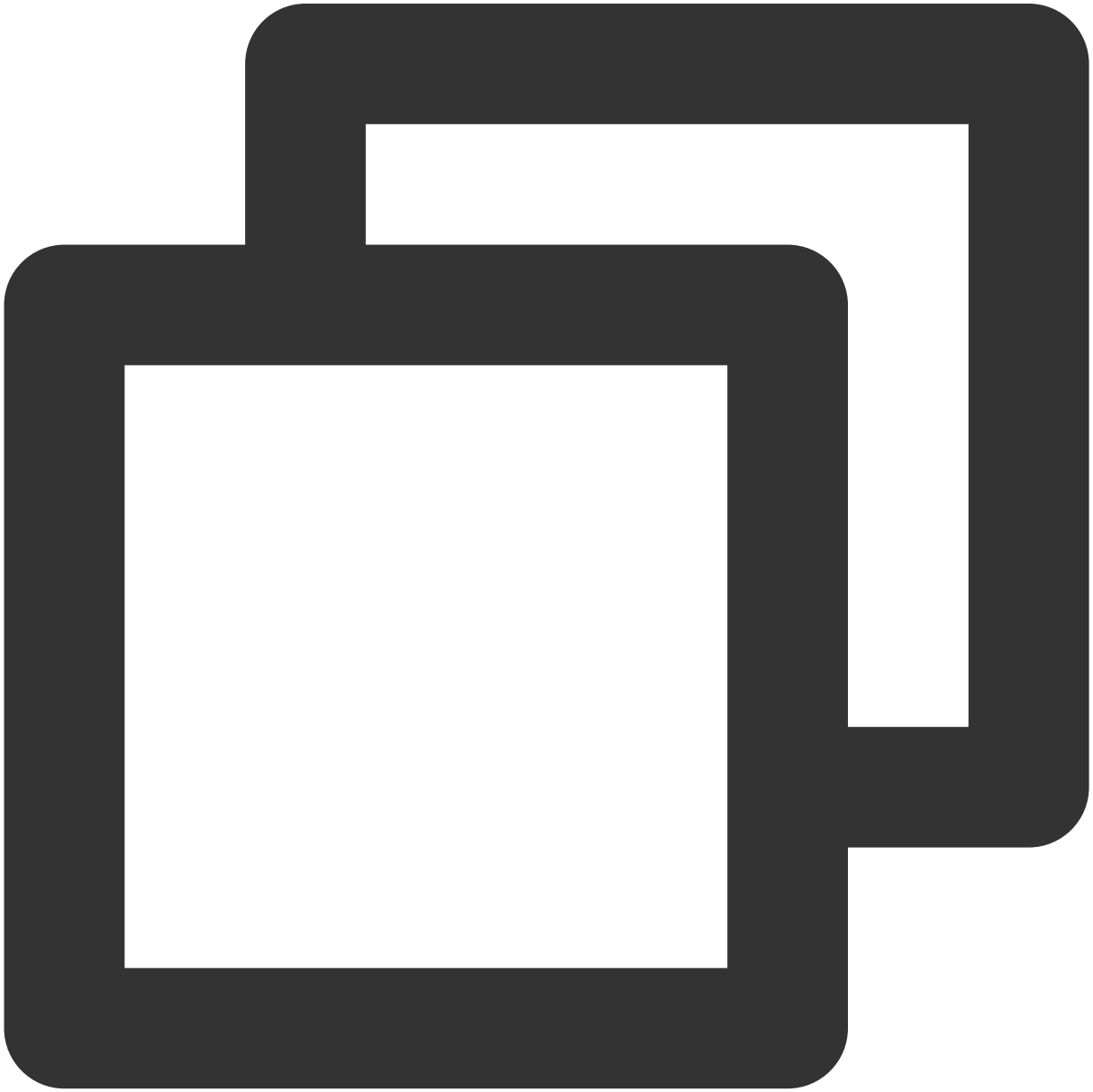


```
OnUserScreenCaptureStopped onUserScreenCaptureStopped = (int reason) {}
```


Parameter	Type	Description
reason	int	Stop reason: 0: User actively stops 1: Screen window closing causes the stop 2: Screen Sharing display screen status change (such as interface being unplugged, Projection mode change, etc.)

onRoomMaxSeatCountChanged

Maximum number of mic slots changes event in the room (only effective in meeting type rooms).

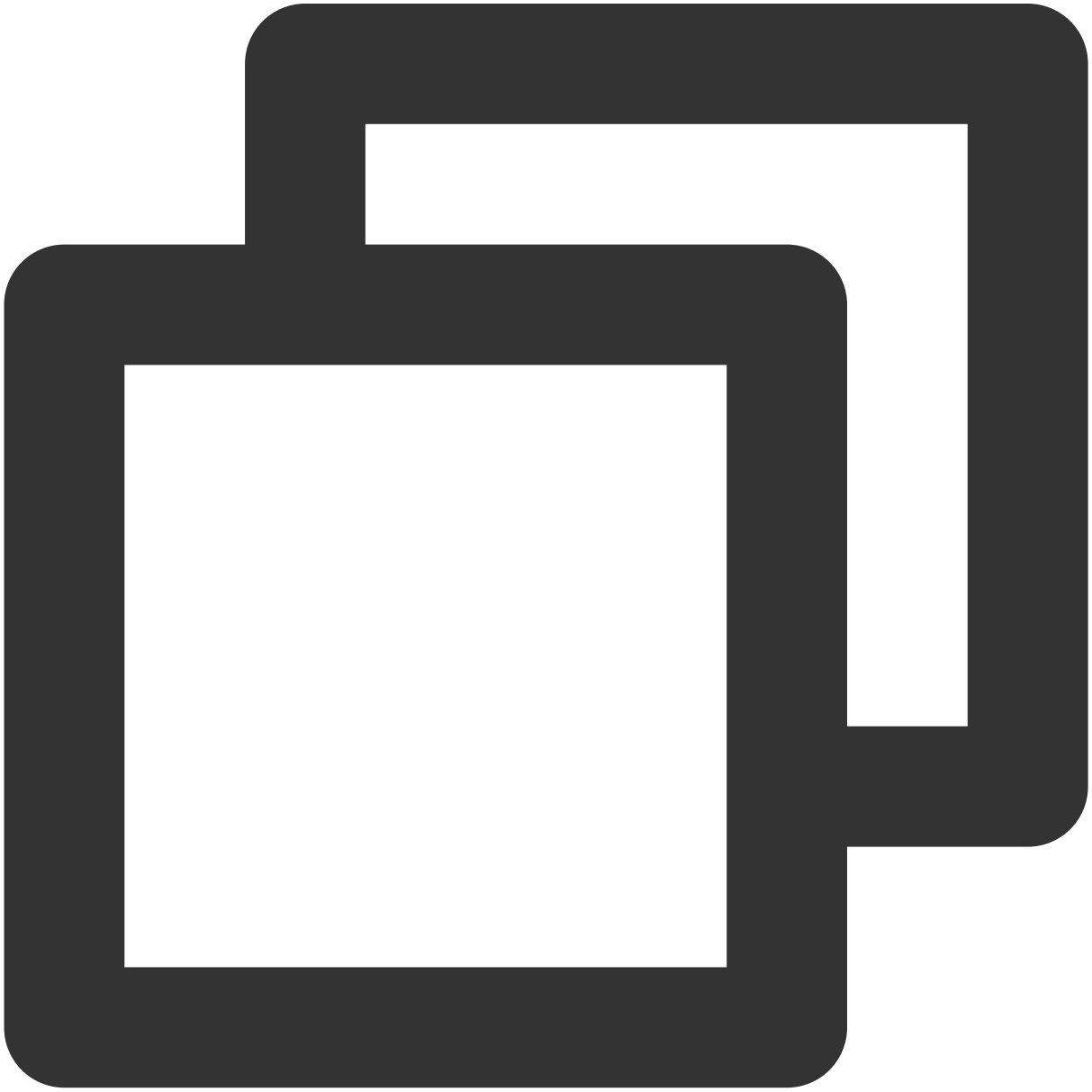


```
OnRoomMaxSeatCountChanged onRoomMaxSeatCountChanged = (String roomId, int maxSeatCo
```

Parameter	Type	Description
roomId	String	Room ID
maxSeatCount	int	Maximum number of mic slots in the room

onSeatListChanged

Mic slot list changes event.

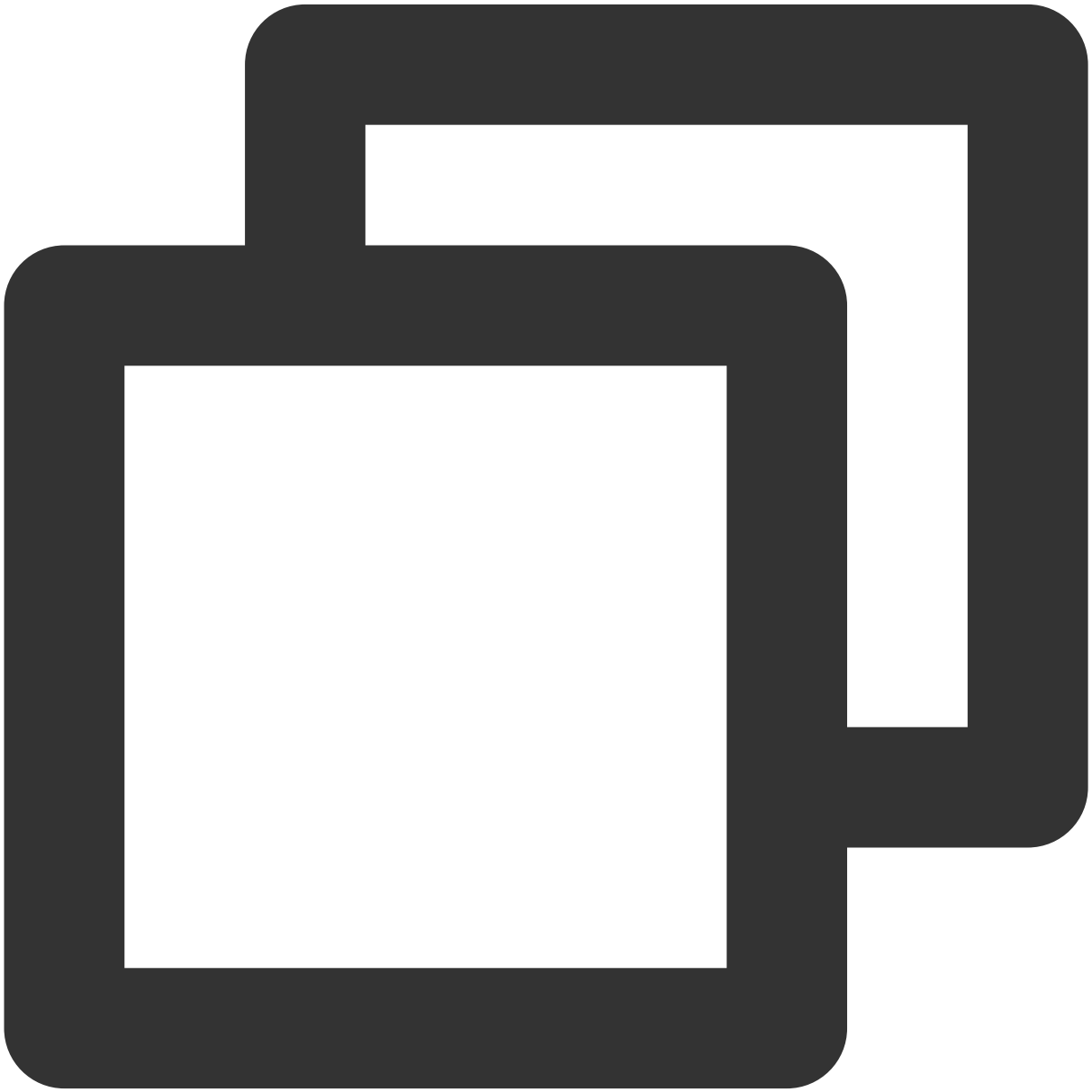


```
OnSeatListChanged onSeatListChanged = (List<TUISeatInfo> seatList, List<TUISeatInfo
```

Parameter	Type	Description
seatList	List<TUISeatInfo>	The latest user list on the mic, including newly on mic users
seatedList	List<TUISeatInfo>	Newly on mic user list
leftList	List<TUISeatInfo>	Newly off mic user list

onKickedOffSeat

Received the event of user being kicked off mic.

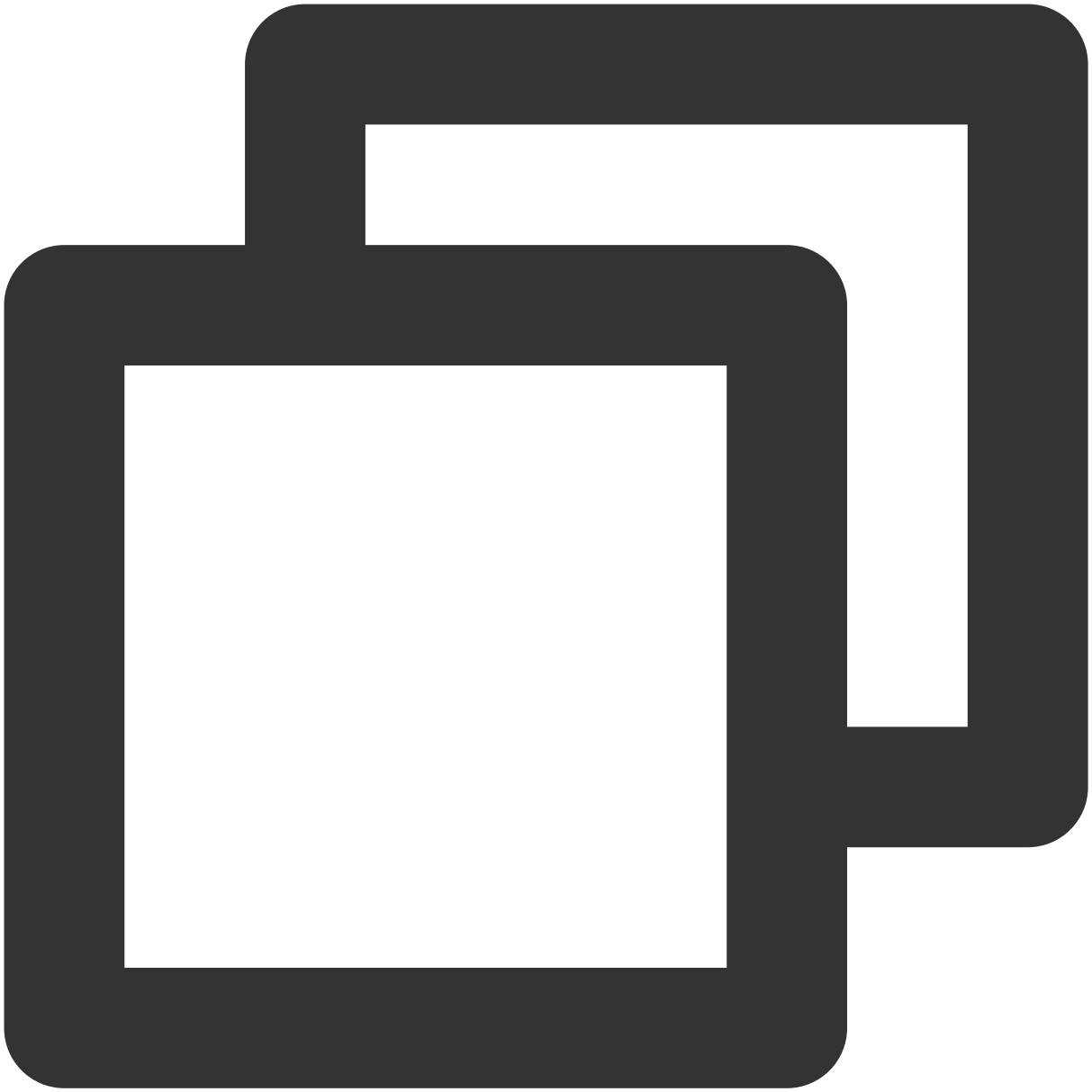


```
OnKickedOffSeat onKickedOffSeat = (String userId) {}
```

Parameter	Type	Description
userId	String	Operate Kick-out of the (Host/Administrator) User ID

onRequestReceived

Received request message event.

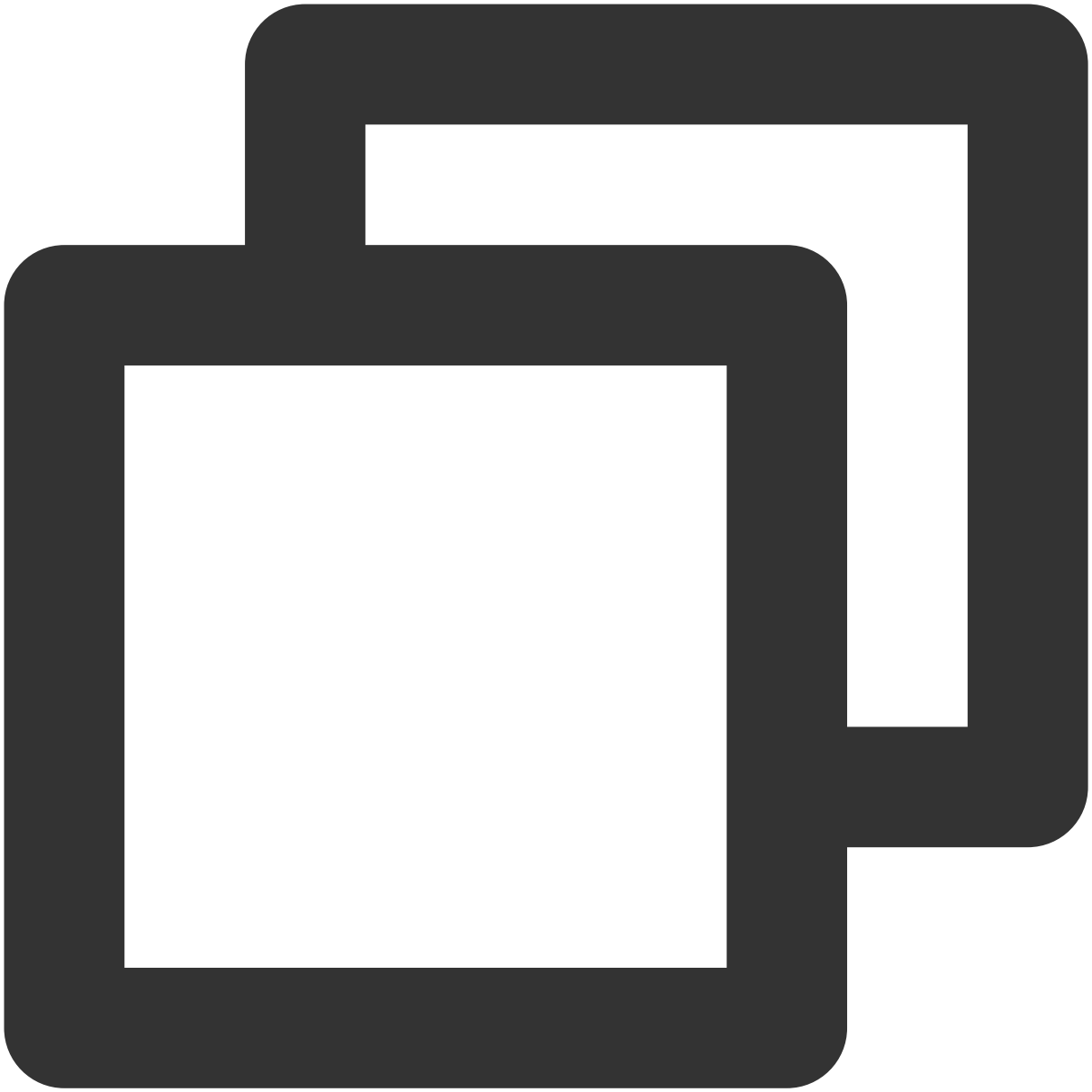


```
OnRequestReceived onRequestReceived = (TUIRequest request) {}
```

Parameter	Type	Description
request	TUIRequest	Request content

onRequestCancelled

Received request cancellation event.

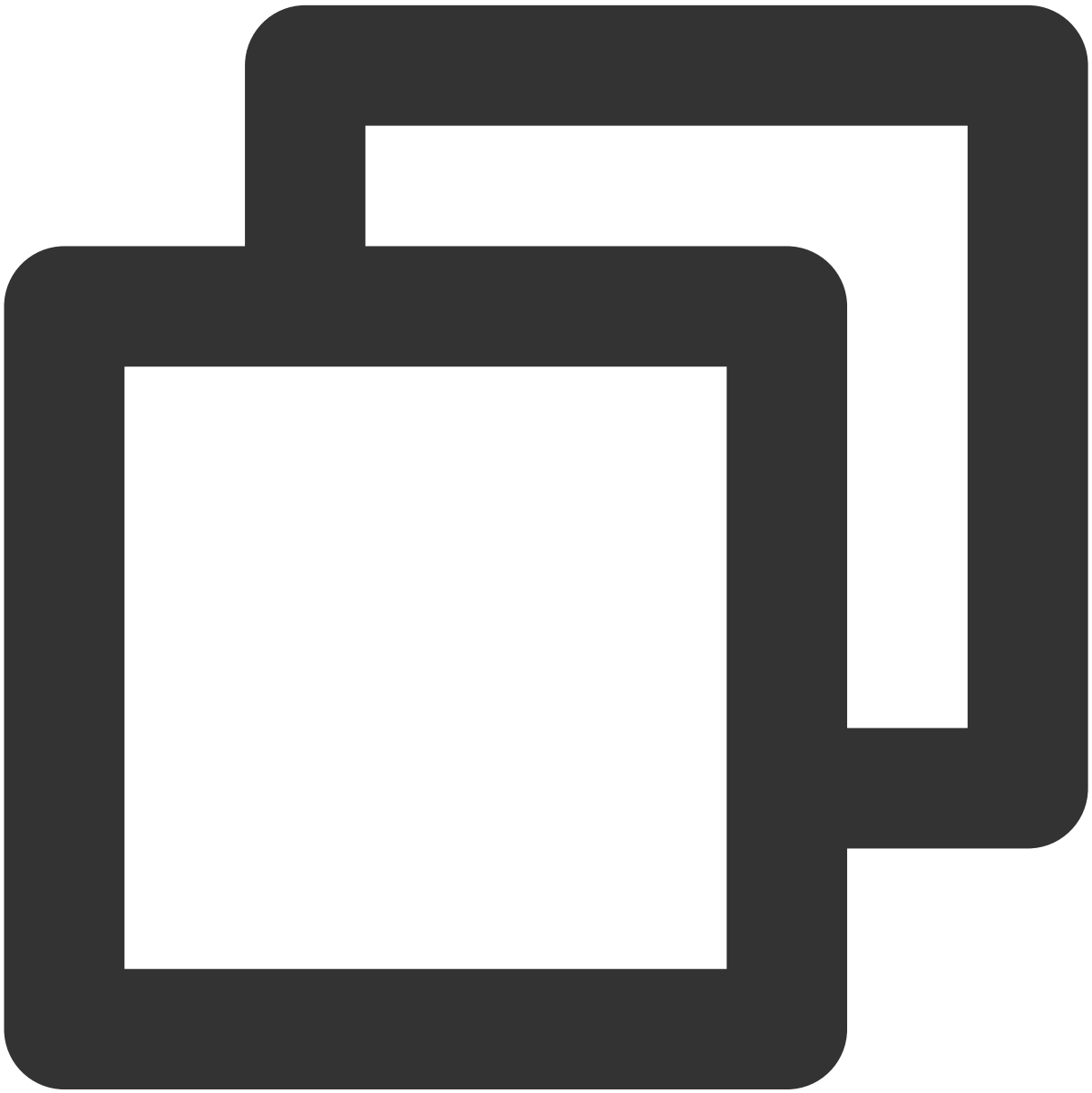


```
OnRequestCancelled onRequestCancelled = (String requestId, String userId) {}
```

Parameter	Type	Description
requestId	String	Request ID
userId	String	Cancel signaling user ID

onReceiveTextMessage

Received ordinary text message event.

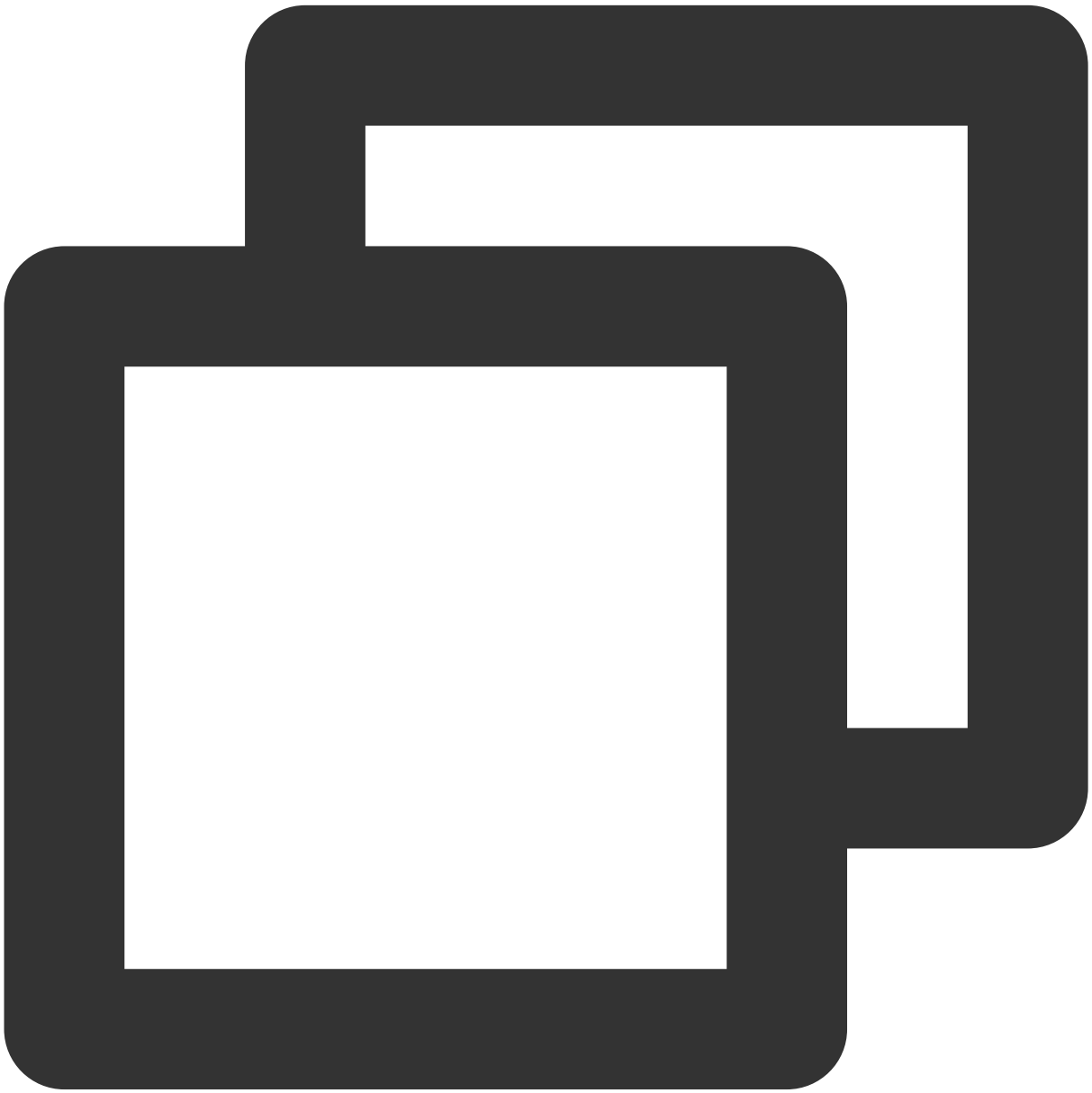


```
OnReceiveTextMessage onReceiveTextMessage = (String roomId, TUIMessage message) {}
```

Parameter	Type	Description
roomId	String	Room ID
message	TUIMessage	Message content

onReceiveCustomMessage

Received custom message event.



```
OnReceiveCustomMessage onReceiveCustomMessage = (String roomId, TUIMessage message)
```

Parameter	Type	Description
roomId	String	Room ID
message	TUIMessage	Message content

TUIRoomEngine

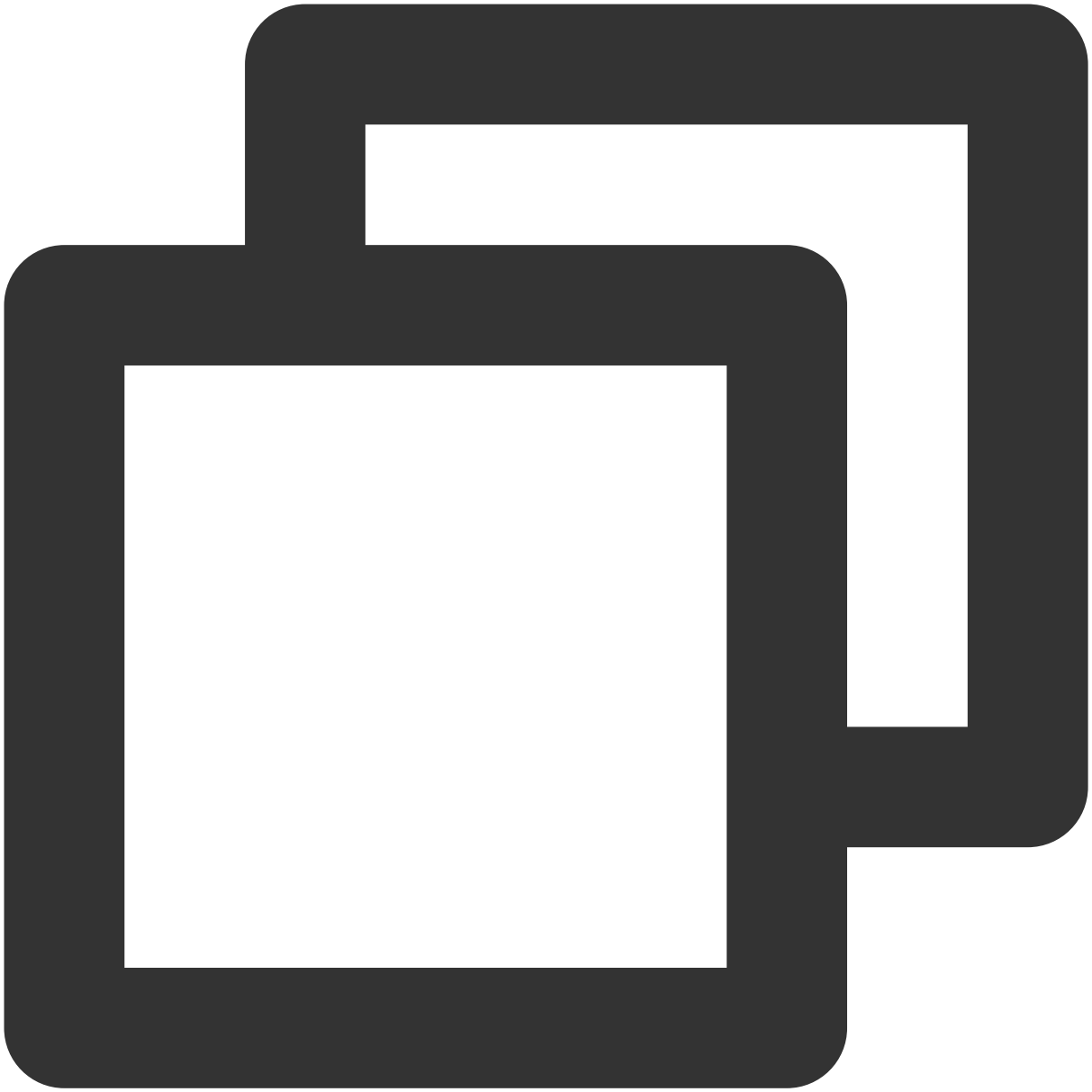
Last updated：2023-11-21 15:00:32

TUIRoomEngine API Introduction

TUIRoomEngine API is a No UI Interface for Conference Component, you can use this API to custom encapsulate according to your business needs.

createInstance

Create TUIRoomEngine Instance.

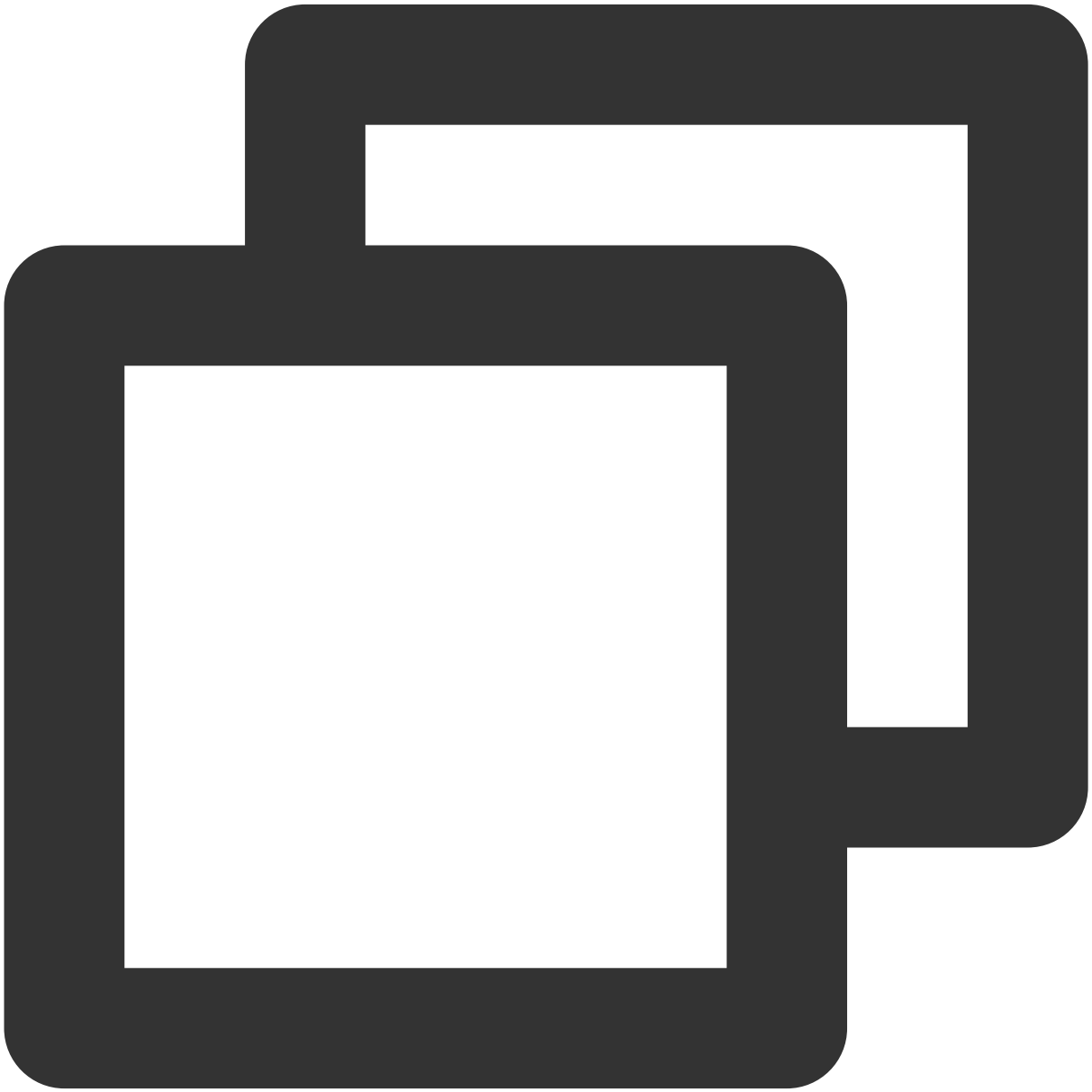


```
static TUIRoomEngine createInstance()
```

return:TUIRoomEngine Instance

destroyInstance

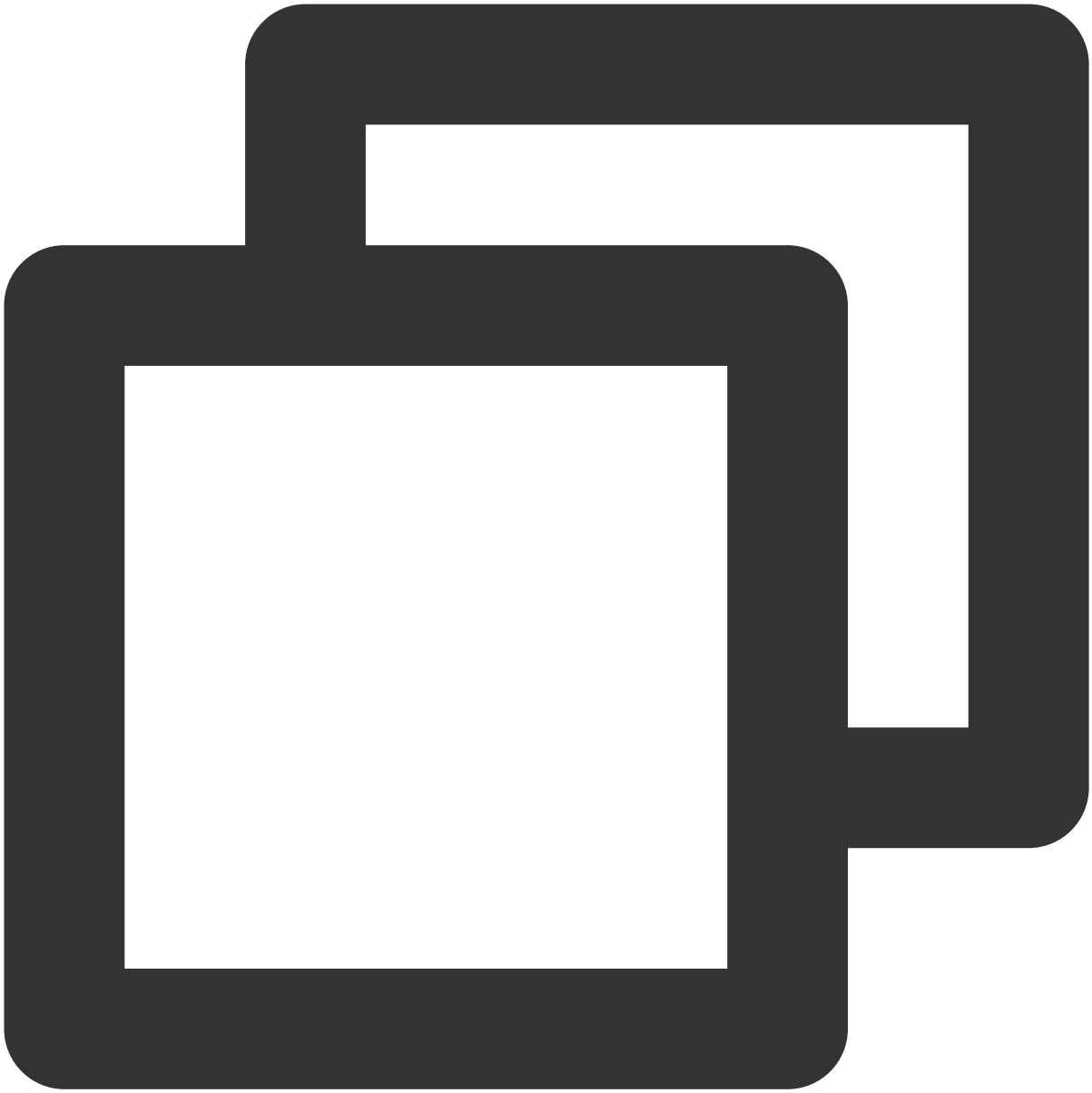
Destroy TUIRoomEngine Instance.



```
void destroyInstance()
```

login

Login interface, you need to initialize user information before entering the room and perform a series of operations.



```
static Future<TUIActionCallback> login(int sdkAppId,
                                       String userId,
                                       String userSig)
```

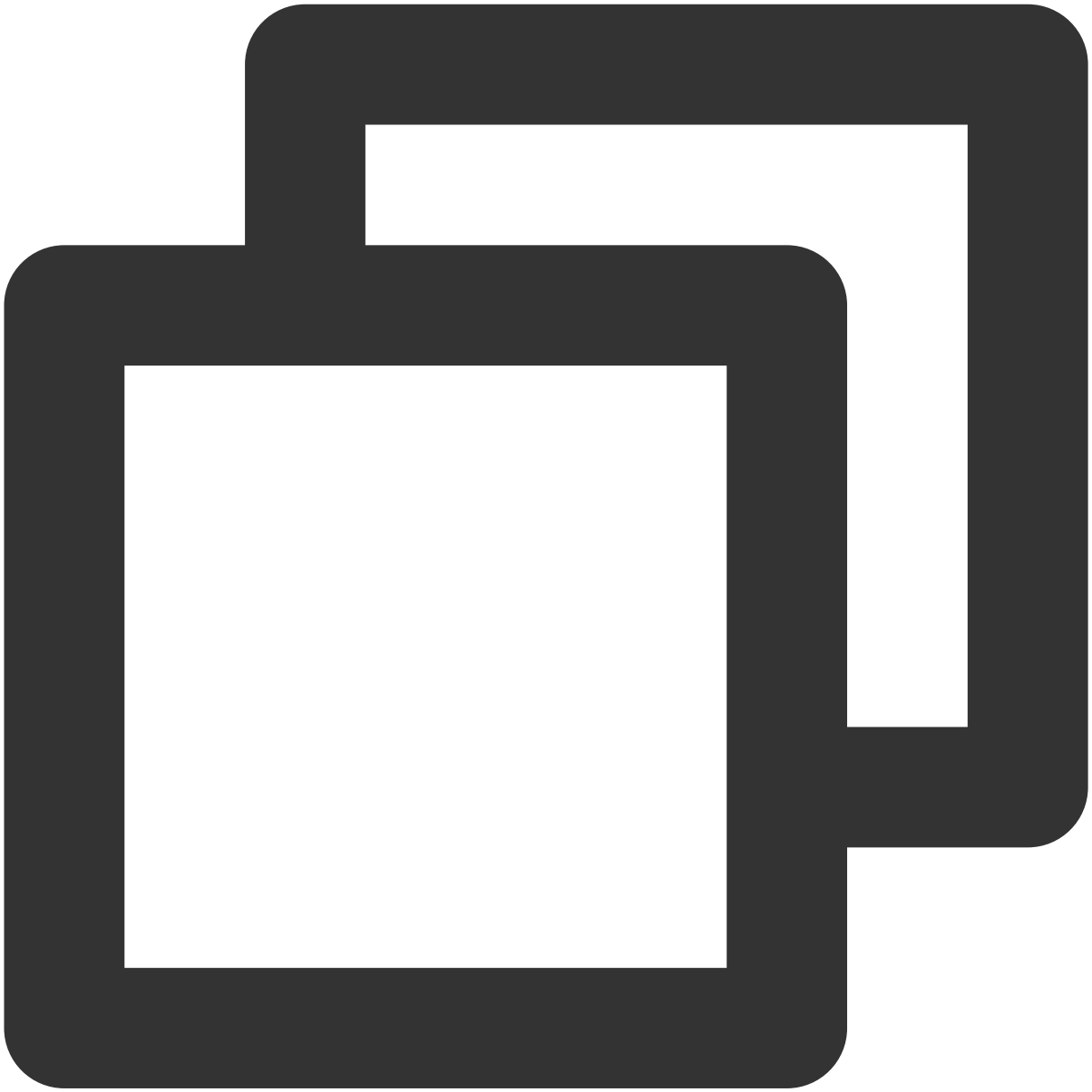
Parameters:

Parameter	Type	Meaning
sdkAppId	int	Get sdkAppId information from Application Info
userId	String	User ID

userSig	String	UserSig

logout

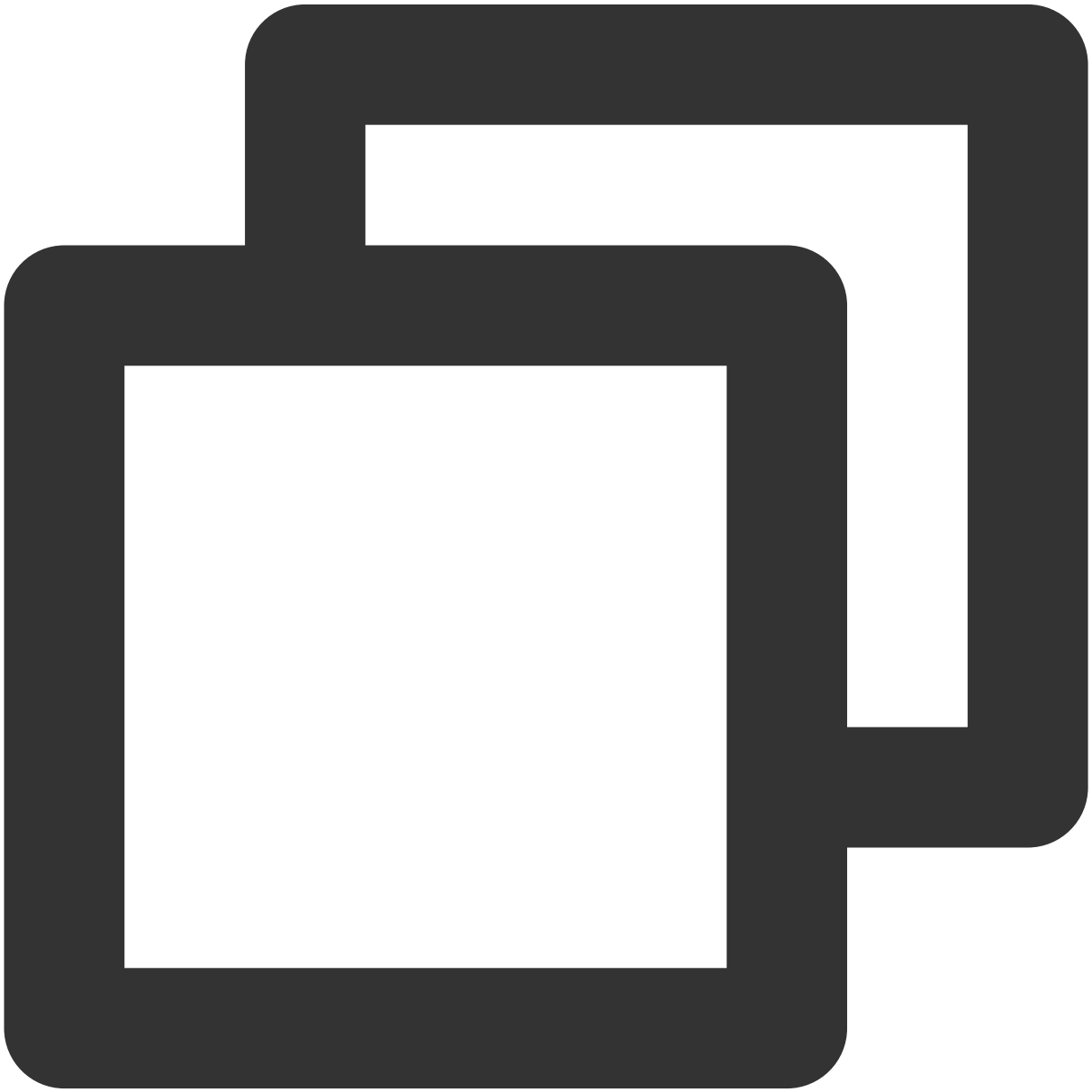
Logout interface, there will be actively leave the room operation, destroy resources.



```
static Future<TUIActionCallback> logout()
```

setSelfInfo

Set local user name and avatar.



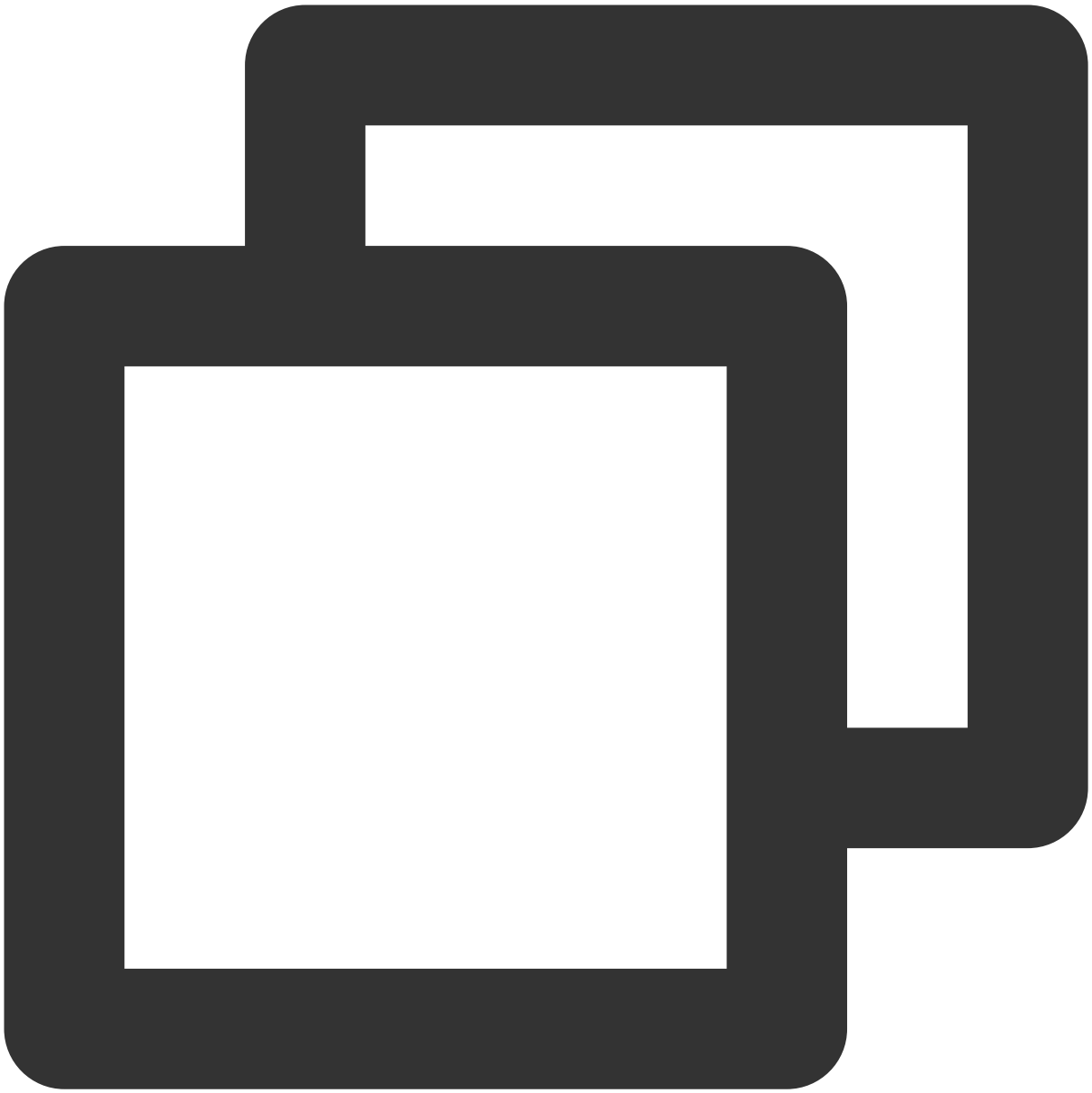
```
static Future<TUIActionCallback> setSelfInfo(String userName, String avatarURL)
```

Parameters:

Parameter	Type	Meaning
userName	String	User Name
avatarUrl	String	User avatar URL address

setLoginUserInfo

Set login user information.



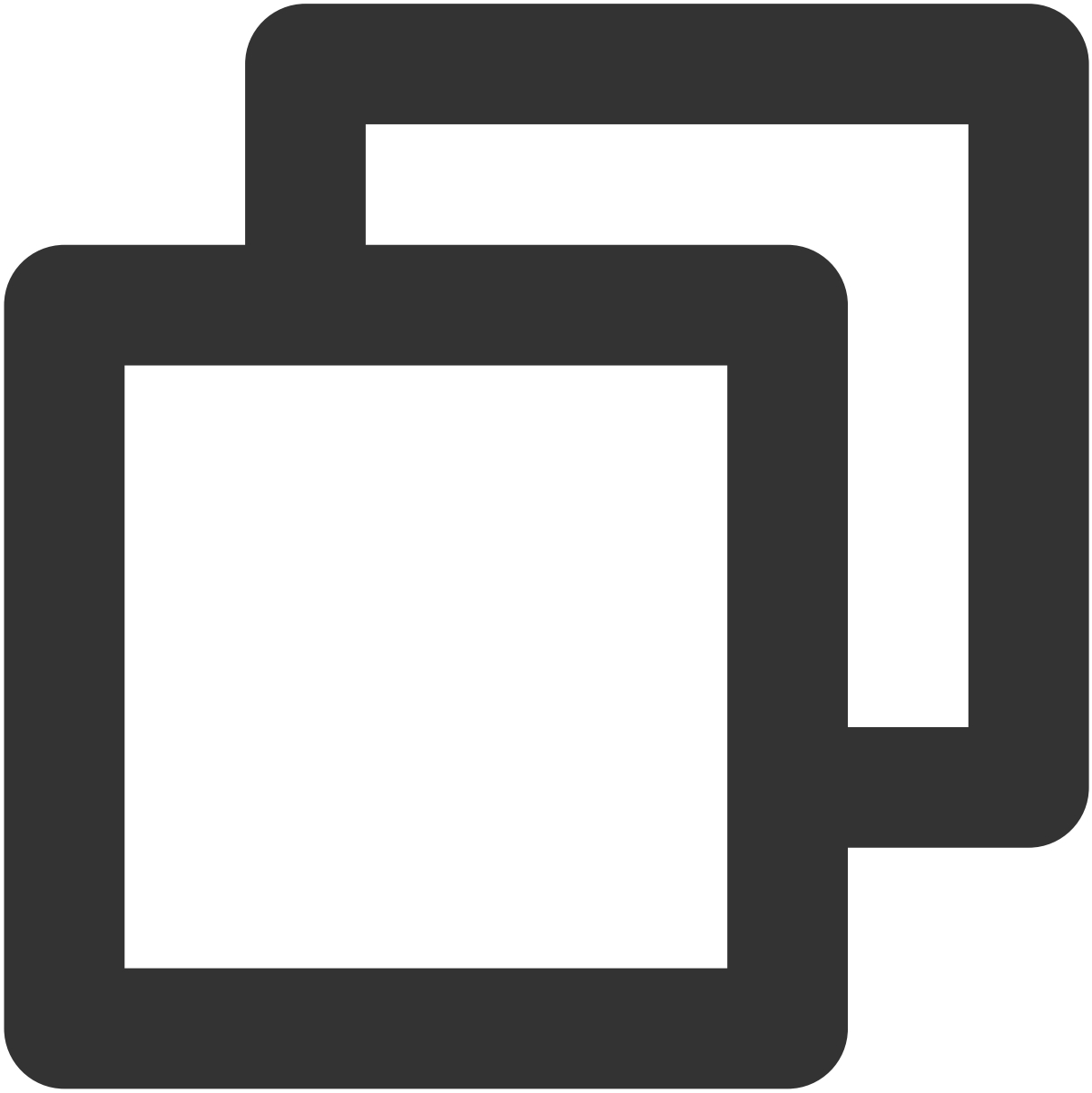
```
static Future<TUIActionCallback> setLoginUserInfo(TUILoginUserInfo userInfo)
```

Parameters:

Parameter	Type	Meaning
userInfo	TUILoginUserInfo	User information

getSelfInfo

Get the basic information of the local user login.

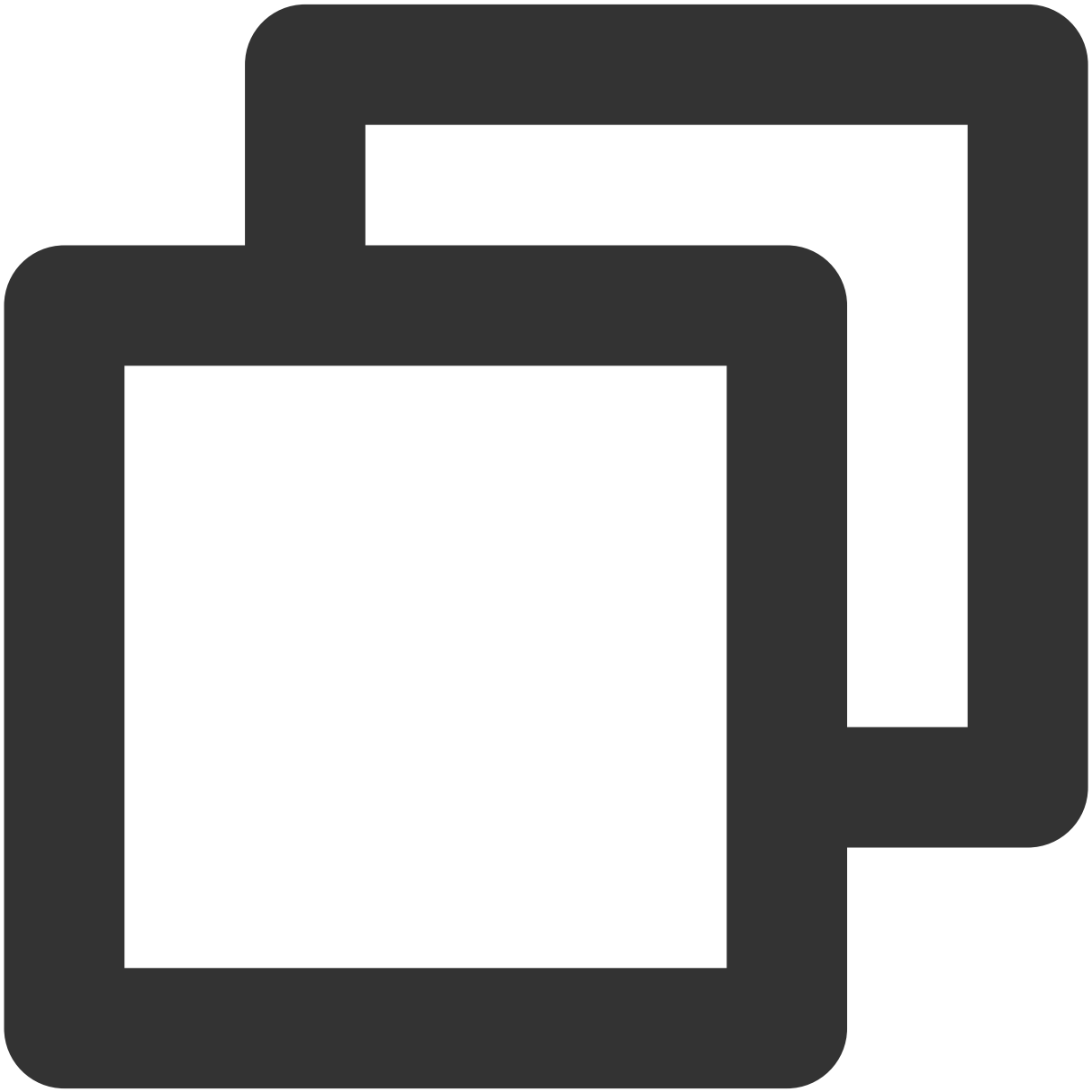


```
static TUILoginUserInfo getSelfInfo()
```

return:the basic information of the local user login

addObserver

Add TUIRoomEngine Event Callback.



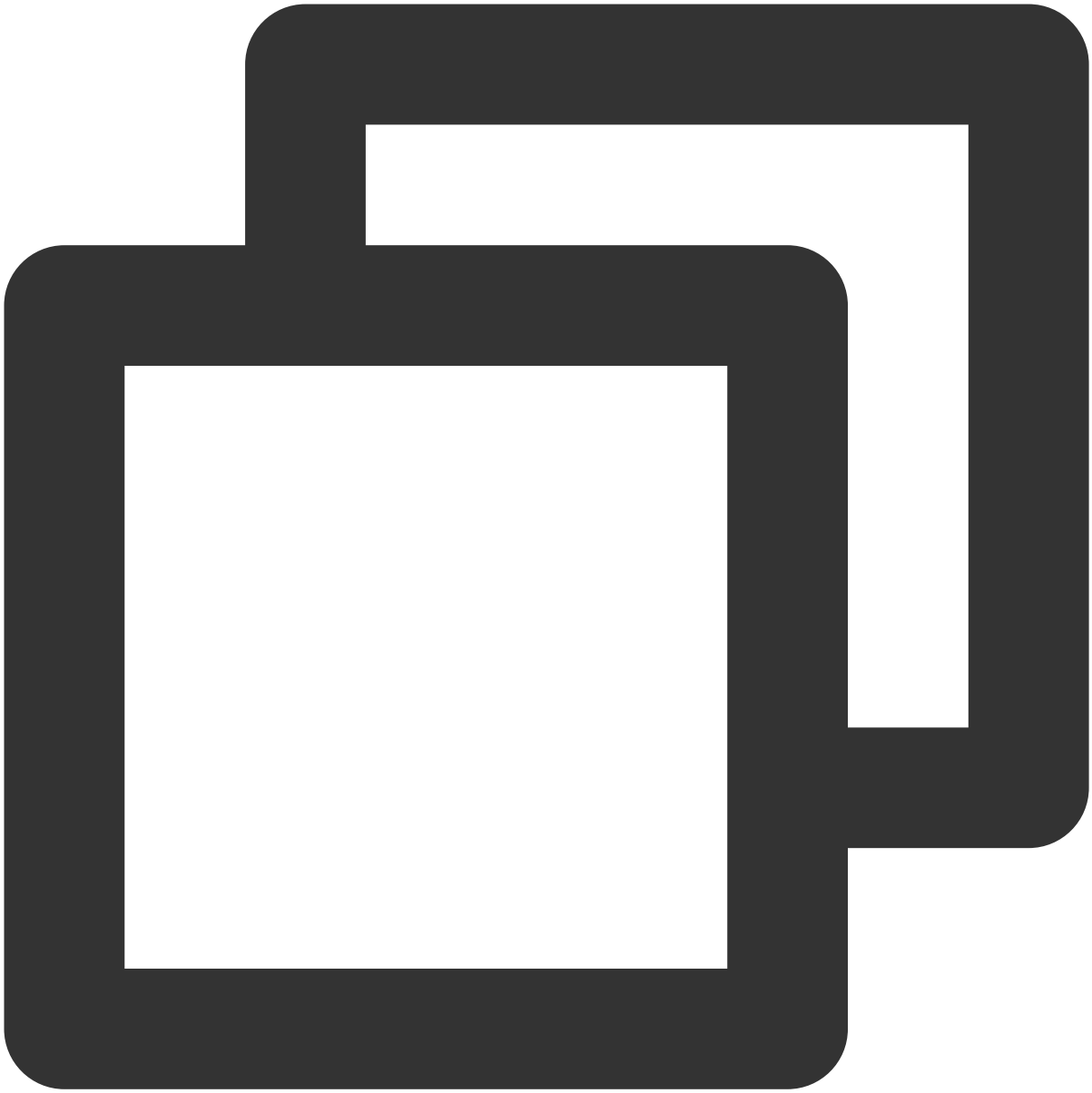
```
void addObserver(TUIRoomObserver observer)
```

Parameters:

Parameter	Type	Meaning
observer	TUIRoomObserver	TUIRoomEngine Event Callback

removeObserver

Remove TUIRoomEngine Event Callback.



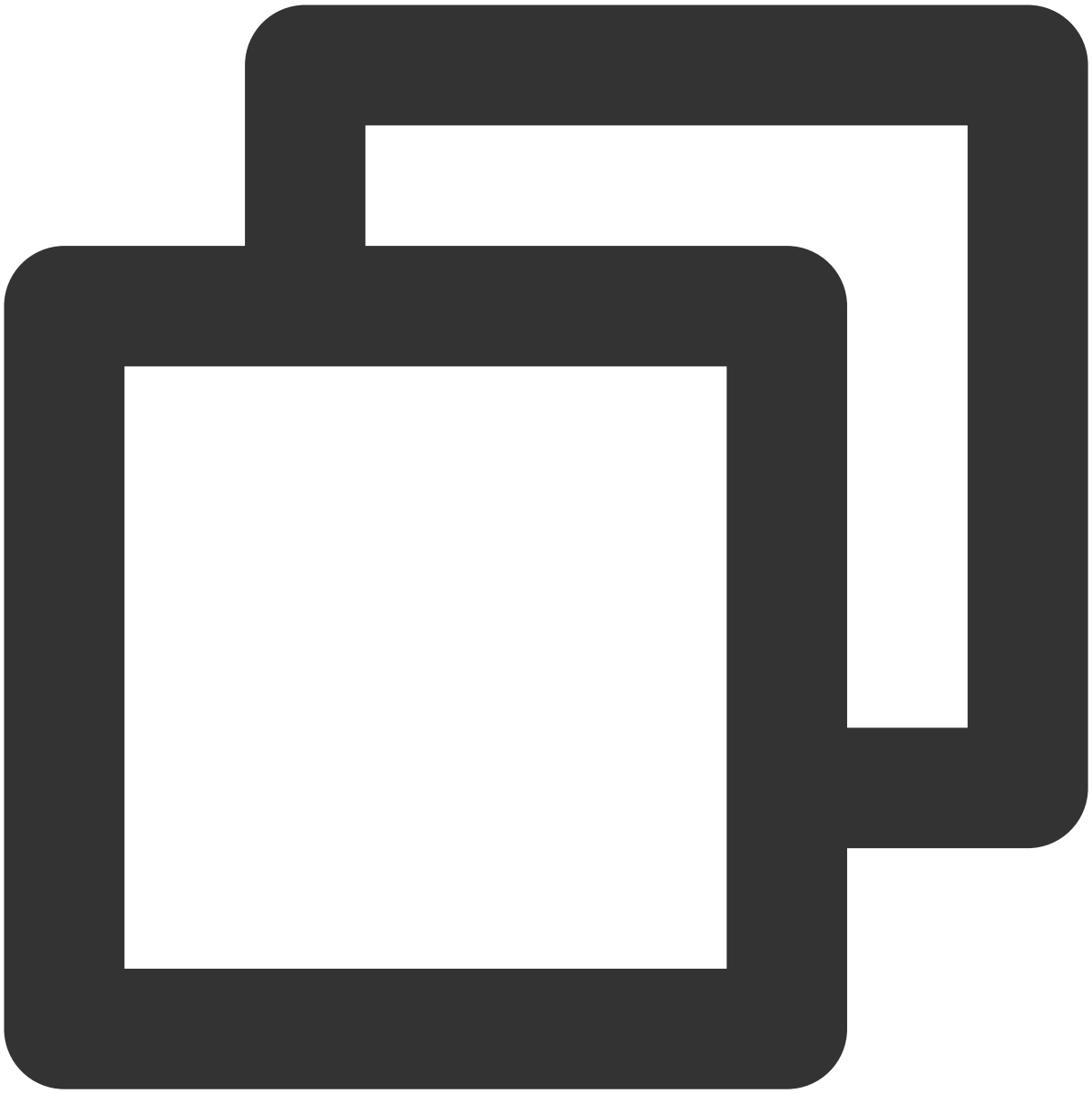
```
void removeObserver(TUIRoomObserver observer)
```

Parameter	Type	Meaning
observer	TUIRoomObserver	TUIRoomEngine Event Callback

createRoom

The host creates a room, and the user who calls createRoom is the owner of the room. When creating a room, you can set the Room ID, room name, and whether the room allows users to join, enable video and audio, send messages, and

other functions.



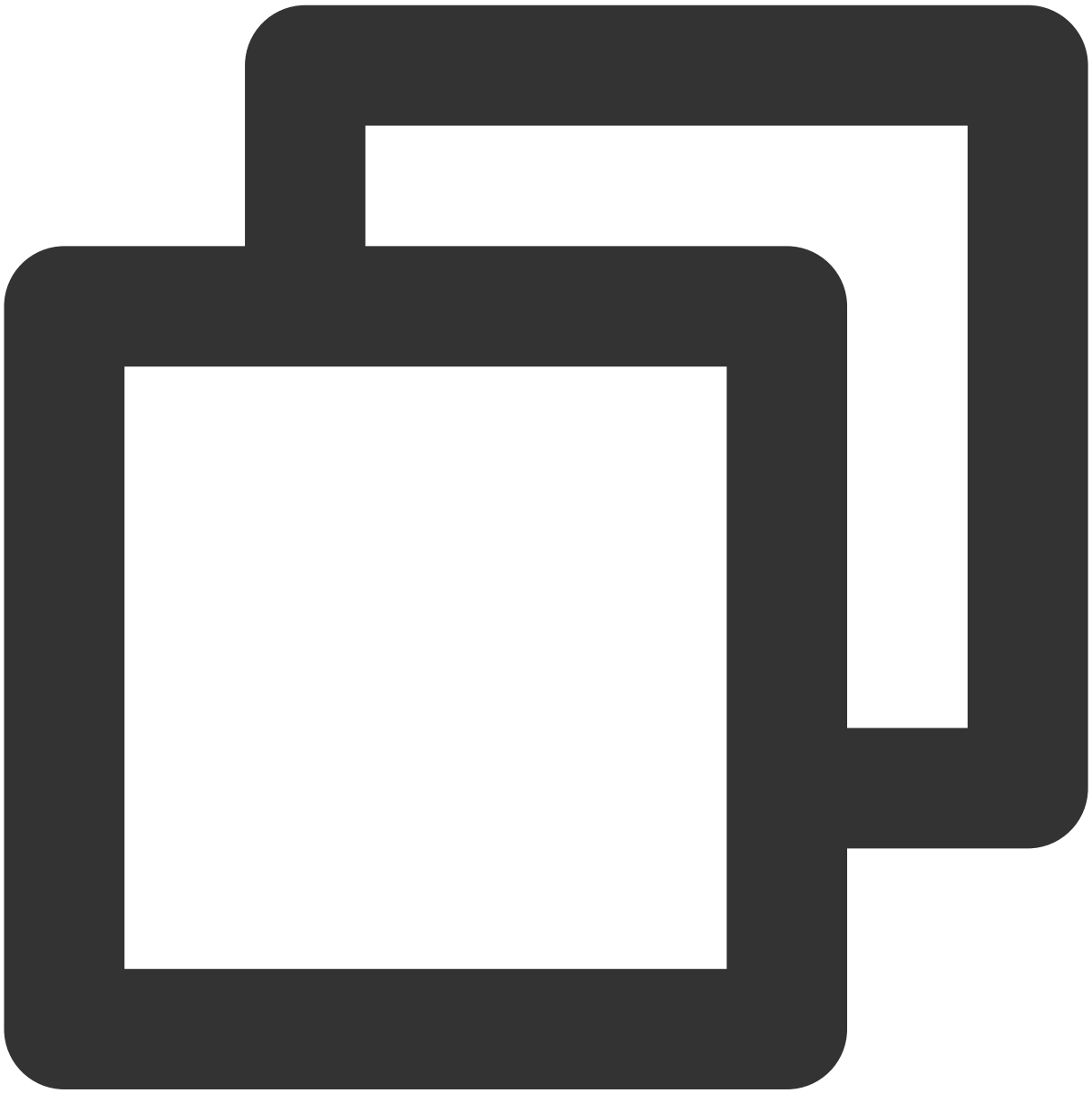
```
Future<TUIActionCallback> createRoom(TUIRoomInfo roomInfo)
```

Parameters:

Parameter	Type	Meaning
roomInfo	TUIRoomInfo	Room data

destroyRoom

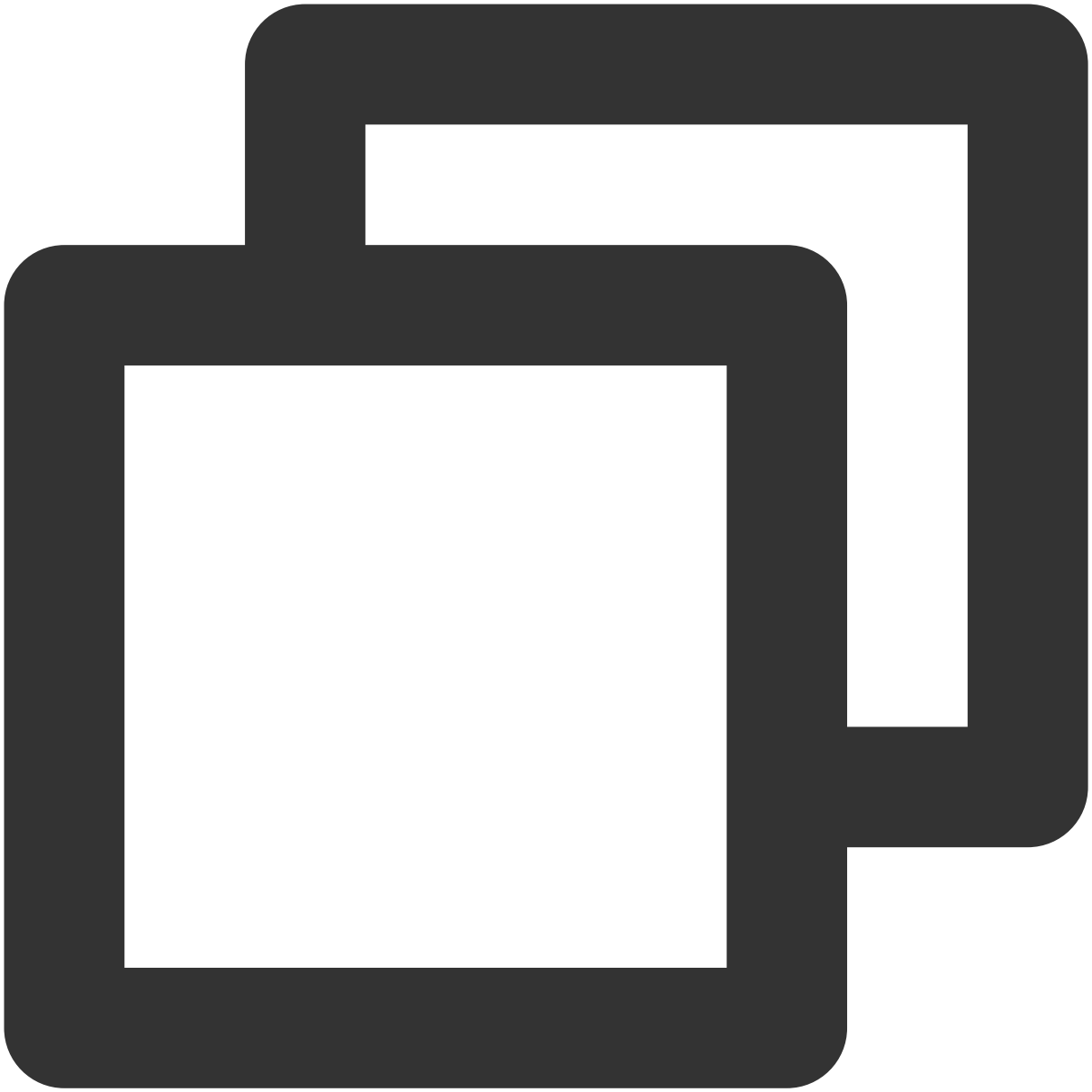
Destroy Room Interface, the room owner must initiate the destruction of the room. After the room is destroyed, it is unavailable for entry.



```
Future<TUIActionCallback> destroyRoom()
```

enterRoom

Entered room.



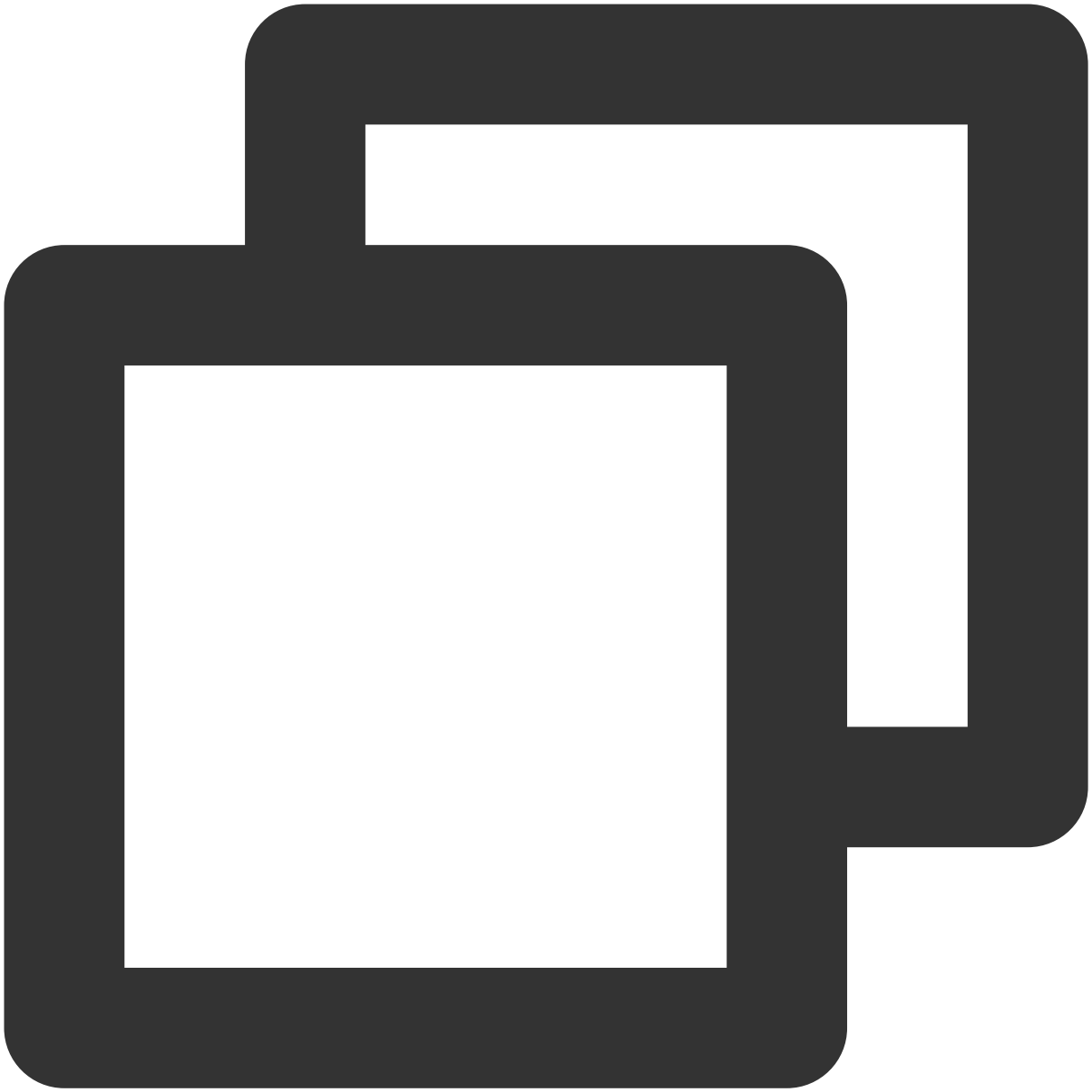
```
Future<TUIValueCallBack<TUIRoomInfo>> enterRoom(String roomId)
```

Parameters:

Parameter	Type	Meaning
roomId	String	Room ID

exitRoom

Exit Room Interface, after the user executes Enter Room, they can leave the room through Leave Room.



```
Future<TUIActionCallback> exitRoom(bool syncWaiting)
```

Parameters:

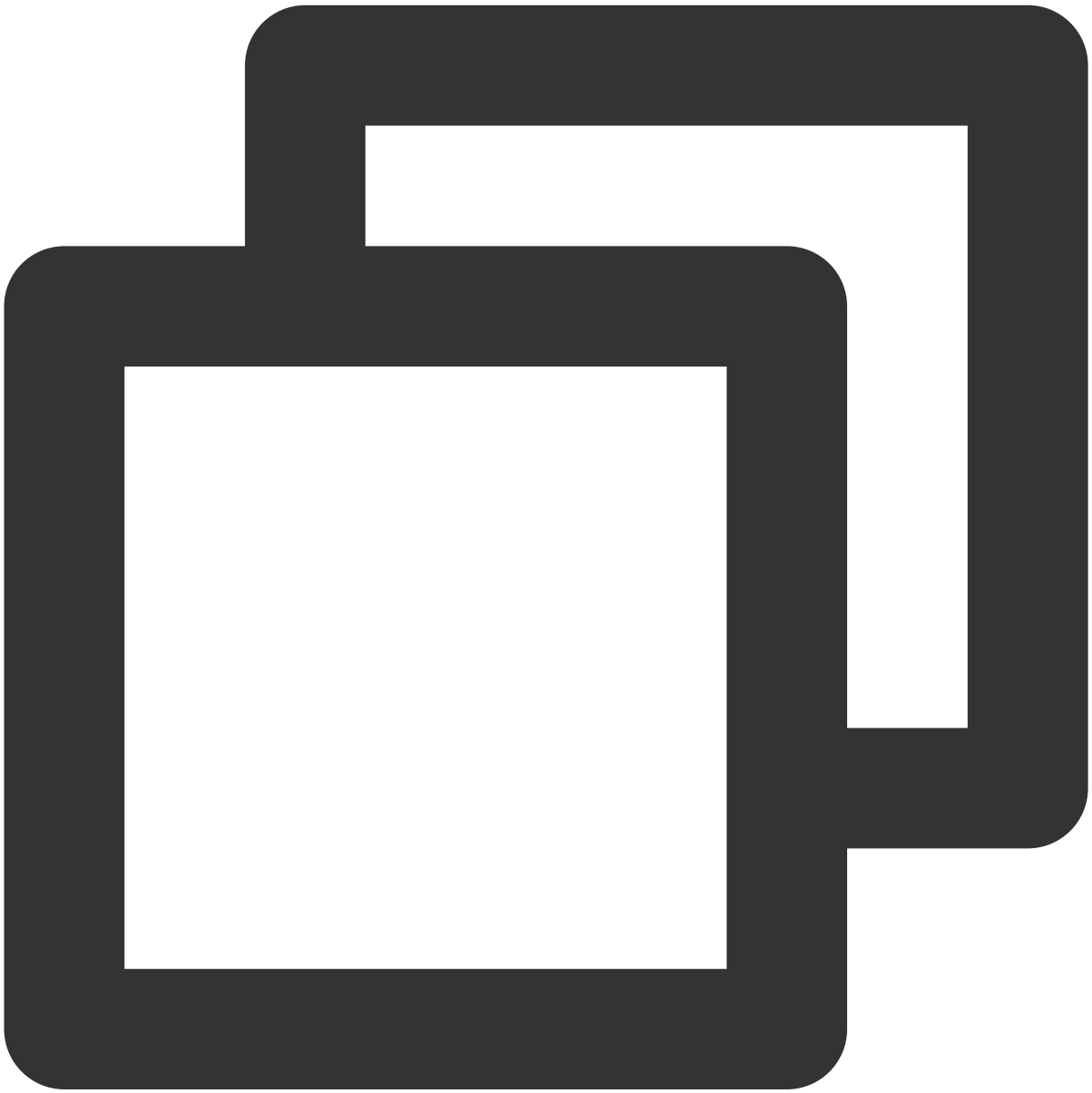
Parameter	Type	Meaning
syncWaiting	bool	Whether to synchronize leaving the room

connectOtherRoom

Connect to other rooms.

Description:

Used for live streaming scenario to apply for cross-room streaming



```
TUIRequest connectOtherRoom(String roomId,
                            String userId,
                            int timeout,
                            TUIRequestCallback? requestCallback)
```

Parameters:

Parameter	Type	Meaning

roomId	String	Room ID
userId	String	User ID
timeout	int	Time
callback	TUIRequestCallback	Connect to other rooms Callback

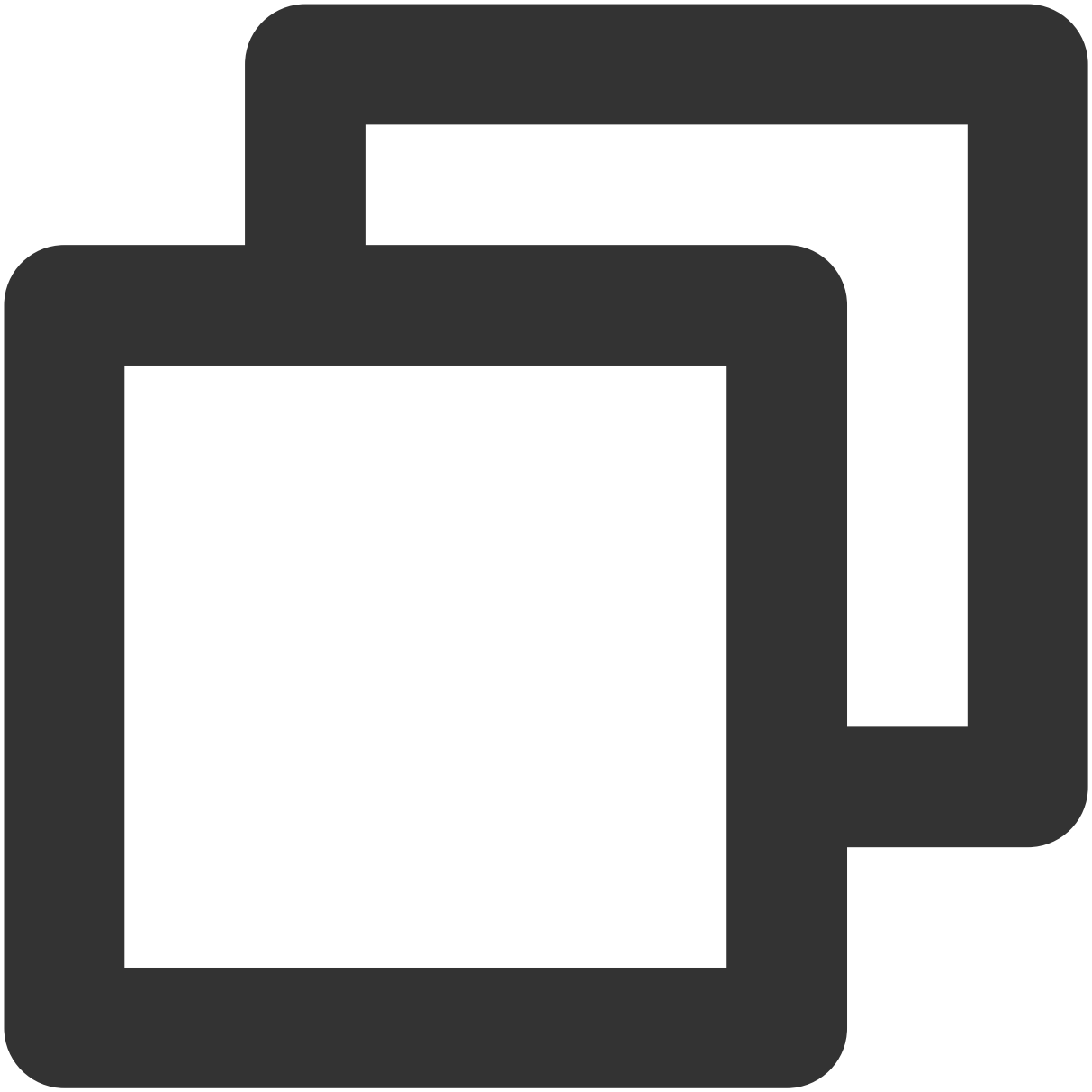
Return：Request body

disconnectOtherRoom

Disconnect from other rooms

Description:

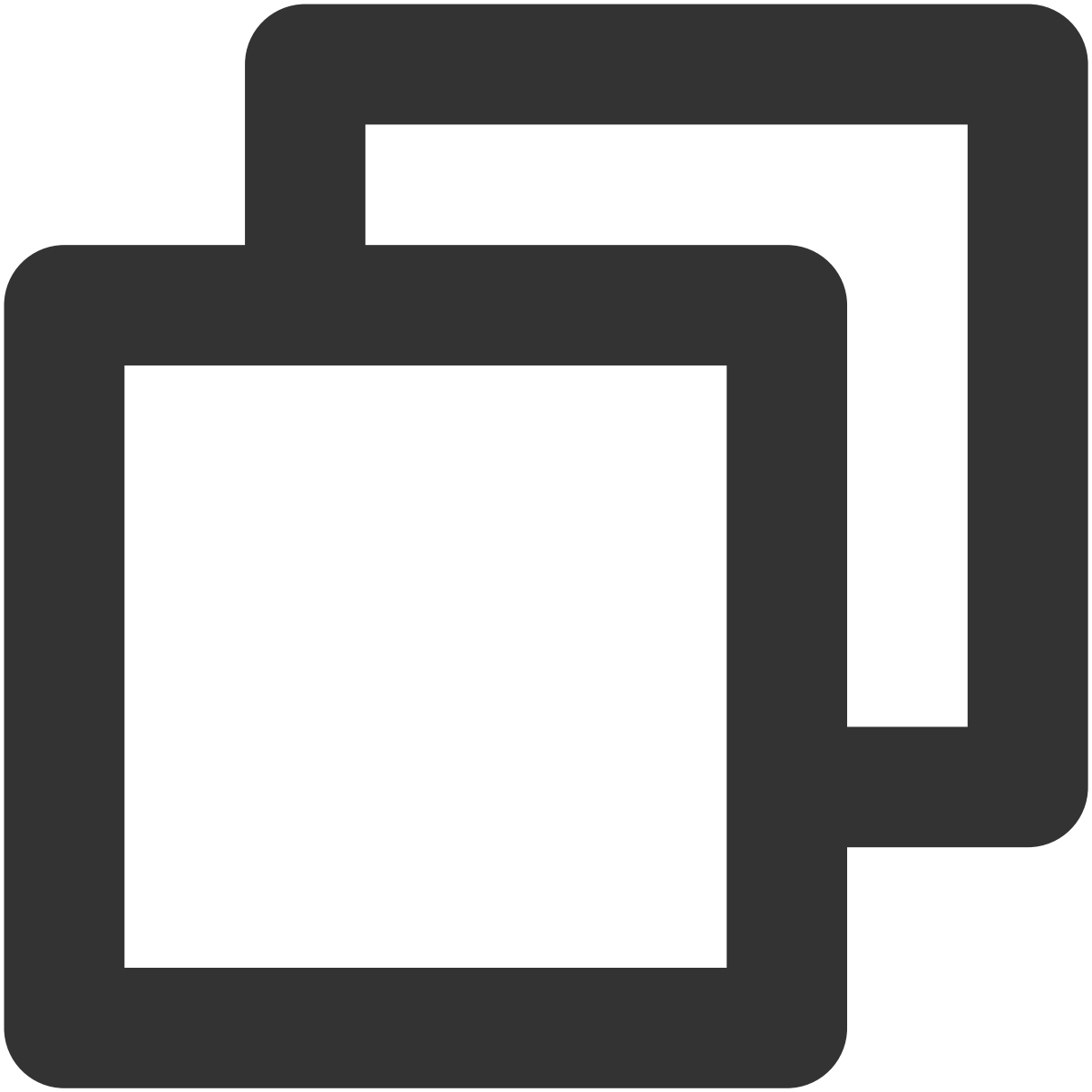
Used for live streaming scenario to disconnect cross-room streaming



```
Future<TUIActionCallback> disconnectOtherRoom()
```

fetchRoomInfo

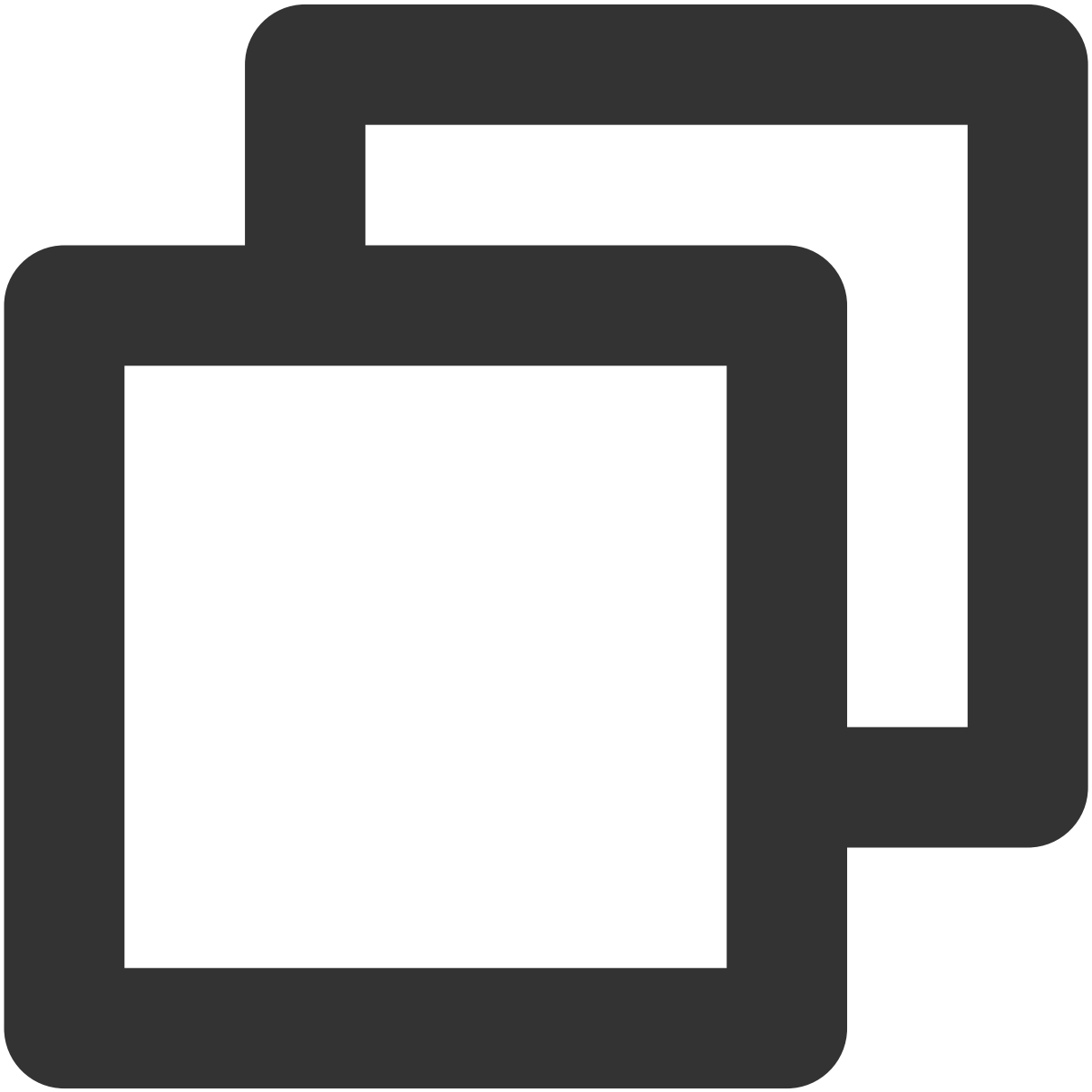
Get Room data.



```
Future<TUIValueCallBack<TUIRoomInfo>> fetchRoomInfo()
```

updateRoomNameByAdmin

Update Room ID.



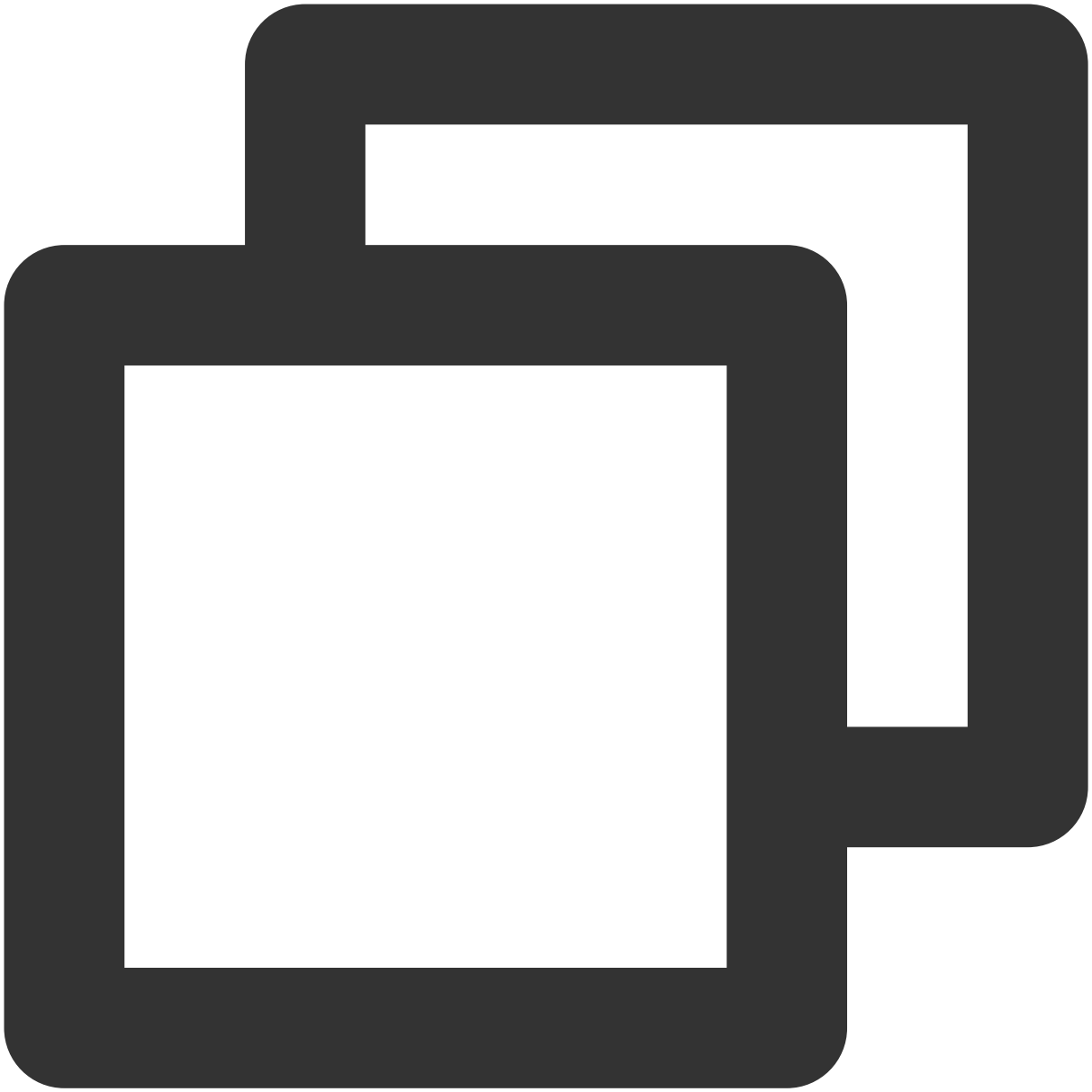
```
Future<TUIActionCallback> updateRoomNameByAdmin(String roomName)
```

Parameters:

Parameter	Type	Meaning
roomName	String	Room ID

updateRoomSpeechModeByAdmin

Set Management mode (only Administrator or Group owner can call).

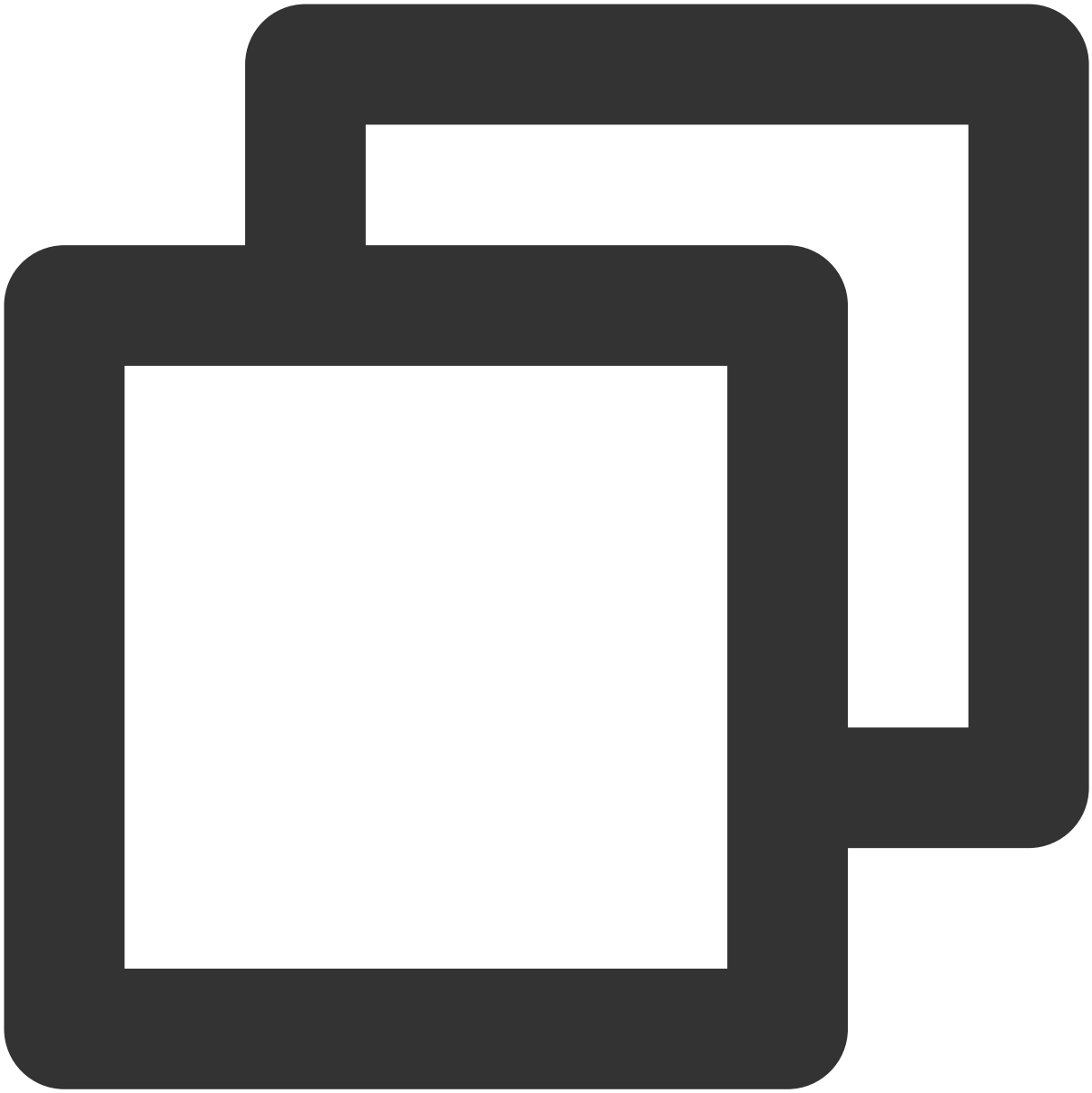


```
Future<TUIActionCallback> updateRoomSpeechModeByAdmin(TUISpeechMode mode)
```

Parameter	Type	Meaning
mode	TUISpeechMode	Management mode

setLocalVideoView

Set Local user Video Rendering View control.



```
void setLocalVideoView(TUIVideoStreamType streamType,
                       int viewId)
```

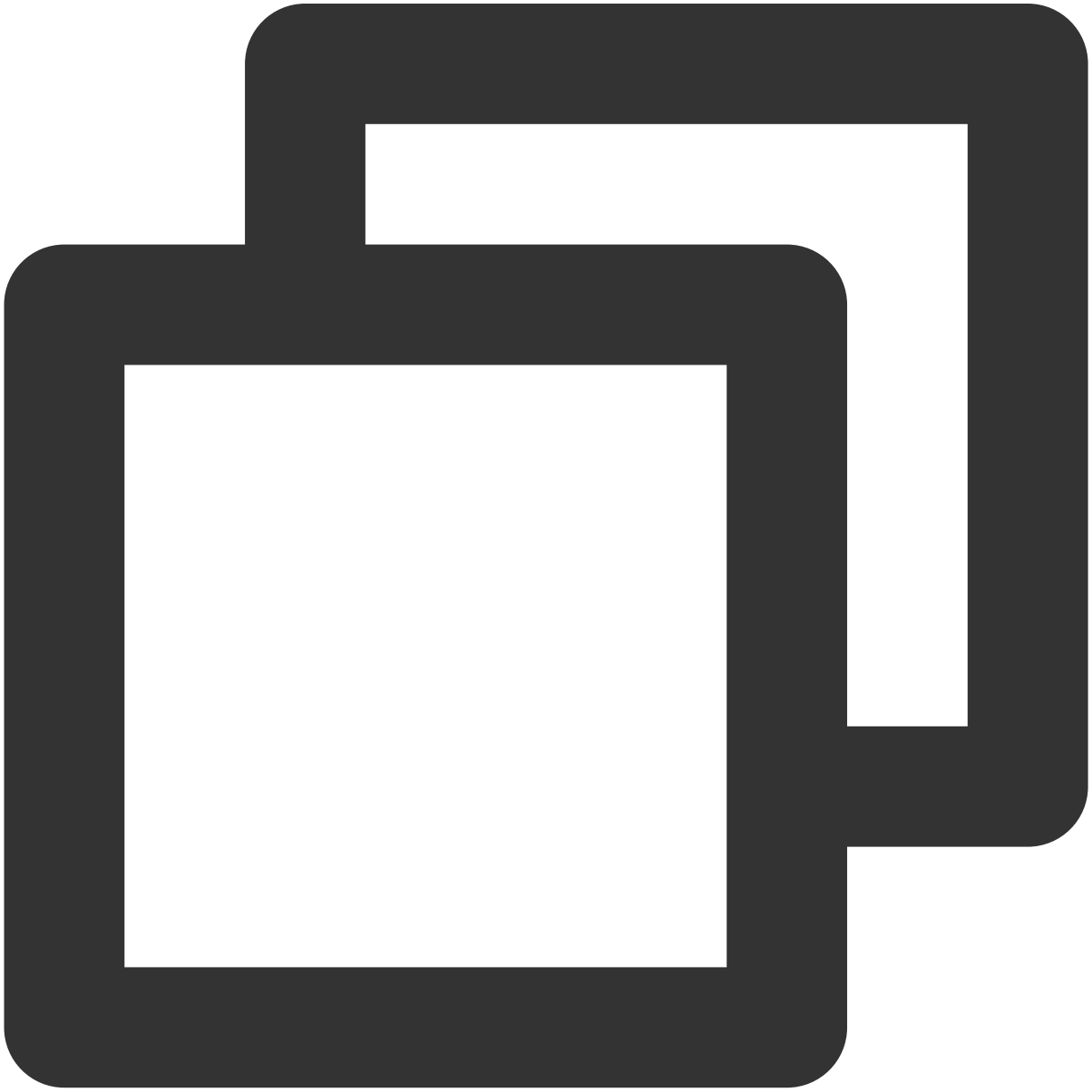
Parameters:

Parameter	Type	Meaning
streamType	TUIVideoStreamType	Local streams type
viewId	int	The int64 type value of the pointer to the view to be rendered, through this viewId, can be converted to the

		corresponding native platform view, and the video screen will be rendered on this view.

openLocalCamera

Open Local Camera, Start Video Capturing.



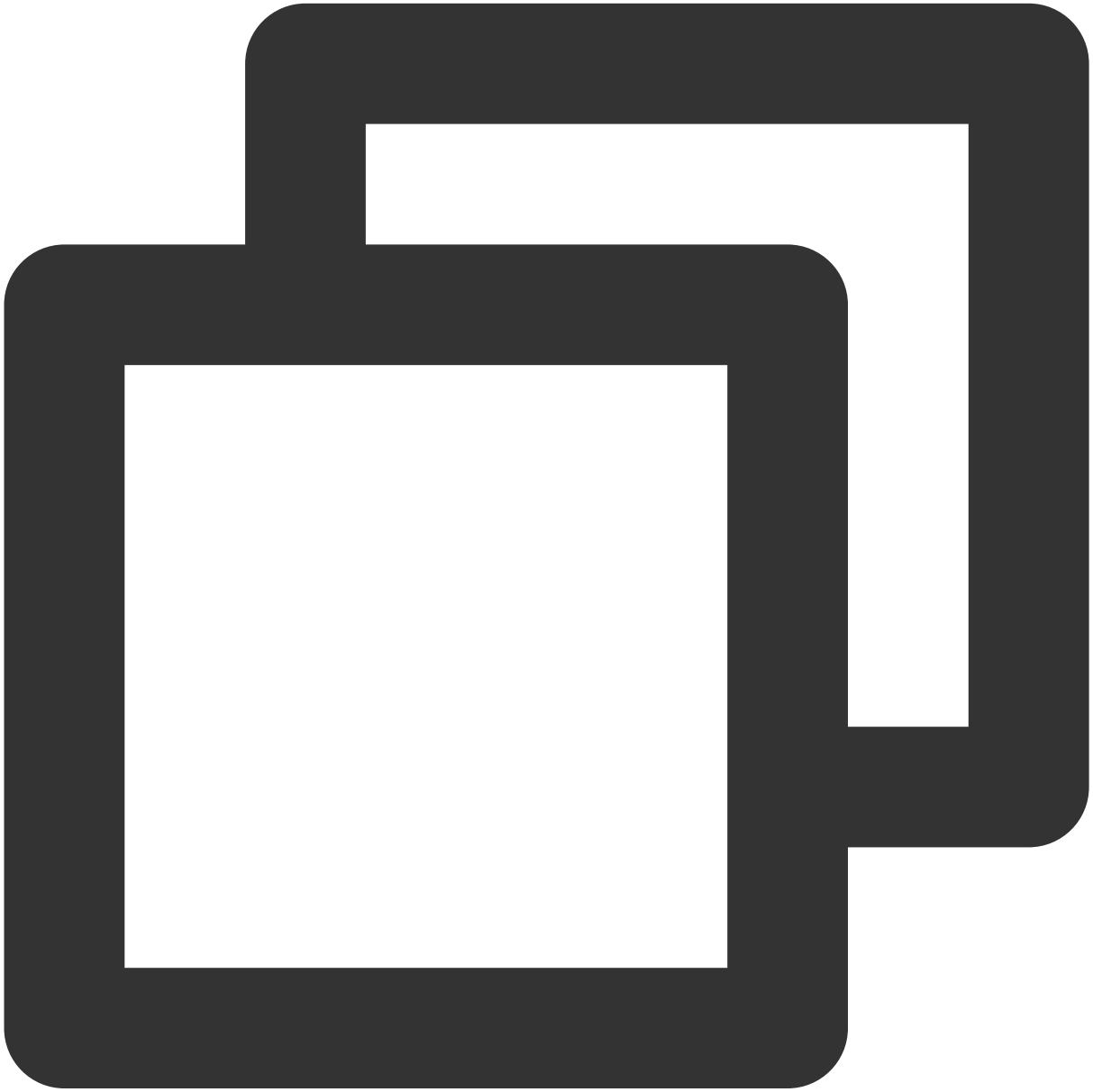
```
Future<TUIActionCallback> openLocalCamera(bool isFront,
                                  TUIVideoQuality quality)
```

Parameters:

Parameter	Type	Meaning
isFront	bool	Whether to use Front Camera
quality	TUIVideoQuality	Video Quality

closeLocalCamera

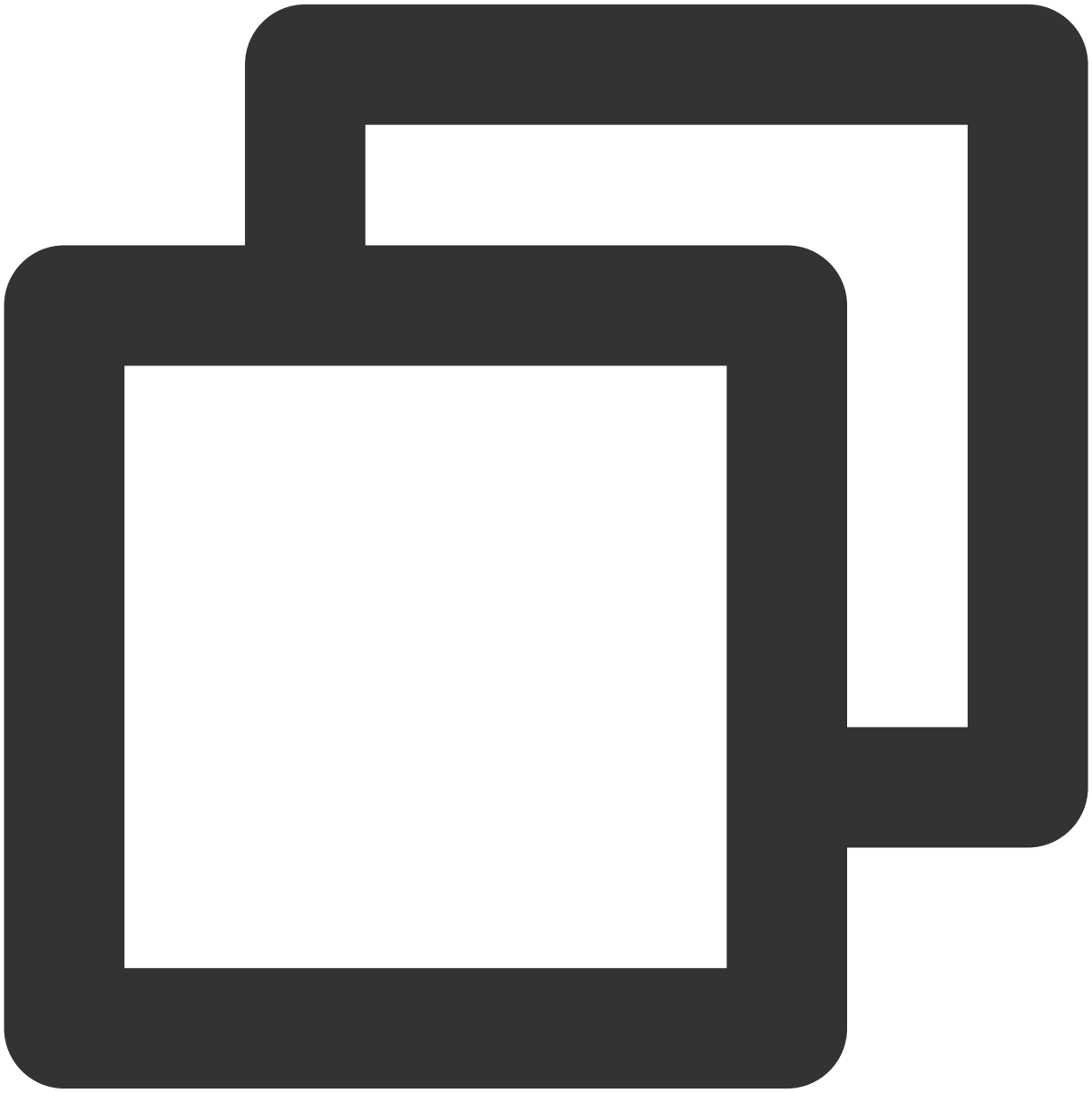
Close Local Camera.



```
void closeLocalCamera()
```

updateVideoQuality

Set Local Video Parameter.



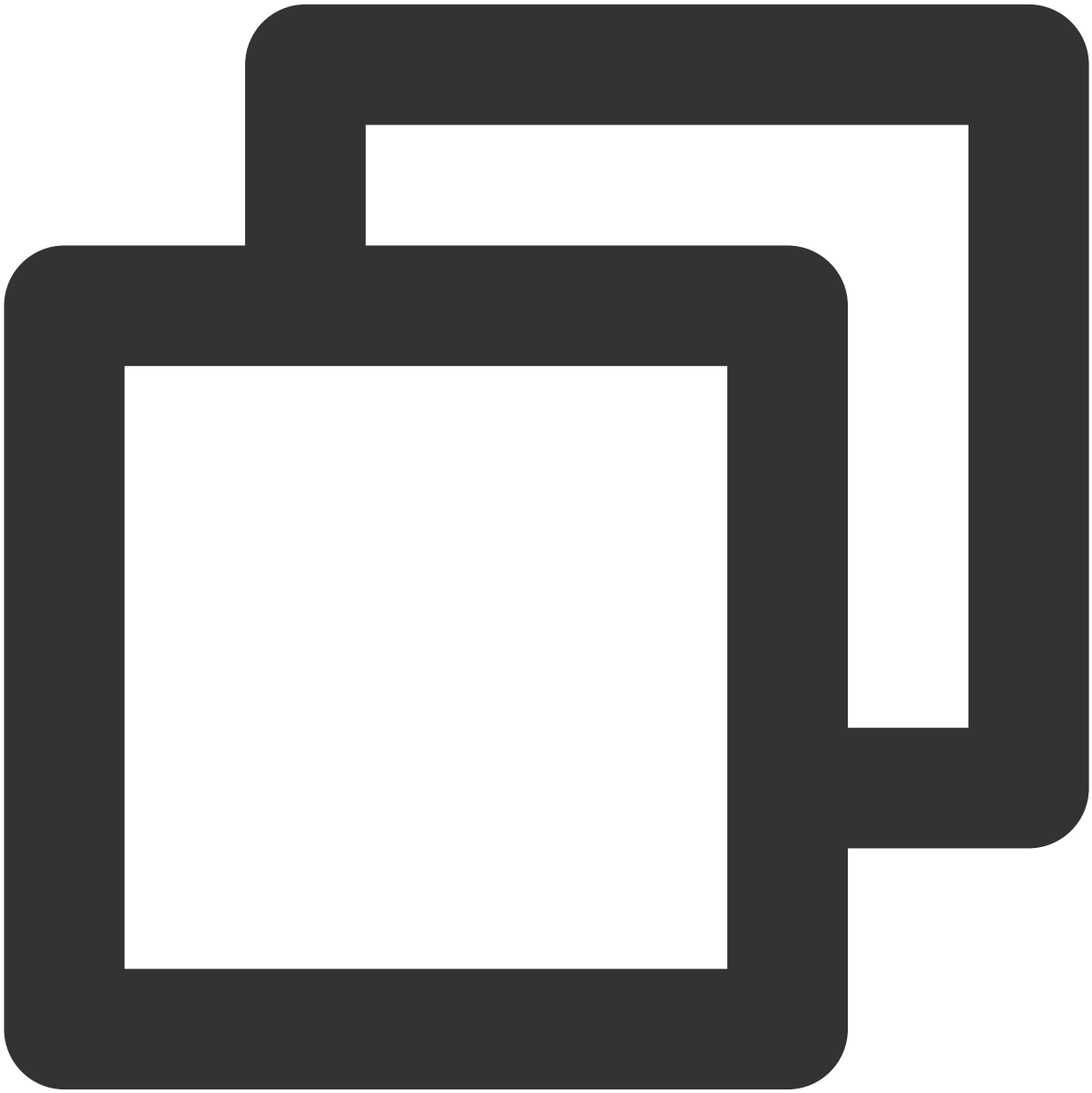
```
void updateVideoQuality(TUIVideoQuality quality)
```

Parameters:

Parameter	Type	Meaning
quality	TUIVideoQuality	Video Quality

updateVideoQualityEx

Set the encoding parameters of video encoder。

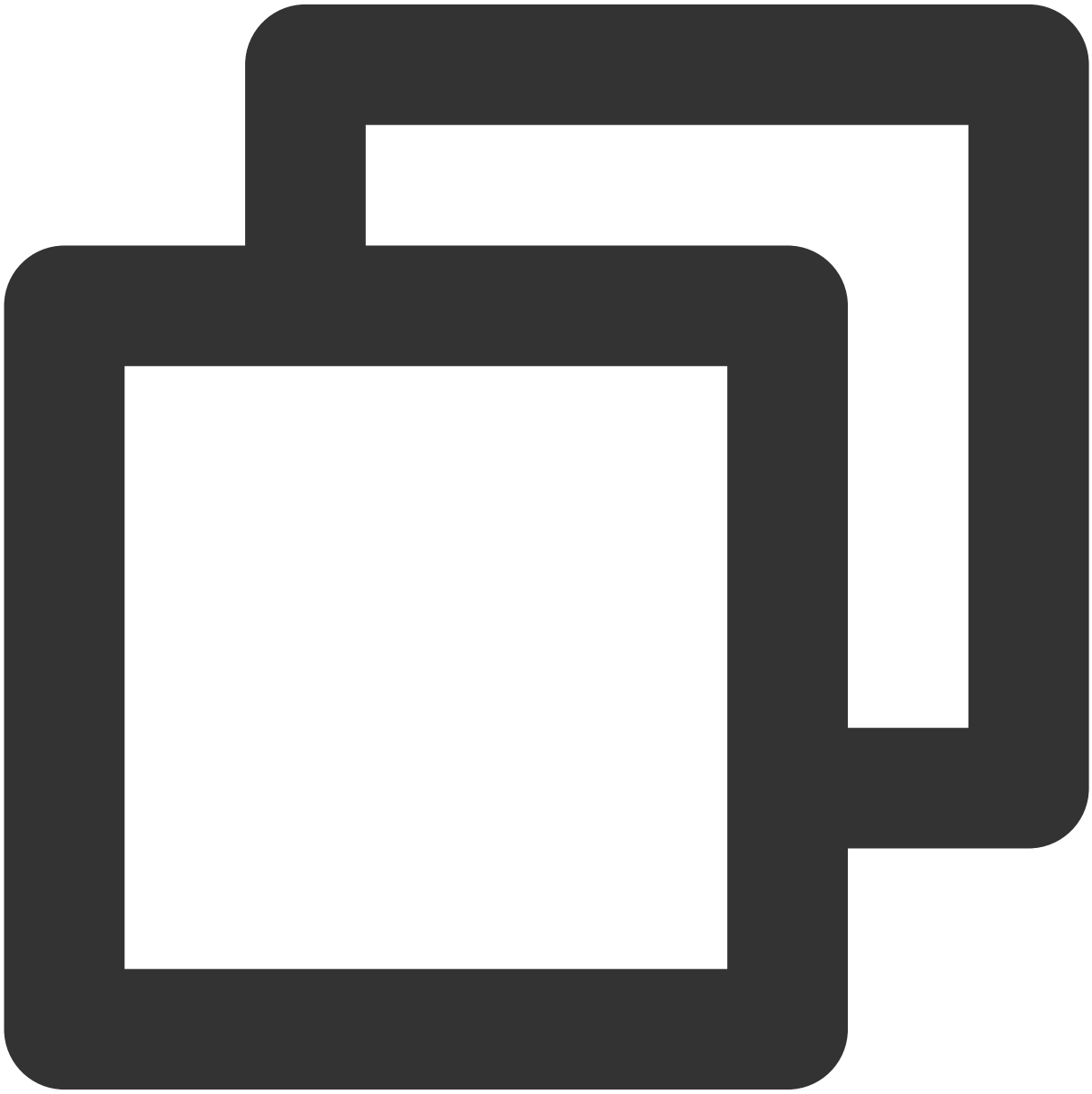


```
void updateVideoQualityEx(
      TUIVideoStreamType streamType, TUIRoomVideoEncoderParams params);
```

Parameter	Type	Meaning
streamType	TUIVideoStreamType	Video Stream type
params	TUIRoomVideoEncoderParams	Encoding parameters of video encoder

setVideoResolutionMode

Set the resolution mode of video encoder



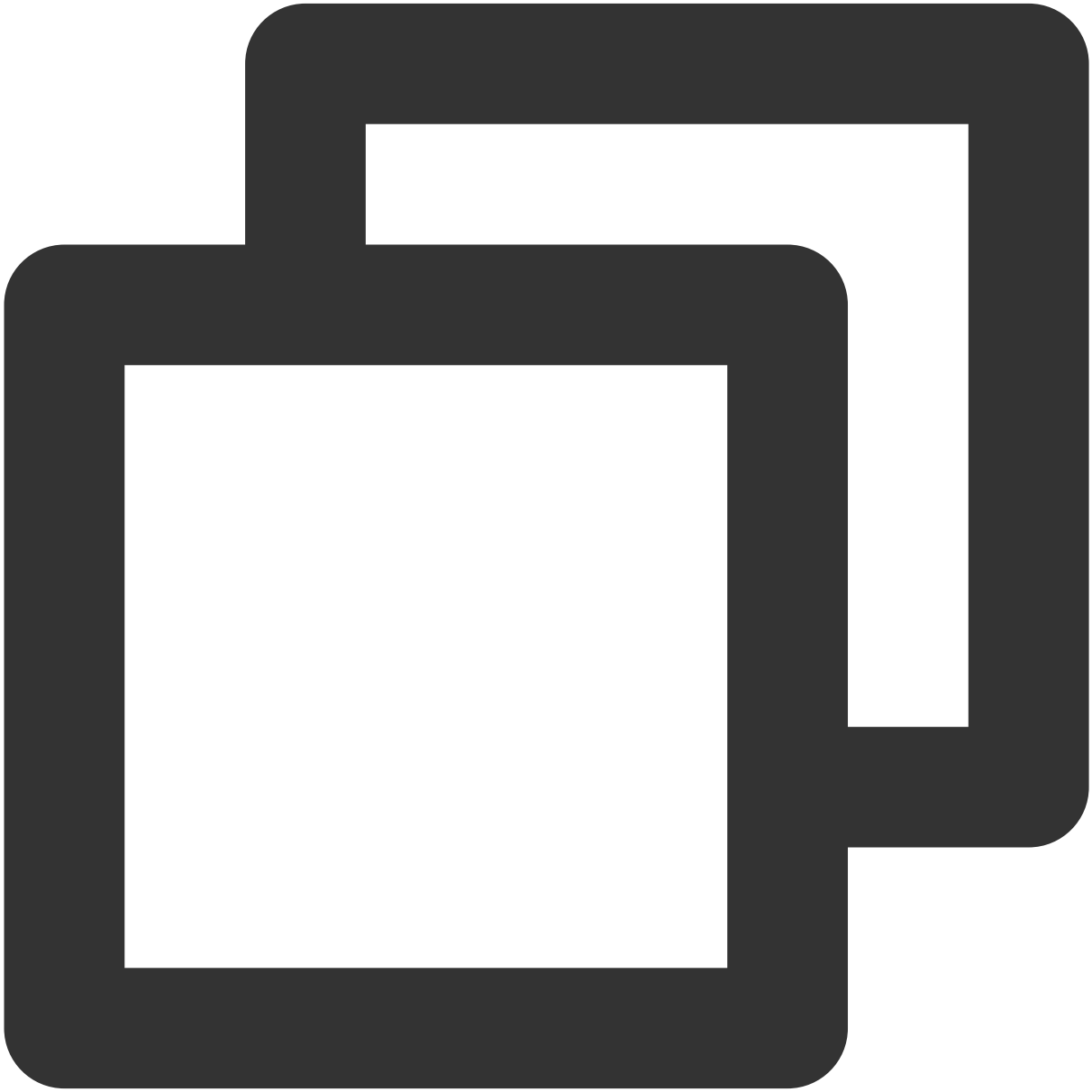
```
void setVideoResolutionMode(
      TUIVideoStreamType streamType, TUIResolutionMode resolutionMode);
```

Parameter	Type	Meaning
streamType	TUIVideoStreamType	Video Stream type

resolutionMode	TUIResolutionMode	Video resolution mode

enableGravitySensor

Enable the gravity sensor

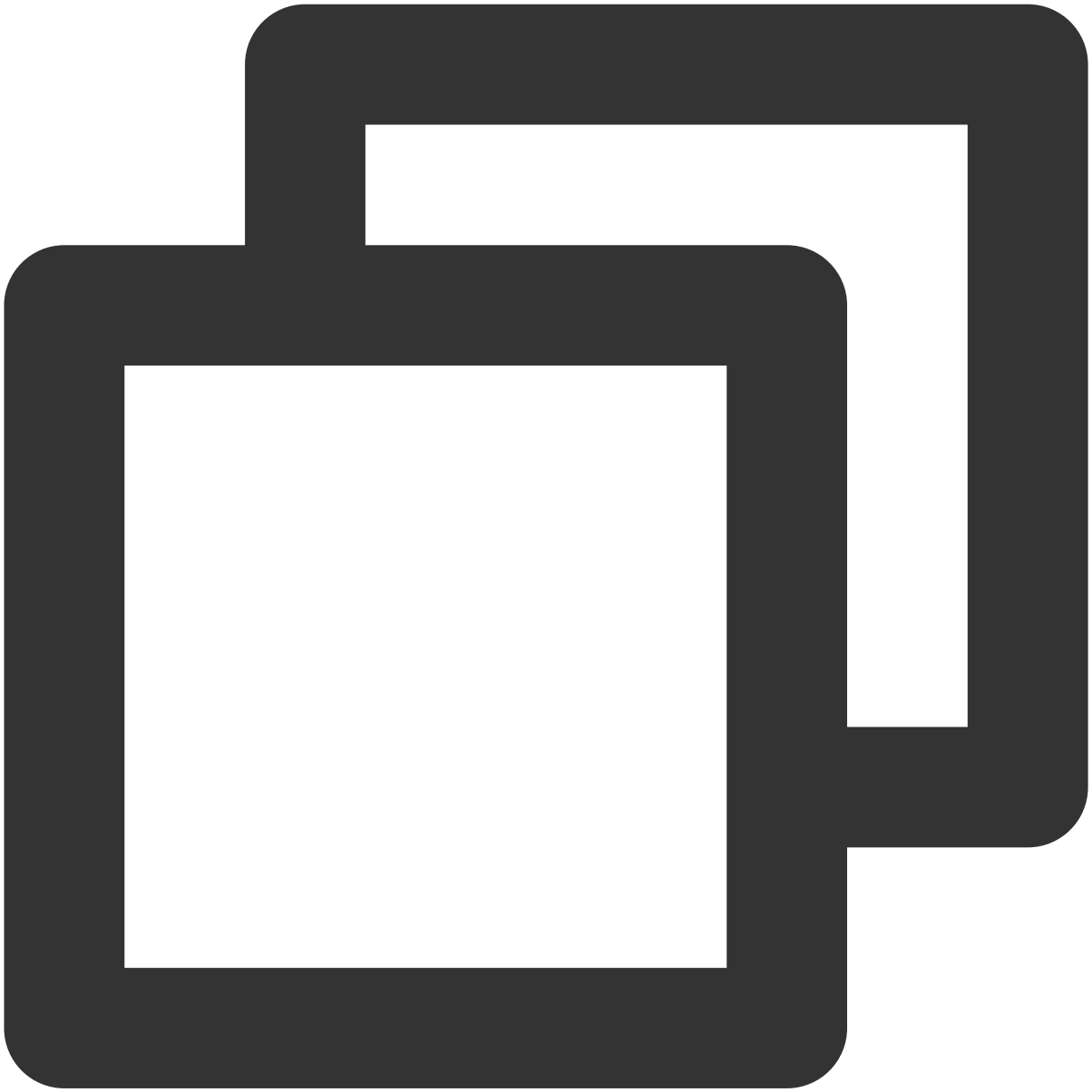


```
void enableGravitySensor(bool enable);
```

Parameter	Type	Meaning
enable	bool	Whether to enable

startPushLocalVideo

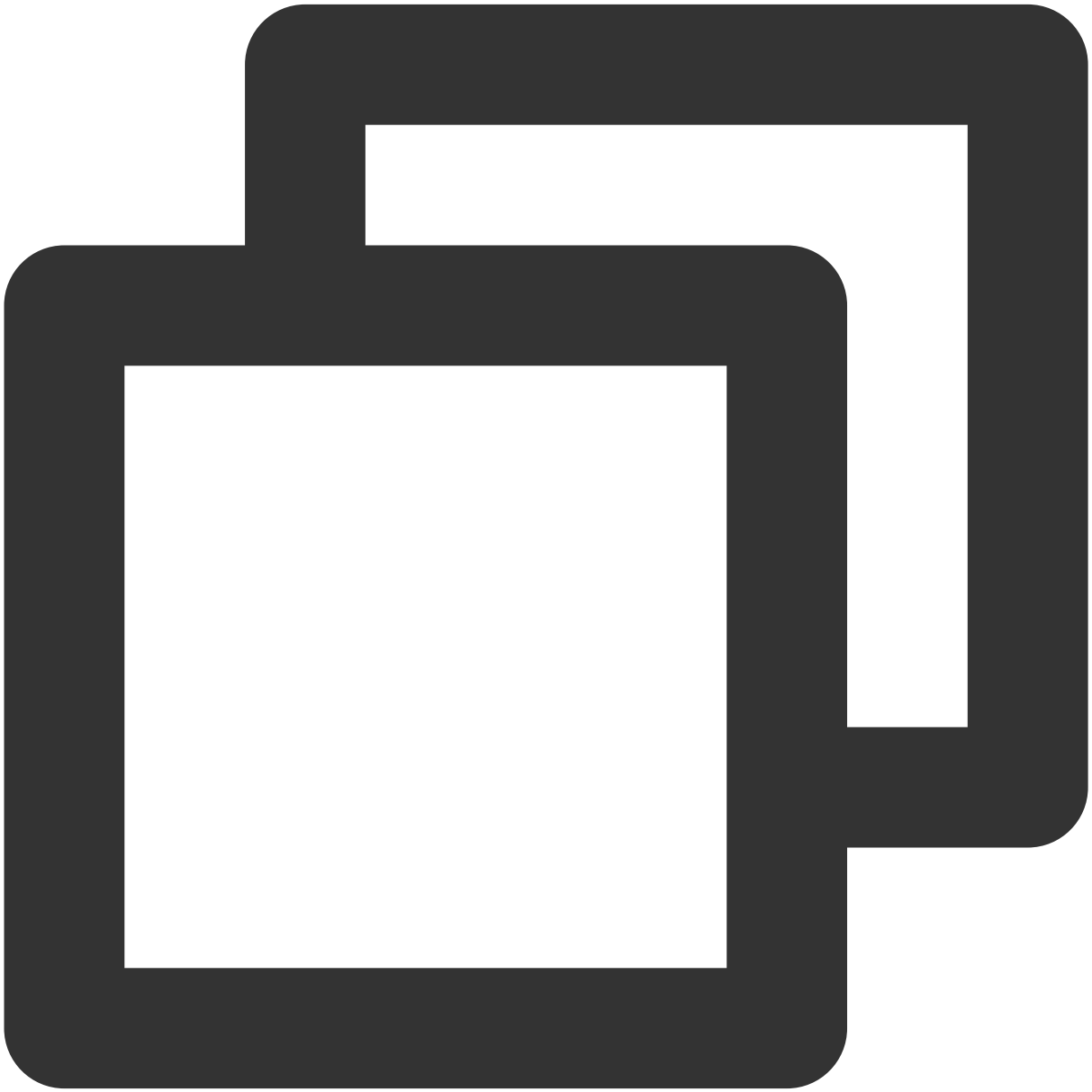
Start pushing Local Video streams to Remote.



```
void startPushLocalVideo()
```

stopPushLocalVideo

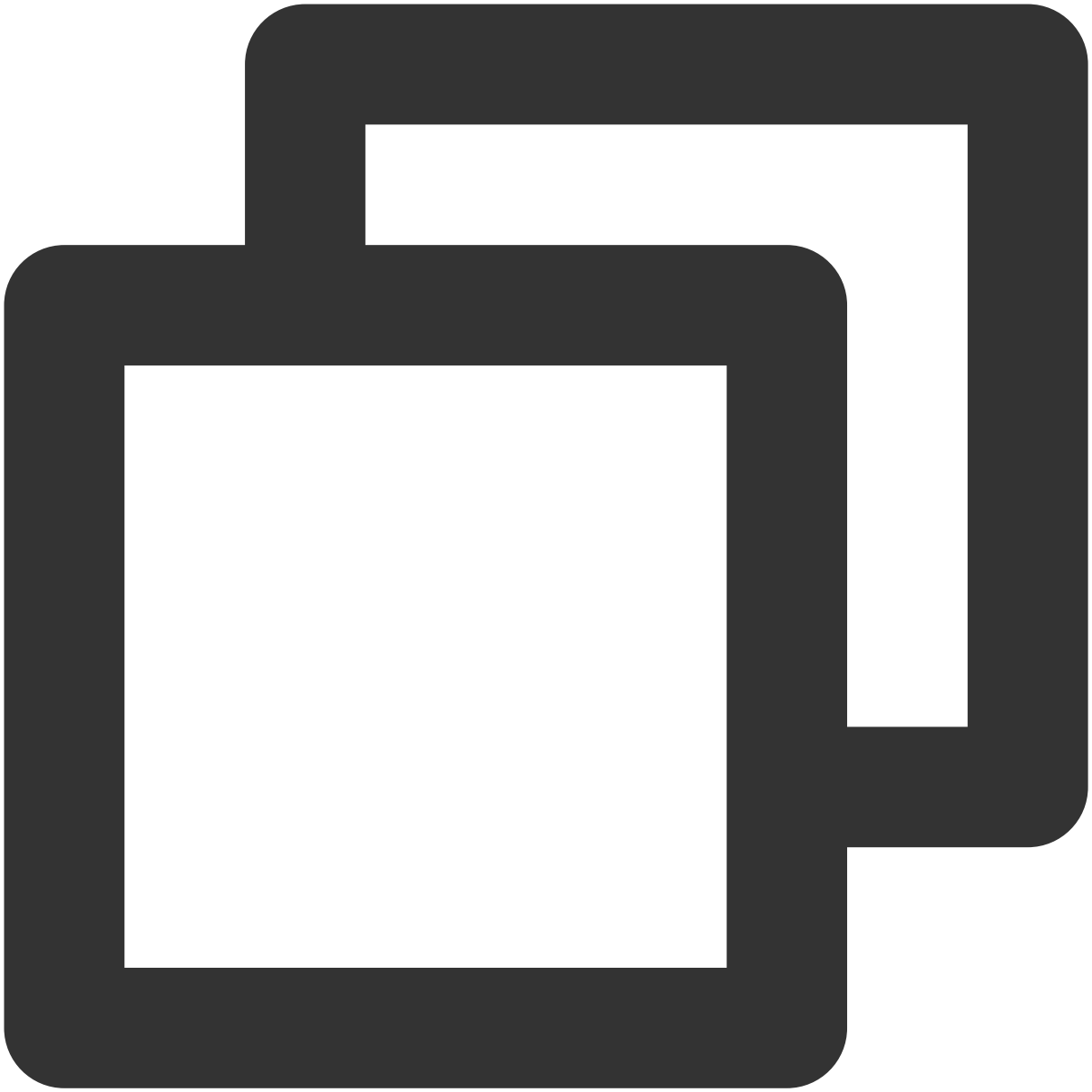
Stop pushing Local Video streams to Remote.



```
void stopPushLocalVideo()
```

startScreenSharing

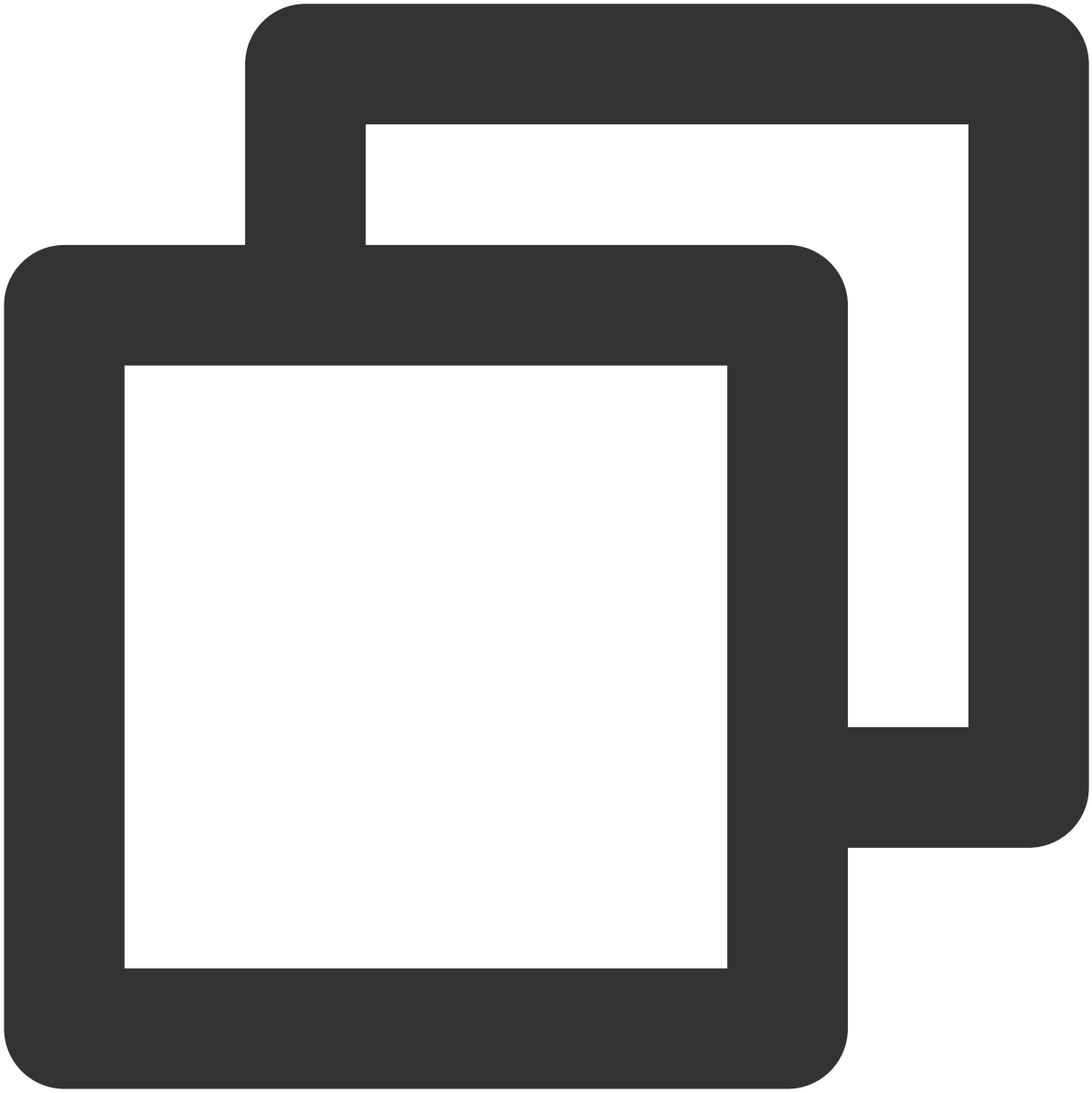
Start screen sharing



```
Future<void> startScreenSharing({String appGroup = ''})
```

stopScreenSharing

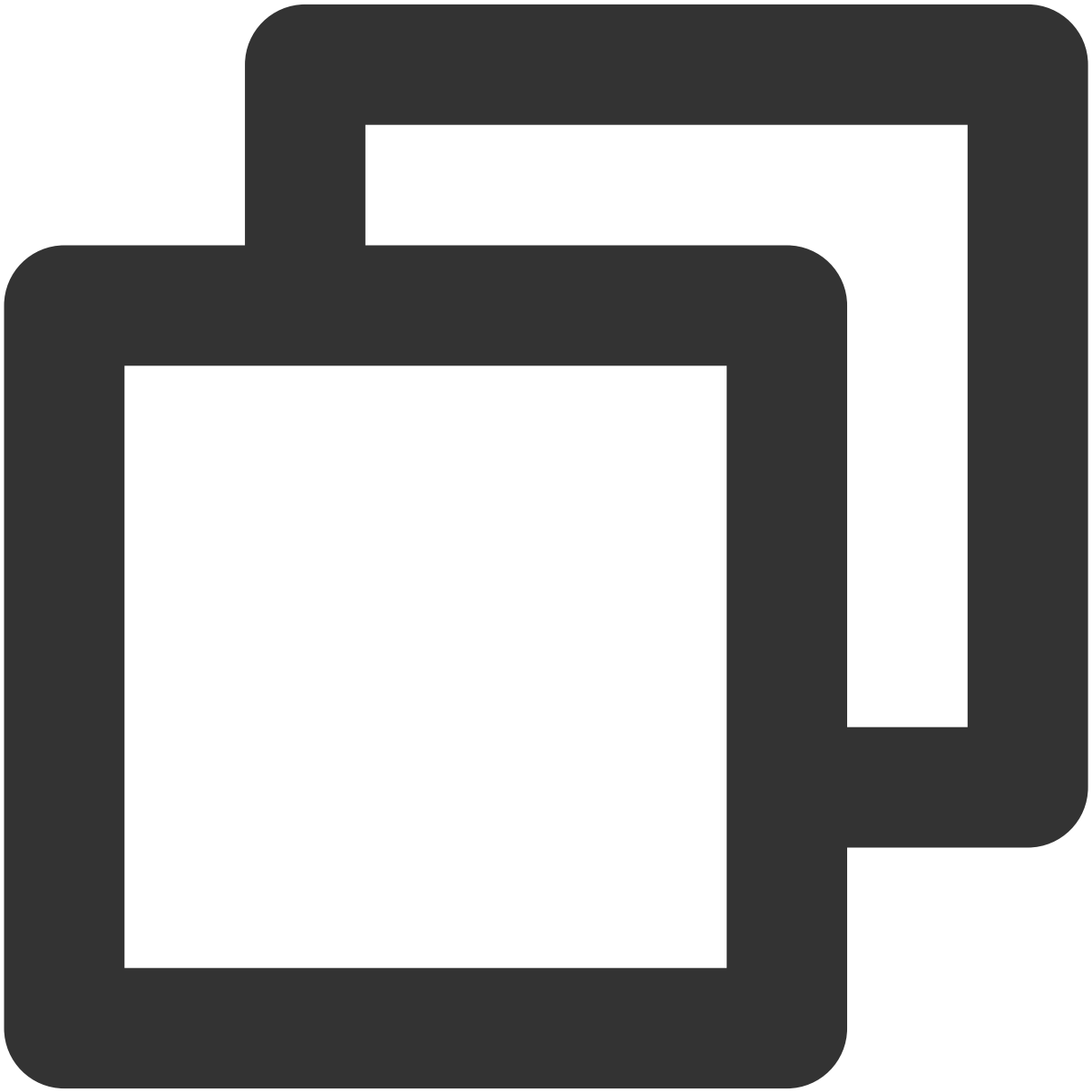
Stop screen sharing



```
Future<void> stopScreenSharing()
```

openLocalMicrophone

Open Local mic.

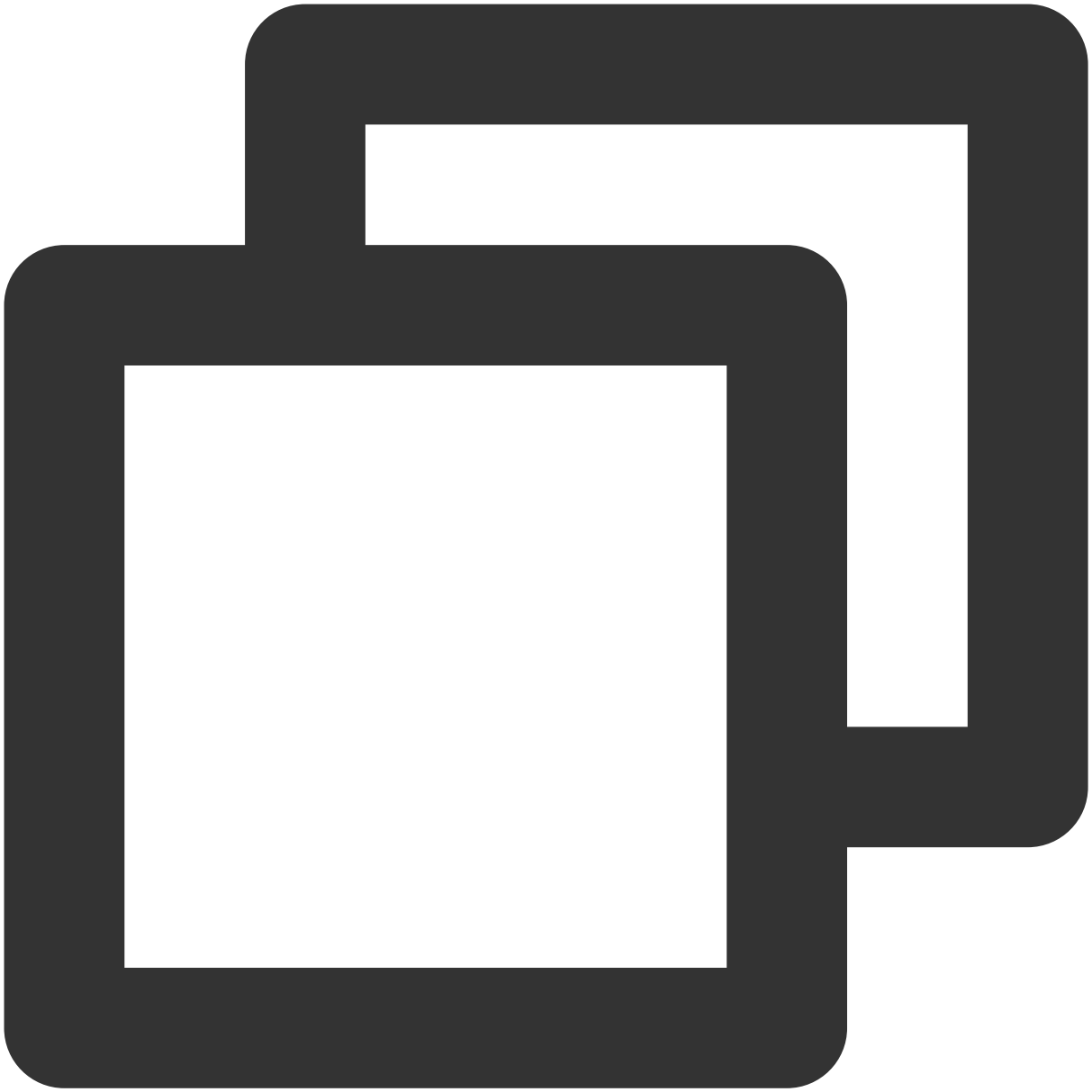


```
Future<TUIActionCallback> openLocalMicrophone(TUIAudioQuality quality)
```

Parameter	Type	Meaning
quality	TUIAudioQuality	Audio Quality

closeLocalMicrophone

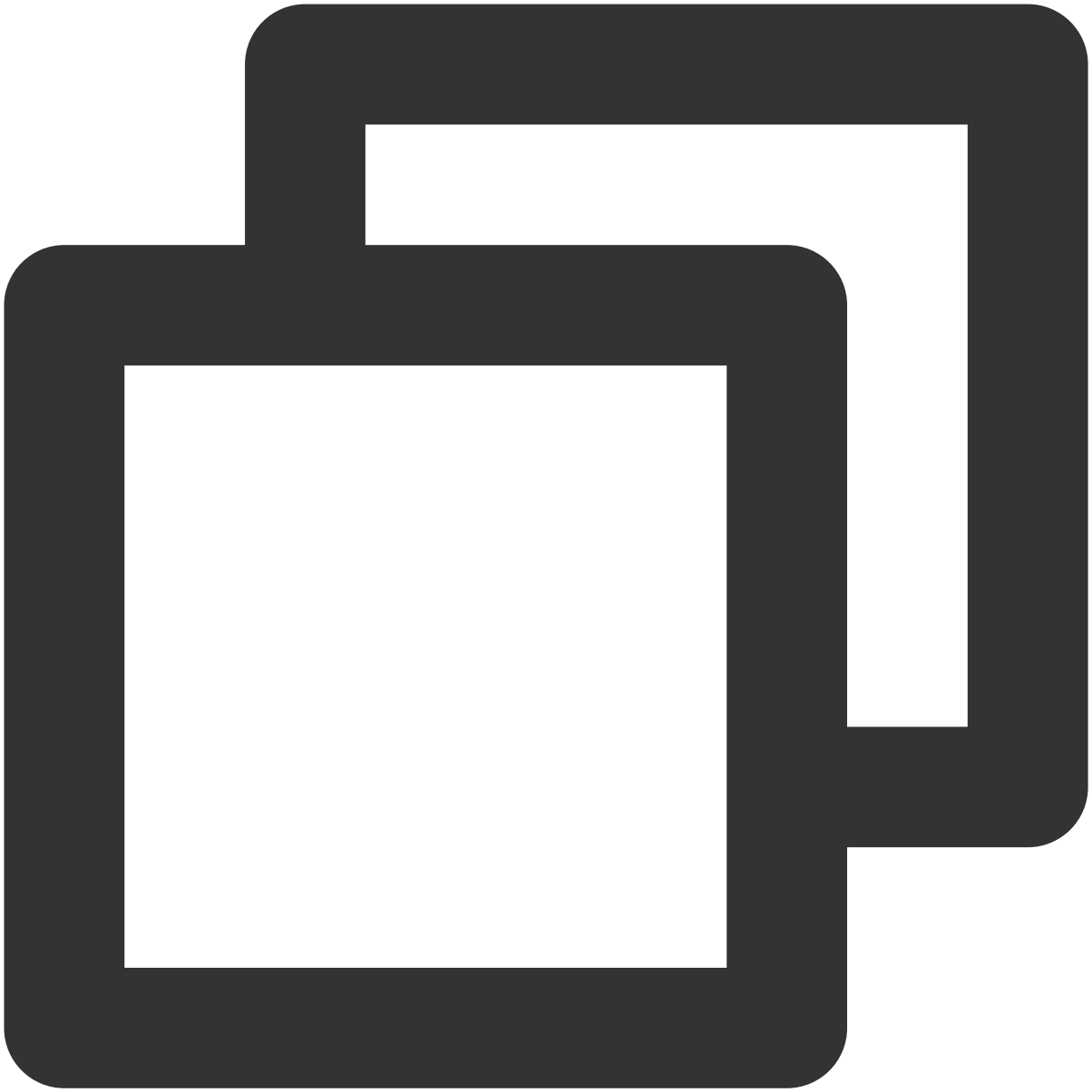
Close Local mic.



```
void closeLocalMicrophone()
```

updateAudioQuality

Update Local Audio Codec Quality setting.



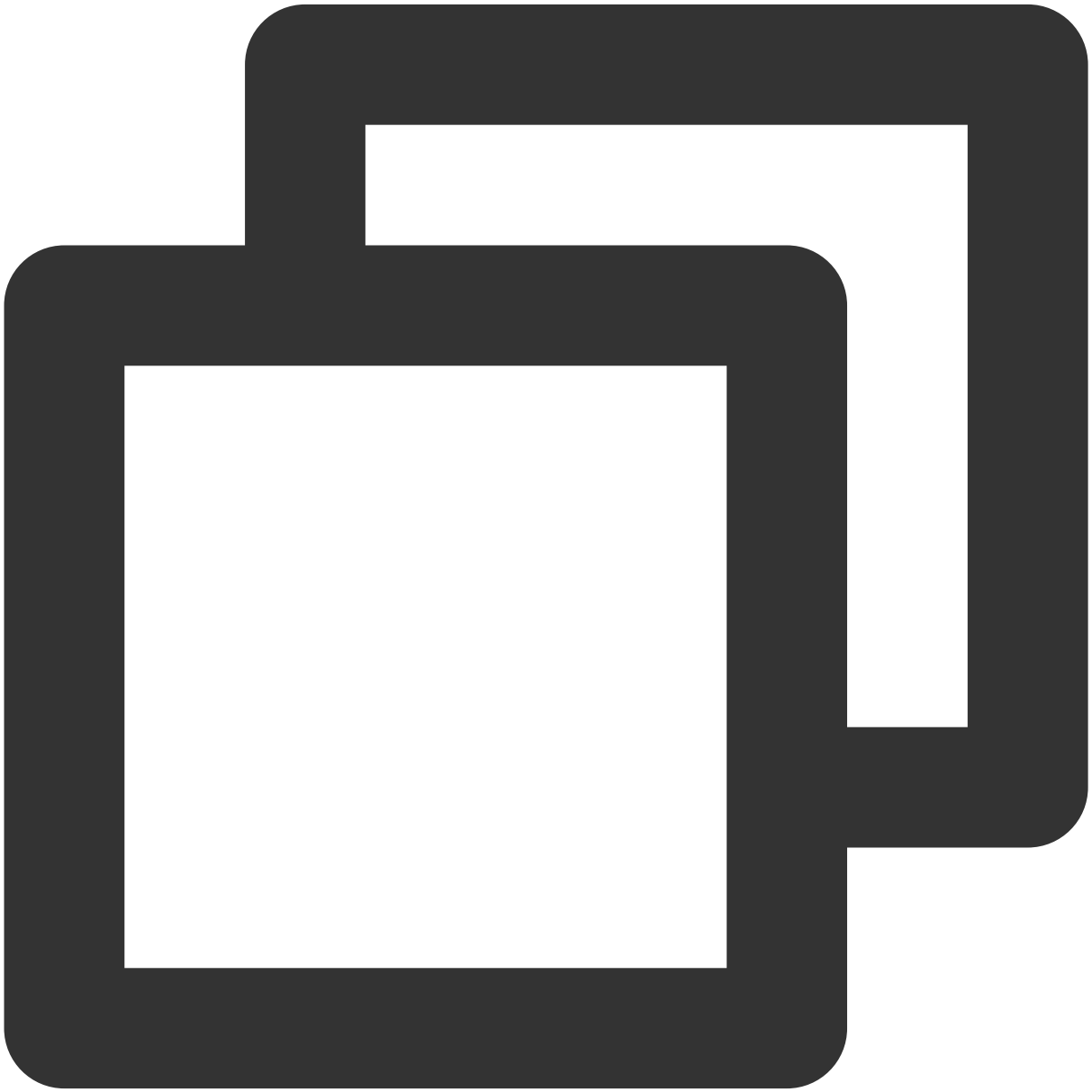
```
void updateAudioQuality(TUIAudioQuality quality)
```

Parameters:

Parameter	Type	Meaning
quality	TUIAudioQuality	Audio Quality

muteLocalAudio

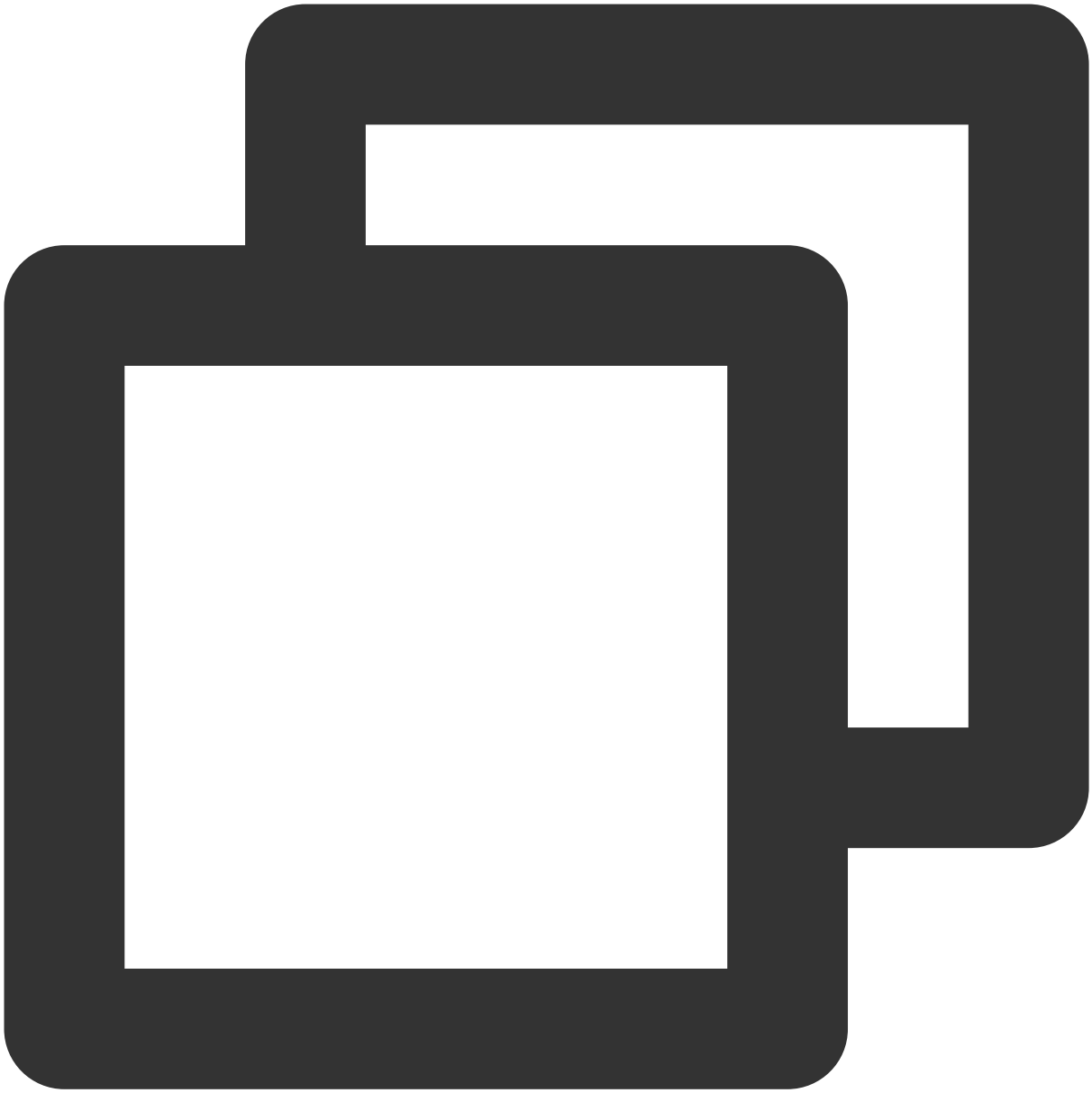
Mute local audio



```
Future<TUIActionCallback> muteLocalAudio()
```

unMuteLocalAudio

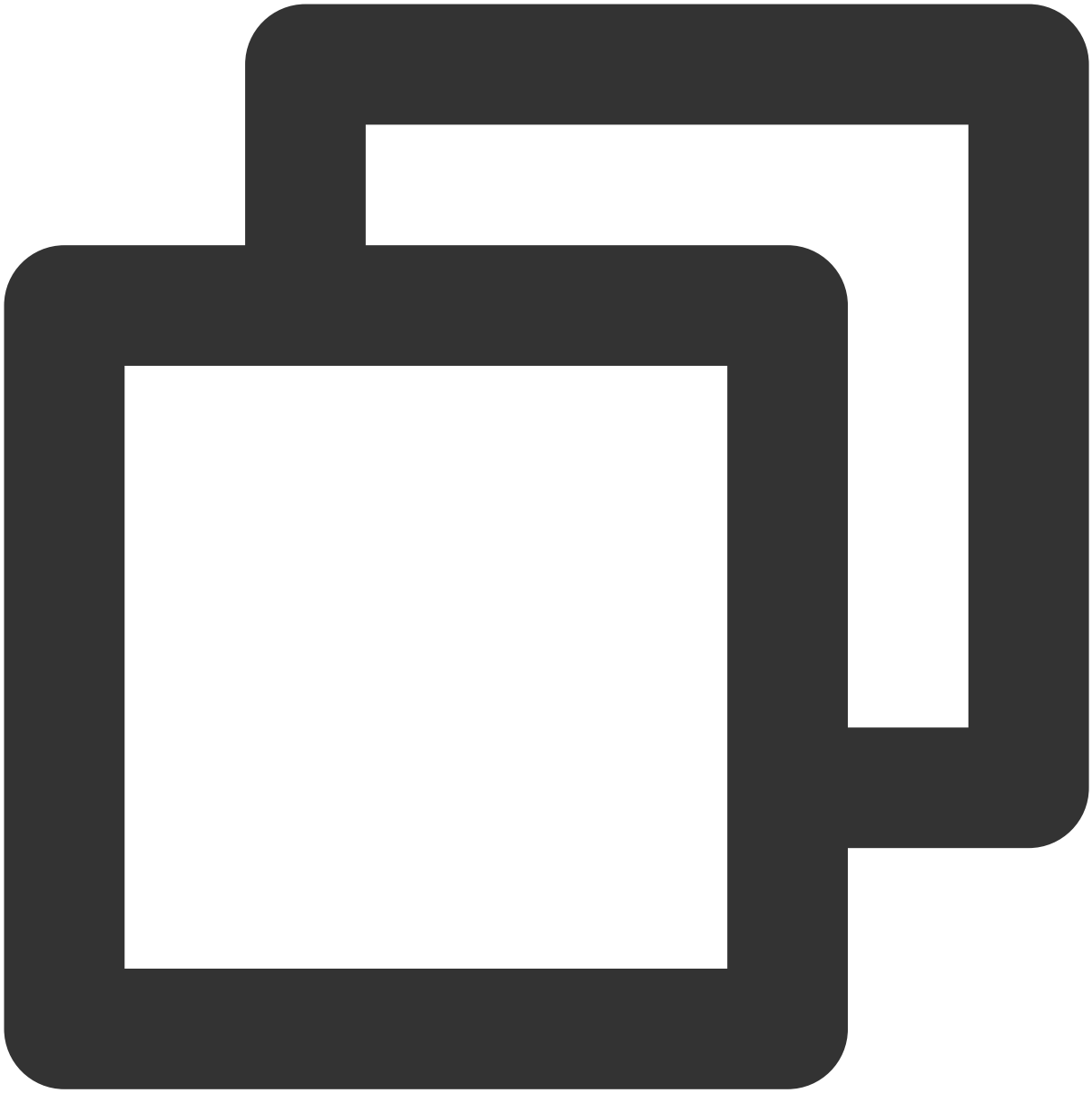
UnMute local audio



```
Future<TUIActionCallback> unMuteLocalAudio()
```

setRemoteVideoView

Set Remote user Video Rendering View control.



```
void setRemoteVideoView(String userId,
                        TUIVideoStreamType streamType,
                        int viewId)
```

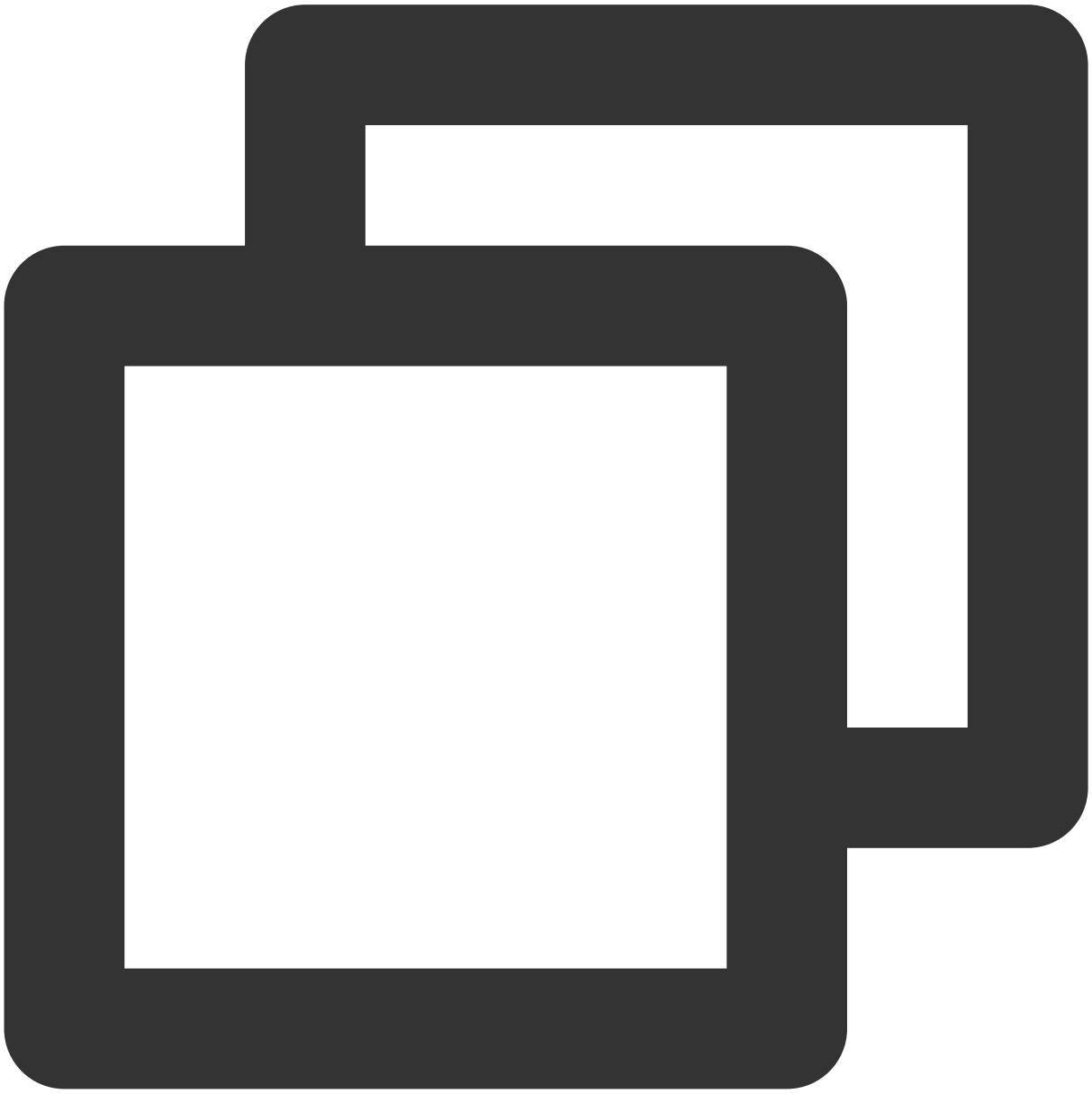
Parameters:

Parameter	Type	Meaning
userId	String	User ID
streamType	TUIVideoStreamType	User streams type

viewId	int	The int64 type value of the pointer to the view to be rendered, through this viewId, can be converted to the corresponding native platform view, and the video screen will be rendered on this view.

startPlayRemoteVideo

Start Playback Remote user Video streams.



```
void startPlayRemoteVideo(String userId,
                          TUIVideoStreamType streamType,
```

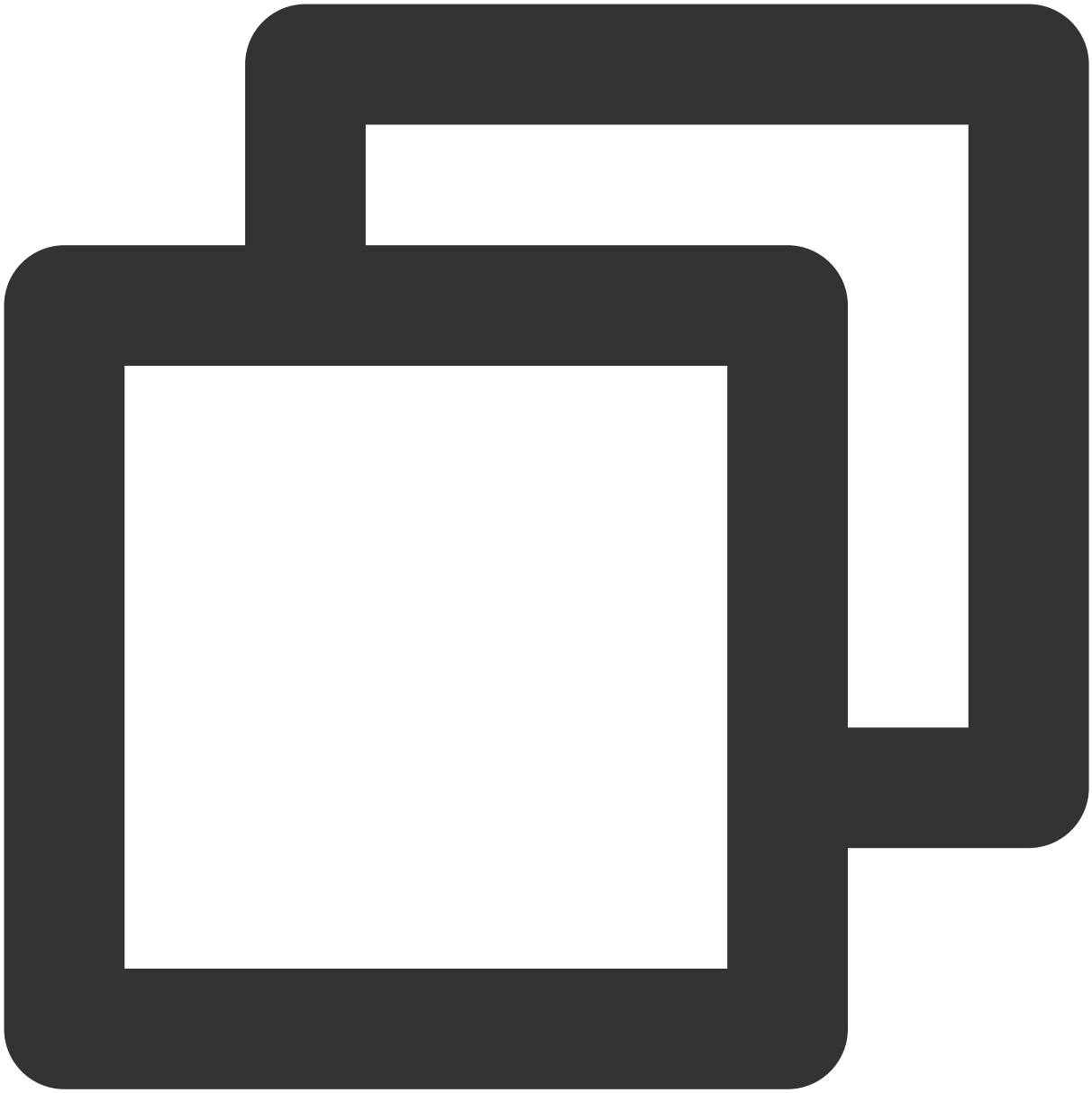
```
                                TUIPlayCallback? callback)
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
streamType	TUIVideoStreamType	User streams type
callback	TUIPlayCallback?	Playback Operation result Callback

stopPlayRemoteVideo

Stop Playback Remote user Video streams.



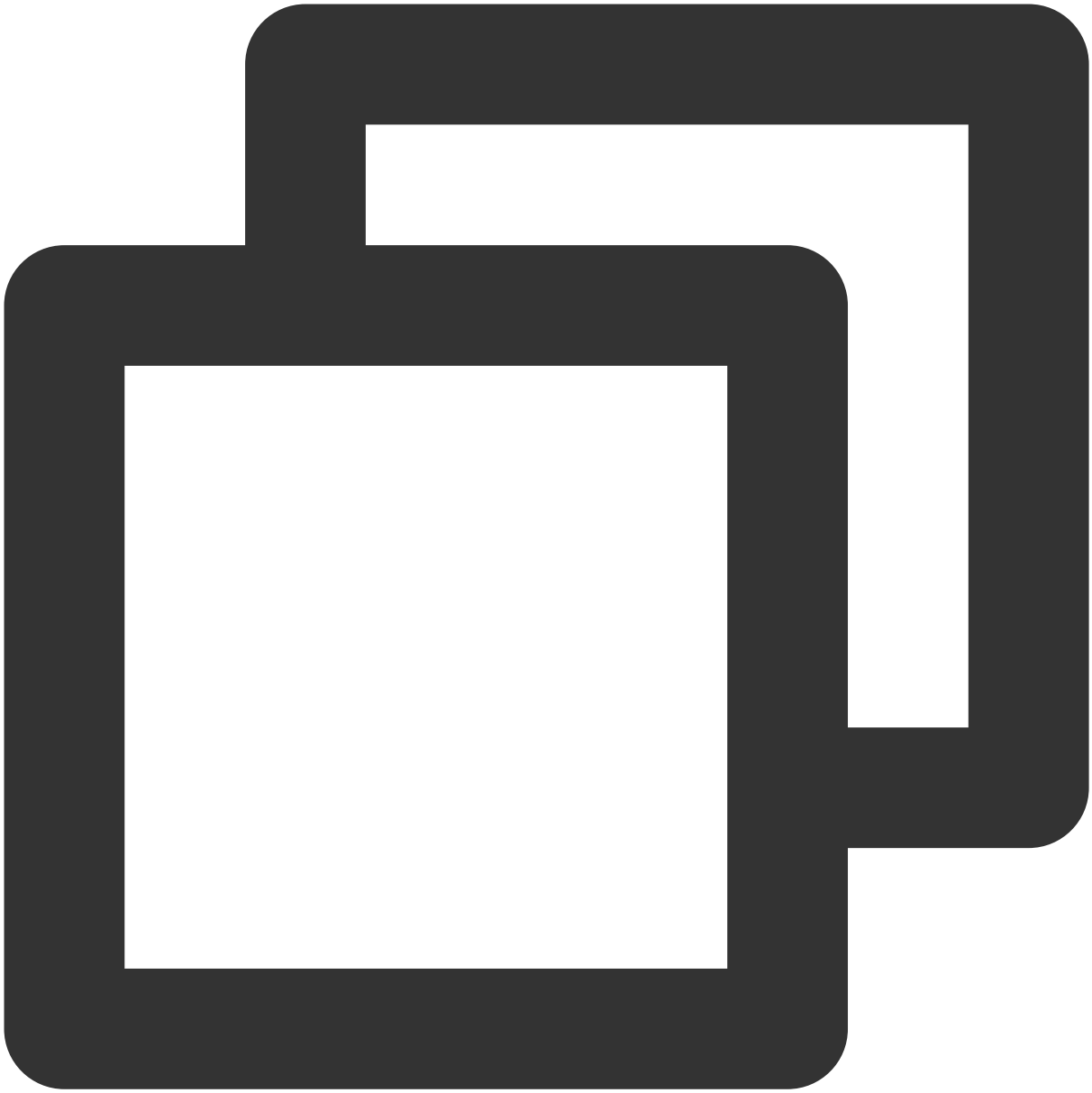
```
void stopPlayRemoteVideo(String userId,
                         TUIVideoStreamType streamType)
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
streamType	TUIVideoStreamType	User streams type

muteRemoteAudioStream

Mute Remote user.



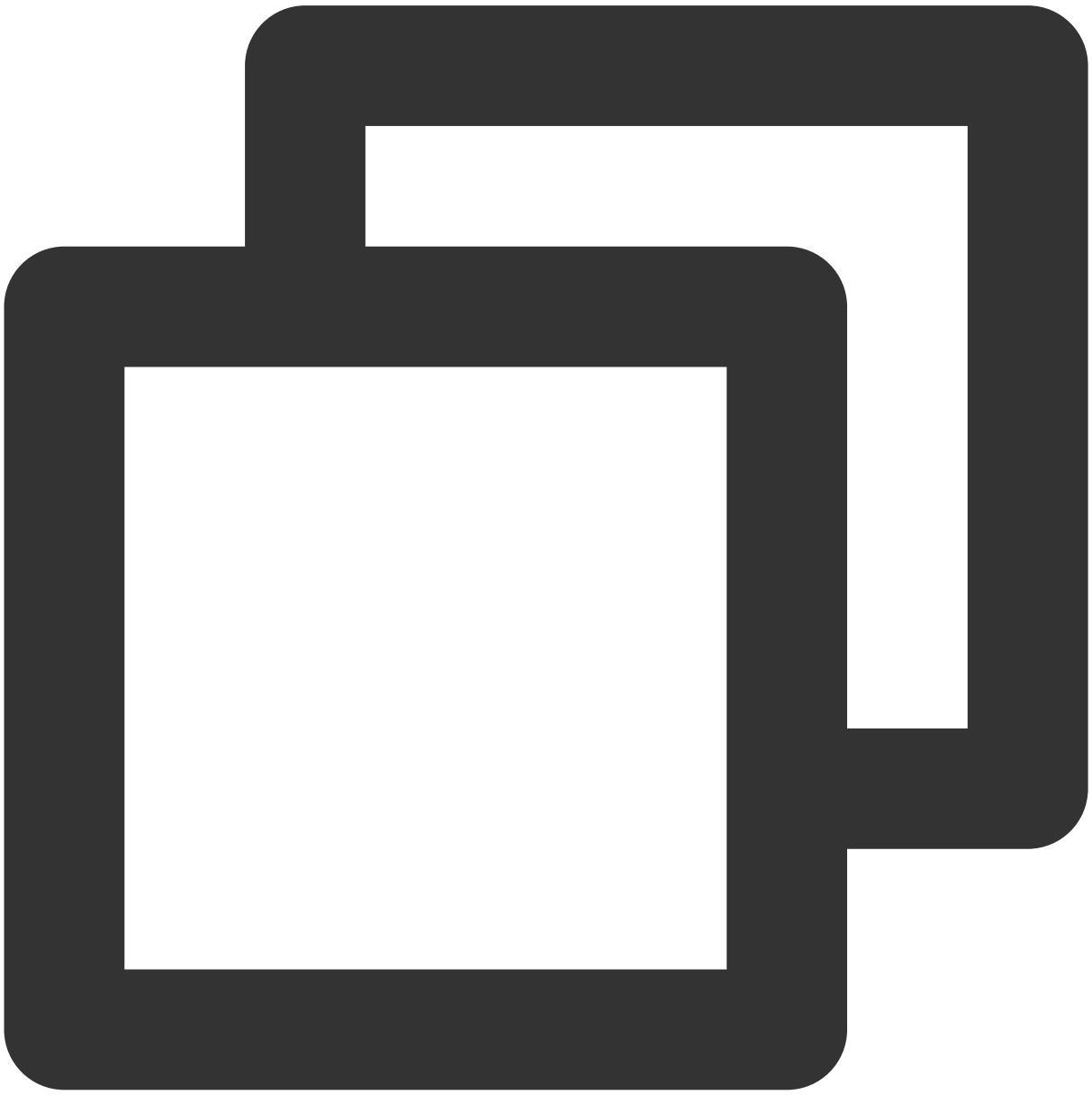
```
void muteRemoteAudioStream(String userId, boolean isMute);
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
isMute	bool	Whether to mute

getUserList

Get current User list in the room, Note that the maximum number of User list fetched by this Interface is 100.



```
Future<TUIValueCallBack<TUIUserListResult>> getUserList(int nextSequence)
```

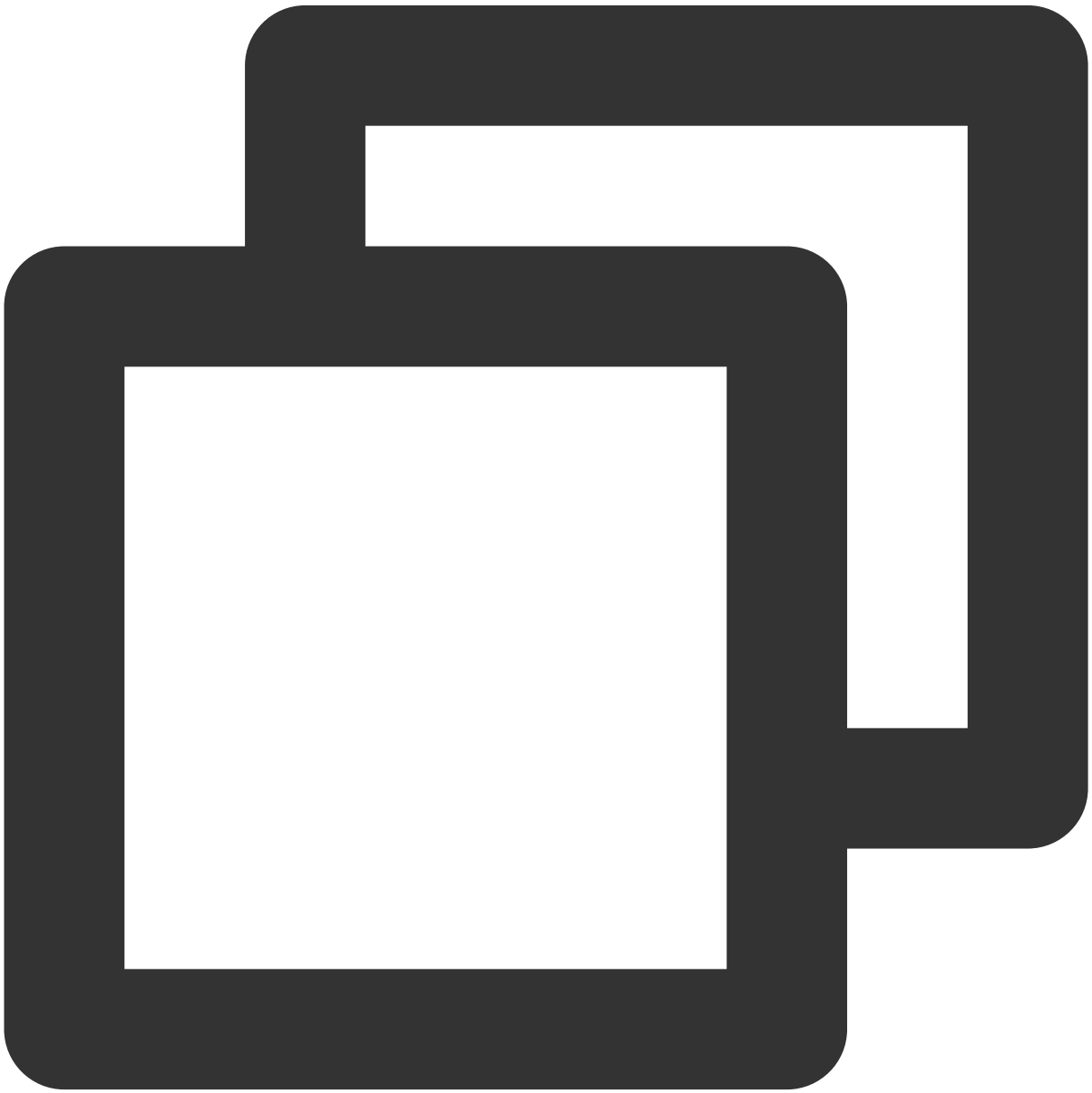
Parameters:

Parameter	Type	Meaning
nextSequence	int	Pagination Fetch Flag, fill in 0 for the first Fetch, if the

		nextSeq in the Callback is not 0, you need to do Pagination, pass in the nextSeq to Fetch again until the nextSeq in the Callback is 0

getUserInfo

Get User Learn more.



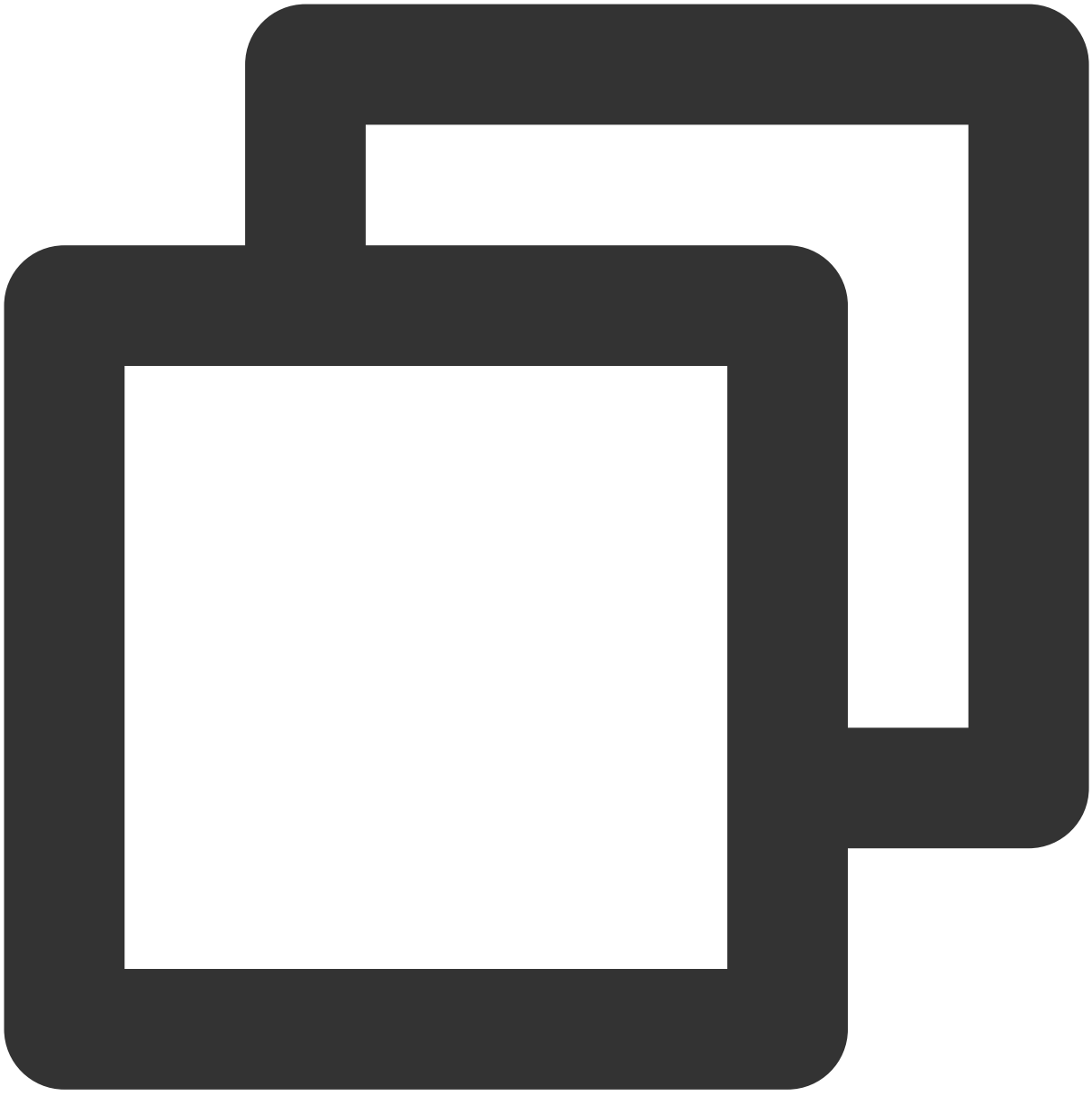
```
Future<TUIValueCallBack<TUIUserInfo>> getUserInfo(String userId)
```

Parameters:

Parameter	Type	Meaning
userId	String	Get Learn more of the user by userId

changeUserRole

Change user Role, only Administrator or Group owner can call.



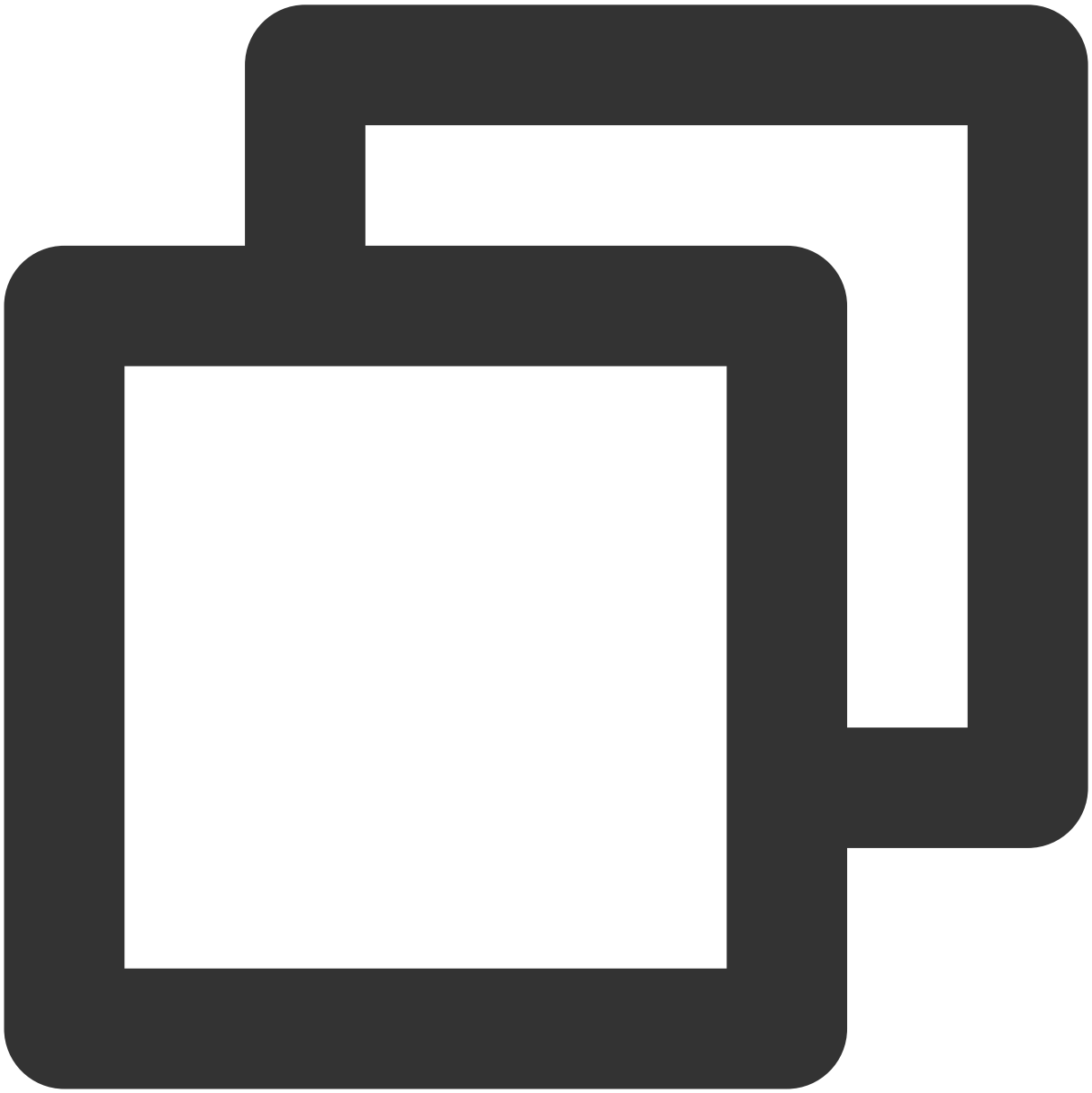
```
Future<TUIActionCallback> changeUserRole(String userId,
                                         TUIRole role)
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID
role	TUIRole	User Role

kickRemoteUserOutOfRoom

Kick user out of the room, only Administrator or Group owner can call.



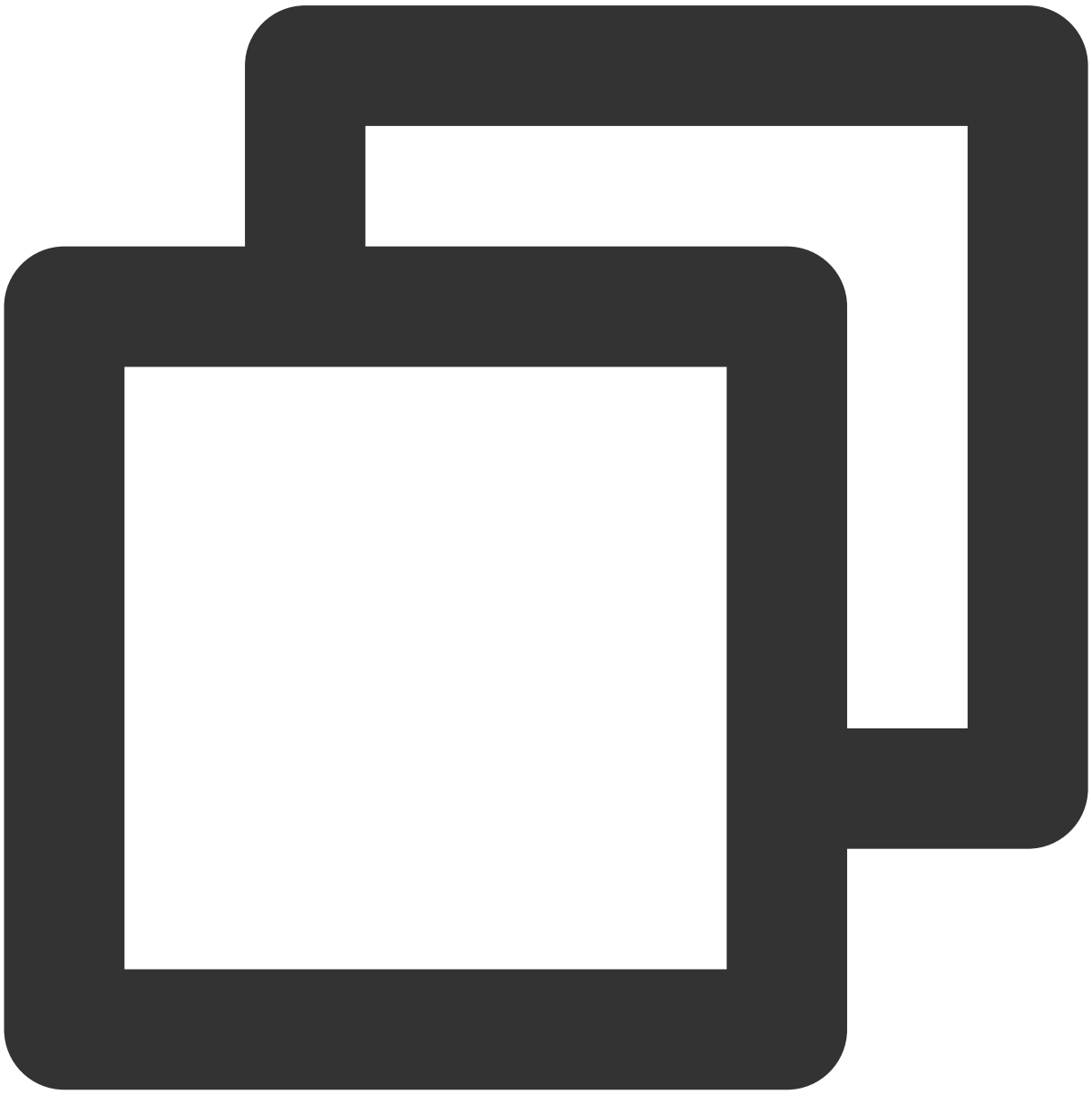
```
Future<TUIActionCallback> kickRemoteUserOutOfRoom(String userId)
```

Parameters:

Parameter	Type	Meaning
userId	String	User ID

addCategoryTagForUsers

Add category tags to users (Only Administrator or Group Owner can call)



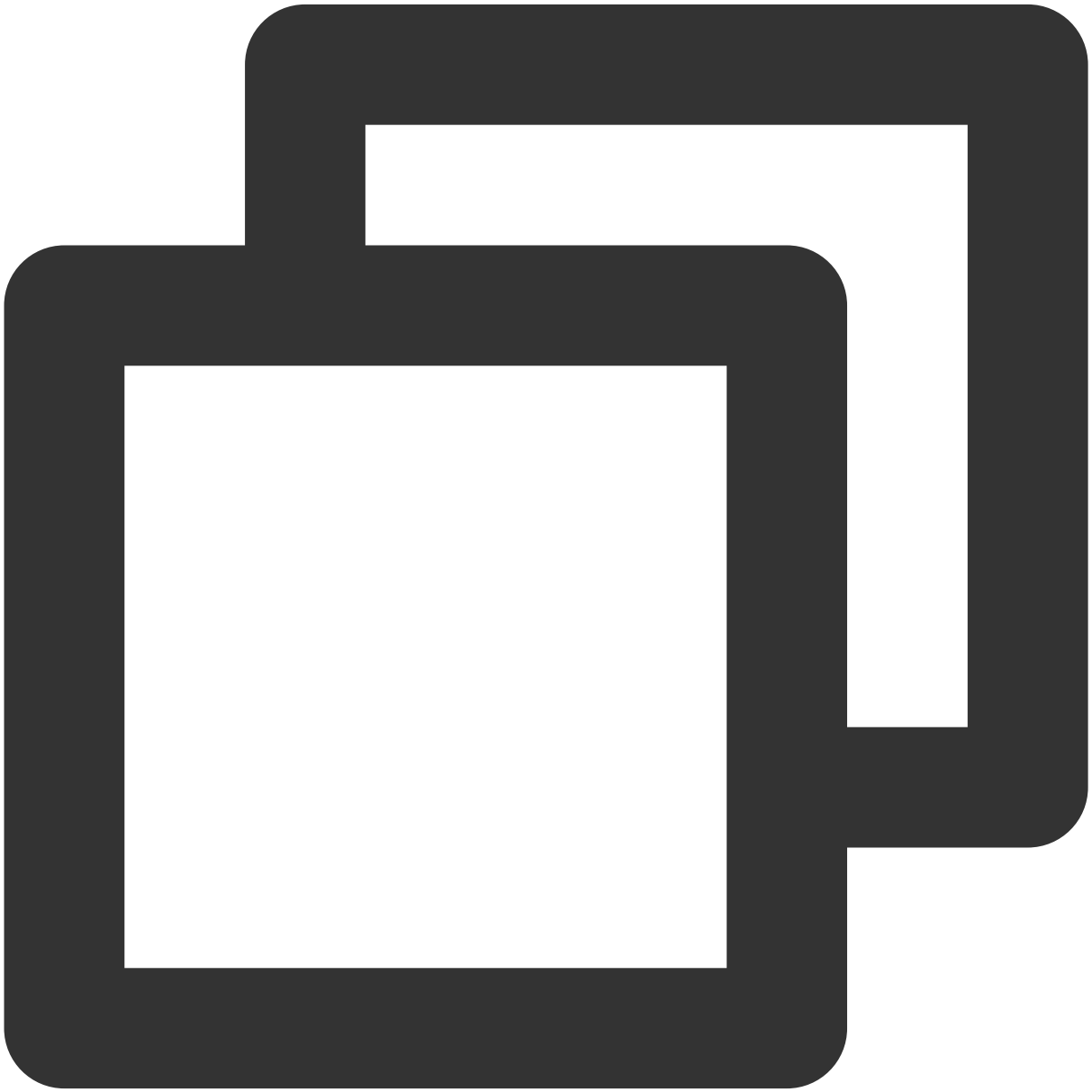
```
Future<TUIActionCallback> addCategoryTagForUsers(int tag, List<String> userList);
```

Parameters：

Parameter	Type	Meaning
tag	int	Tag type. Number type, greater than or equal to 1000, you can customize
userList	List<String>	User list

removeCategoryTagForUsers

Remove category tags to users (Only Administrator or Group Owner can call)



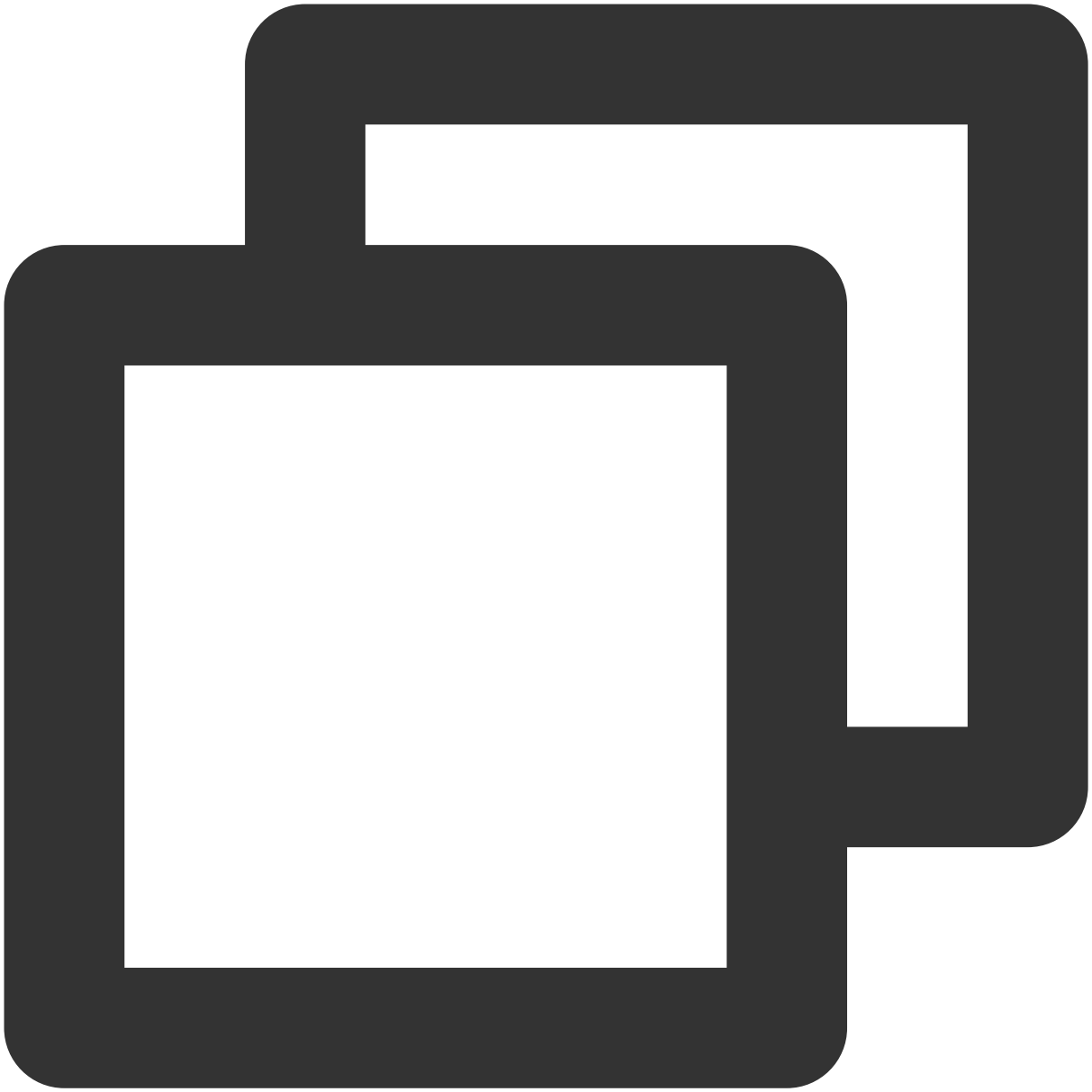
```
Future<TUIActionCallback> removeCategoryTagForUsers(int tag, List<String> userList)
```

Parameters：

Parameter	Type	Meaning
tag	int	Tag type. Number type, greater than or equal to 1000, you can customize
userList	List<String>	User list

getUserListByTag

Get user information in the room based on tags



```
Future<TUIValueCallBack<TUIUserListResult>> getUserListByTag(int tag, int nextSeque
```

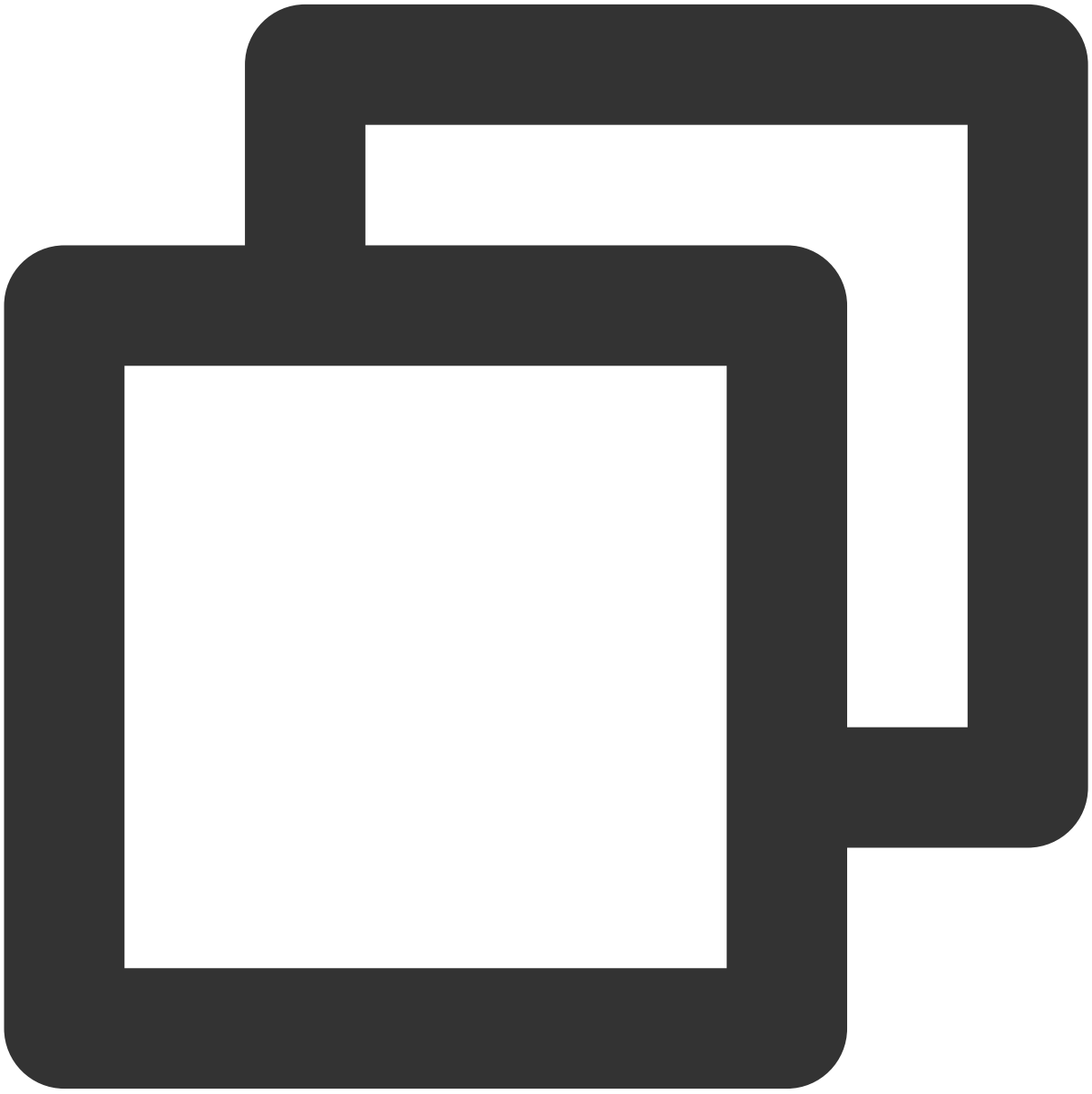
Parameters：

Parameter	Type	Meaning
tag	int	Tag type. Number type, greater than or equal to 1000, you can customize

nextSequence	int	Pagination Fetch Flag, fill in 0 for the first Fetch, if the nextSeq in the Callback is not 0, you need to do Pagination, pass in the nextSeq to Fetch again until the nextSeq in the Callback is 0

disableDeviceForAllUserByAdmin

Manage Media device for all users, only Administrator or Group owner can call.

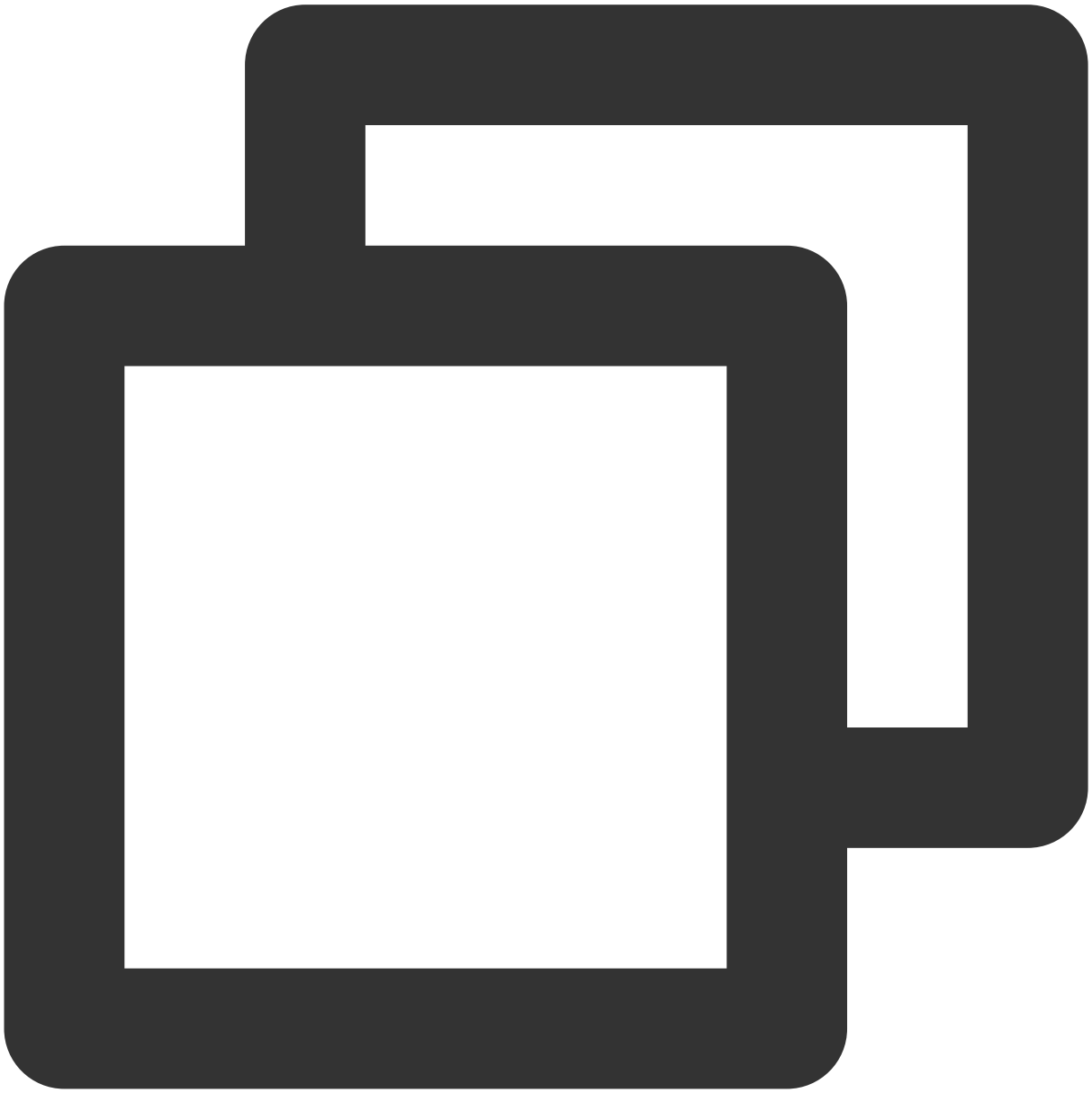


```
Future<TUIActionCallback> disableDeviceForAllUserByAdmin(TUIMediaDevice device,
                                                         bool isDisable)
```

Parameter	Type	Meaning
device	TUIMediaDevice	Device
isDisable	bool	Whether to Disable

openRemoteDeviceByAdmin

Request Remote user to open Media device, only Administrator or Group owner can call.



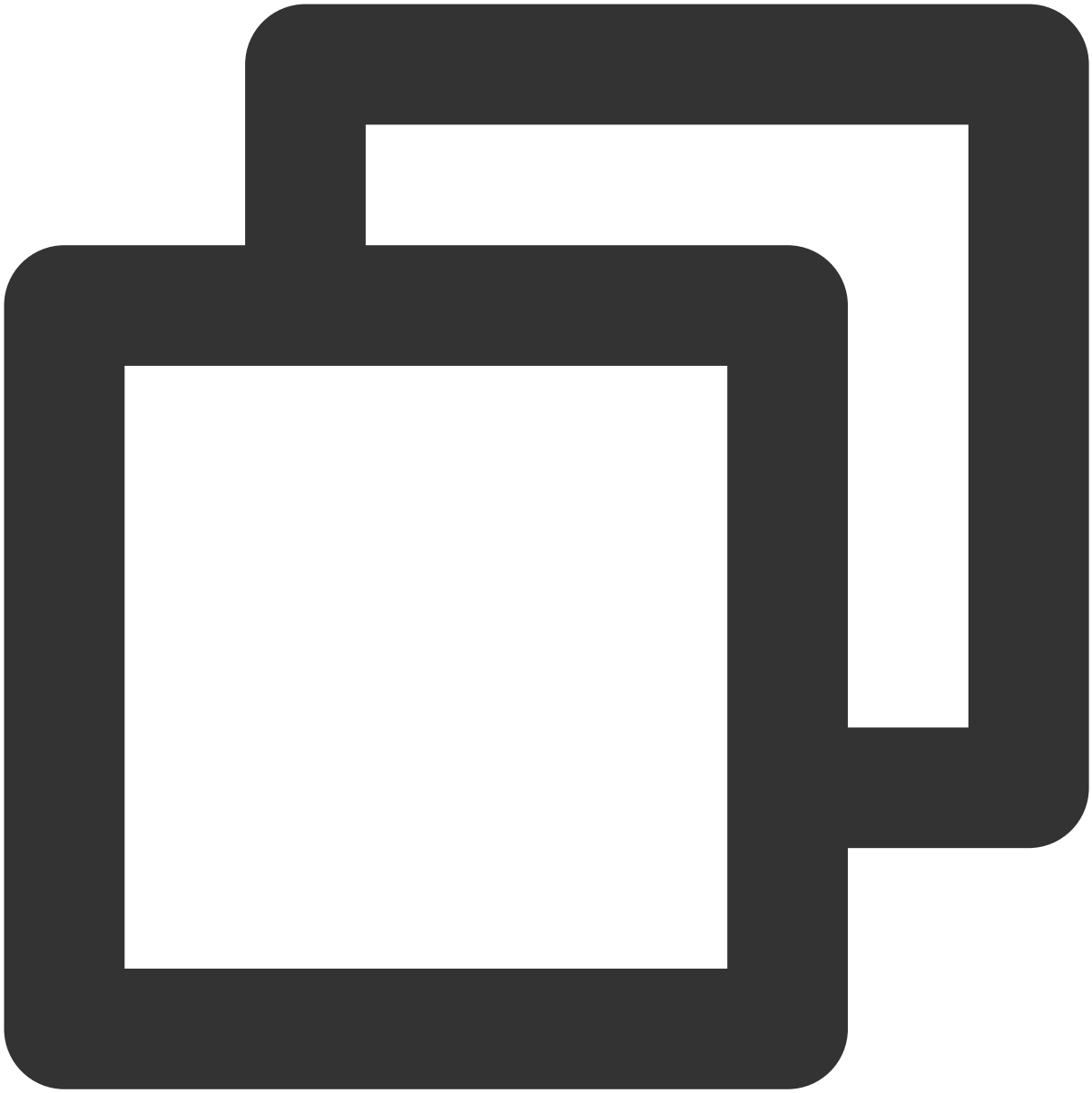
```
TUIRequest openRemoteDeviceByAdmin(String userId,
```

```
                                    TUIMediaDevice device,
                                    int timeout,
                                    TUIRequestCallback? requestCallback)
```

Parameter	Type	Meaning
userId	String	User ID
device	TUIMediaDevice	Device
timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback
requestCallback	TUIRequestCallback?	Operation result Callback

closeRemoteDeviceByAdmin

Close Remote user Media device, only Administrator or Group owner can call.

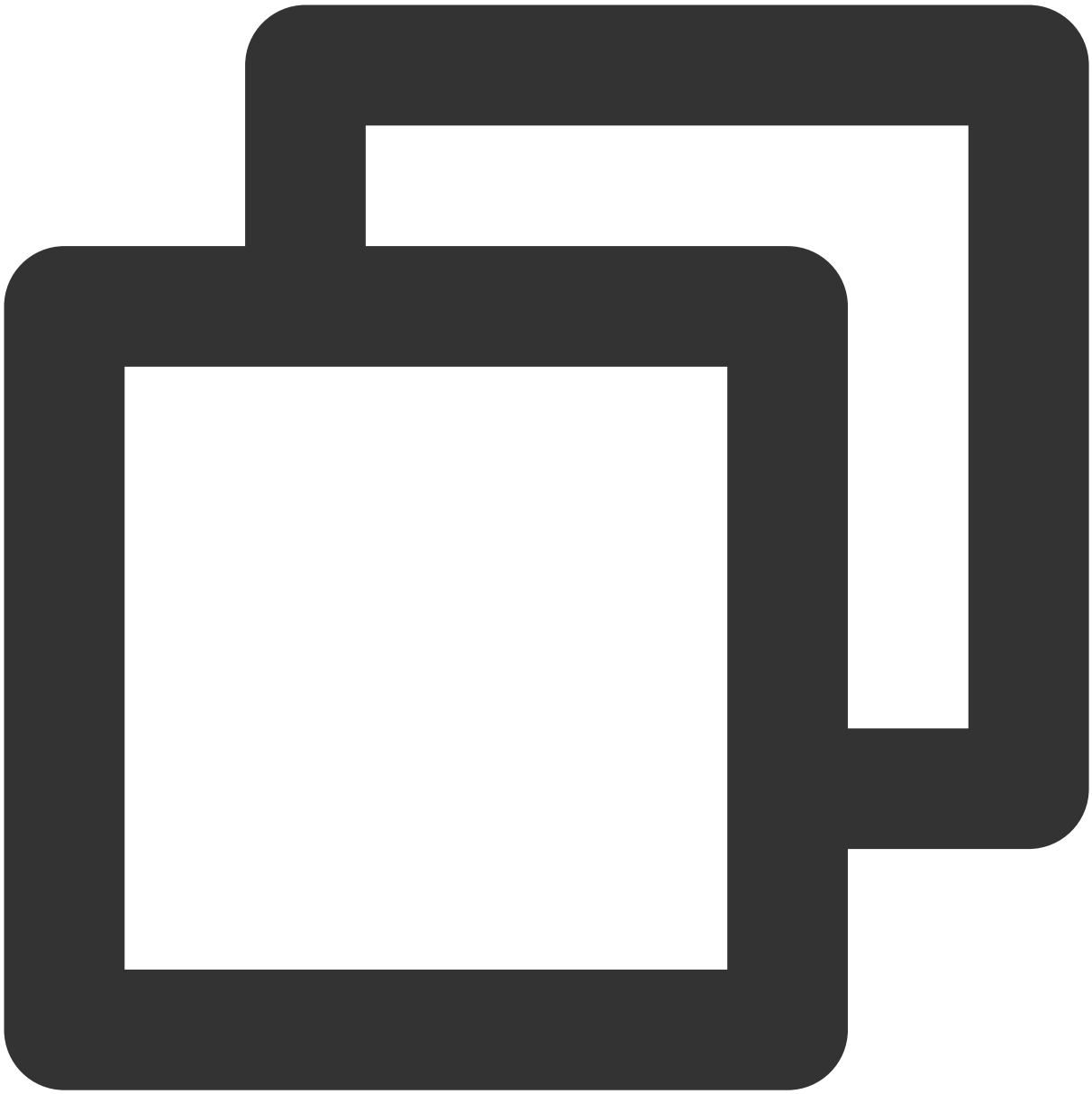


```
Future<TUIActionCallback> closeRemoteDeviceByAdmin(String userId,
                                                   TUIMediaDevice device)
```

Parameter	Type	Meaning
userId	String	User ID
device	TUIMediaDevice	Device

applyToAdminToOpenLocalDevice

Lock all users' Media device management.



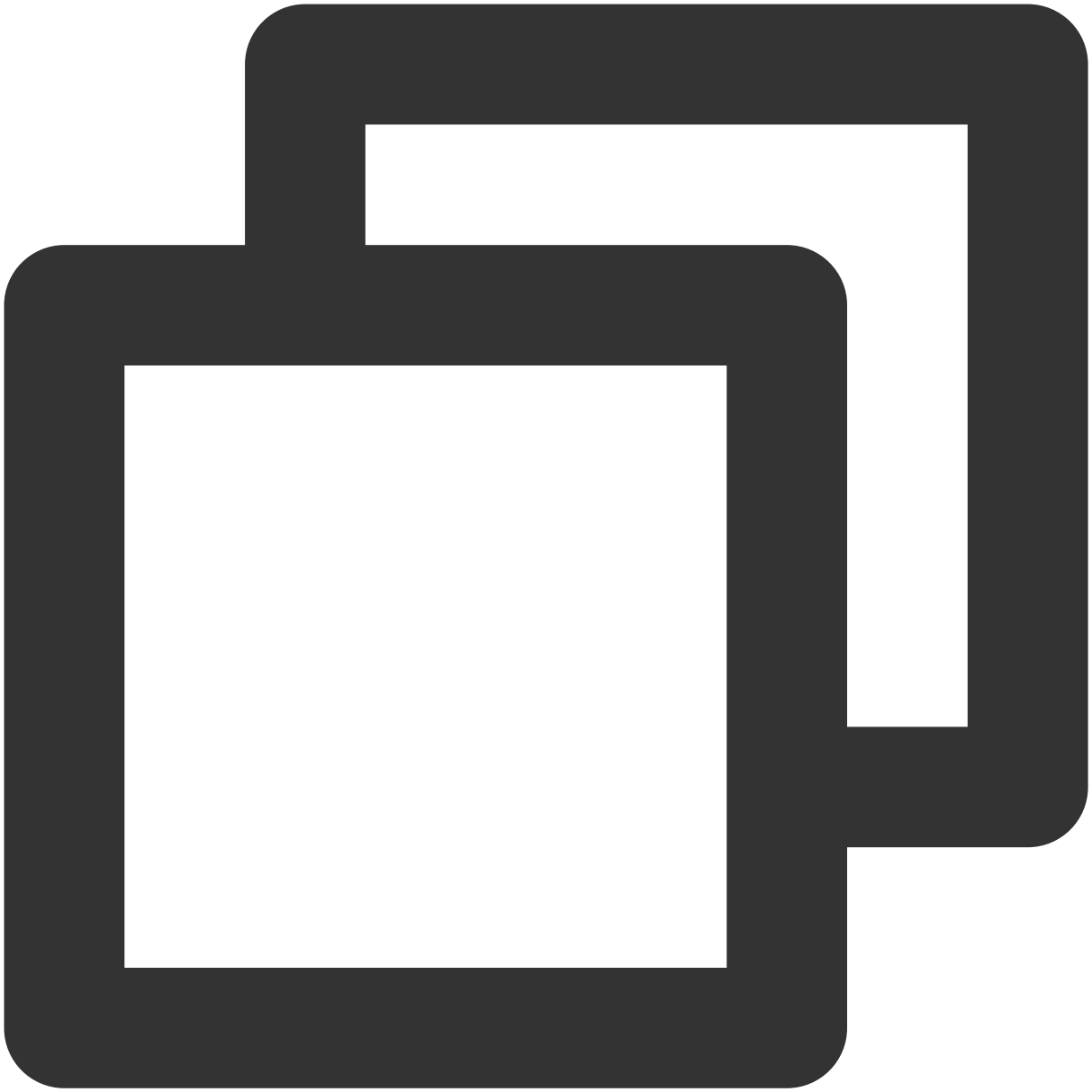
```
TUIRequest applyToAdminToOpenLocalDevice(TUIMediaDevice device,
                                         int timeout,
                                         TUIRequestCallback? requestCallback)
```

Parameter	Type	Meaning
device	TUIMediaDevice	Device
timeout	int	Timeout Duration, Unit in Seconds. If Set to 0, SDK Will Not

		Perform Timeout Detection, Nor Will It Trigger Timeout Callback
callback	TUIRequestCallback	Operation Result Callback

setMaxSeatCount

Set Maximum number of seats, only supported when entering the room and creating the room
When roomType is RoomType.CONFERENCE (Education and Conference scene), maxSeatCount value is not limited;
When roomType is RoomType.LIVE_ROOM (Live broadcast scene), maxSeatCount is limited to 16;

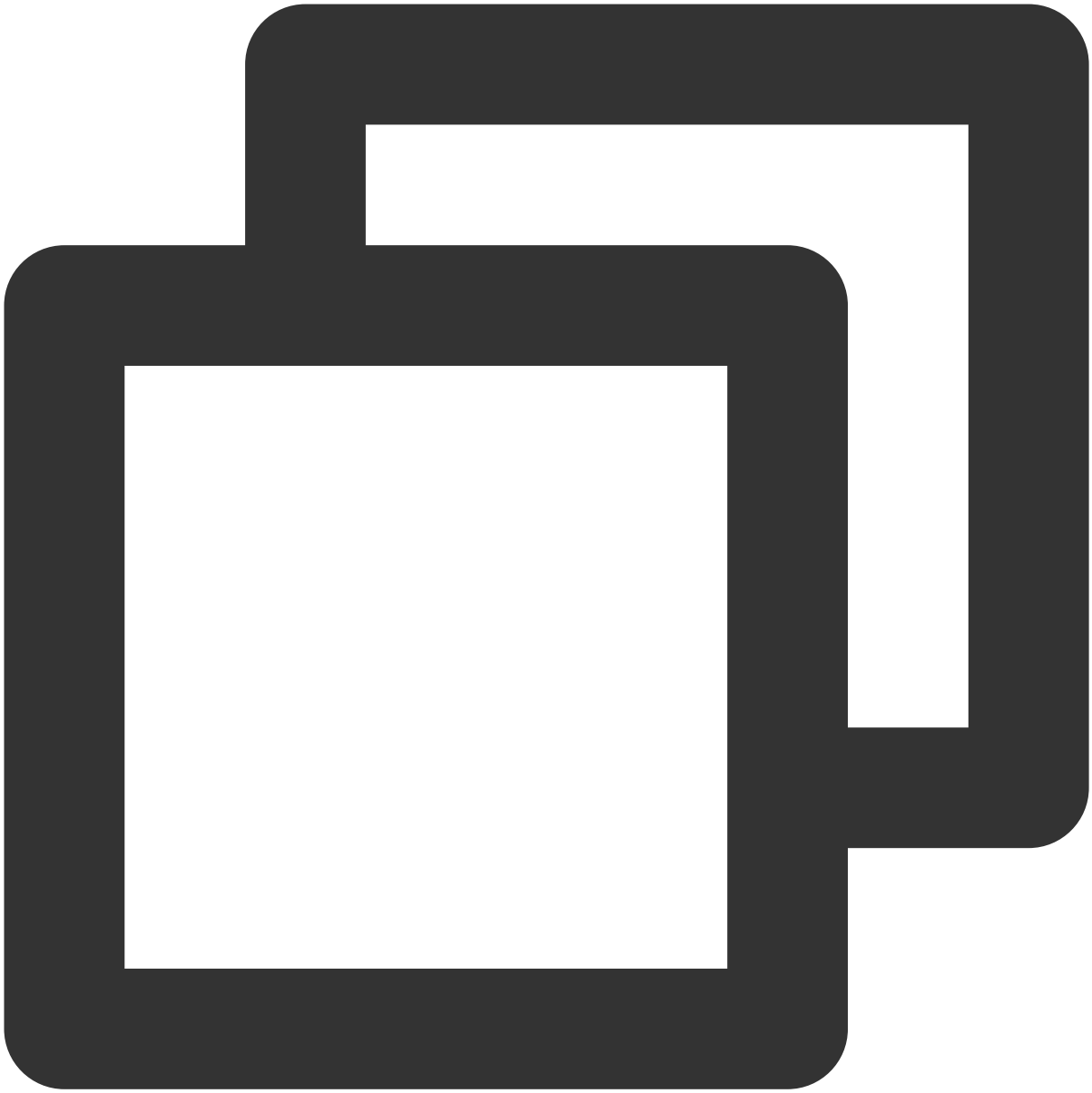


```
Future<TUIActionCallback> setMaxSeatCount(int maxSeatCount)
```

Parameter	Type	Meaning
maxSeatCount	int	Maximum number of seats

lockSeatByAdmin

Lock seat (including position lock, audio status lock, video status lock).

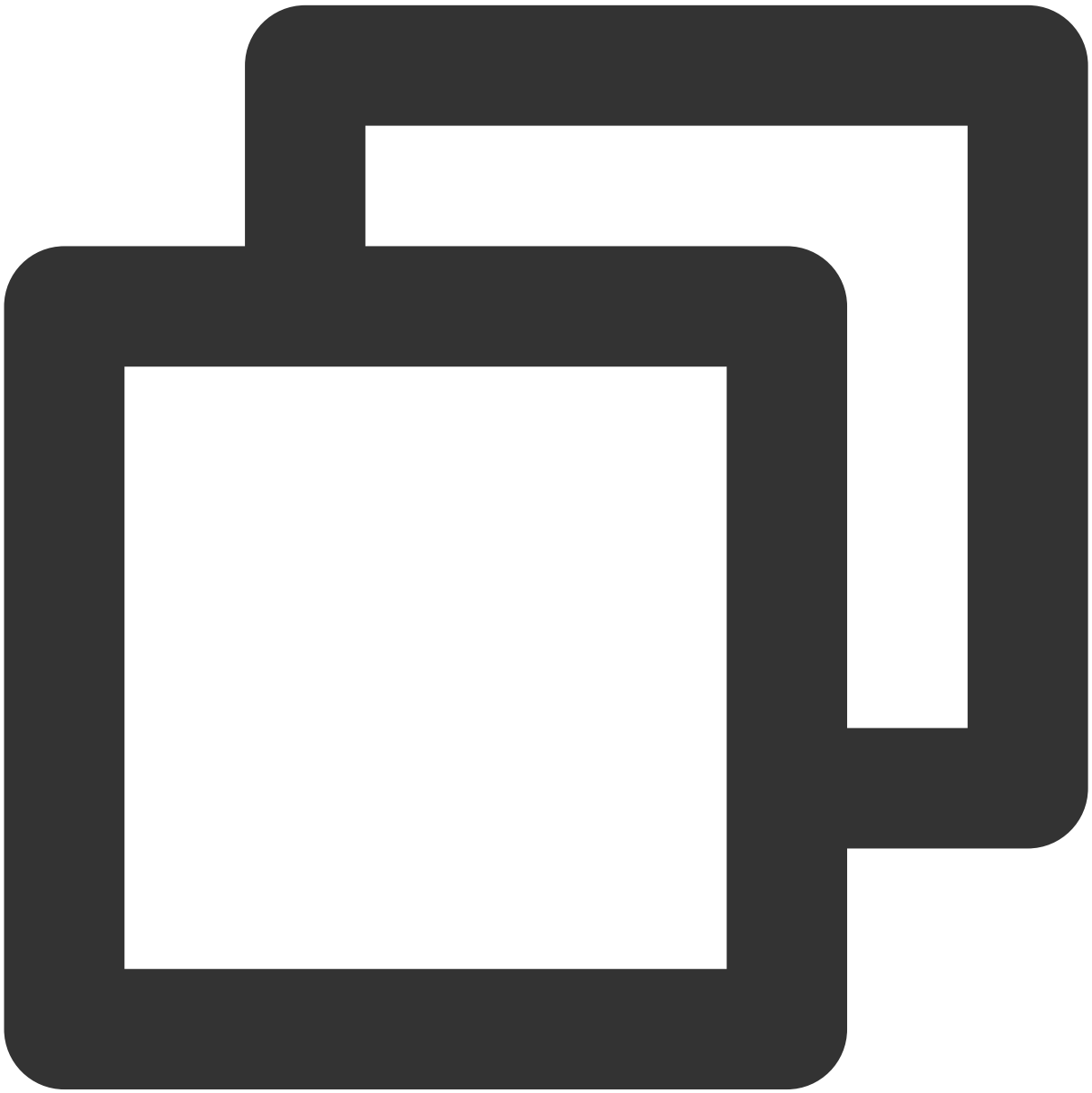


```
Future<TUIActionCallback> lockSeatByAdmin(int seatIndex,
                                  TUISeatLockParams lockParams)
```

Parameter	Type	Meaning
seatIndex	int	Seat number
lockParams	TUISeatLockParams	Lock microphone parameter

getSeatList

Get seat list.



```
Future<TUIValueCallBack<List<TUISeatInfo>>> getSeatList()
```

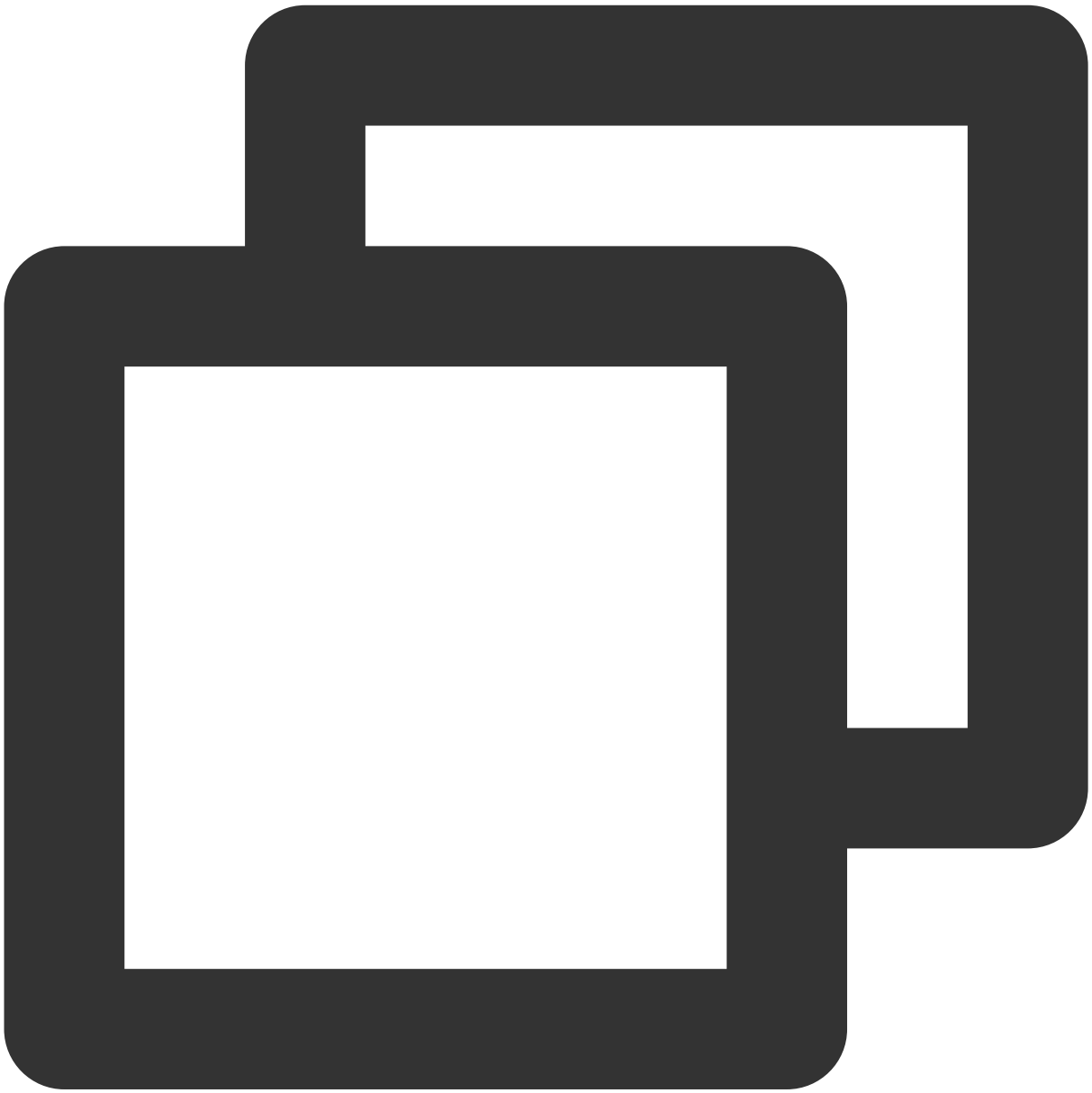
takeSeat

Local on microphone.

Explanation:

Conference Scene: applyToSpeak Mode needs to apply to the host or administrator to allow Go Live, other modes do not support Go Live.

Live Broadcast Scene: freeToSpeak Mode can freely Go Live, and speak after Go Live; applySpeakAfterTakingSeat Mode needs to apply to the host or administrator to allow Go Live; other modes do not support Go Live.



```
TUIRequest takeSeat(int seatIndex,
                    int timeout,
                    TUIRequestCallback? requestCallback)
```

Parameters:

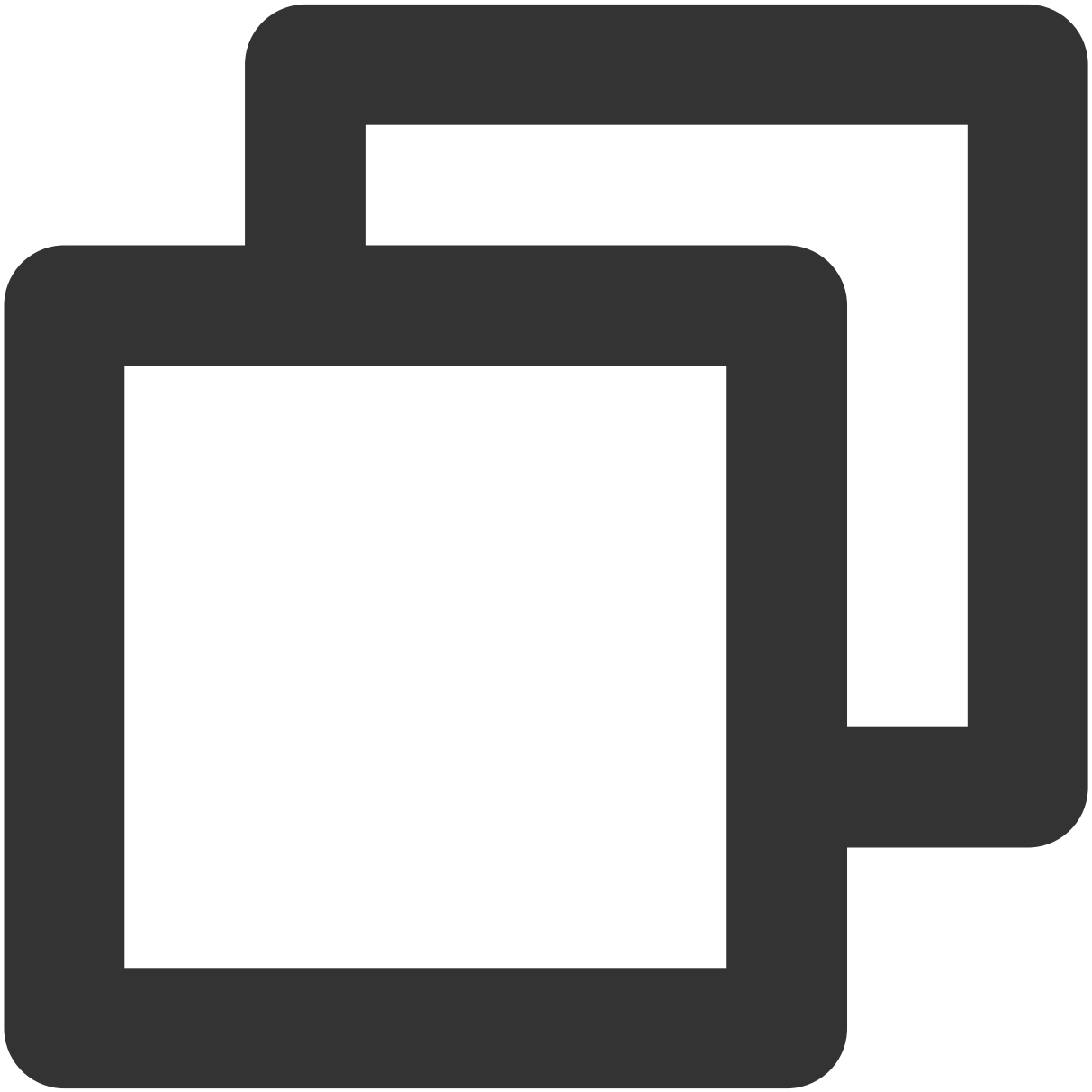
Parameter	Type	Meaning
seatIndex	int	Seat number

timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback
requestCallback	TUIRequestCallback?	Call interface Callback, used to notify the request Callback status

Return: Request body

leaveSeat

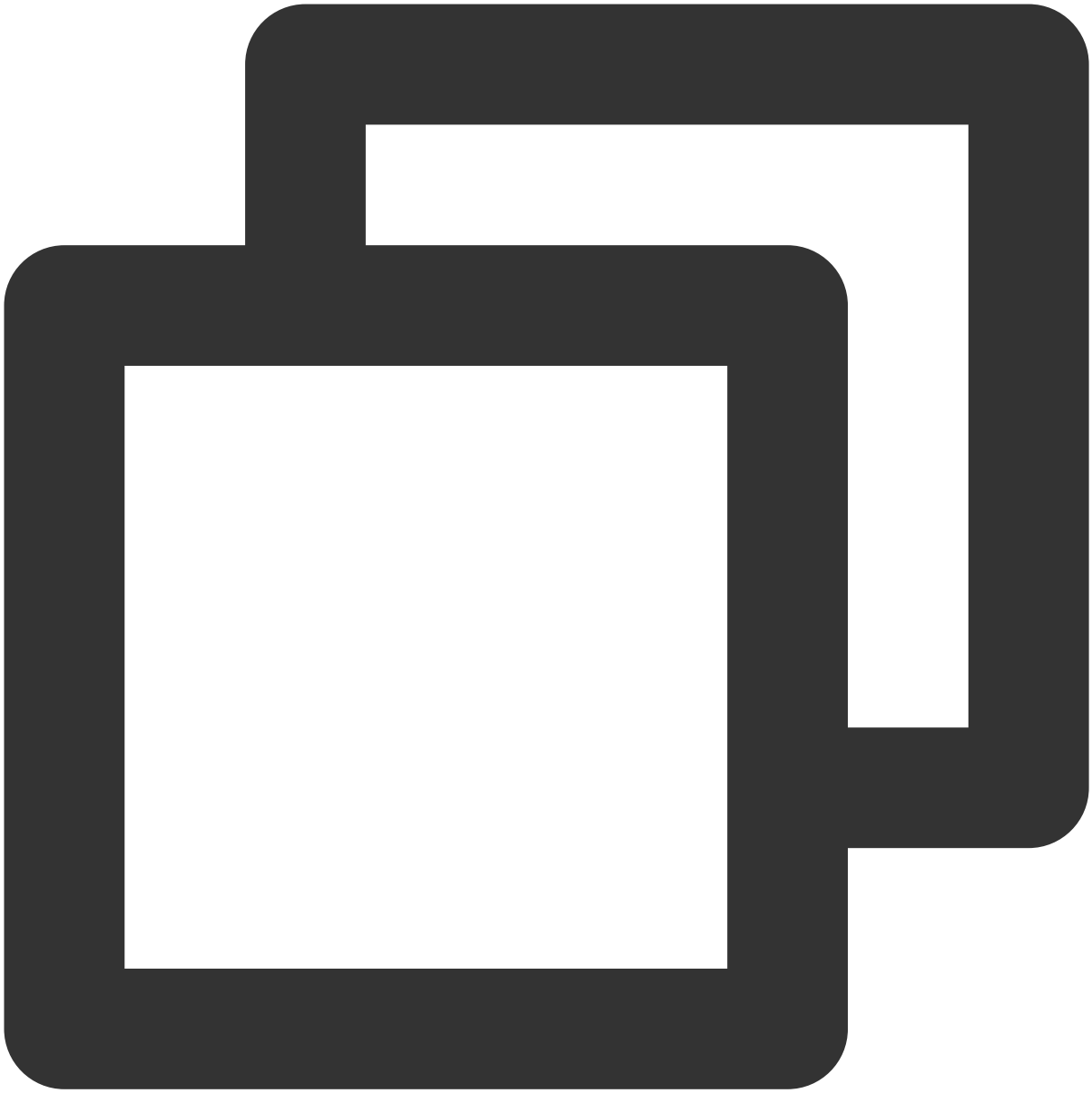
Local off microphone.



```
Future<TUIActionCallback> leaveSeat()
```

takeUserOnSeatByAdmin

Host/Administrator Invite User on microphone.



```
TUIRequest takeUserOnSeatByAdmin(int seatIndex,
                                 String userId,
                                 int timeout,
                                 TUIRequestCallback? requestCallback)
```

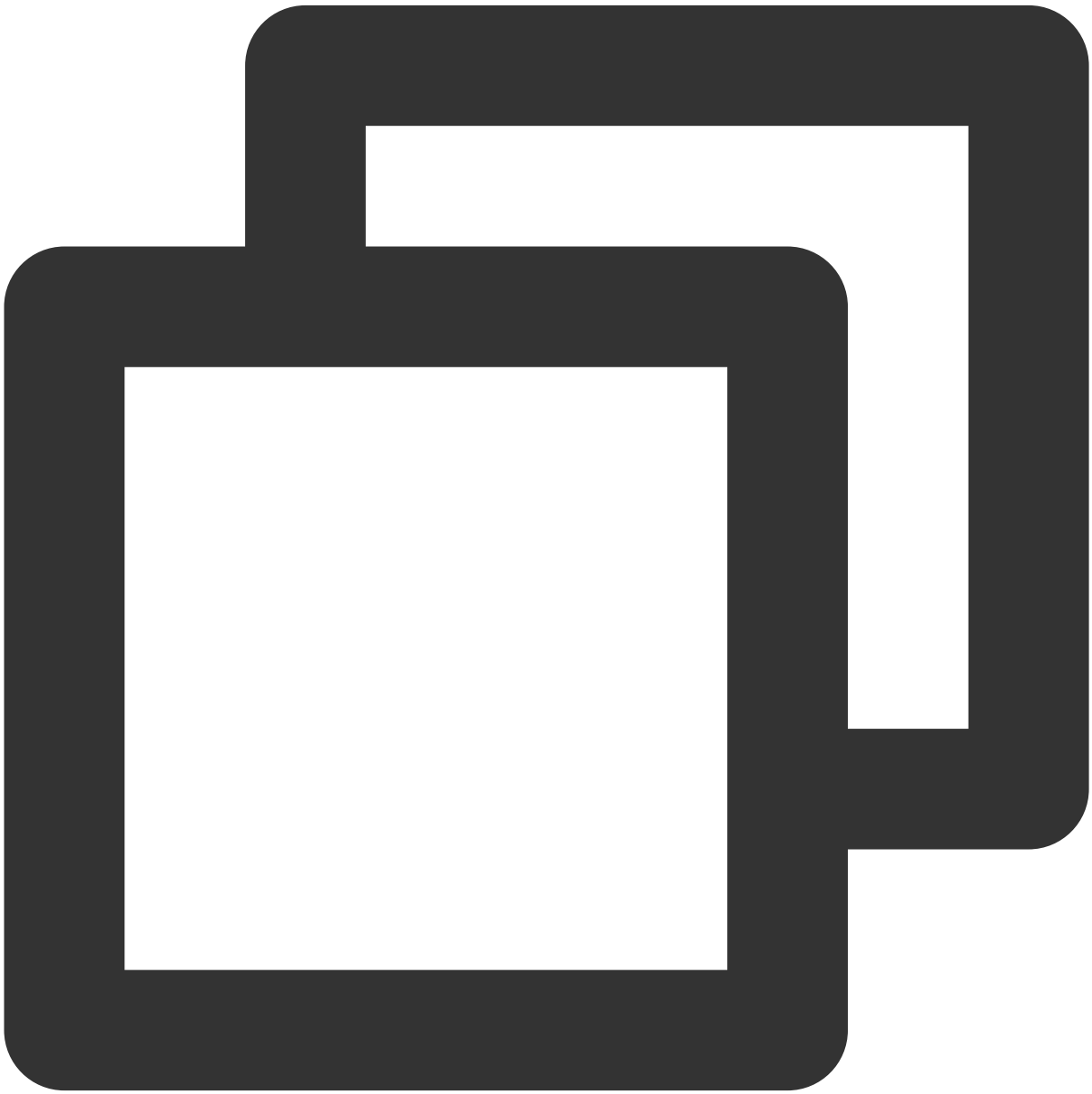
Parameter	Type	Meaning
seatIndex	int	Seat number
userId	String	User ID

timeout	int	Timeout in seconds, if set to 0, SDK will not do timeout detection and will not trigger timeout Callback
requestCallback	TUIRequestCallback?	Call interface Callback, used to notify the request Callback status

Return: Request body

kickUserOffSeatByAdmin

Host/Administrator Take User off microphone.

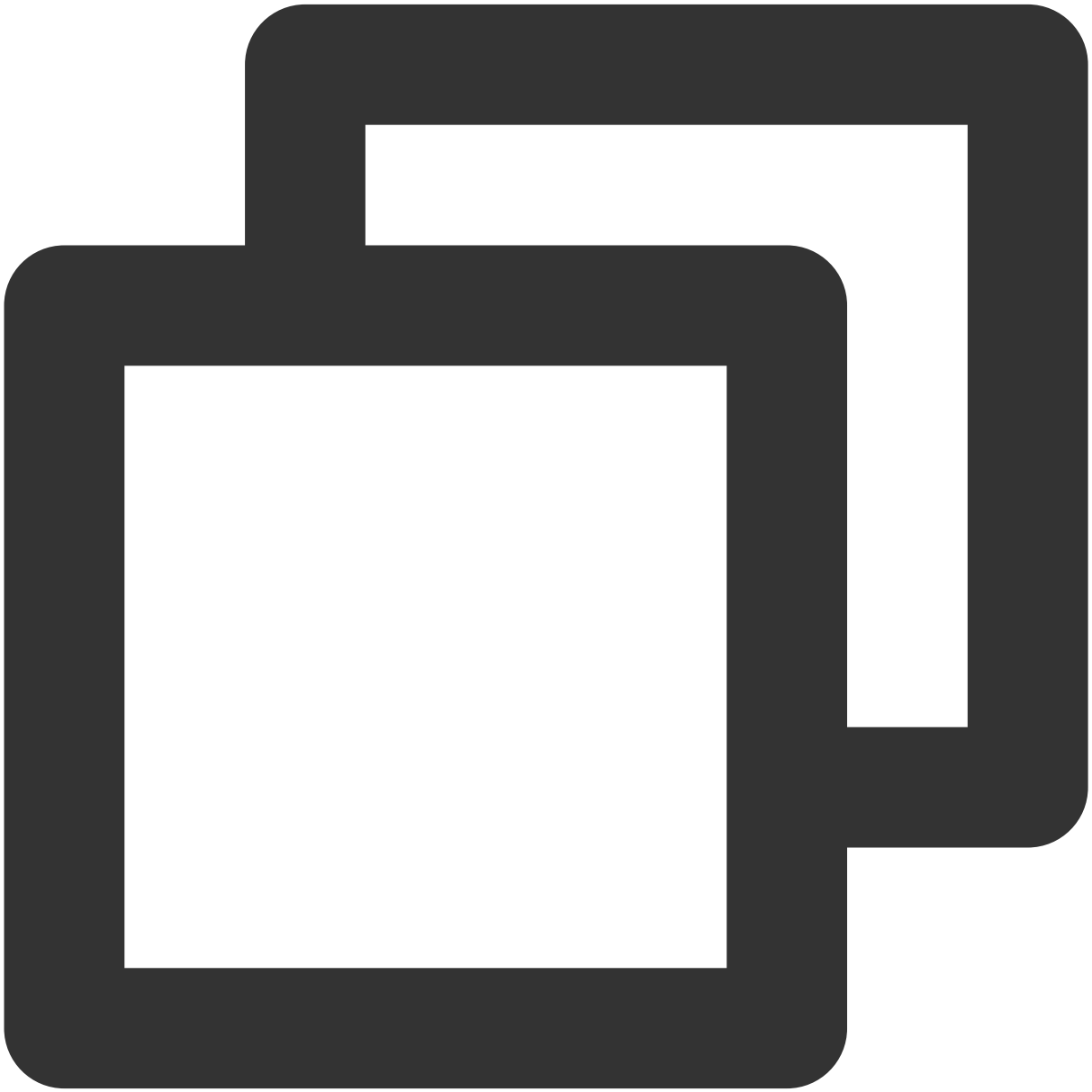


```
Future<TUIActionCallback> kickUserOffSeatByAdmin(int seatIndex,
                                                 String userId)
```

Parameter	Type	Meaning
seatIndex	int	Seat number
userId	String	User ID

sendTextMessage

Send Text message.



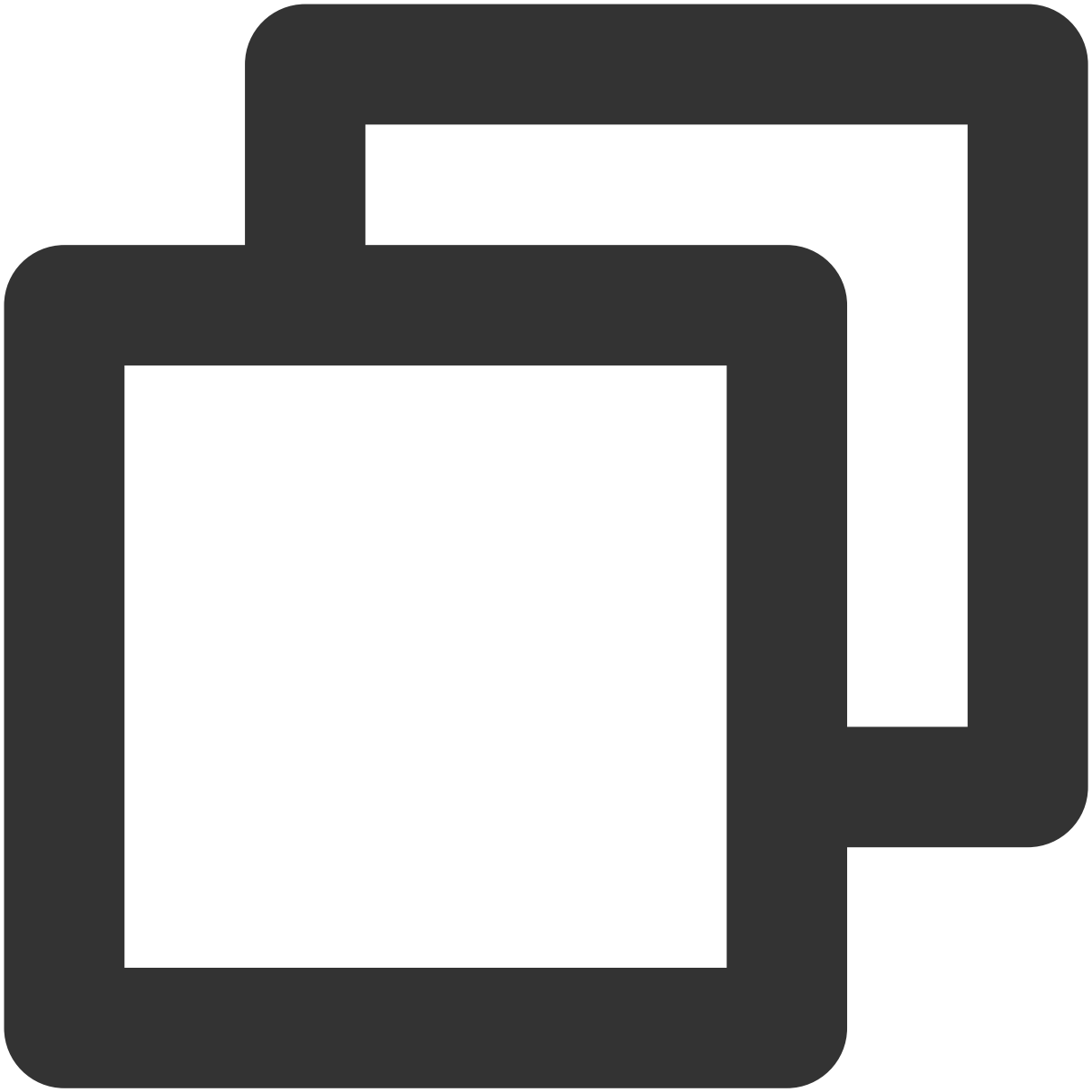
```
Future<TUIActionCallback> sendTextMessage(String message)
```

Parameters:

Parameter	Type	Meaning
message	String	Text message Content

sendCustomMessage

Send Custom message



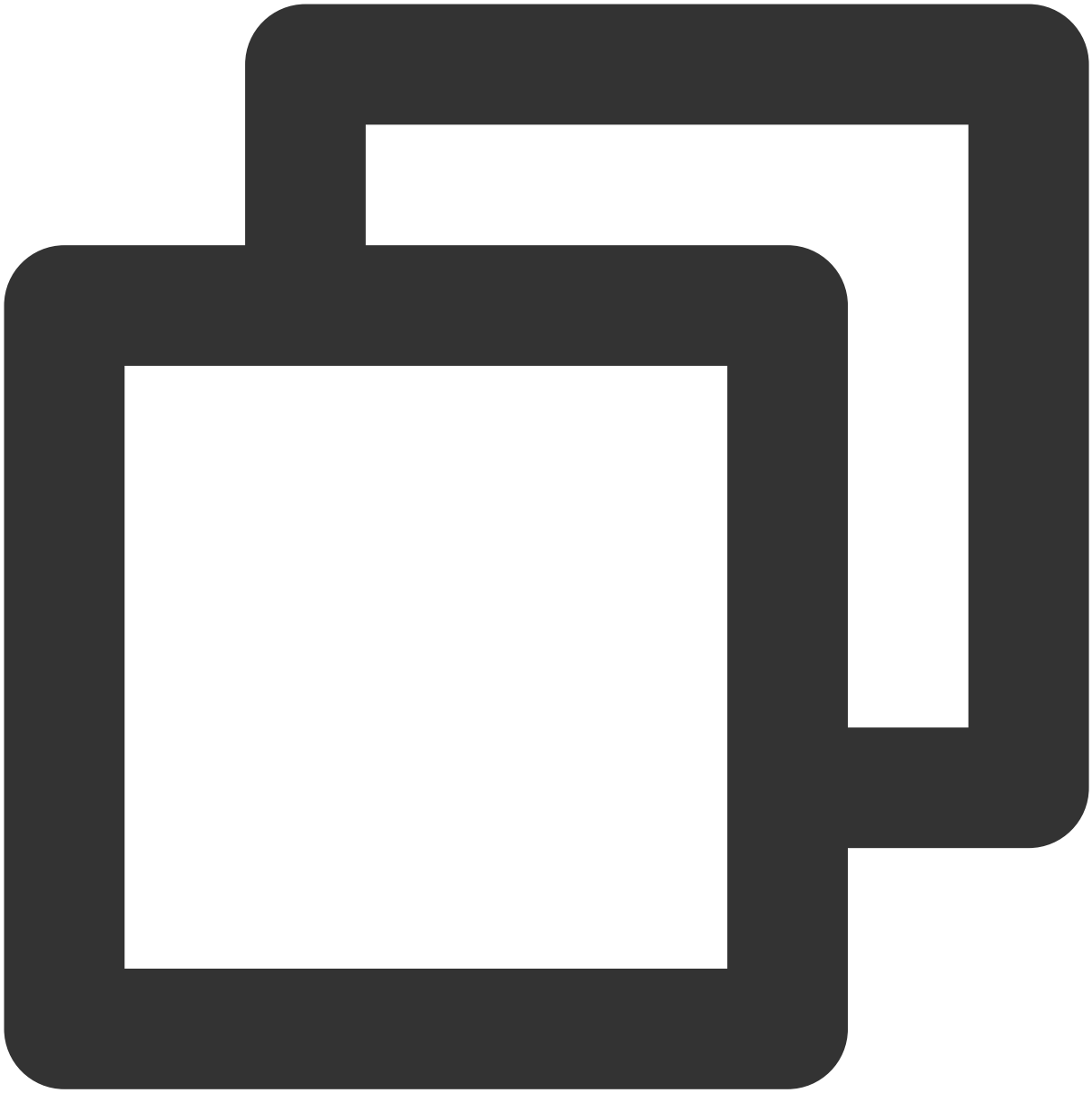
```
Future<TUIActionCallback> sendCustomMessage(String message)
```

Parameters:

Parameter	Type	Meaning
message	String	Custom message Content

disableSendingMessageByAdmin

Disable Remote user's Text message sending Ability (only Administrator or Group owner can call).

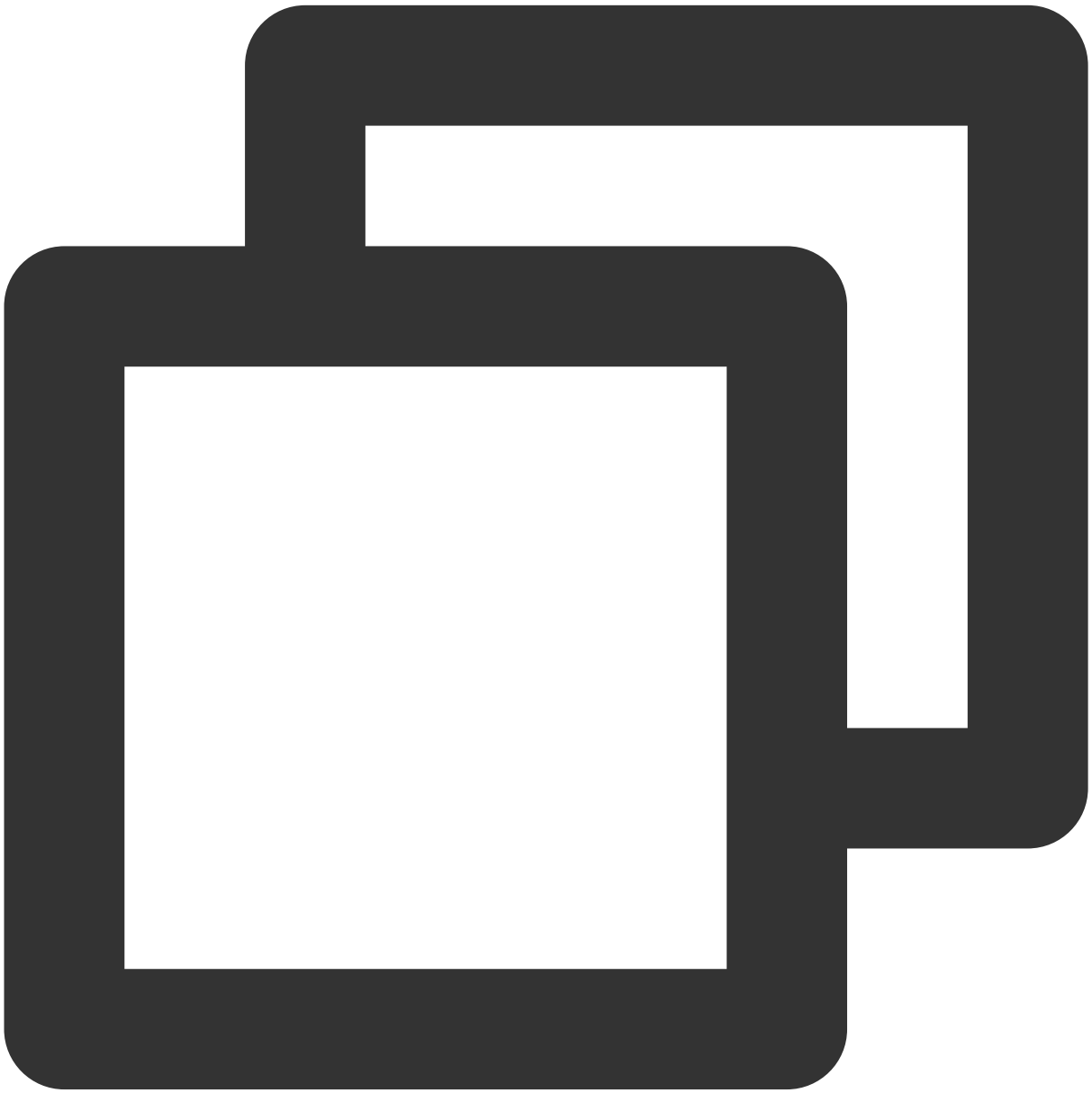


```
Future<TUIActionCallback> disableSendingMessageByAdmin(String userId,
                                                       bool isDisable)
```

Parameter	Type	Meaning
userId	String	User ID
isDisable	bool	Whether to Disable

disableSendingMessageForAllUser

Disable all users' Text message sending Ability (only Administrator or Group owner can call).

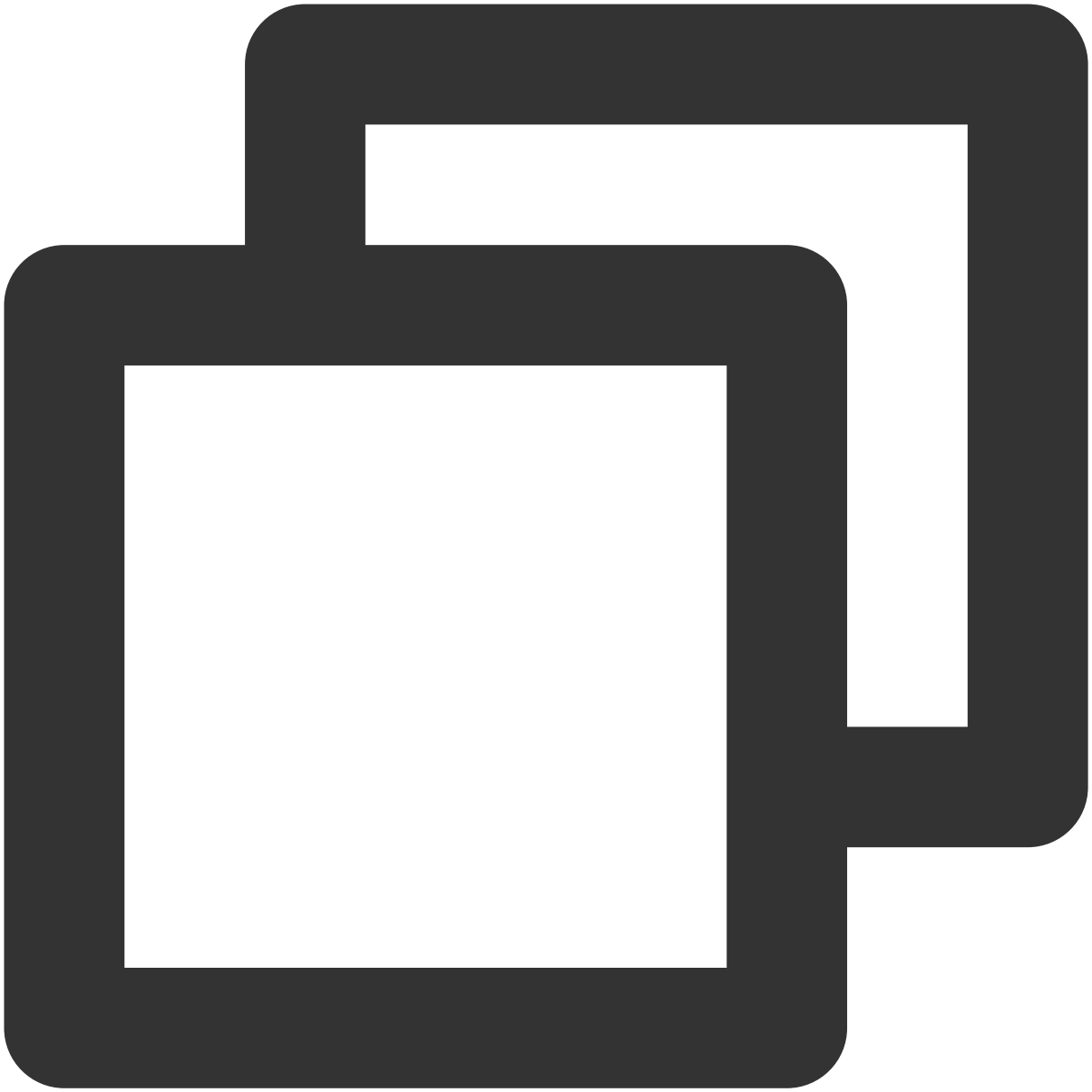


```
Future<TUIActionCallback> disableSendingMessageForAllUser(bool isDisable)
```

Parameter	Type	Meaning
isDisable	bool	Whether to Disable

cancelRequest

Cancel sent Request.



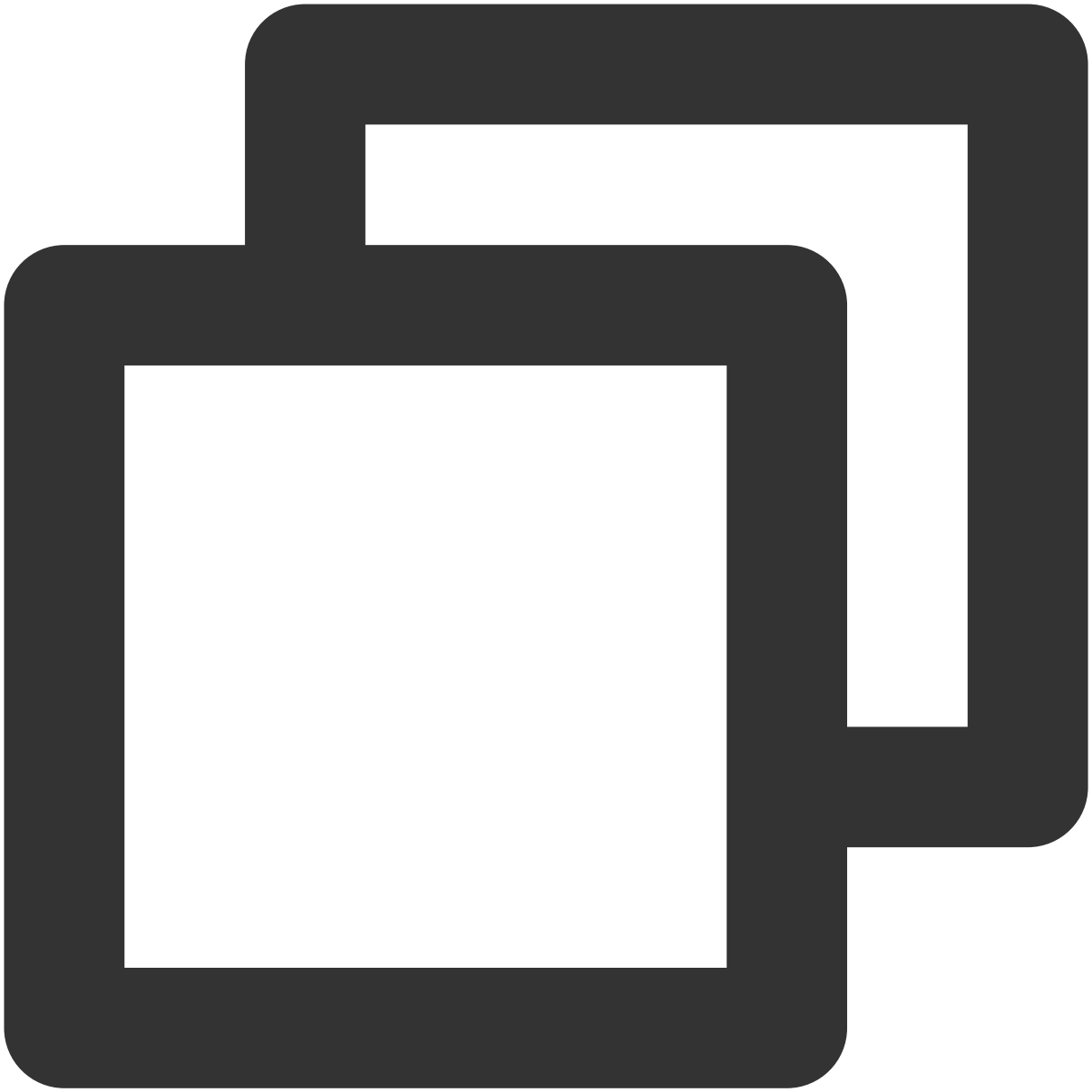
```
Future<TUIActionCallback> cancelRequest(String requestId)
```

Parameters:

Parameter	Type	Meaning
requestId	String	Request ID

responseRemoteRequest

Reply to Remote user's Request.



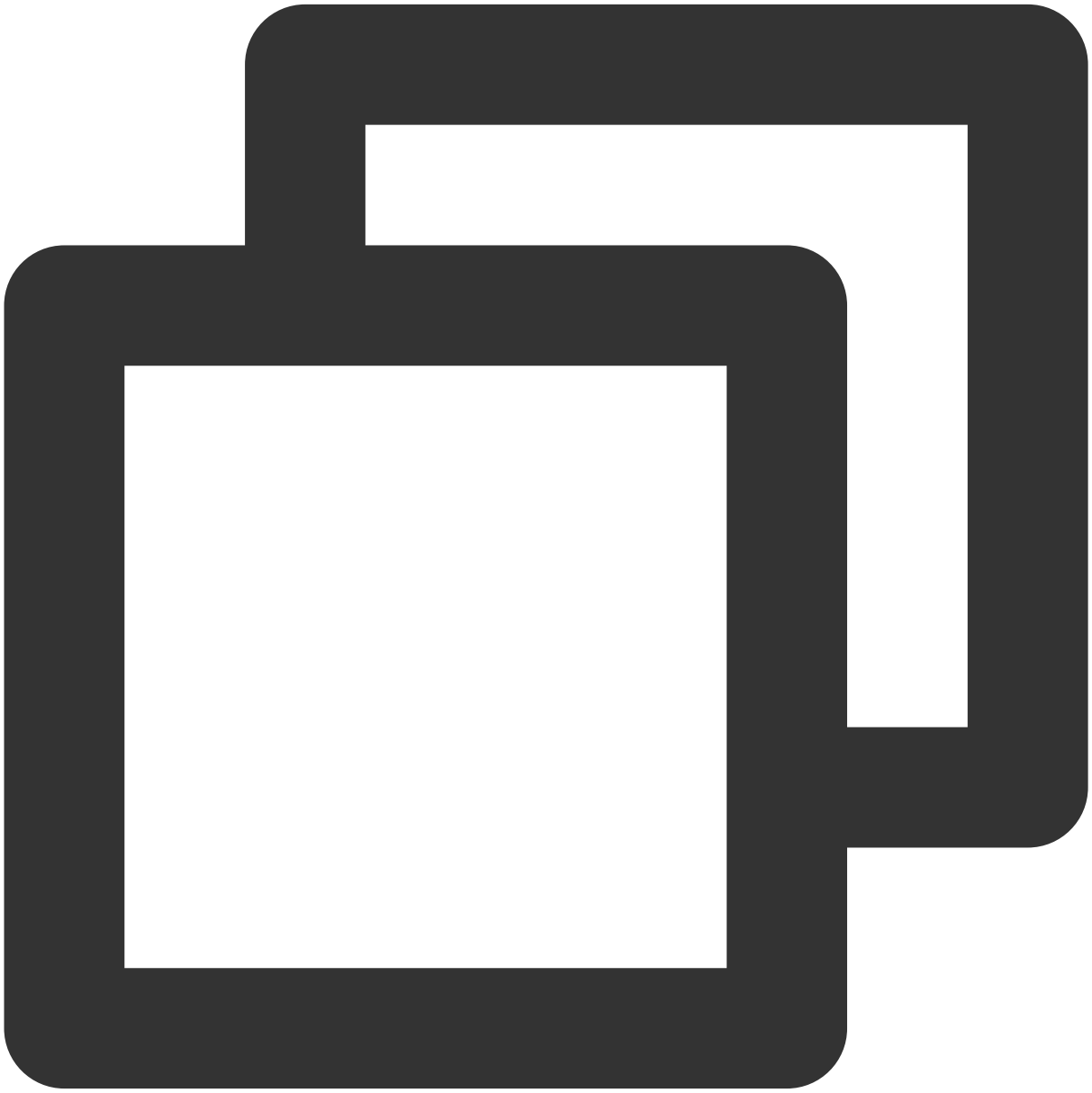
```
Future<TUIActionCallback> responseRemoteRequest(String requestId,
                                                bool agree)
```

Parameters:

Parameter	Type	Meaning
requestId	String	Request ID
agree	bool	Whether to agree

switchCamera

Switch front/rear camera

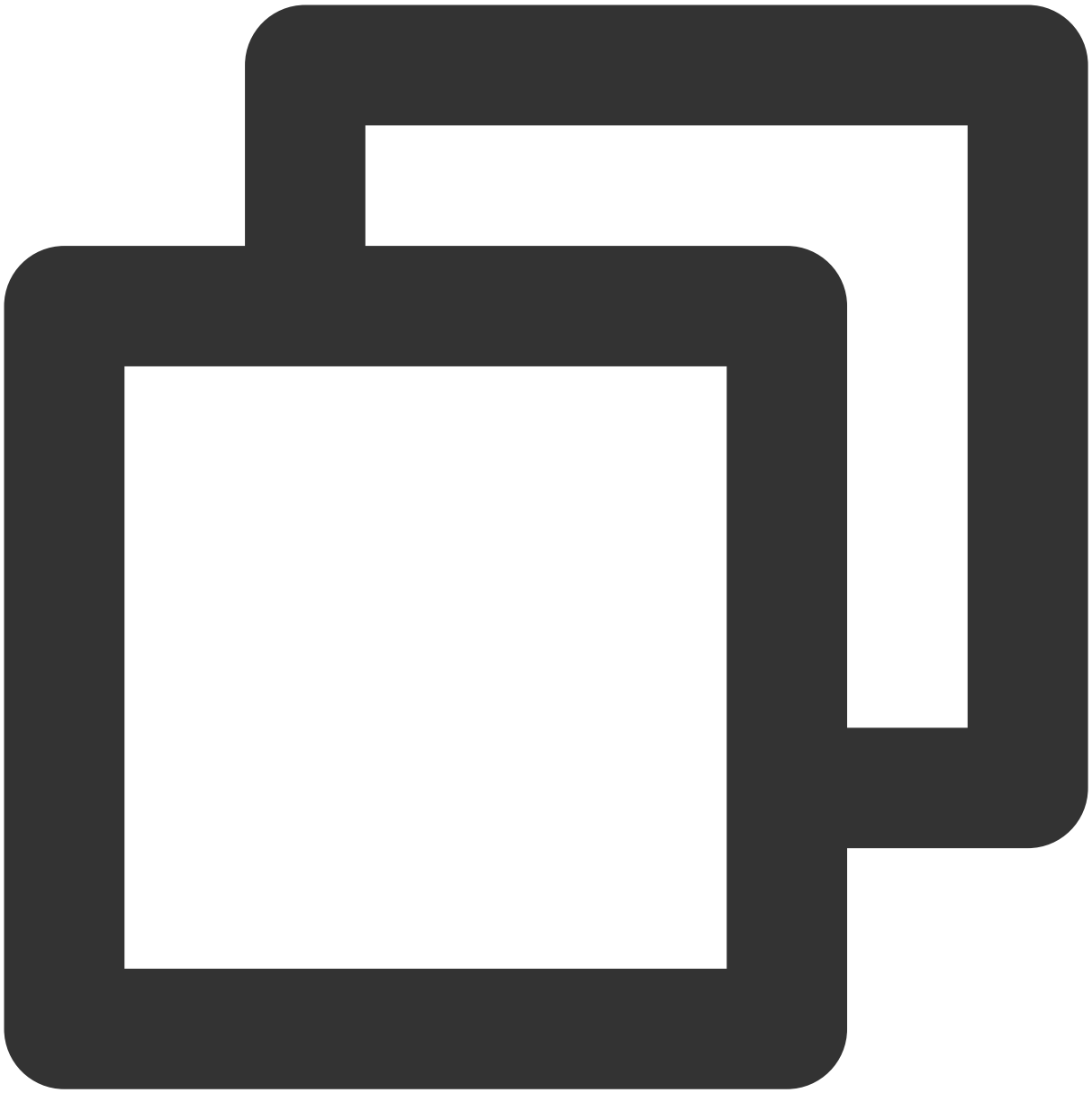


```
Future<int?> switchCamera(bool isFrontCamera);
```

Parameter	Type	Meaning
isFrontCamera	bool	Is front camera

setBeautyLevel

Set beauty level

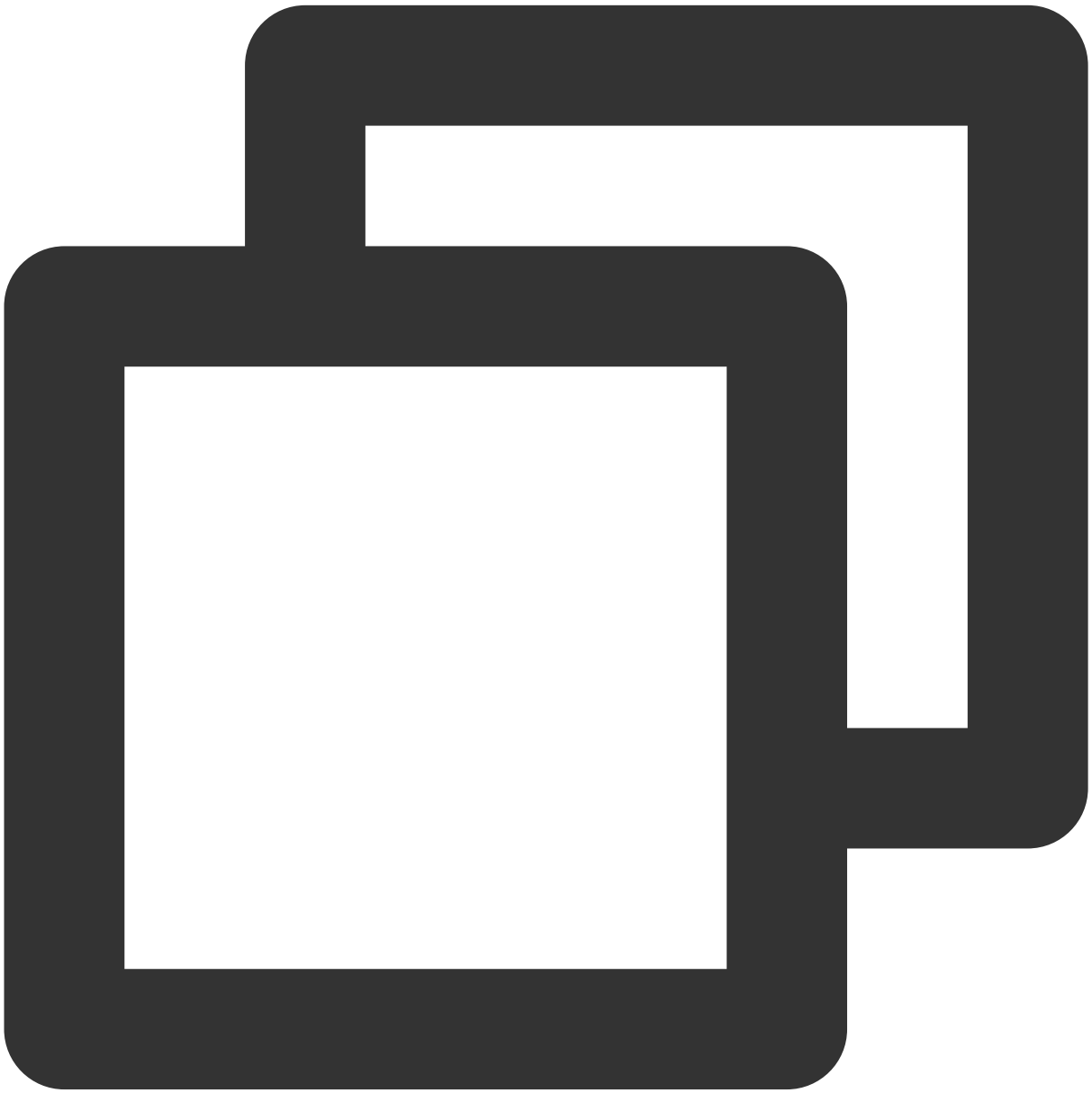


```
void setBeautyLevel(int beautyStyle, int beautyLevel);
```

Parameter	Type	Meaning
beautyStyle	int	beauty style
beautyLevel	int	beauty level

setWhitenessLevel

Set whiteness level

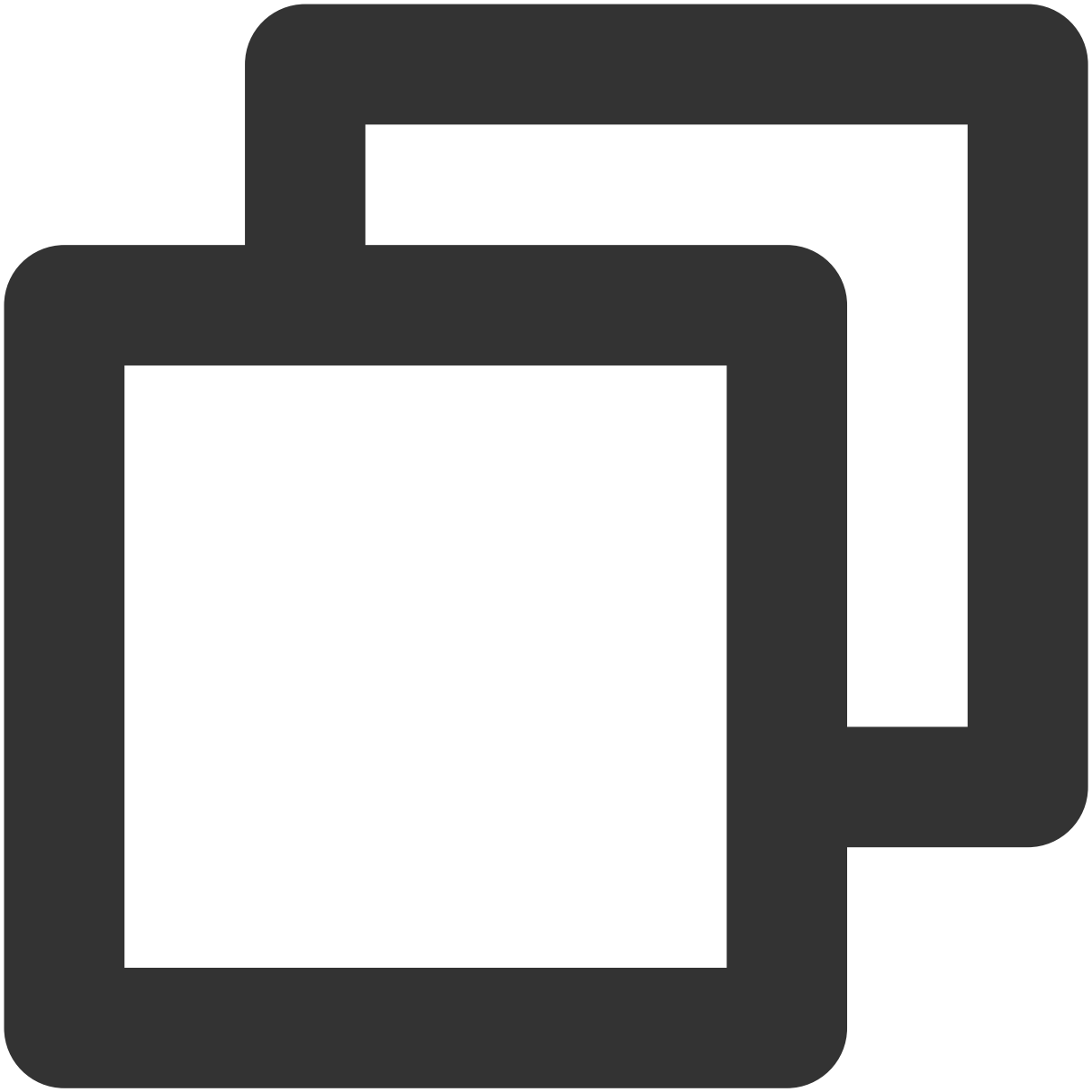


```
void setWhitenessLevel(int whitenessLevel);
```

Parameter	Type	Meaning
whitenessLevel	int	whiteness level

callExperimentalAPI

Call experimental api



```
void callExperimentalAPI(String jsonStr);
```

Parameter	Type	Meaning
jsonStr	String	Api infomation

Type Definition

Last updated：2023-11-21 15:17:59

Enumeration Definition

TUIRoomDefine

Type	Description
TUIRoomType	Room Type
TUISpeechMode	Mic Control Mode
TUIMediaDevice	Room Media Device Type
TUIRole	Room Role Type
TUIVideoQuality	Video Quality
TUIAudioQuality	Audio Quality
TUIVideoStreamType	Video Stream Type
TUIChangeReason	Change Reason (User audio and video status change operation reason: self-modification or modified by room owner/administrator)
TUICaptureSourceType	Screen Sharing Capture Source Type
TUIRequestAction	Request Type
TUIResolutionMode	Video resolution mode (landscape or portrait)

TUICommonDefine

Type	Description
TUIError	Error Code
TUINetworkQuality	Network Quality

Common Structure

TUIRoomDefine

Type	Description

TUIRoomInfo	Room data
TUILoginUserInfo	User Login Information
TUIUserInfo	Room User Information
TUISeatInfo	Room Seat Information
TUISeatLockParams	Lock Seat Operation Parameters
TUIUserVoiceVolume	Room User Volume
TUIRequest	Signaling Request
TUIActionCallback	User Operation Callback
TUIPlayCallback	Video Playback Callback
TUIRequestCallback	User Request Callback
TUIUserListResult	User List Information
TUIUserVoiceVolume	User Volume Information
TUIValueCallBack<T>	With Return Value (T) Callback
TUIRoomVideoEncoderParams	Video encoder params

TUICommonDefine

Type	Description
TUINetwork	Network Quality Information
TUIMessage	Message
TUIImageBuffer	Image Info

TUIRoomType

Room Type

Enumeration	Value	Description
conference	1	Conference Type Room, suitable for conference and education scenarios, this room can enable free speech, apply for speech, go live and other modes.
livingRoom	2	Live Type Room, suitable for live broadcast scenarios, this room can

		enable free speech, mic control mode, and the seats in this room are numbered.

TUISpeechMode

Mic Control Mode

Enumeration	Value	Description
freeToSpeak	1	Free speech mode
applyToSpeak	2	Apply to speak mode. (Only effective in conference type room)
applySpeakAfterTakingSeat	3	Go Live mode

Explanation:

The relationship between Room Type, Mic Control Mode, and Going Live (takeSeat)

Room Type	Mic Control Mode		
	freeToSpeak	applyToSpeak	applySpeakAfterTakingSeat
conference	Not Supported	Not Supported	Need to Apply to the Host/Admin (takeSeat), Can Speak with Mic/Camera After Approval
livingRoom	Can Freely Go Live	Not Supported	Need to Apply to the Host/Admin (takeSeat), Can Speak with Mic/Camera After Approval

TUIMediaDevice

Room Media Device Type

Enumeration	Value	Description
microphone	1	Mic
camera	2	Camera
screen	3	Screen Sharing

TUIRole

Room Role Types

Enumeration	Value	Description
roomOwner	0	Room Owner. Generally refers to the creator of the room, the highest authority holder in the room
administrator	1	Room Administrator
generalUser	2	General Member in the room

TUIVideoQuality

Video Quality

Enumeration	Value	Description
videoQuality_360P	1	Low Definition 360P
videoQuality_540P	2	Standard Definition 540P
videoQuality_720P	3	High Definition 720P
videoQuality_1080P	4	Ultra Definition 1080P

TUIAudioQuality

Audio Quality

Enumeration	Value	Description
audioProfileSpeech	0	Vocal Mode
audioProfileDefault	1	Default Mode
audioProfileMusic	2	Music Mode

TUIVideoStreamType

Video Stream Types

Enumeration	Value	Description
cameraStream	0	HD Camera Video Stream
screenStream	1	Screen Sharing Video Stream

cameraStreamLow	2	Low Definition Camera Video Stream

TUIChangeReason

Change Reason (User audio and video status change operation reason: self-initiated modification or modified by room owner/administrator)

Enumeration	Value	Description
changedBySelf	0	Self-operation
changedByAdmin	1	Room Owner or Administrator operation

TUICaptureSourceType

Screen Sharing Capture Source Type

Enumeration	Value	Description
unknown	-1	Undefined
window	0	Window
screen	1	Screen

TUIRequestAction

Request Type

Enumeration	Value	Description
invalidAction	0	Invalid request
requestToOpenRemoteCamera	1	Request remote user to open the camera
requestToOpenRemoteMicrophone	2	Request remote user to open the microphone
requestToConnectOtherRoom	3	Request to connect to another room
requestToTakeSeat	4	Request to go live
requestRemoteUserOnSeat	5	Request remote user to go live
applyToAdminToOpenLocalCamera	6	Request to the administrator to open the local camera
applyToAdminToOpenLocalMicrophone	7	Request to the administrator to open the local microphone

TUIResolutionMode

Video resolution mode (landscape or portrait)

Enumeration	Value	Description
landscape	0	landscape
portrait	1	portrait

TUIError

Error Code

Enumeration	Value	Description
success	0	Operation Successful
errFailed	-1	Temporarily Unclassified General Error
errFreqLimit	-2	Request Limited, Please Try Again Later
errRepeatOperation	-3	Repeated operation, please check whether your interface call is repeated
errSDKAppIDNotFound	-1000	SDKAppID Not Found, Please Confirm Application Info in TRTC Console
errInvalidParameter	-1001	Illegal Input Parameters When Calling API
errSdkNotInitialized	-1002	SDK Not Initialized
errPermissionDenied	-1003	No Operation Permission
errRequirePayment	-1004	Need to Open Extra Package for This Feature
errCameraStartFailed	-1100	Failed to Open Camera
errCameraNotAuthorized	-1101	Camera Not Authorized
errCameraOccupy	-1102	Camera Occupied
errCameraDeviceEmpty	-1103	No Camera Device Currently
errMicrophoneStartFailed	-1104	Microphone Opening Failed
errMicrophoneNotAuthorized	-1105	Microphone Not Authorized
errMicrophoneOccupy	-1106	Microphone Occupied

errMicrophoneDeviceEmpty	-1107	No Microphone Device Currently
errGetScreenSharingTargetFailed	-1108	Failed to Get Screen Sharing Target
errStartScreenSharingFailed	-1109	Failed to Start Screen Sharing
errRoomIdNotExist	-2100	Room Does Not Exist When Entering, or Maybe Closed
errOperationInvalidBeforeEnterRoom	-2101	Need to Enter the Room Before Using This Feature
errExitNotSupportedForRoomOwner	-2102	Room Owner Does Not Support Exit Operation, Conference Room Type: You can transfer the room owner first, then exit the room. LivingRoom Room Type: The room owner can only close the room
errOperationNotSupportedInCurrentRoomType	-2103	This Operation is Not Supported in the Current Room Type
errOperationNotSupportedInCurrentSpeechMode	-2104	This Operation is Not Supported in the Current Speech Mode
errRoomIdInvalid	-2105	Illegal Room ID Creation, Custom ID Must Be Printable ASCII Characters (0x20-0x7e), Up to 48 Bytes
errRoomIdOccupied	-2106	Room ID Already in Use, Please Choose Another Room ID
errRoomNameInvalid	-2107	Illegal Room Name, The Name Must Be Up to 30 Bytes, The Character Encoding Must Be UTF-8, If It Contains Chinese
errAlreadyInOtherRoom	-2108	The Current User is Already in Another Room, You Need to Exit the Room First to Join a New Room. A single roomEngine instance only supports the user entering one room. If you want to enter a different room, please exit the room first or use a new roomEngine instance
errUserNotExist	-2200	User Does Not Exist
errUserNotEntered	-2201	User is Not in the Current Room
errUserNeedOwnerPermission	-2300	Room Owner Permission Required for

		Operation
errUserNeedAdminPermission	-2301	Room Owner or Administrator Permission Required for Operation
errRequestNoPermission	-2310	No Permission for Signaling Request, For Example, Canceling an Invitation Not Initiated by Yourself
errRequestIdInvalid	-2311	Invalid Signaling Request ID or Already Processed
errMaxSeatCountLimit	-2340	Maximum Seat Exceeds Package Quantity Limit
errAlreadyInSeat	-2341	Current User is Already on the Seat
errSeatOccupied	-2342	The Current Seat is Already Occupied
errSeatLocked	-2343	The Current Seat is Locked
errSeatIndexNotExist	-2344	Seat Number Does Not Exist
errUserNotInSeat	-2345	Current User is Not on the Mic
errAllSeatOccupied	-2346	The Number of People on the Mic is Full
errOpenMicrophoneNeedSeatUnlock	-2360	The Current Seat Audio is Locked
errOpenMicrophoneNeedPermissionFromAdmin	-2361	Need to Apply to the Room Owner or Administrator to Open the Microphone
errOpenCameraNeedSeatUnlock	-2370	The Current Seat Video is Locked, The Room Owner Needs to Unlock the Seat Before Opening the Camera
errOpenCameraNeedPermissionFromAdmin	-2371	Need to Apply to the Room Owner or Administrator to Open the Camera
errSendMessageDisabledForAll	-2380	The Current Room Has Enabled Mute for All
errSendMessageDisabledForCurrent	-2381	In the Current Room, You Have Been Muted

TUINetworkQuality

Network Quality

Enumeration	Value	Description

qualityUnknown	0	Undefined
qualityExcellent	1	The Current Network is Very Good
qualityGood	2	The Current Network is Good
qualityPoor	3	The Current Network is Average
qualityBad	4	The Current Network is Poor
qualityVeryBad	5	The Current Network is Very Poor
qualityDown	6	The Current Network Does Not Meet the Minimum Requirements of TRTC

TUIRoomInfo

Room data

Field	Type	Description
roomId	String	Room ID
roomType	TUIRoomType	Room Type
ownerId	String	Host ID, Default is Room Creator (Read Only)
name	String	Room Name, Default is Room ID
speechMode	TUISpeechMode	Room Speech Mode
createTime	int	Room Creation Time (Read Only)
memberCount	int	Number of Members in the Room (Read Only)
maxSeatCount	int	Maximum Seat Quantity (Only Supported When Entering the Room and Creating the Room)
isCameraDisableForAllUser	bool	Whether to Prohibit Opening the Camera (Optional Parameter When Creating a Room). Default Value: false
isMicrophoneDisableForAllUser	bool	Whether to Prohibit Opening the Microphone (Optional Parameter When Creating a Room). Default Value: false
isMessageDisableForAllUser	bool	Whether to Prohibit Sending Messages (Optional Parameter When Creating a Room). Default Value: false

enableCDNStreaming	bool	Whether to Enable CDN Live Streaming (Optional Parameter When Creating a Room, for Live Room Use). Default Value: false
cdnStreamDomain	String	Live Streaming Push Domain (Optional Parameter When Creating a Room, for Live Room Use). Default Value: Empty

TUILoginUserInfo

User Login Info

Field	Type	Meaning
userId	String	User ID
userName	String	User Name
avatarUrl	String	User Avatar URL
customInfo	Map<String, String>	Custom Information

TUIUserInfo

User Information in the Room

Field	Type	Description
userId	String	User ID
userName	String	User Name
avatarUrl	String	User Avatar URL
userRole	TUIRole	User Role Type
hasAudioStream	bool	Whether There is an Audio Stream. Default Value: false
hasVideoStream	bool	Whether There is a Video Stream. Default Value: false
hasScreenStream	bool	Whether There is a Screen Sharing Stream. Default Value: false

TUISeatInfo

Seat Information in the Room

Field	Type	Description

index	int	Seat Number
userId	String	User ID
isLocked	bool	Whether the Seat is Locked. Default Value: false
isVideoLocked	bool	Whether the Seat is Prohibited from Opening the Camera. Default Value: false
isAudioLocked	bool	Whether the Seat is Prohibited from Opening the Microphone. Default Value: false

TUISeatLockParams

Lock Seat Operation Parameters

Field	Type	Meaning
lockSeat	bool	Lock Seat. Default Value: false
lockVideo	bool	Lock Seat Camera. Default Value: false
lockAudio	bool	Lock Seat Microphone. Default Value: false

TUIUserVoiceVolume

User Volume in the Room

Field	Type	Description
userId	String	User ID
volume	int	Volume. Used to Carry the Volume of All Speaking Users, Value Range 0 - 100

TUIRequest

Signaling Request

Field	Type	Description
requestId	String	Request ID
requestAction	TUIRequestAction	Request Type
userId	String	User ID
content	String	Signaling Content

timestamp	int	Timestamp

TUIActionCallback

Field	Type	Description
code	TUIError	Error Code
message	String?	Error Information

TUIPlayCallback

Field	Type	Description
onPlaying	(String userId) {}	Playing Callback
onLoading	(String userId) {}	Loading Callback
onPlayError	(String userId, TUIError code, String message) {}	Playback Error Callback

TUIRequestCallback

Field	Type	Description
onAccepted	(String requestId, String userId) {}	Request Accepted Callback
onRejected	(String requestId, String userId, String message) {}	Request Rejected Callback
onCancelled	(String requestId, String userId) {}	Request Cancelled Callback
onTimeout	(String requestId, String userId) {}	Request Timeout Callback
onError	(String requestId, String userId, TUIError error, String message) {}	Request Error Callback

TUIUserListResult

Field	Type	Description
nextSequence	int	Pagination Fetch Flag, if the returned nextSequence is not zero, you need to use the returned nextSequence to fetch again until it returns 0

userInfoList	List<TUIUserInfo>	The user list returned by this call

TUIUserVoiceVolume

Field	Type	Description
userId	String	User ID
volume	int	User Volume Size

TUIValueCallBack<T>

Field	Type	Description
code	TUIError	Error Code
message	String?	Error Message
data	T?	Return Data, example: if T is TUIUserInfo, then the data field type of TUIValueCallBack<TUIUserInfo> is TUIUserInfo

TUIRoomVideoEncoderParams

Video encoder params

Field	Type	Description
videoResolution	TUIVideoQuality	Video resolution
resolutionMode	TUIResolutionMode	Video resolution mode
fps	int	Video capturing frame rate
bitrate	int	Target video bitrate

TUINetwork

Network Quality Information

Field	Type	Description
userId	String	User ID
quality	TUINetworkQuality	Network Quality
upLoss	int	Packet Loss Rate for Upstream

downLoss	int	Packet Loss Rate for Downstream
delay	int	Network Delay

TUIMessage

Message

Field	Type	Description
messageId	String	Message ID
message	String	Message Text
timestamp	int	Message Timestamp
userId	String	Message Sender
userName	String	Message Sender Nickname
avatarUrl	String	Message Sender Avatar

TUIImageBuffer

Image Info

Field	Type	Description
buffer	String	Image Data Cache Address
length	int	Length
width	int	Width
height	int	Height

FAQs
Web

Last updated：2023-10-30 11:03:31

Environment-related Issues

What platforms does TUIRoomKit Web support?

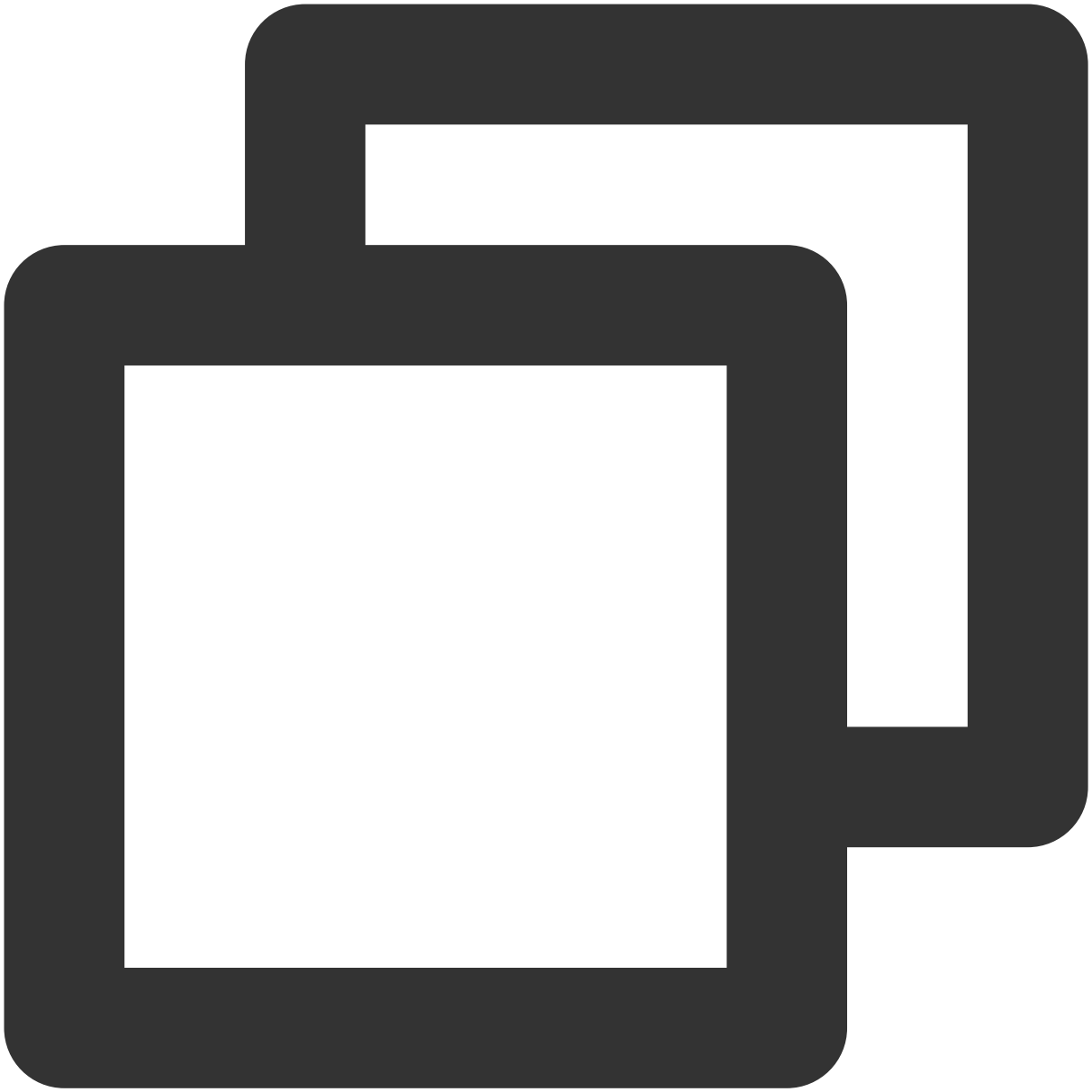
Please refer to TRTC Web SDK's browser support for TUIRoomEngine Web supported platforms.
For environments not listed above, you can open the TRTC Capability Test in your current browser to test if it fully supports WebRTC features.

Why can TUIRoomKit be used normally in local development testing, but not when deployed online?

Considering user safety and privacy issues, browsers restrict web pages to only capture mic and Camera in secure environments (such as https, localhost, file:// protocols). HTTP protocol is insecure, and browsers will prohibit media device capturing under HTTP protocol.
If everything works fine in your local development testing, but you cannot capture Camera and mic after deploying the page, please check if your web page is deployed on HTTP protocol. If so, please use HTTPS to deploy your web page and ensure a qualified HTTPS security certificate.
For more details, please refer to the URL domain and protocol restrictions description.

TDoes TUIRoomKit Web support integration with iframe?

Yes, it does. To integrate TUIRoom Web in an iframe, you need to add attributes to the iframe tag to enable related permissions, as shown below.

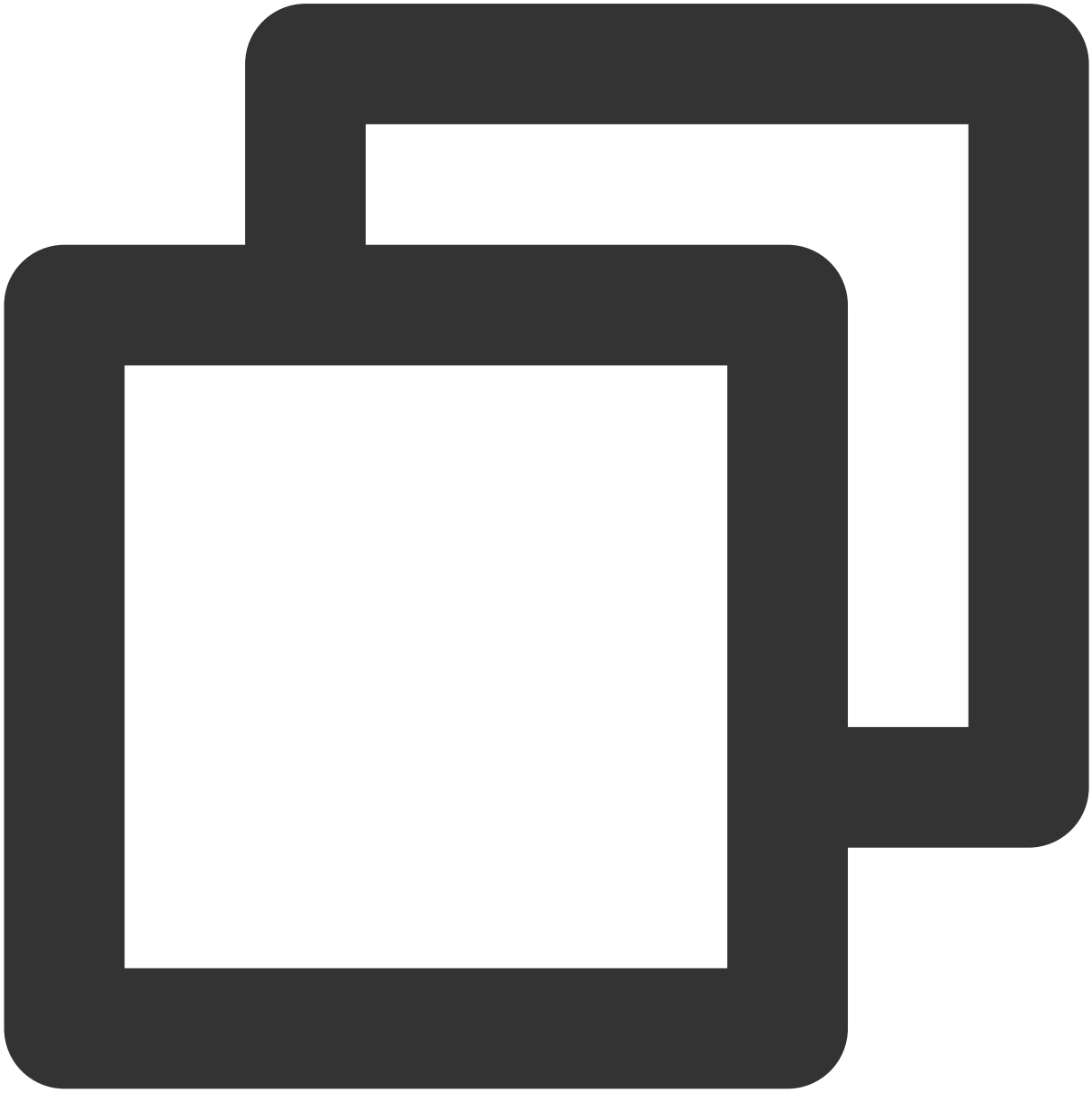


```
// Enable mic, Camera, Screen Sharing, and full-screen permissions
<iframe allow="microphone; camera; display-capture; display; fullscreen;">
```

Compilation-related Issues

Webpack 5 importing TUIRoomEngine SDK error: webpack < 5 used to include polyfills for node.js core modules by default. This is no longer the case. Verify if you need this module and configure a polyfill for it.

The error is caused by the removal of the automatic inclusion of nodejs core module polyfills in webpack5. You can add configureWebpack configuration in vue.config.js to solve this problem.



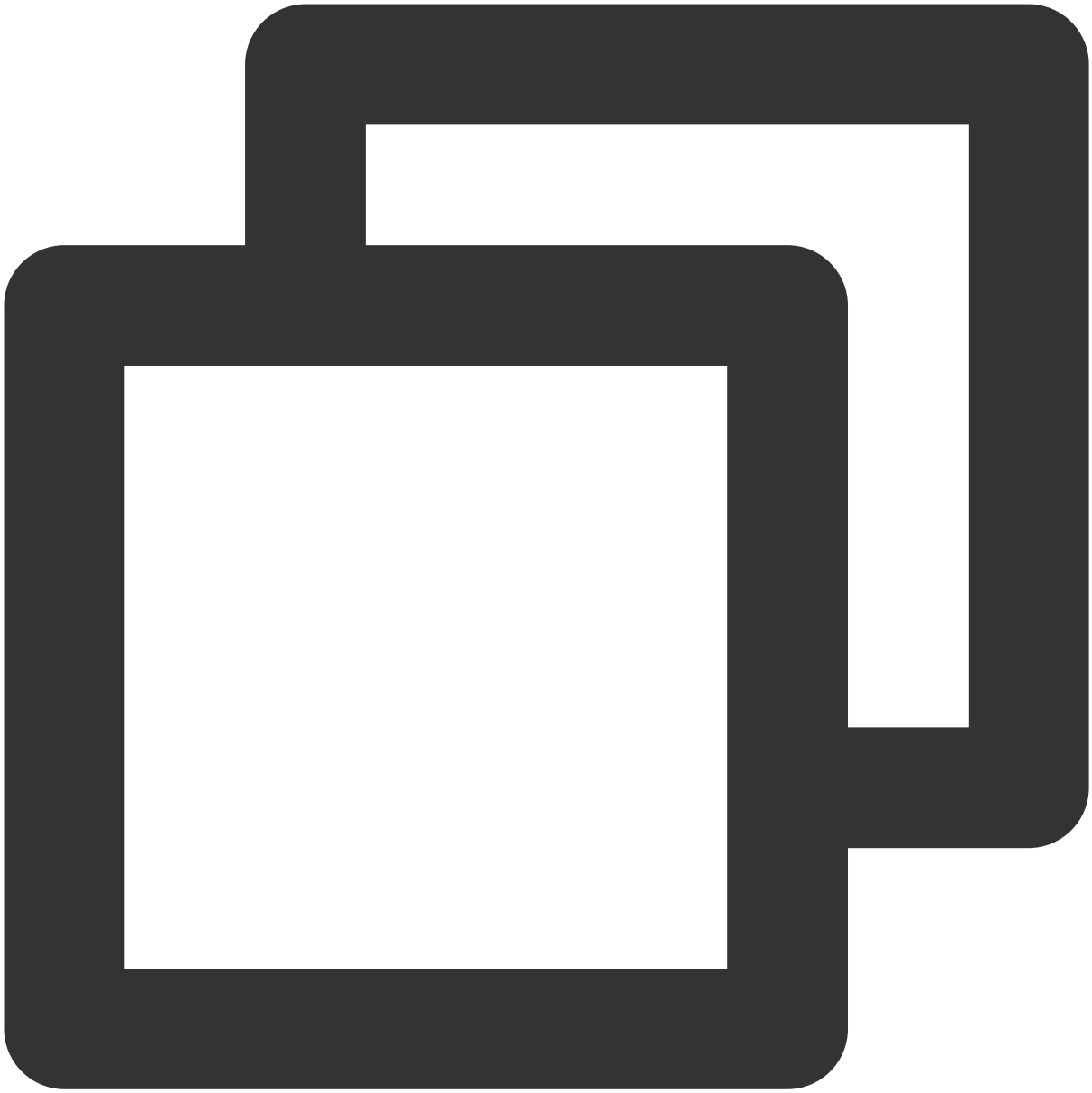
```
module.exports = defineConfig({
  // ...
  configureWebpack: (config) => {
    config.resolve.fallback = {
      ...config.resolve.fallback,
      url: false,
      path: false,
      fs: false,
```

```
        crypto: false,
      };
    }
  });
```

Function-related Issues

Can tim-js-sdk and @tencentcloud/tuiroom-engine-js be introduced in the project at the same time?

Yes, they can. You can create a tim instance object through TIM in tim-js-sdk and pass it to the init interface when initializing TUIRoomEngine.



```
await TUIRoomEngine.init({
 sdkAppId: 0,   // Fill in your applied sdkAppId
 userId: '',    // Fill in your business-related userId
 userSig: '',   // Fill in the userSig calculated by the server or locally
 tim,    // Pass in the tim instance
});
```

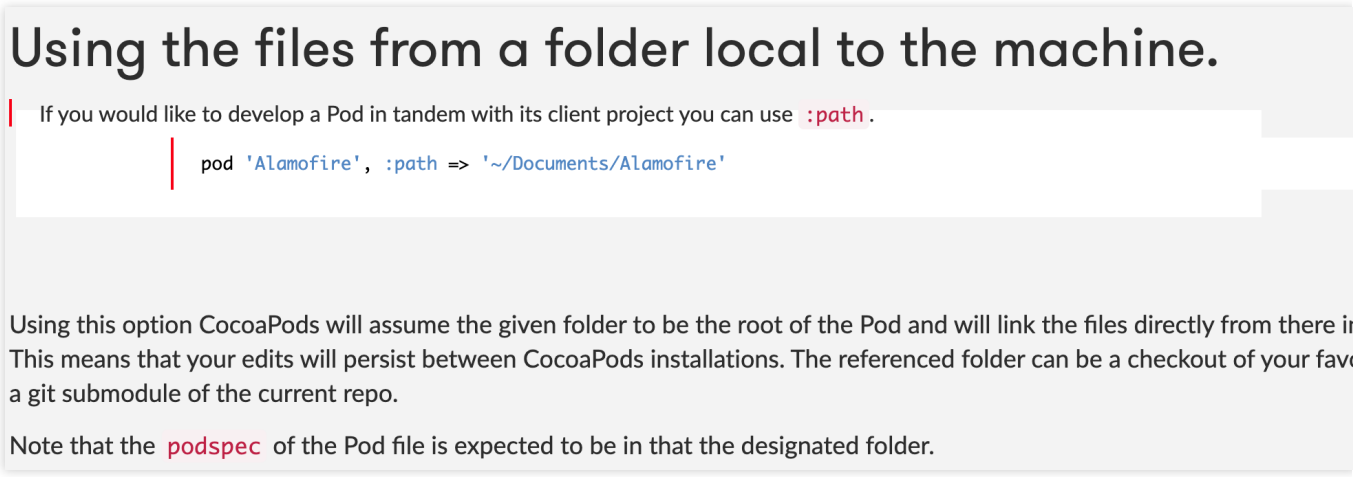
Also, you can get the tim instance used internally by TUIRoomEngine through the roomEngine.getTIM method.

iOS

Last updated：2023-10-30 14:10:38

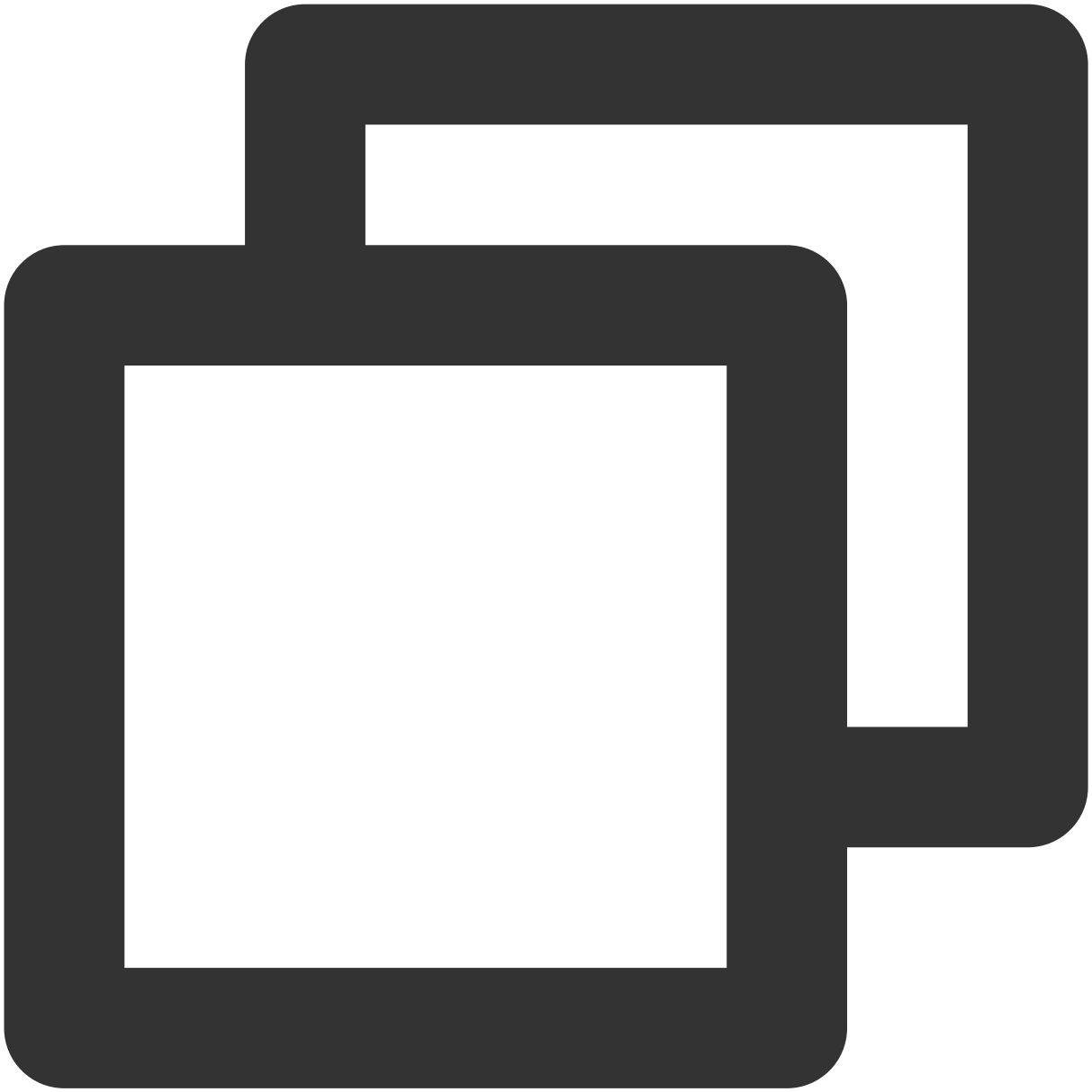
I need to modify the UI myself. Every time I update the pod, the source code will be refreshed, causing the modifications to be lost. How should I handle this?

It is suggested to Fork the TUIRoomKit repository to your personal GitHub account, and then use the local pod or git pod path to reference the corresponding code in your project.
For details, please refer to the official Pod documentation:



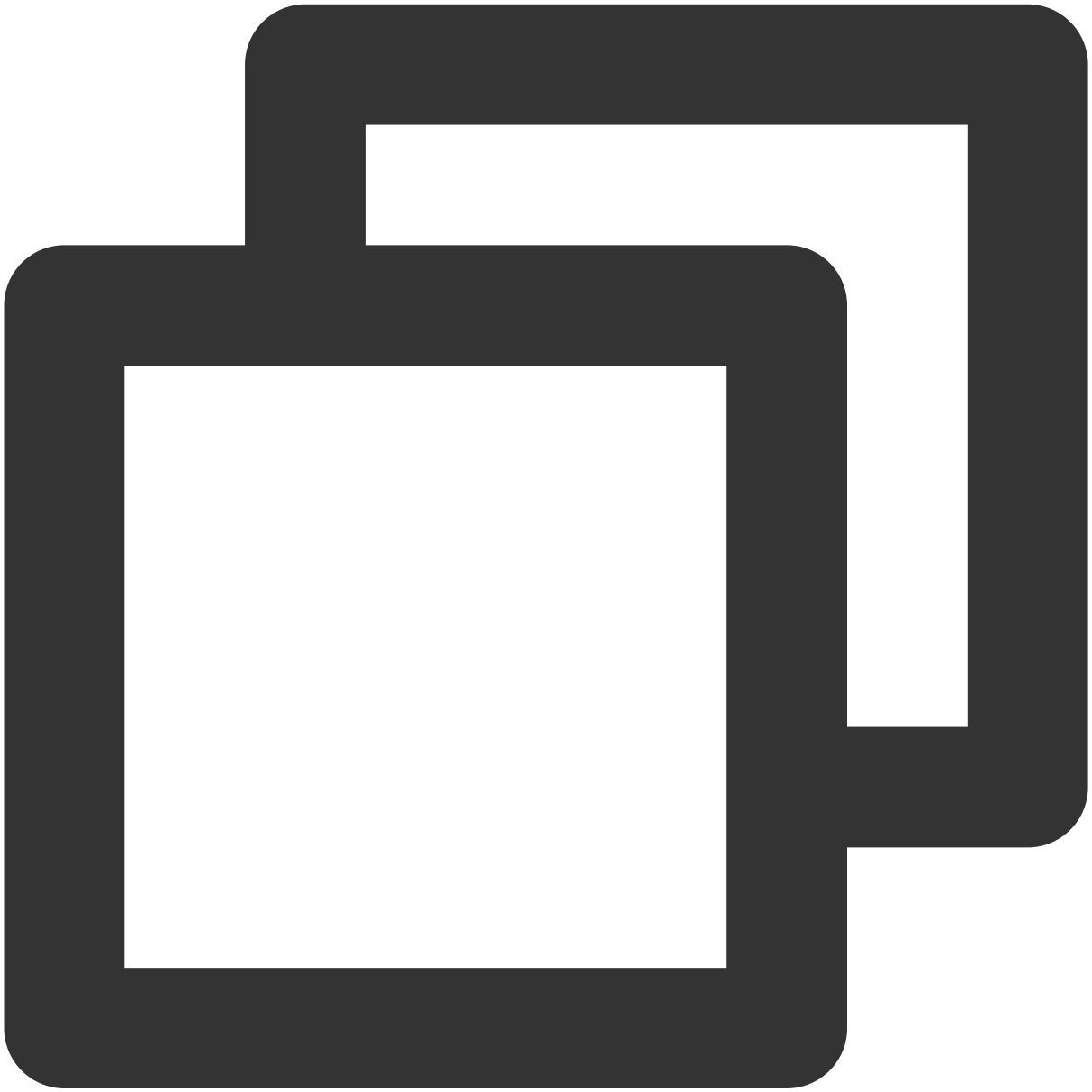
Is there a conflict between TUIRoomKit and the integrated audio and video library?

Tencent Cloud's audio and video libraries cannot be integrated at the same time, and there may be symbol conflicts. You can handle it according to the following scenarios.
1. If you are using the `TXLiteAVSDK_TRTC` library, there will be no symbol conflicts. You can directly add dependencies in the Podfile file.



```
pod 'TUIRoomKit'
```

2. If you are using the `TXLiteAVSDK_Professional` library, there will be symbol conflicts. You can add dependencies in the `Podfile` file.



```
pod 'TUIRoomKit/Professional'
```

3. If you are using the `TXLiteAVSDK_Enterprise` library, there will be symbol conflicts. It is recommended to upgrade to `TXLiteAVSDK_Professional` and then use TUIRoomKit/Professional.

How to view TRTC logs?

TRTC logs are compressed and encrypted by default, with the extension .xlog. Whether the log is encrypted can be controlled by setLogCompressEnabled. The file name containing C(compressed) is encrypted and compressed, and the file name containing R(raw) is plaintext.

iOS&Mac：Sandbox's `Documents/log`

Android：

Versions 6.7 and earlier： `/sdcard/log/tencent/liteav`

Versions after 6.8： `/sdcard/Android/data/package name/files/log/tencent/liteav/`

Versions after 8.5： `/sdcard/Android/data/package name/files/log/liteav/`

Windows：

Versions before 8.8： `%appdata%/tencent/liteav/log`

Versions 8.8 and later： `%appdata%/liteav/log`

Web：Open the browser Console, or use vConsole to record SDK print information.

Note:

To view the .xlog file, you need to download the decryption tool and run it directly in the Python 2.7 environment with the xlog file in the same directory using python decode_mars_log_file.py.

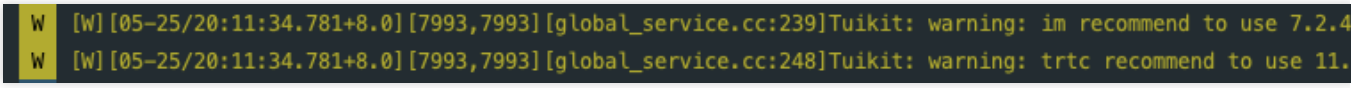
To view the .clog file (new log format after version 9.6), you need to download the decryption tool and run it directly in the Python 2.7 environment with the clog file in the same directory using python decompress_clog.py.

Android

Last updated：2023-10-30 11:06:45

What are the requirements for TUIRoomKit's dependencies on TRTC and IM SDK?

TUIRoomEngine will perform version verification when logging in, prompting you to use the correct TRTC SDK and IM SDK Version.



Can TUIRoomKit remove the dependency on IM SDK?

No, Real-time Conference SDK requires IM for signaling-related communication, including mic control, bullet screen, and other functions, so it needs to have a dependency on IM SDK.

Does TUIRoomKit support features like conference scheduling?

It is not supported yet, this feature is in planning, you can follow our update log to get the latest information on the launch status of this feature.

After integrating TUIRoomKit, how can I quickly modify the user name and user avatar?

You can set it by calling the `setSelfInfo` interface of TUIRoomKit.

Electron

Last updated：2023-10-30 11:07:54

Environment-related issues

Is trtc-electron-sdk compatible with the official Electron v12.0.1 version?

Yes, trtc-electron-sdk is not specifically dependent on Electron's own SDK, so there are no related version dependencies.

Flutter

Last updated：2023-11-21 14:55:33

An error occurs when running on iOS: Error (Xcode): Library not found for -ld64？

`Xcode` 15 changed the compiled `linker`, and `RoomEngine Flutter` was adapted in 1.6.0. Old versions of Xcode cannot be compiled, so just use the latest `Xcode`.

The project integrates `tencent_calls_uikit` and `rtc_room_engine` at the same time. There will be problems such as the two components interfering with each other when joining the room will interrupt the call. How to Resolve？

This is due to the exclusivity of the `RTC` service. We recommend that you use two flags, `callState` and `roomState`, to record whether you are currently on a call or in a conference. These two flags are used to isolate the two services. , to avoid this problem. For example, if you are currently on a call, entry into the room is prohibited.

Error Code

Last updated：2023-12-18 18:13:00

General Error Code

Error Code	Description
0	Operation Successful
-1	Temporarily Unclassified General Error
-2	Request Rate Limited, Please Try Again Later
-1000	Not Found SDKAppID, Please Confirm Application Info in TRTC Console
-1001	Passing illegal parameters when calling API, check if the parameters are legal
-1002	Not Logged In, Please Call Login API
-1003	Failed to Obtain Permission, Unauthorized Audio/Video Permission, Please Check if Device Permission is Enabled
-1004	This feature requires additional Package, please enable the corresponding Package as needed

Local User Rendering, Video Management, Audio Management API Callback Error Definition

Error Code	Description
-1100	System Issue, Failed to Open Camera. Check if Camera Device is Normal
-1101	Camera has No System Authorization, Check System Authorization
-1102	Camera is Occupied, Check if Other Process is Using Camera
-1103	No Camera Device Currently, Please Insert Camera Device to Solve the Problem
-1104	System Issue, Failed to Open Mic. Check if Mic Device is Normal
-1105	Mic has No System Authorization, Check System Authorization
-1106	Mic is Occupied

-1107	No Mic Device Currently
-1108	Failed to Obtain Screen Sharing Object, Check Screen Recording Permission
-1109	Failed to Enable Screen Sharing, Check if Someone is Already Screen Sharing in the Room

Room Management Related API Callback Error Definition

Error Code	Description
-2100	Room Does Not Exist When Entering, May Have Been Closed
-2101	This Feature Can Only Be Used After Entering the Room
-2102	Room Owner Does Not Support Leaving the Room, Conference Room Type: Transfer Room Ownership First, Then Leave the Room. Living Room Type: Room Owner Can Only Close the Room
-2103	This Operation is Not Supported in the Current Room Type
-2104	This Operation is Not Supported in the Current Speaking Mode
-2105	Illegal Custom Room ID, Must Be Printable ASCII Characters (0x20-0x7e), Up to 48 Bytes Long
-2106	Room ID is Already in Use, Please Choose Another Room ID
-2107	Illegal Room Name, Maximum 30 Bytes, Must Be UTF-8 Encoding if Contains Chinese Characters
-2108	User is Already in Another Room, Single RoomEngine Instance Only Supports User Entering One Room, To Enter Different Room, Please Leave the Room or Use New RoomEngine Instance

Room User Information API Callback Error Definition

Error Code	Description
-2200	User Not Found
-2201	User Not Found in the Room

Room User Speech Management API Callback Error Definition & Room Mic Seat Management API Callback Error Definition

Error	Description

Code	
-2300	Room Owner Permission Required for Operation
-2301	Room Owner or Administrator Permission Required for Operation
-2310	No Permission for Signaling Request, e.g. Canceling an Invite Not Initiated by Yourself
-2311	Signaling Request ID is Invalid or Has Been Processed
-2340	Maximum Mic Seat Exceeds Package Quantity Limit
-2341	Current User is Already on Mic Seat
-2342	Mic Seat is Already Occupied
-2343	Mic Seat is Locked
-2344	Mic Seat Serial Number Does Not Exist
-2345	Current User is Not on Mic
-2346	Mic-on Capacity is Full
-2360	Current Mic Seat Audio is Locked
-2361	Need to Apply to Room Owner or Administrator to Open Mic
-2370	Current Mic Seat Video is Locked, Need Room Owner to Unlock Mic Seat Before Opening Camera
-2371	Need to Apply to Room Owner or Administrator to Open Camera
-2380	All Members Muted in the Current Room
-2381	You Have Been Muted in the Current Room

Interactive Live Audio Streaming Integrating TUIVoiceRoom (Android)

Last updated：2024-01-18 11:18:54

Overview

`TUIVoiceRoom` is an open-source audio/video UI component. After integrating it into your project, you can make your application support the group audio chat scenario simply by writing a few lines of code. It also supports the iOS platform. Its basic features are as shown below:

Note

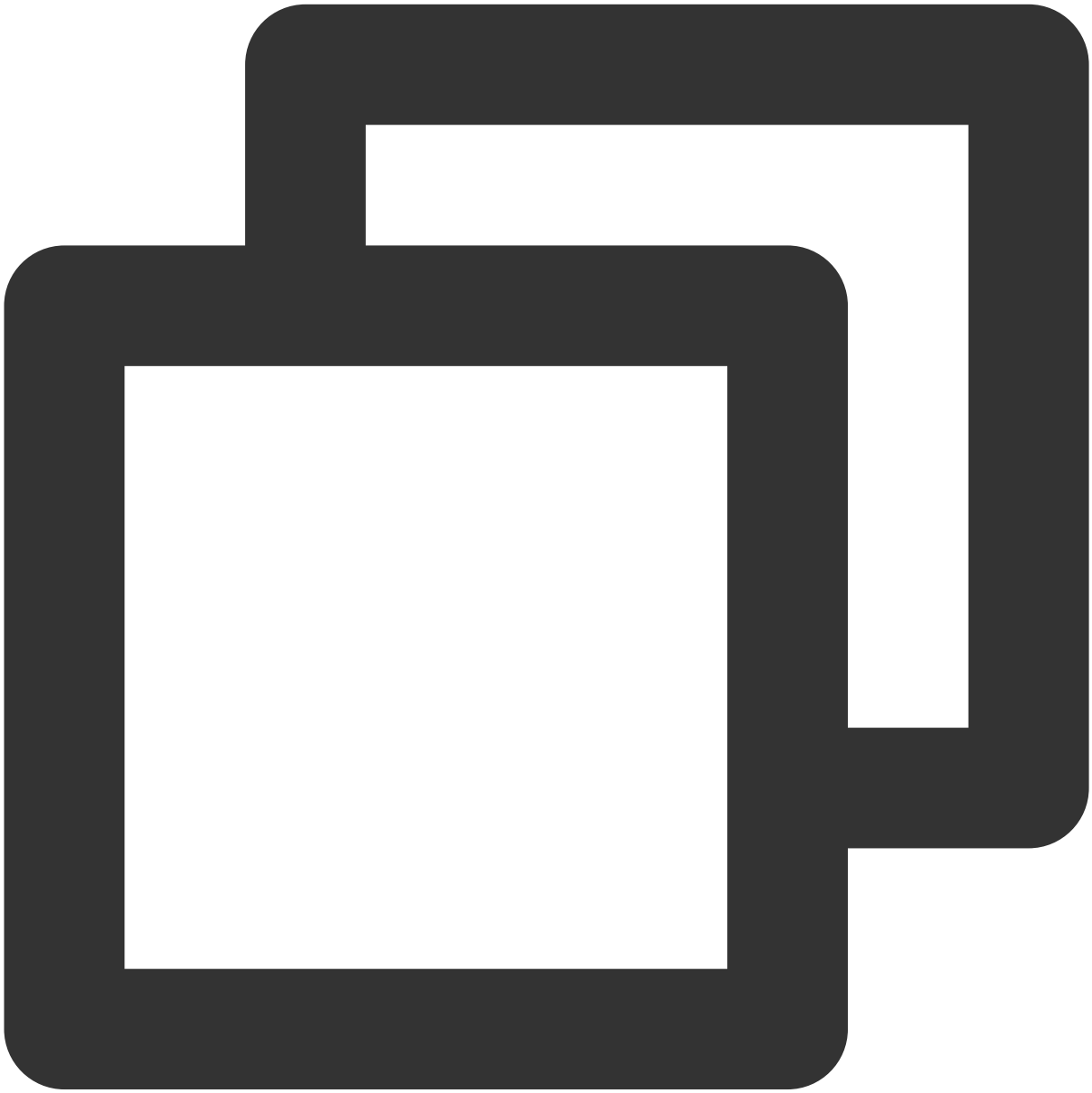
All TUIKit components are based on two PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For billing details of Chat, see Pricing.

Integration

Step 1. Download and import the `TUIVoiceRoom` component

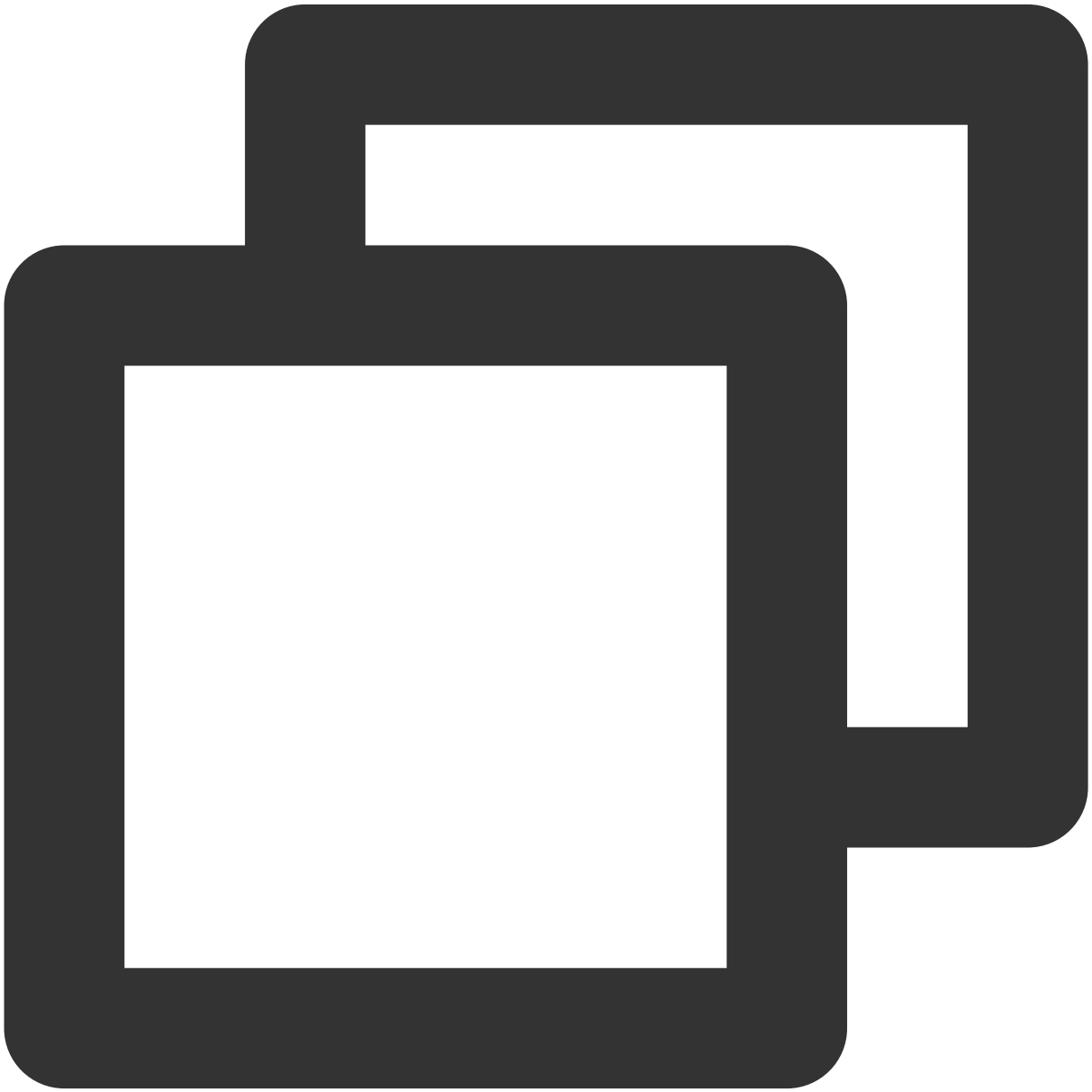
Go to GitHub, clone or download the code, copy the `Android/Source` directory to your project, and complete the following import operations:

Add the code below in `setting.gradle` :



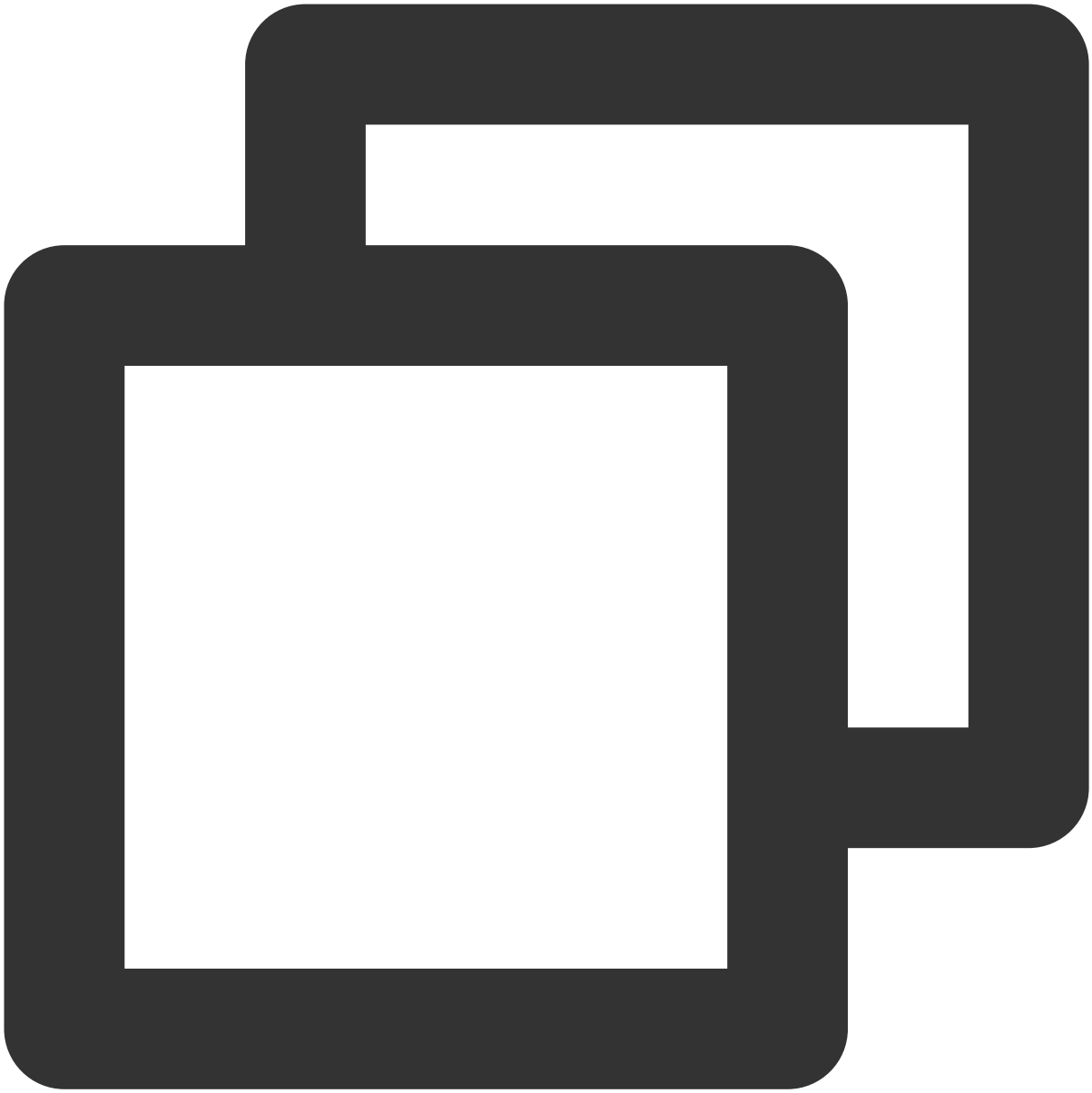
```
include ':Source'
```

Add dependencies on `Source` to the `build.gradle` file in `app` :



```
api project(':Source')
```

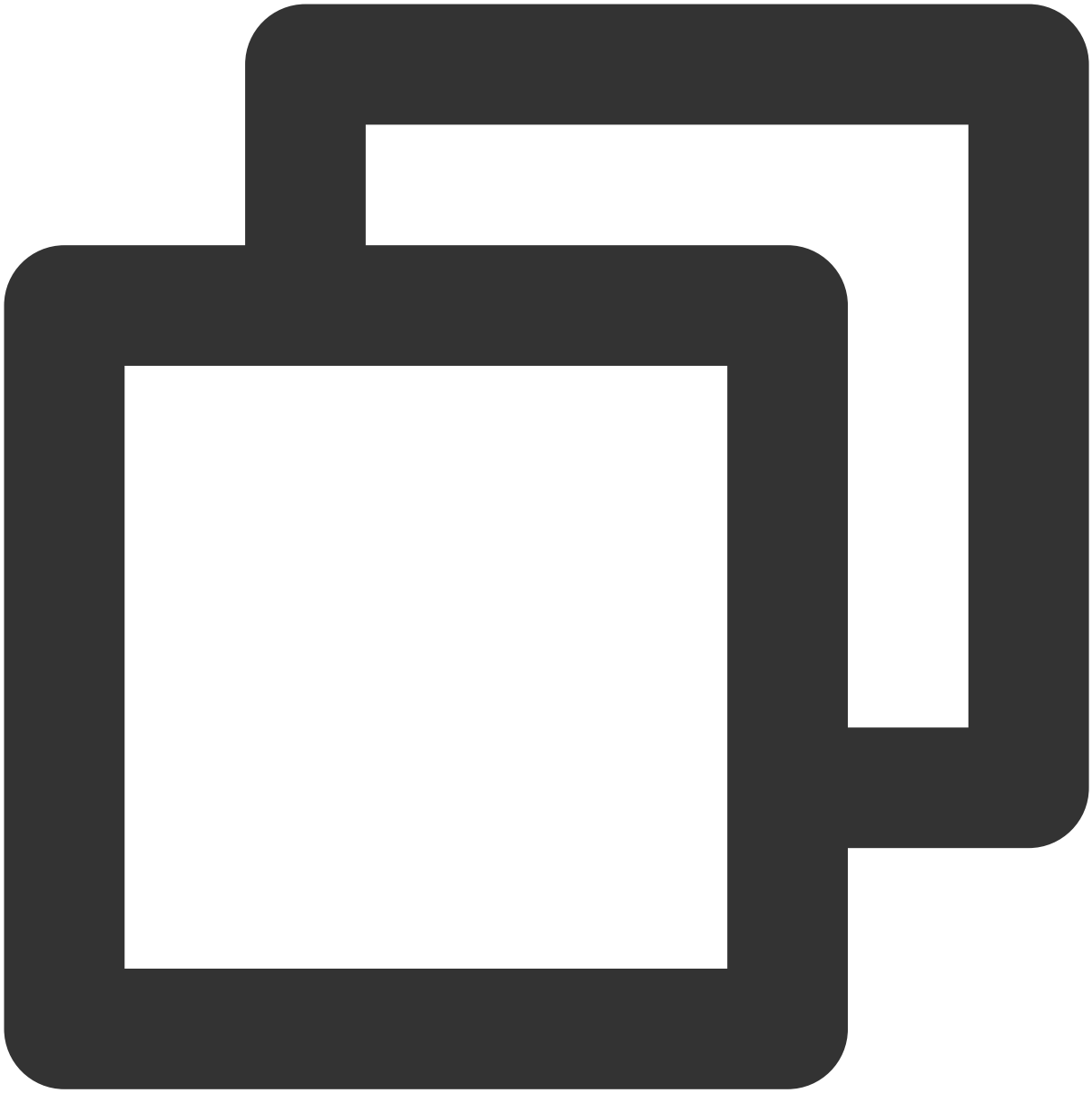
Add the TRTC SDK (`liteavSdk`) and Chat SDK (`imSdk`) dependencies in `build.gradle` in the root directory:



```
ext {
  liteavSdk = "com.tencent.liteav:LiteAVSDK_TRTC:latest.release"
  imSdk = "com.tencent.imsdk:imsdk-plus:latest.release"
}
```

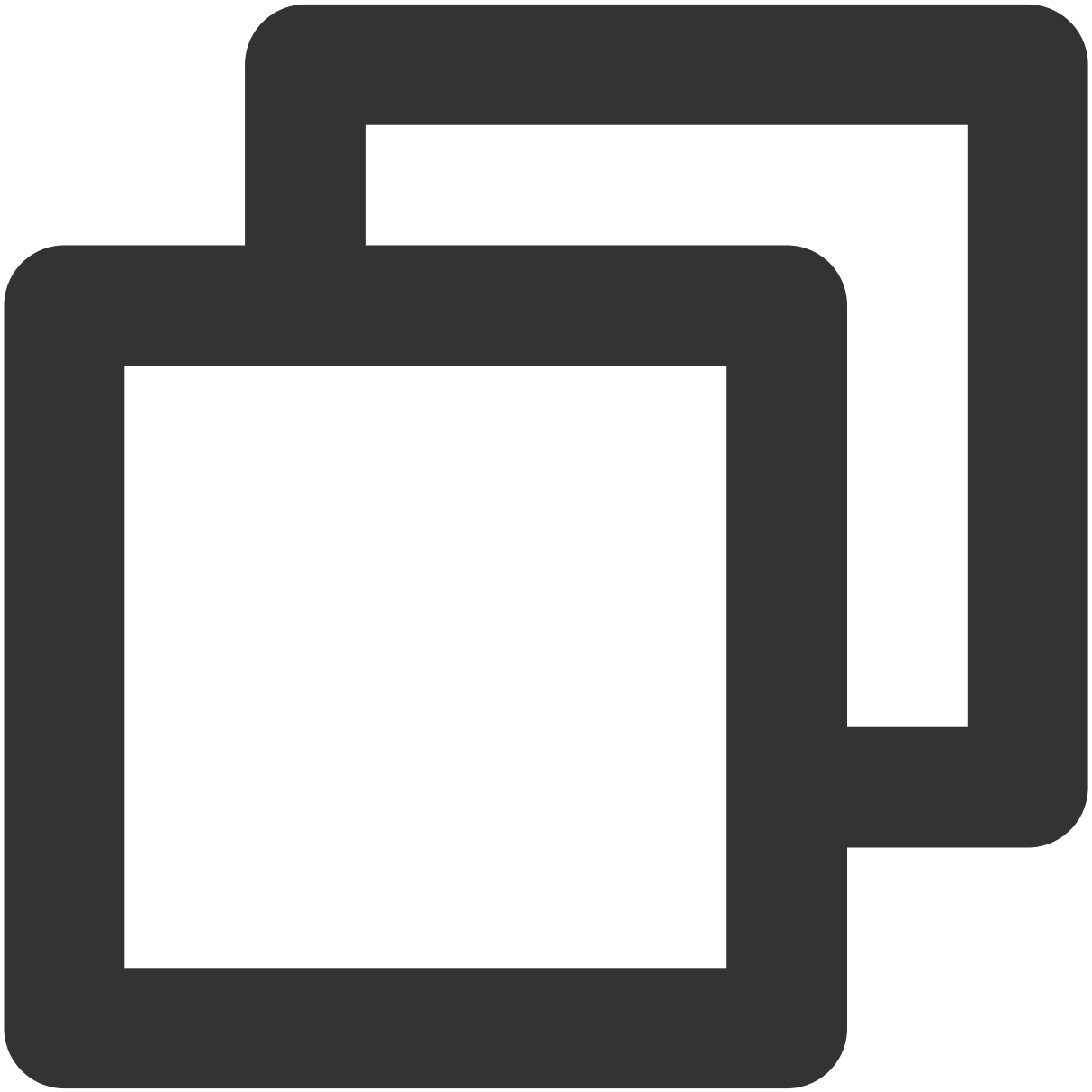
Step 2. Configure permission requests and obfuscation rules

Configure permission requests for your app in `AndroidManifest.xml` . The SDKs need the following permissions (on Android 6.0 and later, the mic access must be requested at runtime):



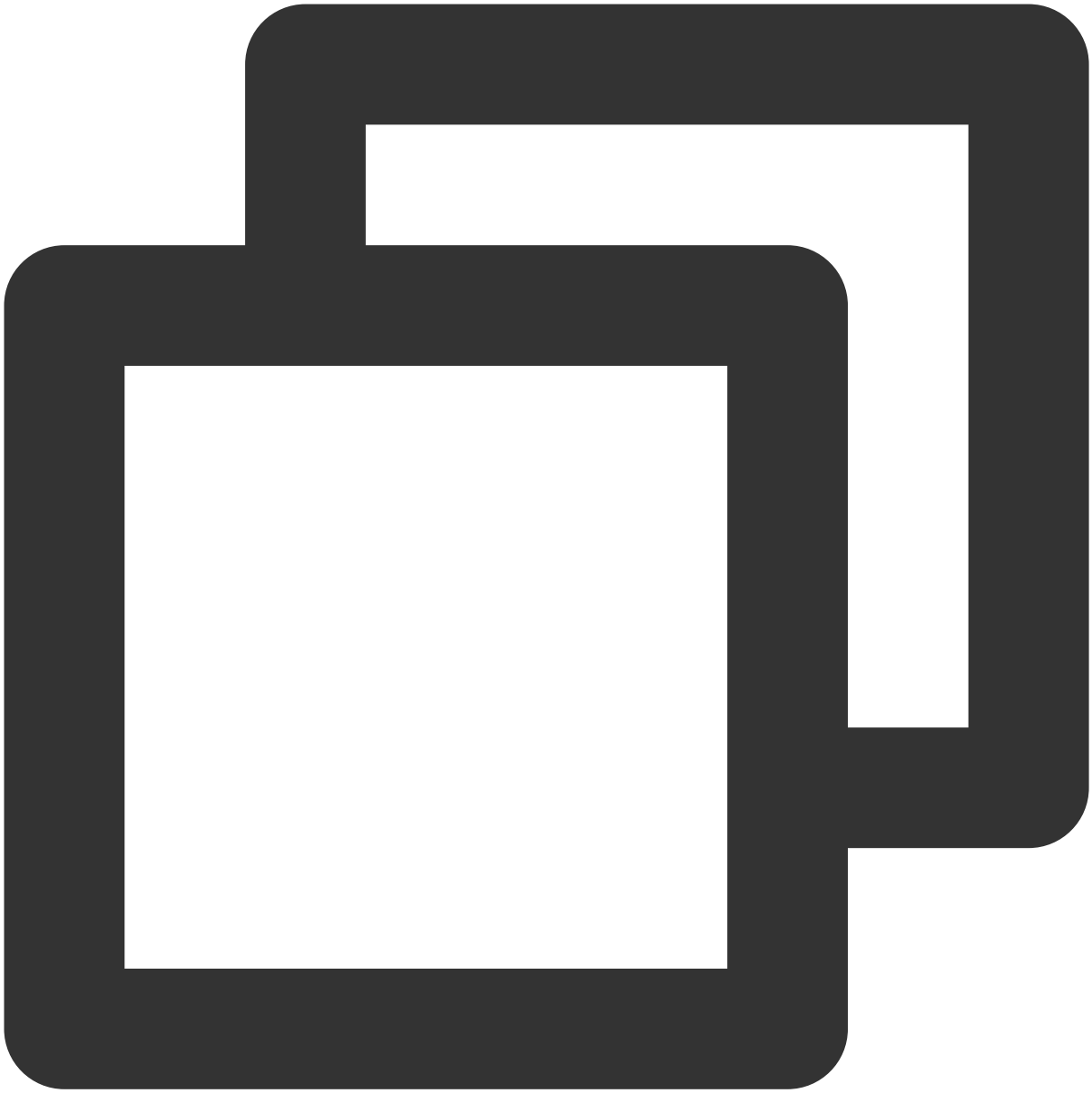
```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.RECORD_AUDIO" />
```

In the `proguard-rules.pro` file, add the SDK classes to the "do not obfuscate" list.



```
-keep class com.tencent.** { *;}
```

Step 3. Initialize and log in to the component

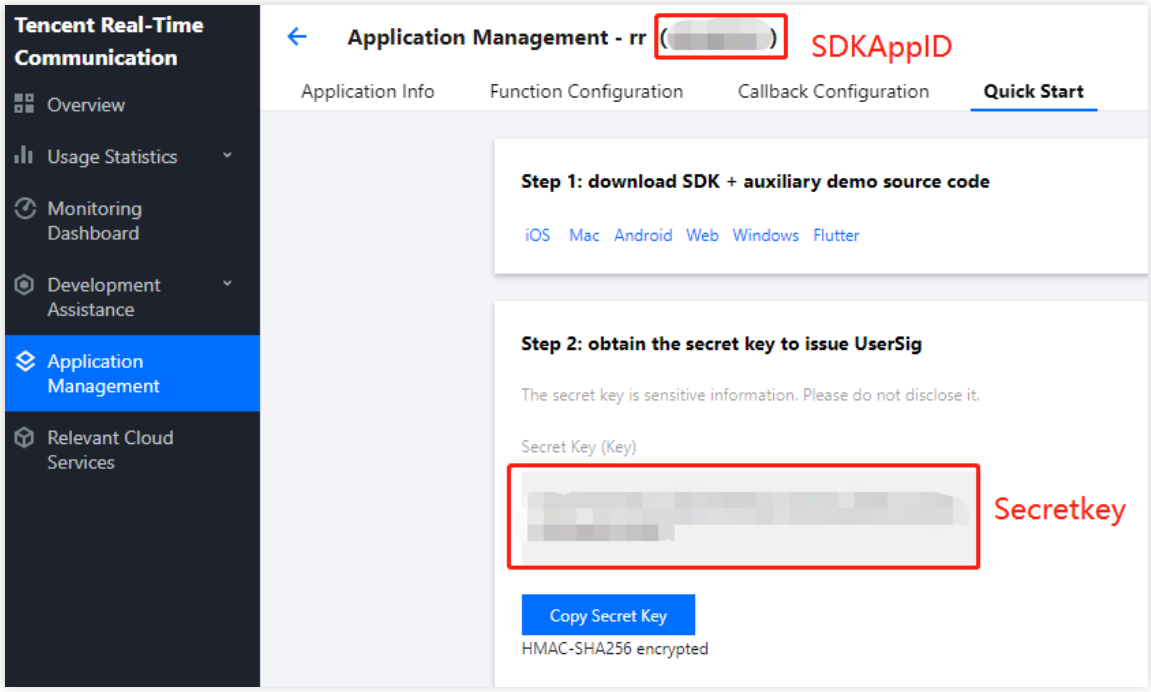


```
// 1. Initialize
TRTCVoiceRoom mTRTCVoiceRoom = TRTCVoiceRoom.sharedInstance(this);
mTRTCVoiceRoom.setDelegate(new TRTCVoiceRoomDelegate() {
);
      // 2. Log in
mTRTCVoiceRoom.login(SDKAppID, userId, userSig, new TRTCVoiceRoomCallback.Actio
    @Override
    public void onCallback(int code, String msg) {
        if (code == 0) {
        // Logged in
        }
```

```
        }
    });
```

Parameter description:

SDKAppID: The **TRTC application ID**. If you haven't activated TRTC, log in to the TRTC console, create a TRTC application, click **Application Info**, and select the **Quick Start** tab to view its `SDKAppID`.



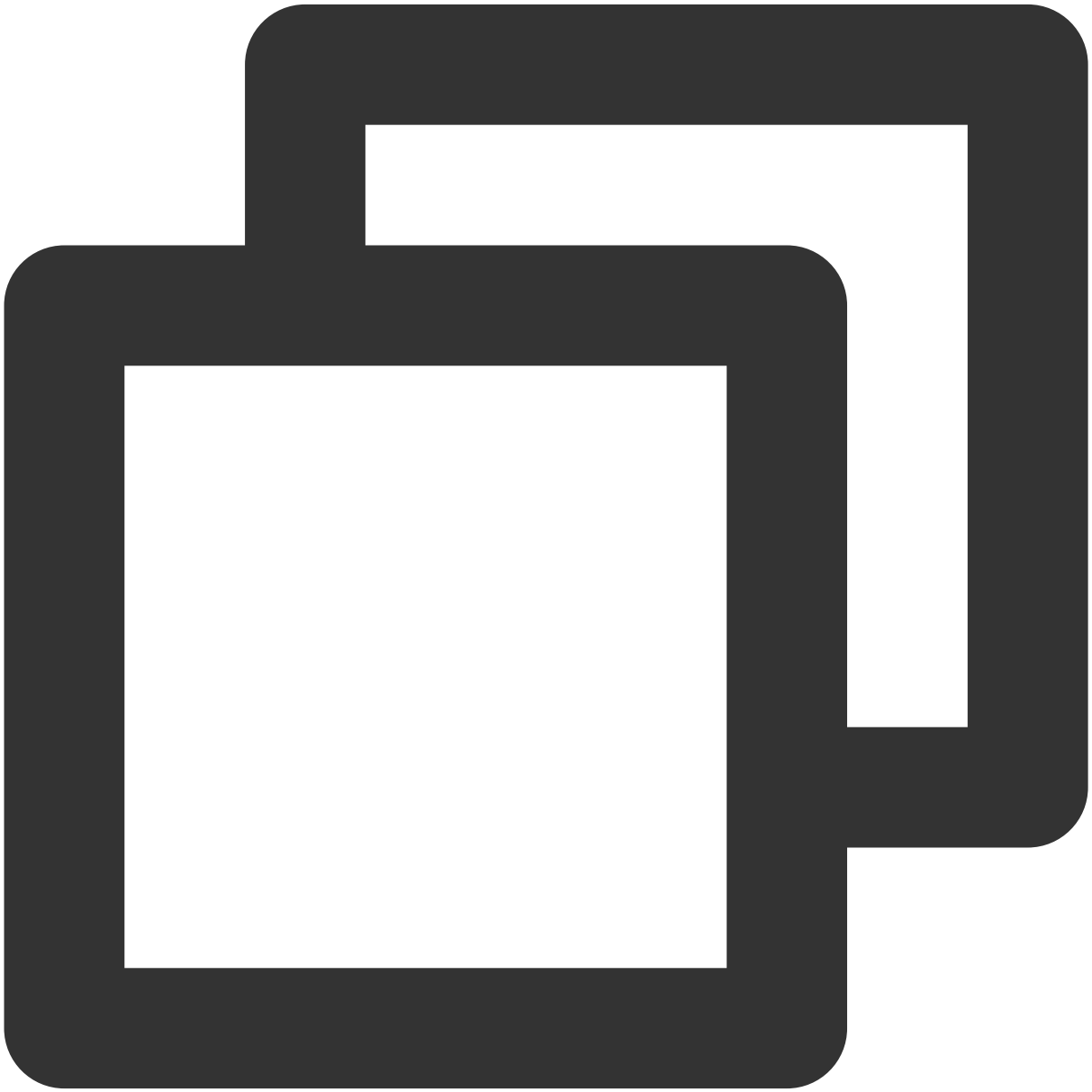
Secretkey: The **TRTC application key**. Each secret key corresponds to a `SDKAppID`. You can view your application's secret key on the Application Management page of the TRTC console.

userId: The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_). We recommend that you keep it consistent with your user account system.

userSig: The security protection signature calculated based on `SDKAppID`, `userId`, and `Secretkey`. You can click here to directly generate a debugging `userSig` online. For more information, see UserSig.

Step 4. Implement the audio chat room

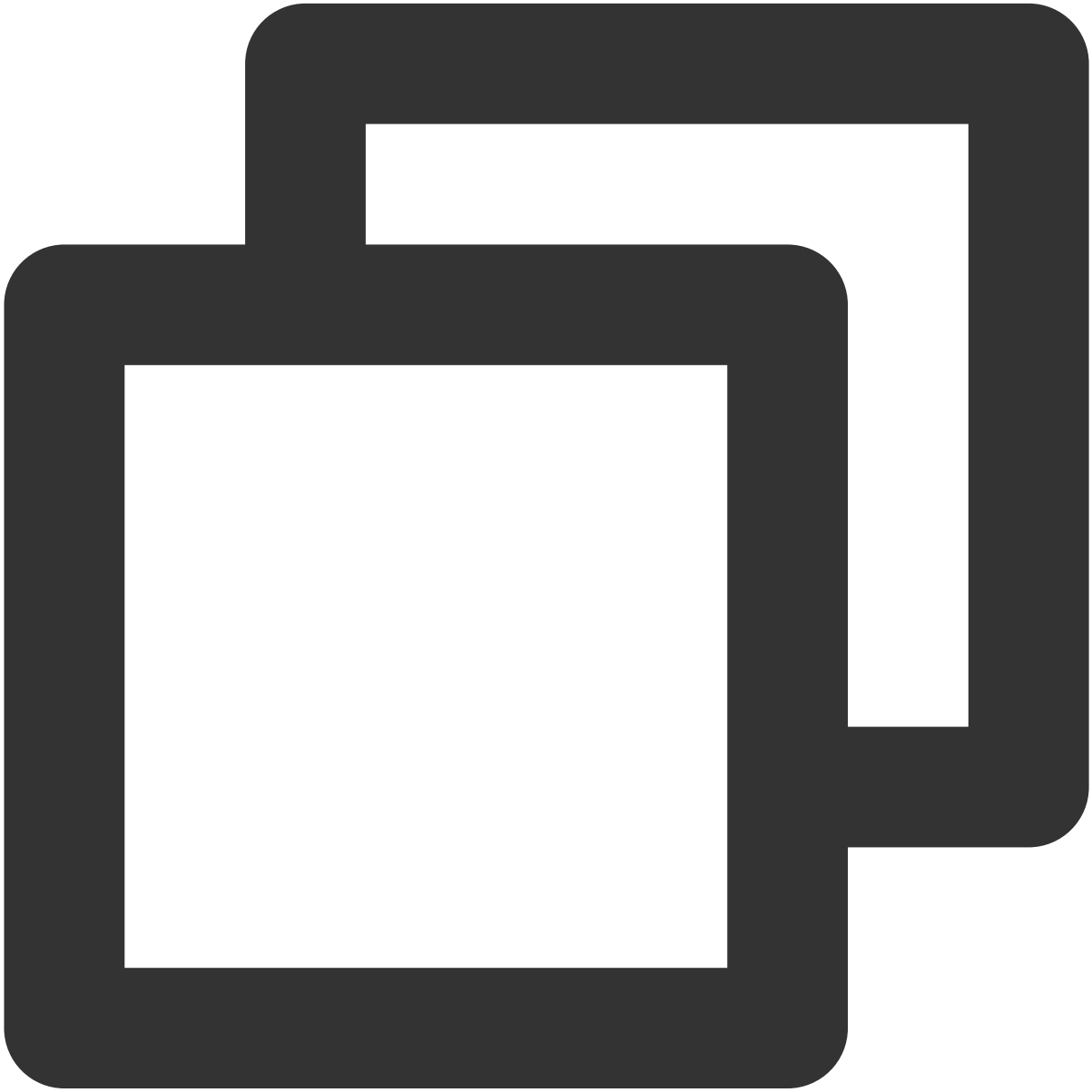
1. **The room owner creates an audio chat room through** TRTCVoiceRoom#createRoom.



```
// 1. The room owner calls an API to create a room
int roomId = 12345; // Room ID
final TRTCVoiceRoomDef.RoomParam roomParam = new TRTCVoiceRoomDef.RoomParam();
roomParam.roomName = "Room name";
roomParam.needRequest = false; // Whether the room owner’s permission is required f
roomParam.seatCount = 7; // Number of room seats. In this example, the number is 7.
roomParam.coverUrl = "URL of room cover image";
mTRTCVoiceRoom.createRoom(roomId, roomParam, new TRTCVoiceRoomCallback.ActionCallba
 @Override
 public void onCallback(int code, String msg) {
     if (code == 0) {
```

```
                // Room created successfully
        }
    }
});
```

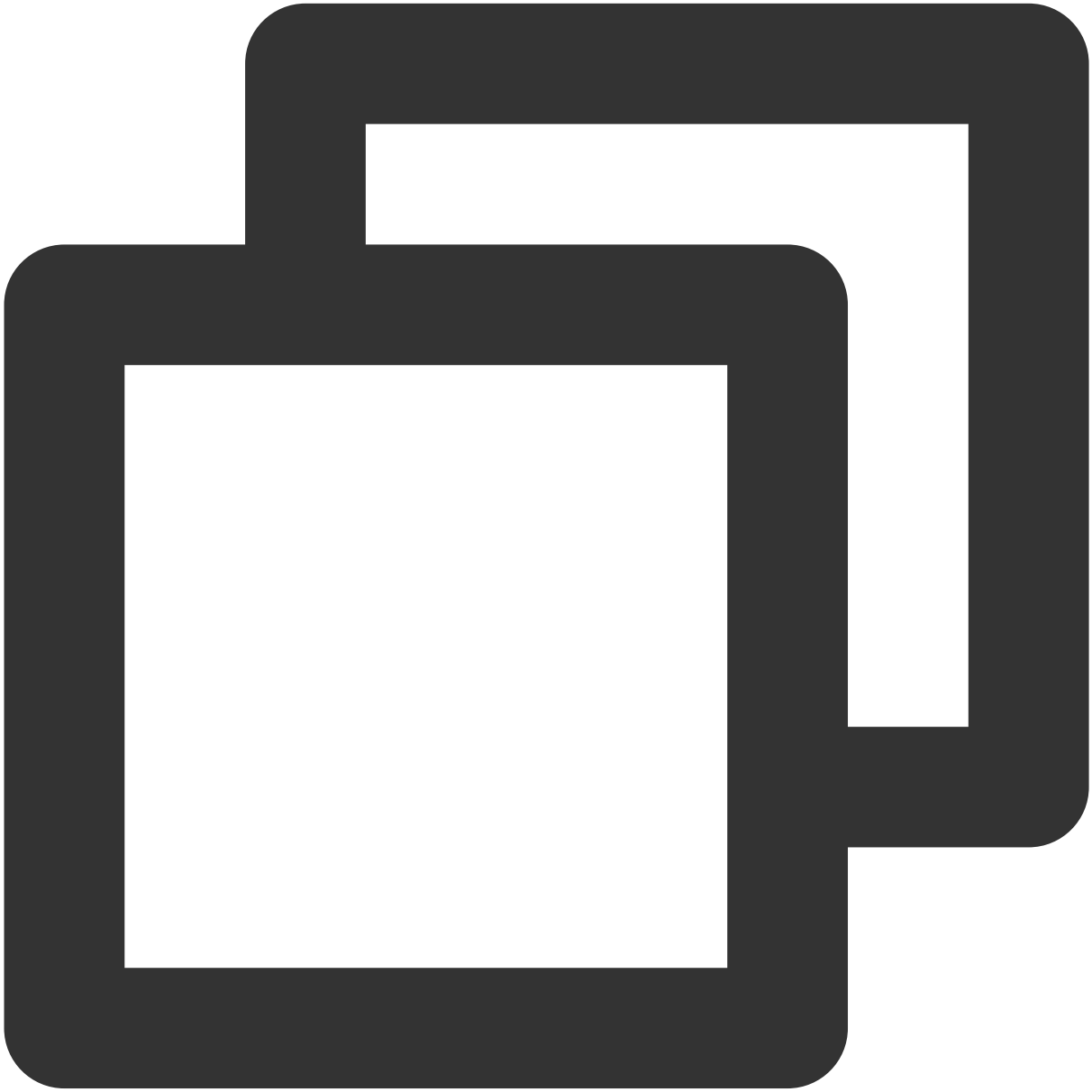
2. **A listener enters the audio chat room through** TRTCVoiceRoom#enterRoom.



```
// 1. A listener calls an API to enter the room
mTRTCVoiceRoom.enterRoom(roomId, new TRTCVoiceRoomCallback.ActionCallback() {
    @Override
    public void onCallback(int code, String msg) {
        if (code == 0) {
```

```
            // Entered room successfully
            }
        }
});
```

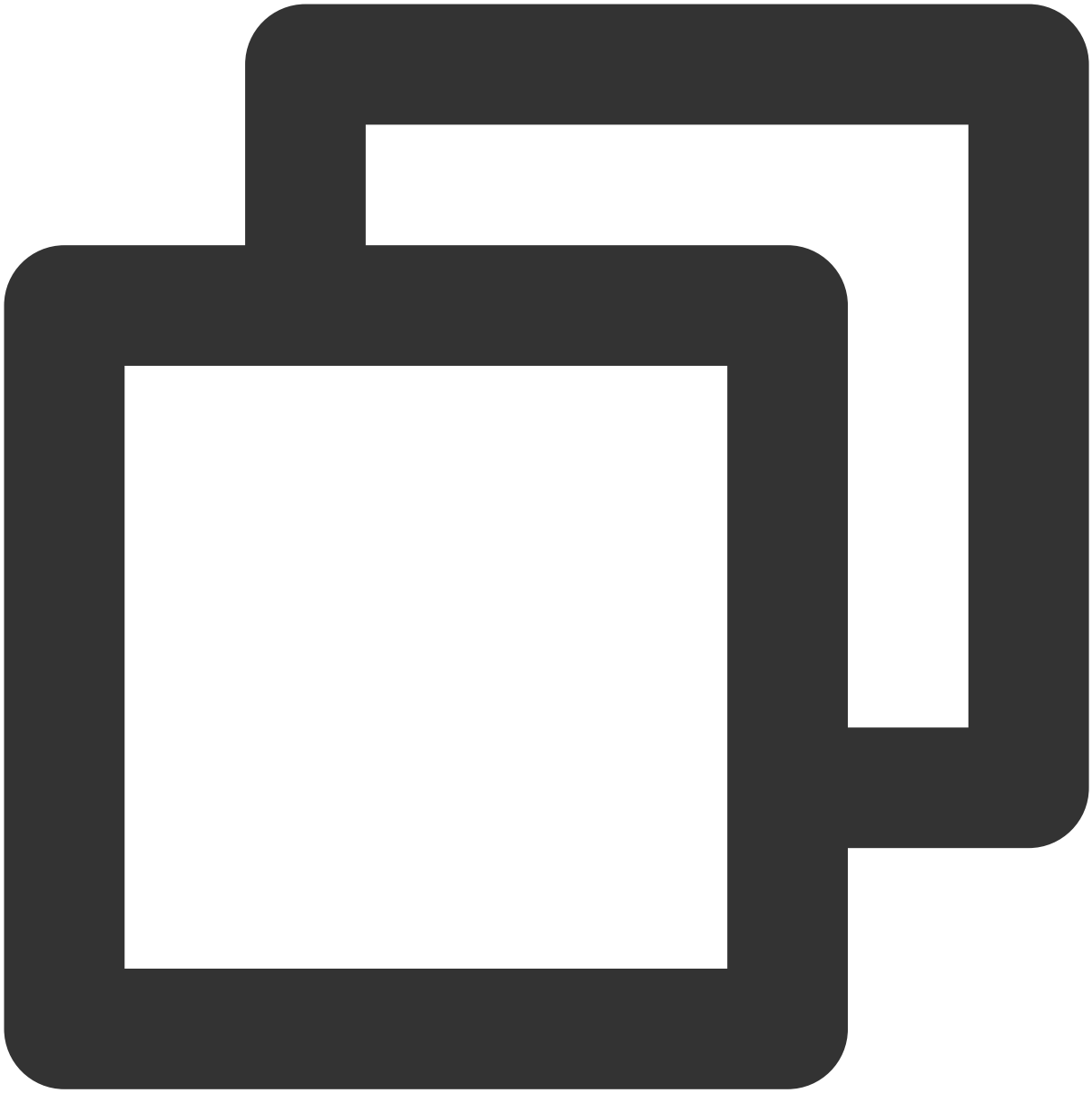
3. **A listener mics on through** TRTCVoiceRoom#enterSeat.



```
// 1. A listener calls an API to mic on
int seatIndex = 2; // Seat index
mTRTCVoiceRoom.enterSeat(seatIndex, new TRTCVoiceRoomCallback.ActionCallback() {
 @Override
 public void onCallback(int code, String msg) {
```

```
      if (code == 0) {
      // Operation succeeded
      }
 }
});

// 2. The `onSeatListChange` callback is received, and the seat list is refreshed
@Override
public void onSeatListChange(final List<TRTCVoiceRoomDef.SeatInfo> seatInfoList) {
}
```

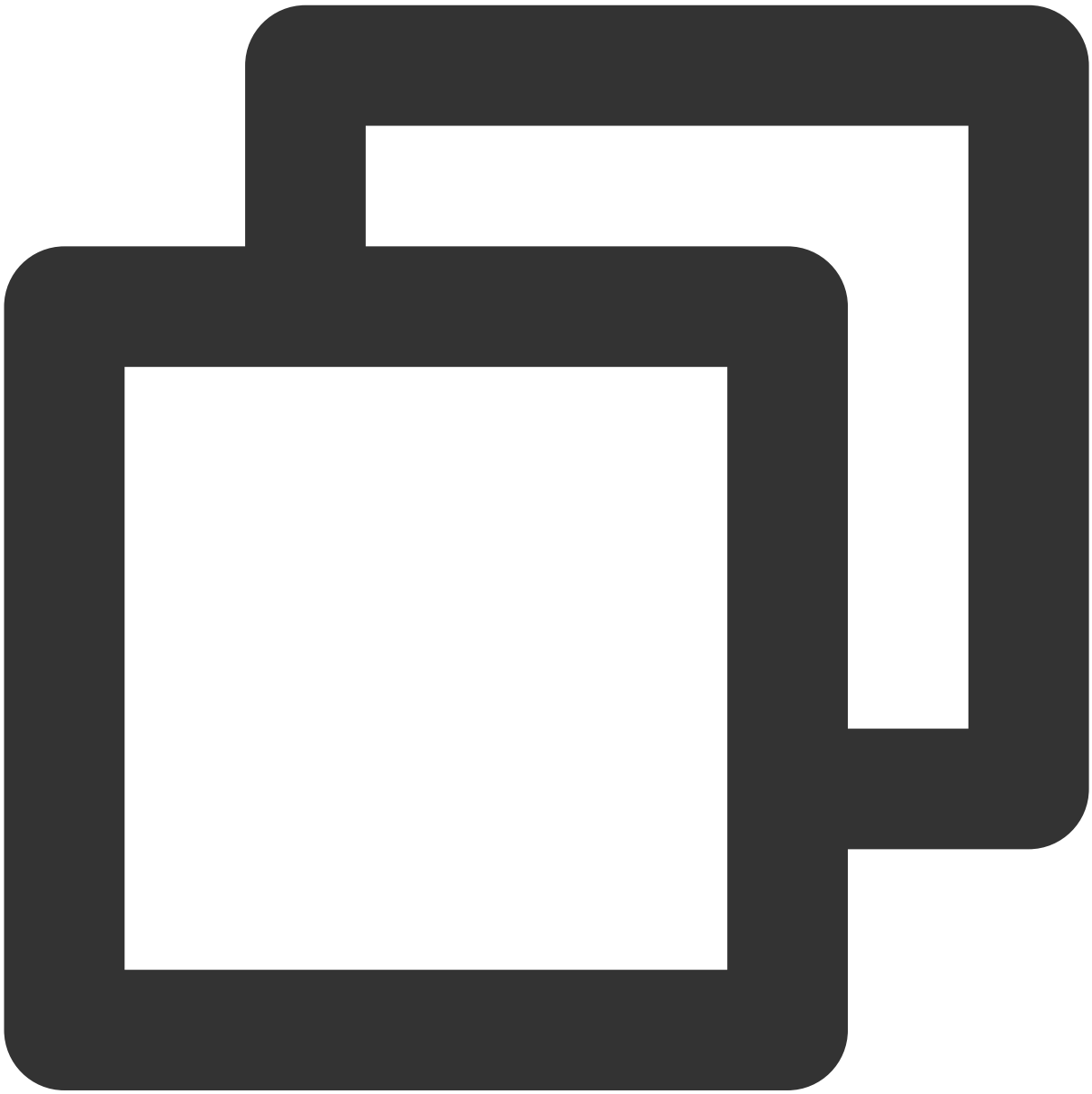
4. **The room owner makes a listener a speaker through** TRTCVoiceRoom#pickSeat.



```
// 1. The room owner makes a listener a speaker
int seatIndex = 2; // Seat index
String userId = "123"; // The ID of the user who will become a speaker
mTRTCVoiceRoom.pickSeat(1, userId, new TRTCVoiceRoomCallback.ActionCallback() {
 @Override
 public void onCallback(int code, String msg) {
     if (code == 0) {
             // Operation succeeded
     }
 }
});
```

```
// 2. The `onSeatListChange` callback is received, and the seat list is refreshed
@Override
public void onSeatListChange(final List<TRTCVoiceRoomDef.SeatInfo> seatInfoList) {
}
```

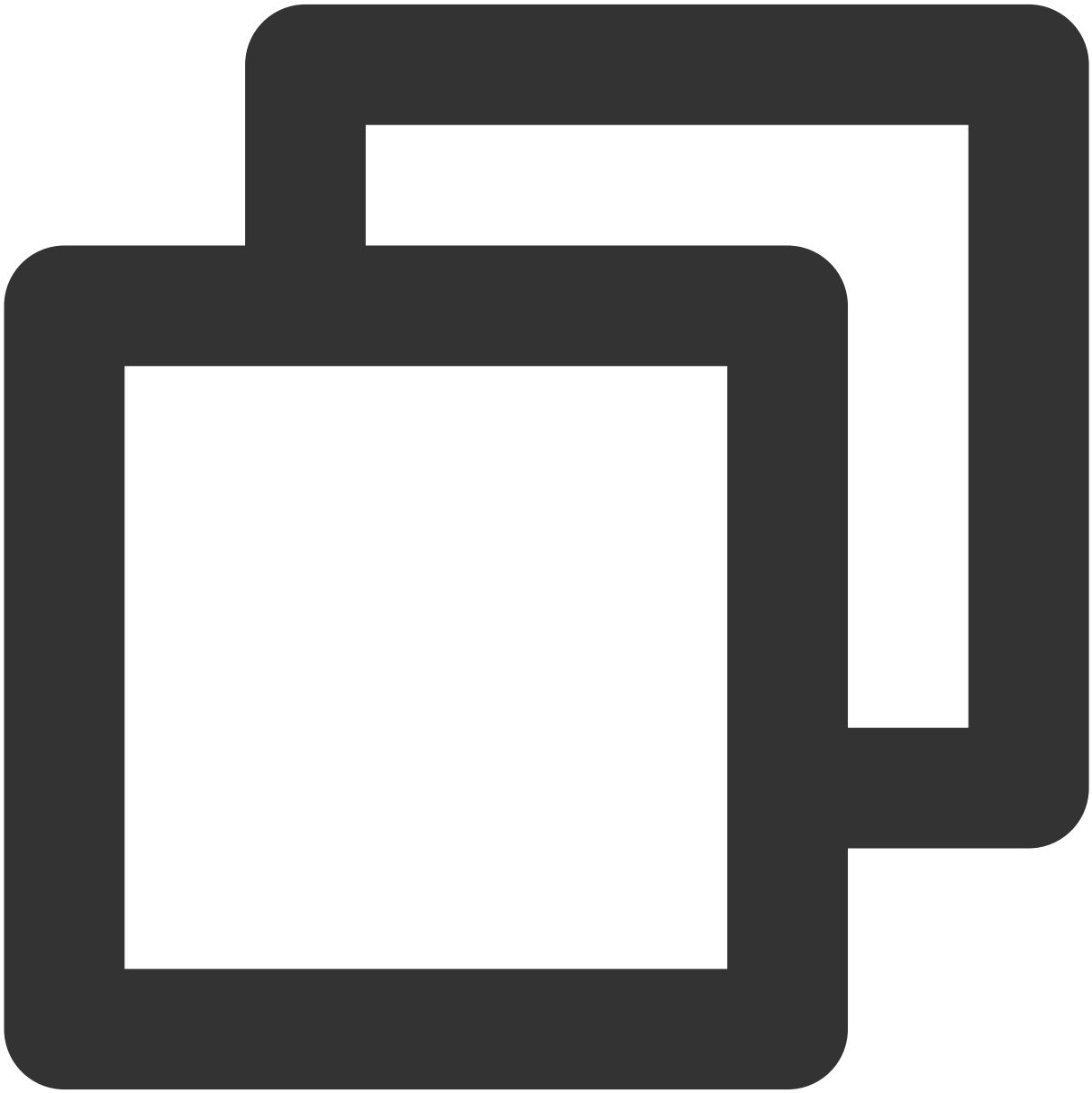
5. **A listener requests to speak through** TRTCVoiceRoom#sendInvitation.



```
// Listener
// 1. A listener calls an API to request to speak
String seatIndex = "1"; // Seat index
String userId = "123"; // User ID
```

```
String inviteId = mTRTCVoiceRoom.sendInvitation("takeSeat", userId, seatIndex, null

// 2. Place the user in the seat after the invitation is accepted
@Override
public void onInviteeAccepted(String id, String invitee) {
 if(id.equals(inviteId)) {
     mTRTCVoiceRoom.enterSeat(index, null);
 }
}

// Room owner
// 1. The room owner receives the request
 @Override
public void onReceiveNewInvitation(final String id, String inviter, String cmd, fin
 if (cmd.equals("takeSeat")) {
     // 2. The room owner accepts the request
      mTRTCVoiceRoom.acceptInvitation(id, null);
 }
}
```

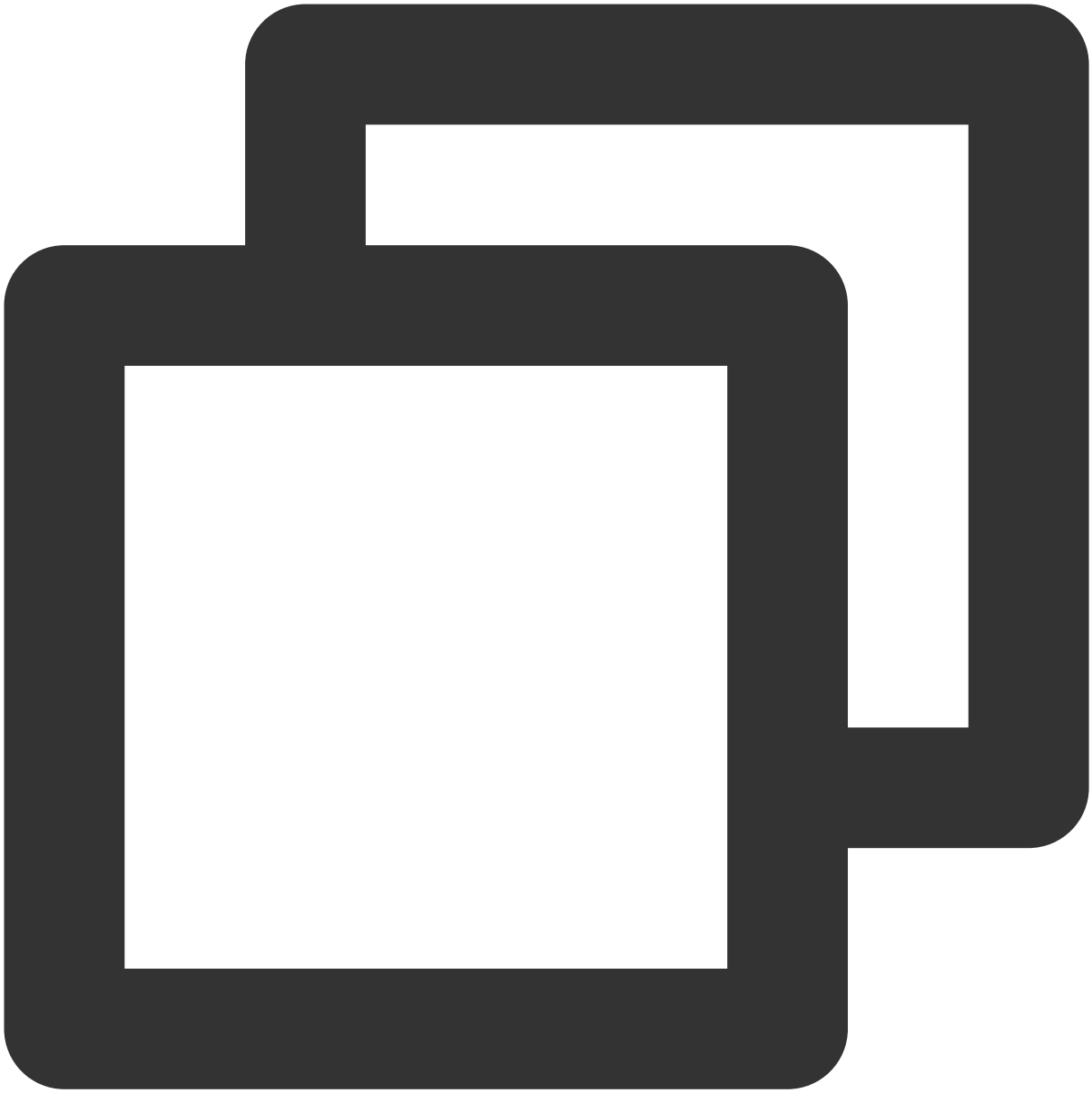
6. **The room owner invites a listener to speak through** TRTCVoiceRoom#sendInvitation.



```
// Room owner
// 1. The room owner calls an API to invite a listener to speak
String seatIndex = "1"; // Seat index
String userId = "123"; // User ID
String inviteId = mTRTCVoiceRoom.sendInvitation("pickSeat", userId, seatIndex, null

// 2. Place the user in the seat after the invitation is accepted
@Override
public void onInviteeAccepted(String id, String invitee) {
 if(id.equals(inviteId)) {
     mTRTCVoiceRoom.pickSeat(index, null);
```

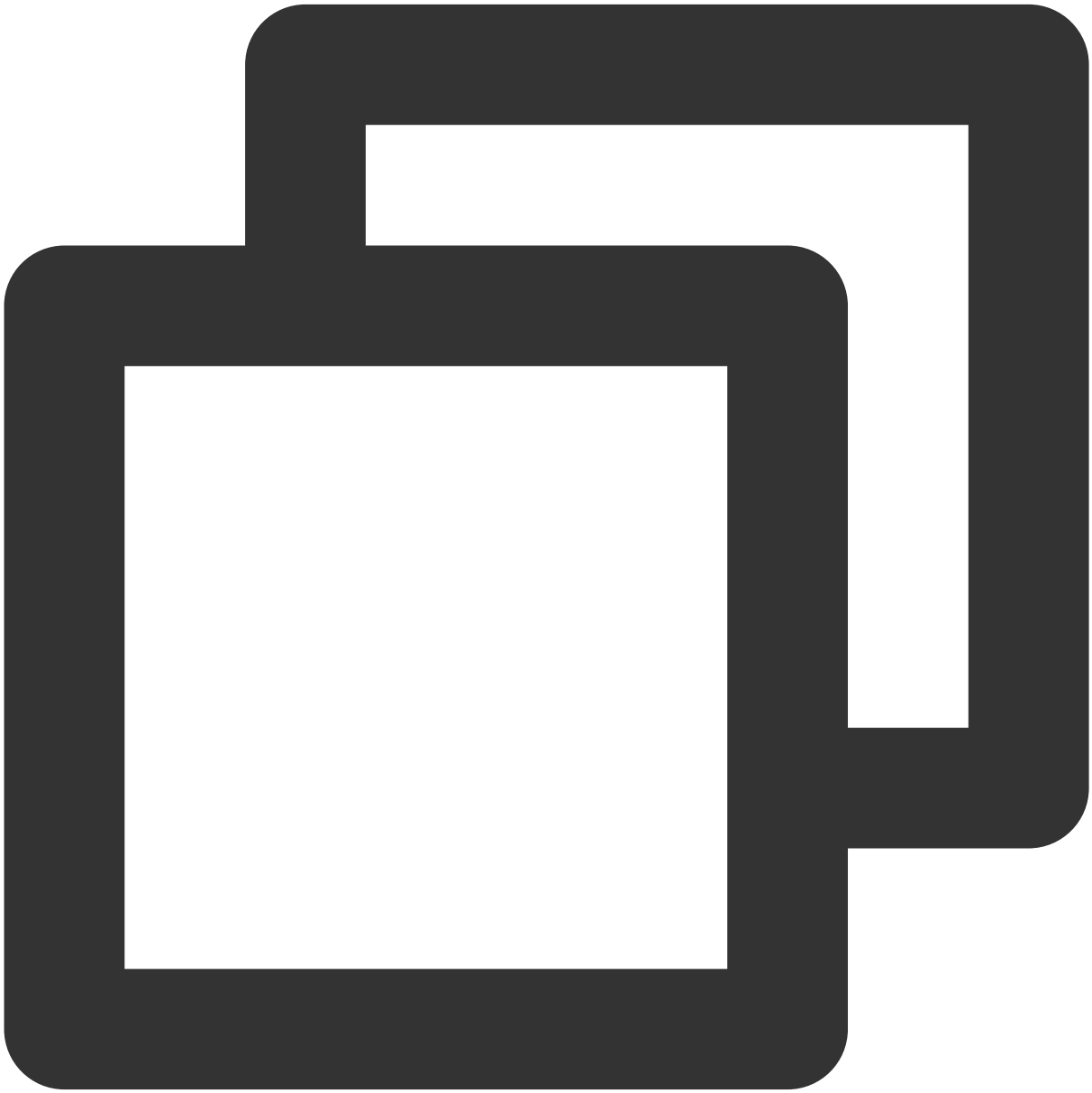
```
  }
}

// Listener
// 1. The listener receives the invitation
 @Override
public void onReceiveNewInvitation(final String id, String inviter, String cmd, fin
 if (cmd.equals("pickSeat")) {
     // 2. The listener accepts the invitation
      mTRTCVoiceRoom.acceptInvitation(id, null);
 }
}
```

7. **Implement text chat through** TRTCVoiceRoom#sendRoomTextMsg.



```
// Sender: Sends a text chat message
mTRTCVoiceRoom.sendRoomTextMsg("Hello World!", null);
// Receiver: Listens for text chat messages
mTRTCVoiceRoom.setDelegate(new TRTCVoiceRoomDelegate() {
  @Override
  public void onRecvRoomTextMsg(String message, TRTCVoiceRoomDef.UserInfo userInfo)
   Log.d(TAG, "Received a message from" + userInfo.userName + ": " + message);
  }
});
```

8. **Implement on-screen commenting through** TRTCVoiceRoom#sendRoomCustomMsg.



```
// A sender can customize CMD to distinguish on-screen comments and likes.
// For example, use "CMD_DANMU" to indicate on-screen comments and "CMD_LIKE" to in
mTRTCVoiceRoom.sendRoomCustomMsg("CMD_DANMU", "Hello world", null);
mTRTCVoiceRoom.sendRoomCustomMsg("CMD_LIKE", "", null);
// Receiver: Listens for custom messages
mTRTCVoiceRoom.setDelegate(new TRTCVoiceRoomDelegate() {
 @Override
 public void onRecvRoomCustomMsg(String cmd, String message, TRTCVoiceRoomDef.UserI
     if ("CMD_DANMU".equals(cmd)) {
         // An on-screen comment is received
         Log.d(TAG, "Received an on-screen comment from" + userInfo.userName + ": "
```

```
        } else if ("CMD_LIKE".equals(cmd)) {
            // A like is received
            Log.d(TAG, userInfo.userName + "liked you.");
        }
    }
});
```

Suggestions and Feedback

If you have any suggestions or feedback, please contact colleenyu@tencent.com.

Integrating TUIVoiceRoom (iOS)

Last updated：2023-09-25 10:51:43

Overview

`TUIVoiceRoom` is an open-source audio/video UI component. After integrating it into your project, you can make your application support the group audio chat scenario simply by writing a few lines of code. It also supports the Android platform. Its basic features are as shown below:

Note

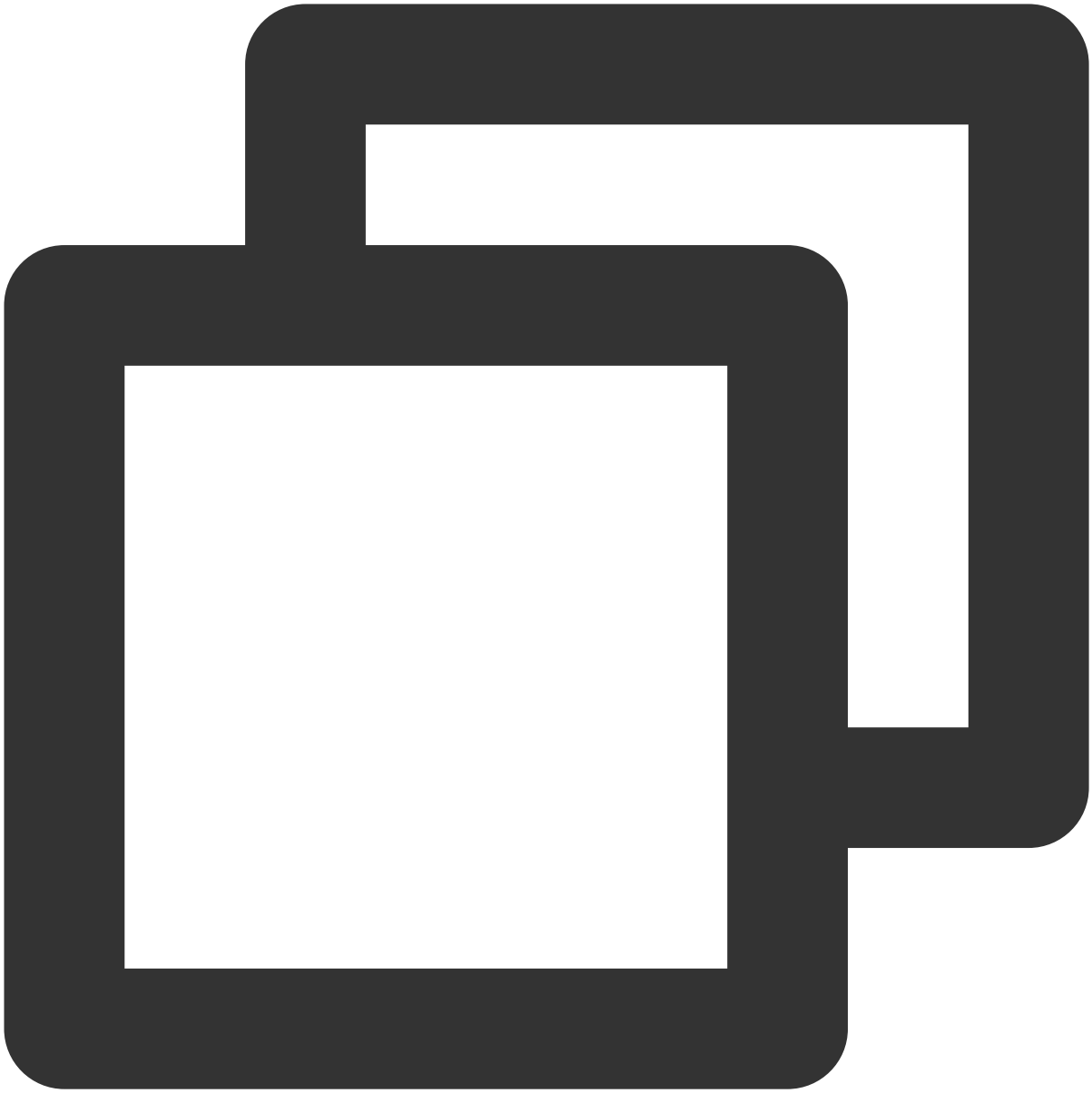
All TUIKit components are based on two PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For billing details of Chat, see Pricing.

Integration

Step 1. Download and import the `TUIVoiceRoom` component

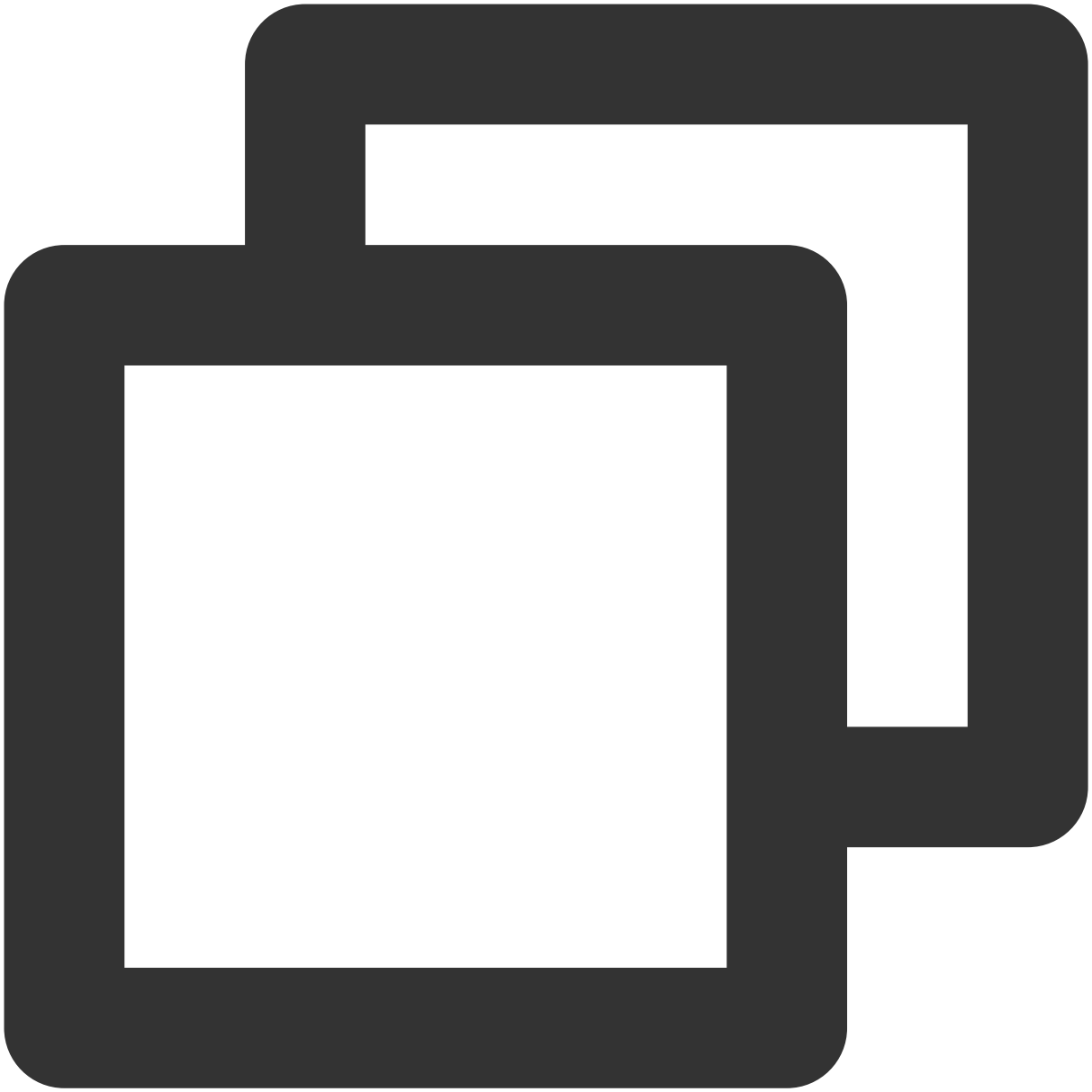
Create the `TUIVoiceRoom` folder at the same level as the `Podfile` in your Xcode project, copy TXAppBasic, Resources, Source, and TUIVoiceRoom.podspec files from the `iOS` directory in the GitHub repository to the folder, and complete the following import operations:

Open the project's `Podfile` and import `TUIVocieRoom.podspec` as follows:



```
# `path` is the path of `TXAppBasic.podspec` relative to the `Podfile`
pod 'TXAppBasic', :path => "TUIVoiceRoom/TXAppBasic/"
# `path` is the path of `TUIVoiceRoom.podspec` relative to the `Podfile`
pod 'TUIVoiceRoom', :path => "TUIVoiceRoom/", :subspecs => ["TRTC"]
```

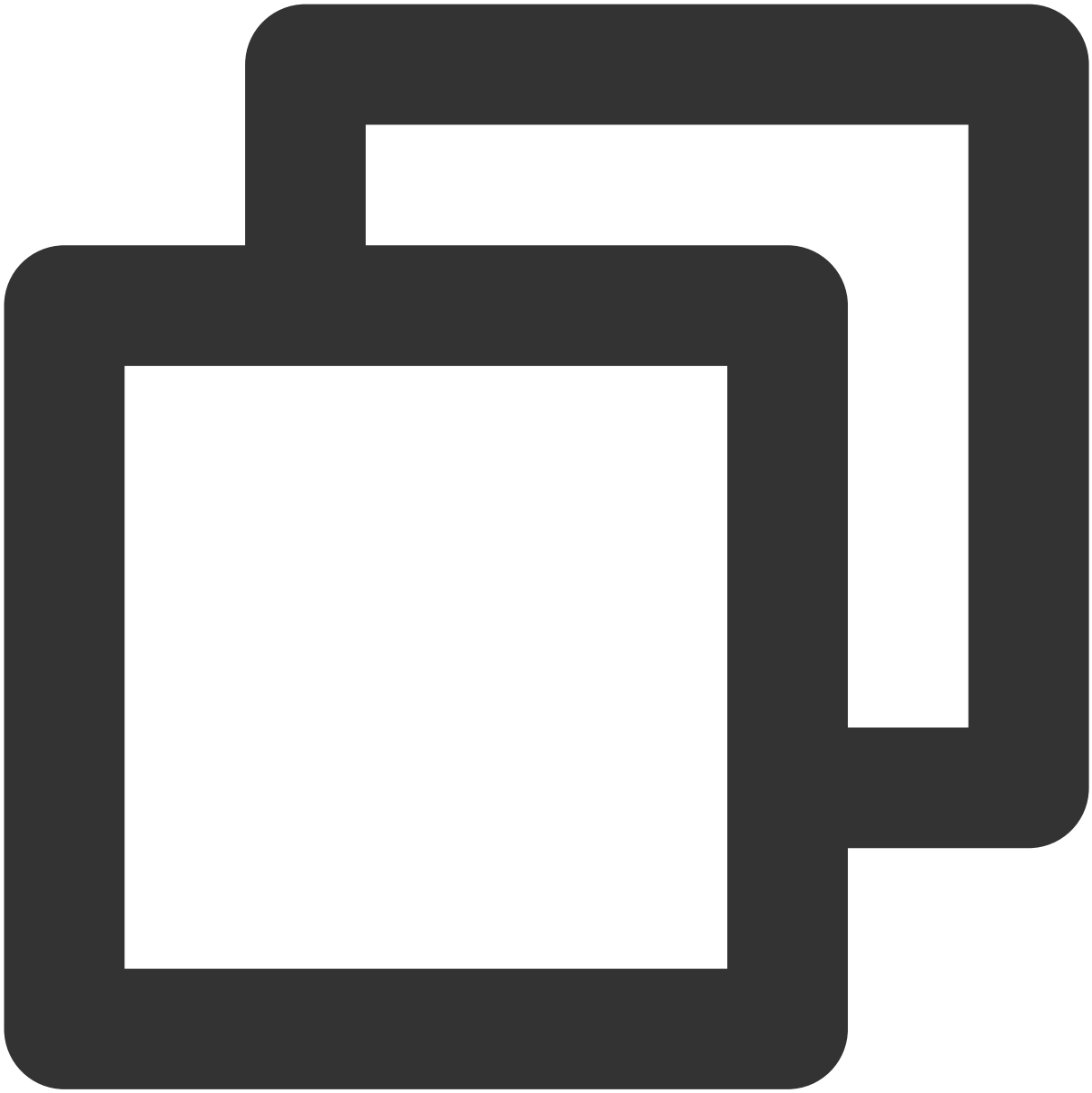
Open Terminal, enter the directory of `Podfile`, and run `pod install`.



```
pod install
```

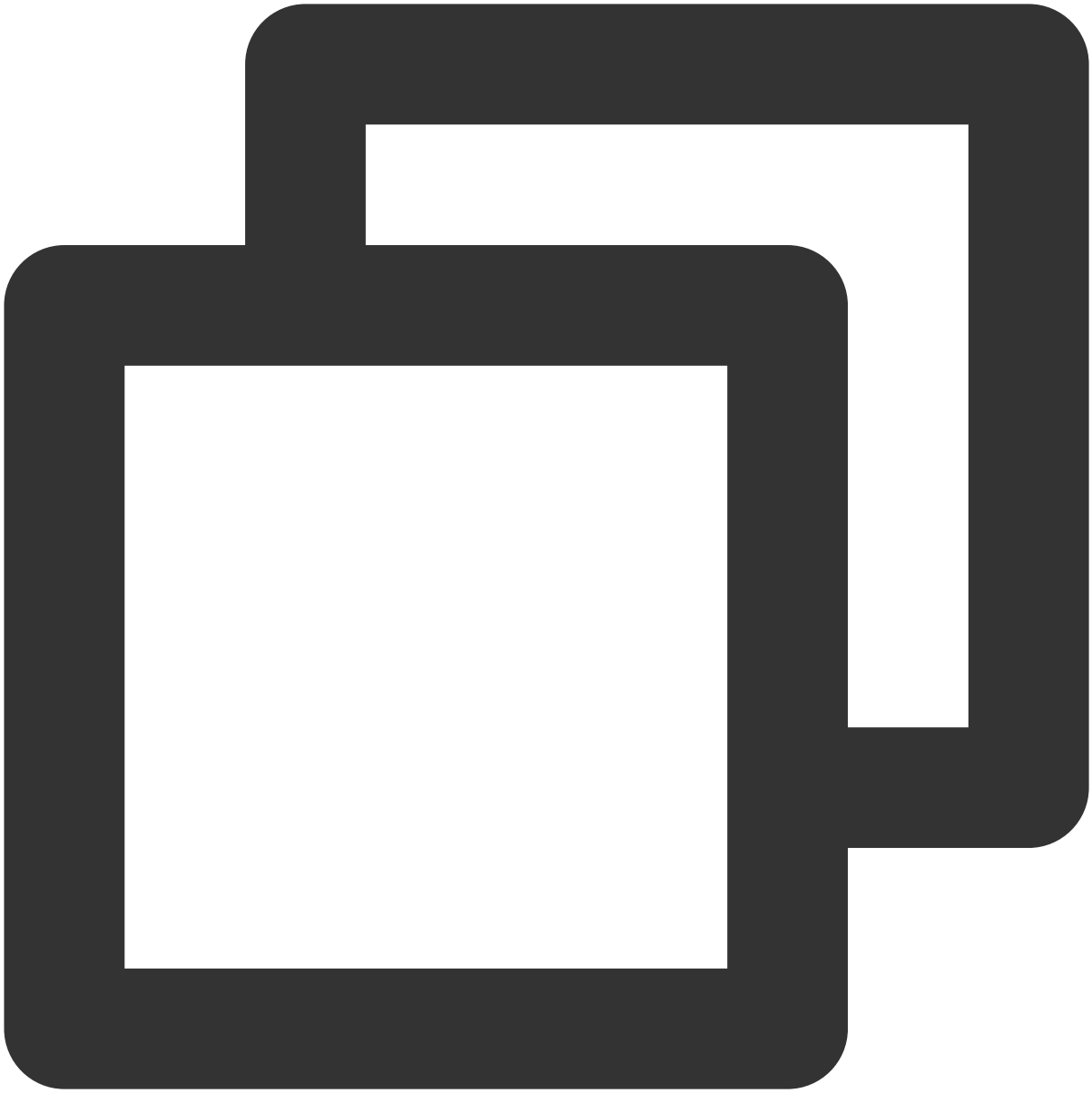
Step 2. Configure permission requests and obfuscation rules

In `info.plist`, add `Privacy > Microphone Usage Description` to request mic access.



```
<key>NSMicrophoneUsageDescription</key>
<string>`VoiceRoomApp` needs to access your mic to be able to shoot videos with aud
```

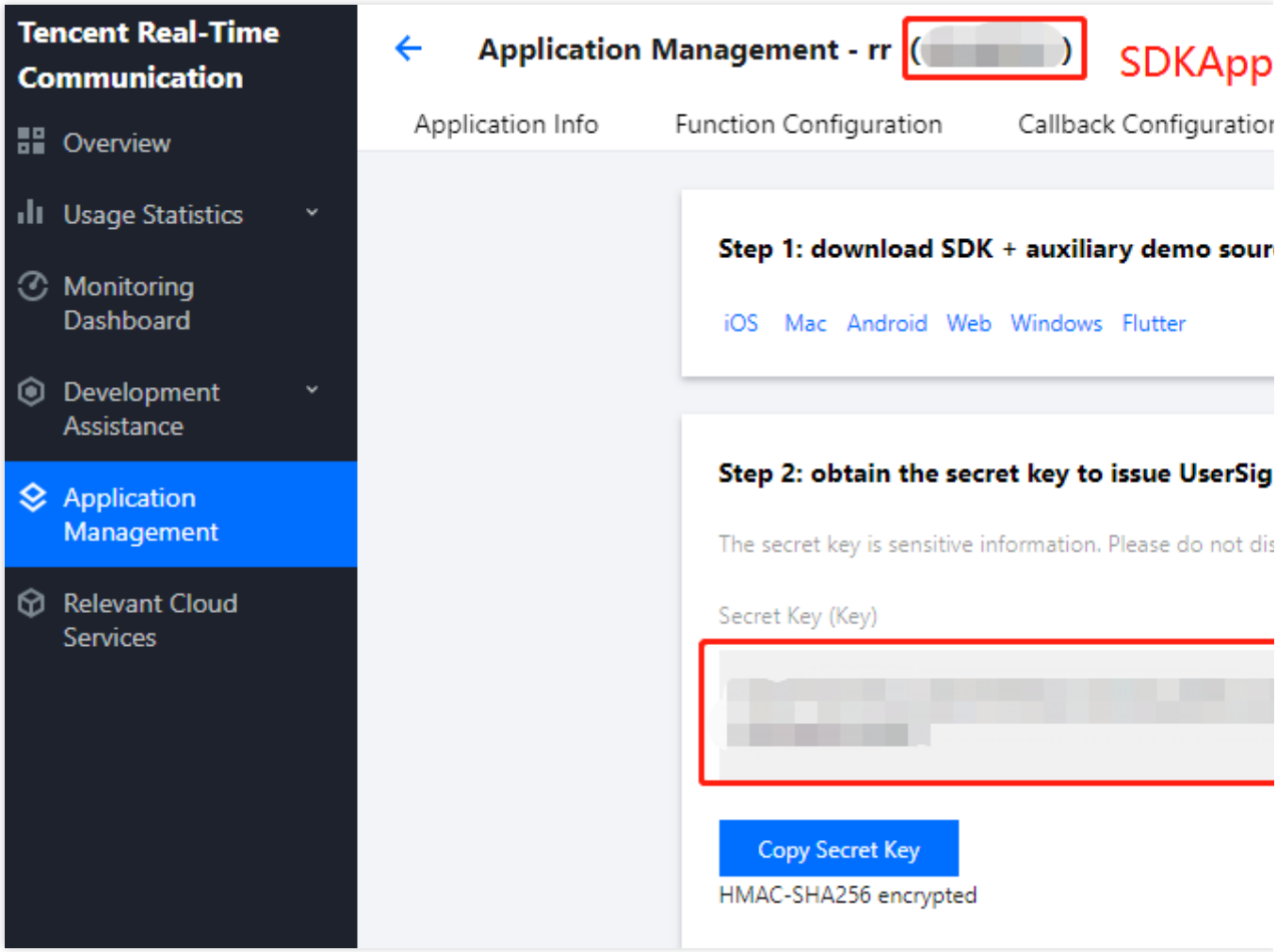
Step 3. Initialize and log in to the component



```
// Initialize TUIKit
let mTRTCVoiceRoom = TRTCVoiceRoom.shared()
// Log in
mTRTCVoiceRoom.login(sdkAppID: SDKAppID, userId: userId, userSig: userSig) { code,
    if code == 0 {
        // Logged in
    }
}
```

Parameter description:

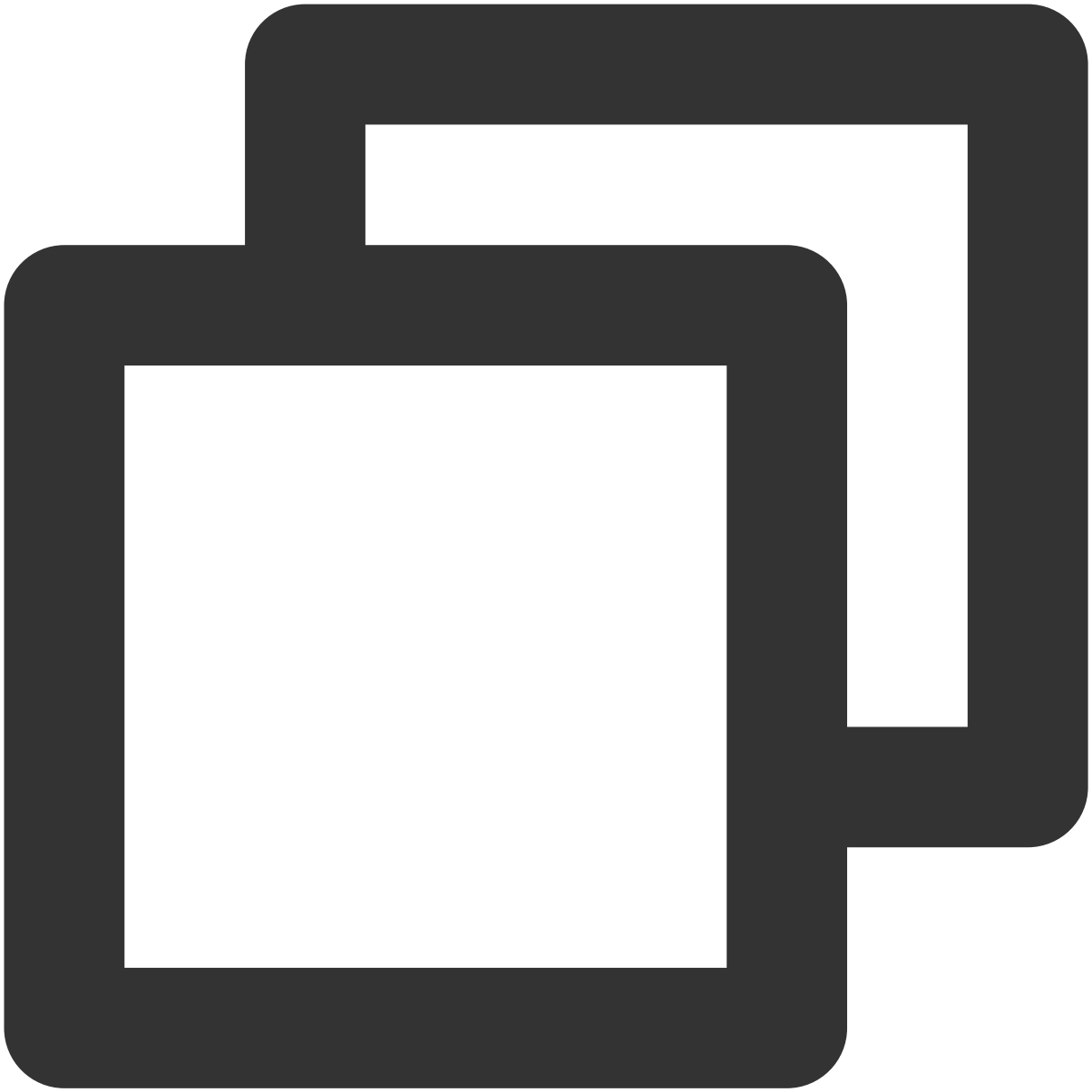
SDKAppID: The **TRTC application ID**. If you haven't activated TRTC, log in to the TRTC console, create a TRTC application, click **Application Info**, and select the **Quick Start** tab to view its `SDKAppID` .



Secretkey: The **TRTC application key**. Each secret key corresponds to a `SDKAppID` . You can view your application's secret key on the Application Management page of the TRTC console.
userId: The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_). We recommend that you keep it consistent with your user account system.
UserSig: The security signature calculated based on `SDKAppID` , `userId` , and `Secretkey` . You can click here to quickly generate a `UserSig` for testing. For more information, see UserSig.

Step 4. Implement the audio chat room

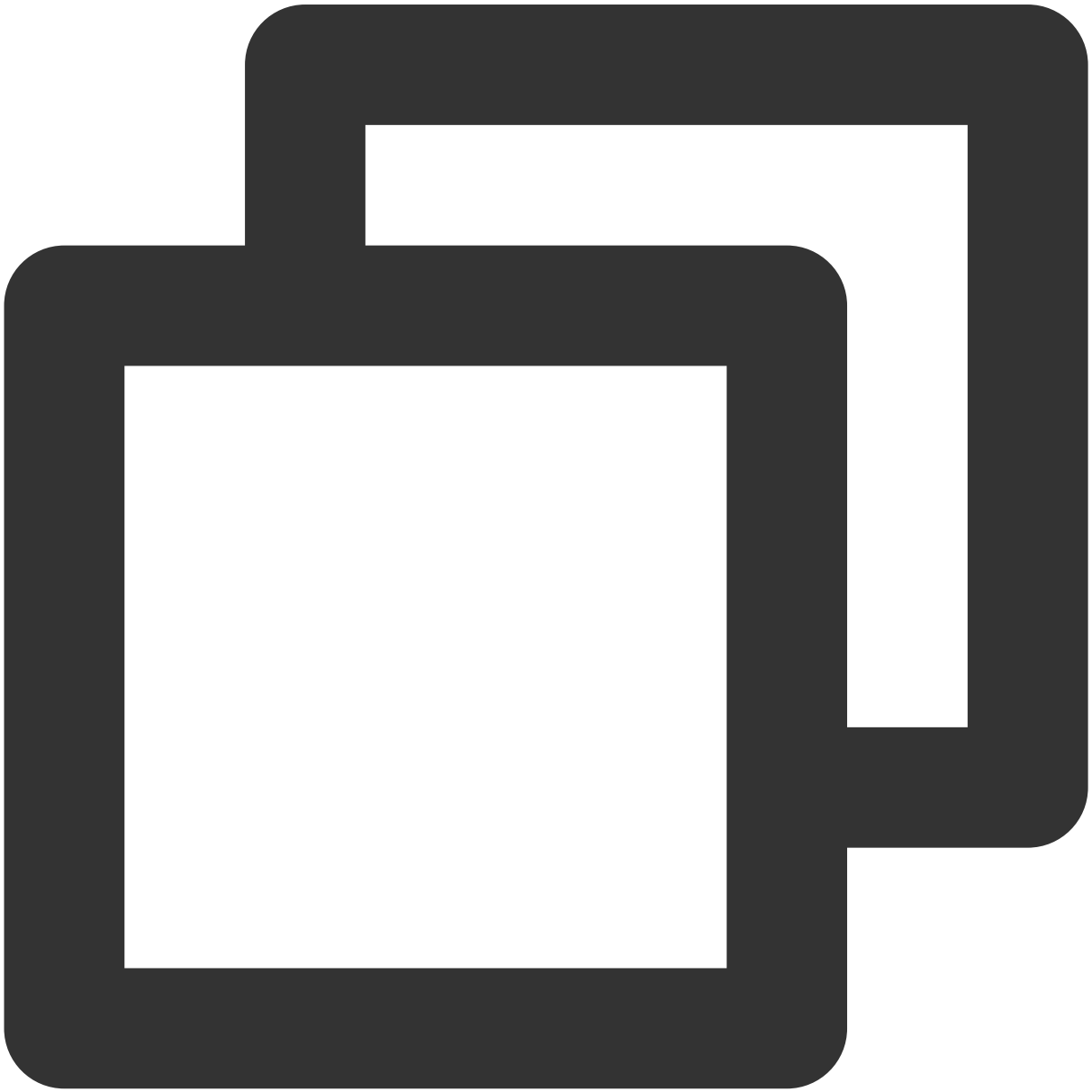
1. **The room owner creates an audio chat room through** TRTCVoiceRoom#createRoom.



```
// Initialize the audio chat room parameters
let roomParam = VoiceRoomParam()
roomParam.roomName = "Room name"
roomParam.needRequest = false // Whether the room owner’s permission is required fo
roomParam.coverUrl = "URL of room cover image"
roomParam.seatCount = 7 // Number of room seats. In this example, the number is 7.
roomParam.seatInfoList = []
// Initialize the seat information
for _ in 0..< param.seatCount {
 let seatInfo = VoiceRoomSeatInfo()
 param.seatInfoList.append(seatInfo)
```

```
}
// Create a room
mTRTCVoiceRoom.createRoom(roomID: yourRoomID, roomParam: roomParam) { (code, messag
 if code == 0 {
     // Group created successfully
 }
}
```

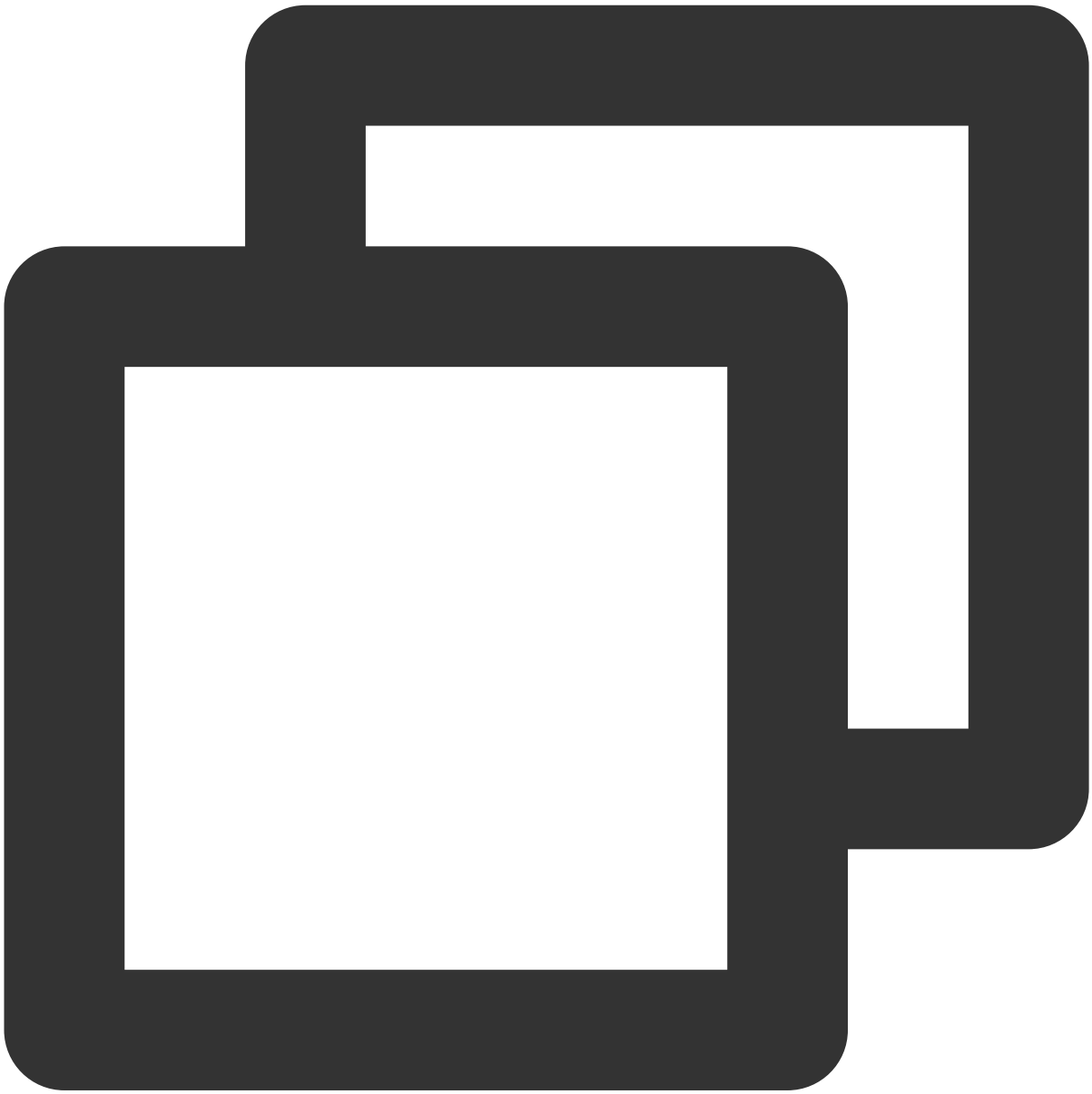
2. **A listener enters the audio chat room through** TRTCVoiceRoom#enterRoom.



```
// 1. A listener calls an API to enter the room
mTRTCVoiceRoom.enterRoom(roomID: roomID) { (code, message) in
```

```
 // Callback of the room entry result
 if code == 0 {
    // Entered room successfully
 }
}
```

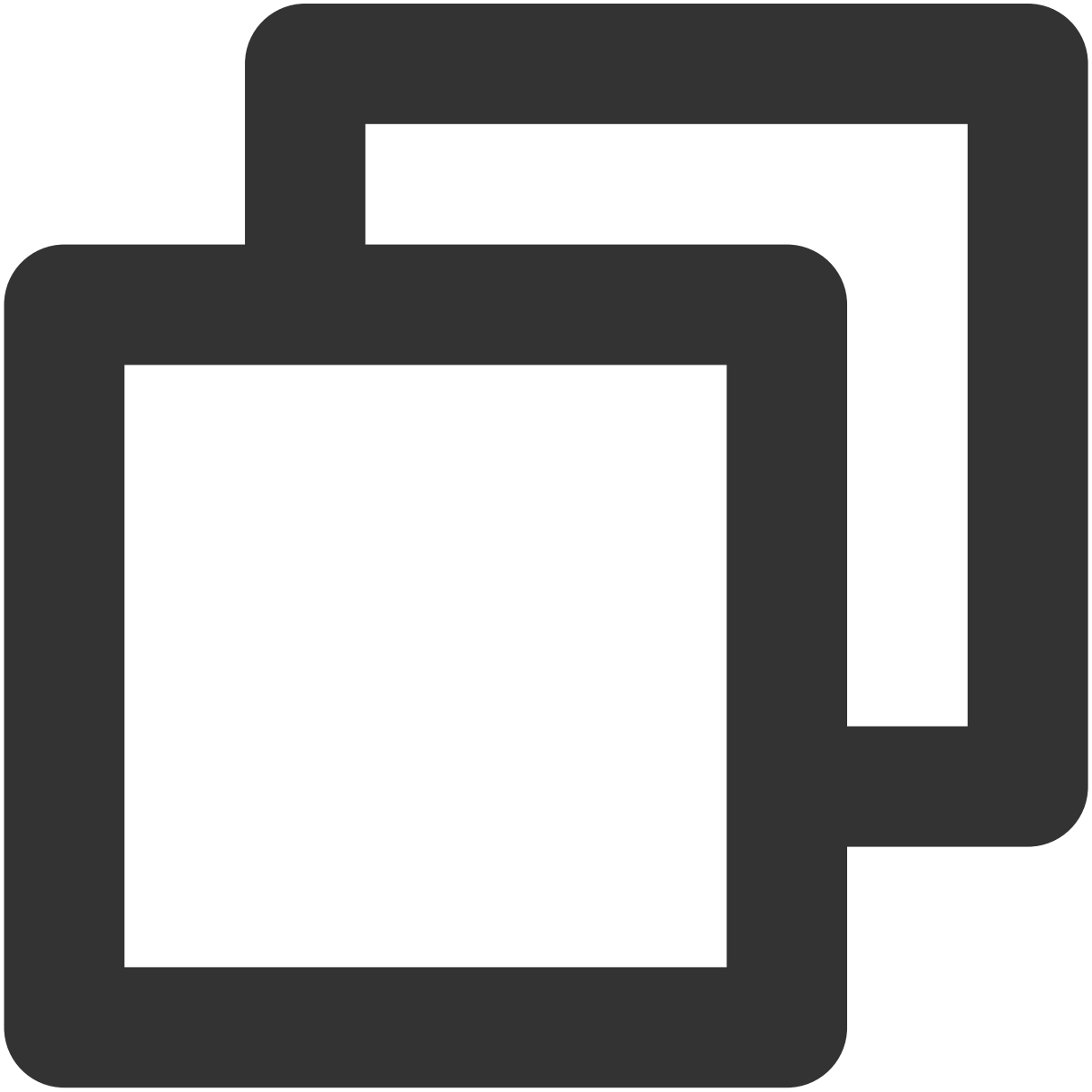
3. **A listener mics on through** TRTCVoiceRoom#enterSeat.



```
// 1. A listener calls an API to mic on
let seatIndex = 2; // Seat index
mTRTCVoiceRoom.enterSeat(seatIndex: 2) { (code, message) in
 if code == 0 {
```

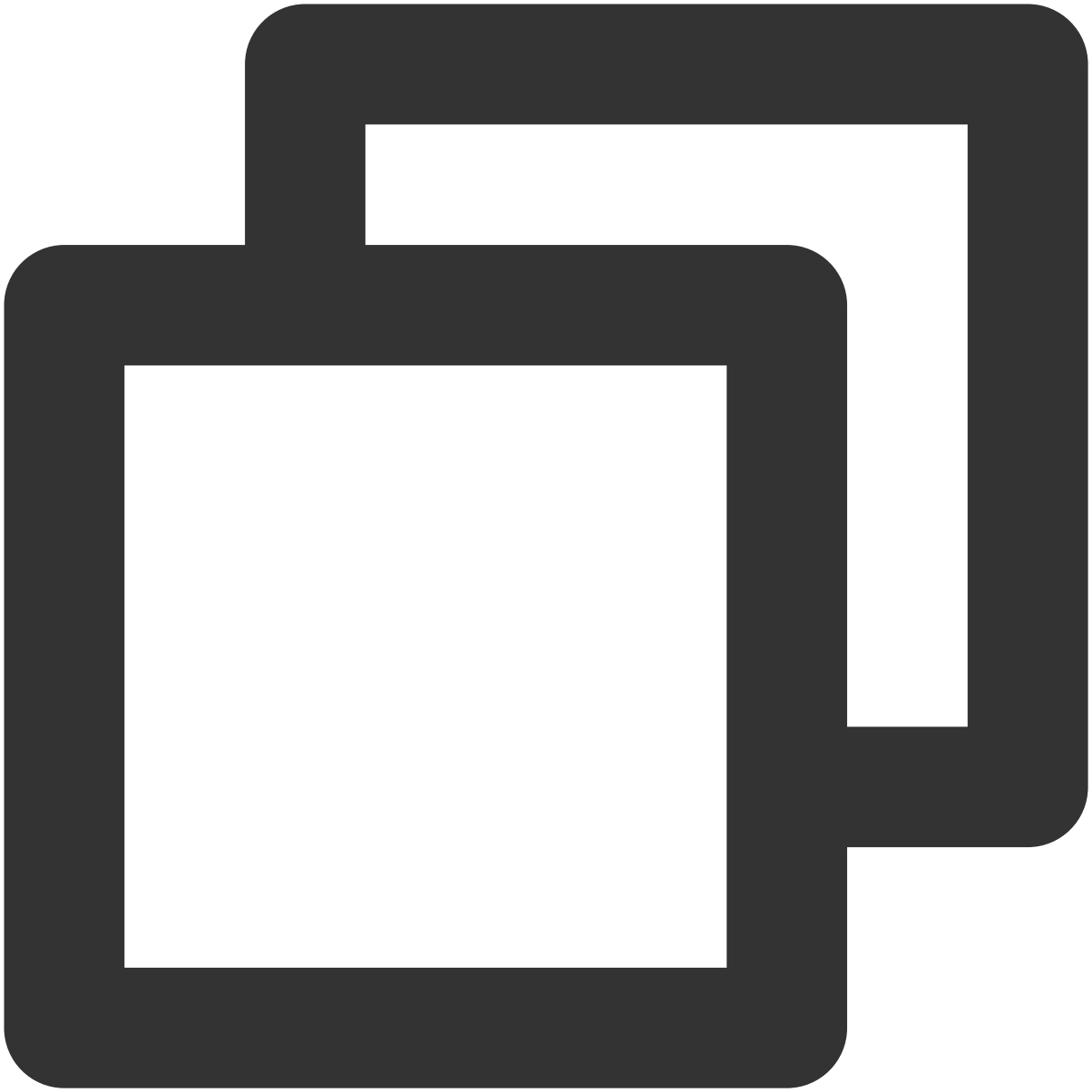
```
        // Mic turned on successfully
    }
}

// 2. The `onSeatListChange` callback is received, and the seat list is refreshed
@Override
func onSeatListChange(seatInfoList: [VoiceRoomSeatInfo]) {
    // Refreshed seat list
}
```

4. **The room owner makes a listener speaker through** TRTCVoiceRoom#pickSeat.



```
// 1. The room owner makes a listener a speaker
let seatIndex = 2; // Seat index
let userId = "123"; // ID of the user to speak
mTRTCVoiceRoom.pickSeat(seatIndex: 1, userId: "123") { (code, message) in
 if code == 0 {
 }
}

// 2. The `onSeatListChange` callback is received, and the seat list is refreshed
func onSeatListChange(seatInfoList: [VoiceRoomSeatInfo]) {
 // Refreshed seat list
}
```

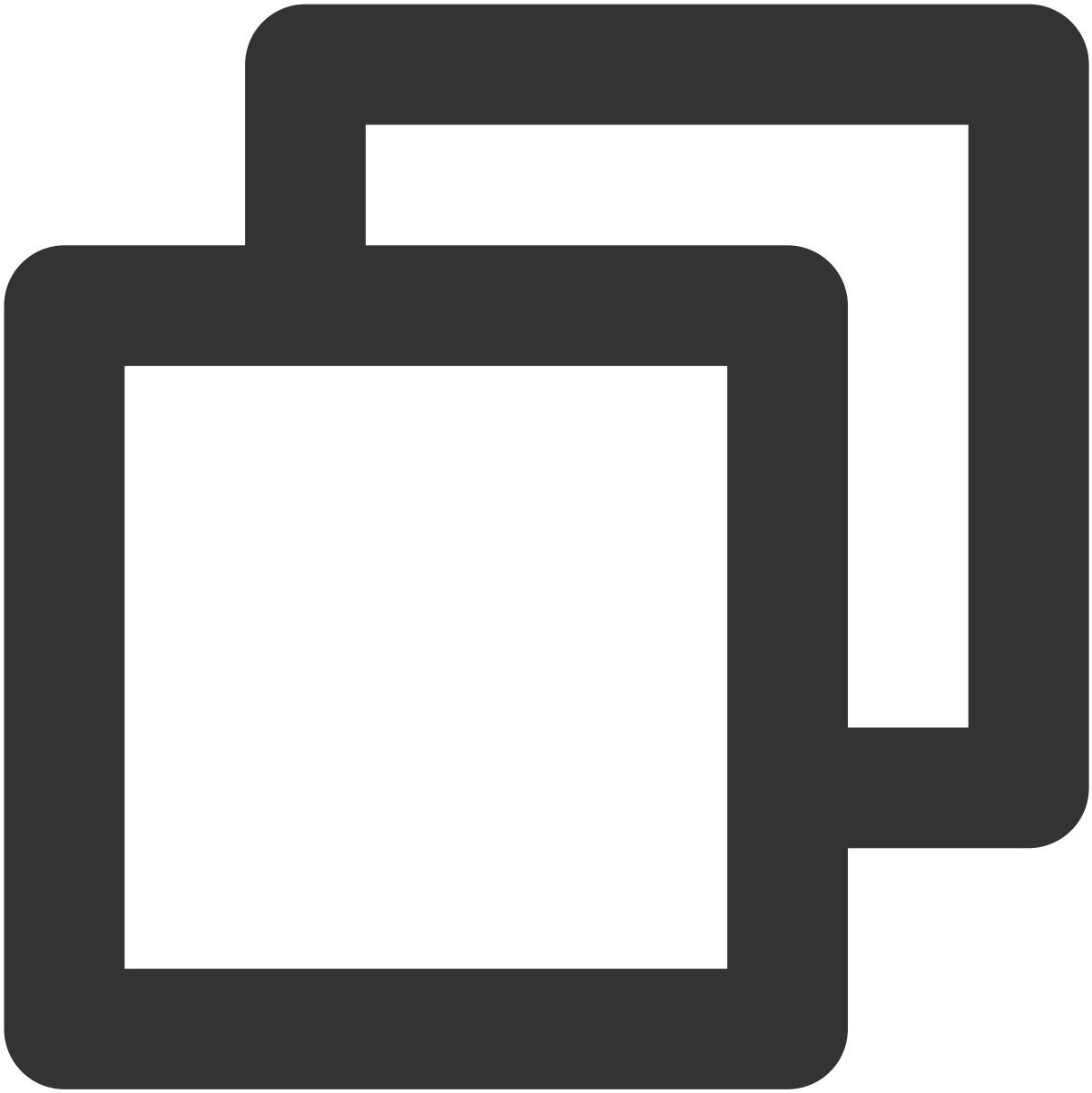
5. **A listener requests to speak through** TRTCVoiceRoom#sendInvitation.



```
// Listener
// 1. A listener calls an API to request to speak
let seatIndex = "1"; // Seat index
let userId = "123"; // User ID
let inviteId = mTRTCVoiceRoom.sendInvitation(cmd: "takeSeat", userId: ownerUserId,
 // Callback of the result
}

// 2. Place the user in the seat after the invitation is accepted
func onInviteeAccepted(identifier: String, invitee: String) {
 if identifier == selfID {
```

```
        self.mTRTCVoiceRoom.enterSeat(seatIndex: ) { (code, message) in
            // Callback of the result
        }
    }
}

// Room owner
// 1. The room owner receives the request
func onReceiveNewInvitation(identifier: String, inviter: String, cmd: String, conte
    if cmd == "takeSeat" {
        // 2. The room owner accepts the request
        self.mTRTCVoiceRoom.acceptInvitation(identifier: identifier, callback: nil)
    }
}
```

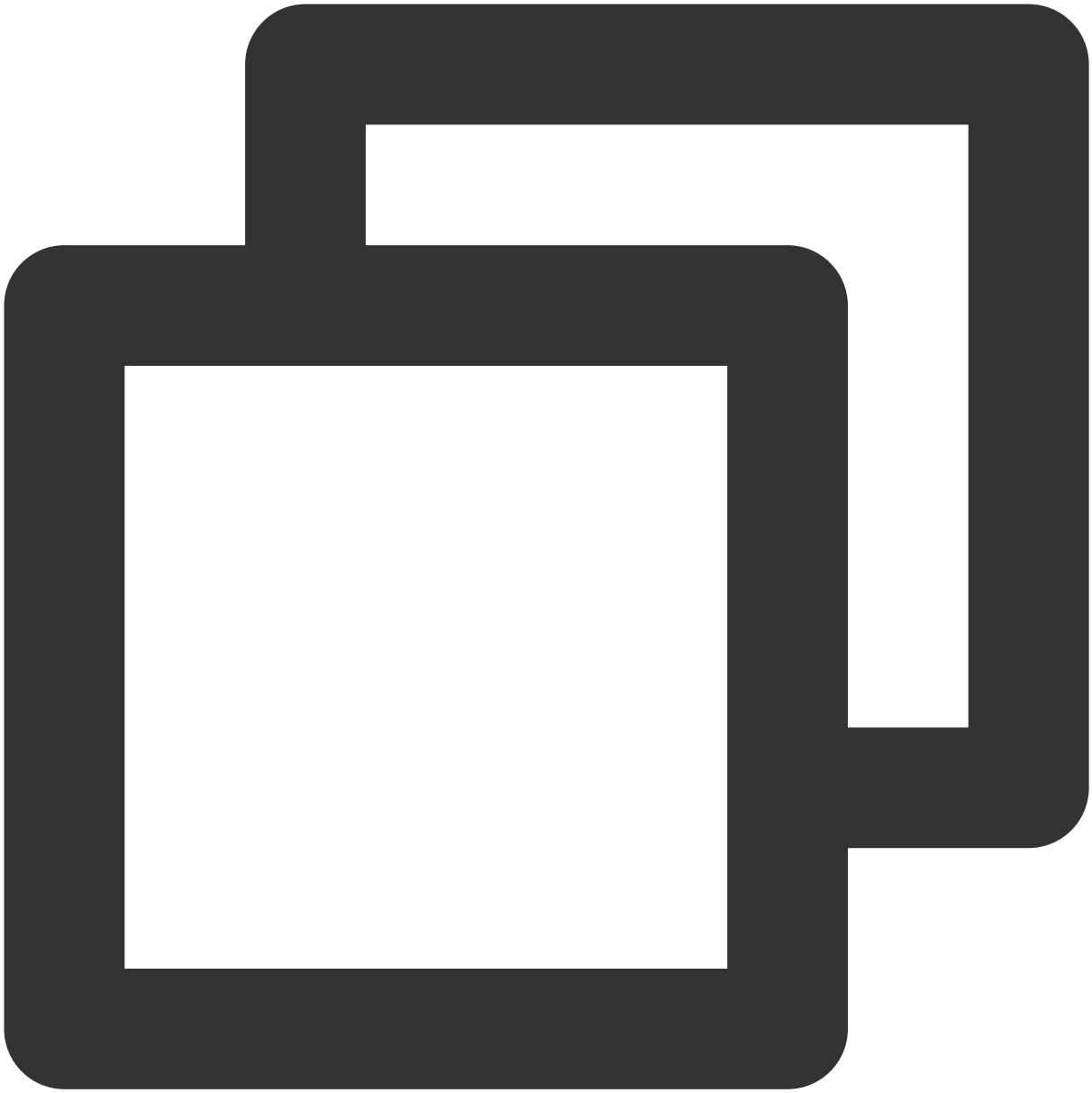
6. **The room owner invites a listener to speak through** TRTCVoiceRoom#sendInvitation.



```
// Room owner
// 1. Call `sendInvitation` to invite user `123` to take seat 2
let inviteId = self.mTRTCVoiceRoom.sendInvitation(cmd: "pickSeat", userId: ownerUse
 // Callback of the result
}

// 2. Place the user in the seat after the invitation is accepted
func onInviteeAccepted(identifier: String, invitee: String) {
 if identifier == selfID {
     self.mTRTCVoiceRoom.pickSeat(seatIndex: ) { (code, message) in
         // Callback of the result
```

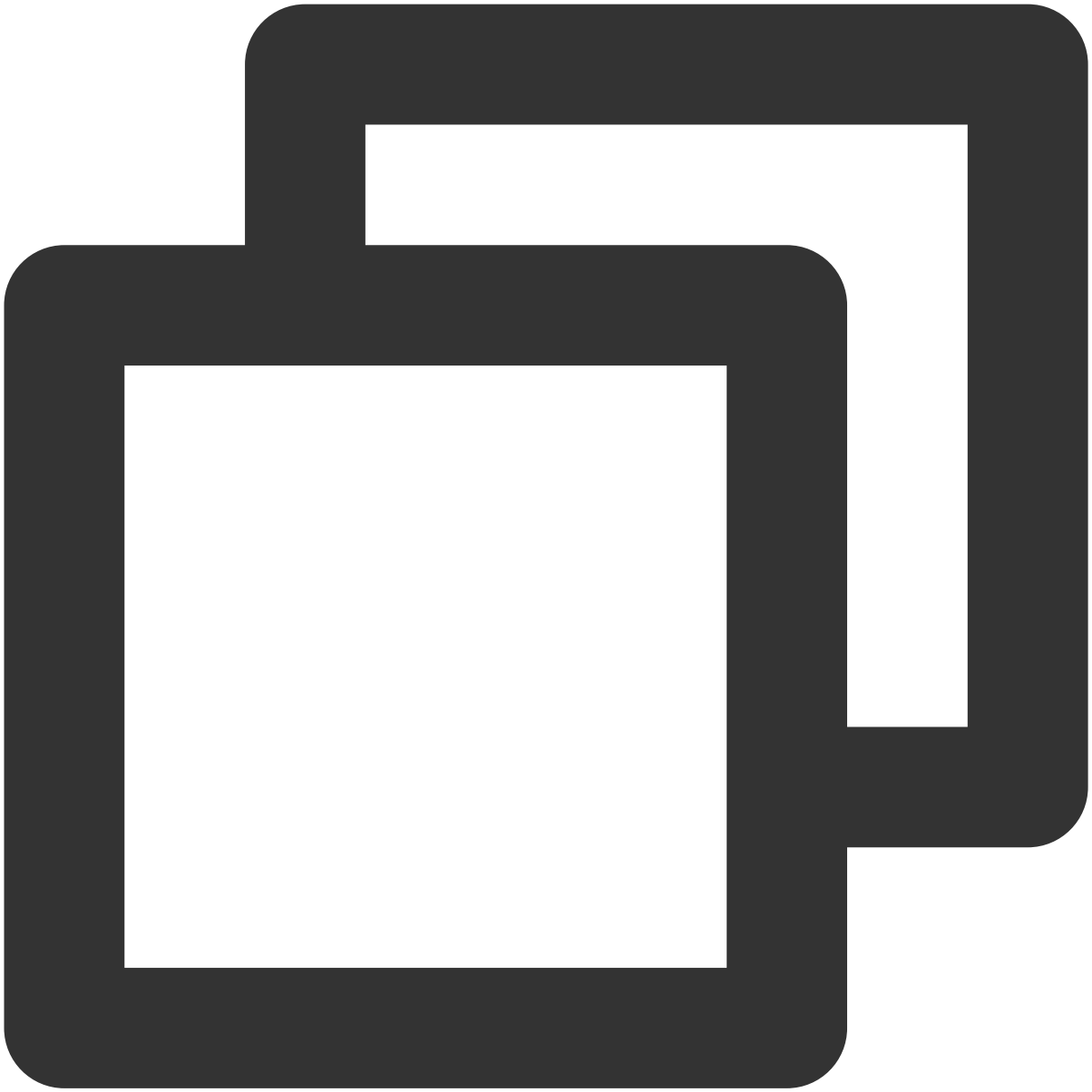
```
        }
    }
}

// Listener
// 1. The listener receives the invitation
func onReceiveNewInvitation(identifier: String, inviter: String, cmd: String, conte
    if cmd == "pickSeat" {
        // 2. The listener accepts the invitation
        self.mTRTCVoiceRoom.acceptInvitation(identifier: identifier, callback: nil)
    }
}
```

7. **Implement text chat through** TRTCVoiceRoom#sendRoomTextMsg.



```
// Sender: Sends text chat messages
self.mTRTCVoiceRoom.sendRoomTextMsg(message: message) { (code, message) in

}

// Receiver: Listens for text chat messages
func onRecvRoomTextMsg(message: String, userInfo: VoiceRoomUserInfo) {
 // Handling of the messages received
}
```

8. **Implement on-screen commenting through** TRTCVoiceRoom#sendRoomCustomMsg.



```
// For example, a sender can customize commands to distinguish on-screen comments a
// For example, use "CMD_DANMU" to indicate on-screen comments and "CMD_LIKE" to in
self.mTRTCVoiceRoom.sendRoomCustomMsg(cmd: "CMD_DANMU", message: "hello world", cal
self.mTRTCVoiceRoom.sendRoomCustomMsg(cmd: "CMD_LIKE", message: "", callback: nil)

// Receiver: Listens for custom messages
func onRecvRoomCustomMsg(cmd: String, message: String, userInfo: VoiceRoomUserInfo)
 if cmd == "CMD_DANMU" {
     // An on-screen comment is received
 }
 if cmd == "CMD_LIKE" {
```

```
        // A like is received
    }
}
```

Suggestions and Feedback

If you have any suggestions or feedback, please contact colleenyu@tencent.com.

TUIVoiceRoom APIs
TRTCVoiceRoom (iOS)

Last updated：2023-09-25 10:52:31

`TRTCVoiceRoom` is based on Tencent Real-Time Communication (TRTC) and Tencent Cloud Chat. Wit:
A user can create an audio chat room and become a speaker or enter an audio chat room as a listener.
The room owner can invite a listener to speak as well as remove speaker from the seat.
The room owner can also block a seat. Listeners cannot request to take a blocked seat.
A listener can request to speak and become a speaker. A speaker can also become a listener.
All users can send text and custom messages. Custom messages can be used to send on-screen comments, give likes, and send gifts.

Note

All TUIKit components are based on two PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For billing details of Chat, see Pricing.

`TRTCVoiceRoom` is an open-source class depending on two closed-source Tencent Cloud SDKs. For the specific implementation process, see Audio Chat Room (iOS).

The TRTC SDK is used as a low-latency audio chat component.

The `AVChatRoom` feature of the Chat SDK is used to implement chat rooms. The attribute APIs of Chat are used to store room information such as the seat list, and invitation signaling is used to send requests to speak or invite others to speak.

TRTCVoiceRoom API Overview

Basic SDK APIs

API	Description
sharedInstance	Gets a singleton object.
destroySharedInstance	Terminates a singleton object.
setDelegate	Sets event callbacks.
setDelegateHandler	Sets the thread where event callbacks are.
login	Logs in.
logout	Logs out.

setSelfProfile	Sets profile.

Room APIs

API	Description
createRoom	Creates a room (called by room owner). If the room does not exist, the system will automatically create a room.
destroyRoom	Terminates a room (called by room owner).
enterRoom	Enters a room (called by listener).
exitRoom	Exits a room (called by listener).
getRoomInfoList	Gets room list details.
getUserInfoList	Gets the user information of the specified `userId`. If the value is `nil`, the information of all users in the room is obtained.

Seat management APIs

API	Description
enterSeat	Becomes a speaker (called by room owner or listener).
moveSeat	Changes the seat (called by speaker).
leaveSeat	Becomes a listener (called by speaker).
pickSeat	Places a user in a seat (called by room owner).
kickSeat	Removes a speaker (called by room owner).
muteSeat	Mutes/Unmutes a seat (called by room owner).
closeSeat	Blocks/Unblocks a seat (called by room owner).

Local audio APIs

API	Description
startMicrophone	Starts mic capturing.
stopMicrophone	Stops mic capturing.

setAudioQuality	Sets audio quality.
muteLocalAudio	Mutes/Unmutes local audio.
setSpeaker	Sets whether to play sound from the device's speaker or receiver.
setAudioCaptureVolume	Sets mic capturing volume.
setAudioPlayoutVolume	Sets playback volume.
setVoiceEarMonitorEnable	Enables/Disables in-ear monitoring.

Remote audio APIs

API	Description
muteRemoteAudio	Mutes/Unmutes a specified member.
muteAllRemoteAudio	Mutes/Unmutes all members.

Background music and audio effect APIs

API	Description
getAudioEffectManager	Gets the background music and audio effect management object TXAudioEffectManager.

Message sending APIs

API	Description
sendRoomTextMsg	Broadcasts a text chat message in a room. This API is generally used for on-screen comments.
sendRoomCustomMsg	Sends a custom text message.

Invitation signaling APIs

API	Description
sendInvitation	Sends an invitation.
acceptInvitation	Accepts an invitation.
rejectInvitation	Declines an invitation.

cancelInvitation	Cancels an invitation.

TRTCVoiceRoomDelegate API Overview

Common event callbacks

API	Description
onError	Callback for error.
onWarning	Callback for warning.
onDebugLog	Callback of log.

Room event callback APIs

API	Description
onRoomDestroy	The room was terminated.
onRoomInfoChange	The room information changed.
onUserVolumeUpdate	User volume

Seat list change callback APIs

API	Description
onSeatListChange	All seat changes
onAnchorEnterSeat	Someone became a speaker or was made a speaker by the room owner.
onAnchorLeaveSeat	Someone became a listener or was made a listener by the room owner.
onSeatMute	The room owner muted a seat.
onUserMicrophoneMute	Whether a user's mic is muted
onSeatClose	The room owner blocked a seat.

Callback APIs for room entry/exit by listener

API	Description
onAudienceEnter	A listener entered the room.
onAudienceExit	A listener exited the room.

Message event callback APIs

API	Description
onRecvRoomTextMsg	A text chat message was received.
onRecvRoomCustomMsg	A custom message was received.

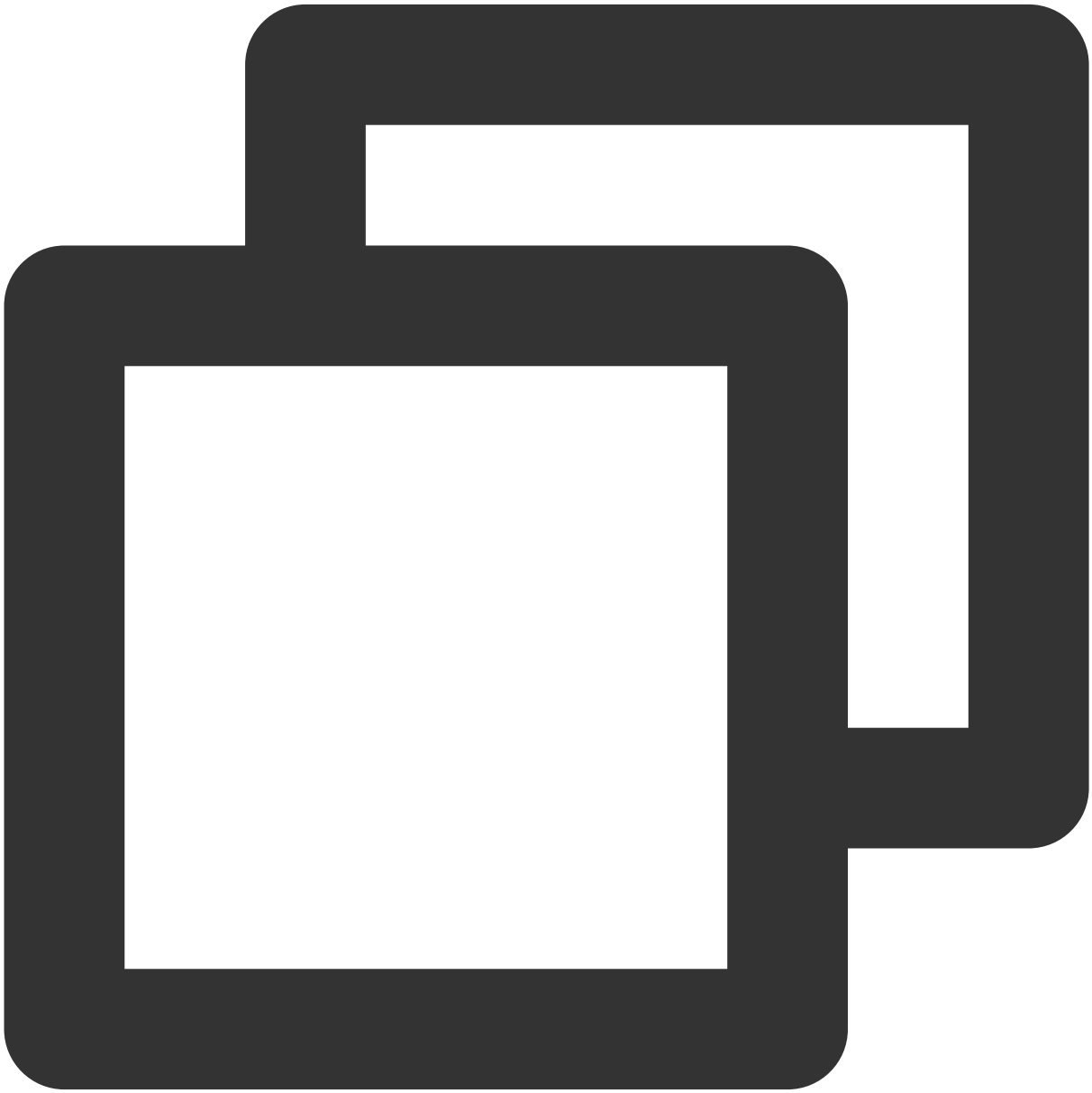
Signaling event callback APIs

API	Description
onReceiveNewInvitation	An invitation was received.
onInviteeAccepted	The invitee accepted the invitation.
onInviteeRejected	The invitee declined the invitation.
onInvitationCancelled	The inviter canceled the invitation.

Basic SDK APIs

sharedInstance

This API is used to get a TRTCVoiceRoom singleton object.



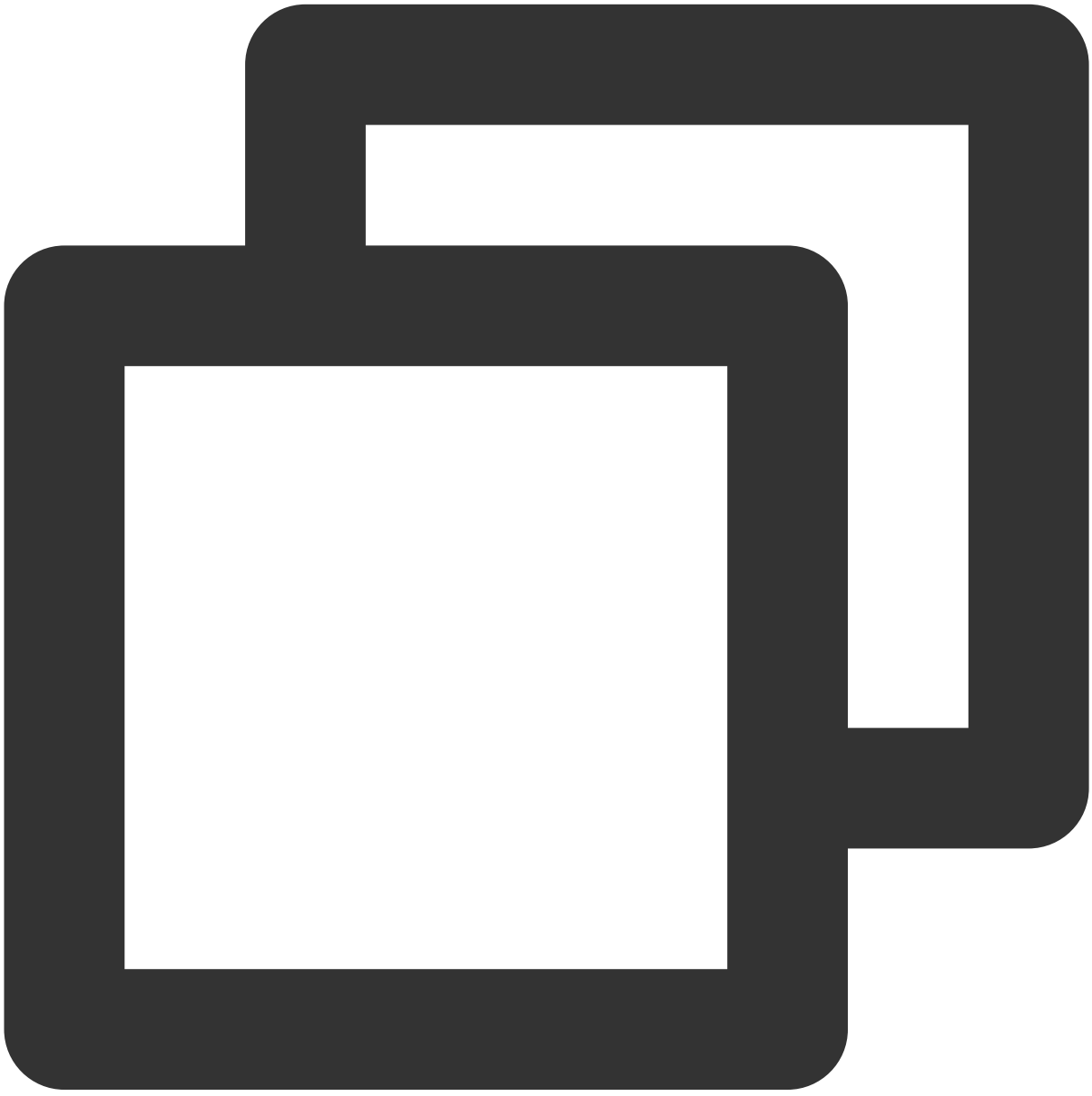
```
/**
* Get a `TRTCVoiceRoom` singleton object
*
* - returns: `TRTCVoiceRoom` instance
* - note: to terminate a singleton object, call {@link TRTCVoiceRoom#destroySharedI
*/
+ (instancetype)sharedInstance NS_SWIFT_NAME(shared());
```

destroySharedInstance

This API is used to terminate a TRTCVoiceRoom singleton object.

explain

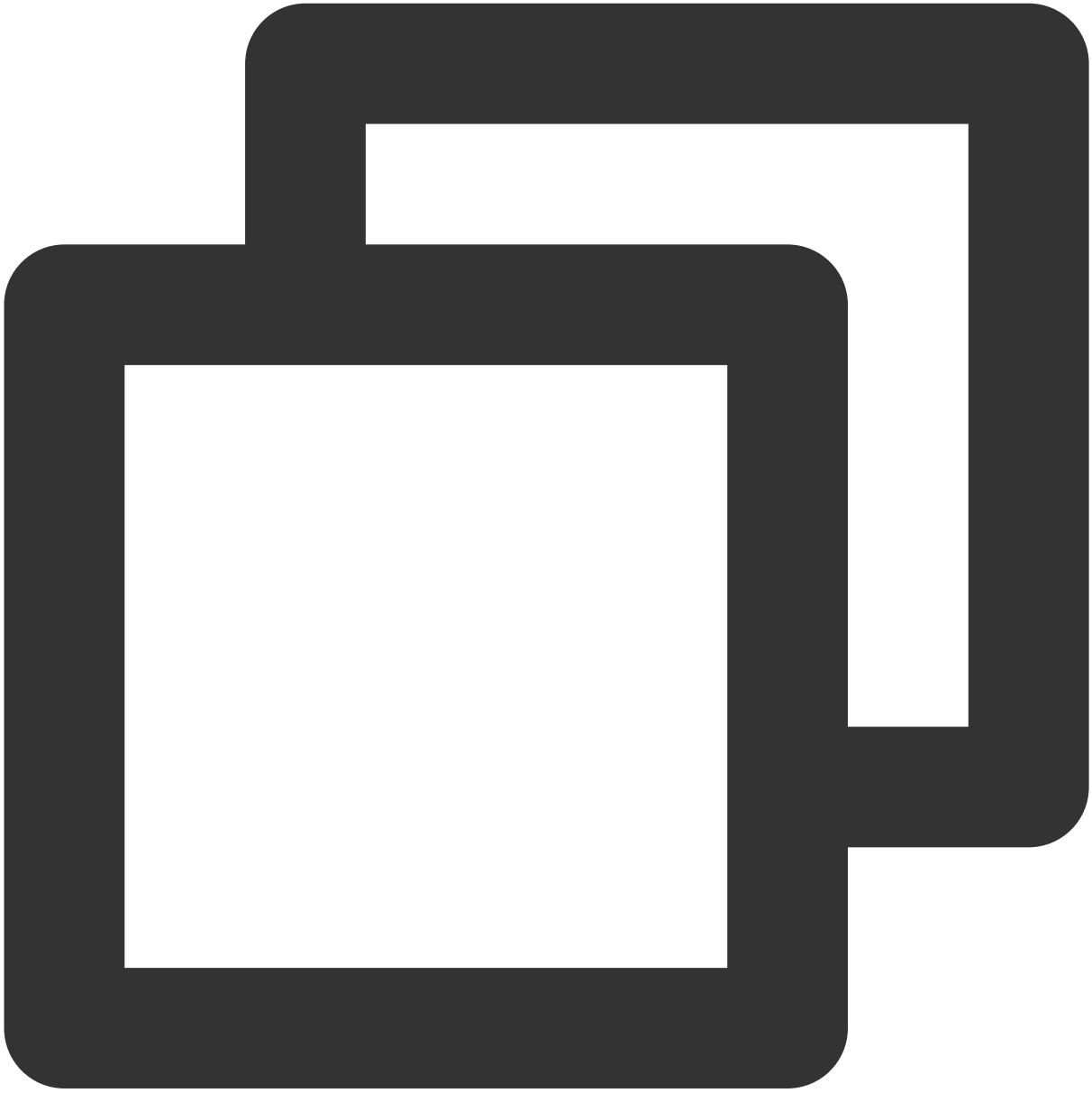
After the instance is terminated, the externally cached `TRTCVoiceRoom` instance can no longer be used. You need to call sharedInstance again to get a new instance.



```
/**
* Terminate a `TRTCVoiceRoom` singleton object
*
* - Note: After the instance is terminated, the externally cached `TRTCVoiceRoom` i
*/
+ (void)destroySharedInstance NS_SWIFT_NAME(destroyShared());
```

setDelegate

This API is used to set the event callback of TRTCVoiceRoom. You can use `TRTCVoiceRoomDelegate` to get different status notifications of TRTCVoiceRoom.



```
/**
* Set the event callbacks of the component
*
* You can use `TRTCVoiceRoomDelegate` to get different status notifications of `TRT
*
```

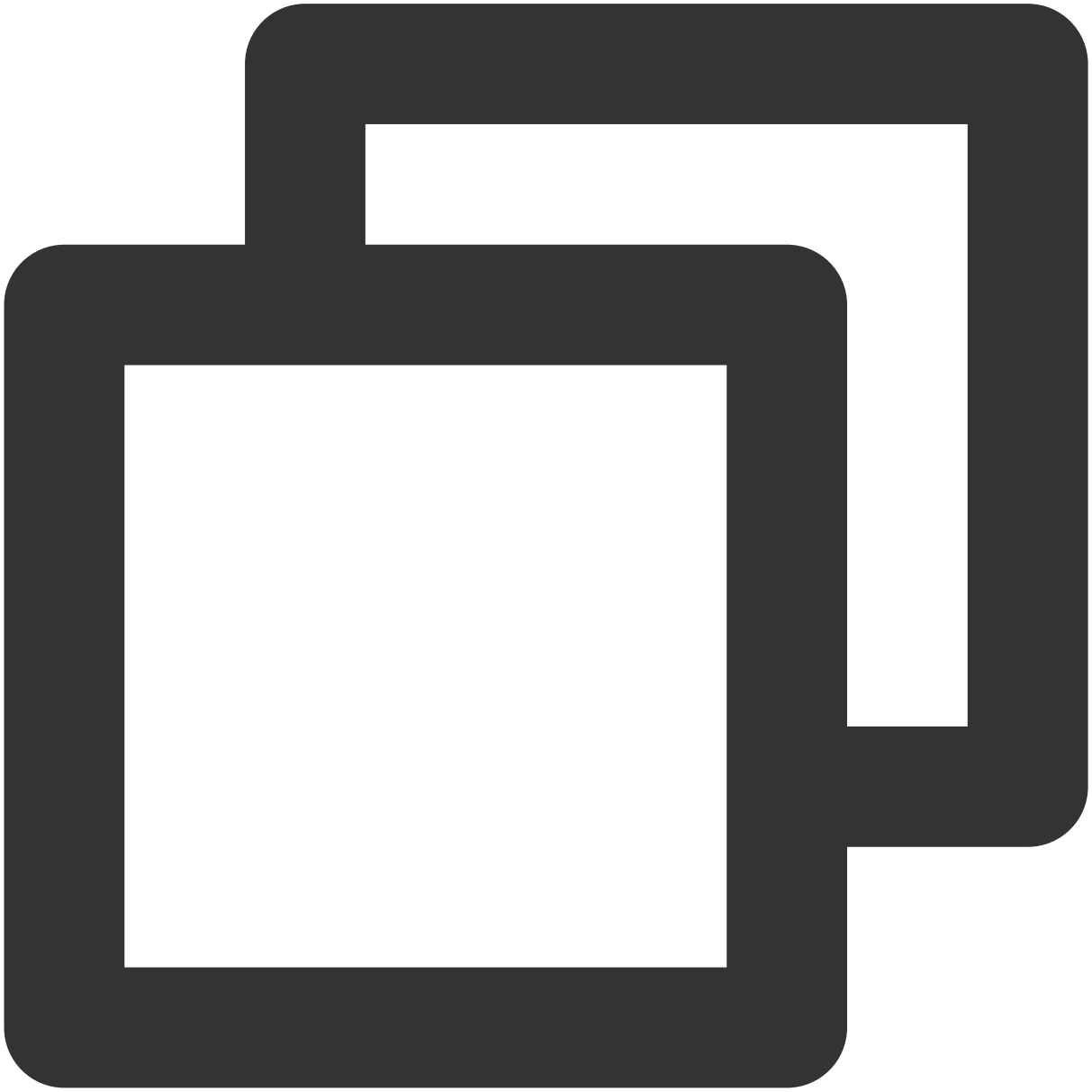
```
 * - parameter delegate Callback API
 * - Note: Callback events in `TRTCVoiceRoom` are called back to you in the main que
 */
- (void)setDelegate:(id<TRTCVoiceRoomDelegate>)delegate NS_SWIFT_NAME(setDelegate(d
```

explain

`setDelegate` is the delegate callback of `TRTCVoiceRoom` .

setDelegateQueue

This API is used to set the thread queue for event callbacks. The main thread (MainQueue) is used by default.



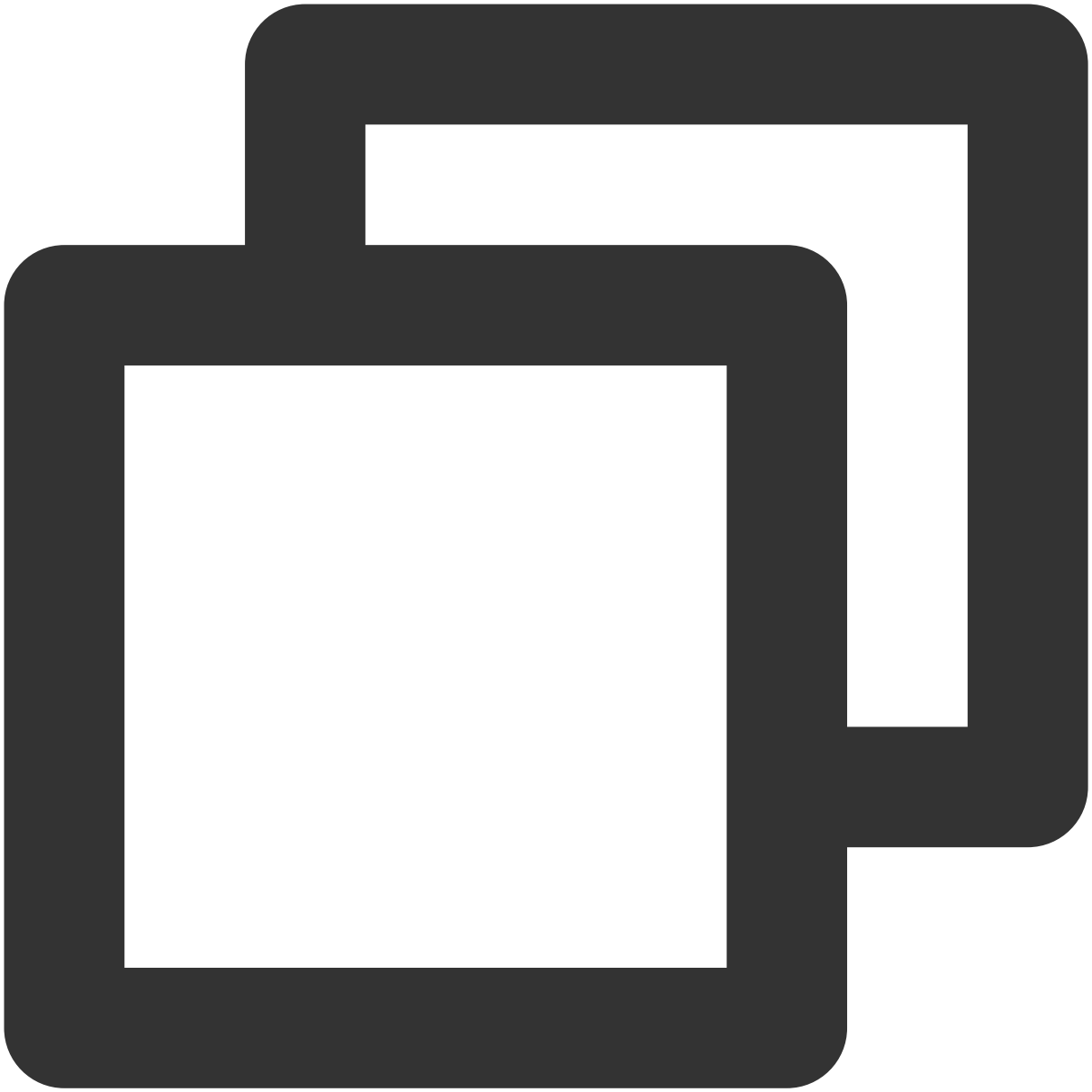
```
/**
* Set the queue for event callbacks
*
* - parameter queue Queue. Various status callback notifications in `TRTCVoiceRoom`
*/
- (void)setDelegateQueue:(dispatch_queue_t)queue NS_SWIFT_NAME(setDelegateQueue(que
```

The parameters are described below:

Parameter	Type	Description
queue	dispatch_queue_t	The status notifications of `TRTCVoiceRoom` are sent to the thread queue you specify.

login

Login



```
- (void)login:(int)sdkAppID
       userId:(NSString *)userId
      userSig:(NSString *)userSig
     callback:(ActionCallback _Nullable)callback NS_SWIFT_NAME(login(sdkAppID:userI
```

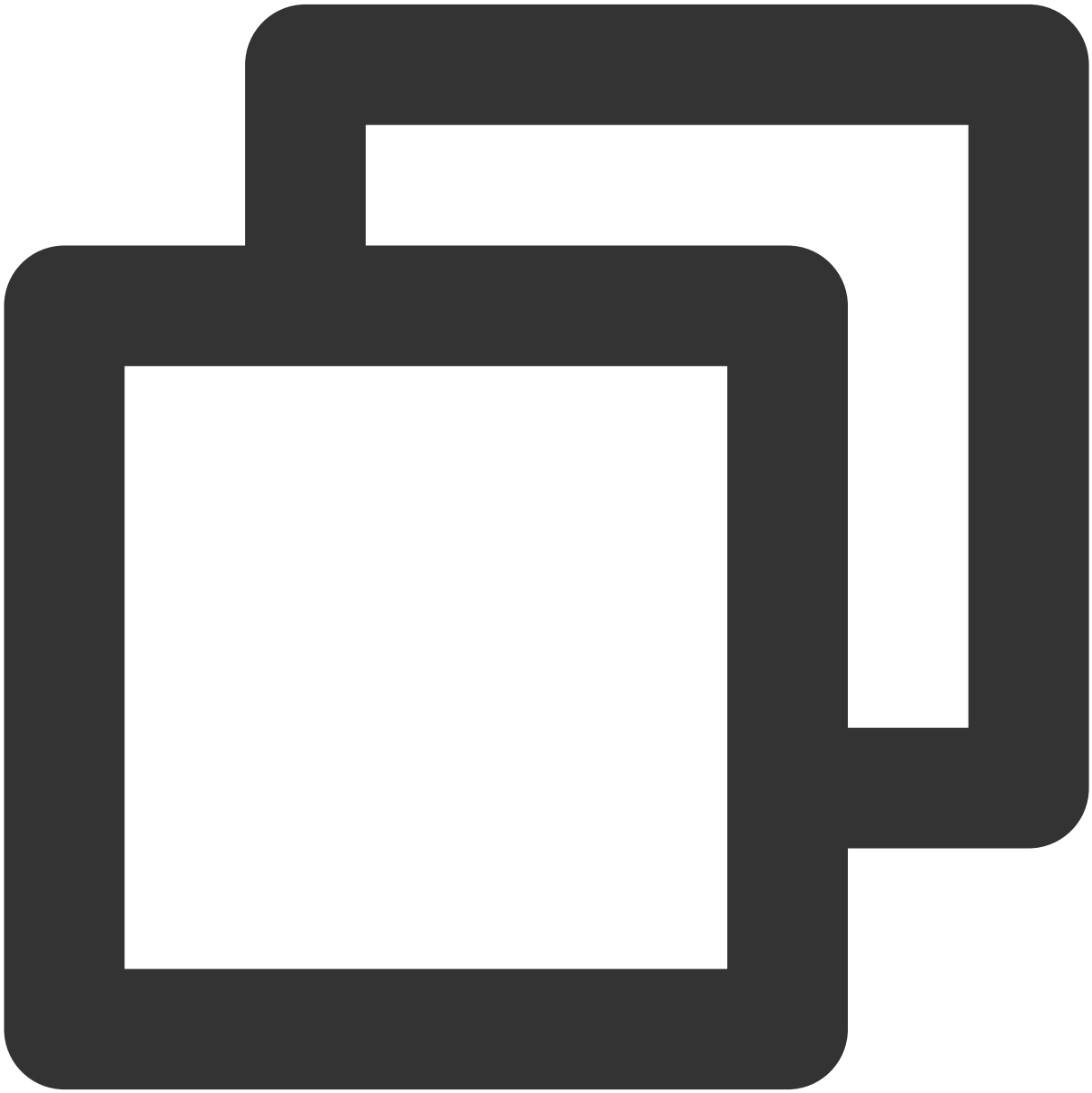
The parameters are described below:

Parameter	Type	Description
sdkAppId	int	You can view `SDKAppID` in Application Management > **Application Info** of

		the TRTC console.
userId	NSString	ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_)
userSig	NSString	Tencent Cloud's proprietary security signature. For how to calculate and use it, see FAQs > UserSig.
callback	ActionCallback	Callback for login. The code is 0 if login succeeds.

logout

Log out



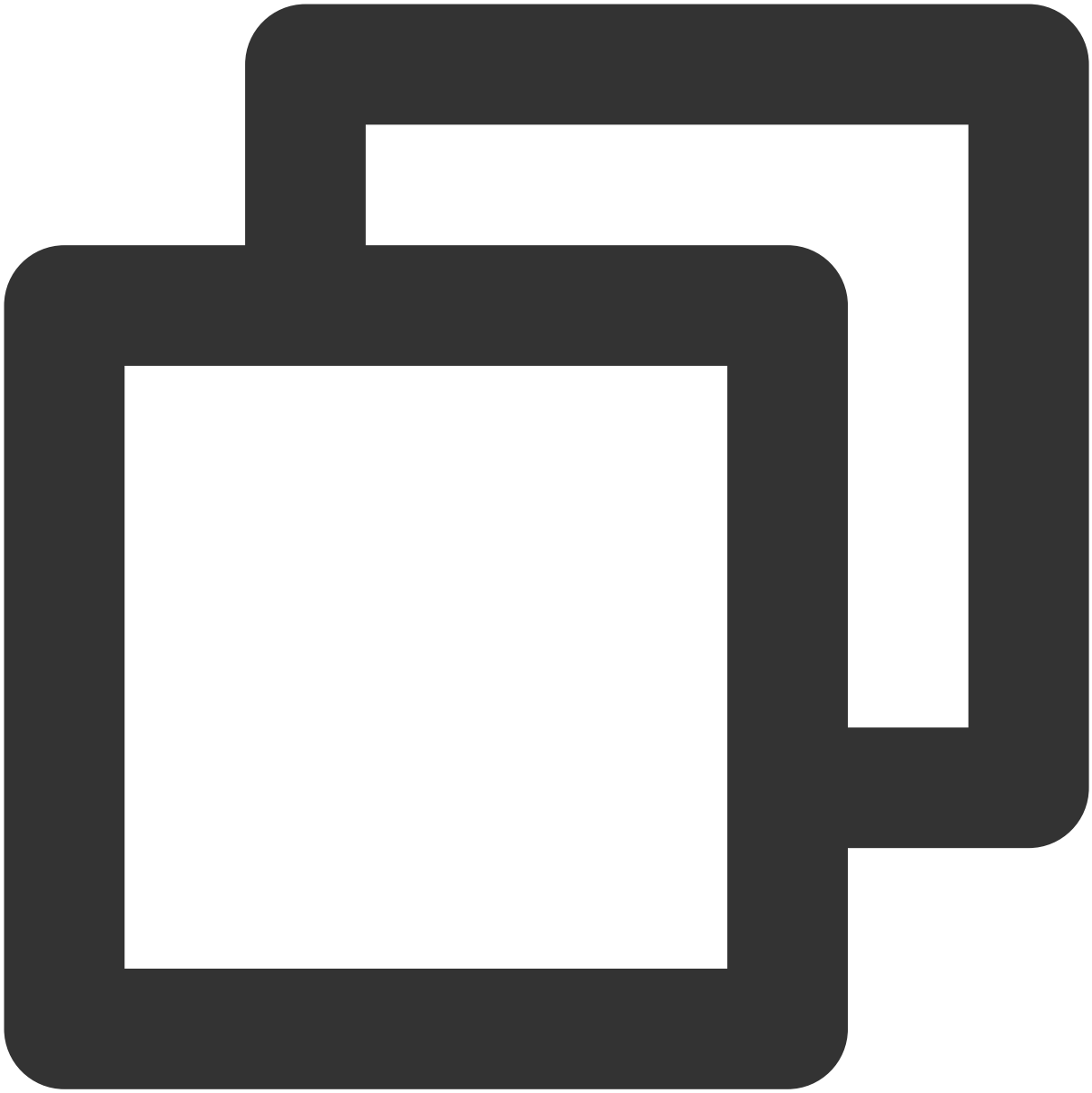
```
- (void)logout:(ActionCallback _Nullable)callback NS_SWIFT_NAME(logout(callback:));
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	Callback for logout. The code is `0` if logout succeeds.

setSelfProfile

This API is used to set the profile.



```
- (void)setSelfProfile:(NSString *)userName avatarURL:(NSString *)avatarURL callbac
```

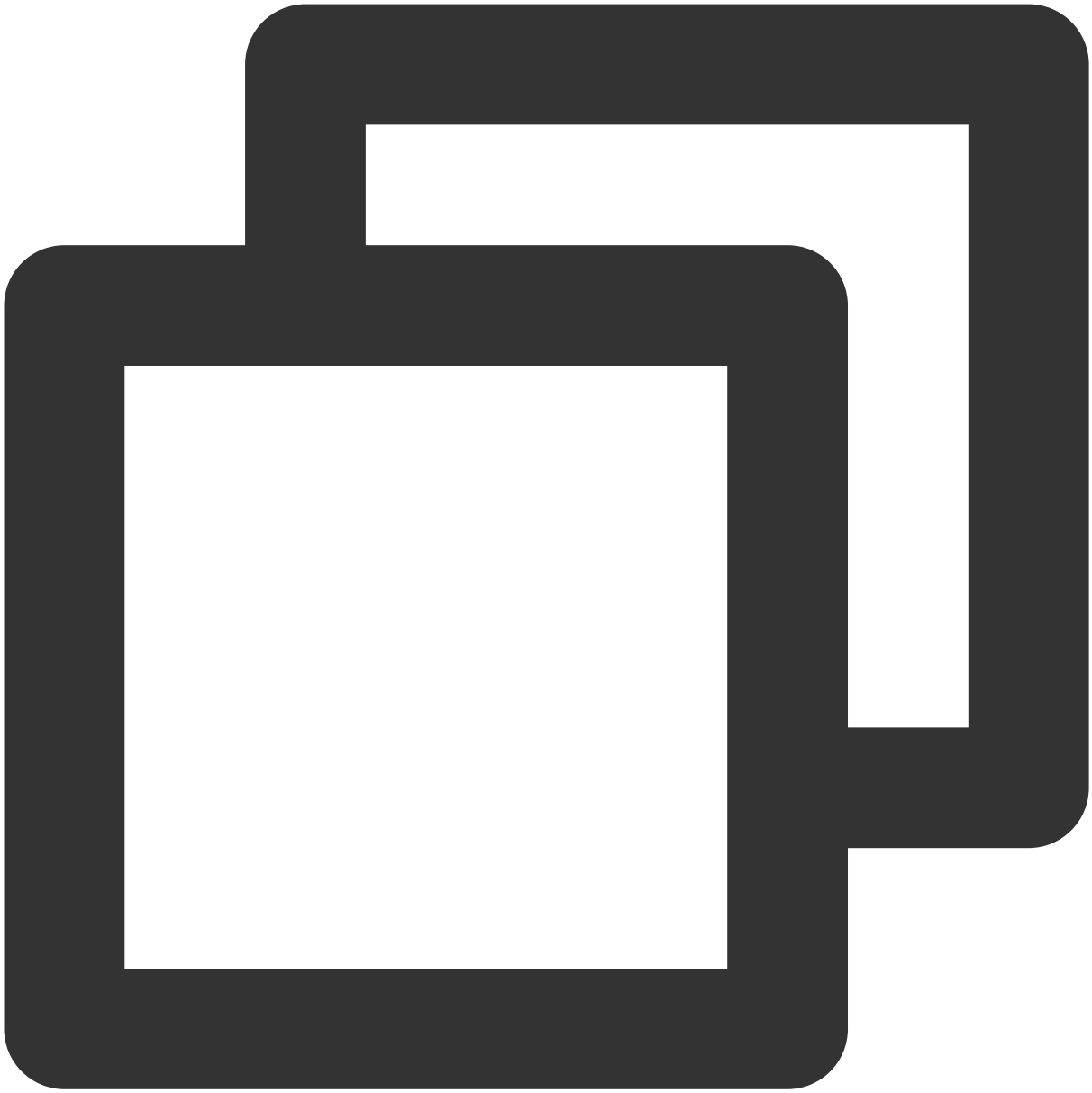
The parameters are described below:

Parameter	Type	Description
userName	NSString	Username
avatarURL	NSString	Profile picture URL
callback	ActionCallback	Callback for profile setting. The code is `0` if the operation succeeds.

Room APIs

createRoom

This API is used to create a room (called by room owner).



```
- (void)createRoom:(int)roomID roomParam:(VoiceRoomParam *)roomParam callback:(Acti
```

The parameters are described below:

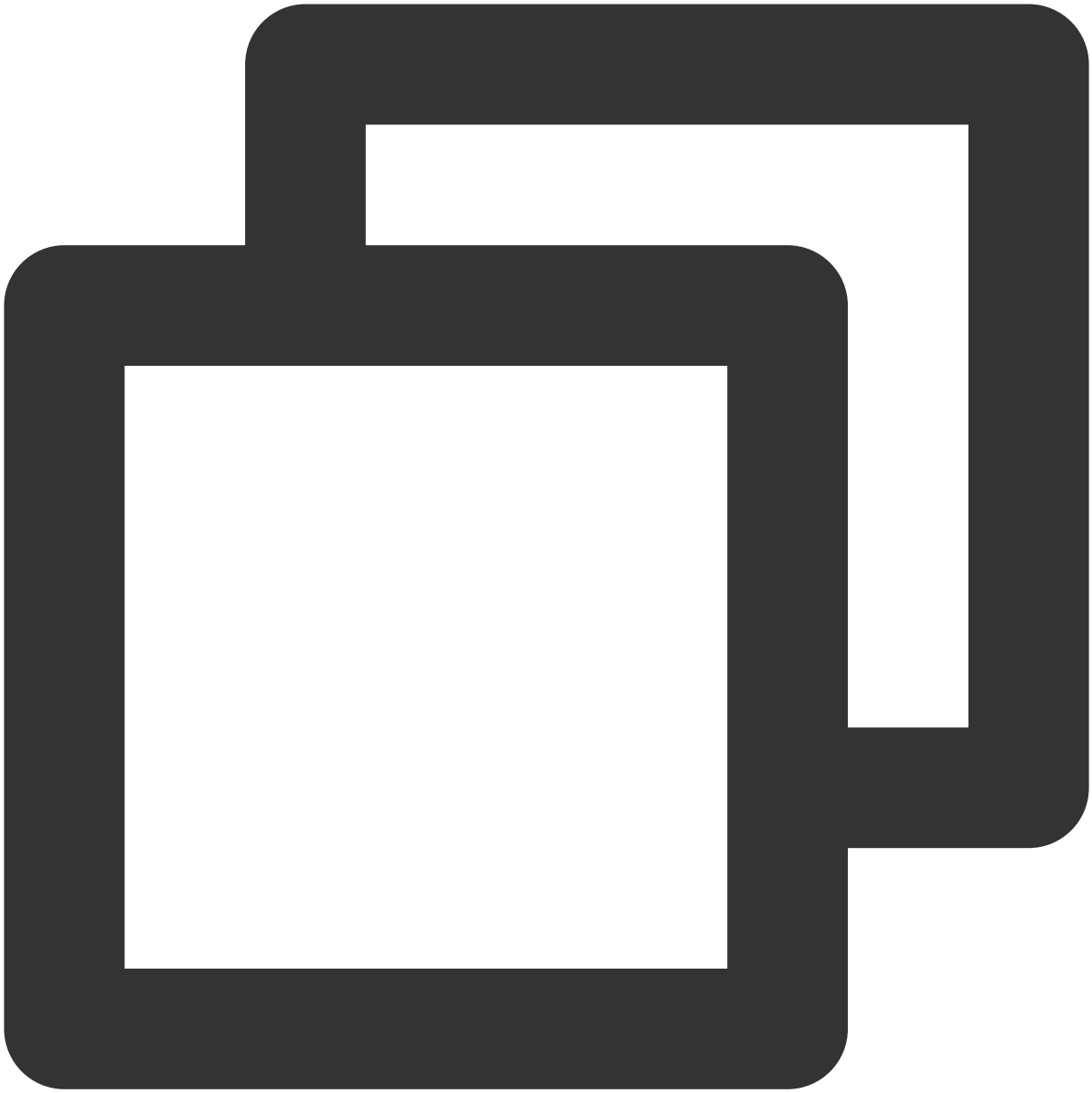
Parameter	Type	Description

roomId	int	The room ID. You need to assign and manage the IDs in a centralized manner. Multiple `roomID` values can be aggregated into a karaoke room list. Currently, Tencent Cloud does not provide management services for room lists. Please manage your own room lists.
roomParam	VoiceRoomParam	Room information, such as room name, seat list information, and cover information. To manage seats, you must enter the number of seats in the room.
callback	ActionCallback	Callback for room creation. The code is 0 if the operation succeeds.

The process of creating a karaoke room and becoming a speaker is as follows:
1. A user calls `createRoom` to create an audio chat room, passing in room attributes (e.g. room ID, whether listeners require room owner's consent to speak, number of seats).
2. After creating the room, the user calls `enterSeat` to become a speaker.
3. The user will receive an `onSeatListChanget` notification about the change of the seat list, and can update the change to the UI.
4. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker, and mic capturing will be enabled automatically.

destroyRoom

This API is used to terminate a room (called by room owner).



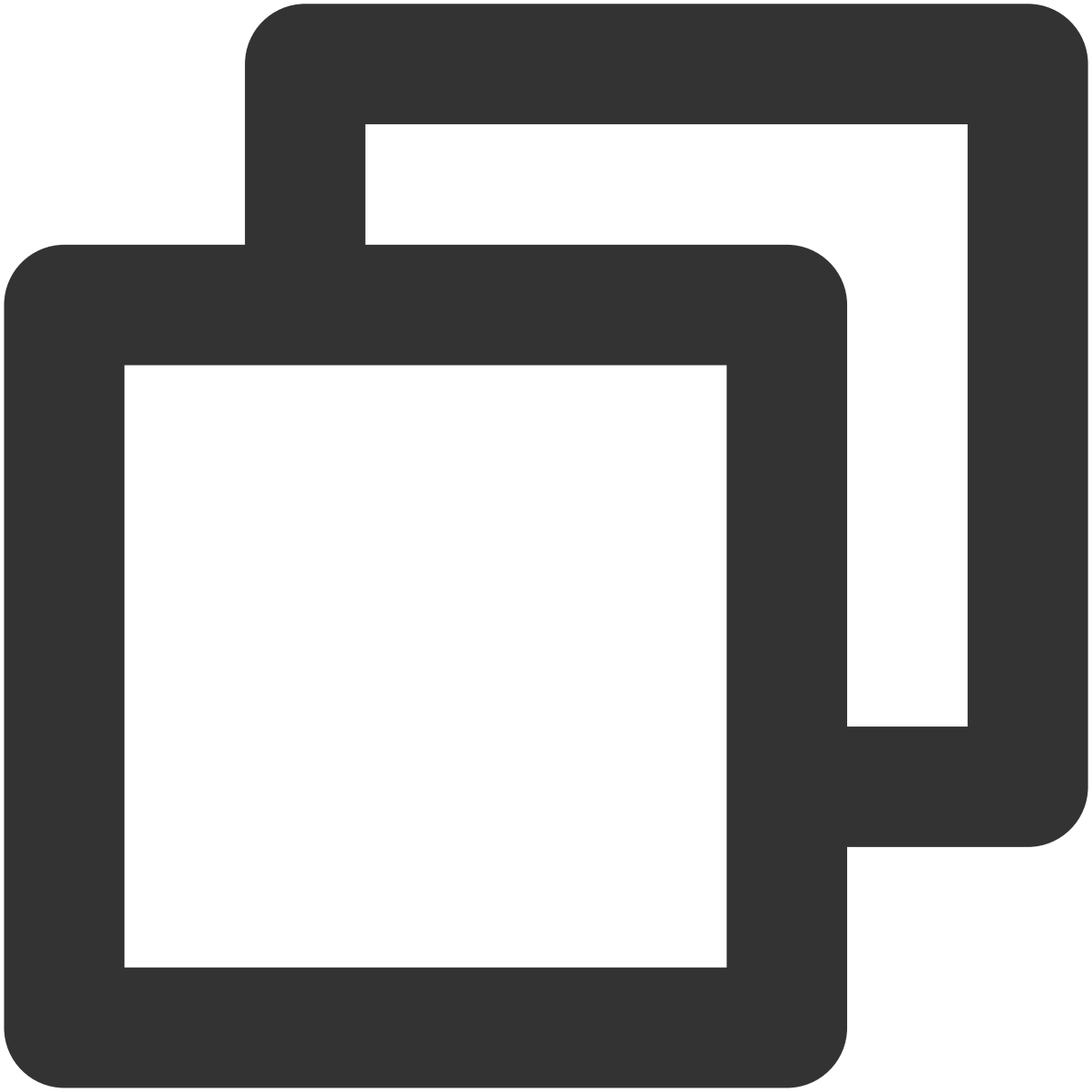
```
- (void)destroyRoom:(ActionCallback _Nullable)callback NS_SWIFT_NAME(destroyRoom(ca
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	Callback for room termination. The code is `0` if the operation succeeds.

enterRoom

This API is used to enter a room (called by listener).



```
- (void)enterRoom:(NSInteger)roomID callback:(ActionCallback _Nullable)callback NS_
```

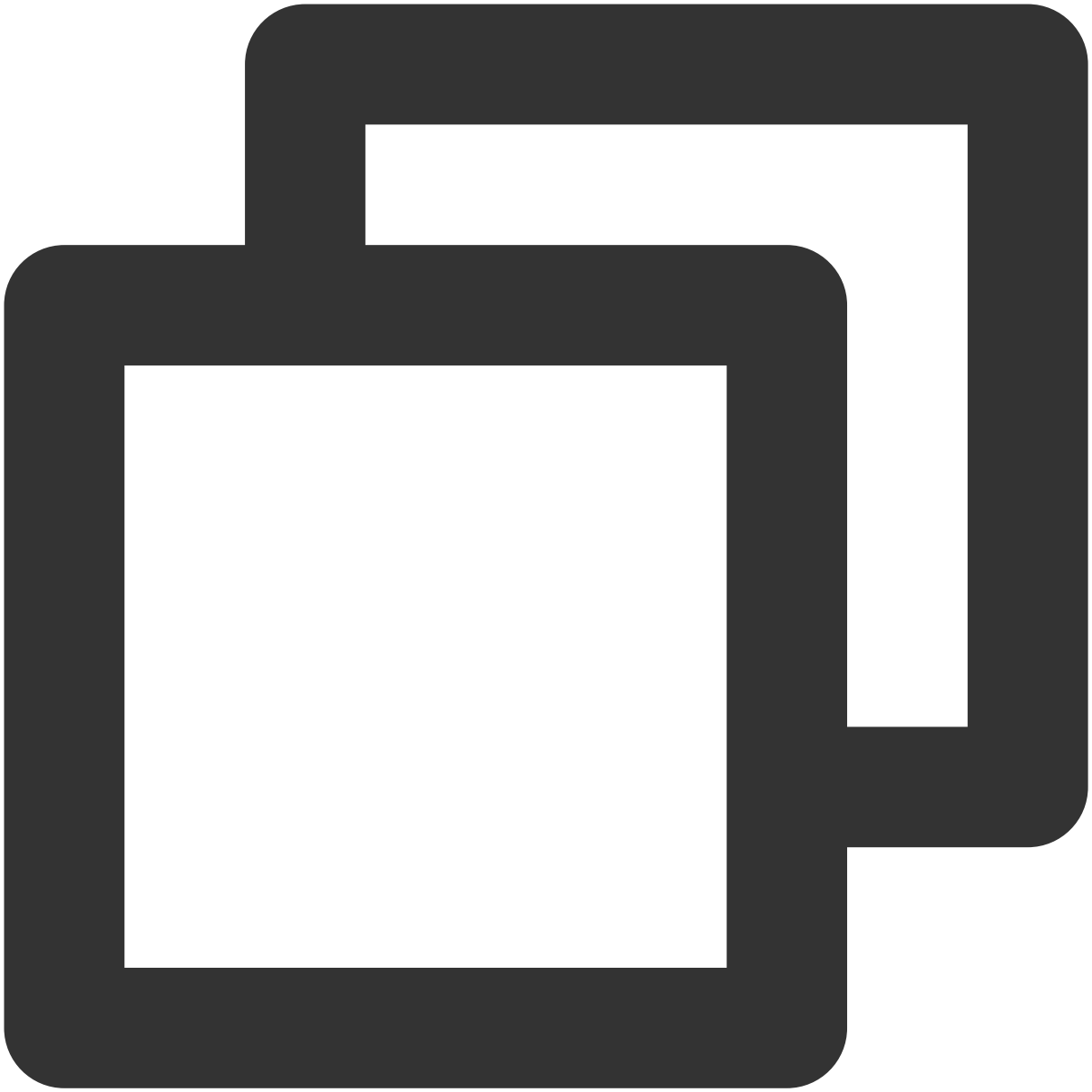
The parameters are described below:

Parameter	Type	Description
roomId	NSInteger	The room ID.
callback	ActionCallback	Callback for room entry. The code is `0` if the operation succeeds.

The process of entering a room as a listener is as follows:
1. A user gets the latest audio chat room list from your server. The list may contain the `roomId` and room information of multiple audio chat rooms.
2. The user selects a room, and calls `enterRoom` with the room ID passed in to enter the room.
3. After entering the room, the user receives an `onRoomInfoChange` notification about room attribute change from the component. The attributes can be recorded, and corresponding changes can be made to the UI, including room name, whether room owner's consent is required for listeners to speak, etc.
4. The user will receive an `onSeatListChange` notification about the change of the seat list and can update the change to the UI.
5. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker.

exitRoom

Leave room



```
- (void)exitRoom:(ActionCallback _Nullable)callback NS_SWIFT_NAME(exitRoom(callback
```

The parameters are described below:

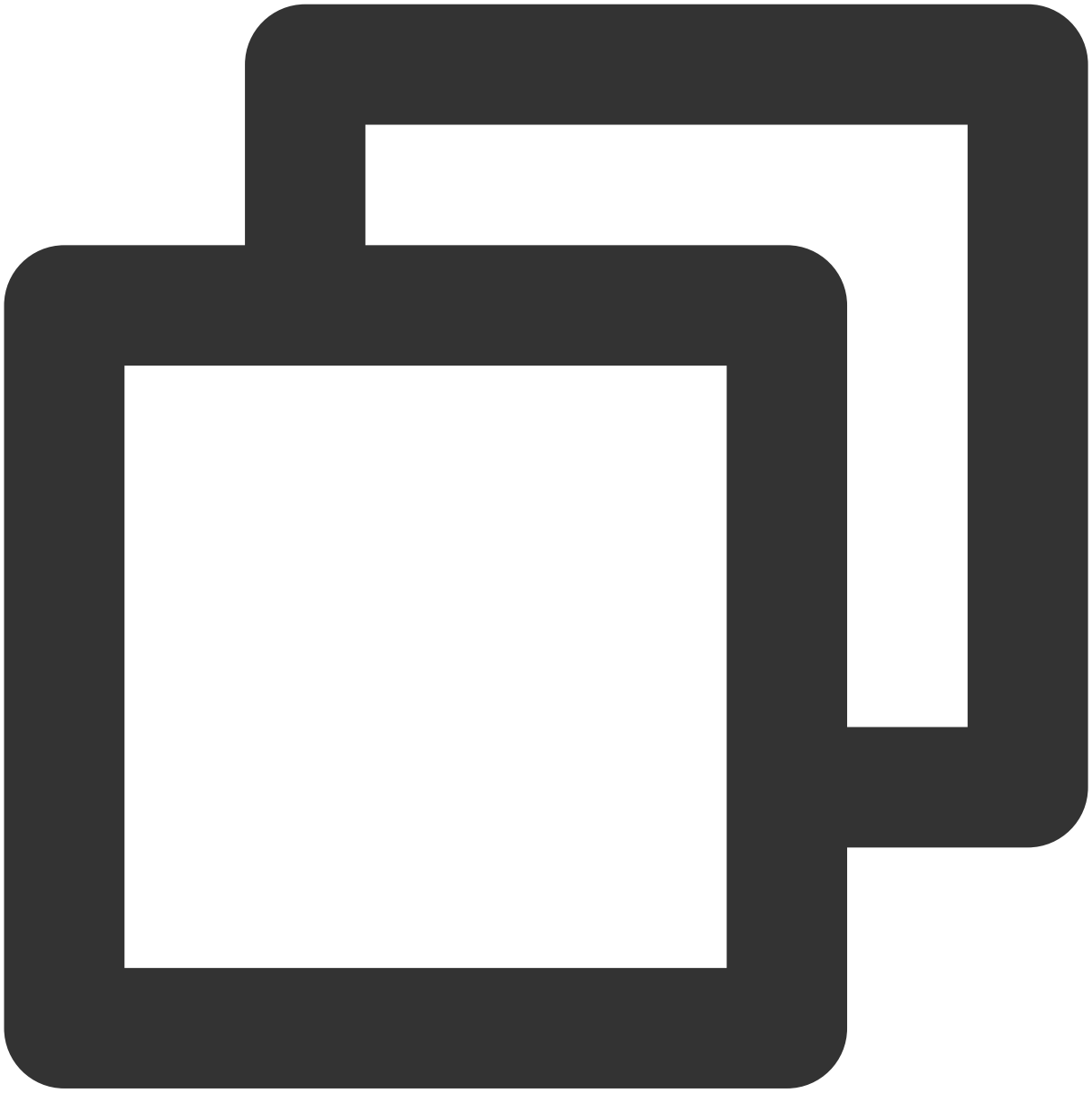
Parameter	Type	Description
callback	ActionCallback	Callback for room exit. The code is `0` if the operation succeeds.

getRoomInfoList

This API is used to get room list details. The room name and cover are set by the room owner via `roomInfo` when calling `createRoom()` .

explain

You don’t need this API if both the room list and room information are managed on your server.



```
- (void)getRoomInfoList:(NSArray<NSNumber *> *)roomIdList callback:(VoiceRoomInfoCa
```

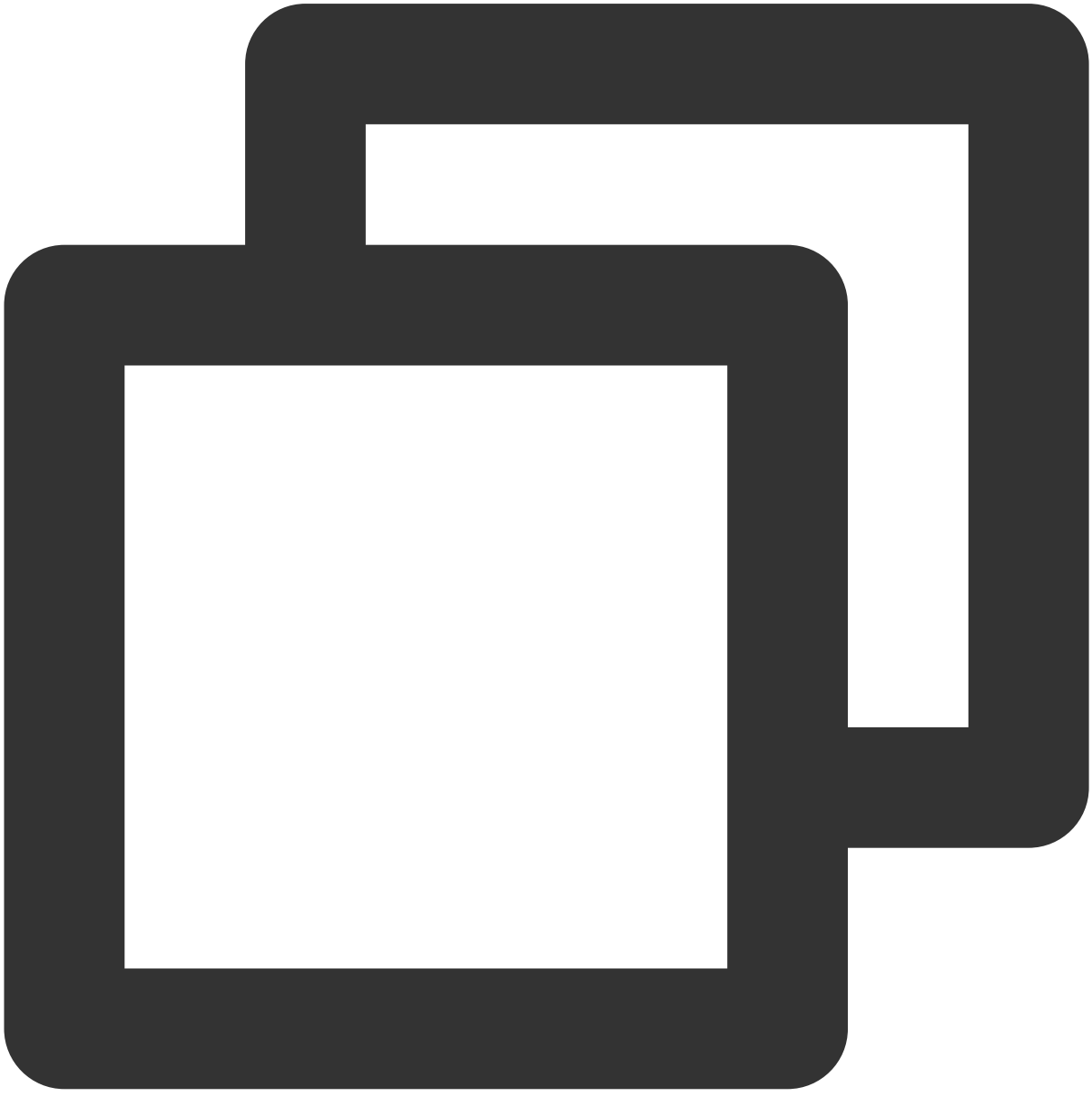
The parameters are described below:

Parameter	Type	Description

roomIdList	NSArray<NSNumber>	Room ID list
callback	RoomInfoCallback	Callback of room details

getUserInfoList

This API is used to get the information of specific users (`userId`).



```
- (void)getUserInfoList:(NSArray<NSString *> * _Nullable)userIDList callback:(Voice
```

The parameters are described below:

Parameter	Type	Description
userIdList	NSArray<NSString>	IDs of the users to query. If this parameter is `null`, the information of all users in the room is queried.
userlistcallback	UserListCallback	Callback of user details

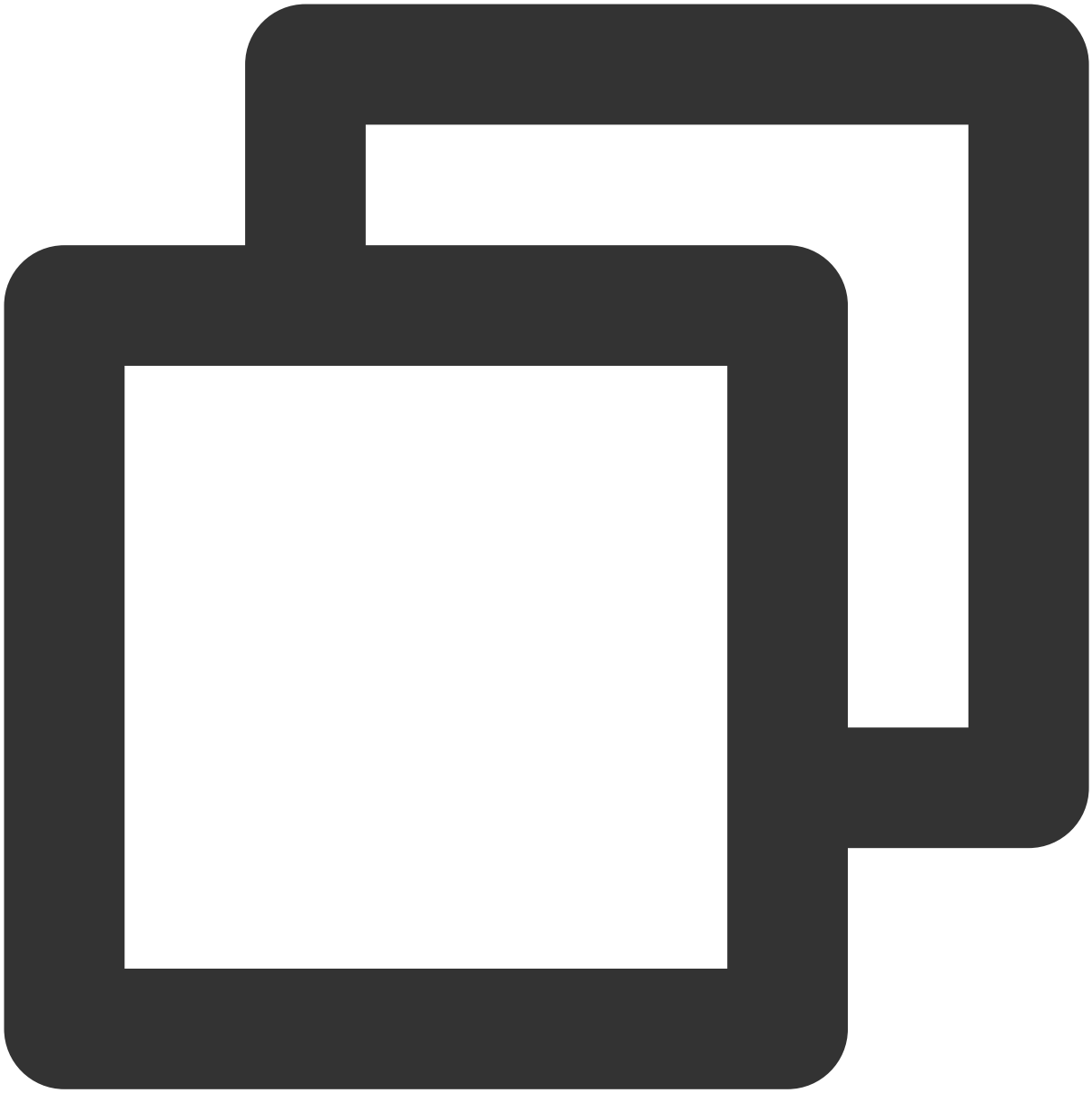
Seat Management APIs

enterSeat

This API is used to become a speaker (called by room owner or listener).

explain

After a user becomes a speaker, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
- (void)enterSeat:(NSInteger)seatIndex callback:(ActionCallback _Nullable)callback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	NSInteger	Number of the seat to take
callback	ActionCallback	Callback for the operation

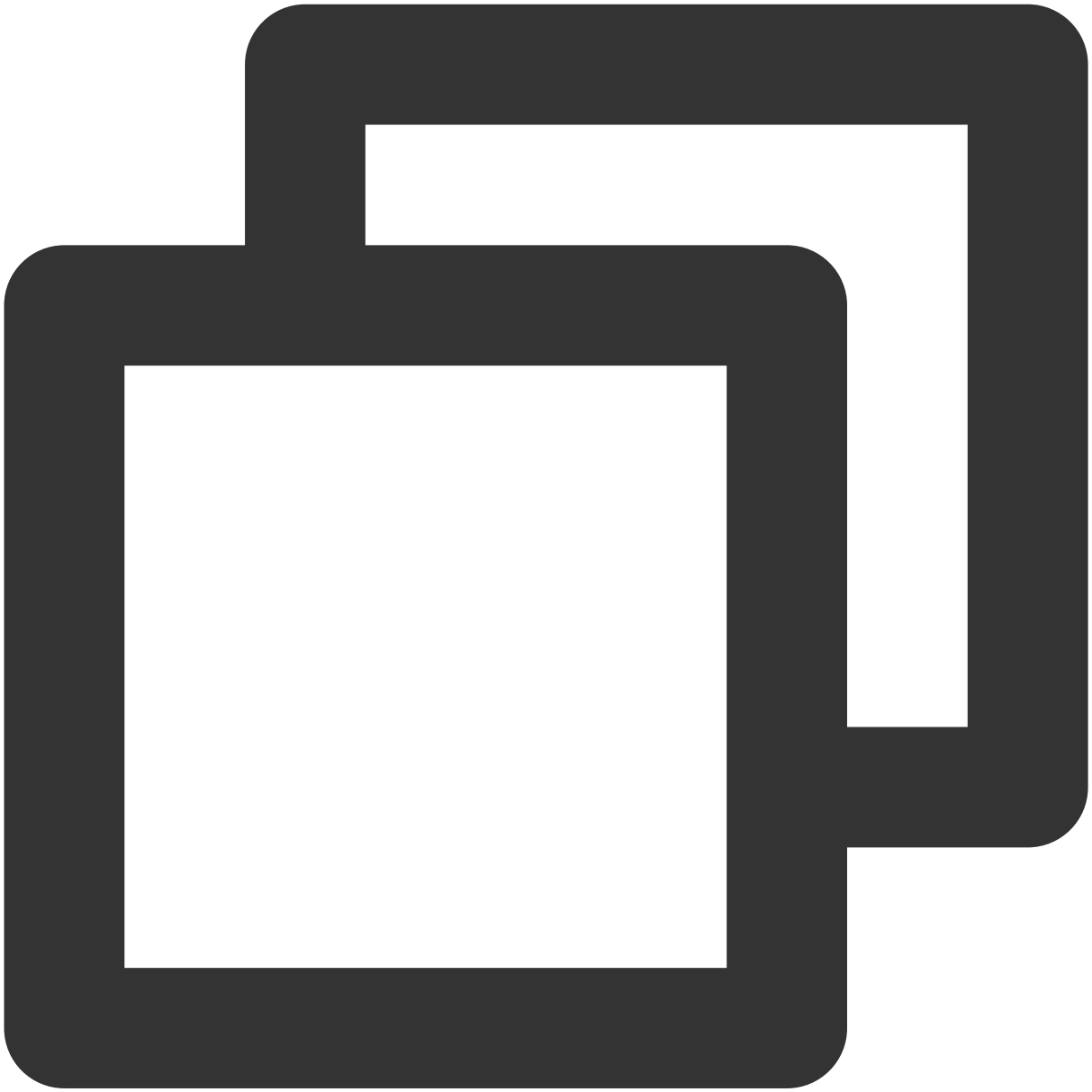
Calling this API will immediately modify the seat list. In cases where listeners need the room owner's consent to take a seat, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept`, call this API.

moveSeat

This API is used to change one's seat (called by speaker).

explain

After the seat change, all users in the room will receive the `onSeatListChange`, `onAnchorLeaveSeat`, and `onAnchorEnterSeat` notifications. This API will only change the user's seat number, not the user role.



```
- (NSInteger)moveSeat:(NSInteger)seatIndex callback:(ActionCallback _Nullable)callb
NS_SWIFT_NAME(moveSeat(seatIndex:callback:))
```

The parameters are described below:

Parameter	Type	Description
seatIndex	NSInteger	Number of the seat to change to
callback	ActionCallback	Callback for the operation

Response parameters:

Parameter	Type	Description
code	NSInteger	Result of seat change. `0` : operation successful; `10001` : API rate limit exceeded; other values: operation failed

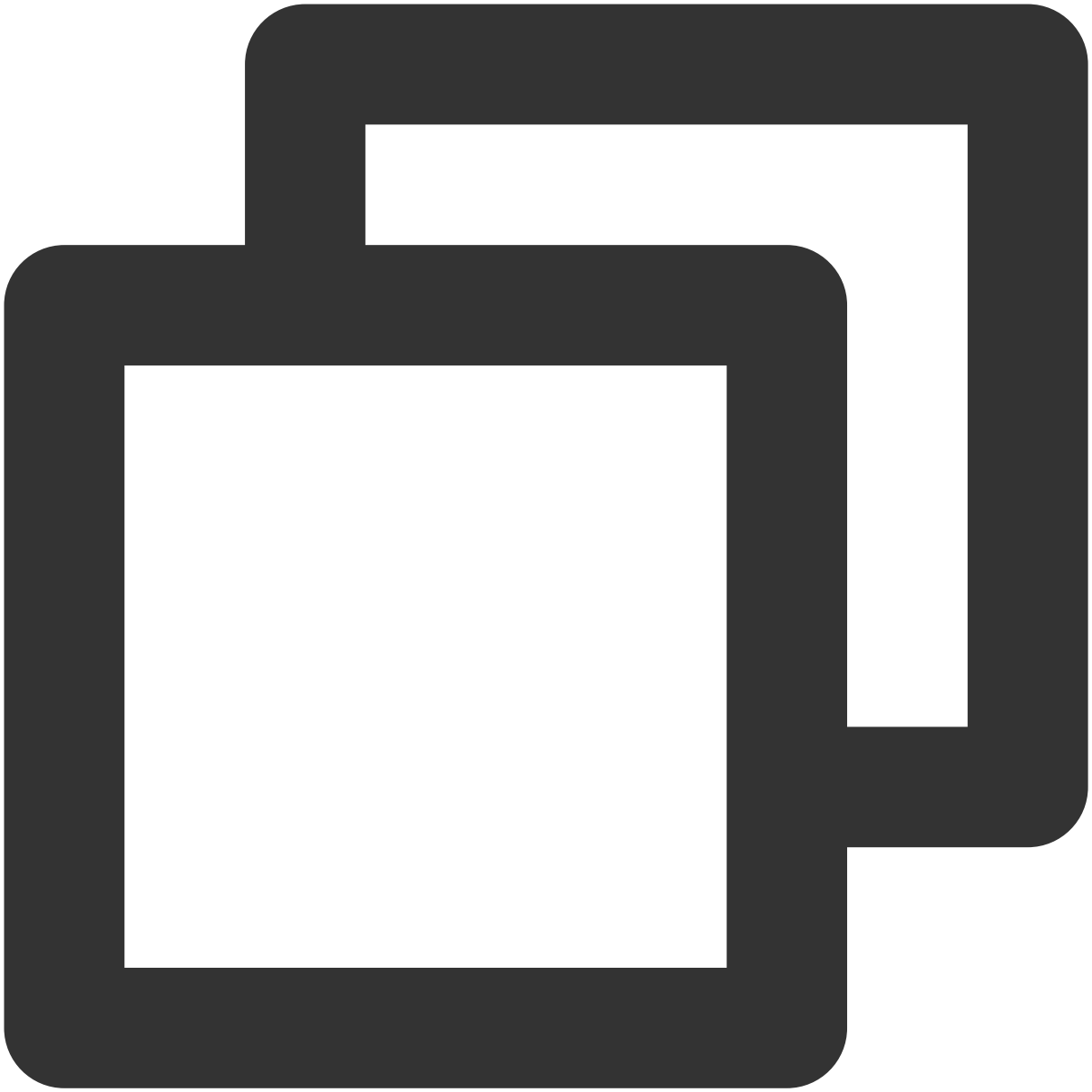
Calling this API will immediately modify the seat list. In cases where listeners need the room owner's consent to take a seat, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept` , call this API.

leaveSeat

This API is used to become a listener (called by speaker).

explain

After a speaker becomes a listener, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
- (void)leaveSeat:(ActionCallback _Nullable)callback NS_SWIFT_NAME(leaveSeat(callba
```

The parameters are described below:

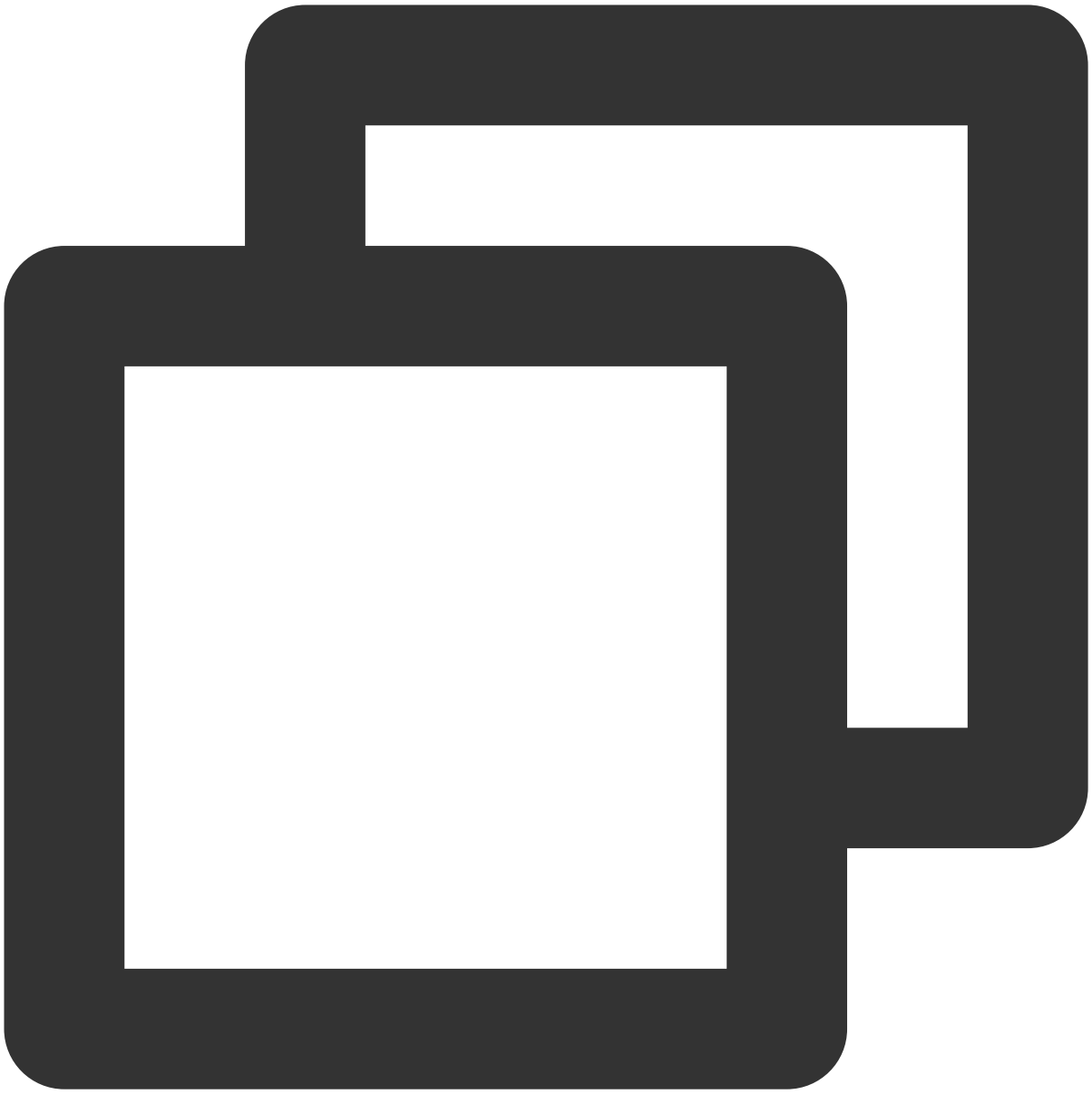
Parameter	Type	Description
callback	ActionCallback	Callback for the operation

pickSeat

This API is used to place a user in a seat (called by room owner).

explain

After the room owner places a user in a seat, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
- (void)pickSeat:(NSInteger)seatIndex userId:(NSString *)userId callback:(ActionCal
```

The parameters are described below:

Parameter	Type	Description
seatIndex	NSInteger	Number of the seat to place the user in

userId	NSString	User ID
callback	ActionCallback	Callback for the operation

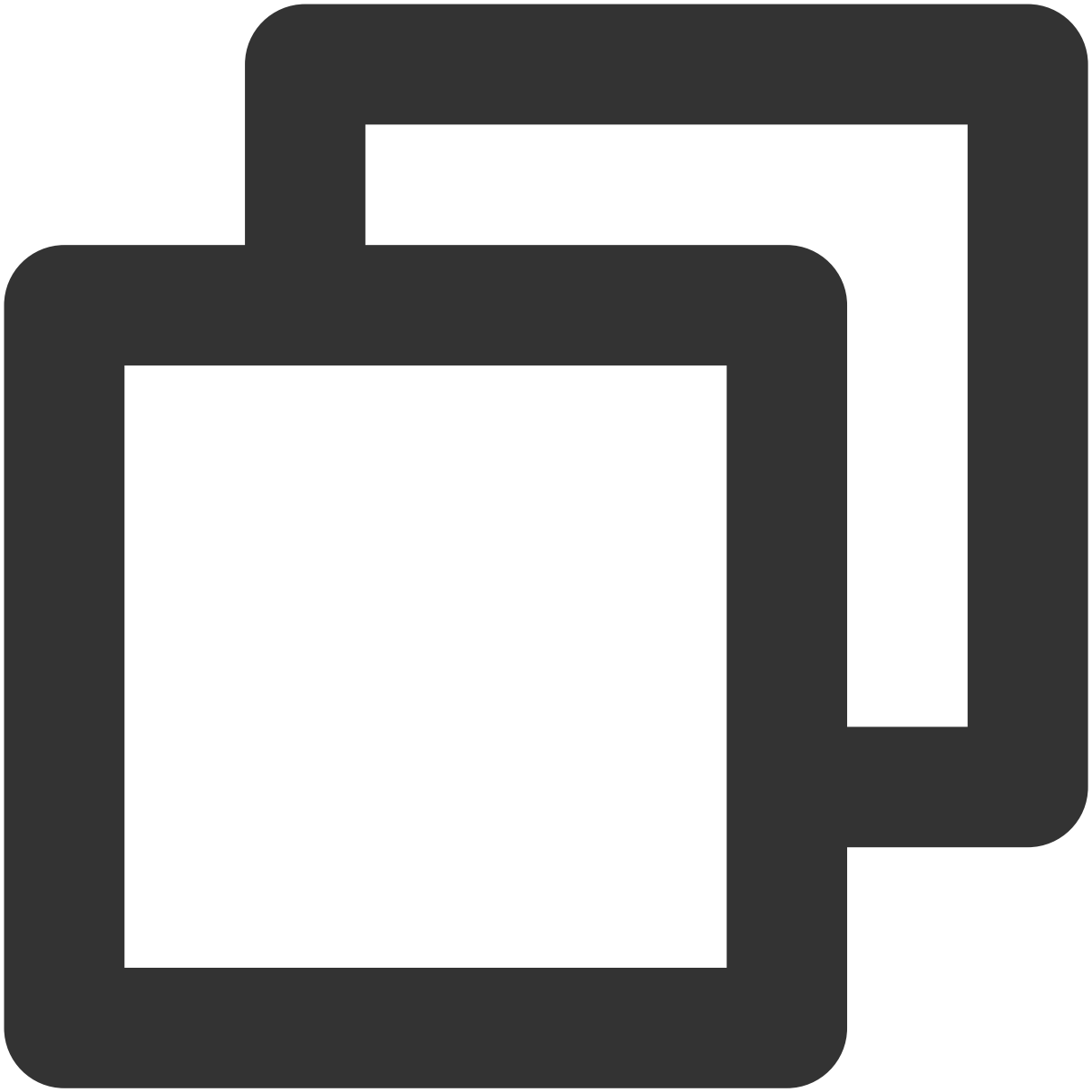
Calling this API will immediately modify the seat list. In cases where the room owner needs listeners' consent to make them speakers, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept` , call `pickSeat` .

kickSeat

This API is used to remove a speaker (called by room owner).

explain

After a speaker is removed, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
- (void)kickSeat:(NSInteger)seatIndex callback:(ActionCallback _Nullable)callback N
```

The parameters are described below:

Parameter	Type	Description
seatIndex	NSInteger	Seat number of the speaker to remove
callback	ActionCallback	Callback for the operation

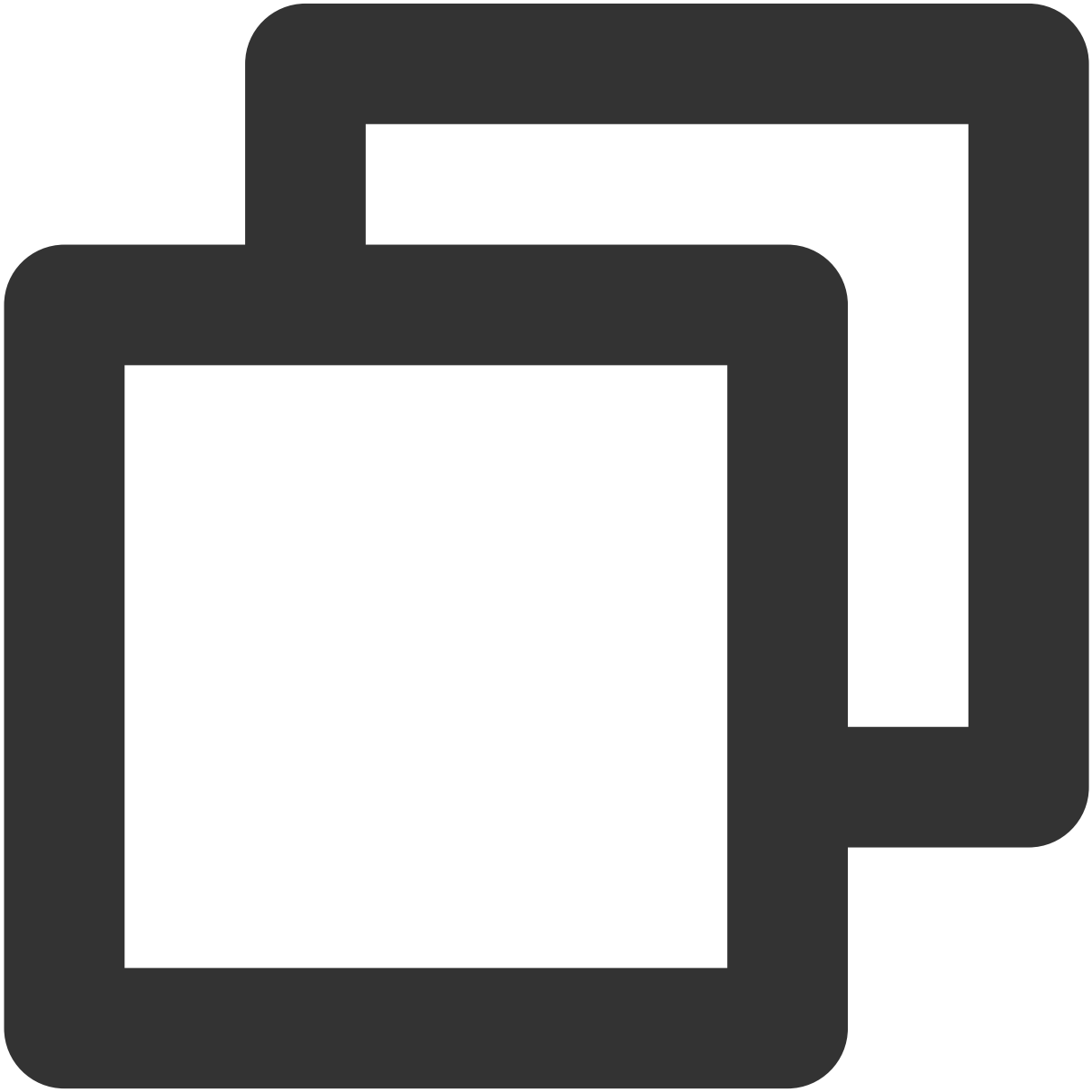
Calling this API will immediately modify the seat list.

muteSeat

This API is used to mute/unmute a seat (called by room owner).

explain

After a seat is muted/unmuted, all members in the room will receive an `onSeatListChange` notification and an `onSeatMute` notification.



```
- (void)muteSeat:(NSInteger)seatIndex isMute:(BOOL)isMute callback:(ActionCallback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	NSInteger	Number of the seat to mute/unmute
isMute	BOOL	`YES` : mute the seat; `NO` : unmute the seat
callback	ActionCallback	Callback for the operation

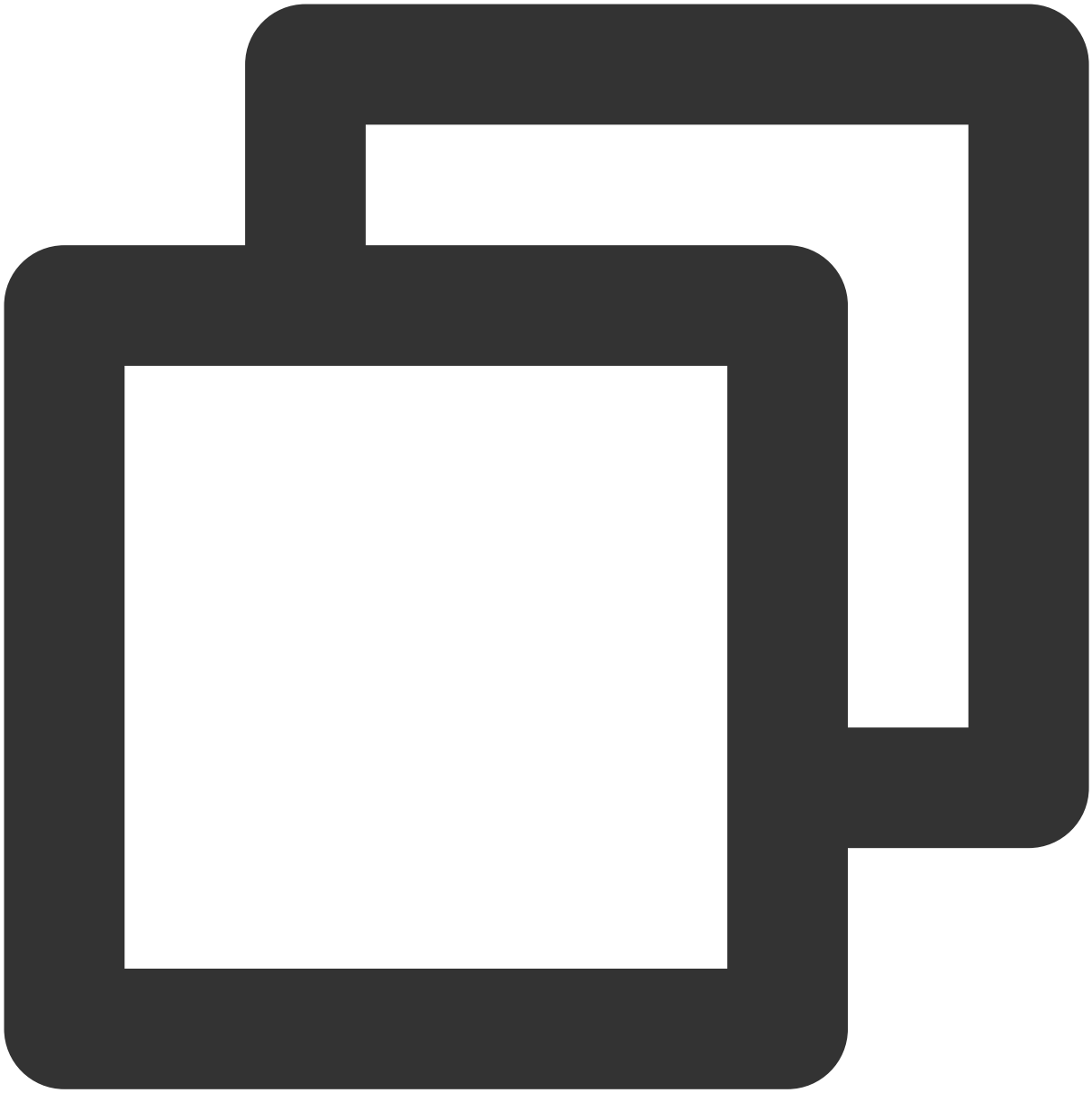
Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will call `muteAudio` to mute/unmute his or her audio.

closeSeat

This API is used to block/unblock a seat (called by room owner).

explain

After a seat is blocked/unblocked, all members in the room will receive an `onSeatListChange` notification and an `onSeatClose` notification.



```
- (void)closeSeat:(NSInteger)seatIndex isClose:(BOOL)isClose callback:(ActionCallba
```

The parameters are described below:

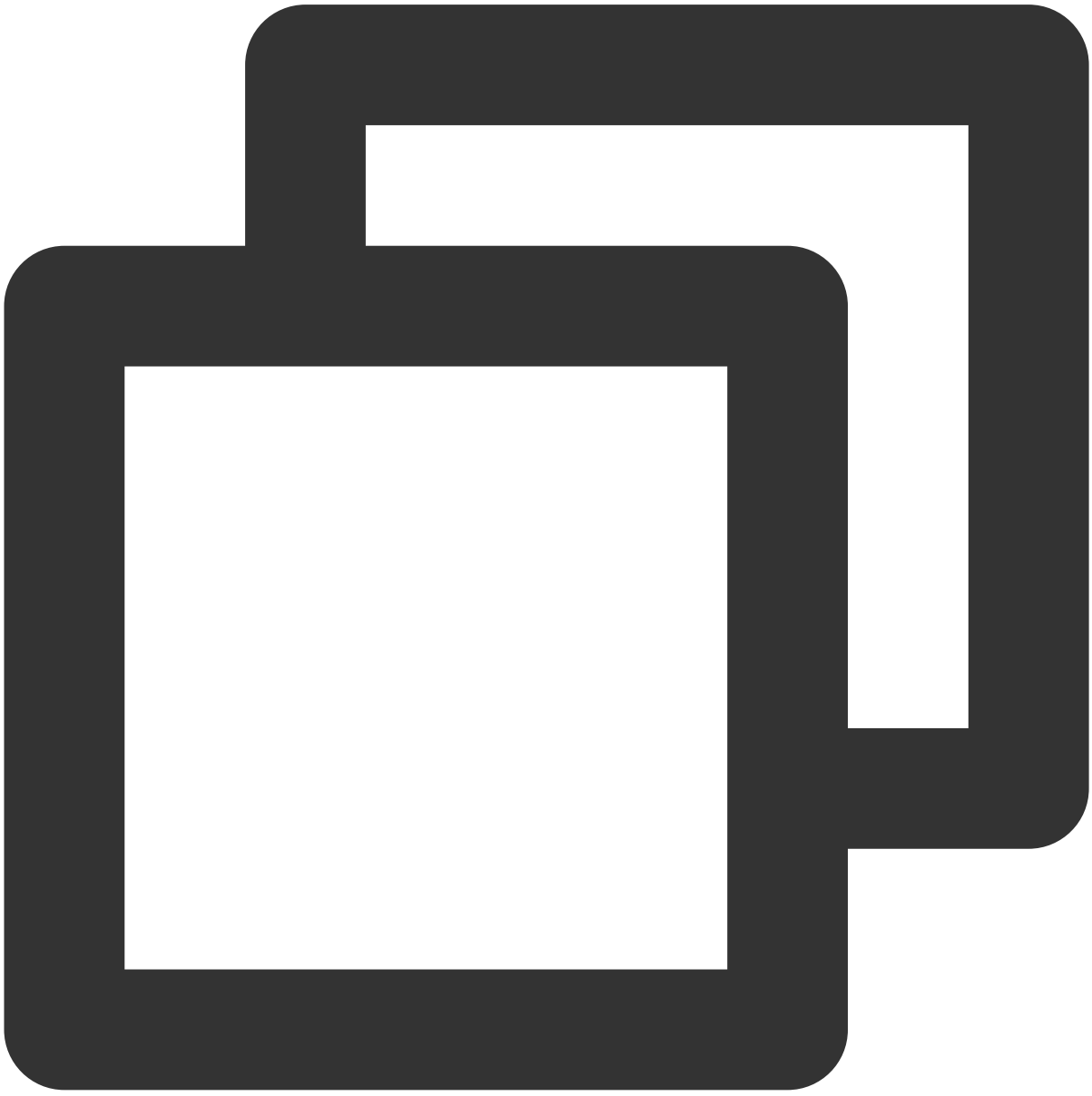
Parameter	Type	Description
seatIndex	NSInteger	Number of the seat to block/unblock
isClose	BOOL	`YES` : block the seat; `NO` : unblock the seat
callback	ActionCallback	Callback for the operation

Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will leave the seat.

Local Audio APIs

startMicrophone

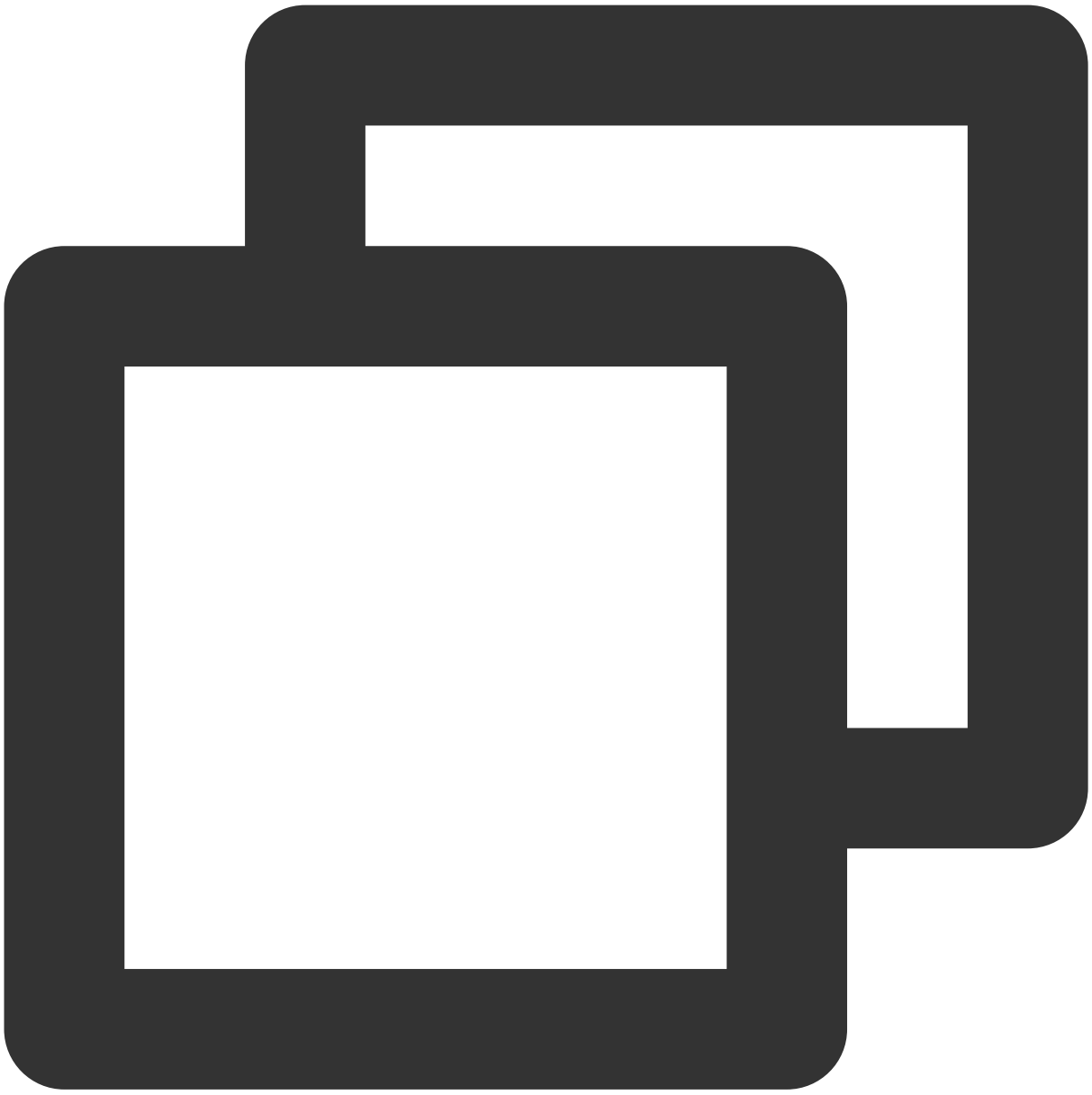
This API is used to start mic capturing.



```
- (void)startMicrophone;
```

stopMicrophone

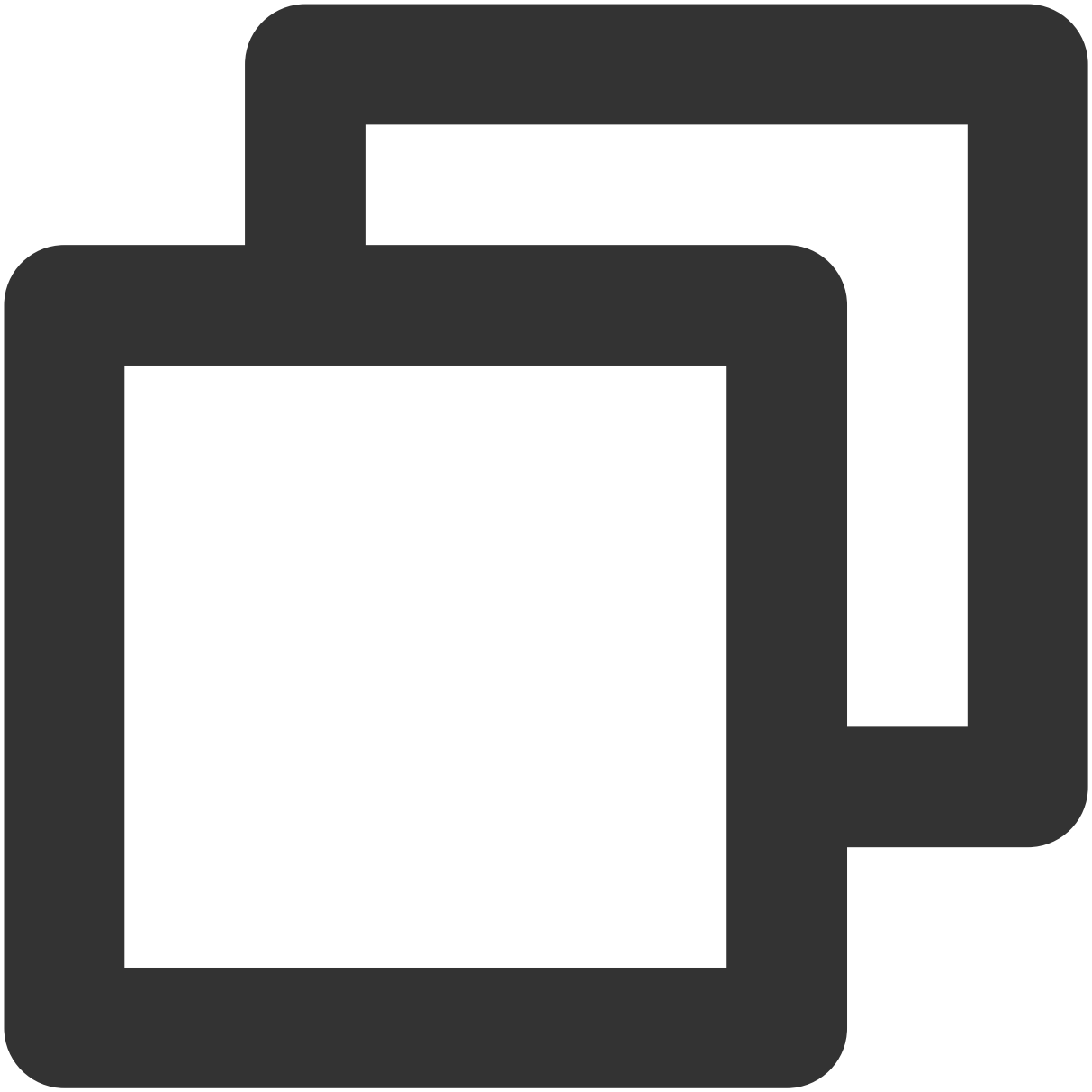
This API is used to stop mic capturing.



```
- (void)stopMicrophone;
```

setAudioQuality

This API is used to set audio quality.



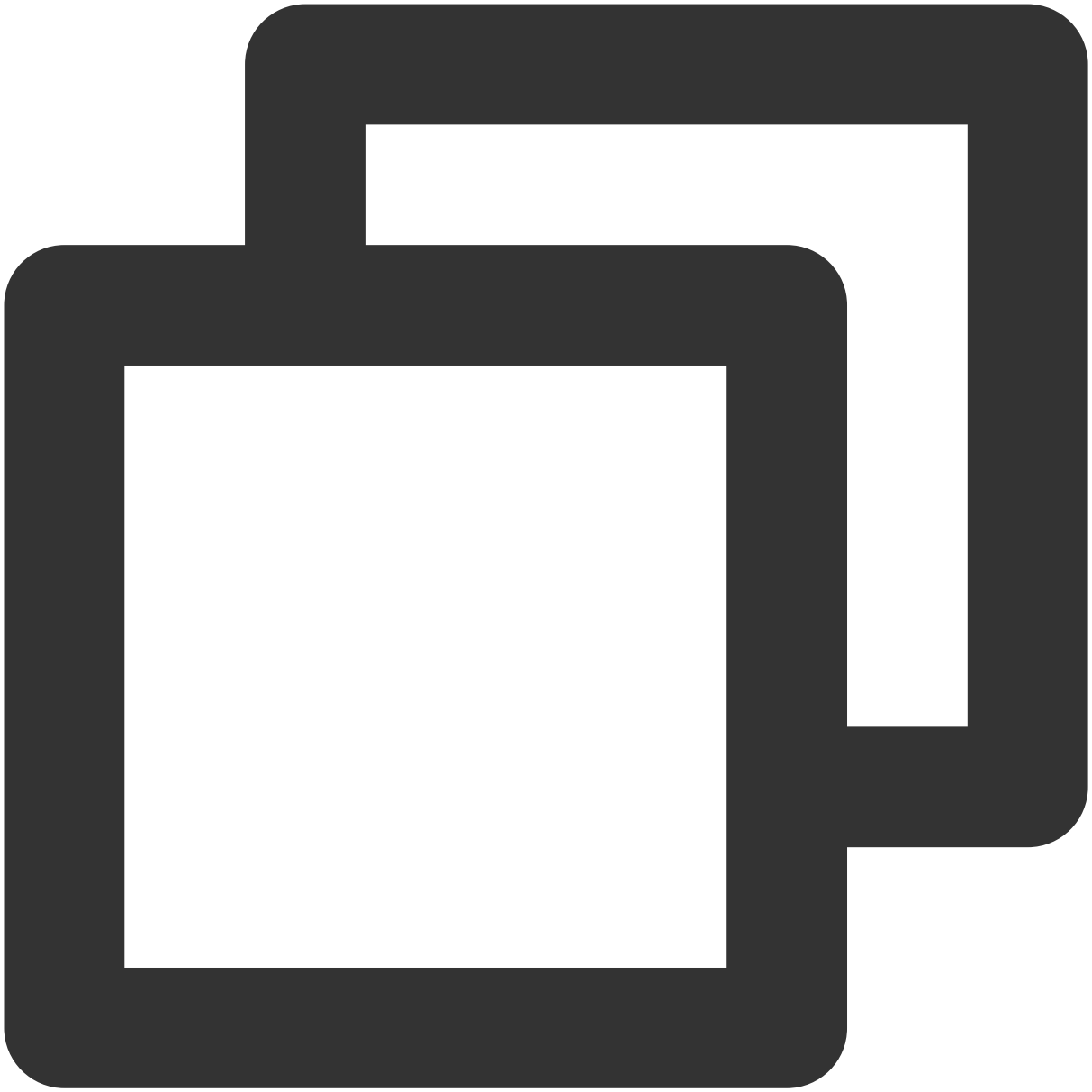
```
- (void)setAuidoQuality:(NSInteger)quality NS_SWIFT_NAME(setAuidoQuality(quality:))
```

The parameters are described below:

Parameter	Type	Description
quality	NSInteger	The audio quality. For more information, see setAudioQuality().

muteLocalAudio

This API is used to mute/unmute local audio.



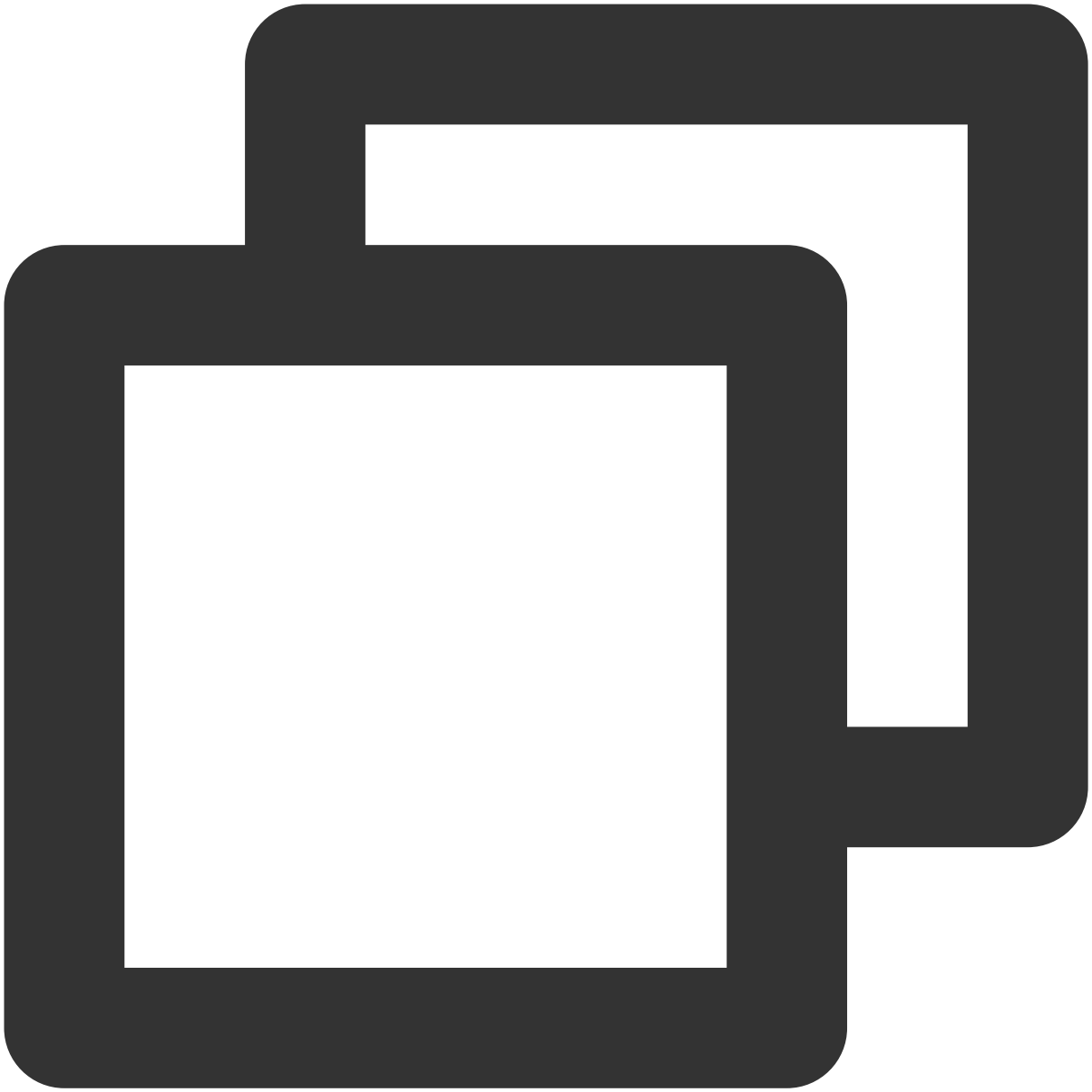
```
- (void)muteLocalAudio:(BOOL)mute NS_SWIFT_NAME(muteLocalAudio(mute:));
```

The parameters are described below:

Parameter	Type	Description
mute	BOOL	Whether to mute or unmute audio. For more information, see muteLocalAudio().

setSpeaker

This API is used to set whether to play sound from the device's speaker or receiver.



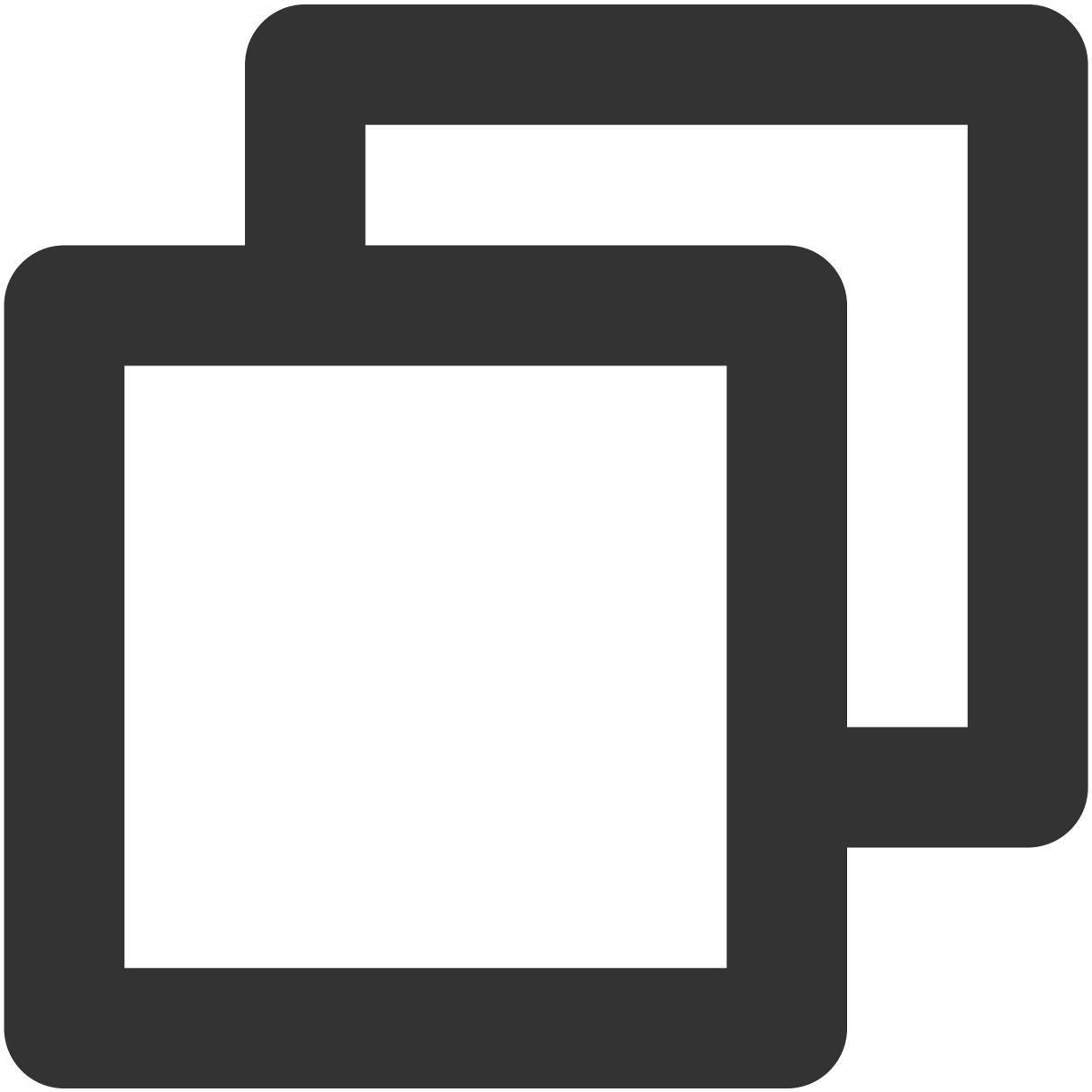
```
- (void)setSpeaker:(BOOL)userSpeaker NS_SWIFT_NAME(setSpeaker(userSpeaker:));
```

The parameters are described below:

Parameter	Type	Description
useSpeaker	BOOL	`YES` : speaker; `NO` : receiver

setAudioCaptureVolume

This API is used to set the mic capturing volume.



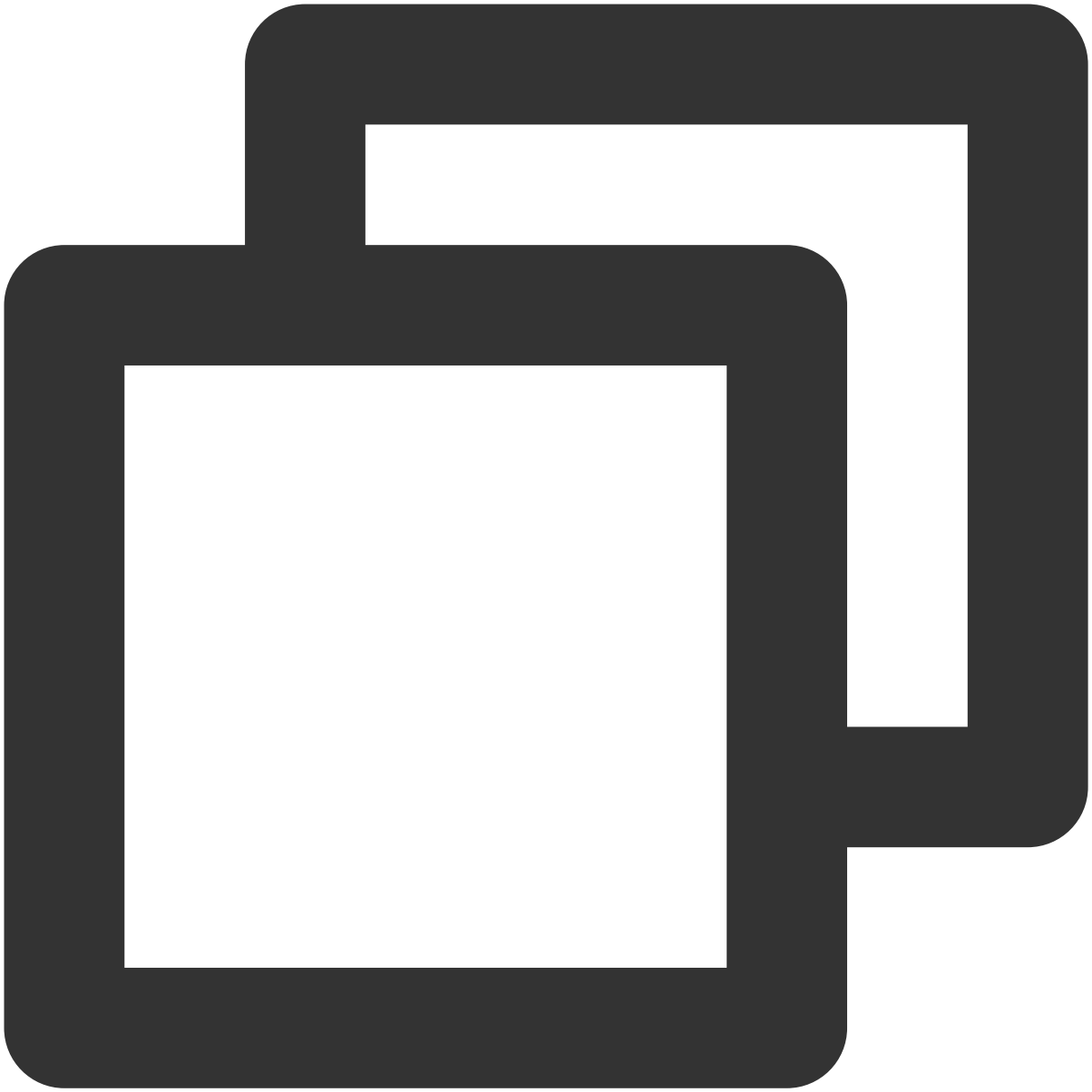
```
- (void)setAudioCaptureVolume:(NSInteger)voluem NS_SWIFT_NAME(setAudioCaptureVolume
```

The parameters are described below:

Parameter	Type	Description
volume	NSInteger	Capturing volume. Value range: 0-100. Default value: 100

setAudioPlayoutVolume

This API is used to set the playback volume.



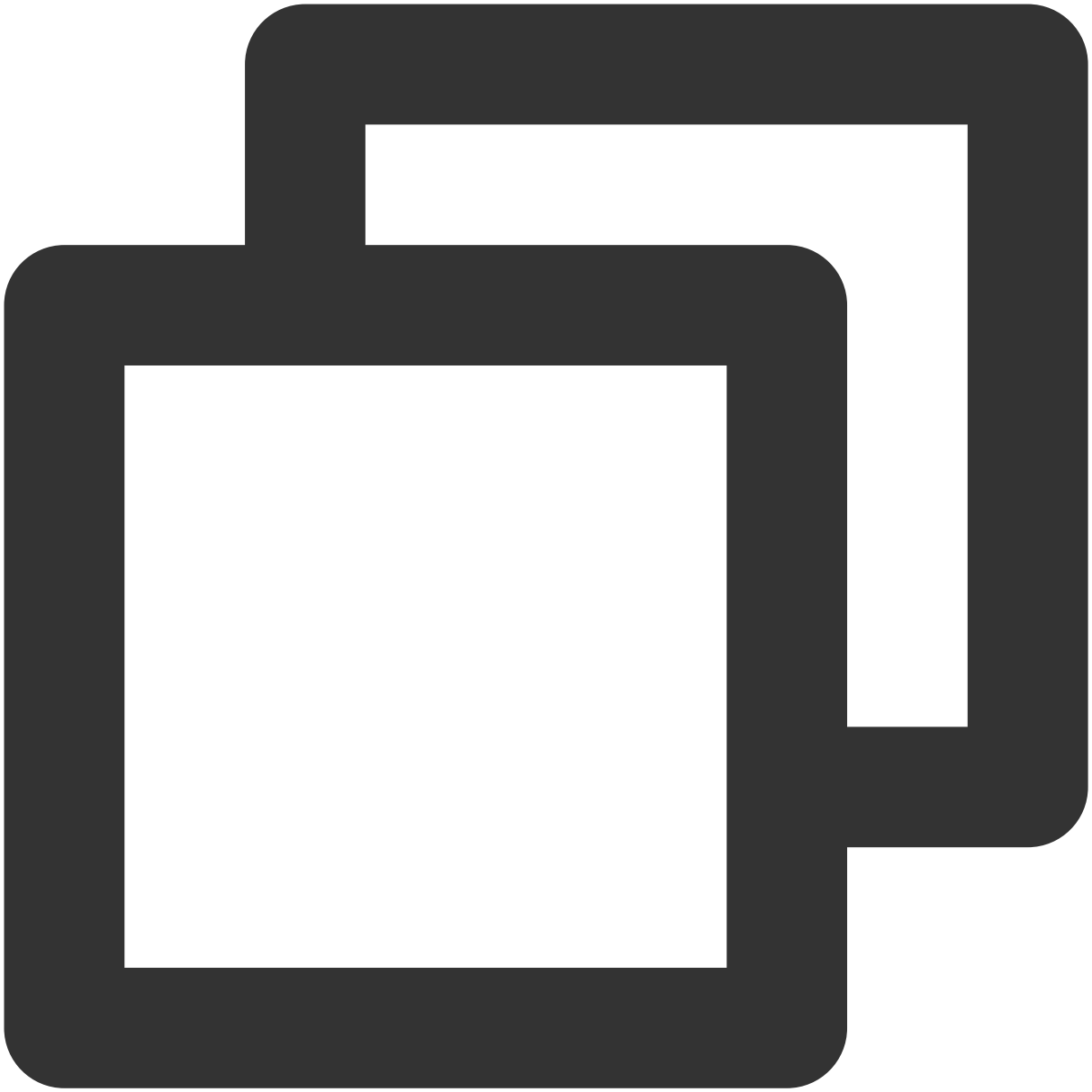
```
- (void)setAudioPlayoutVolume:(NSInteger)volume NS_SWIFT_NAME(setAudioPlayoutVolume
```

The parameters are described below:

Parameter	Type	Description
volume	NSInteger	Playback volume. Value range: 0-100. Default value: 100

muteRemoteAudio

This API is used to mute/unmute a specified user.



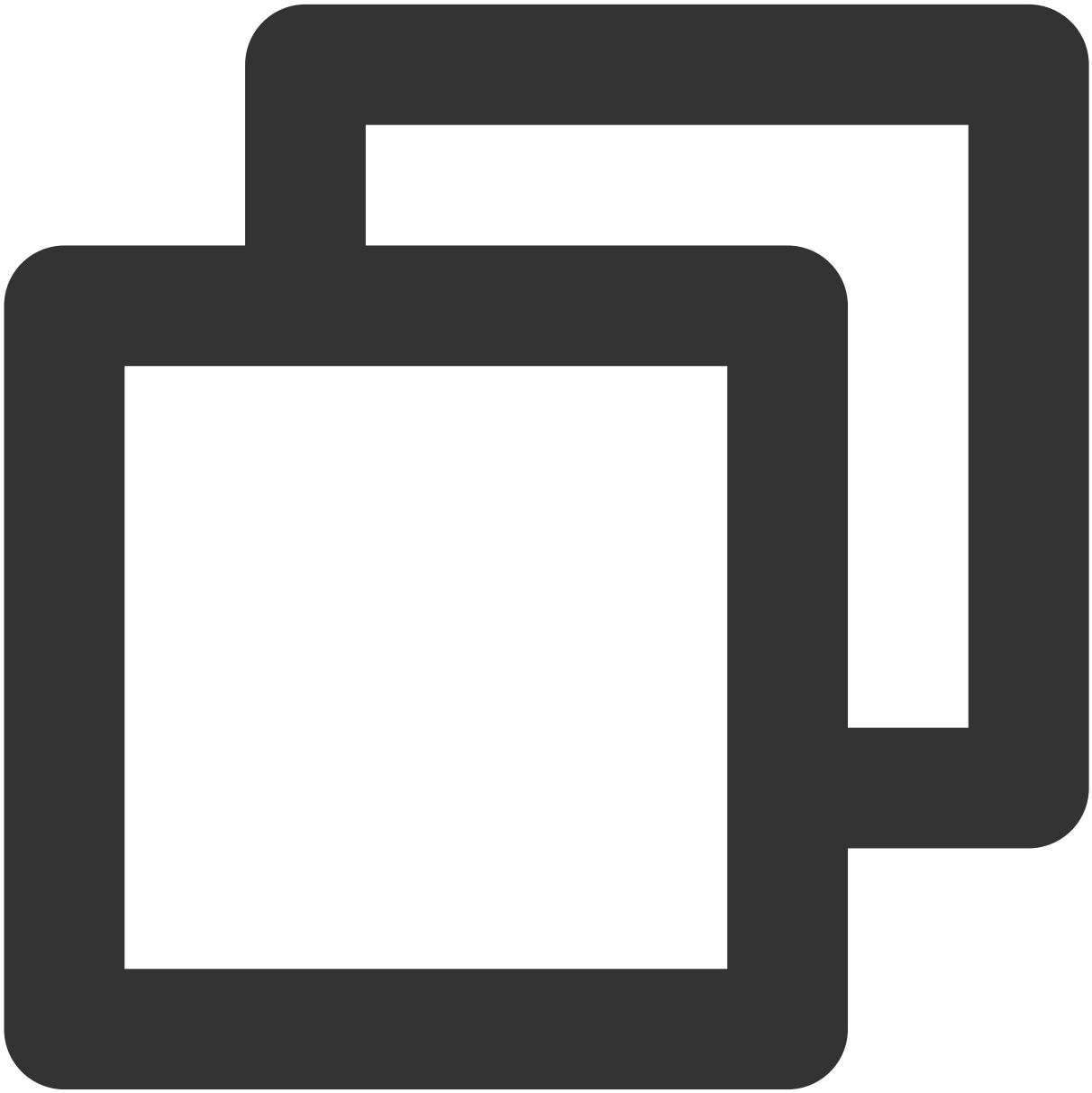
```
- (void)muteRemoteAudio:(NSString *)userId mute:(BOOL)mute NS_SWIFT_NAME(muteRemote
```

The parameters are described below:

Parameter	Type	Description
userId	NSString	ID of the user to mute/unmute
mute	BOOL	`YES` : mute; `NO` : unmute

muteAllRemoteAudio

This API is used to mute/unmute all users.



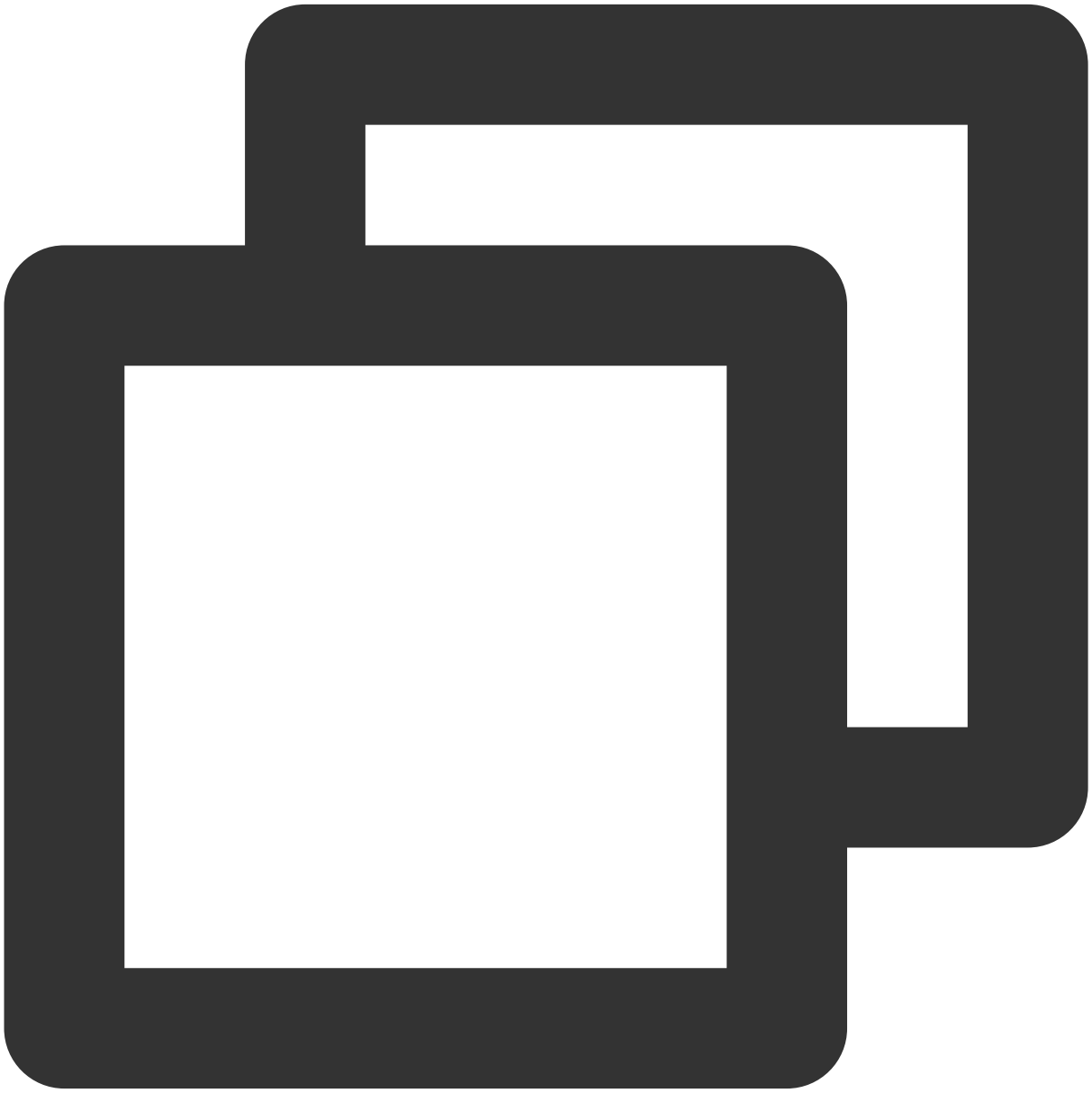
```
- (void)muteAllRemoteAudio:(BOOL)isMute NS_SWIFT_NAME(muteAllRemoteAudio(isMute:));
```

The parameters are described below:

Parameter	Type	Description
mute	BOOL	`YES` : mute; `NO` : unmute

setVoiceEarMonitorEnable

This API is used to enable/disable in-ear monitoring.



```
- (void)setVoiceEarMonitorEnable:(BOOL)enable NS_SWIFT_NAME(setVoiceEarMonitor(enab
```

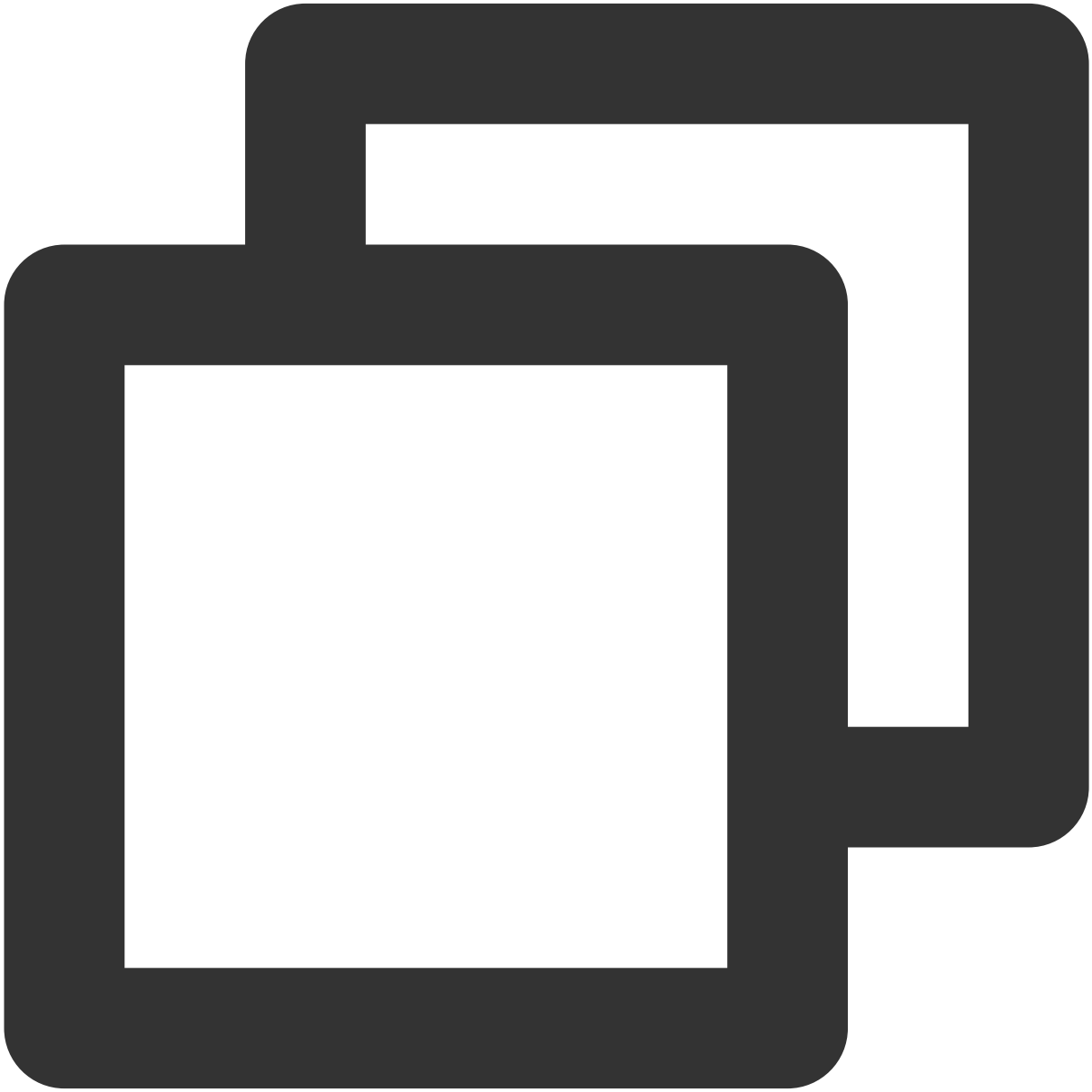
The parameters are described below:

Parameter	Type	Description
enable	BOOL	`YES` : enable in-ear monitoring; `NO` : disable in-ear monitoring

Background Music and Audio Effect APIs

getAudioEffectManager

This API is used to get the background music and audio effect management object TXAudioEffectManager.

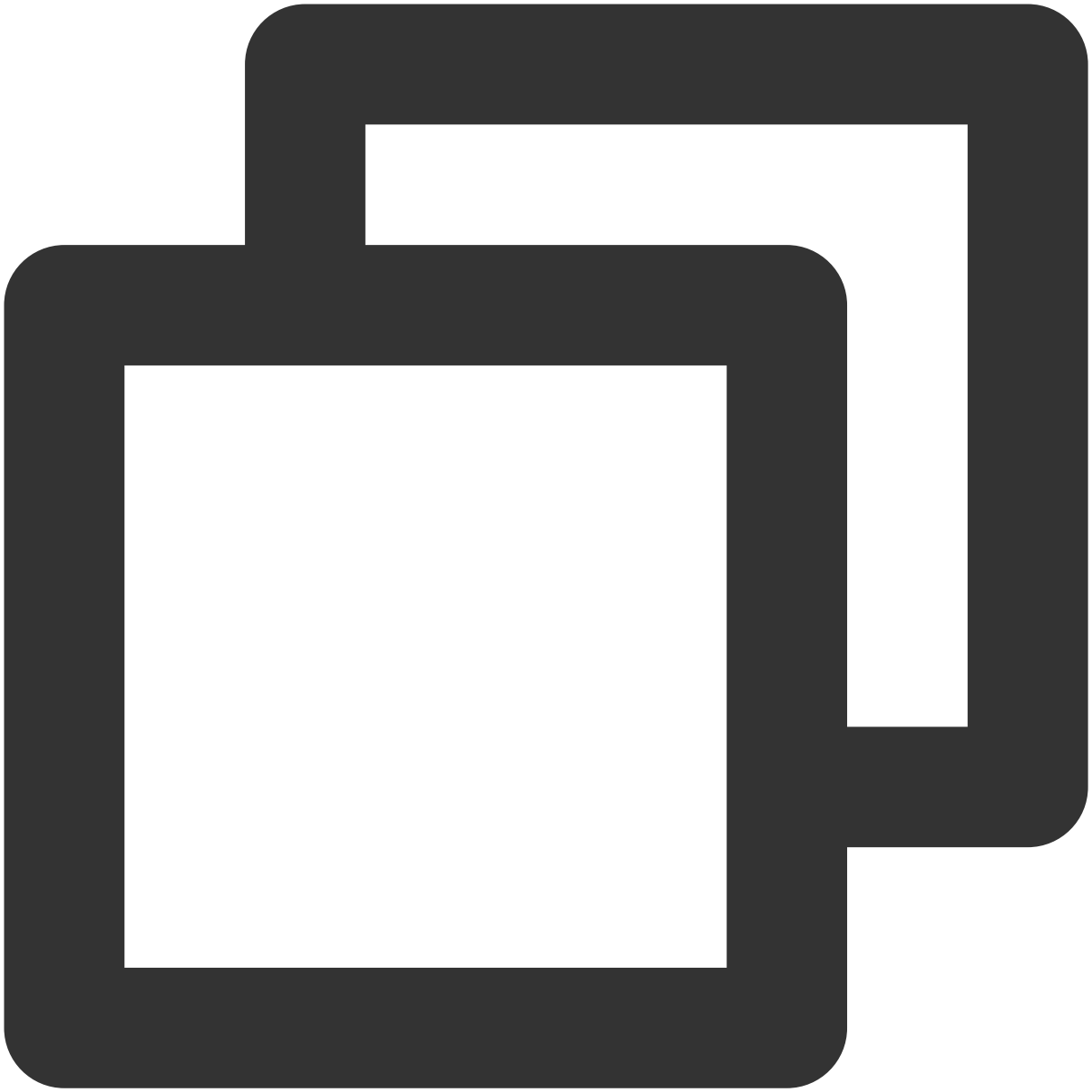


```
- (TXAudioEffectManager * _Nullable)getAudioEffectManager;
```

Message Sending APIs

sendRoomTextMsg

This API is used to broadcast a text chat message in a room, which is generally used for on-screen comments.



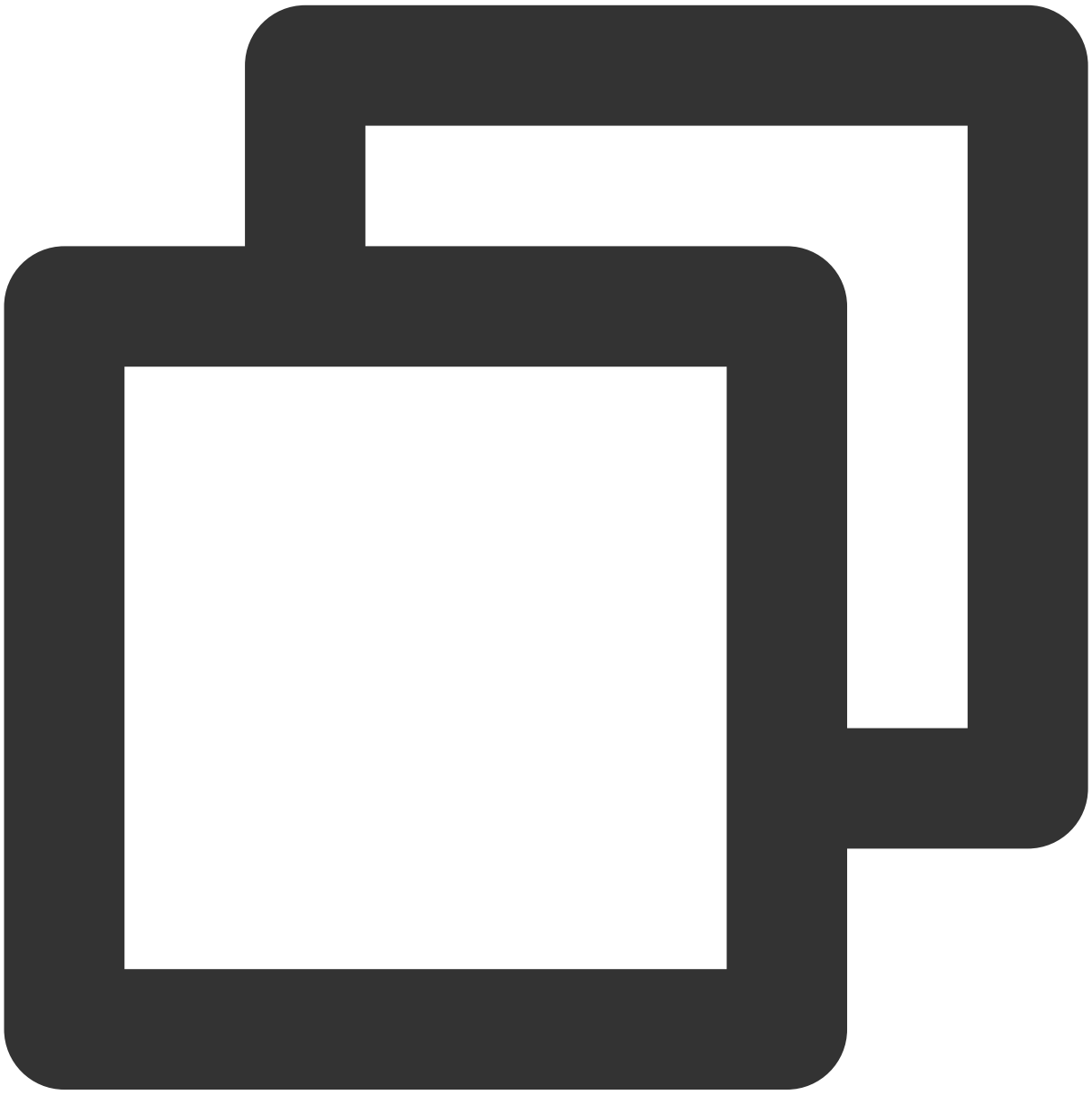
```
- (void)sendRoomTextMsg:(NSString *)message callback:(ActionCallback _Nullable)call
```

The parameters are described below:

Parameter	Type	Description
message	NSString	Text message
callback	ActionCallback	Callback for the operation

sendRoomCustomMsg

This API is used to send a custom text message.



```
- (void)sendRoomCustomMsg:(NSString *)cmd message:(NSString *)message callback:(Act
```

The parameters are described below:

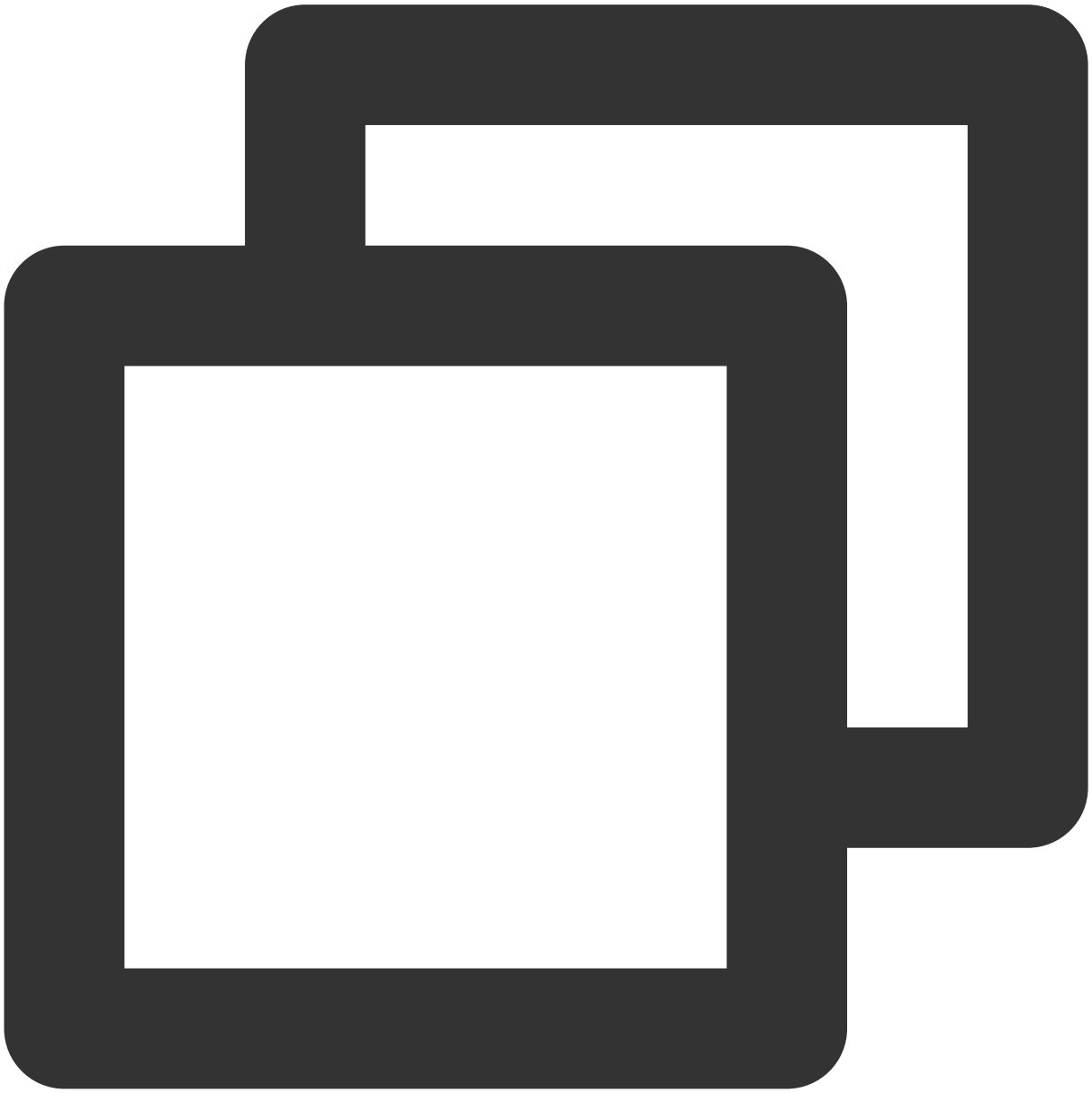
Parameter	Type	Description
cmd	NSString	Custom command word used to distinguish between different message types

message	NSString	Text message
callback	ActionCallback	Callback for the operation

Invitation Signaling APIs

sendInvitation

This API is used to send an invitation.



```
- (NSString *)sendInvitation:(NSString *)cmd
                      userId:(NSString *)userId
                     content:(NSString *)content
                    callback:(ActionCallback _Nullable)callback NS_SWIFT_NAME(sendI
```

The parameters are described below:

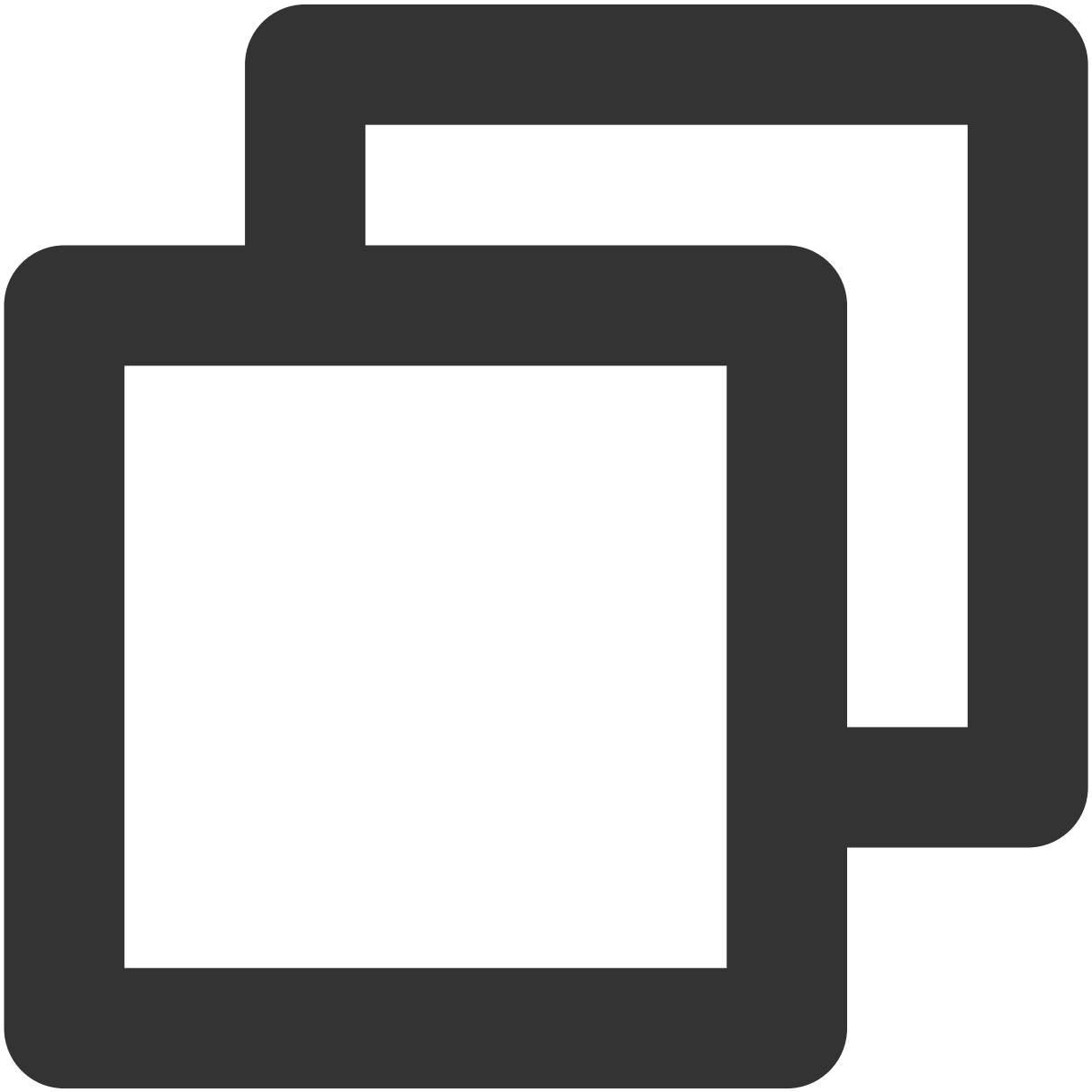
Parameter	Type	Description
cmd	NSString	Custom command of business
userId	NSString	ID of the user to invite
content	NSString	Invitation content
callback	ActionCallback	Callback for the operation

Response parameters:

Parameter	Type	Description
inviteId	NSString	Invitation ID

acceptInvitation

This API is used to accept an invitation.



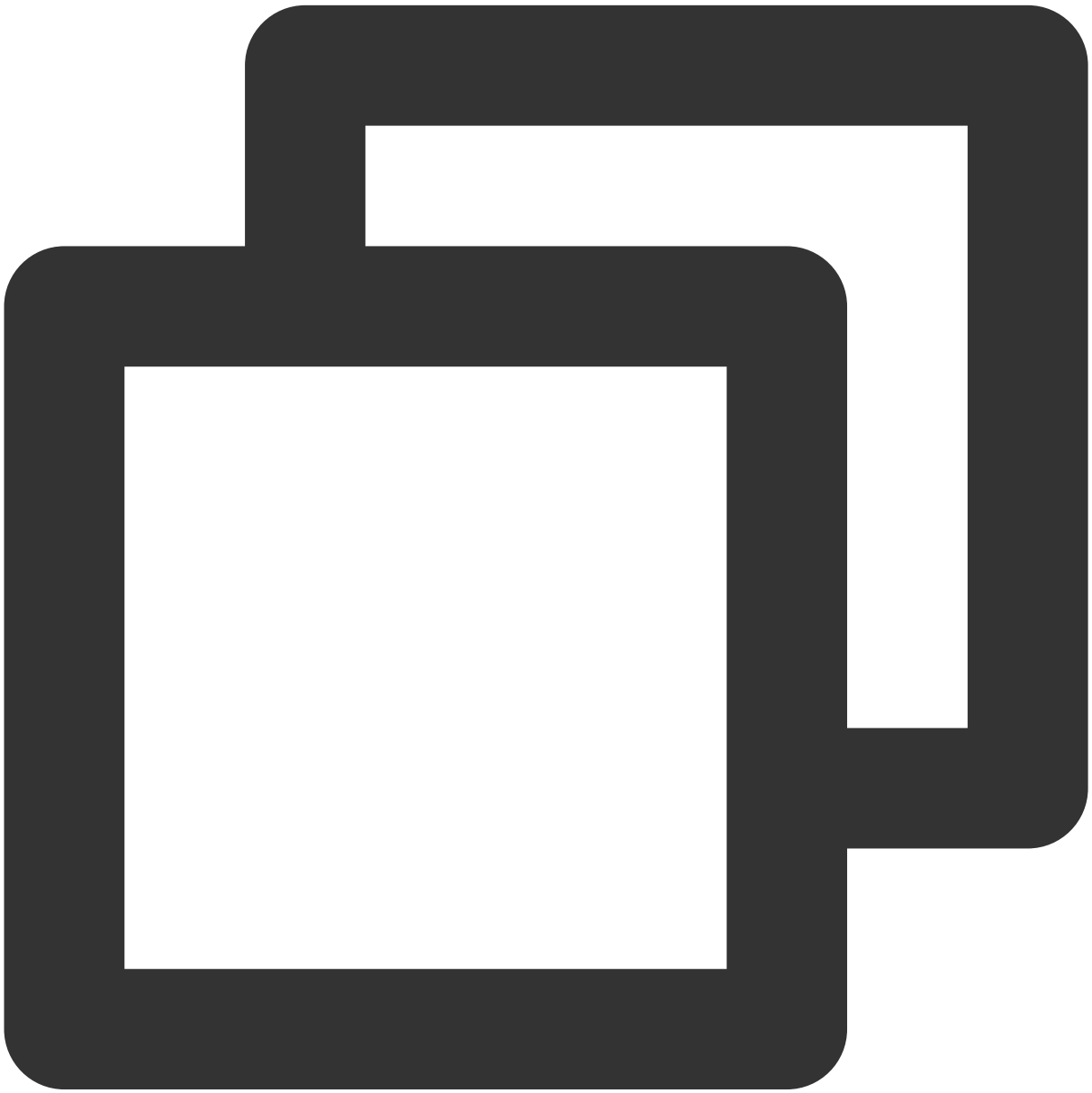
```
- (void)acceptInvitation:(NSString *)identifier callback:(ActionCallback _Nullable)
```

The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID
callback	ActionCallback	Callback for the operation

rejectInvitation

This API is used to decline an invitation.



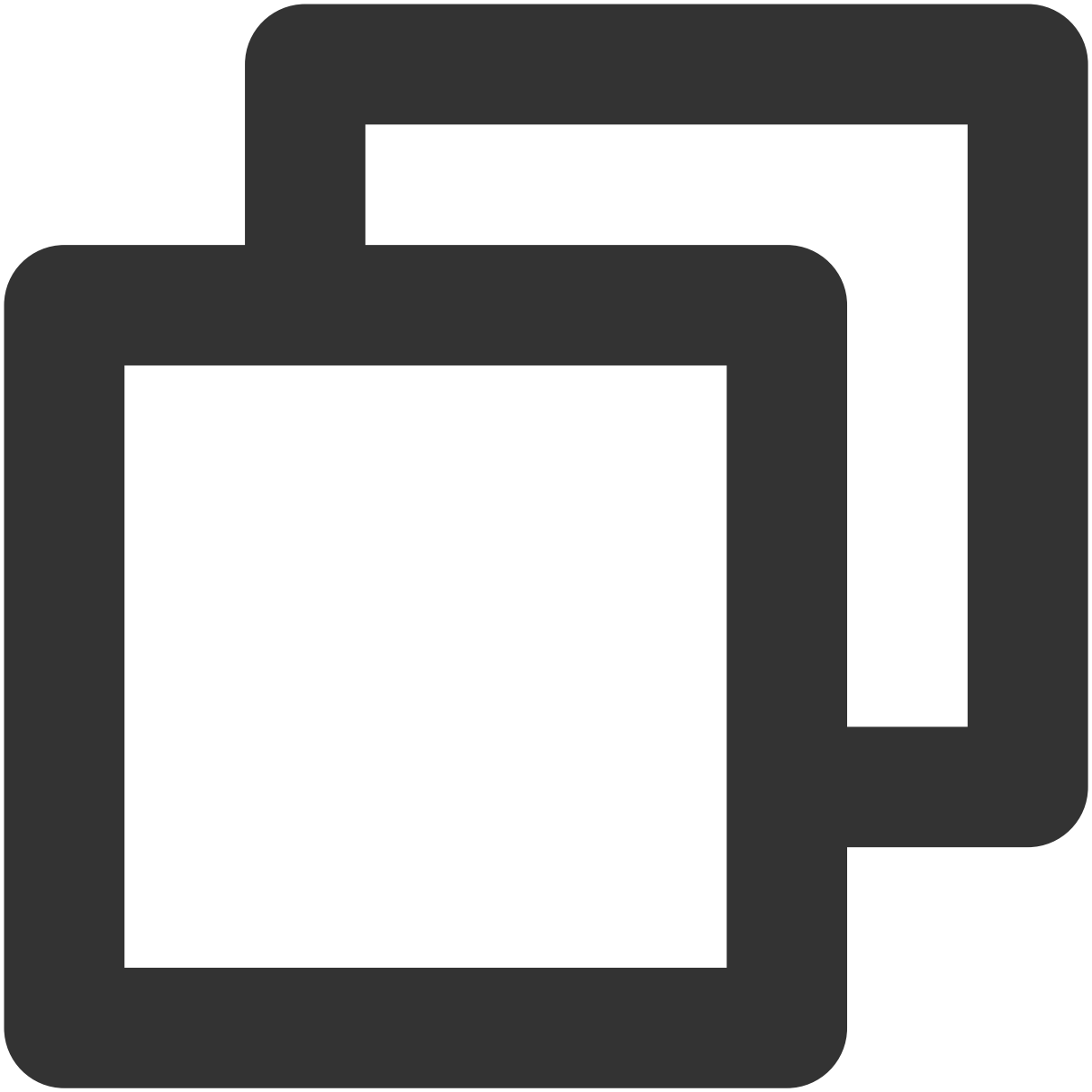
```
- (void)rejectInvitation:(NSString *)identifier callback:(ActionCallback _Nullable)
```

The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID
callback	ActionCallback	Callback for the operation

cancelInvitation

This API is used to cancel an invitation.



```
- (void)cancelInvitation:(NSString *)identifier callback:(ActionCallback _Nullable)
```

The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID
callback	ActionCallback	Callback for the operation

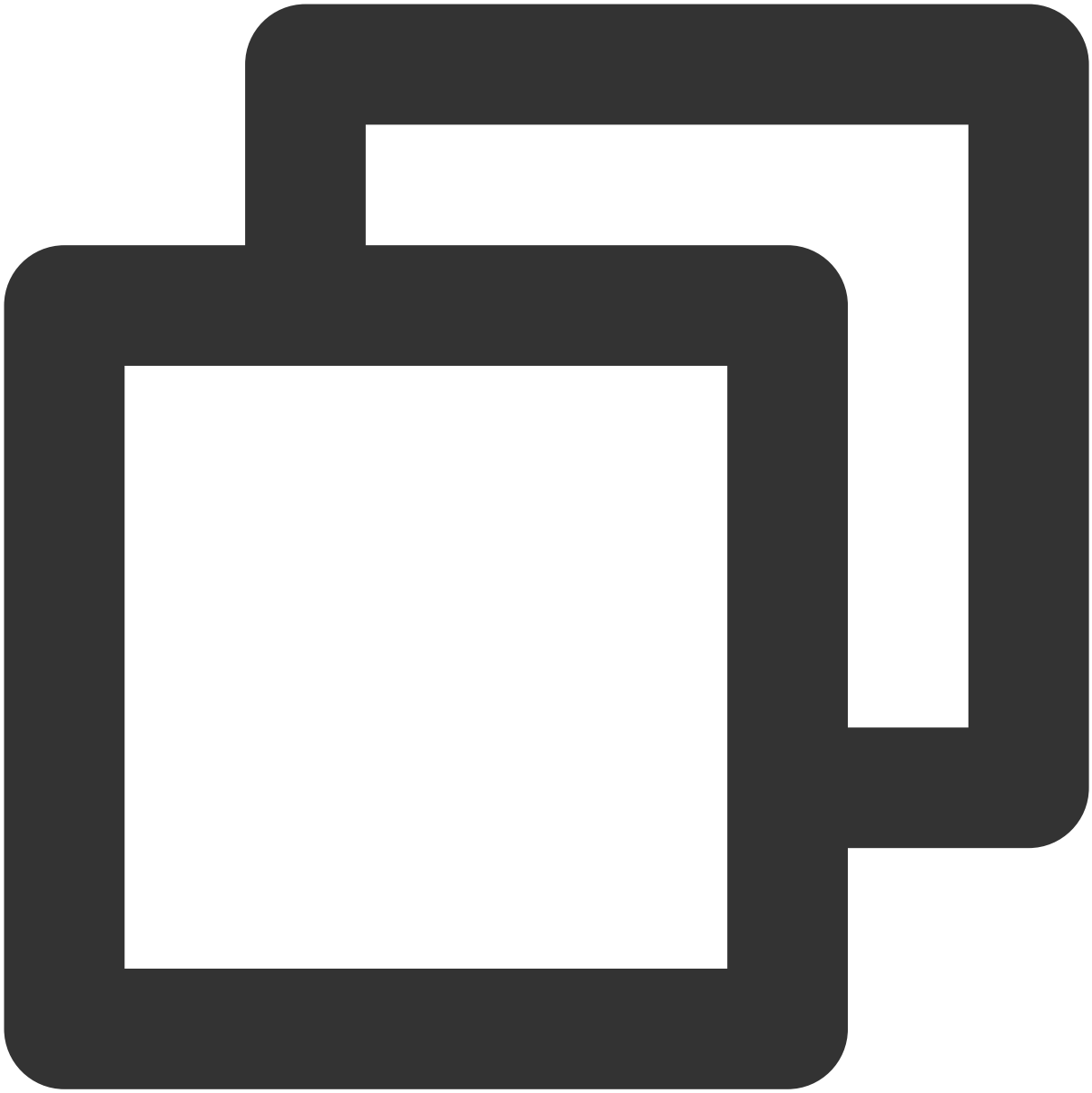
TRTCVoiceRoomDelegate Event Callback APIs

Common Event Callback APIs

onError

Callback for error.

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users depending if necessary.



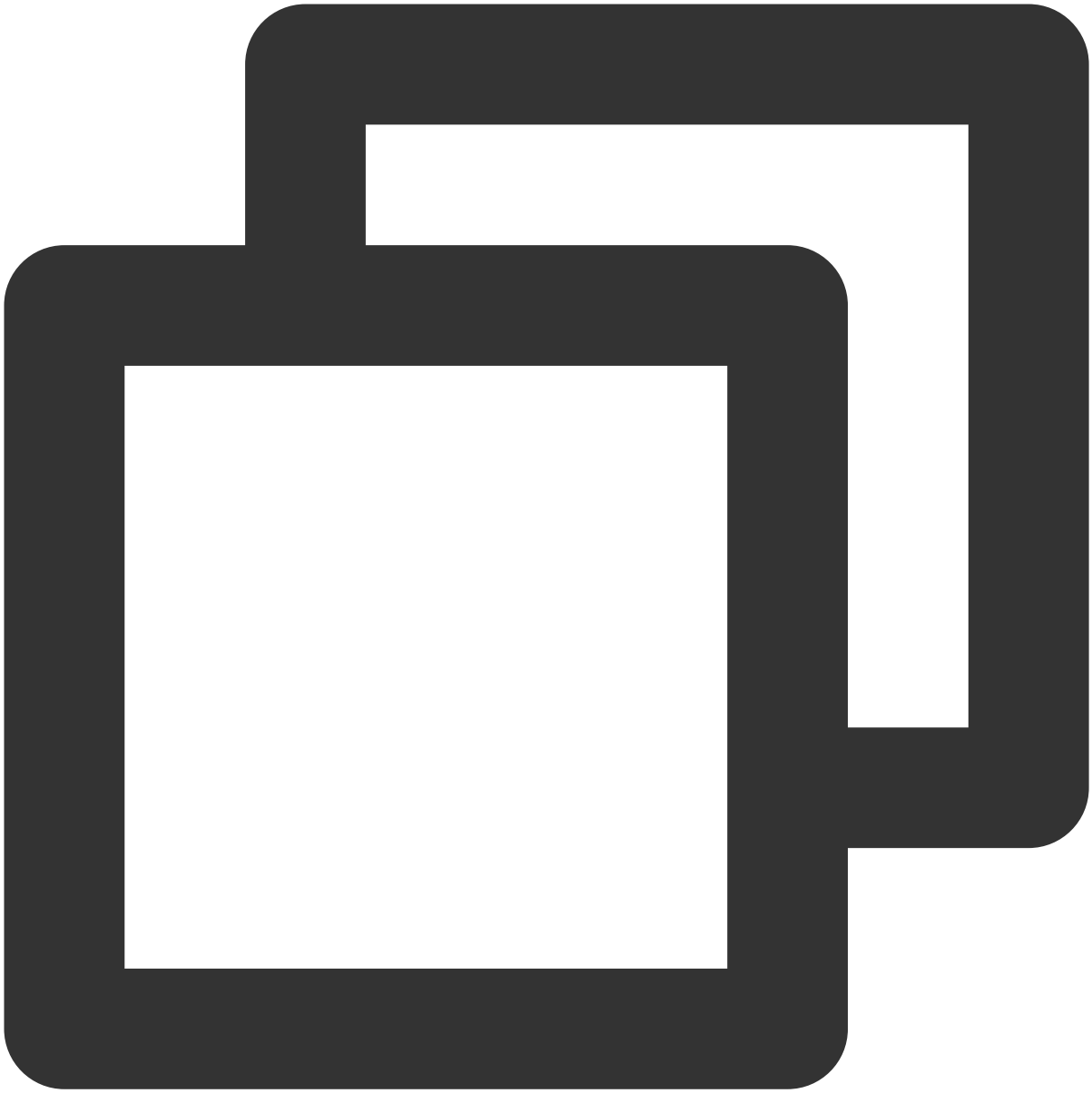
```
- (void)onError:(int)code
                message:(NSString*)message
NS_SWIFT_NAME(onError(code:message:));
```

The parameters are described below:

Parameter	Type	Description
code	int	Error code
message	NSString	Error message

onWarning

Callback for warning.



```
- (void)onWarning:(int)code
                  message:(NSString *)message
NS_SWIFT_NAME(onWarning(code:message:));
```

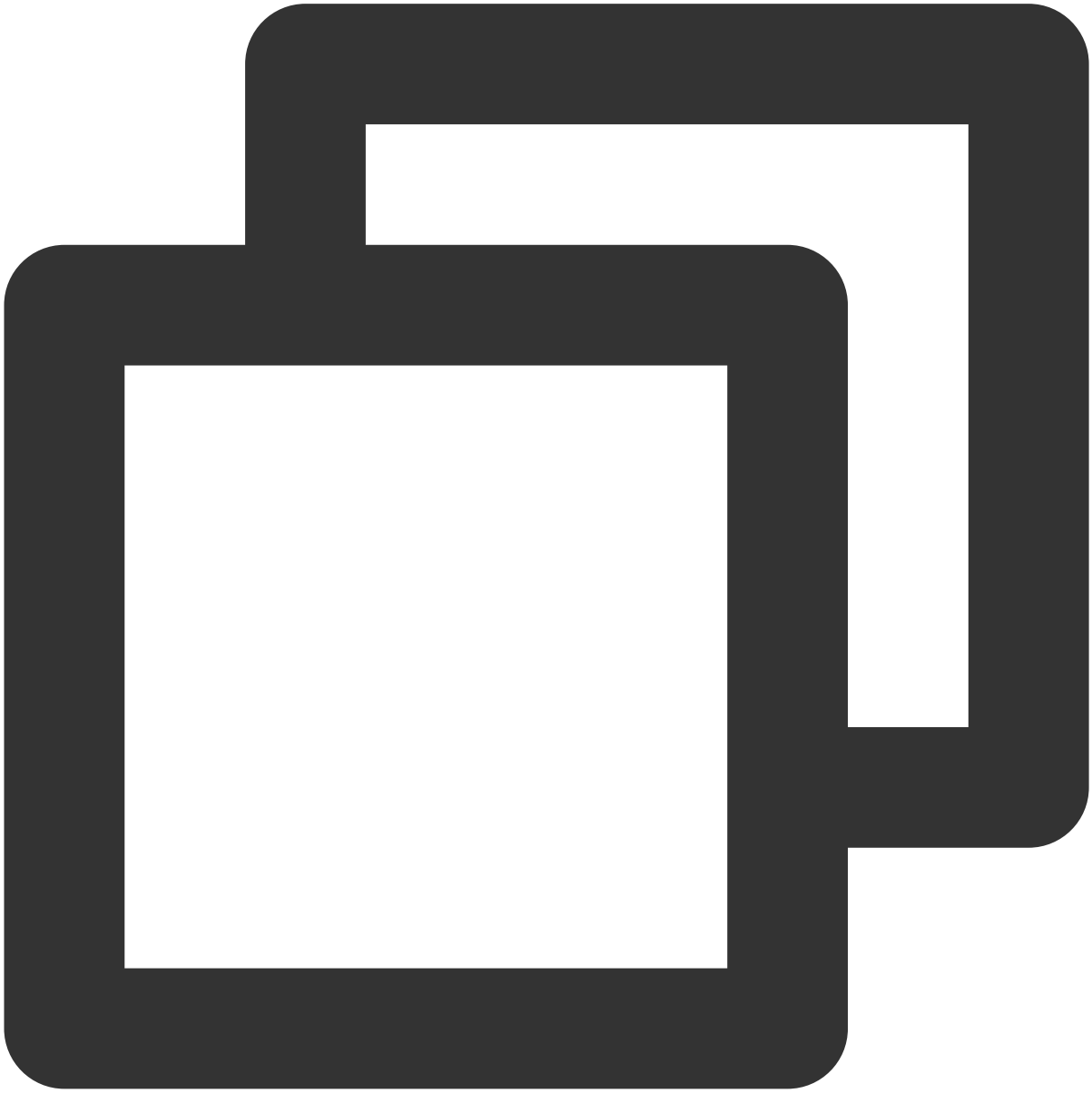
The parameters are described below:

Parameter	Type	Description

code	int	Error code
message	NSString	Warning message

onDebugLog

Callback for log.



```
- (void)onDebugLog:(NSString *)message
NS_SWIFT_NAME(onDebugLog(message:));
```

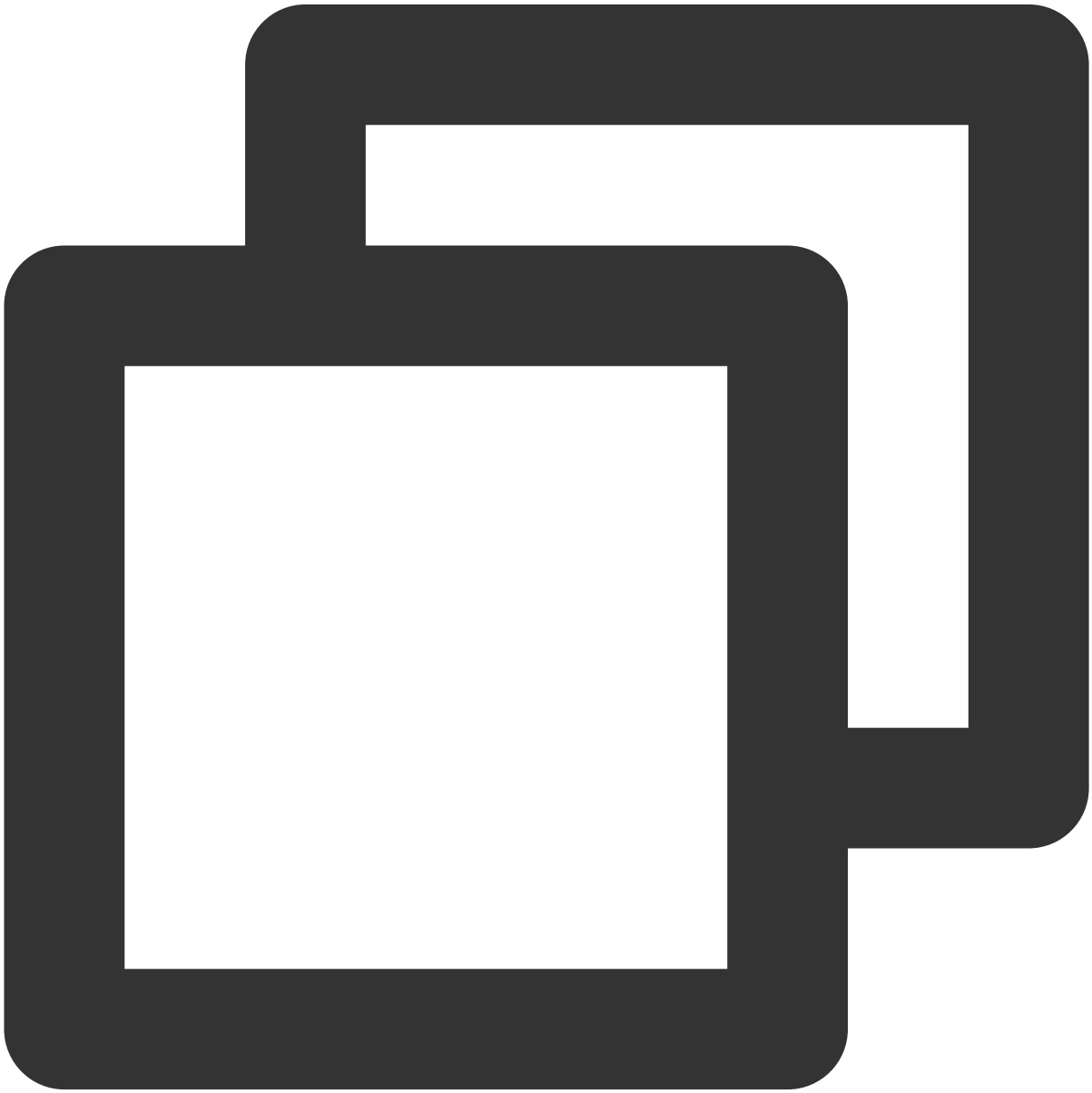
The parameters are described below:

Parameter	Type	Description
message	NSString	Log information

Room Event Callback APIs

onRoomDestroy

Callback for room termination. When the owner terminates the room, all users in the room will receive this callback.



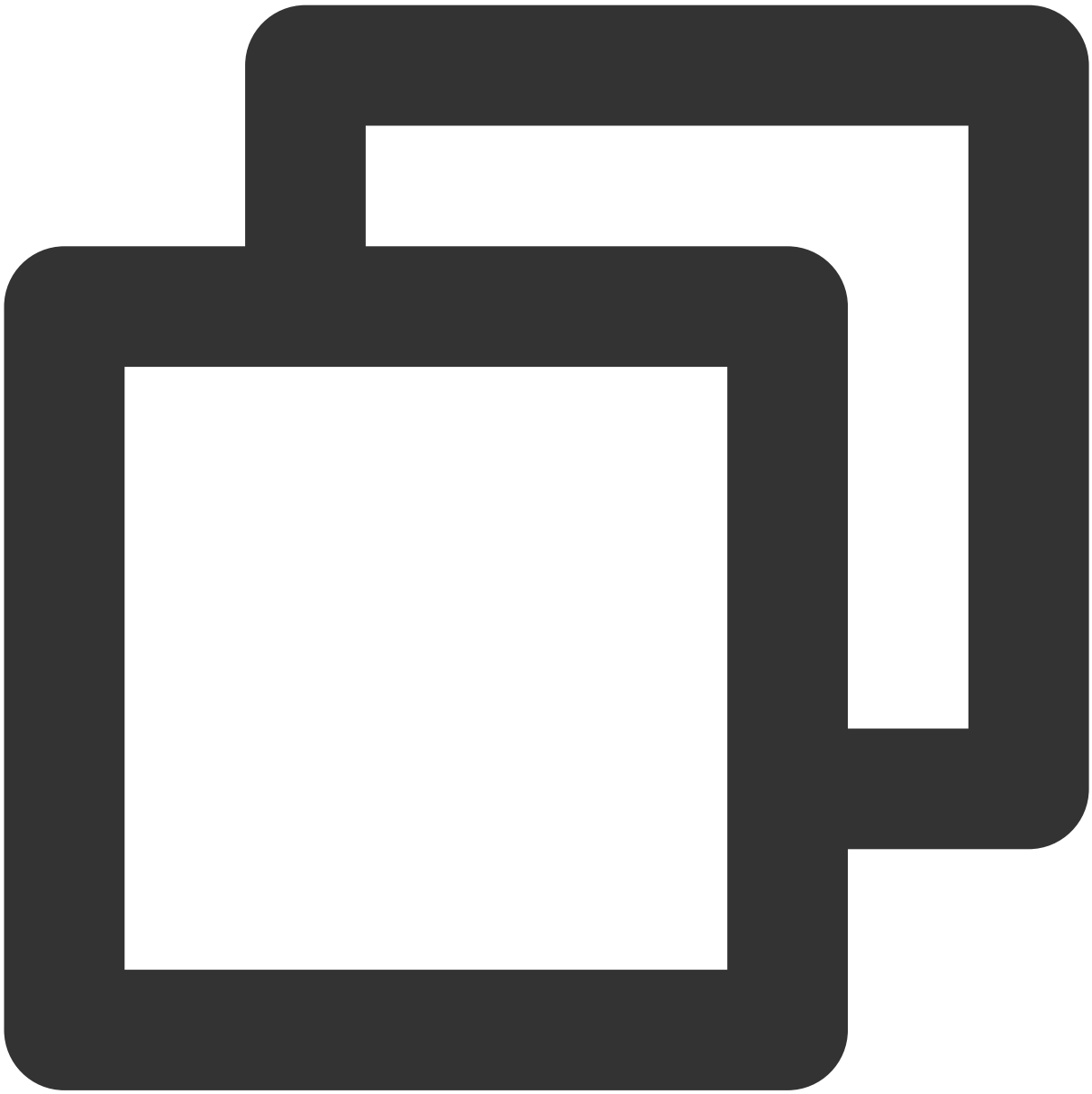
```
- (void)onRoomDestroy:(NSString *)roomId
NS_SWIFT_NAME(onRoomDestroy(roomId:));
```

The parameters are described below:

Parameter	Type	Description
roomId	NSString	Room ID

onRoomInfoChange

Callback for change of room information. This callback is sent after successful room entry. The information in `roomInfo` is passed in by the room owner during room creation.



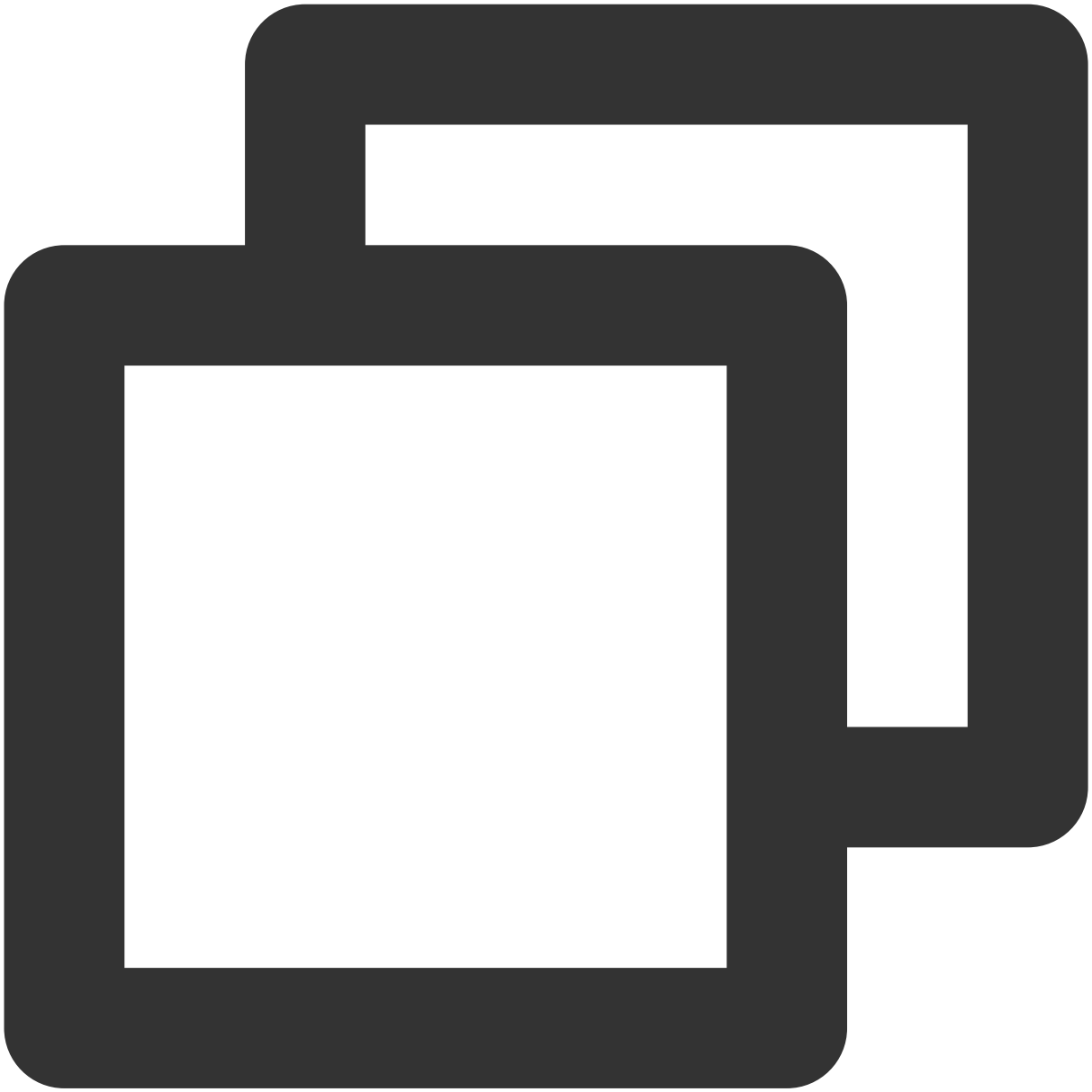
```
- (void)onRoomInfoChange:(VoiceRoomInfo *)roomInfo
NS_SWIFT_NAME(onRoomInfoChange(roomInfo:));
```

The parameters are described below:

Parameter	Type	Description
roomInfo	VoiceRoomInfo	Room information

onUserMicrophoneMute

Callback of whether a user's mic is muted. When a user calls `muteLocalAudio`, all members in the room will receive this callback.



```
- (void)onUserMicrophoneMute:(NSString *)userId mute:(BOOL)mute
NS_SWIFT_NAME(onUserMicrophoneMute(userId:mute:));
```

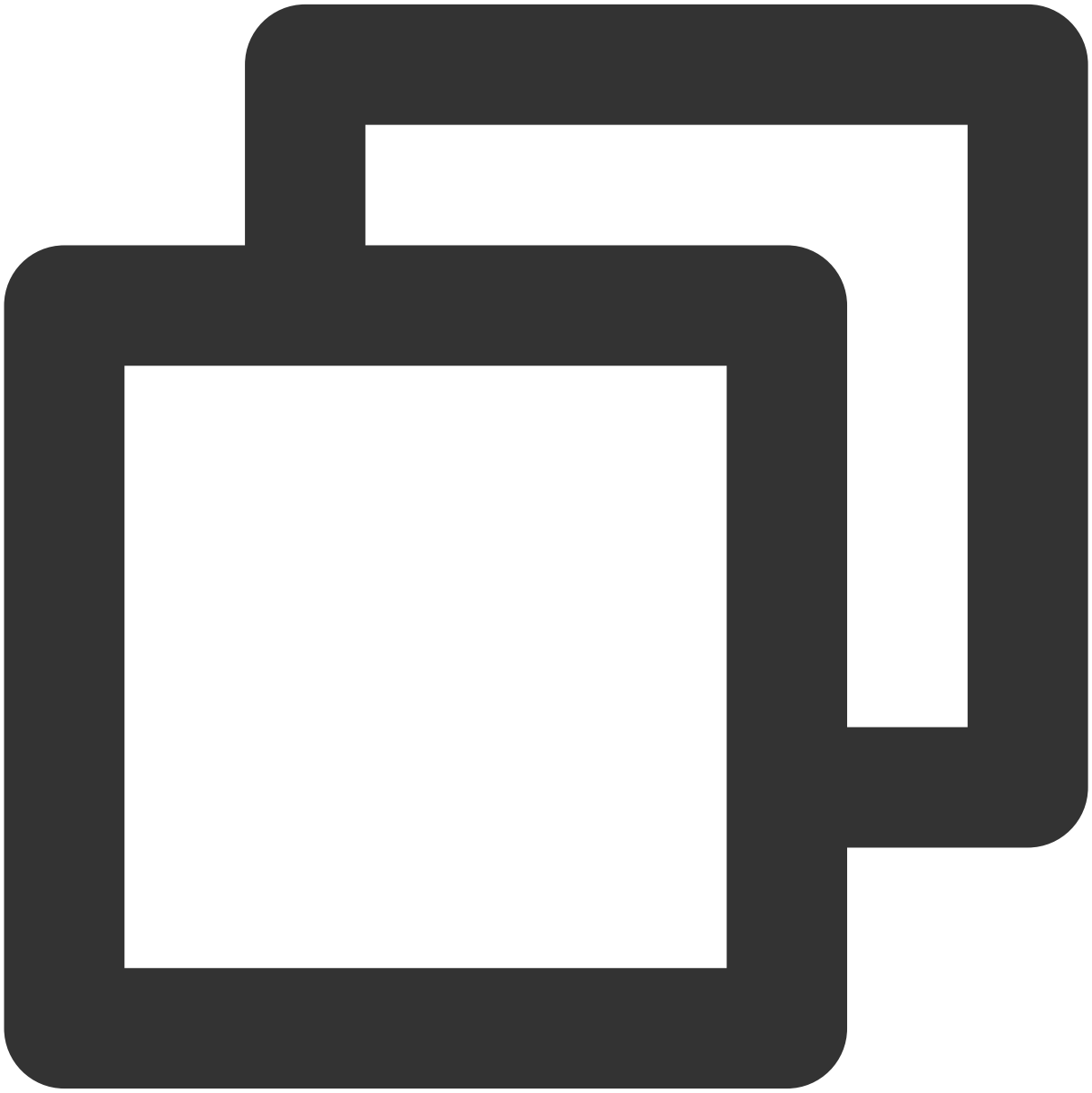
The parameters are described below:

Parameter	Type	Description

userId	NSString	User ID
mute	BOOL	`YES` : muted; `NO` : unmuted

onUserVolumeUpdate

Notification to all members of the volume after the volume reminder is enabled.



```
- (void)onUserVolumeUpdate:(NSArray<TRTCVolumeInfo *> *)userVolumes totalVolume:(NS
NS_SWIFT_NAME(onUserVolumeUpdate(userVolumes:totalVolume:));
```

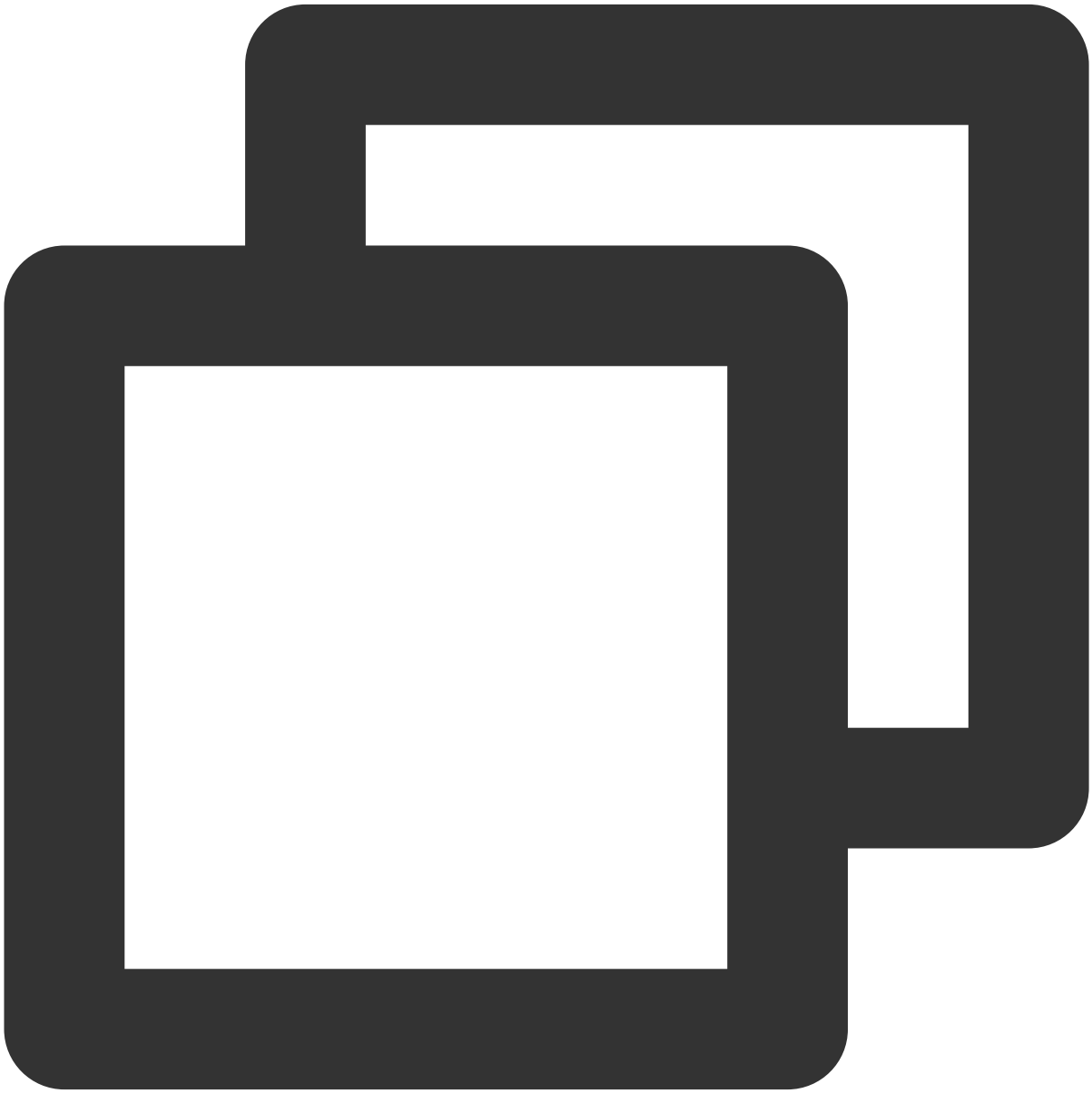
The parameters are described below:

Parameter	Type	Description
userVolumes	NSArray	List of user volumes
totalVolume	NSInteger	Total volume. Value range: 0-100

Seat Callback APIs

onSeatListChange

Callback for all seat changes.



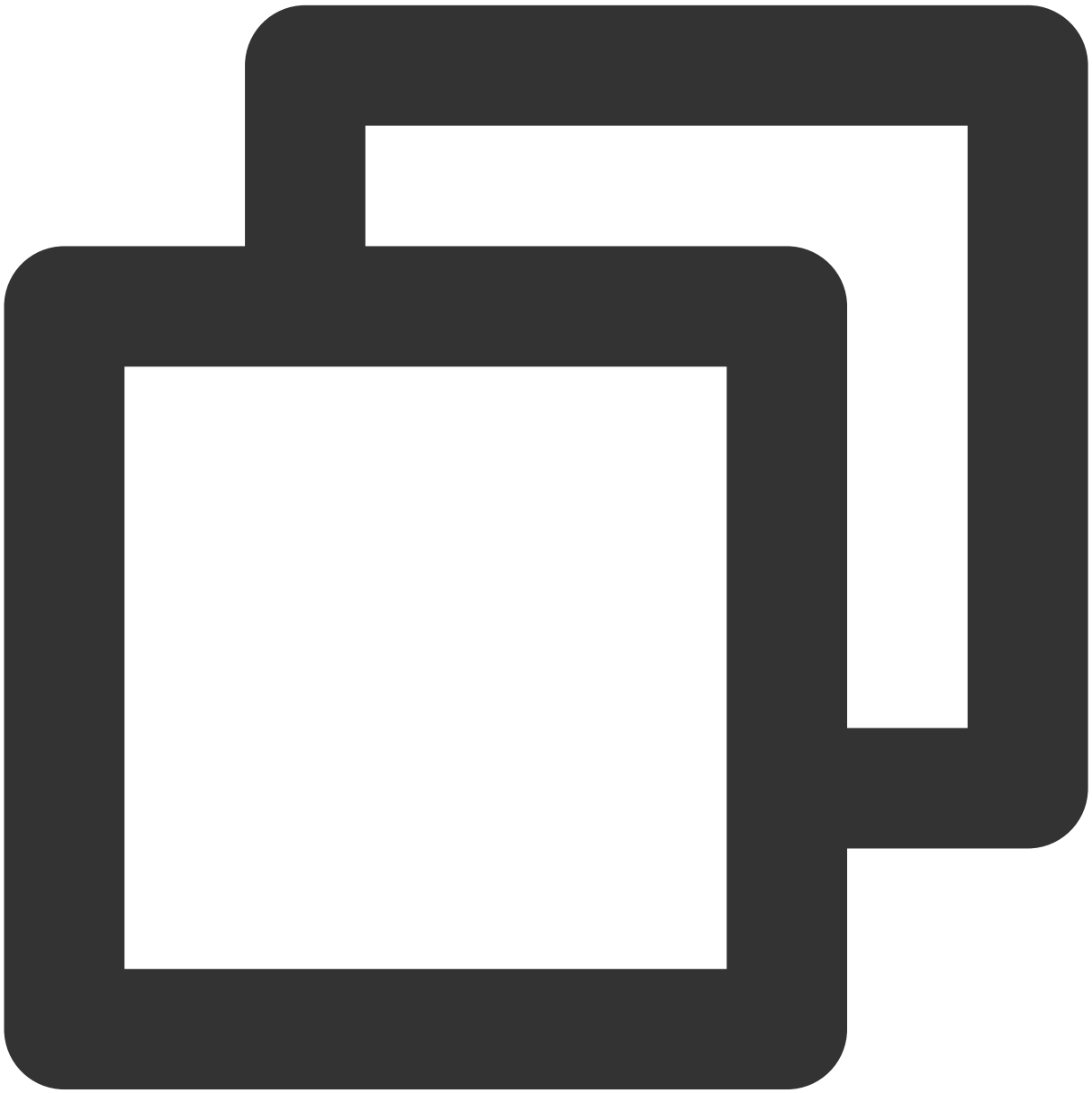
```
- (void)onSeatInfoChange:(NSArray<VoiceRoomSeatInfo *> *)seatInfolist
NS_SWIFT_NAME(onSeatListChange(seatInfoList:));
```

The parameters are described below:

Parameter	Type	Description
seatInfoList	NSArray<VoiceRoomSeatInfo>	Full seat list

onAnchorEnterSeat

Someone became a speaker or was made a speaker by the owner.



```
- (void)onAnchorEnterSeat:(NSInteger)index
                             user:(VoiceRoomUserInfo *)user
NS_SWIFT_NAME(onAnchorEnterSeat(index:user:));
```

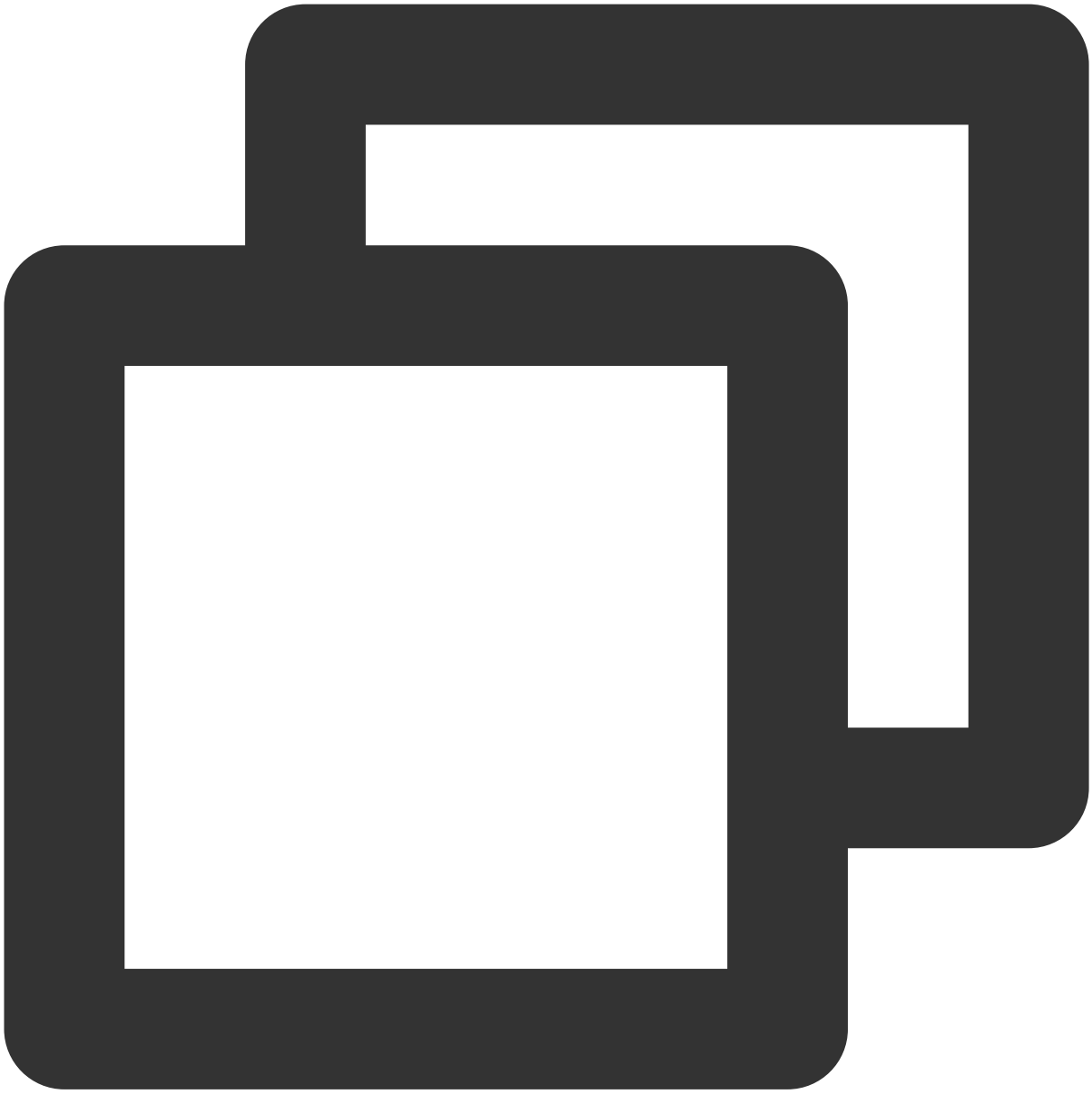
The parameters are described below:

Parameter	Type	Description
index	NSInteger	Number of the seat taken

user	VoiceRoomUserInfo	Information of the user who left the seat

onAnchorLeaveSeat

A speaker became a listener or was moved to listeners by the room owner.



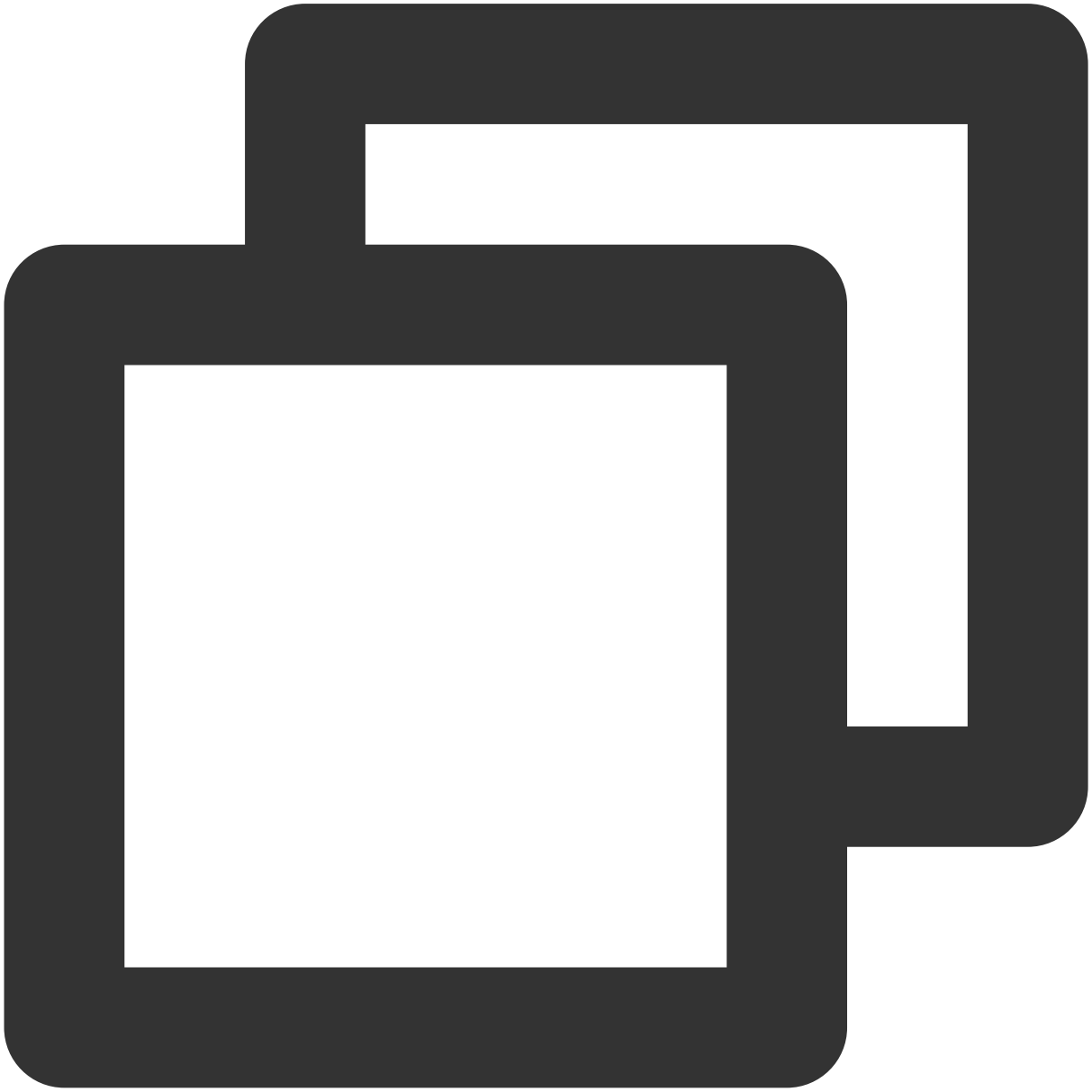
```
- (void)onAnchorLeaveSeat:(NSInteger)index
                     user:(VoiceRoomUserInfo *)user
NS_SWIFT_NAME(onAnchorLeaveSeat(index:user:));
```

The parameters are described below:

Parameter	Type	Description
index	NSInteger	Number of the seat the user left
user	VoiceRoomUserInfo	Information of the user who left the seat

onSeatMute

The room owner muted/unmuted a seat.



```
- (void)onSeatMute:(NSInteger)index
```

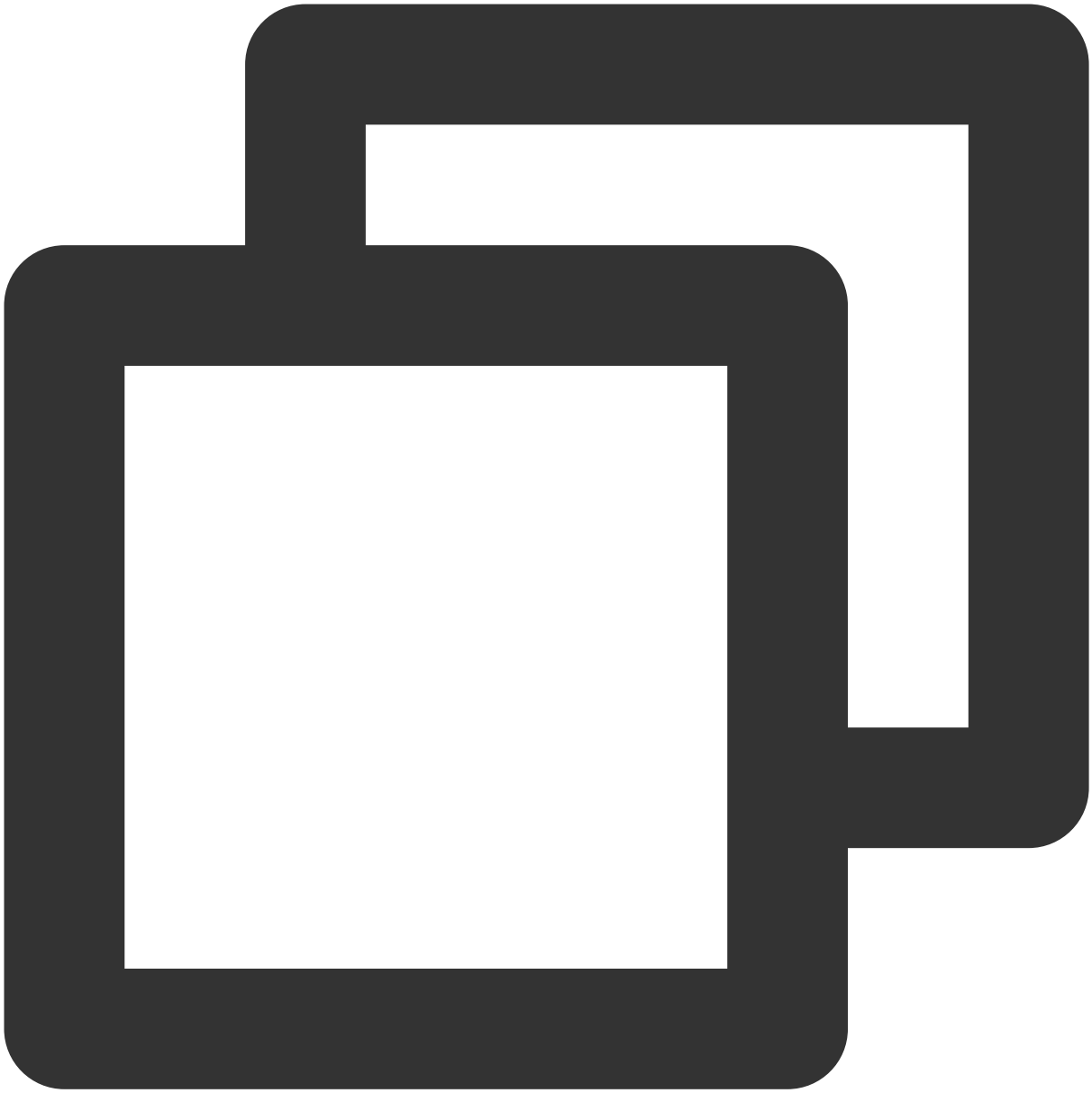
```
              isMute:(BOOL)isMute
NS_SWIFT_NAME(onSeatMute(index:isMute:));
```

The parameters are described below:

Parameter	Type	Description
index	NSInteger	The seat muted/unmuted
isMute	BOOL	`YES: The seat was muted;` NO`: The seat was unmuted.

onSeatClose

The room owner blocked/unblocked a seat.



```
- (void)onSeatClose:(NSInteger)index
            isClose:(BOOL)isClose
NS_SWIFT_NAME(onSeatClose(index:isClose:));
```

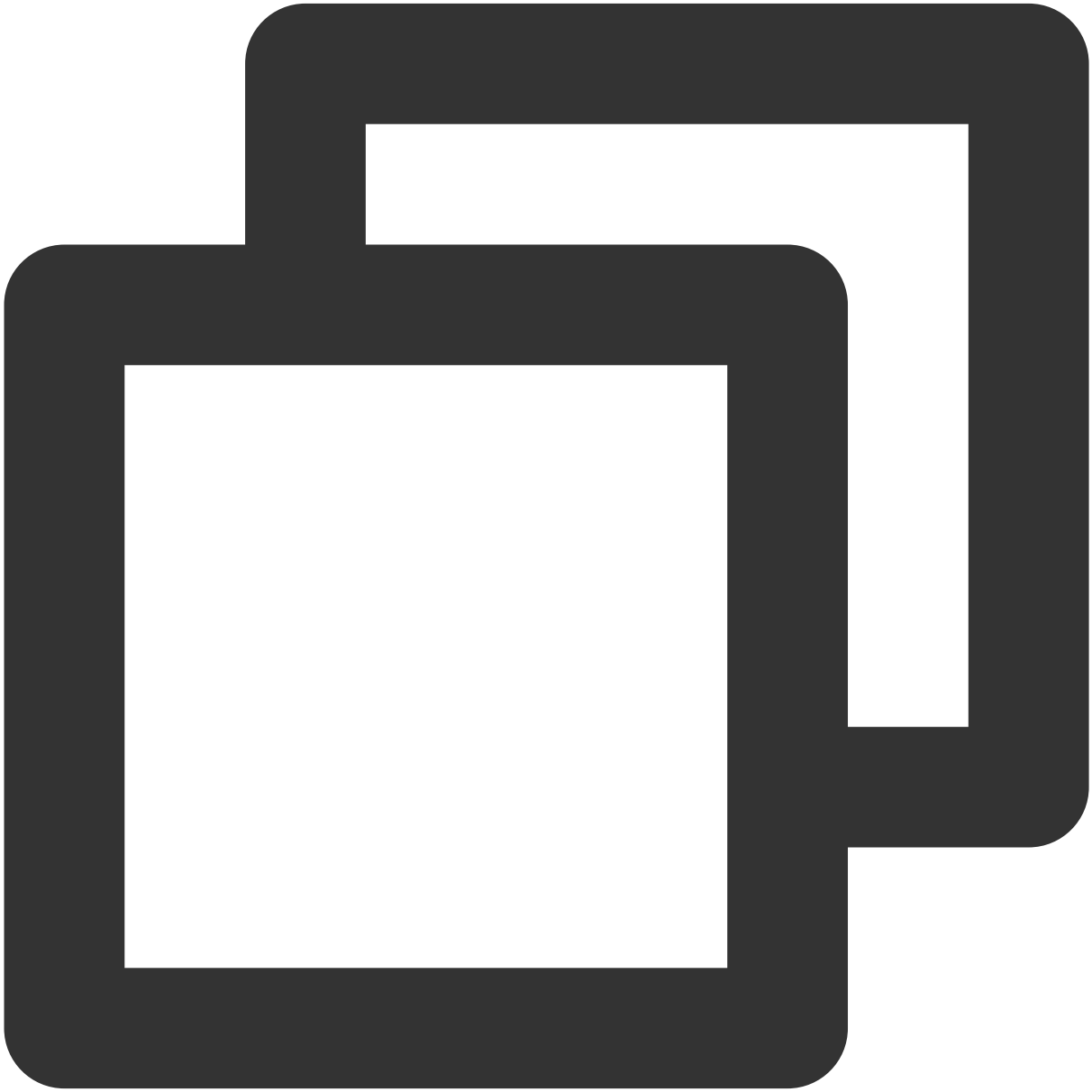
The parameters are described below:

Parameter	Type	Description
index	NSInteger	The seat blocked/unblocked
isClose	BOOL	`YES` : The seat was blocked; `NO` : The seat was unblocked.

Callback APIs for Room Entry/Exit by Listener

onAudienceEnter

A listener entered the room.



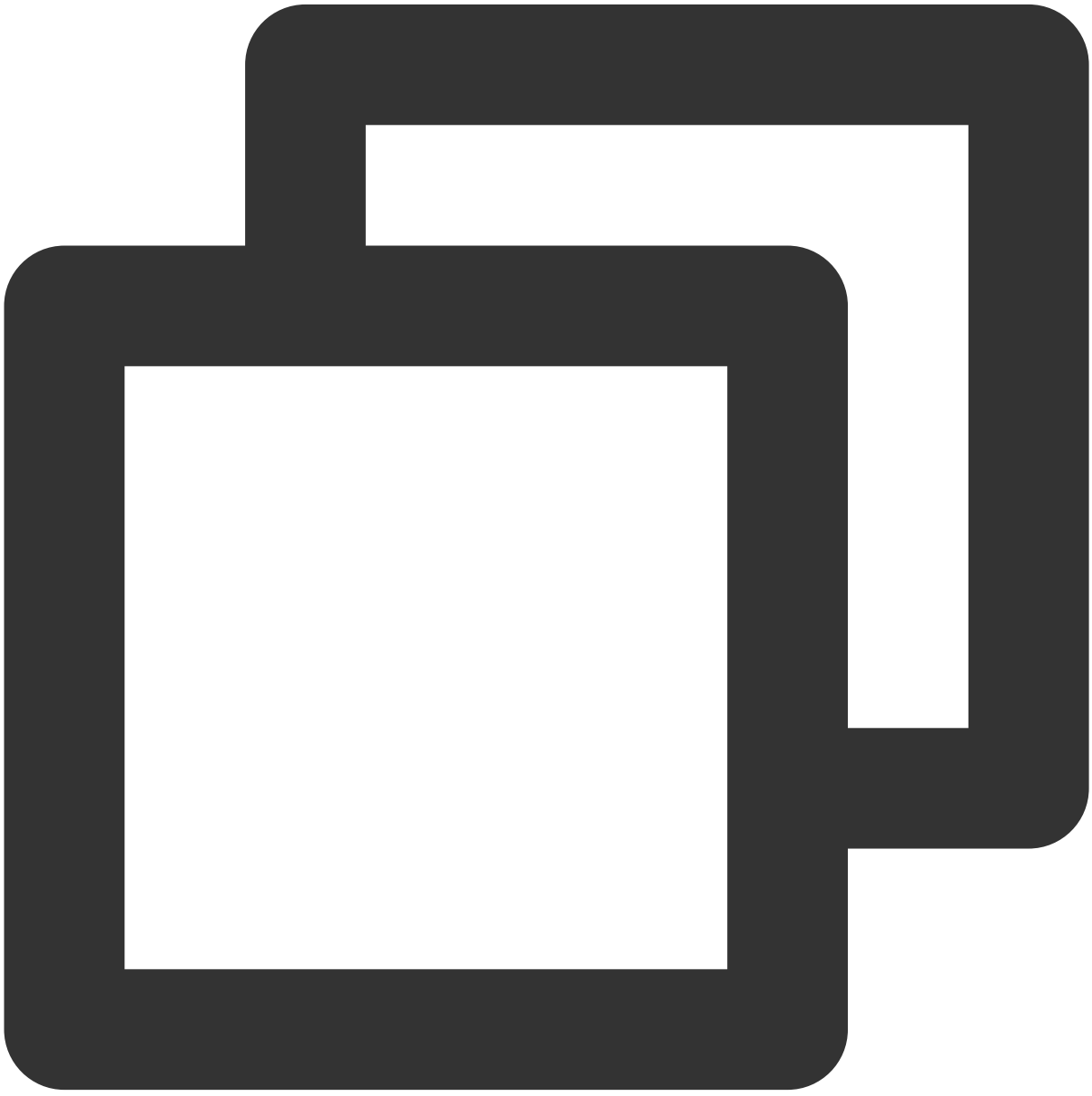
```
- (void)onAudienceEnter:(VoiceRoomUserInfo *)userInfo
NS_SWIFT_NAME(onAudienceEnter(userInfo:));
```

The parameters are described below:

Parameter	Type	Description
userInfo	VoiceRoomUserInfo	Information of the listener who entered

onAudienceExit

A listener exited the room.



```
- (void)onAudienceExit:(VoiceRoomUserInfo *)userInfo
NS_SWIFT_NAME(onAudienceExit(userInfo:));
```

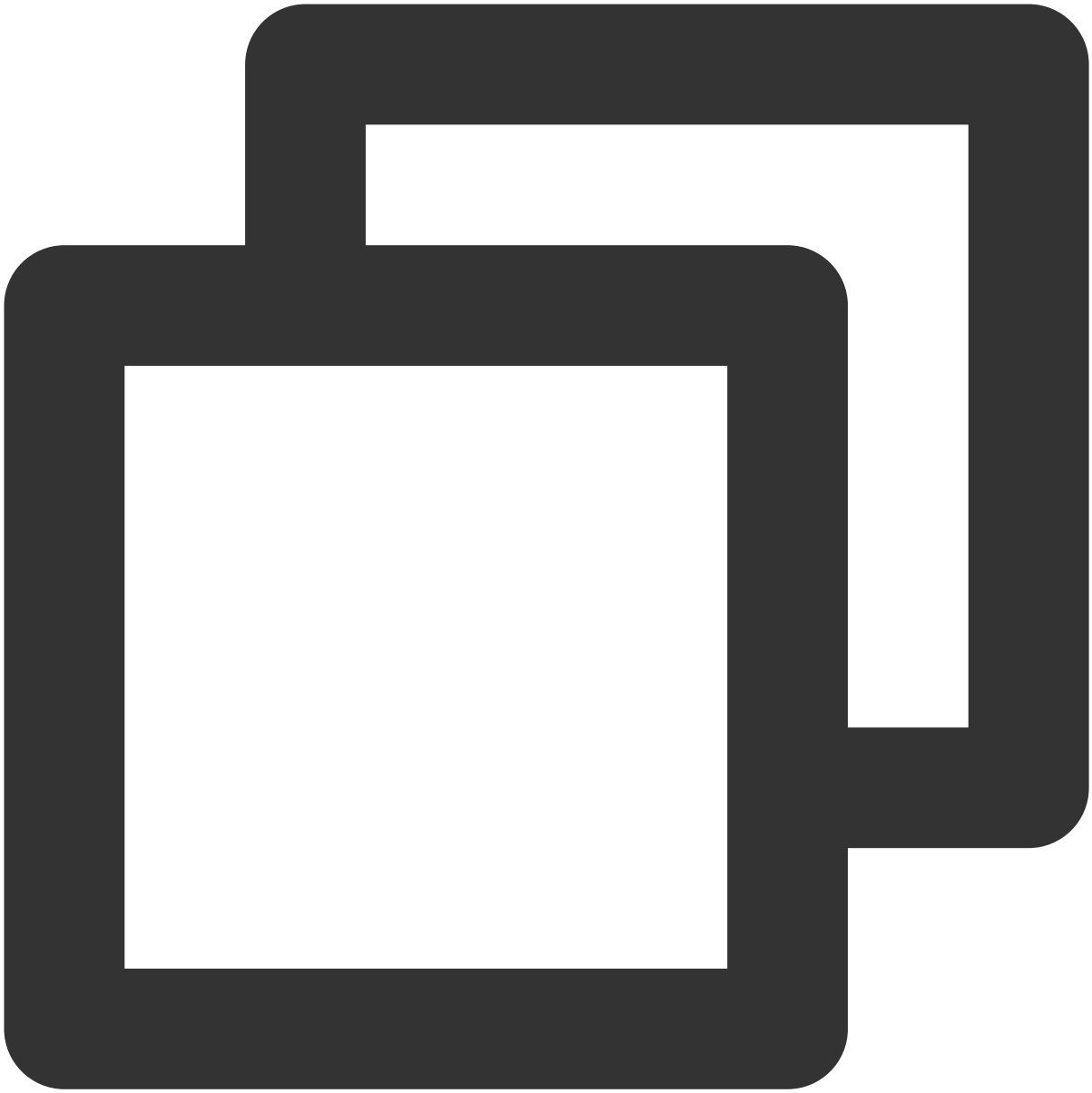
The parameters are described below:

Parameter	Type	Description
userInfo	VoiceRoomUserInfo	Information of the user who left

Message Event Callback APIs

onRecvRoomTextMsg

Callback for receiving a text chat message.



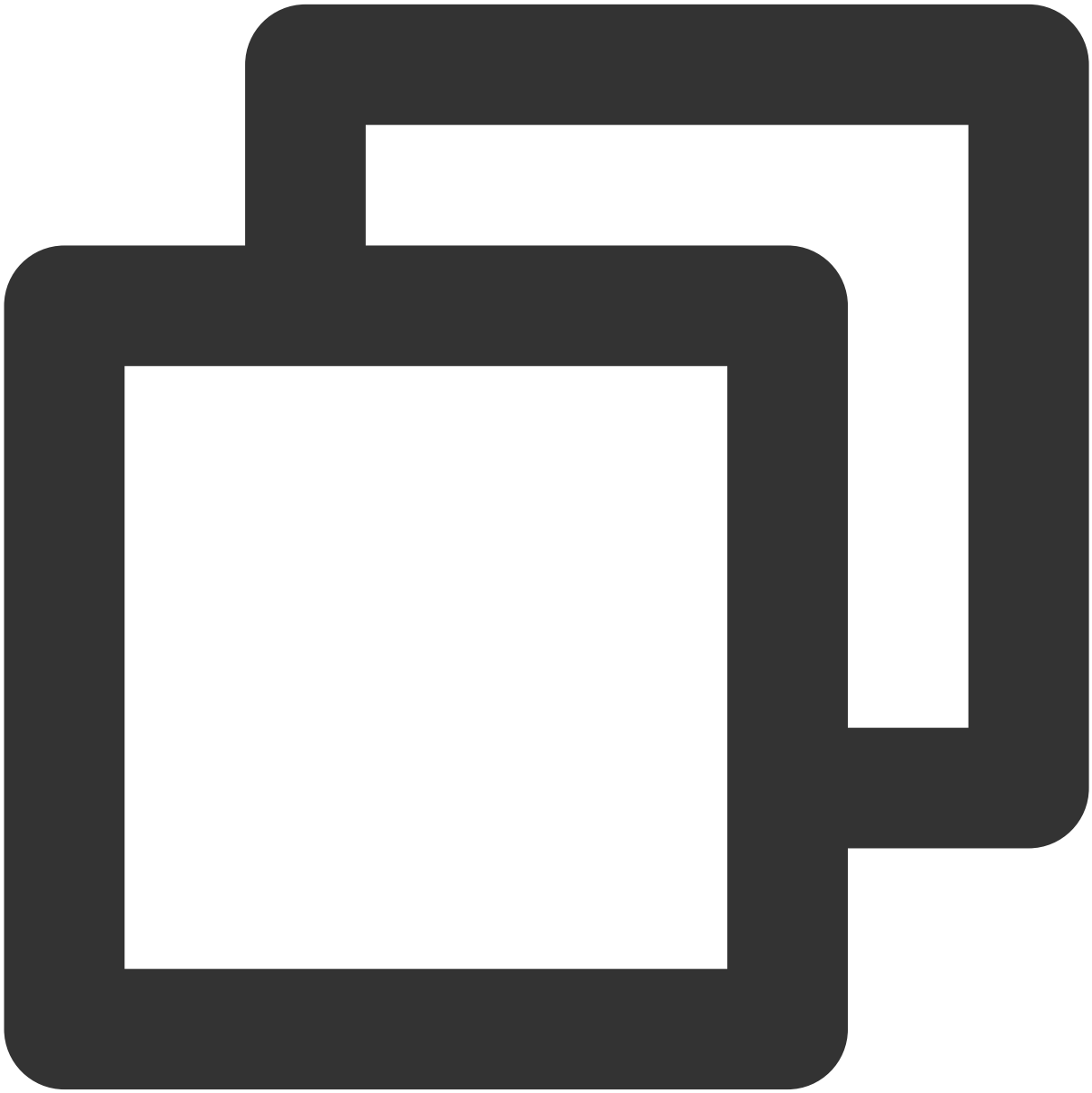
```
- (void)onRecvRoomTextMsg:(NSString *)message
                 userInfo:(VoiceRoomUserInfo *)userInfo
NS_SWIFT_NAME(onRecvRoomTextMsg(message:userInfo:));
```

The parameters are described below:

Parameter	Type	Description
message	NSString	Text message
userInfo	VoiceRoomUserInfo	Information of the sender

onRecvRoomCustomMsg

A custom message was received.



```
- (void)onRecvRoomCustomMsg:(NSString *)command
                    message:(NSString *)message
                   userInfo:(VoiceRoomUserInfo *)userInfo
NS_SWIFT_NAME(onRecvRoomCustomMsg(command:message:userInfo:));
```

The parameters are described below:

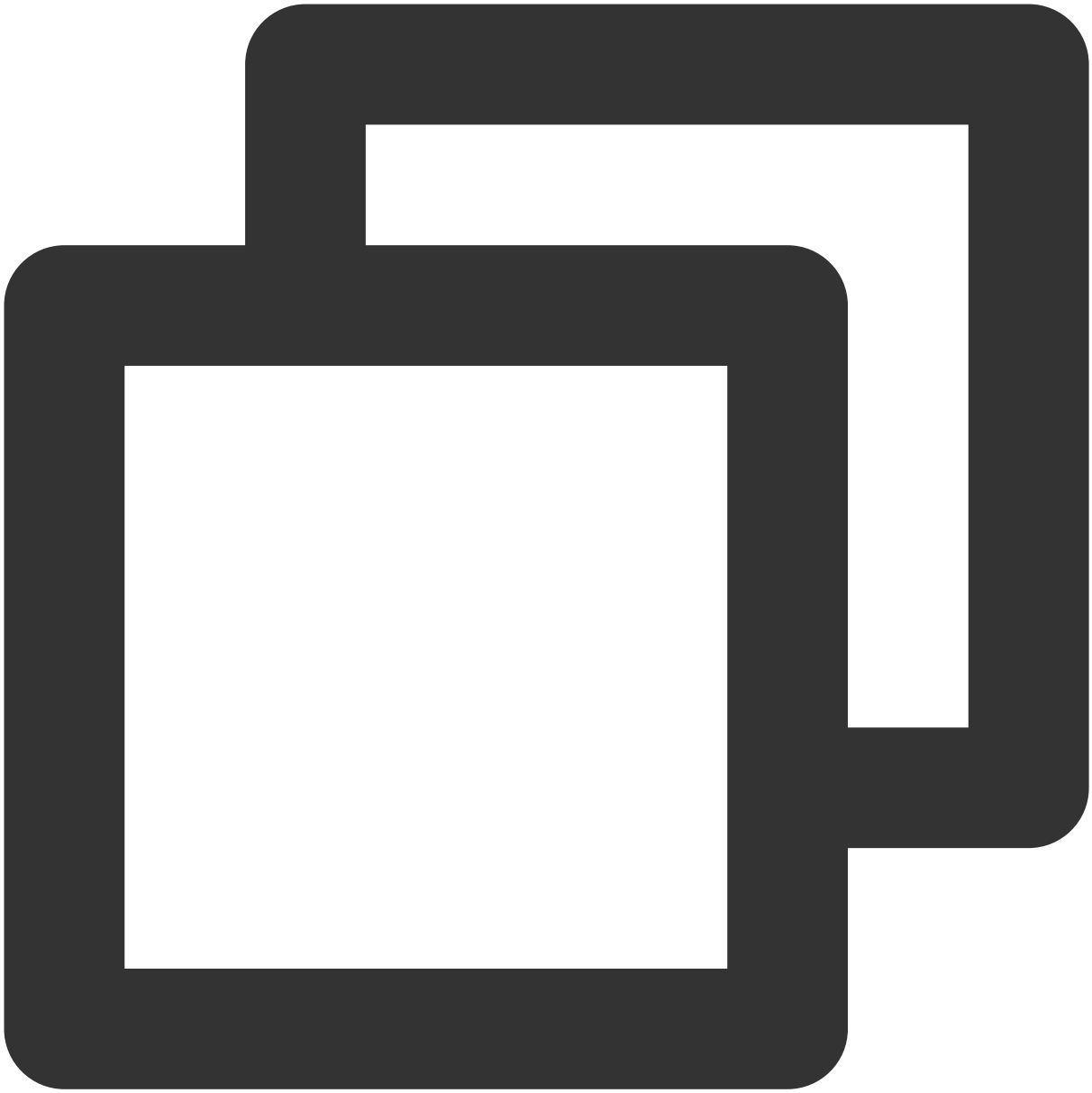
Parameter	Type	Description

command	NSString	Custom command word used to distinguish between different message types
message	NSString	Text message
userInfo	VoiceRoomUserInfo	Information of the sender

Invitation Signaling Callback APIs

onReceiveNewInvitation

An invitation was received.



```
- (void)onReceiveNewInvitation:(NSString *)identifier
                       inviter:(NSString *)inviter
                           cmd:(NSString *)cmd
                       content:(NSString *)content
NS_SWIFT_NAME(onReceiveNewInvitation(id:inviter:cmd:content:));
```

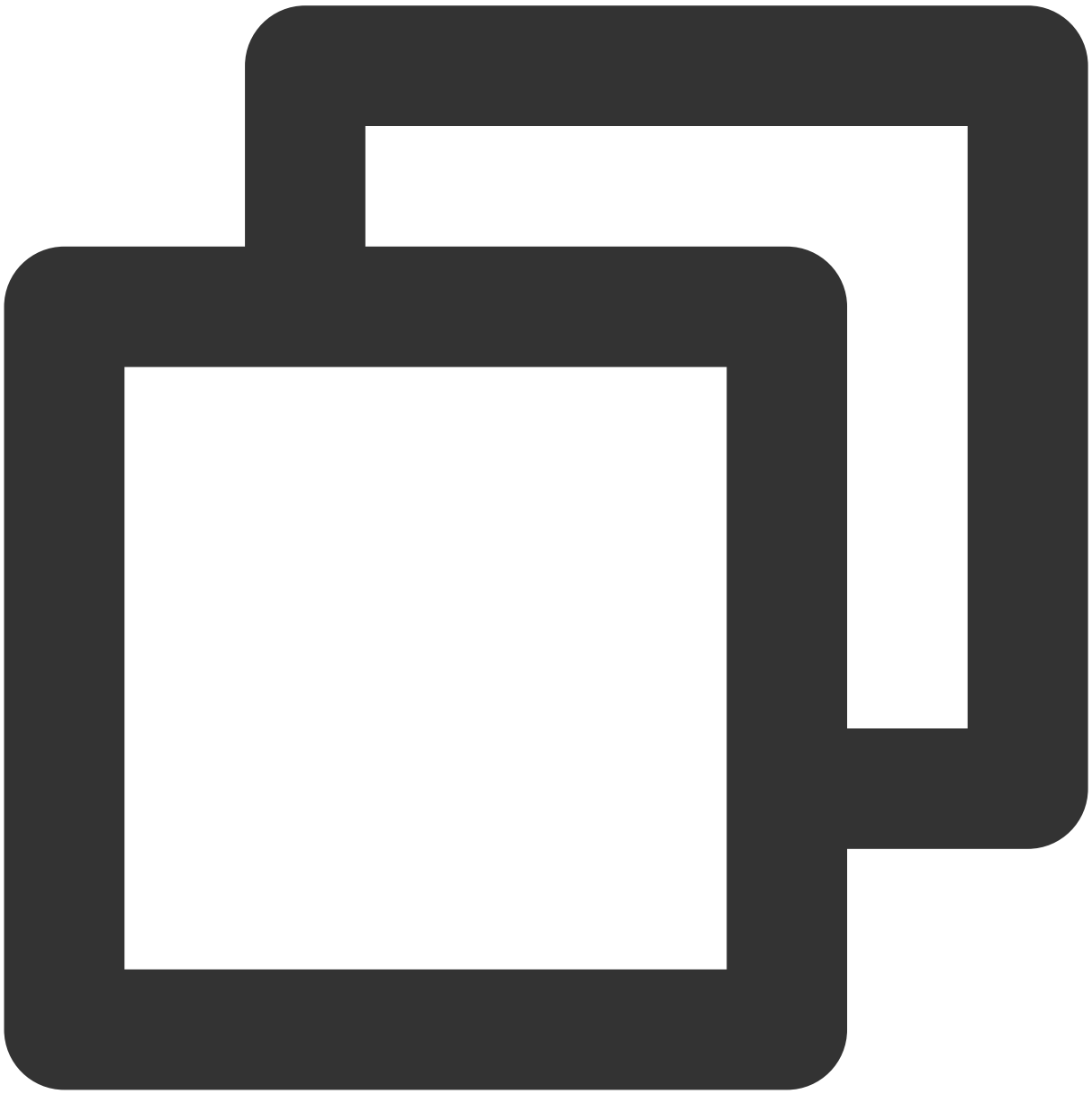
The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID

inviter	NSString	Inviter's user ID
cmd	NSString	Custom command word specified by business
content	NSString	Content specified by business

onInviteeAccepted

The invitee accepted the invitation



```
- (void)onInviteeAccepted:(NSString *)identifier
```

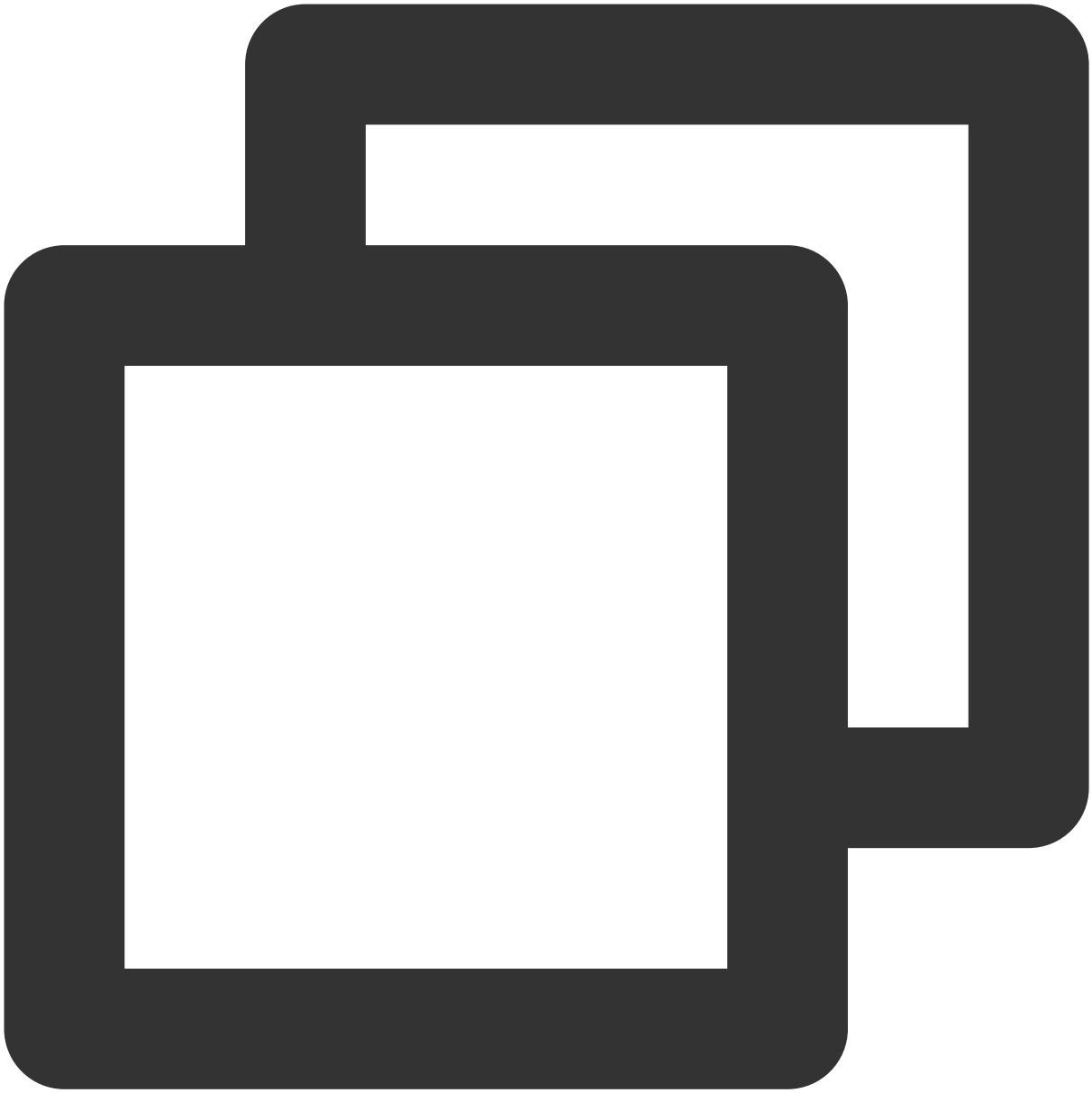
```
                    invitee:(NSString *)invitee
NS_SWIFT_NAME(onInviteeAccepted(id:invitee:));
```

The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID
invitee	NSString	Invitee's user ID

onInviteeRejected

The invitee declined the invitation



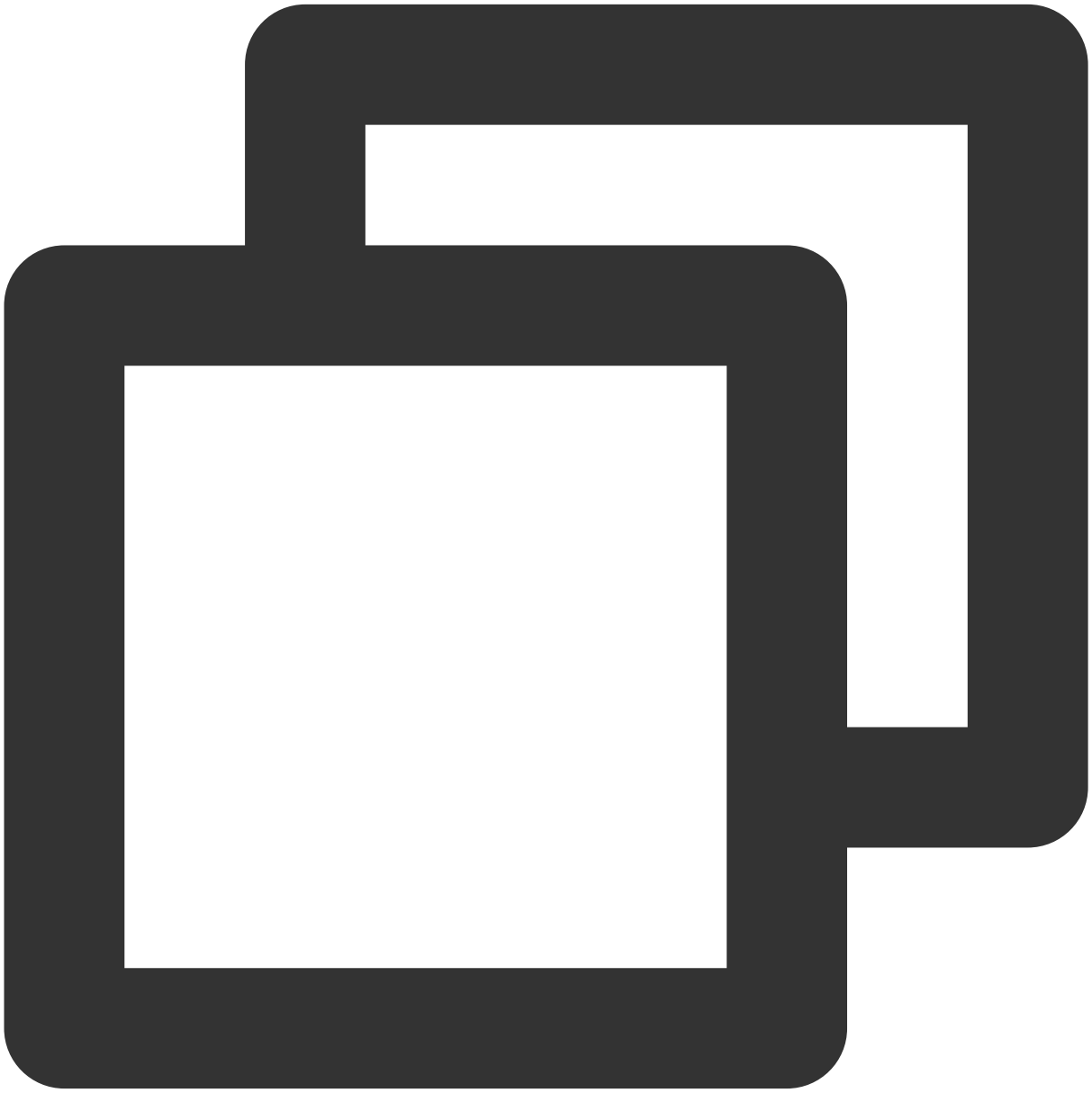
```
- (void)onInviteeRejected:(NSString *)identifier
                  invitee:(NSString *)invitee
NS_SWIFT_NAME(onInviteeRejected(id:invitee:));
```

The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID
invitee	NSString	Invitee's user ID

onInvitationCancelled

The inviter canceled the invitation.



```
- (void)onInvitationCancelled:(NSString *)identifier
                      invitee:(NSString *)invitee NS_SWIFT_NAME(onInvitationCancell
```

The parameters are described below:

Parameter	Type	Description
id	NSString	Invitation ID

inviter	NSString	Inviter’s user ID

TRTCVoiceRoom (Android)

Last updated：2023-09-25 10:53:10

`TRTCVoiceRoom` is based on Tencent Real-Time Communication (TRTC) and Tencent Cloud Chat. With TRTCVoiceRoom:

A user can create an audio chat room and become a speaker, or enter an audio chat room as a listener.

The room owner can invite a listener to speak as well as remove a speaker from a seat.

The room owner can also block a seat. A listener cannot request to take a blocked seat to become a speaker.

A listener can request to speak and become a speaker. A speaker can also become a listener.

All users can send text and custom messages. Custom messages can be used to send on-screen comments, give likes, and send gifts.

Note

All TUIKit components are based on two PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For billing details of Chat, see Pricing.

`TRTCVoiceRoom` is an open-source class depending on two closed-source Tencent Cloud SDKs. For the specific implementation process, see Audio Chat Room (Android).

TRTThe TRTC SDK is used as a low-latency audio chat component.

The `AVChatRoom` feature of the Chat SDK is used to implement chat rooms. The attribute APIs of Chat are used to store room information such as the seat list, and invitation signaling is used to send requests to speak or invite others to speak.

TRTCVoiceRoom API Overview

Basic SDK APIs

API	Description
sharedInstance	Gets a singleton object.
destroySharedInstance	Terminates a singleton object.
setDelegate	Sets event callbacks.
setDelegateHandler	Sets the thread where event callbacks are.
login	Logs in.

logout	Logs out.
setSelfProfile	Sets profile.

Room APIs

API	Description
createRoom	Creates a room (called by room owner). If the room does not exist, the system will automatically create a room.
destroyRoom	Terminates a room (called by room owner).
enterRoom	Enters a room (called by listener).
exitRoom	Exits a room (called by listener).
getRoomInfoList	Gets room list details.
getUserInfoList	Gets the user information of the specified `userId`. If the value is `null`, the information of all users in the room is obtained.

Seat management APIs

API	Description
enterSeat	Becomes a speaker (called by room owner or listener).
moveSeat	Changes the seat (called by speaker).
leaveSeat	Becomes a listener (called by speaker).
pickSeat	Places a user in a seat (called by room owner).
kickSeat	Removes a speaker (called by room owner).
muteSeat	Mutes/Unmutes a seat (called by room owner).
closeSeat	Blocks/Unblocks a seat (called by room owner).

Local audio APIs

API	Description
startMicrophone	Starts mic capturing.
stopMicrophone	Stops mic capturing.

setAudioQuality	Sets audio quality.
muteLocalAudio	Mutes/Unmutes local audio.
setSpeaker	Sets whether to play sound from the device's speaker or receiver.
setAudioCaptureVolume	Sets mic capturing volume.
setAudioPlayoutVolume	Sets playback volume.
setVoiceEarMonitorEnable	Enables/Disables in-ear monitoring.

Remote audio APIs

API	Description
muteRemoteAudio	Mutes/Unmutes a specified member.
muteAllRemoteAudio	Mutes/Unmutes all members.

Background music and audio effect APIs

API	Description
getAudioEffectManager	Gets the background music and audio effect management object TXAudioEffectManager.

Message sending APIs

API	Description
sendRoomTextMsg	Broadcasts a text chat message in a room. This API is generally used for on-screen comments.
sendRoomCustomMsg	Sends a custom text message.

Invitation signaling APIs

API	Description
sendInvitation	Sends an invitation.
acceptInvitation	Accepts an invitation.
rejectInvitation	Declines an invitation.

cancelInvitation	Cancels an invitation.

TRTCVoiceRoomDelegate API Overview

Common event callbacks

API	Description
onError	Callback for error.
onWarning	Callback for warning.
onDebugLog	Callback of log.

Room event callback APIs

API	Description
onRoomDestroy	The room was terminated.
onRoomInfoChange	The room information changed.
onUserVolumeUpdate	User volume

Seat list change callback APIs

API	Description
onSeatListChange	All seat changes
onAnchorEnterSeat	Someone became a speaker or was made a speaker by the room owner.
onAnchorLeaveSeat	Someone became a listener or was moved to listeners by the room owner.
onSeatMute	The room owner muted a seat.
onUserMicrophoneMute	Whether a user's mic is muted
onSeatClose	The room owner blocked a seat.

Callback APIs for room entry/exit by listener

API	Description
onAudienceEnter	A listener entered the room.
onAudienceExit	A listener exited the room.

Message event callback APIs

API	Description
onRecvRoomTextMsg	A text chat message was received.
onRecvRoomCustomMsg	A custom message was received.

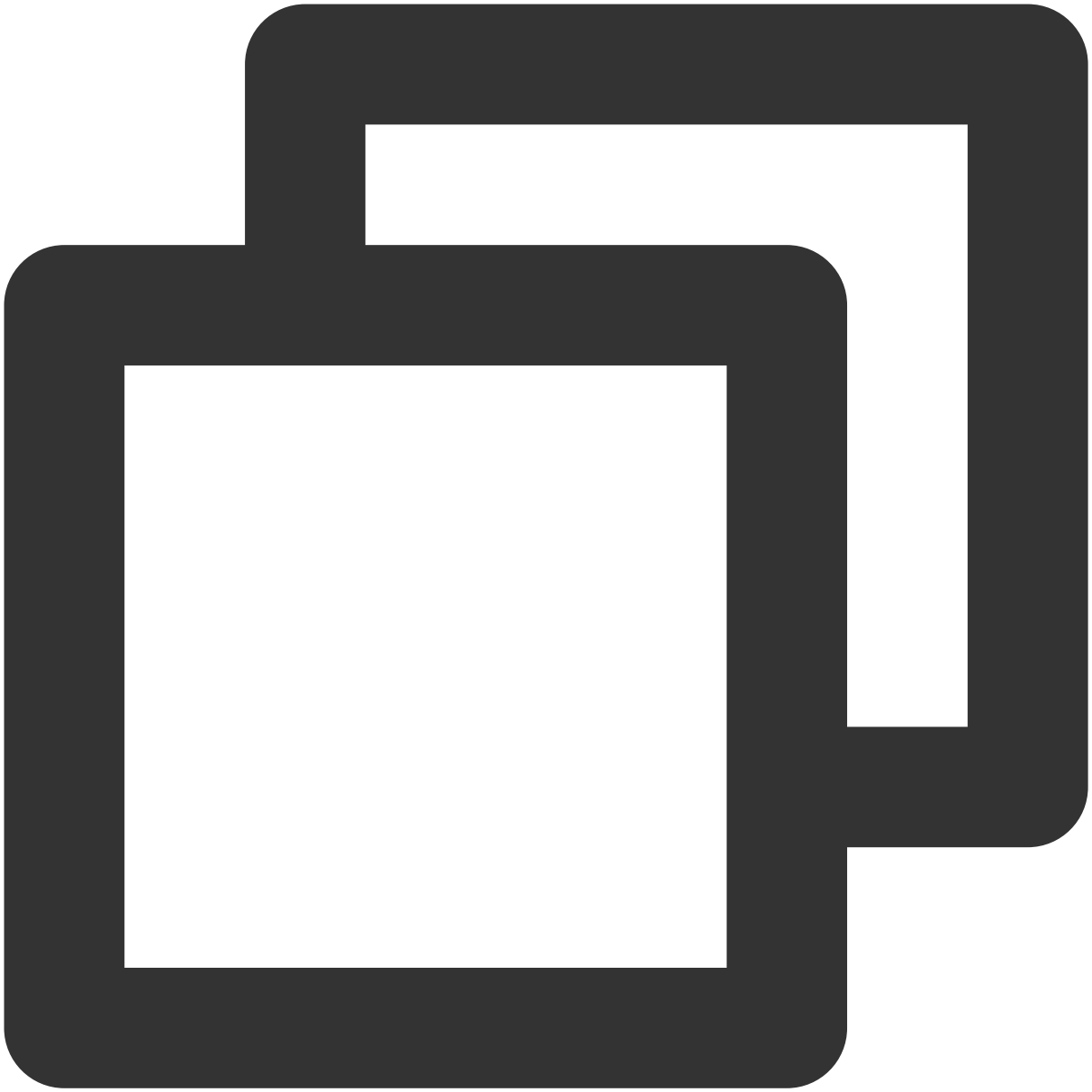
Signaling Event Callback APIs

API	Description
onReceiveNewInvitation	An invitation was received.
onInviteeAccepted	The invitee accepted the invitation.
onInviteeRejected	The invitee declined the invitation.
onInvitationCancelled	The inviter canceled the invitation.

Basic SDK APIs

sharedInstance

This API is used to get a TRTCVoiceRoom singleton object.



```
public static synchronized TRTCVoiceRoom sharedInstance(Context context);
```

The parameters are described below:

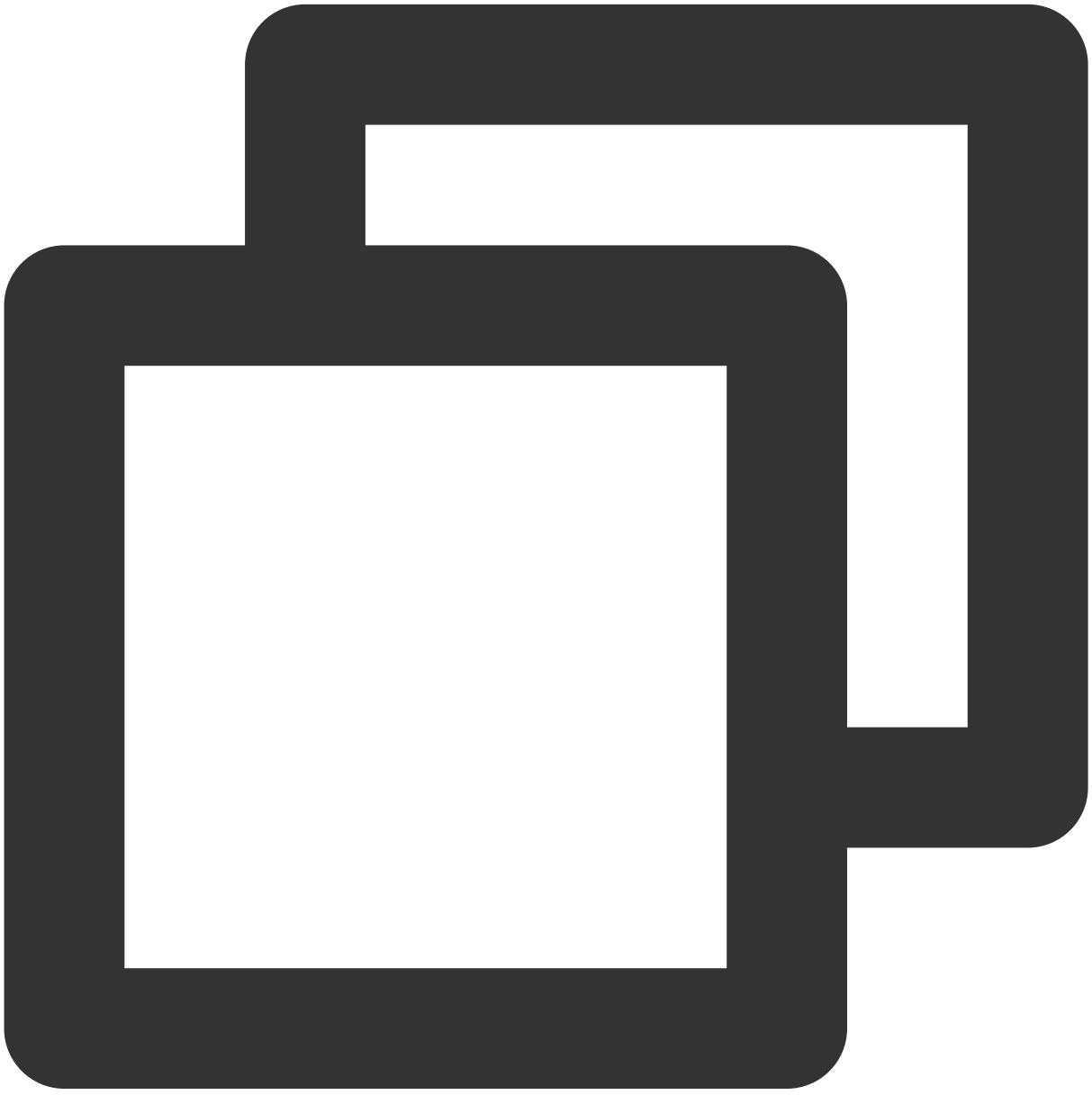
Parameter	Type	Description
context	Context	Android context, which will be converted to `ApplicationContext` for the calling of system APIs

destroySharedInstance

This API is used to terminate a TRTCVoiceRoom singleton object.

Note

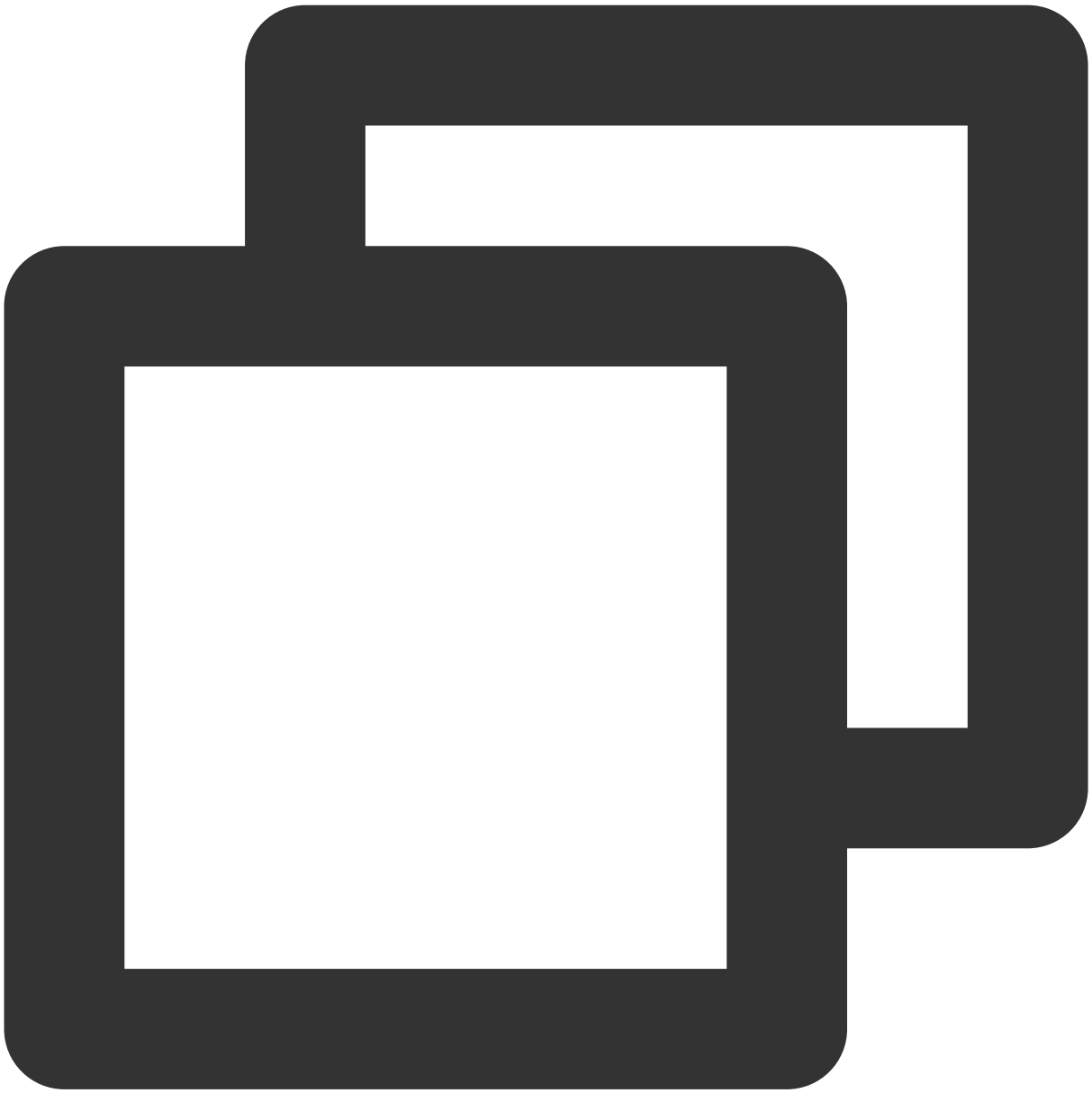
After the instance is terminated, the externally cached `TRTCVoiceRoom` instance can no longer be used. You need to call sharedInstance again to get a new instance.



```
public static void destroySharedInstance();
```

setDelegate

This API is used to set the event callback of TRTCVoiceRoom. You can use `TRTCVoiceRoomDelegate` to get different status notifications of TRTCVoiceRoom.



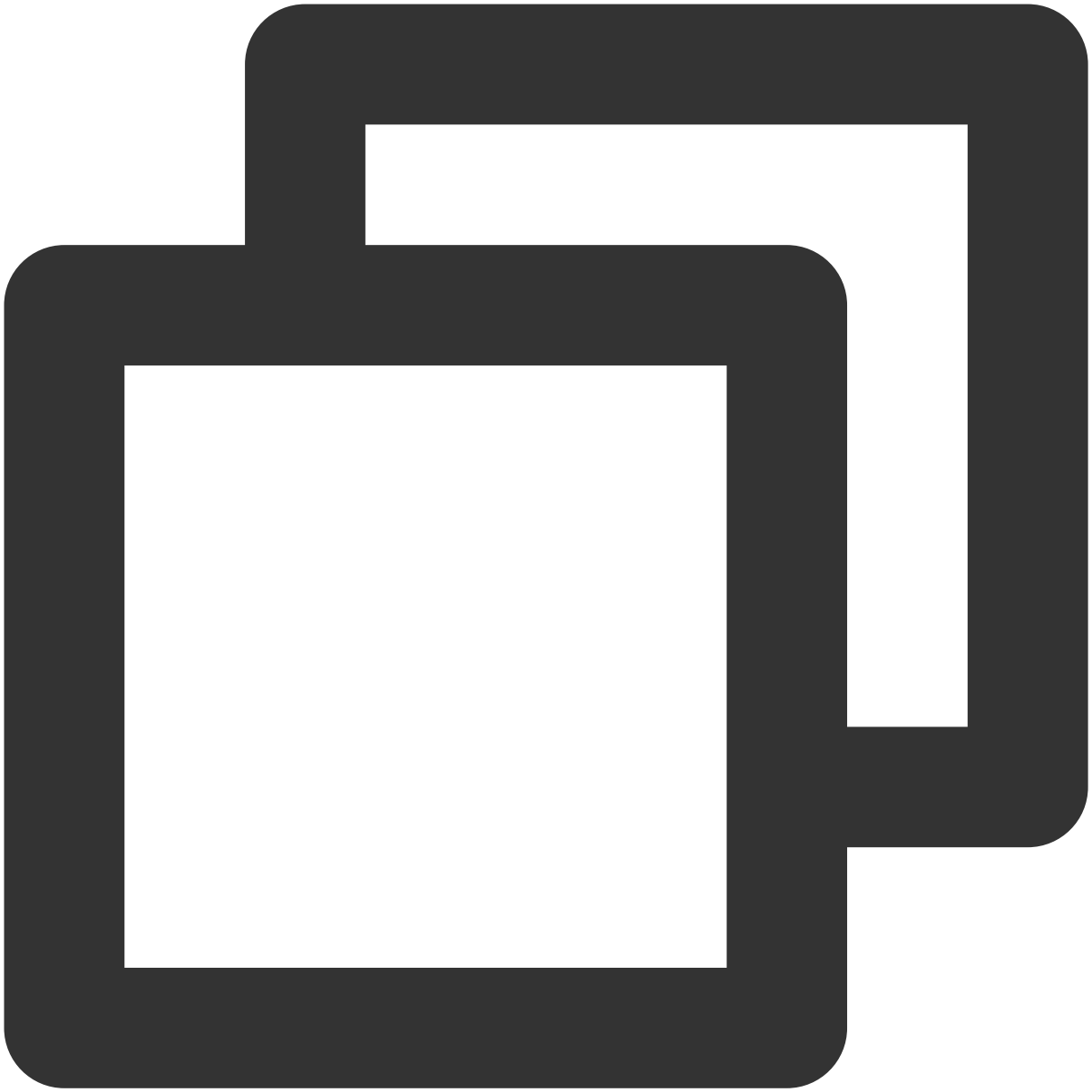
```
public abstract void setDelegate(TRTCVoiceRoomDelegate delegate);
```

Note

`setDelegate` is the delegate callback of `TRTCVoiceRoom` .

setDelegateHandler

This API is used to set the thread where event callbacks are.



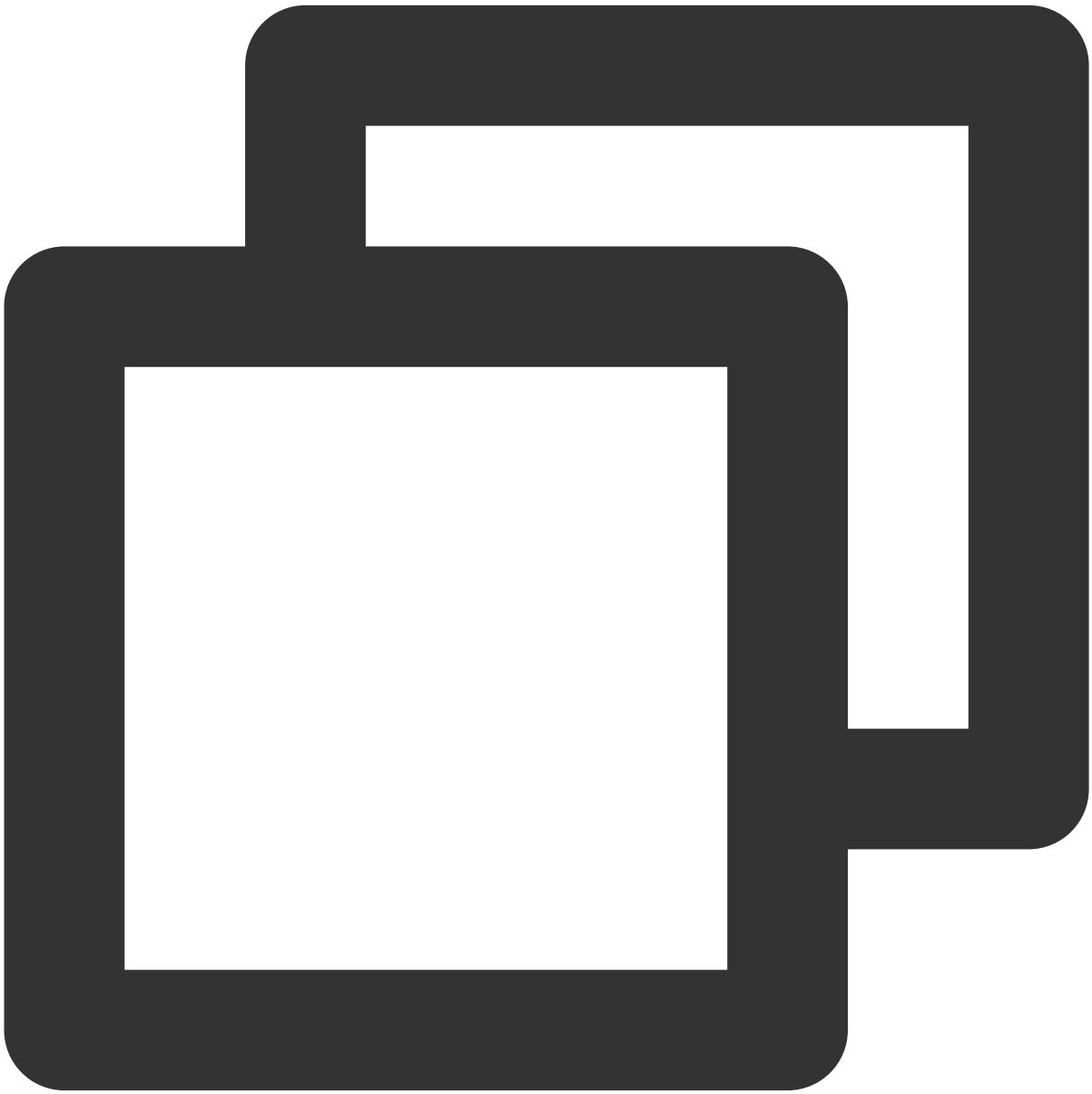
```
public abstract void setDelegateHandler(Handler handler);
```

The parameters are described below:

Parameter	Type	Description
handler	Handler	The status notifications of `TRTCVoiceRoom` are sent to the handler thread you specify.

login

Login



```
public abstract void login(int sdkAppId,
 String userId, String userSig,
TRTCVoiceRoomCallback.ActionCallback callback);
```

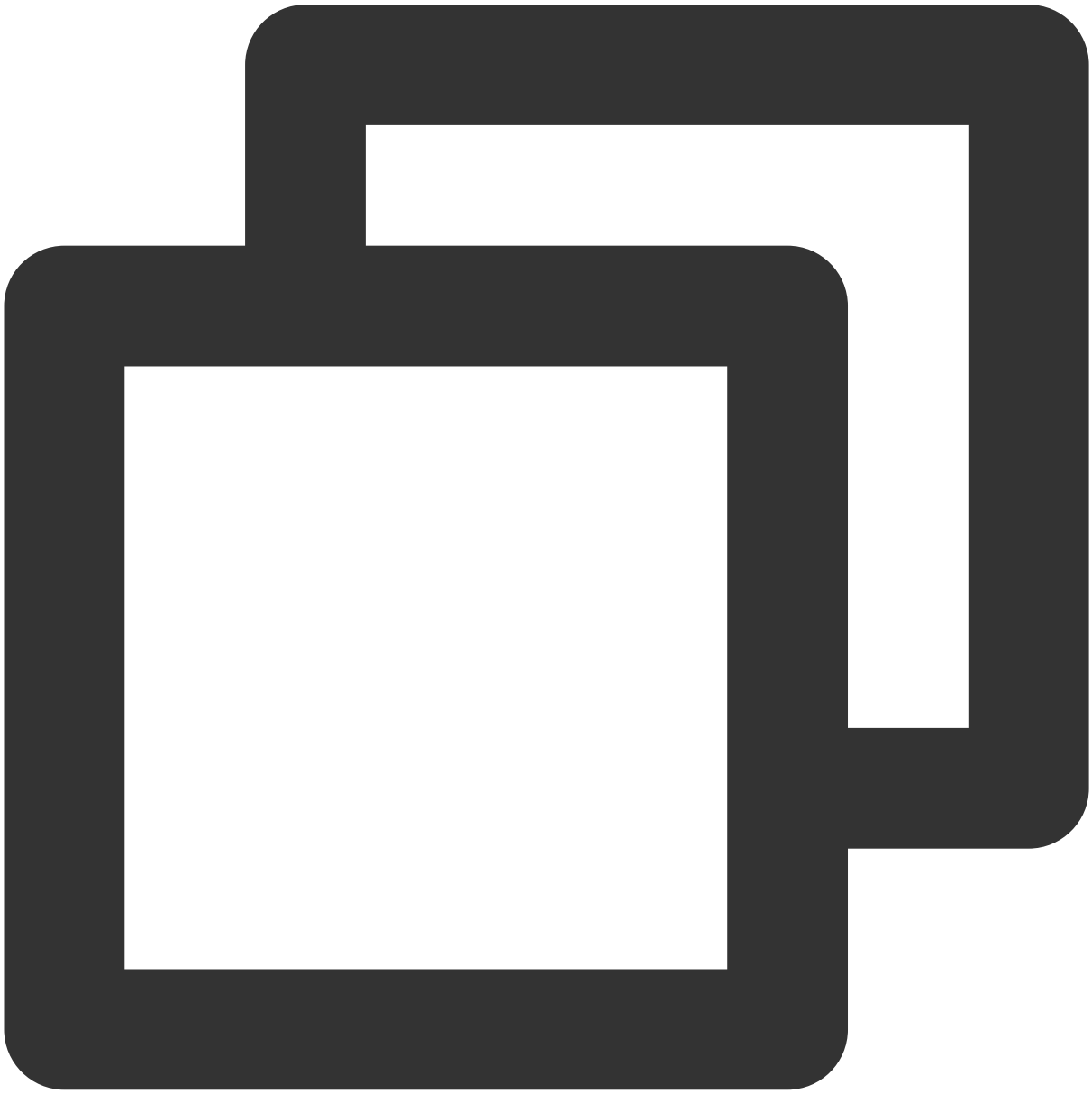
The parameters are described below:

Parameter	Type	Description
sdkAppId	int	You can view `SDKAppID` in Application Management > **Application Info** of the TRTC console.

userId	String	The ID of current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_).
userSig	String	Tencent Cloud's proprietary security signature. For how to calculate and use it, see FAQs > UserSig.
callback	ActionCallback	The callback for login. The code is `0` if login succeeds.

logout

Log out



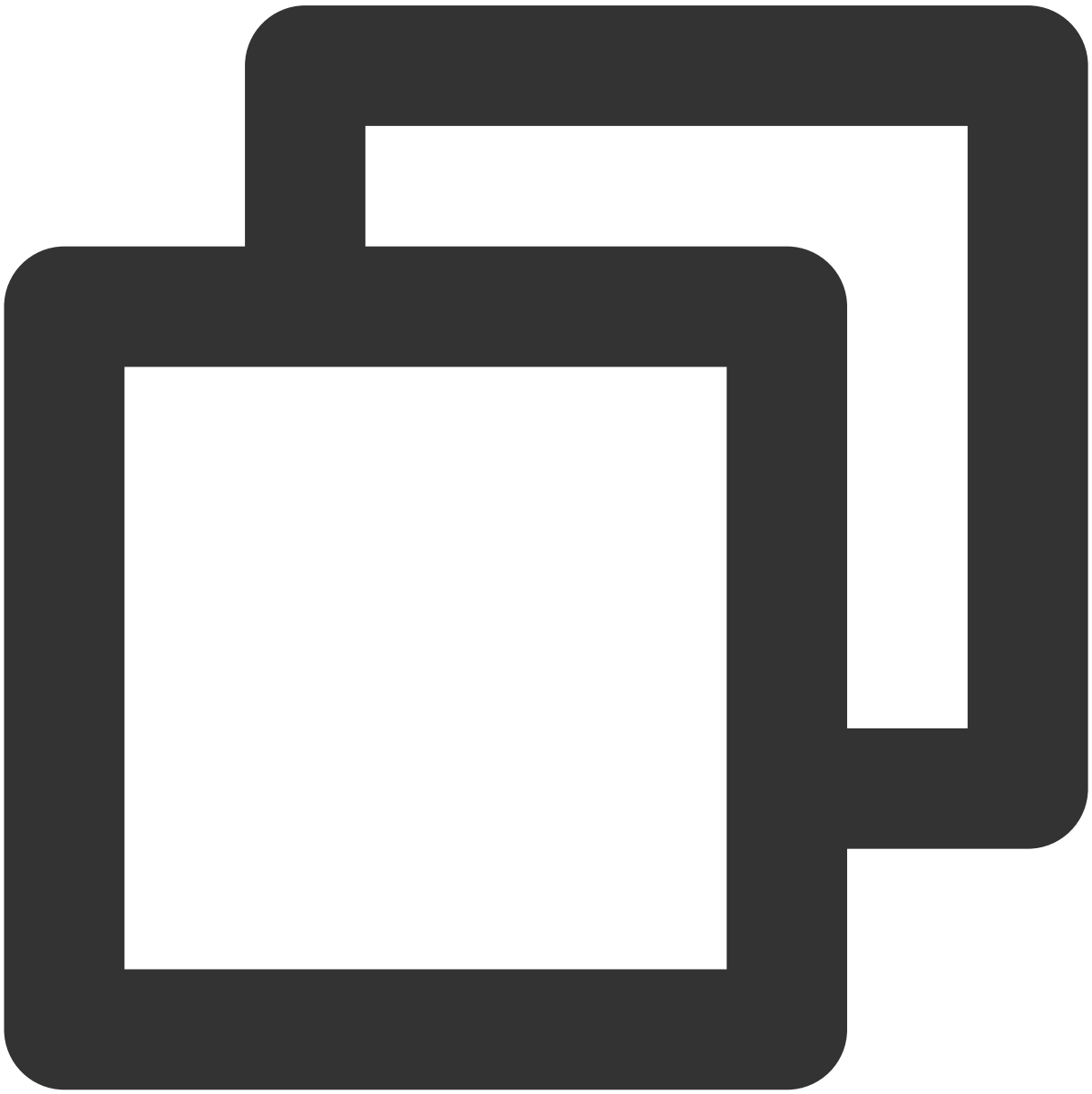
```
public abstract void logout(TRTCVoiceRoomCallback.ActionCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	The callback for logout. The code is `0` if logout succeeds.

setSelfProfile

This API is used to set the profile.



```
public abstract void setSelfProfile(String userName, String avatarURL, TRTCVoiceRoo
```

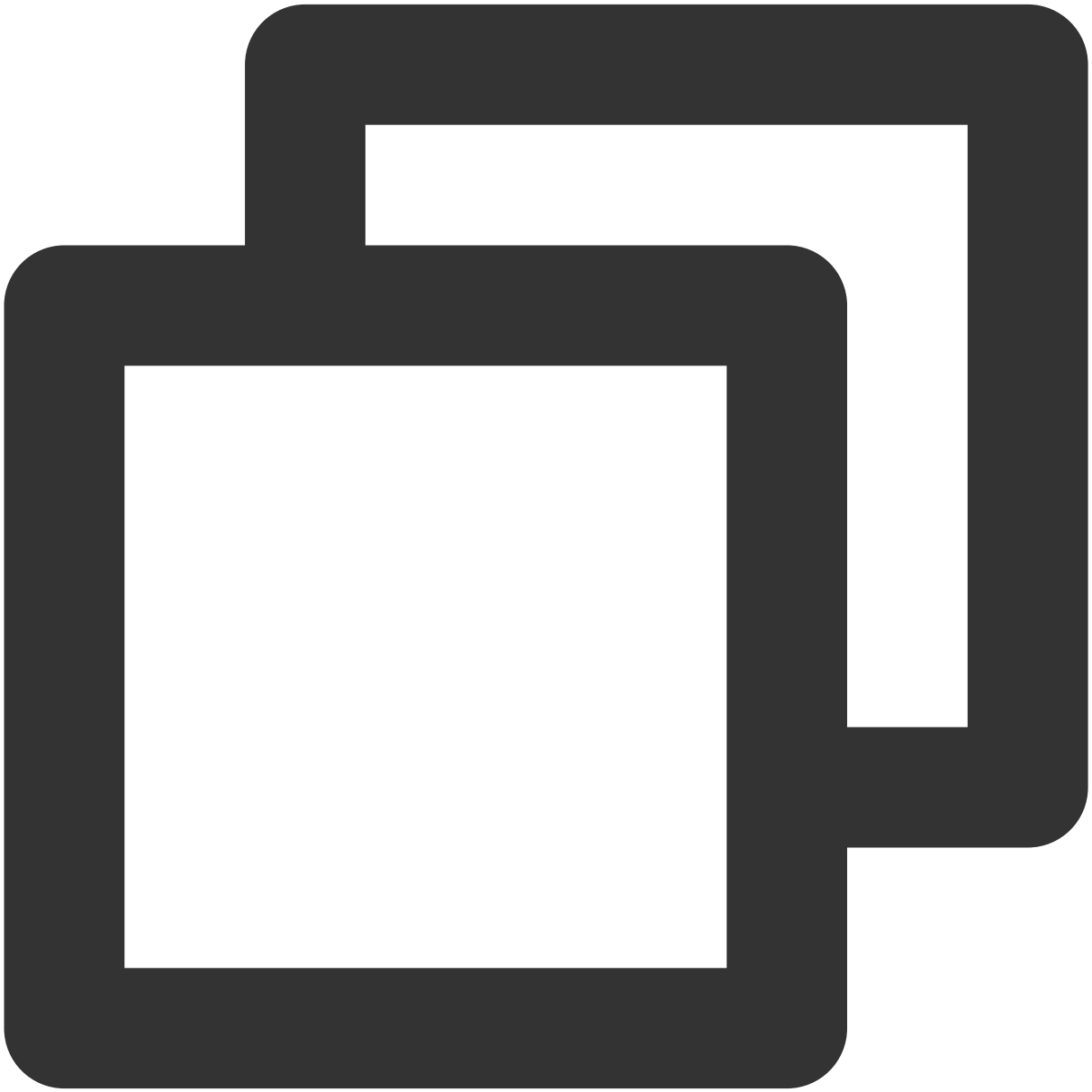
The parameters are described below:

Parameter	Type	Description
userName	String	The username.
avatar	String	The address of the profile photo.
callback	ActionCallback	Callback for profile setting. The code is `0` if the operation succeeds.

Room APIs

createRoom

This API is used to create a room (called by room owner).



```
public abstract void createRoom(int roomId, TRTCVoiceRoomDef.RoomParam roomParam, T
```

The parameters are described below:

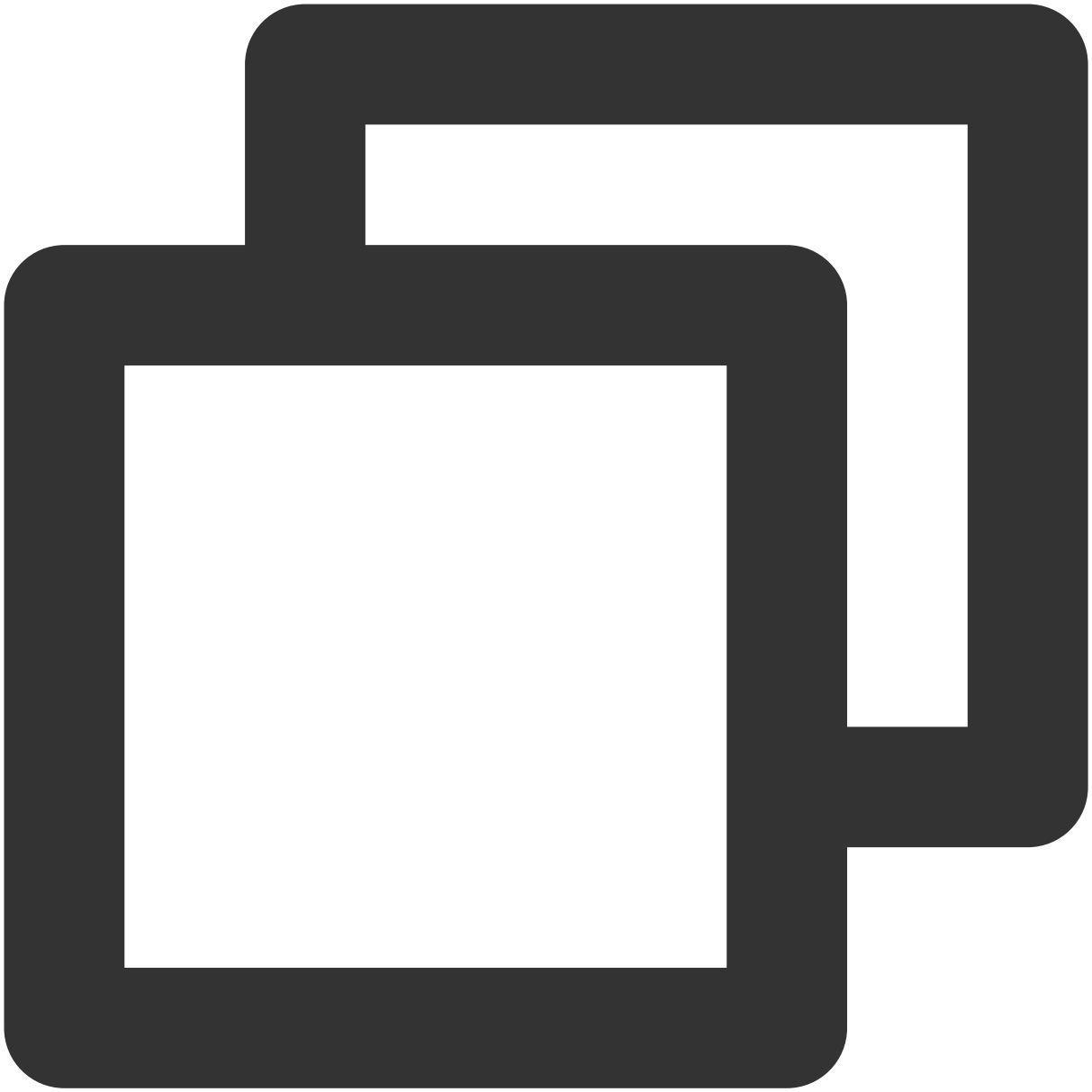
Parameter	Type	Description
roomId	int	The room ID. You need to assign and manage the IDs in a centralized manner. Multiple `roomID` values can be aggregated into a karaoke room list. Currently, Tencent Cloud does not provide management services for room lists. Please manage your own room lists.

roomParam	TRTCCreateRoomParam	Room information, such as room name, seat list information, and cover information. To manage seats, you must enter the number of seats in the room.
callback	ActionCallback	Callback for room creation. The code is 0 if the operation succeeds.

The process of creating a karaoke room and becoming a speaker is as follows:
1. A user calls `createRoom` to create an audio chat room, passing in room attributes (e.g. room ID, whether listeners require room owner's consent to speak, number of seats).
2. After creating the room, the user calls `enterSeat` to become a speaker.
3. The user will receive an `onSeatListChanget` notification about the change of the seat list, and can update the change to the UI.
4. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker, and mic capturing will be enabled automatically.

destroyRoom

This API is used to terminate a room (called by room owner).



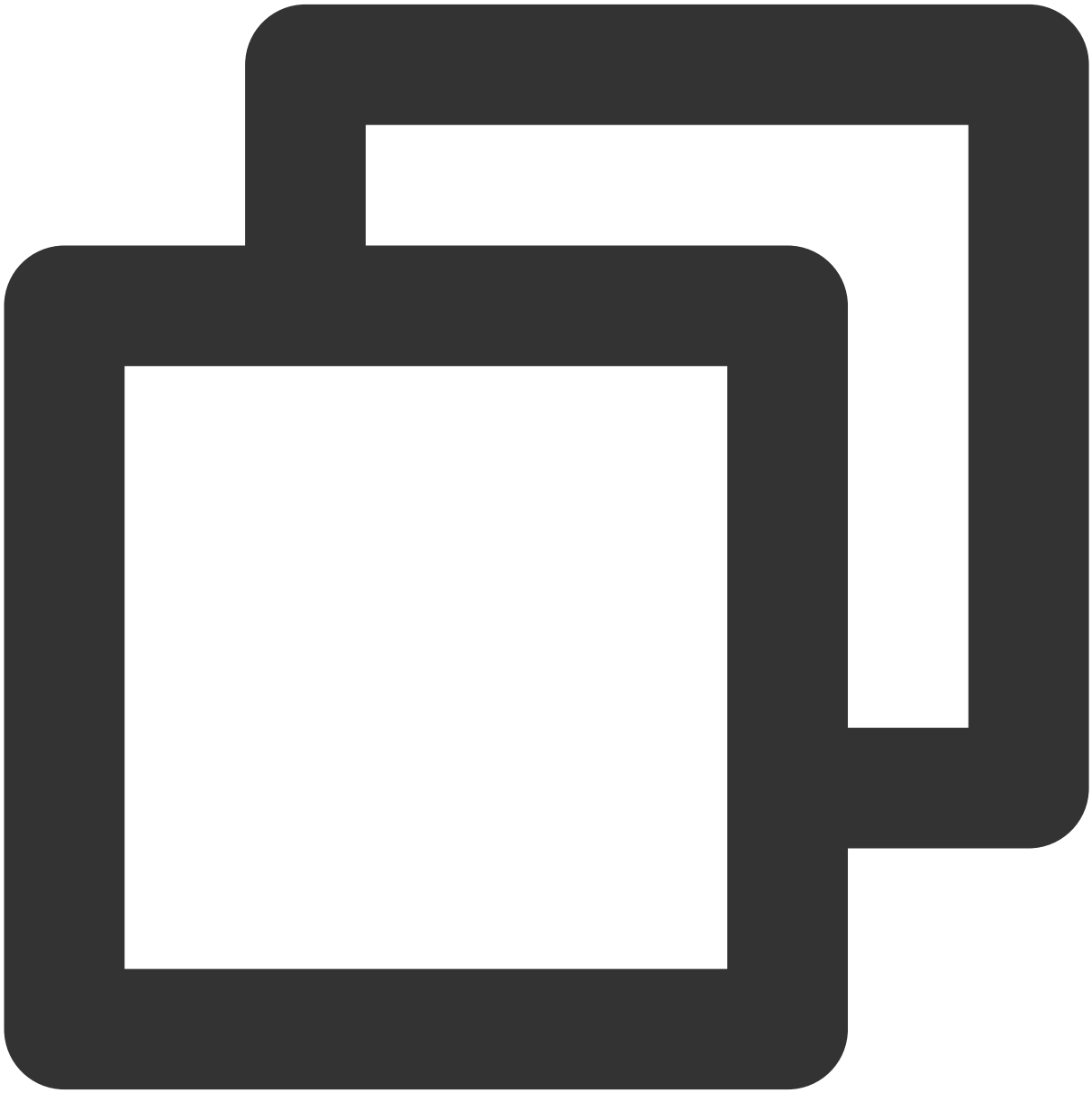
```
public abstract void destroyRoom(TRTCVoiceRoomCallback.ActionCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	Callback for room termination. The code is `0` if the operation succeeds.

enterRoom

This API is used to enter a room (called by listener).



```
public abstract void enterRoom(int roomId, TRTCVoiceRoomCallback.ActionCallback cal
```

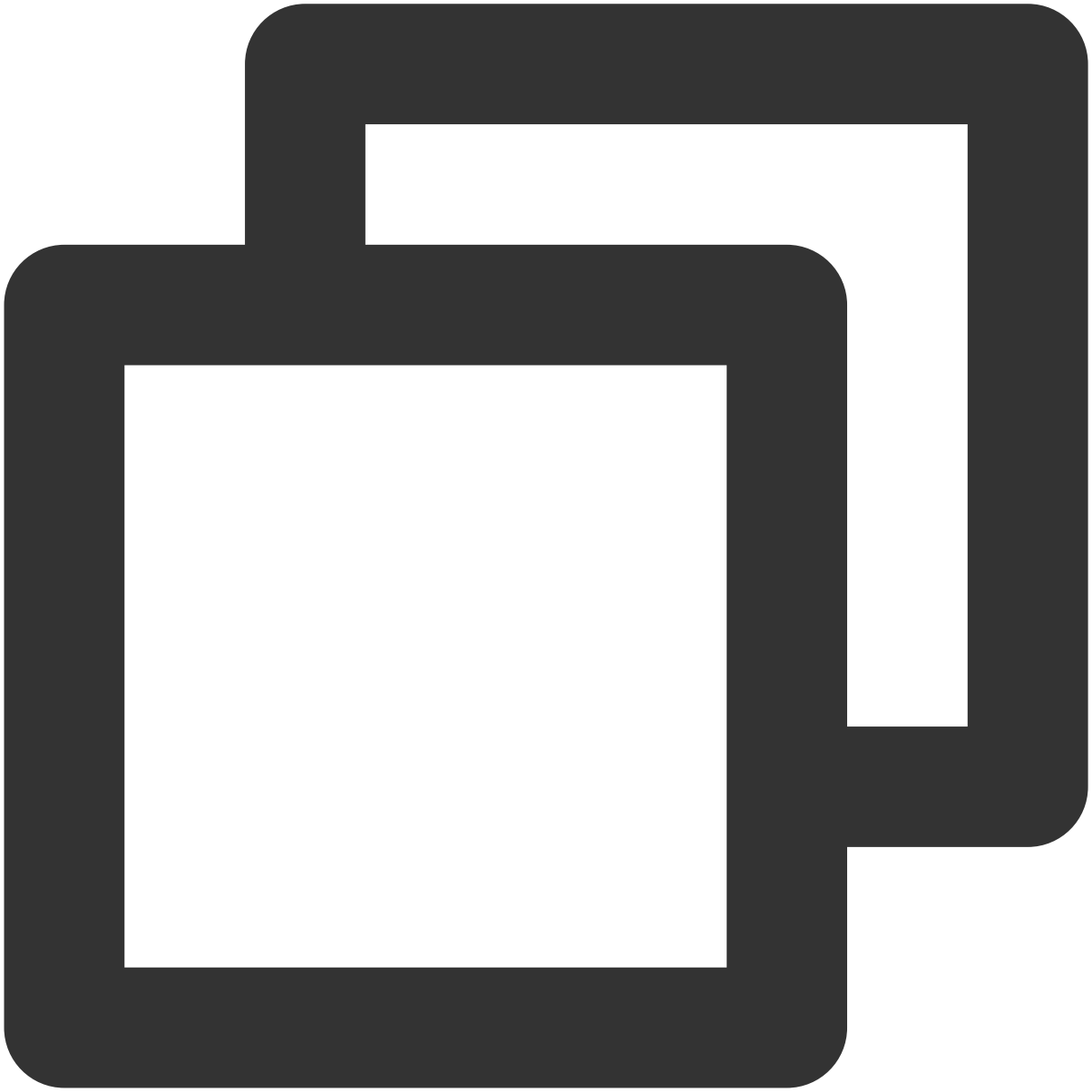
The parameters are described below:

Parameter	Type	Description
roomId	int	The room ID.
callback	ActionCallback	Callback for room entry. The code is `0` if the operation succeeds.

The process of entering a room as a listener is as follows:
1. A user gets the latest audio chat room list from your server. The list may contain the `roomId` and room information of multiple audio chat rooms.
2. The user selects a room, and calls `enterRoom` with the room ID passed in to enter the room.
3. After entering the room, the user receives an `onRoomInfoChange` notification about room attribute change from the component. The attributes can be recorded, and corresponding changes can be made to the UI, including room name, whether room owner's consent is required for listeners to speak, etc.
4. The user will receive an `onSeatListChange` notification about the change of the seat list and can update the change to the UI.
5. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker.

exitRoom

Leave room



```
public abstract void exitRoom(TRTCVoiceRoomCallback.ActionCallback callback);
```

The parameters are described below:

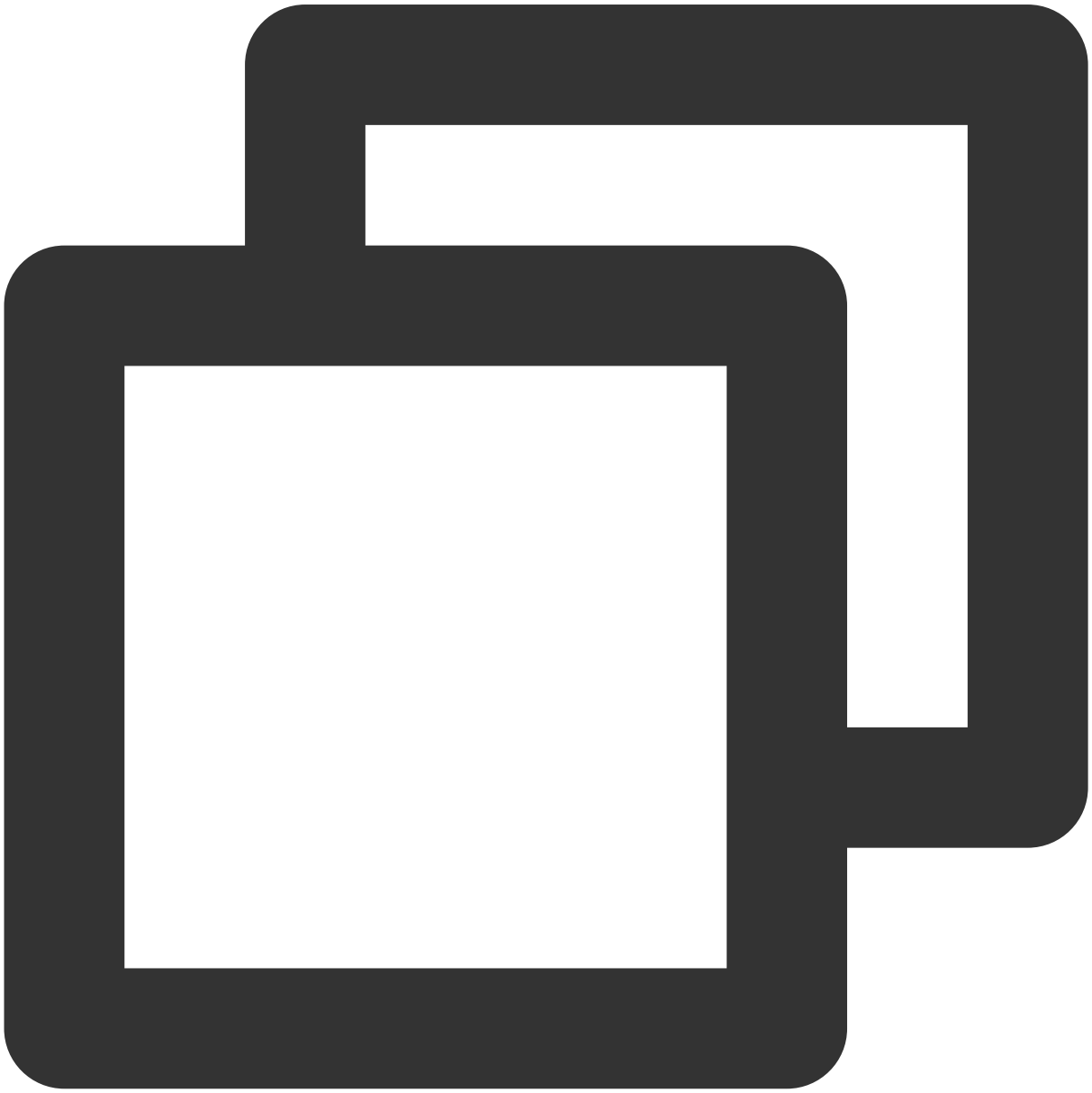
Parameter	Type	Description
callback	ActionCallback	Callback for room exit. The code is `0` if the operation succeeds.

getRoomInfoList

This API is used to get room list details. The room name and cover are set by the room owner via `roomInfo` when calling `createRoom()` .

Note

You don’t need this API if both the room list and room information are managed on your server.



```
public abstract void getRoomInfoList(List<Integer> roomIdList, TRTCVoiceRoomCallbac
```

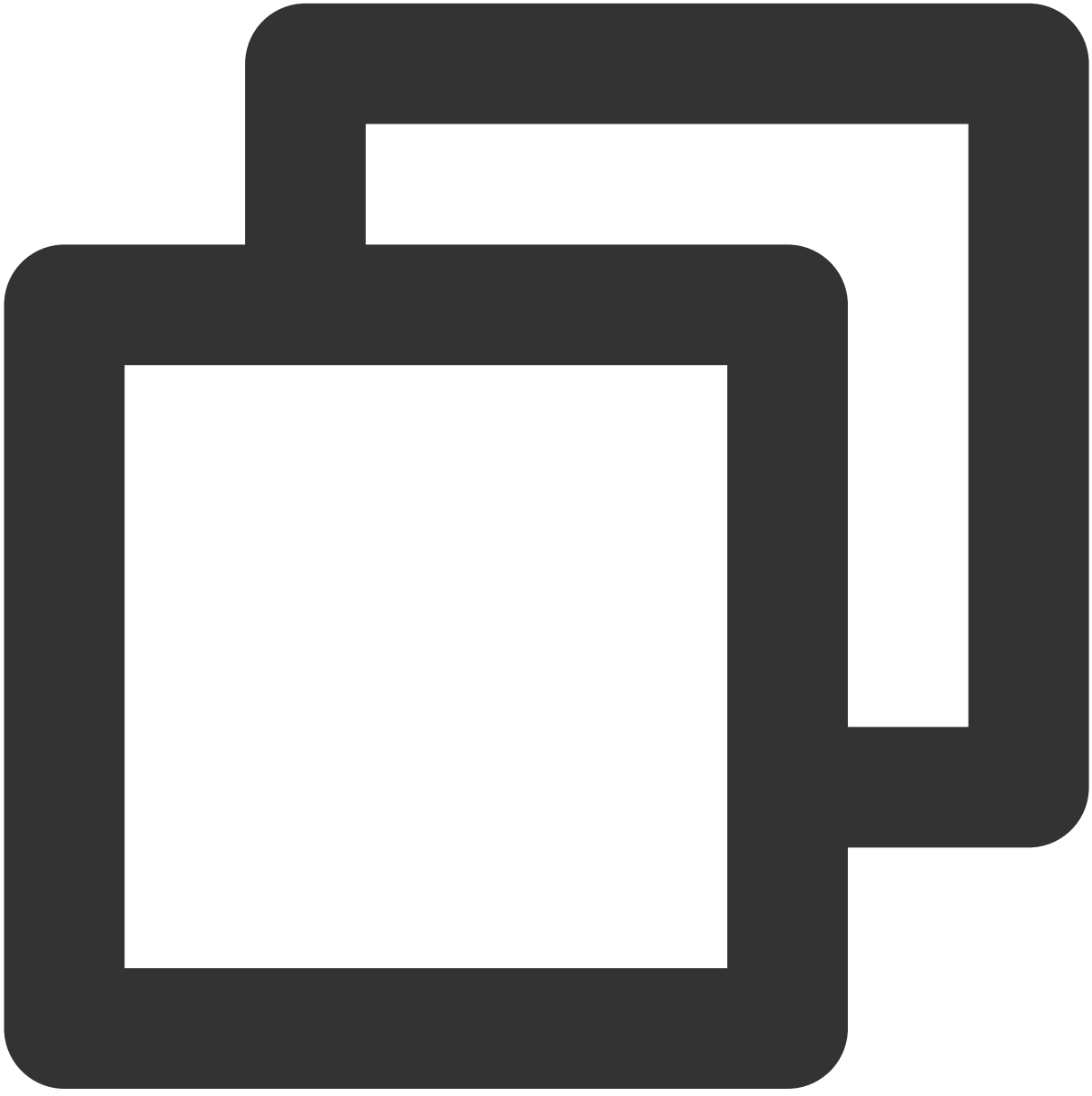
The parameters are described below:

Parameter	Type	Description

roomIdList	List<Integer>	Room ID list
callback	RoomInfoCallback	Callback of room details

getUserInfoList

This API is used to get the user information of a specified `userId` .



```
public abstract void getUserInfoList(List<String> userIdList, TRTCVoiceRoomCallback
```

The parameters are described below:

Parameter	Type	Description
userIdList	List<String>	IDs of the users to query. If this parameter is `null`, the information of all users in the room is queried.
userlistcallback	UserListCallback	Callback of user details

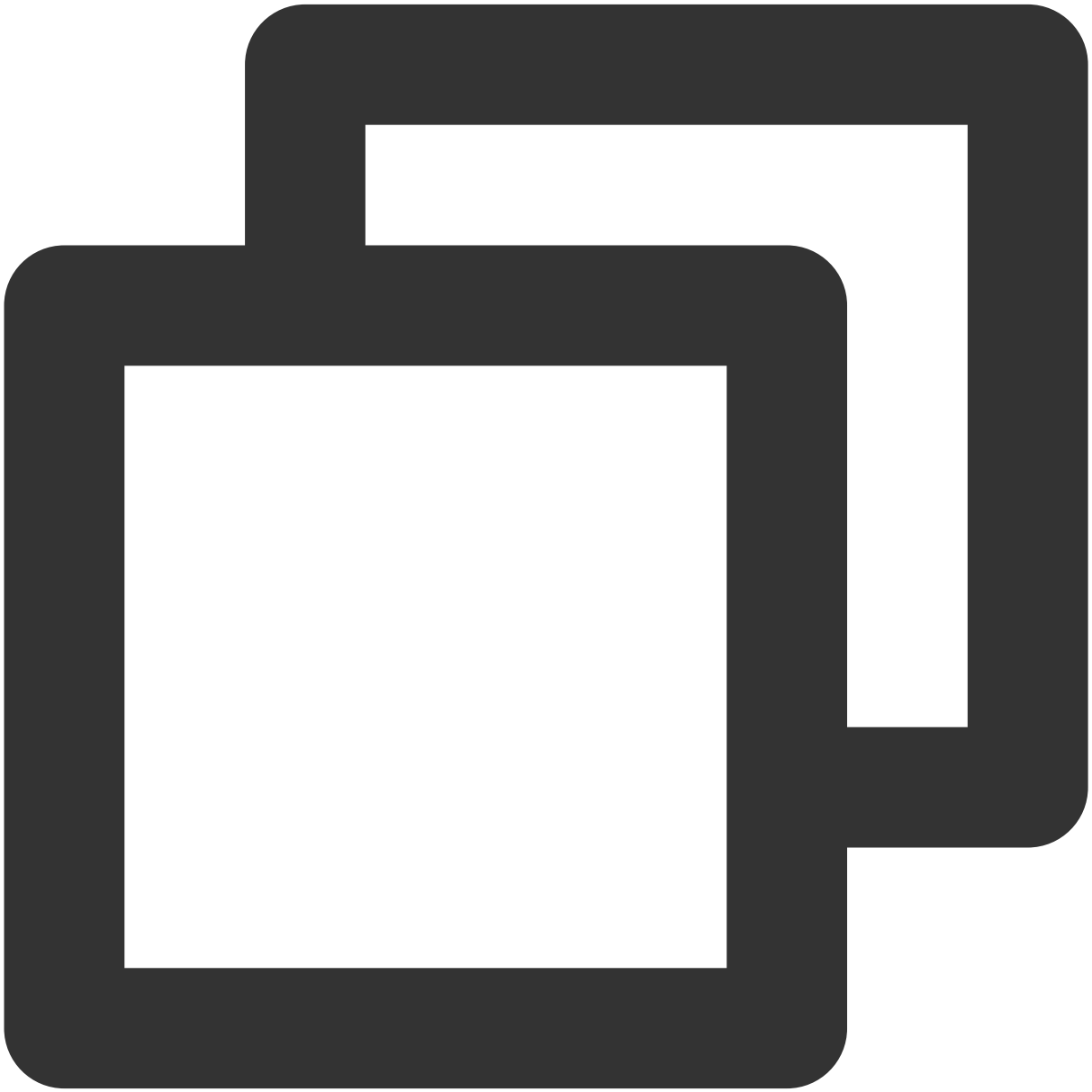
Seat Management APIs

enterSeat

This API is used to become a speaker (called by room owner or listener).

Note

After a user becomes a speaker, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
public abstract void enterSeat(int seatIndex, TRTCVoiceRoomCallback.ActionCallback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to take
callback	ActionCallback	Callback for the operation

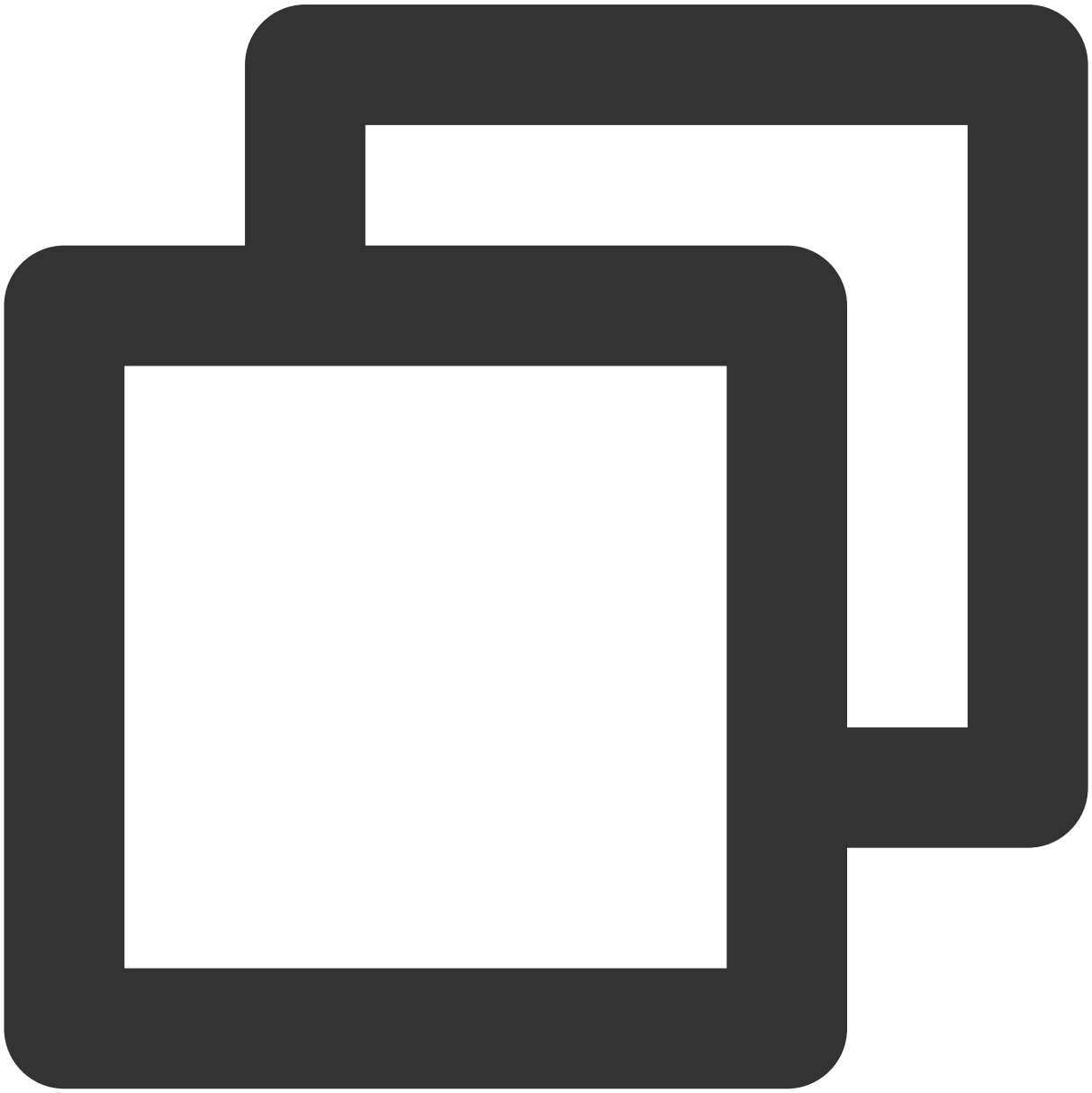
Calling this API will immediately modify the seat list. In cases where listeners need the room owner's consent to take a seat, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept`, call this API.

moveSeat

This API is used to change one's seat (called by speaker).

Note

After the seat change, all users in the room will receive the `onSeatListChange`, `onAnchorLeaveSeat`, and `onAnchorEnterSeat` notifications. This API will only change the user's seat number, not the user role.



```
public abstract int moveSeat(int seatIndex, TRTCVoiceRoomCallback.ActionCallback ca
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to change to
callback	ActionCallback	Callback for the operation

Response parameters:

Parameter	Type	Description
code	int	Result of seat change. `0` : operation successful; `10001` : API rate limit exceeded; other values: operation failed

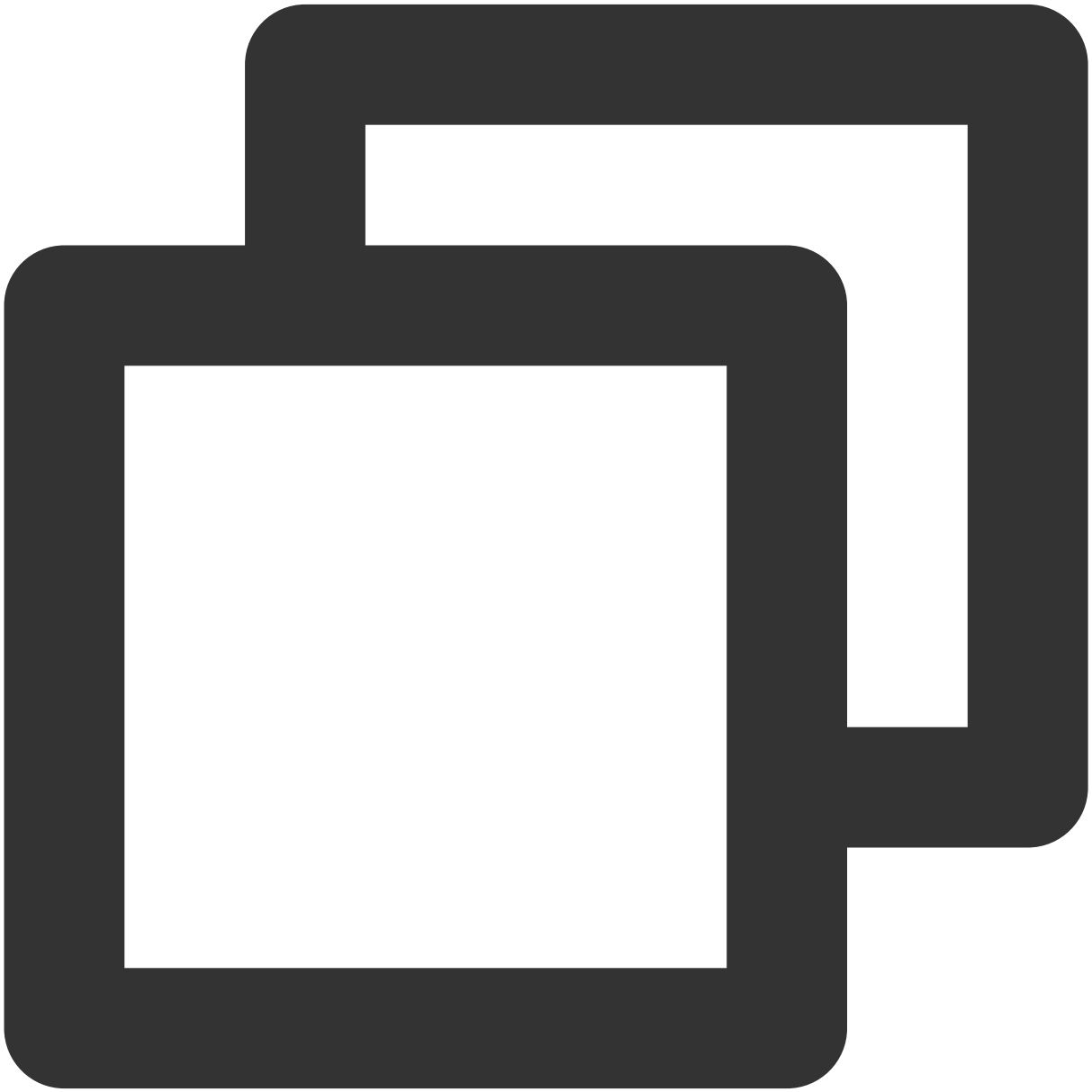
Calling this API will immediately modify the seat list. In cases where listeners need the room owner's consent to take a seat, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept` , call this API.

leaveSeat

This API is used to become a listener (called by speaker).

Note

After a speaker becomes a listener, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
public abstract void leaveSeat(TRTCVoiceRoomCallback.ActionCallback callback);
```

The parameters are described below:

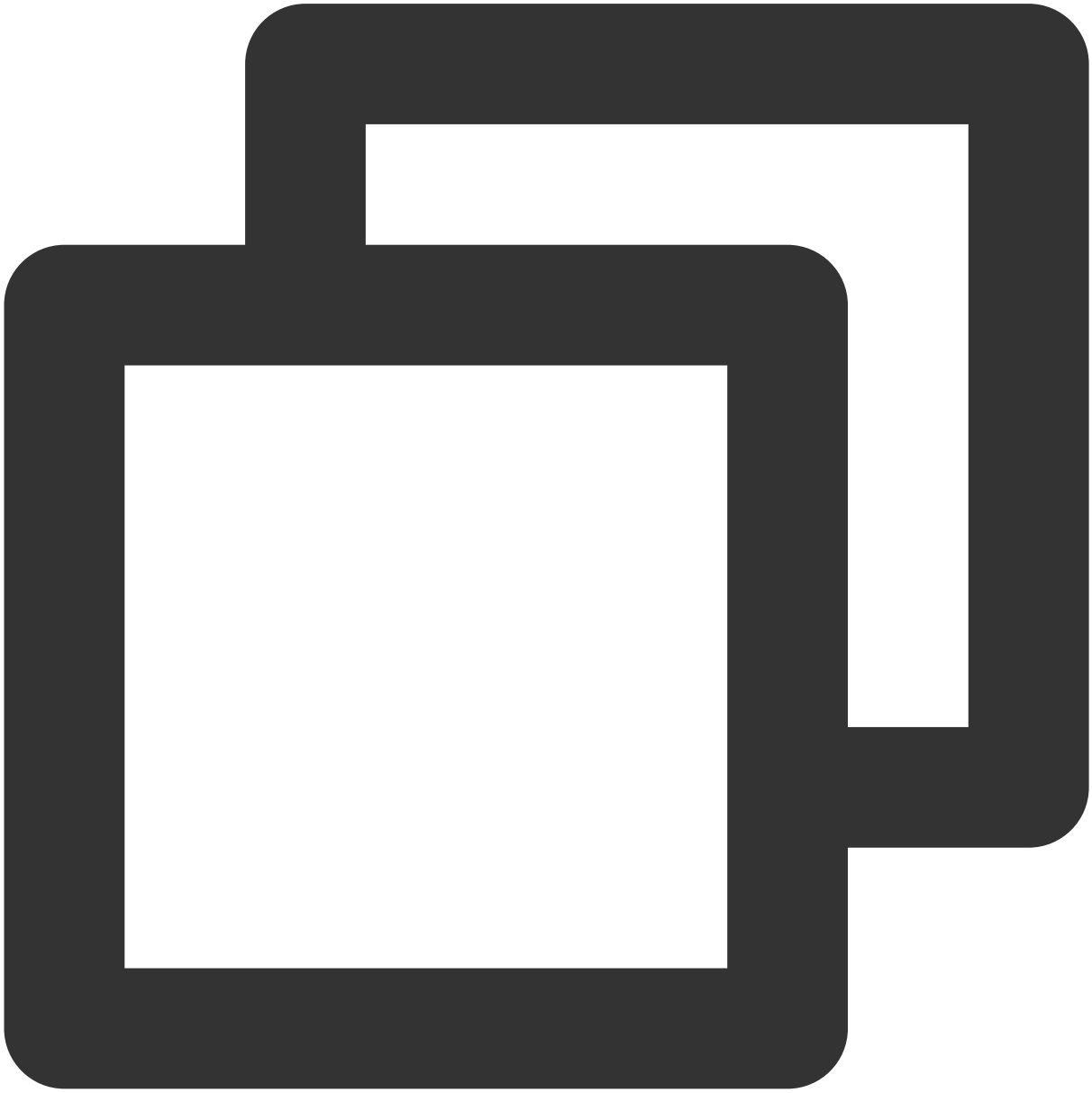
Parameter	Type	Description
callback	ActionCallback	Callback for the operation

pickSeat

This API is used to place a user in a seat (called by room owner).

Note

After the room owner places a user in a seat, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
public abstract void pickSeat(int seatIndex, String userId, TRTCVoiceRoomCallback.A
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to place the listener in

userId	String	User ID
callback	ActionCallback	Callback for the operation

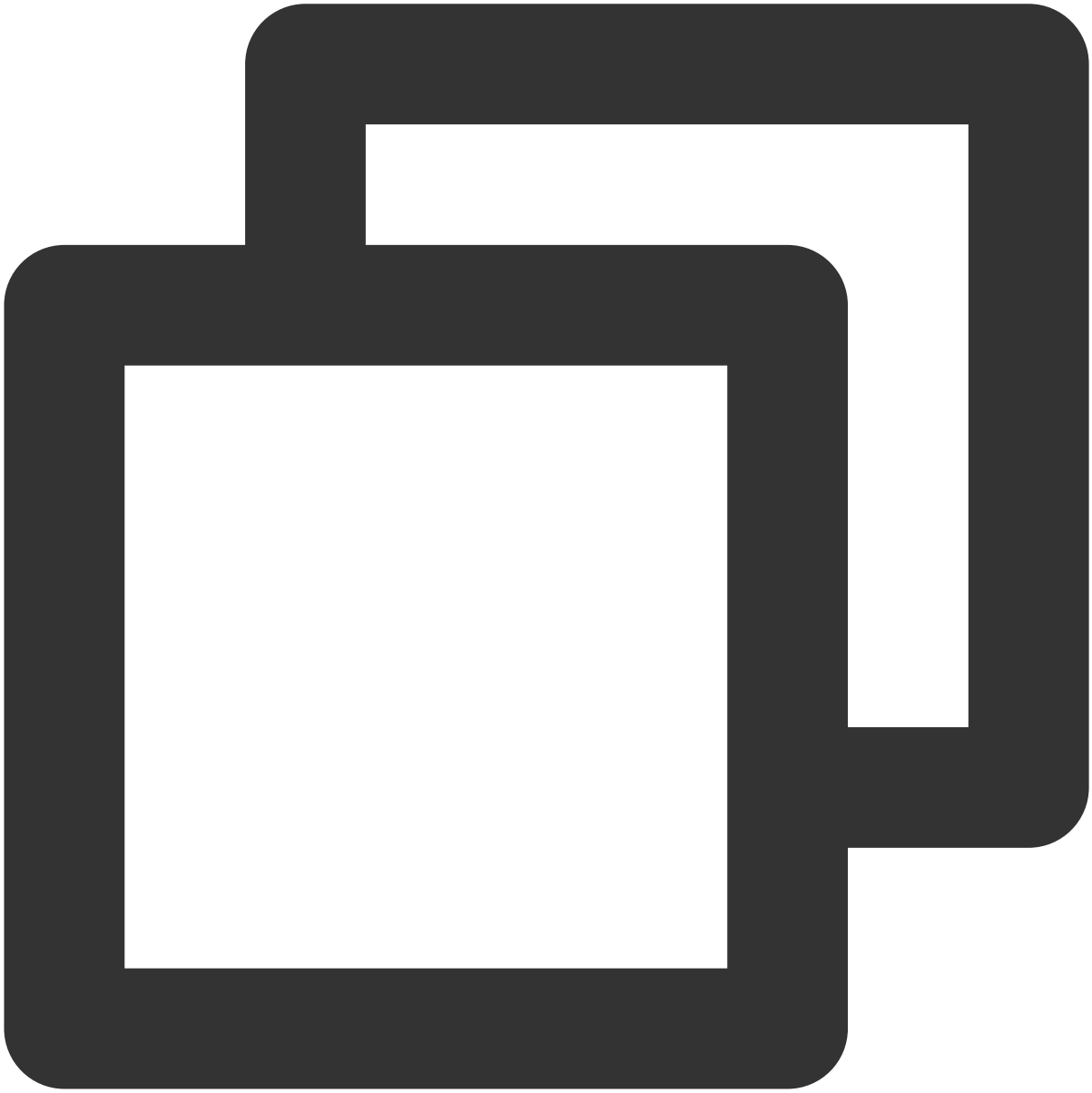
Calling this API will immediately modify the seat list. In cases where the room owner needs listeners' consent to make them speakers, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept`, call `pickSeat`.

kickSeat

This API is used to remove a speaker (called by room owner).

Note

After a speaker is removed, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
public abstract void kickSeat(int seatIndex, TRTCVoiceRoomCallback.ActionCallback c
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to remove the speaker from
callback	ActionCallback	Callback for the operation

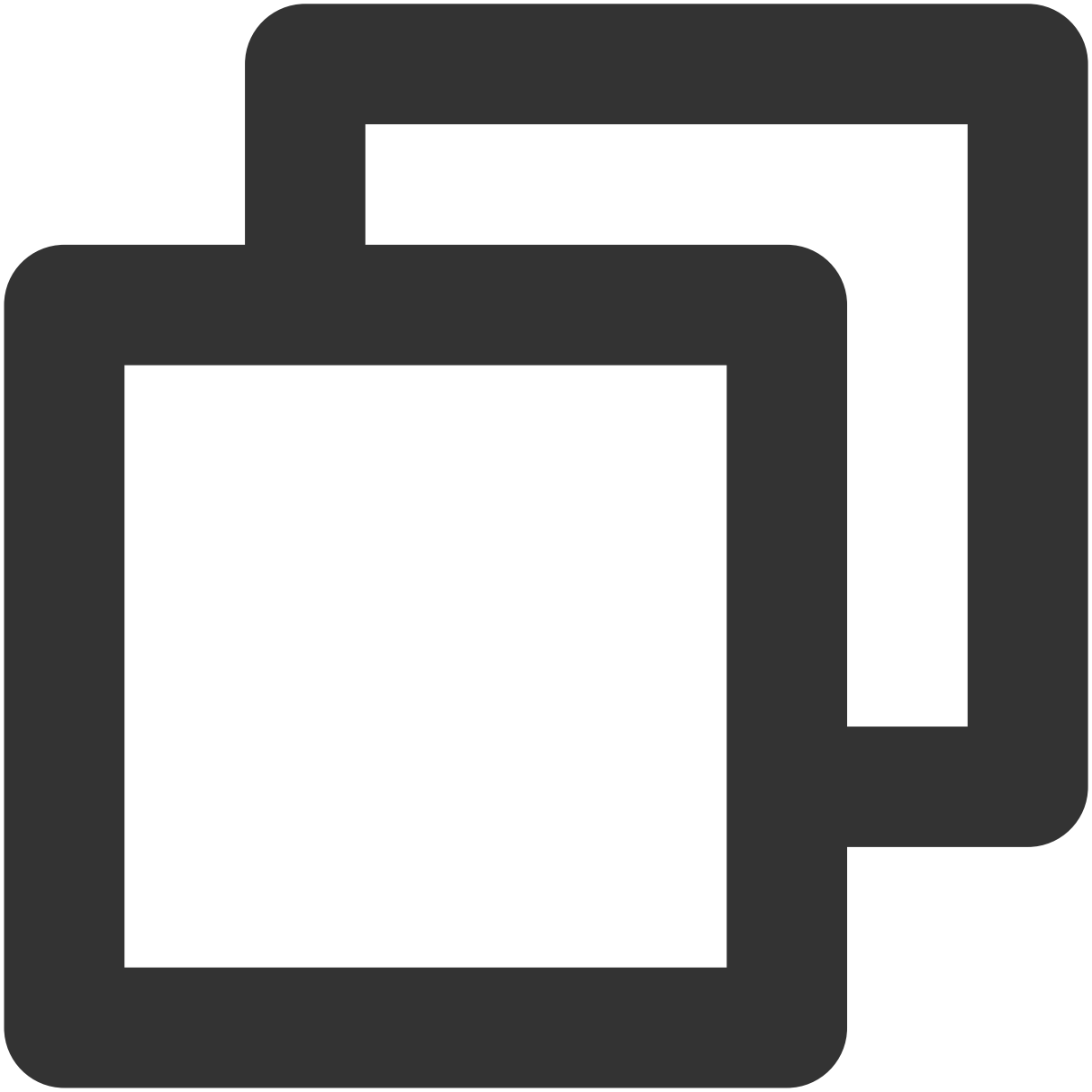
Calling this API will immediately modify the seat list.

muteSeat

This API is used to mute/unmute a seat (called by room owner).

Note

After a seat is muted/unmuted, all members in the room will receive an `onSeatListChange` notification and an `onSeatMute` notification.



```
public abstract void muteSeat(int seatIndex, boolean isMute, TRTCVoiceRoomCallback.
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to block/unblock
isMute	boolean	`true` : mute; `false` : unmute
callback	ActionCallback	Callback for the operation

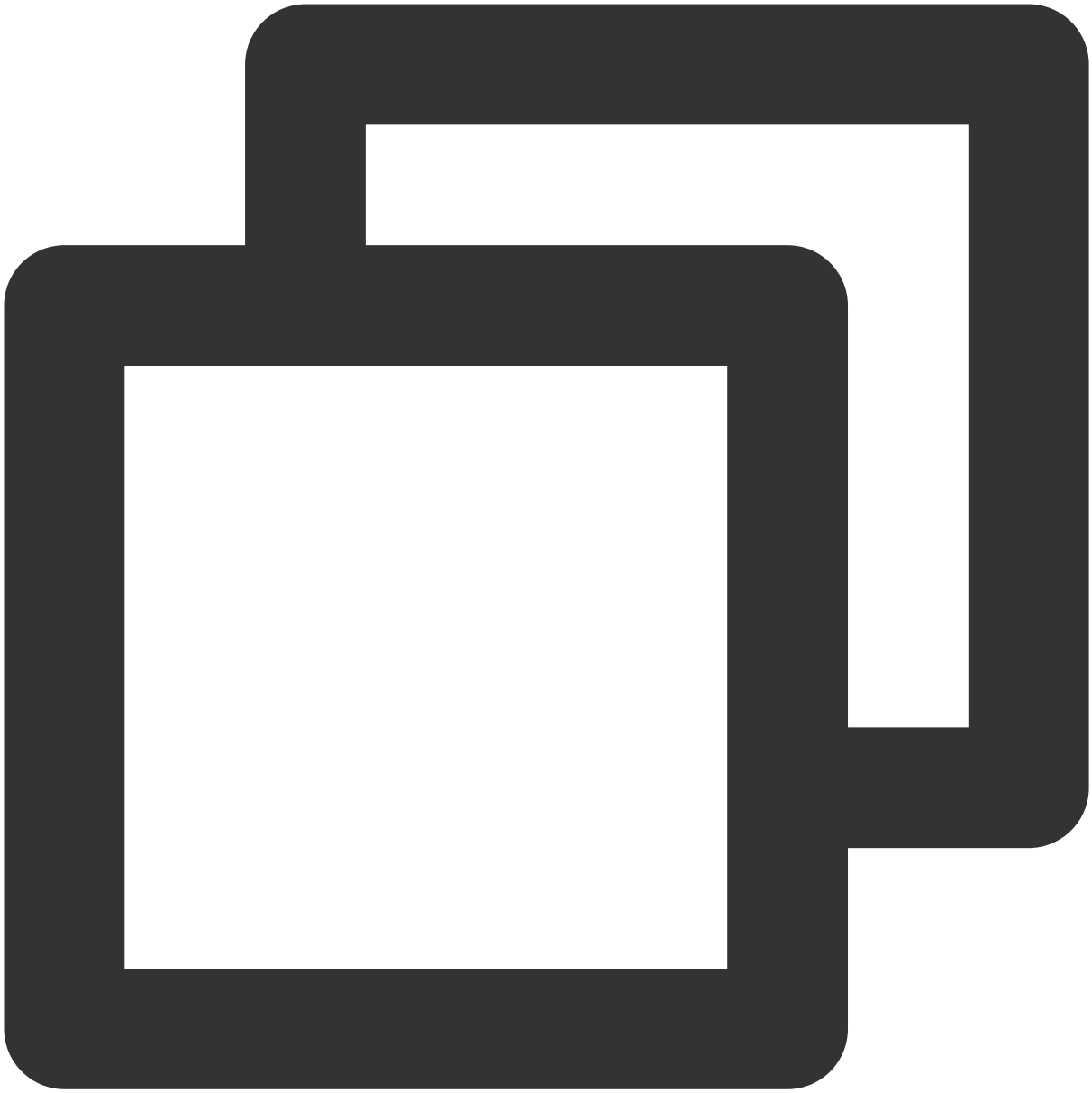
Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will call `muteAudio` to mute/unmute his or her audio.

closeSeat

This API is used to block/unblock a seat (called by room owner).

Note

After a seat is blocked/unblocked, all members in the room will receive an `onSeatListChange` notification and an `onSeatClose` notification.



```
public abstract void closeSeat(int seatIndex, boolean isClose, TRTCVoiceRoomCallbac
```

The parameters are described below:

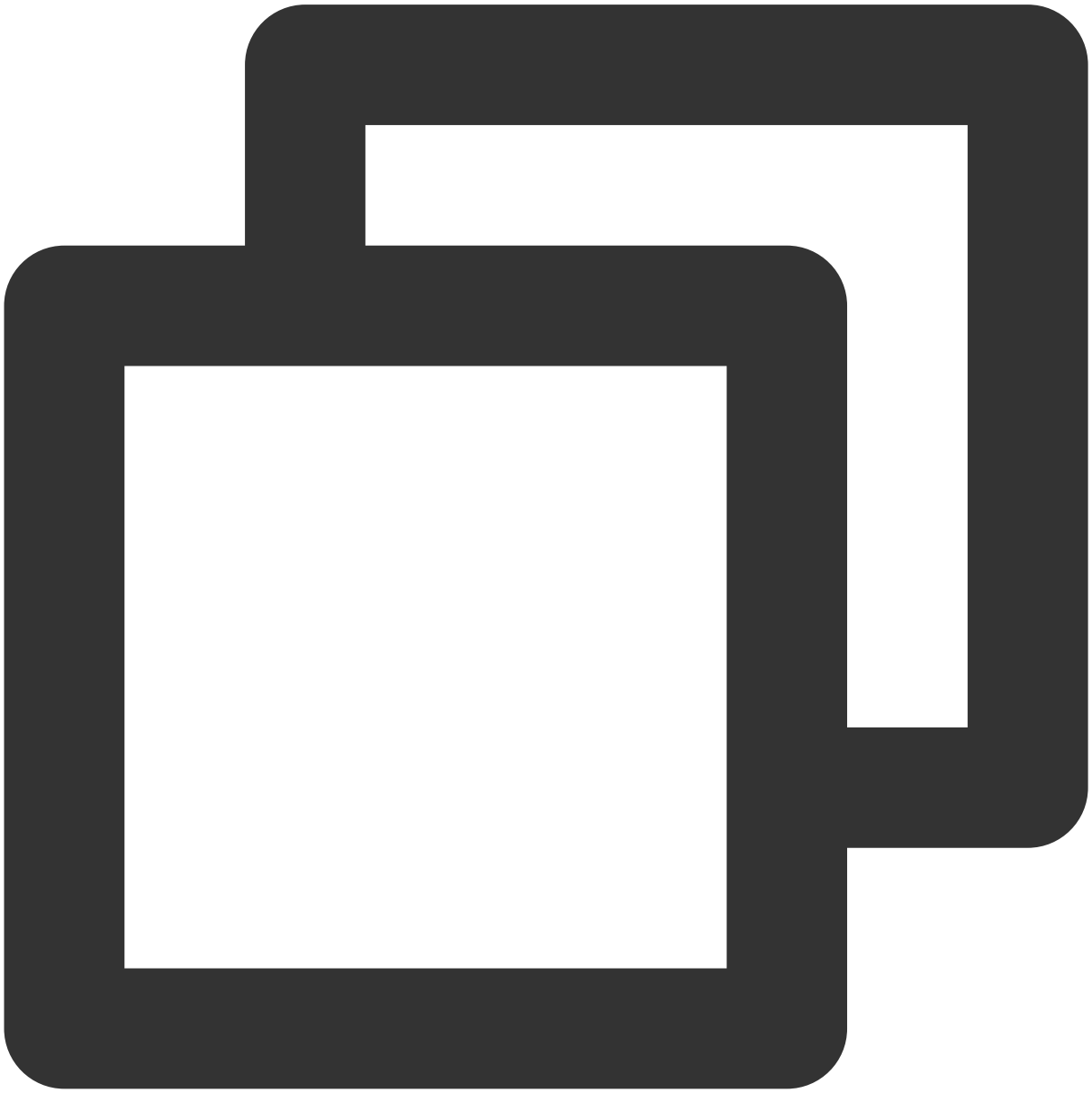
Parameter	Type	Description
seatIndex	int	The number of the seat to block/unblock
isClose	boolean	`true` : block; `false` : unblock
callback	ActionCallback	Callback for the operation

Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will leave the seat.

Local Audio APIs

startMicrophone

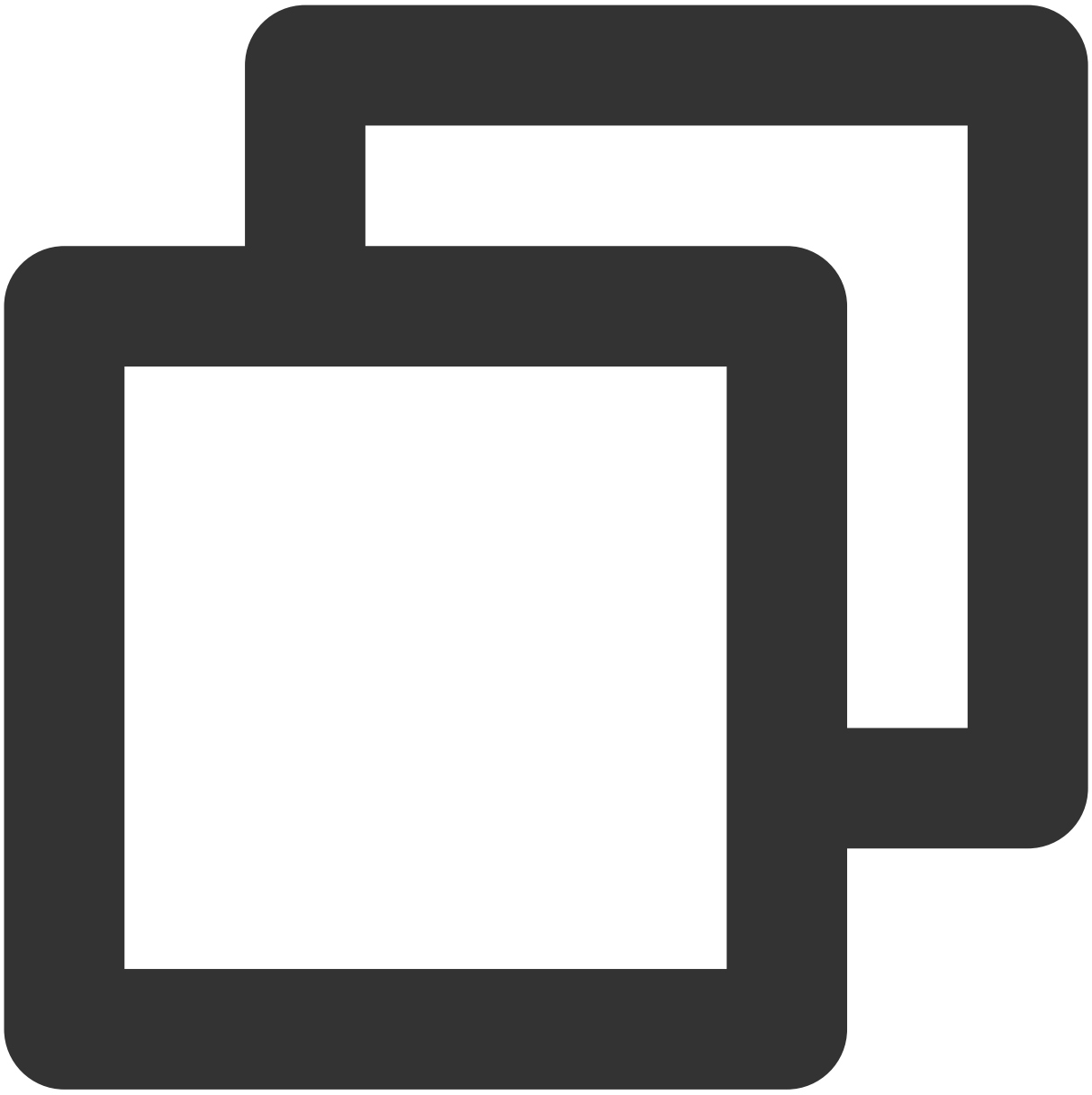
This API is used to start mic capturing.



```
public abstract void startMicrophone();
```

stopMicrophone

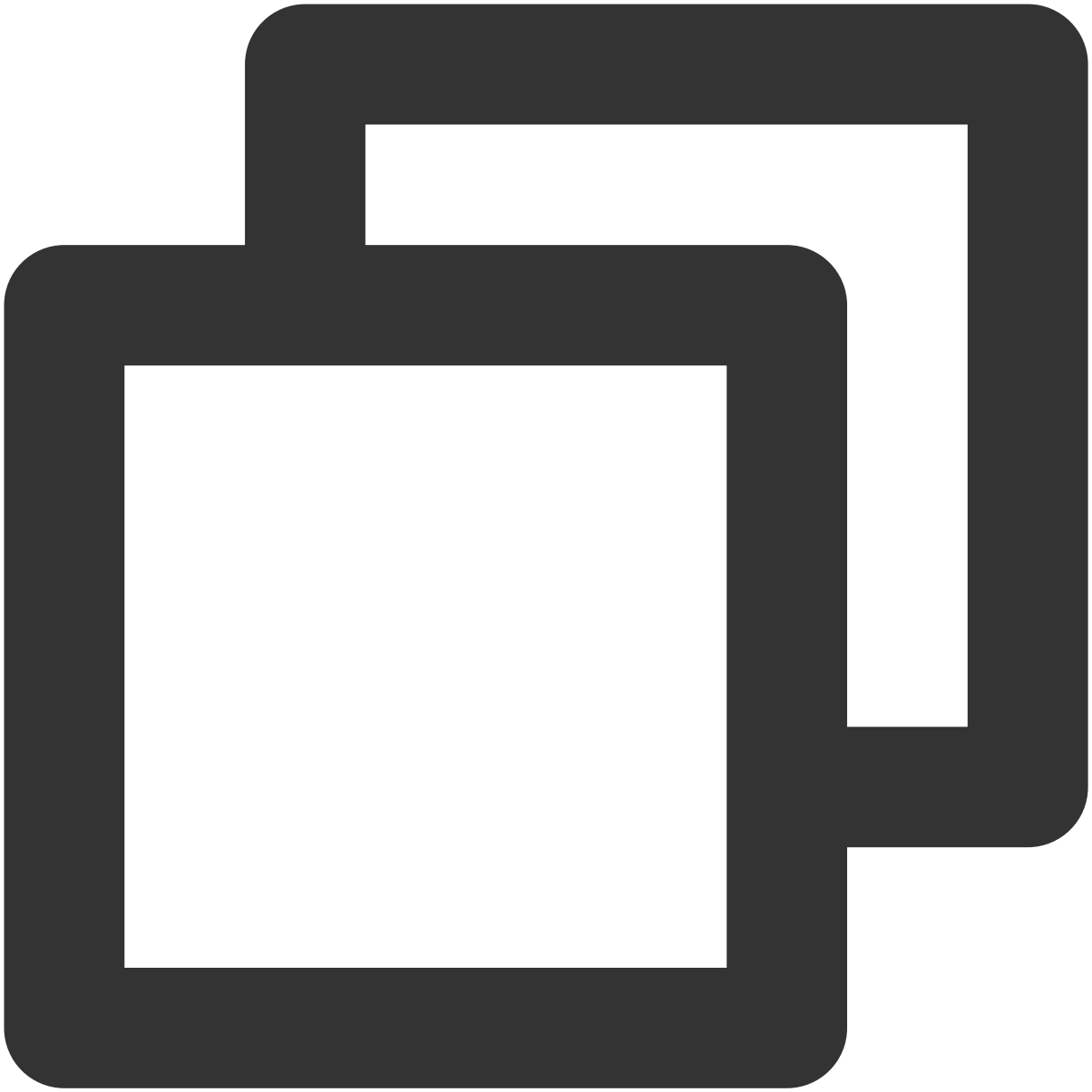
This API is used to stop mic capturing.



```
public abstract void stopMicrophone();
```

setAudioQuality

This API is used to set audio quality.



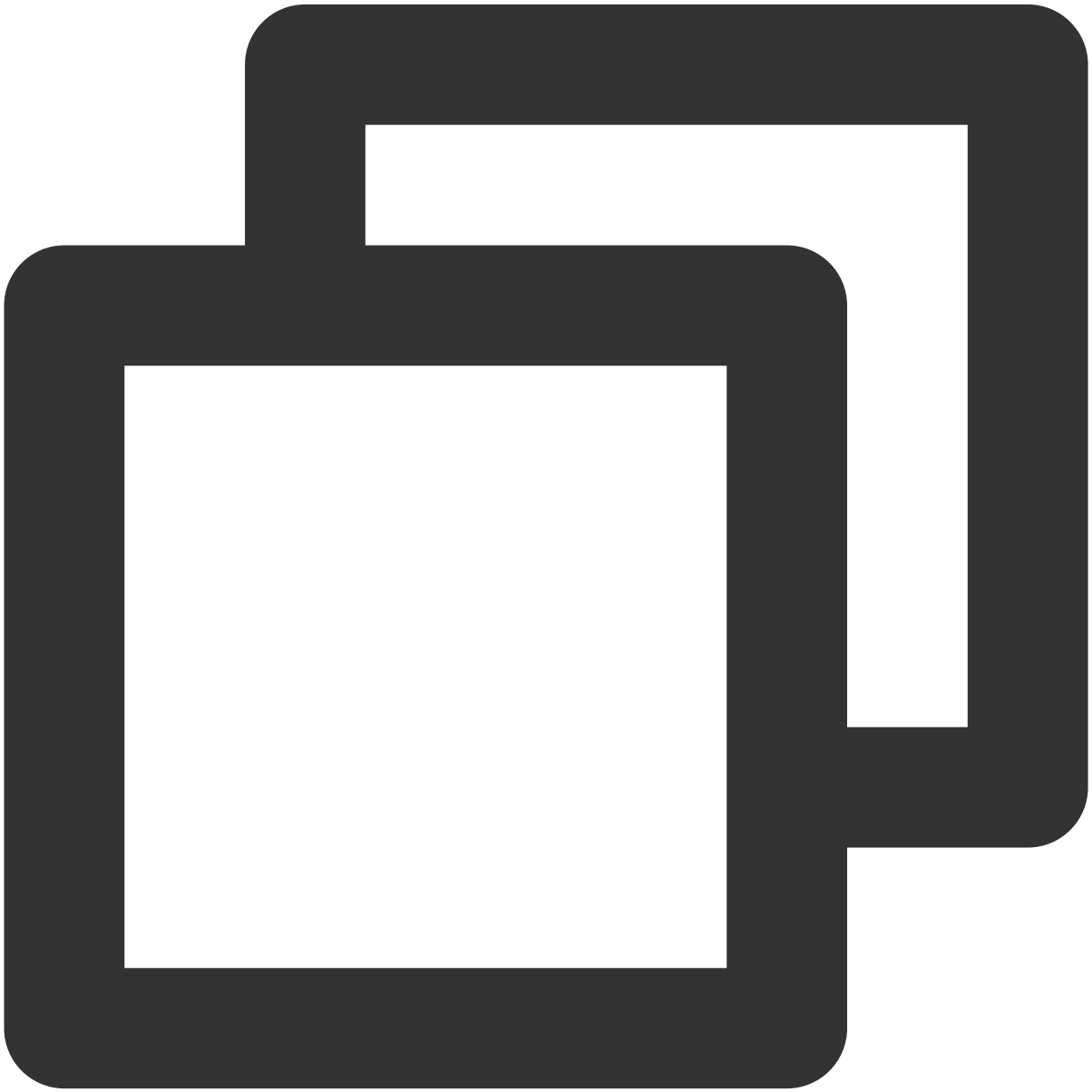
```
public abstract void setAudioQuality(int quality);
```

The parameters are described below:

Parameter	Type	Description
quality	int	The audio quality. For more information, see setAudioQuality().

muteLocalAudio

This API is used to mute/unmute local audio.



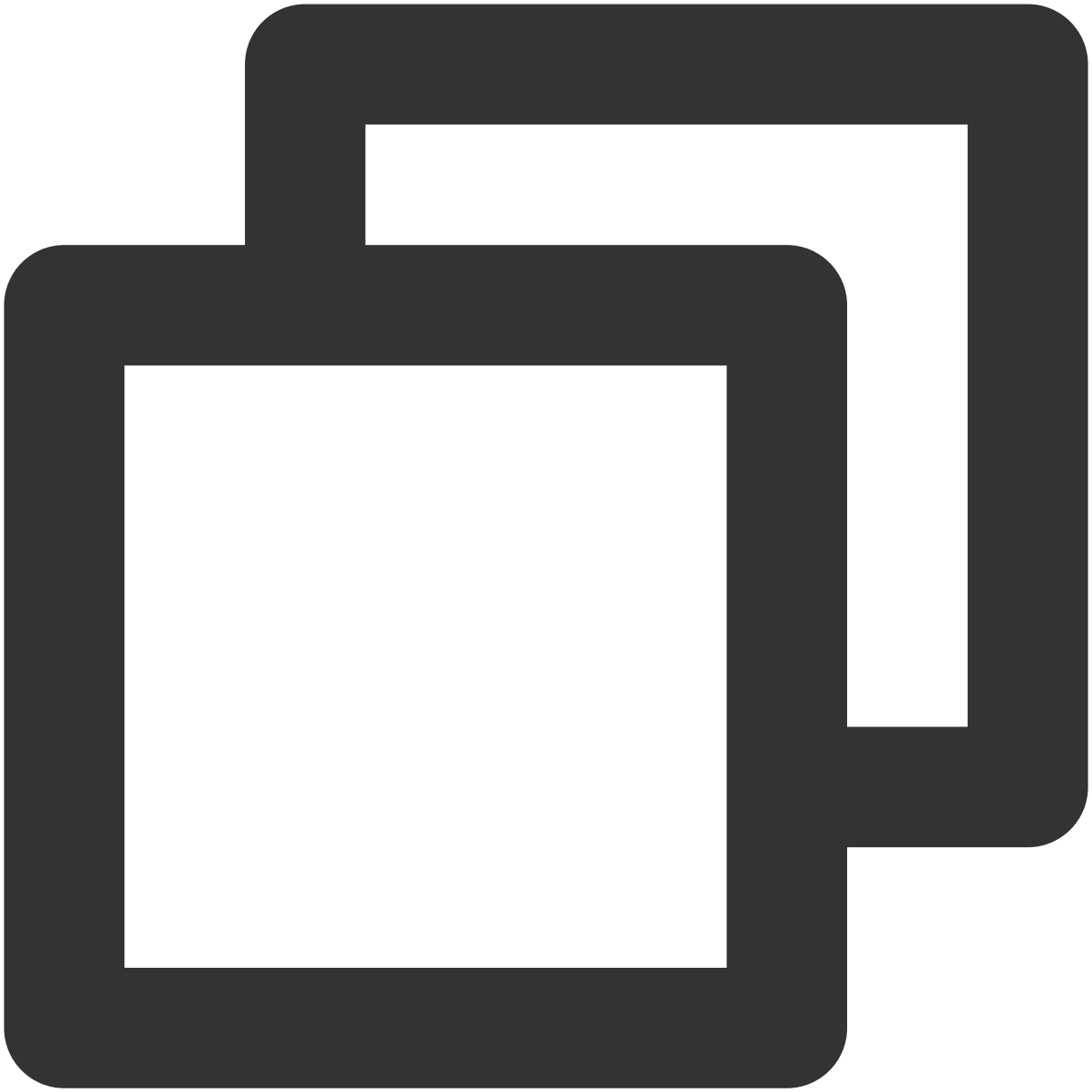
```
public abstract void muteLocalAudio(boolean mute);
```

The parameters are described below:

Parameter	Type	Description
mute	boolean	Whether to mute or unmute audio. For more information, see muteLocalAudio().

setSpeaker

This API is used to set whether to play sound from the device's speaker or receiver.



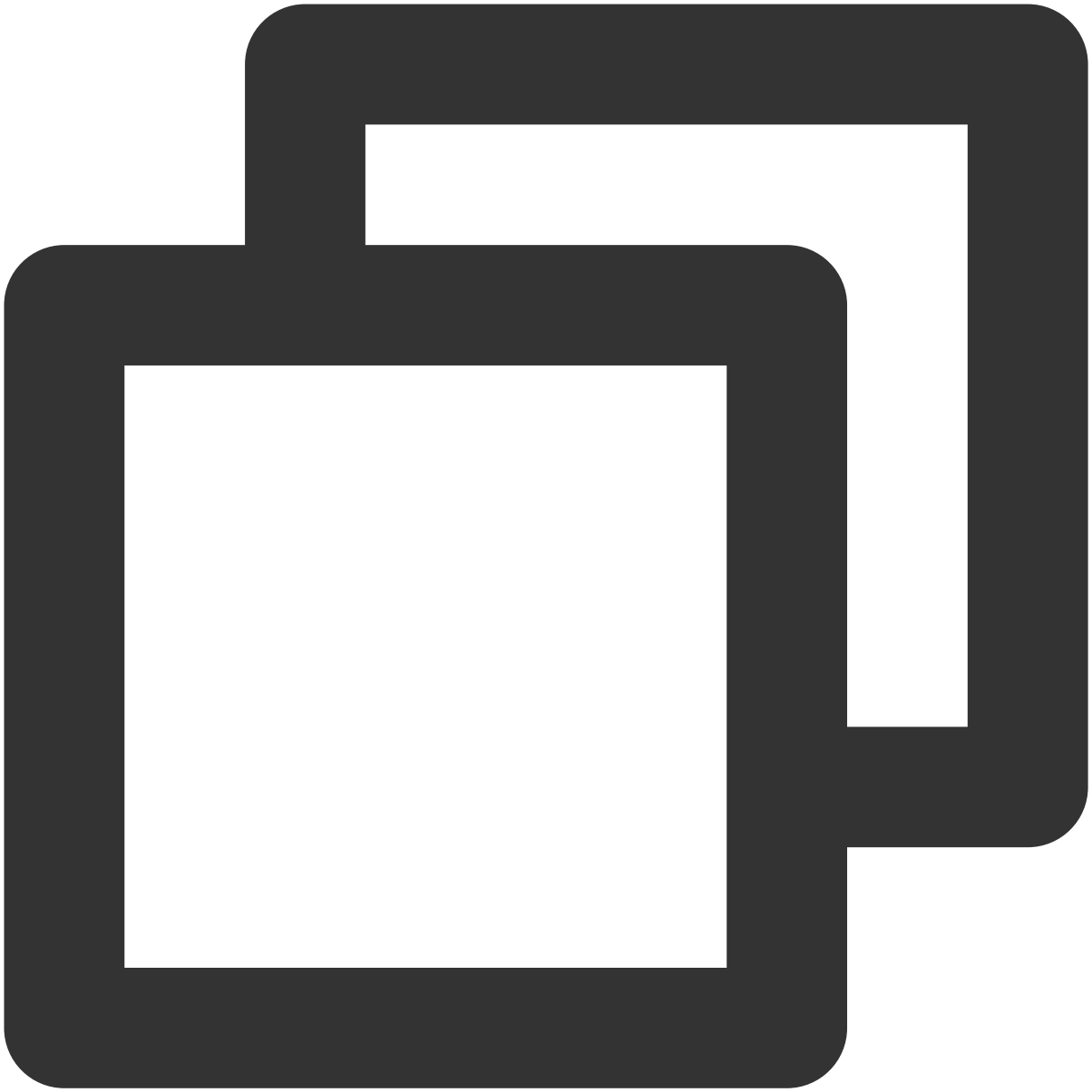
```
public abstract void setSpeaker(boolean useSpeaker);
```

The parameters are described below:

Parameter	Type	Description
useSpeaker	boolean	`true` : Speaker; `false` : Receiver

setAudioCaptureVolume

This API is used to set the mic capturing volume.



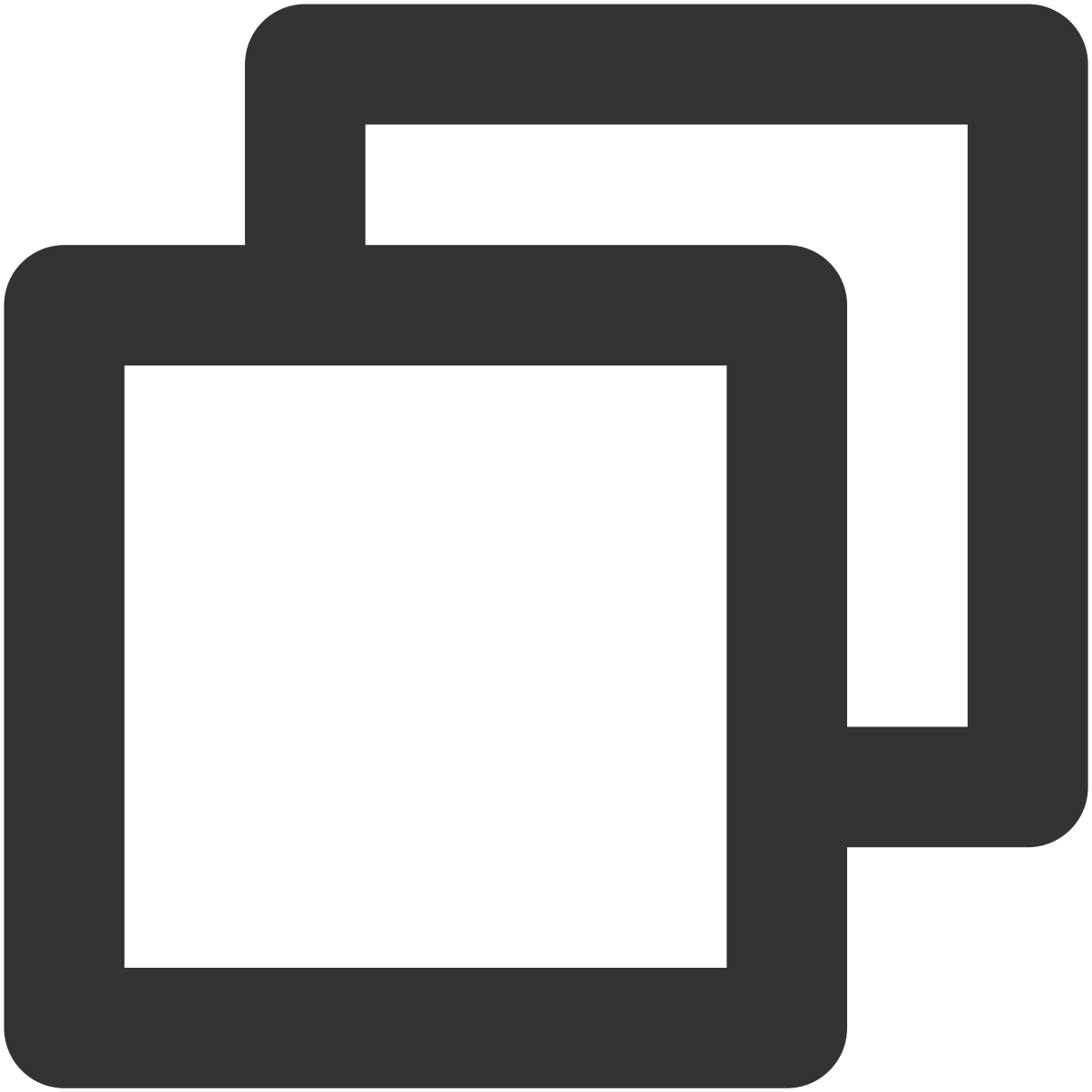
```
public abstract void setAudioCaptureVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	int	Capturing volume. Value range: 0-100 (default: 100)

setAudioPlayoutVolume

This API is used to set the playback volume.



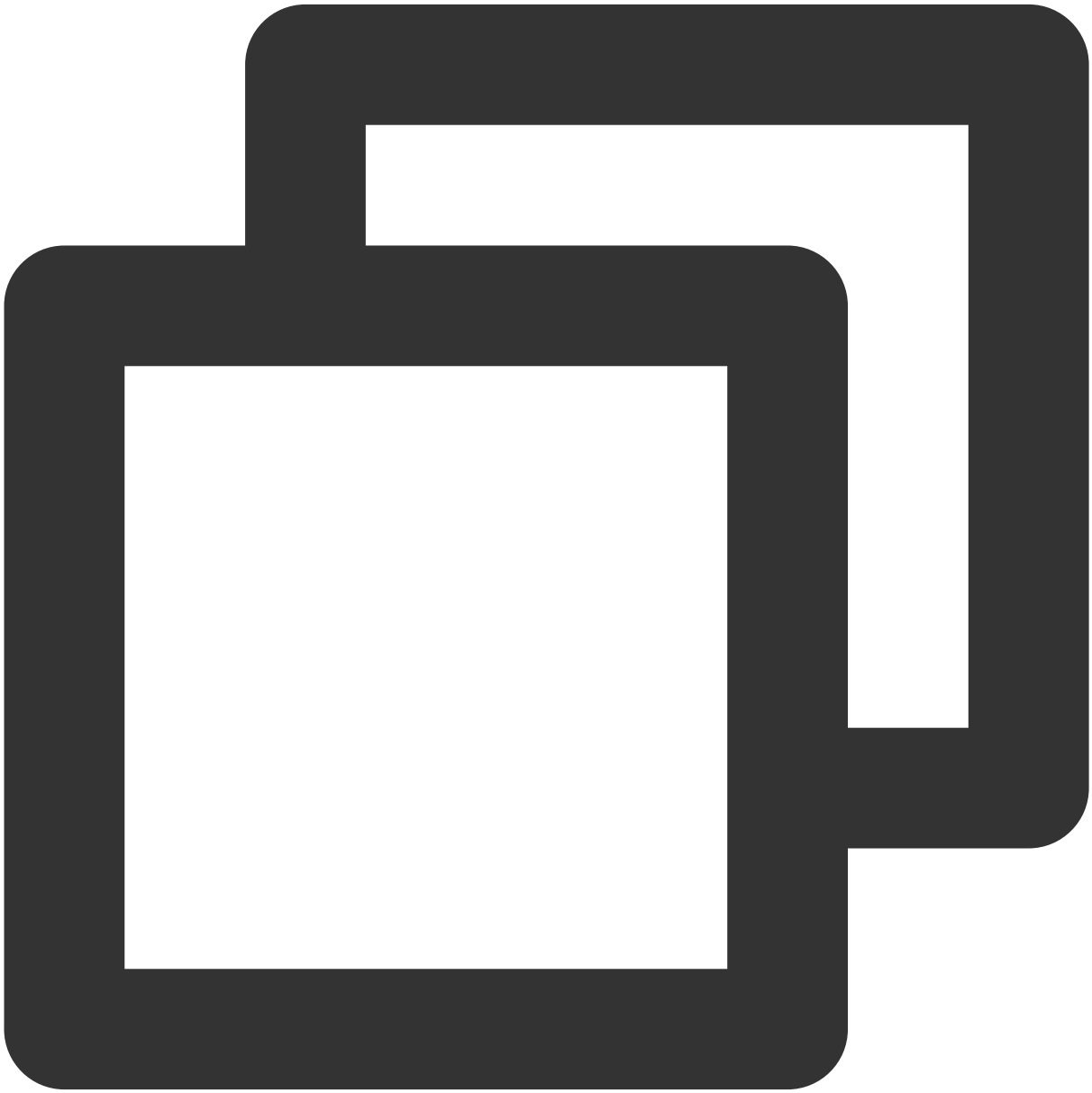
```
public abstract void setAudioPlayoutVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	int	Playback volume. Value range: 0-100 (default: 100)

muteRemoteAudio

This API is used to mute/unmute a specified user.



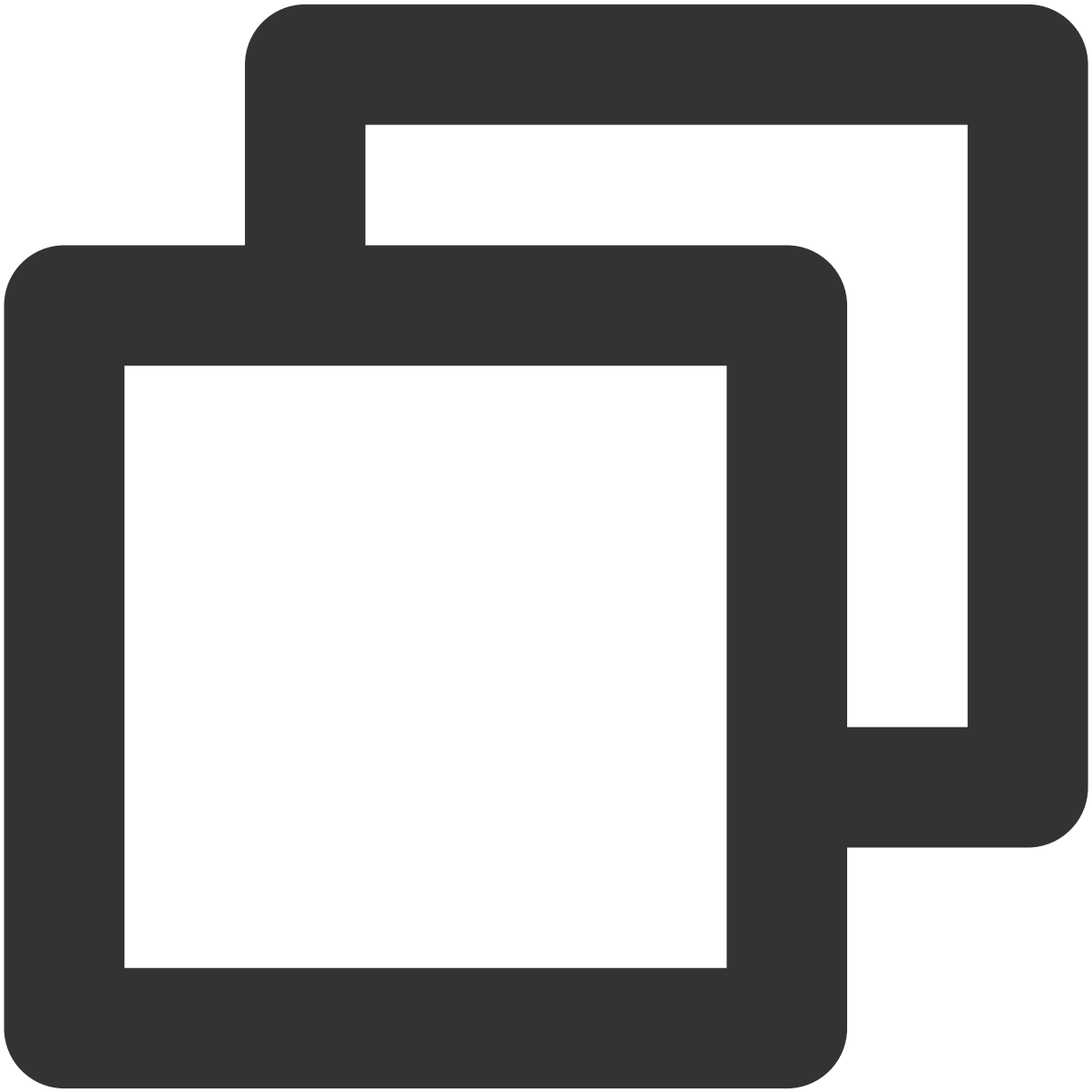
```
public abstract void muteRemoteAudio(String userId, boolean mute);
```

The parameters are described below:

Parameter	Type	Description
userId	String	User ID
mute	boolean	`true` : Mute; `false` : Unmute

muteAllRemoteAudio

This API is used to mute/unmute all users.



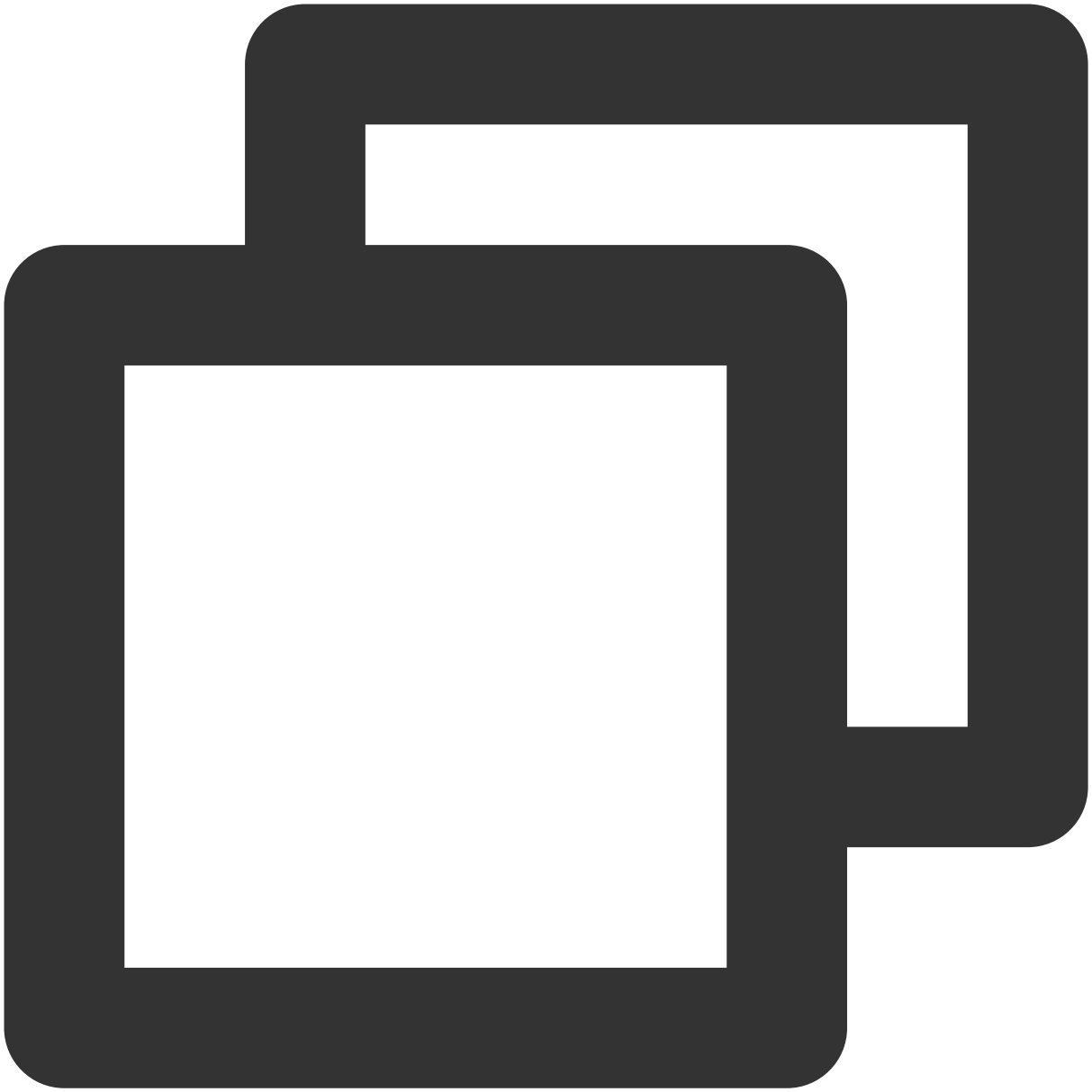
```
public abstract void muteAllRemoteAudio(boolean mute);
```

The parameters are described below:

Parameter	Type	Description
mute	boolean	`true` : Mute; `false` : Unmute

setVoiceEarMonitorEnable

This API is used to enable/disable in-ear monitoring.



```
public abstract void setVoiceEarMonitorEnable(boolean enable);
```

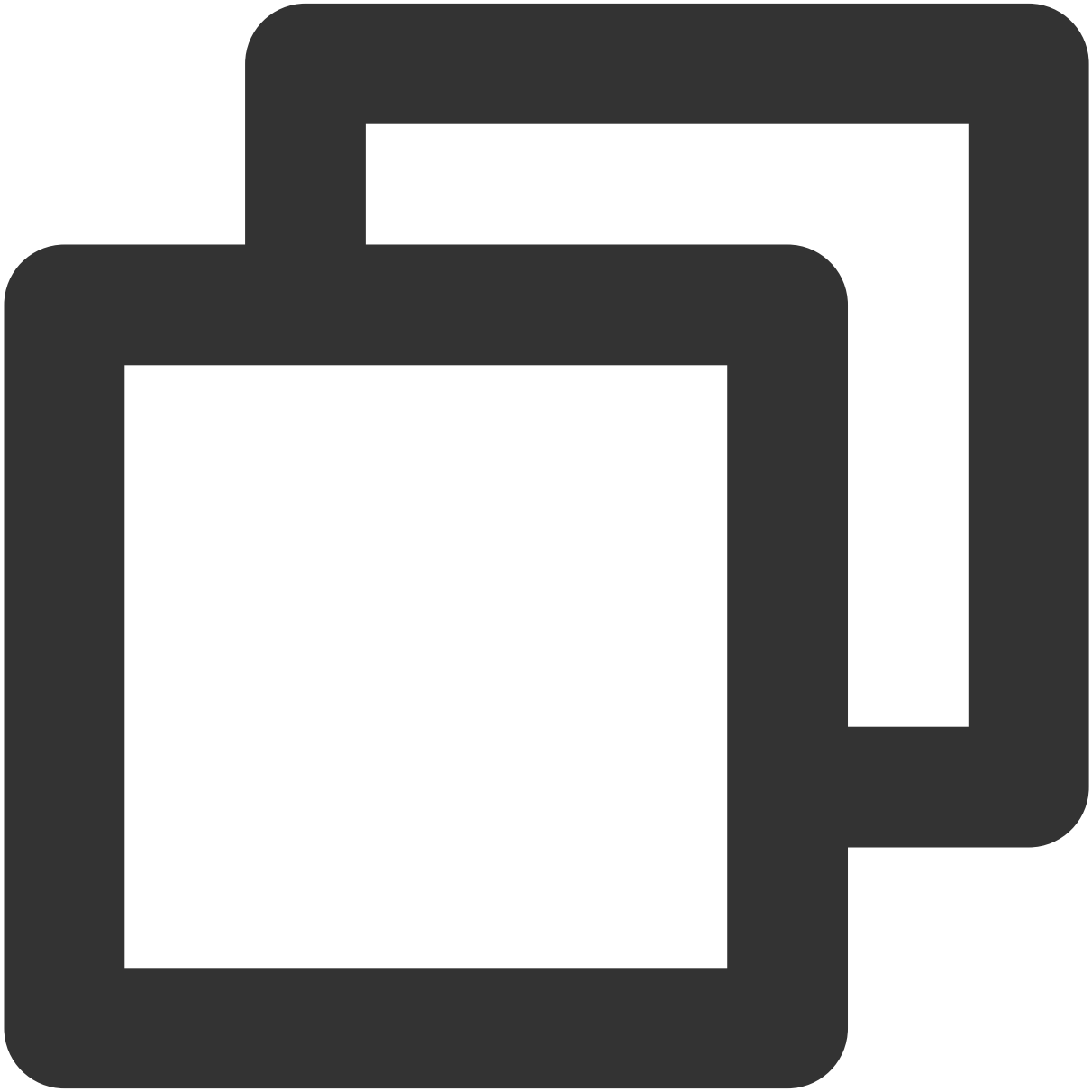
The parameters are described below:

Parameter	Type	Description
enable	boolean	`true` : Enable; `false` : Disable

Background Music and Audio Effect APIs

getAudioEffectManager

This API is used to get the background music and audio effect management object TXAudioEffectManager.

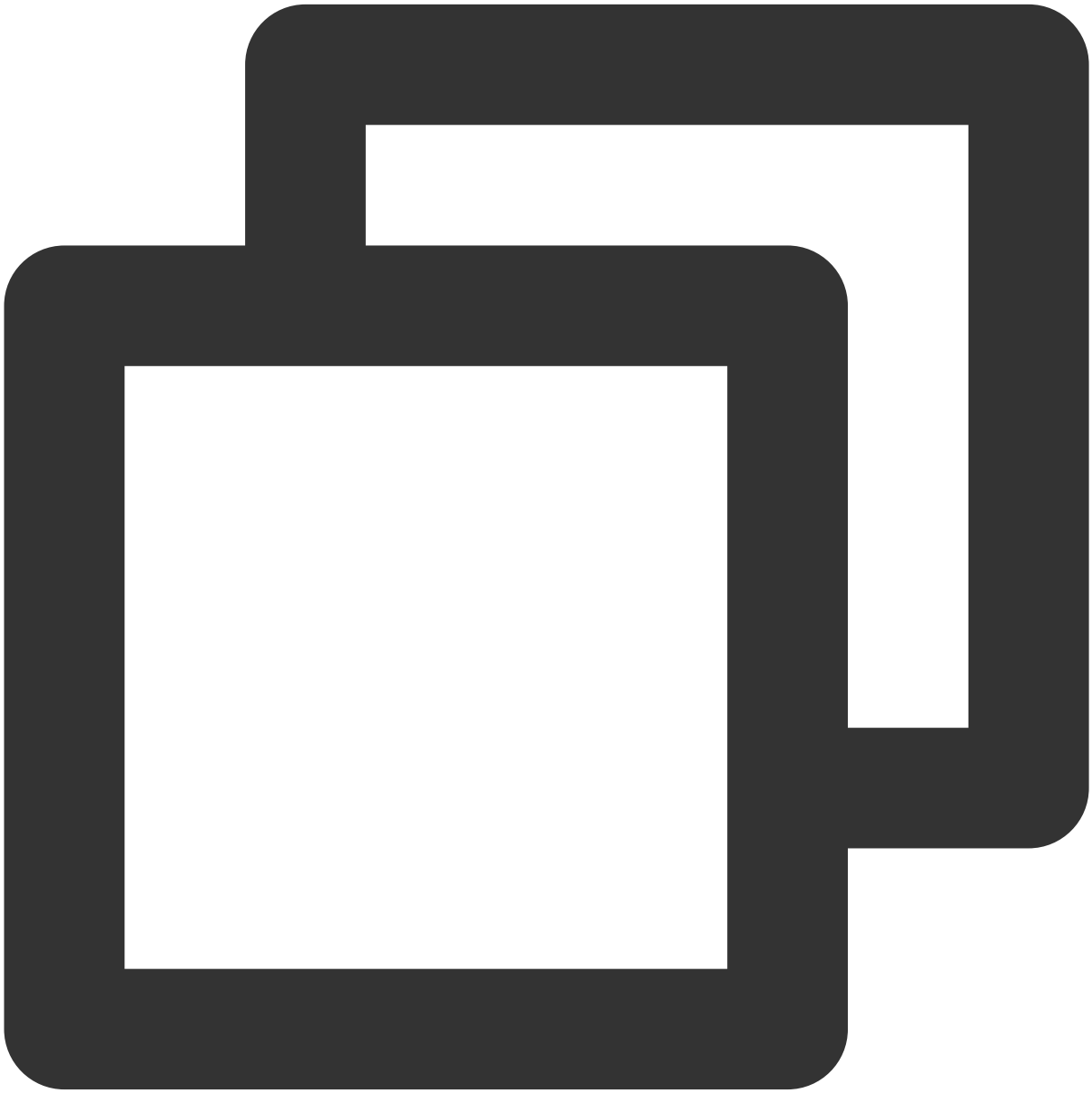


```
public abstract TXAudioEffectManager getAudioEffectManager();
```

Message Sending APIs

sendRoomTextMsg

This API is used to broadcast a text chat message in a room, which is generally used for on-screen comments.



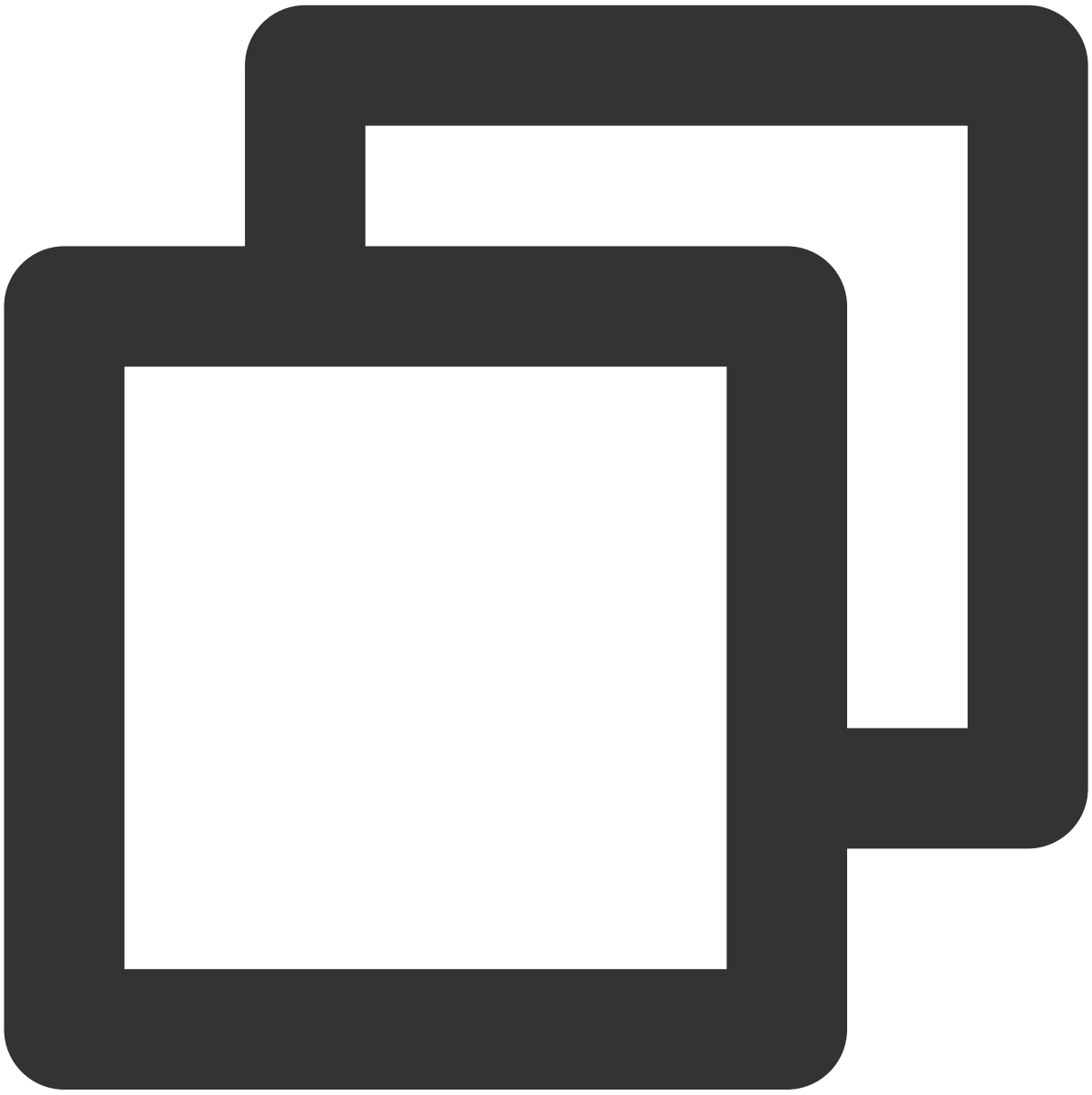
```
public abstract void sendRoomTextMsg(String message, TRTCVoiceRoomCallback.ActionCa
```

The parameters are described below:

Parameter	Type	Description
message	String	Text message
callback	ActionCallback	Callback for the operation

sendRoomCustomMsg

This API is used to send a custom text message.



```
public abstract void sendRoomCustomMsg(String cmd, String message, TRTCVoiceRoomCal
```

The parameters are described below:

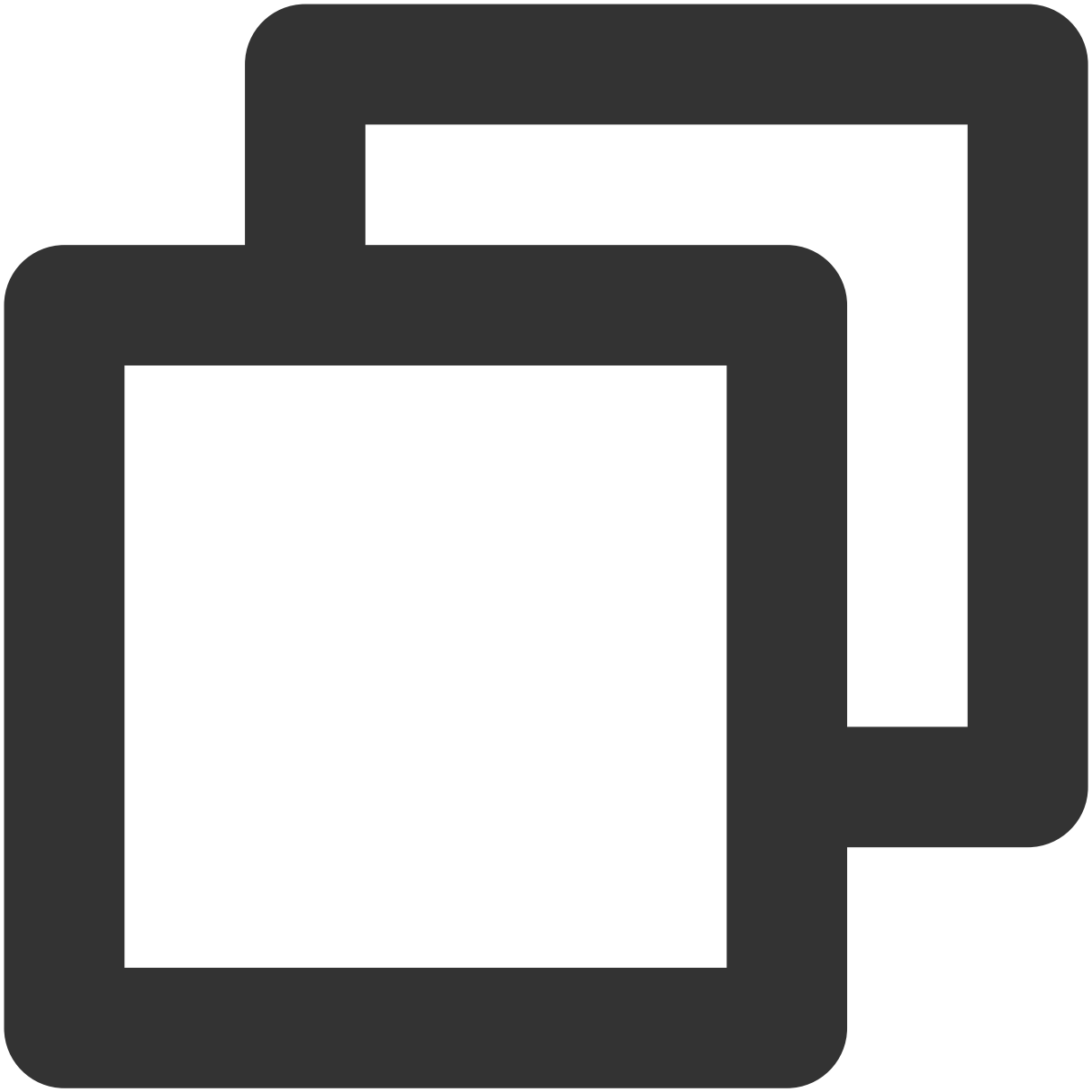
Parameter	Type	Description
cmd	String	A custom command word used to distinguish between different message

		types.
message	String	Text message
callback	ActionCallback	Callback for the operation

Invitation Signaling APIs

sendInvitation

This API is used to send an invitation.



```
public abstract String sendInvitation(String cmd, String userId, String content, TR
```

The parameters are described below:

Parameter	Type	Description
cmd	String	Custom command of business
userId	String	Invitee’s user ID
content	String	Invitation content

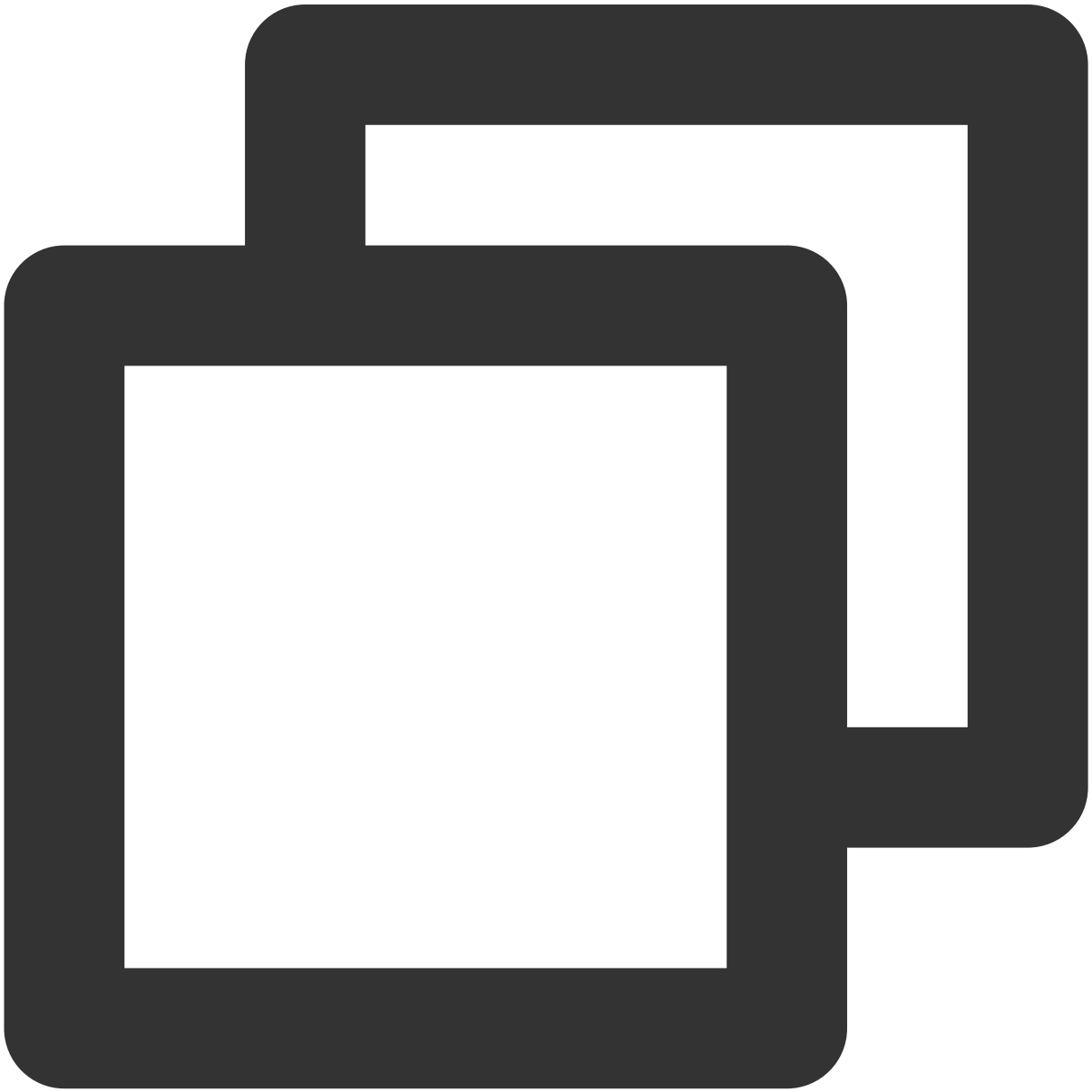
callback	ActionCallback	Callback for the operation

Response parameters:

Parameter	Type	Description
inviteId	String	Invitation ID

acceptInvitation

This API is used to accept an invitation.



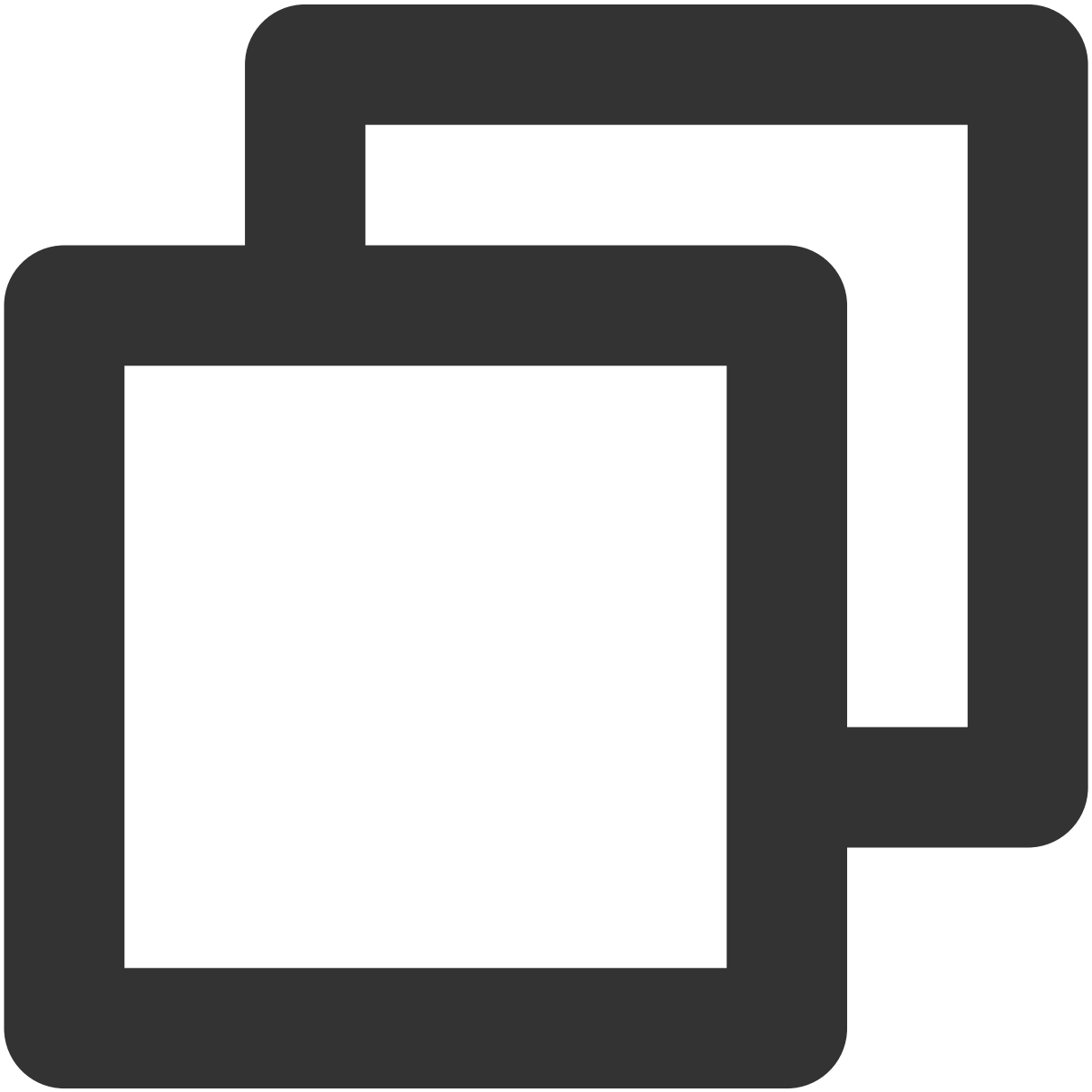
```
public abstract void acceptInvitation(String id, TRTCVoiceRoomCallback.ActionCallba
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
callback	ActionCallback	Callback for the operation

rejectInvitation

This API is used to decline an invitation.



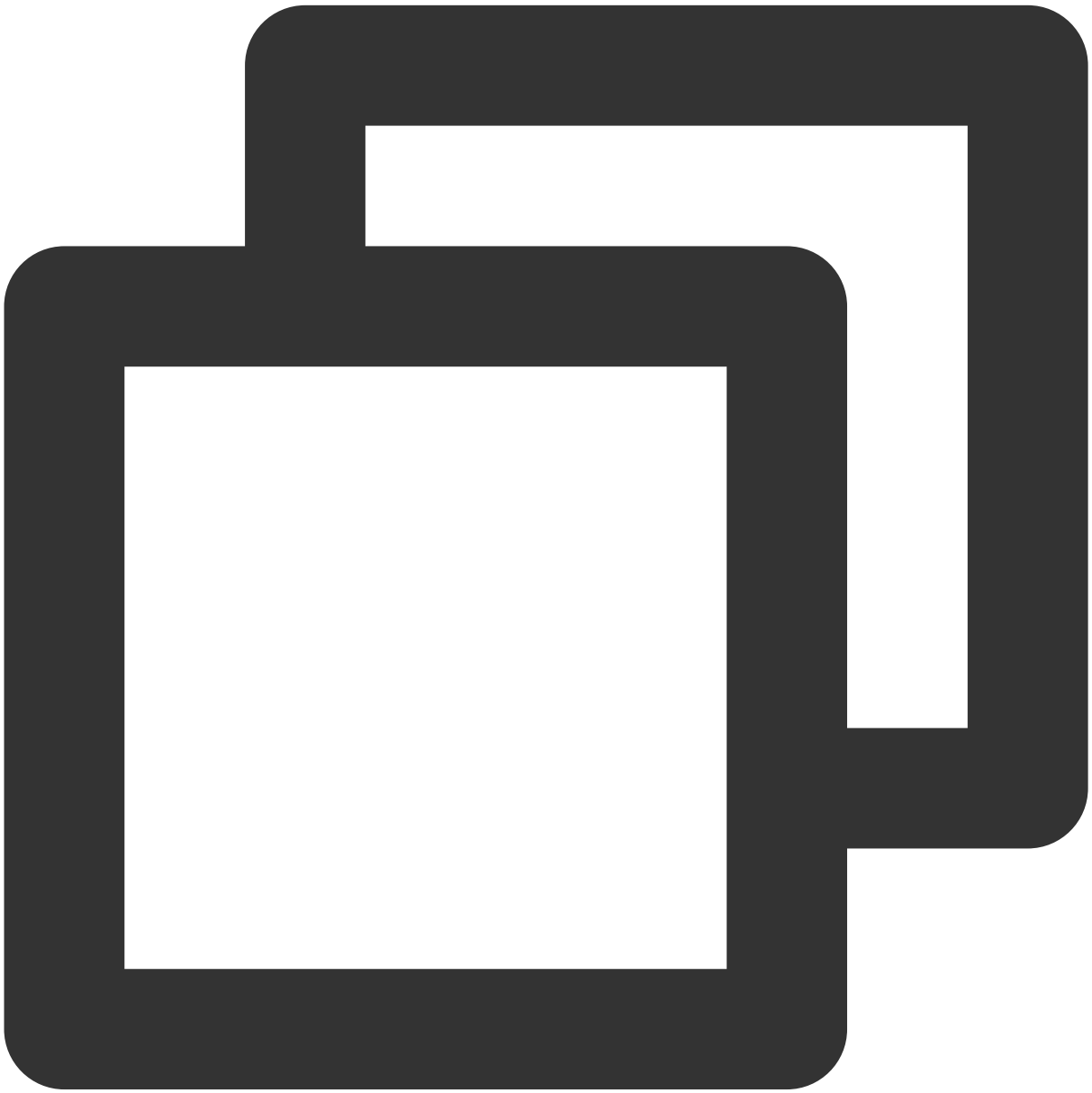
```
public abstract void rejectInvitation(String id, TRTCVoiceRoomCallback.ActionCallba
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
callback	ActionCallback	Callback for the operation

cancelInvitation

This API is used to cancel an invitation.



```
public abstract void cancelInvitation(String id, TRTCVoiceRoomCallback.ActionCallba
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
callback	ActionCallback	Callback for the operation

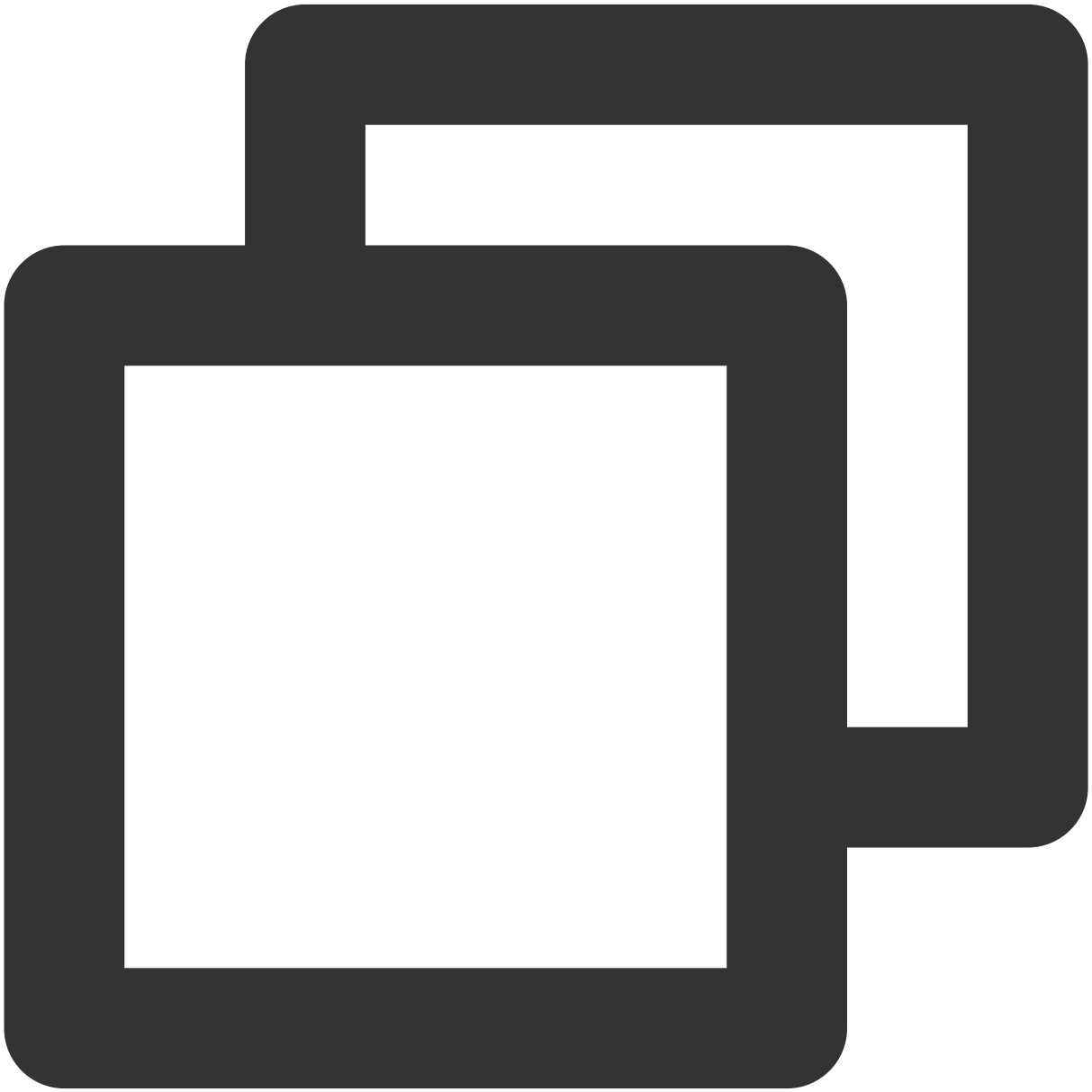
TRTCVoiceRoomDelegate Event Callback APIs

Common Event Callback APIs

onError

Callback for error.

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users depending if necessary.



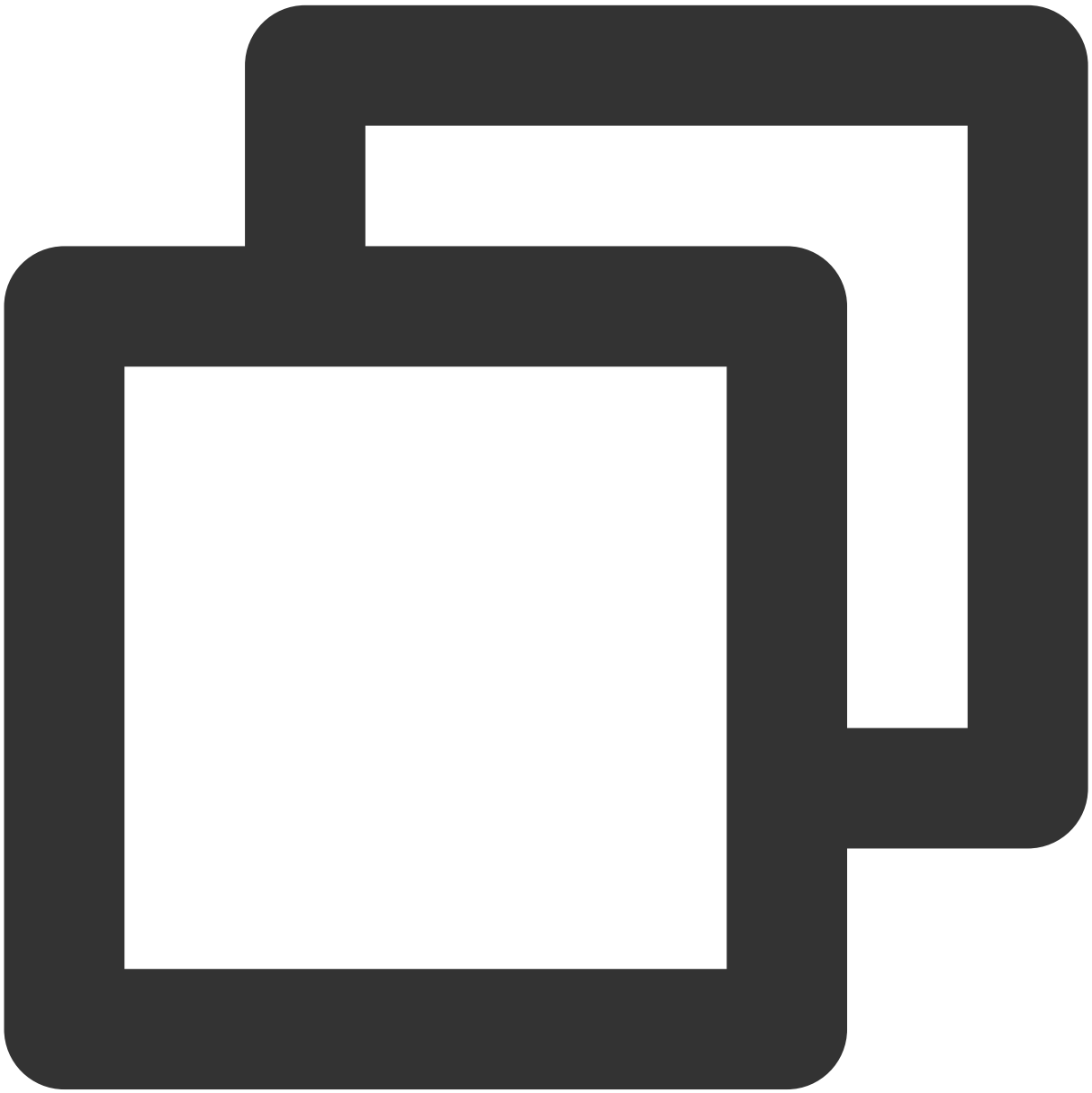
```
void onError(int code, String message);
```

The parameters are described below:

Parameter	Type	Description
code	int	Error code
message	String	Error message

onWarning

Callback for warning.



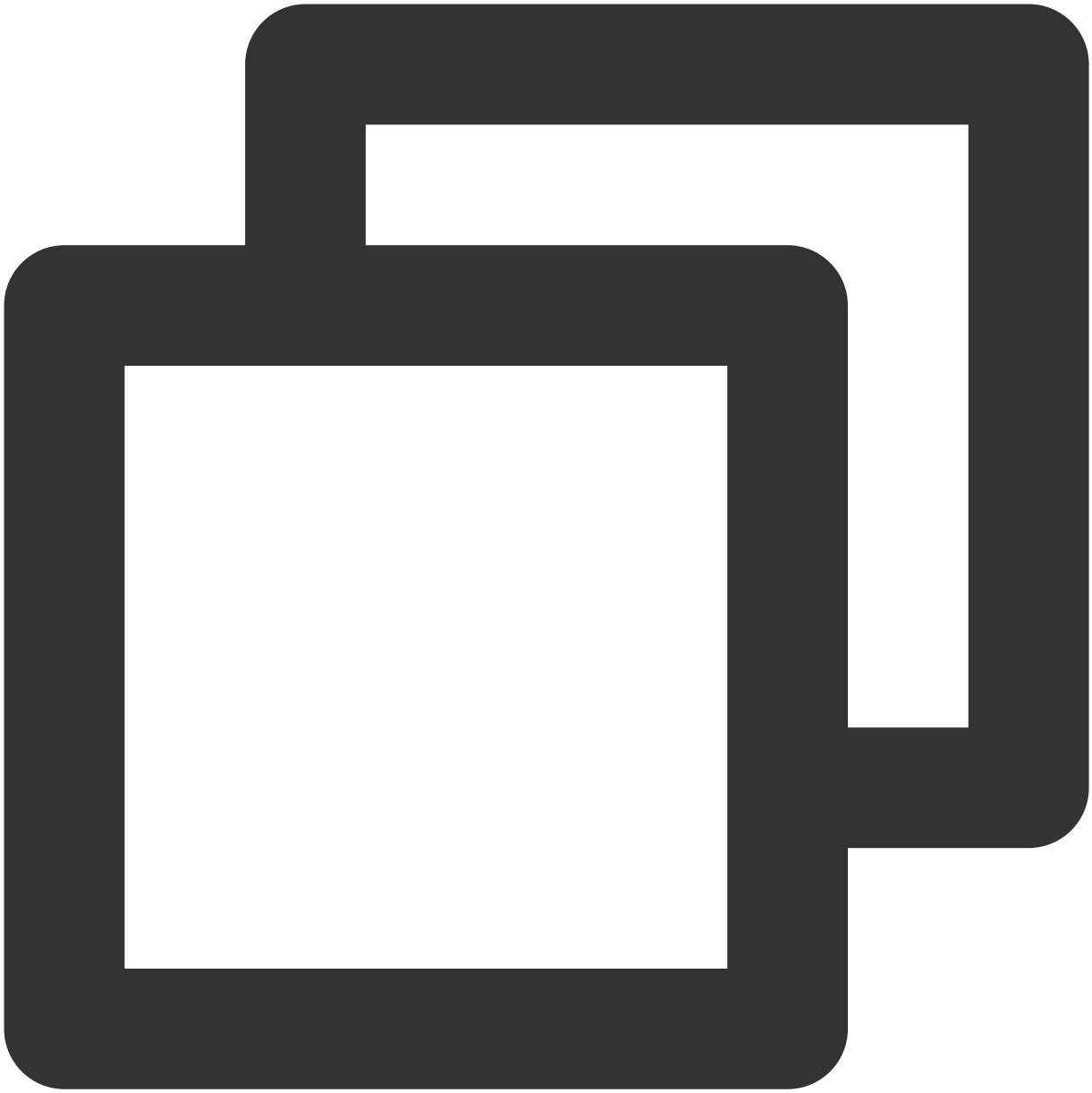
```
void onWarning(int code, String message);
```

The parameters are described below:

Parameter	Type	Description
code	int	Error code
message	String	Warning message

onDebugLog

Callback for log.



```
void onDebugLog(String message);
```

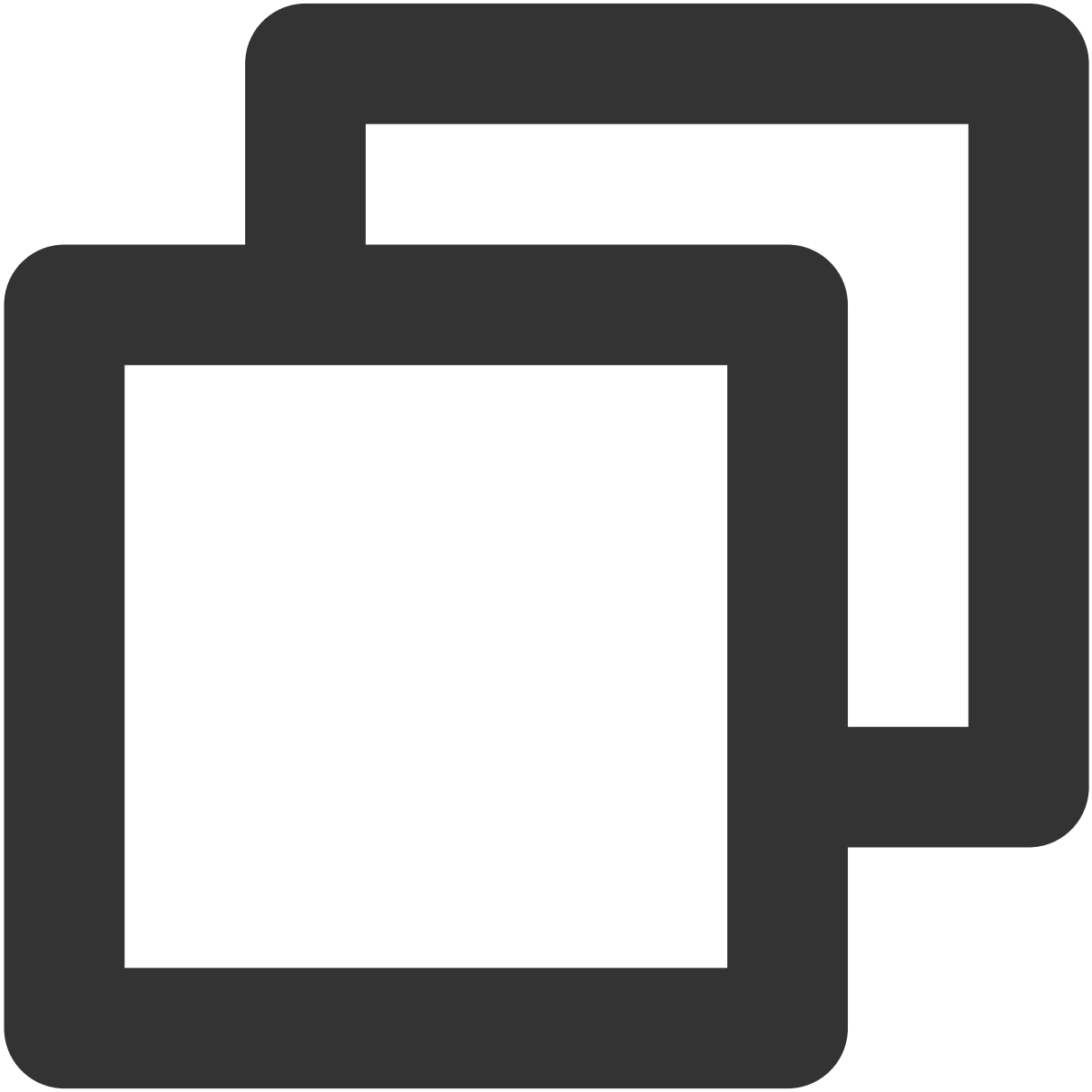
The parameters are described below:

Parameter	Type	Description
message	String	Log information

Room Event Callback APIs

onRoomDestroy

Callback for room termination. When the owner terminates the room, all users in the room will receive this callback.



```
void onRoomDestroy(String roomId);
```

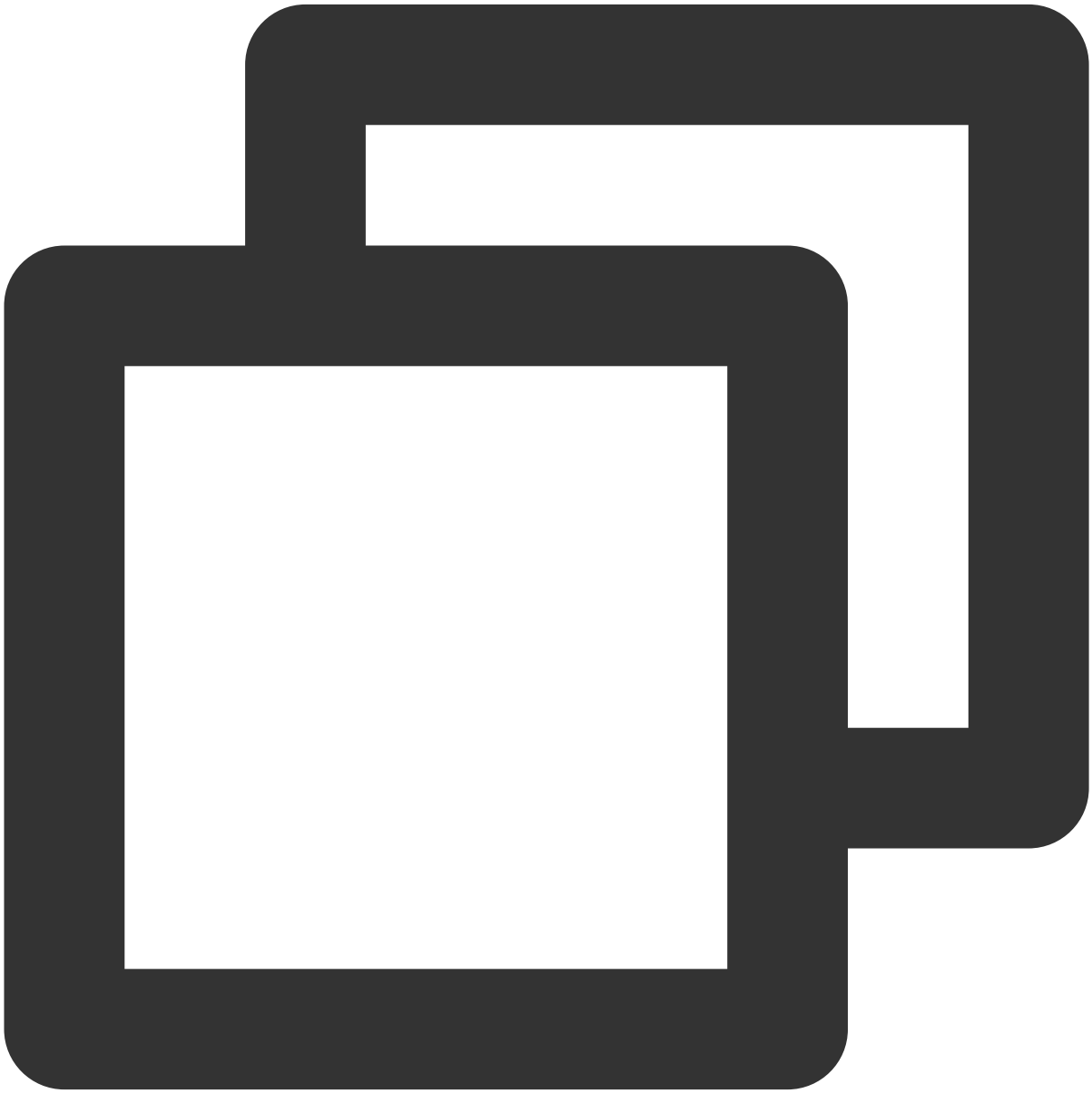
The parameters are described below:

Parameter	Type	Description

roomId	String	Room ID

onRoomInfoChange

Callback for change of room information. This callback is sent after successful room entry. The information in `roomInfo` is passed in by the room owner during room creation.



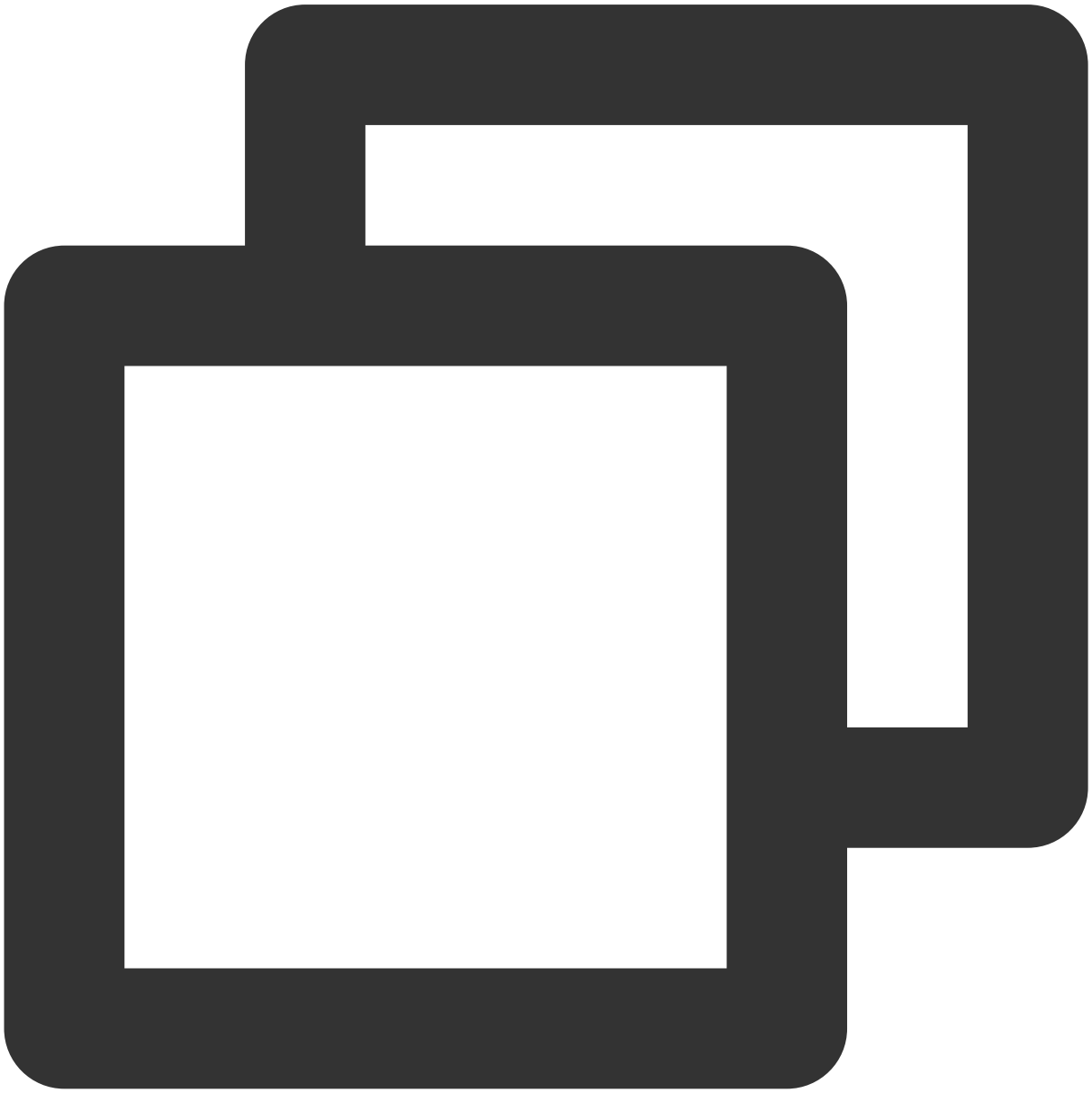
```
void onRoomInfoChange(TRTCVoiceRoomDef.RoomInfo roomInfo);
```

The parameters are described below:

Parameter	Type	Description
roomInfo	RoomInfo	Room information

onUserMicrophoneMute

Callback of whether a user's mic is muted. When a user calls `muteLocalAudio`, all members in the room will receive this callback.



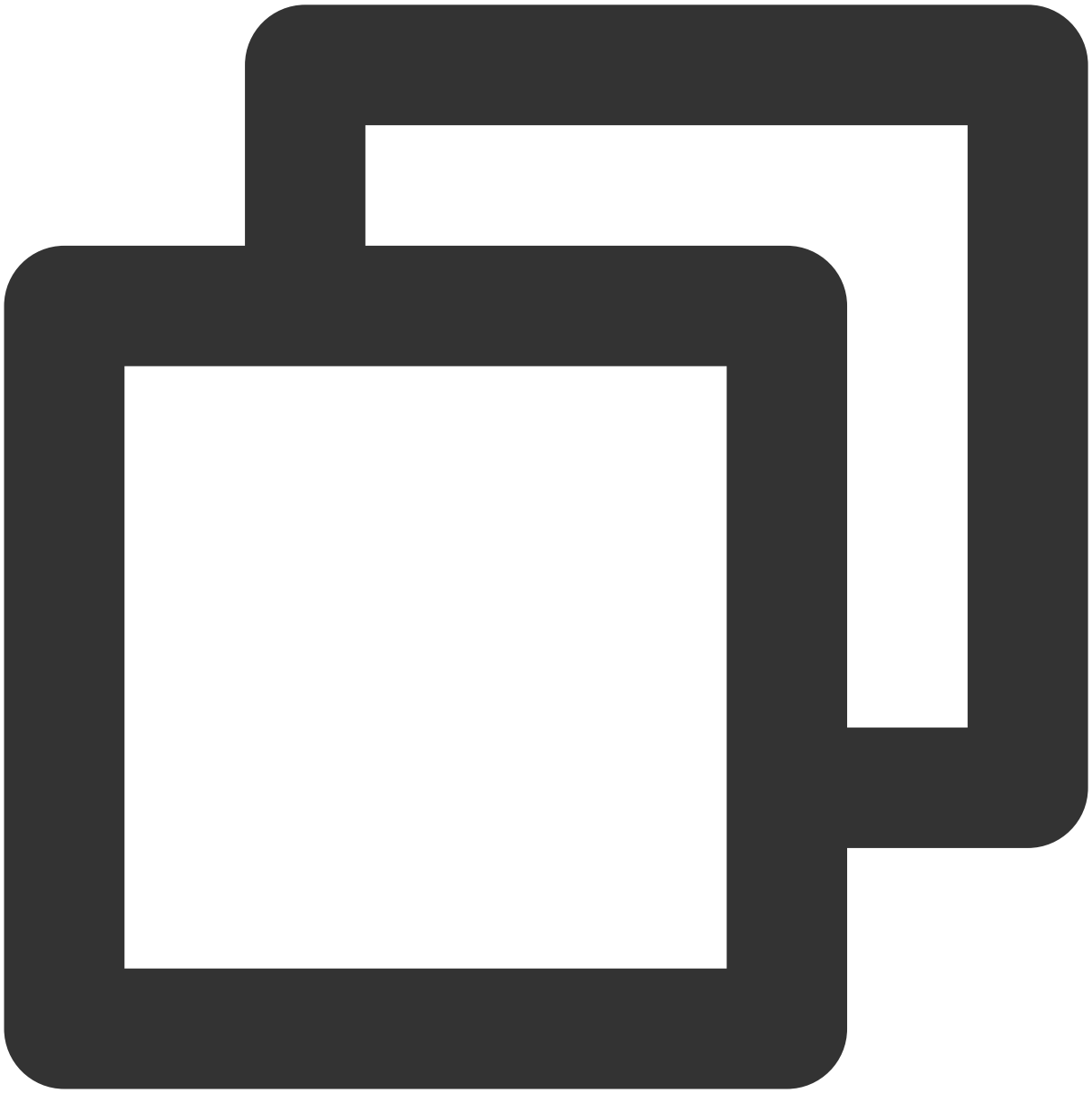
```
void onUserMicrophoneMute(String userId, boolean mute);
```

The parameters are described below:

Parameter	Type	Description
userId	String	User ID
mute	boolean	`true` : muted; `false` : unmuted

onUserVolumeUpdate

Notification to all members of the volume after the volume reminder is enabled.



```
void onUserVolumeUpdate(List<TRTCCloudDef.TRTCVolumeInfo> userVolumes, int totalVol
```

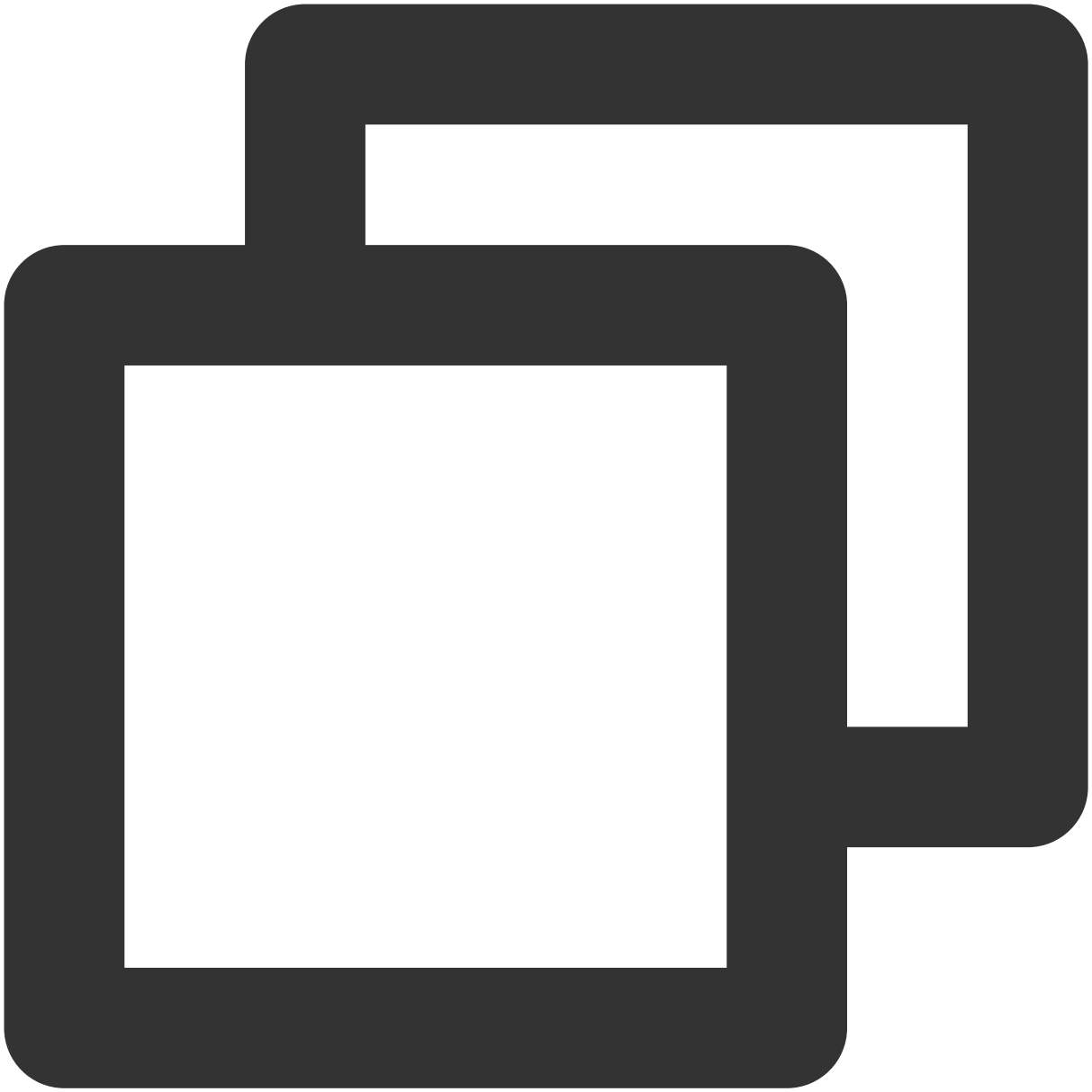
The parameters are described below:

Parameter	Type	Description
userVolumes	ListList<TRTCCloudDef.TRTCVolumeInfo>	List of user IDs
totalVolume	int	Total volume. Value range: 0-100

Seat Callback APIs

onSeatListChange

Callback for all seat changes.



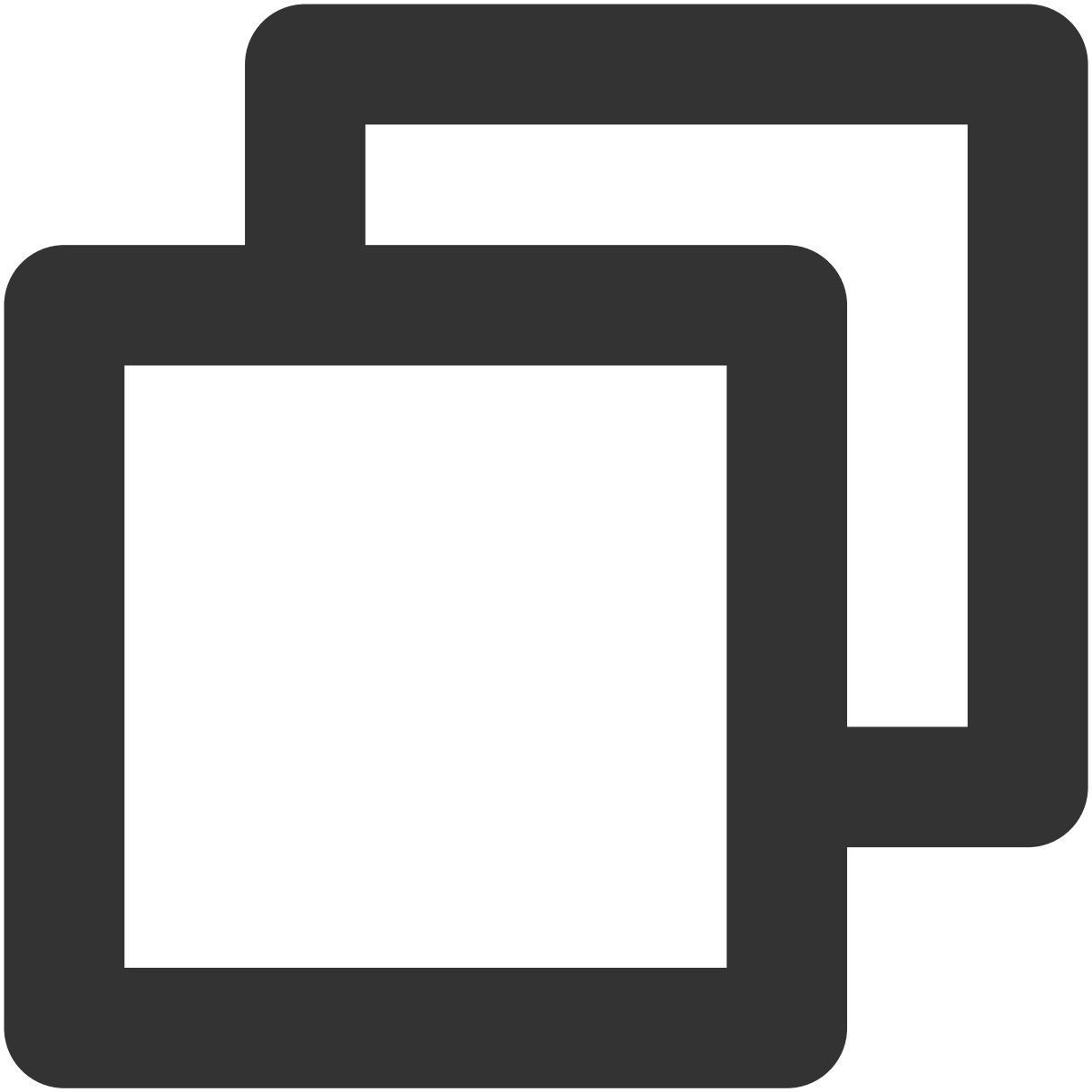
```
void onSeatListChange(List<SeatInfo> seatInfoList);
```

The parameters are described below:

Parameter	Type	Description
seatInfoList	List<SeatInfo>	Full seat list

onAnchorEnterSeat

Someone became a speaker or was made a speaker by the owner.



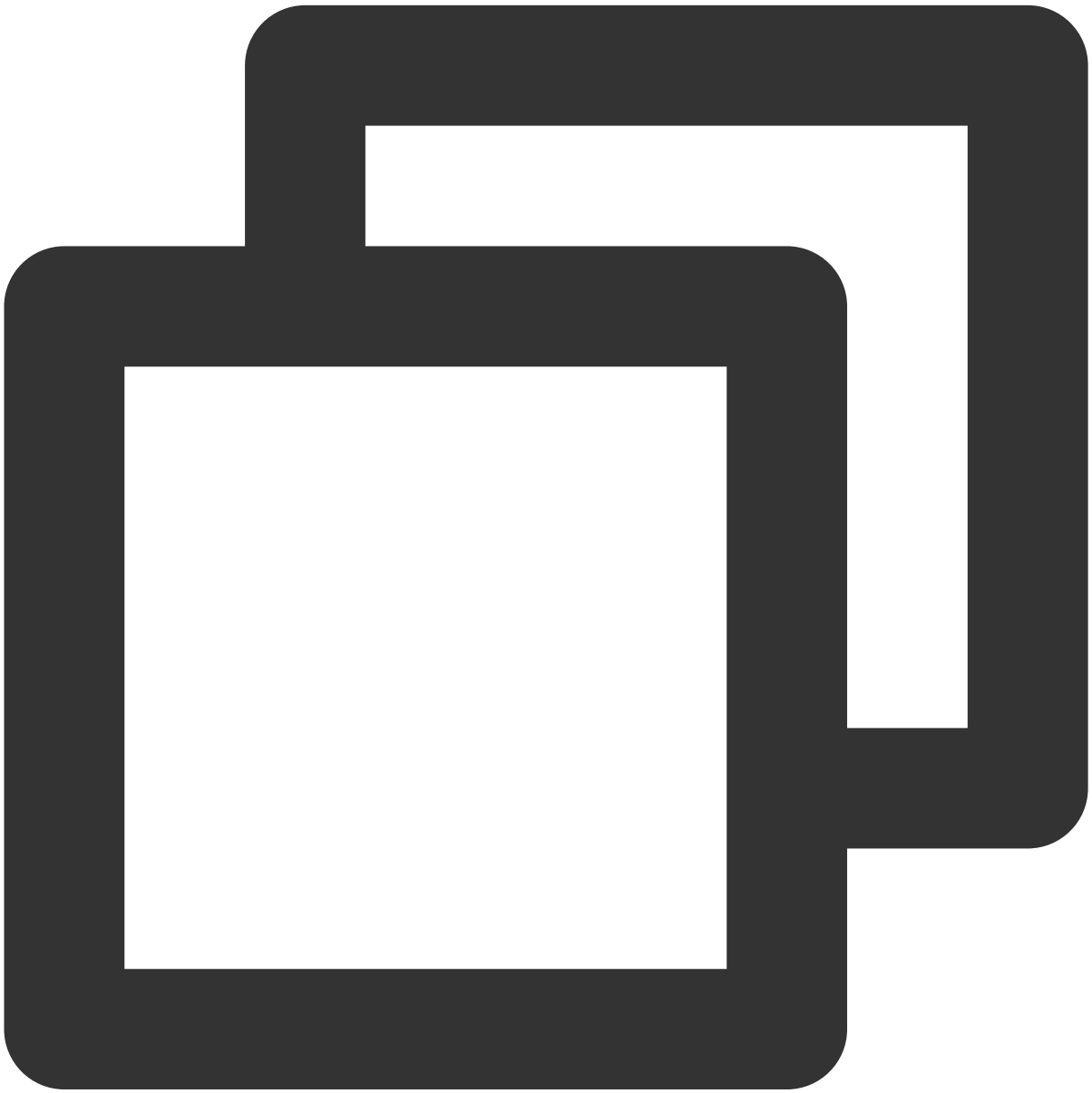
```
void onAnchorEnterSeat(int index, TRTCVoiceRoomDef.UserInfo user);
```

The parameters are described below:

Parameter	Type	Description
index	int	The seat taken
user	UserInfo	Details of the user who took the seat

onAnchorLeaveSeat

A speaker became a listener or was moved to listeners by the room owner.



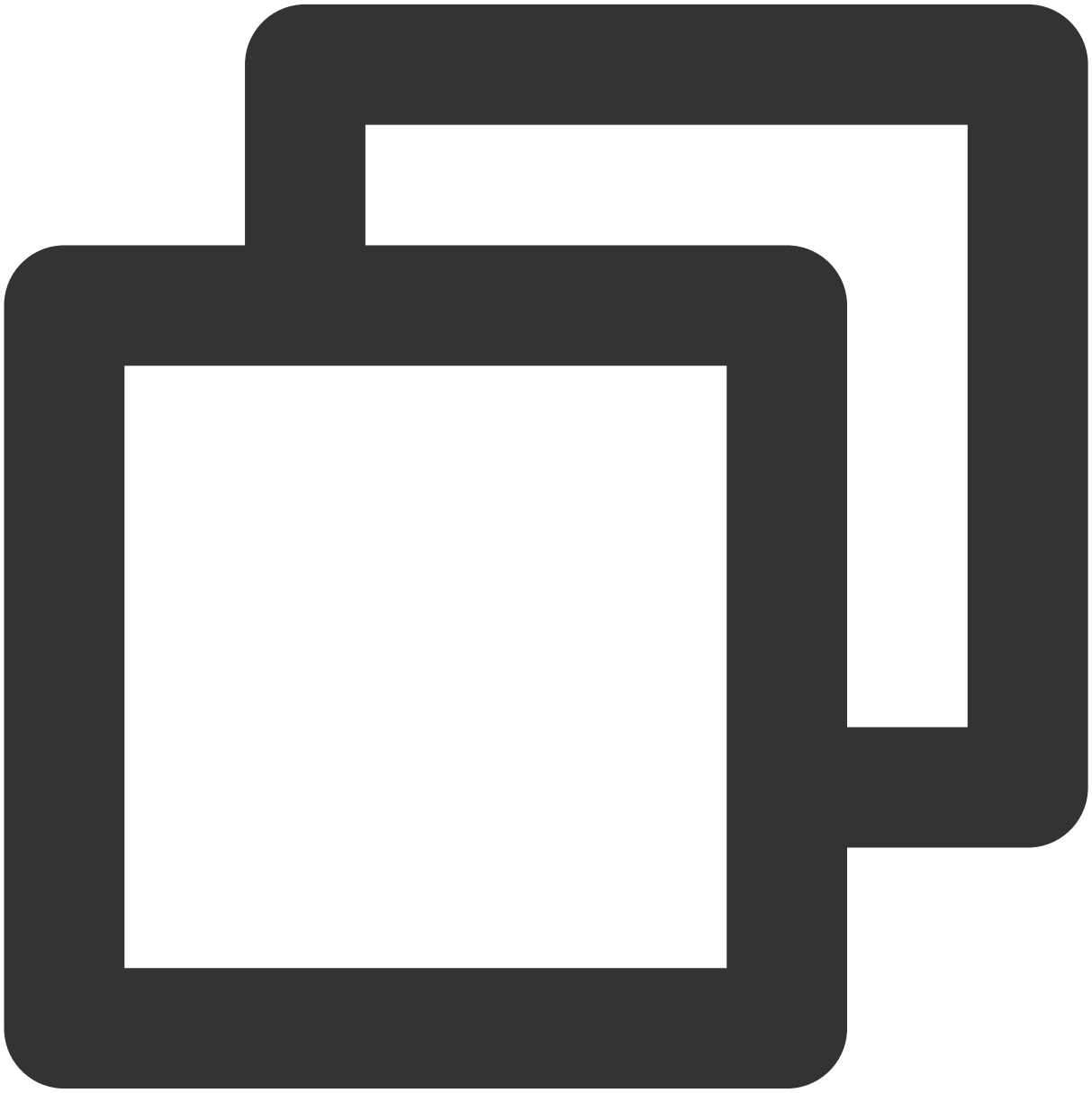
```
void onAnchorLeaveSeat(int index, TRTCVoiceRoomDef.UserInfo user);
```

The parameters are described below:

Parameter	Type	Description
index	int	The seat previously occupied by the speaker
user	UserInfo	Details of the user who took the seat

onSeatMute

The room owner muted/unmuted a seat.



```
void onSeatMute(int index, boolean isMute);
```

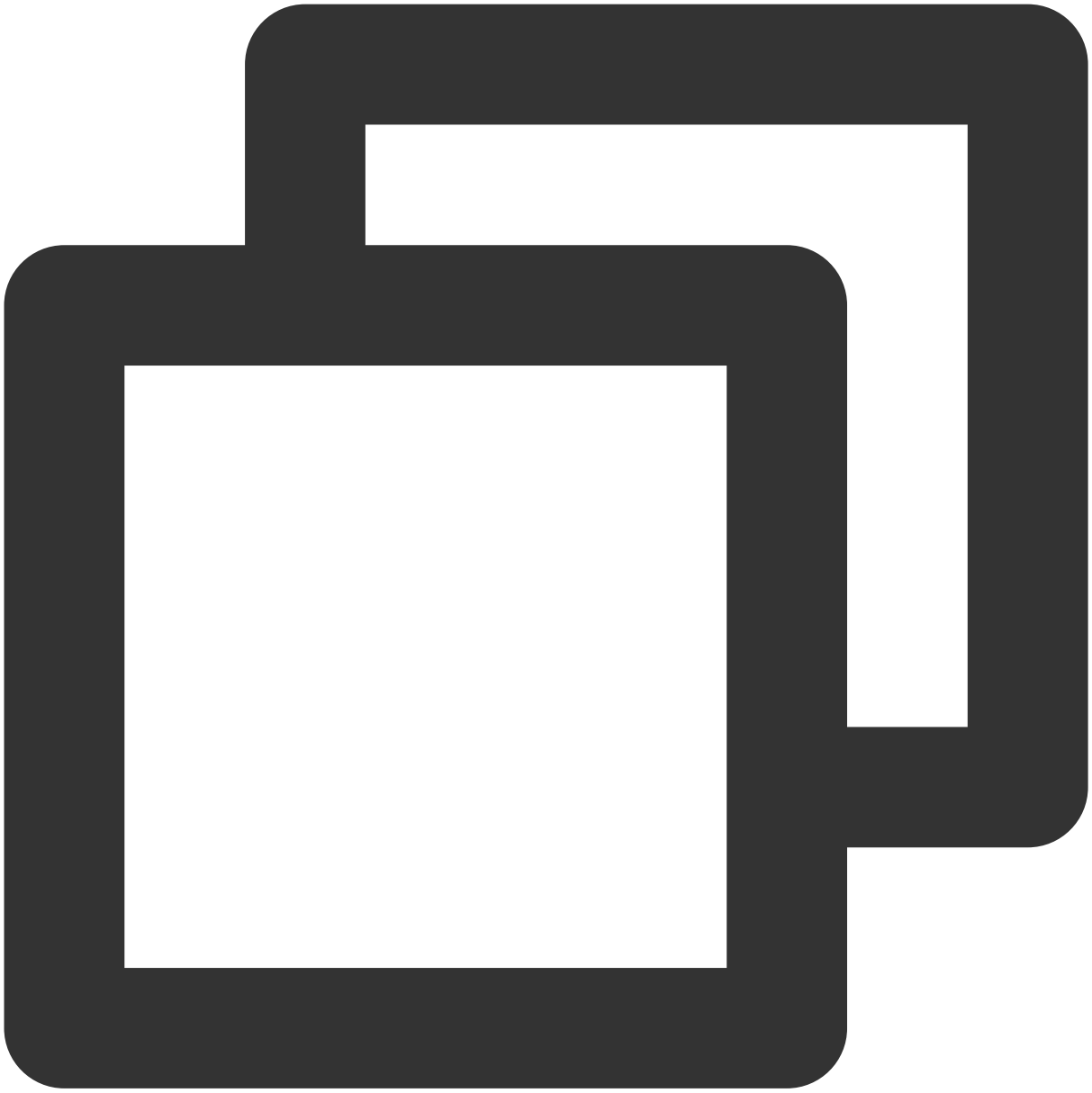
The parameters are described below:

Parameter	Type	Description
index	int	The seat muted/unmuted
isMute	boolean	

		`true` : muted; `false` : unmuted

onSeatClose

The room owner blocked/unblocked a seat.



```
void onSeatClose(int index, boolean isClose);
```

The parameters are described below:

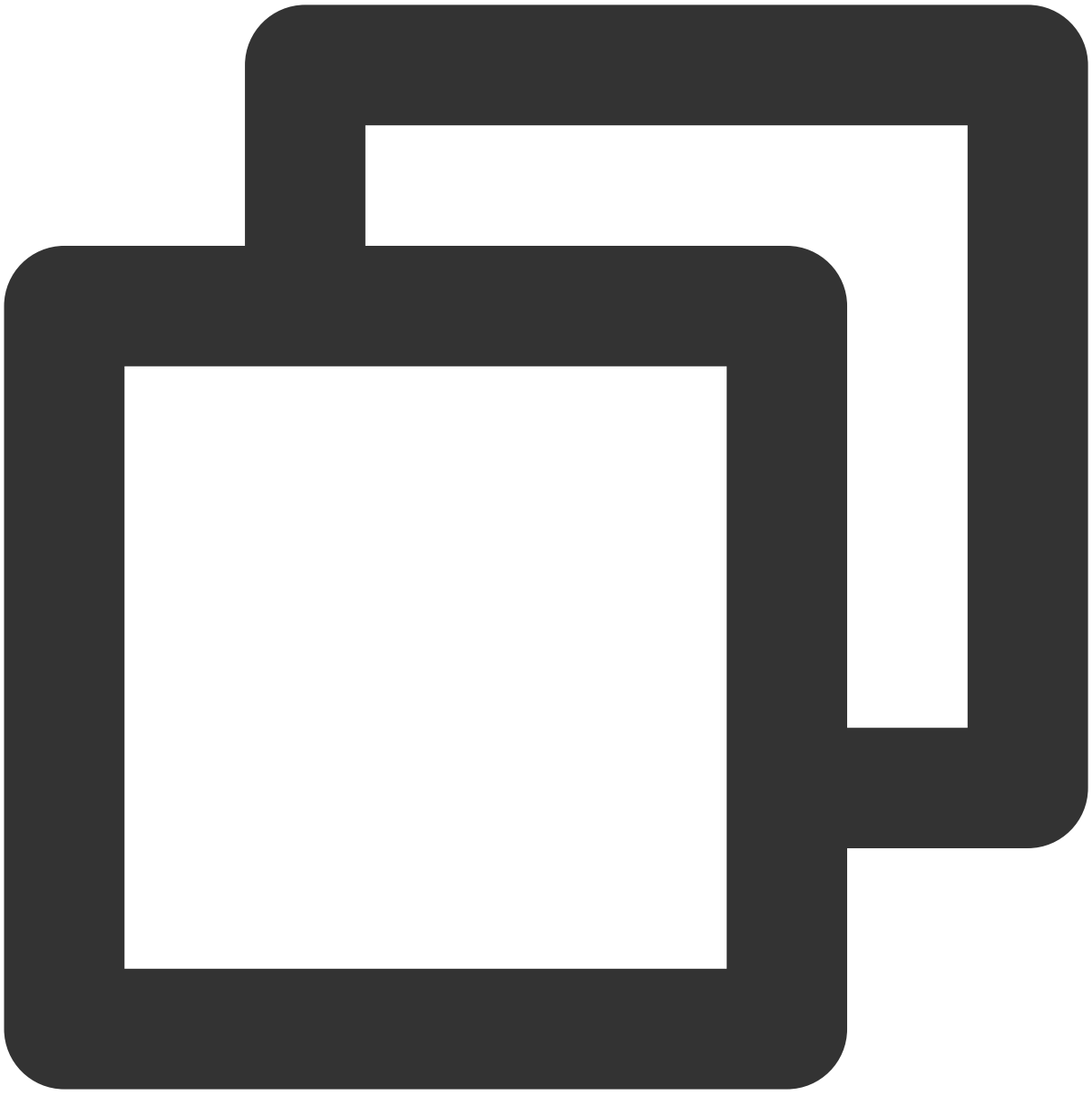
Parameter	Type	Description

index	int	The seat blocked/unblocked
isClose	boolean	`true` : blocked; `false` : unblocked

Callback APIs for Room Entry/Exit by Listener

onAudienceEnter

A listener entered the room.



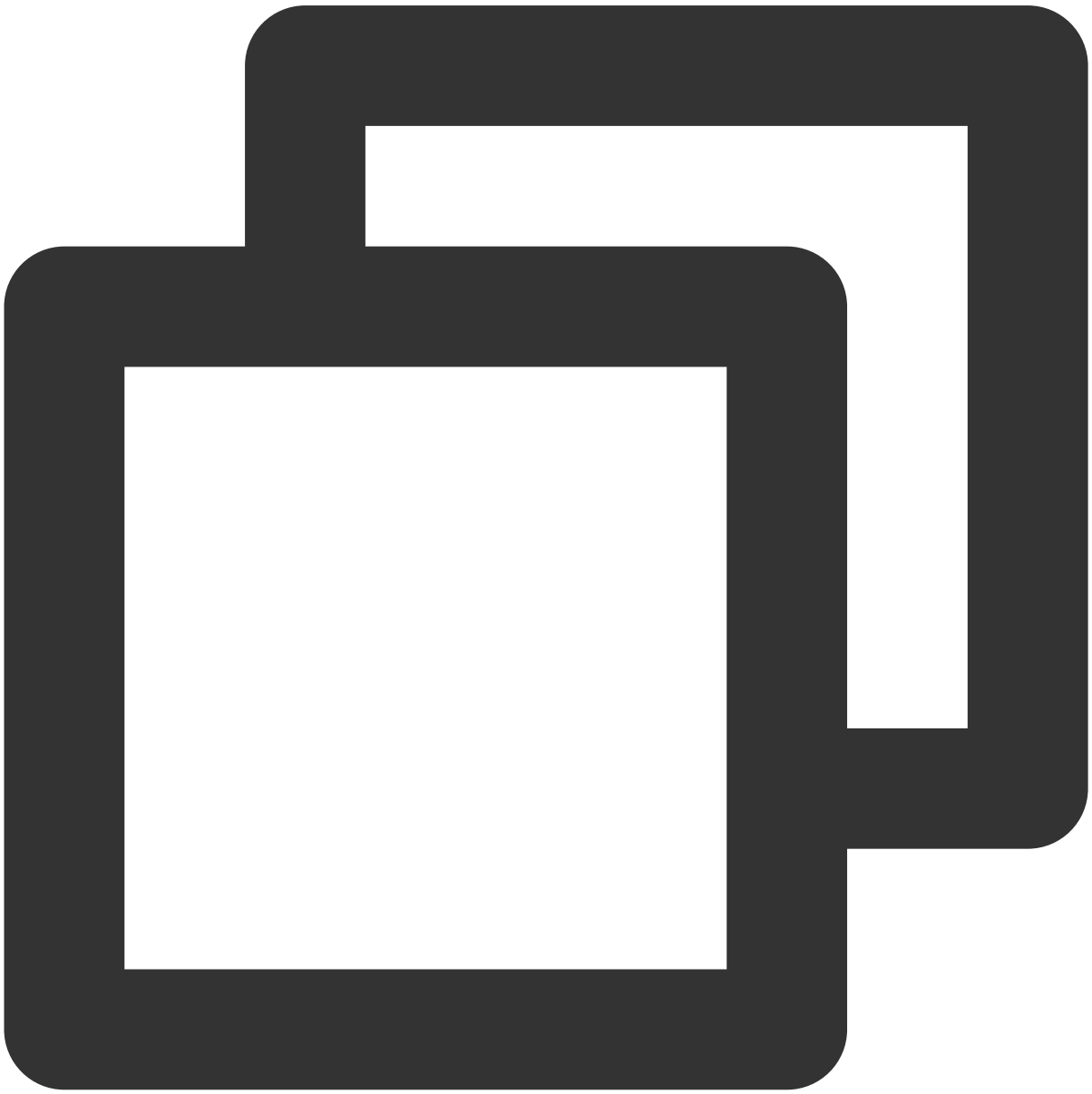
```
void onAudienceEnter(TRTCVoiceRoomDef.UserInfo userInfo);
```

The parameters are described below:

Parameter	Type	Description
userInfo	UserInfo	Information of the listener who entered the room

onAudienceExit

A listener exited the room.



```
void onAudienceExit(TRTCVoiceRoomDef.UserInfo userInfo);
```

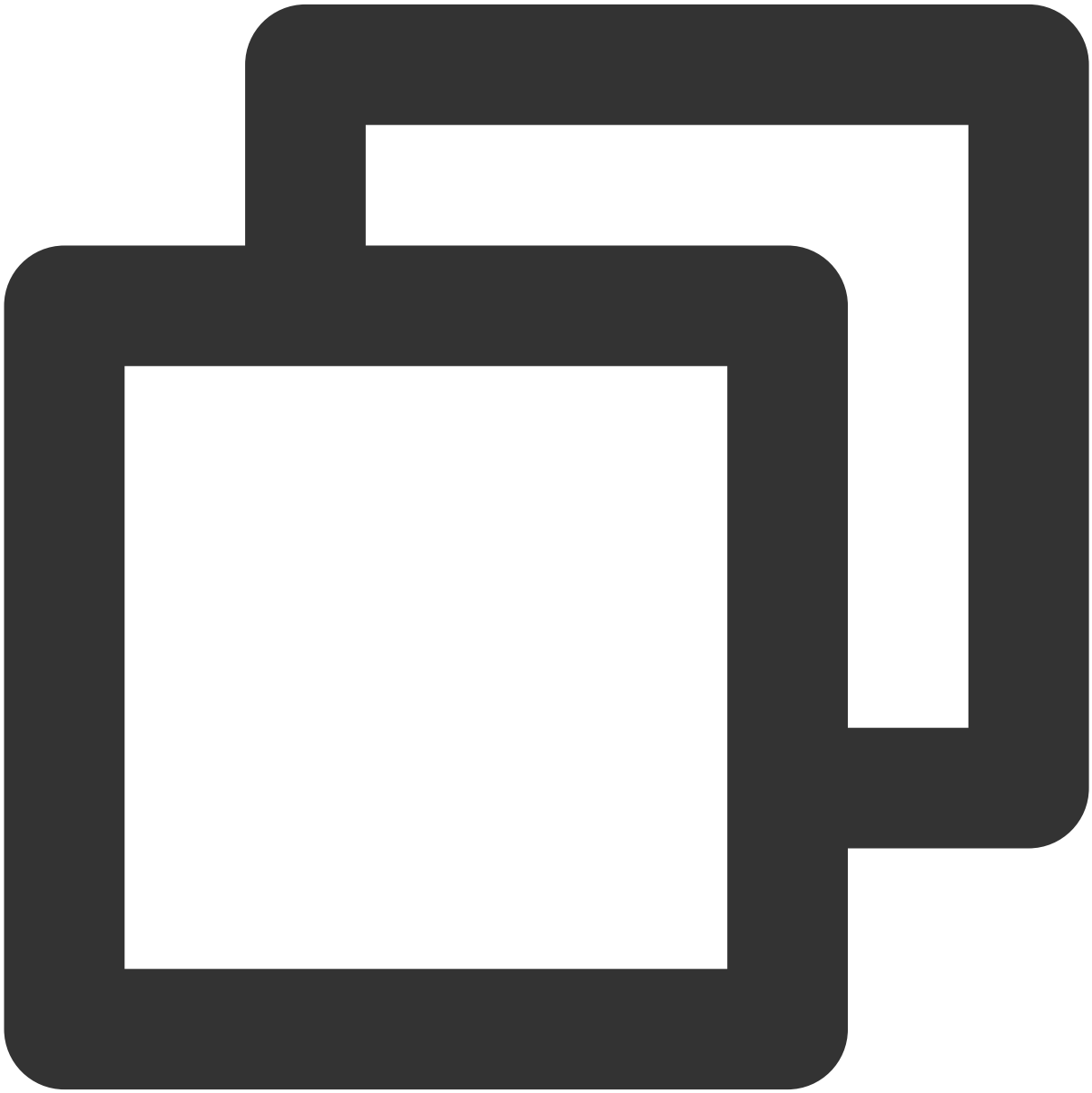
The parameters are described below:

Parameter	Type	Description
userInfo	UserInfo	Information of the listener who exited the room

Message Event Callback APIs

onRecvRoomTextMsg

Callback for receiving a text chat message.



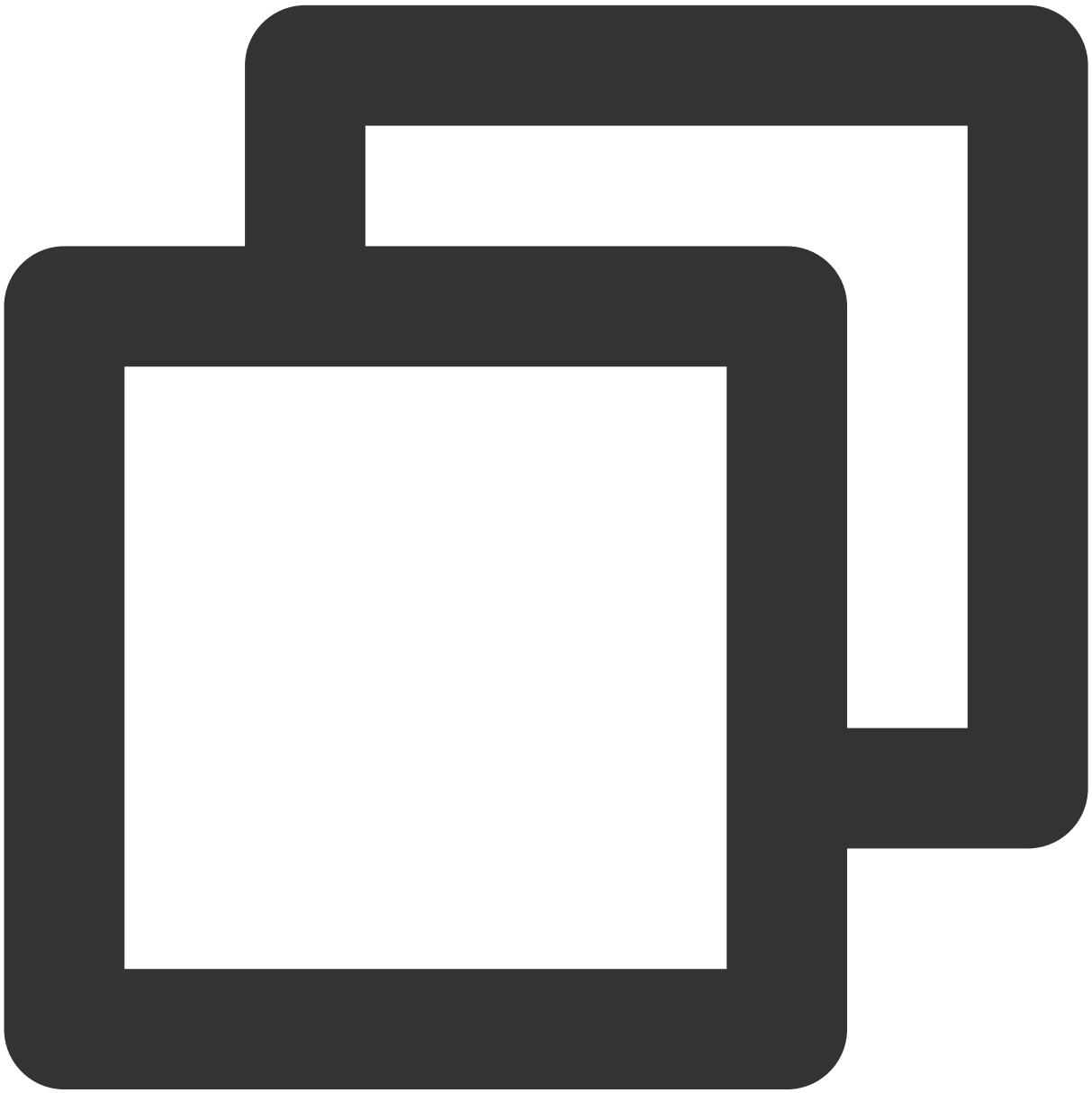
```
void onRecvRoomTextMsg(String message, TRTCVoiceRoomDef.UserInfo userInfo);
```

The parameters are described below:

Parameter	Type	Description
message	String	Text message
userInfo	UserInfo	Information of the sender

onRecvRoomCustomMsg

A custom message was received.



```
void onRecvRoomCustomMsg(String cmd, String message, TRTCVoiceRoomDef.UserInfo user
```

The parameters are described below:

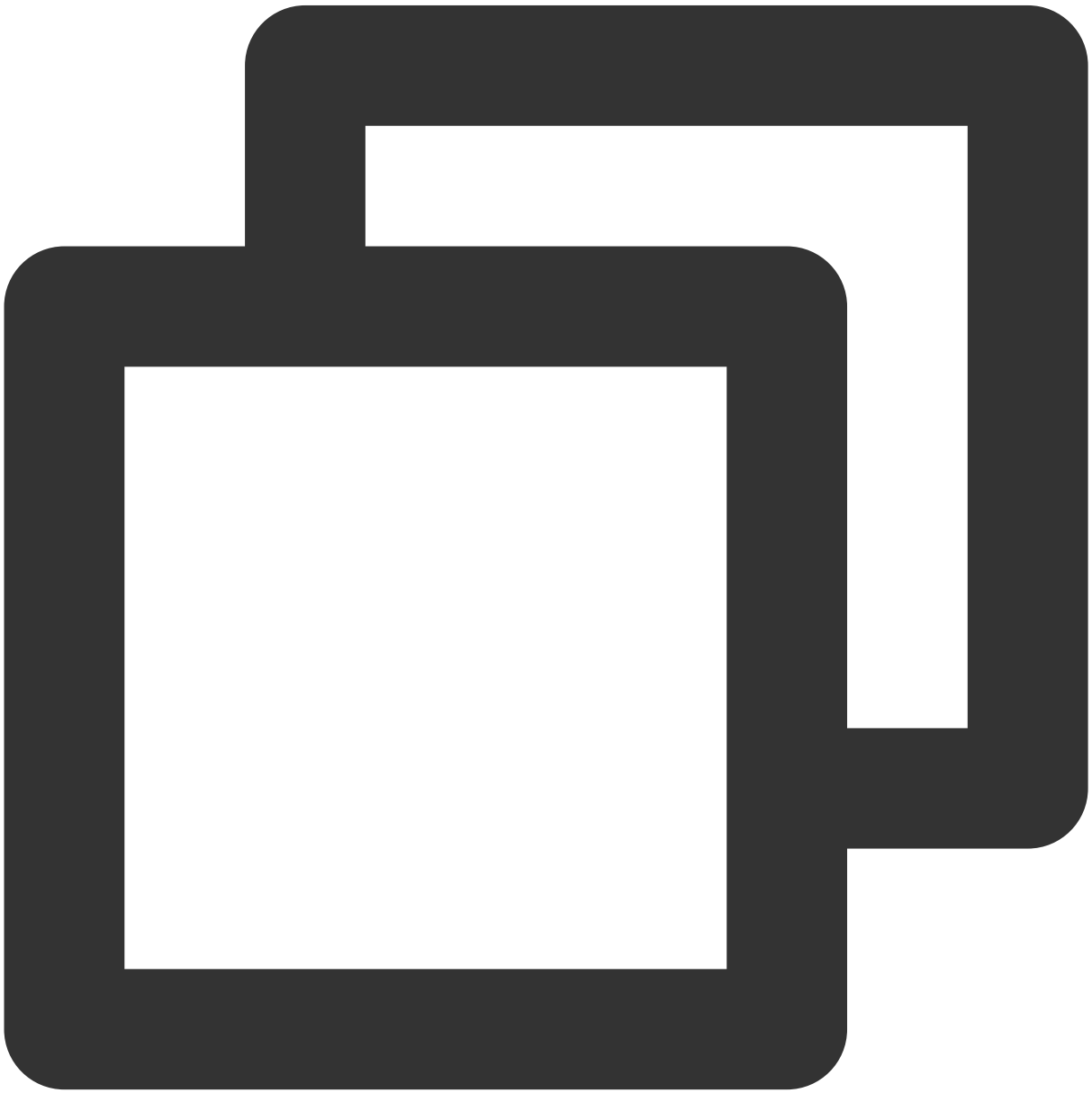
Parameter	Type	Description
cmd	String	Custom command word used to distinguish between different message types
message	String	Text message

userInfo	UserInfo	Information of the sender

Invitation Signaling Callback APIs

onReceiveNewInvitation

An invitation was received.



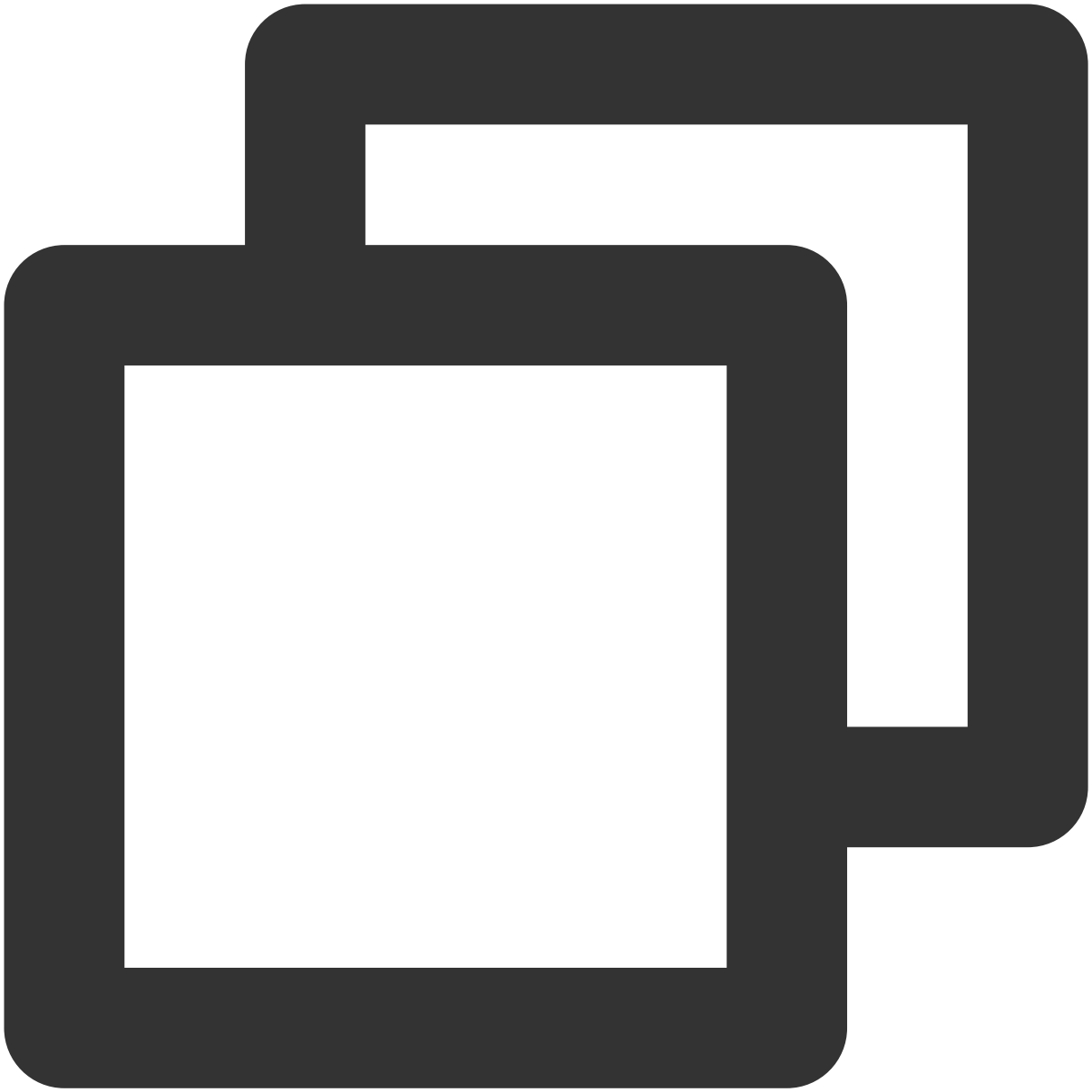
```
void onReceiveNewInvitation(String id, String inviter, String cmd, String content);
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
inviter	String	Inviter's user ID
cmd	String	Custom command word specified by business
content	String	Content specified by business

onInviteeAccepted

The invitee accepted the invitation



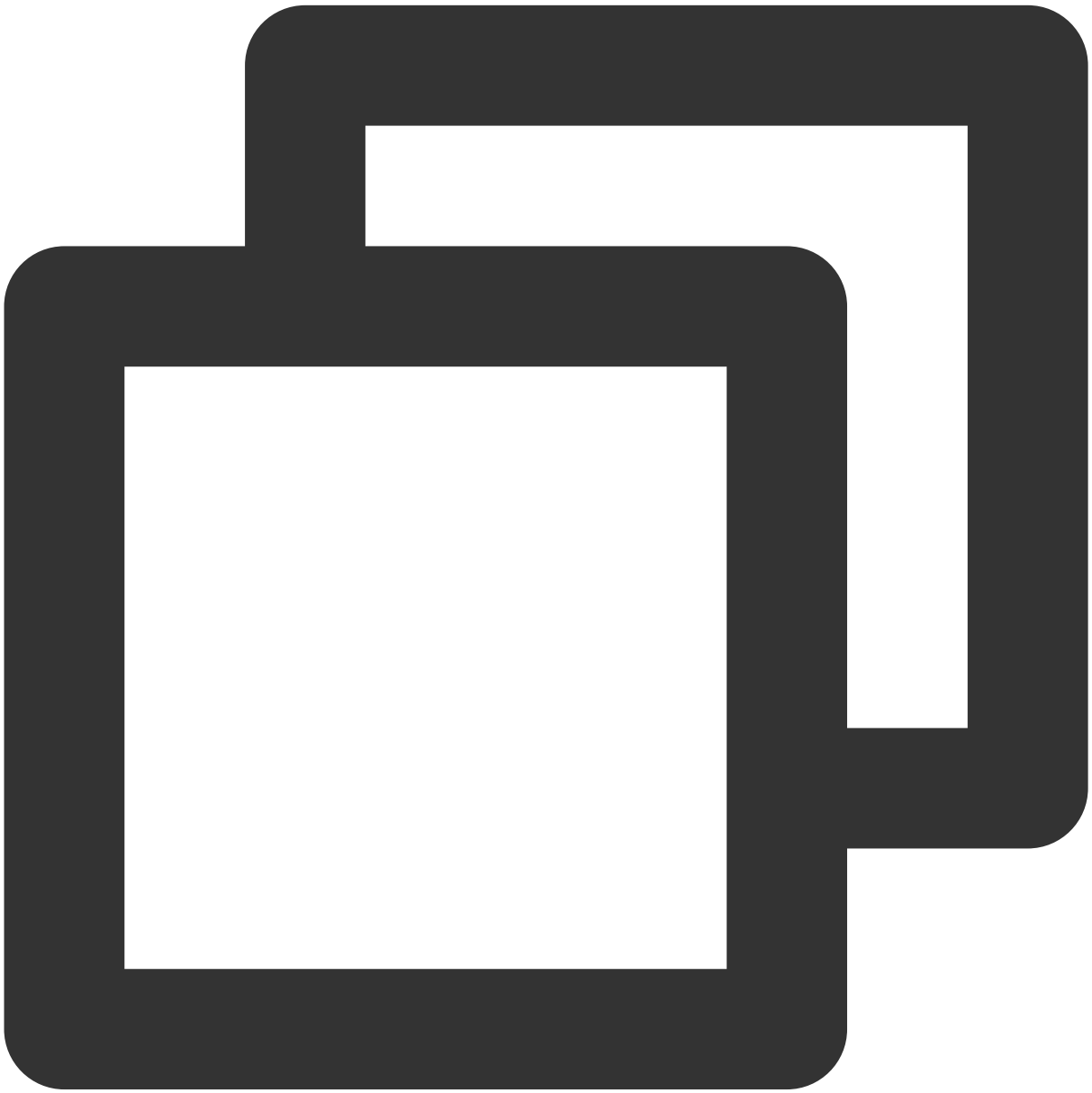
```
void onInviteeAccepted(String id, String invitee);
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
invitee	String	Invitee's user ID

onInviteeRejected

The invitee declined the invitation



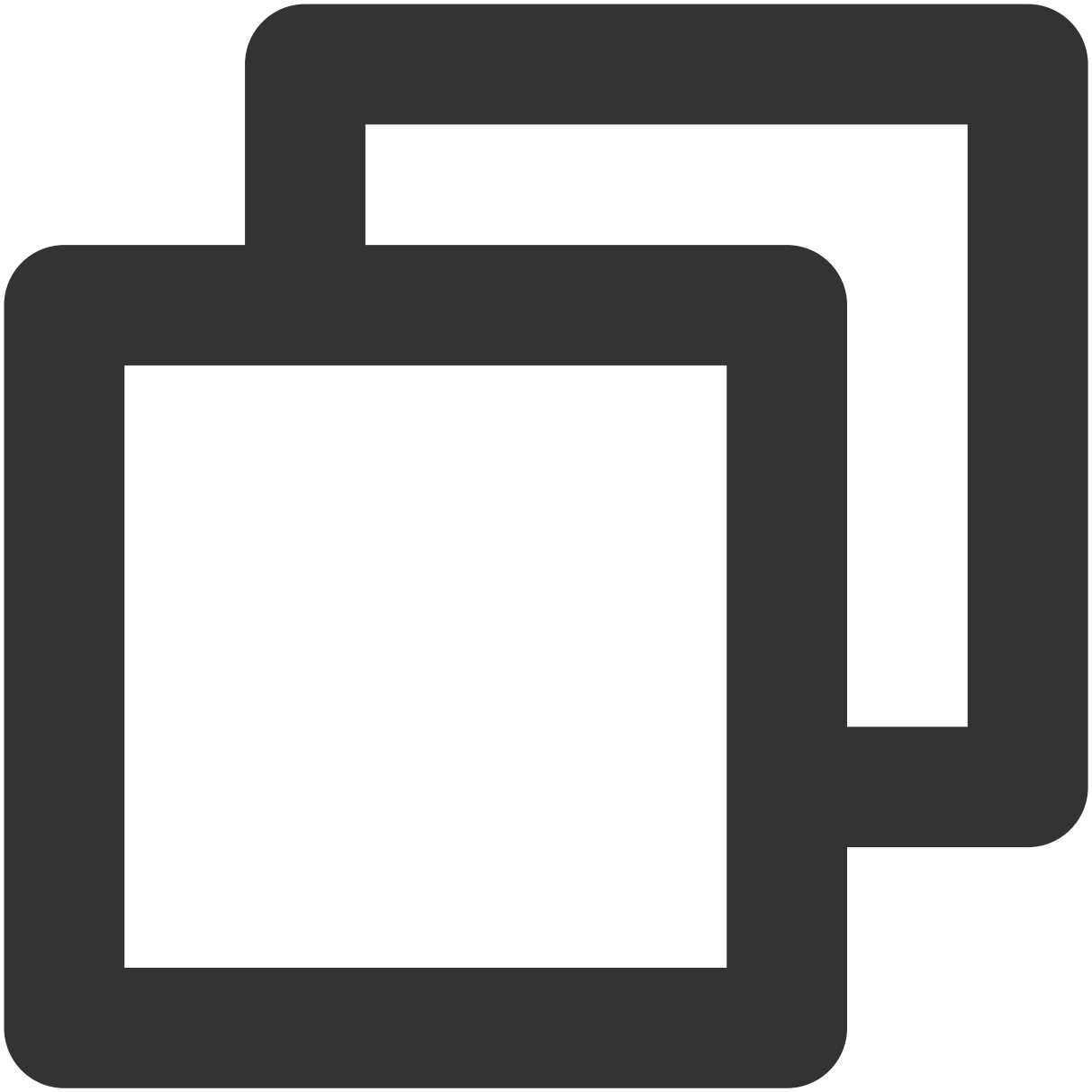
```
void onInviteeRejected(String id, String invitee);
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
invitee	String	Invitee's user ID

onInvitationCancelled

The inviter canceled the invitation.



```
void onInvitationCancelled(String id, String inviter);
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
inviter	String	Inviter's user ID

Interactive Video Streaming
Integrating TUILiveRoom (Android)

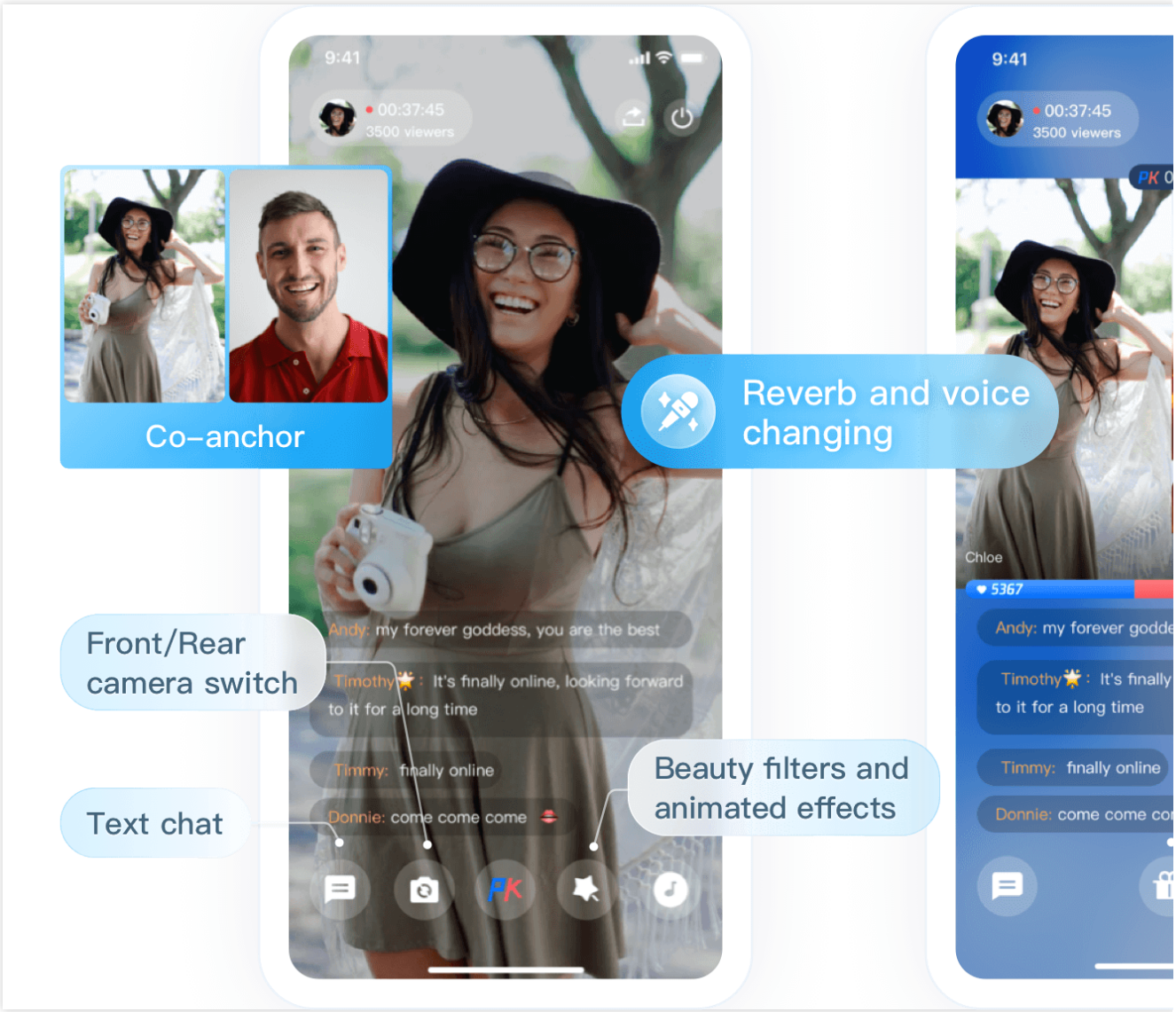
Last updated：2023-09-21 16:22:21

Overview

`TUILiveRoom` is an open-source video live streaming scenario UI component. After integrating it into your project, you can enable your application to support interactive video live streaming simply by writing a few lines of code. It provides source code for Android, iOS, and mini program platforms. Its basic features are as shown below:

Note

All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For Chat billing details, see Pricing.

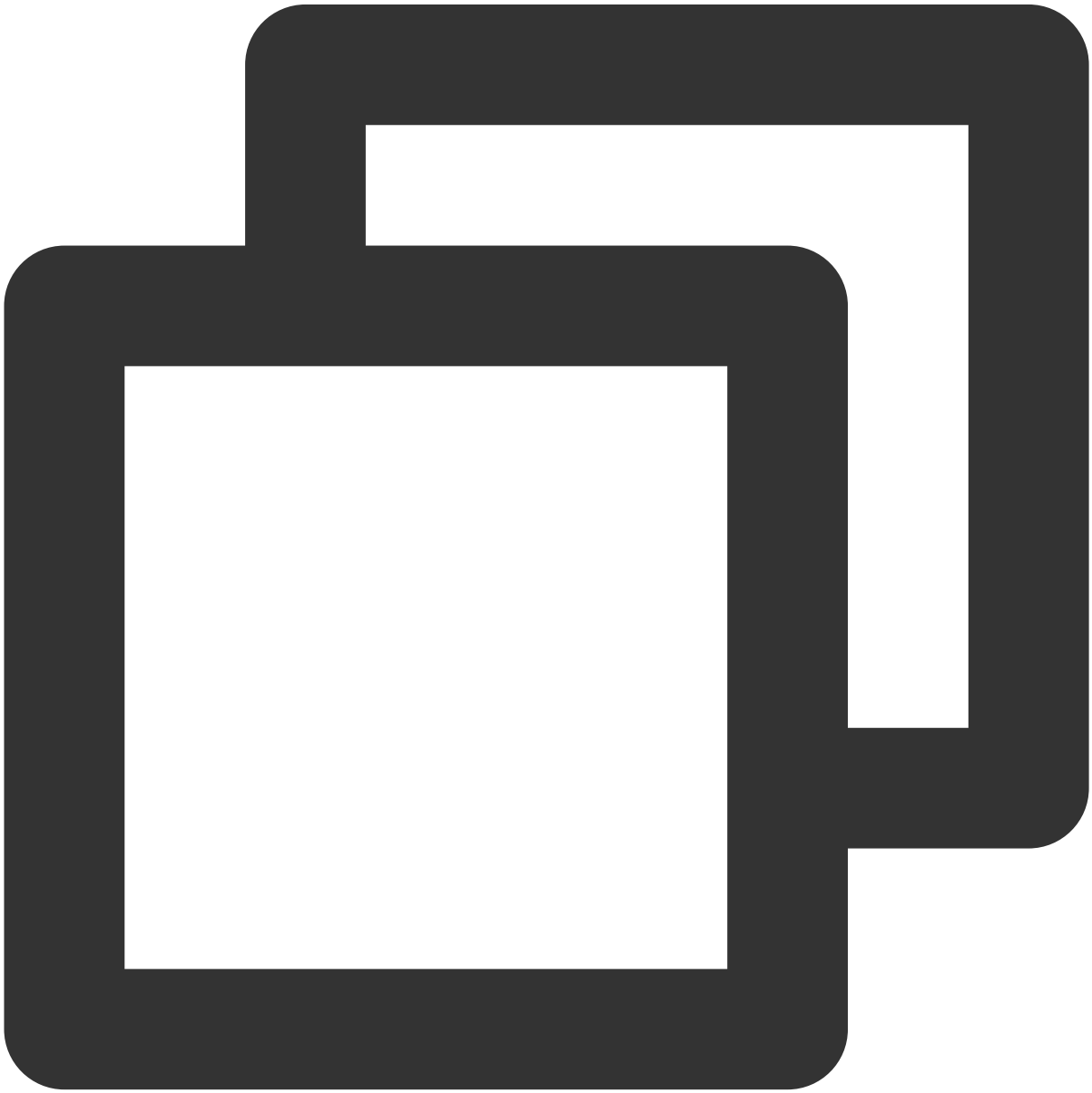


Integration

Step 1. Download and import the `TUILiveRoom` component

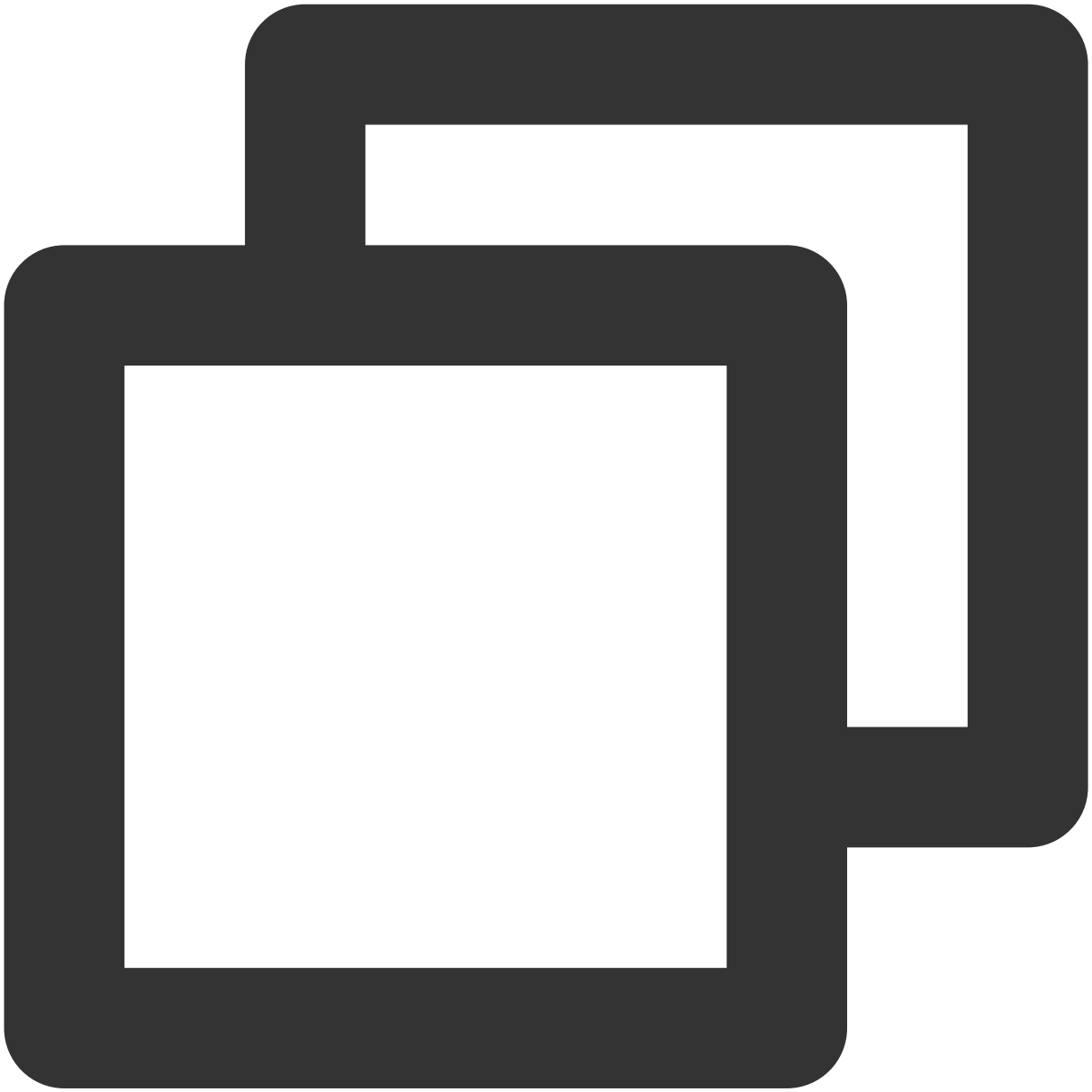
Go to GitHub, clone or download the code, copy the `Android/debug` , `Android/tuiaudioeffect` , `Android/tuibarrage` , `Android/tuibeauty` , `Android/tuigift` , and `Android/tuiliveroom` directories to your project, and complete the following import operations:

Add the code below in `setting.gradle` :



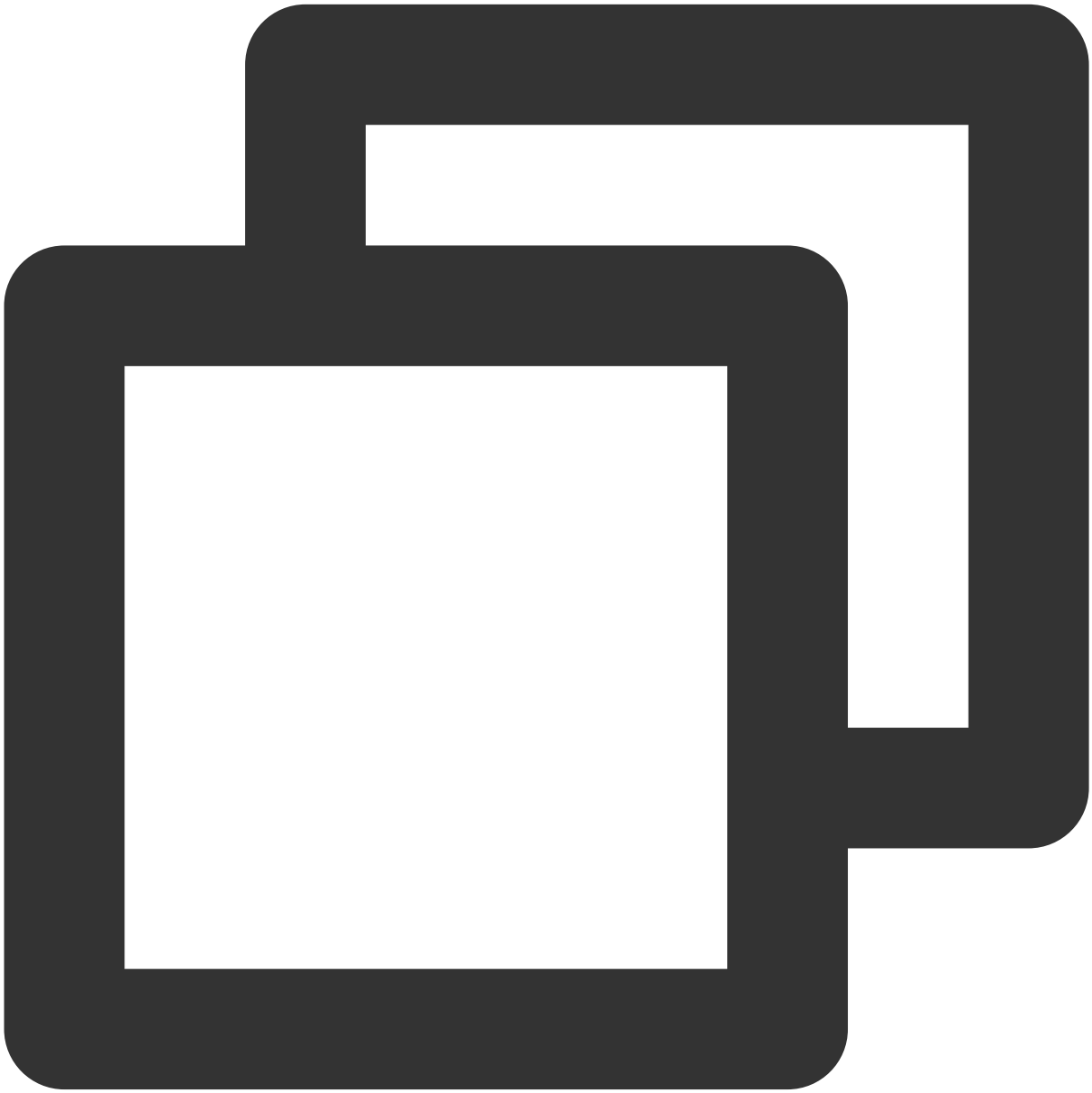
```
include ':debug'
include ':tuibeauty'
include ':tuibarrage'
include ':tuiaudioeffect'
include ':tuigift'
include ':tuiliveroom'
```

Add dependencies on `tuiliveroom` to the `build.gradle` file in `app` :



```
api project(":tuiliveroom")
```

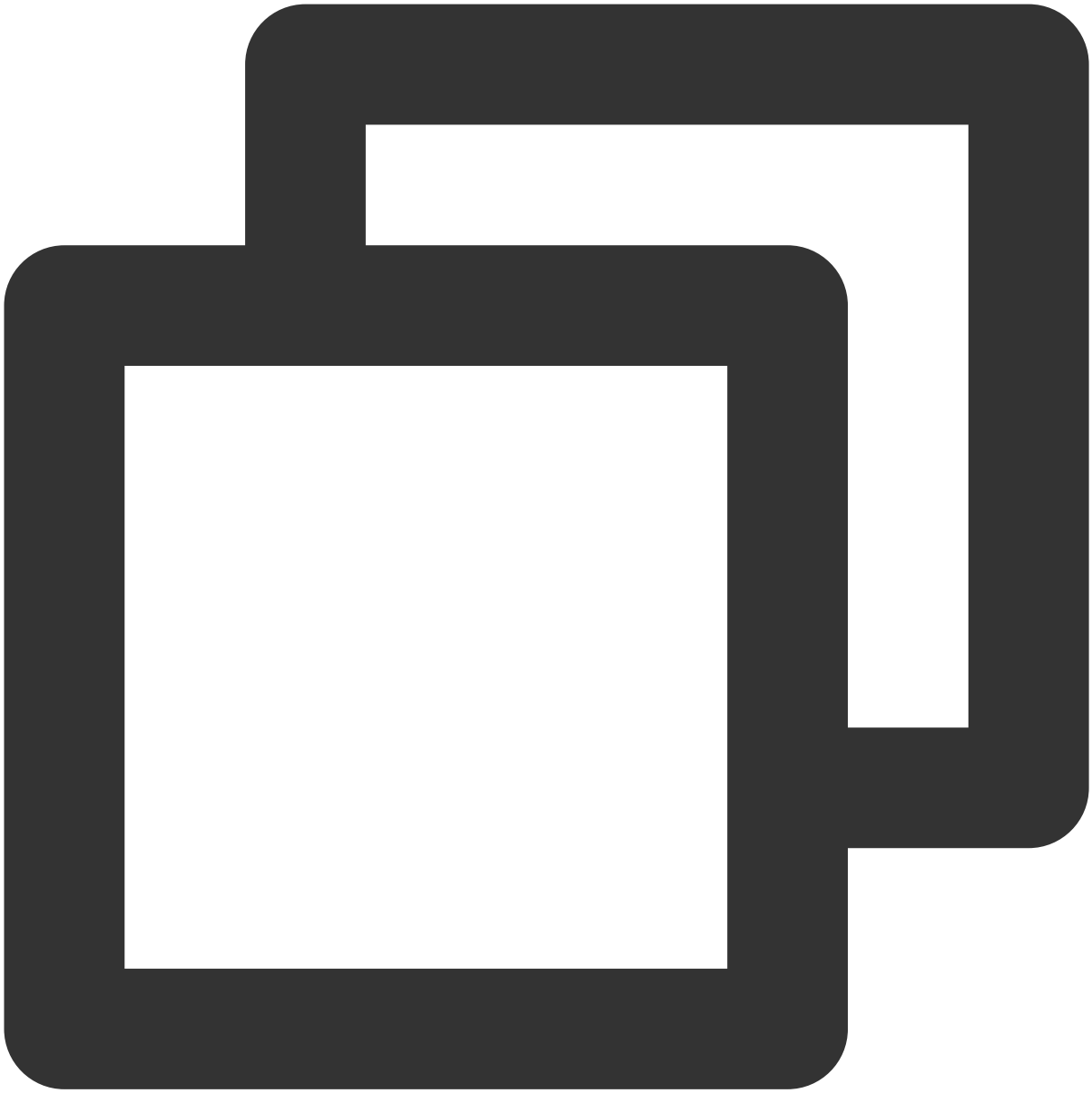
Add the TRTC SDK (`liteavSdk`) and Chat SDK (`imSdk`) dependencies in `build.gradle` in the root directory:



```
ext {
  liteavSdk = "com.tencent.liteav:LiteAVSDK_TRTC:latest.release"
  imSdk = "com.tencent.imsdk:imsdk-plus:latest.release"
}
```

Step 2. Configure permission requests and obfuscation rules

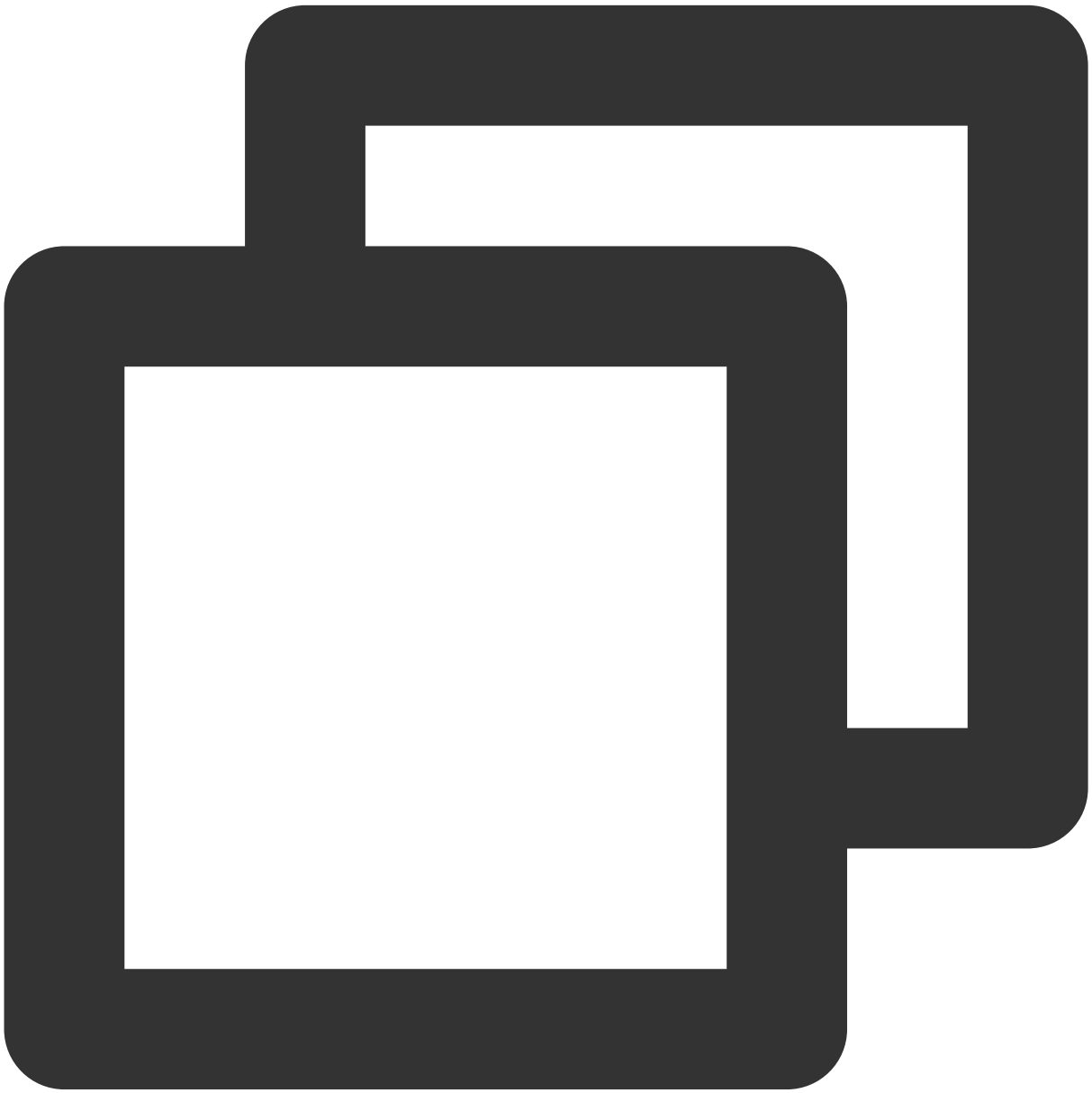
1. Configure permission requests for your application in `AndroidManifest.xml` . The SDKs need the following permissions (on Android 6.0 and later, the camera and storage read permissions must be requested at runtime.)



```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
<uses-permission android:name="android.permission.RECORD_AUDIO" />
<uses-permission android:name="android.permission.MODIFY_AUDIO_SETTINGS" />
<uses-permission android:name="android.permission.BLUETOOTH" />
<uses-permission android:name="android.permission.CAMERA" />
<uses-permission android:name="android.permission.READ_PHONE_STATE" />
<uses-feature android:name="android.hardware.camera"/>
```

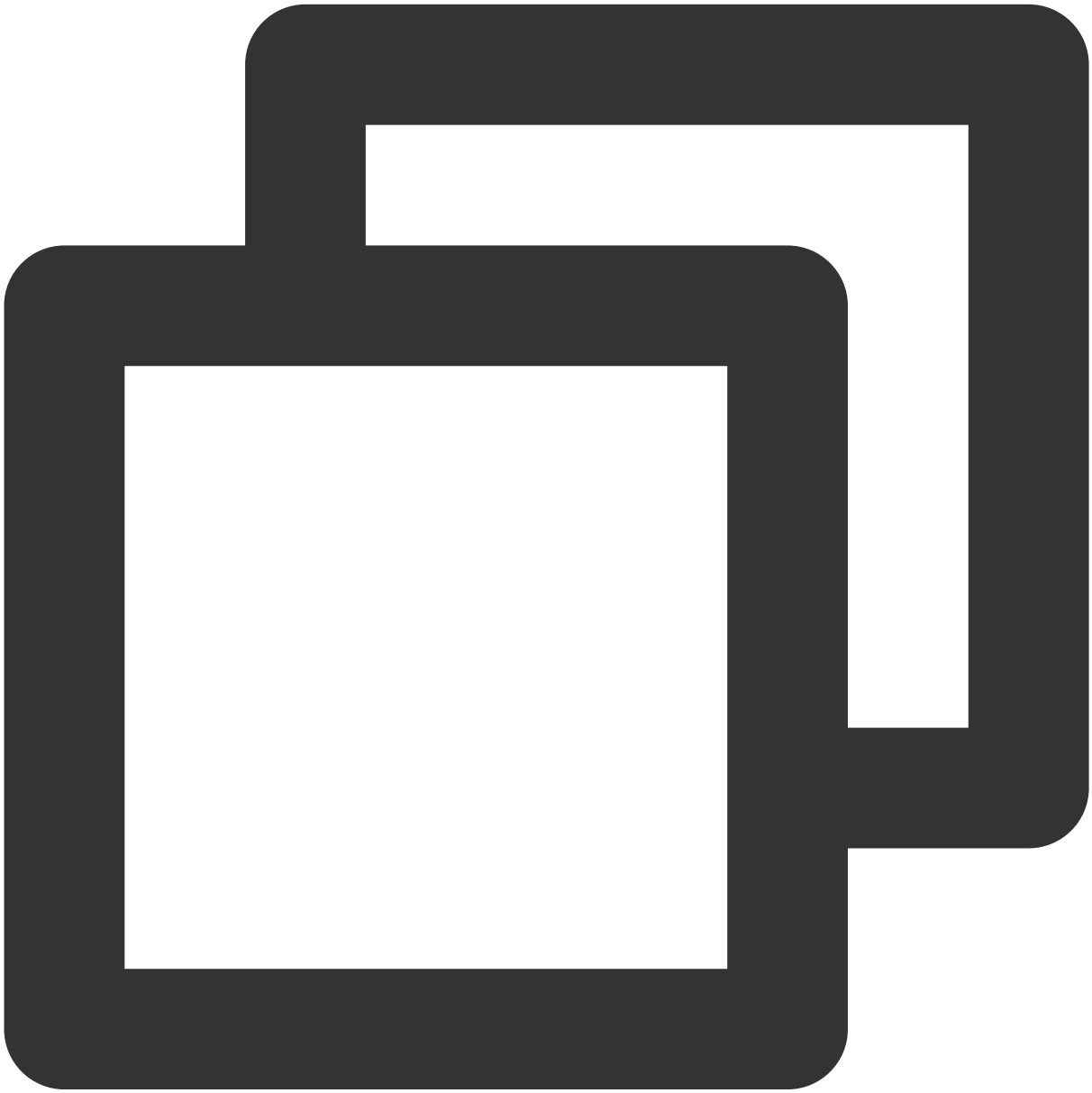
```
<uses-feature android:name="android.hardware.camera.autofocus" />
```

2. In the `proguard-rules.pro` file, add the SDK classes to the "do not obfuscate" list.



```
-keep class com.tencent.** { *;}
```

Step 3. Initialize and log in to the component

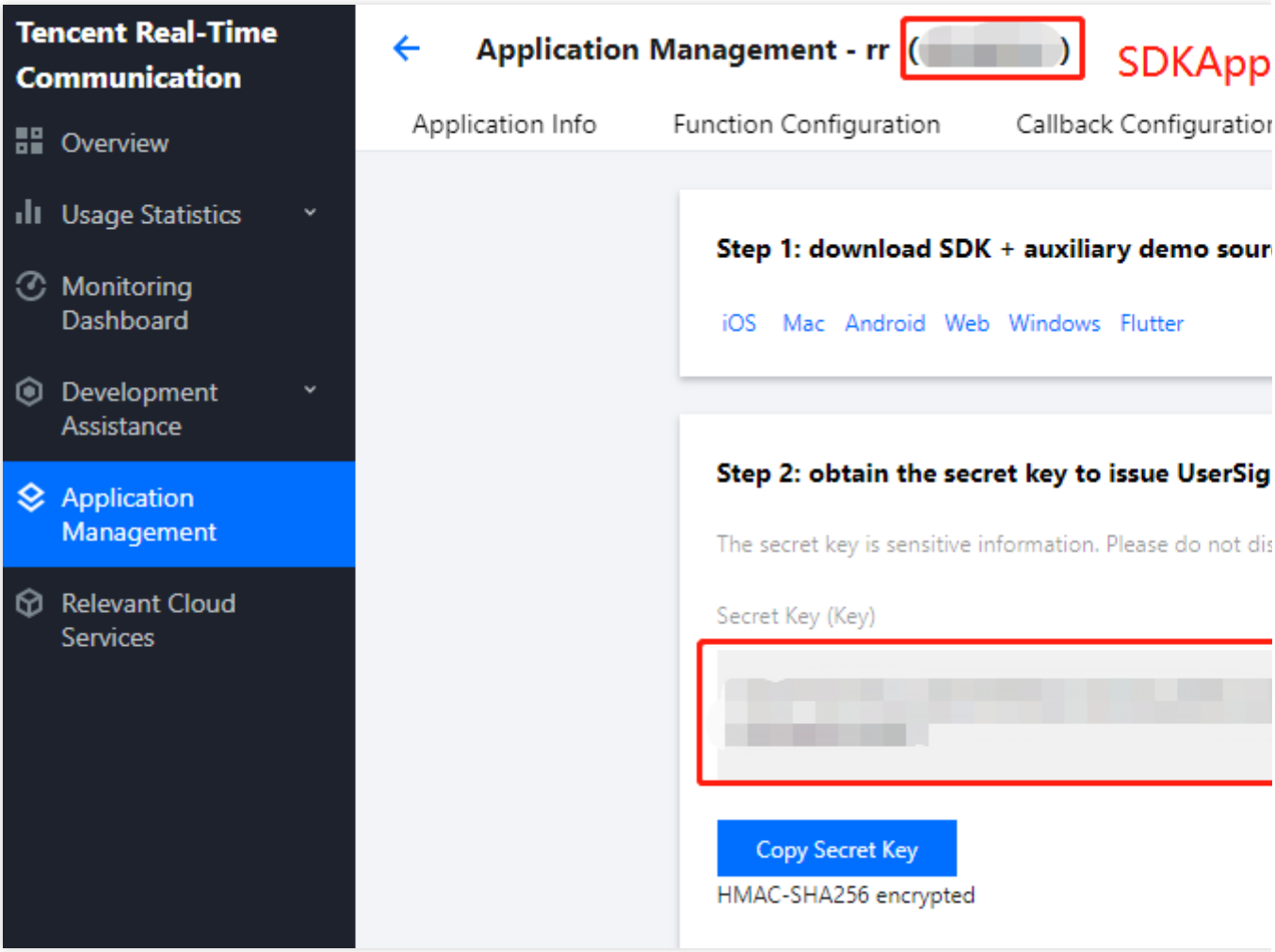


```
// 1. Add a listener and log in
TUILogin.addLoginListener(new TUILoginListener() {
    @Override
    public void onConnecting() {      // Connecting …
        super.onConnecting();
    }
    @Override
    public void onConnectSuccess() {  // Connected
        super.onConnectSuccess();
    }
    @Override
```

```
    public void onConnectFailed(int errorCode, String errorMsg) {  // Failed to con
        super.onConnectFailed(errorCode, errorMsg);
    }
    @Override
    public void onKickedOffline() {  // Callback for forced logout (for example, du
        super.onKickedOffline();
    }
    @Override
    public void onUserSigExpired() { // Callback for `userSig` expiration
        super.onUserSigExpired();
    }
});
TUILogin.login(mContext, "Your SDKAppID", "Your userId", "Your userSig", new TUICal
    @Override
    public void onSuccess() {
    }
    @Override
    public void onError(int errorCode, String errorMsg) {
        Log.d(TAG, "errorCode: " + errorCode + " errorMsg:" + errorMsg);
    }
});

// 2. Initialize the `TUILiveRoom` component
TUILiveRoom mLiveRoom = TUILiveRoom.sharedInstance(mContext);
```

Parameter description:

SDKAppID: **TRTC application ID**. If you haven't activated TRTC, log in to the TRTC console, create a TRTC application, click **Application Info**, and select the **Quick Start** tab to view its `SDKAppID` .



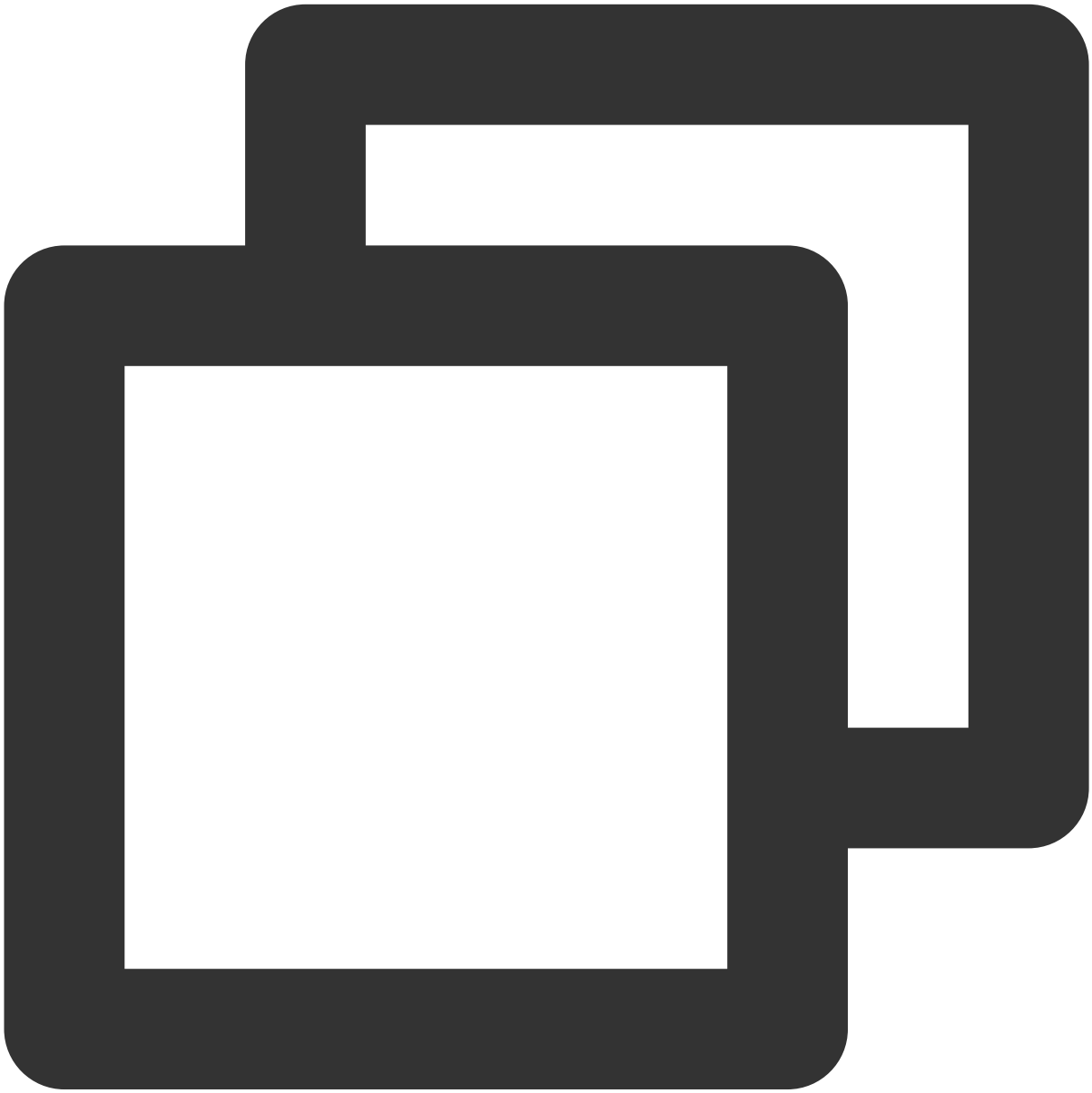
Secretkey: **TRTC application key**. Each secret key corresponds to a `SDKAppID`. You can view your application's secret key on the Application Management page of the TRTC console.

userId: ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_). We recommend that you keep it consistent with your user account system.

UserSig: Security signature calculated based on `SDKAppID`, `userId`, and `Secretkey`. You can click here to quickly generate a `UserSig` for testing. For more information, see UserSig.

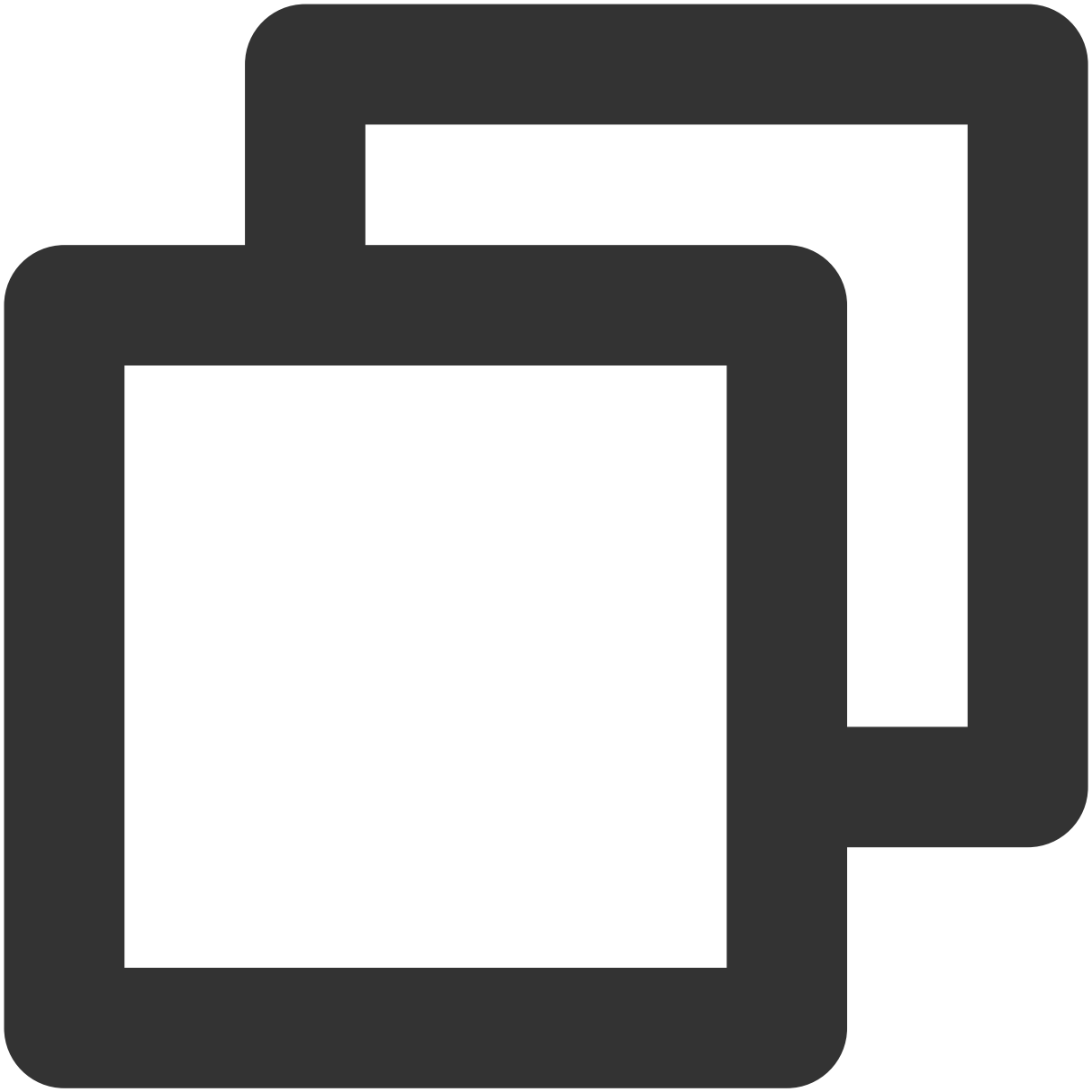
Step 4. Implement an interactive video live room

1. **The anchor starts streaming**.



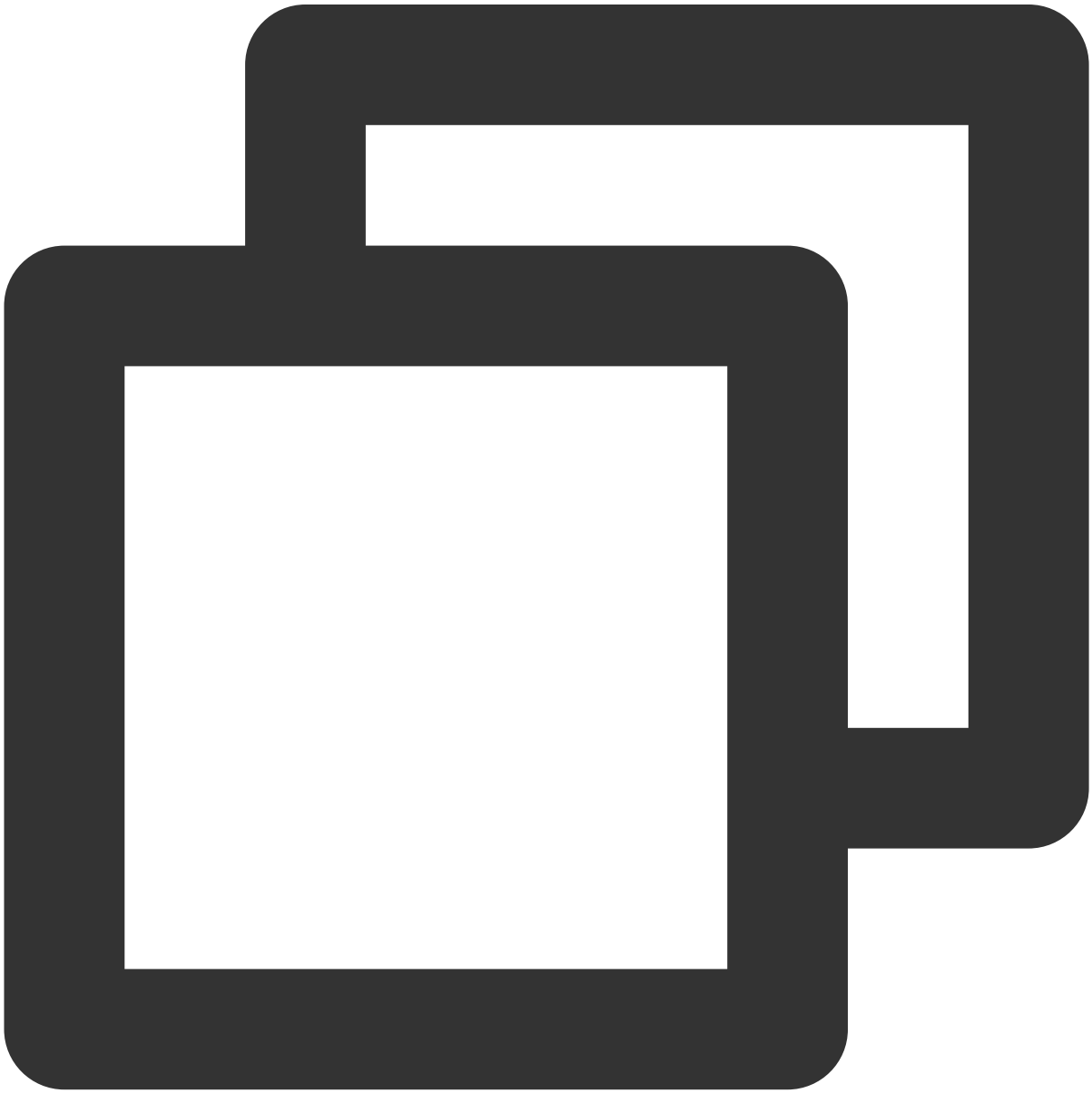
```
mLiveRoom.createRoom(int roomId, String roomName, String coverUrl);
```

2. **The audience member watches**.



```
mLiveRoom.enterRoom(roomId);
```

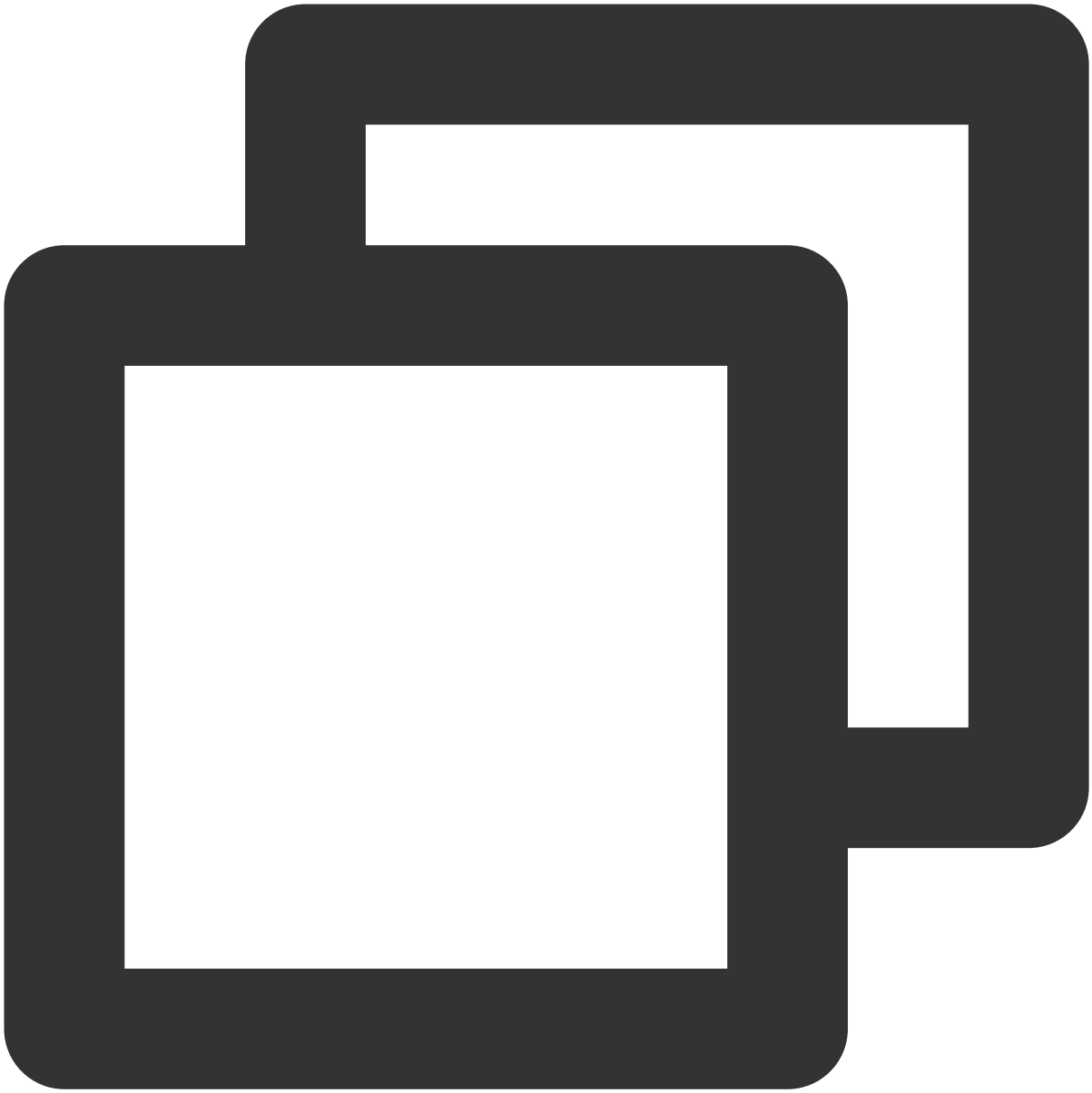
3. **Audience member and the anchor co-anchor together through** TRTCLiveRoom#requestJoinAnchor.



```
// 1. The audience member sends a co-anchoring request
// `LINK_MIC_TIMEOUT` is the timeout period
TRTCLiveRoom mTRTCLiveRoom=TRTCLiveRoom.sharedInstance(mContext);
mTRTCLiveRoom.requestJoinAnchor(mSelfUserId + "requested to co-anchor", LINK_MIC_TI
 new TRTCLiveRoomCallback.ActionCallback() {
 @Override
 public void onCallback(int code, String msg) {
     if (code == 0) {
         // The request is accepted by the anchor
         TXCloudVideoView view = new TXCloudVideoView(context);
         parentView.add(view);
```

```
            // The audience member turns on the camera and starts pushing streams
            mTRTCLiveRoom.startCameraPreview(true, view, null);
            mTRTCLiveRoom.startPublish(mSelfUserId + "_stream", null);
        }
    }
});

// 2. The anchor receives the co-anchoring request
mTRTCLiveRoom.setDelegate(new TRTCLiveRoomDelegate() {
    @Override
    public void onRequestJoinAnchor(final TRTCLiveRoomDef.TRTCLiveUserInfo userInfo,
        String reason, final int timeout) {
        // The anchor accepts the co-anchoring request
        mTRTCLiveRoom.responseJoinAnchor(userInfo.userId, true, "agreed to co-anchor")
    }

    @Override
    public void onAnchorEnter(final String userId) {
        // The anchor receives a notification that the co-anchoring audience member ha
        TXCloudVideoView view = new TXCloudVideoView(context);
        parentView.add(view);
        // The anchor plays the audience member's video
        mTRTCLiveRoom.startPlay(userId, view, null);
    }
});
```

4. **Anchors from different rooms communicate with each other by calling** TRTCLiveRoom#requestRoomPK.



```
// Create room 12345
mLiveRoom.createRoom(12345, "roomA", "Your coverUrl");
// Create room 54321
mLiveRoom.createRoom(54321, "roomB", "Your coverUrl");

// Anchor A:
TRTCLiveRoom mTRTCLiveRoom=TRTCLiveRoom.sharedInstance(mContext);

// 1. Send a cross-room communication request to anchor B
mTRTCLiveRoom.requestRoomPK(54321, "B",
 new TRTCLiveRoomCallback.ActionCallback() {
```

```
 @Override
 public void onCallback(int code, String msg) {
     // 5. Receive a callback of whether the request is accepted by anchor B
     if (code == 0) {
         // Accepted
     } else {
         // Declined
     }
 }
});

mTRTCLiveRoom.setDelegate(new TRTCLiveRoomDelegate() {
 @Override
 public void onAnchorEnter(final String userId) {
     // 6. Receive a notification about anchor B's entry
     mTRTCLiveRoom.startPlay(userId, mTXCloudVideoView, null);
 }
});

// Anchor B:
// 2. Receive anchor A's request
mTRTCLiveRoom.setDelegate(new TRTCLiveRoomDelegate() {
 @Override
 public void onRequestRoomPK(
    final TRTCLiveRoomDef.TRTCLiveUserInfo userInfo, final int timeout) {
     // 3. Accept anchor A's request
     mTRTCLiveRoom.responseRoomPK(userInfo.userId, true, "");
 }
 @Override
 public void onAnchorEnter(final String userId) {
     // 4. Receive a notification about anchor A's entry and play anchor A's video
     mTRTCLiveRoom.startPlay(userId, mTXCloudVideoView, null);
 }
});
```

Suggestions and Feedback

If you have any suggestions or feedback, please contact colleenyu@tencent.com.

Integrating TUILiveRoom (iOS)

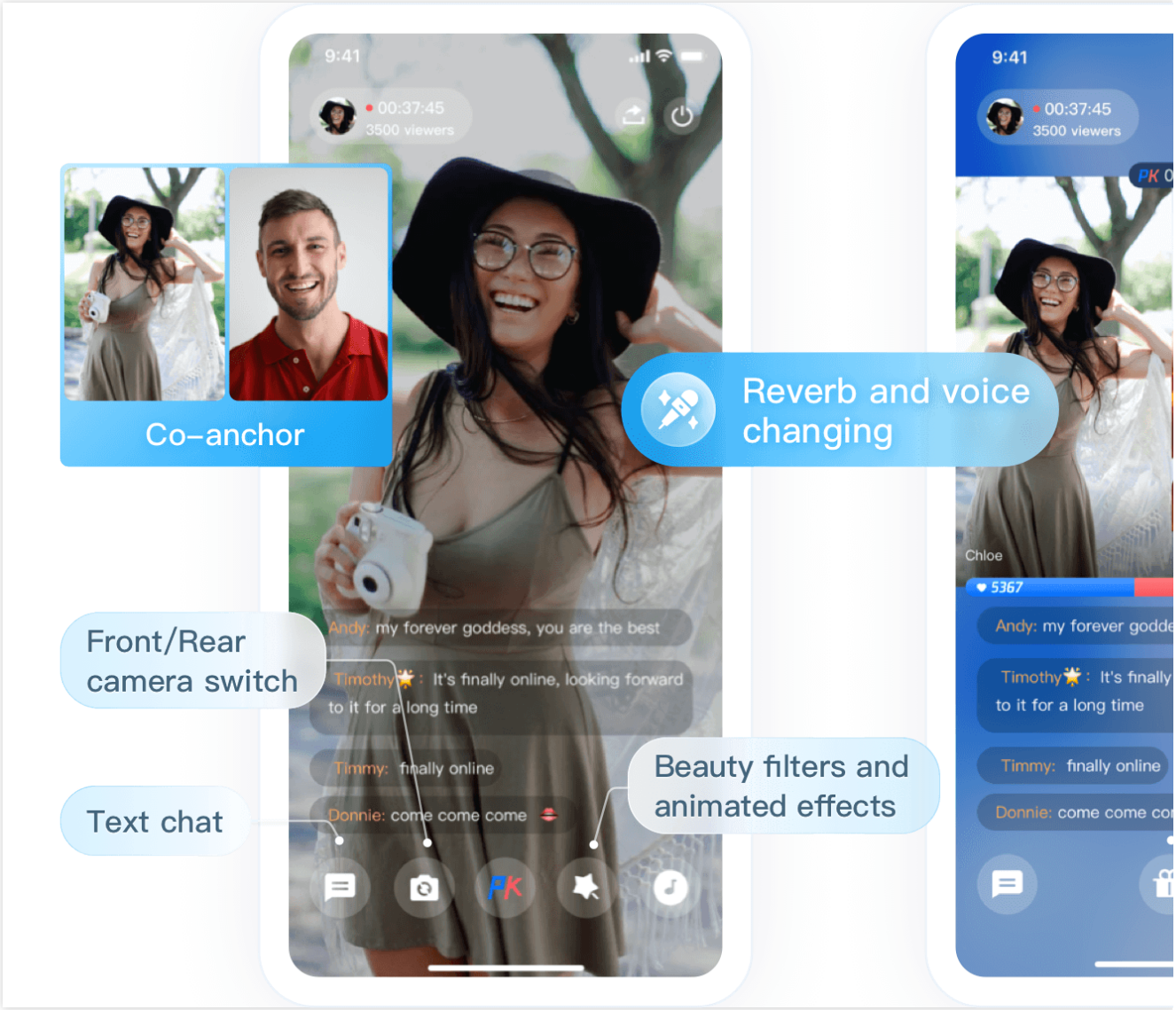
Last updated：2023-11-20 17:51:26

Overview

`TUILiveRoom` is an open-source video live streaming scenario UI component. After integrating it into your project, you can enable your application to support interactive video live streaming simply by writing a few lines of code. It provides source code for Android, iOS, and mini program platforms. Its basic features are as shown below:

Note

All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For Chat billing details, see Pricing.

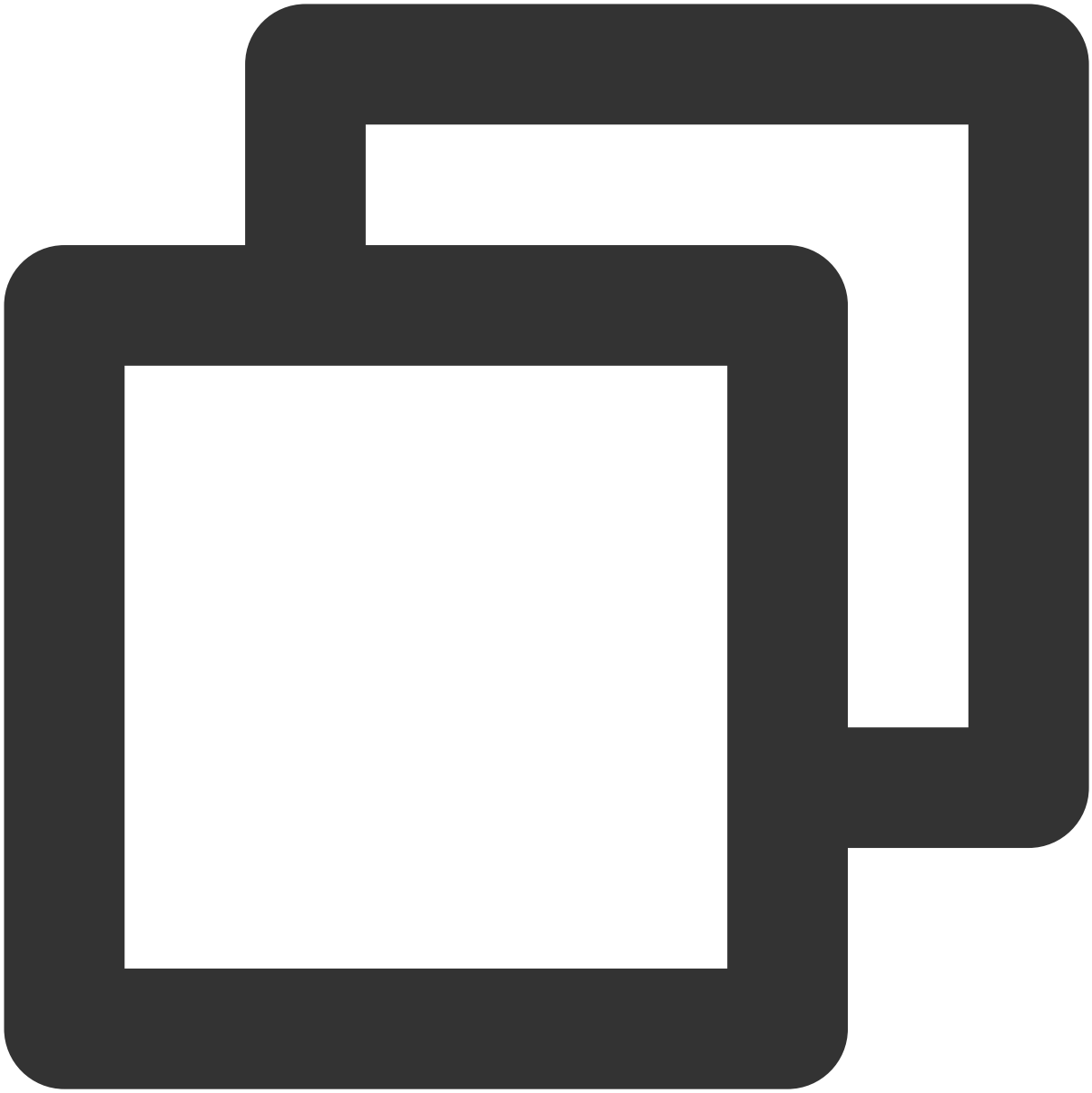


Integration

Step 1. Import the `TUILiveRoom` component

To import the component using CocoaPods, follow the steps below:

1. Create a `TUILiveRoom` folder in the same directory as `Podfile` in your project.
2. Go to the component's GitHub page, clone or download the code, and copy the `Source`, `Resources`, `TUIBeauty`, `TUIAudioEffect`, `TUIBarrage`, `TUIGift`, and `TUIKitCommon` folders and the `TUILiveRoom.podspec` file in **TUILiveRoom/iOS/** to the `TUILiveRoom` folder in your project.
3. Add the following dependencies to your `Podfile` and run `pod install` to import the component.



```
# :path => "The relative path of `TUILiveRoom.podspec`"
pod 'TUILiveRoom', :path => "./TUILiveRoom/TUILiveRoom.podspec", :subspecs => ["TRT
# :path => "The relative path of `TUIKitCommon.podspec`"
pod 'TUIKitCommon', :path => "./TUILiveRoom/TUIKitCommon/"
# :path => "The relative path of `TUIBeauty.podspec`"
pod 'TUIBeauty', :path => "./TUILiveRoom/TUIBeauty/"
# :path => "The relative path of `TUIAudioEffect.podspec`"
pod 'TUIAudioEffect', :path => "./TUILiveRoom/TUIAudioEffect/"
# :path => "The relative path of `TUIBarrage.podspec`"
pod 'TUIBarrage', :path => "./TUILiveRoom/TUIBarrage/"
# :path => "The relative path of `TUIGift.podspec`"
```

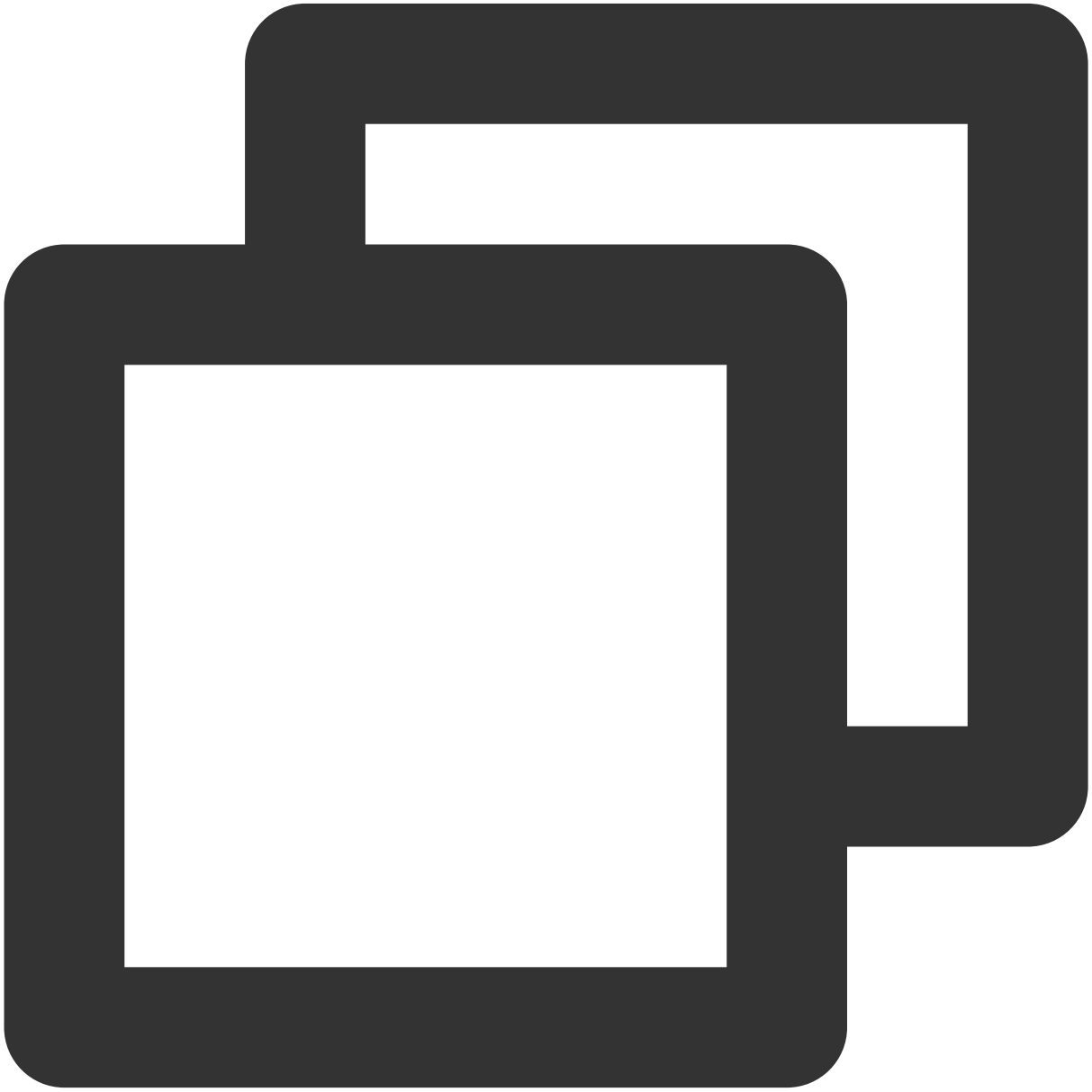
```
pod 'TUIGift', :path => "./TUILiveRoom/TUIGift/"
```

Note

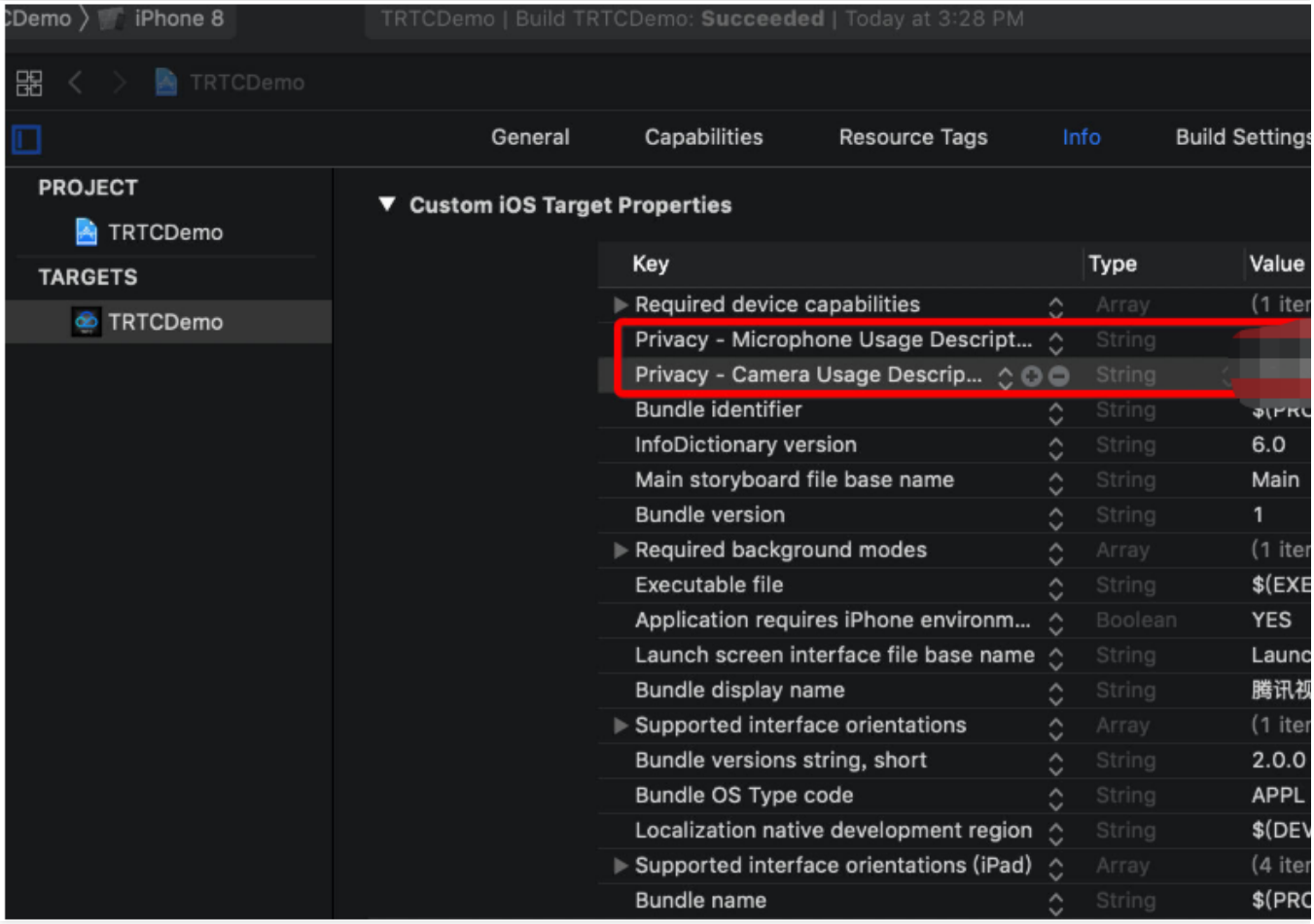
The `Source` and `Resources` folders and the `TUILiveRoom.podspec` file must be in the same directory. `TUIKitCommon.podspec` is in the `TUIKitCommon` folder.

Step 2. Configure permissions

Your app needs mic and camera permissions to implement audio/video communication. Add the two items below to `Info.plist` of your app. Their content is what users see in the mic and camera access pop-up windows.



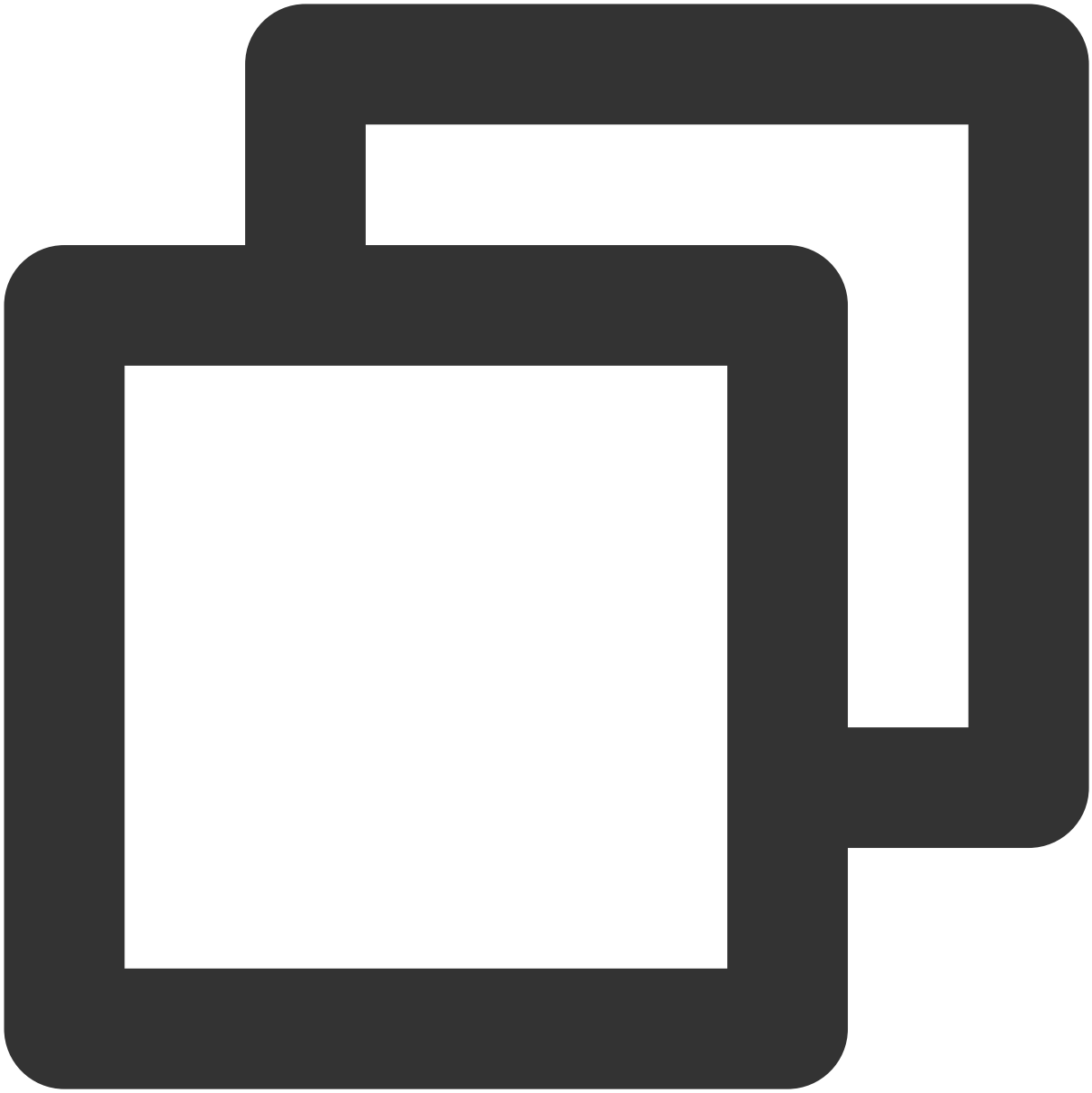
```
<key>NSCameraUsageDescription</key>
<string>RoomApp needs to access your camera to capture video.</string>
<key>NSMicrophoneUsageDescription</key>
<string>RoomApp needs to access your mic to capture audio.</string>
```



Step 3. Initialize and log in to the component

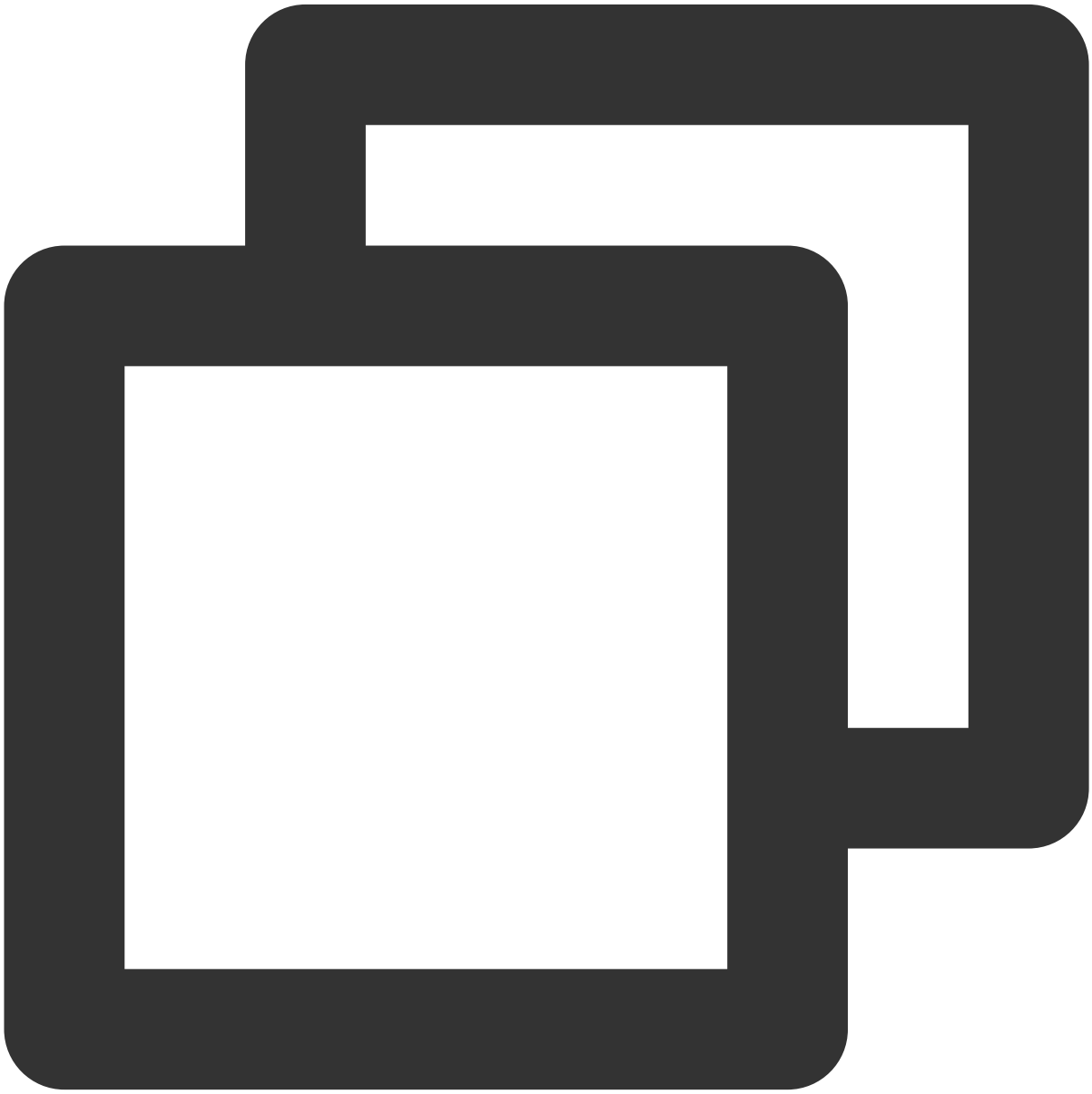
Objective-C

Swift



```
@import TUILiveRoom;
@import TUICore;

// 1. Log in to the component
[TUILogin login:@"Your SDKAppID" userID:@"Your UserID" userSig:@"Your UserSig" succ

} fail:^(int code, NSString *msg) {

}];
// 2. Initialize the `TUILiveRoom` instance
TUILiveRoom *mLiveRoom = [TUILiveRoom sharedInstance];
```

```
```

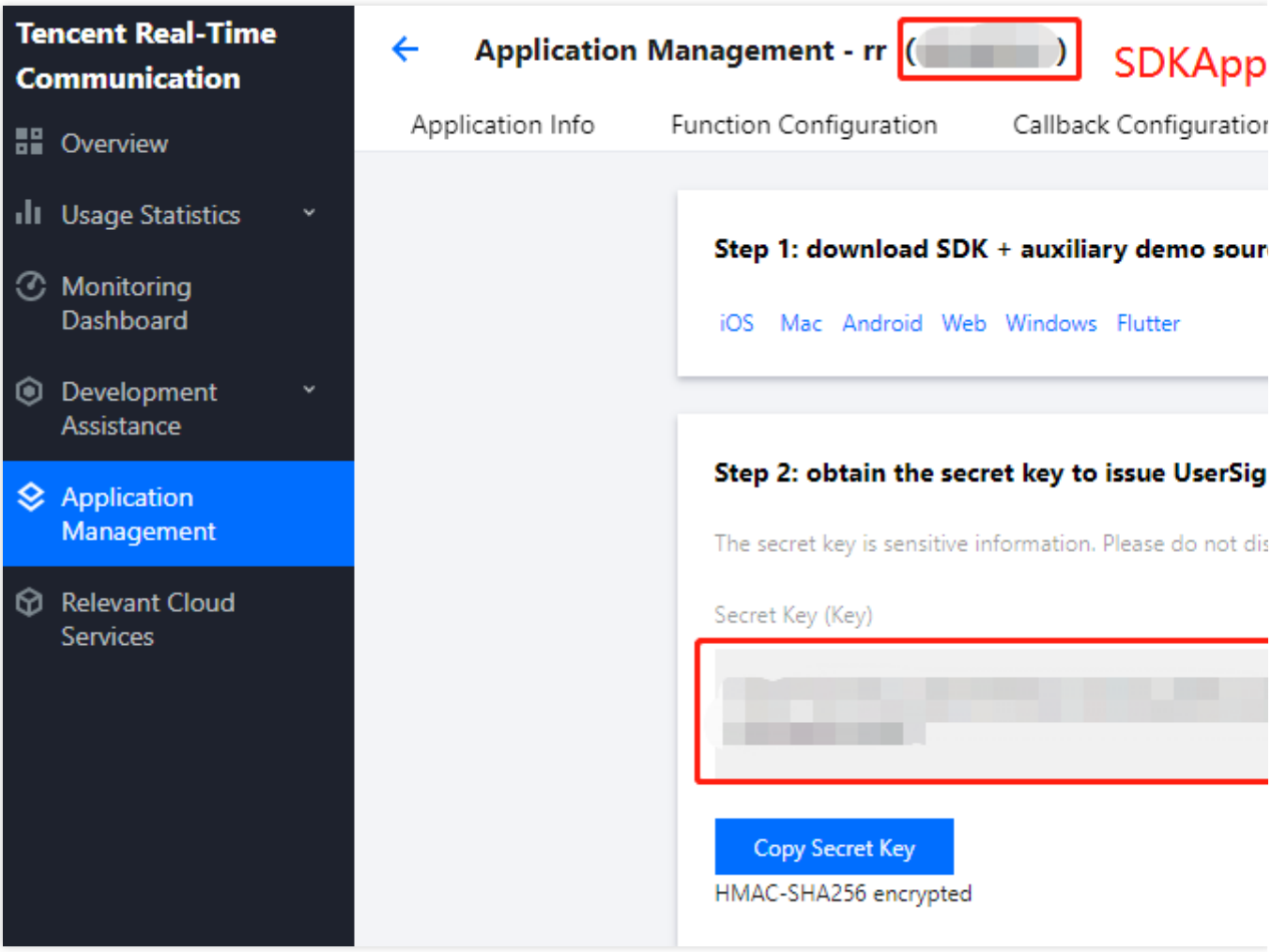


```
import TUILiveRoom
import TUICore

// 1. Log in to the component
TUILogin.login("Your SDKAppID", userID: "Your UserID", userSig: "Your UserSig") {

} fail: { code, msg in
```

```
}
// 2. Initialize the `TUILiveRoom` instance
let mLiveRoom = TUILiveRoom.sharedInstance
```

Parameter description:

SDKAppID: **TRTC application ID**. If you haven't activated TRTC, log in to the TRTC console, create a TRTC application, click **Application Info**, and select the **Quick Start** tab to view its `SDKAppID` .



Secretkey: **TRTC application key**. Each secret key corresponds to an `SDKAppID` . You can view your application's secret key on the Application Management page of the TRTC console.

UserId: Current user ID, which is a custom string that can contain up to 32 bytes of letters and digits (special characters are not supported).

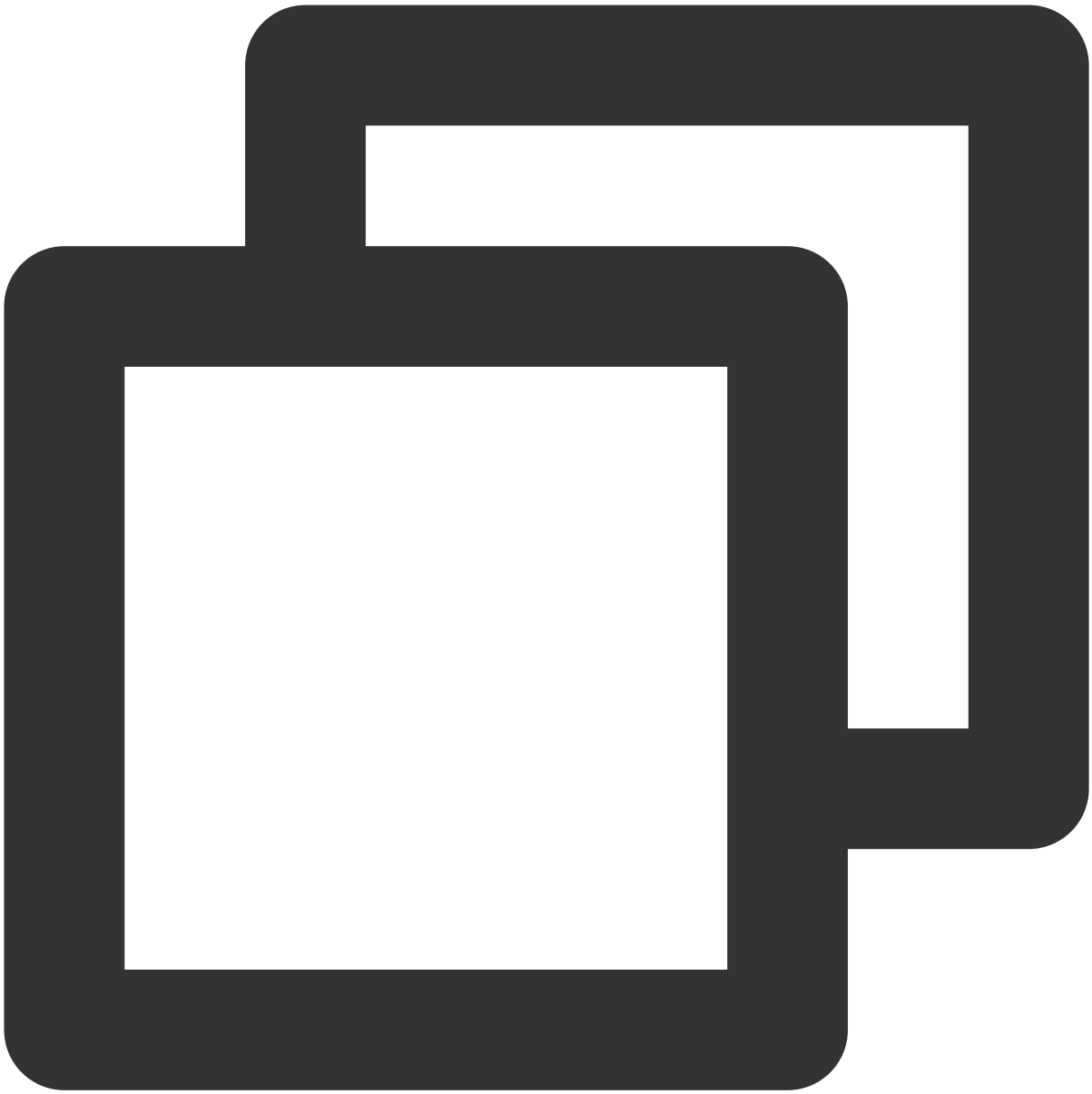
UserSig: Security signature calculated based on `SDKAppID` , `userId` , and `Secretkey` . You can click here to quickly generate a `UserSig` for testing or calculate it on your own by referring to our TUILiveRoom demo project. For more information, see UserSig.

Step 4. Implement an interactive video live room

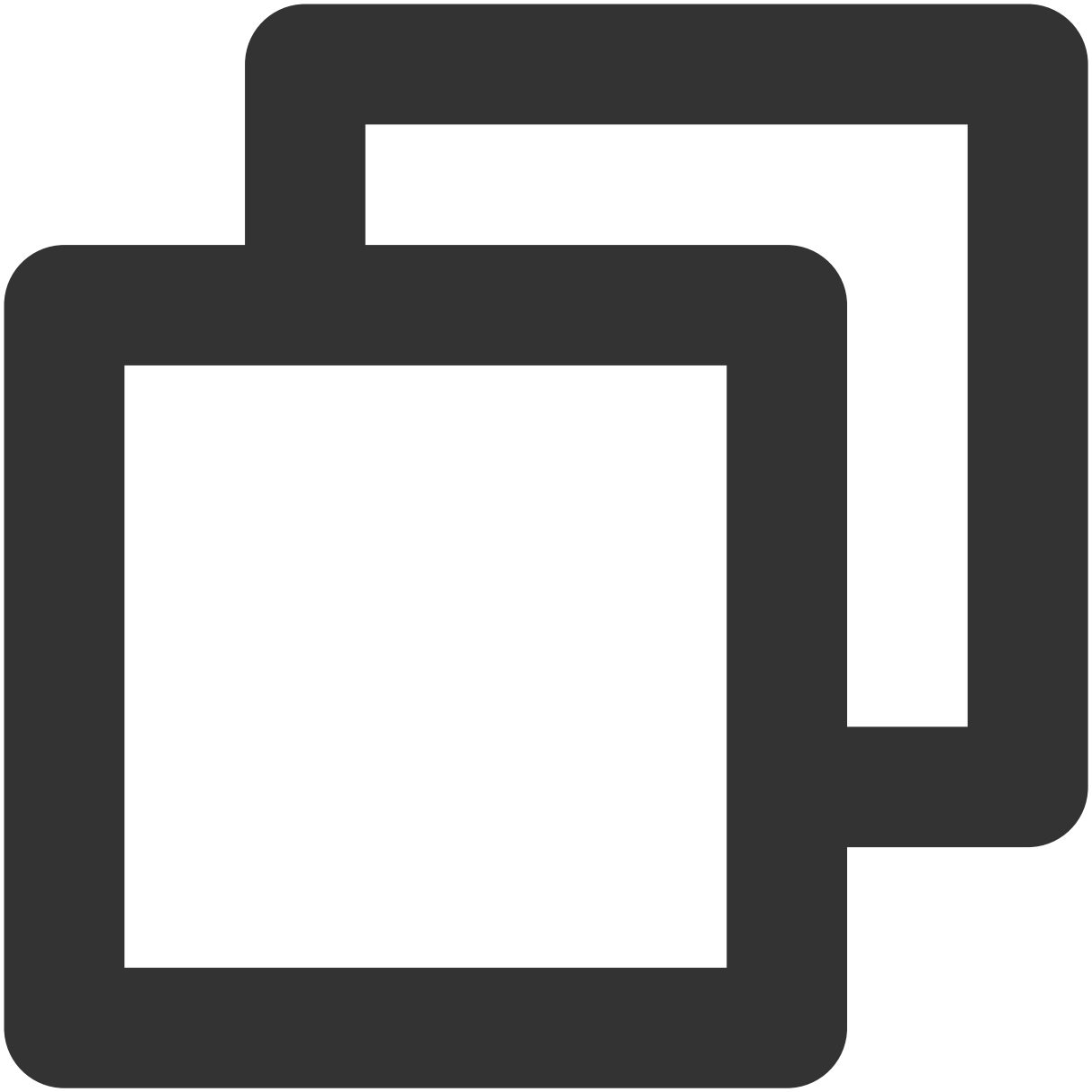
1. **The anchor starts streaming**.

Objective-C

Swift



```
[mLiveRoom createRoomWithRoomId:123 roomName:@"test room" coverUrl:@""];
```

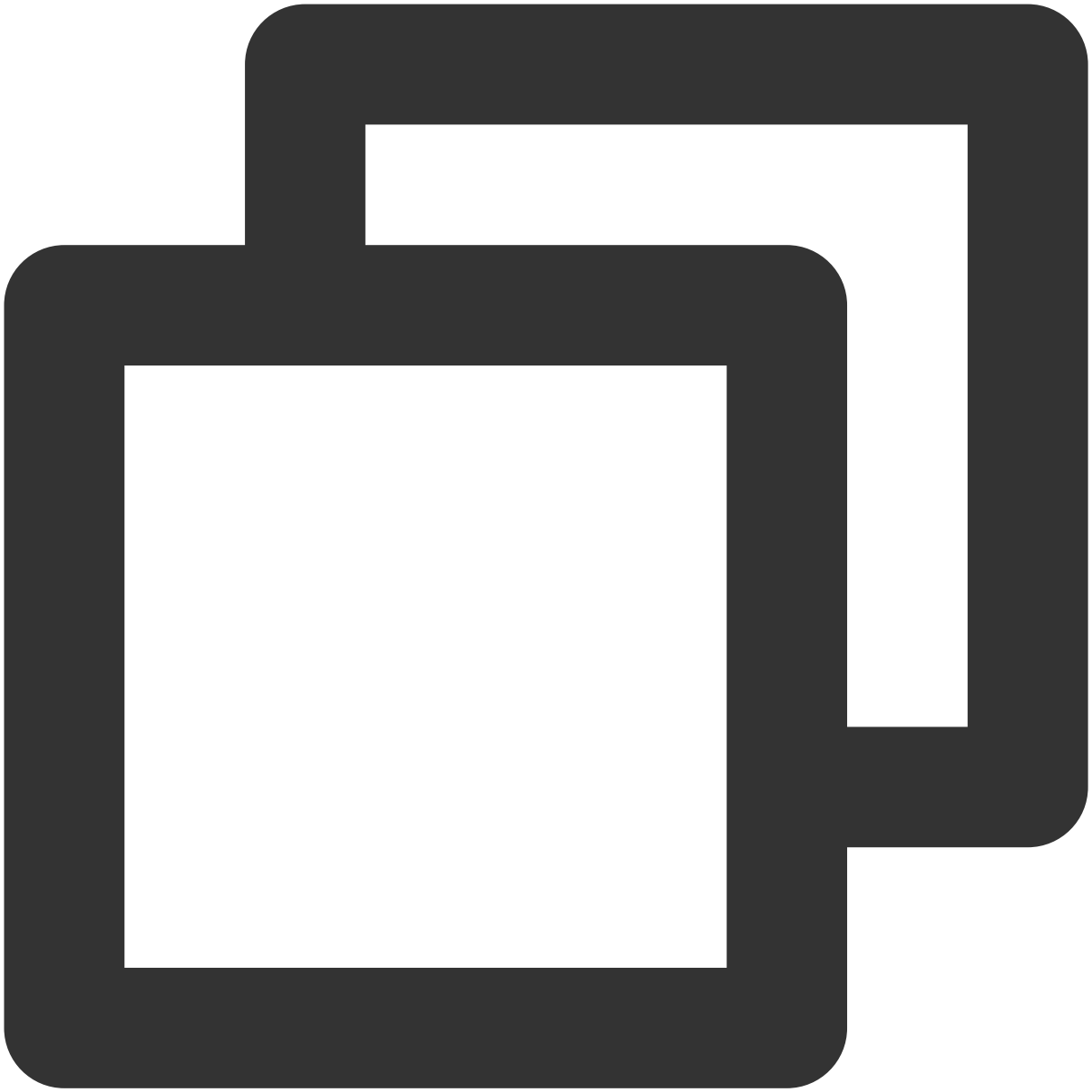


```
mLiveRoom.createRoom(roomId: 123, roomName: "test room", coverUrl:"")
```

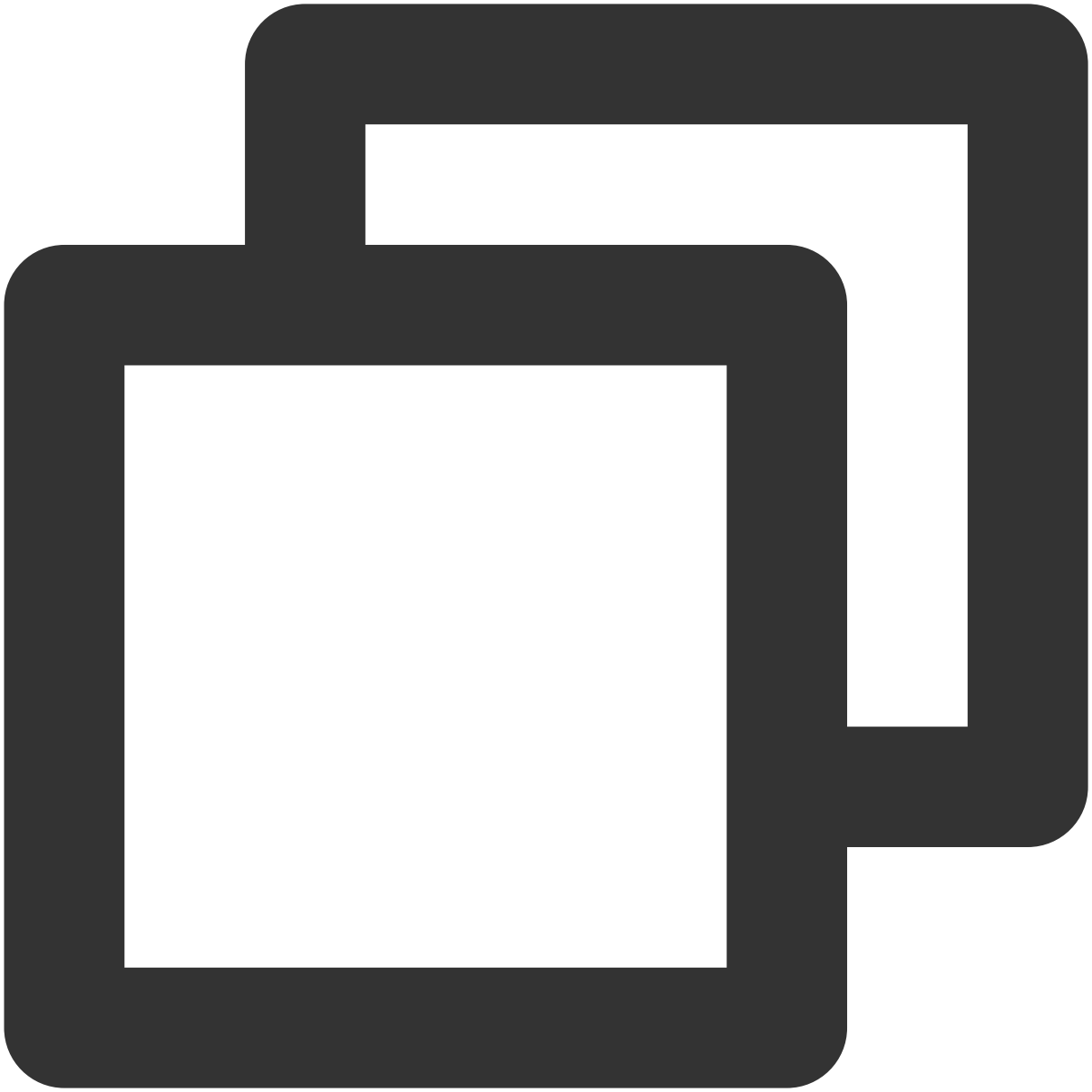
2. **The audience member watches**.

Objective-C

Swift



```
[mLiveRoom enterRoomWithRoomId:123];
```

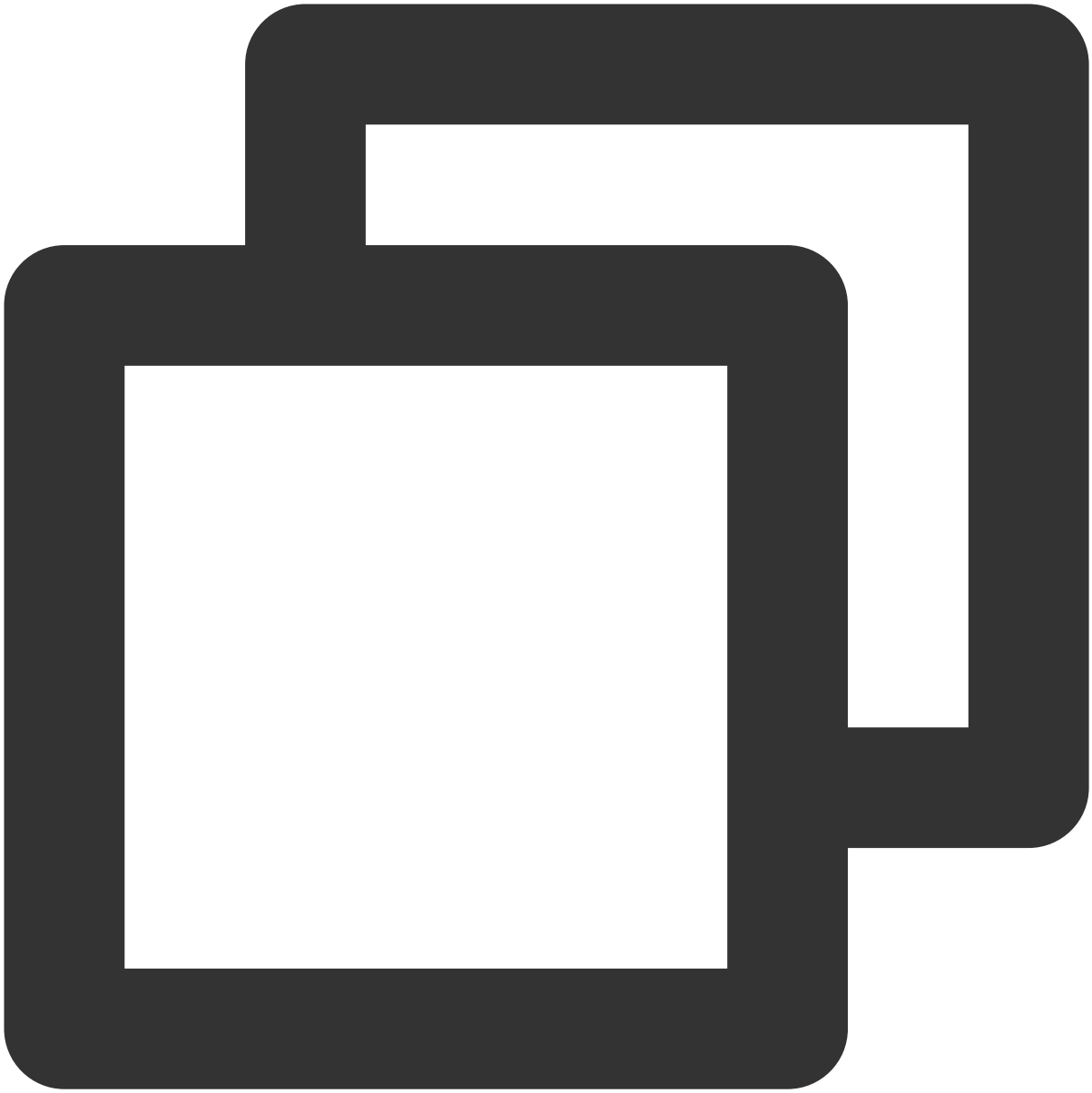


```
mLiveRoom.createRoom(roomId: 123)
```

3. **The audience member and the anchor co-anchor together through** TRTCLiveRoom#requestJoinAnchor.

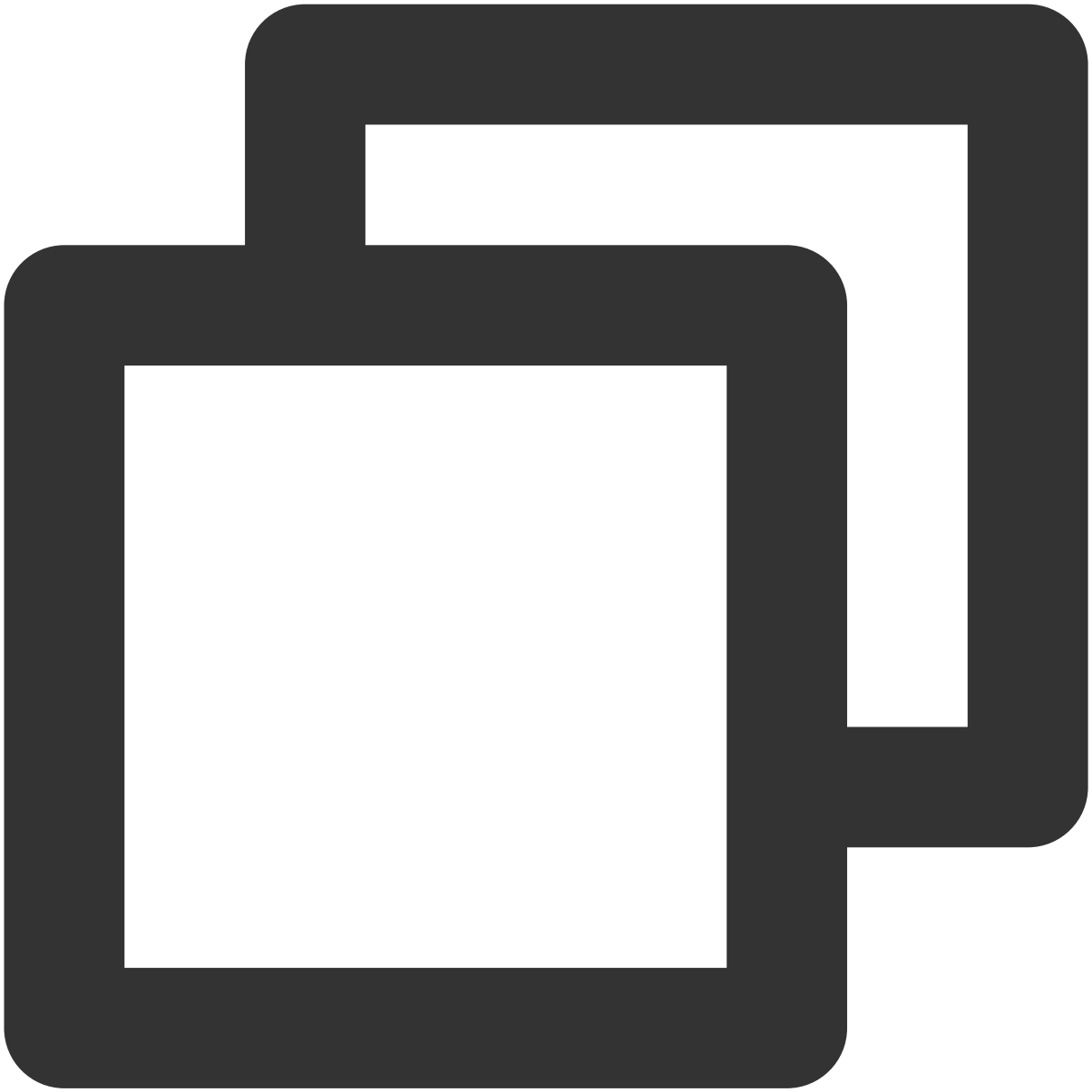
Objective-C

Swift



```
// 1. The audience member sends a co-anchoring request
[TRTCLiveRoom shareInstance].delegate = self;
// @param mSelfUserId String Current user ID
NSString *mSelfUserId = @"1314";
[[TRTCLiveRoom shareInstance] requestJoinAnchor:[NSString stringWithFormat:@"%@ req
    if (agreed) {
        // The request is accepted by the anchor
      UIView *playView = [UIView new];
            [self.view addSubView:playView];
        // The audience member turns on the camera and starts pushing streams
      [[TRTCLiveRoom shareInstance] startCameraPreviewWithFrontCamera:YES view:play
```

```
        [[TRTCLiveRoom shareInstance] startPublishWithStreamID:[NSString stringWithFo
    }
}];

// 2. The anchor receives the co-anchoring request
#pragma mark - TRTCLiveRoomDelegate
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom onRequestJoinAnchor:(TRTCLiveUser
    // The anchor accepts the co-anchoring request
    [[TRTCLiveRoom shareInstance] responseJoinAnchor:user.userId agree:YES reason:@
}

- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom onAnchorEnter:(NSString *)userID
    // The anchor receives a notification that the co-anchoring audience member has
    UIView *playView = [UIView new];
    [self.view addSubview:playView];
    // The anchor plays the audience member's video
    [[TRTCLiveRoom shareInstance] startPlayWithUserID:userID view:playView callback
}
```



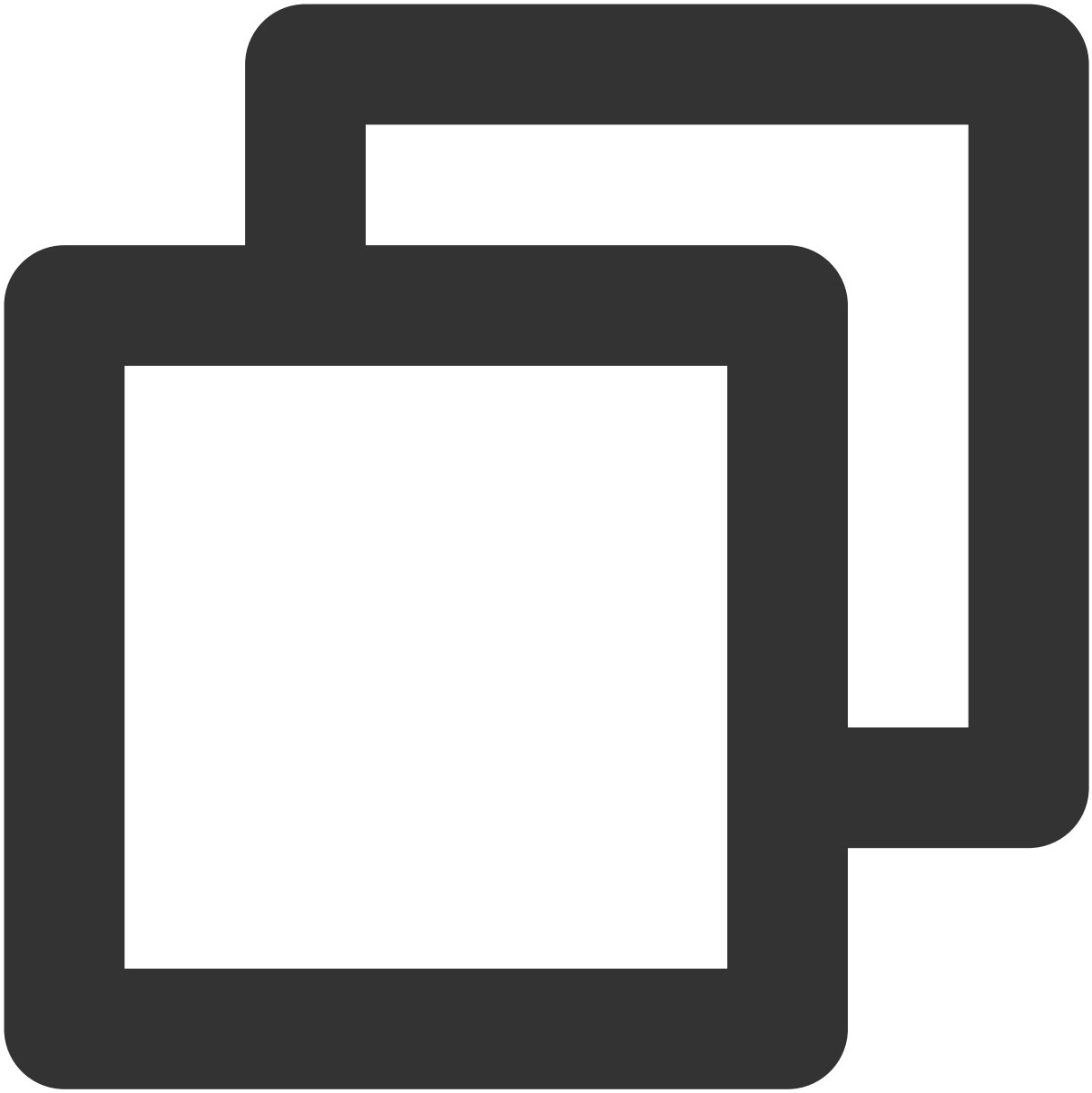
```
// 1. The audience member sends a co-anchoring request
TRTCLiveRoom.shareInstance().delegate = self
let mSelfUserId = "1314"
TRTCLiveRoom.shareInstance().requestJoinAnchor(reason: mSelfUserId + "requested to
    guard let self = self else { return }
  if agree {
        // The request is accepted by the anchor
        let playView = UIView()
        self.view.addSubView(playView)
        // The audience member turns on the camera and starts pushing streams
        TRTCLiveRoom.shareInstance().startCameraPreview(frontCamera: true, view: pl
```

```
        TRTCLiveRoom.shareInstance().startPublish(streamID: mSelfUserId + "_stream"
    }
}

// 2. The anchor receives the co-anchoring request
extension ViewController: TRTCLiveRoomDelegate {

    func trtcLiveRoom(_ trtcLiveRoom: TRTCLiveRoom, onRequestJoinAnchor user: TRTCL
        // The anchor accepts the co-anchoring request
        TRTCLiveRoom.shareInstance().responseRoomPK(userID: user.userId, agree: tru
    }

    func trtcLiveRoom(_ trtcLiveRoom: TRTCLiveRoom, onAnchorEnter userID: String) {
        // The anchor receives a notification that the co-anchoring audience member
        let playView = UIView()
        view.addSubview(playView)
        // The anchor plays the audience member's video
        TRTCLiveRoom.shareInstance().startPlay(userID: userID, view: playView);
    }
}
```

4. **Anchors from different rooms communicate with each other by calling** TRTCLiveRoom#requestRoomPK.

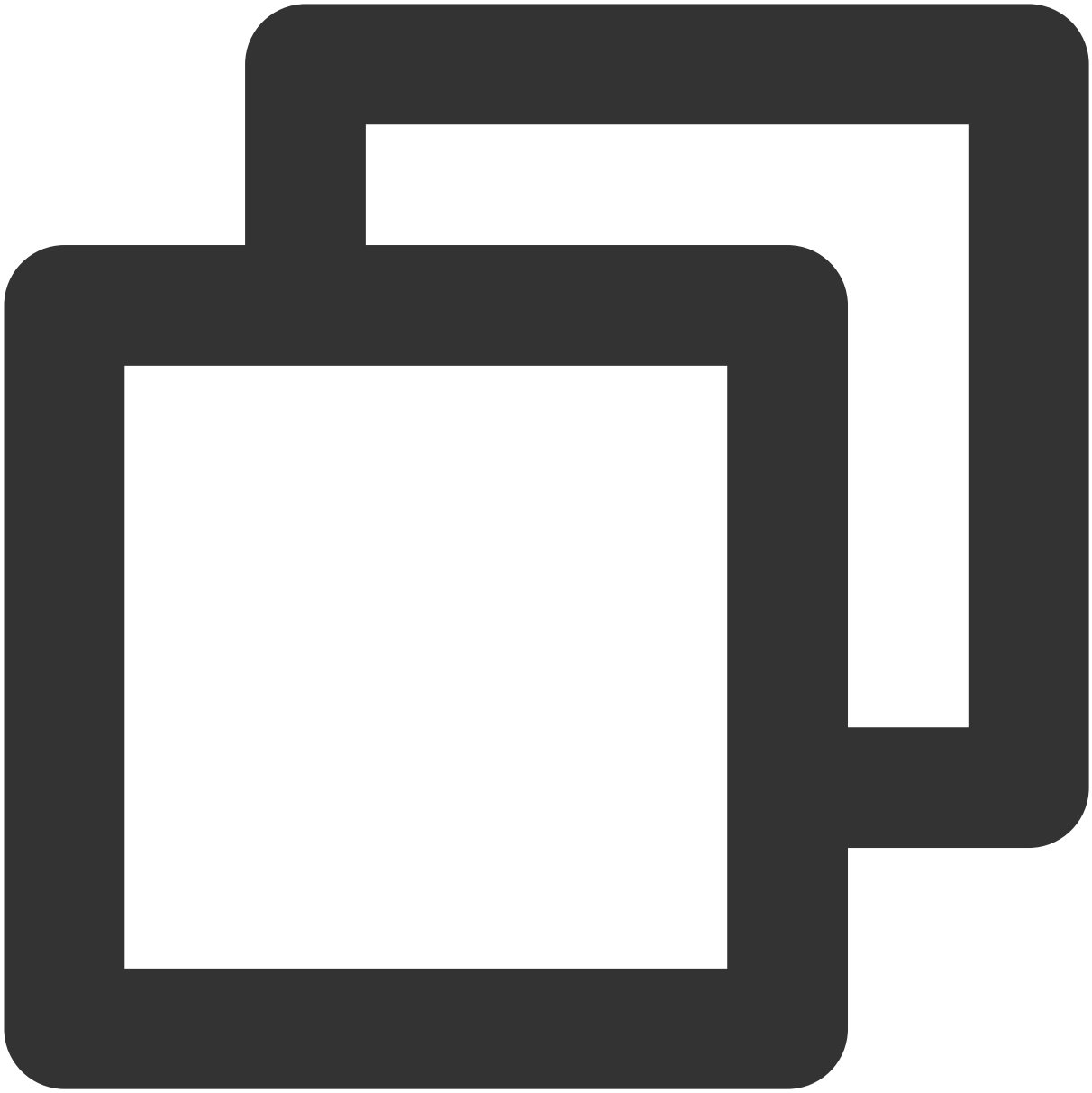
Objective-C

Swift



```
// Create room 12345
[[TUILiveRoom sharedInstance] createRoomWithRoomId:12345 roomName:@"roomA" coverUrl
// Create room 54321
[[TUILiveRoom sharedInstance] createRoomWithRoomId:54321 roomName:@"roomB" coverUrl

// Host A
// Send a cross-room communication request to anchor B
[[TRTCLiveRoom shareInstance] requestRoomPKWithRoomID:543321 userID:@"roomB userId"
    if (agreed) {
        // Anchor B accepts the request
    } else {
```

```
        // Anchor B rejects the request
    }
}];

// Anchor B:
// 2. Receive anchor A’s request
#pragma mark - TRTCLiveRoomDelegate
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom onRequestRoomPK:(TRTCLiveUserInfo
    // 3. Accept anchor A's request
    [[TRTCLiveRoom shareInstance] responseRoomPKWithUserID:user.userId agree:YES re
}

- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom onAnchorEnter:(NSString *)userID
    // 4. Receive a notification about anchor A’s entry and play anchor A's video
    [[TRTCLiveRoom shareInstance] startPlayWithUserID:userID view:playAView callbac
}
```



```
// Create room 12345
TUILiveRoom.sharedInstance.createRoom(roomId: 12345, roomName: "roomA")
// Create room 54321
TUILiveRoom.sharedInstance.createRoom(roomId: 54321, roomName: "roomB")

// Host A
// Send a cross-room communication request to anchor B
TRTCLiveRoom.shareInstance().requestRoomPK(roomID: 543321, userID: "roomB userId",
     guard let self = self else { return }
    if agreed {
        // Anchor B accepts the request
```

```
    } else {
        // Anchor B rejects the request
    }
}

// Anchor B:
// 2. Receive anchor A’s request
extension ViewController: TRTCLiveRoomDelegate {
    func trtcLiveRoom(_ trtcLiveRoom: TRTCLiveRoom, onRequestRoomPK user: TRTCLiveU
        // 3. Accept anchor A's request
        TRTCLiveRoom.shareInstance().responseRoomPK(userID: user.userId, agree: tru
    }

    func trtcLiveRoom(_ trtcLiveRoom: TRTCLiveRoom, onAnchorEnter userID: String) {
        // 4. Receive a notification about anchor A’s entry and play anchor A's vid
        TRTCLiveRoom.shareInstance().startPlay(userID: userID, view: playAView);
    }
}
```

Suggestions and Feedback

If you have any suggestions or feedback, please contact colleenyu@tencent.com.

Integrating TUIPusher and TUIPlayer (Web)

Last updated：2023-09-25 10:56:13

Overview

`TUIPusher` and `TUIPlayer` are our web-based open-source components for interactive live streaming (UI included). You can use them together with our basic SDKs such as TRTC and Chat to quickly equip your live streaming applications (corporate live streaming, live shopping, vocational training, remote teaching, etc.) with web-based publishing and playback capabilities.

Note

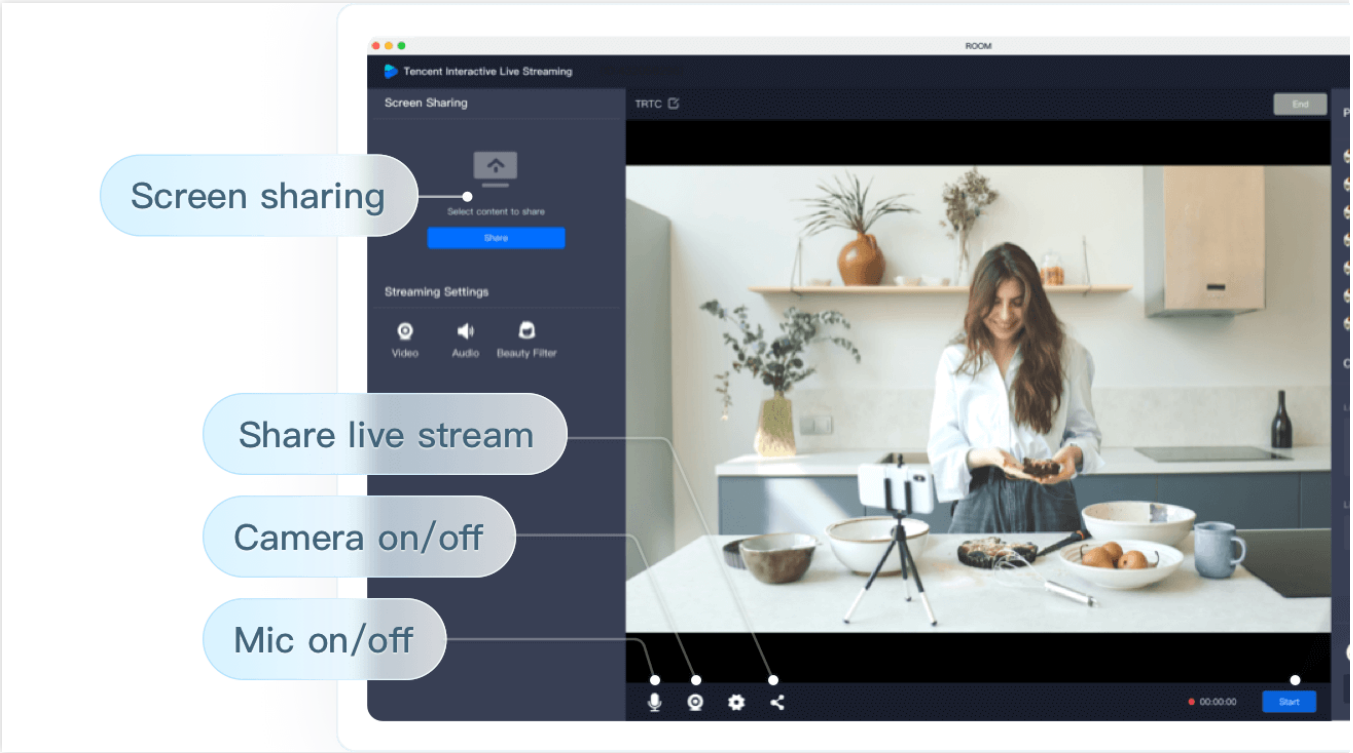
All components of TUIKit use two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, Chat and the trial edition of the Chat SDK (which supports only 100 DAUs) will be activated automatically. For the billing details of Chat, see Pricing.

Strengths:

A general-purpose live streaming solution with UI that includes common live streaming features such as device selection, beauty filters, publishing, playback, and live chat, helping you quickly bring your services to the market

Easy integration into Tencent Cloud's basic SDKs, including TRTC, Chat, and Superplayer, for excellent flexibility and scalability

Web-based, easy-to-use, and quick updates



Demos

We provide a TUIPusher Demo and a TUIPlayer Demo, with user and room management systems, for you to experiment with the features of the components.

Note

You need to log in with two different accounts to try `TUIPusher` and `TUIPlayer` at the same time.

`TUIPusher` features

Capturing and publishing streams from camera and mic
Customizing video parameters including frame rate, resolution, and bitrate
Applying beauty filters and setting beauty filter parameters
Capturing and publishing data from the screen
Publishing to the TRTC backend and Tencent Cloud's CDNs
Text chatting with the anchor and other audience members
Getting the audience list and muting audience members

`TUIPlayer` features

Playing the audio/video stream and screen sharing stream at the same time
Text chatting with the anchor and other audience members

Three playback options: Ultra-low-latency live streaming (300 ms latency), high-speed live streaming (latency within 1,000 ms), and standard live streaming (ultra-high concurrency)
Supports desktop and mobile browsers and landscape mode on mobile devices

Note

If your browser does not support WebRTC and can play videos only using standard live streaming protocols, please use a different browser to try WebRTC playback.

Integration

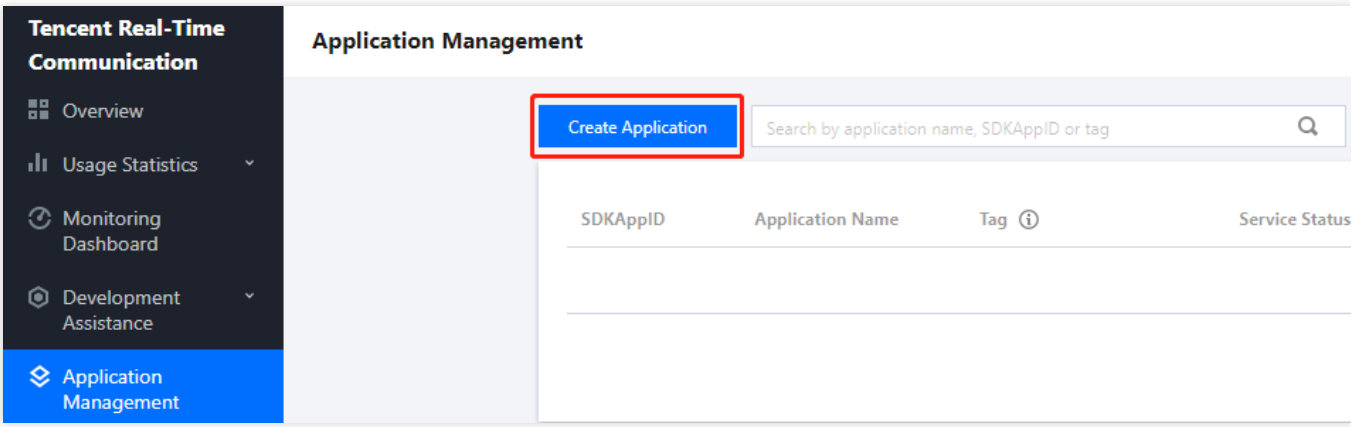
Step 1. Create an application

Note

`TUIPusher` and `TUIPlayer` are based on TRTC and Chat. Make sure you use the same `SDKAppID` for your TRTC and Chat applications so that they can share your account and authentication information.
You can use the basic content filtering capability of Chat to filter text messages. If you want to customize restricted words, go to the Chat console > **Content Filtering**, and click **Upgrade**.
Local `UserSig` calculation is for development and local debugging only and not for official launch. The correct `UserSig` distribution method is to integrate the calculation code of `UserSig` into your server and provide an application-oriented API. When `UserSig` is needed, your application can send a request to your server for a dynamic `UserSig`. For more information, see Generating UserSig.
Method 1: Via TRTC
Method 2: Via Chat

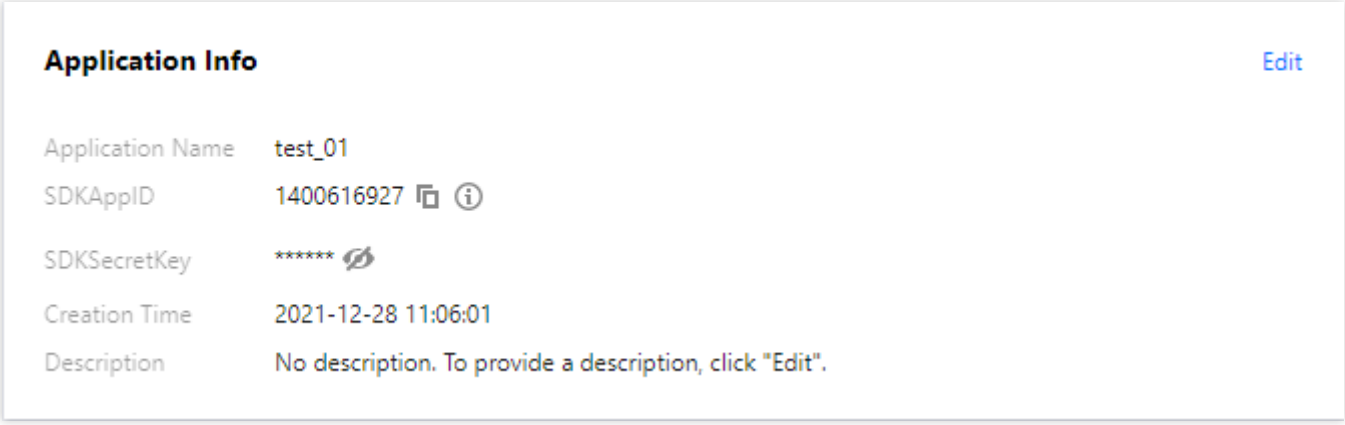
Step 1. Create a TRTC application

1. Sign up for a Tencent Cloud account and activate TRTC and IM.
2. In the TRTC console, click **Application Management > Create Application** to create an application.

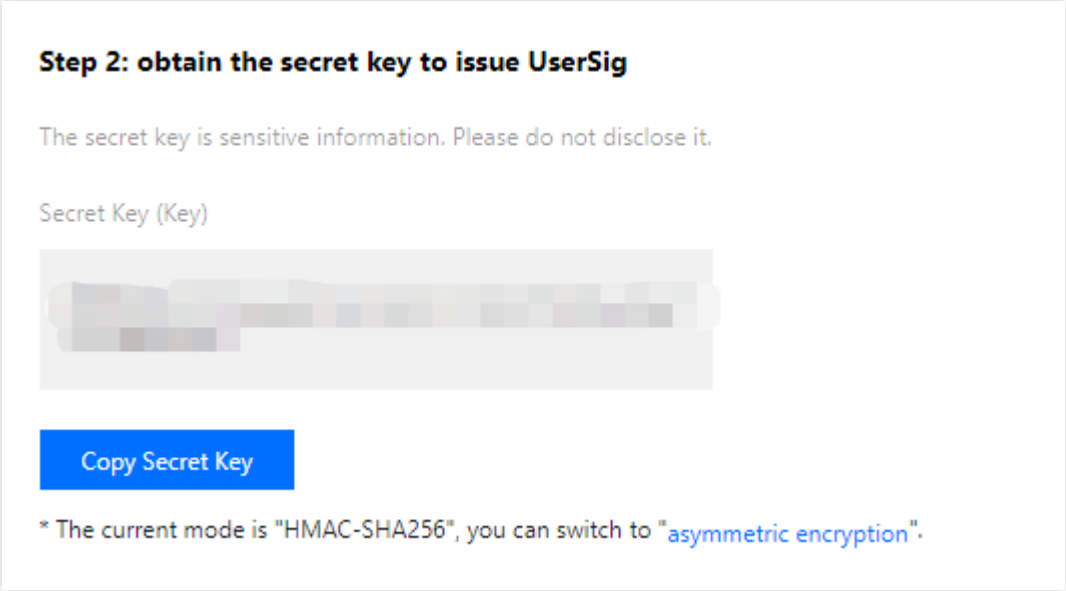


Step 2. Get the TRTC key information

1. In the application list, find the application created and click **Application Info** to view the `SDKAppID` .



2. Select the **Quick Start** tab to view the application's secret key.



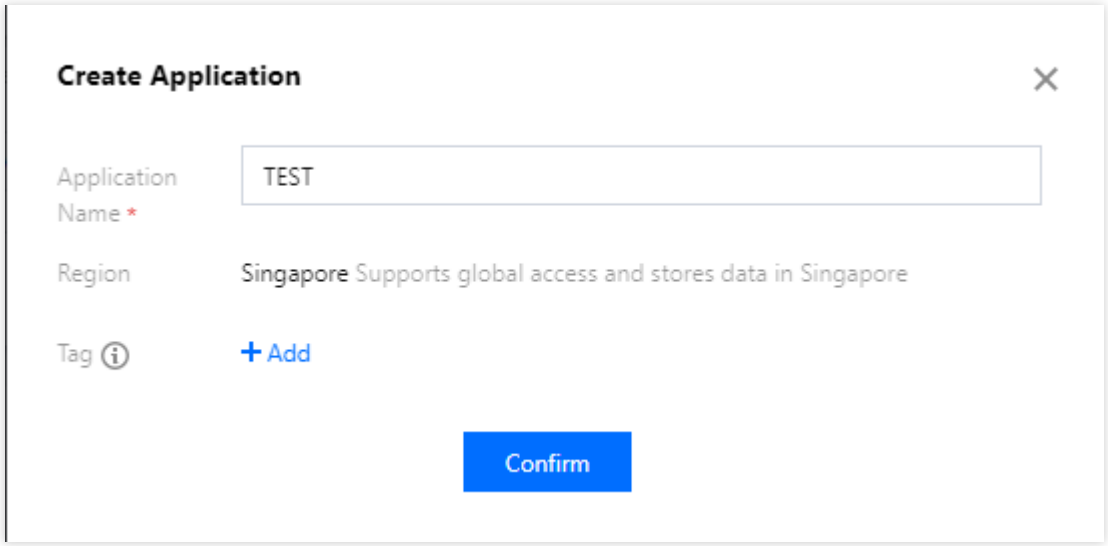
explain

Accounts creating their first application in the TRTC console will get a 10,000-minute free trial package.

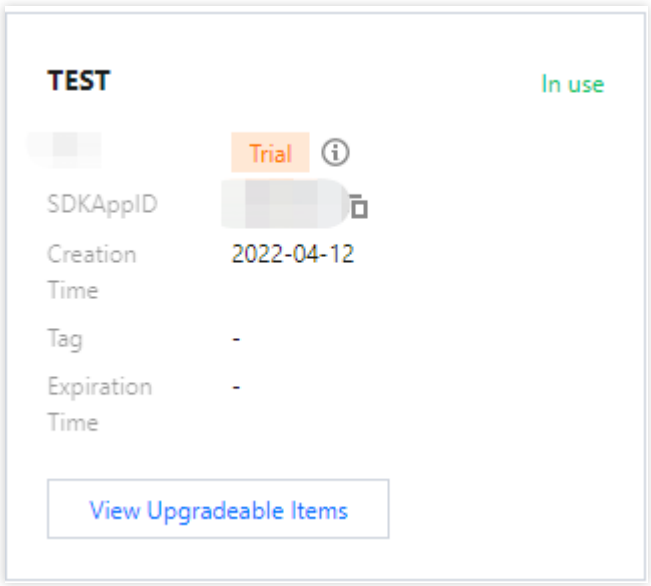
After you create a TRTC application, a Chat application with the same SDKAppID will be created automatically. You can configure package information for the application in the Chat console.

Step 1. Create a Chat application

1. Log in to the Chat console, and click **Create Application**.



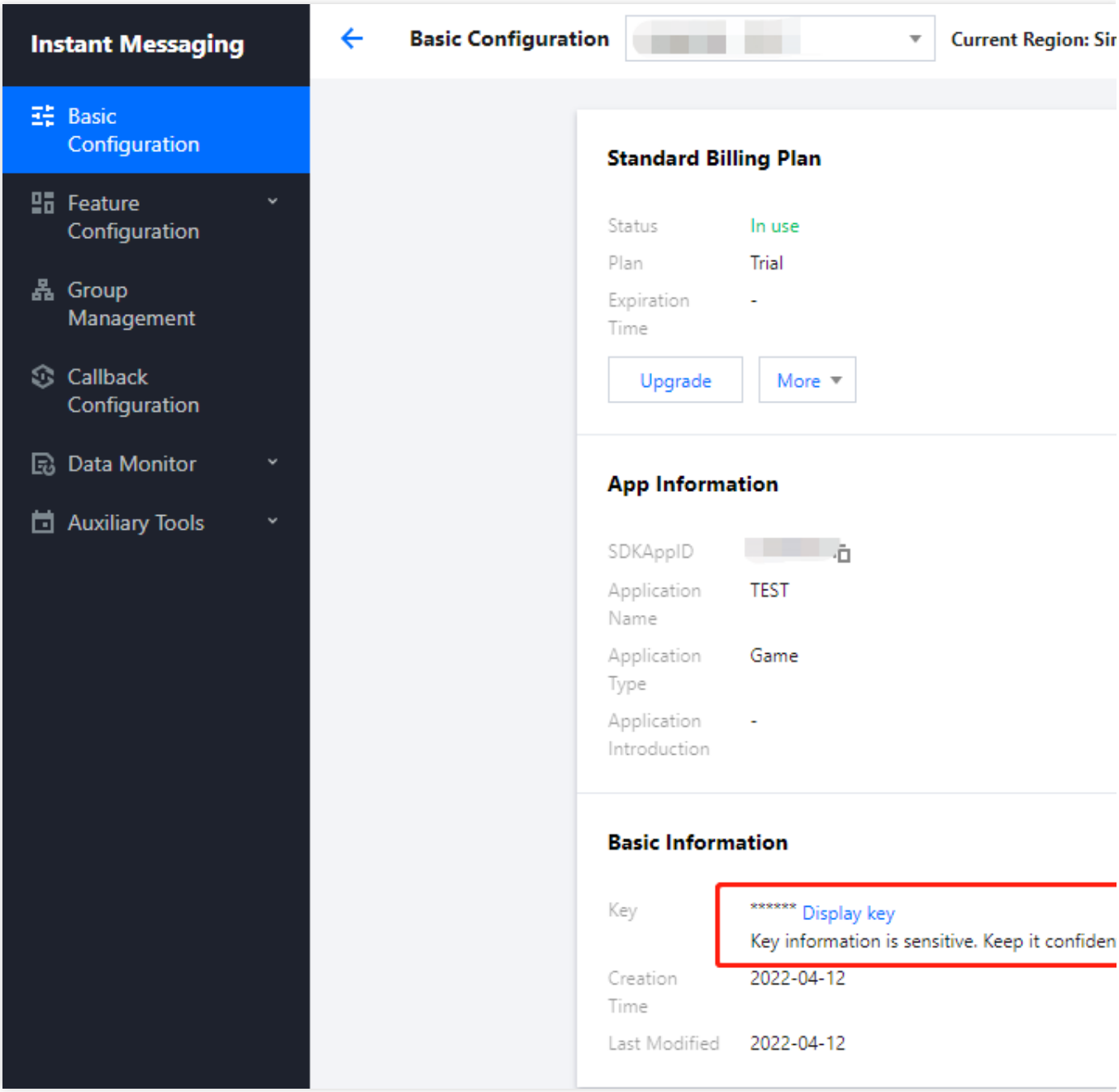
2. In the pop-up window, enter an application name and click **Confirm**.



3. Go to the overview page to view the status, edition, `SDKAppID`, creation time, and expiration time of the application created. Note down the `SDKAppID`.

Step 2. Obtain the key and activate TRTC

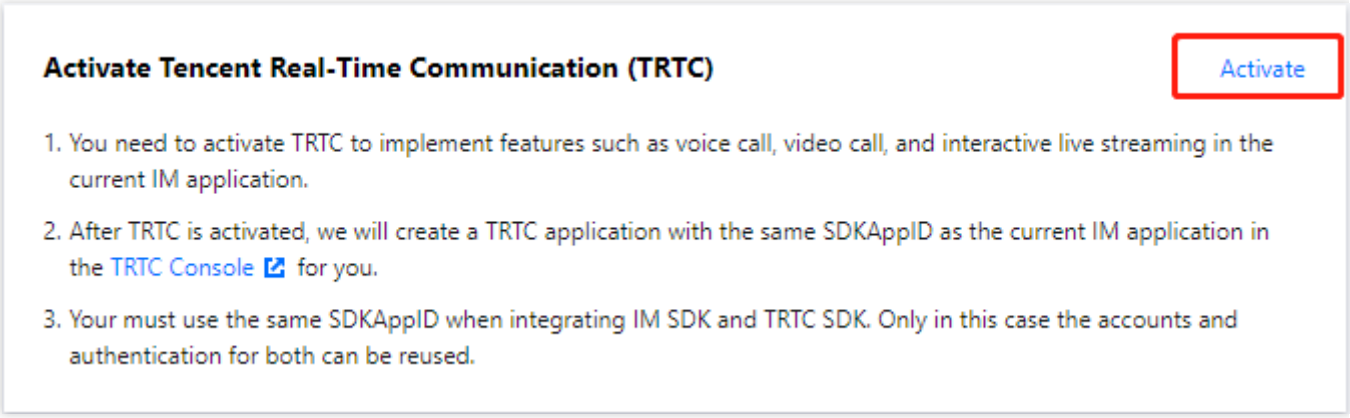
1. On the overview page, click the application created to go to the **Basic Configuration** page. In the **Basic Information** section, click **Display key**, and copy and save the key.



Note

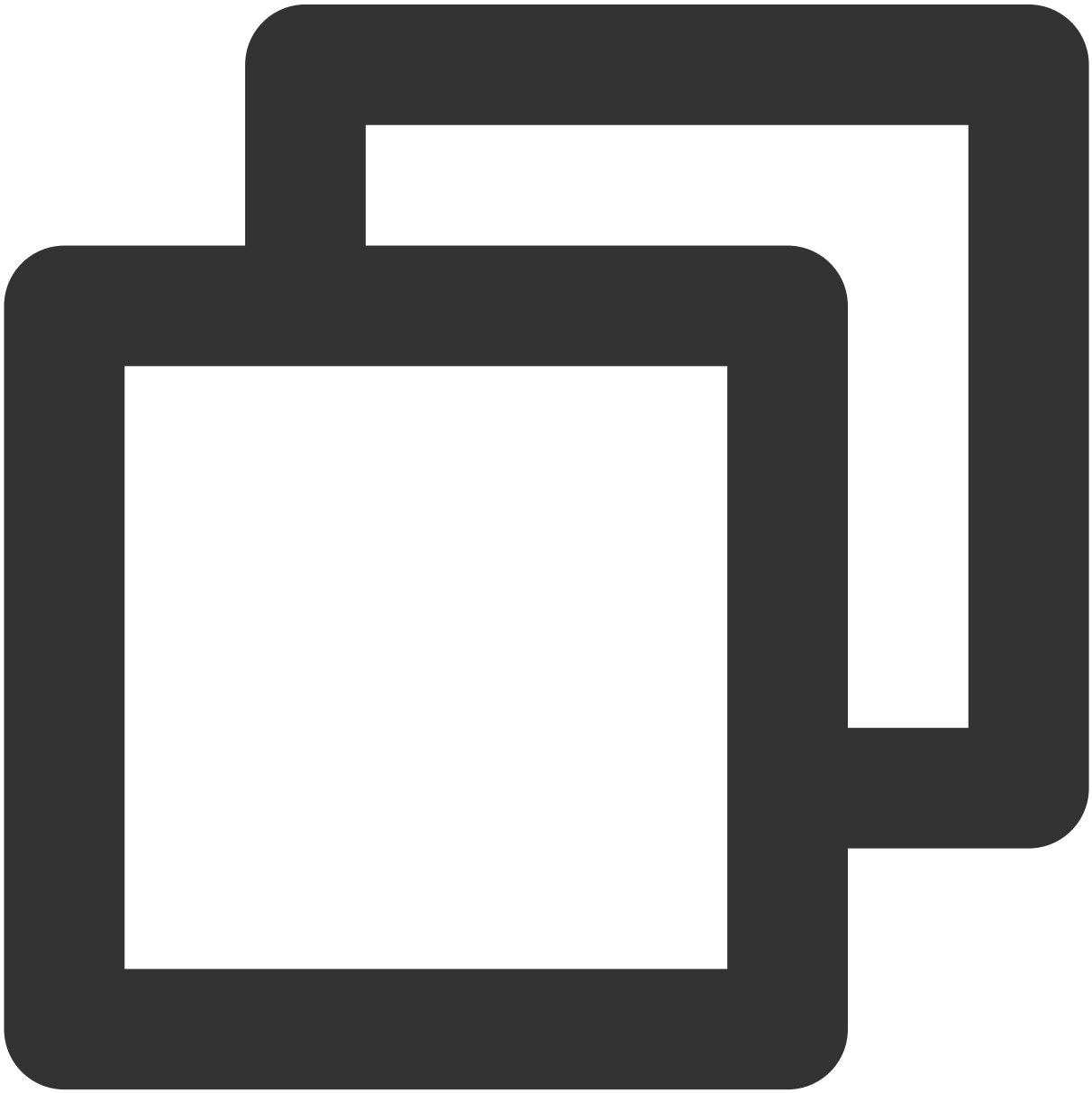
Please store the key information properly to prevent disclosure.

2. On the **Basic Configuration** page, activate TRTC.



Step 2. Prepare your project

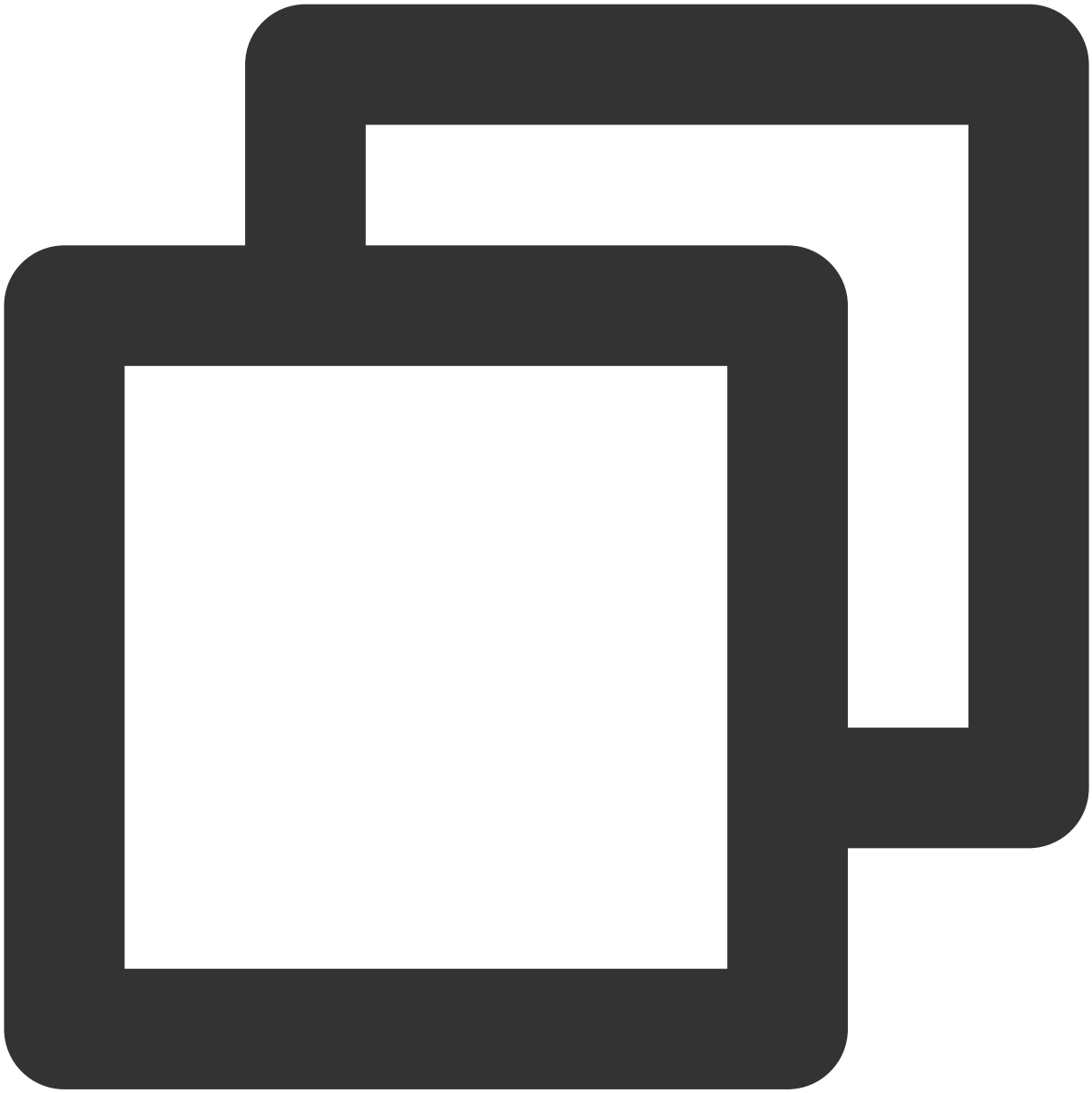
1. Download the code for `TUIPusher` and `TUIPlayer` at GitHub.
2. Install dependencies for `TUIPusher` and `TUIPlayer` .



```
cd Web/TUIPusher
npm install

cd Web/TUIPlayer
npm install
```

3. Paste `SDKAppID` and the secret key to the specified locations below in the `TUIPusher/src/config/basic-info-config.js` and `TUIPlayer/src/config/basic-info-config.js` files.

4. Run `TUIPusher` and `TUIPlayer` in a local development environment.



```
cd Web/TUIPusher
npm run serve

cd Web/TUIPlayer
npm run serve
```

5. You can open `http://localhost:8080` and `http://localhost:8081` to try out the features of `TUIPusher` and `TUIPlayer`.

6. You can modify the room, anchor, and audience information in `TUIPusher/src/config/basic-info-config.js` and `TUIPlayer/src/config/basic-info-config.js`, but **make sure the room and**

anchor information is consistent in the two files.

Note

You can now use `TUIPusher` and `TUIPlayer` for ultra-low-latency live streaming. If you want to support high-speed and standard live streaming too, see Step 3. Enable relay to CDN.

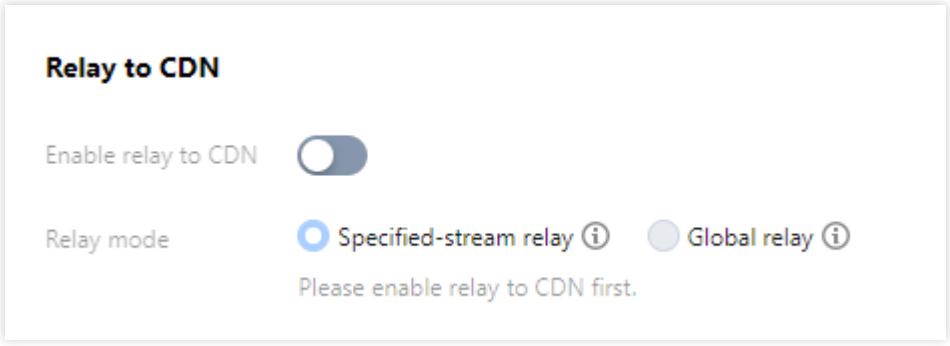
Local calculation of `UserSig` is for development and local debugging only and not for official launch. If your `SECRETKEY` is leaked, attackers will be able to steal your Tencent Cloud traffic.

The correct `UserSig` distribution method is to integrate the calculation code of `UserSig` into your server and provide an application-oriented API. When `UserSig` is needed, your application can send a request to your server for a dynamic `UserSig` . For more information, see Calculating UserSig on the server.

Step 3. Enable relay to CDN

Because the high-speed and standard live streaming features of `TUIPusher` and `TUIPlayer` are powered by CSS, you need to enable relay to CDN to use these features.

1. In the TRTC console, enable relay to CDN for your application. You can choose **Specified-stream relay** or **Global relay** based on your needs.



2. On the Domain Management page, add your playback domain name. For detailed directions, please see Adding Your Own Domain Names.

3. Configure the playback domain name in `TUIPlayer/src/config/basic-info-config.js` .

You can now use all features of `TUIPusher` and `TUIPlayer` , including ultra-low-latency live streaming, high-speed live streaming, and standard live streaming.

Step 4. Apply in a production environment

To apply `TUIPusher` and `TUIPlayer` to a production environment, in addition to integrating them into your project, you also need to do the following:

Create a user management system to manage user information such as user IDs, usernames, and profile pictures

Create a room management system to manage room information such as room IDs, room names, and anchors

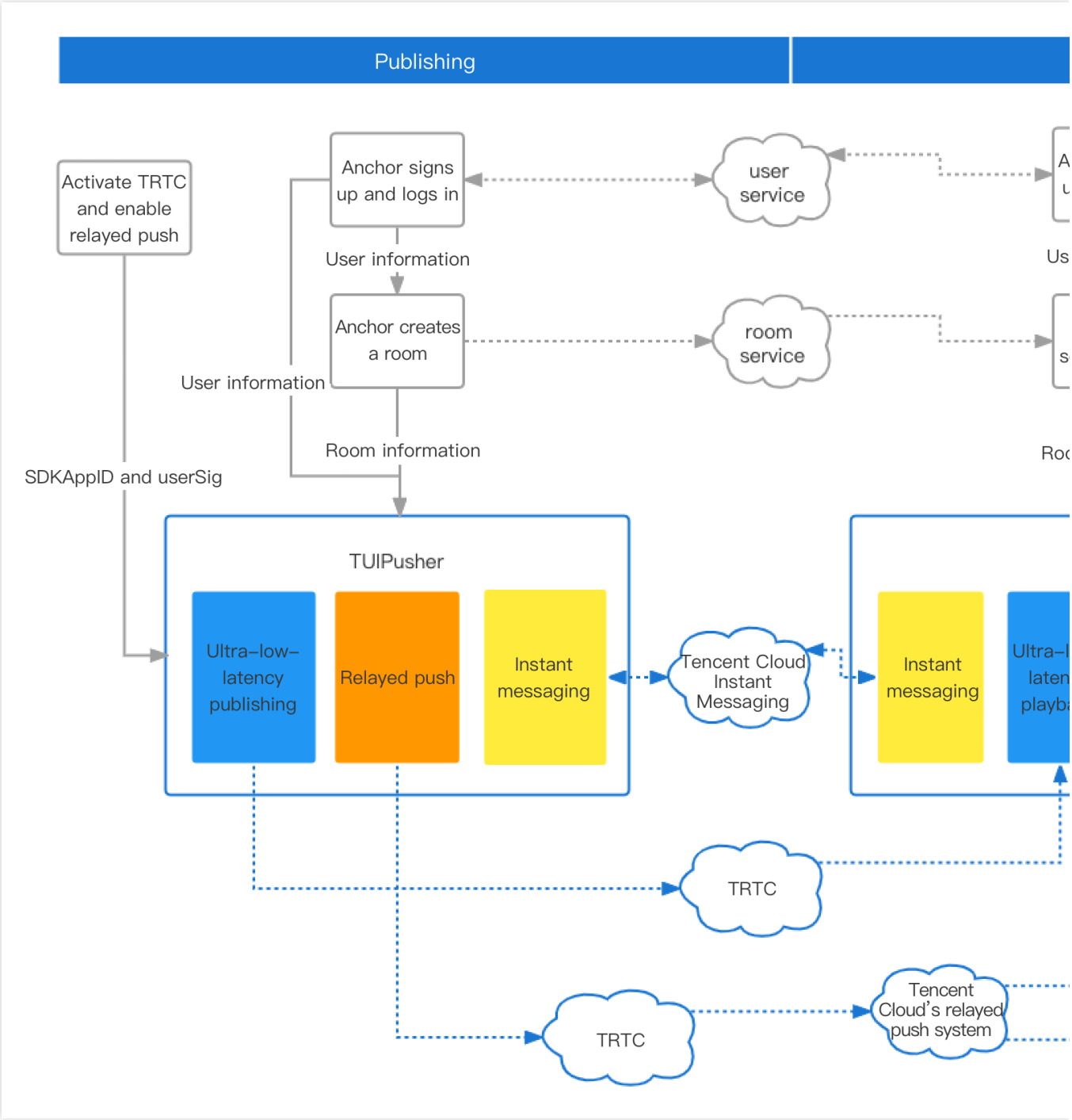
Generate `UserSig` on your server

Note

In this document, `UserSig` is generated on the client based on the `SDKAppID` and secret key you provide. The secret key may be easily decompiled and reversed, and if your key is disclosed, attackers will be able to steal your traffic. Therefore, **this method is for local debugging only**.

The correct `UserSig` distribution method is to integrate the calculation code of `UserSig` into your server and provide an application-oriented API. When `UserSig` is needed, your application can send a request to your server for a dynamic `UserSig` . For more information, see How do I calculate UserSig during production?.

Submit account information such as user information, room information, `SDKAppID` , and `UserSig` to `store` of `vuex` for global storage, as shown in `TUIPusher/src/pusher.vue` and `TUIPlayer/src/player.vue` . Then you will be able to use all publishing and playback features of the two components. The diagram below shows the workflow in detail:



FAQs

How do I use beauty filters on the web?

See Enabling Beauty Filters.

How do I implement the screen sharing feature on the web?

See Screen Sharing.

How do I implement the on-cloud recording feature on the web?

1. For information about how to enable **on-cloud recording**, see On-Cloud Recording and Playback.
2. If you enable **specified user recording**, you can start recording on the web by specifying `userDefineRecordId` when calling the TRTC.createClient API.

How do I publish a stream to CDN on the web?

See Publishing to CDN.

How do I enable high-speed playback on the web?

Publish streams to CDNs using the TRTC web SDK and play the streams over WebRTC.

Notes

Supported platforms

Operating System	Browser	Required Version	TUIPlayer	TUIPusher	TUIPusher Screen Sharing
macOS	Safari	11+	Supported	Supported	Supported (on Safari 13+)
macOS	Chrome	56+	Supported	Supported	Supported (on Chrome 72+)
macOS	Firefox	56+	Supported	Supported	Supported (on Firefox 66+)
macOS	Edge	80+	Supported	Supported	Supported
macOS	WeChat built-in browser	-	Supported	Not supported	Not supported
macOS	WeCom built-in browser	-	Supported	Not supported	Not supported
Windows	Chrome	56+	Supported	Supported	Supported (on Chrome 72+)
Windows	QQ Browser (WebKit core)	10.4+	Supported	Supported	Not supported

Windows	Firefox	56+	Supported	Supported	Supported (on Firefox 66+)
Windows	Edge	80+	Supported	Supported	Supported
Windows	WeChat built-in browser	-	Supported	Not supported	Not supported
Windows	WeCom built-in browser	-	Supported	Not supported	Not supported
iOS	WeChat built-in browser	-	Supported	Not supported	Not supported
iOS	WeCom built-in browser	-	Supported	Not supported	Not supported
iOS	Safari	-	Supported	Not supported	Not supported
iOS	Chrome	-	Supported	Not supported	Not supported
Android	WeChat built-in browser	-	Supported	Not supported	Not supported
Android	WeCom built-in browser	-	Supported	Not supported	Not supported
Android	Chrome	-	Supported	Not supported	Not supported
Android	QQ Browser	-	Supported	Not supported	Not supported
Android	Firefox	-	Supported	Not supported	Not supported
Android	UC Browser	-	Supported (only standard live streaming)	Not supported	Not supported

Domain requirements

For security and privacy reasons, only HTTPS URLs can access all features of `TUIPusher` and `TUIPlayer`. Therefore, please use the HTTPS protocol for the web page of your application in production environments.

Note

You can use `http://localhost` for local development.

The table below lists the supported domain names and protocols.

Scenario	Protocol	TUIPlayer	TUIPusher	TUIPusher Screen Sharing	Remarks
Production	HTTPS	Supported	Supported	Supported	Recommended
Production	HTTP	Supported	Not supported	Not supported	-
Local development	`http://localhost`	Supported	Supported	Supported	Recommended
Development	`http://127.0.0.1`	Supported	Supported	Supported	-
Local development	`http://[local IP address]`	Supported	Not supported	Not supported	-

Firewall configuration

Firewall restrictions may cause audio/video calls to fail. To avoid this, add the ports and domains specified in Firewall Restrictions to the allowlist of your firewall.

Summary

In future versions, we plan to add support for communication between the web components and TRTC native SDKs (such as the iOS SDK and Android SDK), as well as introduce features such as co-anchoring, advanced filters, custom layout, relaying to multiple platforms, and image/text/music upload.
If you have any requirements or feedback, contact colleenyu@tencent.com.

TUILiveRoom APIs
TRTCLiveRoom APIs (iOS)

Last updated：2023-09-25 10:56:51

`TRTCLiveRoom` is based on Tencent Real-Time Communication (TRTC) and Tencent Cloud Chat. With TRTCLiveRoom:

A user can create a room and start live streaming, or enter a room as an audience member.

The anchor can co-anchor with audience members in the room.

Anchors in two rooms can compete and interact with each other.

All users can send text and custom messages. Custom messages can be used to send on-screen comments, give likes, and send gifts.

Note

All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For Chat billing details, see Pricing.

`TRTCLiveRoom` is an open-source class depending on two closed-source Tencent Cloud SDKs. For the specific implementation process, please see Interactive Live Video Streaming (iOS).

The TRTC SDK is used as a low-latency live streaming component.

The `AVChatRoom` feature of the Chat SDK is used to implement chat rooms, and Chat messages are used to facilitate the co-anchoring process.

TRTCLiveRoom API Overview

Basic SDK APIs

API	Description
delegate	Sets event callbacks.
login	Logs in.
logout	Logs out.
setSelfProfile	Sets the profile.

Room APIs

API	Description

createRoom	Creates a room (called by anchor). If the room does not exist, the system will create the room automatically.
destroyRoom	Terminates a room (called by anchor).
enterRoom	Enters a room (called by audience).
exitRoom	Exits a room (called by audience).
getRoomInfos	Gets room list details.
getAnchorList	Gets the anchors and co-anchoring viewers in a room. This API works only if it is called after `enterRoom()` .
getAudienceList	Gets the information of all audience members in a room. This API works only if it is called after `enterRoom()` .

Stream pushing/pulling APIs

API	Description
startCameraPreview	Enables preview of the local video.
stopCameraPreview	Stops local video capturing and preview.
startPublish	Starts live streaming (pushing streams).
stopPublish	Stops live streaming (pushing streams).
startPlay	Plays a remote video. This API can be called in common playback and co-anchoring scenarios.
stopPlay	Stops rendering a remote video.

APIs for anchor-audience co-anchoring

API	Description
requestJoinAnchor	Requests co-anchoring (called by audience).
responseJoinAnchor	Responds to a co-anchoring request (called by anchor).
kickoutJoinAnchor	Removes a user from co-anchoring (called by anchor).

APIs for cross-room communication

API	Description
requestRoomPK	Sends a cross-room communication request (called by anchor).
responseRoomPK	Responds to a cross-room communication request (called by anchor).
quitRoomPK	Quits cross-room communication.

Audio/Video APIs

API	Description
switchCamera	Switches between the front and rear cameras.
setMirror	Sets the mirror mode.
muteLocalAudio	Mutes/Unmutes the local user.
muteRemoteAudio	Mutes/Unmutes a remote user.
muteAllRemoteAudio	Mutes/Unmutes all remote users.

Background music and audio effect APIs

API	Description
getAudioEffectManager	Gets the background music and audio effect management object TXAudioEffectManager.

Beauty filter APIs

API	Description
getBeautyManager	Gets the beauty filter management object TXBeautyManager.

Message sending APIs

API	Description
sendRoomTextMsg	Broadcasts a text message in a room. This API is generally used for on-screen comments.
sendRoomCustomMsg	Sends a custom text message.

Debugging APIs

API	Description
showVideoDebugLog	Specifies whether to display debugging information on the UI.

TRTCLiveRoomDelegate API Overview

Common event callbacks

API	Description
onError	Callback for error.
onWarning	Callback for warning.
onDebugLog	Callback of log.

Room event callback APIs

API	Description
onRoomDestroy	The room was terminated.
onRoomInfoChange	The room information changed.

Callback APIs for entry/exit of anchors/audience

API	Description
onAnchorEnter	There is a new anchor/co-anchoring viewer in the room.
onAnchorExit	An anchor/co-anchoring viewer quit co-anchoring.
onAudienceEnter	An audience member entered the room.
onAudienceExit	An audience member left the room.

Callback APIs for anchor-audience co-anchoring events

API	Description
onRequestJoinAnchor	A co-anchoring request was received.

onKickoutJoinAnchor	A user was removed from co-anchoring.

Callback APIs for cross-room communication events

API	Description
onRequestRoomPK	A cross-room communication request was received.
onQuitRoomPK	Cross-room communication ended.

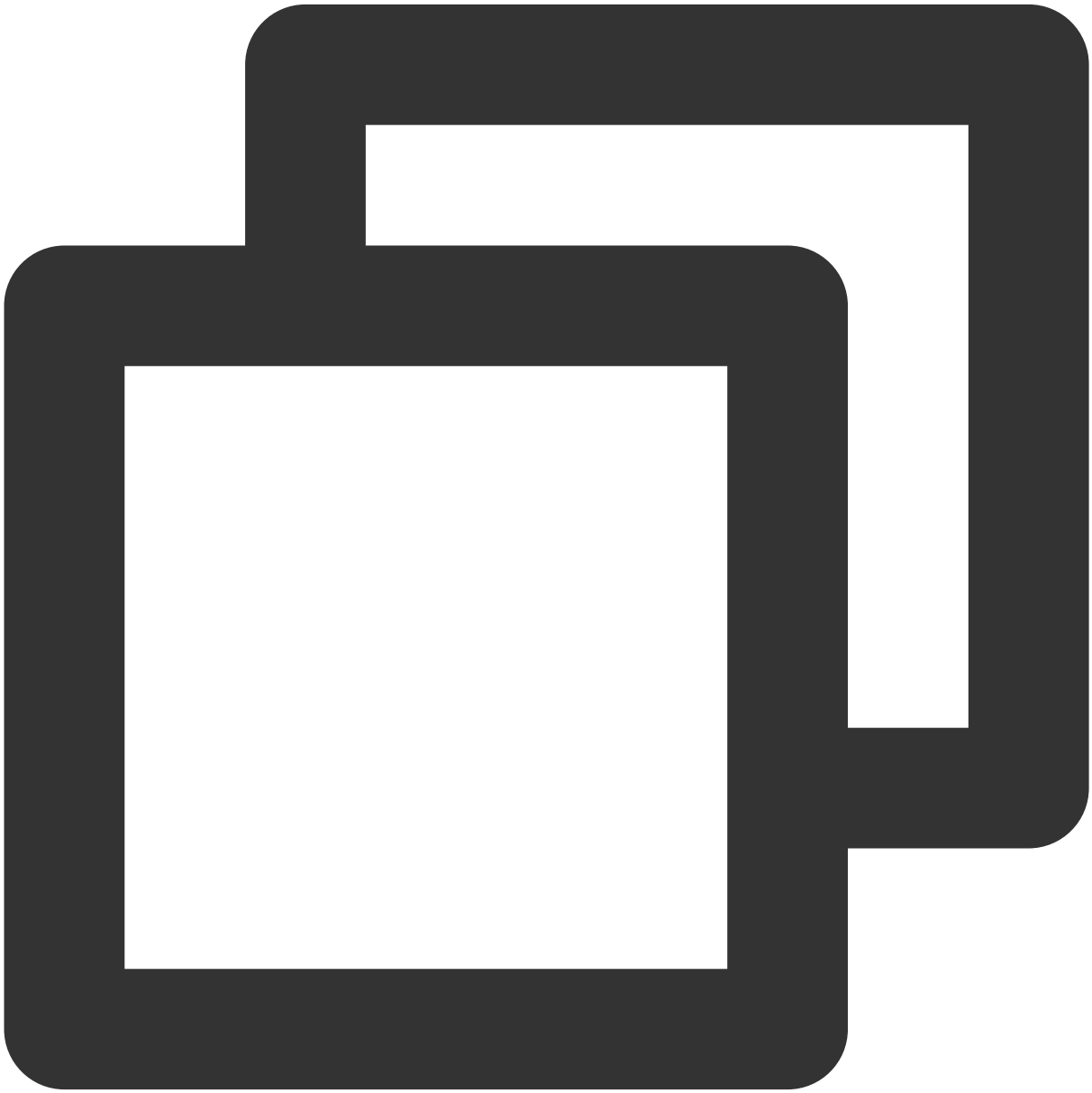
Message event callback APIs

API	Description
onRecvRoomTextMsg	A text message was received.
onRecvRoomCustomMsg	A custom message was received.

Basic SDK APIs

delegate

This API is used to get callbacks for the events of TRTCLiveRoom. You can use `TRTCLiveRoomDelegate` to get the callbacks.



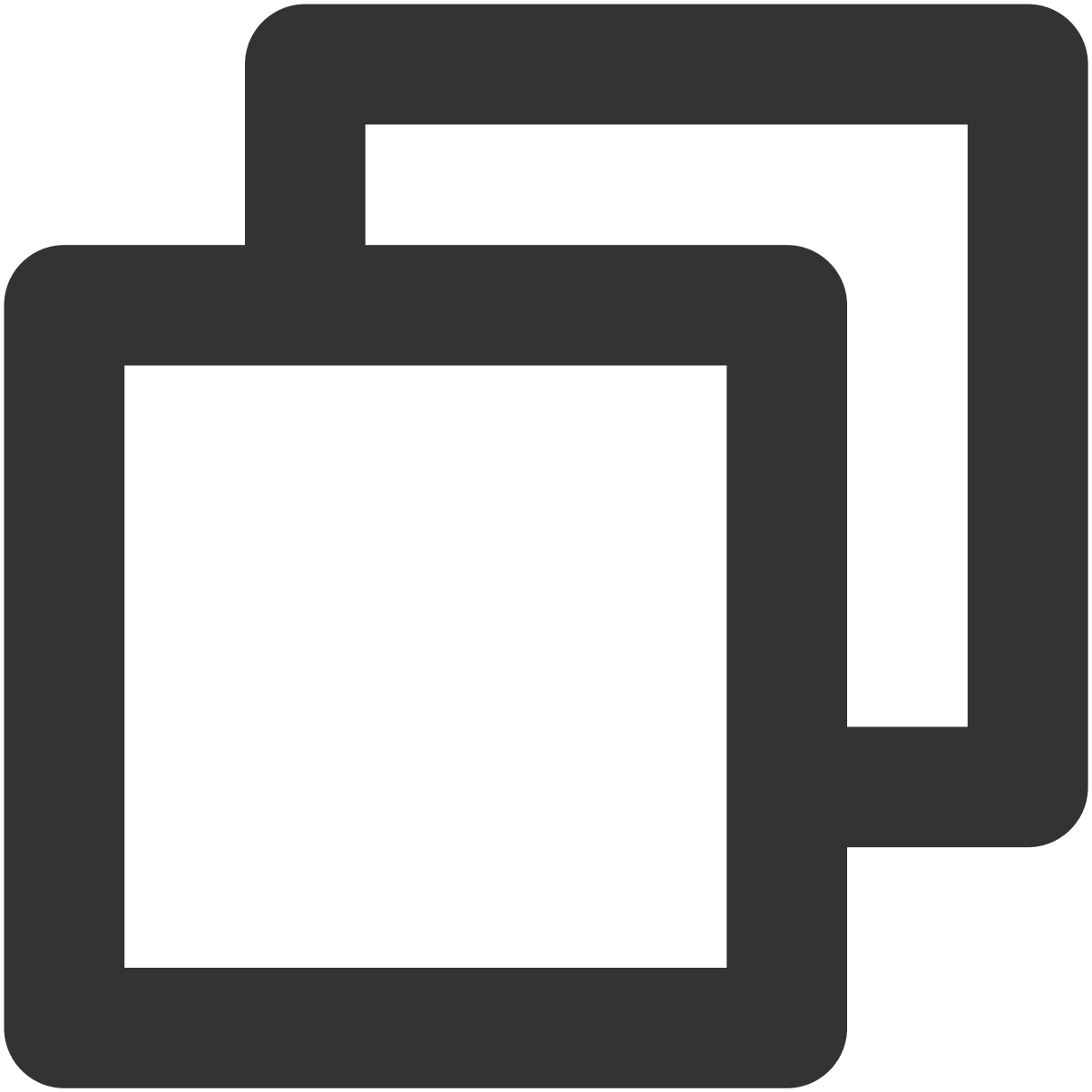
```
@property(nonatomic, weak)id<TRTCLiveRoomDelegate> delegate;
```

Note

`delegate` is the delegate callback of `TRTCLiveRoom` .

login

Login



```
/// Log in to the component.
/// - Parameters:
///   - sdkAppID: You can view `SDKAppID` in **[Application Management](https://con
///   - userID: ID of the current user, which is a string that can contain only let
///   - userSig: Tencent Cloud's proprietary security signature. For how to calcula
///   - config: global configuration information, which should be initialized durin
///   - callback: Callback for login. The return code is `0` if login is successful
/// - Note:
///   - We recommend setting the validity period of `userSig` to 7 days to avoid ca
- (void)loginWithSdkAppID:(int)sdkAppID
                  userID:(NSString *)userID
```

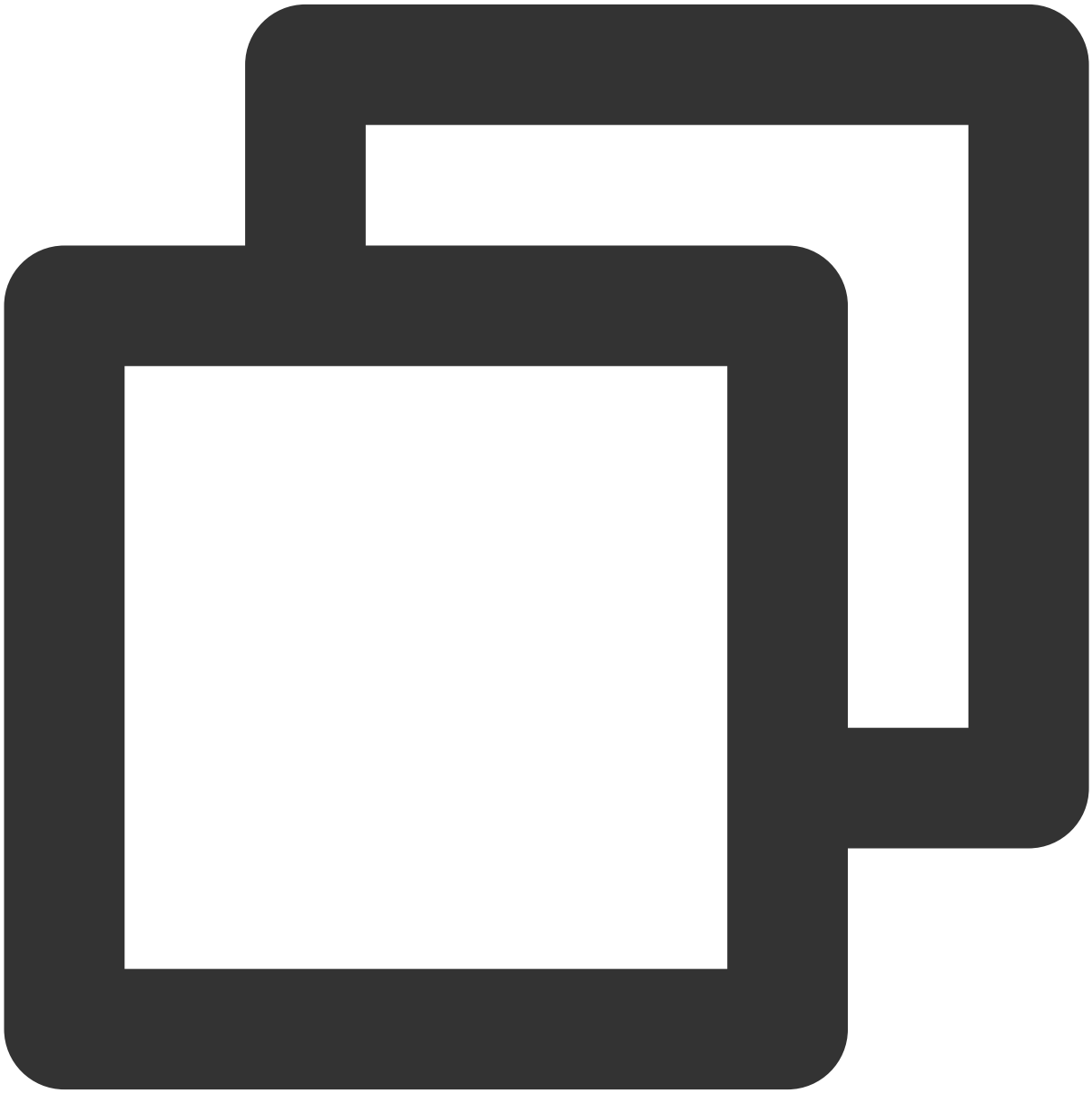
```
                  userSig:(NSString *)userSig
                   config:(TRTCLiveRoomConfig *)config
                 callback:(Callback _Nullable)callback
NS_SWIFT_NAME(login(sdkAppID:userID:userSig:config:callback:));
```

The parameters are described below:

Parameter	Type	Description
sdkAppId	Int	You can view `SDKAppID` in Application Management > **Application Info** of the TRTC console.
userID	String	The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_)
userSig	String	Tencent Cloud's proprietary security signature. For how to calculate and use it, see FAQs > UserSig.
config	TRTCLiveRoomConfig	Global configuration information, which needs to be initialized during login and cannot be modified afterward. `useCDNFirst` : specifies the way audience watch live streams. `true` means watching over CDNs, which is cost-efficient but has high latency. `false` means watching under the low latency mode, the cost of which is between that of CDN live streaming and co-anchoring, but the latency is lower than 1 second. `CDNPlayDomain` : specifies the domain name for CDN live streaming. It takes effect only if `useCDNFirst` is set to `true` . You can set it in Domain Management of the CSS console.
callback	(_ code: Int, _ message: String?) -> Void	Callback for login. The code is `0` if login is successful.

logout

Log out



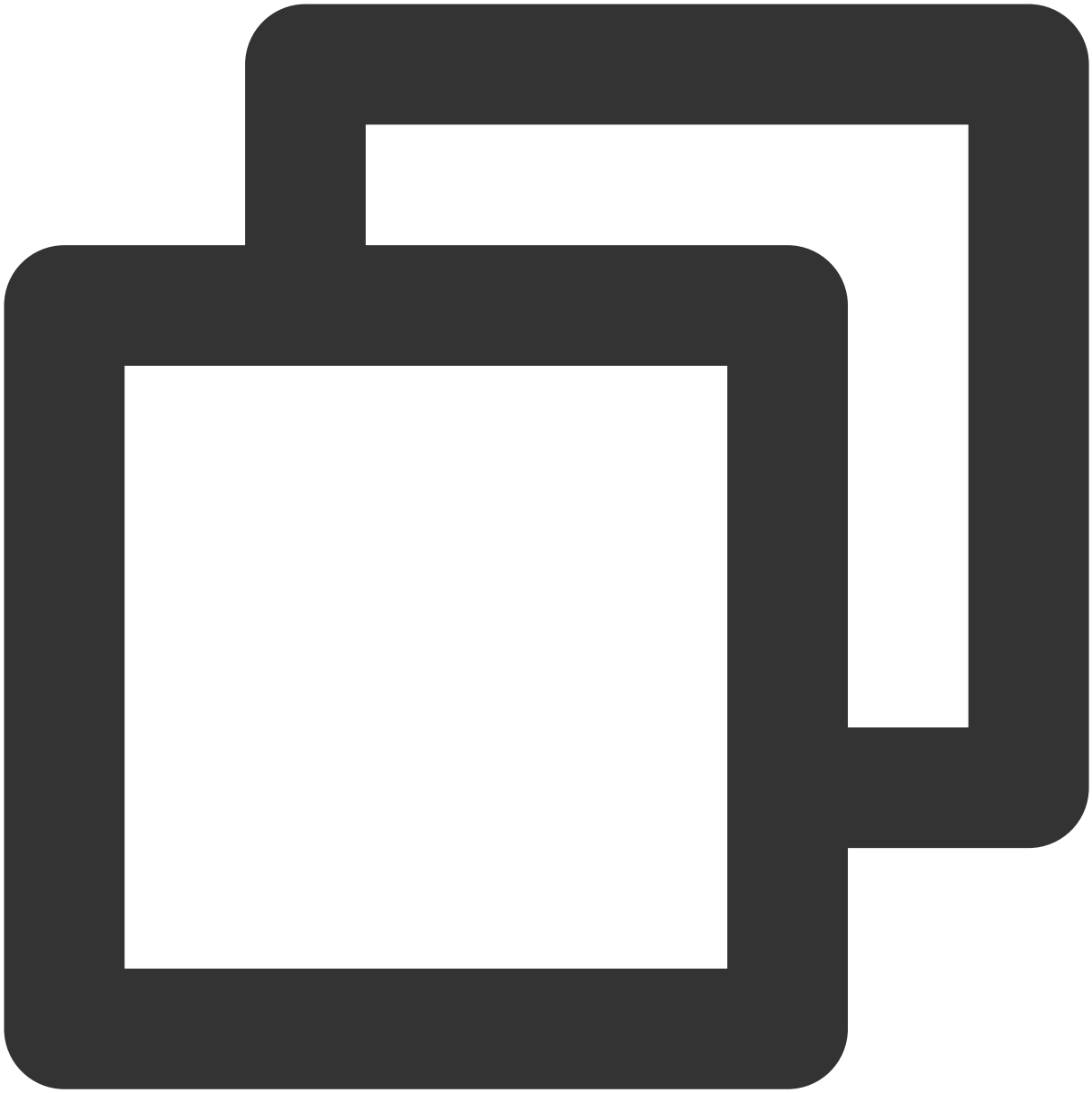
```
// Log out
/// - Parameter callback:  Callback for logout. The code is `0` if logout is succes
- (void)logout:(Callback _Nullable)callback
NS_SWIFT_NAME(logout(_:));
```

The parameters are described below:

Parameter	Type	Description
callback	(_ code: Int, _ message: String?) -> Void	Callback for logout. The code is `0` if logout is successful.

setSelfProfile

This API is used to set the profile.



```
/// Set user profiles. The information will be stored in Tencent Cloud Chat.
/// - Parameters:
///   - name: username
///   - avatarURL: profile picture URL
///   - callback: Callback for setting user profiles. The code is `0` if the operat
- (void)setSelfProfileWithName:(NSString *)name
                     avatarURL:(NSString * _Nullable)avatarURL
                      callback:(Callback _Nullable)callback
```

```
NS_SWIFT_NAME(setSelfProfile(name:avatarURL:callback:));
```

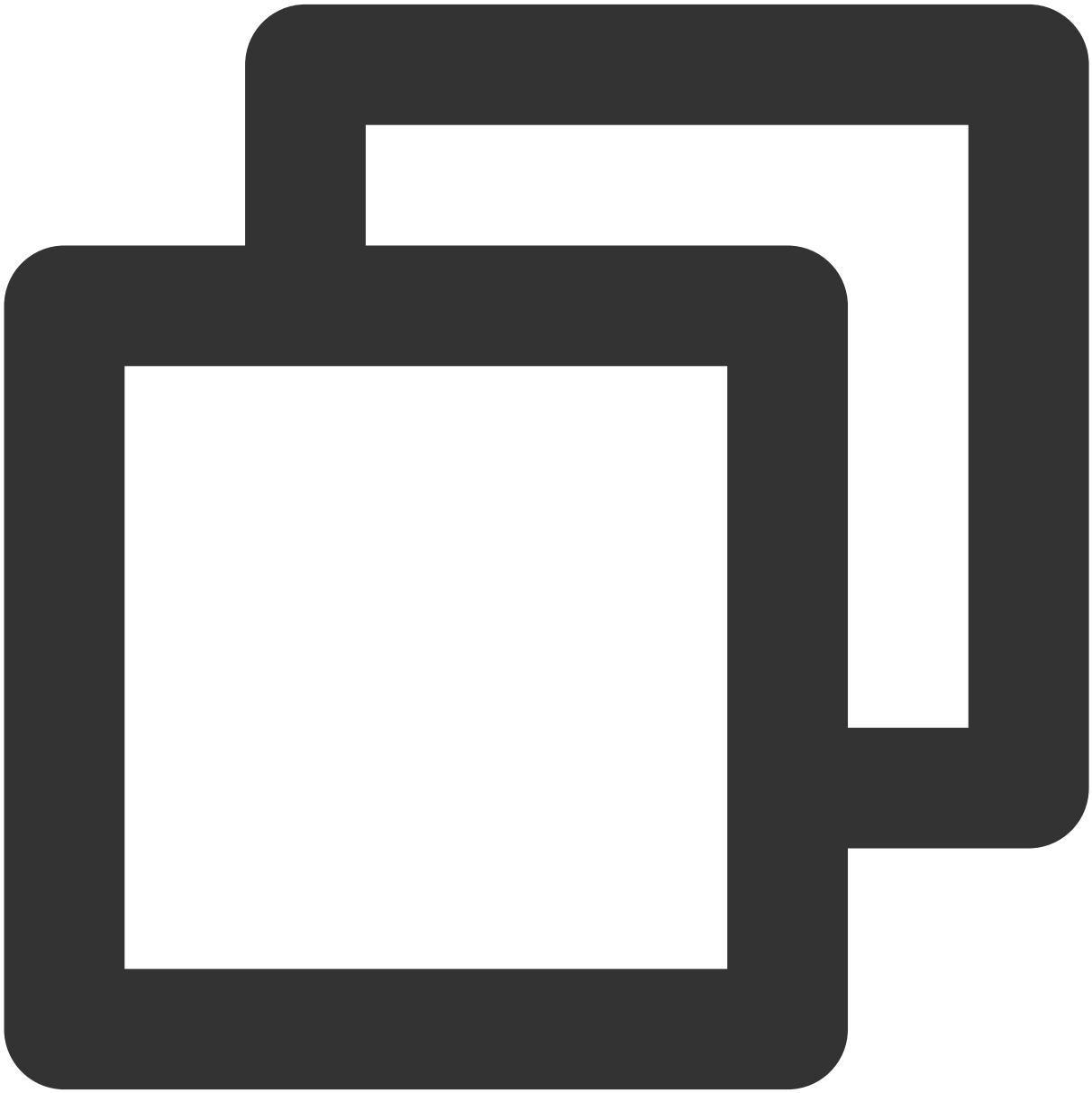
The parameters are described below:

Parameter	Type	Description
name	String	Username
avatarURL	String	Profile picture URL
callback	(_ code: Int, _ message: String?) -> Void	Callback for setting user profiles. The code is `0` if the operation is successful.

Room APIs

createRoom

This API is used to create a room (called by anchor).



```
/// Create a room (called by anchor). If the room does not exist, the system will c
/// The process of creating a room and starting live streaming as an anchor is as f
/// 1. A user calls `startCameraPreview()` to enable camera preview and set beauty
/// 2. The user calls `createRoom()` to create a room, the result of which is retur
/// 3. The user calls `starPublish()` to push streams.
/// - Parameters:
///   - roomID: The room ID. You need to assign and manage the IDs in a centralized
///   - roomParam: room information, such as room name and cover information. If bo
///   - callback: Callback for room entry. The code is `0` if room entry is success
/// - Note:
///   - This API is called by an anchor to start live streaming. An anchor can crea
```

```
- (void)createRoomWithRoomID:(UInt32)roomID
                   roomParam:(TRTCCreateRoomParam *)roomParam
                    callback:(Callback _Nullable)callback
NS_SWIFT_NAME(createRoom(roomID:roomParam:callback:));
```

The parameters are described below:

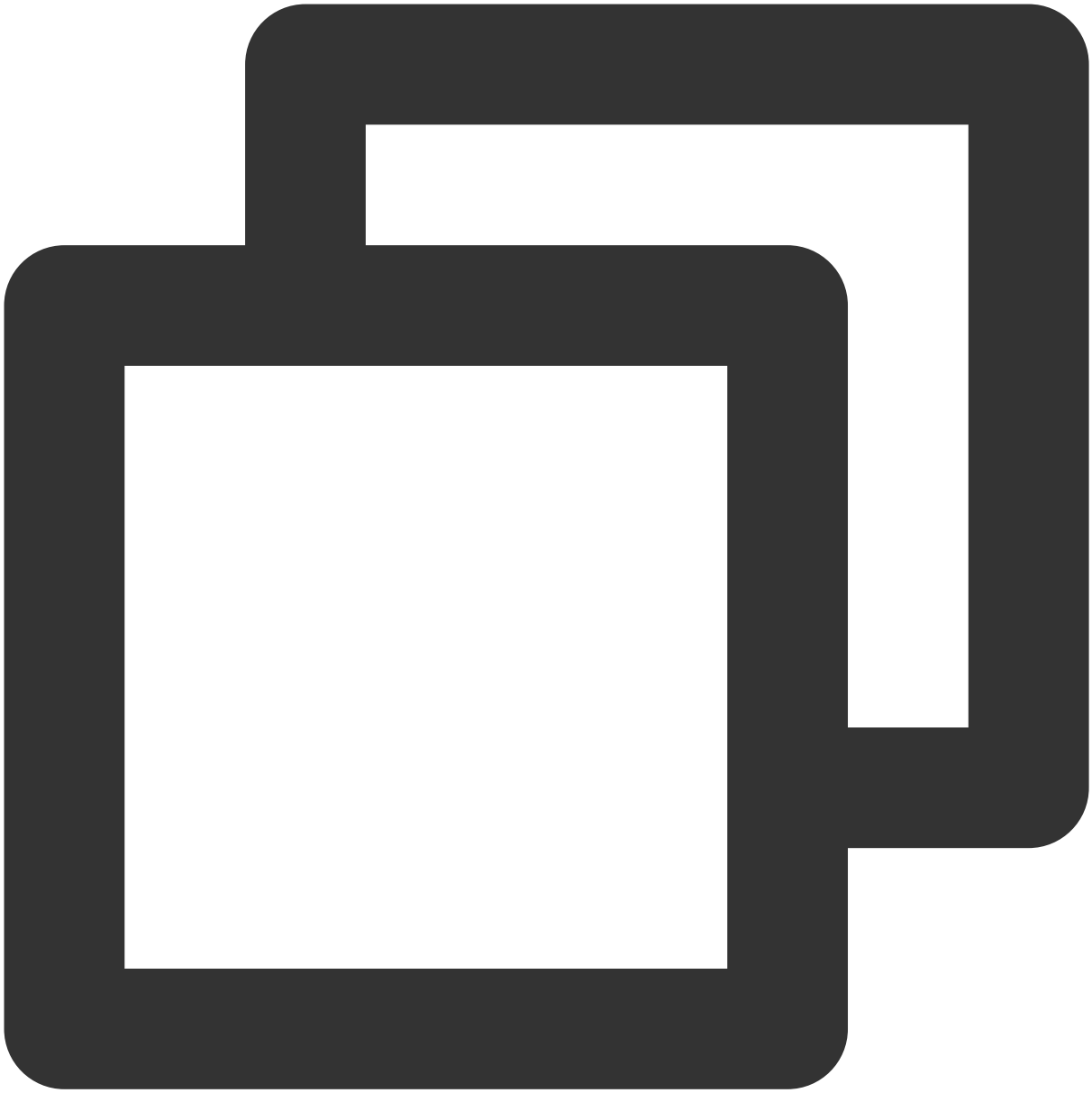
Parameter	Type	Description
roomID	UInt32	The room ID. You need to assign and manage the IDs in a centralized manner. Multiple `roomId` values can be aggregated into a live room list. Currently, Tencent Cloud does not provide list management services. Please manage your own room lists.
roomParam	TRTCCreateRoomParam	Room information, such as room name and cover information. If both the room list and room information are managed by yourself, you can ignore this parameter.
callback	(_ code: Int, _ message: String?) -> Void	Callback for room creation. The code is `0` if the operation is successful.

The process of creating a room and starting live streaming as an anchor is as follows:

1. A user calls `startCameraPreview()` to enable camera preview and set beauty filters.
2. The user calls `createRoom()` to create a room, the result of which is returned via a callback.
3. The user calls `starPublish()` to push streams.

destroyRoom

This API is used to terminate a room (called by anchor).



```
/// Terminate a room (called by anchor)
/// After creating a room, an anchor can call this API to terminate it.
/// - parameter callback: callback for room termination. The code is `0` if the ope
/// - Note:
///   - After creating a room, an anchor can call this API to terminate it
- (void)destroyRoom:(Callback _Nullable)callback
NS_SWIFT_NAME(destroyRoom(callback:));
```

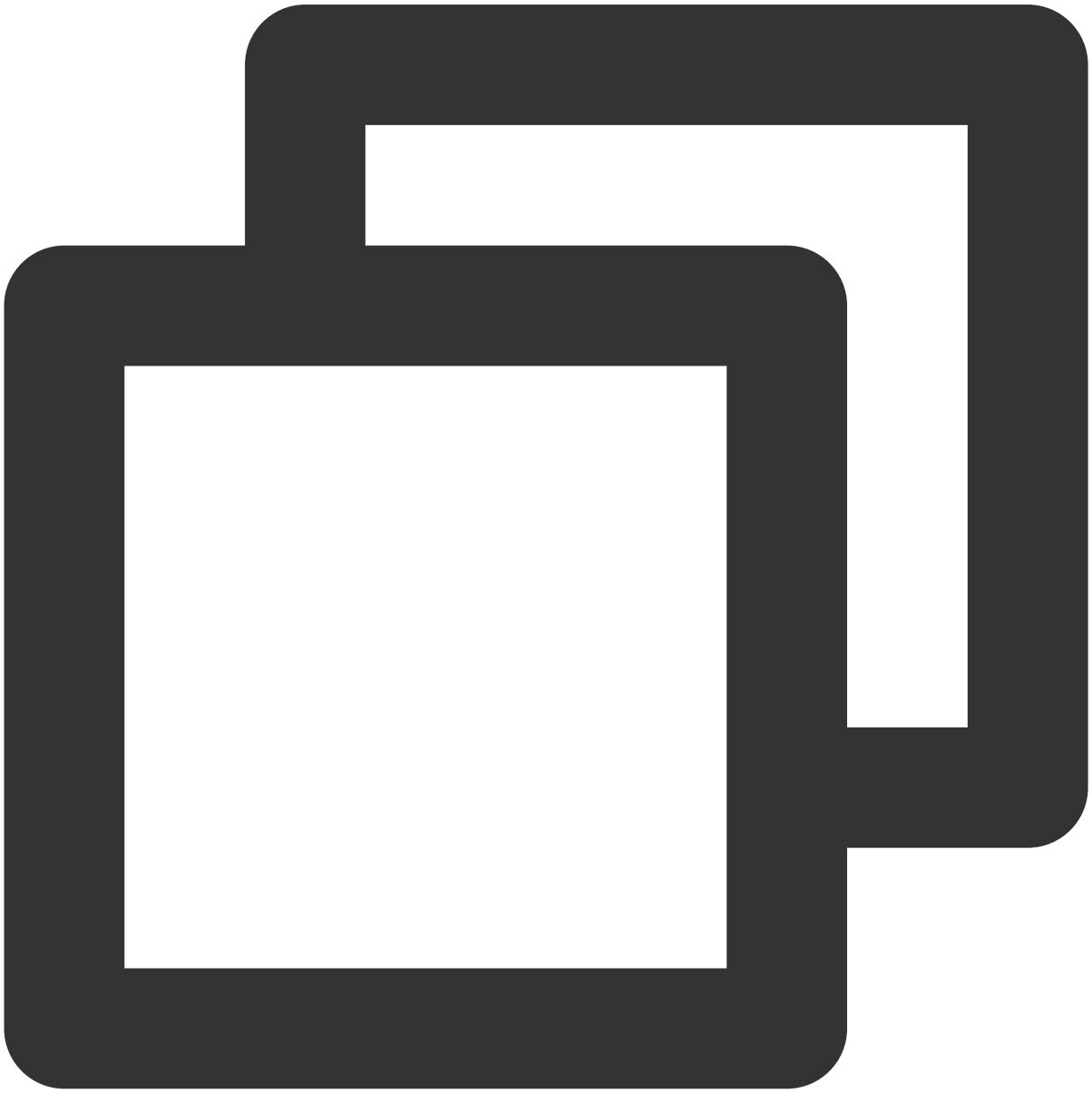
The parameters are described below:

Parameter	Type	Description

callback	(_ code: Int, _ message: String?) -> Void	Callback for room termination. The code is `0` if the operation is successful.

enterRoom

This API is used to enter a room (called by audience).



```
/// Enter a room (called by audience)
/// The process of entering a room and starting playback as an audience member is a
/// 1. A user gets the latest room list from your server. The list may contain the
/// 2. The user selects a room and calls `enterRoom()` to enter the room.
```

```
/// 3. If the room list managed by your server contains the `userID` of the anchor
/// If the room list contains `roomID` only, upon room entry, the user will receive
/// The user can then call `startPlay(userID)`, passing in the `userID` obtained fr
/// - Parameters:
///   - roomID: The room ID.
///   - useCDNFirst: whether to play streams via CDNs whenever possible
///   - cdnDomain: CDN domain name
///   - callback: Callback for room entry. The code is `0` if room entry is success
/// - Note:
///   - This API is called by a user to enter a room.
///   - An anchor cannot use this API to enter a room he or she created, but must u
- (void)enterRoomWithRoomID:(UInt32)roomID
                useCDNFirst:(BOOL)useCDNFirst
                  cdnDomain:(NSString * _Nullable)cdnDomain
                   callback:(Callback)callback
NS_SWIFT_NAME(enterRoom(roomID:useCDNFirst:cdnDomain:callback:));
```

The parameters are described below:

Parameter	Type	Description
roomID	UInt32	The room ID.
callback	(_ code: Int, _ message: String?) -> Void	Callback for room entry. The code is `0` if the operation is successful.

The process of entering a room and starting playback as an audience member is as follows:

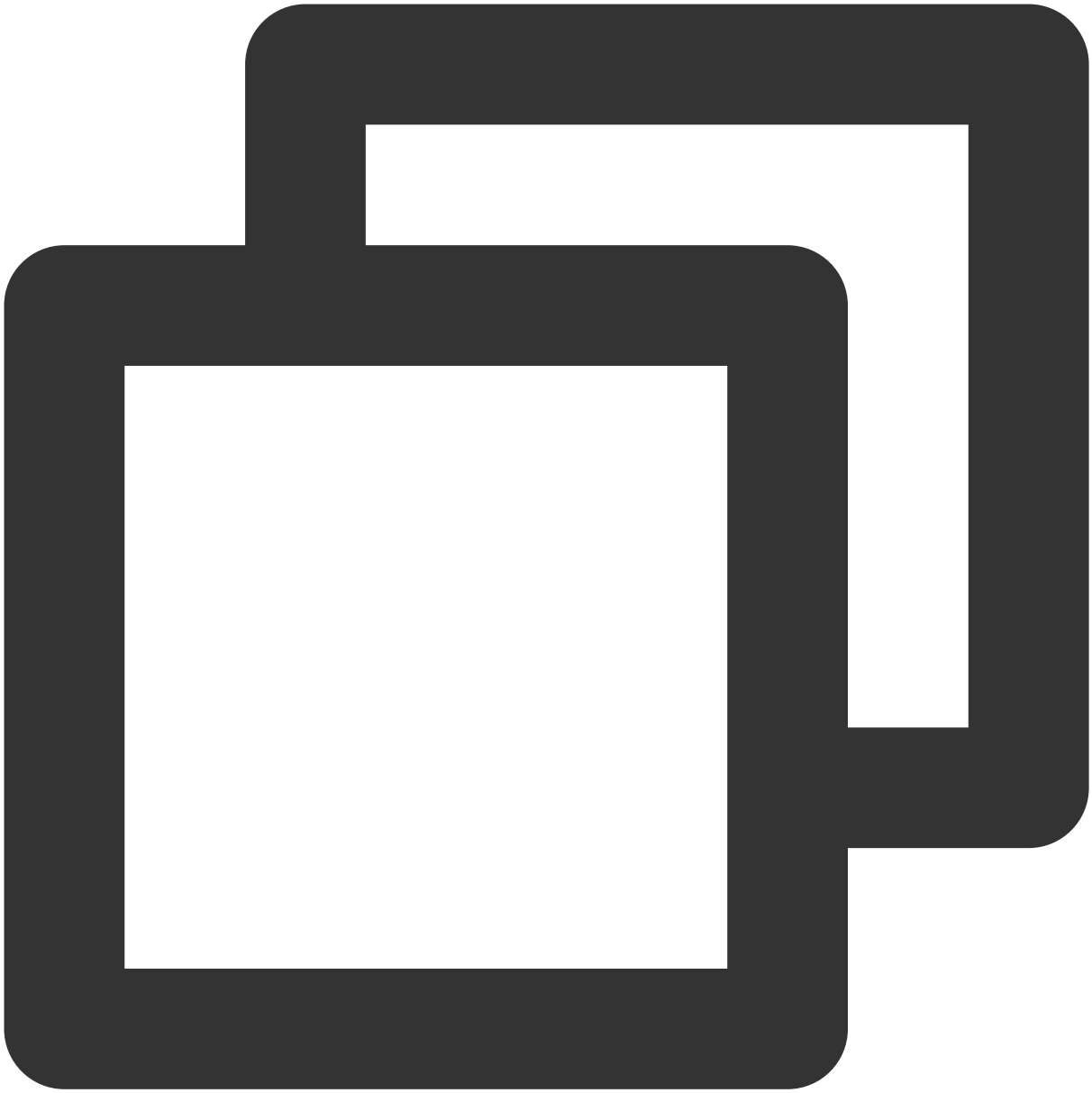
1. A user gets the latest room list from your server. The list may contain the `roomID` and other information of multiple rooms.
2. The user selects a room and calls `enterRoom()` to enter the room.
3. The user calls `startPlay(userID)`, passing in the anchor's `userID` to start playback.

If the room list contains anchors' `userID`, the user can call `startPlay(userID)` to start playback.

If the user does not have the anchor's `userID` before room entry, he or she can find it in the `onAnchorEnter(userID)` callback of `TRTCLiveRoomDelegate`, which is returned after room entry, and can then call `startPlay(userID)` to start playback.

exitRoom

This API is used to leave a room.



```
/// Leave a room (called by audience)
/// - Parameter callback: callback for room exit. The code is `0` if the operation
/// - Note:
///   - This API is called by an audience member to leave a room.
///   - An anchor cannot use this API to leave a room.

- (void)exitRoom:(Callback _Nullable)callback
NS_SWIFT_NAME(exitRoom(callback:));
```

The parameters are described below:

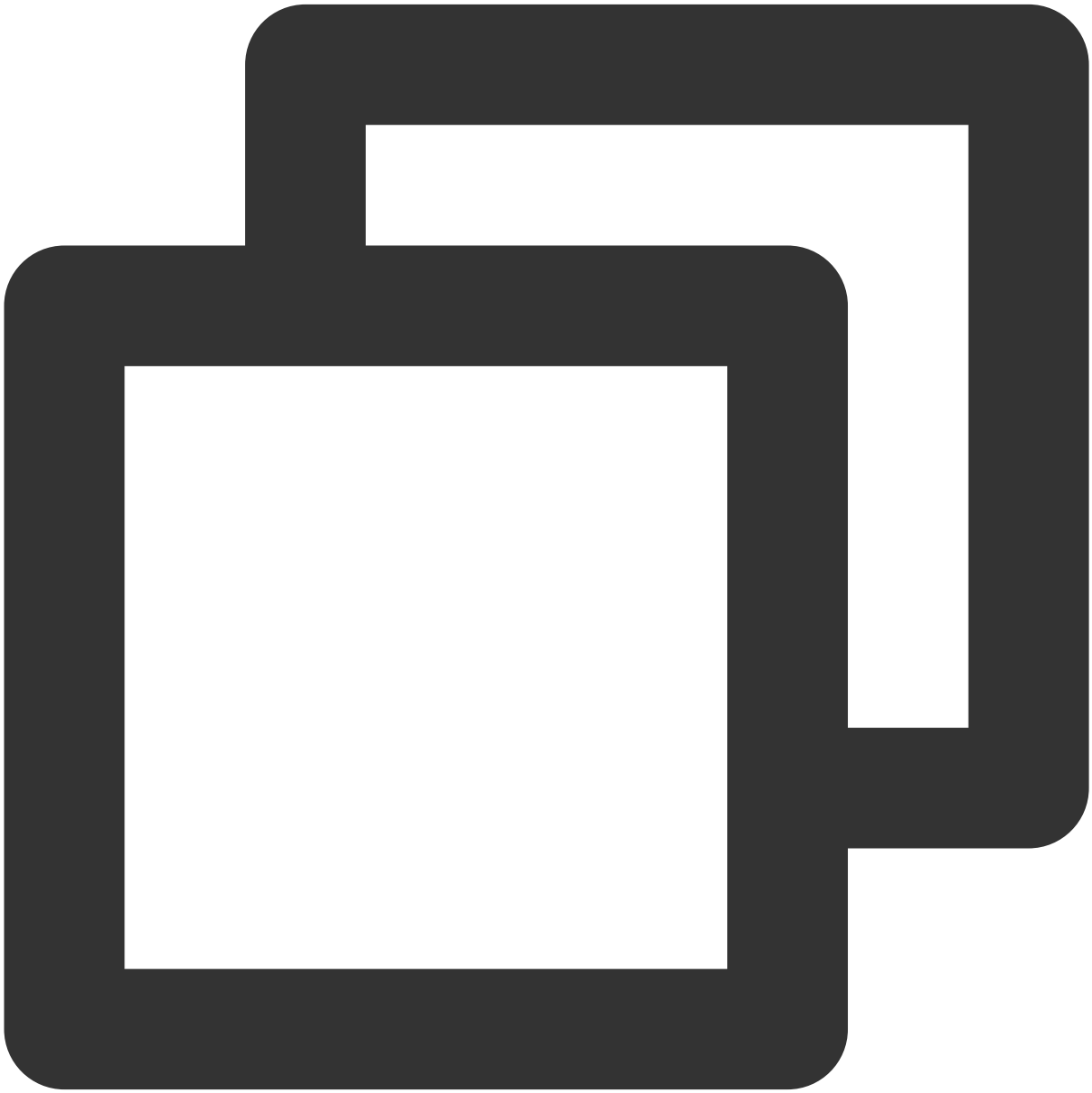
Parameter	Type	Description
callback	(_ code: Int, _ message: String?) -> Void	Callback for room exit. The code is `0` if the operation is successful.

getRoomInfos

This API is used to get room list details, which are set by anchors via `roomInfo` when they call `createRoom()` .

Note

You don't need this API if both the room list and room information are managed on your server.



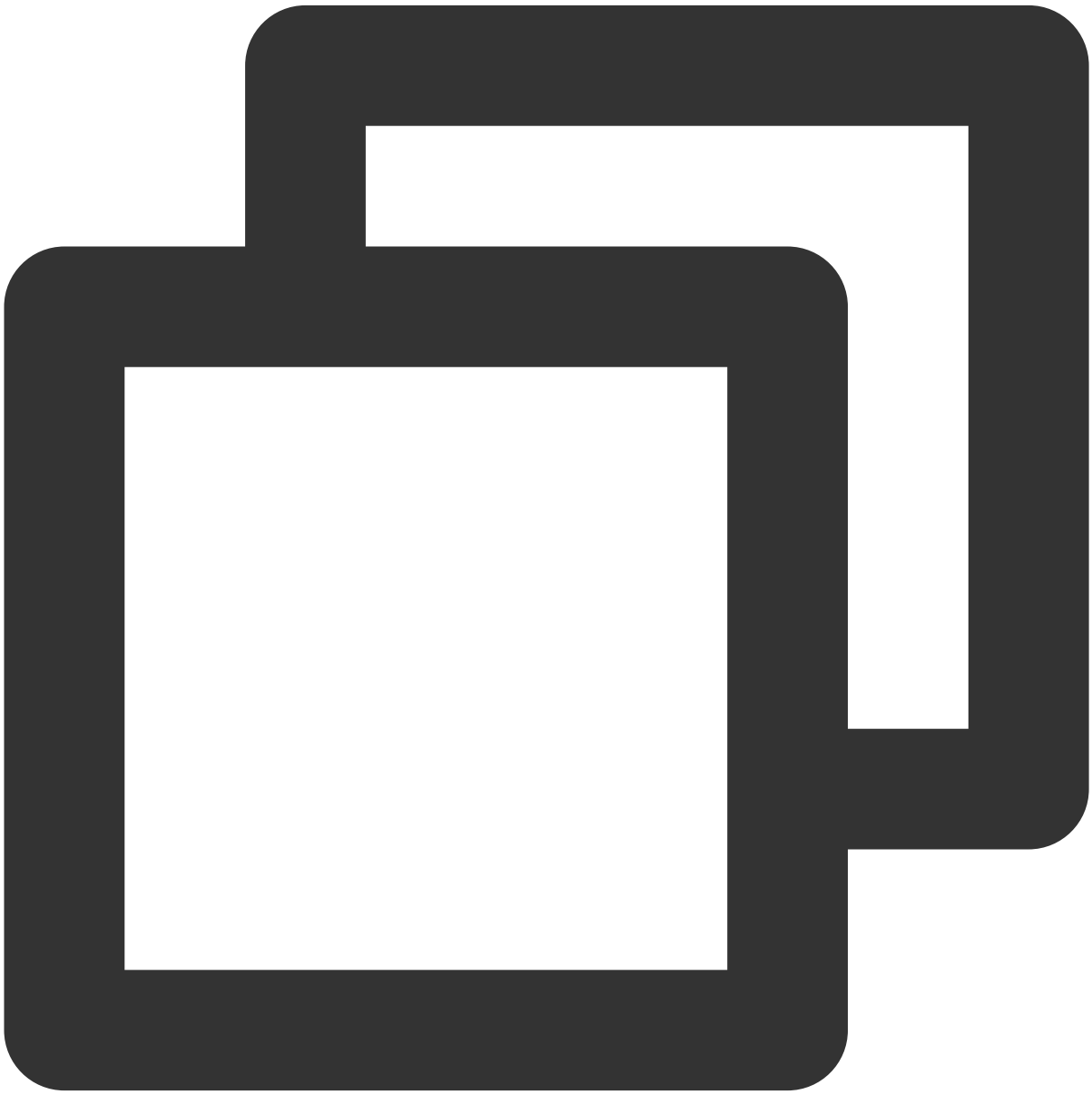
```
/// Get room details
/// The information is provided by anchors via the `roomInfo` parameter when they c
/// - Parameter roomIDs: The list of room IDs.
/// - Parameter callback: Callback of room details.
- (void)getRoomInfosWithRoomIDs:(NSArray<NSNumber *> *)roomIDs
                       callback:(RoomInfoCallback _Nullable)callback
NS_SWIFT_NAME(getRoomInfos(roomIDs:callback:));
```

The parameters are described below:

Parameter	Type	Description
roomIDs	[UInt32]	List of room IDs
callback	(_ code: Int, _ message: String?, _ roomList: [TRTCLiveRoomInfo]) -> Void	Callback of room details

getAnchorList

This API is used to get the anchors and co-anchoring viewers in a room. It takes effect only if it is called after `enterRoom()` .



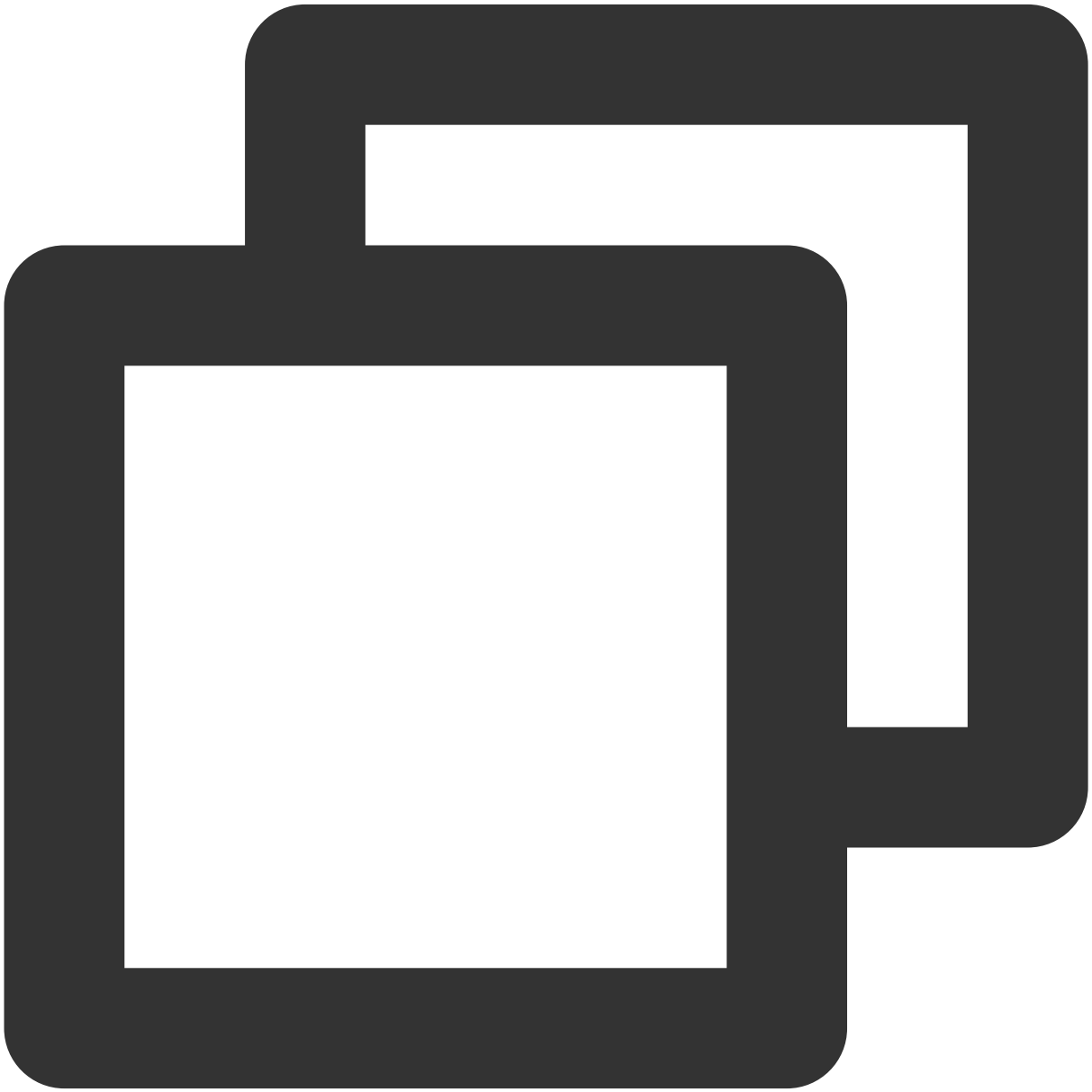
```
/// Get the anchors and co-anchoring viewers in a room. This API takes effect only
/// - Parameter callback: Callback of user details.
- (void)getAnchorList:(UserListCallback _Nullable)callback
NS_SWIFT_NAME(getAnchorList(callback:));
```

The parameters are described below:

Parameter	Type	Description
callback	(_ code: Int, _ message: String, _ userList: [TRTCLiveUserInfo]) -> Void	Callback of user details

getAudienceList

This API is used to get the information of all audience members in a room. It takes effect only if it is called after `enterRoom()` .



```
/// Get the information of all audience members in a room. This API takes effect on
/// - Parameter callback: Callback of user details.
- (void)getAudienceList:(UserListCallback _Nullable)callback
NS_SWIFT_NAME(getAudienceList(callback:));
```

The parameters are described below:

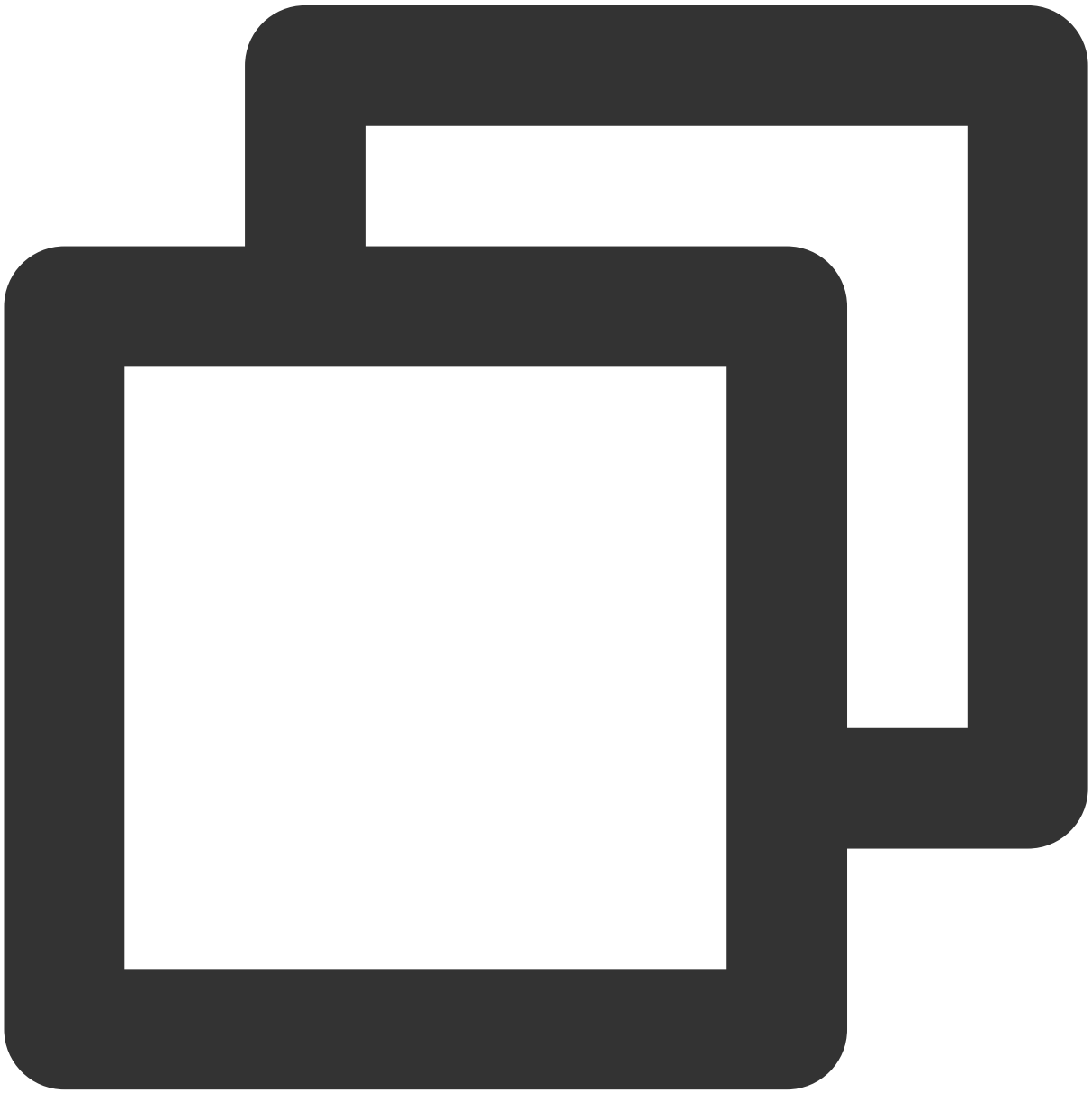
Parameter	Type	Description
callback	(_ code: Int, _ message: String, _ userList: [TRTCLiveUserInfo]) ->	Callback of user

	Void	details

Stream Pushing/Pulling APIs

startCameraPreview

This API is used to enable local video preview.



```
/// Enable local video preview
/// - Parameters:
```

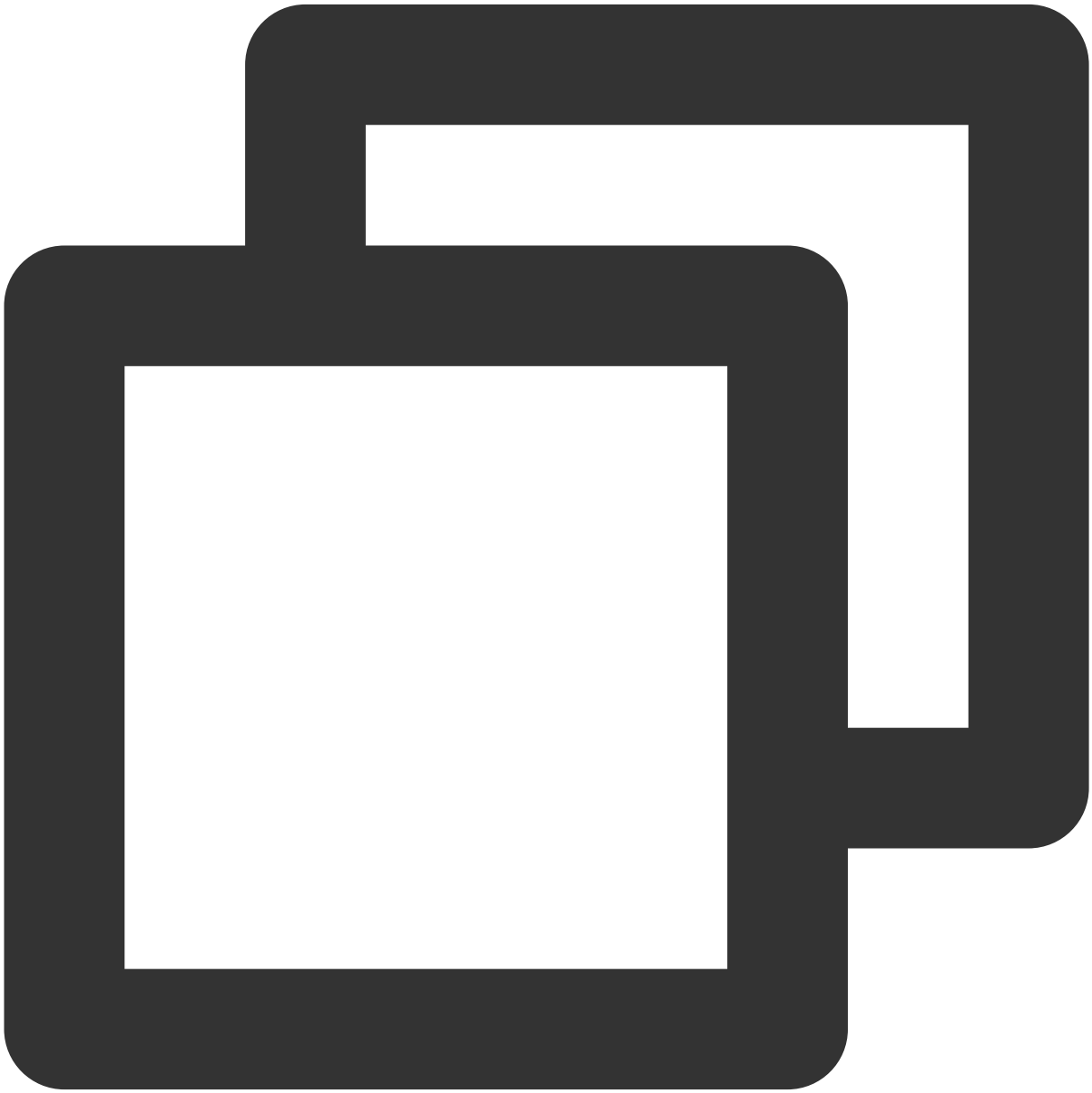
```
///   - frontCamera: `true`: Front camera; `false`: Rear camera
///   - view: The control that loads video images.
///   - callback: Callback for the operation
- (void)startCameraPreviewWithFrontCamera:(BOOL)frontCamera
                                     view:(UIView *)view
                                 callback:(Callback _Nullable)callback
NS_SWIFT_NAME(startCameraPreview(frontCamera:view:callback:));
```

The parameters are described below:

Parameter	Type	Description
frontCamera	Bool	`true` : Front camera; `false` : Rear camera
view	UIView	The control that loads video images
callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

stopCameraPreview

This API is used to stop local video capturing and preview.



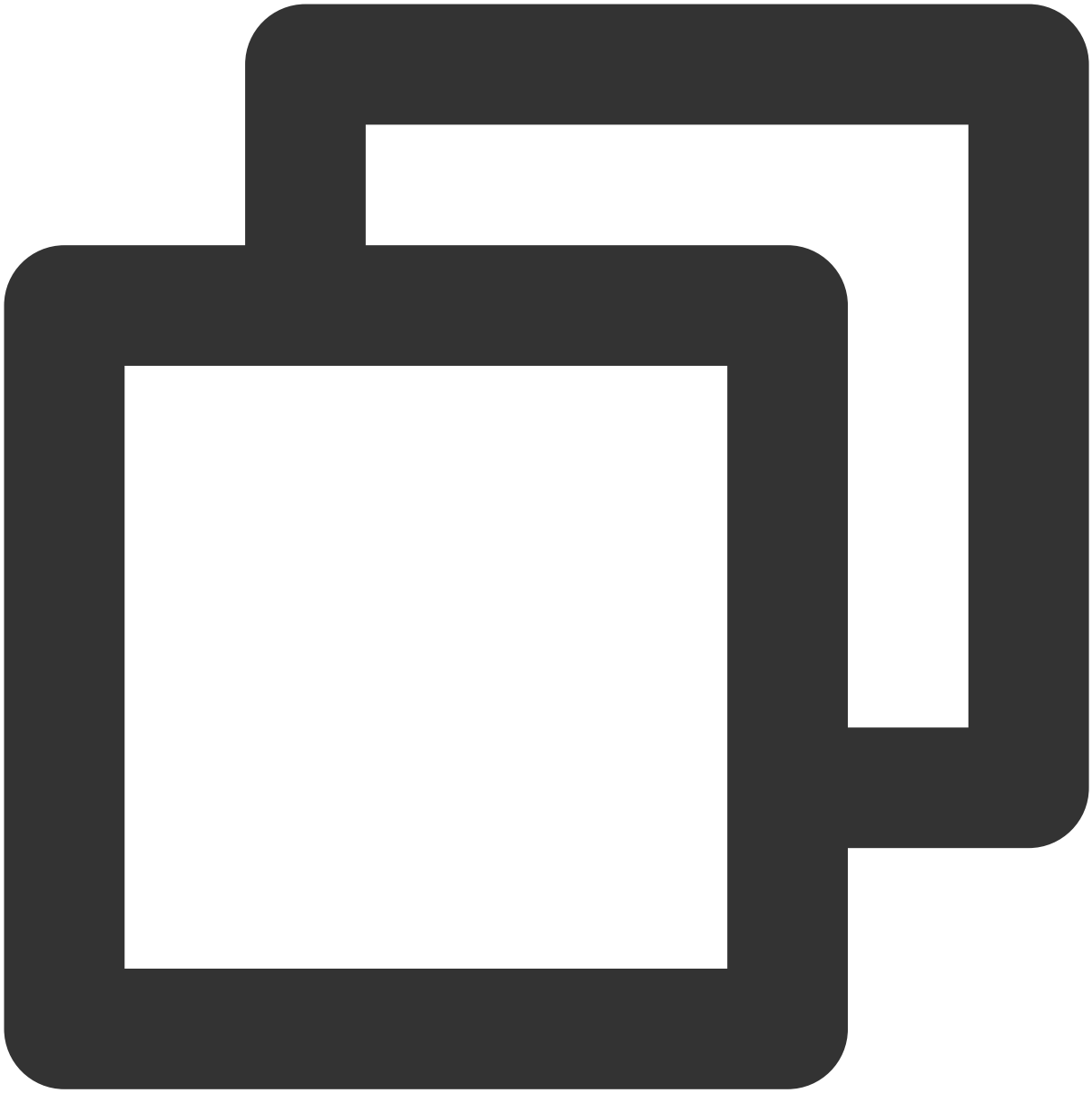
```
/// Stop local video capturing and preview
- (void)stopCameraPreview;
```

startPublish

This API is used to start live streaming (pushing streams), which can be called in the following scenarios:

An anchor starts live streaming.

A viewer starts co-anchoring.



```
/// Start live streaming (push streams). This API can be called in the following sc
/// 1. An anchor starts live streaming.
/// 2. An audience member starts co-anchoring.
/// - Parameters:
///   - streamID: the `streamID` used to bind live streaming CDNs. You need to set
///   - callback: Callback for the operation
- (void)startPublishWithStreamID:(NSString *)streamID
                        callback:(Callback _Nullable)callback
NS_SWIFT_NAME(startPublish(streamID:callback:));
```

The parameters are described below:

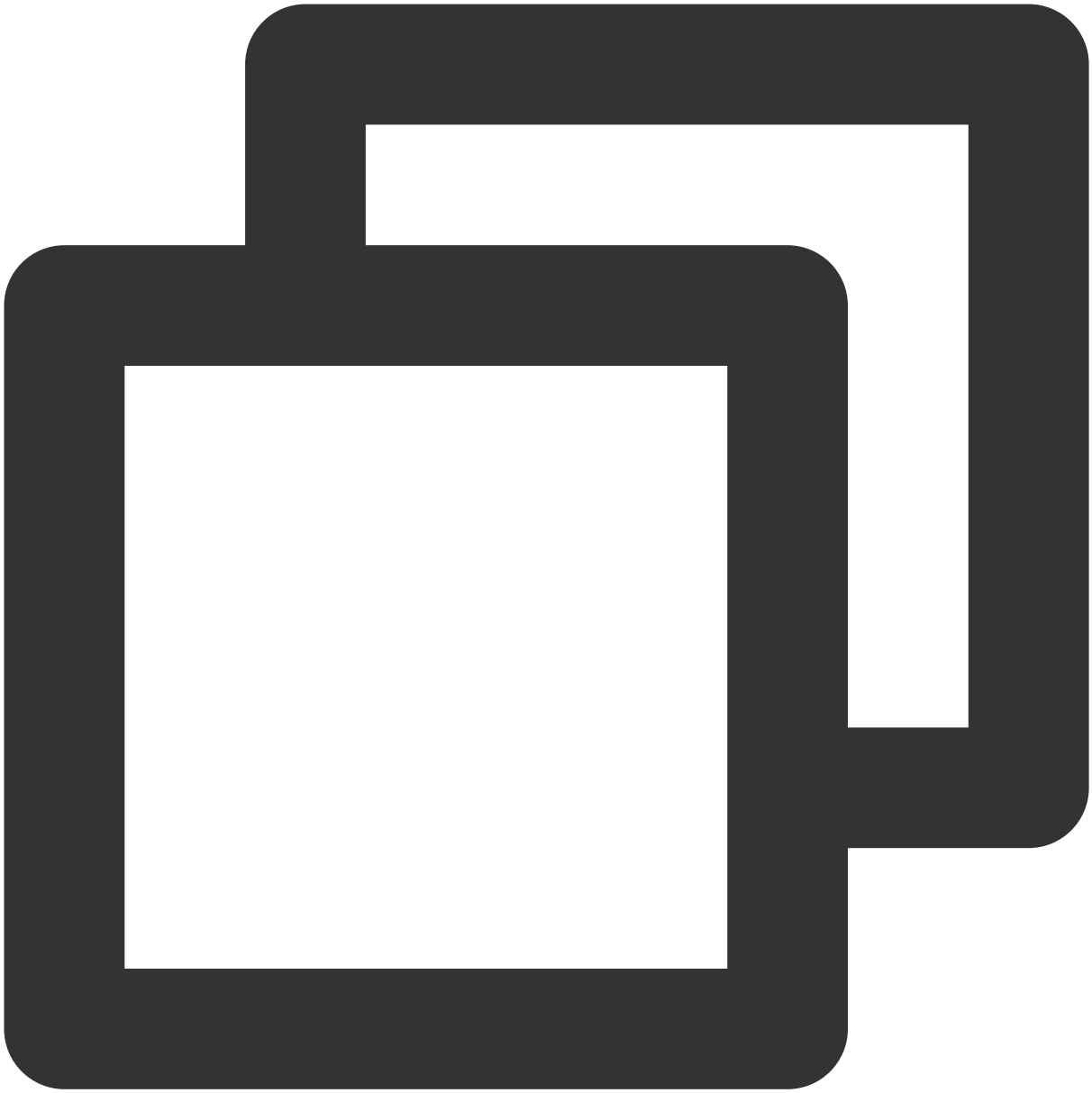
Parameter	Type	Description
streamID	String	The `streamID` used to bind live streaming CDNs. You need to set it to the `streamID` of the anchor if you want the audience to receive the anchor's stream via CDNs.
callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

stopPublish

This API is used to stop live streaming (pushing streams), which can be called in the following scenarios:

An anchor ends live streaming.

A viewer ends co-anchoring.



```
/// Stop live streaming (pushing streams). This API can be called in the following
/// 1. An anchor ends live streaming.
/// 2. An audience member ends co-anchoring.
/// - Parameter callback: Callback for the operation.
- (void)stopPublish:(Callback _Nullable)callback
NS_SWIFT_NAME(stopPublish(callback:));
```

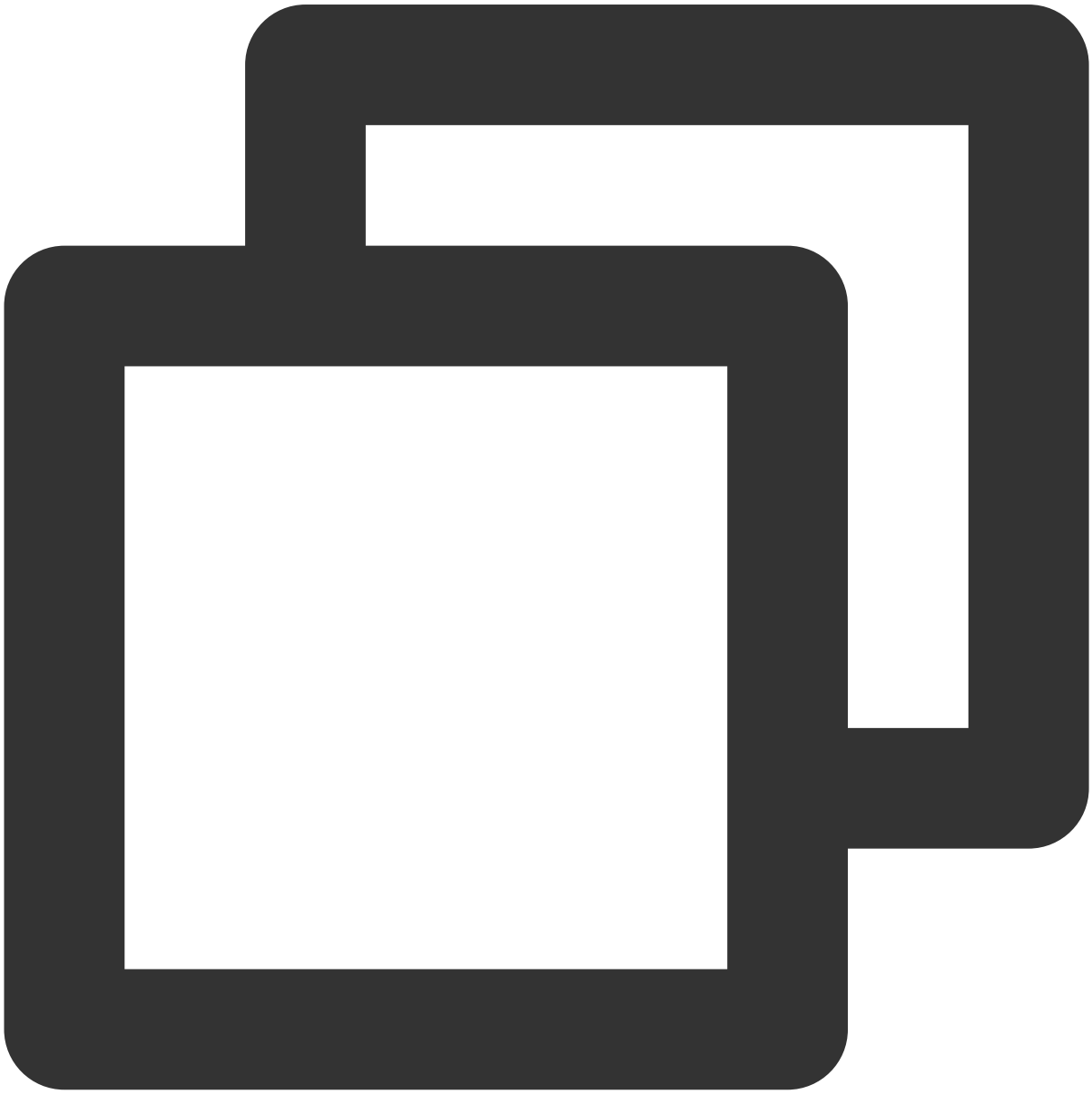
The parameters are described below:

Parameter	Type	Description

callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

startPlay

This API is used to play a remote video. It can be called in common playback and co-anchoring scenarios.



```
/// Play a remote video. This API can be called in common playback and co-anchoring
/// Common playback scenario
/// 1. If the room list managed by your server contains the `userID` of the anchor
/// 2. If the room list contains `roomID` only, upon room entry, a user will receiv
/// The user can then call `startPlay(userID)`, passing in the `userID` obtained fr
```

```
/// Co-anchoring scenario
/// After co-anchoring starts, the anchor will receive the `onAnchorEnter(userID)`
/// - Parameters:
///   - userID: The ID of the user whose video is to be played.
///   - view: The control that loads video images.
///   - callback: Callback for the operation
- (void)startPlayWithUserID:(NSString *)userID
                       view:(UIView *)view
                   callback:(Callback _Nullable)callback
NS_SWIFT_NAME(startPlay(userID:view:callback:));
```

The parameters are described below:

Parameter	Type	Description
userID	String	ID of the user whose video is to be played
view	UIView	The control that loads video images
callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

Common playback scenario

If the room list contains anchors' `userID`, after entering a room, a user can call `startPlay(userID)` to play the anchor's video.

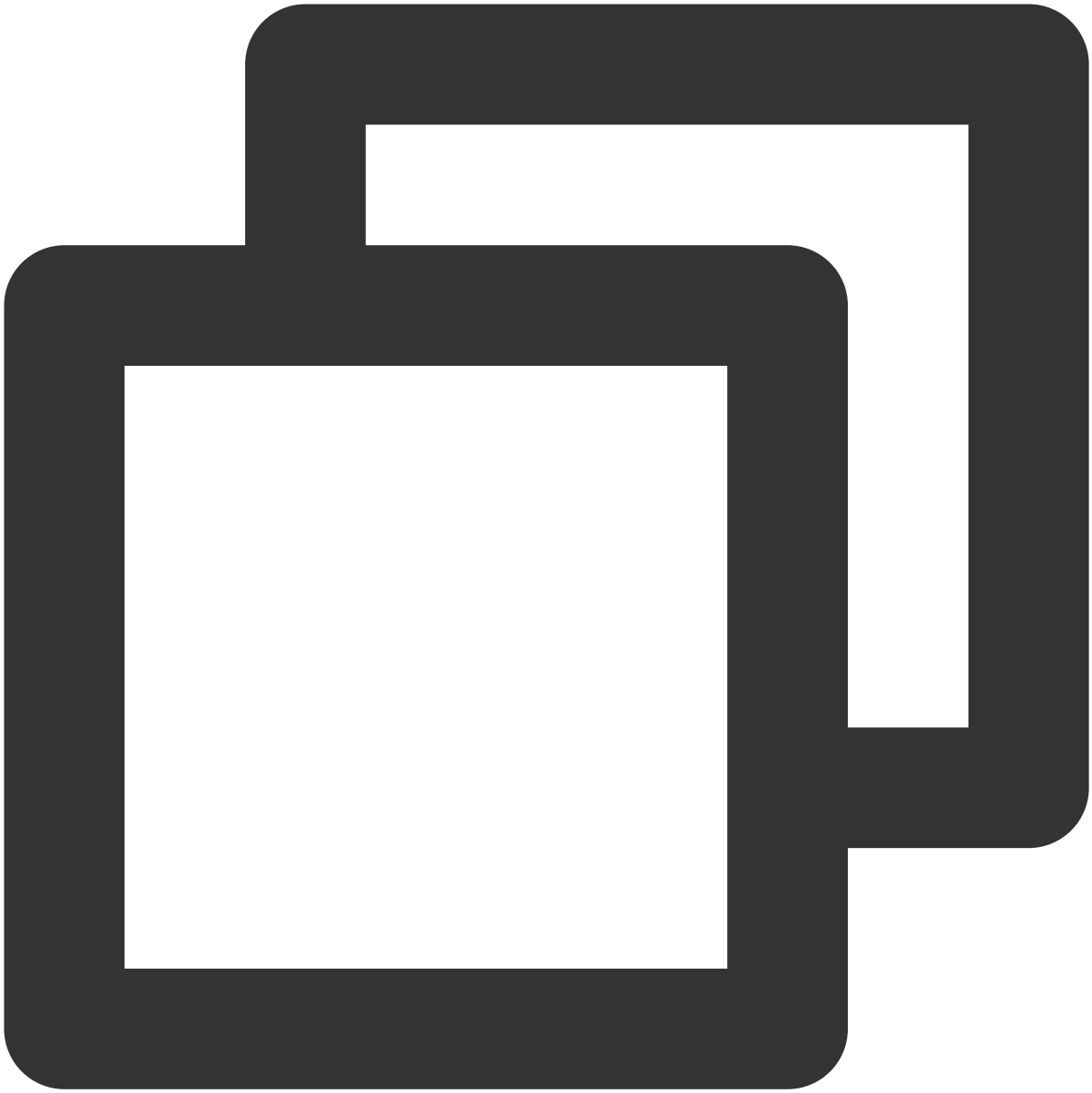
If a user does not have the anchor's `userID` before room entry, he or she can find it in the `onAnchorEnter(userID)` callback of `TRTCLiveRoomDelegate`, which is returned after room entry, and can then call `startPlay(userID)` to play the anchor's video.

Co-anchoring scenario

After co-anchoring starts, the anchor will receive the `onAnchorEnter(userID)` callback from `TRTCLiveRoomDelegate` and can call `startPlay(userID), passing in the` userID` obtained from the callback to play the co-anchoring user's video.

stopPlay

This API is used to stop rendering a remote video. It needs to be called after the `onAnchorExit()` callback is received.



```
/// Stop rendering a remote video
/// - Parameters:
///   - userID: The ID of the remote user.
///   - callback: Callback for the operation
/// - Note:
///   - Call this API after receiving the `onAnchorExit` callback.
- (void)stopPlayWithUserID:(NSString *)userID
                  callback:(Callback _Nullable)callback
NS_SWIFT_NAME(stopPlay(userID:callback:));
```

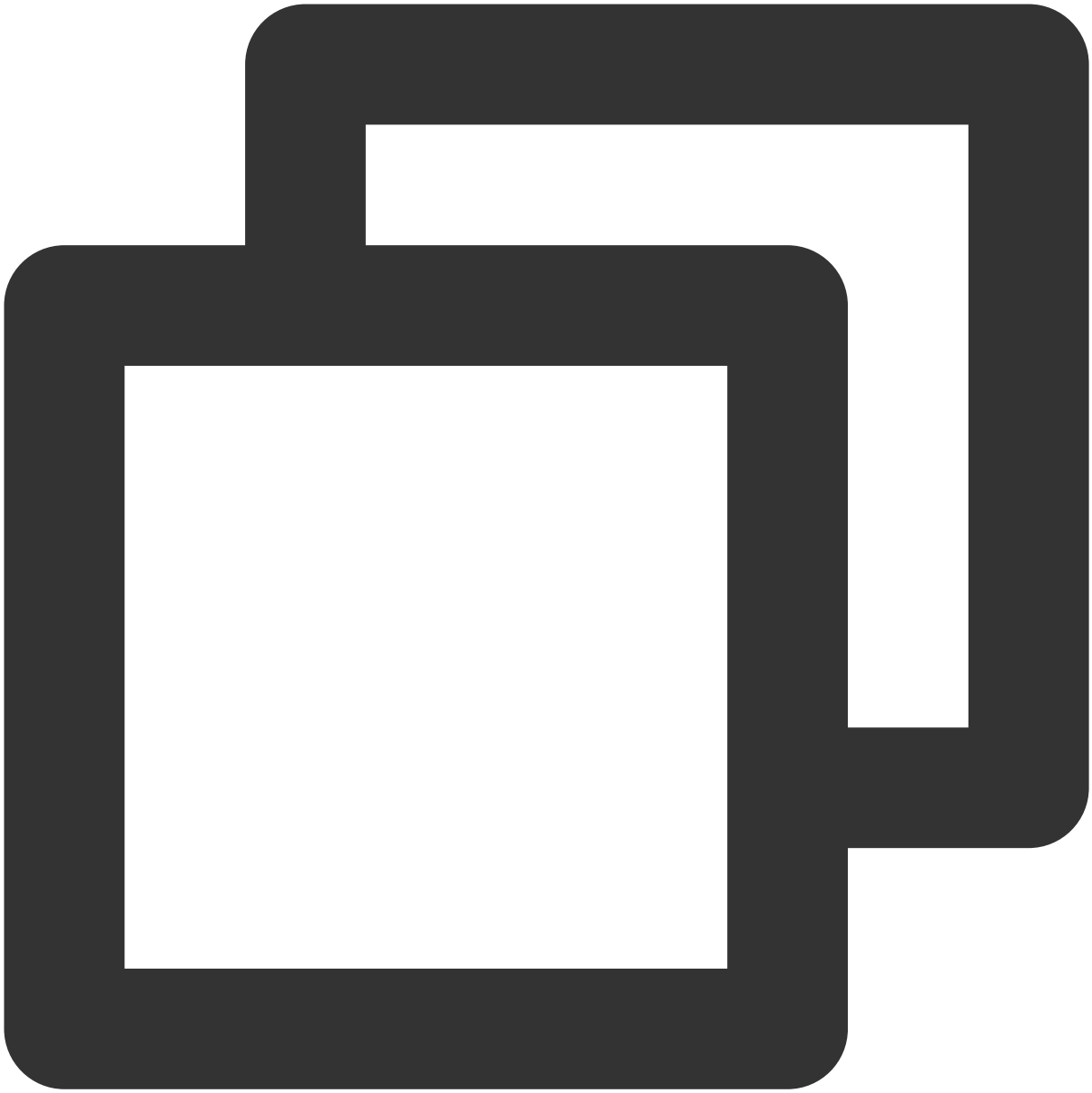
The parameters are described below:

Parameter	Type	Description
userID	String	ID of the remote user
callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

APIs for Anchor-Audience Co-anchoring

requestJoinAnchor

This API is used to send a co-anchoring request (called by audience).



```
/// Send a co-anchoring request
/// - Parameters:
///   - reason: reason for co-anchoring
///   - responseCallback: callback of the response
/// - Note: After an audience member sends a co-anchoring request, the anchor will
- (void)requestJoinAnchor:(NSString *)reason
                  timeout:(double)timeout
          responseCallback:(ResponseCallback _Nullable)responseCallback
NS_SWIFT_NAME(requestJoinAnchor(reason:timeout:responseCallback:));
```

The parameters are described below:

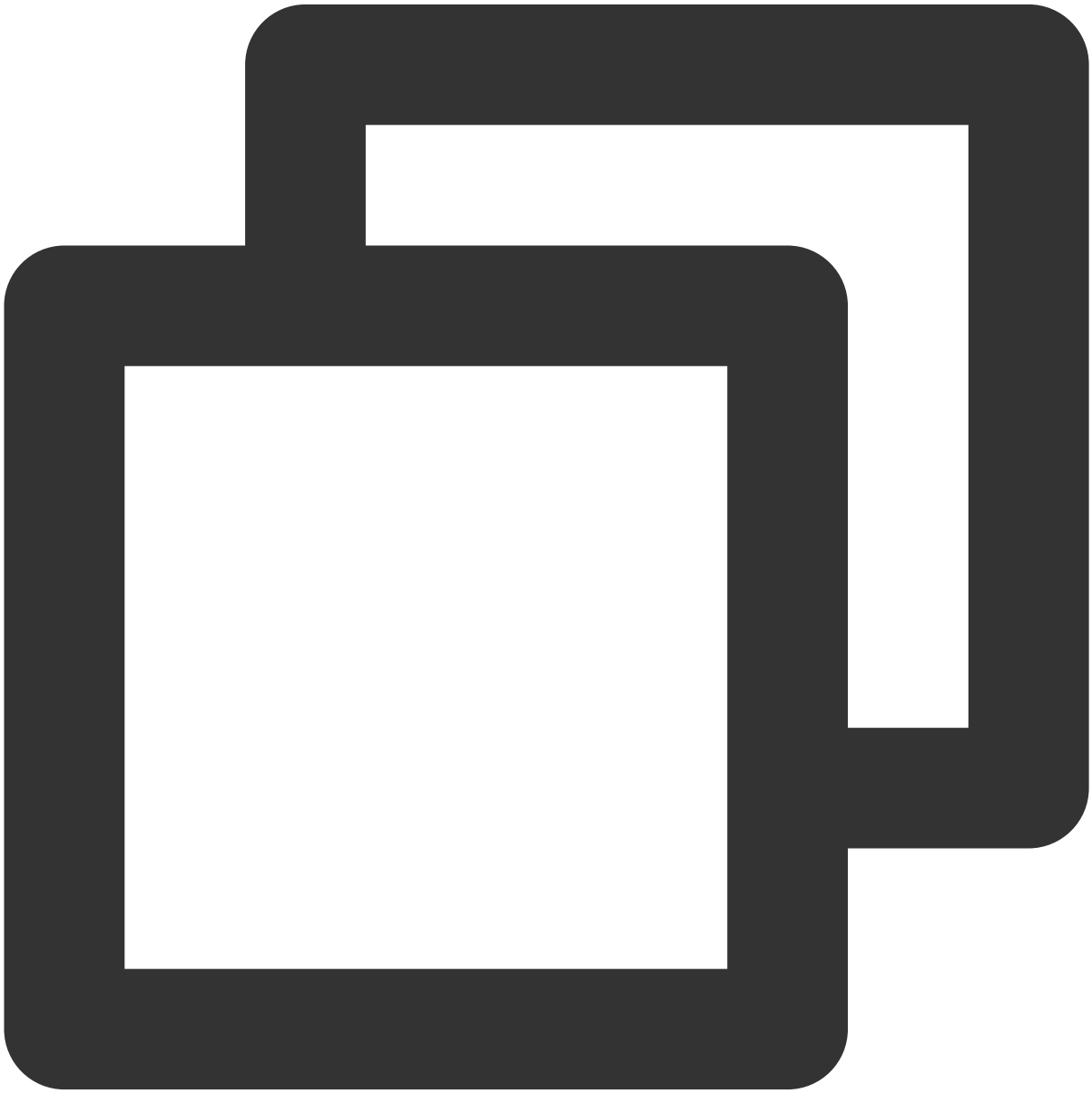
Parameter	Type	Description
reason	String	Reason for co-anchoring
timeout	long	Timeout period for the co-anchoring request
responseCallback	(_ agreed: Bool, _ reason: String?) -> Void	Callback of the anchor's response

The process of co-anchoring between anchors and audience members is as follows:

1. A **viewer** calls `requestJoinAnchor()` to send a co-anchoring request to the anchor.
2. The **anchor** receives the `onRequestJoinAnchor()` callback of `TRTCLiveRoomDelegate`.
3. The **anchor** calls `responseJoinAnchor()` to accept or reject the co-anchoring request.
4. The **viewer** receives the `responseCallback` callback, which carries the anchor's response.
5. If the request is accepted, the **viewer** calls `startCameraPreview()` to enable local camera preview.
6. The **viewer** calls `startPublish()` to push streams.
7. After the viewer starts pushing streams, the **anchor** receives the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate`.
8. The **anchor** calls `startPlay()` to play the co-anchoring viewer's video.
9. If there are other viewers co-anchoring with the anchor in the room, the new co-anchoring **viewer** will receive the `onAnchorEnter()` callback and can call `startPlay()` to play other co-anchoring viewers' video.

responseJoinAnchor

This API is used to respond to a co-anchoring request (called by anchor) after receiving the `onRequestJoinAnchor()` callback of `TRTCLiveRoomDelegate`.



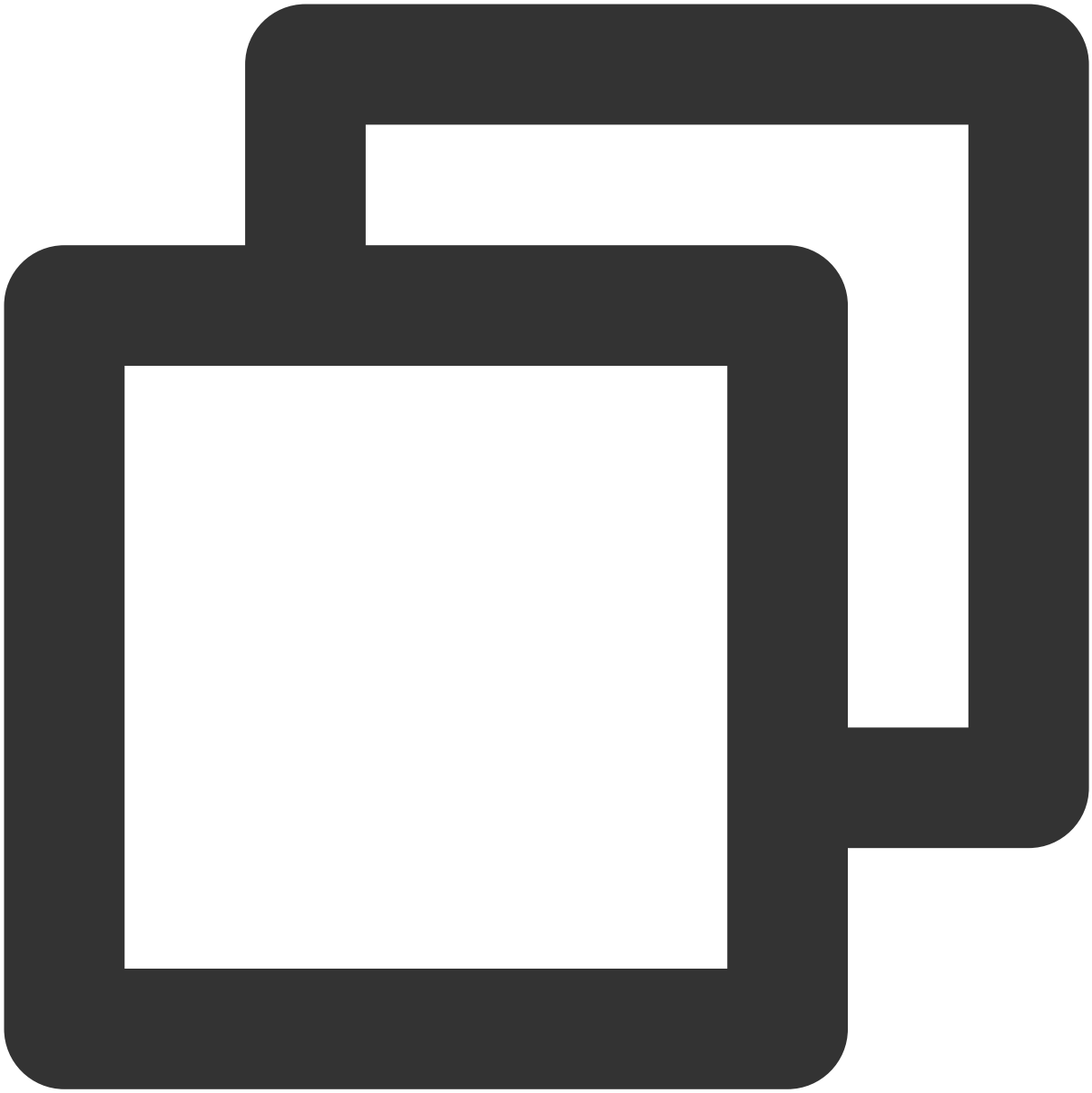
```
/// Respond to a co-anchoring request
/// - Parameters:
///   - user: user ID of the viewer
///   - agree: `true`: Accept; `false`: Reject
///   - reason: reason for accepting/rejecting the request
/// - Note: After the anchor responds to the request, the viewer will receive the `
- (void)responseJoinAnchor:(NSString *)userID
                     agree:(BOOL)agree
                    reason:(NSString *)reason
NS_SWIFT_NAME(responseJoinAnchor(userID:agree:reason:));
```

The parameters are described below:

Parameter	Type	Description
userID	String	The user ID of the audience member.
agree	Bool	`true` : accept; `false` : reject
reason	String?	Reason for accepting/rejecting the request

kickoutJoinAnchor

This API is used to remove a user from co-anchoring (called by anchor). The removed user will receive the `onKickoutJoinAnchor()` callback of `TRTCLiveRoomDelegate` .



```
/// Remove a user from co-anchoring
/// - Parameters:
///   - userID: ID of the user to remove from co-anchoring
///   - callback: Callback for the operation
/// - Note: After the anchor calls this API to remove a user from co-anchoring, the
- (void)kickoutJoinAnchor:(NSString *)userID
                 callback:(Callback _Nullable)callback
NS_SWIFT_NAME(kickoutJoinAnchor(userID:callback:));
```

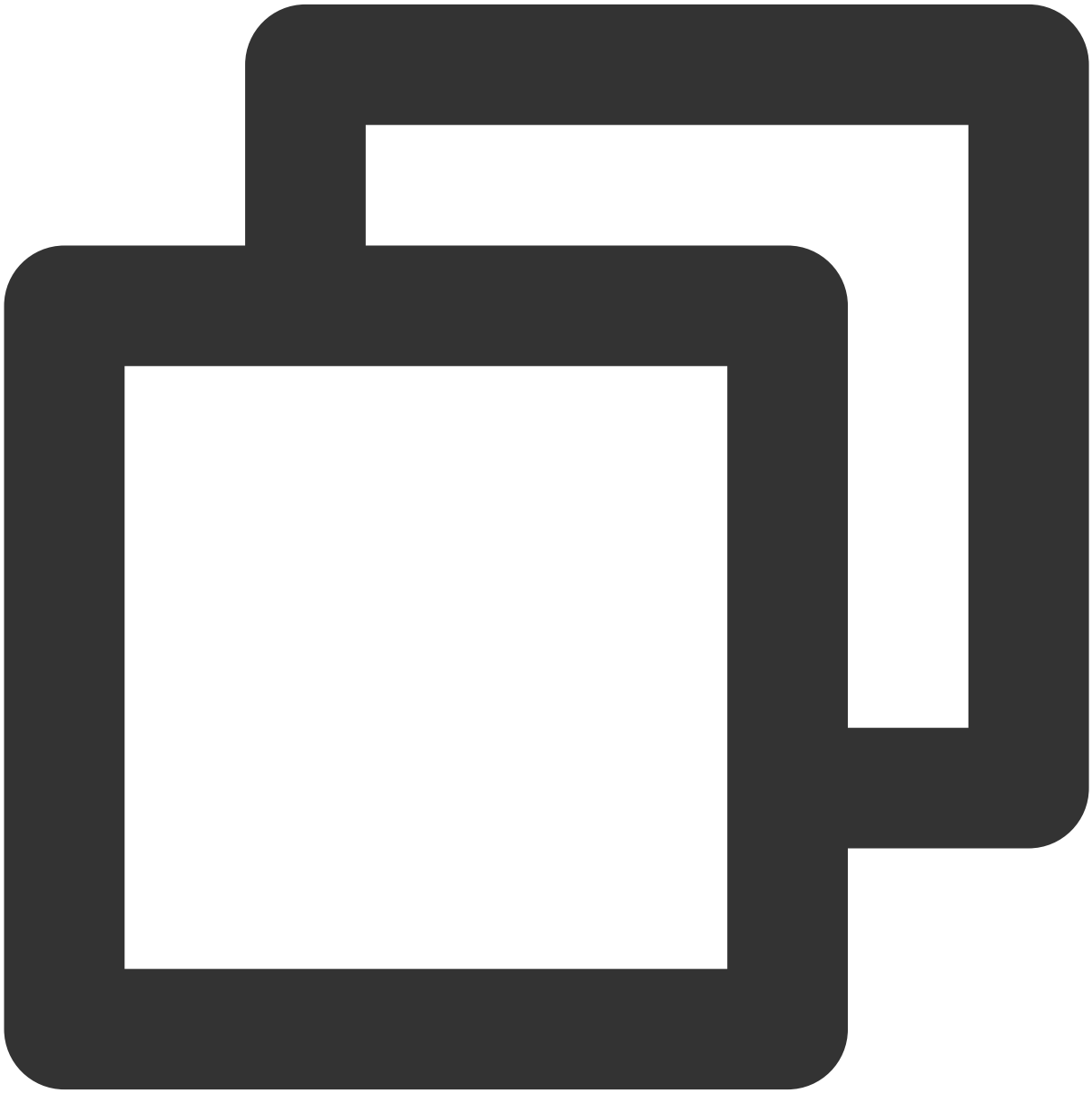
The parameters are described below:

Parameter	Type	Description
userID	String	The ID of the user to remove from co-anchoring.
callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

APIs for Cross-Room Communication

requestRoomPK

This API is used to send a cross-room communication request (called by anchor).



```
/// Request cross-room communication
/// - Parameters:
///   - roomID: room ID of the anchor to invite
///   - userID: user ID of the anchor to invite
///   - responseCallback: callback of the response
/// - Note: After a cross-room communication request is sent, the invited anchor wi
- (void)requestRoomPKWithRoomID:(UInt32)roomID
                         userID:(NSString *)userID
                responseCallback:(ResponseCallback _Nullable)responseCallback
NS_SWIFT_NAME(requestRoomPK(roomID:userID:responseCallback:));
```

The parameters are described below:

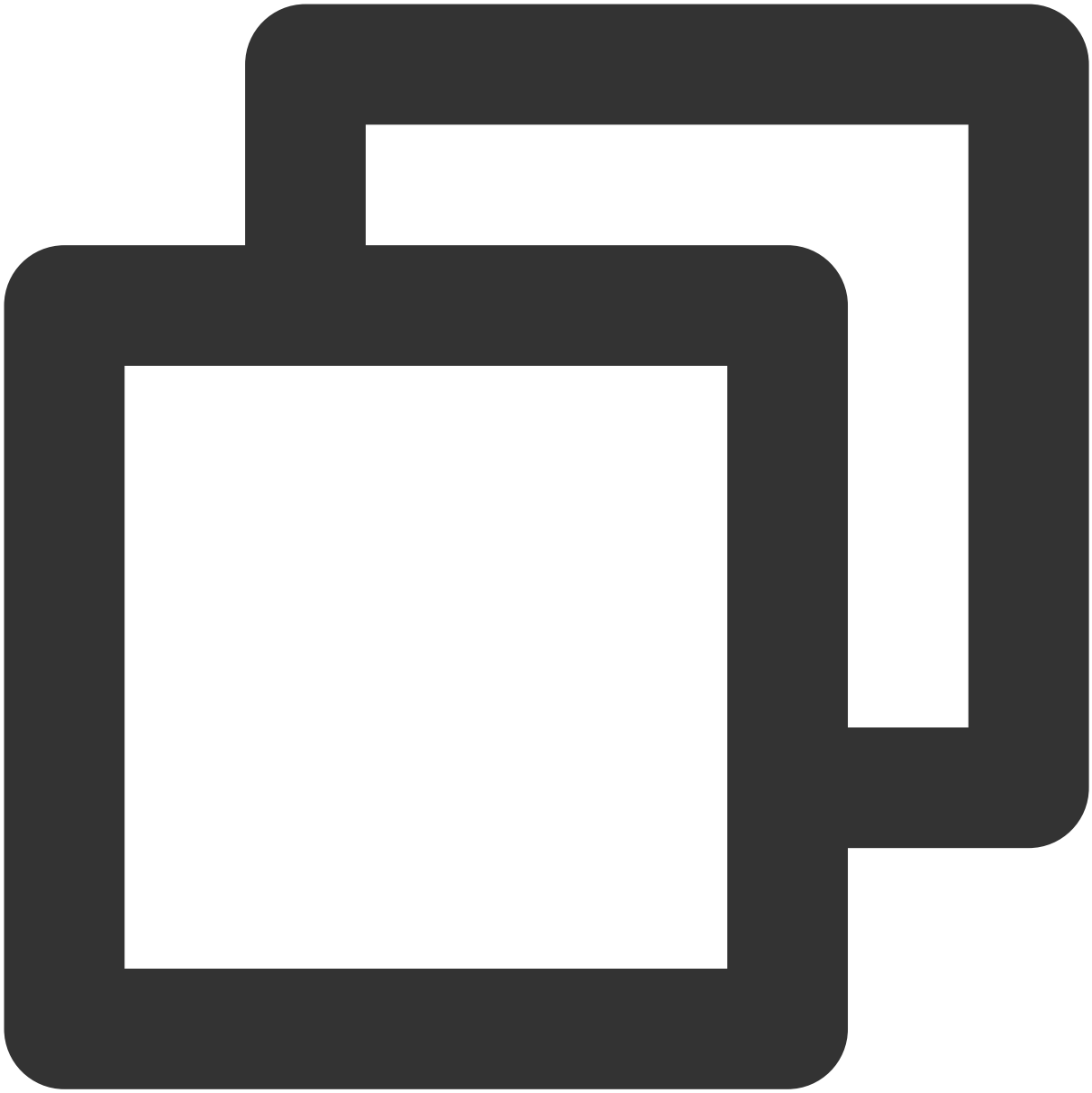
Parameter	Type	Description
roomID	UInt32	room ID of the anchor to invite
userID	String	user ID of the anchor to invite
responseCallback	(_ agreed: Bool, _ reason: String?) -> Void	Callback of the response

Anchors in different rooms can communicate with each other. The process of starting cross-room communication between anchor A and anchor B is as follows:

1. **Anchor A** calls `requestRoomPK()` to send a cross-room communication to anchor B.
2. **Anchor B** receives the `onRequestRoomPK()` callback of `TRTCLiveRoomDelegate` .
3. **Anchor B** calls `responseRoomPK()` to respond to the cross-room communication request.
4. If **anchor B** accepts the request, he or she would wait for the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate` and call `startPlay()` to play anchor A's video.
5. **Anchor A** receives the `responseCallback` callback, which carries anchor B’s response.
6. If the request is accepted, **anchor A** waits for the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate` and calls `startPlay()` to play anchor B’s video.

responseRoomPK

This API is used to respond to a cross-room communication request (called by anchor), after which the request sending anchor will receive the `responseCallback` passed in to `requestRoomPK` .



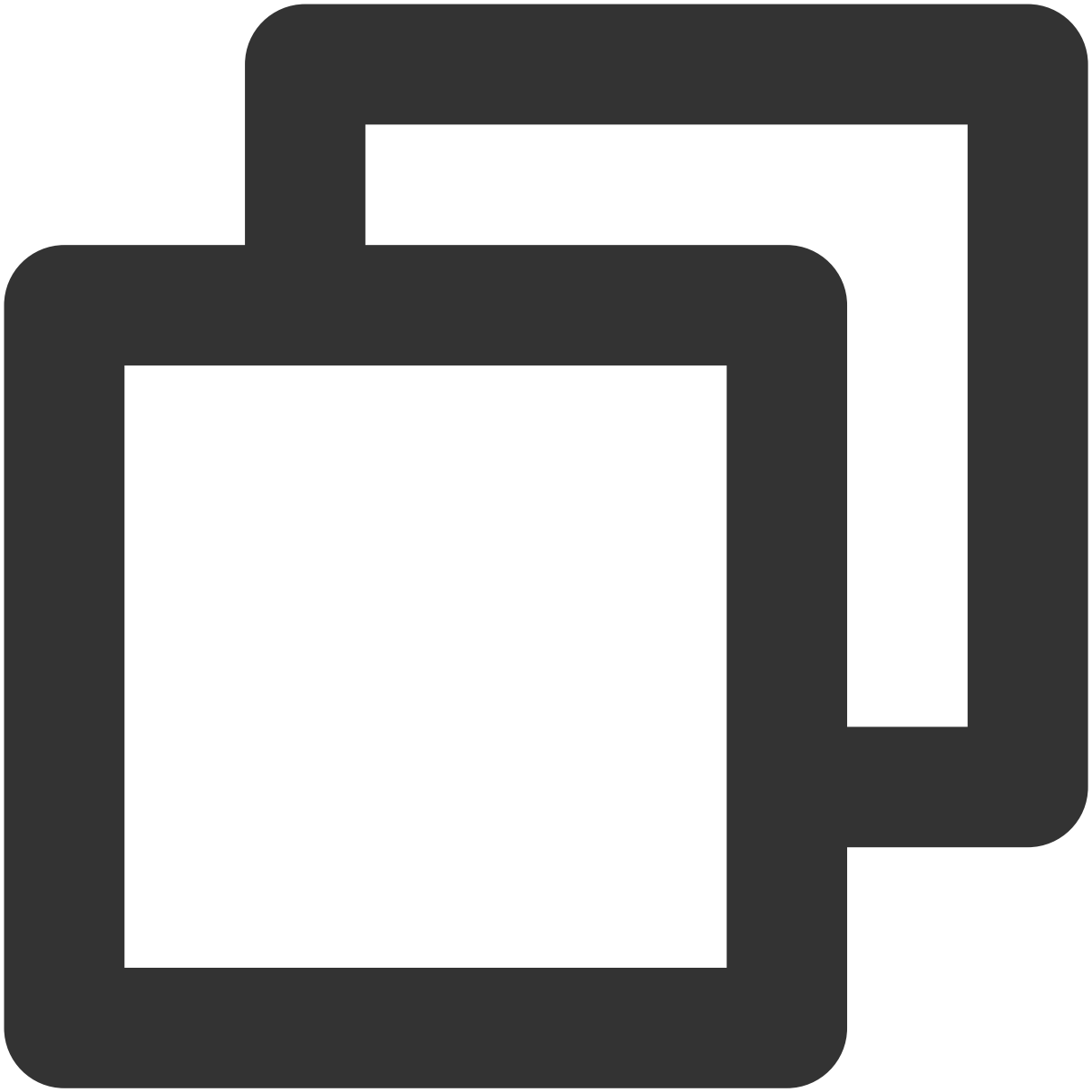
```
/// Respond to a cross-room communication request
/// Respond to a communication request from another anchor
/// - Parameters:
///   - user: user ID of the request sending anchor
///   - agree: `true`: Accept; `false`: Reject
///   - reason: reason for accepting/rejecting the request
/// - Note: After the anchor responds to the request, the anchor sending the reques
- (void)responseRoomPKWithUserID:(NSString *)userID
                           agree:(BOOL)agree
                          reason:(NSString *)reason
NS_SWIFT_NAME(responseRoomPK(userID:agree:reason:));
```

The parameters are described below:

Parameter	Type	Description
userID	String	User ID of the request sending anchor
agree	Bool	`true` : accept; `false` : reject
reason	String?	Reason for accepting/rejecting the request

quitRoomPK

This API is used to quit cross-room communication. If either anchor quits cross-room communication, the other anchor will receive the `trtcLiveRoomOnQuitRoomPK()` callback of `TRTCLiveRoomDelegate` .



```
/// End cross-room communication
/// - Parameter callback: Callback for ending cross-room communication
// - Note: If either anchor ends cross-room communication, the other anchor will re
- (void)quitRoomPK:(Callback _Nullable)callback
NS_SWIFT_NAME(quitRoomPK(callback:));
```

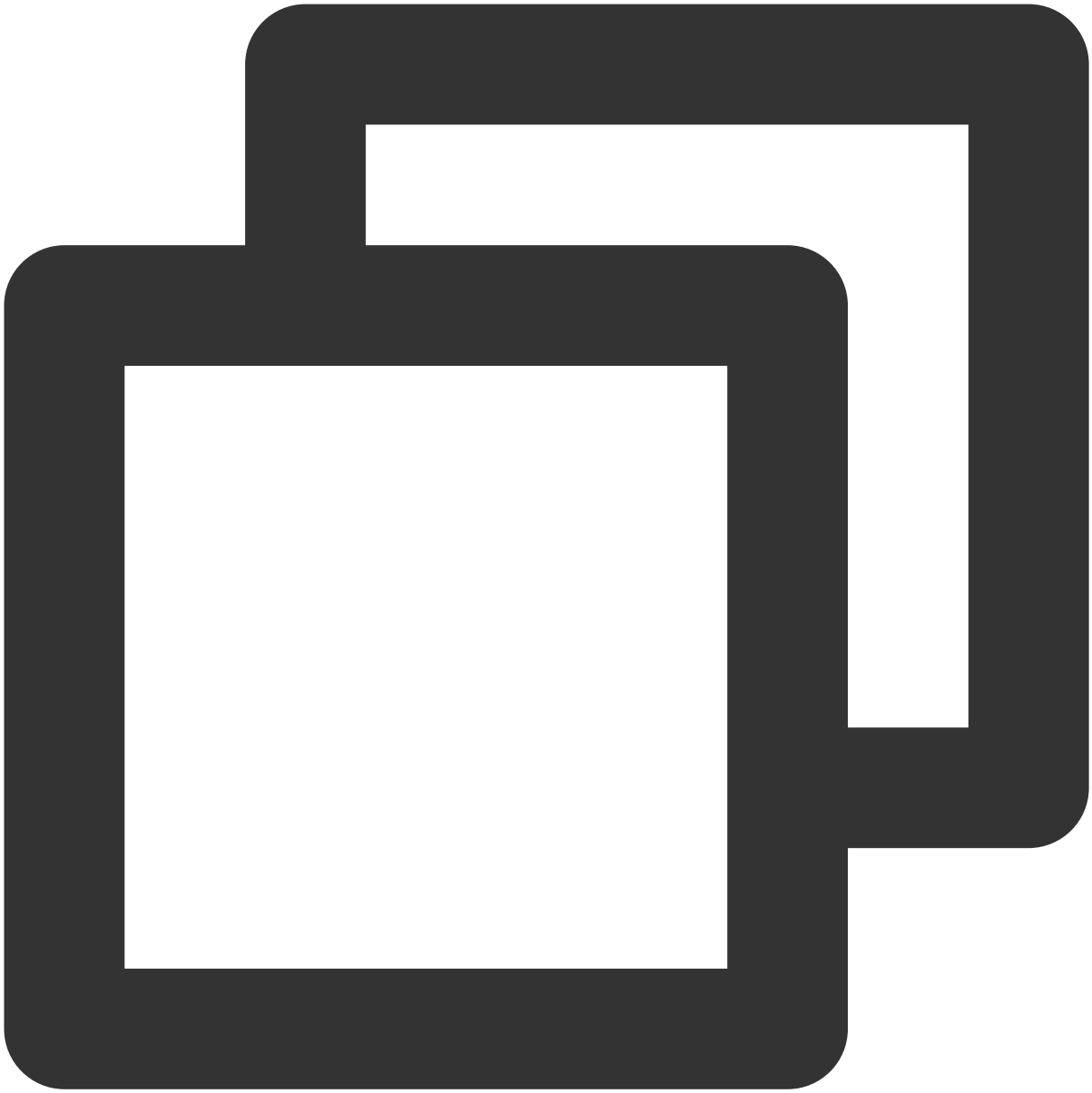
The parameters are described below:

Parameter	Type	Description
callback	(_ code: Int, _ message: String?) -> Void	Callback for the operation

Audio/Video APIs

switchCamera

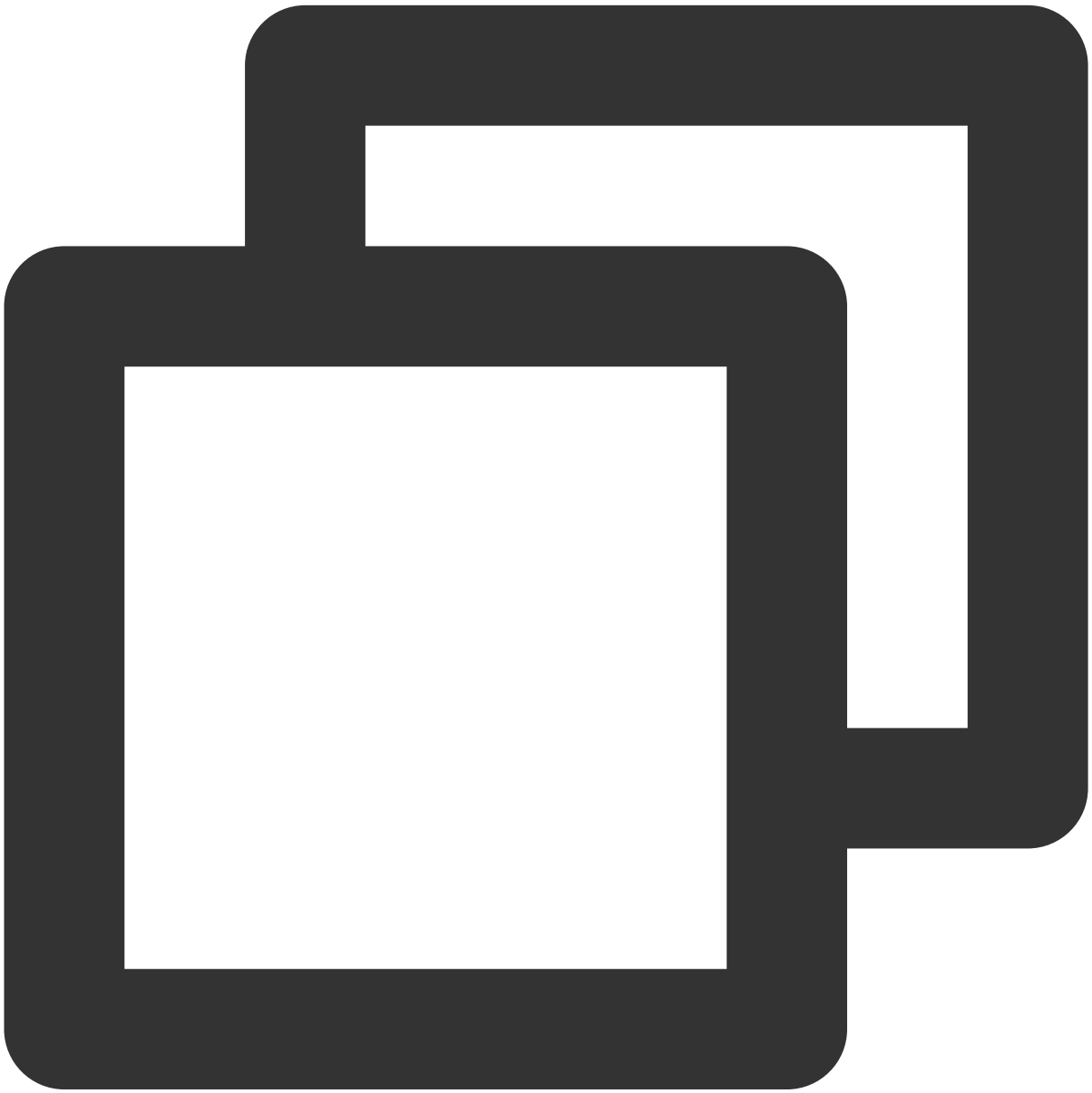
This API is used to switch between the front and rear cameras.



```
/// Switch between the front and rear cameras
- (void)switchCamera;
```

setMirror

This API is used to set the mirror mode.



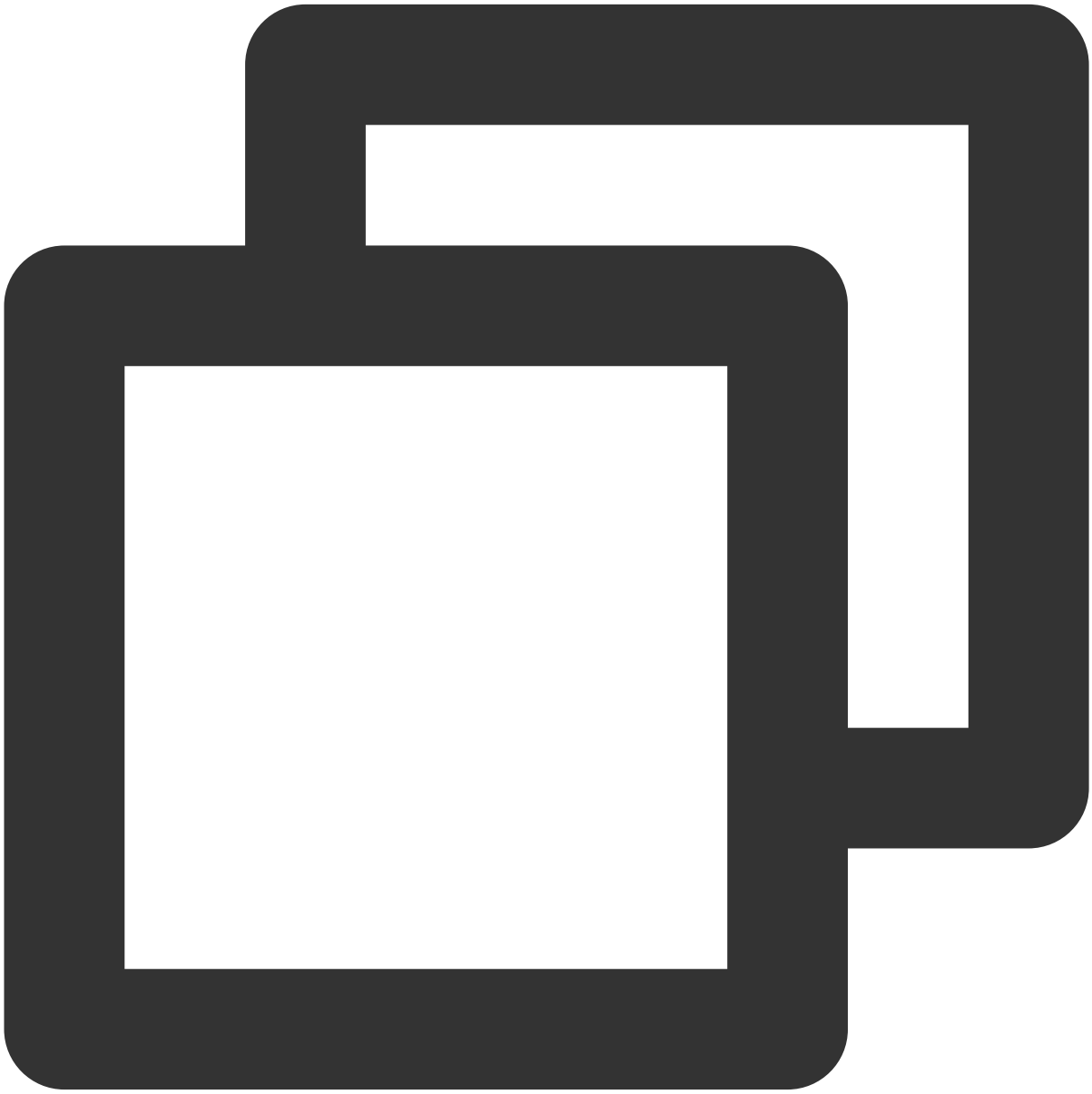
```
/// Specify whether to mirror video
/// - Parameter isMirror: Enable/Disable mirroring
- (void)setMirror:(BOOL)isMirror
NS_SWIFT_NAME(setMirror(isMirror:));
```

The parameters are described below:

Parameter	Type	Description
isMirror	Bool	Enable/Disable mirroring

muteLocalAudio

This API is used to mute or unmute the local user.



```
/// Mute or unmute the local user
/// - Parameter isMuted: `true`: Mute; `false`: Unmute
- (void)muteLocalAudio:(BOOL)isMuted
NS_SWIFT_NAME(muteLocalAudio(isMuted:));
```

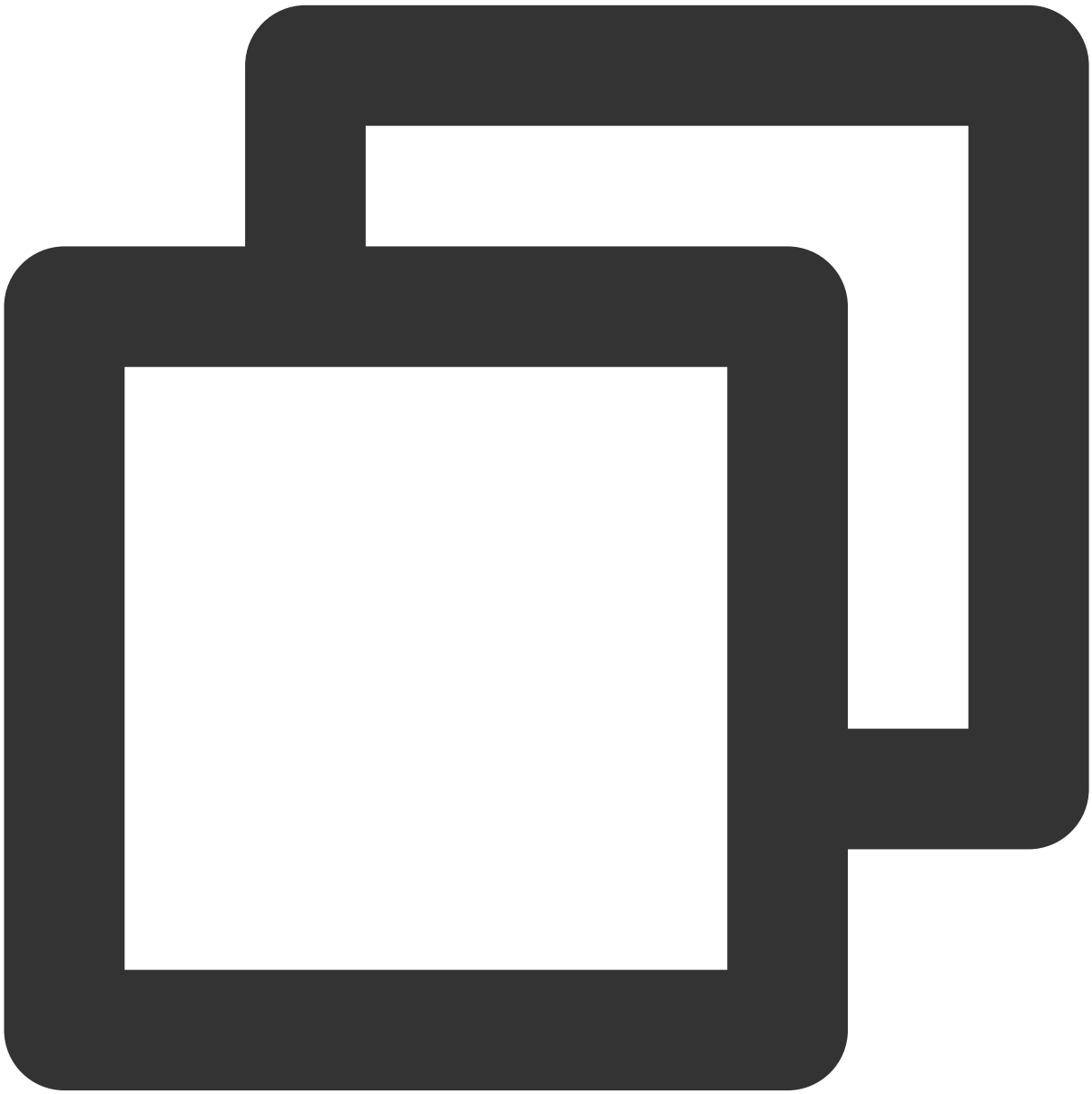
The parameters are described below:

Parameter	Type	Description

isMuted	Bool	`true` : mute; `false` : unmute

muteRemoteAudio

This API is used to mute or unmute a remote user.



```
/// Mute or unmute a remote user
/// - Parameters:
///   - userID: ID of the remote user
///   - isMuted: `true`: Mute; `false`: Unmute
- (void)muteRemoteAudioWithUserID:(NSString *)userID isMuted:(BOOL)isMuted
```

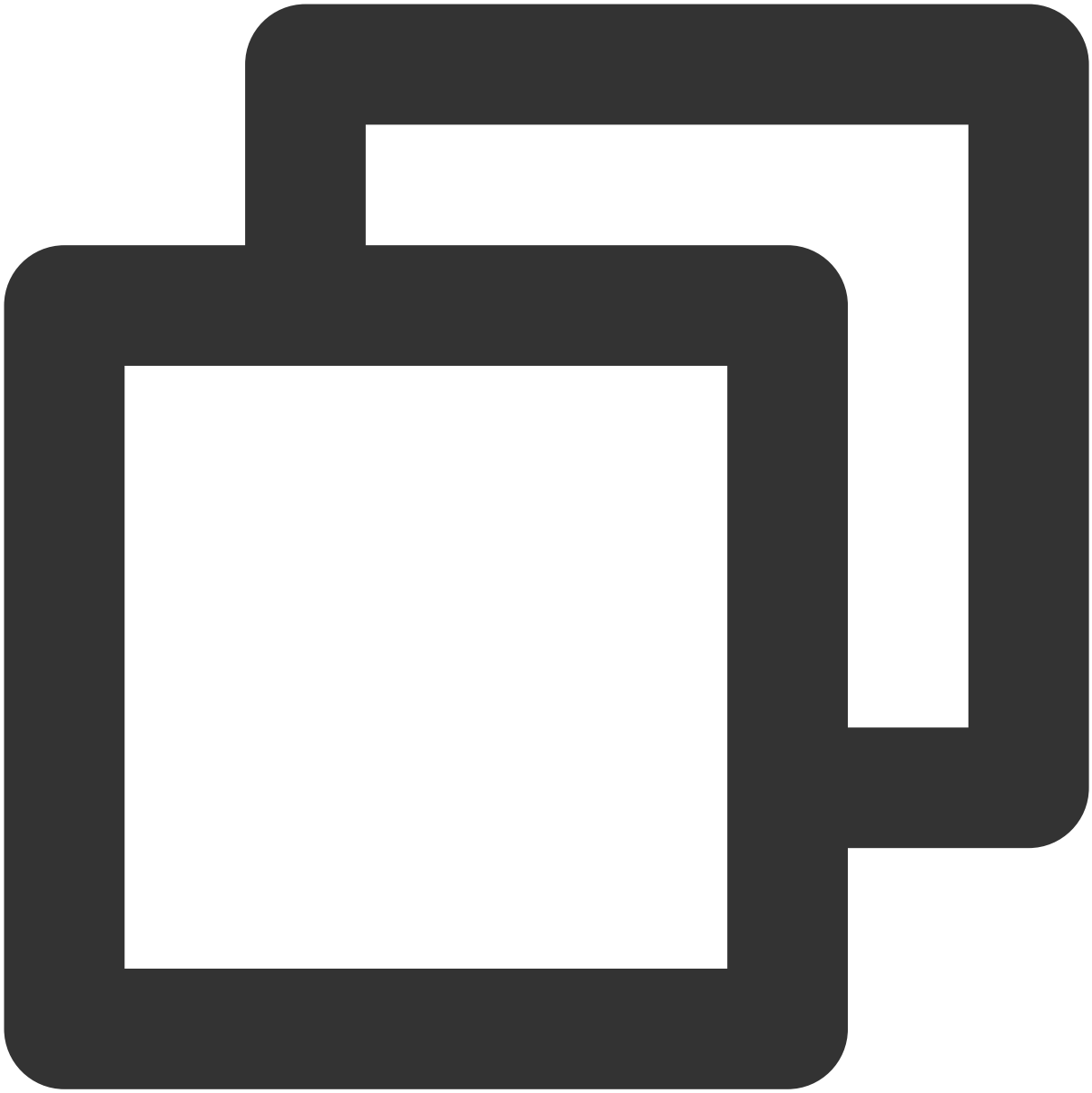
```
NS_SWIFT_NAME(muteRemoteAudio(userID:isMuted:));
```

The parameters are described below:

Parameter	Type	Description
userID	String	ID of the remote user
isMuted	Bool	`true` : mute; `false` : unmute

muteAllRemoteAudio

This API is used to mute or unmute all remote users.



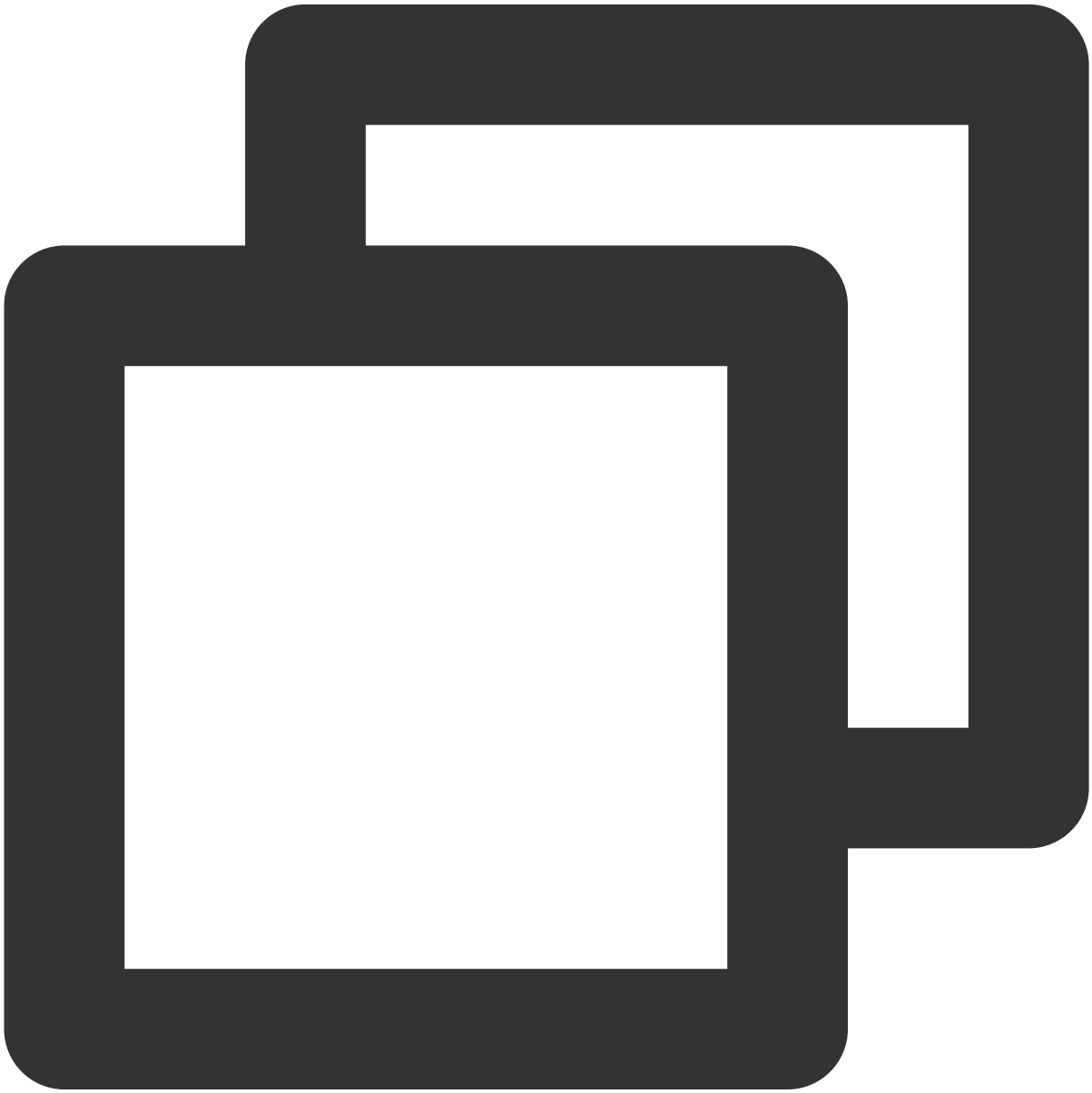
```
/// Mute or unmute all remote users
/// - Parameter isMuted: `true`: Mute; `false`: Unmute
- (void)muteAllRemoteAudio:(BOOL)isMuted
NS_SWIFT_NAME(muteAllRemoteAudio(_:));
```

The parameters are described below:

Parameter	Type	Description
isMuted	Bool	`true` : mute; `false` : unmute

setAudioQuality

This API is used to set audio quality.



```
/// Set audio quality. Valid values: `1` (low), `2` (average), `3` (high)
/// - Parameter quality: audio quality
- (void)setAudioQuality:(NSInteger)quality
NS_SWIFT_NAME(setAudioiQuality(quality:));
```

The parameters are described below:

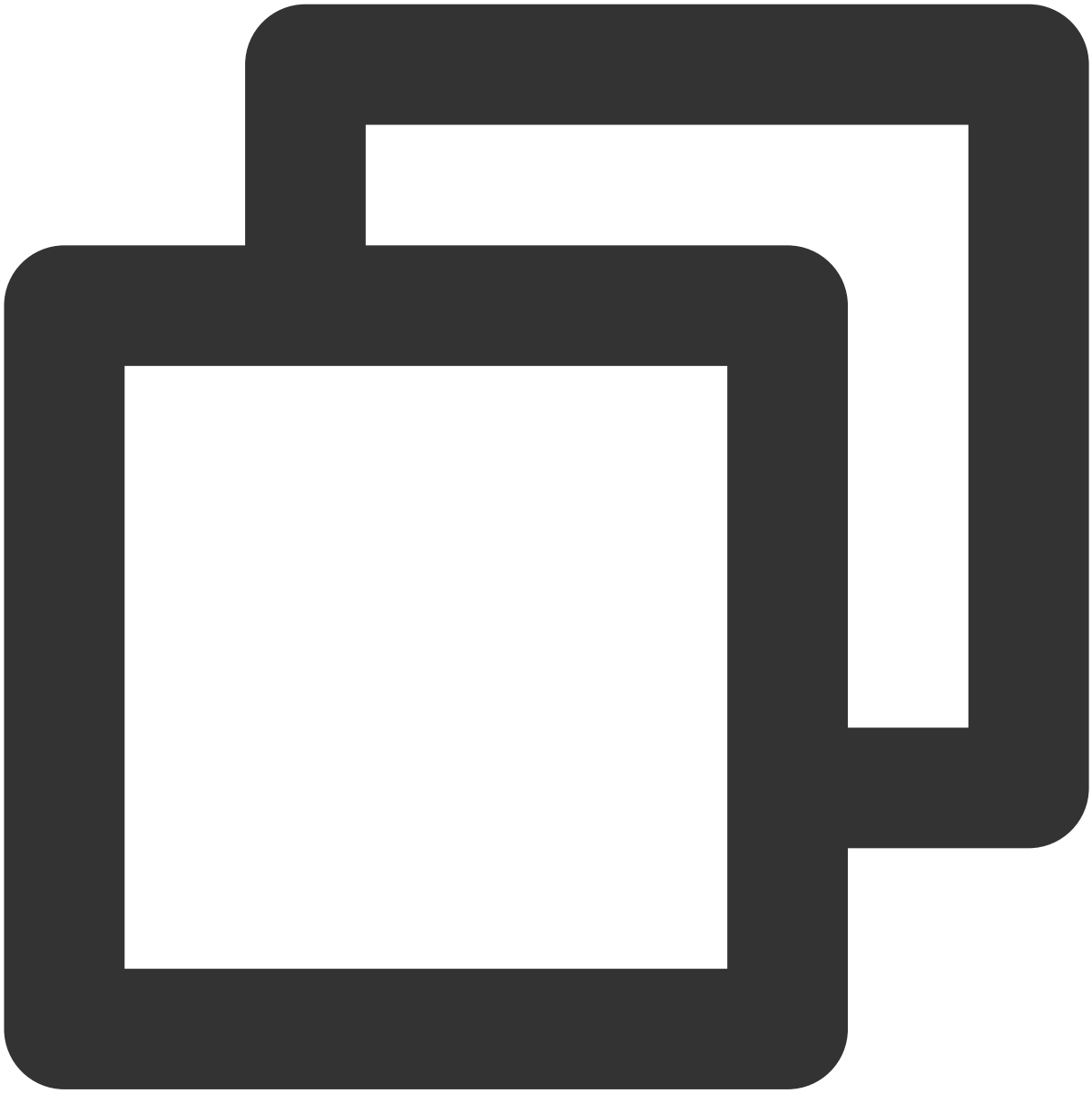
Parameter	Type	Description

quality	NSInteger	`1` : speech; `2` : standard; `3` : music

Background Music and Audio Effect APIs

getAudioEffectManager

This API is used to get the background music and audio effect management object TXAudioEffectManager.

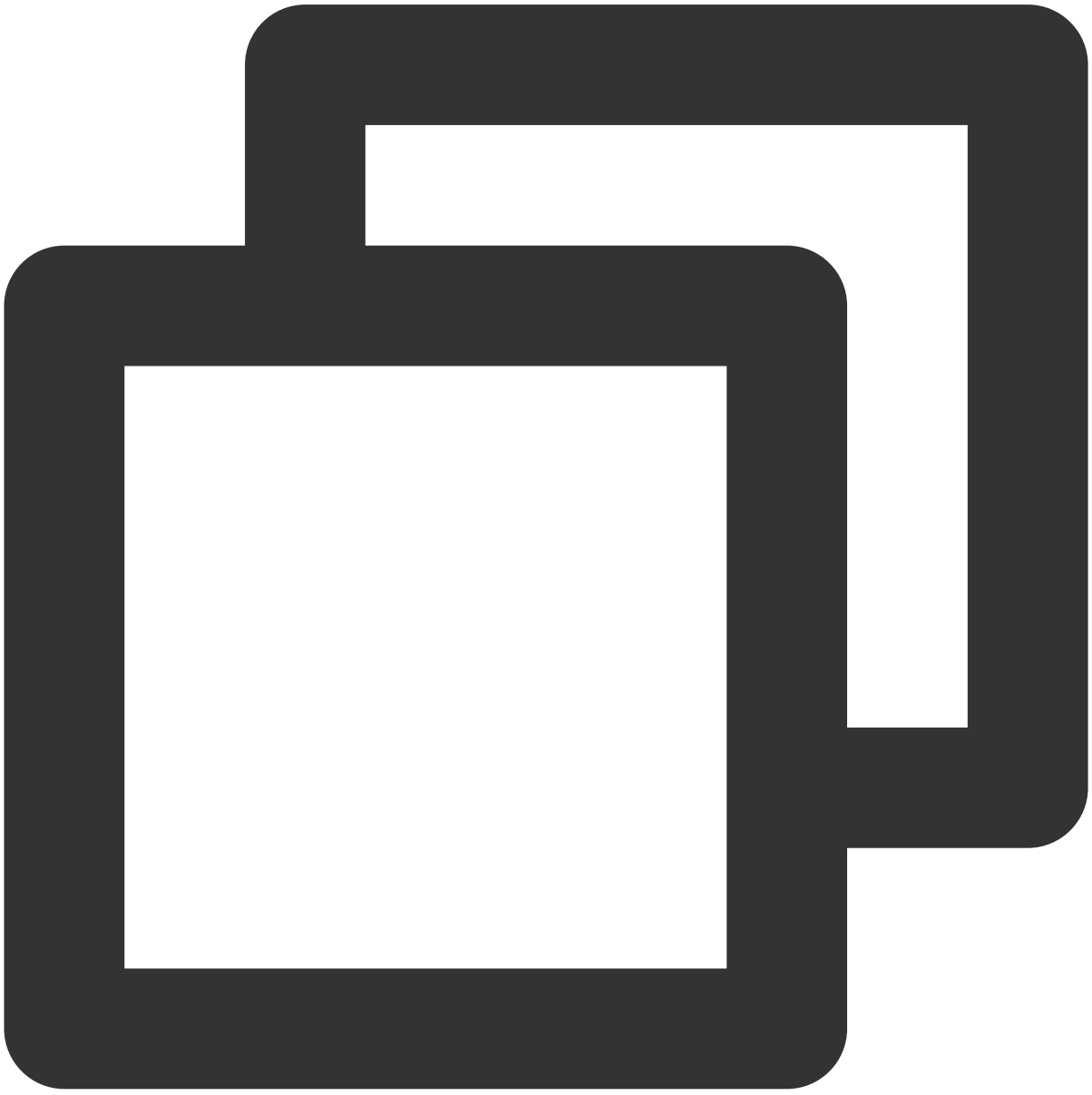


```
/// Get the audio effect management object
- (TXAudioEffectManager *)getAudioEffectManager;
```

Beauty Filter APIs

getBeautyManager

This API is used to get the beauty filter management object TXBeautyManager.



```
/* Get the beauty filter management object TXBeautyManager
*
```

```
 * You can do the following using TXBeautyManager:
 * - Set the beauty filter style and apply effects including skin brightening, rosy
 * - Adjust the hairline, eye spacing, eye corners, lip shape, nose wings, nose posi
 * - Apply animated effects such as face widgets (materials).
 * - Add makeup effects.
 * - Recognize gestures.
 */
- (TXBeautyManager *)getBeautyManager;
```

You can do the following using `TXBeautyManager` :

Set the beauty filter style and apply effects including skin brightening, rosy skin, eye enlarging, face slimming, chin slimming, chin lengthening/shortening, face shortening, nose narrowing, eye brightening, teeth whitening, eye bag removal, wrinkle removal, and smile line removal.

Adjust the hairline, eye spacing, eye corners, lip shape, nose wings, nose position, lip thickness, and face shape.

Apply animated effects such as face widgets (materials).

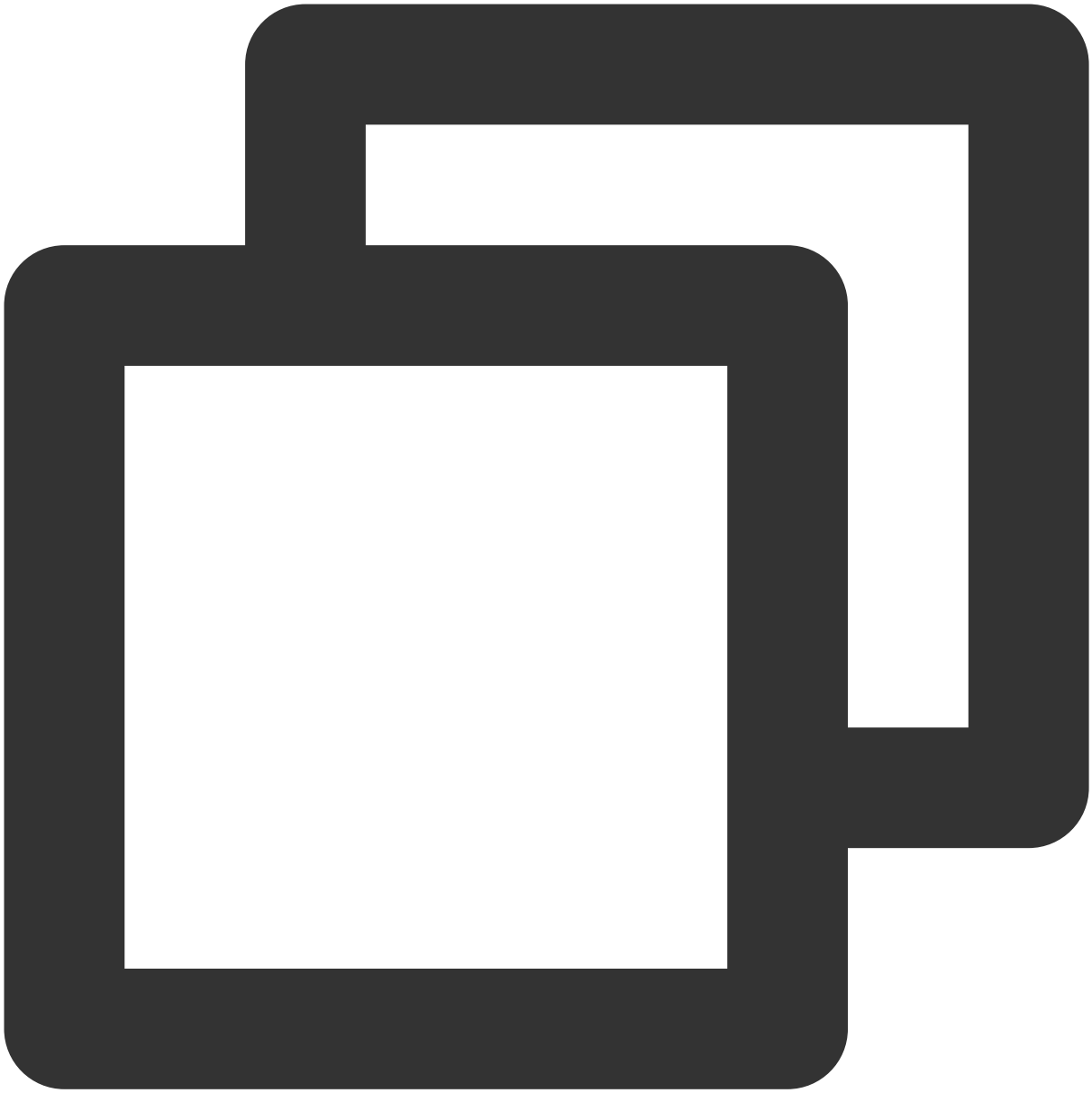
Add makeup effects.

Recognize gestures.

Message Sending APIs

sendRoomTextMsg

This API is used to broadcast a text chat message in a room, which is generally used for on-screen comments.



```
/// Send a text chat message that can be seen by all users in a room
/// - Parameters:
///   - message: text chat message
///   - callback: Callback for message sending
- (void)sendRoomTextMsg:(NSString *)message callback:(Callback _Nullable)callback
NS_SWIFT_NAME(sendRoomTextMsg(message:callback:));
```

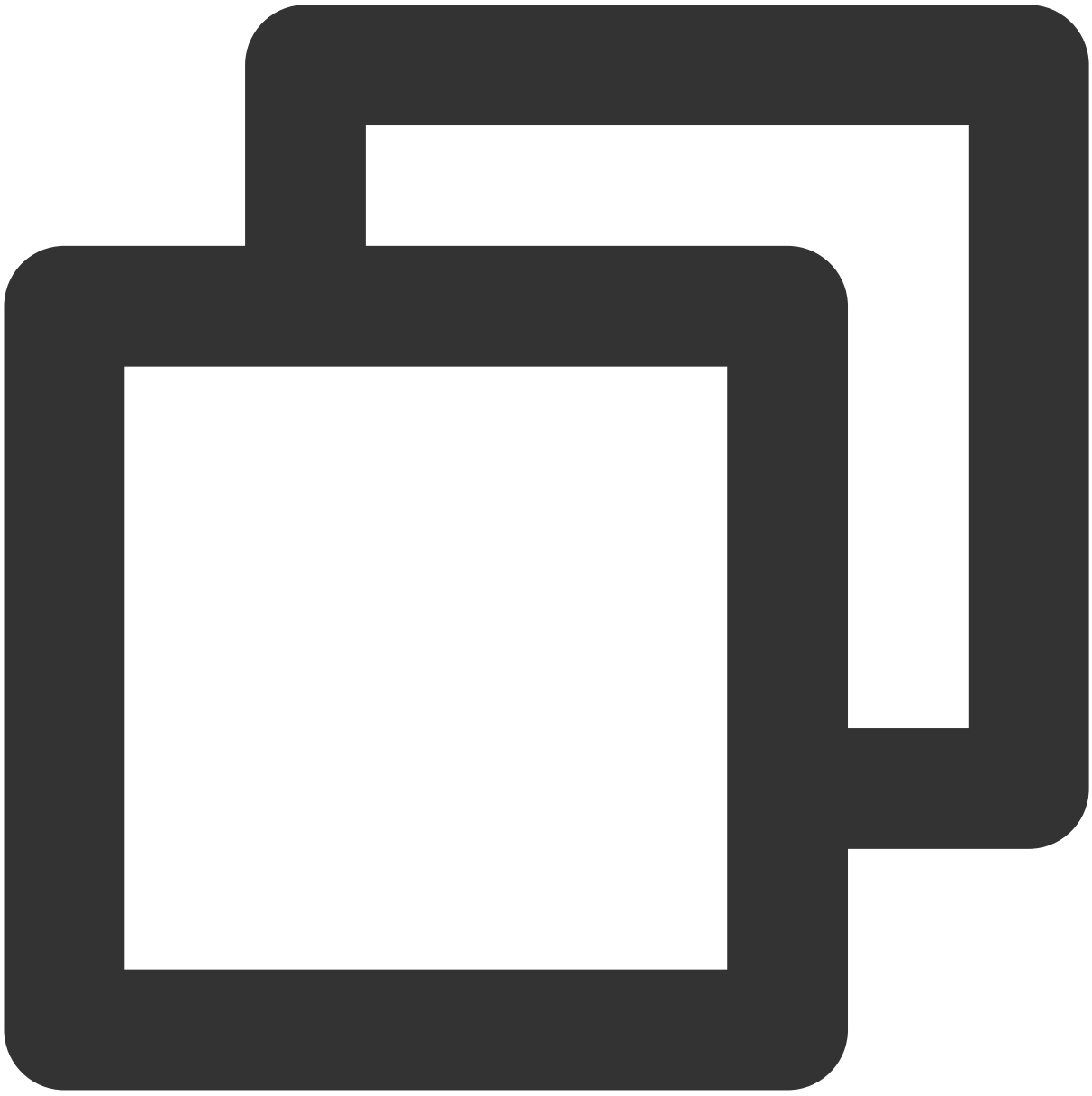
The parameters are described below:

Parameter	Type	Description

message	String	Text message
callback	(_ code: Int, _ message: String?) -> Void	Callback for message sending

sendRoomCustomMsg

This API is used to send a custom text message.



```
/// Send a custom message
/// - Parameters:
///   - command: custom command word used to distinguish between different message
```

```
///   - message: text message
///   - callback: Callback for message sending
- (void)sendRoomCustomMsgWithCommand:(NSString *)command message:(NSString *)messag
NS_SWIFT_NAME(sendRoomCustomMsg(command:message:callback:));
```

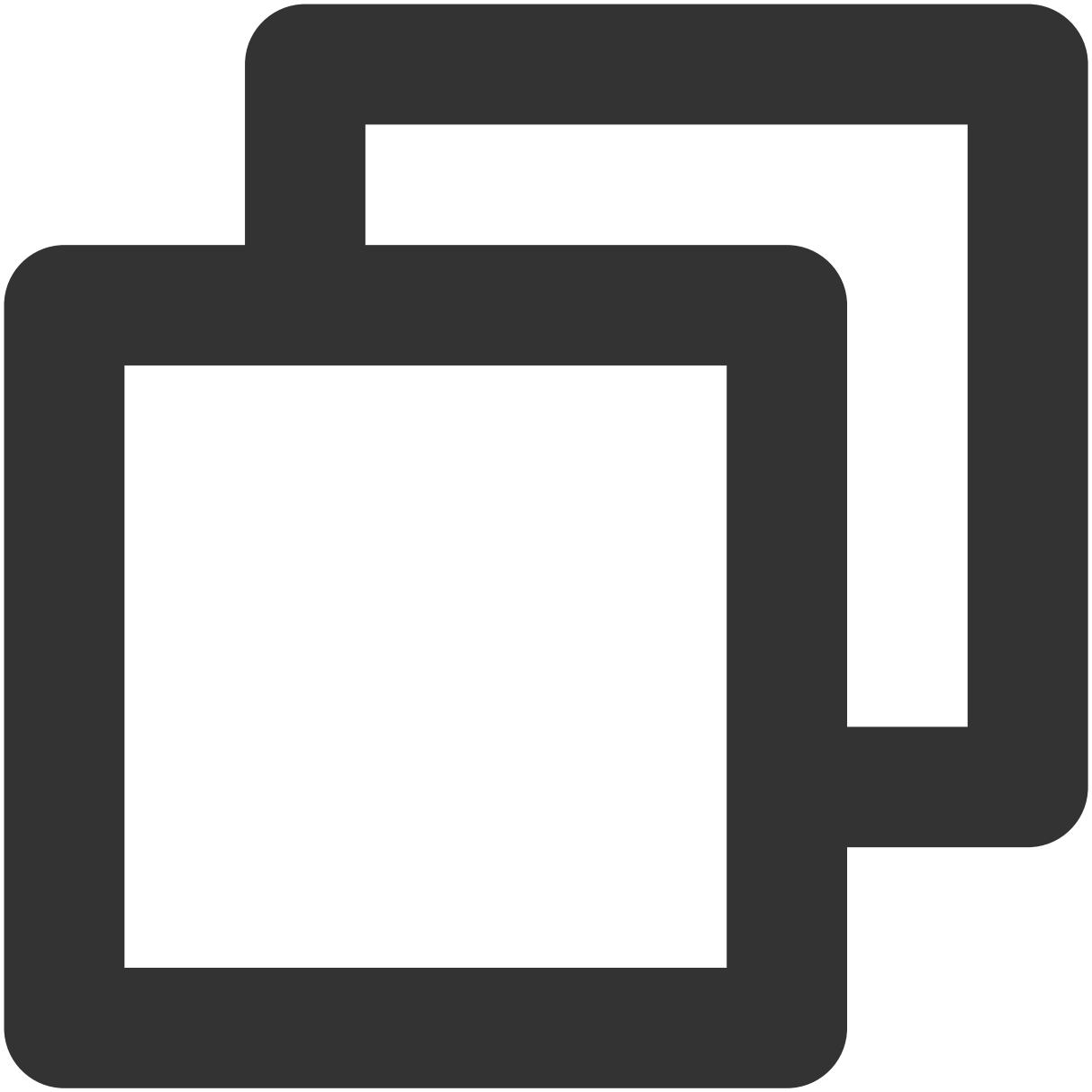
The parameters are described below:

Parameter	Type	Description
command	String	Custom command word used to distinguish between different message types
message	String	Custom text message
callback	(_ code: Int, _ message: String?) -> Void	Callback for message sending

Debugging APIs

showVideoDebugLog

This API is used to specify whether to display debugging information on the UI.



```
/// Specify whether to display debugging information on the UI
/// - Parameter isShow: show/hide debugging information
- (void)showVideoDebugLog:(BOOL)isShow
NS_SWIFT_NAME(showVideoDebugLog(_:));
```

The parameters are described below:

Parameter	Type	Description
isShow	Bool	Show/Hide debugging information

`TRTCLiveRoomDelegate` Event Callback APIs

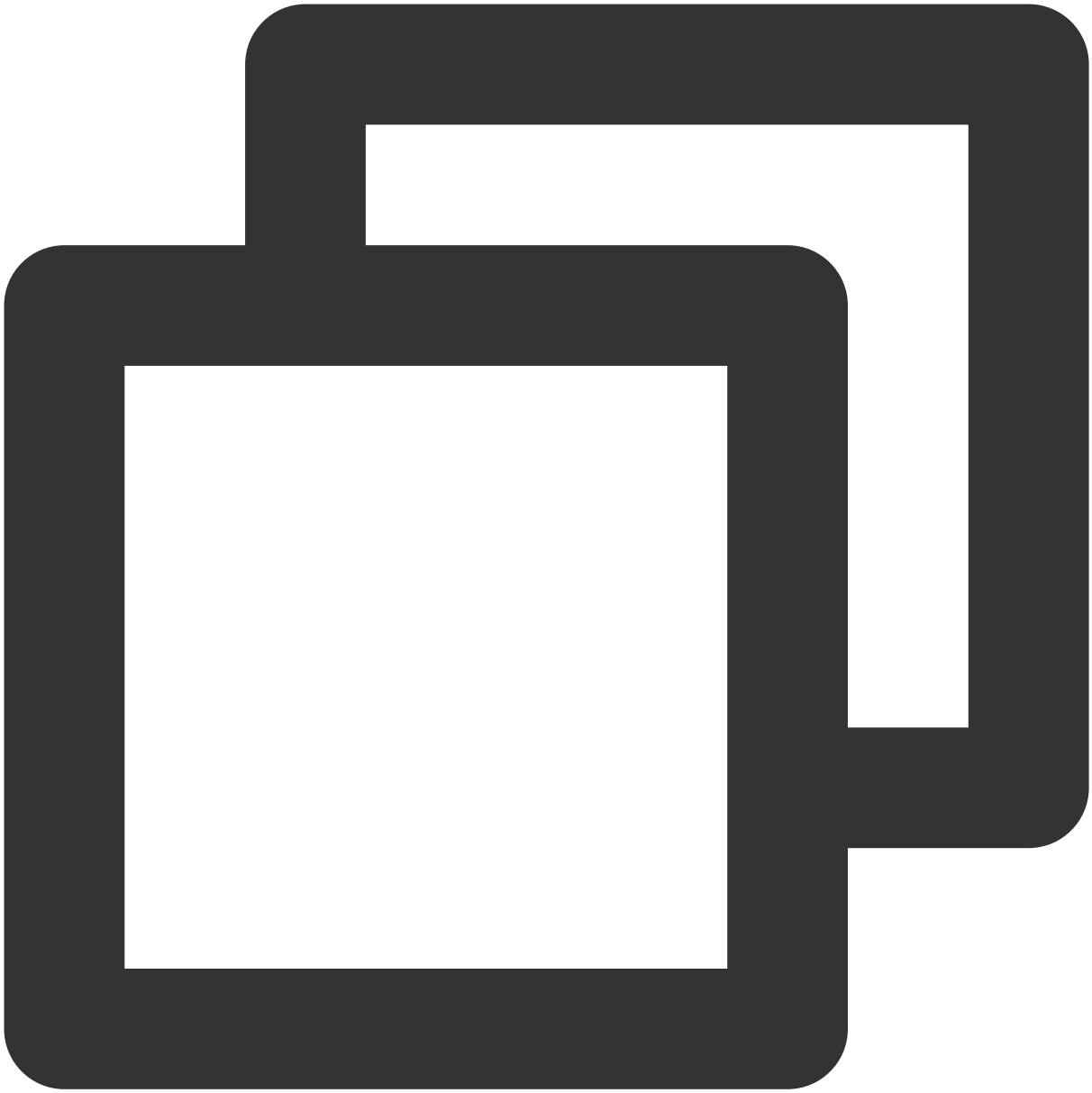
Common Event Callback APIs

onError

Callback for error.

Note

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users if necessary.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
             onError:(NSInteger)code
             message:(NSString  *)message
NS_SWIFT_NAME(trtcLiveRoom(_:onError:message:));
```

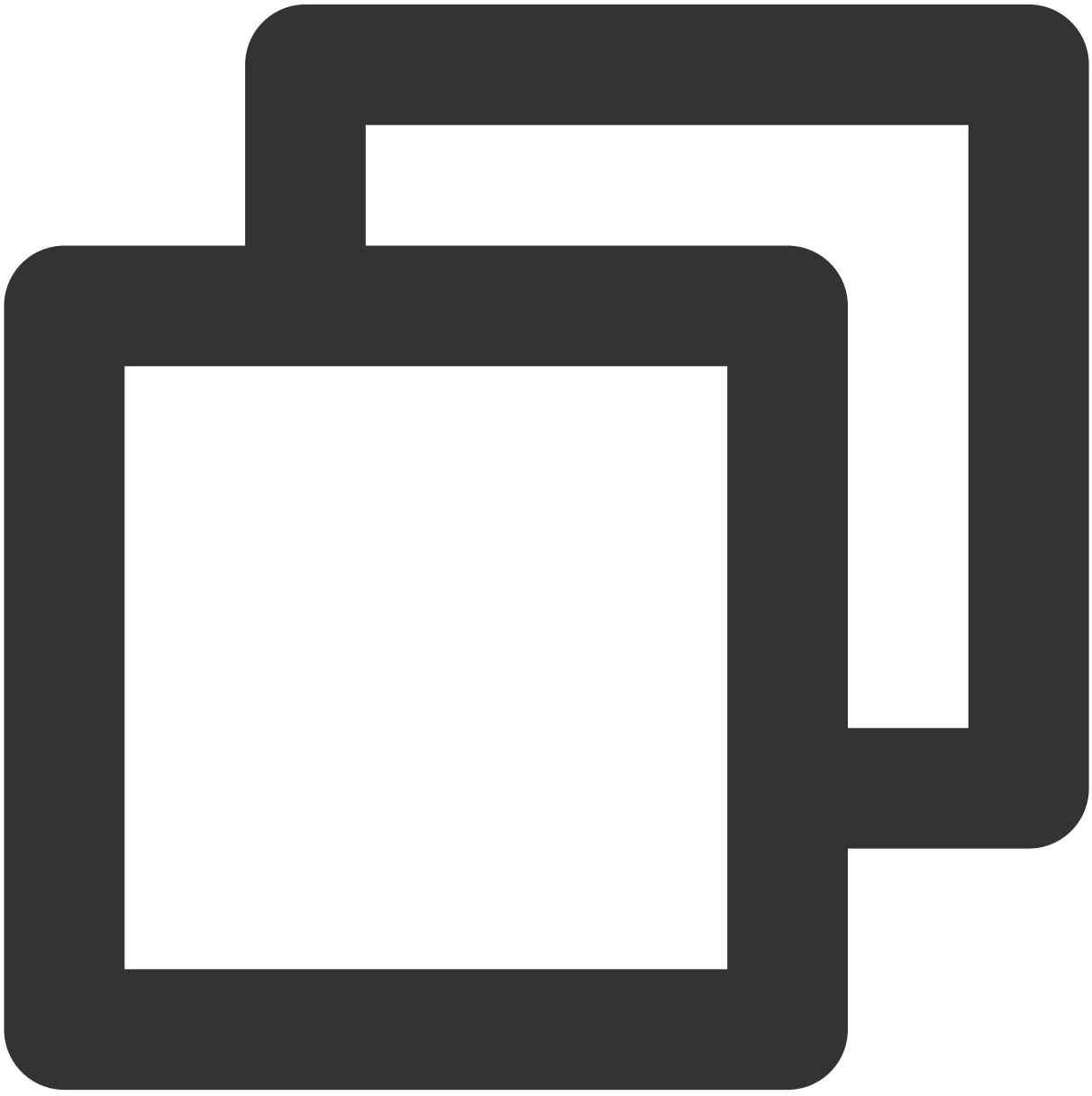
The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance

code	Int	Error code
message	String?	Error message

onWarning

Callback for warning.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
           onWarning:(NSInteger)code
             message:(NSString *)message
```

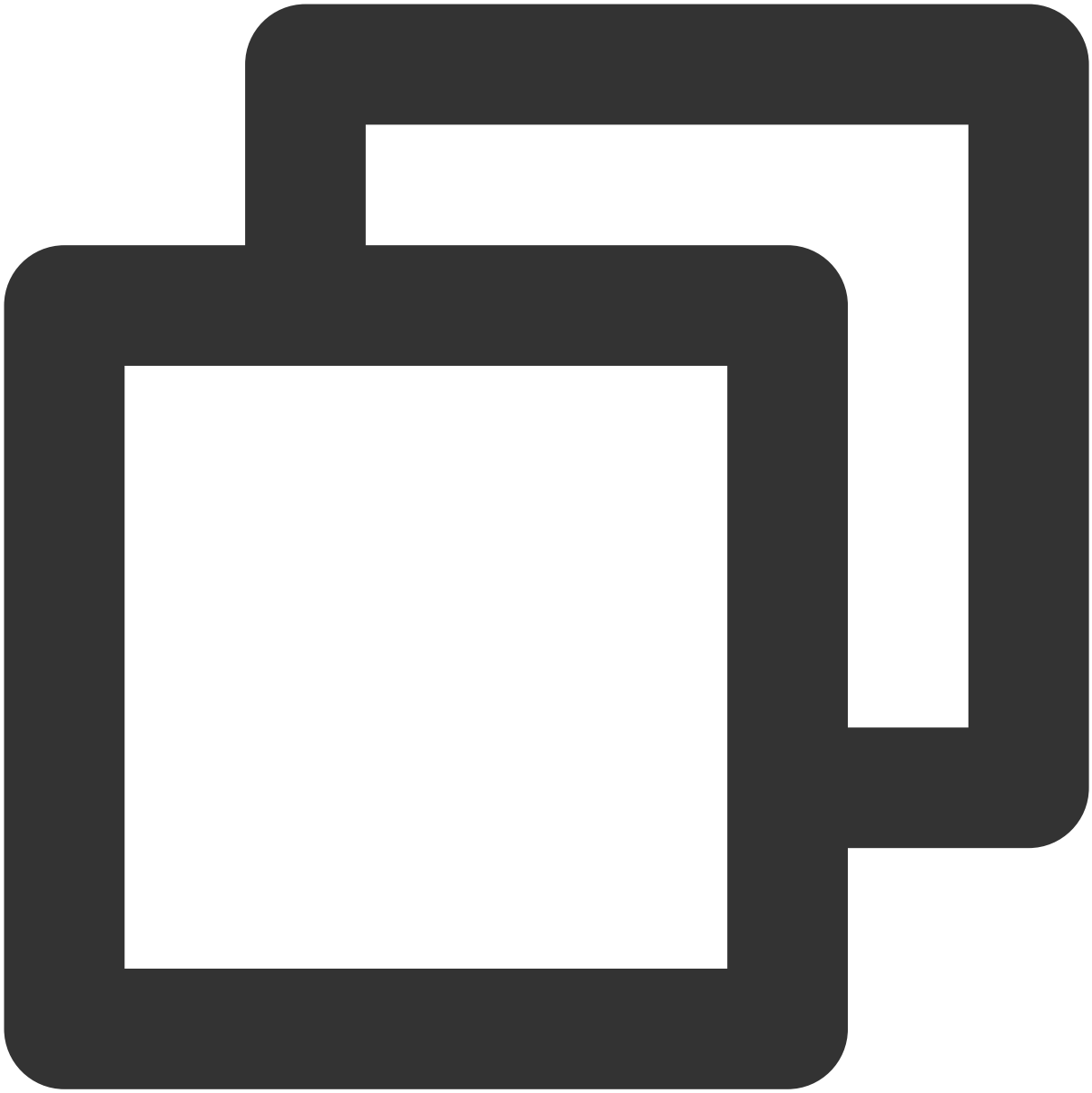
```
NS_SWIFT_NAME(trtcLiveRoom(_:onWarning:message:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
code	Int	TRTCWarningCode
message	String?	Warning message

onDebugLog

Callback for log.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
          onDebugLog:(NSString *)log
NS_SWIFT_NAME(trtcLiveRoom(_:onDebugLog:));
```

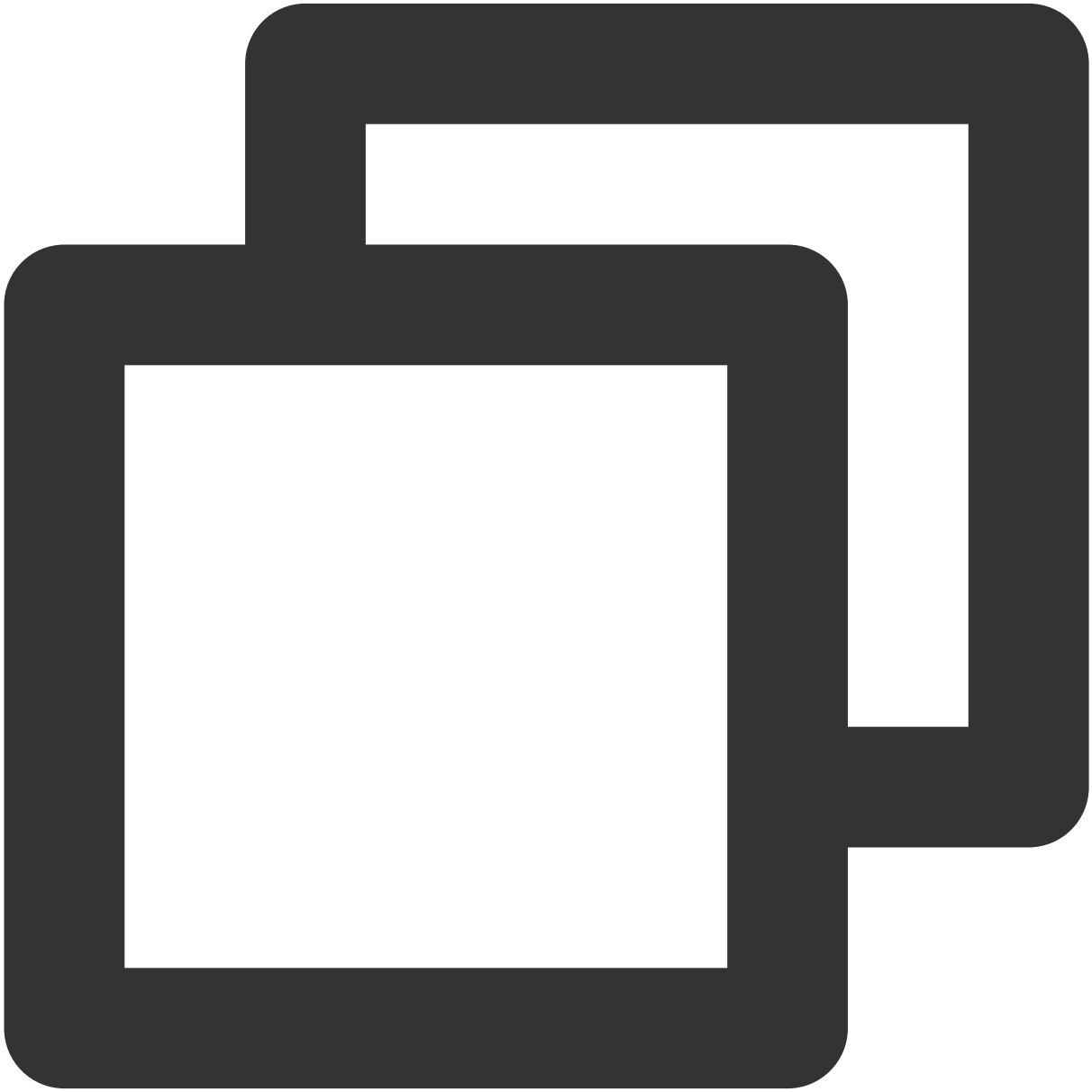
The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
log	String	Log information

Room Event Callback APIs

onRoomDestroy

Callback for room termination. All users in a room will receive this callback after the anchor leaves the room.



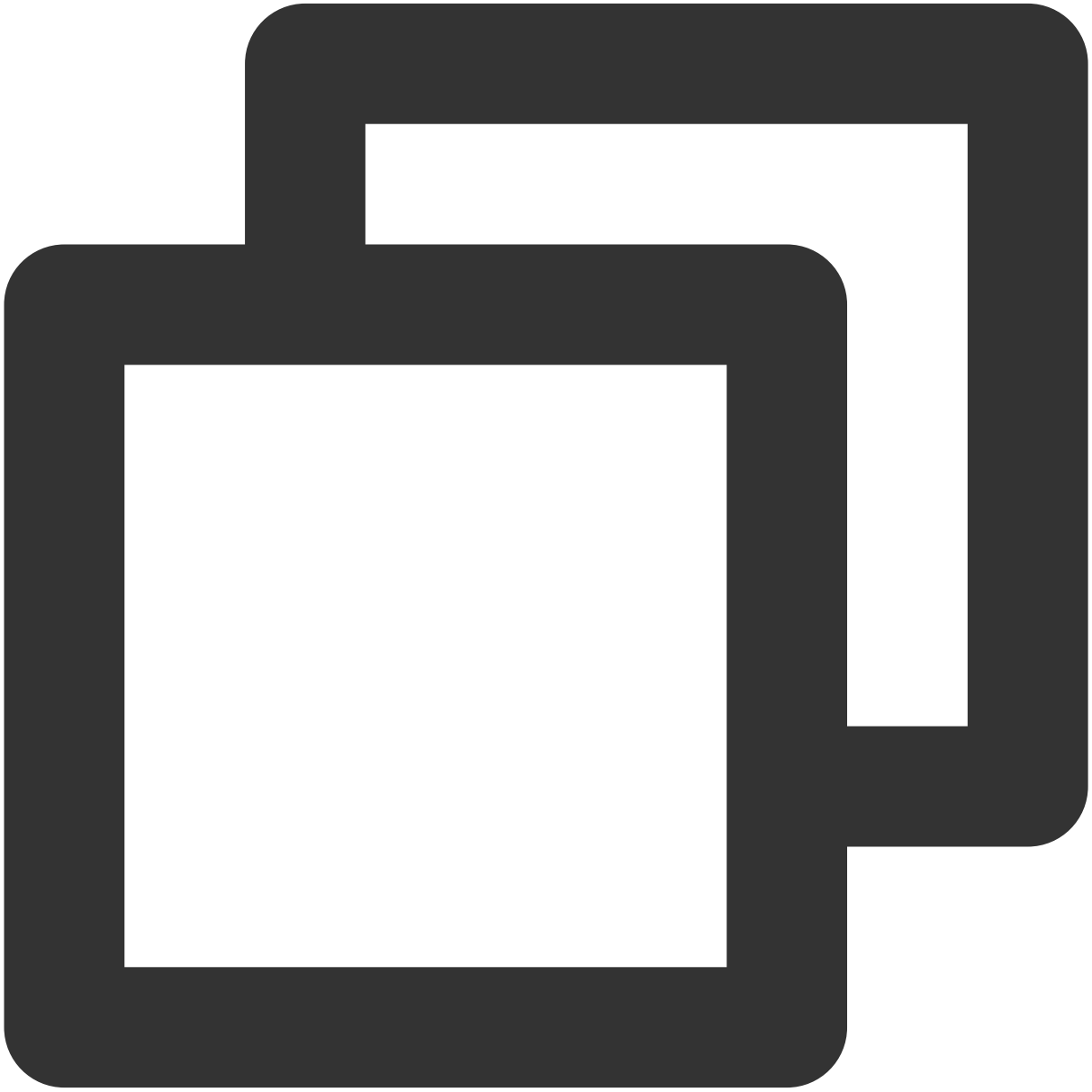
```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
       onRoomDestroy:(NSString *)roomID
NS_SWIFT_NAME(trtcLiveRoom(_:onRoomDestroy:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
roomID	String	room ID

onRoomInfoChange

Callback for change of room information. This callback is usually used to notify users of room status change in co-anchoring and cross-room communication scenarios.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
    onRoomInfoChange:(TRTCLiveRoomInfo *)info
NS_SWIFT_NAME(trtcLiveRoom(_:onRoomInfoChange:));
```

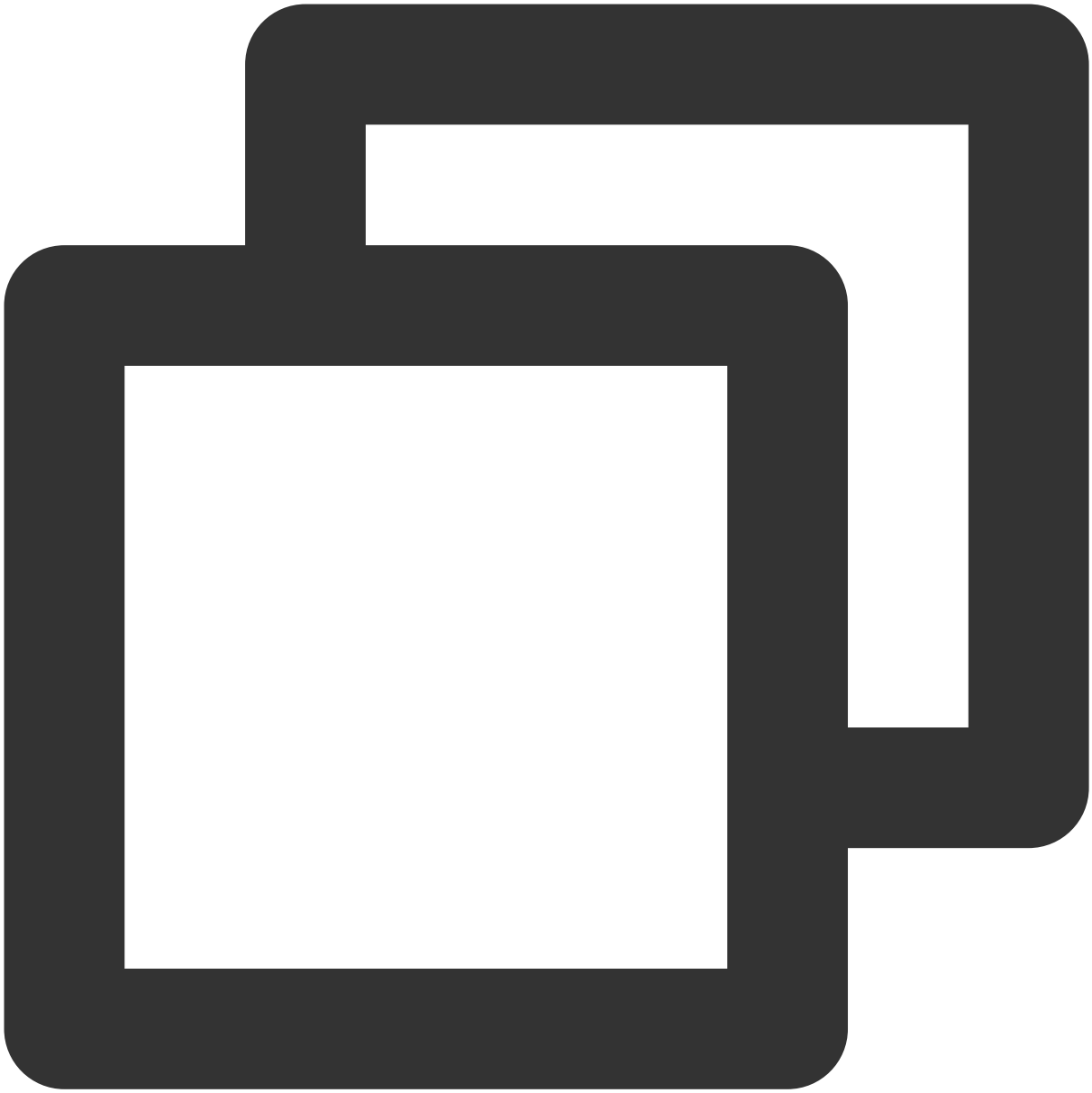
The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
info	TRTCLiveRoomInfo	room information

Callback APIs for Entry/Exit of Anchors/Audience

onAnchorEnter

Callback for a new anchor/co-anchoring viewer. Audience will receive this callback when there is a new anchor/co-anchoring viewer in the room and can call `startPlay()` of `TRTCLiveRoom` to play the video of the anchor/co-anchoring viewer.



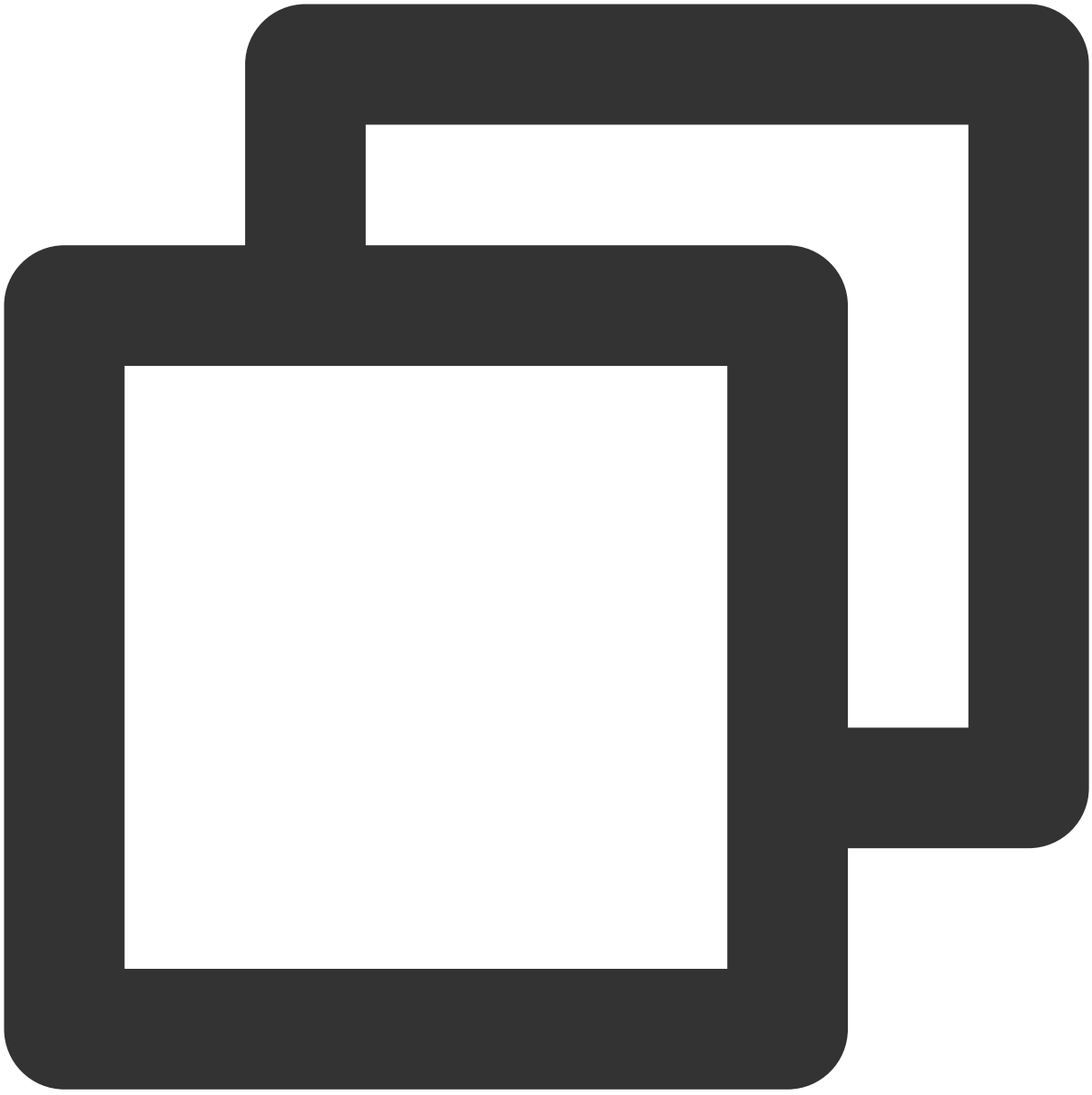
```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
       onAnchorEnter:(NSString *)userID
NS_SWIFT_NAME(trtcLiveRoom(_:onAnchorEnter:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
userID	String	User ID of the new anchor/co-anchoring viewer

onAnchorExit

Callback for the quitting of an anchor/co-anchoring viewer. The anchors and co-anchoring viewers in a room will receive this callback after an anchor/co-anchoring viewer quits cross-room communication/co-anchoring and can call `stopPlay()` of `TRTCLiveRoom` to stop playing the video of the anchor/co-anchoring viewer.



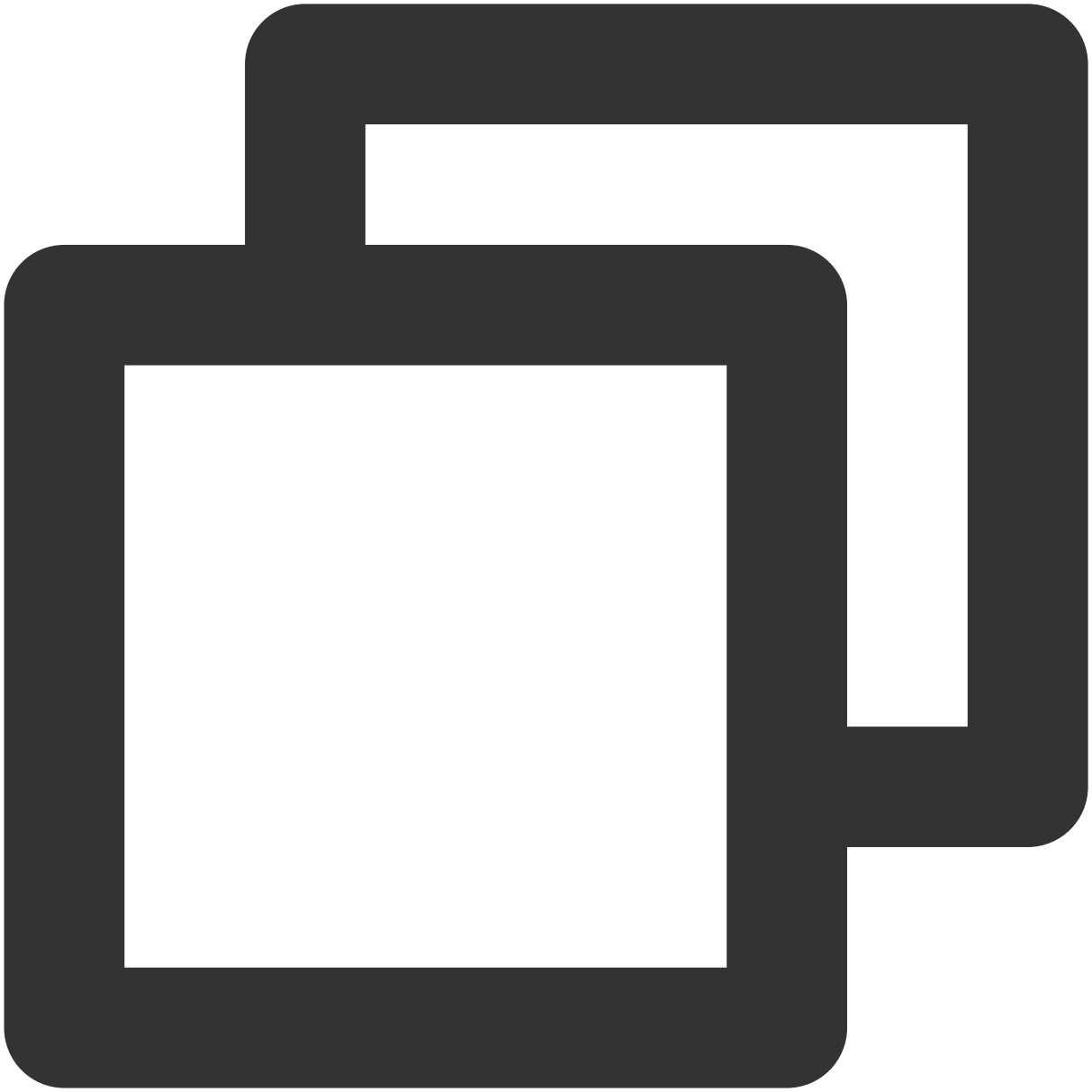
```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
        onAnchorExit:(NSString *)userID
NS_SWIFT_NAME(trtcLiveRoom(_:onAnchorExit:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
userID	String	User ID of the anchor/co-anchoring viewer

onAudienceEnter

Callback for room entry by a viewer.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
```

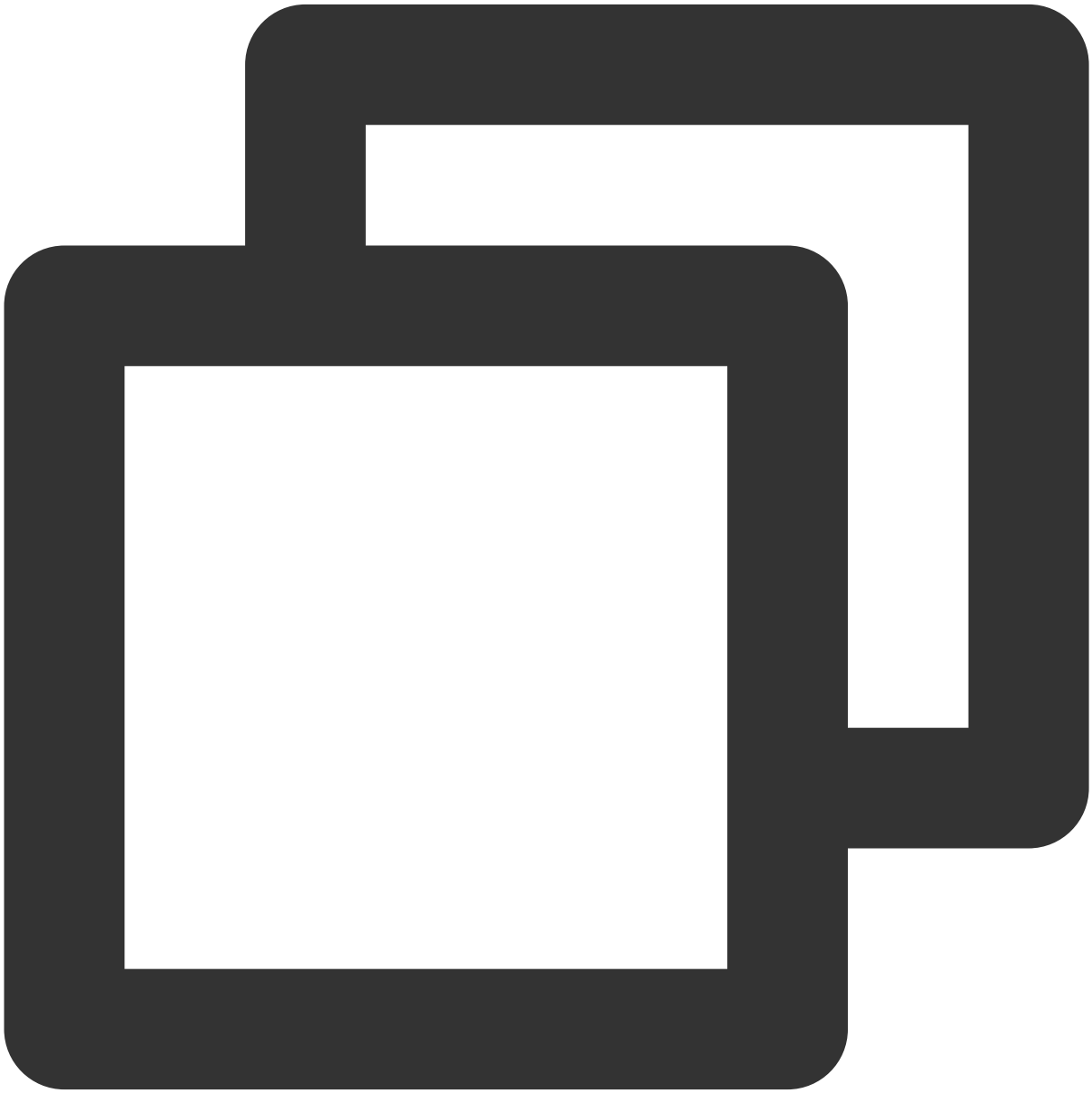
```
      onAudienceEnter:(TRTCLiveUserInfo *)user
NS_SWIFT_NAME(trtcLiveRoom(_:onAudienceEnter:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
user	TRTCLiveUserInfo	Information of the user who entered the room

onAudienceExit

Callback for room exit by a viewer.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
      onAudienceExit:(TRTCLiveUserInfo *)user
NS_SWIFT_NAME(trtcLiveRoom(_:onAudienceExit:));
```

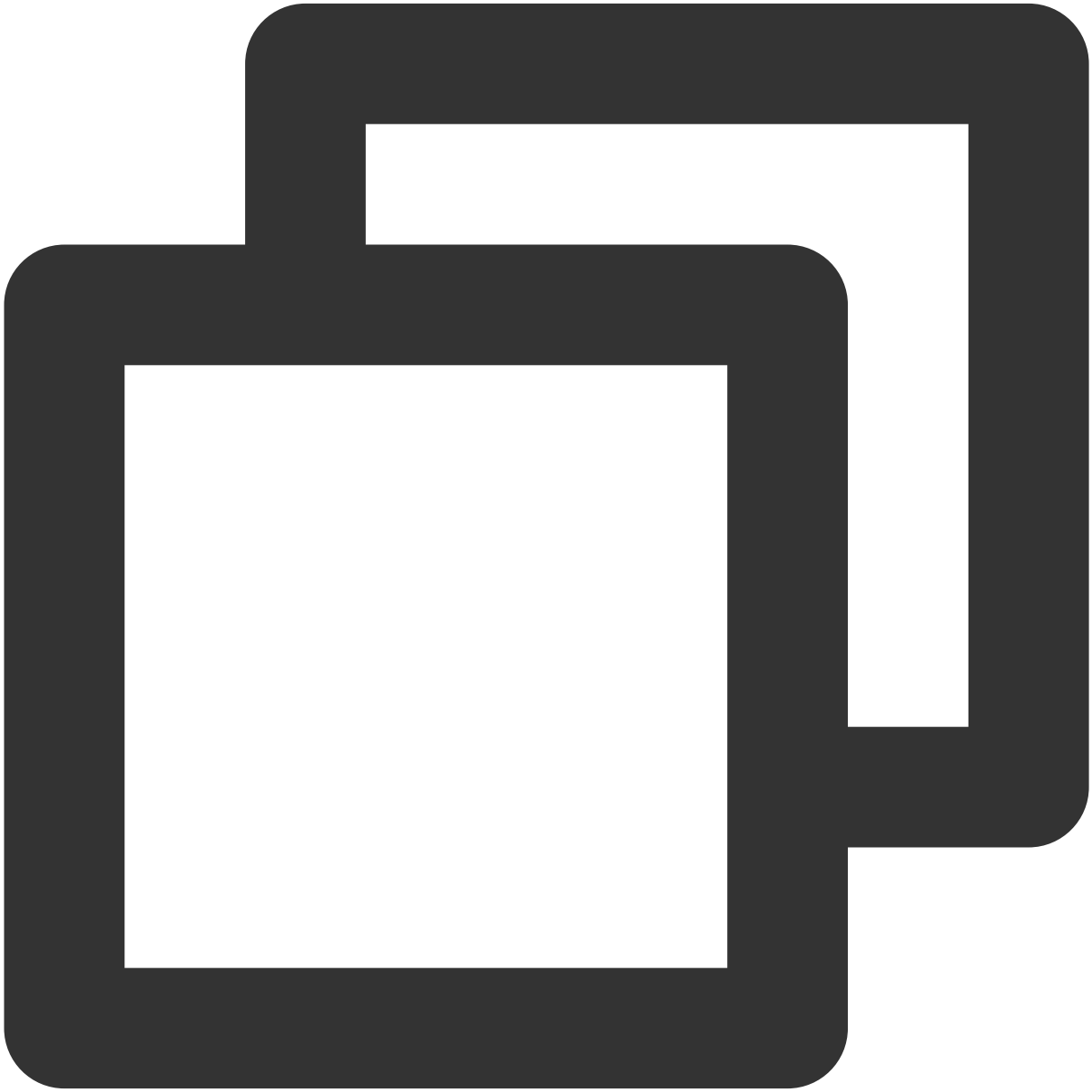
The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
user	TRTCLiveUserInfo	Information of the user who left the room

Callback APIs Audience-Anchor Co-anchoring Events

onRequestJoinAnchor

Callback for receiving a co-anchoring request from a viewer.



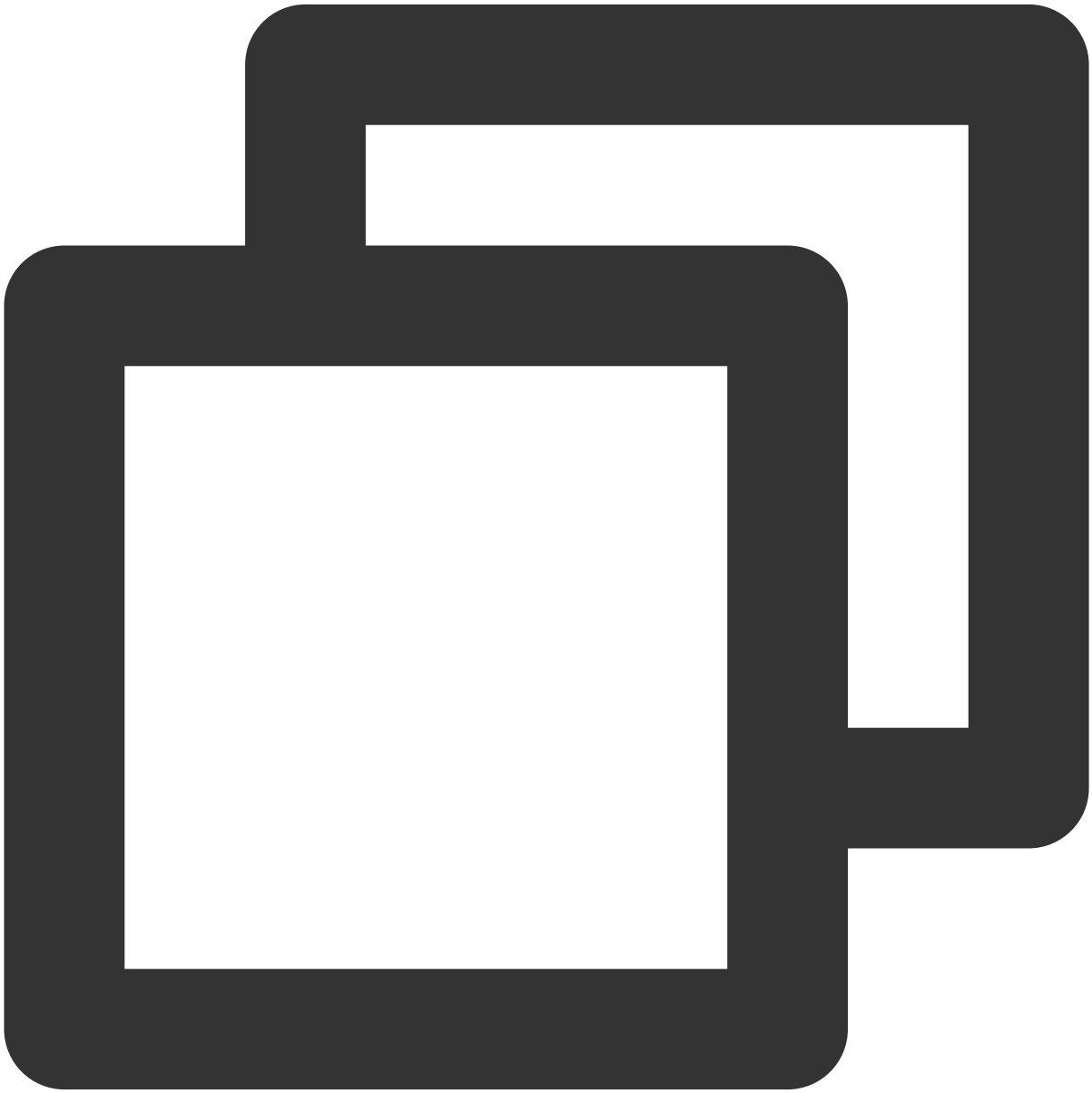
```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
 onRequestJoinAnchor:(TRTCLiveUserInfo *)user
              reason:(NSString * _Nullable)reason
              timeout:(double)timeout
NS_SWIFT_NAME(trtcLiveRoom(_:onRequestJoinAnchor:reason:timeout:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
user	TRTCLiveUserInfo	Information of the user who requested co-anchoring
reason	String?	Reason for co-anchoring
timeout	Double	Timeout period for response from the anchor

onKickoutJoinAnchor

Callback for being removed from co-anchoring. After receiving this callback, a co-anchoring viewer needs to call `stopPublish()` of `TRTCLiveRoom` to quit co-anchoring.



```
- (void)trtcLiveRoomOnKickoutJoinAnchor:(TRTCLiveRoom *)liveRoom
NS_SWIFT_NAME(trtcLiveRoomOnKickoutJoinAnchor(_:));
```

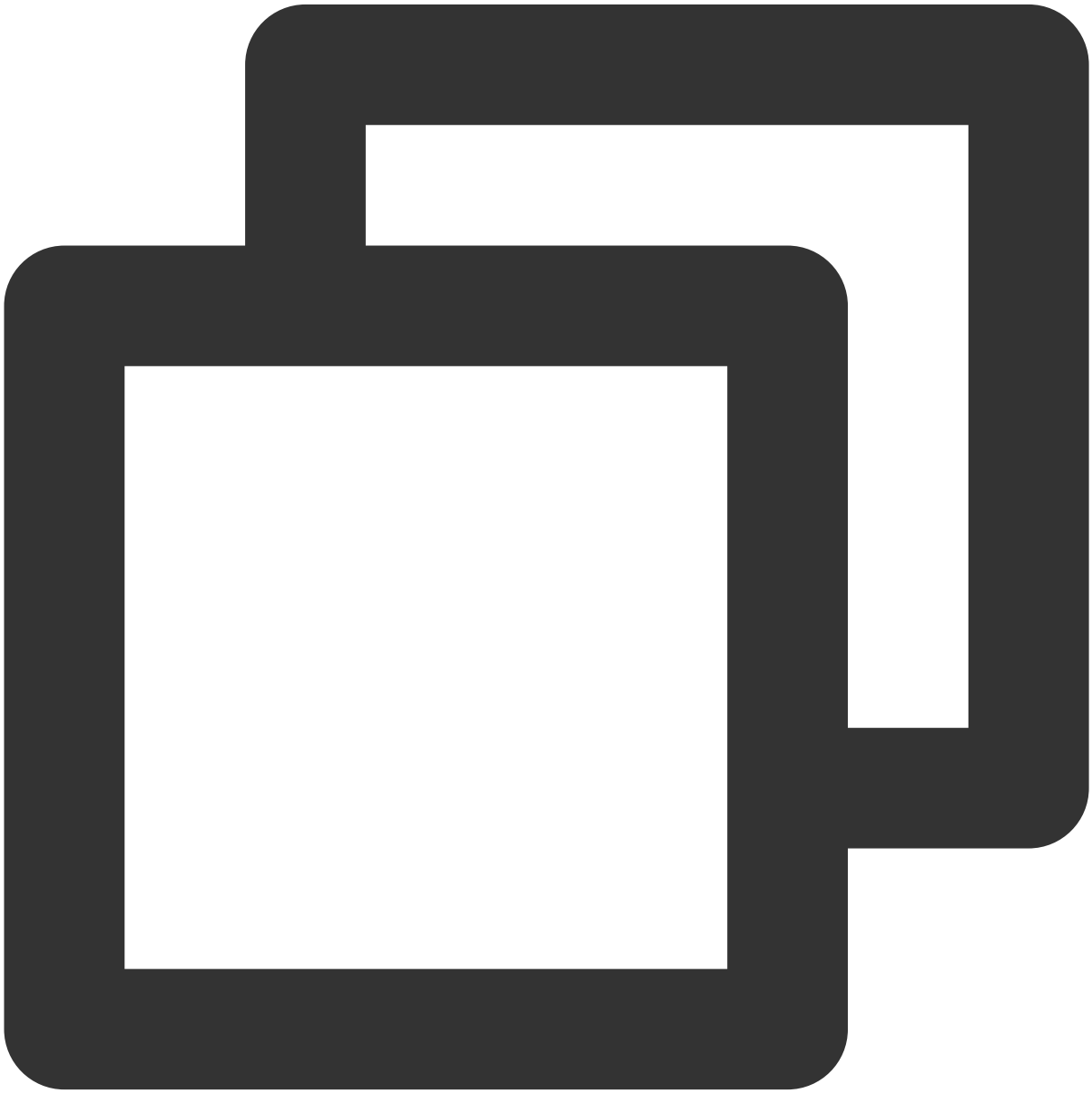
The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance

Callback APIs for Cross-Room Communication Events

onRequestRoomPK

Callback for receiving a cross-room communication request. If an anchor accepts the request, he or she should wait for the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate` and call `startPlay()` to play the other anchor's video.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
    onRequestRoomPK:(TRTCLiveUserInfo *)user
```

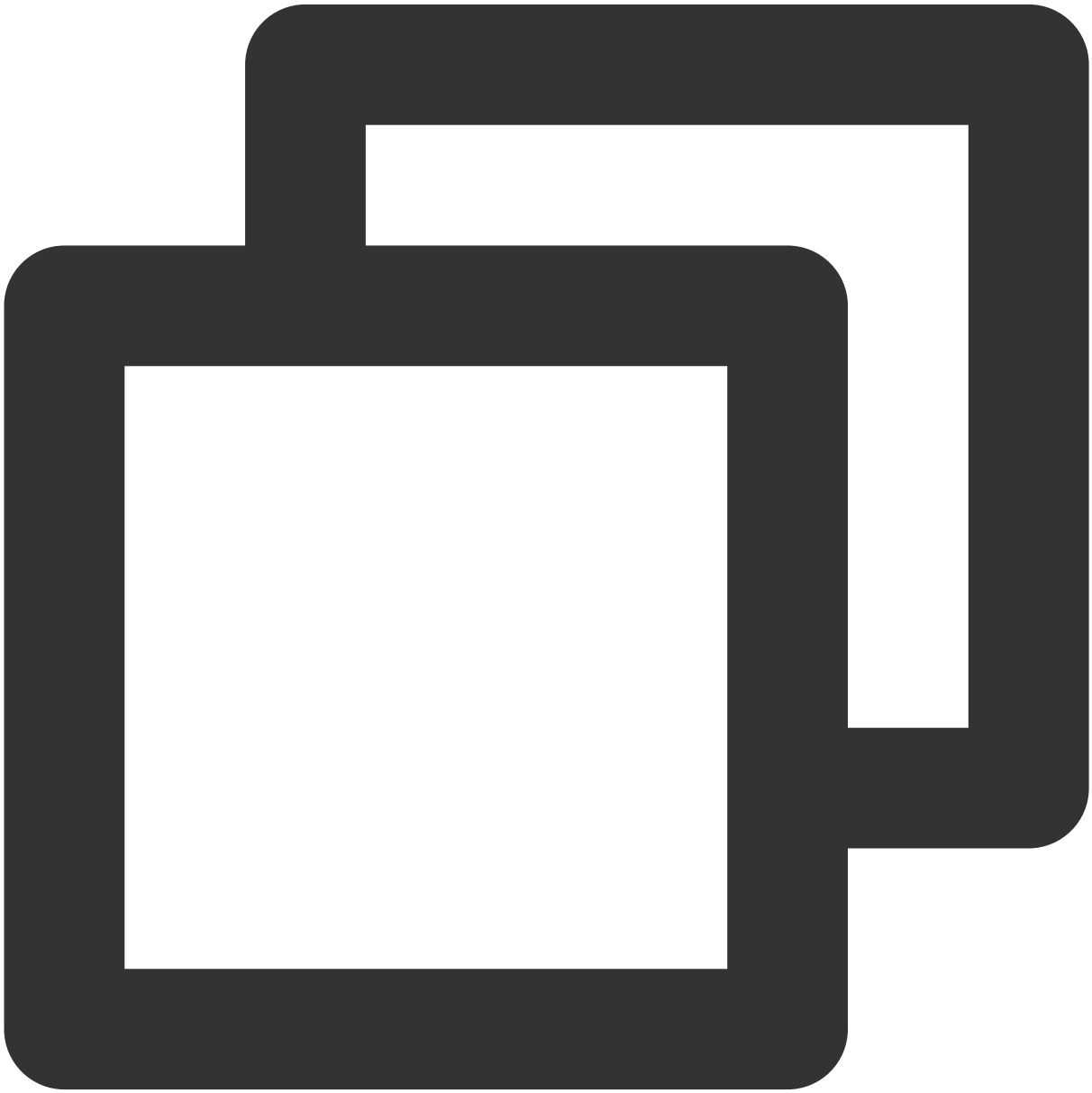
```
                timeout:(double)timeout
NS_SWIFT_NAME(trtcLiveRoom(_:onRequestRoomPK:timeout:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
user	TRTCLiveUserInfo	Information of the anchor who requested communication.
timeout	Double	Timeout period for response from the anchor

onQuitRoomPK

Callback for ending cross-room communication.



```
- (void)trtcLiveRoomOnQuitRoomPK:(TRTCLiveRoom *)liveRoom
NS_SWIFT_NAME(trtcLiveRoomOnQuitRoomPK(_:));
```

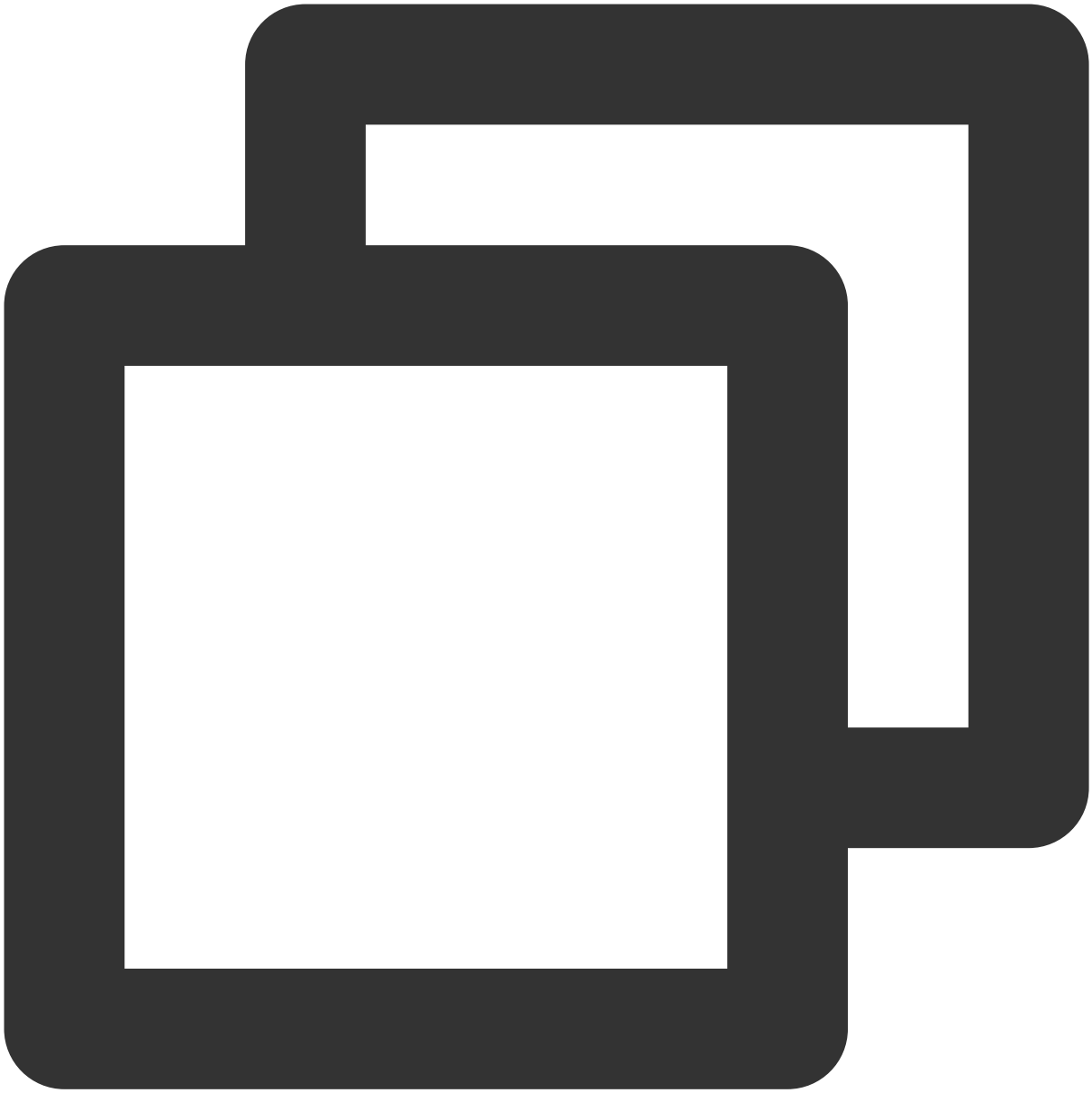
The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance

Message Event Callback APIs

onRecvRoomTextMsg

Callback for receiving a text chat message.



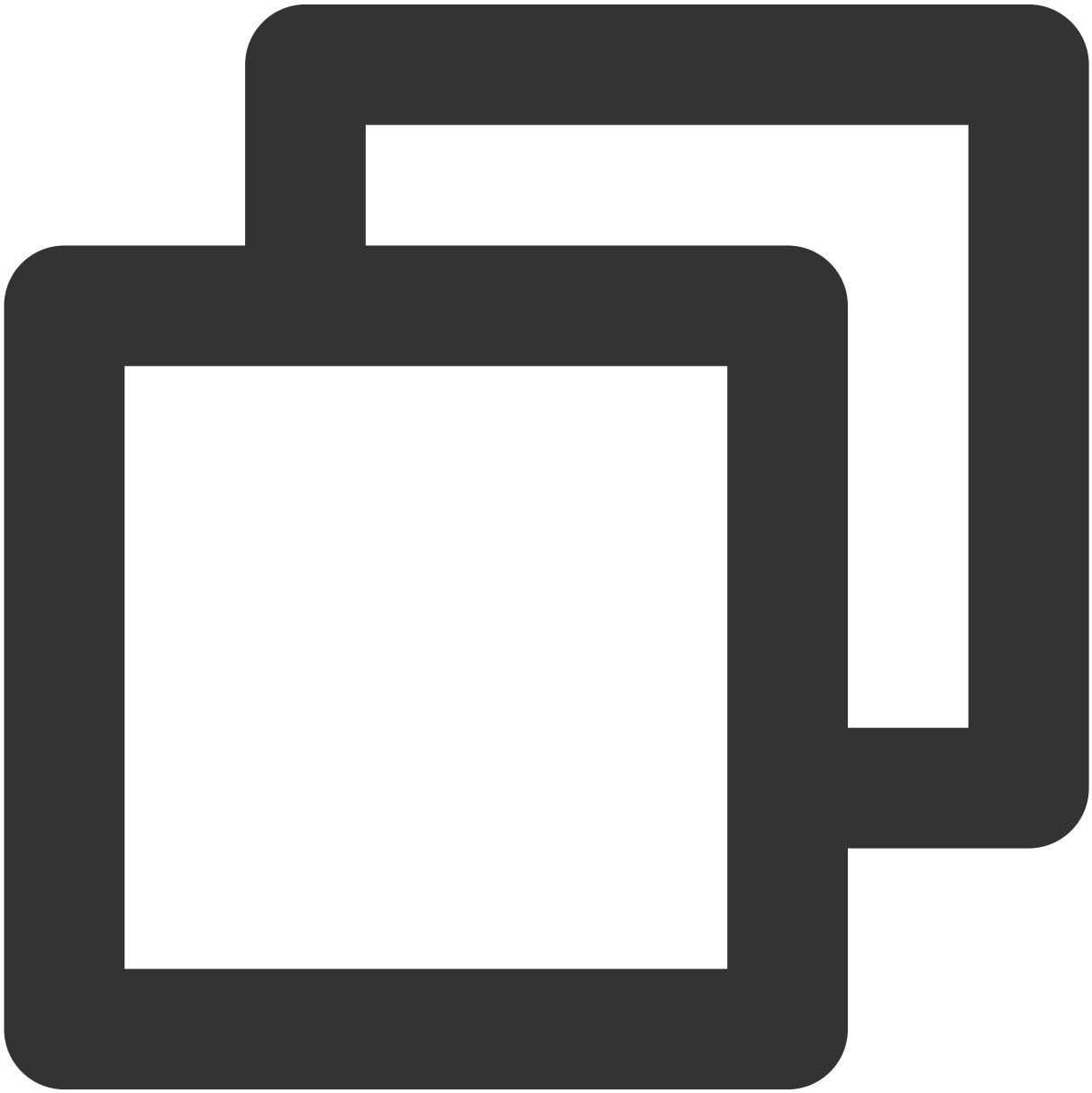
```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
   onRecvRoomTextMsg:(NSString *)message
            fromUser:(TRTCLiveUserInfo *)user
NS_SWIFT_NAME(trtcLiveRoom(_:onRecvRoomTextMsg:fromUser:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance
message	String	Text message
user	TRTCLiveUserInfo	Information of the sender

onRecvRoomCustomMsg

A custom message was received.



```
- (void)trtcLiveRoom:(TRTCLiveRoom *)trtcLiveRoom
onRecvRoomCustomMsgWithCommand:(NSString *)command
             message:(NSString *)message
            fromUser:(TRTCLiveUserInfo *)user
NS_SWIFT_NAME(trtcLiveRoom(_:onRecvRoomCustomMsg:message:fromUser:));
```

The parameters are described below:

Parameter	Type	Description
trtcLiveRoom	TRTCLiveRoomImpl	Current `TRTCLiveRoom` component instance

command	String	Custom command word used to distinguish between different message types
message	String	Text message
user	TRTCLiveUserInfo	Information of the sender

TRTCLiveRoom APIs (Android)

Last updated：2024-03-11 10:27:28

`TRTCLiveRoom` includes the following features which are based on Tencent Real-Time Communication (TRTC) and Tencent Cloud Chat.

A user can create a room and start live streaming, or enter a room as an audience member.

The anchor can co-anchor with audience members in the room.

Anchors in two rooms can compete and interact with each other.

All users can send text and custom messages. Custom messages can be used to send on-screen comments, give likes, and send gifts.

Note

All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For Chat billing details, see Pricing.

`TRTCLiveRoom` is an open-source class depending on two closed-source Tencent Cloud SDKs. For the specific implementation process, please see Interactive Live Video Streaming (Android).

The TRTC SDK is used as a low-latency audio chat component.

The `AVChatRoom` feature of the Chat SDK is used to implement chat rooms. The attribute APIs of Chat are used to store room information such as the seat list, and invitation signaling is used to send requests to speak or invite others to speak.

TRTCLiveRoom API Overview

Basic SDK APIs

API	Description
sharedInstance	Gets a singleton object.
destroySharedInstance	Terminates a singleton object.
setDelegate	Sets event callbacks.
setDelegateHandler	Sets the thread where event callbacks are.
login	Logs in.
logout	Logs out.

setSelfProfile	Sets the profile.

Room APIs

API	Description
createRoom	Creates a room (called by anchor). If the room does not exist, the system will create the room automatically.
destroyRoom	Terminates a room (called by anchor).
enterRoom	Enters a room (called by audience).
exitRoom	Exits a room (called by audience).
getRoomInfos	Gets room list details.
getAnchorList	Gets the anchors in a room. This API works only if it is called after `enterRoom()` .
getAudienceList	Gets the information of all audience members in a room. This API works only if it is called after `enterRoom()` .

Stream pushing/pulling APIs

API	Description
startCameraPreview	Enables preview of the local video.
stopCameraPreview	Stops local video capturing and preview.
startPublish	Starts live streaming (pushing streams).
stopPublish	Stops live streaming (pushing streams).
startPlay	Plays a remote video. This API can be called in common playback and co-anchoring scenarios.
stopPlay	Stops rendering a remote video.

APIs for anchor-audience co-anchoring

API	Description
requestJoinAnchor	Requests co-anchoring (called by audience).
responseJoinAnchor	Responds to a co-anchoring request (called by anchor).

kickoutJoinAnchor	Removes a user from co-anchoring (called by anchor).

APIs for cross-room communication

API	Description
requestRoomPK	Sends a cross-room communication request (called by anchor).
responseRoomPK	Responds to a cross-room communication request (called by anchor).
quitRoomPK	Quits cross-room communication.

Audio/Video APIs

API	Description
switchCamera	Switches between the front and rear cameras.
setMirror	Specifies whether to mirror video.
muteLocalAudio	Mutes/Unmutes the local user.
muteRemoteAudio	Mutes/Unmutes a remote user.
muteAllRemoteAudio	Mutes/Unmutes all remote users.

Background music and audio effect APIs

API	Description
getAudioEffectManager	Gets the background music and audio effect management object TXAudioEffectManager.

Beauty filter APIs

API	Description
getBeautyManager	Gets the beauty filter management object TXBeautyManager.

Message sending APIs

API	Description
sendRoomTextMsg	Broadcasts a text chat message in a room. This API is generally used for on-screen comments.

sendRoomCustomMsg	Sends a custom text message.

Debugging APIs

API	Description
showVideoDebugLog	Specifies whether to display debugging information on the UI.

TRTCLiveRoomDelegate API Overview

Common event callbacks

API	Description
onError	Callback for error.
onWarning	Callback for warning.
onDebugLog	Callback of log.

Room event callback APIs

API	Description
onRoomDestroy	The room was terminated.
onRoomInfoChange	The room information changed.

Callback APIs for entry/exit of anchors/audience

API	Description
onAnchorEnter	There is a new anchor in the room.
onAnchorExit	An anchor left the room.
onAudienceEnter	An audience member entered the room.
onAudienceExit	An audience member left the room.

Callback APIs for anchor-audience co-anchoring events

API	Description
onRequestJoinAnchor	A co-anchoring request was received.
onKickoutJoinAnchor	A user was removed from co-anchoring.

Callback APIs for cross-room communication events

API	Description
onRequestRoomPK	A cross-room communication request was received.
onQuitRoomPK	Cross-room communication ended.

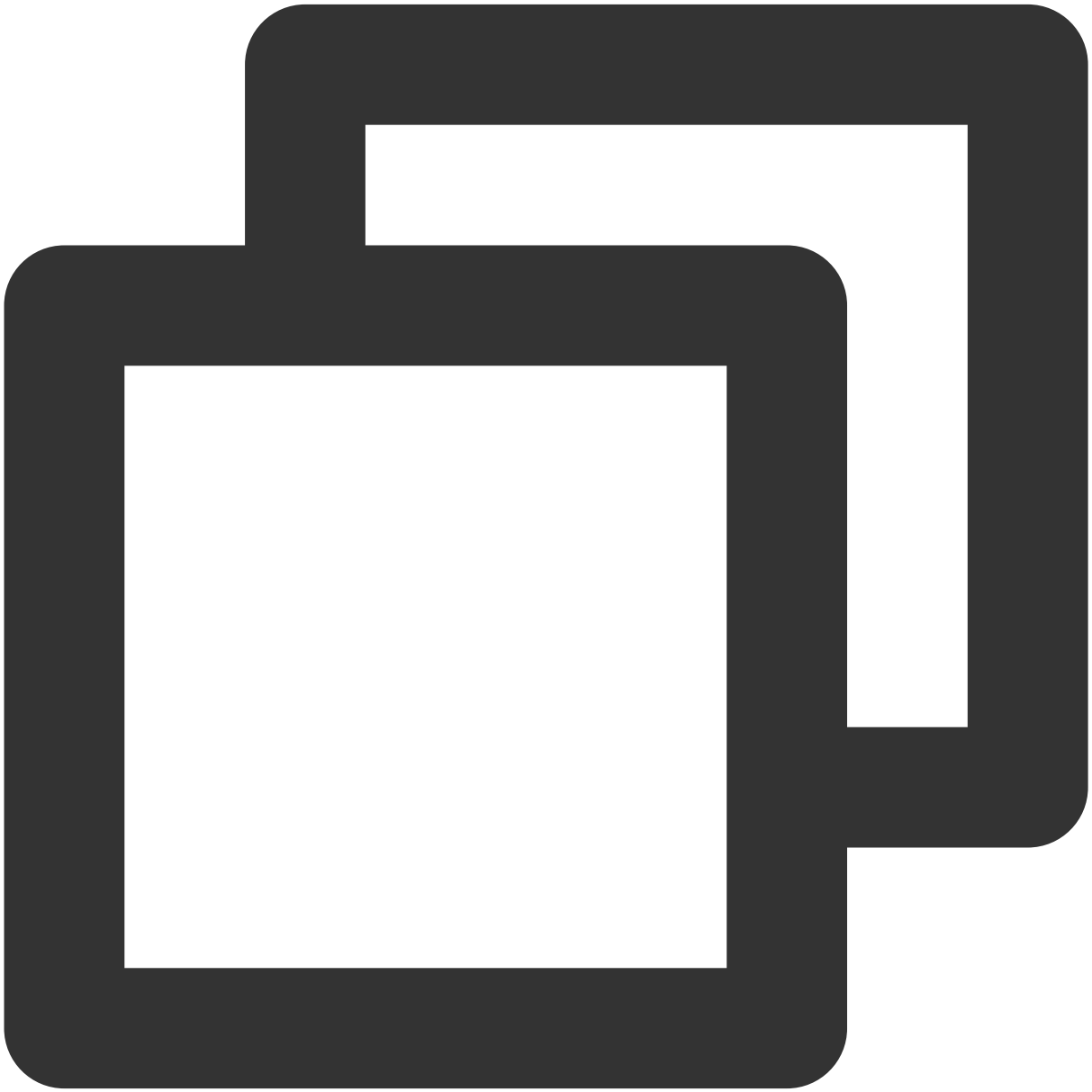
Message event callback APIs

API	Description
onRecvRoomTextMsg	A text chat message was received.
onRecvRoomCustomMsg	A custom message was received.

Basic SDK APIs

sharedInstance

This API is used to get a TRTCLiveRoom singleton object.



```
public static synchronized TRTCLiveRoom sharedInstance(Context context);
```

The parameters are described below:

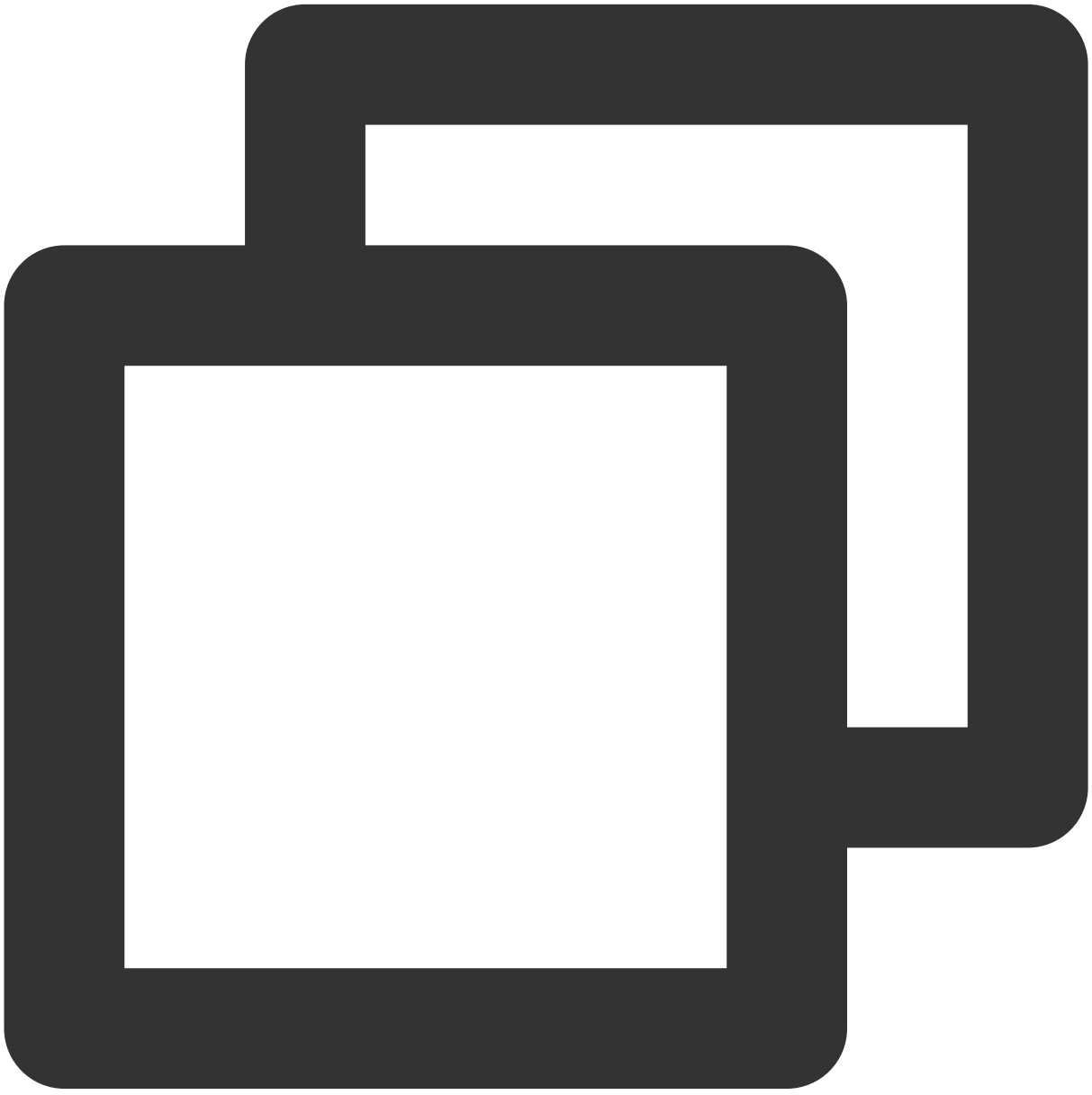
Parameter	Type	Description
context	Context	Android context, which will be converted to `ApplicationContext` for the calling of system APIs

destroySharedInstance

This API is used to terminate the TRTCLiveRoom singleton object.

Note

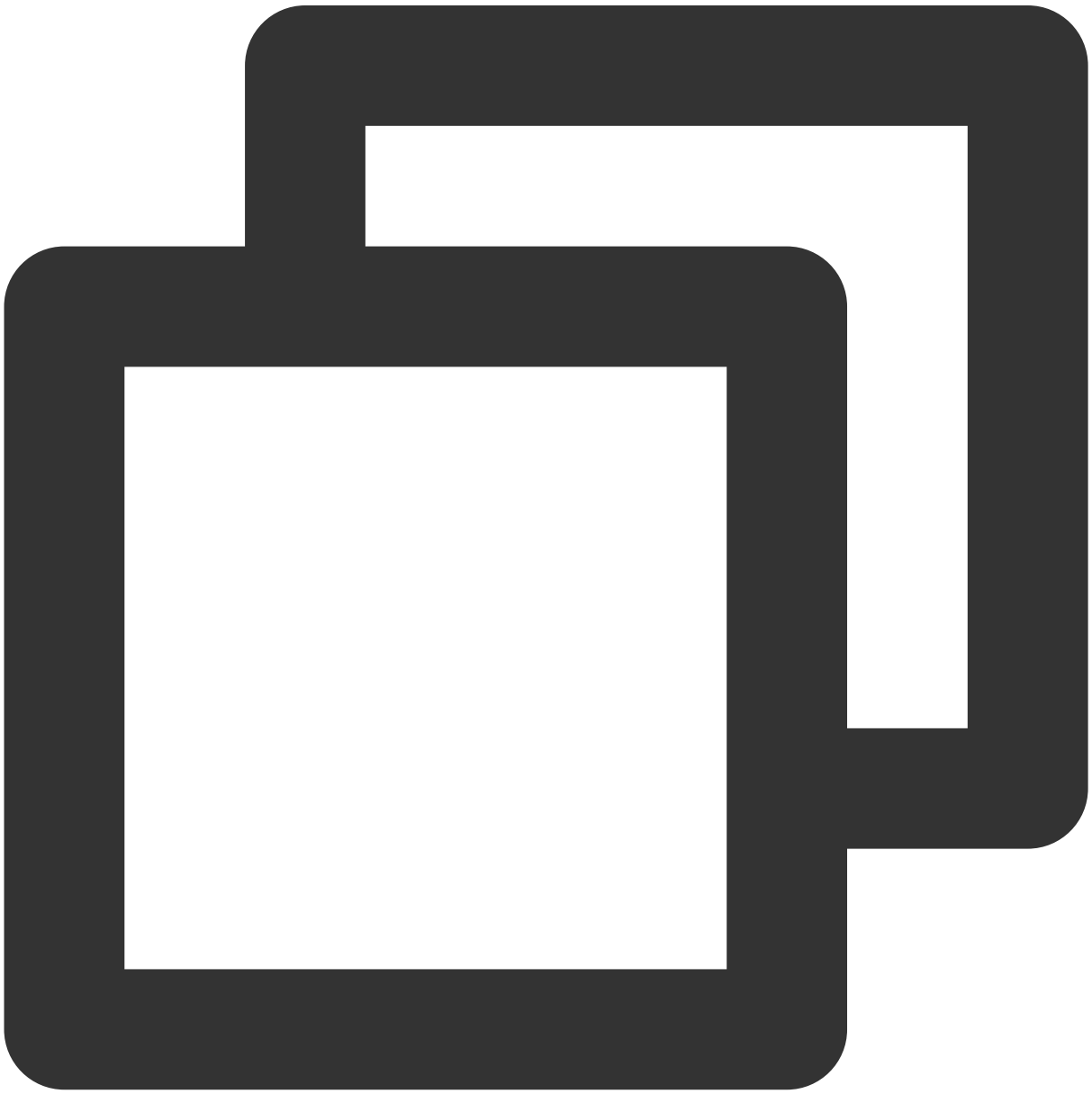
After the instance is terminated, the externally cached `TRTCLiveRoom` instance can no longer be used. You need to call sharedInstance again to get a new instance.



```
public static void destroySharedInstance();
```

setDelegate

This API is used to get callbacks for the events of TRTCLiveRoom. You can use `TRTCLiveRoomDelegate` to get the callbacks.



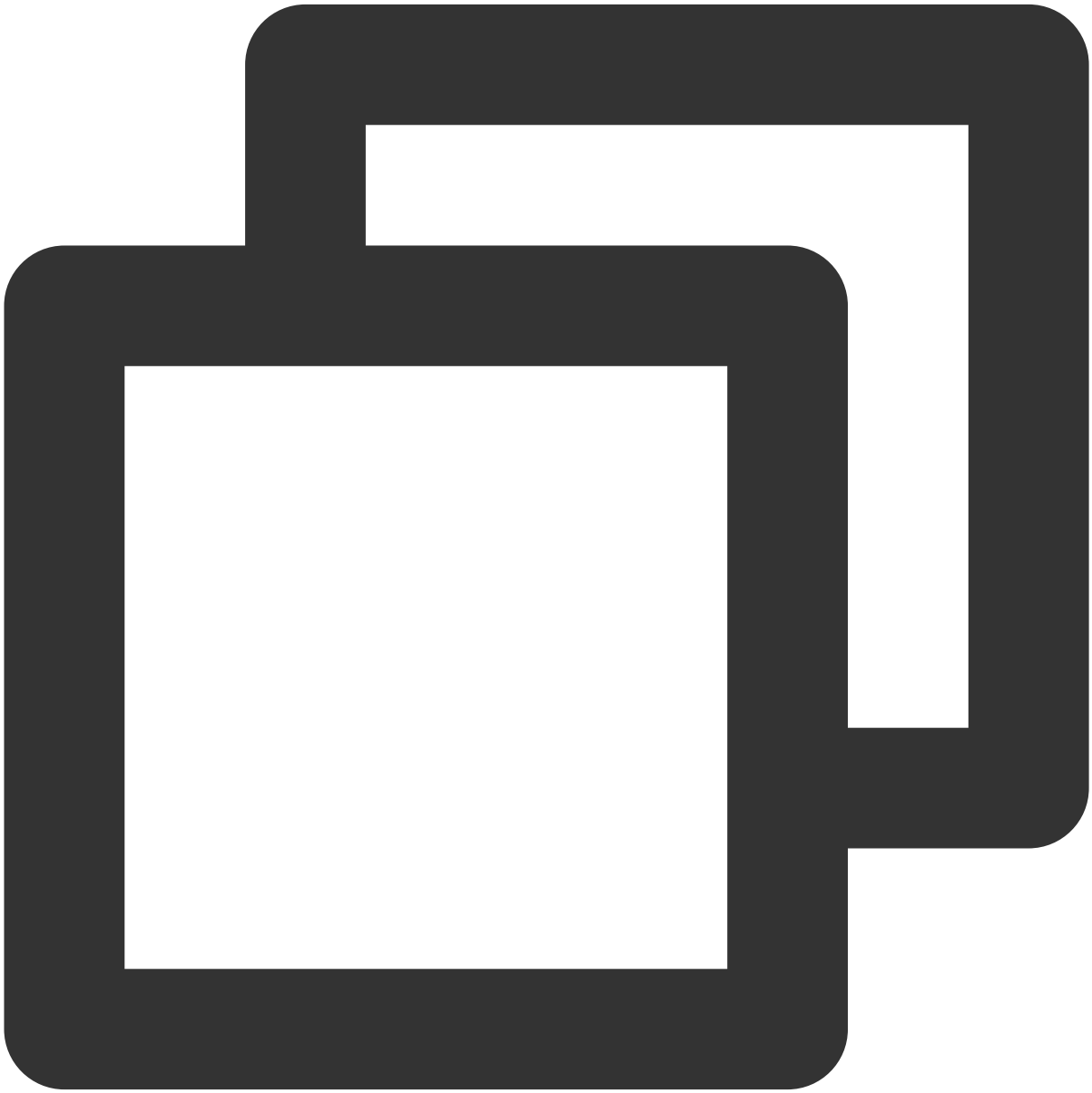
```
public abstract void setDelegate(TRTCLiveRoomDelegate delegate);
```

Note

`setDelegate` is the delegate callback of `TRTCLiveRoom` .

setDelegateHandler

This API is used to set the thread where event callbacks are.



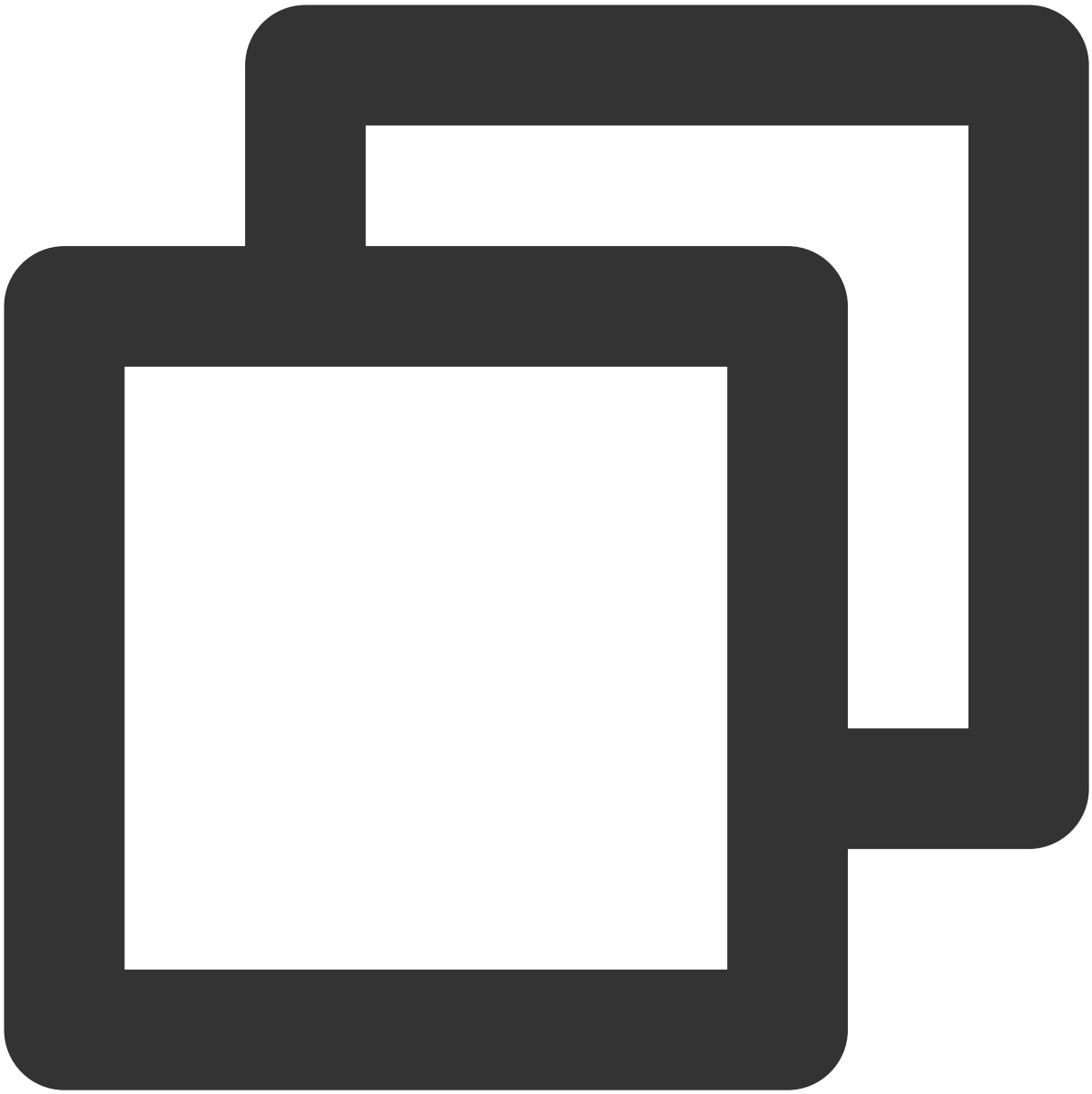
```
public abstract void setDelegateHandler(Handler handler);
```

The parameters are described below:

Parameter	Type	Description
handler	Handler	Callbacks for the events of `TRTCLiveRoom` are returned via this handler. Do not use it together with `setDelegate` .

login

Login



```
public abstract void login(int sdkAppId,
 String userId, String userSig,
 TRTCLiveRoomDef.TRTCLiveRoomConfig config,
 TRTCLiveRoomCallback.ActionCallback callback);
```

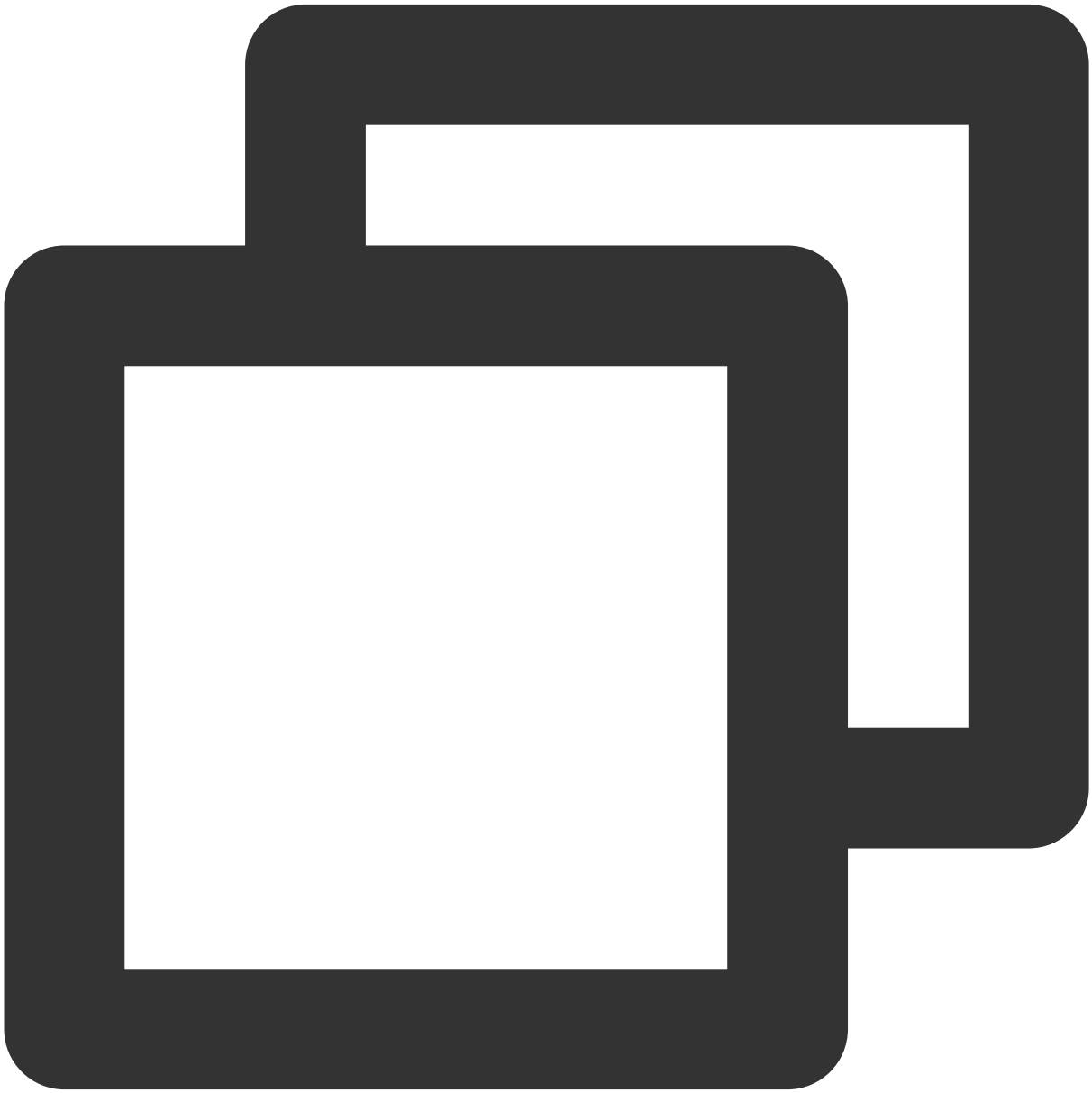
The parameters are described below:

Parameter	Type	Description

sdkAppId	int	You can view `SDKAppID` in Application Management > **Application Info** of the TRTC console.
userId	String	The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_)
userSig	String	Tencent Cloud's proprietary security signature. For how to calculate and use it, see FAQs > UserSig.
config	TRTCLiveRoomConfig	Global configuration information, which needs to be initialized during login and cannot be modified afterward. `useCDNFirst` : Specifies the way the audience watches live streams. `true` means that the audience watches live streams over CDNs, which is cost-efficient but has high latency. `false` means that the audience watches live streams in the low latency mode, the cost of which is between that of CDN live streaming and co-anchoring, but the latency is within 1 second. `CDNPlayDomain` : Specifies the domain name for CDN live streaming. It takes effect only if `useCDNFirst` is set to `true` . You can set it in Domain Management of the CSS console.
callback	ActionCallback	The callback for login. The code is `0` if login succeeds.

logout

Log out



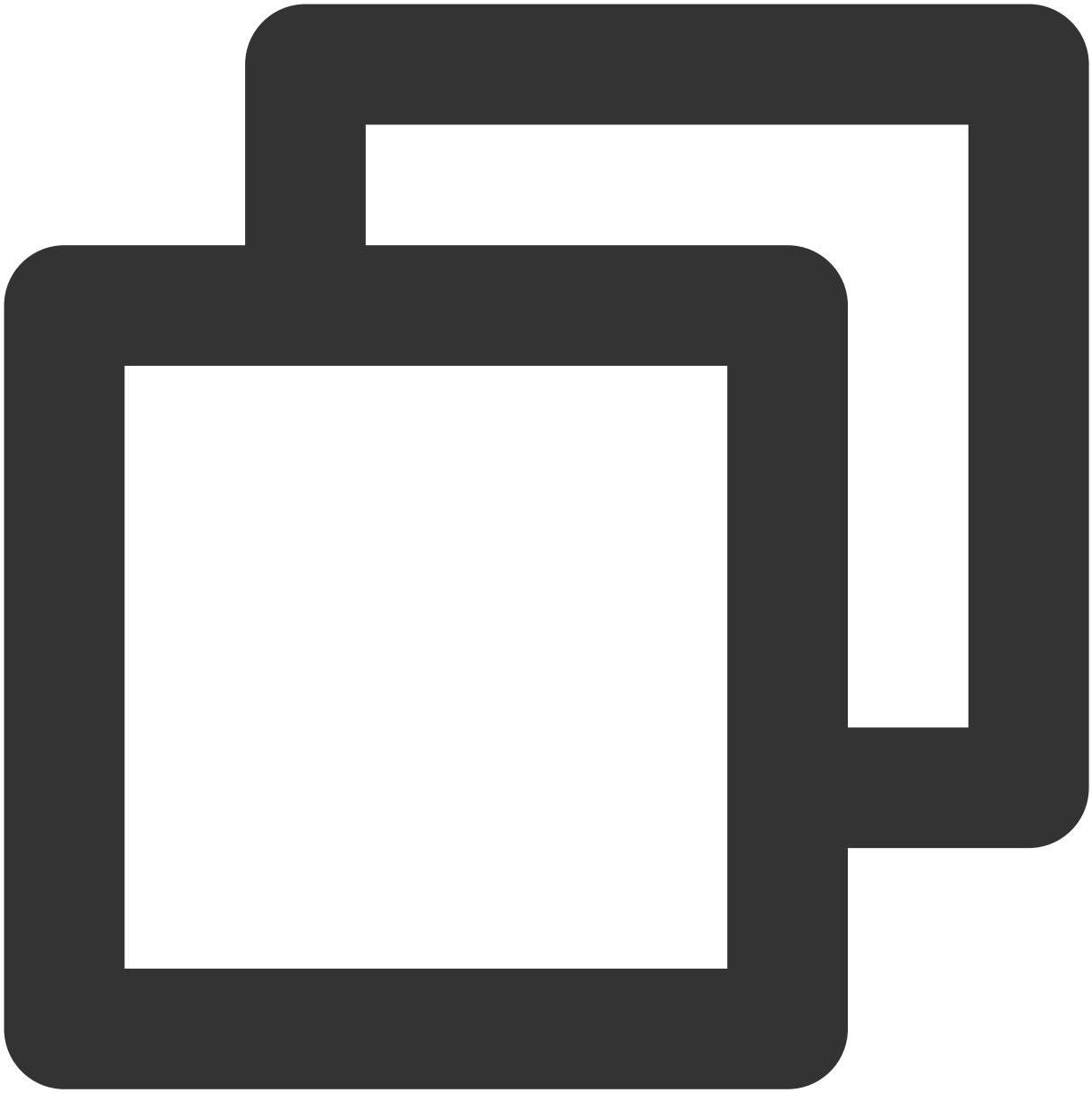
```
public abstract void logout(TRTCLiveRoomCallback.ActionCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	Callback for logout. The code is `0` if logout succeeds.

setSelfProfile

This API is used to set the profile.



```
public abstract void setSelfProfile(String userName, String avatarURL, TRTCLiveRoom
```

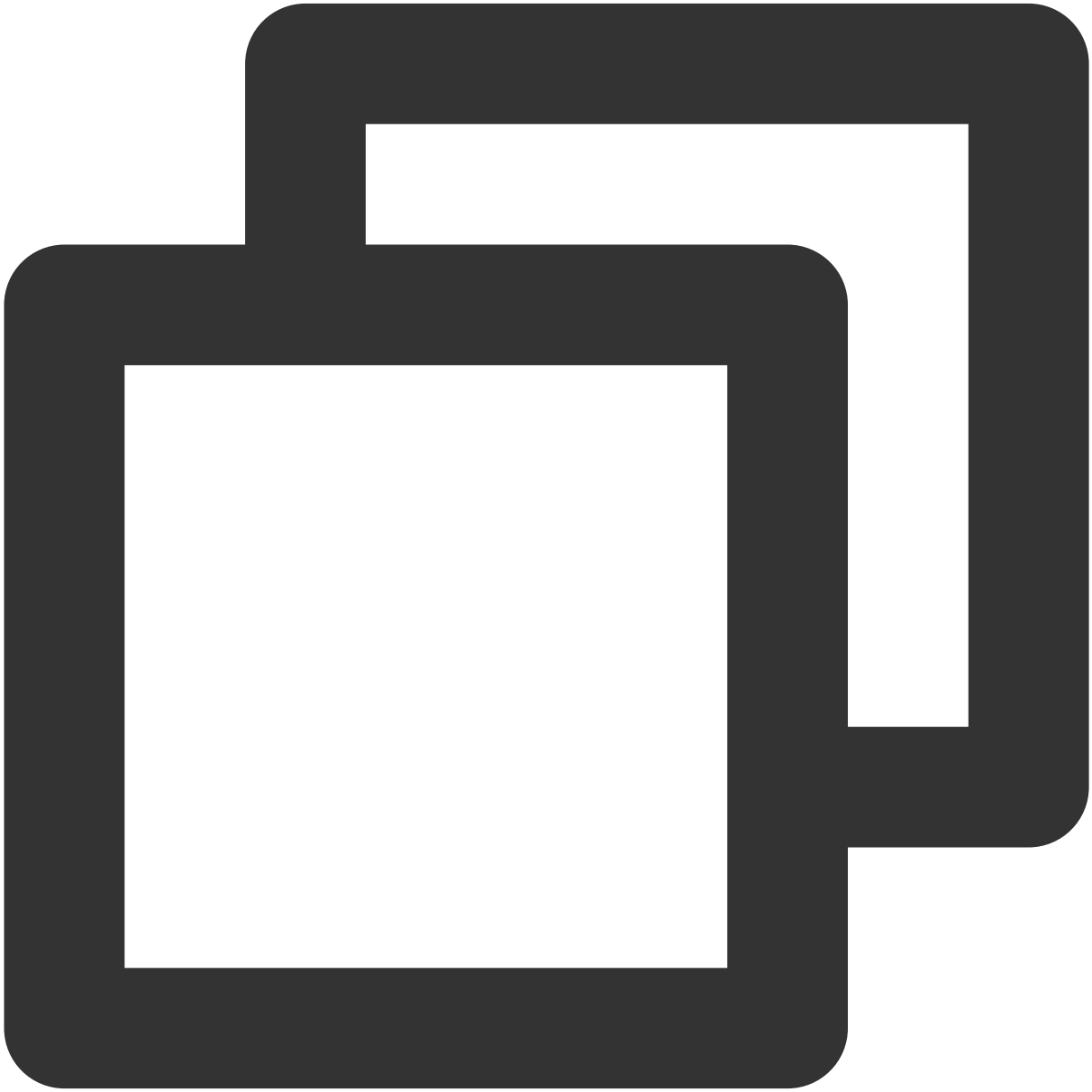
The parameters are described below:

Parameter	Type	Description
userName	String	Username
avatarURL	String	Profile photo URL
callback	ActionCallback	Callback for profile setting. The code is `0` if the operation succeeds.

Room APIs

createRoom

This API is used to create a room (called by anchor).



```
public abstract void createRoom(int roomId, TRTCLiveRoomDef.TRTCCreateRoomParam roo
```

The parameters are described below:

Parameter	Type	Description

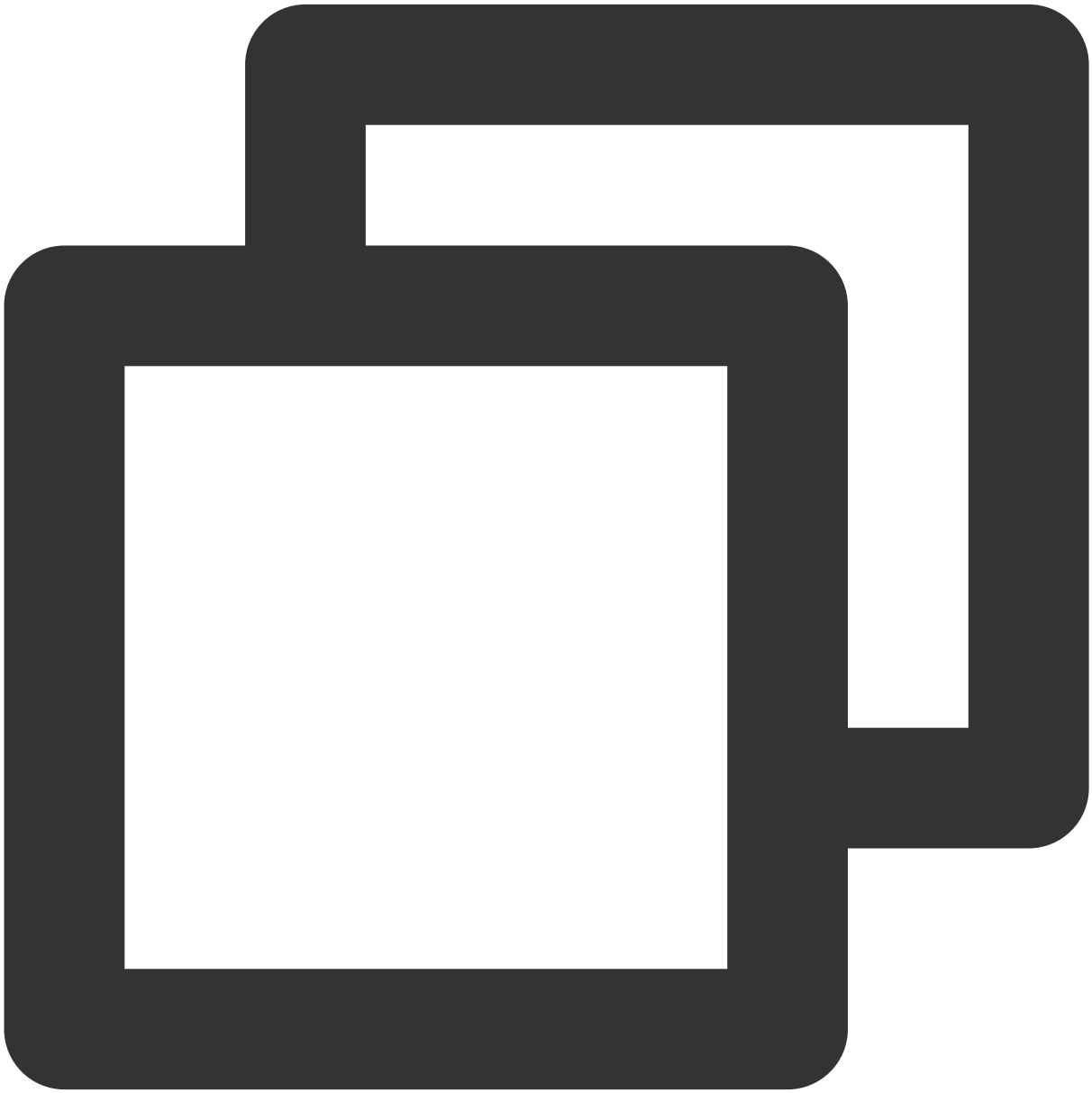
roomId	int	The room ID. You need to assign and manage the IDs in a centralized manner. Multiple `roomId` values can be aggregated into a live room list. Currently, Tencent Cloud does not provide list management services. Please manage your own room lists.
roomParam	TRTCCreateRoomParam	Room information, such as room name and cover information. If both the room list and room information are managed on your server, you can ignore this parameter.
callback	ActionCallback	Callback for room creation. The code is 0 if the operation succeeds.

The process of creating a room and starting live streaming as an anchor is as follows:

1. A user calls `startCameraPreview()` to enable camera preview and set beauty filters.
2. The user calls `createRoom()` to create a room, the result of which is returned via the `ActionCallback` callback.
3. The user calls `starPublish()` to push streams.

destroyRoom

This API is used to terminate a room (called by anchor).



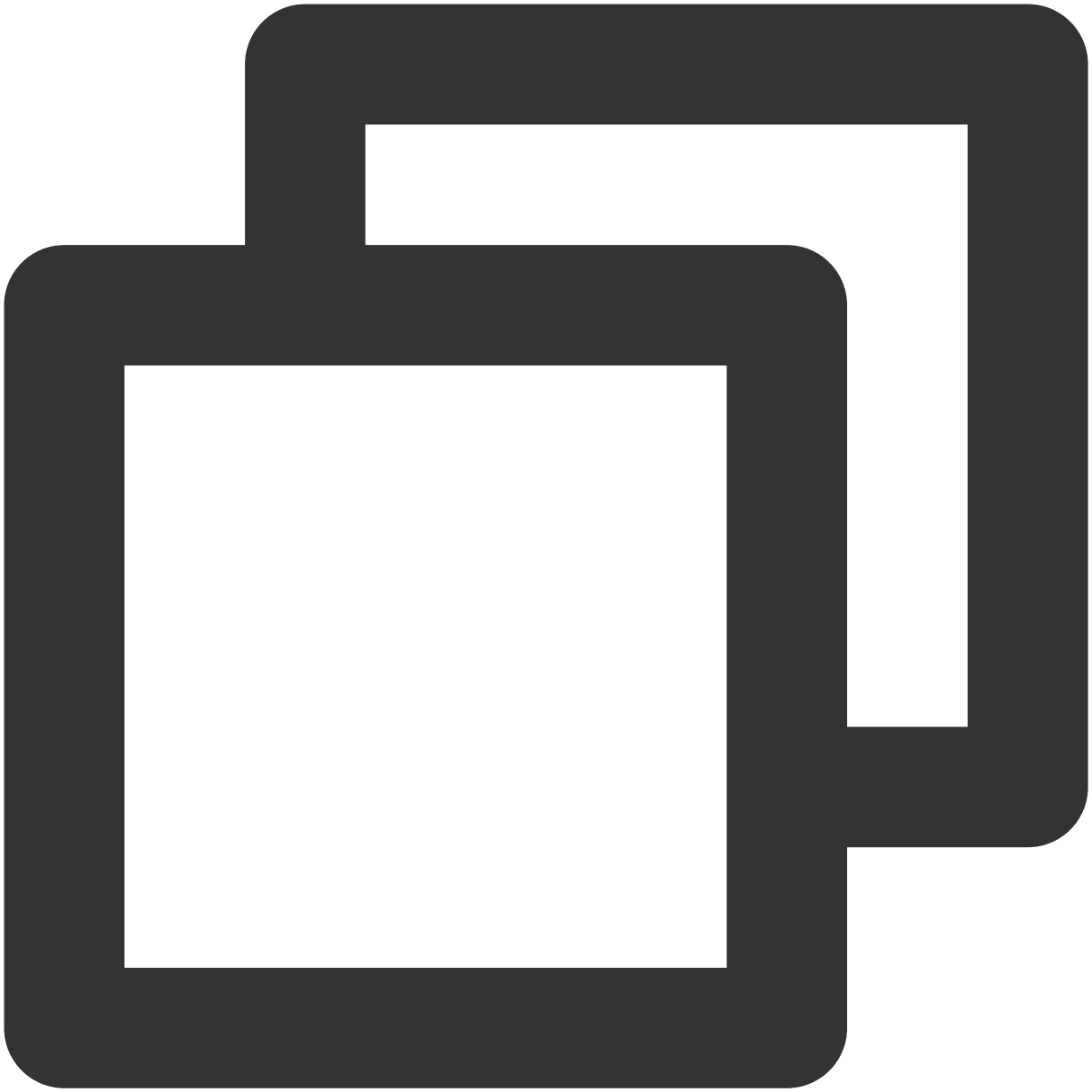
```
public abstract void destroyRoom(TRTCLiveRoomCallback.ActionCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	Callback for room termination. The code is `0` if the operation succeeds.

enterRoom

This API is used to enter a room (called by audience).



```
public abstract void enterRoom(int roomId, TRTCLiveRoomCallback.ActionCallback call
```

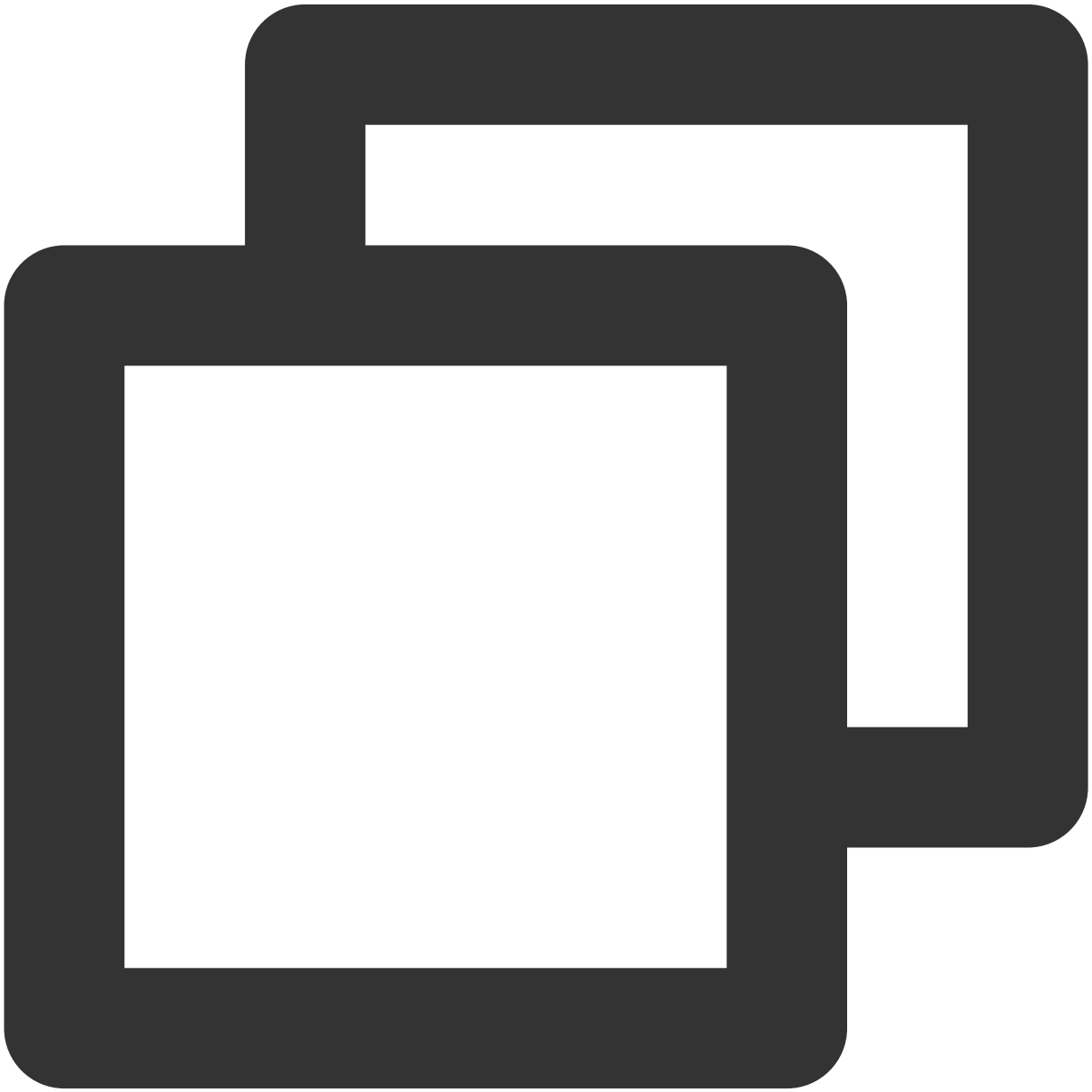
The parameters are described below:

Parameter	Type	Description
roomId	int	The room ID.
callback	ActionCallback	Callback for room entry. The code is `0` if the operation succeeds.

The process of entering a room and starting playback as an audience member is as follows:
1. A user gets the latest room list from your server. The list may contain the `roomID` and other information of multiple rooms.
2. The user selects a room and calls `enterRoom()` to enter the room.
3. The user calls `startPlay(userId)`, passing in the anchor's `userId` to start playback.
If the room list contains the anchor's `userId`, the user can call `startPlay(userId)` to start playback.
If the user does not have the anchor's `userId` before room entry, he or she can find it in the `onAnchorEnter(userId)` callback of `TRTCLiveRoomDelegate`, which is returned after room entry, and can then call `startPlay(userId)` to start playback.

exitRoom

This API is used to leave a room.



```
public abstract void exitRoom(TRTCLiveRoomCallback.ActionCallback callback);
```

The parameters are described below:

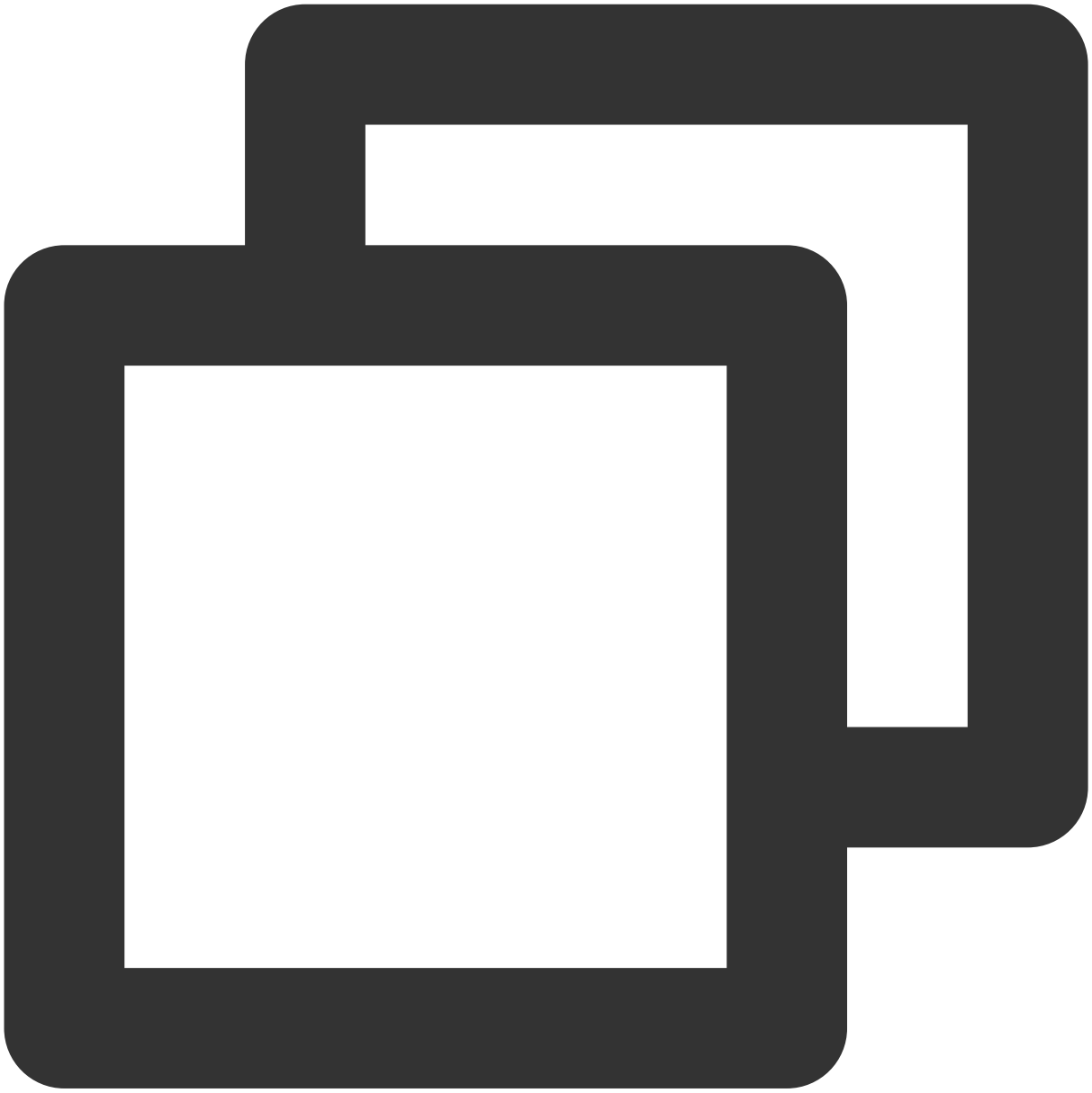
Parameter	Type	Description
callback	ActionCallback	Callback for room exit. The code is `0` if the operation succeeds.

getRoomInfos

This API is used to get room list details, which are set by anchors via `roomInfo` when they call `createRoom()` .

Note

You don't need this API if both the room list and room information are managed on your server.



```
public abstract void getRoomInfos(List<Integer> roomIdList, TRTCLiveRoomCallback.Ro
```

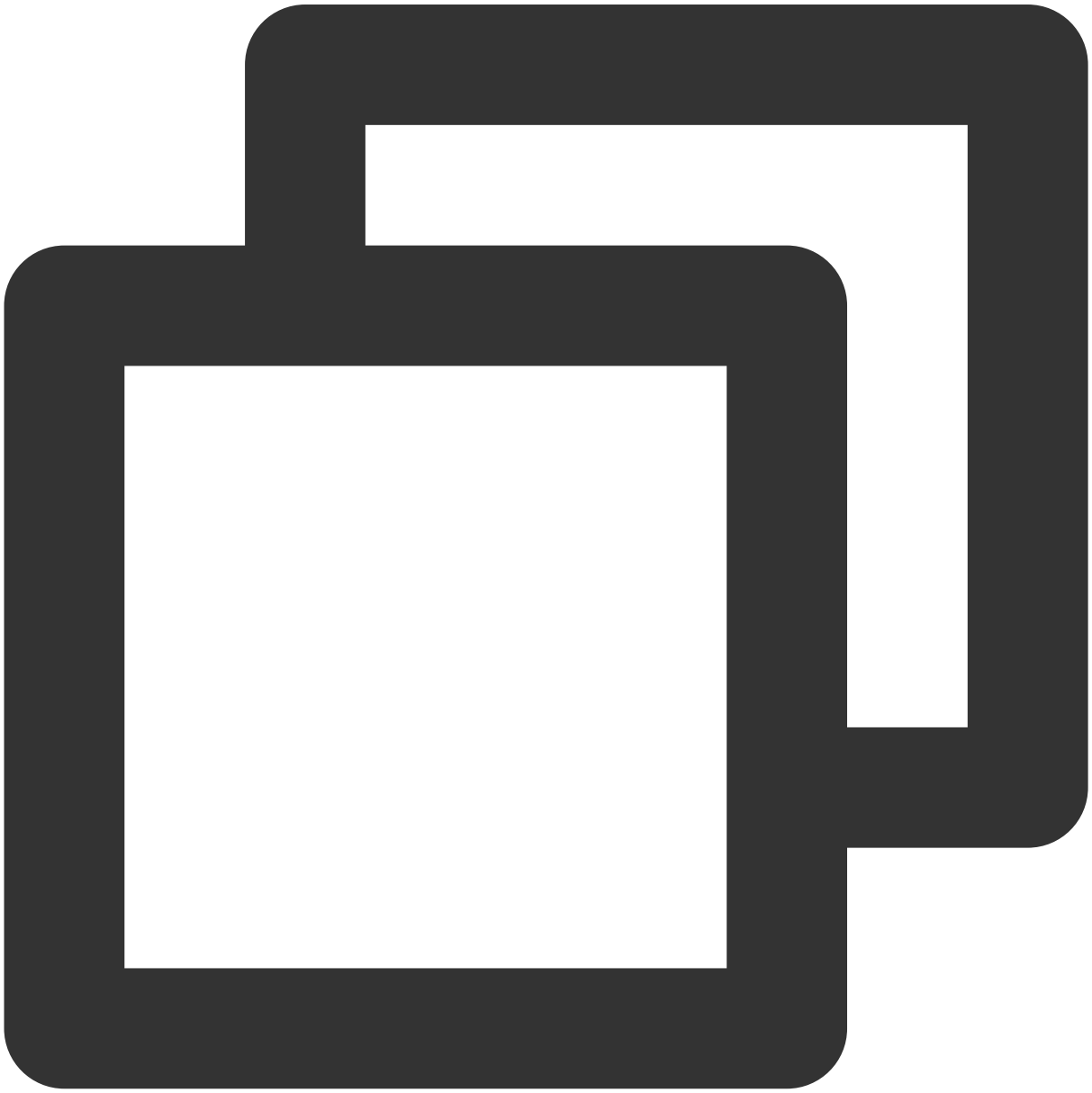
The parameters are described below:

Parameter	Type	Description

roomIdList	List<Integer>	Room ID list
callback	RoomInfoCallback	Callback of room details

getAnchorList

This API is used to get the anchors and co-anchoring viewers in a room. It takes effect only if it is called after `enterRoom()`.



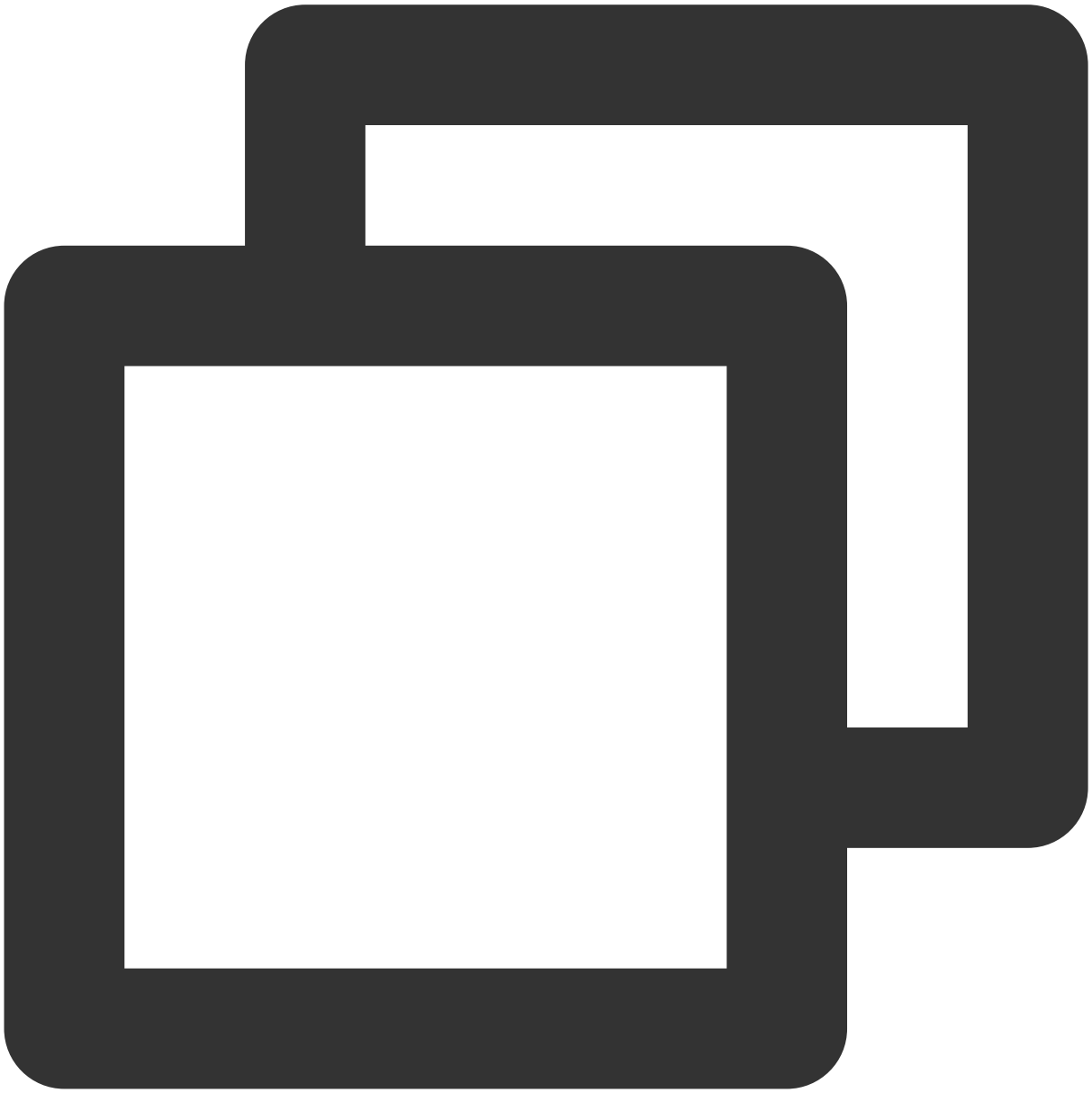
```
public abstract void getAnchorList(TRTCLiveRoomCallback.UserListCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	UserListCallback	Callback of user details

getAudienceList

This API is used to get the information of all audience members in a room. It takes effect only if it is called after `enterRoom()`.



```
public abstract void getAudienceList(TRTCLiveRoomCallback.UserListCallback callback
```

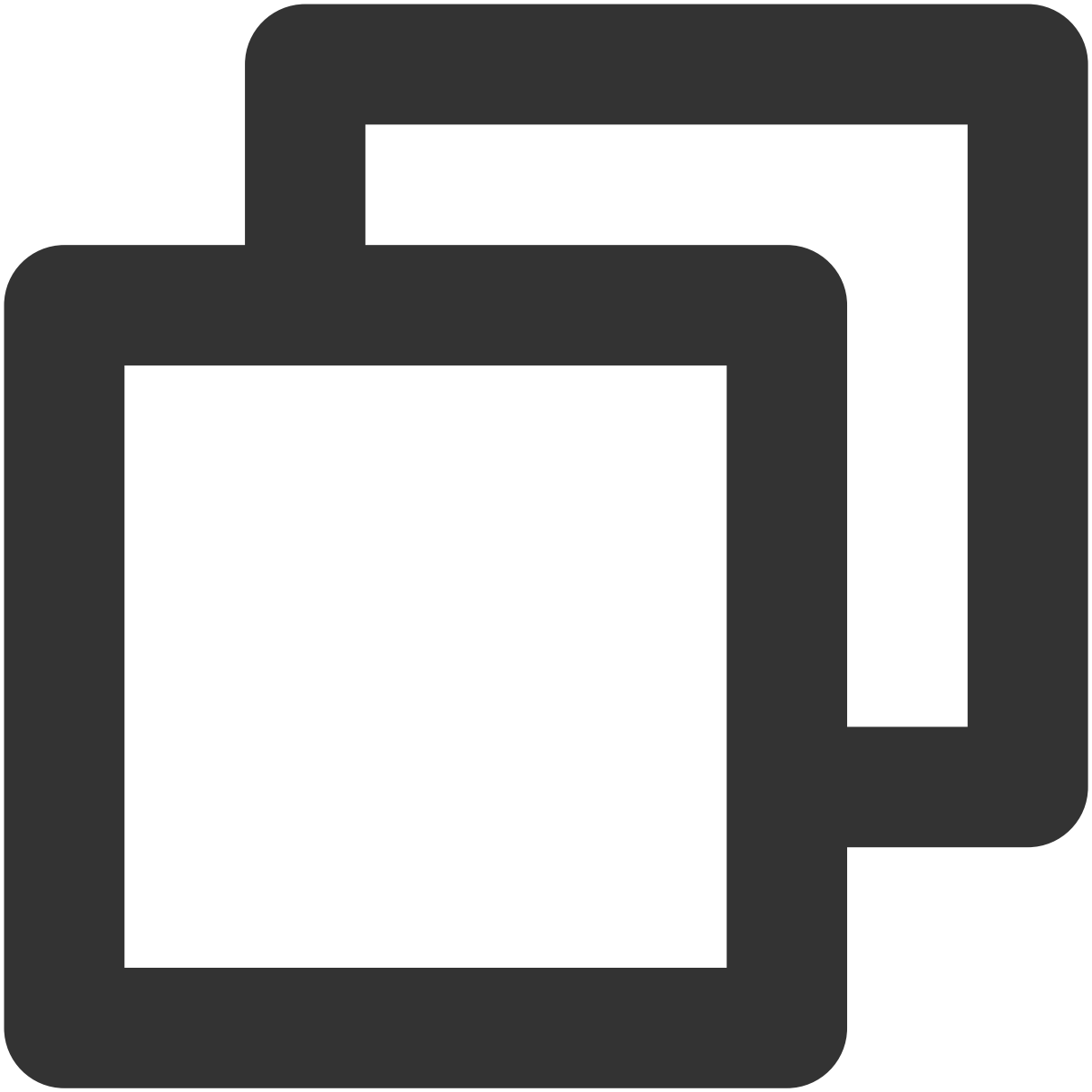
The parameters are described below:

Parameter	Type	Description
callback	UserListCallback	Callback of user details

Stream Pushing/Pulling APIs

startCameraPreview

This API is used to enable local video preview.



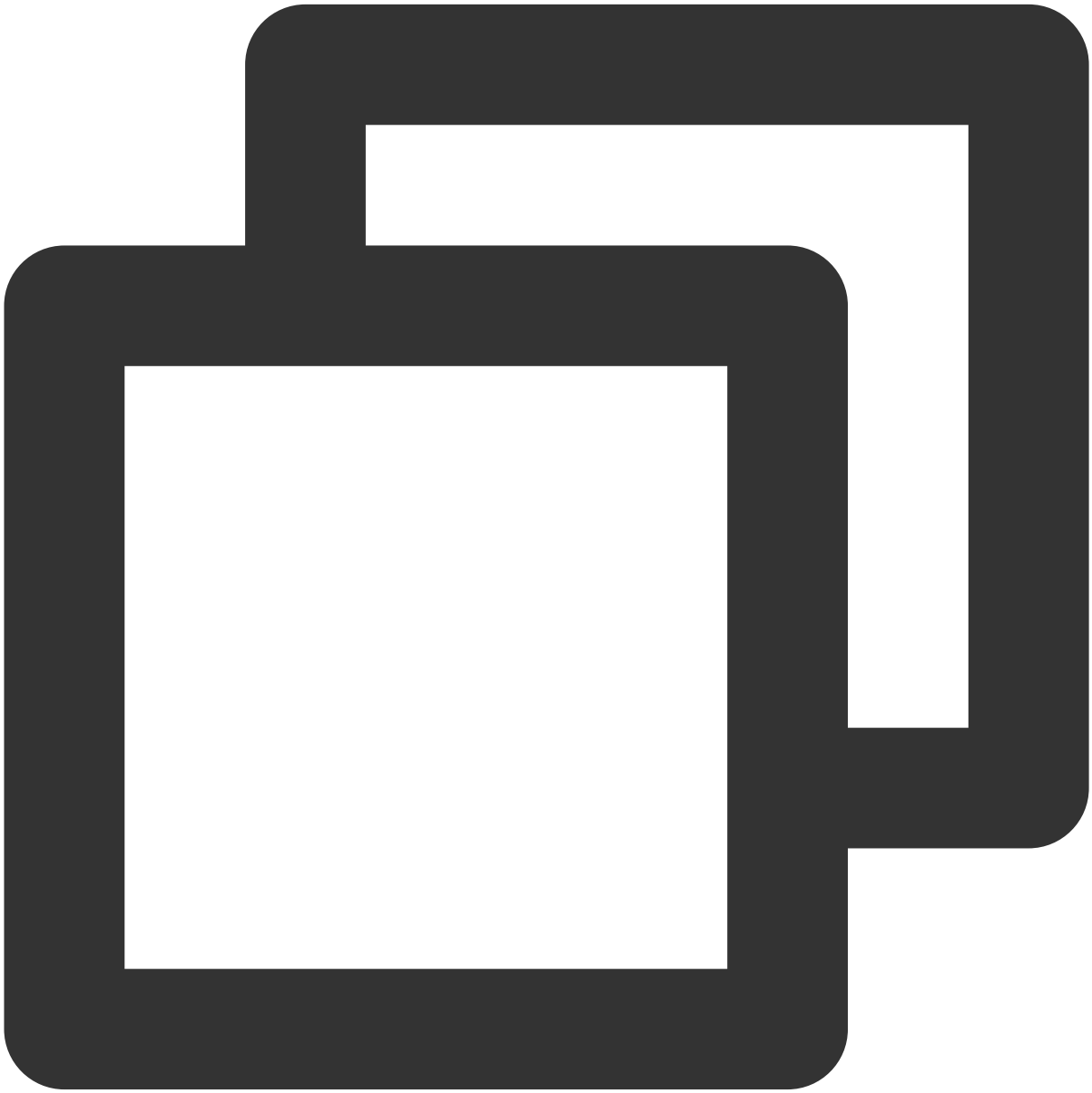
```
public abstract void startCameraPreview(boolean isFront, TXCloudVideoView view, TRT
```

The parameters are described below:

Parameter	Type	Description
isFront	boolean	`true` : Front camera; `false` : Rear camera
view	TXCloudVideoView	The control that loads video images
callback	ActionCallback	Callback for the operation

stopCameraPreview

This API is used to stop local video capturing and preview.



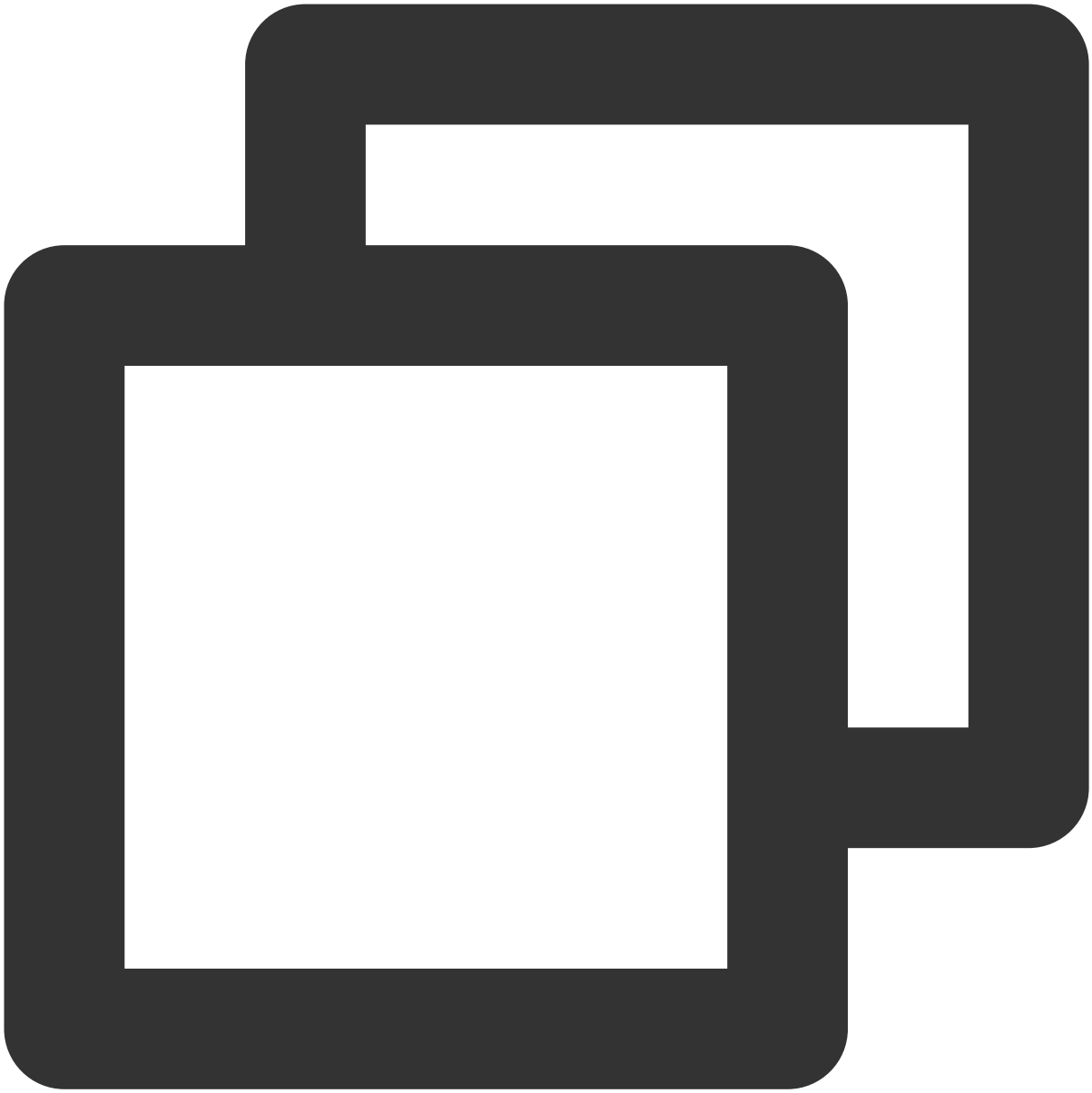
```
public abstract void stopCameraPreview();
```

startPublish

This API is used to start live streaming (pushing streams), which can be called in the following scenarios:

An anchor starts live streaming.

An audience member starts co-anchoring.



```
public abstract void startPublish(String streamId, TRTCLiveRoomCallback.ActionCallb
```

The parameters are described below:

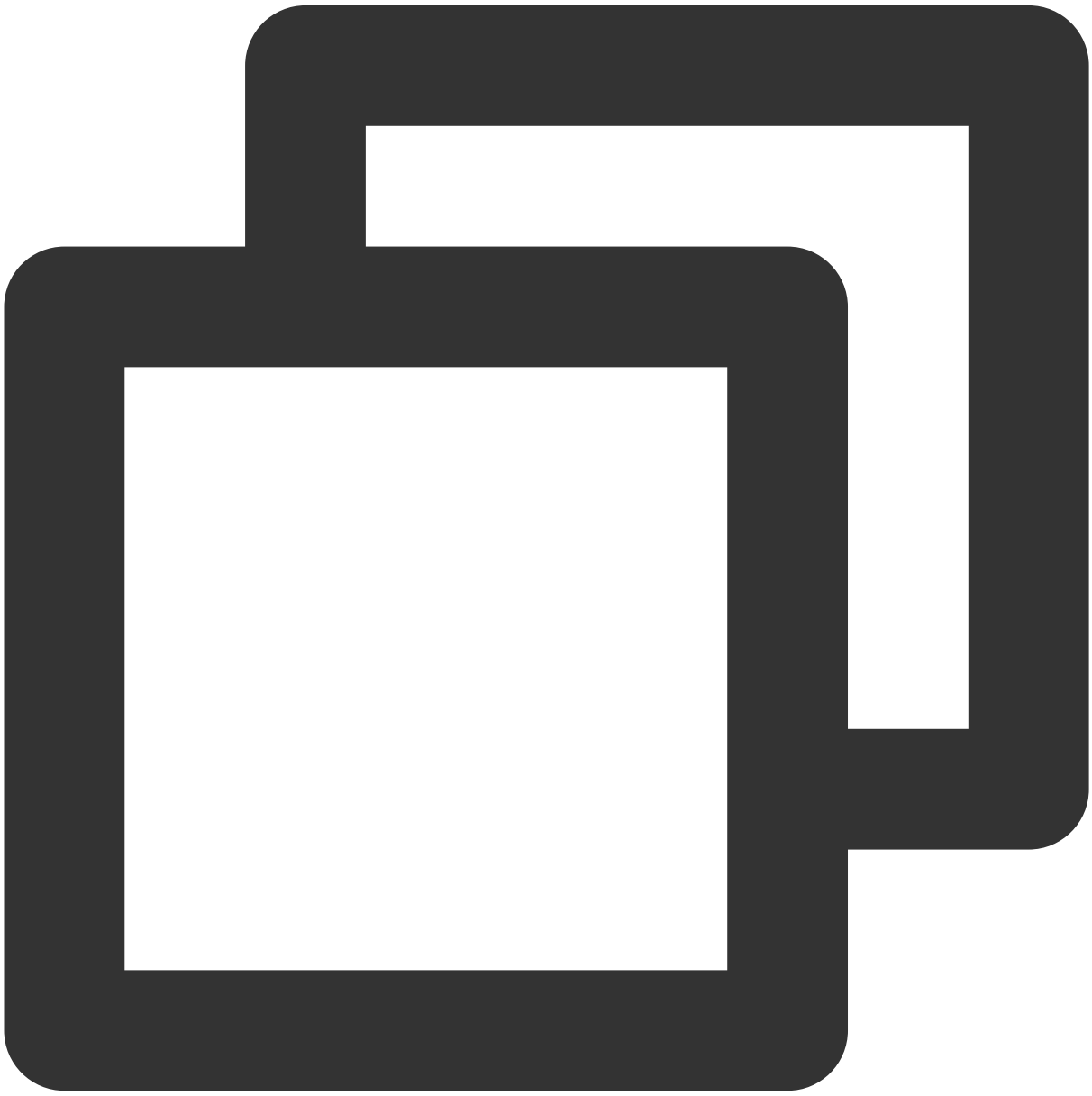
Parameter	Type	Description
streamId	String	The `streamId` used to bind live streaming CDNs. You need to set it to the `streamId` of the anchor if you want audience to play the anchor's stream via live streaming CDNs.
callback	ActionCallback	Callback for the operation

stopPublish

This API is used to stop live streaming (pushing streams), which can be called in the following scenarios:

An anchor ends live streaming.

An audience member ends co-anchoring.



```
public abstract void stopPublish(TRTCLiveRoomCallback.ActionCallback callback);
```

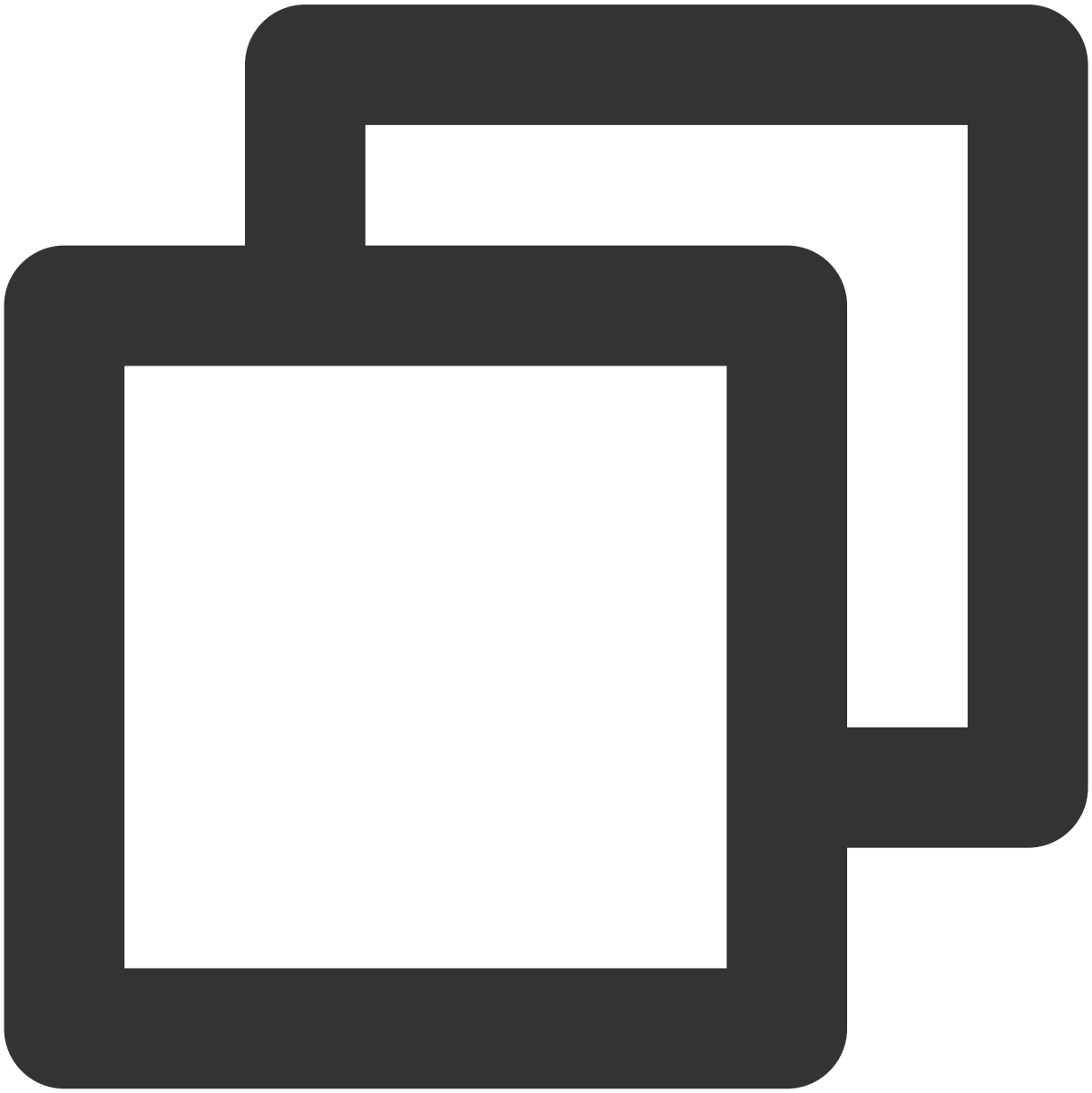
The parameters are described below:

Parameter	Type	Description

callback	ActionCallback	Callback for the operation

startPlay

This API is used to play a remote video. It can be called in common playback and co-anchoring scenarios.



```
public abstract void startPlay(String userId, TXCloudVideoView view, TRTCLiveRoomCa
```

The parameters are described below:

Parameter	Type	Description

userId	String	ID of the user whose video is to be played
view	TXCloudVideoView	The control that loads video images
callback	ActionCallback	Callback for the operation

Common playback scenario

If the room list contains anchors' `userId`, after entering a room, a user can call `startPlay(userId)` to play the anchor's video.

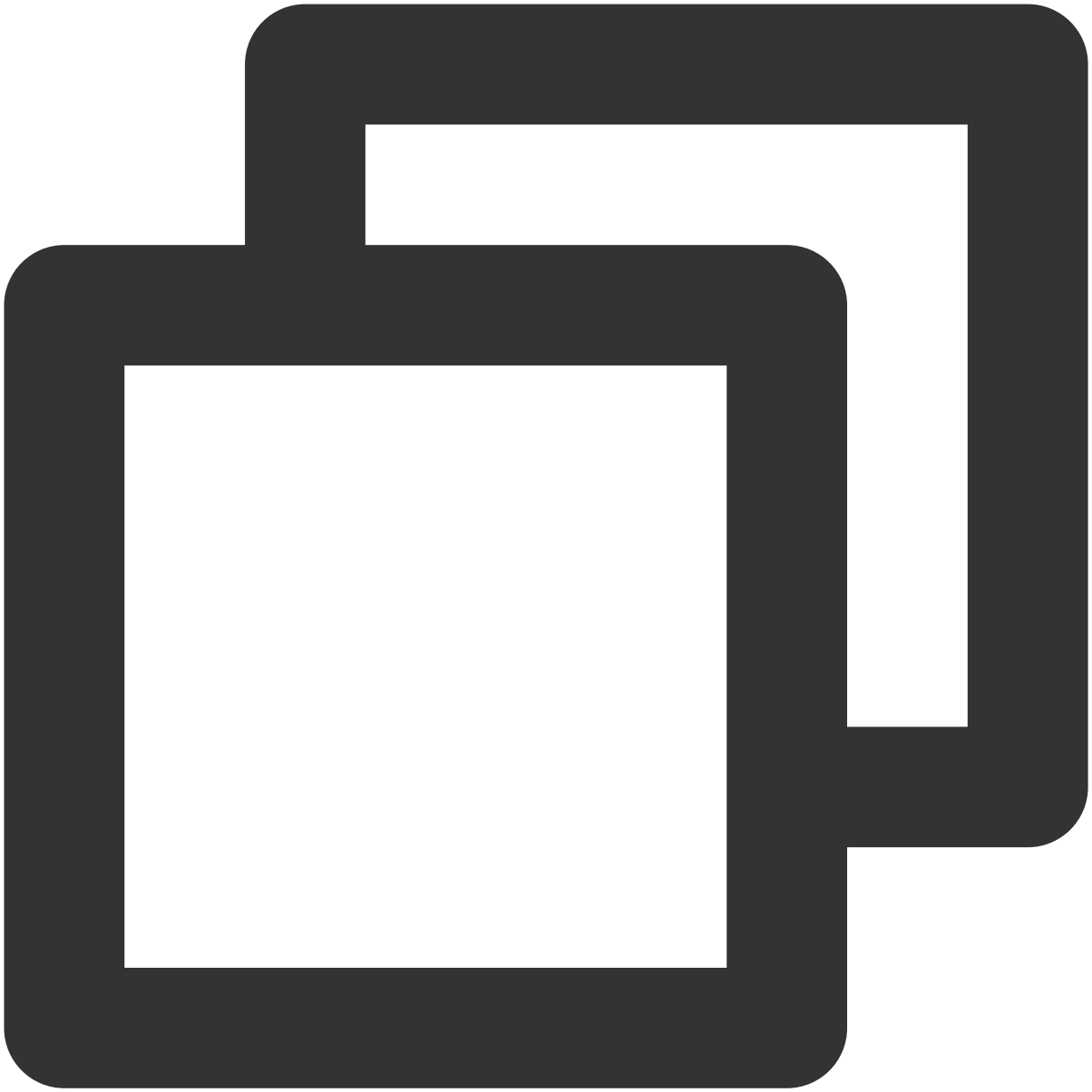
If a user does not have the anchor's `userId` before room entry, he or she can find it in the `onAnchorEnter(userId)` callback of `TRTCLiveRoomDelegate`, which is returned after room entry, and can then call `startPlay(userId)` to play the anchor's video.

Co-anchoring scenario

After co-anchoring starts, the anchor will receive the `onAnchorEnter(userId)` callback from `TRTCLiveRoomDelegate` and can call `startPlay(userId)`, passing in the `userId` obtained from the callback to play the co-anchoring user's video.

stopPlay

This API is used to stop rendering a remote video. It needs to be called after the `onAnchorExit()` callback is received.



```
public abstract void stopPlay(String userId, TRTCLiveRoomCallback.ActionCallback ca
```

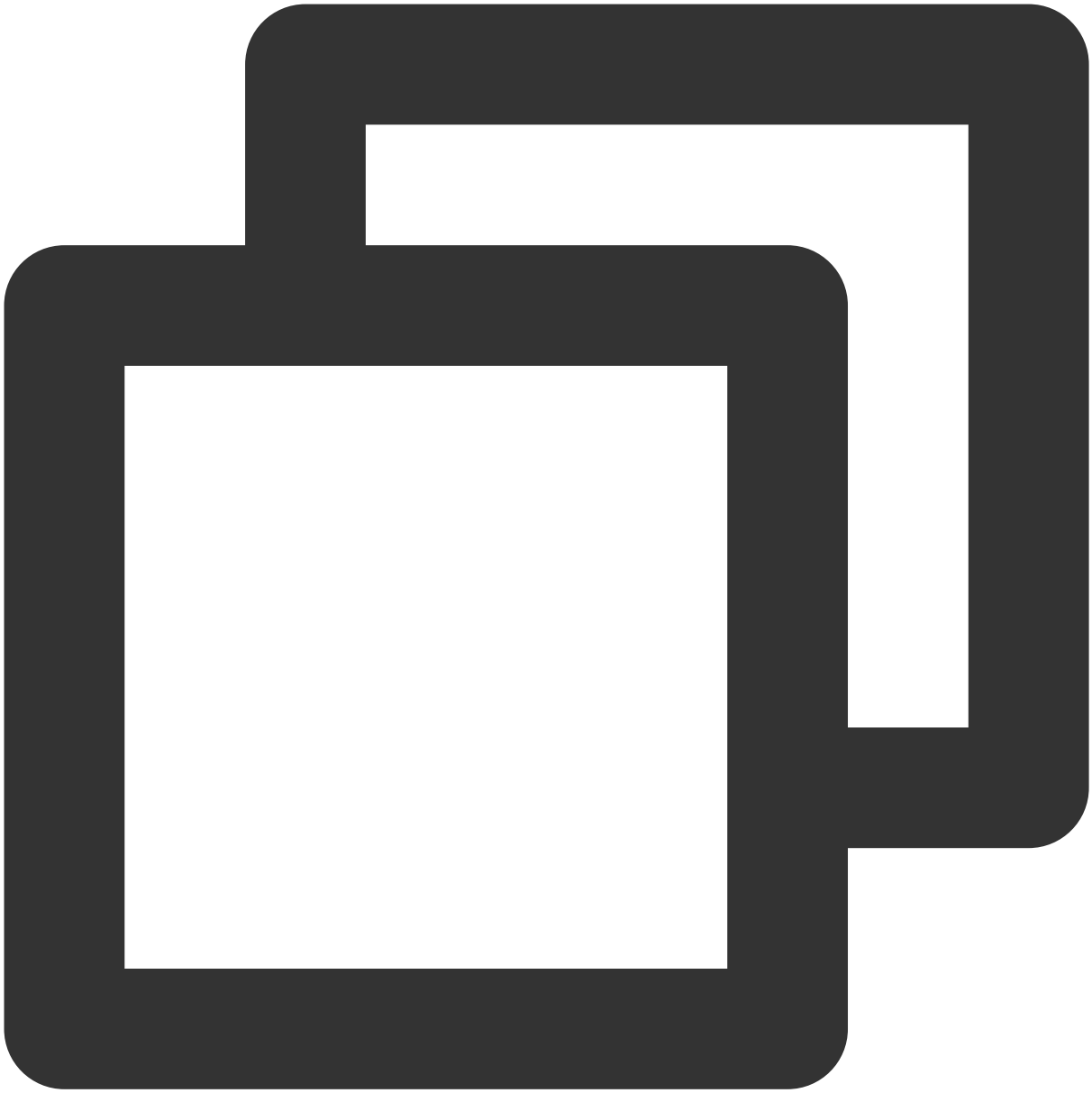
The parameters are described below:

Parameter	Type	Description
userId	String	ID of the remote user
callback	ActionCallback	Callback for the operation

APIs for Anchor-Audience Co-anchoring

requestJoinAnchor

This API is used to send a co-anchoring request (called by audience).



```
public abstract void requestJoinAnchor(String reason, int timeout, TRTCLiveRoomCall
```

The parameters are described below:

Parameter	Type	Description

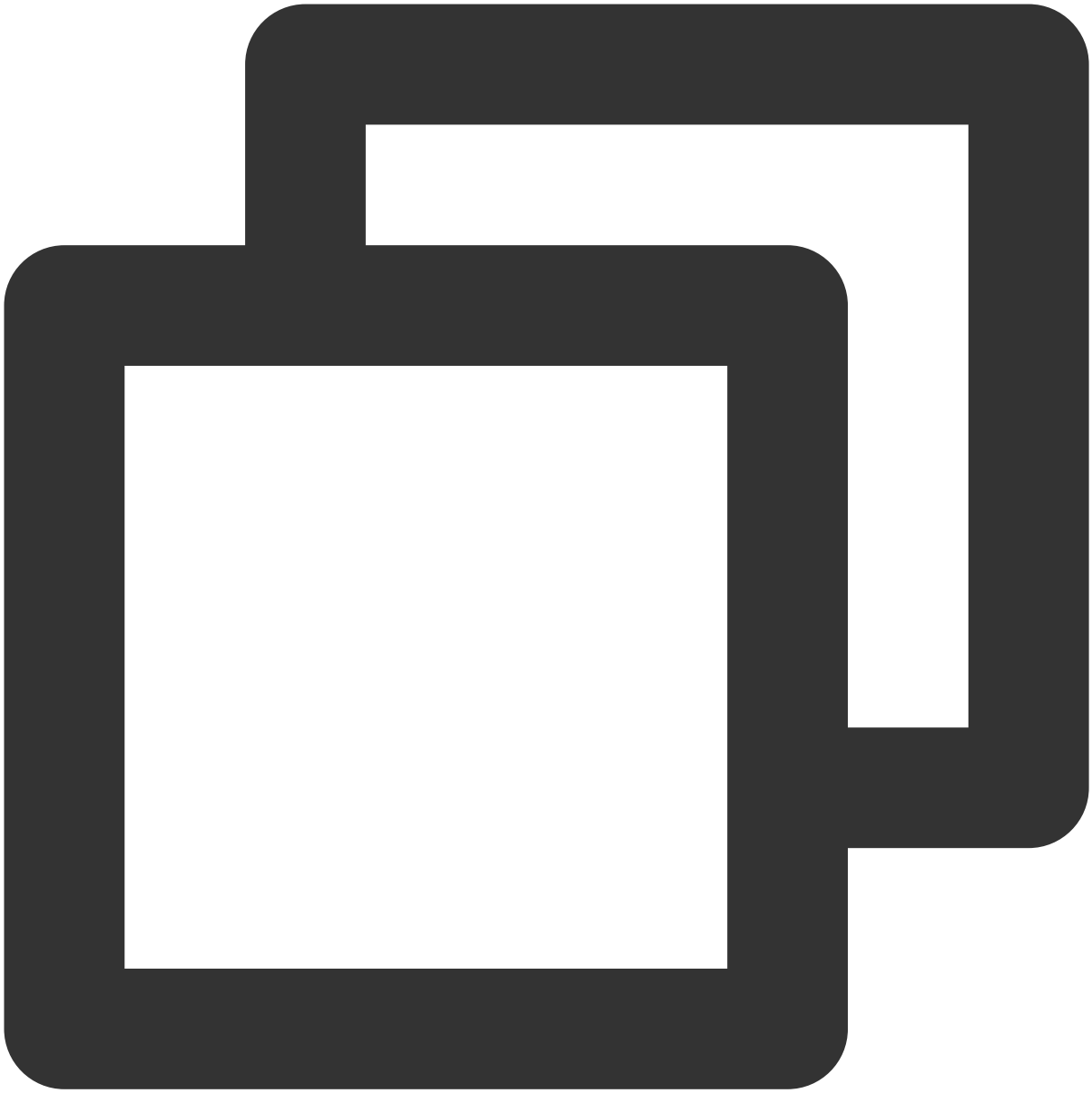
reason	String	Reason for co-anchoring
timeout	int	Timeout period
callback	ActionCallback	Callback of the anchor's response

The process of co-anchoring between anchors and audience members is as follows:

1. A **viewer** calls `requestJoinAnchor()` to send a co-anchoring request to the anchor.
2. The **anchor** receives the `onRequestJoinAnchor()` callback of `TRTCLiveRoomDelegate`.
3. The **anchor** calls `responseJoinAnchor()` to accept or reject the co-anchoring request.
4. The **viewer** receives the `responseCallback` callback, which carries the anchor's response.
5. If the request is accepted, the **viewer** calls `startCameraPreview()` to enable local camera preview.
6. The **viewer** calls `startPublish()` to push streams.
7. After the viewer starts pushing streams, the **anchor** receives the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate`.
8. The **anchor** calls `startPlay()` to play the co-anchoring viewer's video.
9. If there are other viewers co-anchoring with the anchor in the room, the new co-anchoring **viewer** will receive the `onAnchorEnter()` callback and can call `startPlay()` to play other co-anchoring viewers' video.

responseJoinAnchor

This API is used to respond to a co-anchoring request (called by anchor) after receiving the `onRequestJoinAnchor()` callback of `TRTCLiveRoomDelegate`.



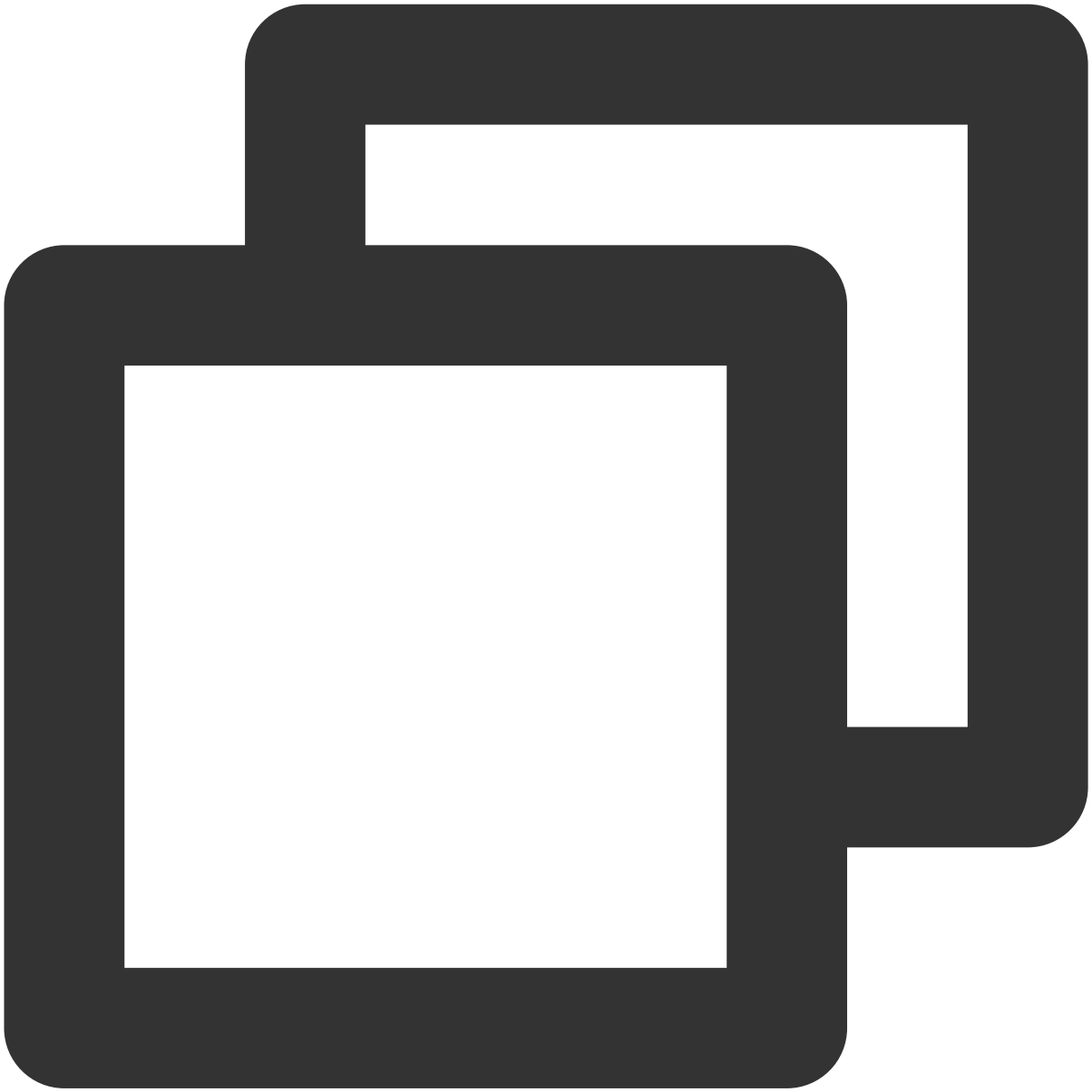
```
public abstract void responseJoinAnchor(String userId, boolean agree, String reason
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID of the audience member.
agree	boolean	`true` : accept; `false` : reject
reason	String	Reason for accepting/rejecting the request

kickoutJoinAnchor

This API is used to remove a user from co-anchoring (called by anchor). The removed user will receive the `onKickoutJoinAnchor()` callback of `TRTCLiveRoomDelegate`.



```
public abstract void kickoutJoinAnchor(String userId, TRTCLiveRoomCallback.ActionCa
```

The parameters are described below:

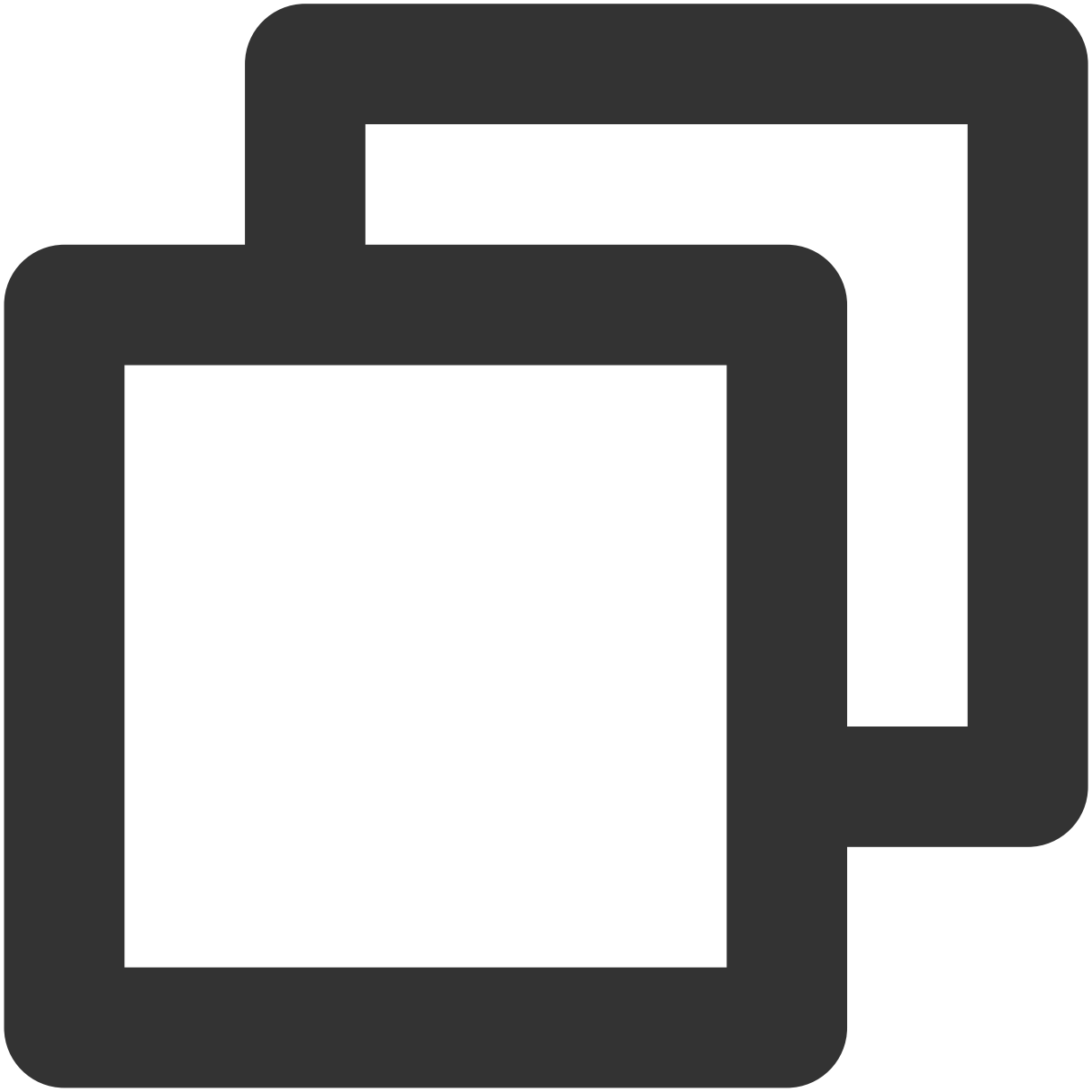
Parameter	Type	Description
userId	String	The ID of the co-anchoring user.

callback	ActionCallback	Callback for the operation

APIs for Cross-Room Communication

requestRoomPK

This API is used to send a cross-room communication request (called by anchor).



```
public abstract void requestRoomPK(int roomId, String userId, TRTCLiveRoomCallback.
```

The parameters are described below:

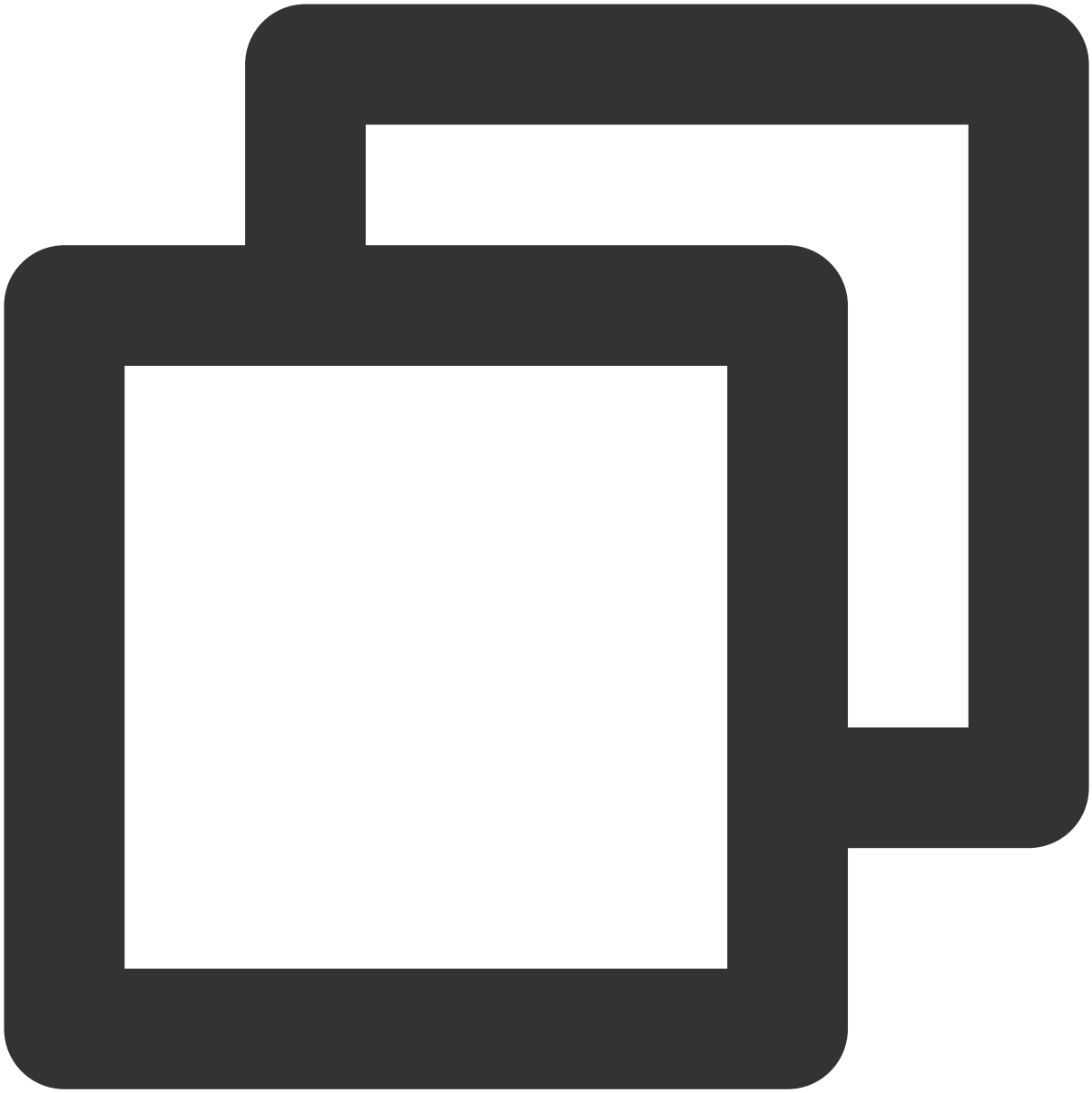
Parameter	Type	Description
roomId	int	Room ID of the anchor to call
userId	String	User ID of the anchor to call
callback	ActionCallback	Callback for requesting cross-room communication.

Anchors in different rooms can communicate with each other. The process of starting cross-room communication between anchor A and anchor B is as follows:

1. **Anchor A** calls `requestRoomPK()` to send a ccross-room communication request to anchor B.
2. **Anchor B** receives the `onRequestRoomPK()` callback of `TRTCLiveRoomDelegate` .
3. **Anchor B** calls `responseRoomPK()` to respond to the cross-room communication request.
4. If **anchor B** accepts the request, he or she would wait for the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate` and call `startPlay()` to play anchor A's video.
5. **Anchor A** receives the `responseCallback` callback, which carries anchor B’s response.
6. If the request is accepted, **anchor A** waits for the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate` and calls `startPlay()` to play anchor B’s video.

responseRoomPK

This API is used to respond to a cross-room communication request (called by anchor), after which the request sending anchor will receive the `responseCallback` passed in to `requestRoomPK` .



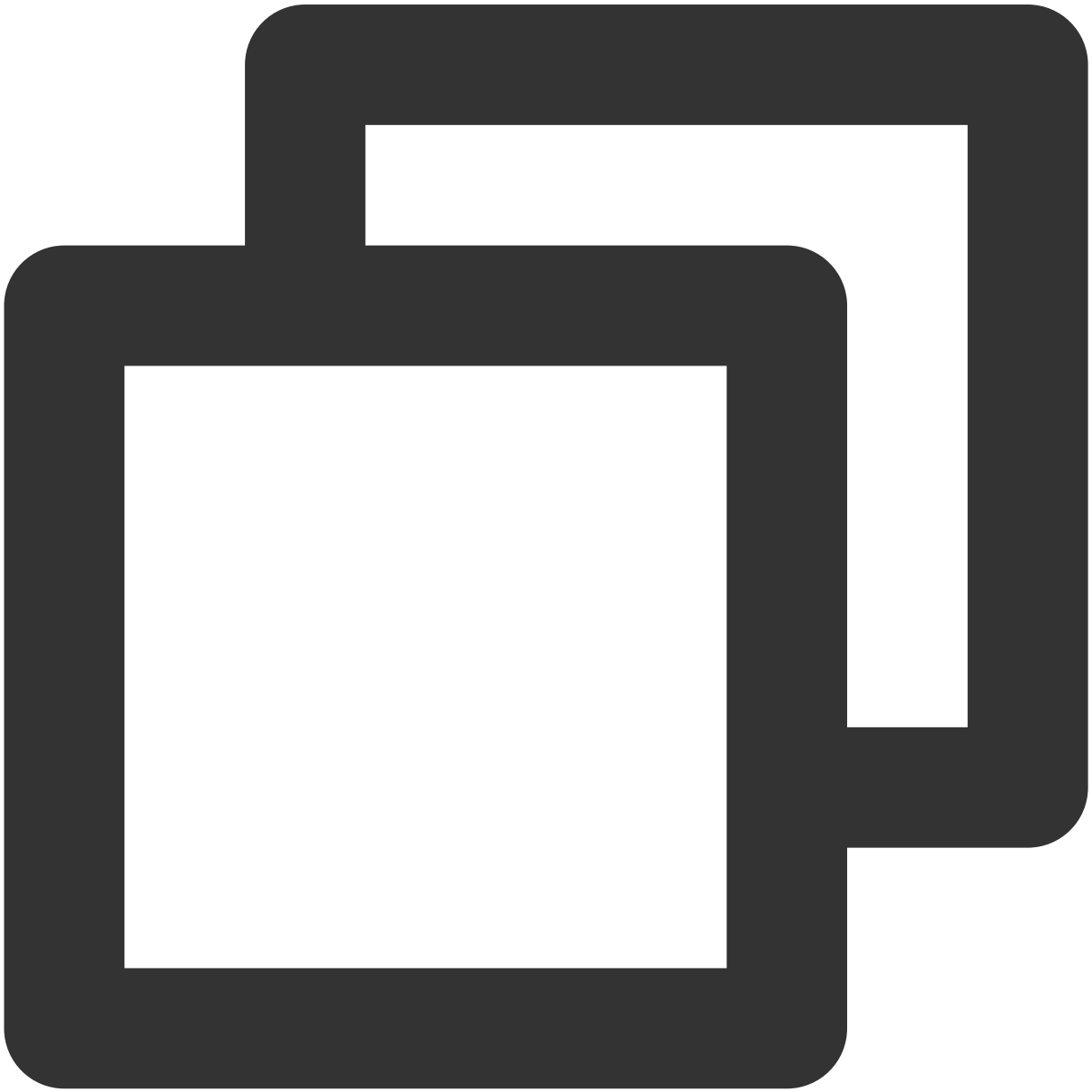
```
public abstract void responseRoomPK(String userId, boolean agree, String reason);
```

The parameters are described below:

Parameter	Type	Description
userId	String	User ID of the request sending anchor
agree	boolean	`true` : Accept; `false` : Reject
reason	String	Reason for accepting/rejecting the request

quitRoomPK

This API is used to quit cross-room communication. If either anchor quits cross-room communication, the other anchor will receive the `onQuitRoomPk()` callback of `TRTCLiveRoomDelegate`.



```
public abstract void quitRoomPK(TRTCLiveRoomCallback.ActionCallback callback);
```

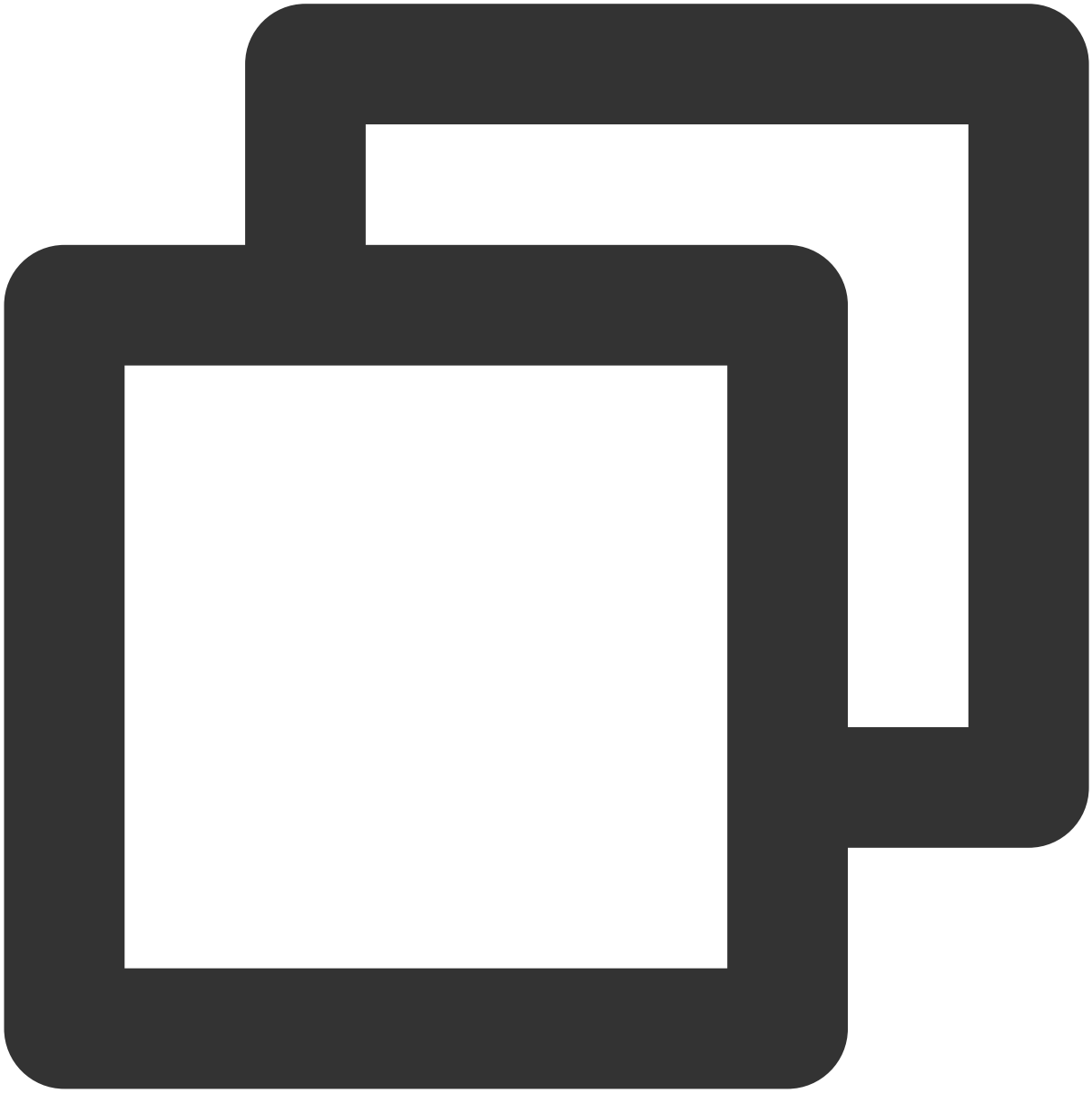
The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	Callback for the operation

Audio/Video APIs

switchCamera

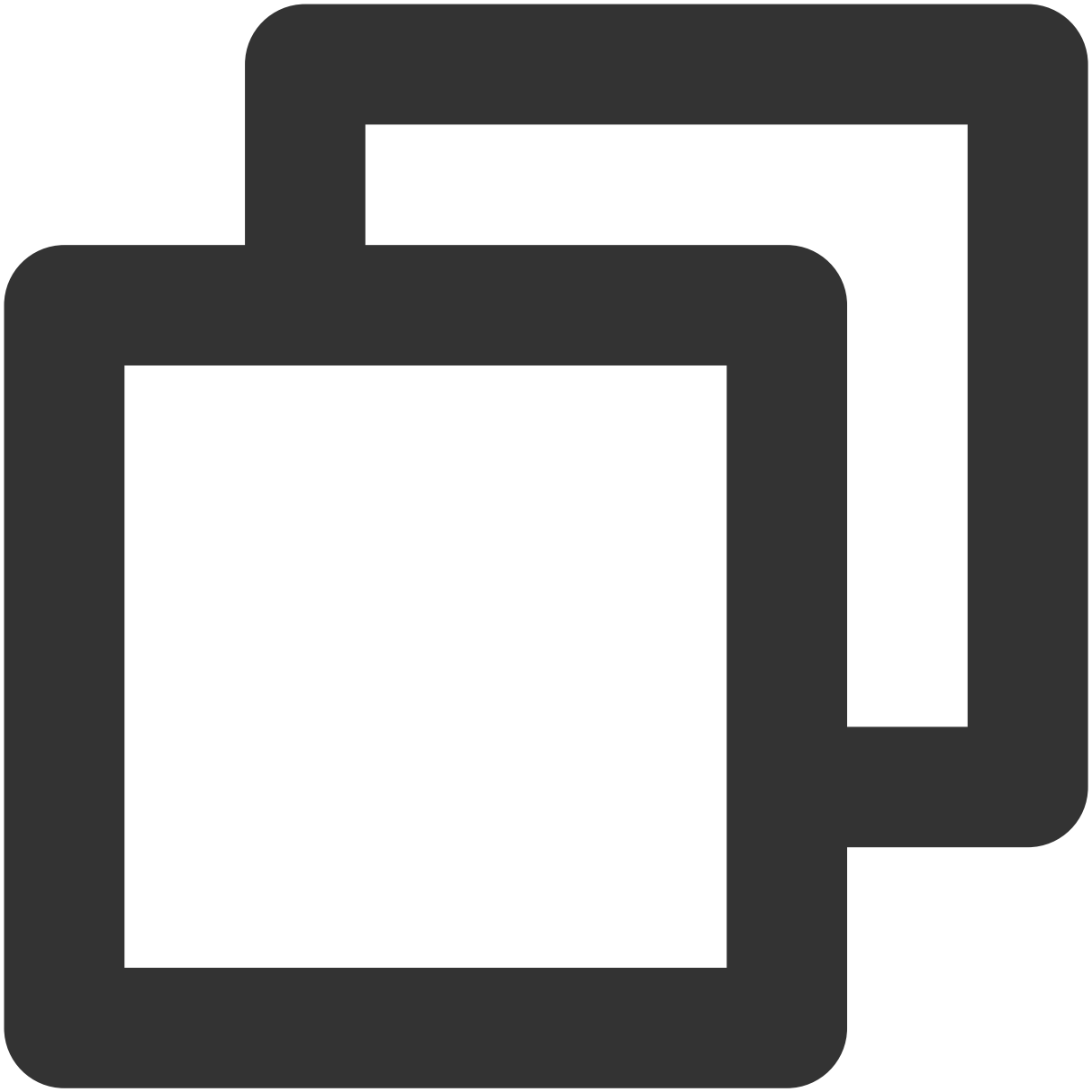
This API is used to switch between the front and rear cameras.



```
public abstract void switchCamera();
```

setMirror

This API is used to set the mirror mode.



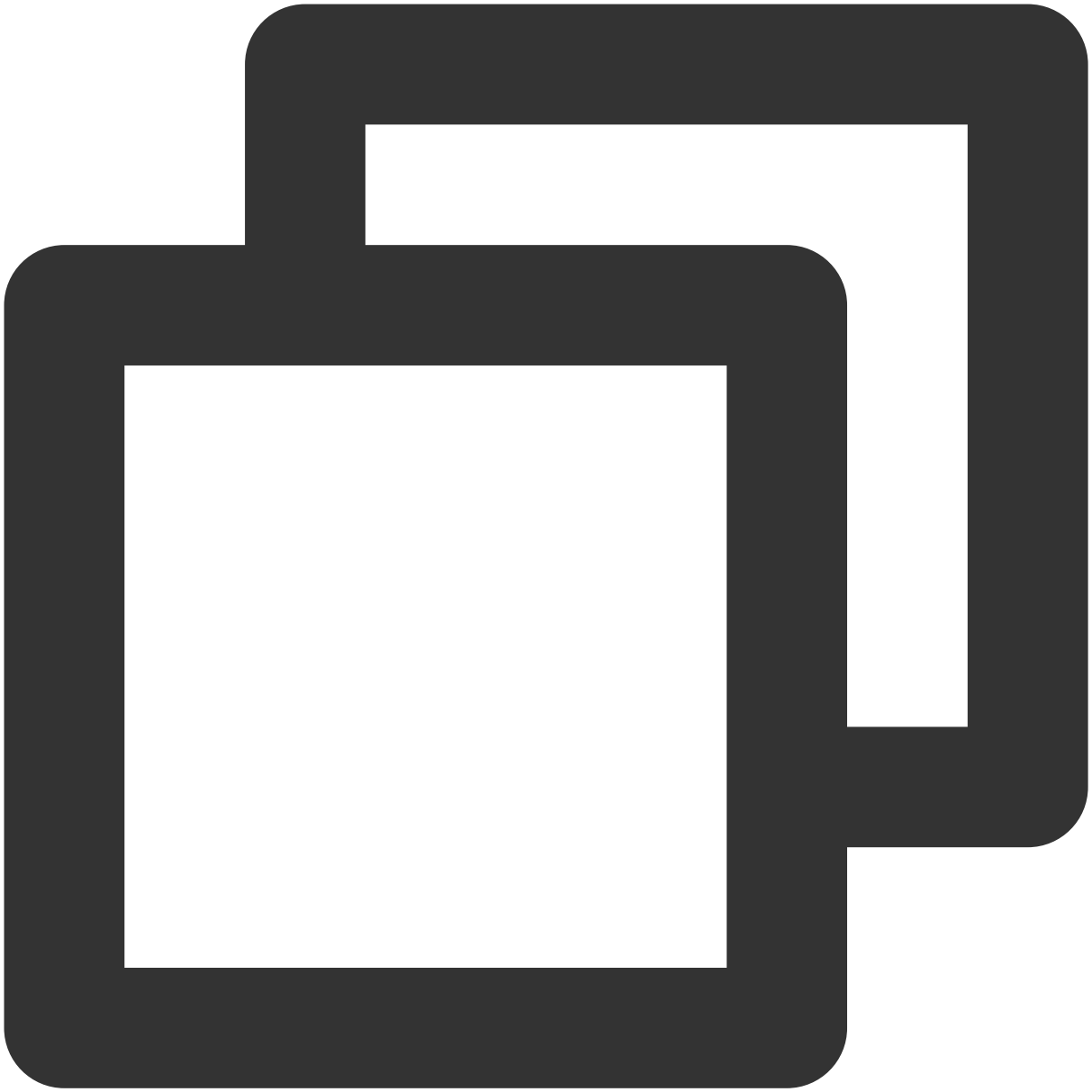
```
public abstract void setMirror(boolean isMirror);
```

The parameters are described below:

Parameter	Type	Description
isMirror	boolean	Enable/Disable mirroring

muteLocalAudio

This API is used to mute or unmute the local user.



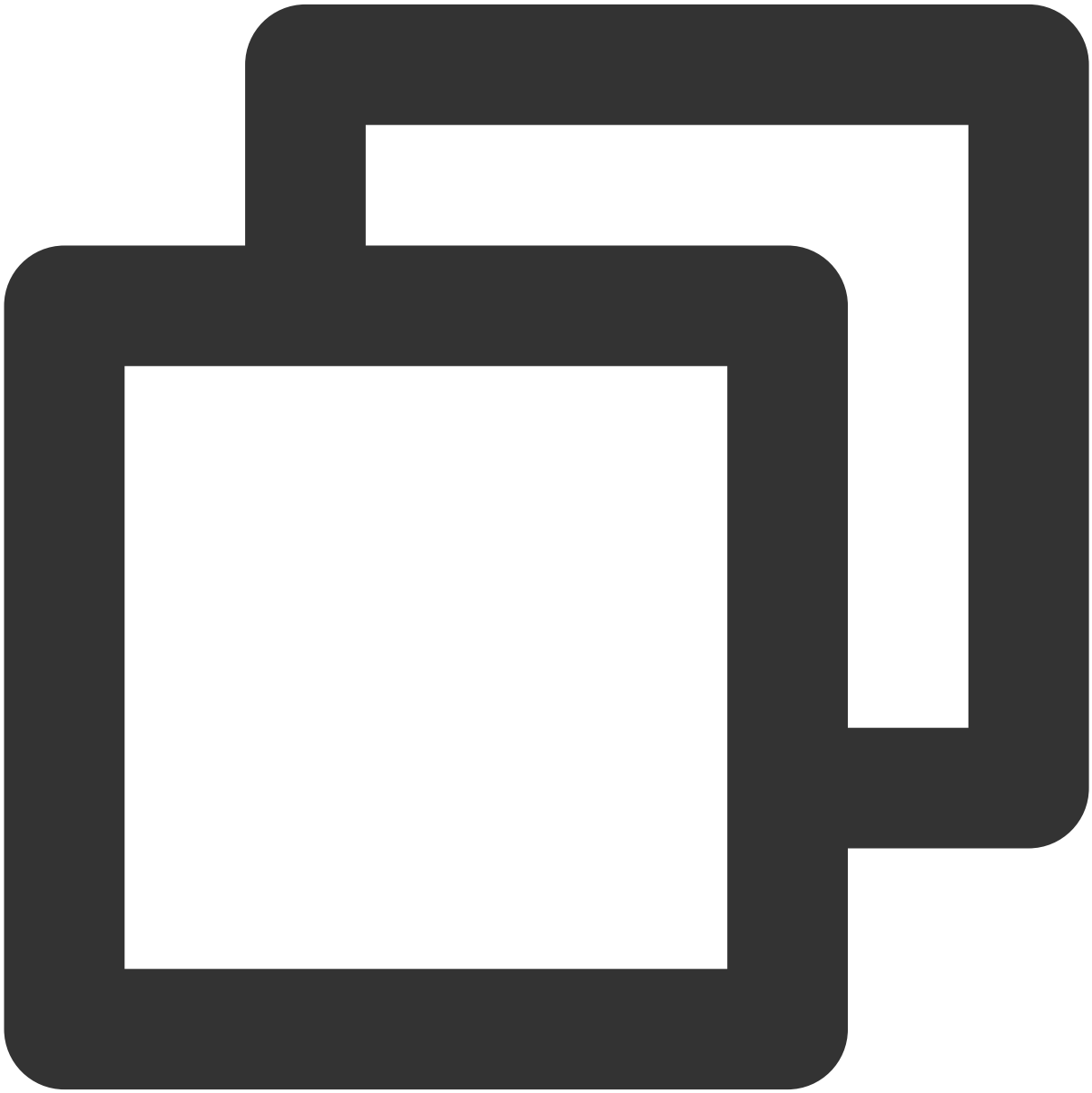
```
public abstract void muteLocalAudio(boolean mute);
```

The parameters are described below:

Parameter	Type	Description
mute	boolean	`true` : Mute; `false` : Unmute

muteRemoteAudio

This API is used to mute or unmute a remote user.



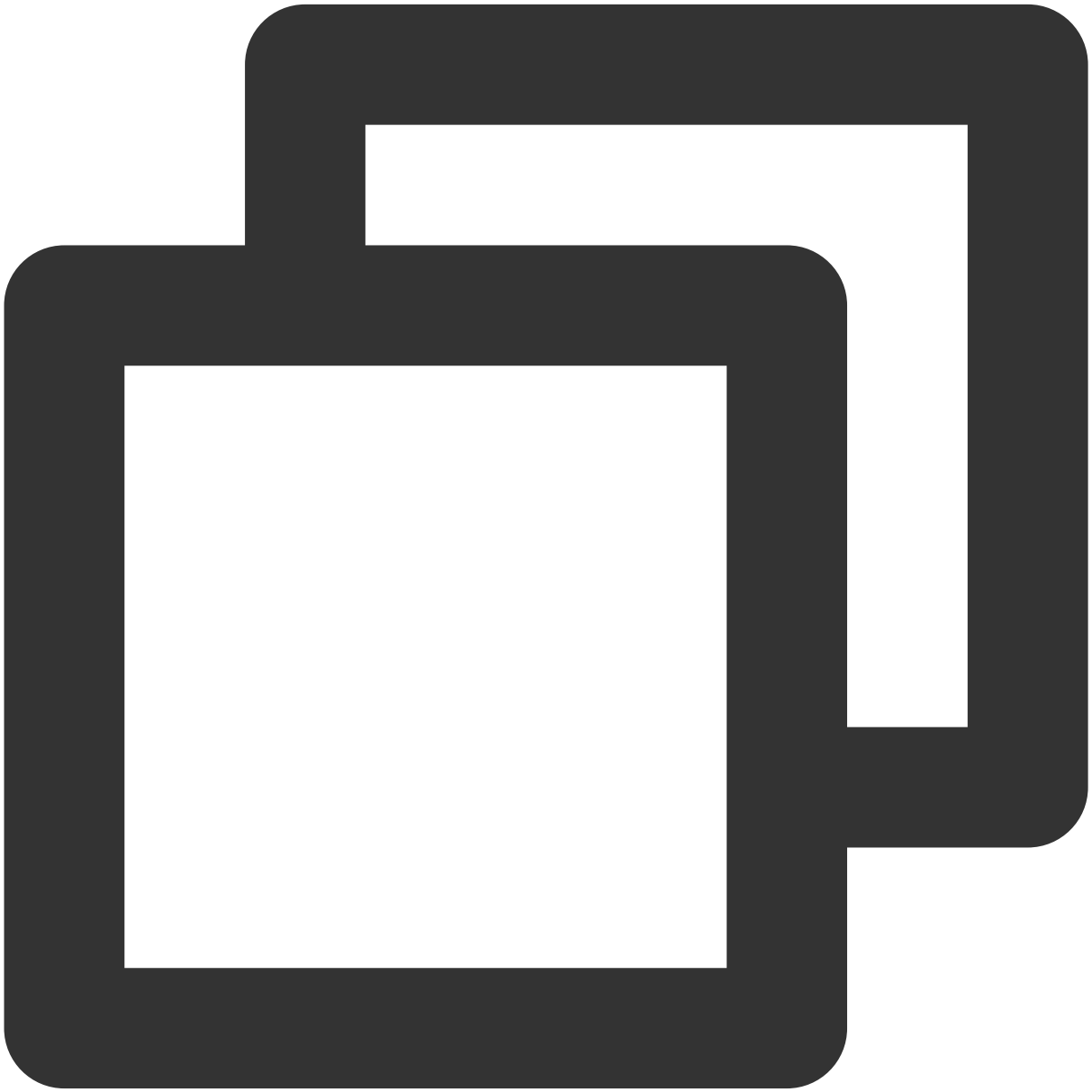
```
public abstract void muteRemoteAudio(String userId, boolean mute);
```

The parameters are described below:

Parameter	Type	Description
userId	String	ID of the remote user
mute	boolean	`true` : Mute; `false` : Unmute

muteAllRemoteAudio

This API is used to mute or unmute all remote users.



```
public abstract void muteAllRemoteAudio(boolean mute);
```

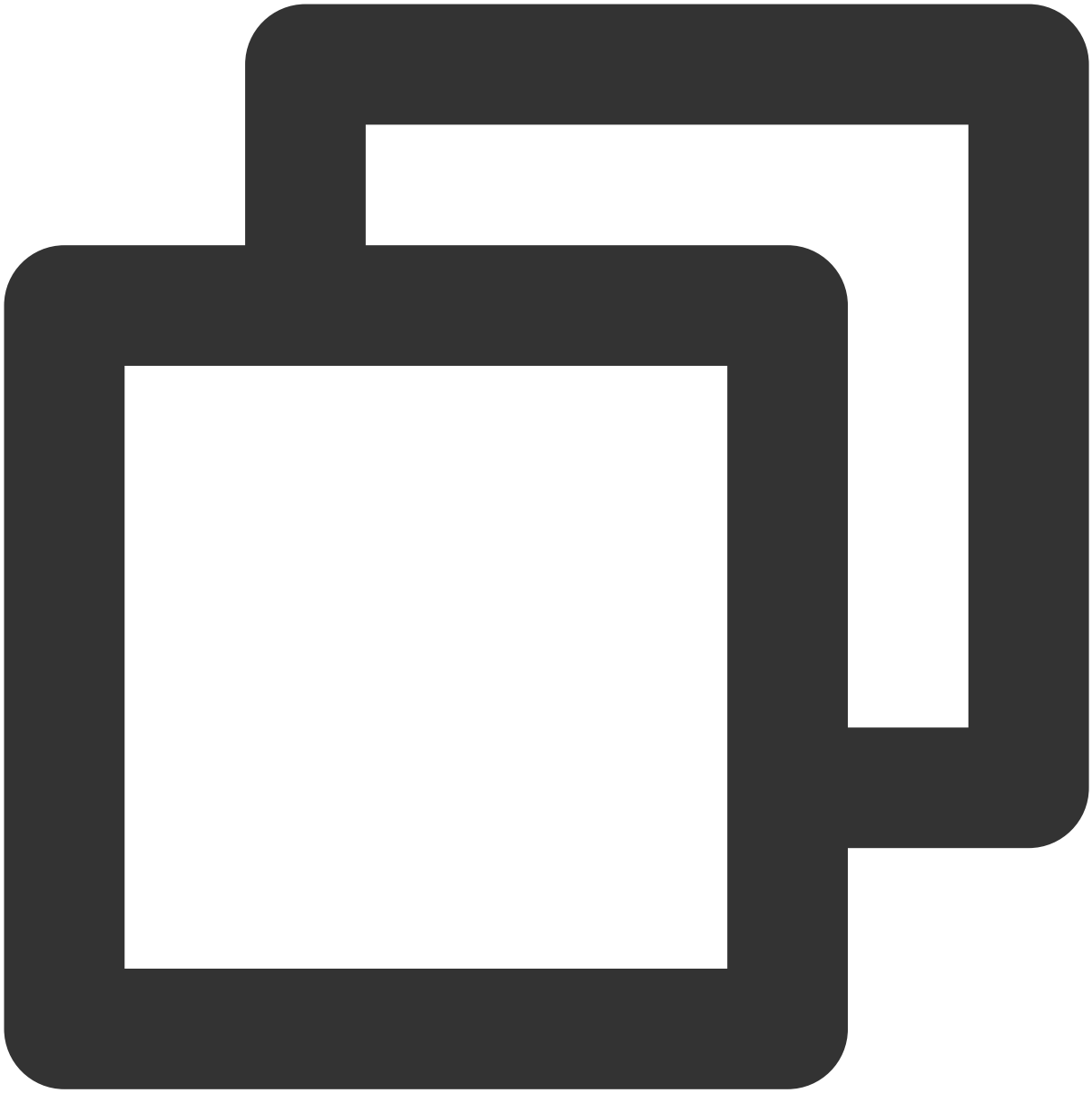
The parameters are described below:

Parameter	Type	Description
mute	boolean	`true` : Mute; `false` : Unmute

Background Music and Audio Effect APIs

getAudioEffectManager

This API is used to get the background music and audio effect management object TXAudioEffectManager.

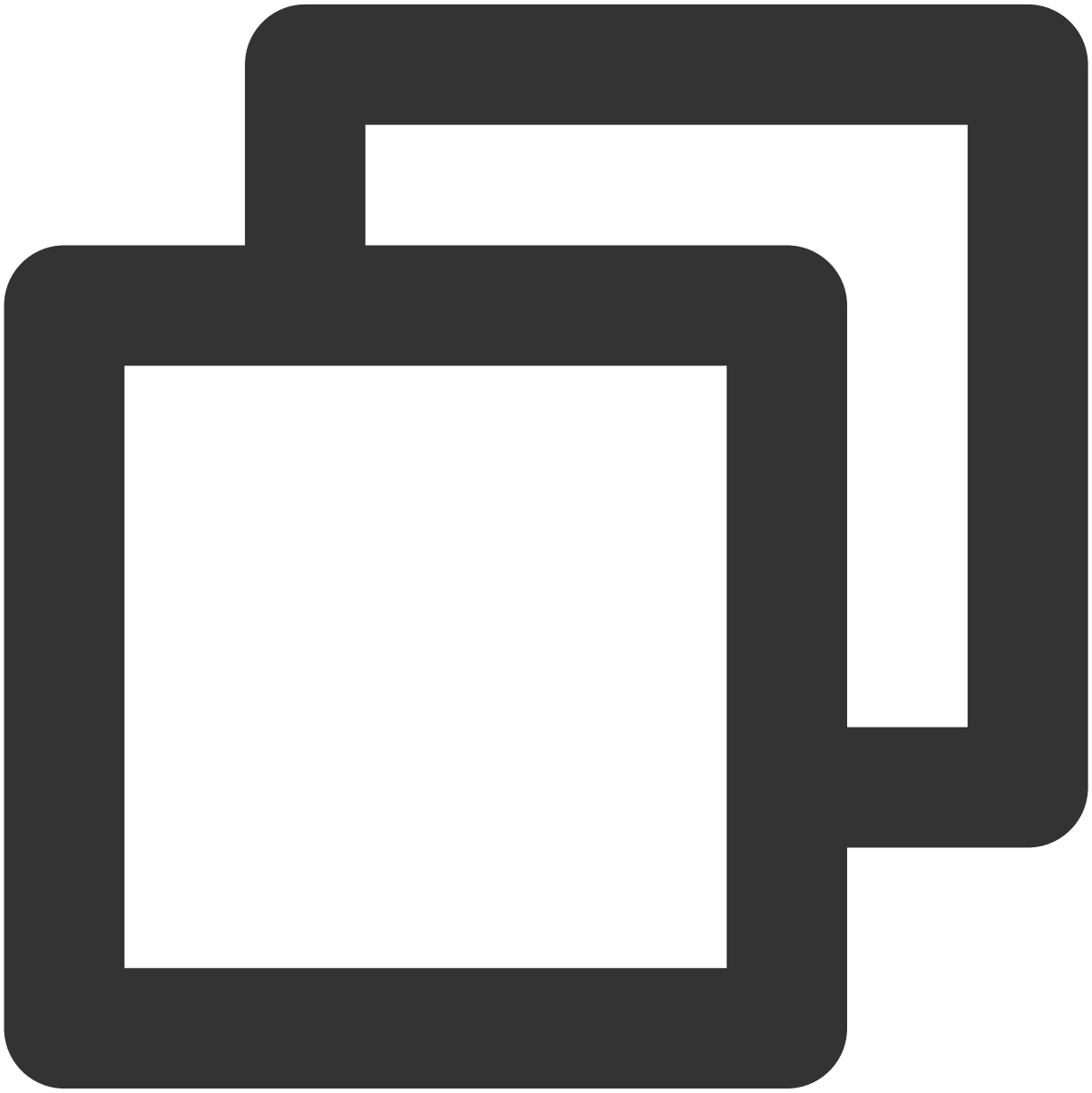


```
public abstract TXAudioEffectManager getAudioEffectManager();
```

Beauty Filter APIs

getBeautyManager

This API is used to get the beauty filter management object TXBeautyManager.



```
public abstract TXBeautyManager getBeautyManager();
```

You can do the following using `TXBeautyManager` :

Set the beauty filter style and apply effects including skin brightening, rosy skin, eye enlarging, face slimming, chin slimming, chin lengthening/shortening, face shortening, nose narrowing, eye brightening, teeth whitening, eye bag removal, wrinkle removal, and smile line removal.

Adjust the hairline, eye spacing, eye corners, lip shape, nose wings, nose position, lip thickness, and face shape.

Apply animated effects such as face widgets (materials).

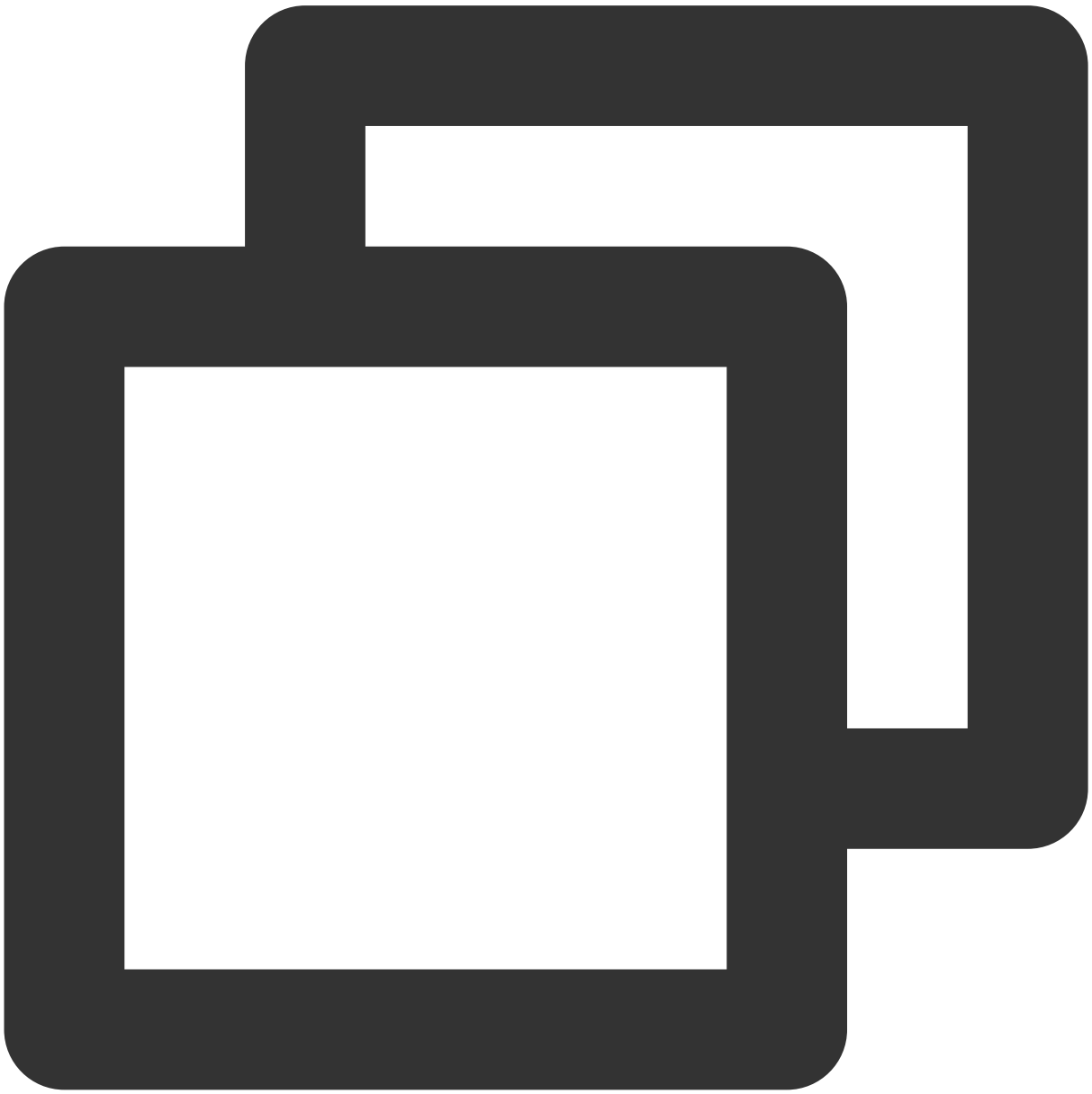
Add makeup effects.

Recognize gestures.

Message Sending APIs

sendRoomTextMsg

This API is used to broadcast a text chat message in a room, which is generally used for on-screen comments.



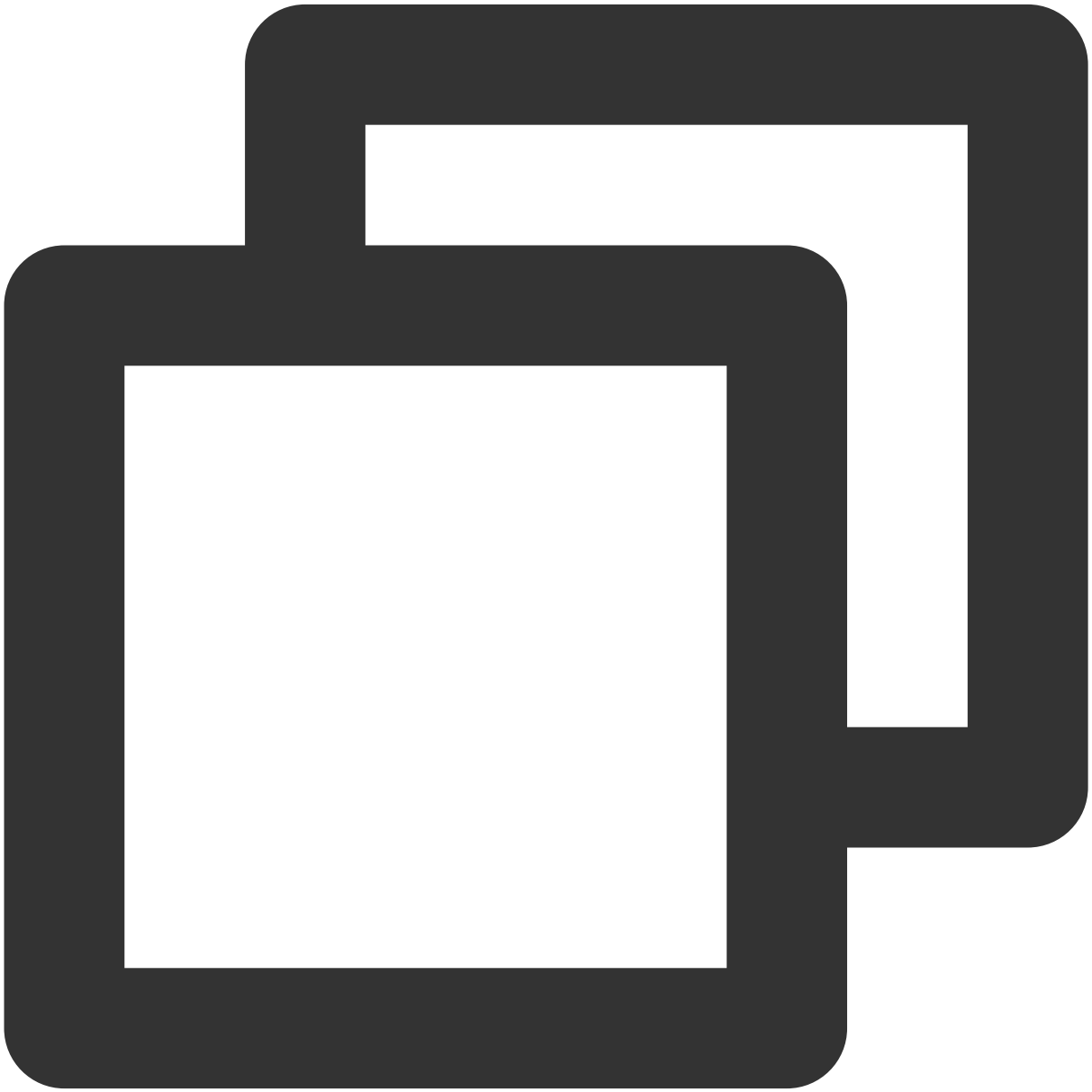
```
public abstract void sendRoomTextMsg(String message, TRTCLiveRoomCallback.ActionCal
```

The parameters are described below:

Parameter	Type	Description
message	String	Text message
callback	ActionCallback	Callback for the operation

sendRoomCustomMsg

This API is used to send a custom text message.



```
public abstract void sendRoomCustomMsg(String cmd, String message, TRTCLiveRoomCall
```

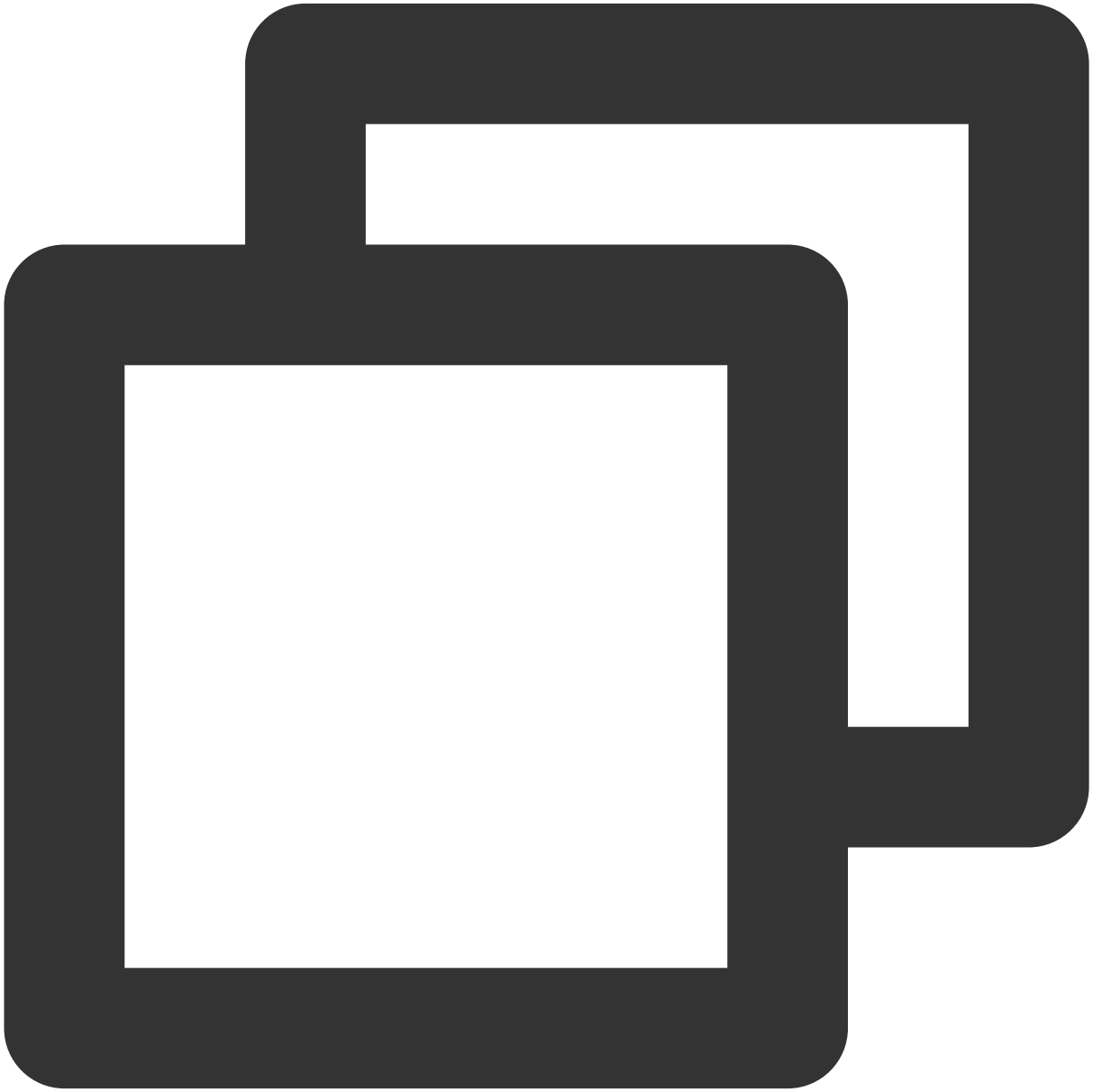
The parameters are described below:

Parameter	Type	Description
cmd	String	A custom command word used to distinguish between different message types
message	String	Text message
callback	ActionCallback	Callback for the operation

Debugging APIs

showVideoDebugLog

This API is used to specify whether to display debugging information on the UI.



```
public abstract void showVideoDebugLog(boolean isShow);
```

The parameters are described below:

Parameter	Type	Description

isShow	boolean	Show/Hide debugging information

`TRTCLiveRoomDelegate` Event Callback APIs

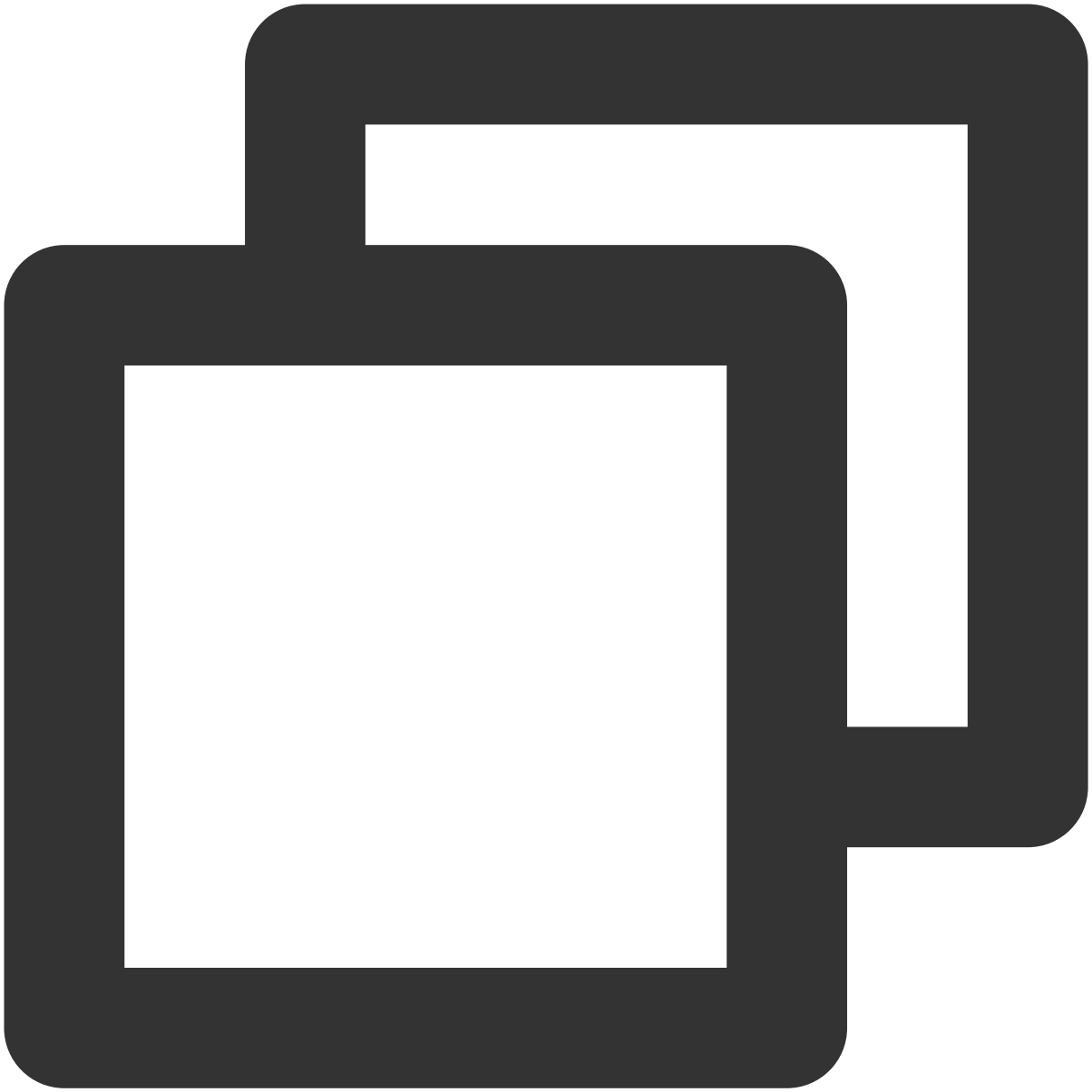
Common Event Callback APIs

onError

Callback for error.

Note

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users if necessary.



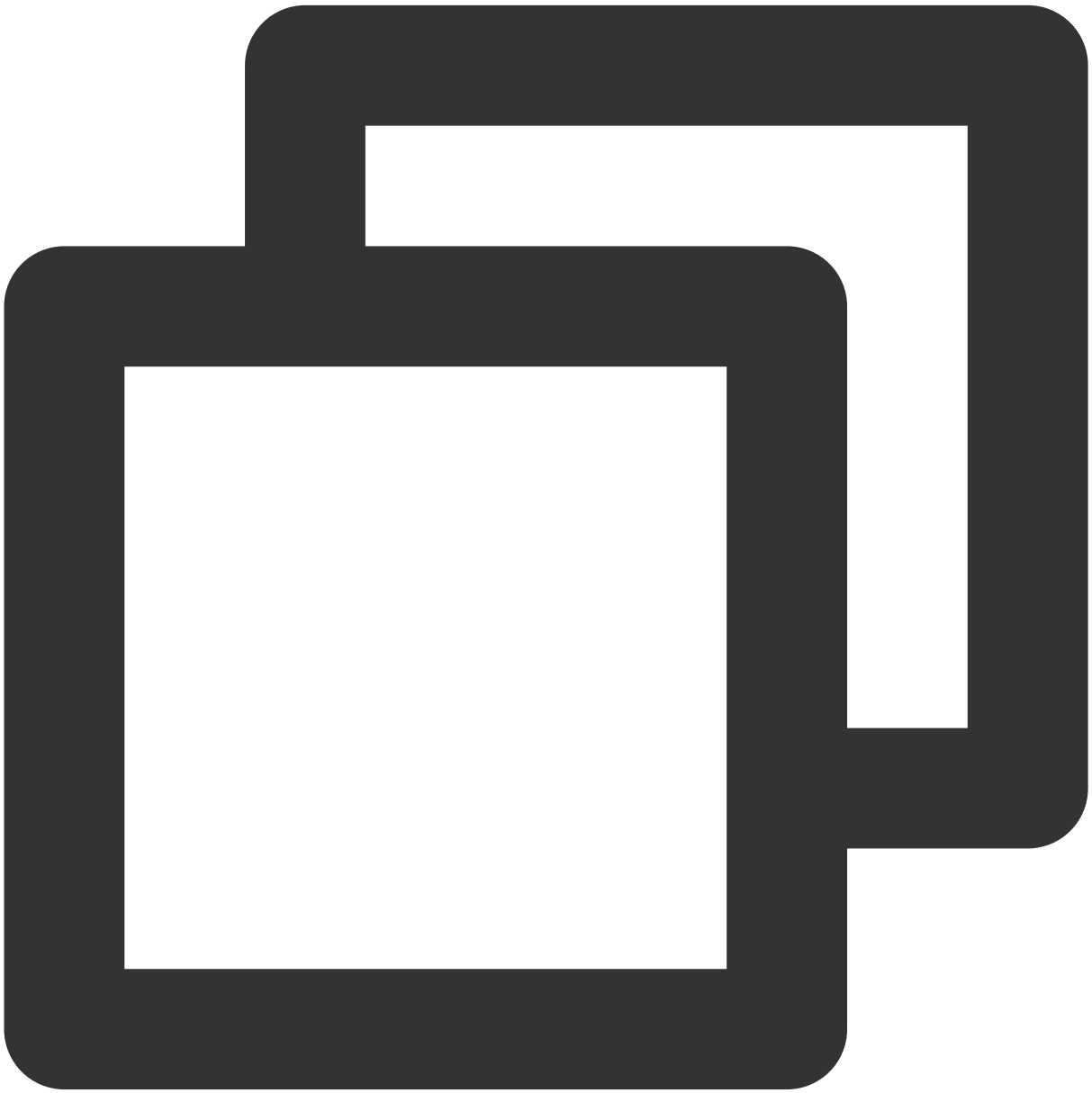
```
void onError(int code, String message);
```

The parameters are described below:

Parameter	Type	Description
code	int	Error code
message	String	Error message

onWarning

Callback for warning.



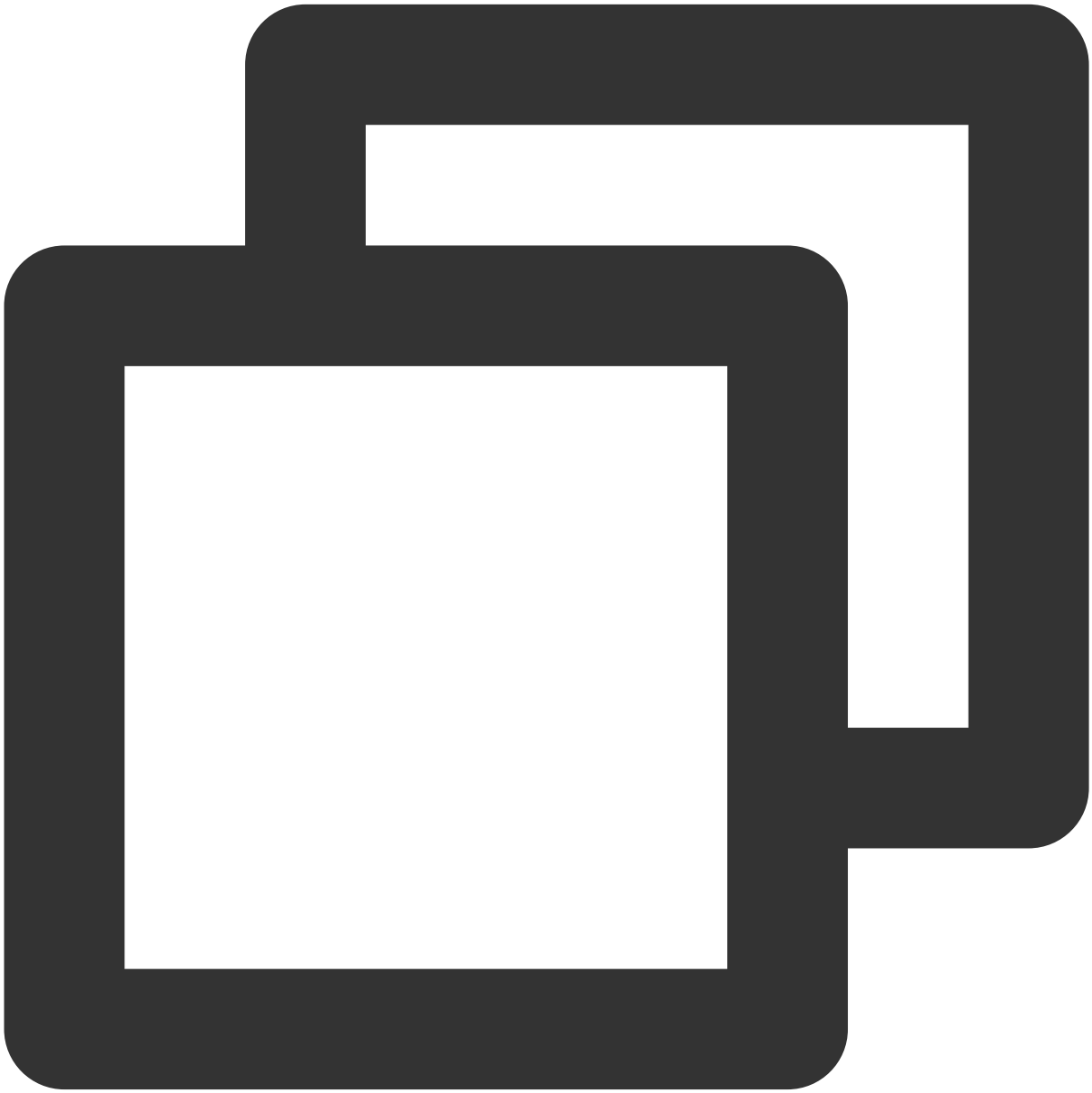
```
void onWarning(int code, String message);
```

The parameters are described below:

Parameter	Type	Description
code	int	Error code
message	String	Warning message

onDebugLog

Callback for log.



```
void onDebugLog(String message);
```

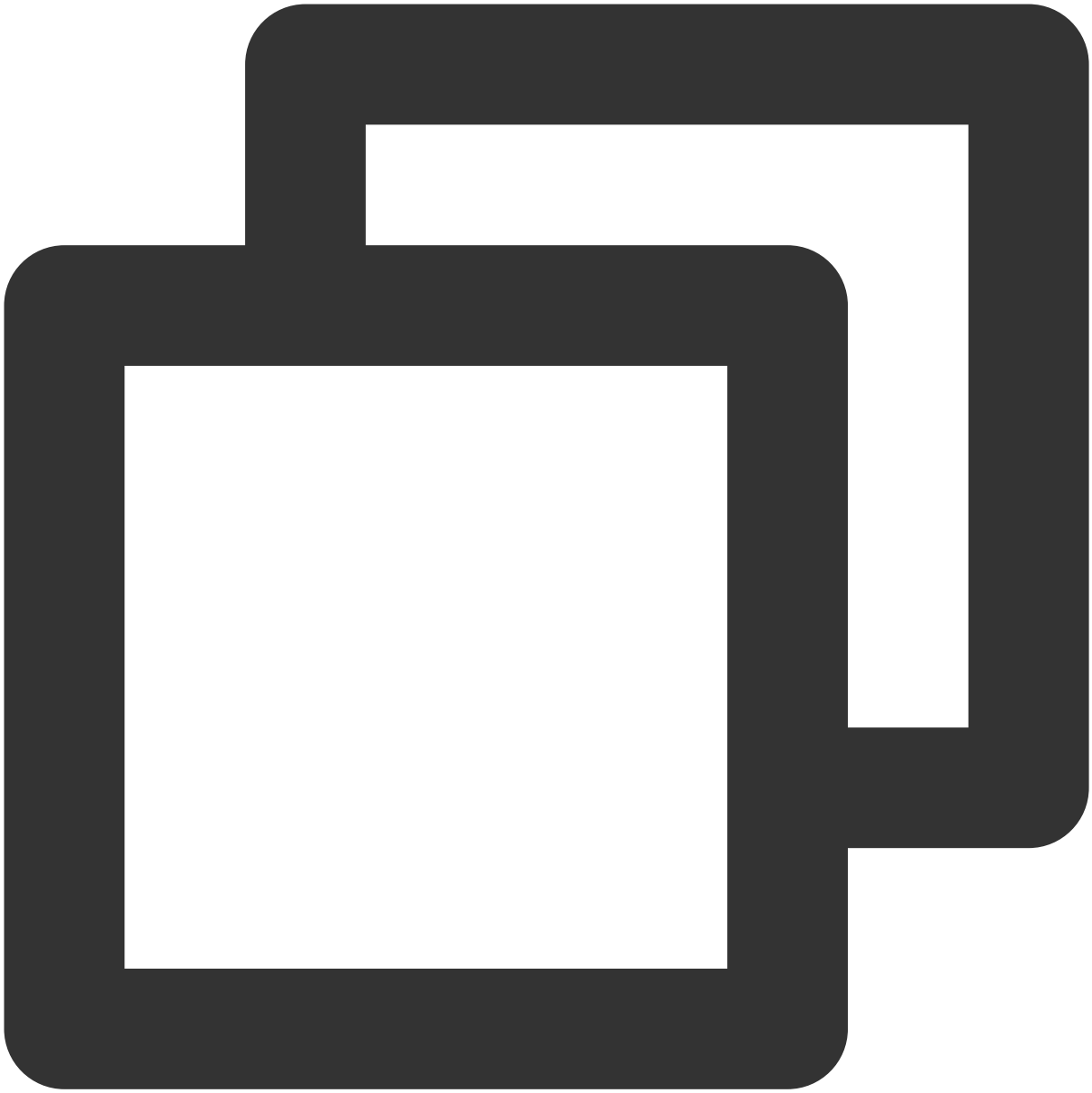
The parameters are described below:

Parameter	Type	Description
message	String	Log information

Room Event Callback APIs

onRoomDestroy

Callback for room termination. All users in a room will receive this callback after the anchor leaves the room.



```
void onRoomDestroy(String roomId);
```

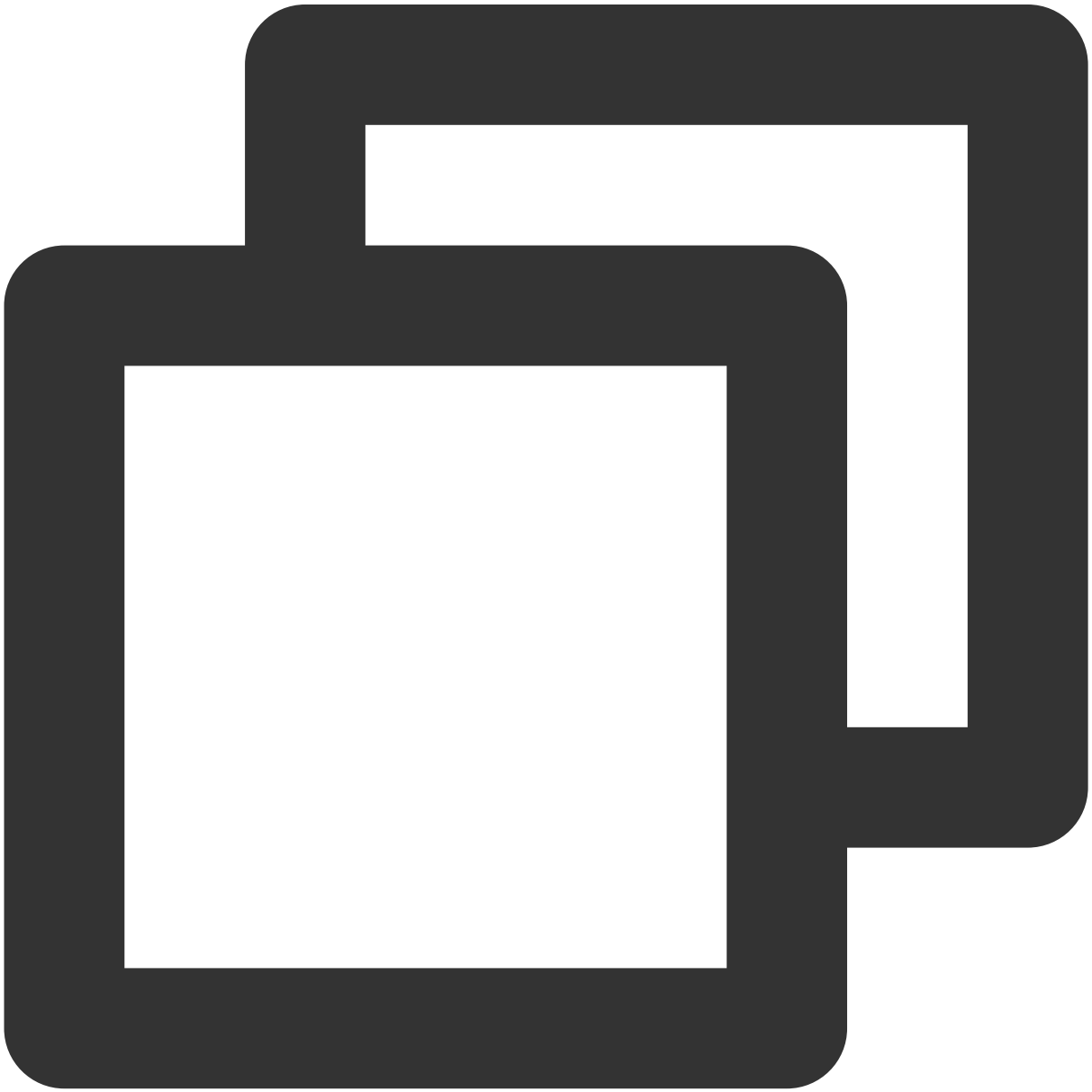
The parameters are described below:

Parameter	Type	Description

roomId	String	Room ID

onRoomInfoChange

Callback for change of room information. This callback is usually used to notify users of room status change in co-anchoring and cross-room communication scenarios.



```
void onRoomInfoChange(TRTCLiveRoomDef.TRTCLiveRoomInfo roomInfo);
```

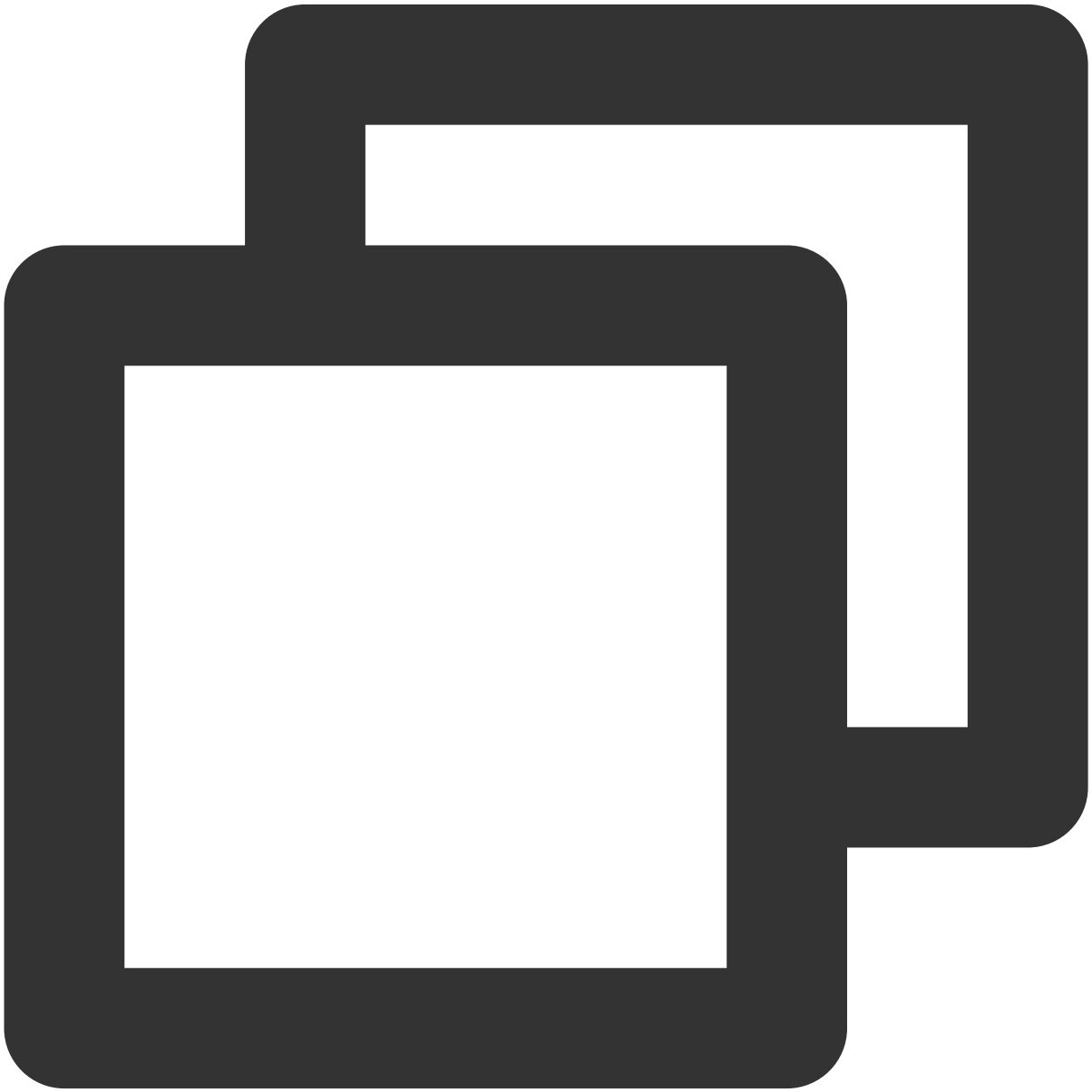
The parameters are described below:

Parameter	Type	Description
roomInfo	TRTCLiveRoomInfo	Room information

Callback APIs for Entry/Exit of Anchors/Audience

onAnchorEnter

Callback for a new anchor/co-anchoring viewer. The audience will receive this callback when there is a new anchor/co-anchoring viewer in the room and can call `startPlay()` of `TRTCLiveRoom` to play the video of the anchor/co-anchoring viewer.



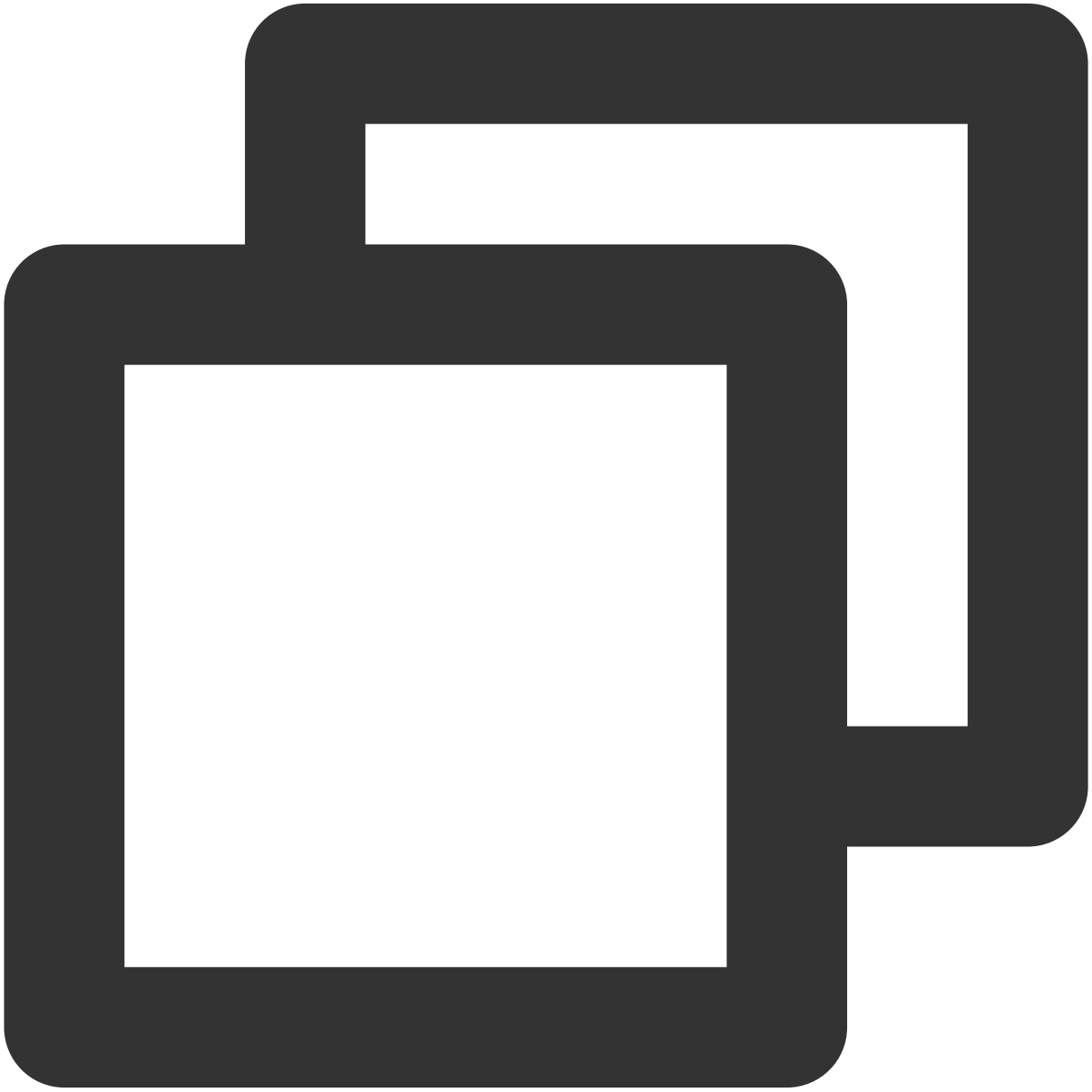
```
void onAnchorEnter(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	User ID of the new anchor/co-anchoring viewer

onAnchorExit

Callback for the quitting of an anchor/co-anchoring viewer. The anchors and co-anchoring viewers in a room will receive this callback after an anchor/co-anchoring viewer quits cross-room communication/co-anchoring and can call `stopPlay()` of `TRTCLiveRoom` to stop playing the video of the anchor/co-anchoring viewer.



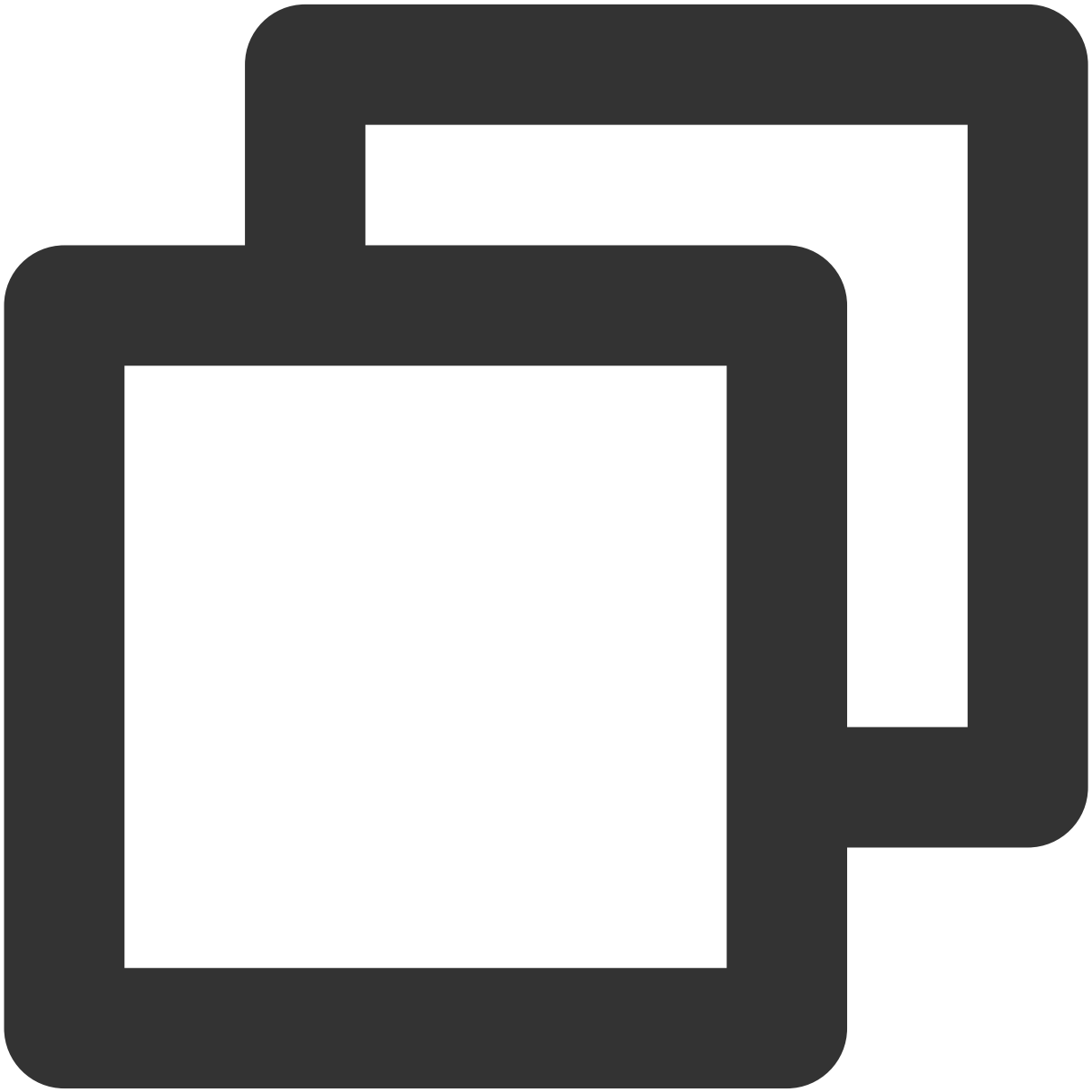
```
void onAnchorExit(String userId);
```

The parameters are described below:

Parameter	Type	Description
userId	String	ID of the user who quit

onAudienceEnter

Callback for room entry by a viewer.



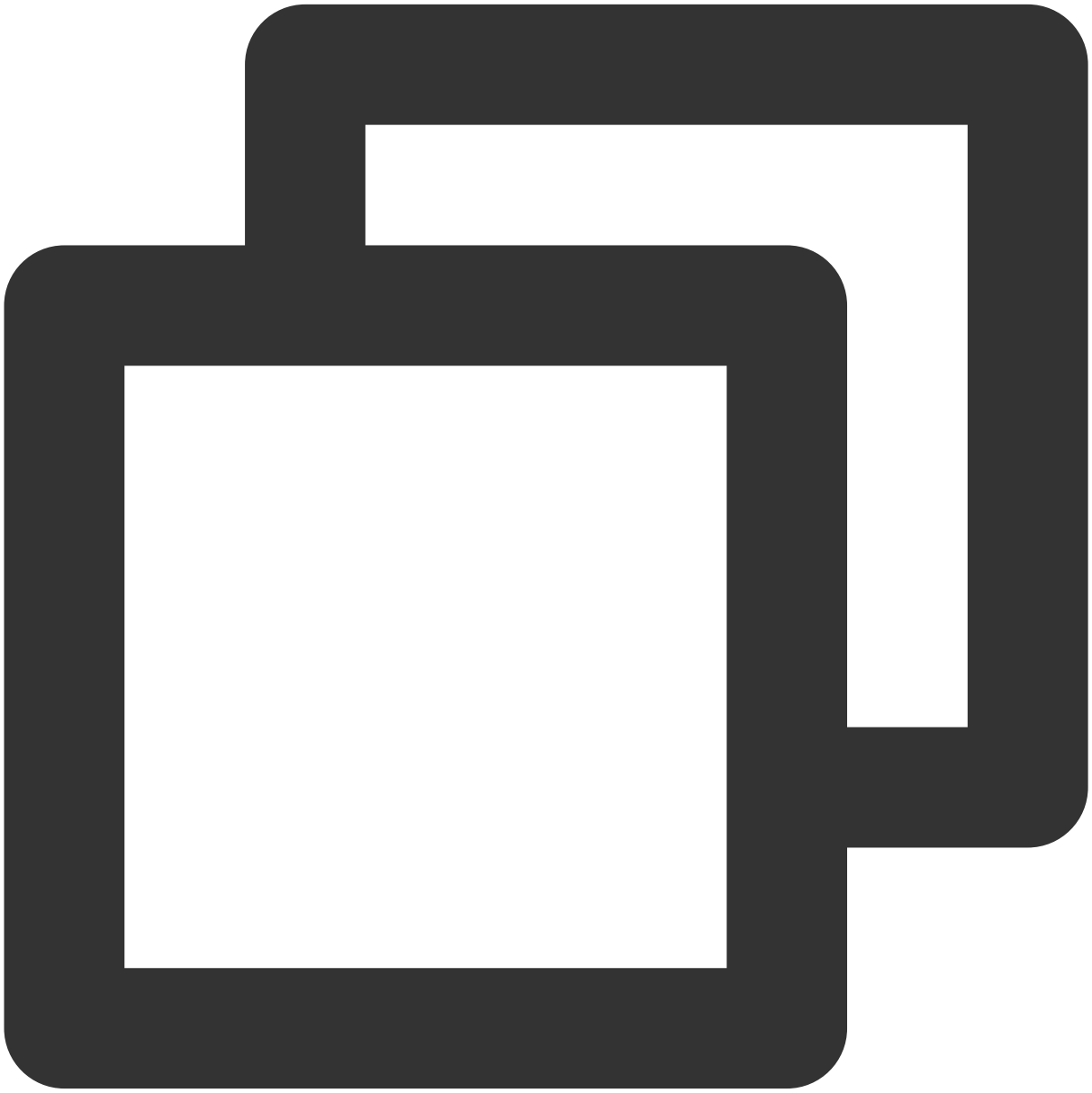
```
void onAudienceEnter(TRTCLiveRoomDef.TRTCLiveUserInfo userInfo);
```

The parameters are described below:

Parameter	Type	Description
userInfo	TRTCLiveUserInfo	Information of the viewer who entered the room

onAudienceExit

Callback for room exit by a viewer.



```
void onAudienceExit(TRTCLiveRoomDef.TRTCLiveUserInfo userInfo);
```

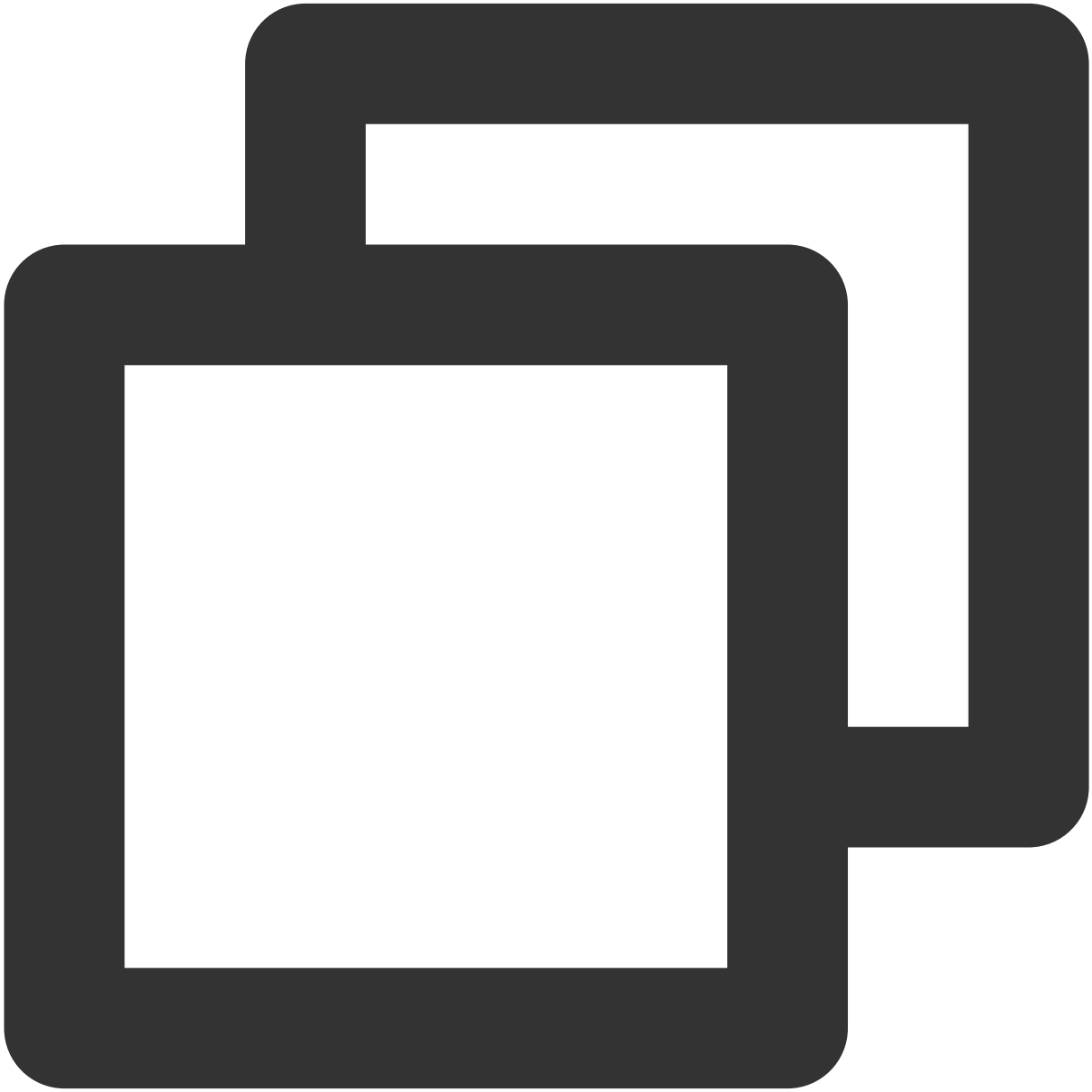
The parameters are described below:

Parameter	Type	Description
userInfo	TRTCLiveUserInfo	Information of the viewer who left the room

Callback APIs Audience-Anchor Co-anchoring Events

onRequestJoinAnchor

Callback for receiving a co-anchoring request from a viewer.



```
void onRequestJoinAnchor(TRTCLiveRoomDef.TRTCLiveUserInfo userInfo, String reason,
```

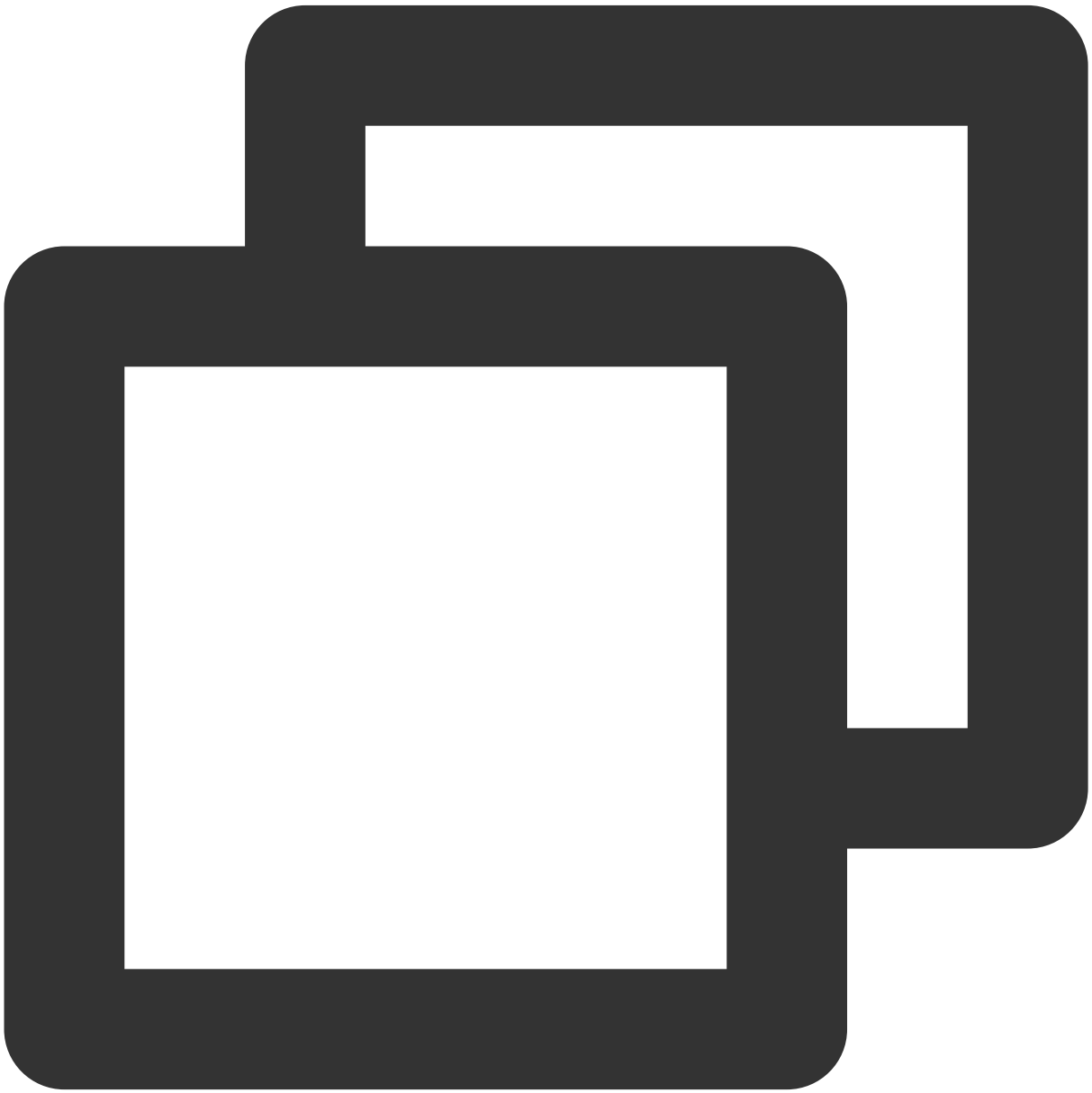
The parameters are described below:

Parameter	Type	Description

userInfo	TRTCLiveUserInfo	Information of the viewer who requested co-anchoring
reason	String	Reason for co-anchoring
timeout	int	Timeout period for response from the anchor. If the anchor does not respond to the request within the period, it will be discarded automatically.

onKickoutJoinAnchor

Callback for being removed from co-anchoring. After receiving this callback, a co-anchoring viewer needs to call `stopPublish()` of `TRTCLiveRoom` to quit co-anchoring.

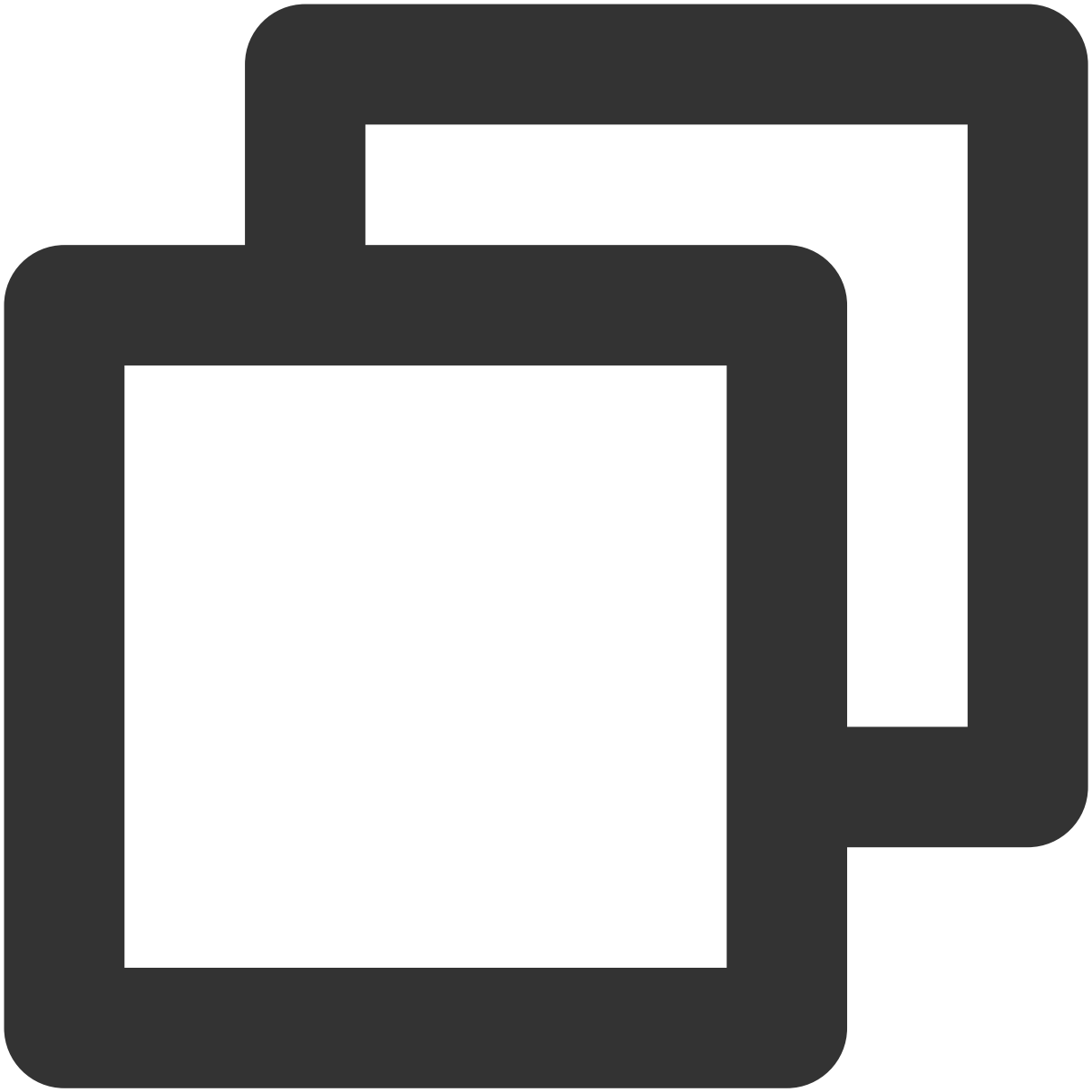


```
void onKickoutJoinAnchor();
```

Callback APIs for Cross-Room Communication Events

onRequestRoomPK

Callback for receiving a cross-room communication request. If an anchor accepts the request, he or she should wait for the `onAnchorEnter()` callback of `TRTCLiveRoomDelegate` and call `startPlay()` to play the other anchor's video.



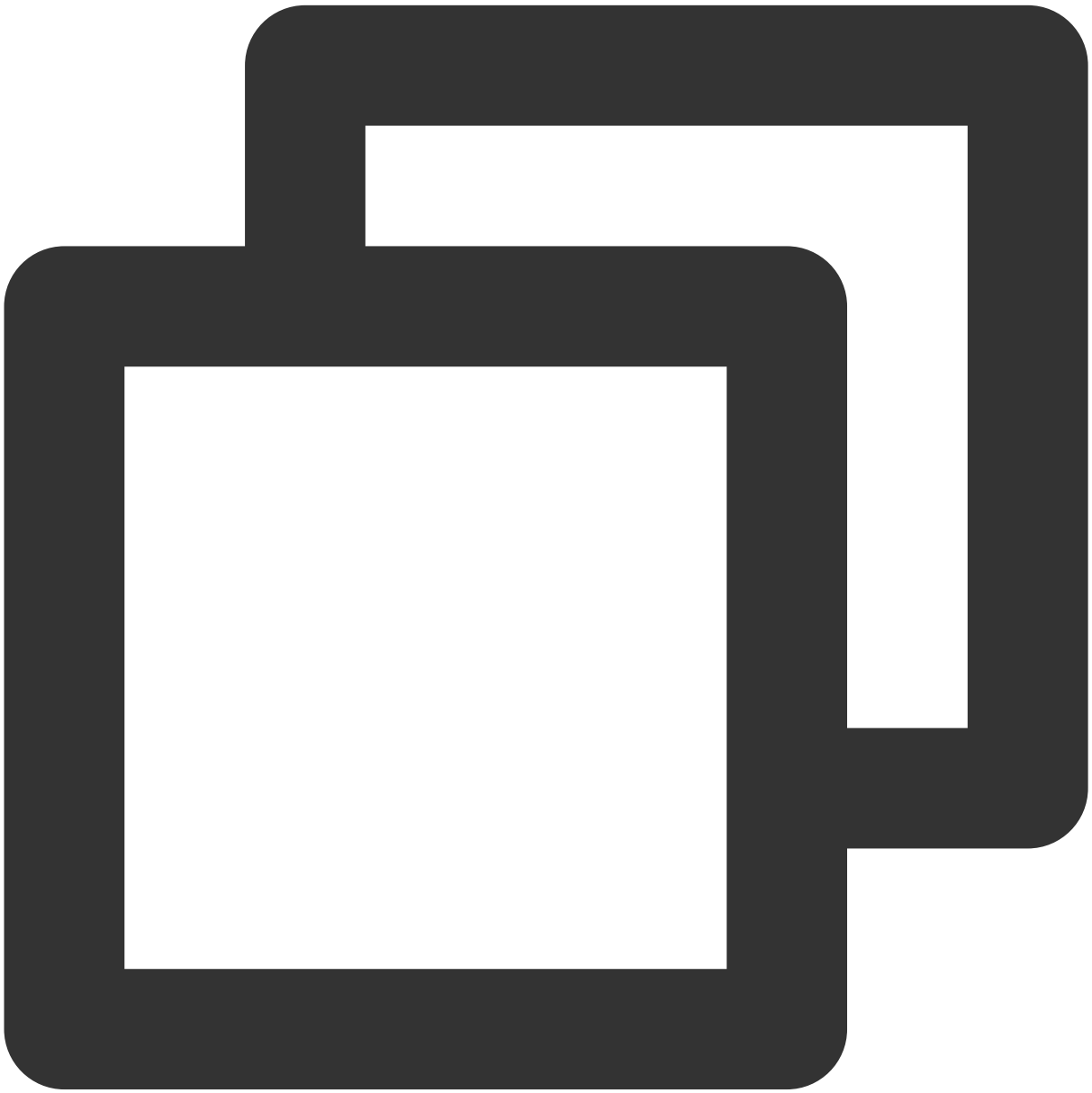
```
void onRequestRoomPK(TRTCLiveRoomDef.TRTCLiveUserInfo userInfo, int timeout);
```

The parameters are described below:

Parameter	Type	Description
userInfo	TRTCLiveUserInfo	Information of the anchor who requested cross-room communication.
timeout	int	Timeout period for response from the anchor

onQuitRoomPK

Callback for ending cross-room communication.

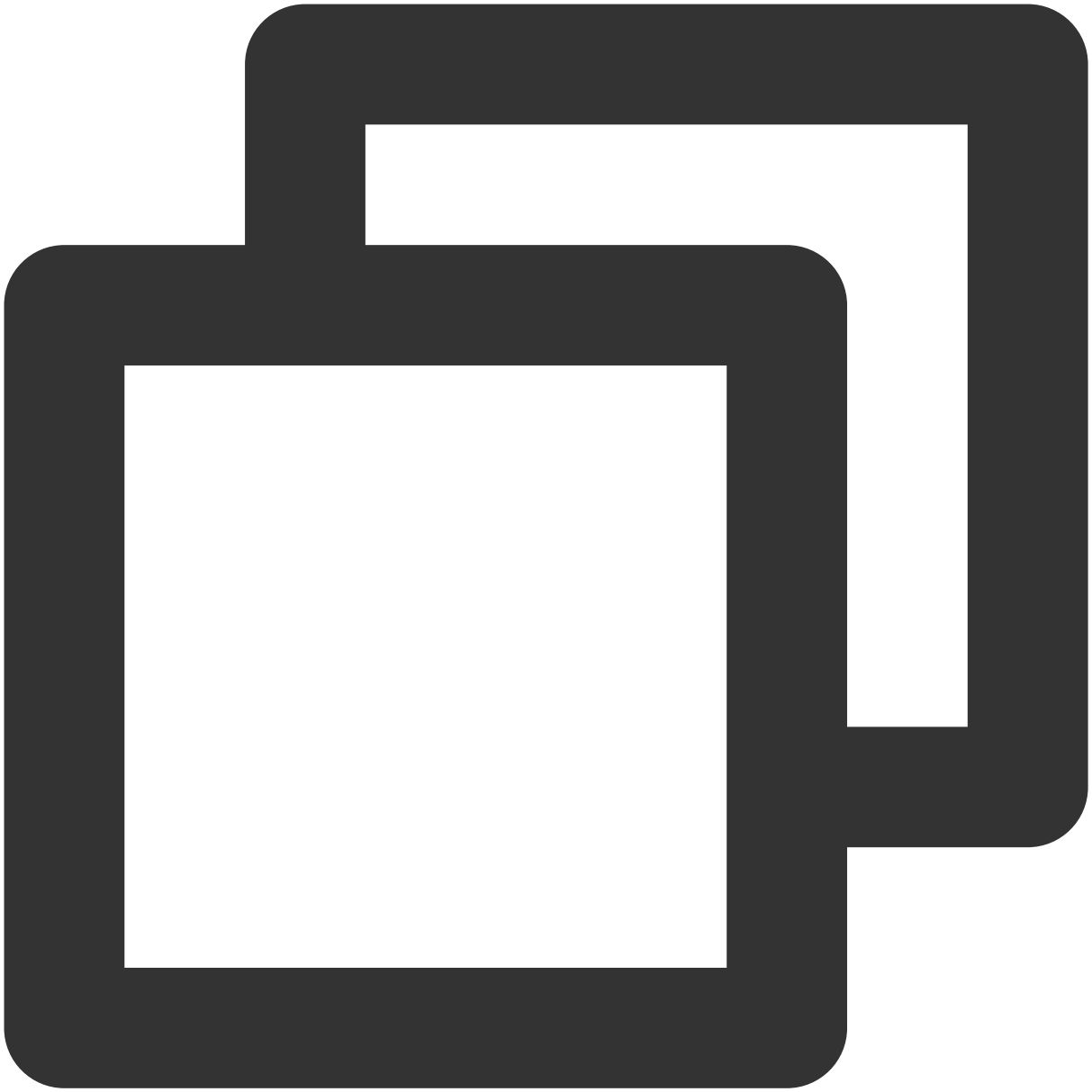


```
void onQuitRoomPK();
```

Message Event Callback APIs

onRecvRoomTextMsg

Callback for receiving a text chat message.



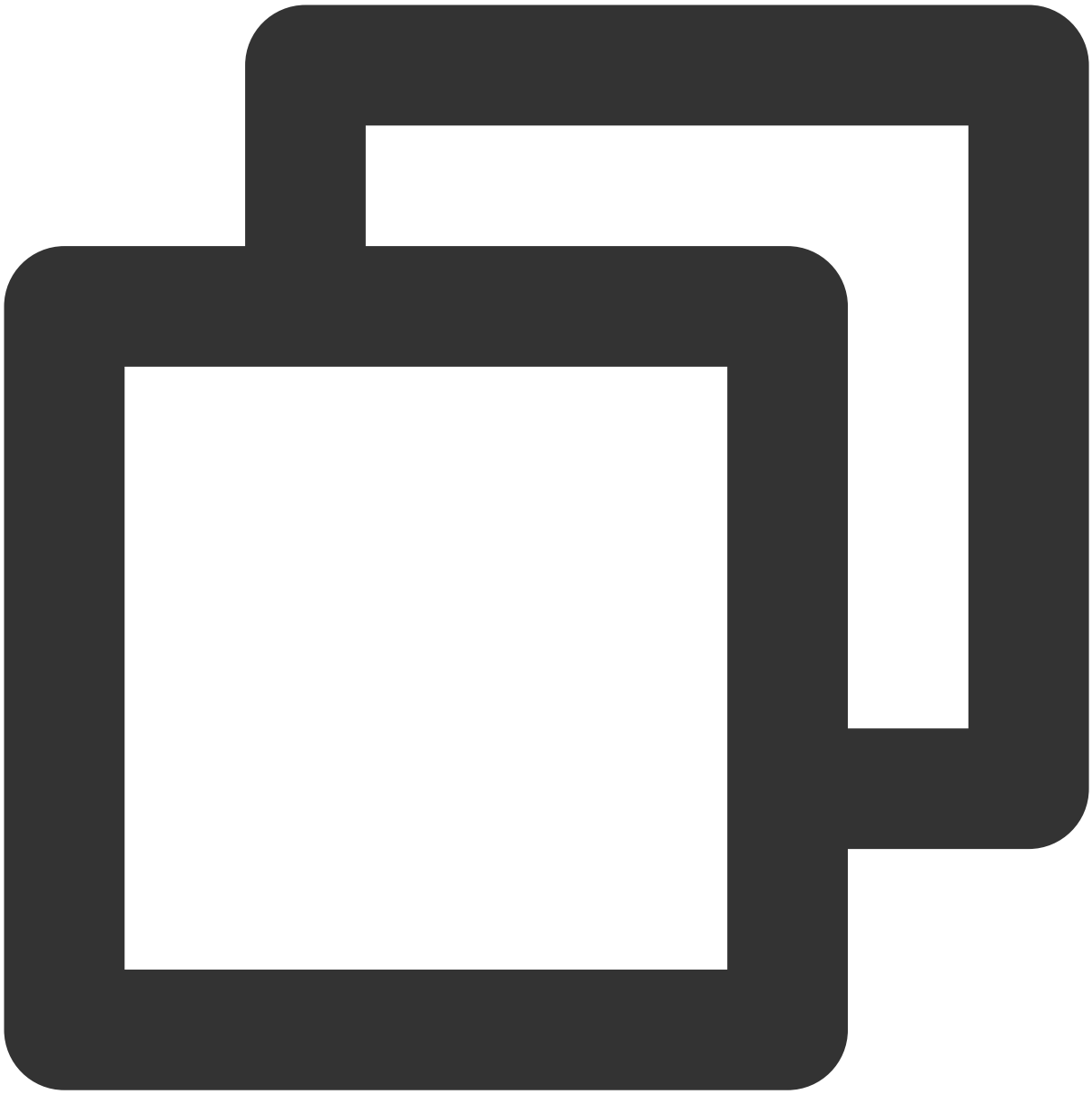
```
void onRecvRoomTextMsg(String message, TRTCLiveRoomDef.TRTCLiveUserInfo userInfo);
```

The parameters are described below:

Parameter	Type	Description
message	String	Text message
userInfo	TRTCLiveUserInfo	Information of the sender

onRecvRoomCustomMsg

A custom message was received.



```
void onRecvRoomCustomMsg(String cmd, String message, TRTCLiveRoomDef.TRTCLiveUserIn
```

The parameters are described below:

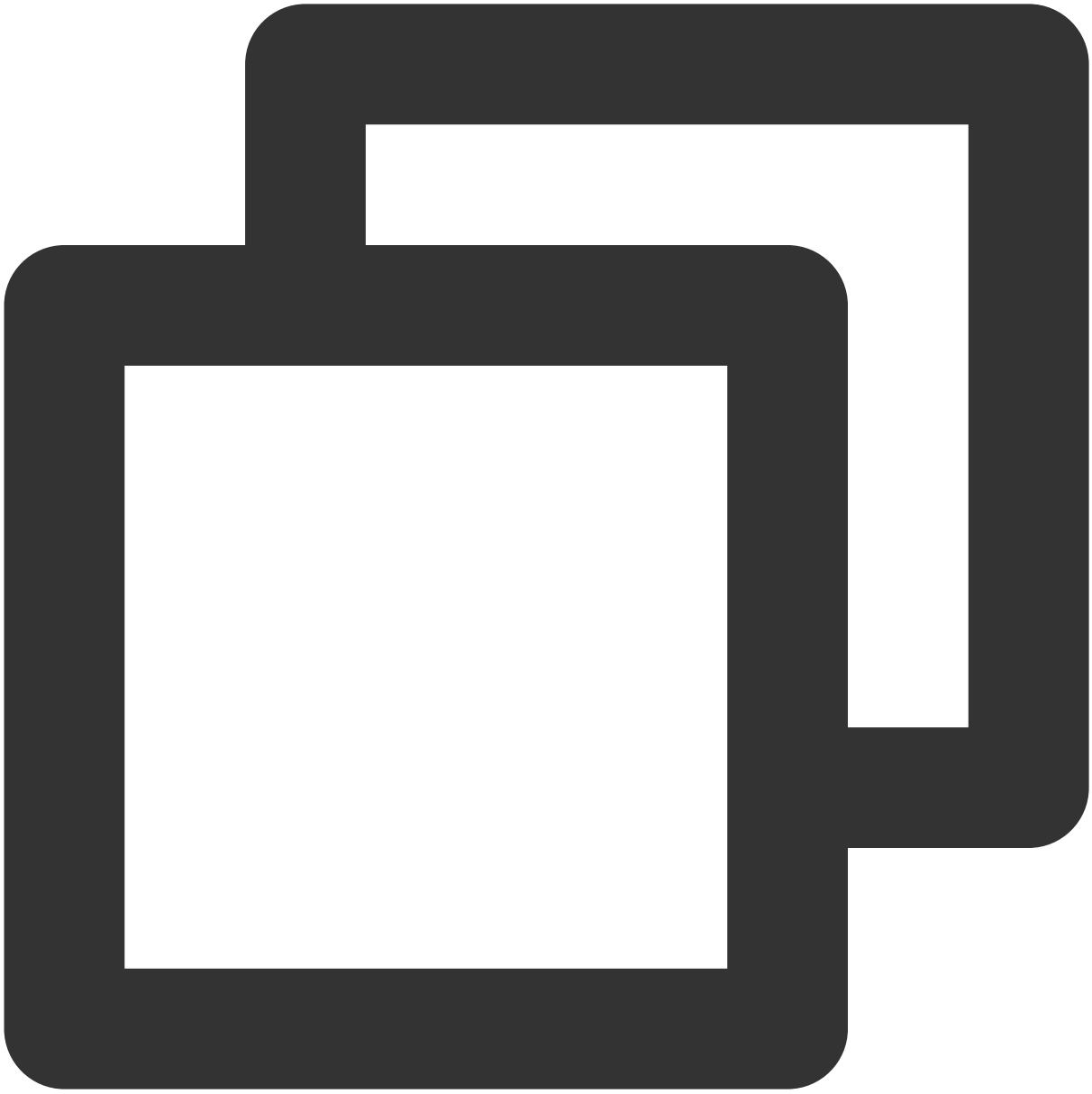
Parameter	Type	Description
command	String	A custom command word used to distinguish between different message types
message	String	Text message

userInfo	TRTCLiveUserInfo	Information of the sender

TRTCAudioEffectManager

playBGM

Background Music



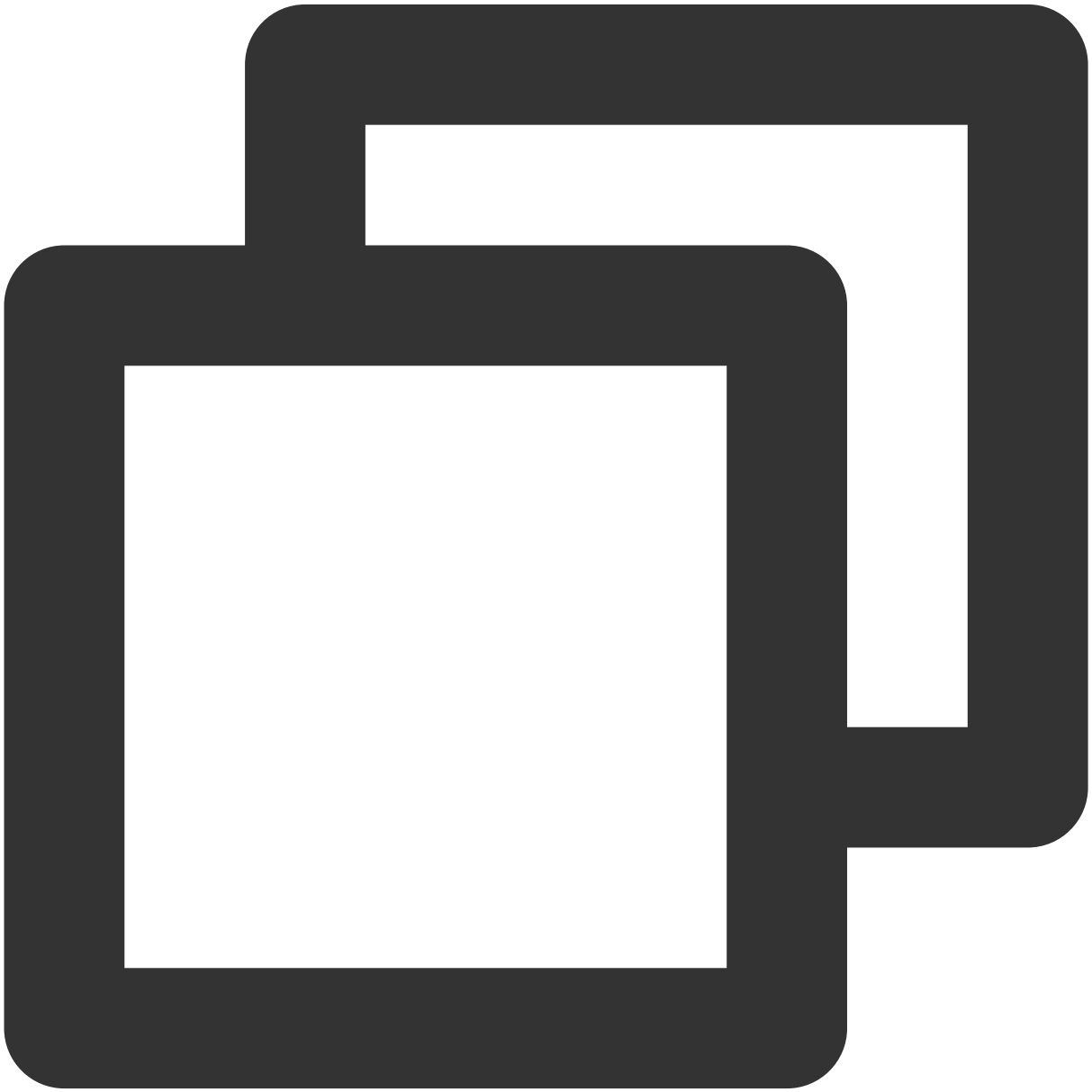
```
void playBGM(String url, int loopTimes, int bgmVol, int micVol, TRTCCloud.BGMNotify
```

The parameters are described below:

Parameter	Type	Description
url	String	Path of the music file
loopTimes	int	Loop times
bgmVol	int	Volume of background music
micVol	int	Audio capturing volume
notify	TRTCCloud.BGMNotify	Playback notification

stopBGM

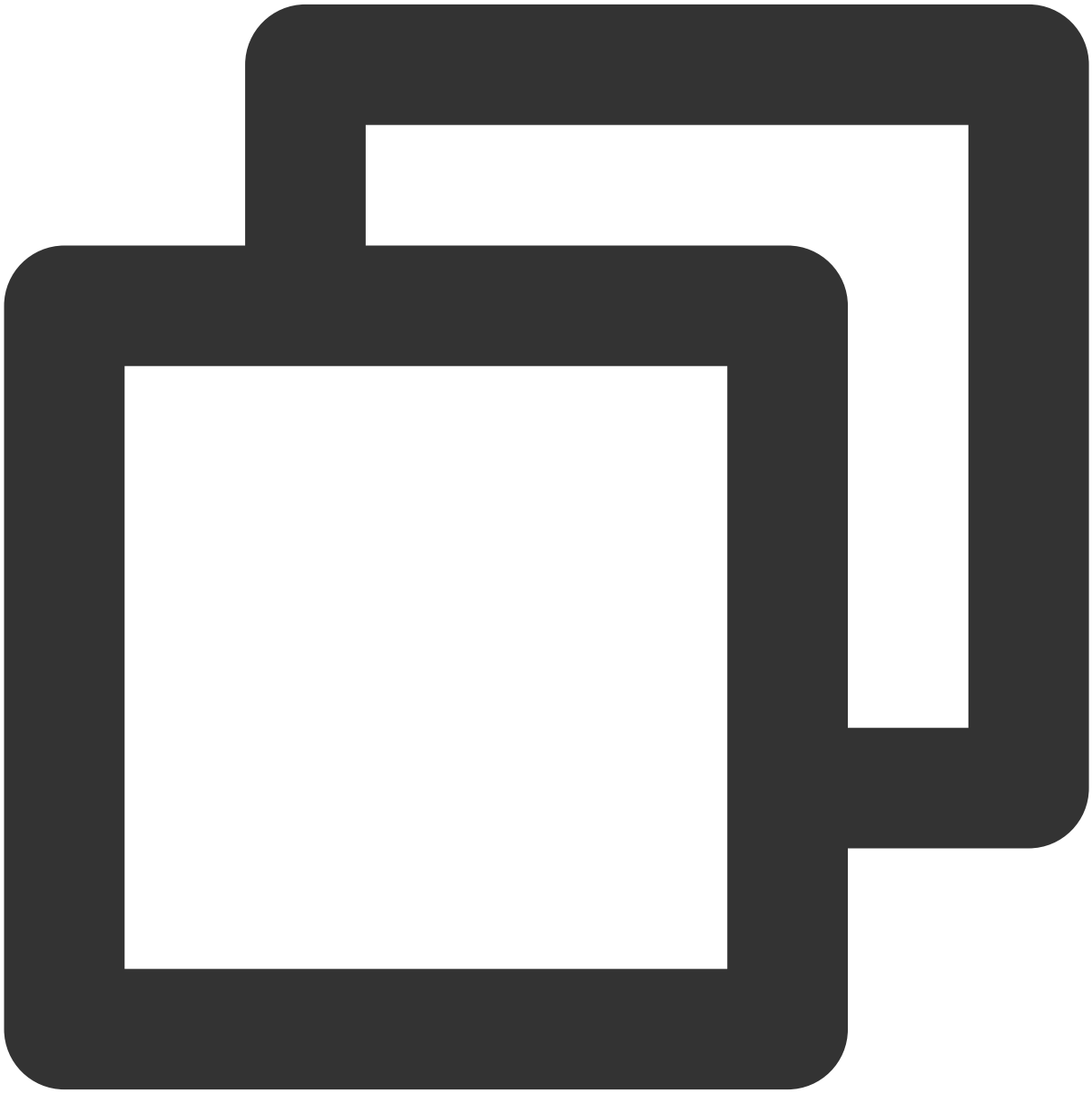
stop playing background music



```
void stopBGM();
```

pauseBGM

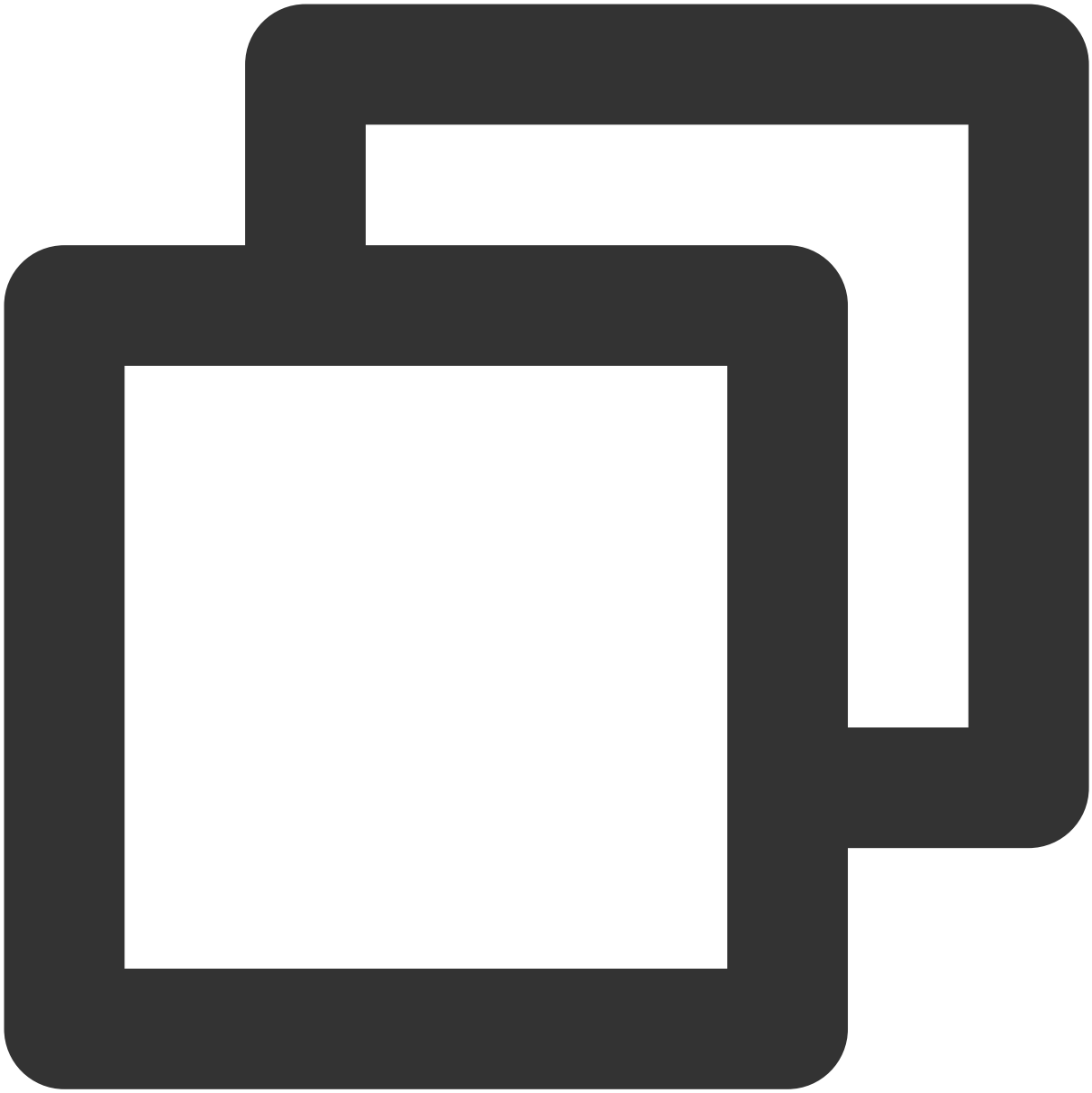
pause background music



```
void pauseBGM();
```

resumeBGM

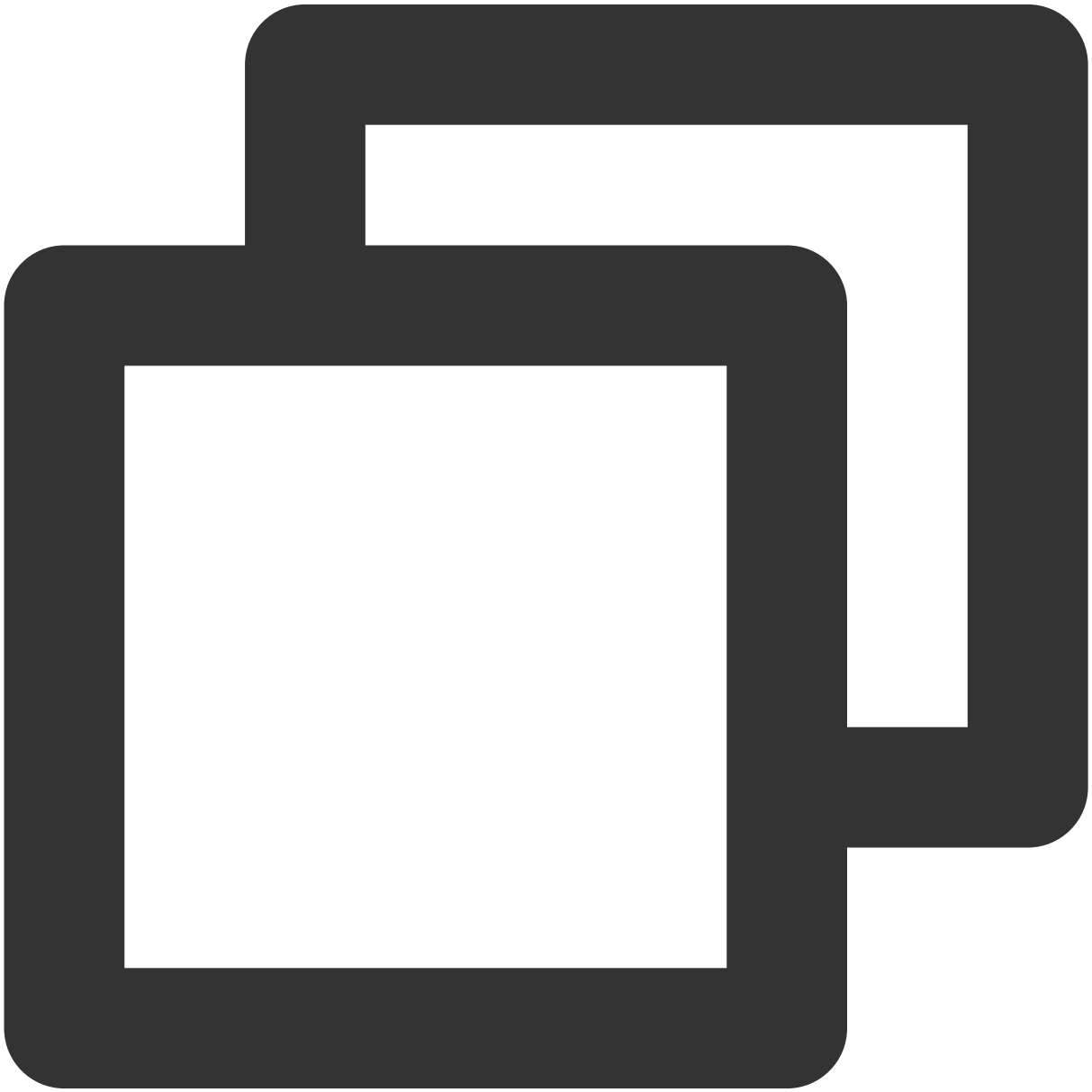
This API is used to resume background music playback.



```
void resumeBGM();
```

setBGMVolume

This API is used to set the playback volume of background music.



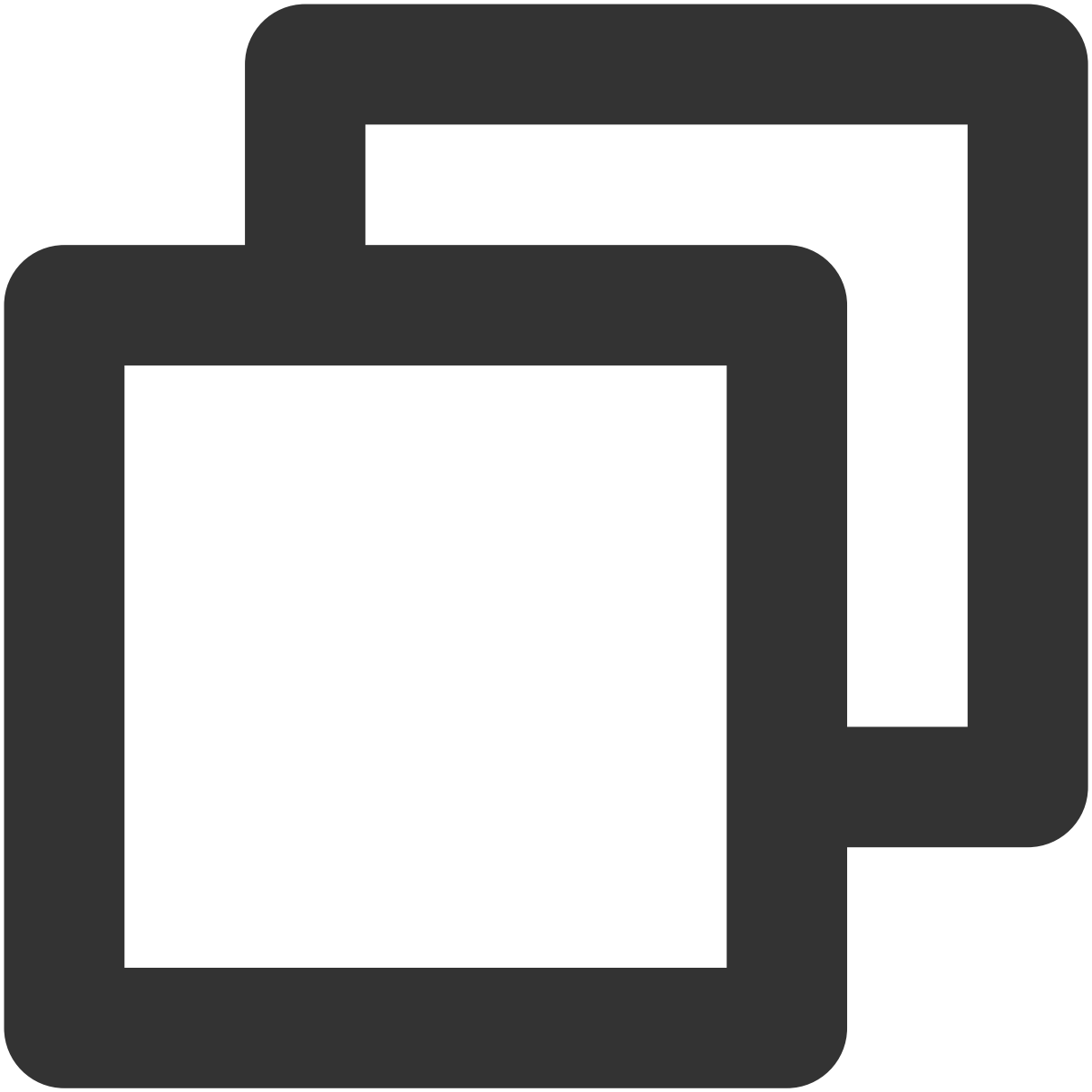
```
void setBGMVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	int	Volume. Value range: 0-100. Default value: `100`

setBGMPosition

This API is used to set the background music playback progress.



```
int setBGMPosition(int position);
```

The parameters are described below:

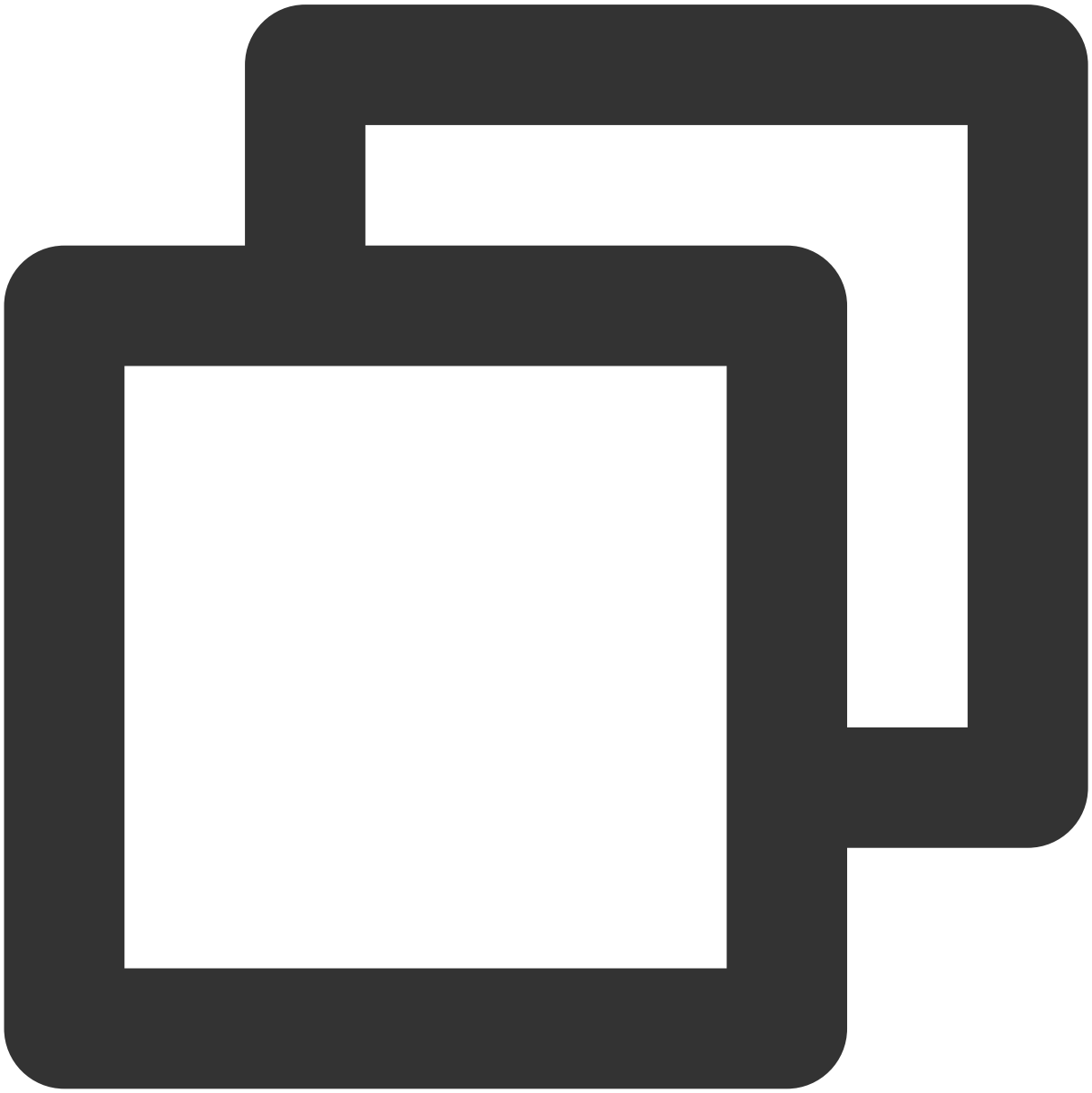
Parameter	Type	Description
position	int	Playback progress of background music in milliseconds (ms)

Return code

`0` : successful

setMicVolume

This API is used to set the mic volume. It can be used to control the volume of the mic when background music is mixed.



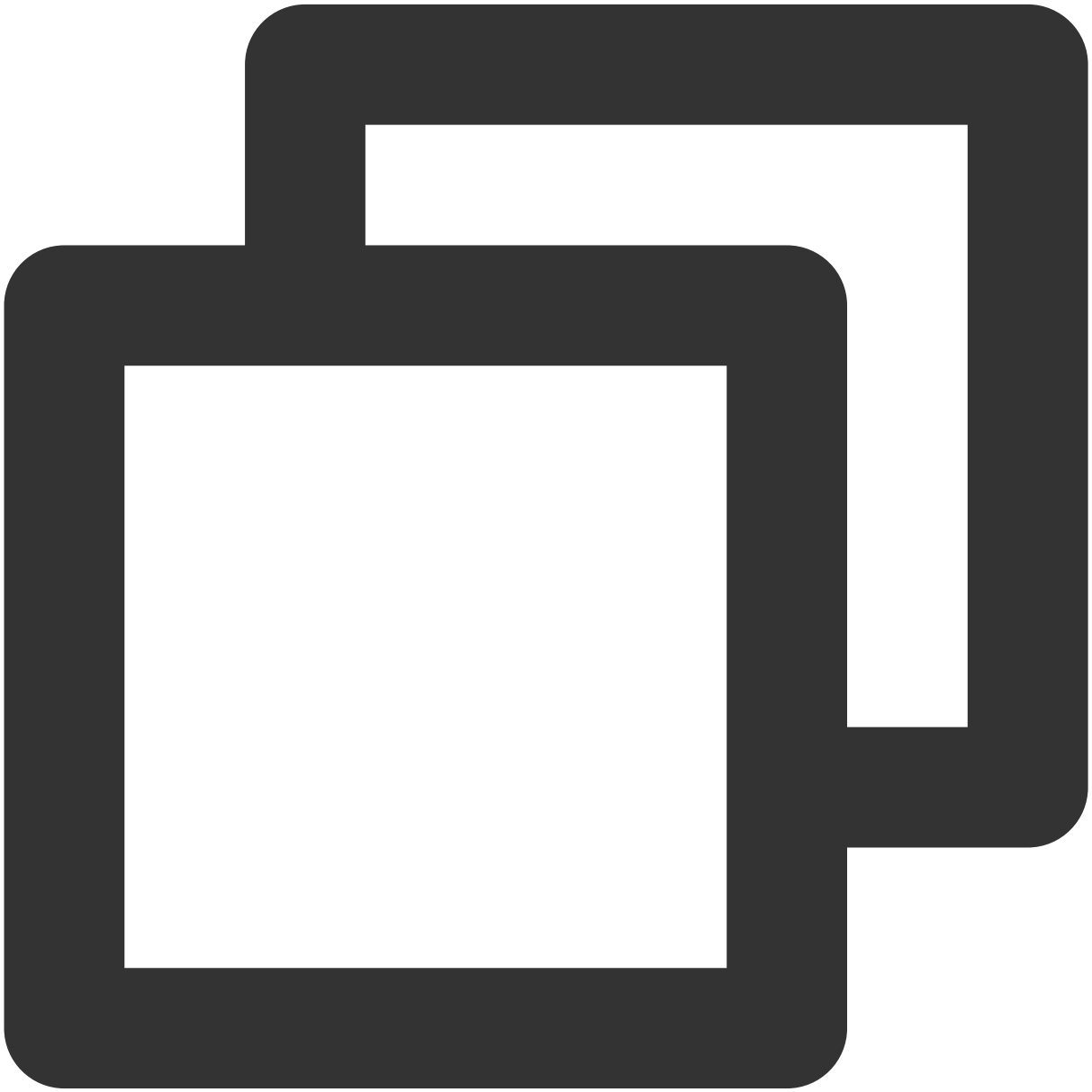
```
void setMicVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	Int	Volume. Value range: 0-100. Default value: `100`

setReverbType

This API is used to set the reverb effect.



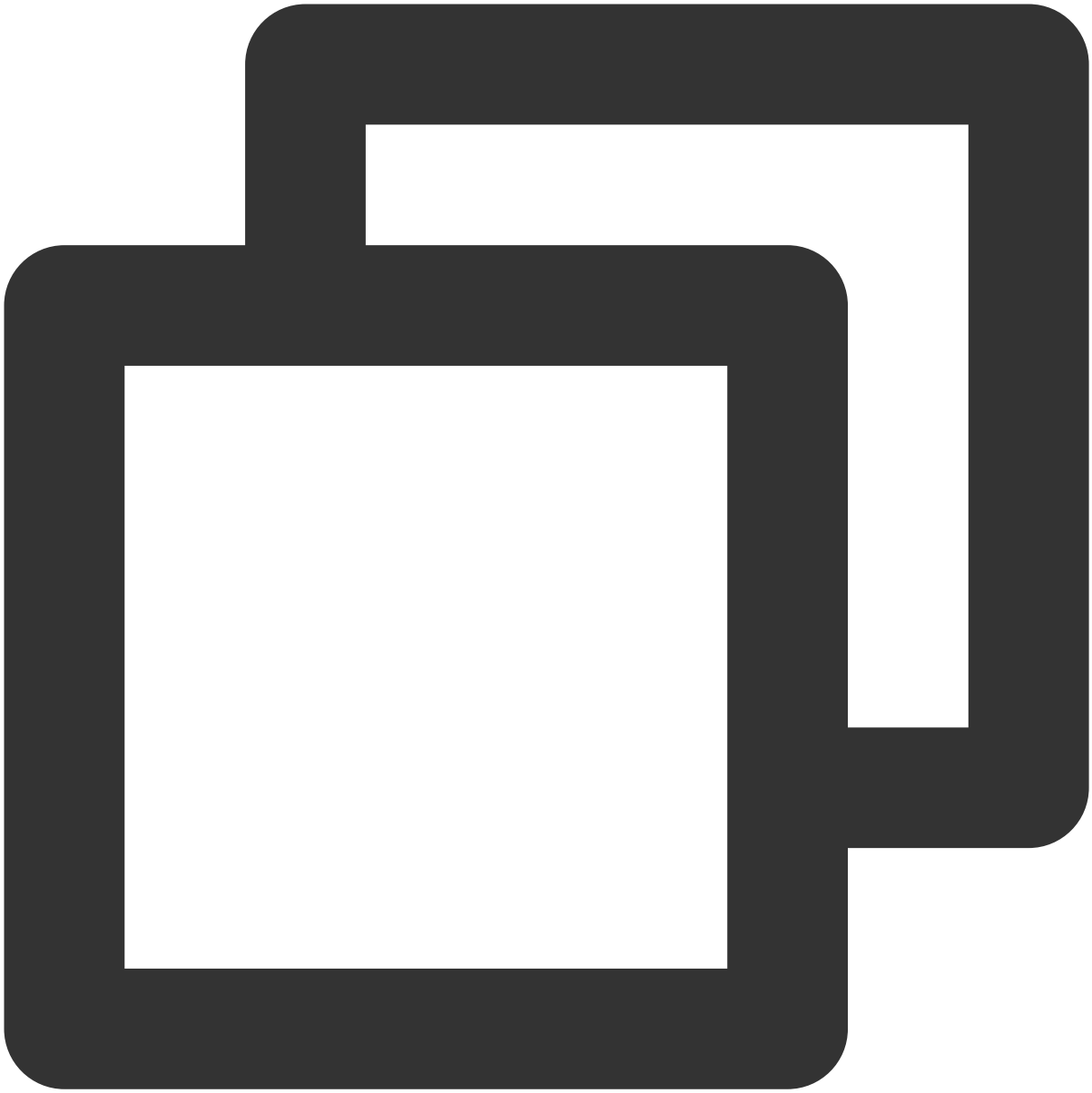
```
void setReverbType(int reverbType);
```

The parameters are described below:

Parameter	Type	Description
reverbType	int	Reverb effect. For details, please see the definitions of TRTC_REVERB_TYPE in `TRTCCloudDef` .

setVoiceChangerType

This API is used to set the voice changing effect.



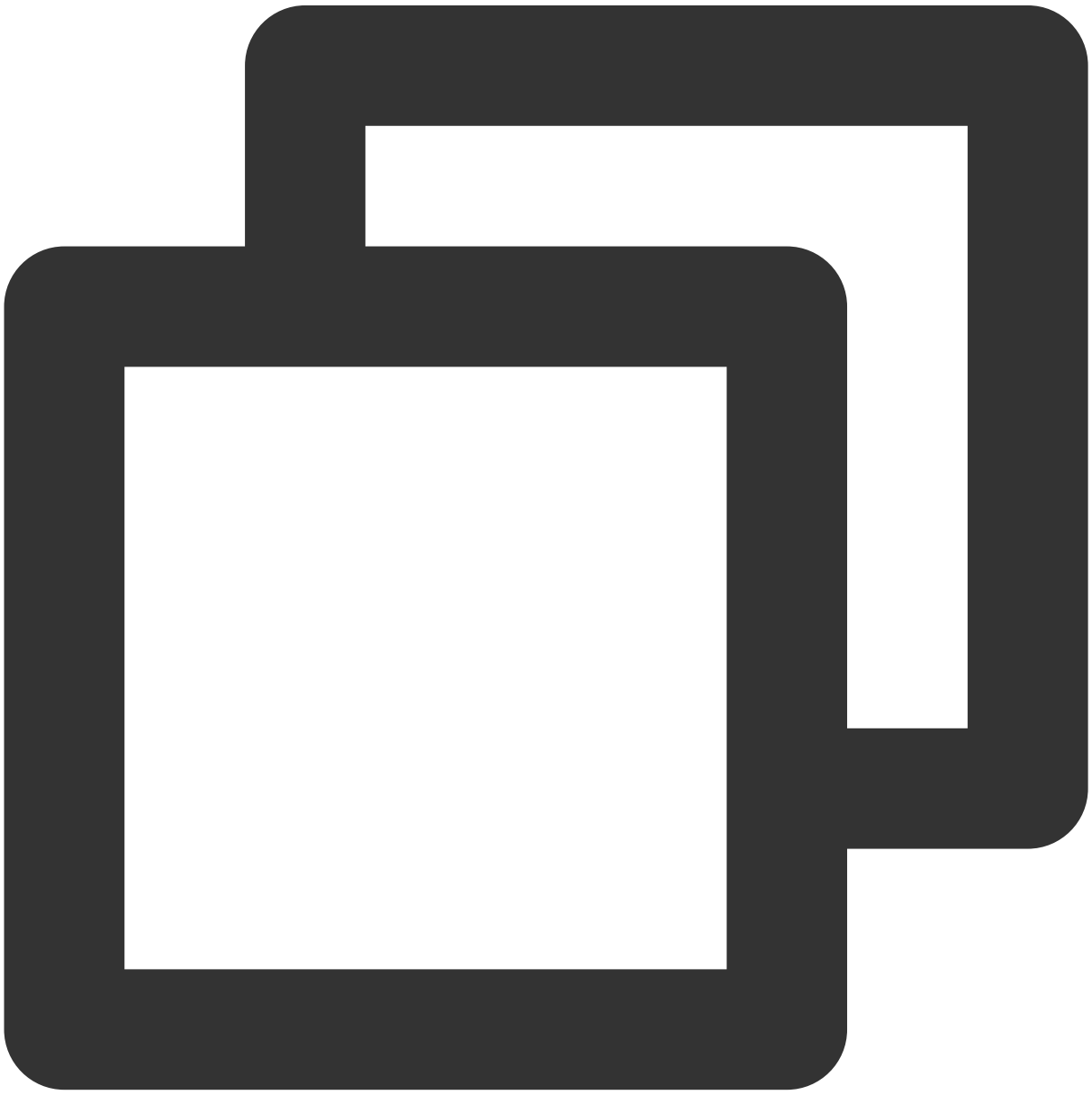
```
void setVoiceChangerType(int type);
```

The parameters are described below:

Parameter	Type	Description
type	int	Voice changing effect. For details, please see the definitions of TRTC_VOICE_CHANGER_TYPE in `TRTCCloudDef`.

playAudioEffect

This API is used to play an audio effect. For each audio effect, you need to assign an ID, which is used to start and stop the playback of an audio effect as well as set its playback volume. Supported formats include AAC, MP3, and M4A.



```
void playAudioEffect(int effectId, String path, int count, boolean publish, int vol
```

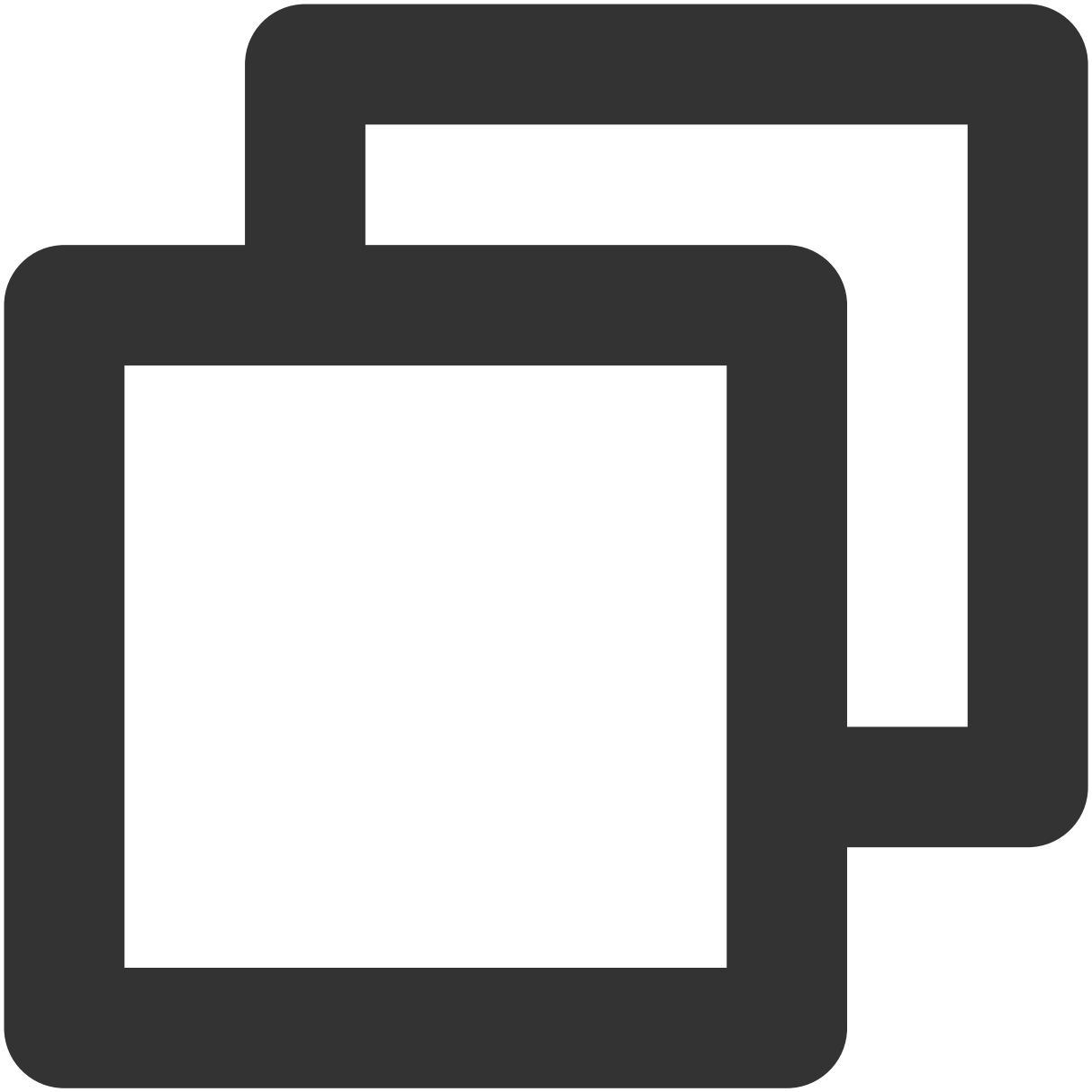
The parameters are described below:

Parameter	Type	Description

effectId	int	Audio effect ID
path	String	Audio effect path
count	int	Loop times
publish	boolean	Whether to push the audio effect. `true` : push the effect to remote users; `false` : preview the effect locally only
volume	int	Volume. Value range: 0-100. Default value: `100`

pauseAudioEffect

This API is used to pause playing an audio effect.



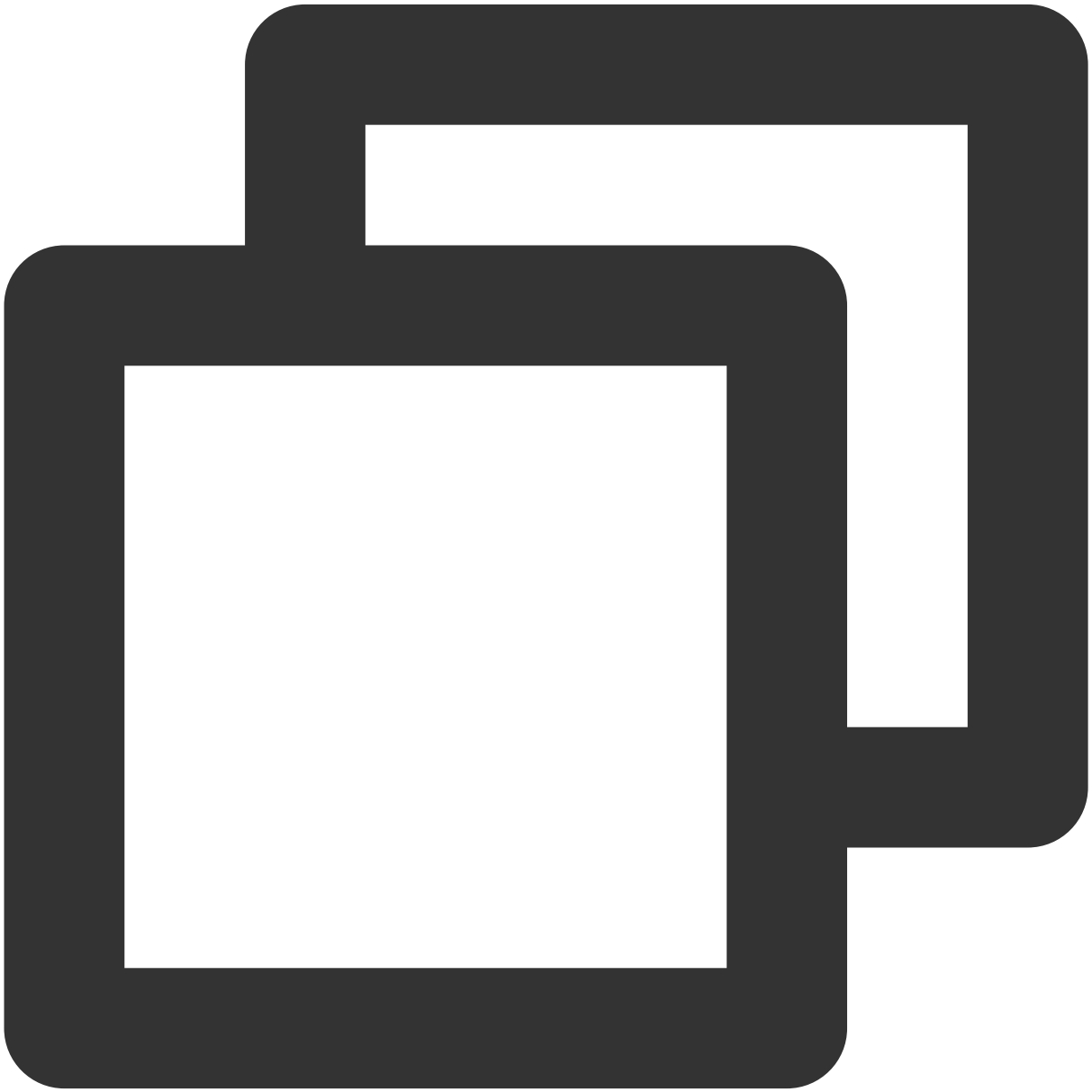
```
void pauseAudioEffect(int effectId);
```

The parameters are described below:

Parameter	Type	Description
effectId	int	Audio effect ID

resumeAudioEffect

This API is used to resume playing an audio effect.



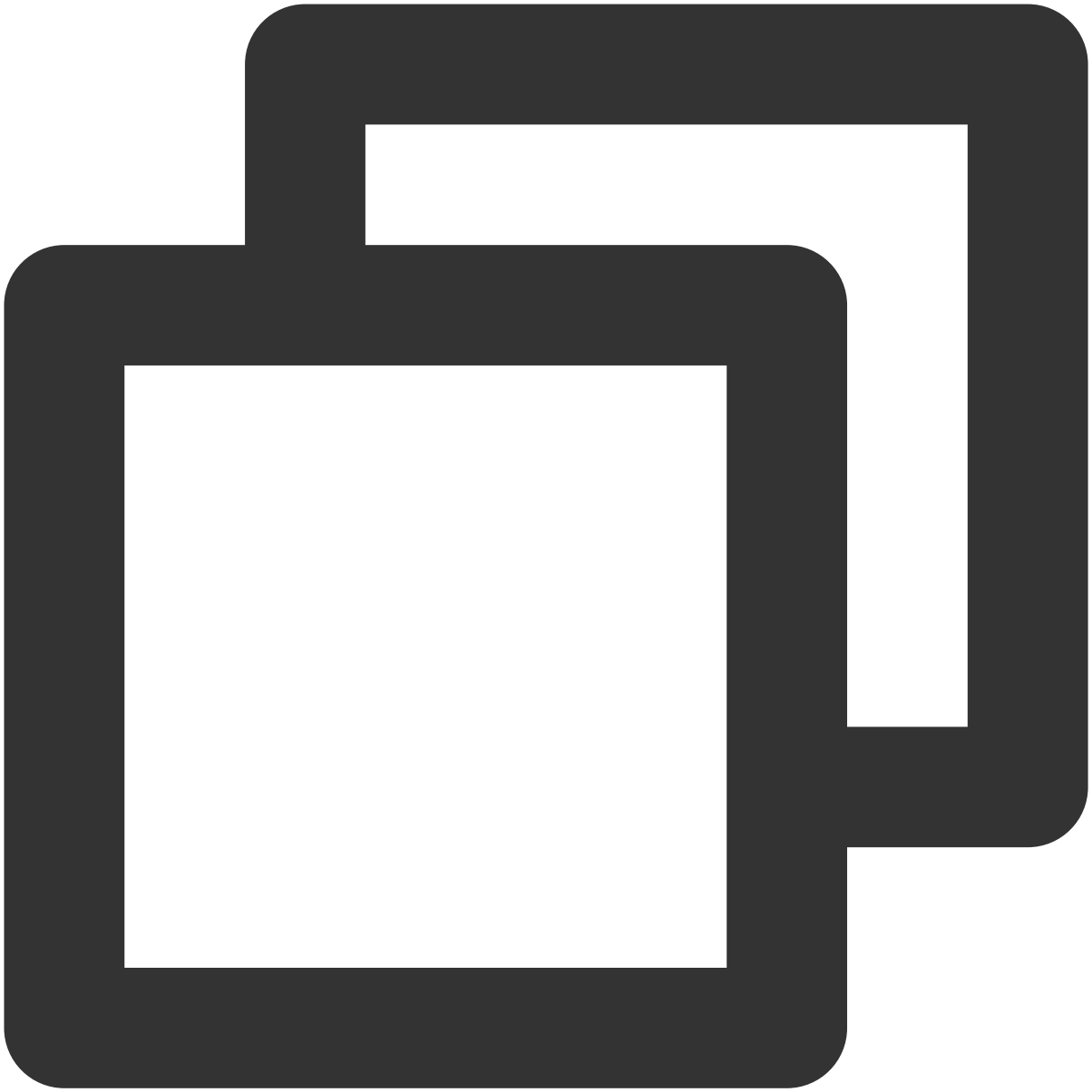
```
void resumeAudioEffect(int effectId);
```

The parameters are described below:

Parameter	Type	Description
effectId	int	Audio effect ID

stopAudioEffect

This API is used to stop playing an audio effect.



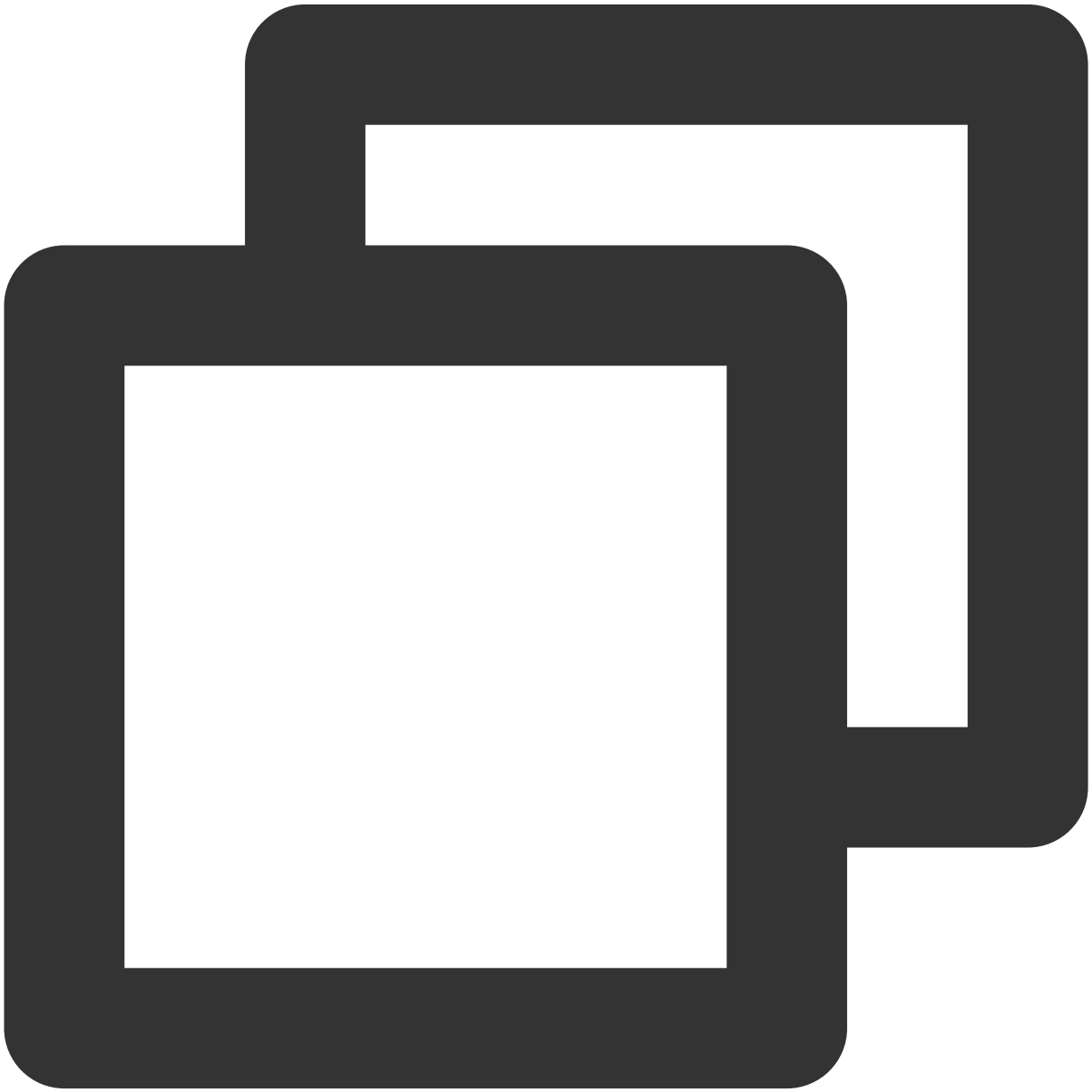
```
void stopAudioEffect(int effectId);
```

The parameters are described below:

Parameter	Type	Description
effectId	int	Audio effect ID

stopAllAudioEffects

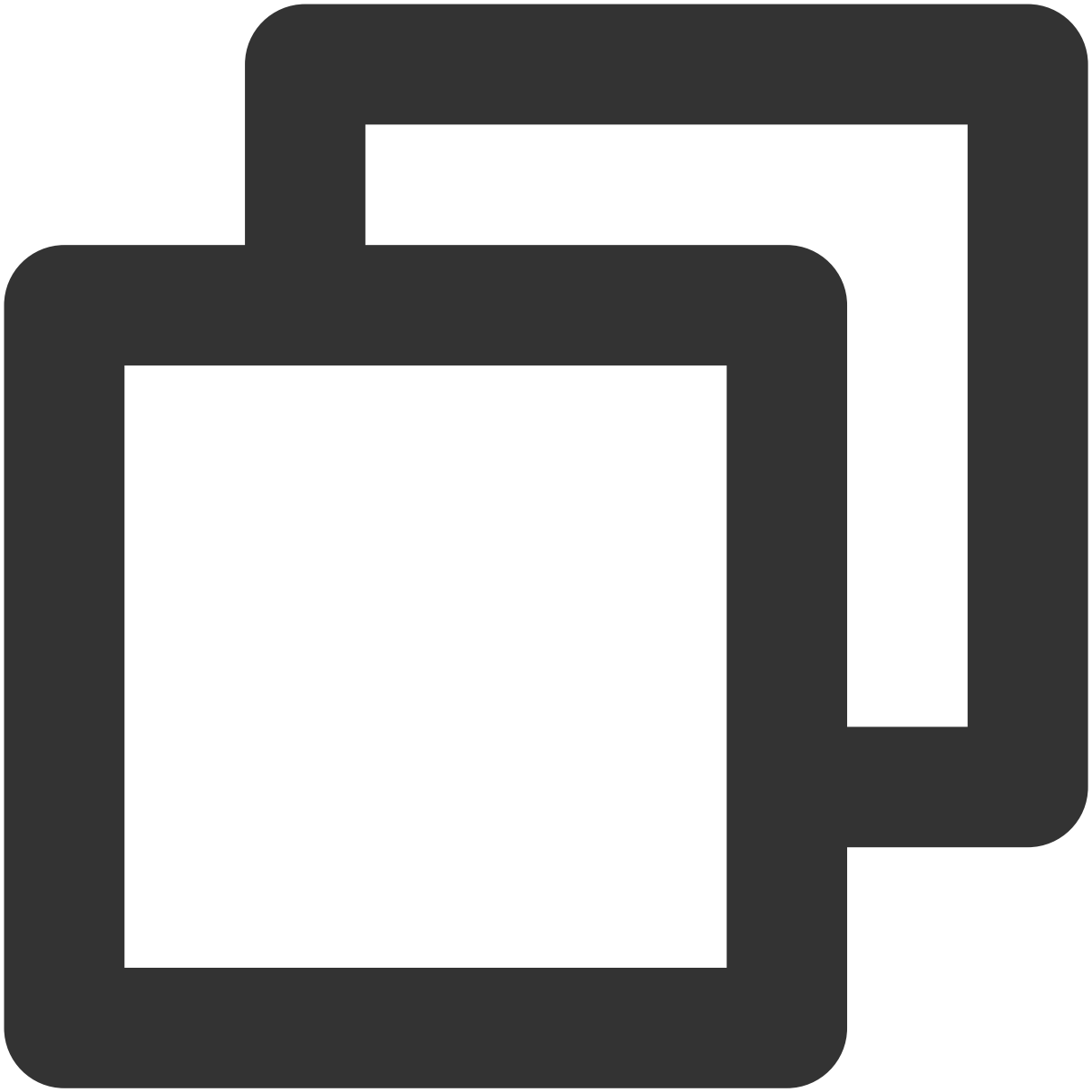
This API is used to stop playing all audio effects.



```
void stopAllAudioEffects();
```

setAudioEffectVolume

This API is used to set the volume of an audio effect.



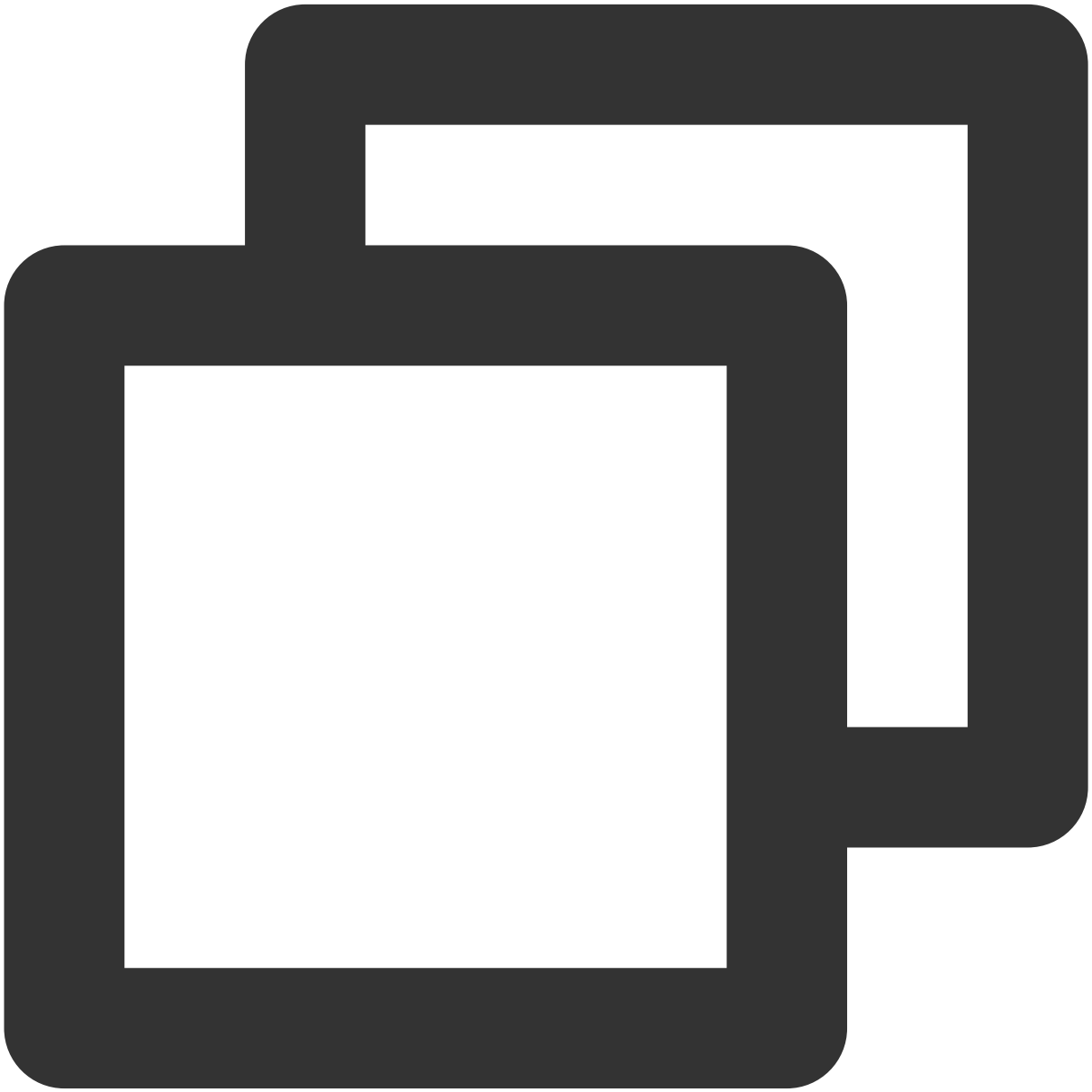
```
void setAudioEffectVolume(int effectId, int volume);
```

The parameters are described below:

Parameter	Type	Description
effectId	int	Audio effect ID
volume	int	Volume. Value range: 0-100. Default value: `100`

setAllAudioEffectsVolume

This API is used to set the volume of all audio effects.



```
void setAllAudioEffectsVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	int	Volume. Value range: 0-100. Default value: `100`

Online Karaoke
Quick Integration (TUIKaraoke)
iOS

Last updated：2023-09-21 16:22:21

Overview

TUIKaraoke is an open-source audio/video UI component that you can integrate into your project to bring online karaoke, seat management, gift giving/receiving, text chat, and other TRTC features to your application. TUIKaraoke requires only a few lines of code and also supports the Android platform. Its basic features are shown below:

Note

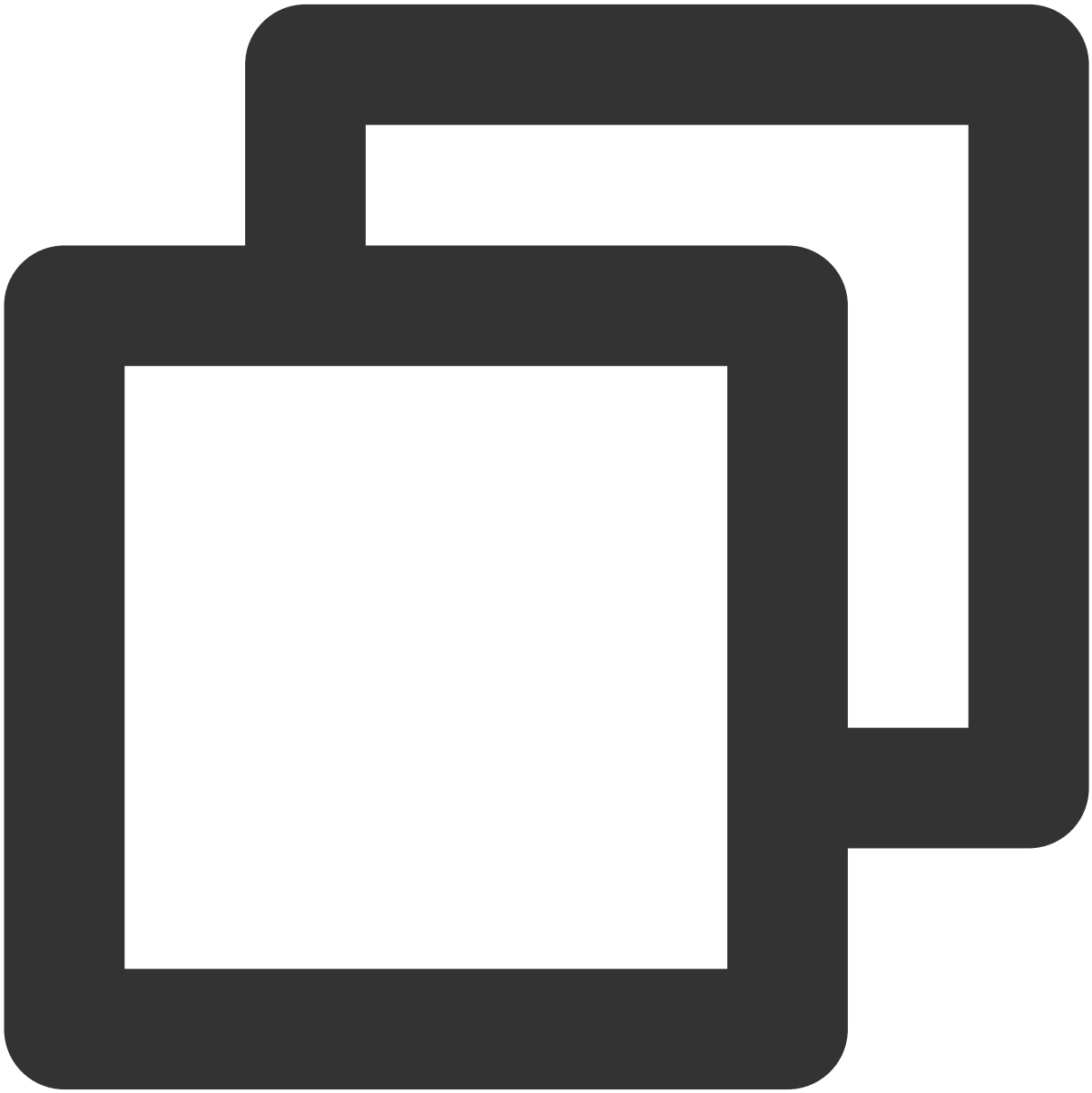
All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK Trial Edition (which supports up to 100 DAUs) will also be activated automatically. For Chat billing details, see Pricing.

Integration

Step 1. Download and import the `TUIKaraoke` component

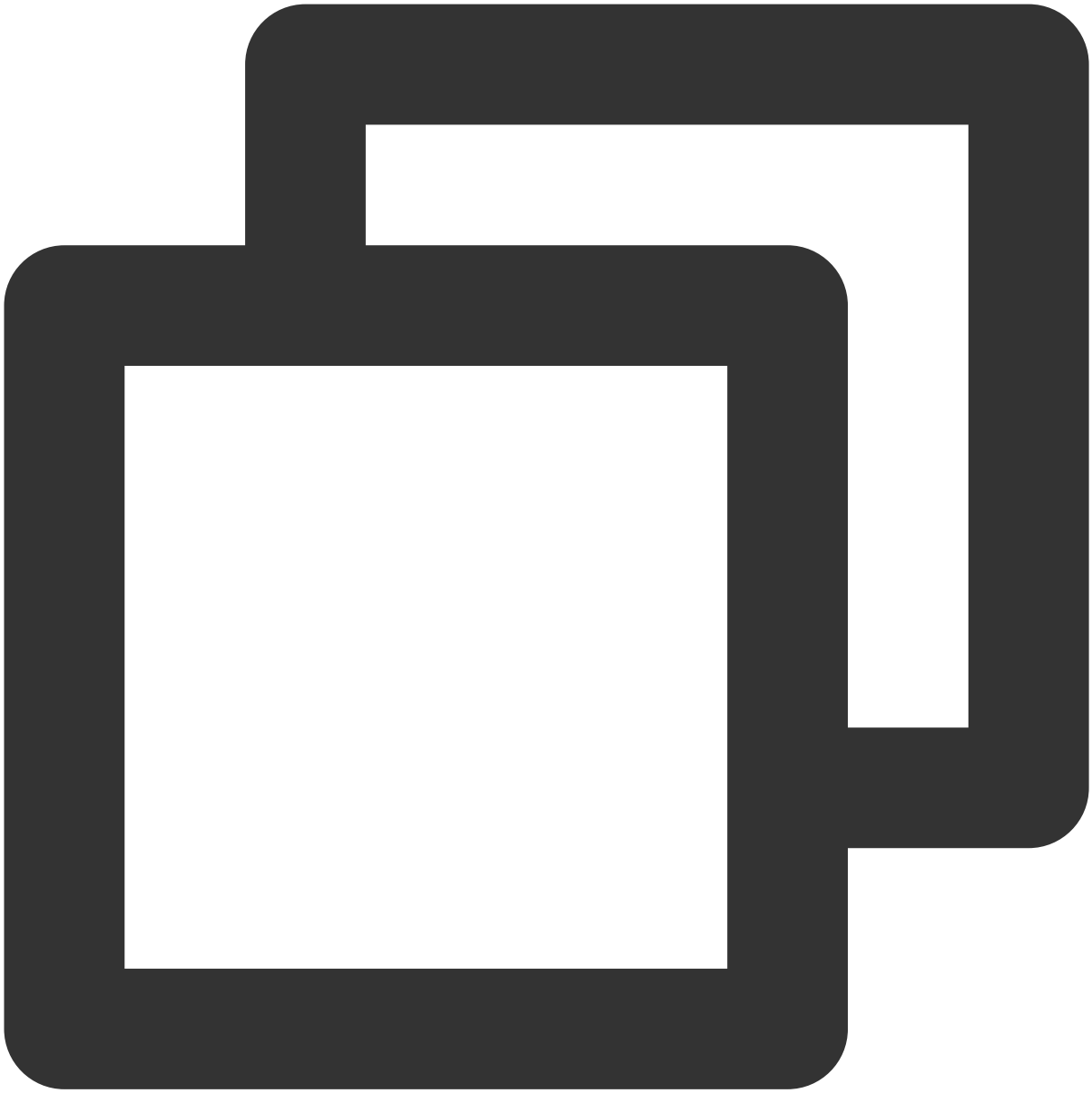
Go to GitHub, clone or download the code, copy the `Source` , `Resources` , and `TXAppBasic` folders and the `TUIKaraoke.podspec` file in the `iOS` directory to your project, and complete the following import operations:

Add the following import commands to your `Podfile` :



```
pod 'TUIKaraoke', :path => "./", :subspecs => ["TRTC"]
pod 'TXLiteAVSDK_TRTC'
pod 'TXAppBasic', :path => "TXAppBasic/"
```

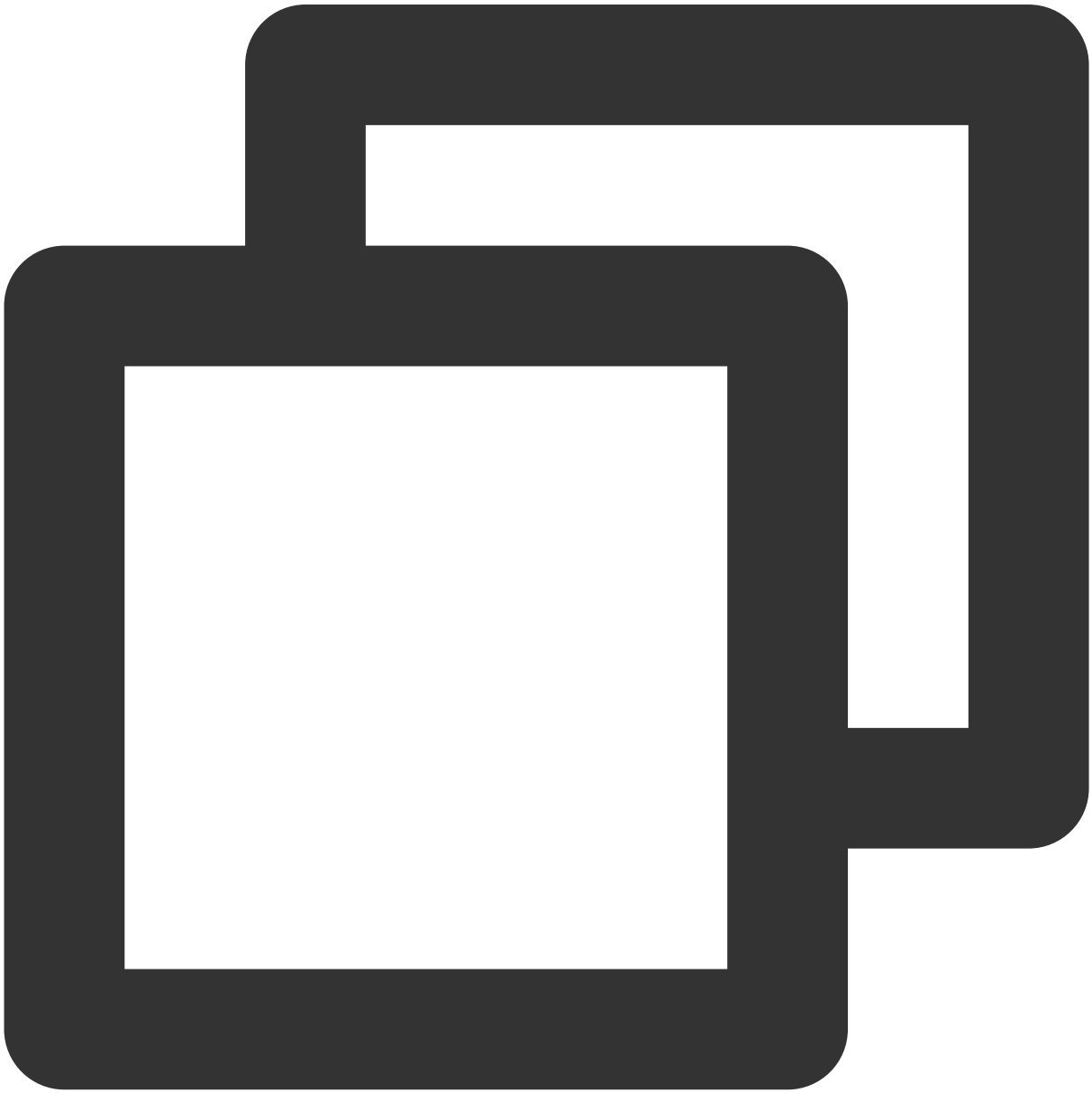
Open Terminal and run the following installation command in the directory of the `Podfile` :



```
pod install
```

Step 2. Configure permissions

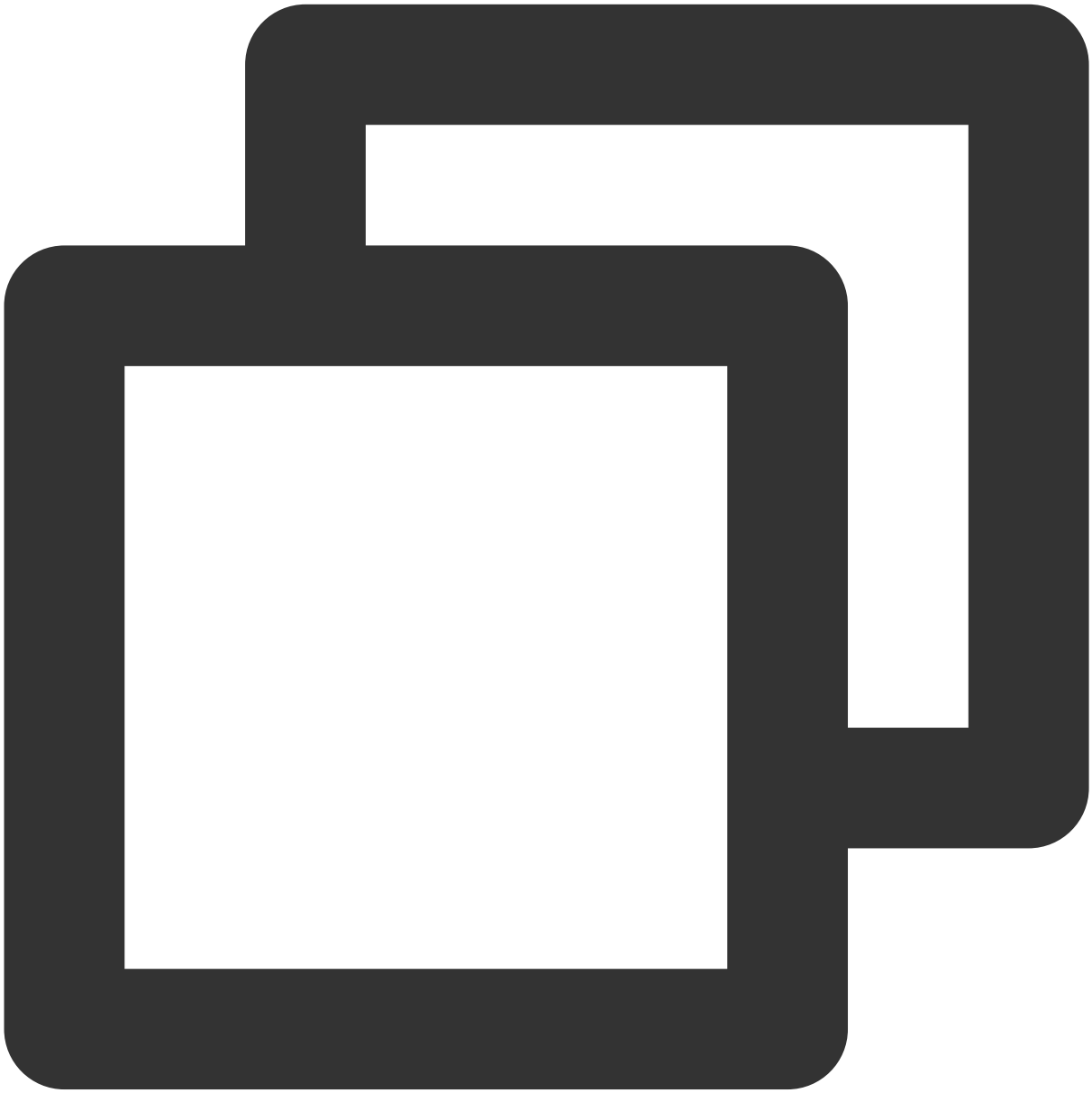
Configure permission requests for your app in the `info.plist` file of your project. The SDKs need the following permissions (on iOS, the mic access must be requested at runtime):



```
<key>NSMicrophoneUsageDescription</key>
   <string>`TUIKaraoke` needs to access your mic.</string>
```

Step 3. Initialize and log in to the component

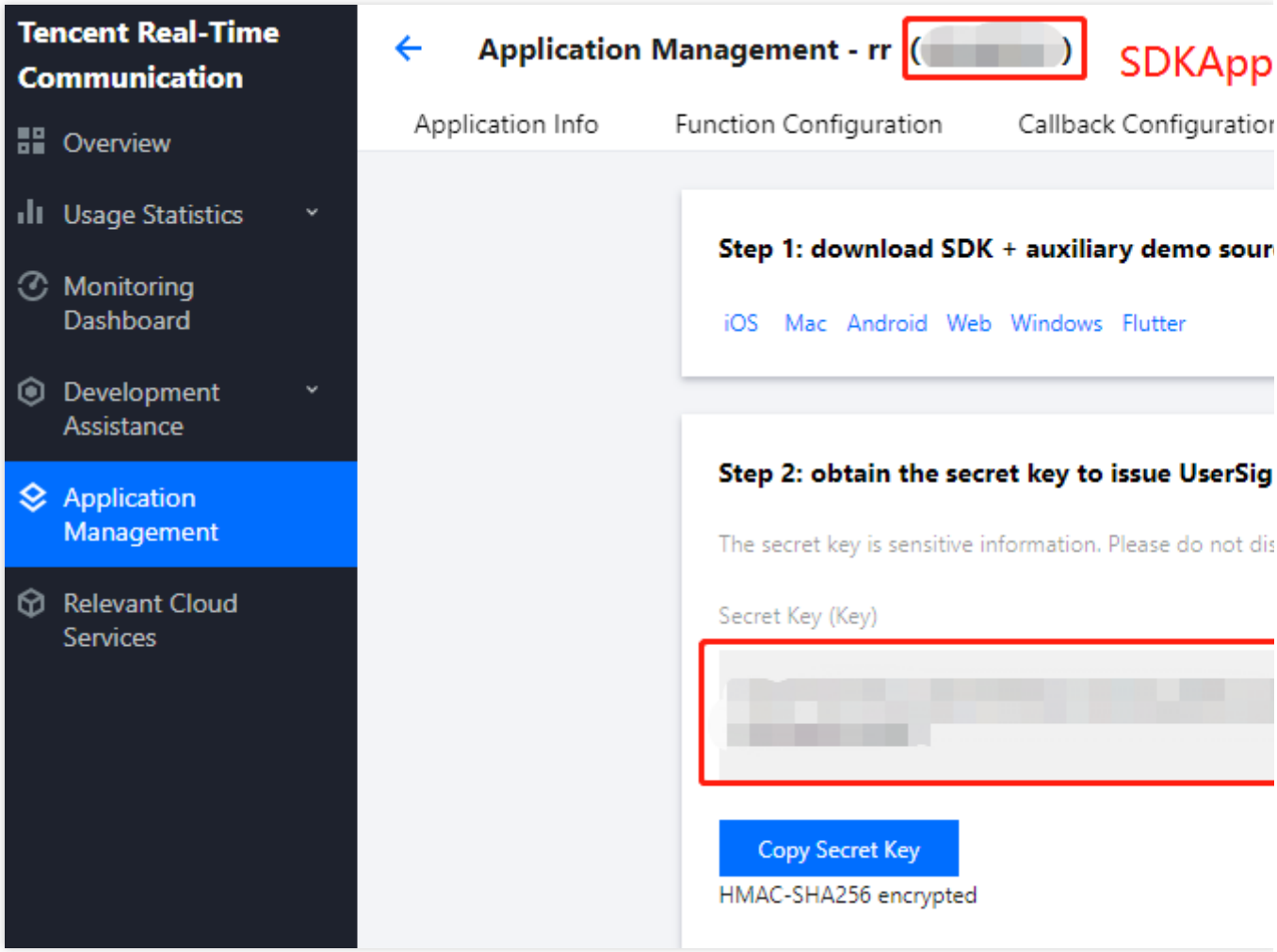
For more information on relevant APIs, see TRTCKaraoke (iOS).



```
// 1. Initialize
let karaokeRoom = TRTCKaraokeRoom.shared()
karaokeRoom.setDelegate(delegate: self)
// 2. Log in
karaokeRoom.login(SDKAppID: Int32(SDKAppID), UserId: UserId, UserSig: ProfileMana
      if code == 0 {
          // Logged in
      }
}
```

Parameter description:

SDKAppID: **TRTC application ID**. If you haven't activated TRTC, log in to the TRTC console, create a TRTC application, click **Application Info**, and select the **Quick Start** tab to view its `SDKAppID` .



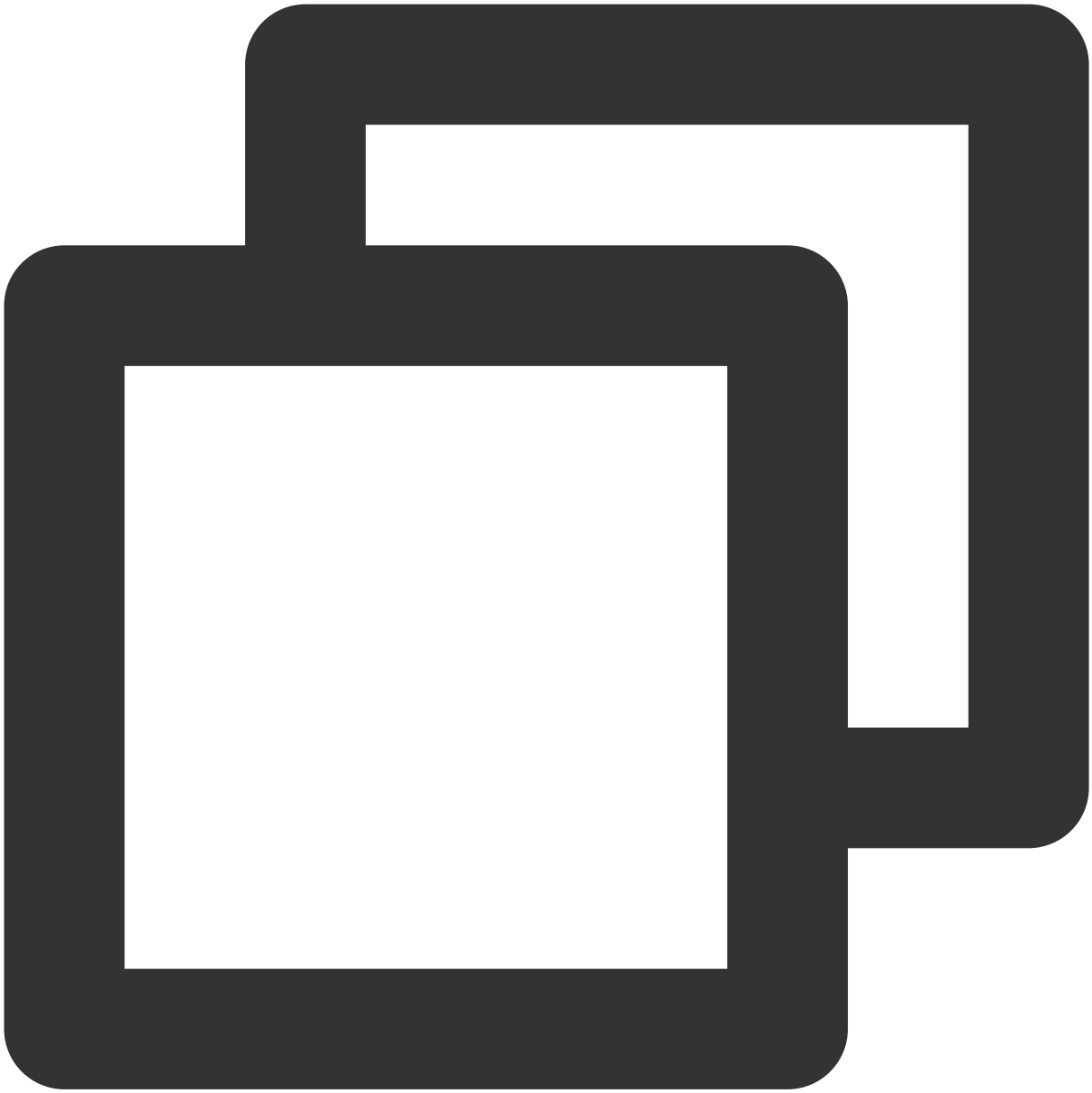
SecretKey: **TRTC application key**. Each secret key corresponds to an `SDKAppID` . You can view your application's secret key on the Application Management page of the TRTC console.

userId: Current user ID, which is a custom string that can contain up to 32 bytes of letters and digits (special characters are not supported).

userSig: The security protection signature calculated based on `SDKAppID` , `userId` , and `Secretkey` . You can click here to directly generate a debugging `userSig` online. For more information, see UserSig.

Step 4. Implement the online karaoke scenario

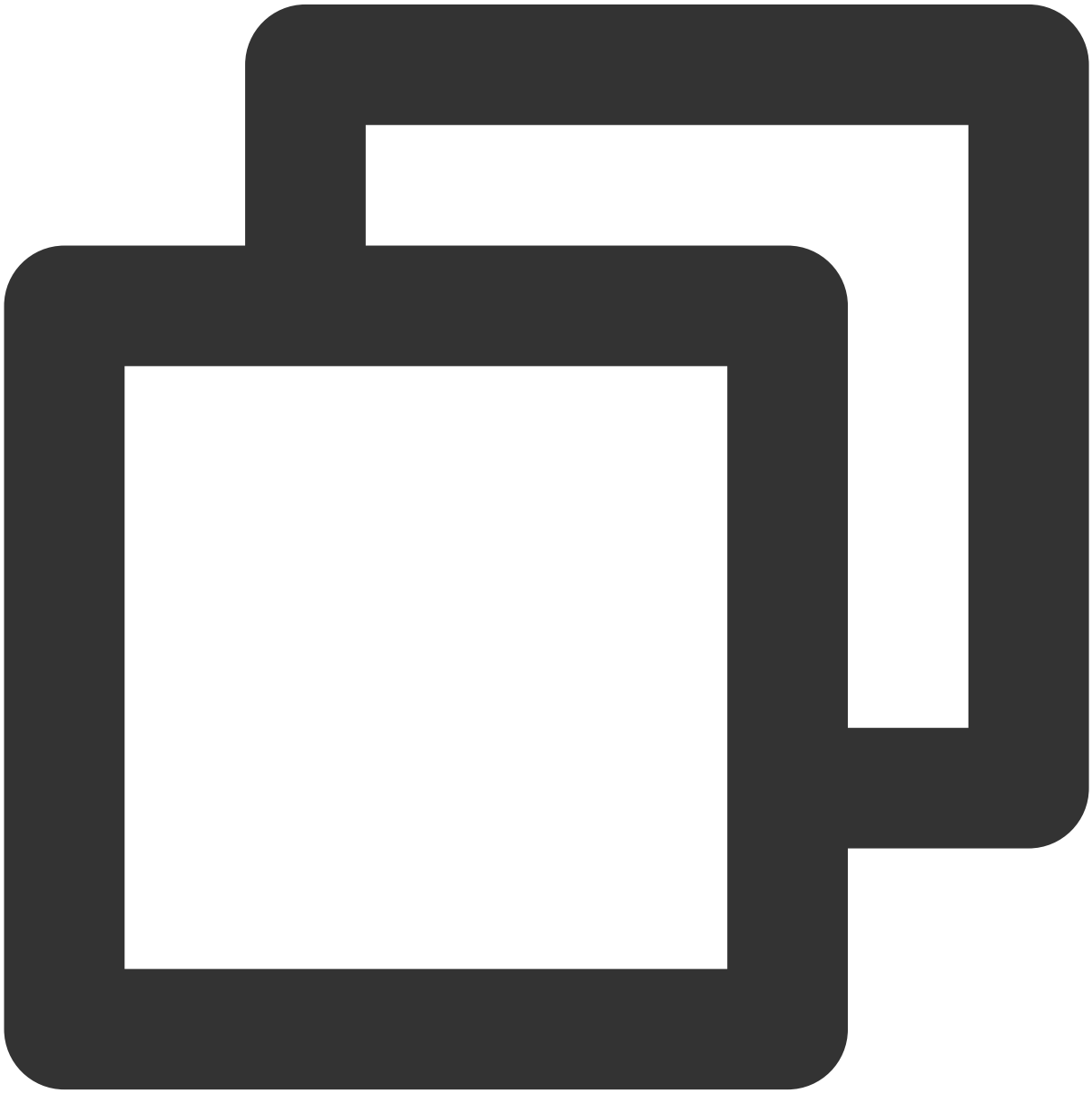
1. **The room owner creates a room through** TUIKaraoke.createRoom.



```
int roomId = "Room ID";
let param = RoomParam.init()
param.roomName = "Room name";
param.needRequest = false; // Whether permission is required for listeners to speak
param.seatCount = 8;       // Number of seats in the room. Set it to `8`.
param.coverUrl = "URL of room cover image";

karaokeRoom.createRoom(roomID: Int32(roomInfo.roomID), roomParam: param) { [weak se
 guard let `self` = self else { return }
 if code == 0 {
     // Room created successfully
```

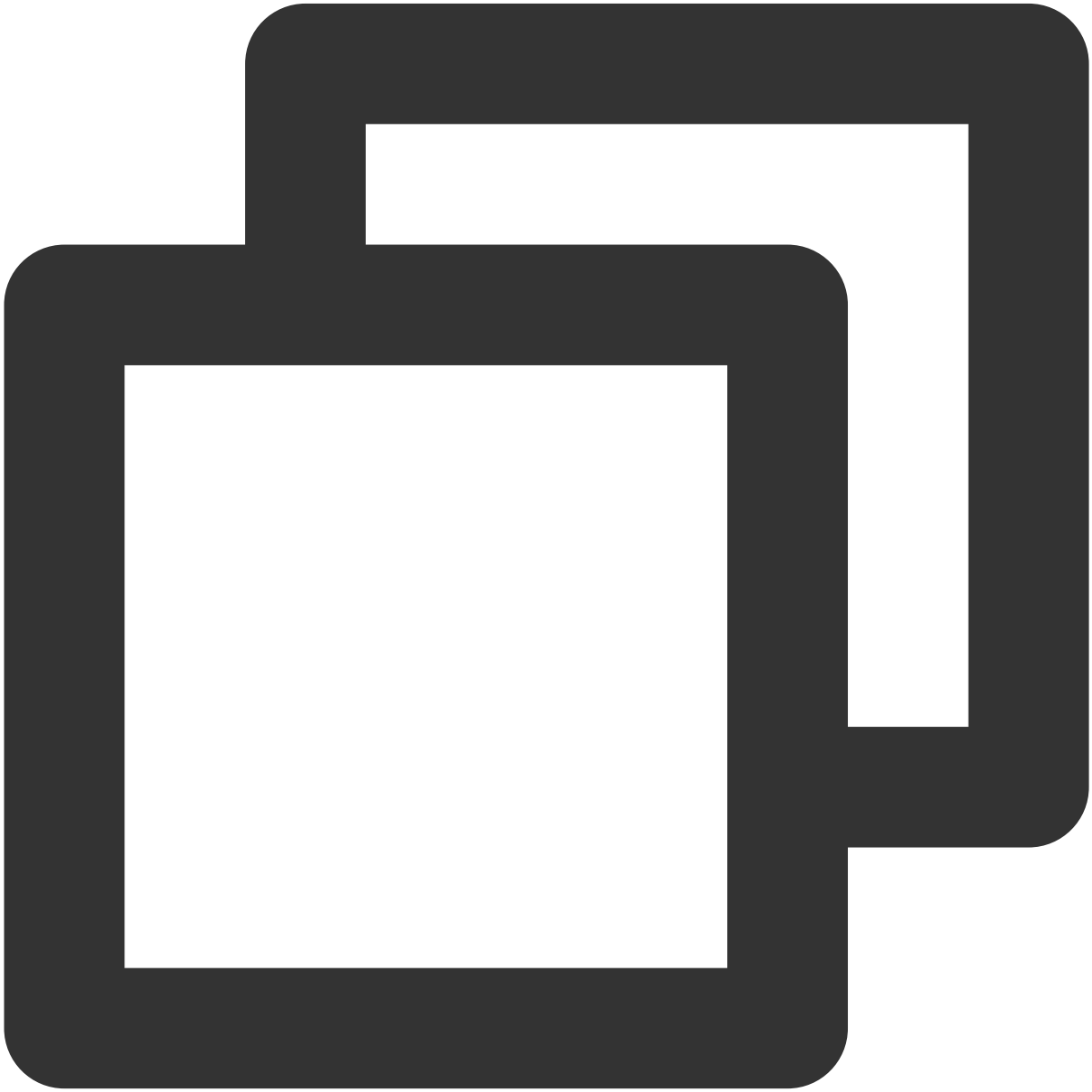
```
  }
}
```

2. **A listener enters the room through** TUIKaraoke.enterRoom.



```
karaokeRoom.enterRoom(roomID: roomInfo.roomID) { [weak self] (code, message) in
 guard let `self` = self else { return }
 if code == 0 {
     // Entered room successfully
 }
}
```

3. **A listener turns their mic on through** TUIKaraoke.enterSeat.



```
// 1. A listener calls an API to mic on
int seatIndex = 1;
karaokeRoom.enterSeat(seatIndex: seatIndex) { [weak self] (code, message) in
 guard let `self` = self else { return }
 if code == 0 {
     // Mic turned on successfully
 }
}
// 2. The listener receives the `onSeatListChange` callback and refreshes the seat
```

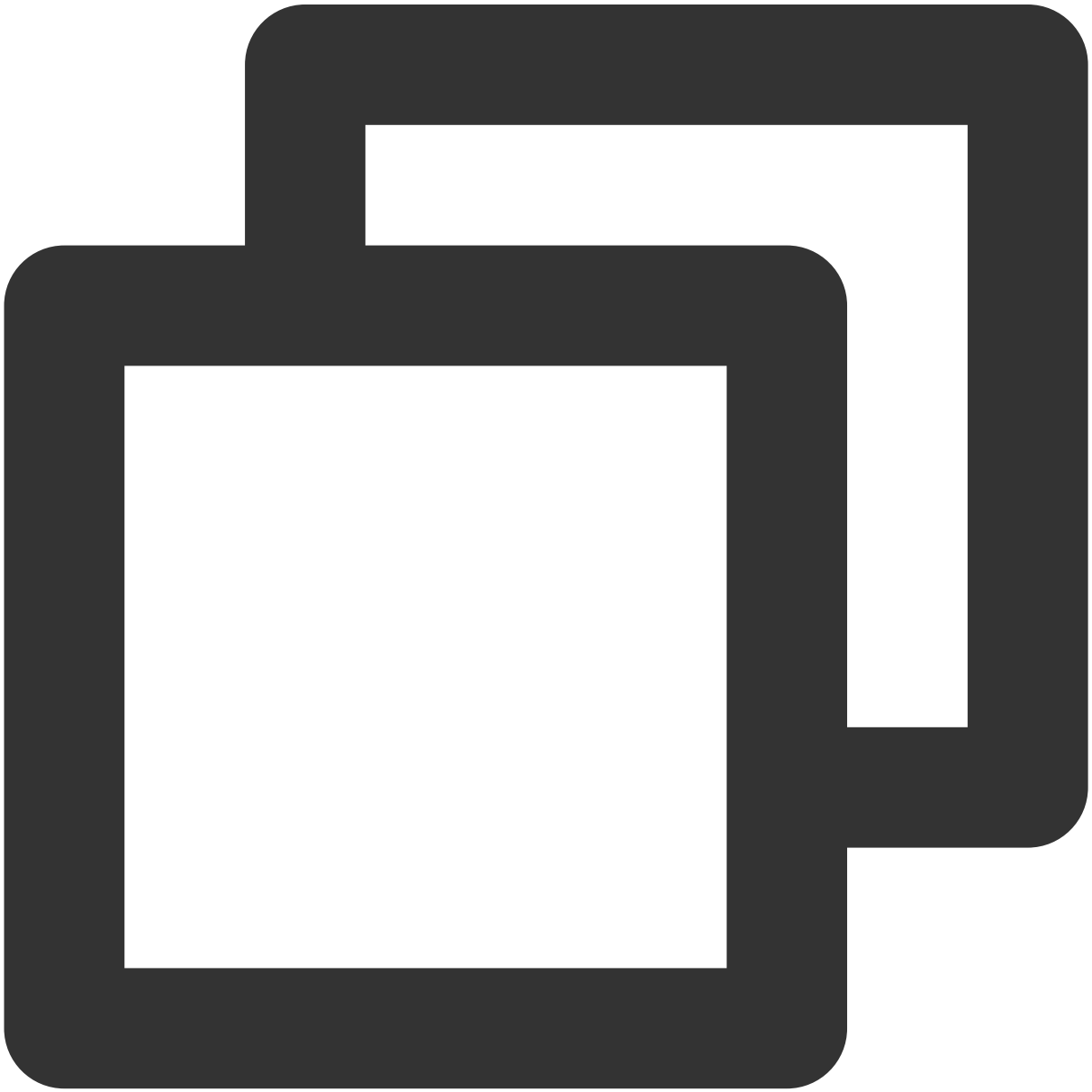
```
func onSeatListChange(seatInfoList: [SeatInfo]) {
}
```

Note

You can implement other seat management operations as instructed in TRTCKaraoke (iOS) or by referring to the TUIKaraoke demo project.

4. **Play back songs and try out the karaoke scenario**

You can get the music ID and URL to play back a song. For more information, see Music Playback APIs.



```
// Play back the music
karaokeRoom.startPlayMusic(musicID: musicID, originalUrl: muscicLocalPath, accompan
```

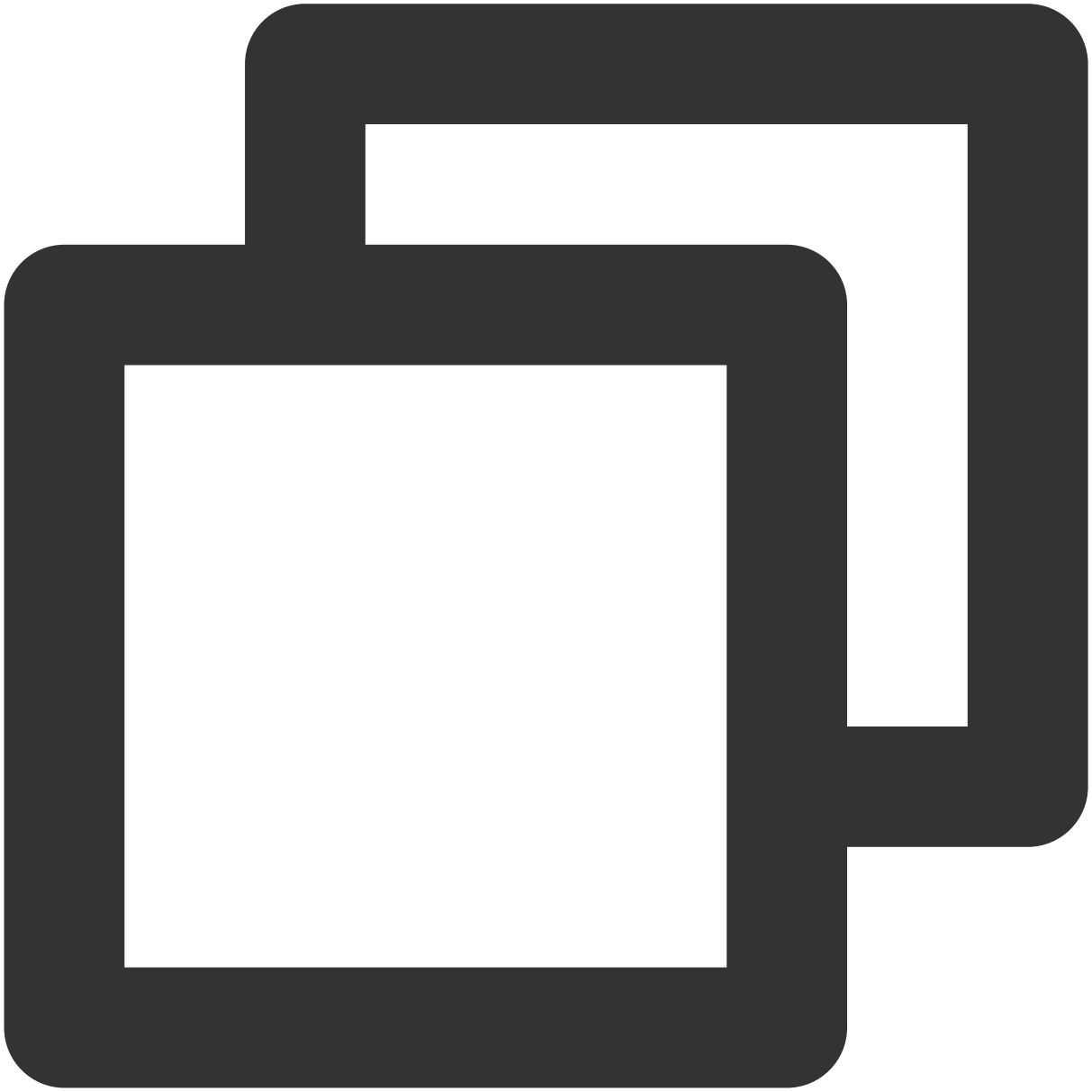
```
// Stop the music
karaokeRoom.stopPlayMusic();
```

After completing the previous steps, you can implement the basic karaoke features. If your business needs more features such as chat and gift giving, you can integrate the following capabilities:

Step 5. Add the text chat feature (optional)

If you want implement a text chat feature between speakers and listeners, implement message sending/receiving as follows:

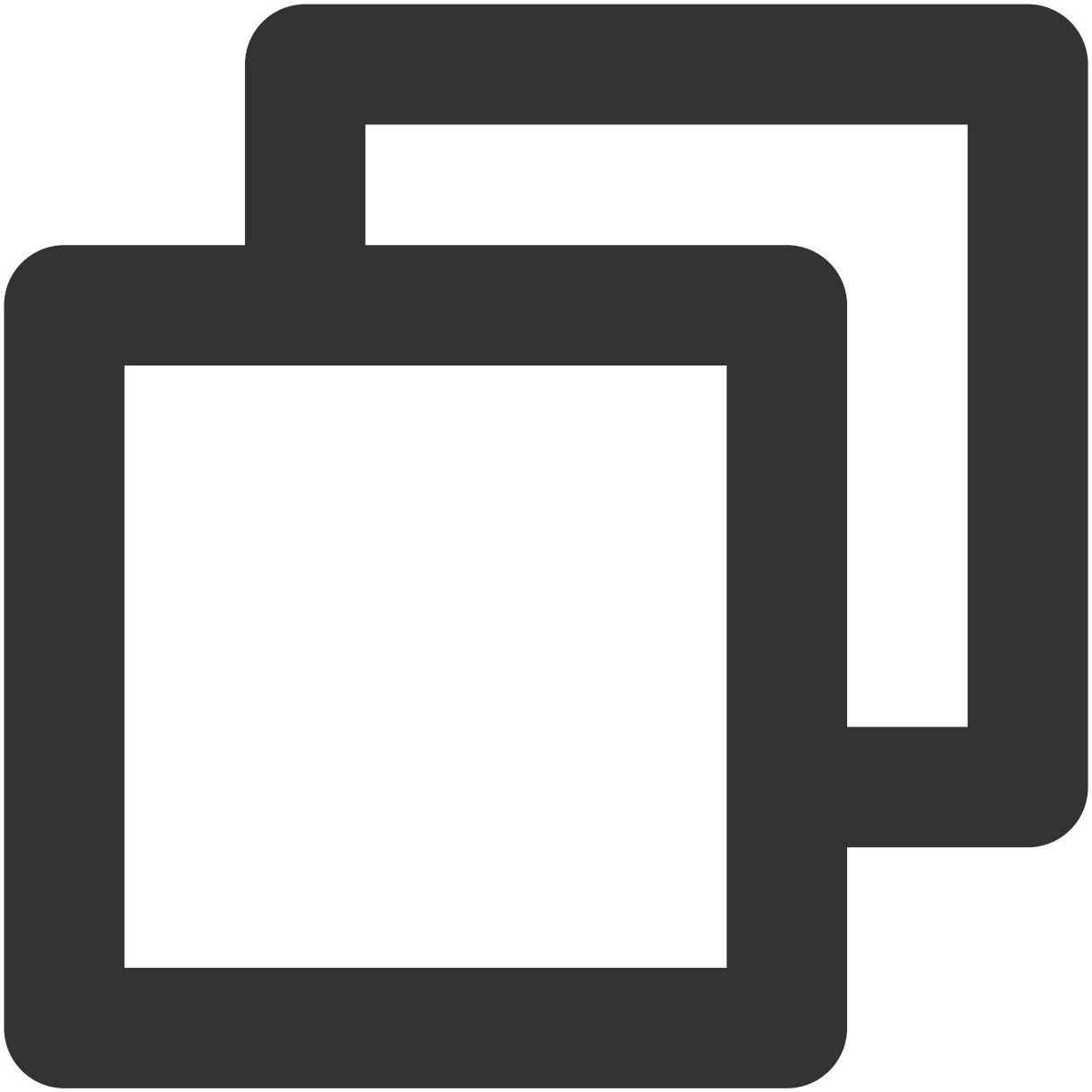
For more information on relevant APIs, see sendRoomTextMsg.



```
// Sender: Sends text chat messages
karaokeRoom.sendRoomTextMsg(message: message) { [weak self] (code, message) in
    if code == 0 {
        // Sent successfully
    }
}
// Receiver: Listens for text chat messages
karaokeRoom.setDelegate(delegate: self)
func onRecvRoomTextMsg(message: String, userInfo: UserInfo) {
    debugPrint("Received a message from" + userInfo.userName + ": " + message)
}
```

Step 6. Add the gift giving feature (optional)

You can implement gift giving, receiving, and displaying as follows:



```
// Sender: Customize `IMCMD_GIFT` to distinguish between gift messages
karaokeRoom.sendRoomCustomMsg(cmd: kSendGiftCmd, message: message) { code, msg in
    if (code == 0) {
        // Sent successfully
    }
}

// Receiver: Listens for gift messages
karaokeRoom.setDelegate(delegate: self)
func onRecvRoomCustomMsg(cmd: String, message: String, userInfo: UserInfo) {
    if cmd == kSendGiftCmd {
```

```
            debugPrint("Received a gift from" + userInfo.userName + ": " + message)
        }
    }
```

FAQs

Does the `TUIKaraoke` component support sound effect features such as voice change, tone change, and reverb?

Yes. For more information, see the TUIKaraoke demo project.

Note

If you have any suggestions or feedback, please contact colleenyu@tencent.com.

Android

Last updated：2023-09-25 10:58:37

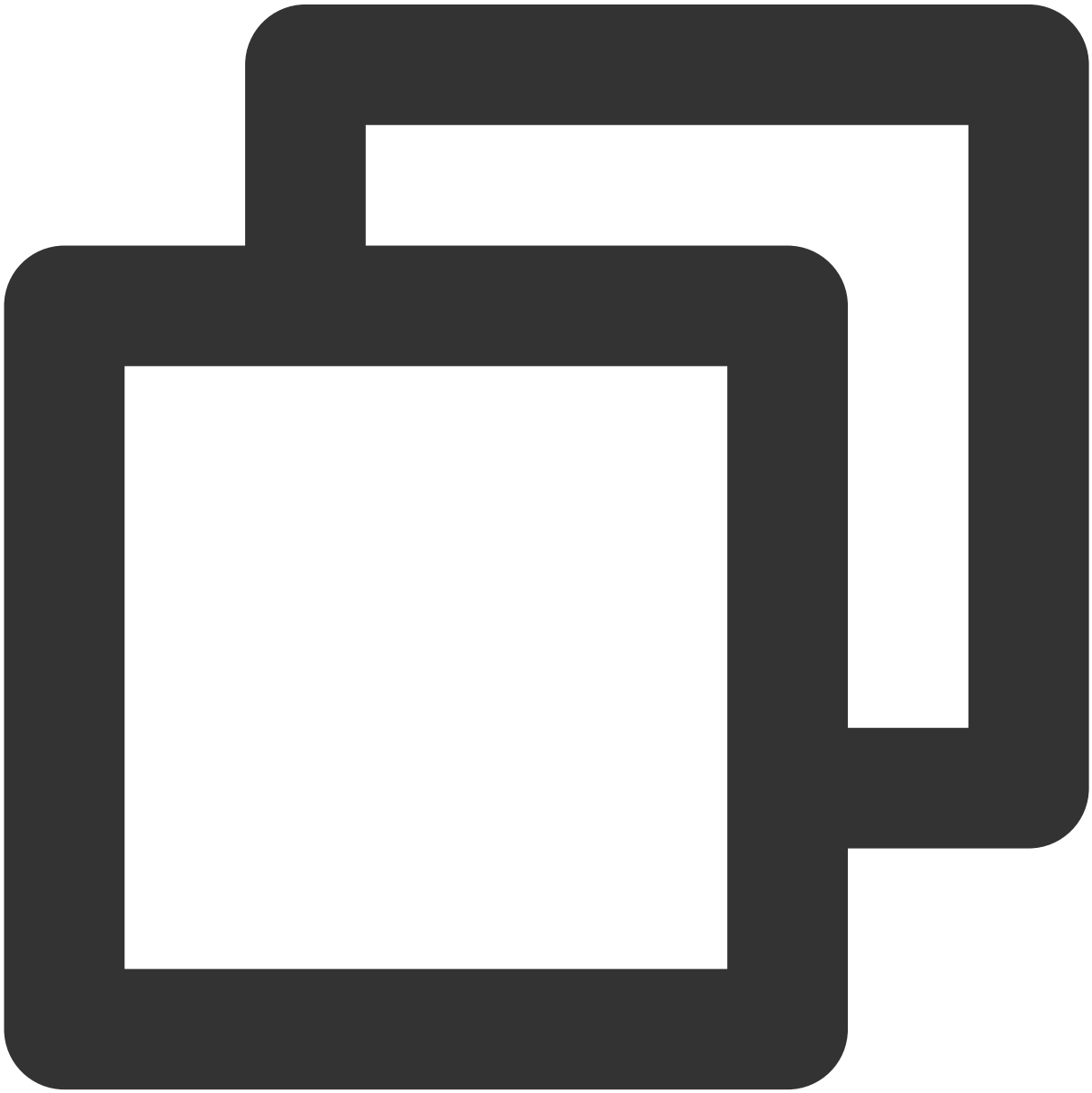
Component Overview

TUIKaraoke is an open-source audio/video UI component that you can integrate into your project to bring online karaoke, seat management, gift giving/receiving, text chat, and other TRTC features to your application. TUIKaraoke requires only a few lines of code and also supports the iOS platform. Its basic features are shown below:

Component Integration

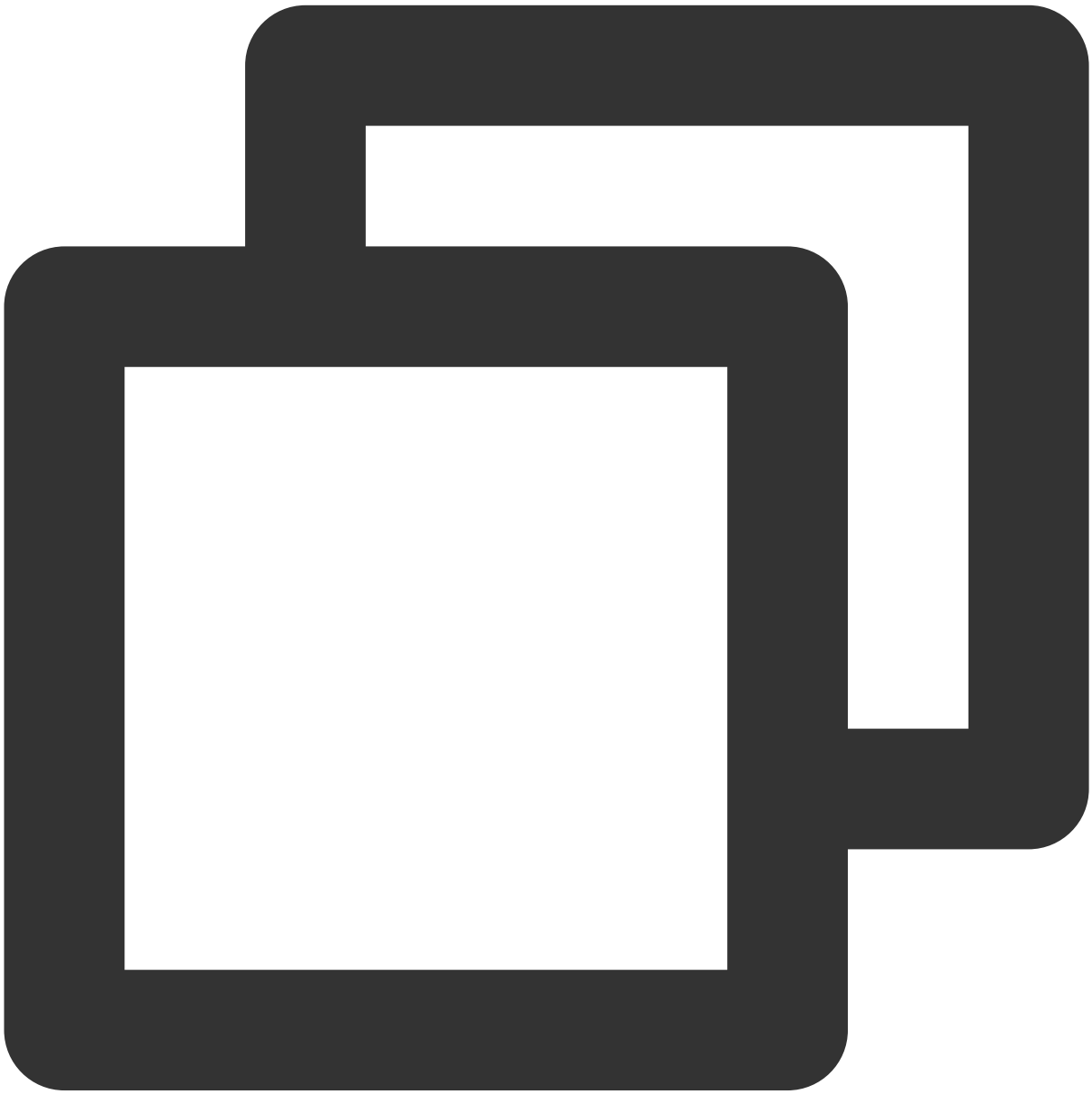
Step 1. Download and import the TUIKaraoke component

Go to GitHub, clone or download the code, copy the `Source` and `Debug` directories in the `Android` directory to your project, and complete the following import operations:
Complete import in `setting.gradle` as shown below:



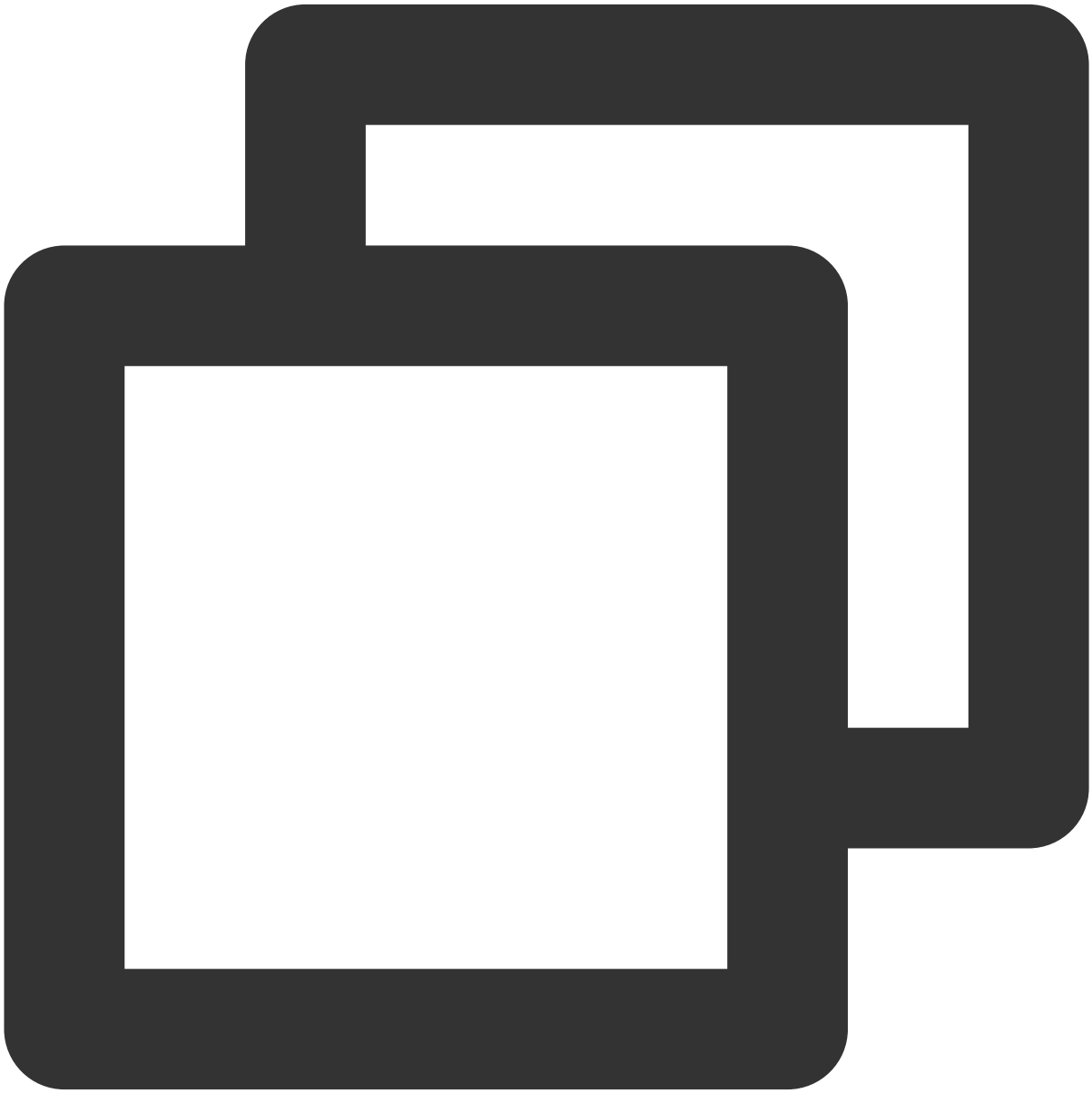
```
include ':Source'
include ':Debug'
```

Add dependencies on `TUIKaraoke` to the `build.gradle` file in `app` :



```
api project(':Source')
```

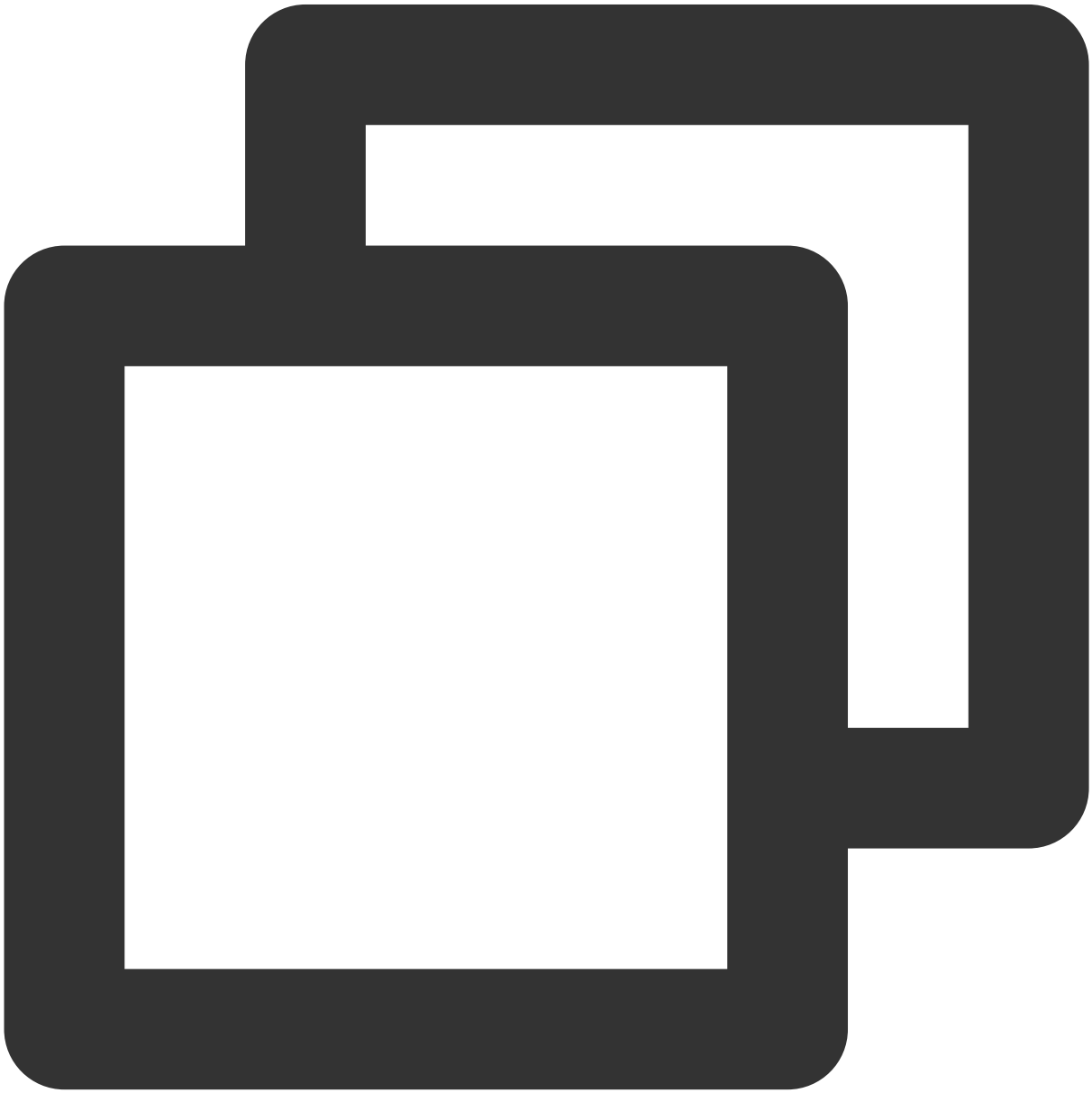
Add dependencies on `TRTC SDK` and `IM SDK` to the `build.gradle` file in the root directory:



```
ext {
  liteavSdk = "com.tencent.liteav:LiteAVSDK_TRTCl:latest.release"
  imSdk = "com.tencent.imsdk:imsdk-plus:latest.release"
}
```

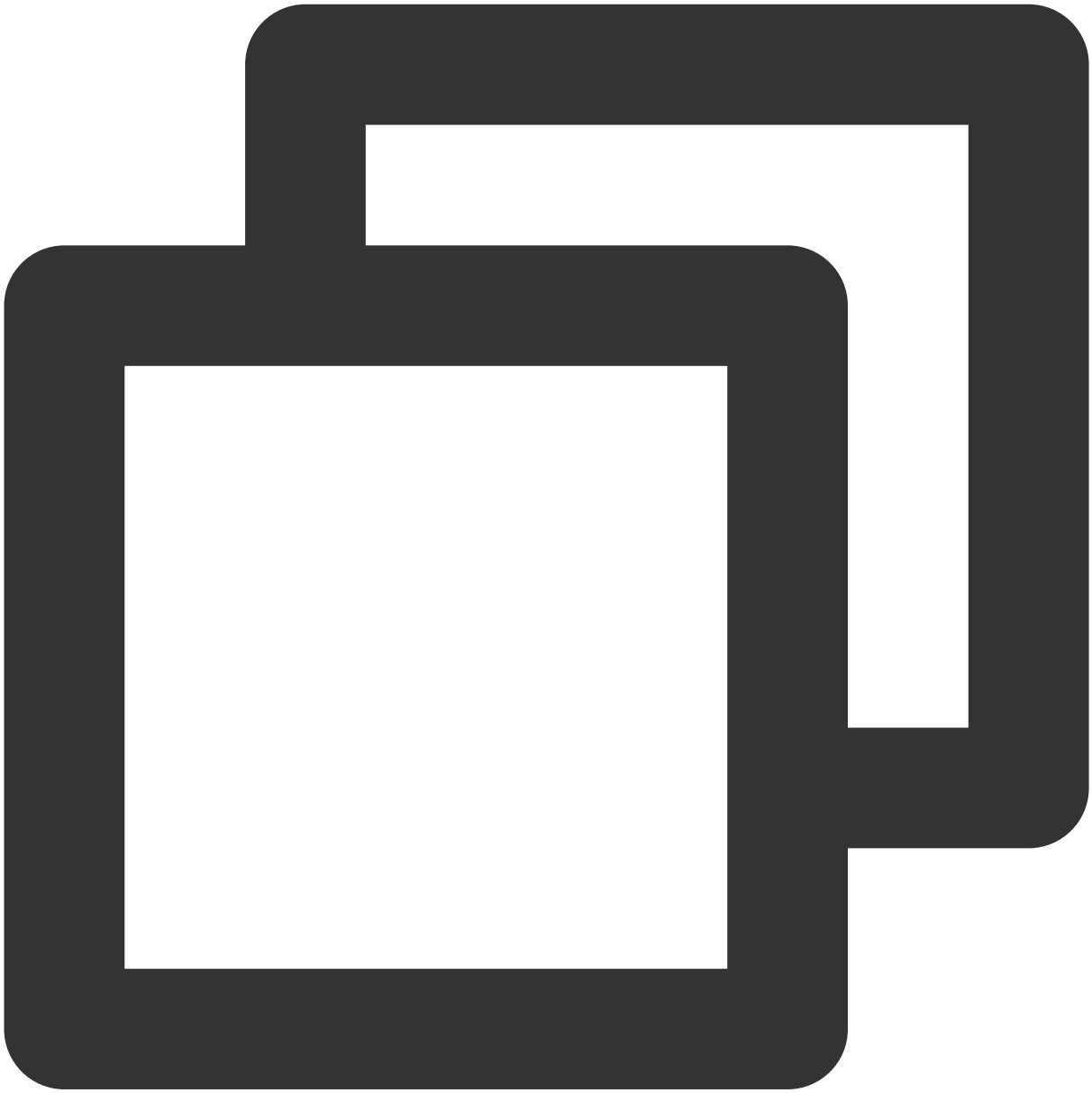
Step 2. Configure permission requests and obfuscation rules

Configure permission requests for your app in `AndroidManifest.xml` . The SDKs need the following permissions (on Android 6.0 and later, the mic access and storage read permission must be requested at runtime):



```
<uses-permission android:name="android.permission.SYSTEM_ALERT_WINDOW" />        //
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.RECORD_AUDIO" />
<uses-permission android:name="android.permission.MODIFY_AUDIO_SETTINGS" />
<uses-permission android:name="android.permission.BLUETOOTH" />                  //
```

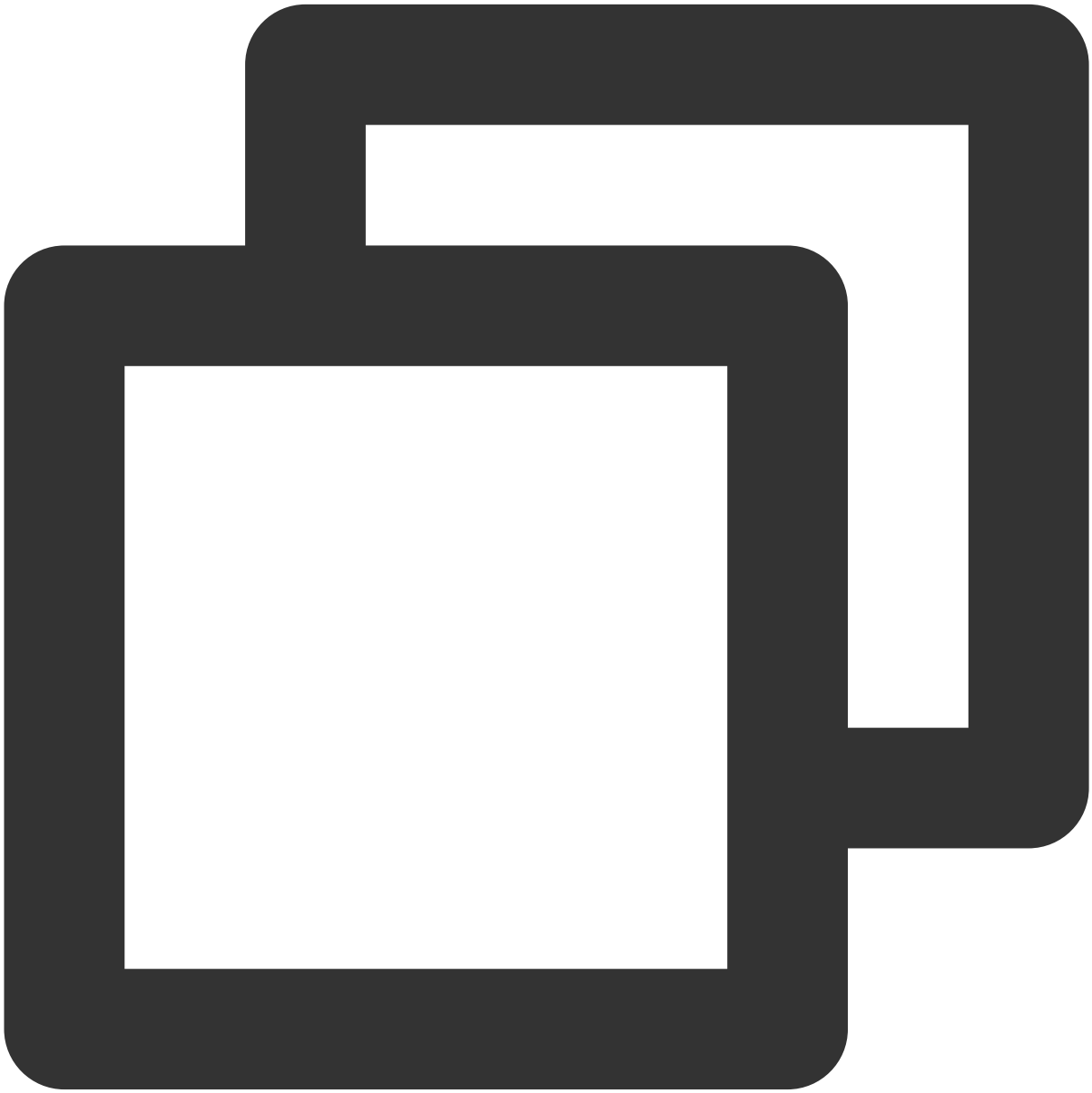
In the `proguard-rules.pro` file, add the SDK classes to the "do not obfuscate" list.



```
-keep class com.tencent.** { *;}
```

Step 3. Initialize and log in to the component

For more information on relevant APIs, see TUIKaraoke.

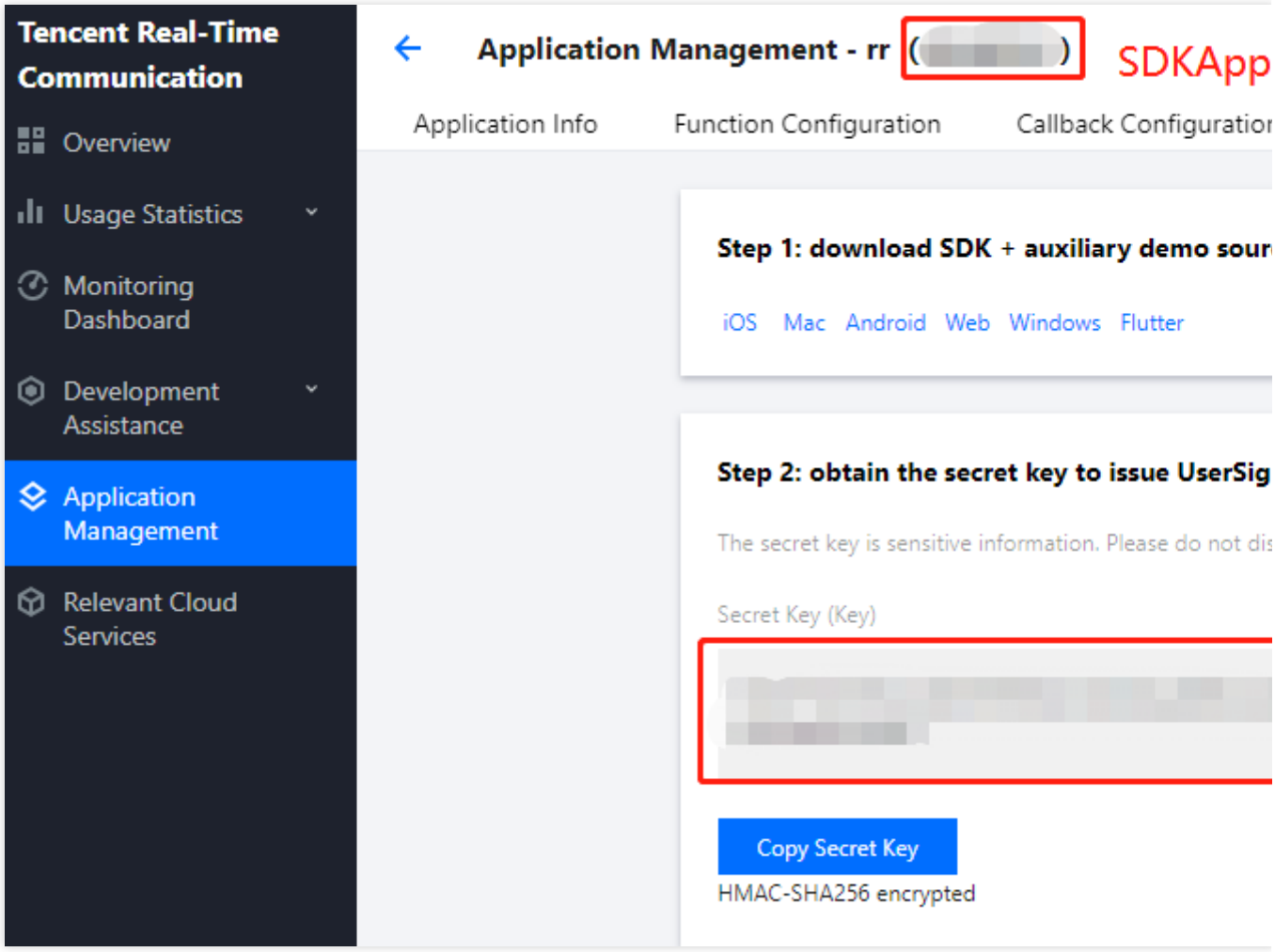


```
// 1. Initialize
TRTCKaraokeRoom mTRTCKaraokeRoom = TRTCKaraokeRoom.sharedInstance(this);
mTRTCKaraokeRoom.setDelegate(this);
// 2. Log in
mTRTCKaraokeRoom.login(SDKAppID, UserID, UserSig, new TRTCKaraokeRoomCallback.Act
    @Override
    public void onCallback(int code, String msg) {
        if (code == 0) {
        // Logged in
        }
    }
```

```
    });
```

Parameter description:

SDKAppID: **TRTC application ID**. If you haven't activated the TRTC service, log in to the TRTC console, create a TRTC application, and click **Application Info**. The `SDKAppID` is as shown below:



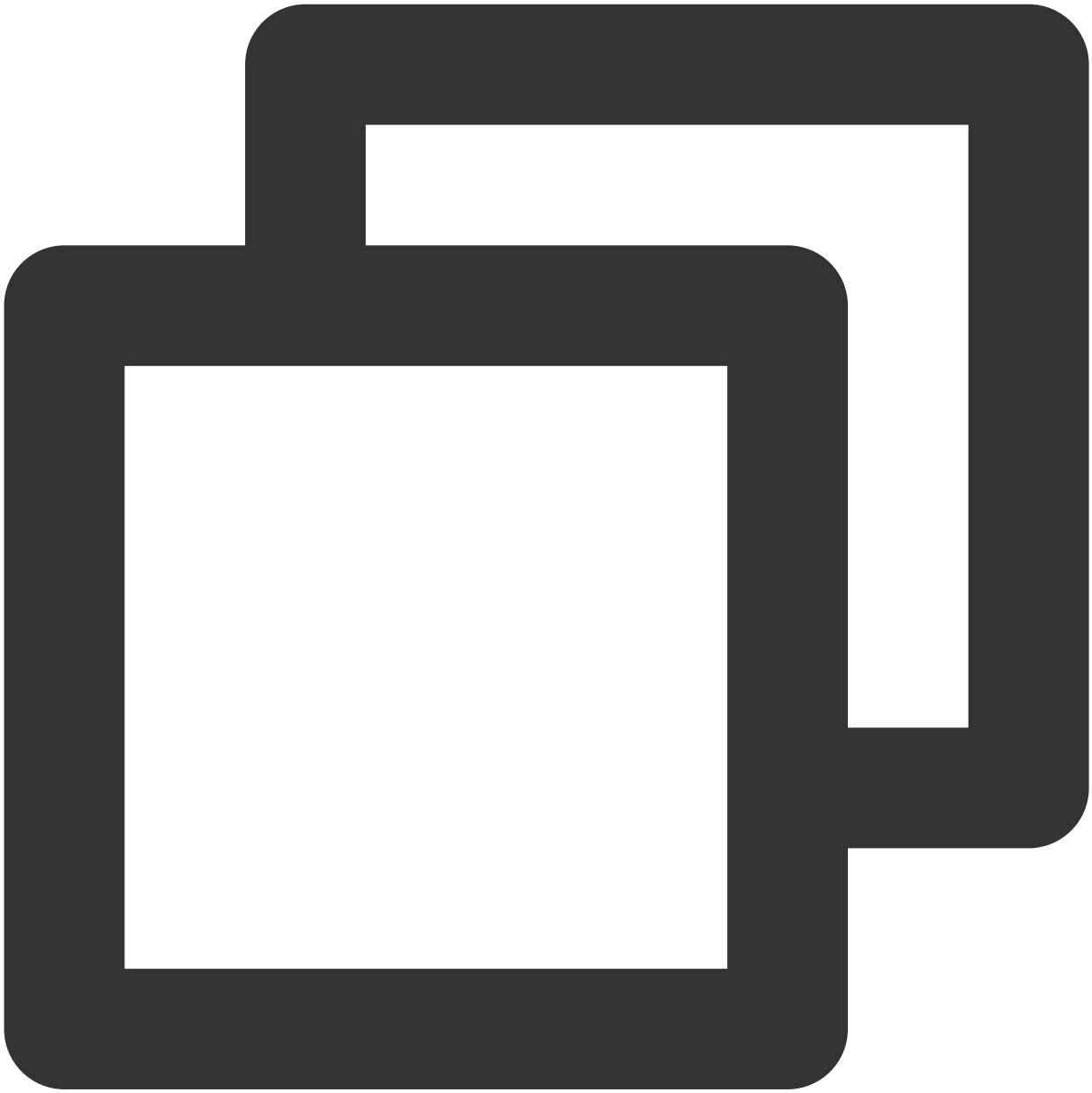
Secretkey: **TRTC application key**, which corresponds to `SDKAppID`. On the Application Management page in the TRTC console, the `SecretKey` is as shown below:

userId: Current user ID, which is a string and can contain up to 32 bytes of letters and digits (special symbols are not supported). You can customize it based on your actual account system.

userSig: Security protection signature calculated based on `SDKAppID`, `userId`, and `Secretkey`. You can click here to directly generate a debugging `userSig` online. For more information, see UserSig.

Step 4. Implement the online karaoke scenario

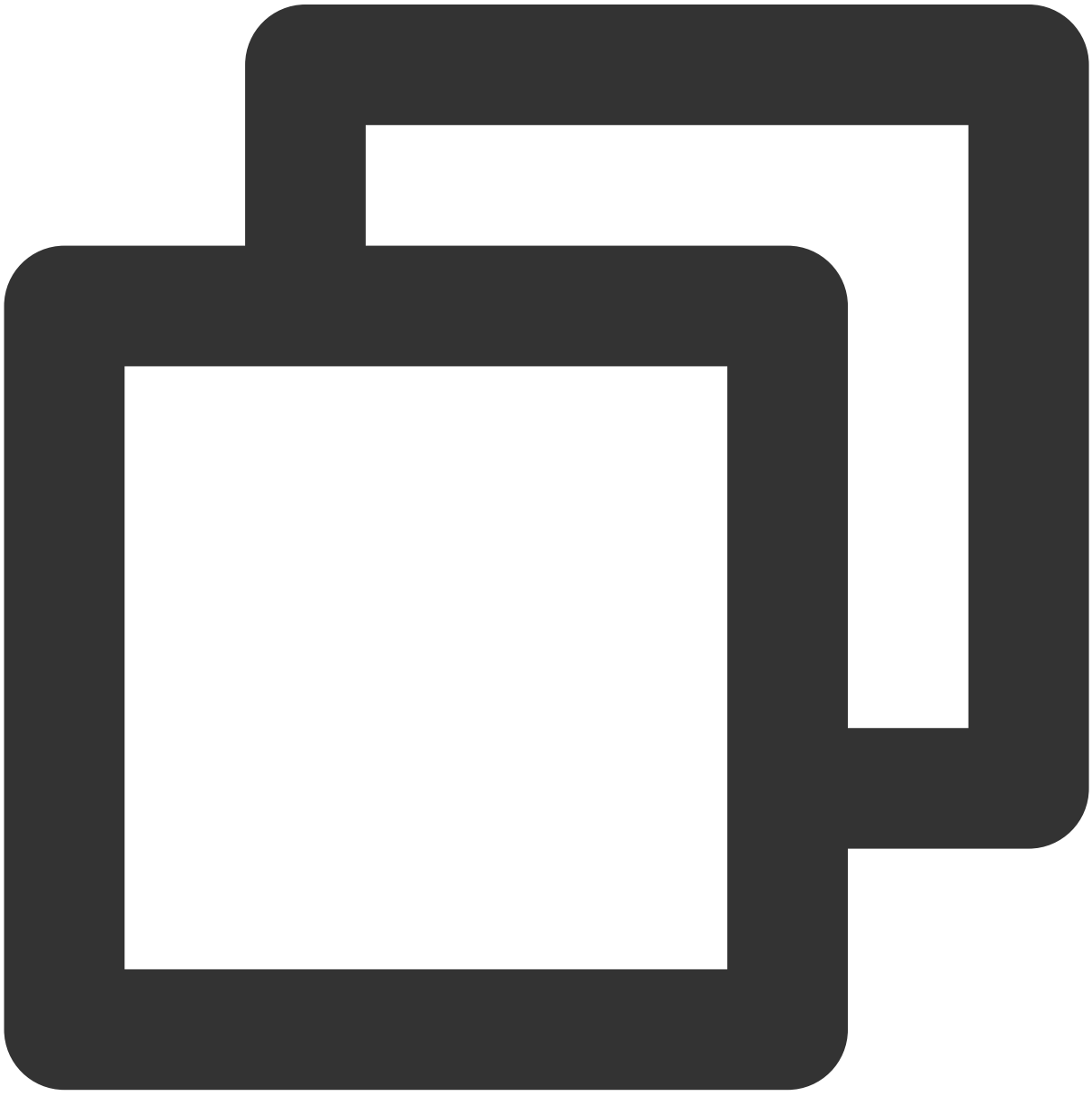
1. **The anchor creates a room through** TUIKaraoke.createRoom.



```
int roomId = "Room ID";
TRTCKaraokeRoomDef.RoomParam roomParam = new TRTCKaraokeRoomDef.RoomParam();
roomParam.roomName = "Room name";
roomParam.needRequest = false; // Whether your consent is required for listeners to
roomParam.seatCount = 8;       // Number of seats in the room. Set it to `8`
roomParam.coverUrl = "URL of room cover image";
mTRTCKaraokeRoom.createRoom(roomId, roomParam, new TRTCKaraokeRoomCallback.ActionCa
 @Override
 public void onCallback(int code, String msg) {
   if (code == 0) {
     // Room created successfully
```

```
    }
  }
});
```

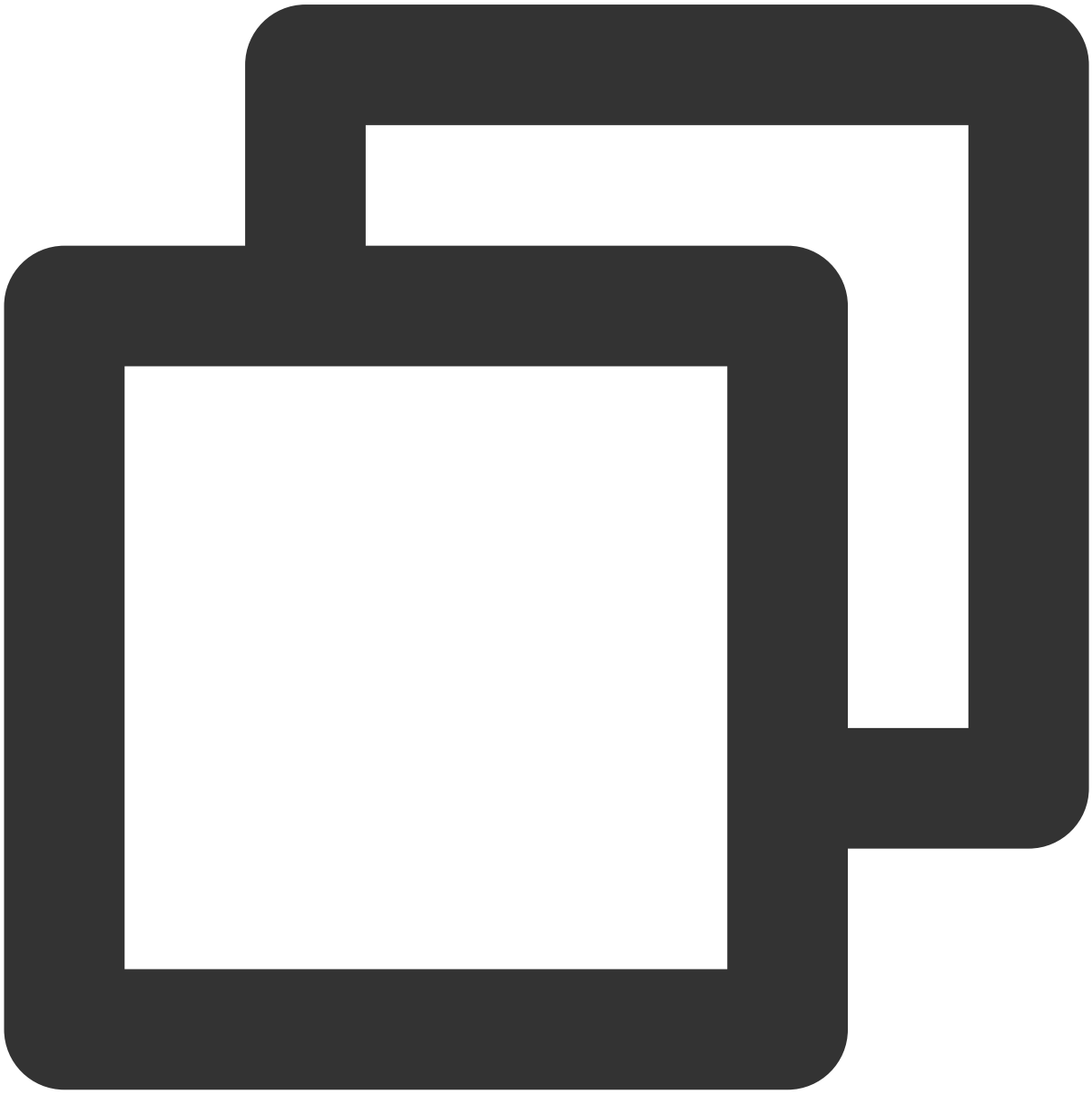
2. **A listener enters the room through** TUIKaraoke.enterRoom.



```
mTRTCKaraokeRoom.enterRoom(roomId, new TRTCKaraokeRoomCallback.ActionCallback() {
 @Override
 public void onCallback(int code, String msg) {
     if (code == 0) {
     // Entered room successfully
     }
```

```
  }
});
```

3. **A listener mics on through** TUIKaraoke.enterSeat.



```
// 1. A listener calls an API to mic on
int seatIndex = 1;
mTRTCKaraokeRoom.enterSeat(seatIndex, new TRTCKaraokeRoomCallback.ActionCallback()
 @Override
 public void onCallback(int code, String msg) {
     if (code == 0) {
     // Mic turned on successfully
```

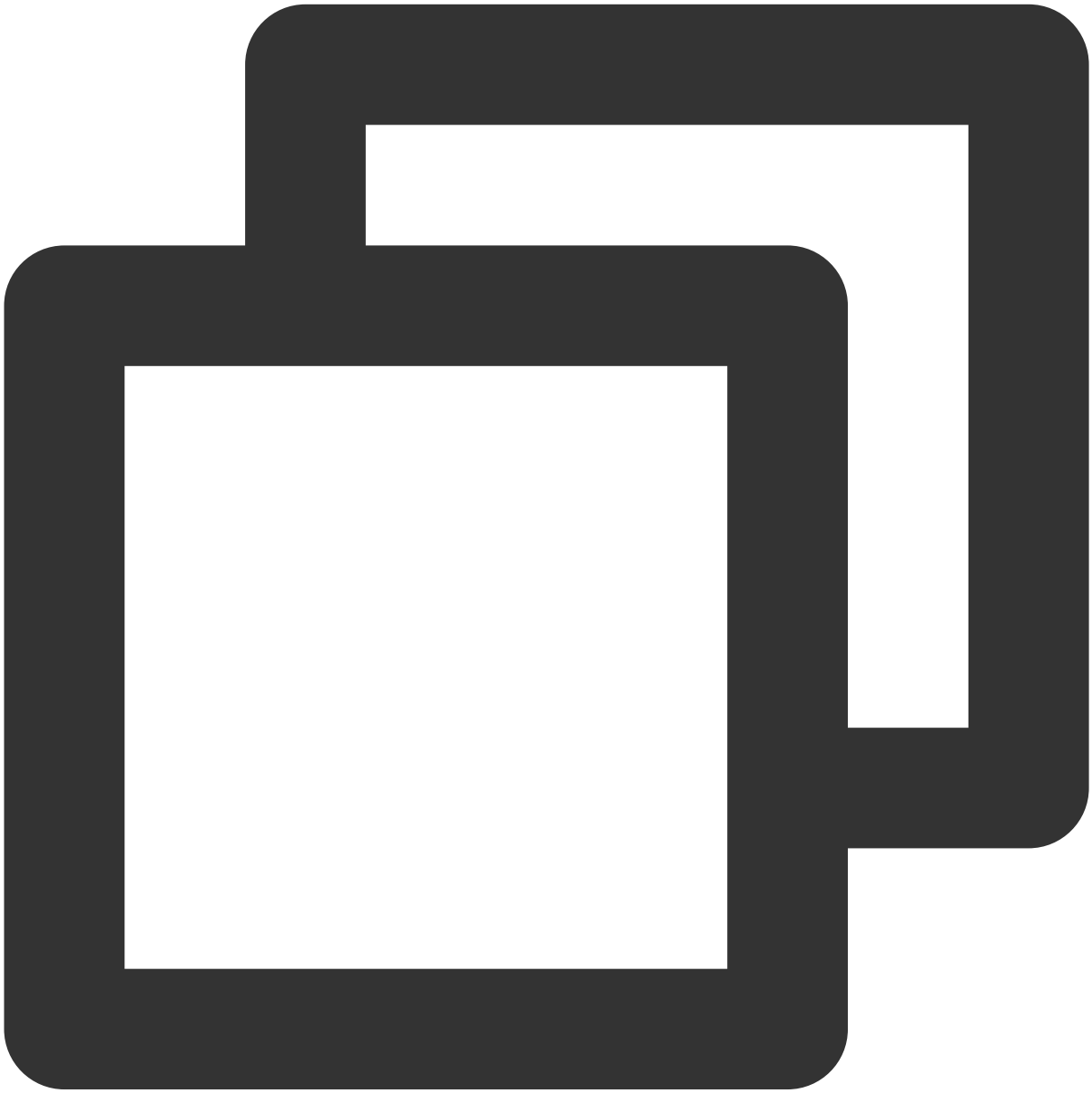
```
        }
    }
});
// 2. The listener receives the `onSeatListChange` callback and refreshes the seat
@Override
public void onSeatListChange(final List<TRTCKaraokeRoomDef.SeatInfo> seatInfoList)
}
```

Note

You can implement other seat management operations as instructed in TRTCKaraoke (Android) or by referring to the TUIKaraoke demo project.

4. **Play back songs and try out the karaoke scenario**

You can get the music ID and URL to play back a song based on your business. For more information, see Music Playback APIs.

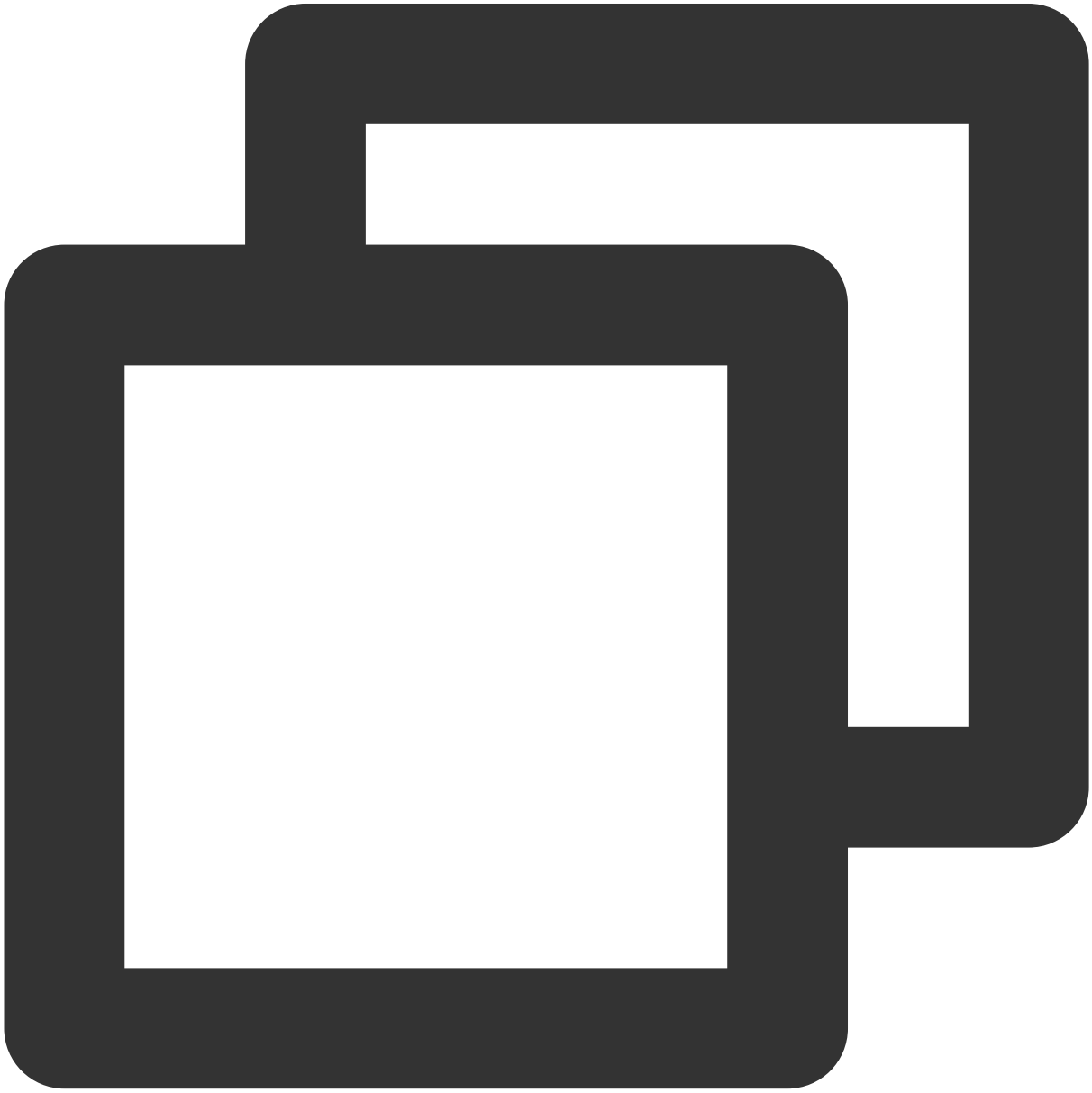


```
// Play back the music
mTRTCKaraokeRoom.startPlayMusic(musicID,url);
// Stop the music
mTRTCKaraokeRoom.stopPlayMusic();
```

After completing the previous steps, you can implement the basic karaoke features. If your business needs more features such as text chat and gift giving, you can integrate the following capabilities:

Step 5. Add the text chat feature (optional)

If you want the text chat feature between anchors and listeners, implement message sending/receiving as follows:
For more information on relevant APIs, see sendRoomTextMsg.

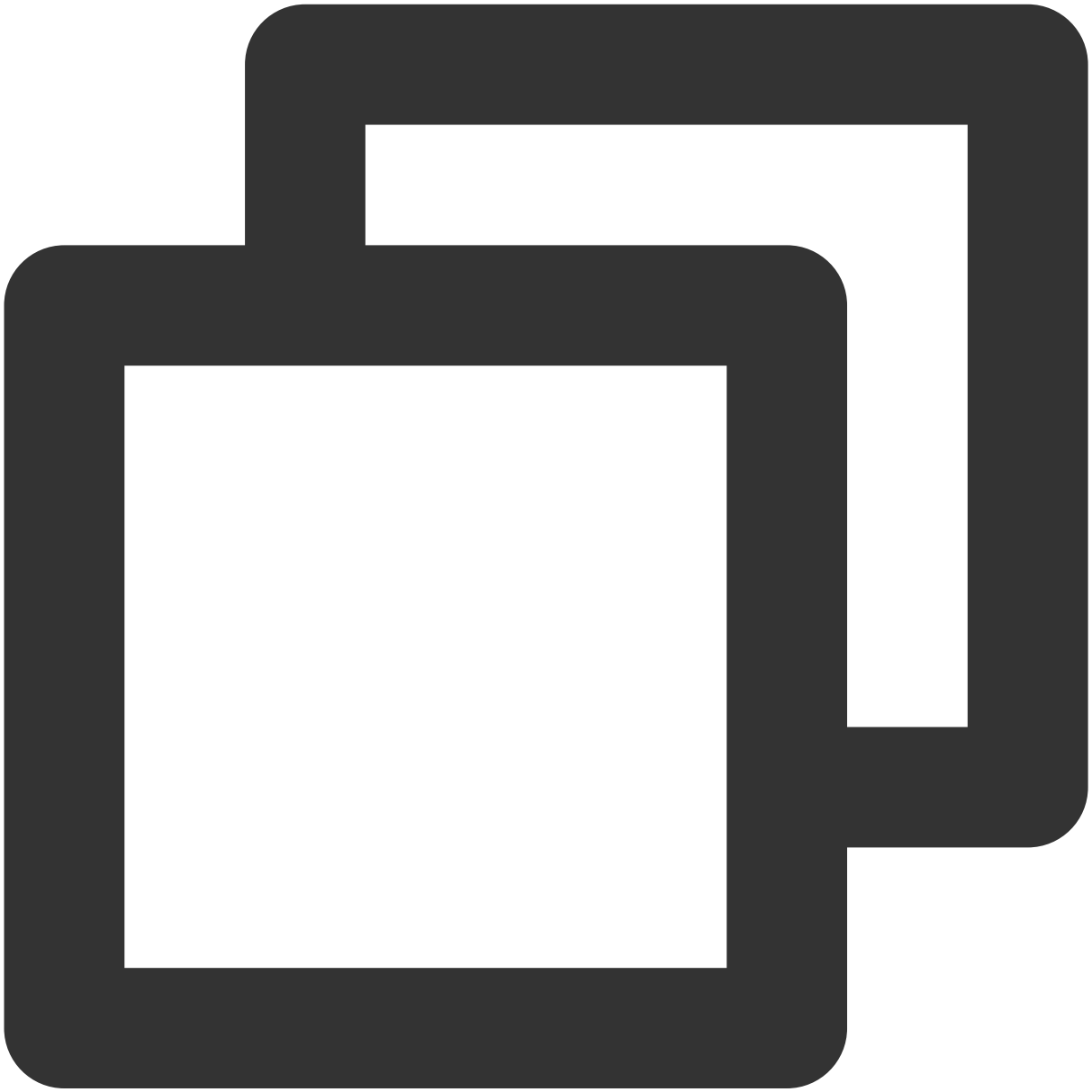


```
// Sender: Sends text messages
mTRTCKaraokeRoom.sendRoomTextMsg("Hello Word!", new TRTCKaraokeRoomCallback.ActionC
    @Override
    public void onCallback(int code, String msg) {
        if (code == 0) {
            // Sent successfully
        }
    }
```

```
});
// Receiver: Listens for text messages
mTRTCKaraokeRoom.setDelegate(new TRTCKaraokeRoomDelegate() {
  @Override
  public void onRecvRoomTextMsg(String message, TRTCKaraokeRoomDef.UserInfo userInf
      Log.d(TAG, "Received a message from" + userInfo.userName + ": " + message);
  }
});
```

Step 6. Add the gift giving feature (optional)

If you want the gift giving and receiving features, implement gift giving, receiving, and displaying as follows:



```
// Sender: Customize `CMD_GIFT` to distinguish between gift messages
mTRTCKaraokeRoom.sendRoomCustomMsg("CMD_GIFT",date, new TRTCKaraokeRoomCallback.Act
    @Override
    public void onCallback(int code, String msg) {
        if (code == 0) {
            // Sent successfully
        }
    }
});

// Receiver: Listens for gift messages
```

```
mTRTCKaraokeRoom.setDelegate(new TRTCKaraokeRoomDelegate() {
    @Override
    public void onRecvRoomCustomMsg(String cmd, String message, TRTCKaraokeRoomDef.
        if ("CMD_GIFT".equals(cmd)) {
            // Received a gift message
            Log.d(TAG, "Received a gift from" + userInfo.userName + ": " + message)
        }
    }
});
```

FAQs

Does the `TUIKaraoke` component support sound effect features such as voice change, tone change, and reverb?

Yes.

Note

If you have any suggestions or feedback, please contact colleenyu@tencent.com.

Solution Overview (TUIKaraoke) Implementation Steps

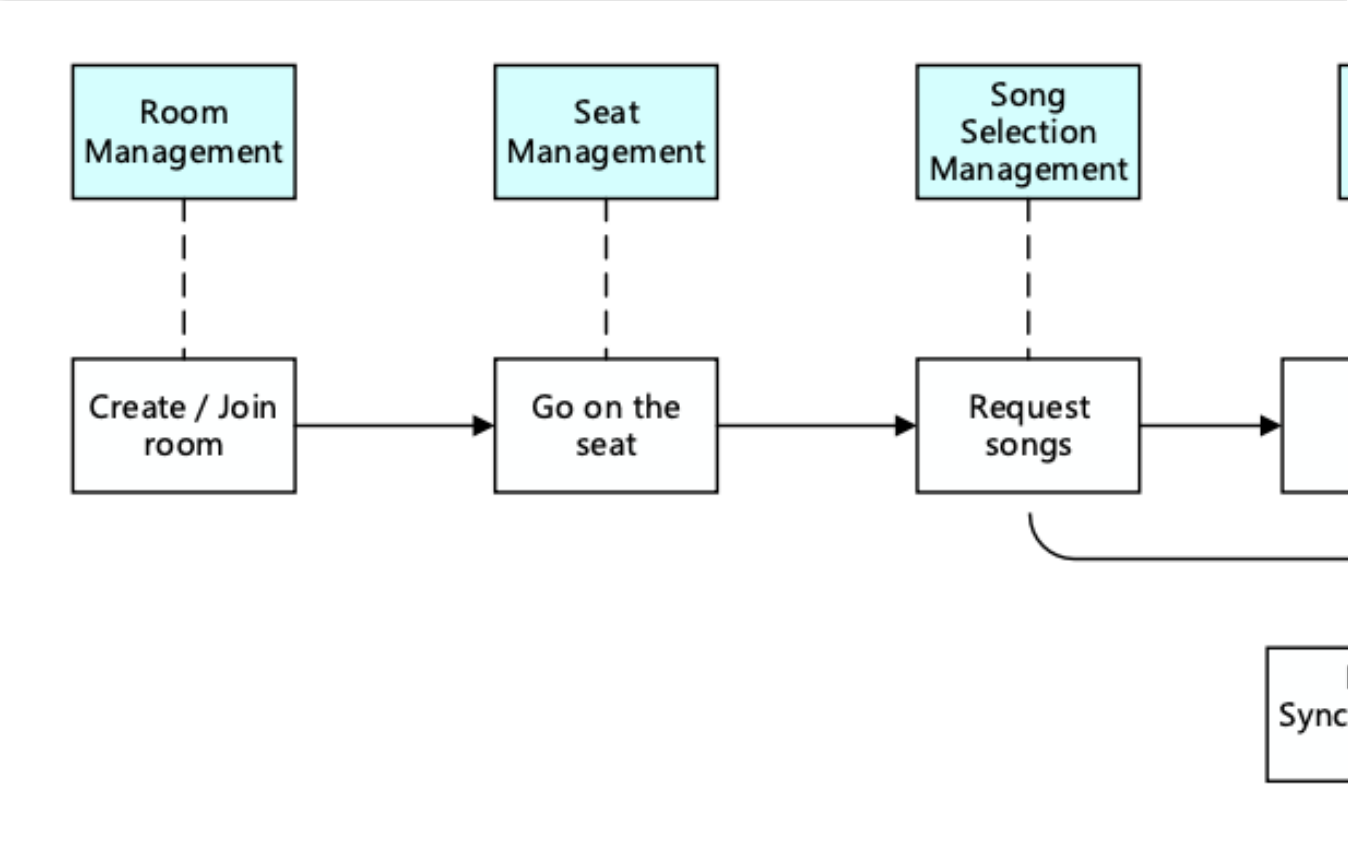
Last updated：2023-09-26 16:38:31

Introduction

To implement a complete online Karaoke scenario, multiple functional modules are required, including room management, seat management, song selection management, and Karaoke management. The key actions and features of each functional module are shown in the table below. In the following sections, each functional module will be introduced in detail to provide a complete understanding of the required functions for building a Karaoke room.

Room Management	Seat Management	Song Selection Management	Karaoke Management
Room List	Go on/off the seat	Song List Display	Karaoke Play Mode
Create Room	Seat Control	Search for Songs	Song Switching
Join Room	Lock the Seat	Song Selection	Vocal Volume Adjustment
Leave Room	Take Seat	Song Top	Reverb/Sound Effects
Destroy Room	Mute Seat	Selected Song List	Lyric Synchronization

The room owner creates the Karaoke room, and users can choose to join the room they are interested in. After entering the room, users can go on the seat to participate in the interaction and have voice interaction with the room owner. Of course, users can also choose to go directly on the seat to participate in the chorus. These are two different Karaoke play modes. The overall business process of the online Karaoke scenario is shown in the figure below.

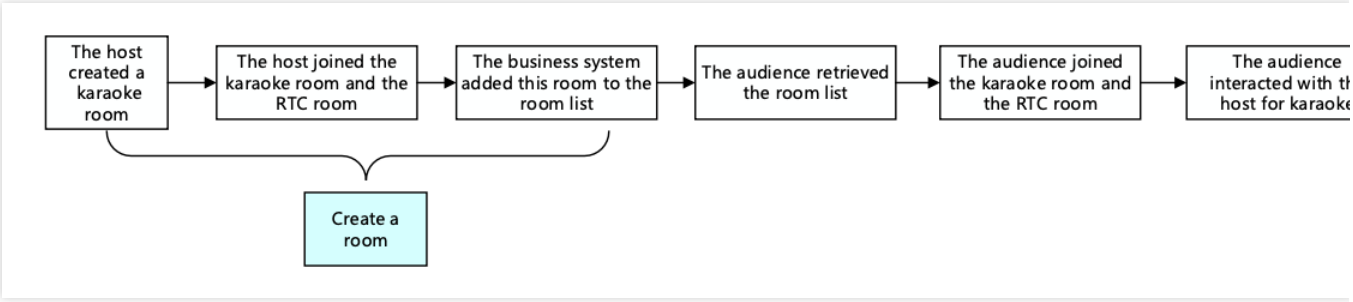


Room Management

Room management is mainly responsible for maintaining the room list. The main functions include creating a room, joining a room, destroying a room, and leaving a room. Moreover, Karaoke rooms are different from ordinary rooms and require a separate Karaoke room identifier to start related component management, such as song selection management and Karaoke management.

Create Room: After logging into the business system, users can create a room. After creating a room, the room list needs to be updated with the new room.

Destroy Room: After all users leave the room, the room needs to be destroyed. After destroying the room, the room list needs to be updated with the deletion of the room.



Note：

Room management is a necessary module for implementing online karaoke, but it is not the main functional module. The specific implementation can be combined with the business system and TRTC SDK, please refer to the voice chat room scene access solution for details.

Seat Management

The seats in the karaoke room are generally ordered and limited. Seat management is mainly responsible for defining the number of seats in the room and managing the status of all seats in the current room according to the business scenario. Seat management mainly includes the following functions: going on/off the seat, locking the seat, inviting to go on the seat, and muting the seat.

After entering the room, users can only apply to go on the seat for the seats that are in idle state.

After the host agrees to let the user go on the seat, the seat status needs to be changed to a non-idle state.

After the user stops streaming and goes off the seat, the seat status needs to be reset.

The host has the right to lock the seat, invite to go on the seat, force to go off the seat, and mute the seat.

Note：

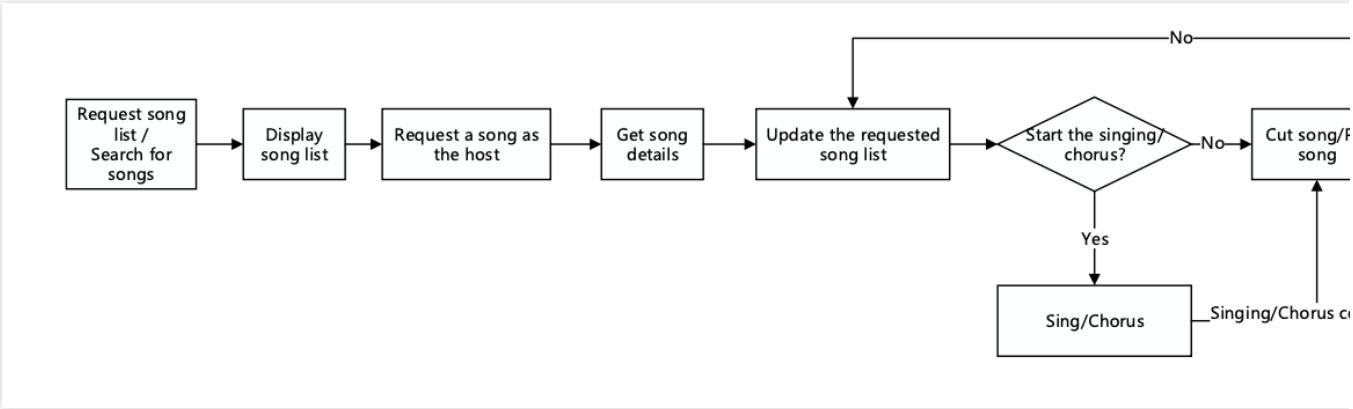
Seat management is a necessary module for implementing online karaoke, but it is not the main functional module. The specific implementation can be combined with the business system and IM SDK, please refer to the voice chat room scene access solution for details.

Song selection management

Basic Introduction

Song selection management is an important part of the online karaoke scene, which mainly includes the following functions: song list display, song search, song selection and queue management, and list of selected songs. Moreover, each karaoke room needs to maintain a list of selected songs and an automatic queue management function, which requires the business backend to implement. Song list display and song search need to be combined with Yinsuda Authorized Music for Live Streaming to achieve.

Implementation Process



The entire song selection management mainly involves the business-side app, the business backend, and the Yinsuda backend, each with its own functions:

Business-side app:

Call the song selection API to report song information.

Call the song cutting API to notify the business backend to update the list of selected songs.

Call the singing confirmation API to notify the business backend.

Business backend:

Maintain the list of selected songs.

Send notifications to the business-side app to update the current list of selected songs.

Yinsuda backend:

Provide APIs to obtain the recommended song list and song list details for live interactive music Song List/Song List Details.

Provide an API to obtain the details of live interactive music Get Live Interactive Music Details (playToken, lyric download URL).

Provide an API to search for live interactive music Search Live Interactive Music.

Karaoke Management

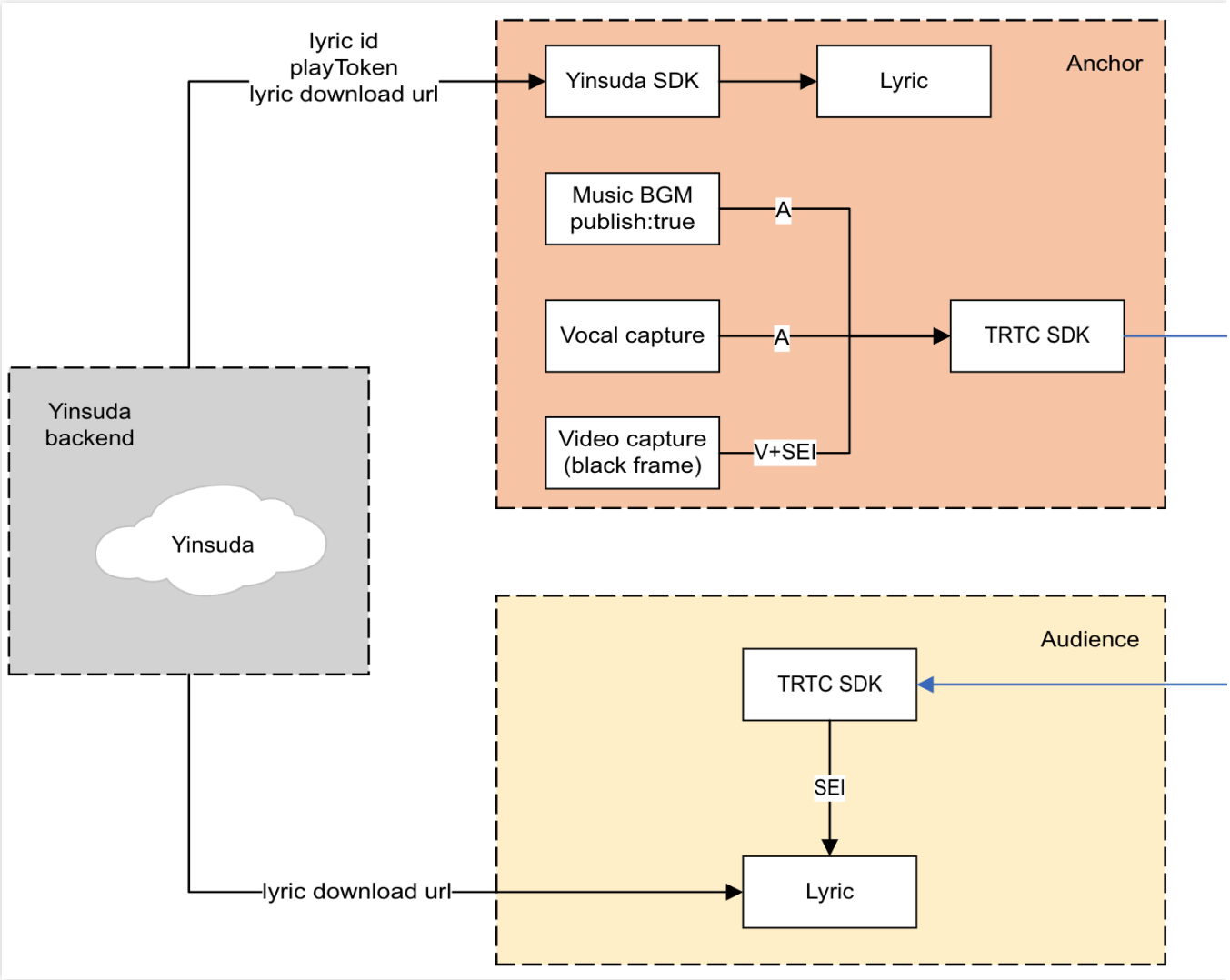
The karaoke system mainly includes the following functions: singing gameplay, start/stop/song cutting, vocal volume adjustment, reverb/sound effects, and lyric synchronization. Below, we will introduce the implementation process of the karaoke management module in detail through two typical karaoke gameplay: solo singing and real-time chorus.

Solo Singing

This is mainly a multi-user interactive Karaoke scene. After the host goes on the seat, they can select songs for singing. Once the host successfully selects a song, all song selection information will be displayed on the song selection platform. The host can then choose to begin singing.

(1) Solution Architecture

The overall solution architecture mainly utilizes the VOD SDK to achieve song downloading, the VOD backend to obtain the playToken and lyric download address of the song, and the TRTC SDK to implement the singer's voice streaming, song playback, and streaming. The overall solution architecture is as follows:



(2) Specific Implementation

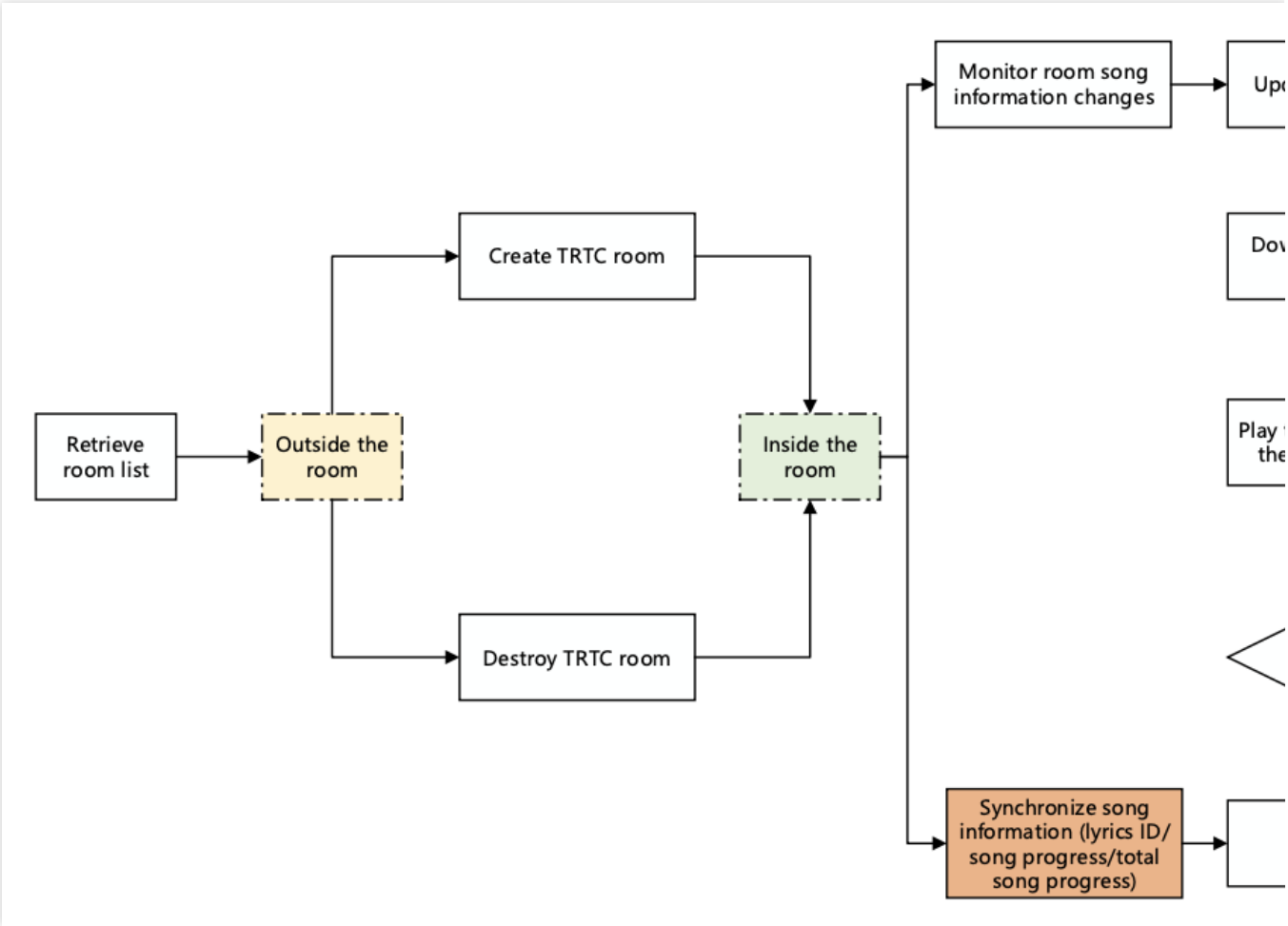
In the singing scenario, different roles have different implementation processes, which can be divided into two roles: singer and audience.

Role	Description	Differences

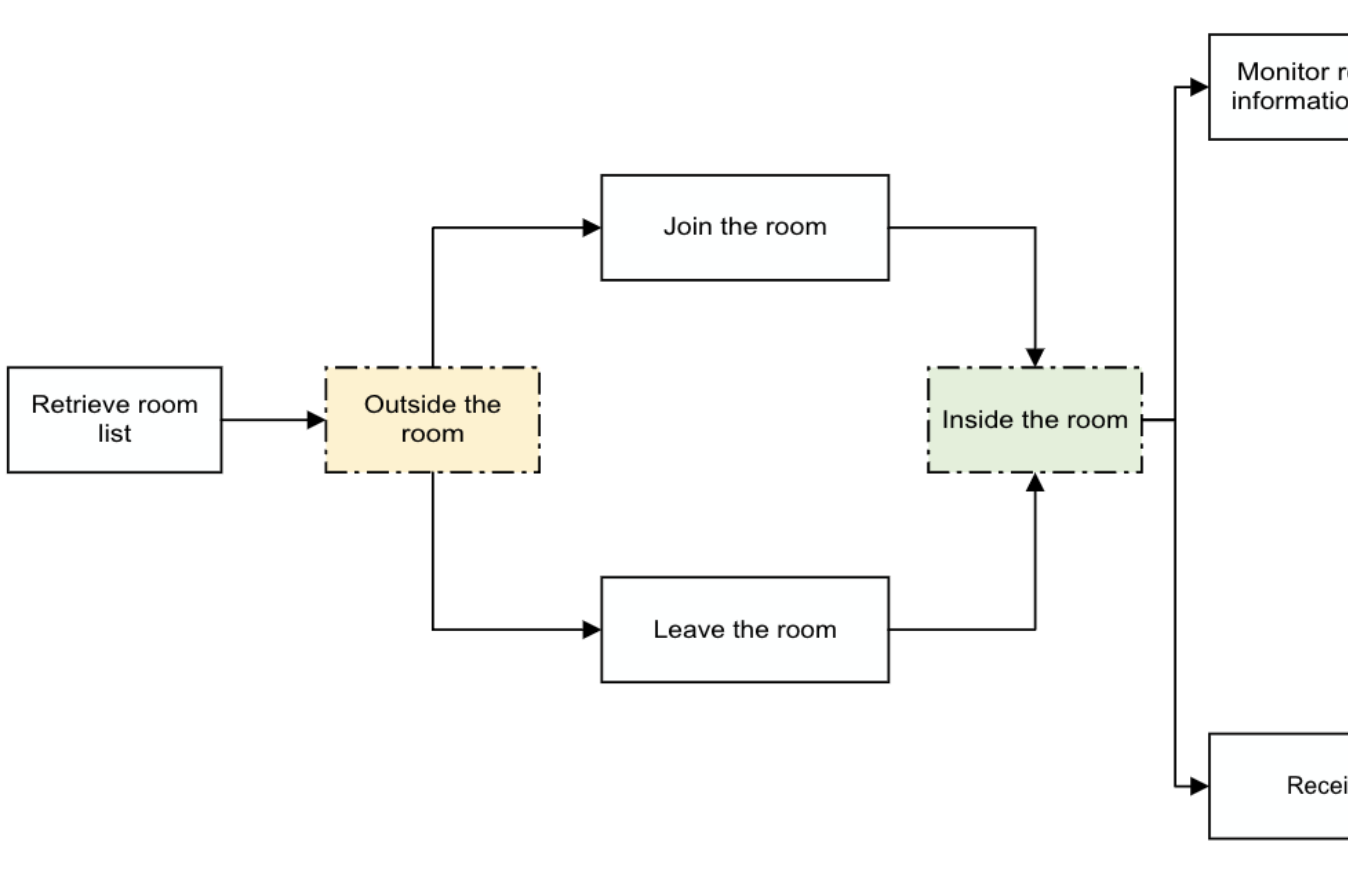
Singer	The singer in the Karaoke room is evolved from the host who selects songs and sings after going on the seat. After leaving the room, the room is automatically dissolved and the list of selected songs is automatically cleared.	The role must be a host Upstream audio and video (no video upstream black frame) Play BGM Send SEI information (send lyric information) Song selection
Audience	The audience in the Karaoke room plays the stream of the singer.	The role is an audience, but can also become a host by going on the seat Downstream audio and video streams Receive SEI information (receive lyric information)

The basic implementation processes for different roles are as follows:

【Host】



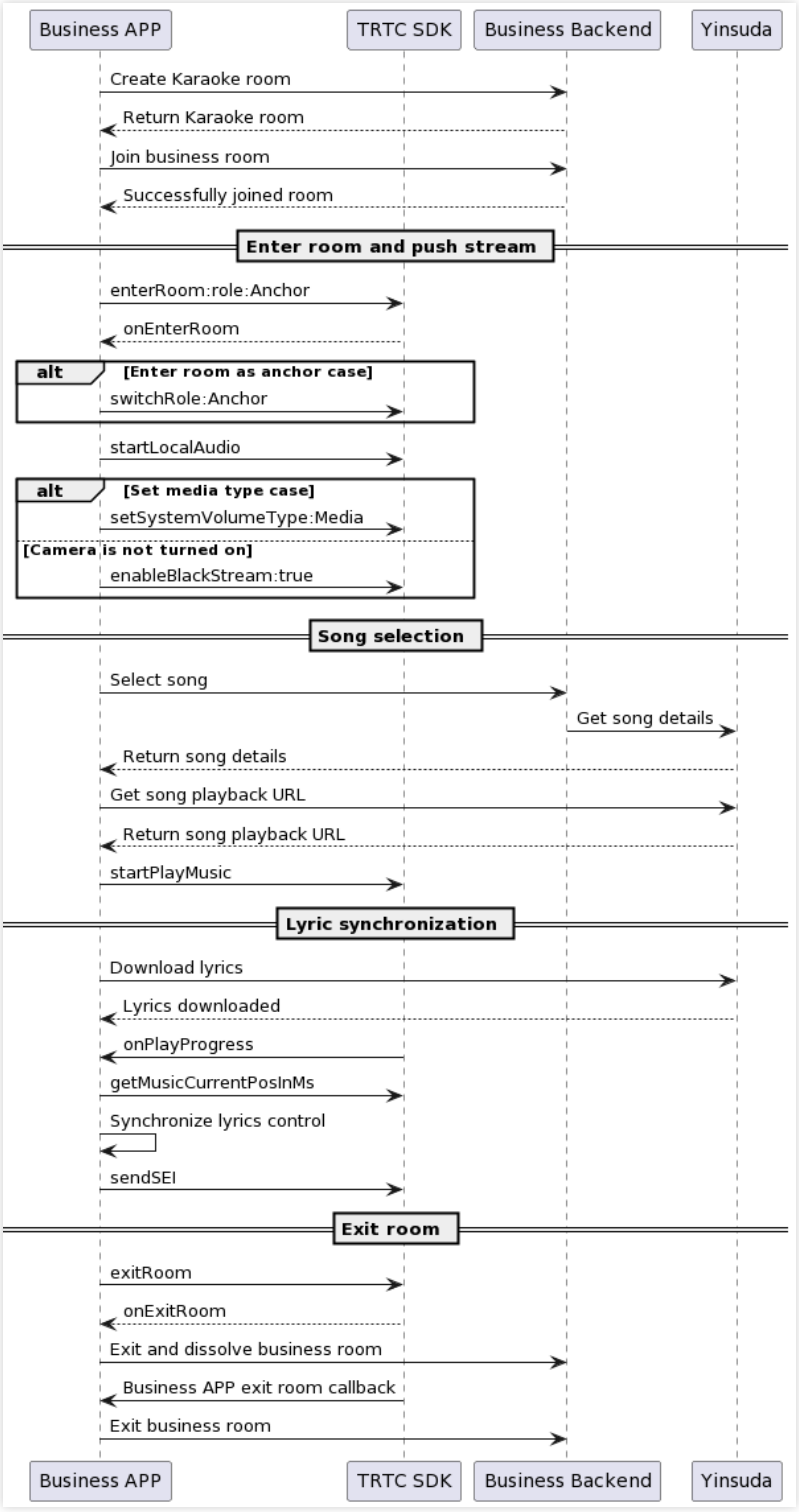
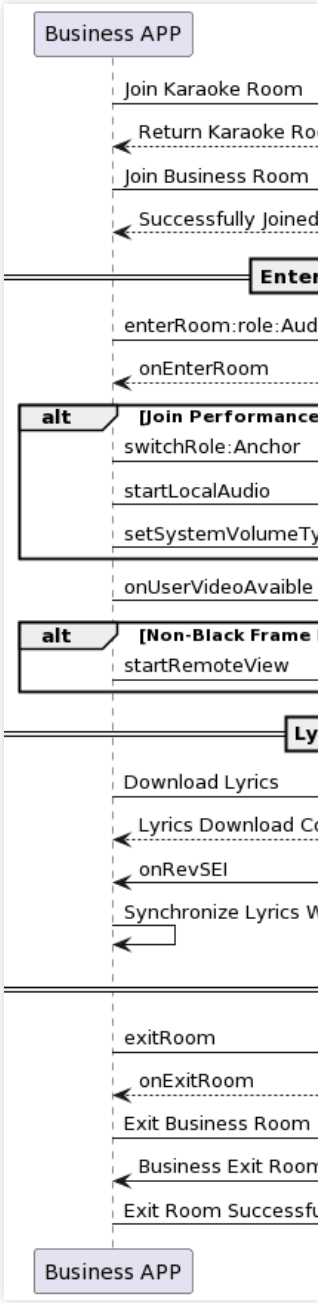
The host creates and joins a TRTC room, automatically goes on the seat, and becomes a singer after selecting a song.
After selecting a song, the song/lyric is downloaded, and then the song is played through the BGM playback interface.
If the singer does not bring up the video upstream, they need to enable video upstream.
Synchronize the lyric progress of everyone through SEI information.
The singer can cut the song at any time during the singing process, and then download and sing the song/lyric again after the download is complete.
After the host leaves the room, the TRTC room will be dissolved.
【Audience】



The audience joins the TRTC room.
Listen for changes in the room's song and load the lyrics.
Pull the stream of the singer.
Parse the SEI information sent by the singer and synchronize the lyrics.
The main task is to listen for the SEI information of the song and update the corresponding song control.

（3）API call sequence

The API calls for different roles are sequenced as follows:

Host	Audience
	

Note：

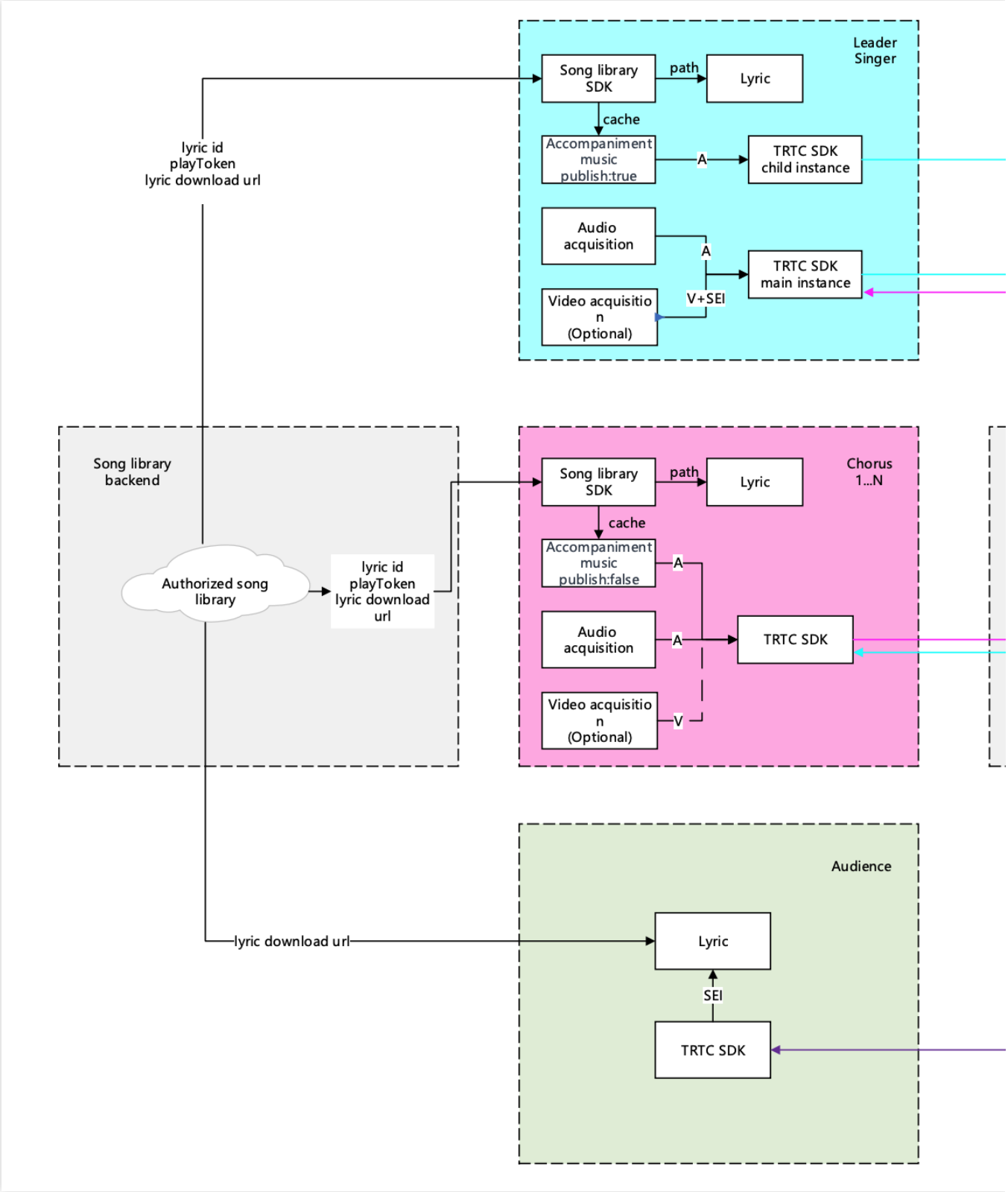
Given the technical threshold required for the above implementation solution, TRTC provides an open-source audio and video UI component called TUIKaraoke on its official website. By integrating the TUIKaraoke component into your project, you can add online karaoke scenes to your application with just a few lines of code, and experience TRTC's related capabilities in Karaoke scenarios, such as karaoke, seat management, gift giving and receiving, text chat, and more.

Real-time Chorus

Real-time chorus refers to playing songs simultaneously on various ends while connected, and then singing together on the seat. In multi-user mode, the singers can hear each other's voices almost without delay, achieving true real-time chorus.

(1) Solution Architecture

In terms of media streams, the singers push and pull streams to each other, and one ***lead singer pushes out the music***, while other ***singers play the music locally***, with time synchronization through NTP. In addition, the song and the voices of all singers are mixed and processed into one stream by the mixing robot, and then pushed back to the TRTC room. The audience only needs to pull one stream to hear the synchronized voices from all ends, perfectly achieving the effect of multi-person chorus. The solution architecture for real-time chorus is shown in the following figure.



The advantages of this solution are:

It reduces end-to-end latency.

It provides a solution for users to join the chorus midway.

It accurately synchronizes music, lyrics, and vocals between different ends.

It improves the performance of devices on different ends and the accuracy of local time, and reduces the impact of network environment latency.

Note：

Depending on business needs, you can choose a real-time chorus solution for either pure audio or audio and video scenarios. If it is a pure audio scenario, black frames need to be added to send SEI messages for lyric synchronization.

The lead singer needs to use a sub-instance to upstream both the music and vocals at the same time; other singers only need to pull each other's vocal streams and play the music locally; the audience only needs to pull one mixed stream.

The figure shows the RTC viewing solution, where the mixing robot pushes the mixed stream back to the RTC room; in the CDN viewing solution, the mixing robot pushes the mixed stream to the live CDN, and the audience pulls the CDN stream to watch.

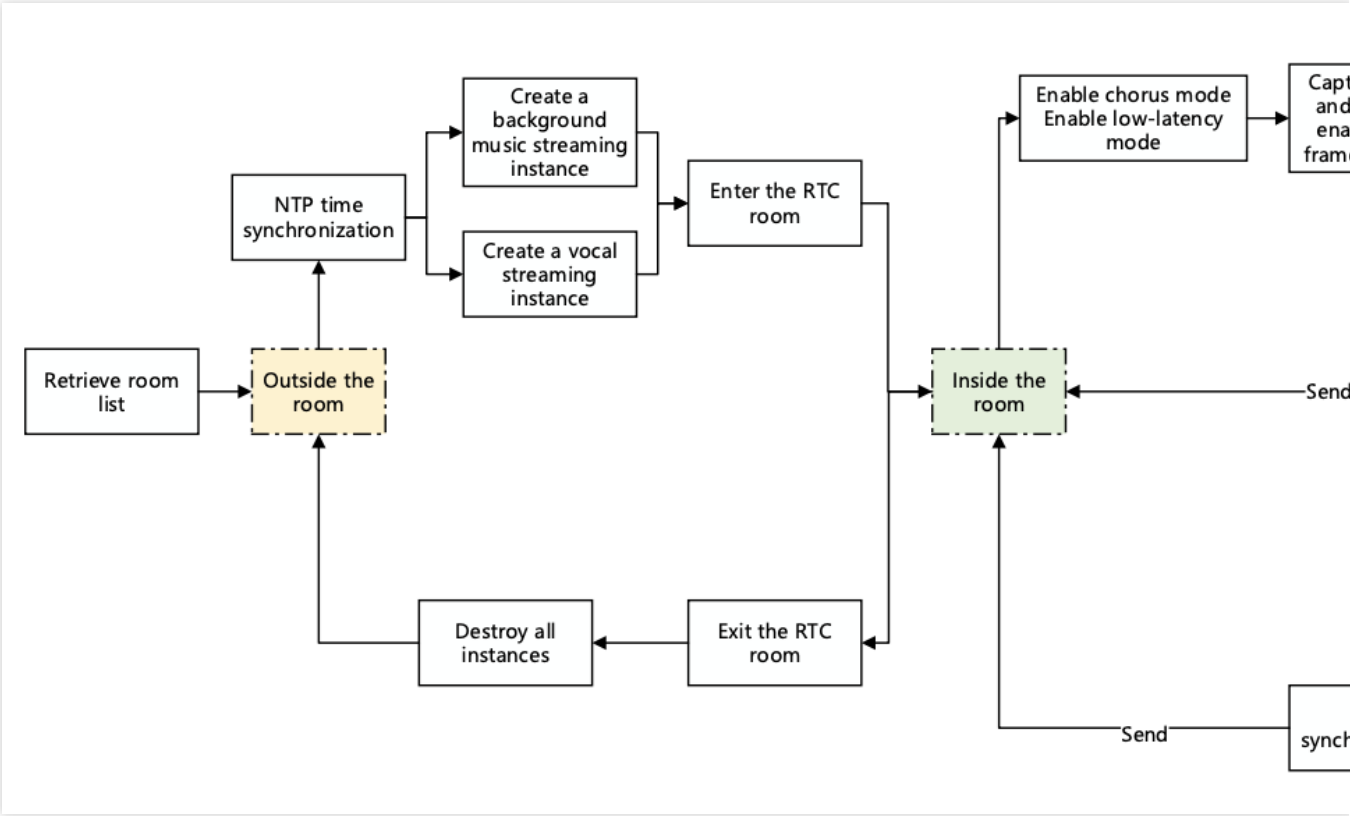
(2) Specific Implementation

We can divide the users in the online karaoke room into three roles: lead singer, chorus, and audience, as shown in the table below.

Role	Description	Differences
Lead Singer	The lead singer is responsible for selecting songs, sending chorus signals, and sending SEI messages.	The role must be an Anchor Upstream music and vocals Song selection and initiating chorus Pushing back mixed stream Sending SEI messages
Chorus	The chorus can receive and process chorus signals, and participate in the chorus on the seat.	The role must be an Anchor Upstream vocals Play music locally Receive chorus signals
Audience	After entering the karaoke room, the audience can pull the stream from the seat and also participate in the chorus on the seat.	The role must be an Audience Downstream mixed stream Receive SEI messages Apply to become an Anchor to go on the seat

The basic implementation processes for different roles are shown in the following figure:

【Lead Singer】



The lead singer needs to select a song and send chorus signals.

The lead singer creates a sub-instance to push vocals and music, and pulls the vocals of other singers.

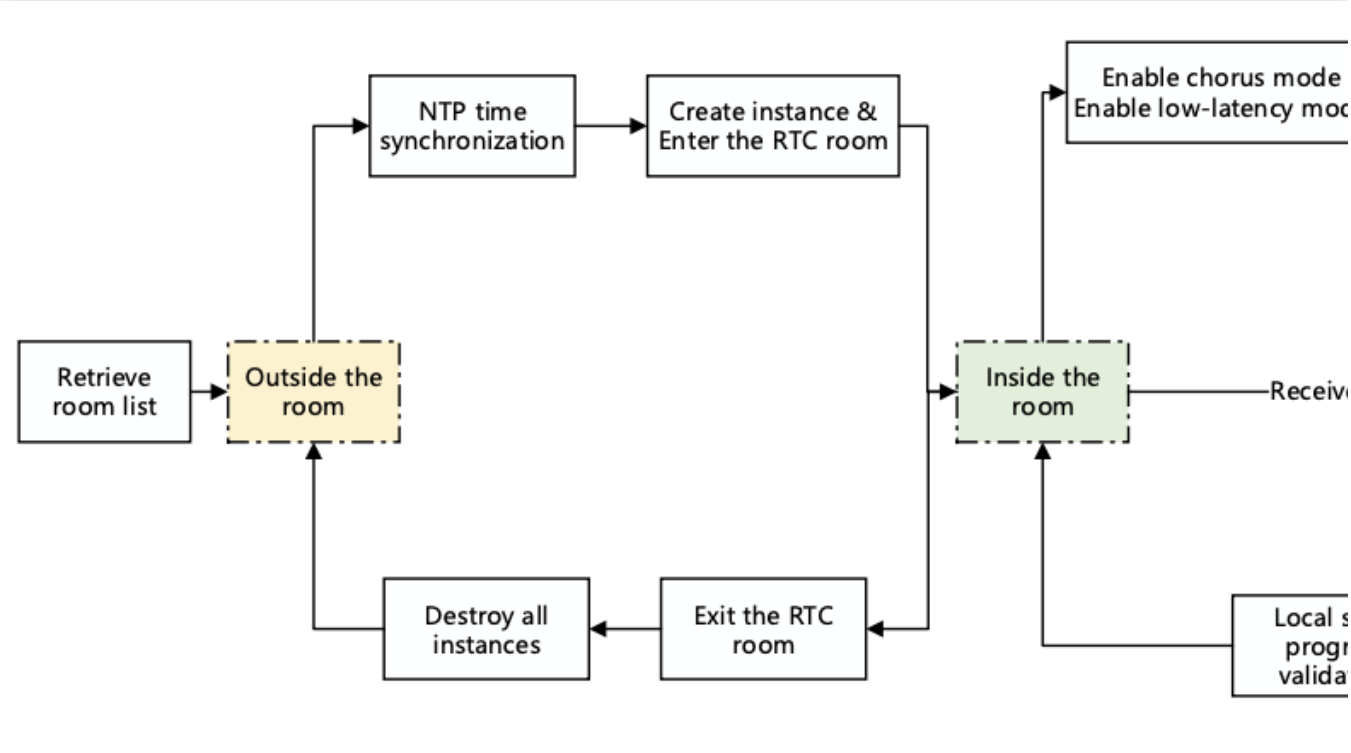
After pushing the stream, the lead singer is responsible for initiating the mixed stream push task.

After starting the performance, play the music and synchronize the lyrics through the playback progress callback.

SEI messages need to be sent to synchronize the song progress on the audience end.

All singers need to calibrate the local song playback progress according to NTP.

【Chorus】



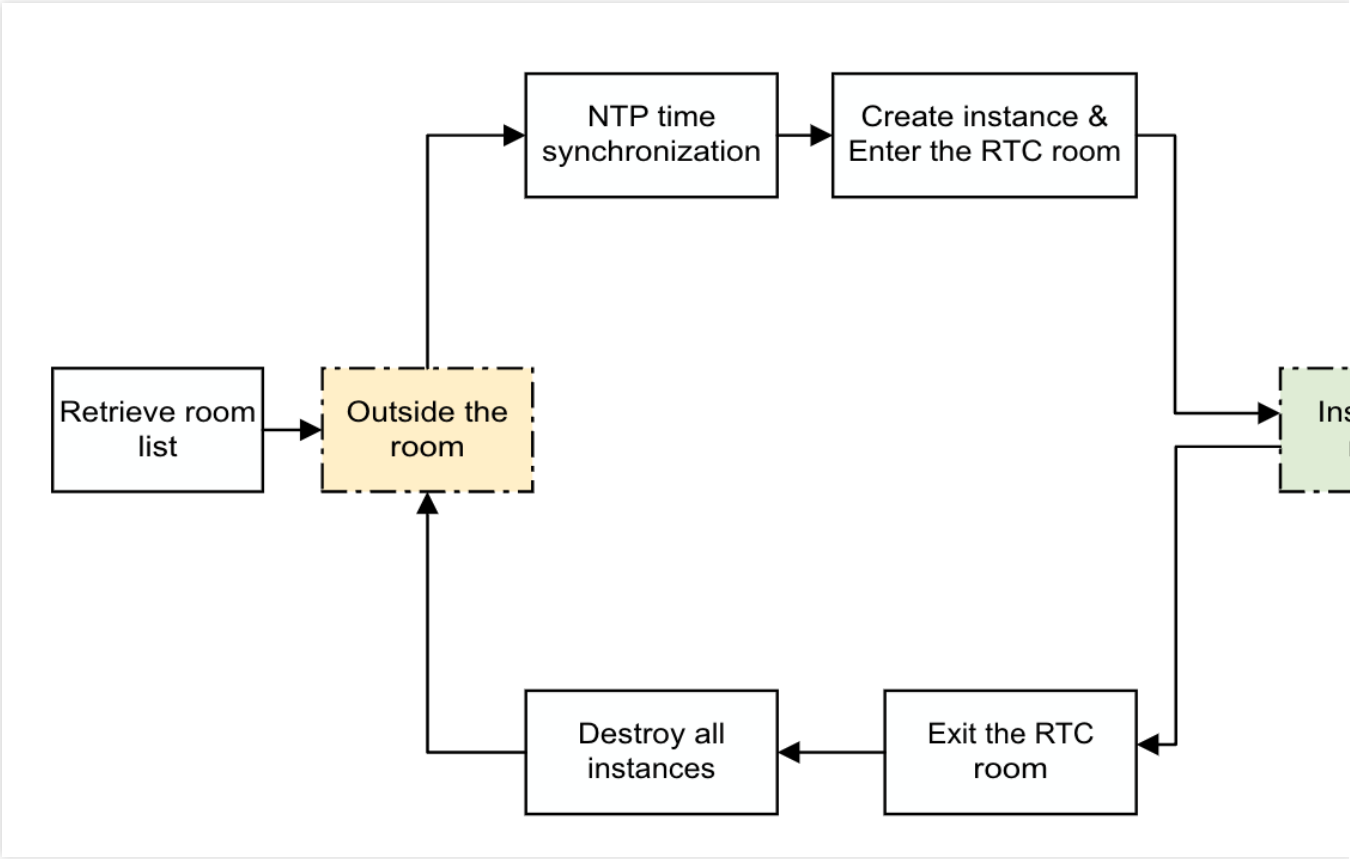
The chorus pushes one vocal stream and pulls the vocal stream of the user on the seat.

The chorus needs to listen for and receive chorus signals, and pre-load music resources.

After starting the performance, play the music locally, and the chorus synchronizes the lyrics through the playback progress callback.

All singers need to calibrate the local song playback progress according to NTP.

【Audience】



Pull the mixed stream to listen to the chorus.

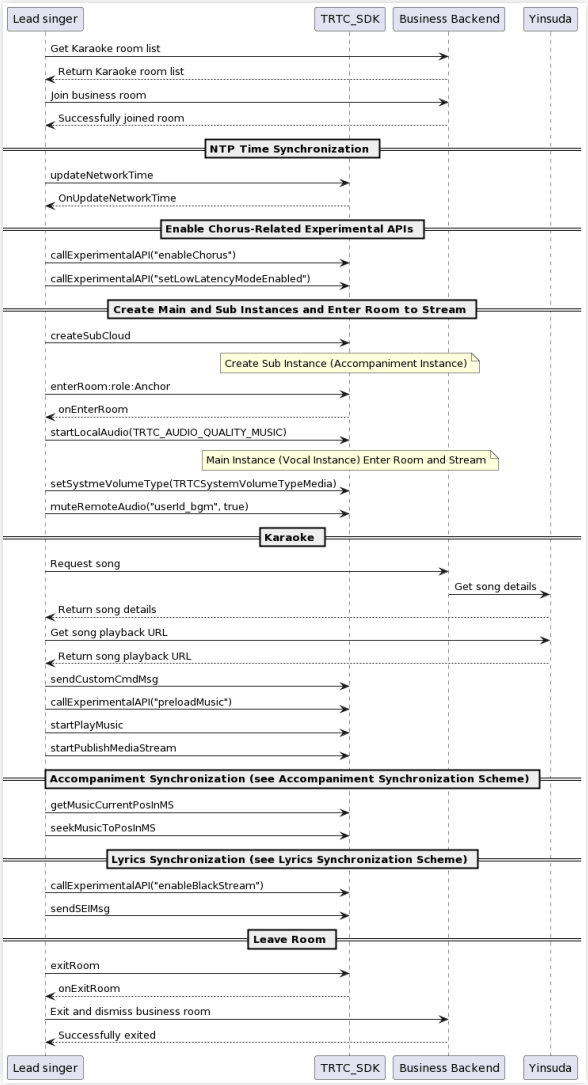
Parse the song progress information in the SEI of the mixed stream for lyric synchronization.

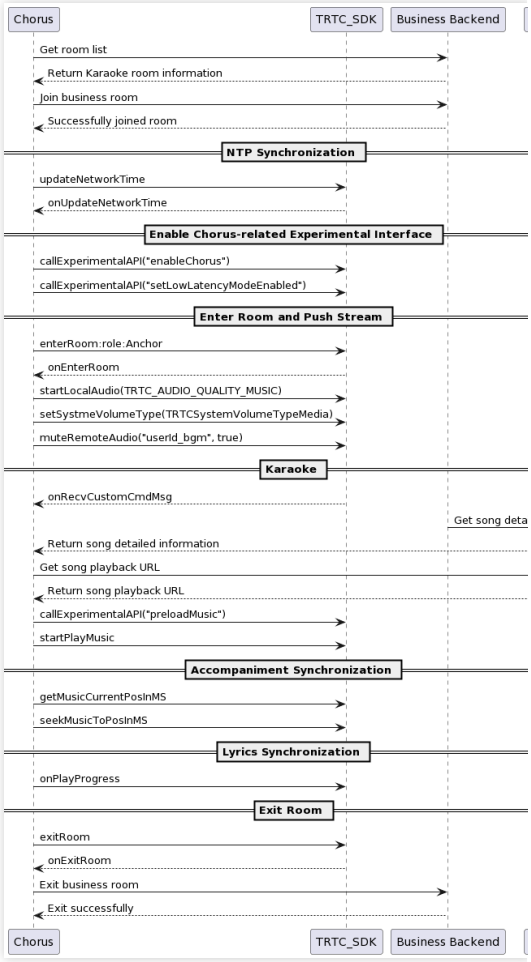
After going on the seat, stop pulling the mixed stream, switch to pulling the vocal stream on the seat, and start the chorus mode.

（3）API call sequence

The sequence of API calls for different roles is as follows:

Lead singer API sequence	Chorus API sequence





Note：

Considering the technical expertise required for the above implementation, TRTC's official website provides an open-source audio and video UI component called TUIKaraoke, which can be integrated into your project. With just a few lines of code, you can add real-time karaoke scenes to your application and experience TRTC's related capabilities for KTV scenarios, such as singing, seat management, gift exchange, text chat, and more.

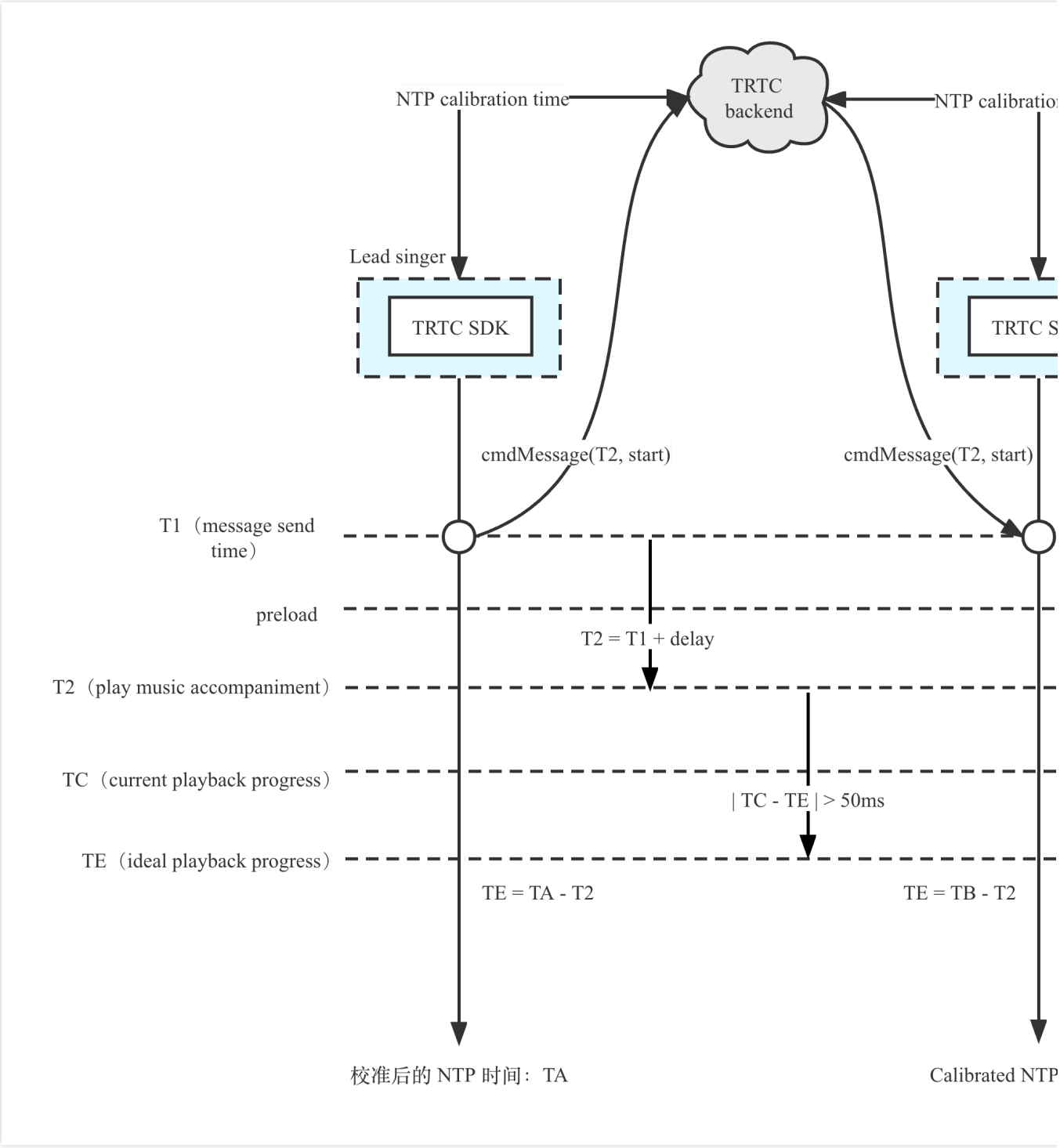
Song Synchronization
iOS

Last updated：2023-09-27 14:44:28

Real-time synchronization of song progress is required in the real-time solution to avoid increasing end-to-end delay due to song errors after the start of the performance. Synchronizing the song requires using NTP time. The local clocks of different devices are not consistent and there is a certain error, so Tencent Cloud's self-developed NTP service needs to be introduced. At the same time, users who join the chorus midway also need to synchronize the song progress, and only after synchronizing the progress can they participate in the chorus.

Implementation process

The method of synchronizing songs is that the main singer user agrees to start playing the song at a future point in time (such as N seconds after delay), and other users participate in the chorus. The time of each end is based on NTP time, which will start synchronizing after the TRTC SDK is initialized.



The specific process is as follows:

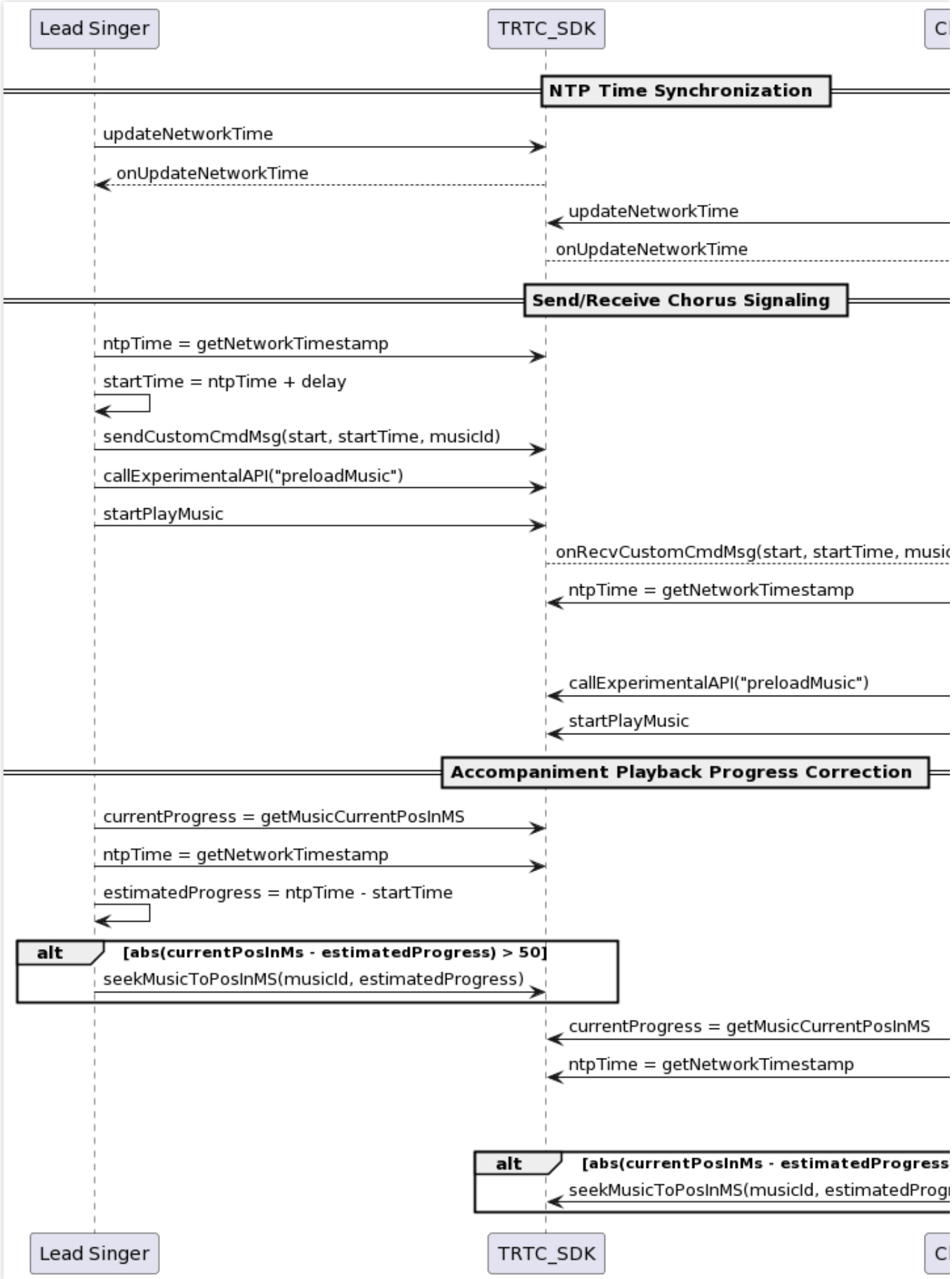
1. Each end performs NTP time calibration, updates and obtains the latest NTP time T to the TRTC cloud.
2. The main singer end sends a chorus signal (custom message) to agree on the start time T2 of the chorus.
3. Preload the song locally based on T2 and play it at a scheduled time.
4. Other chorus users execute step 3 after receiving the chorus signal.

5. During the process, the local song playback progress is verified, and seek calibration is performed when the difference between TE and TC exceeds 50ms.

Note：

The 50ms error here is a typical value, which can be adjusted appropriately according to the business tolerance. It is recommended to fluctuate around 50ms.

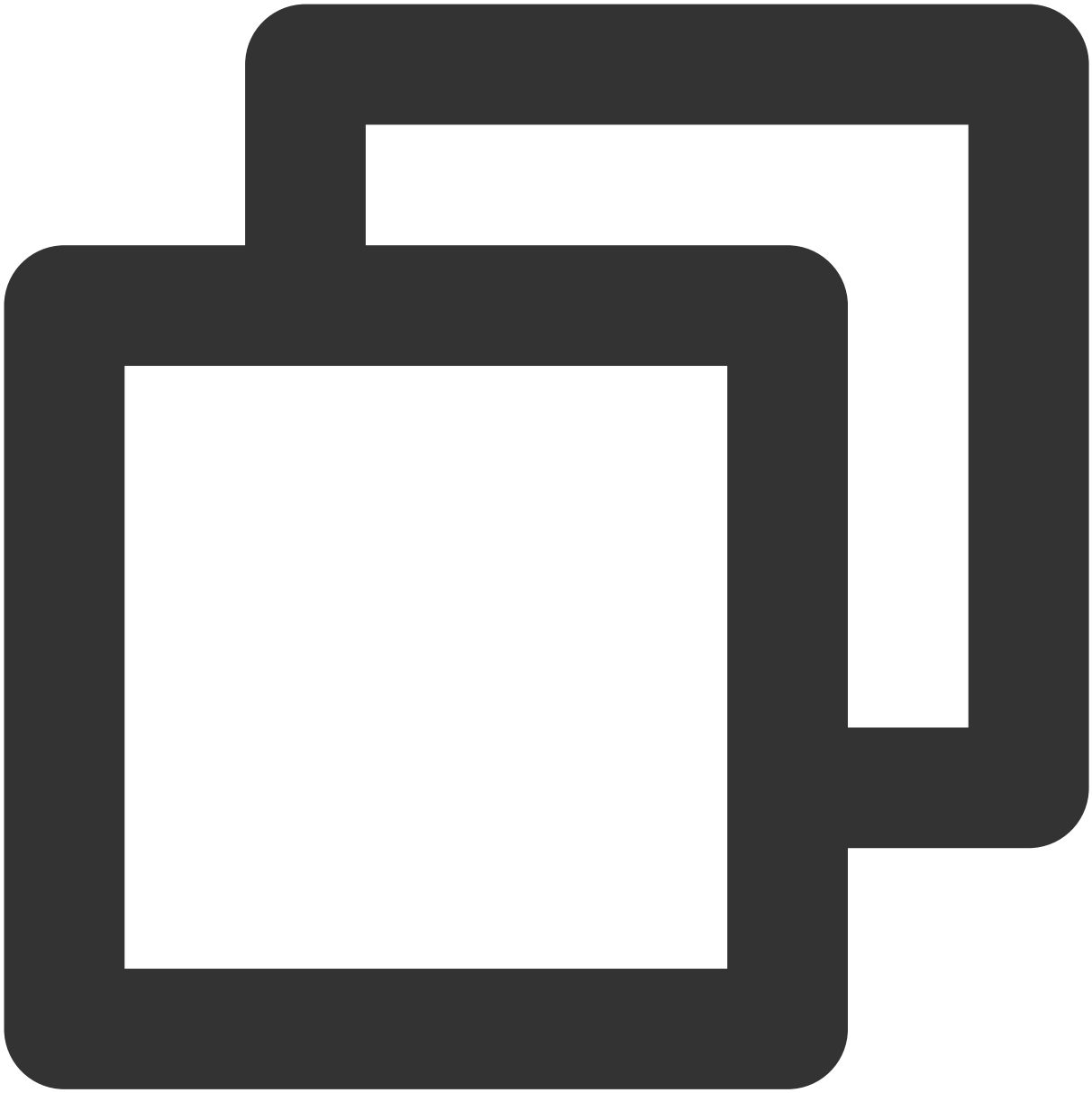
Timing diagram



The song synchronization timing can mainly be divided into three parts: NTP time calibration, sending and receiving chorus signals, and correcting the song playback progress. The following will provide specific code implementation for these three parts.

Key code implementation

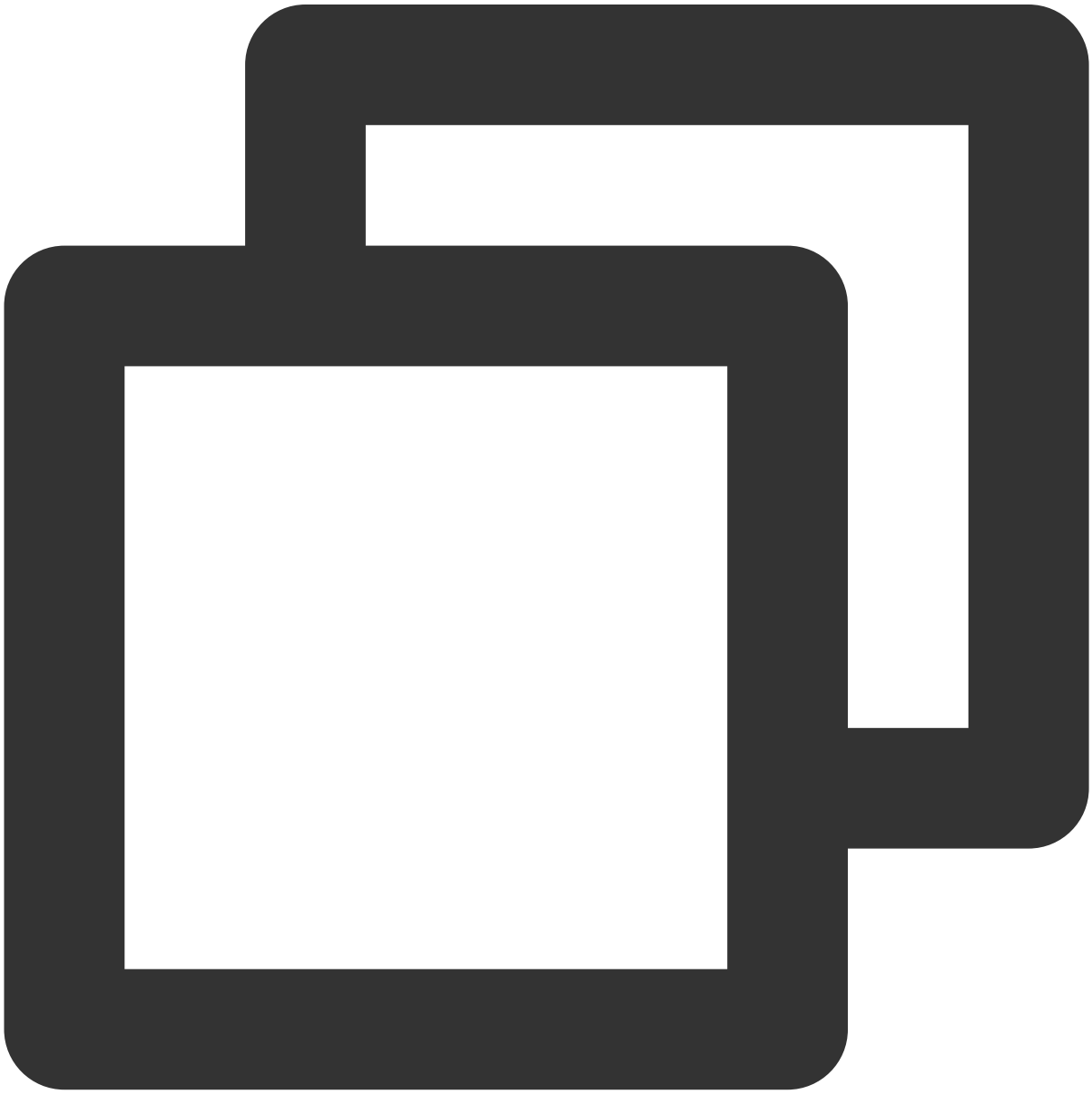
1. NTP calibration time service



```
// Call the NTP time synchronization interface when entering the room.
[TXLiveBase updateNetworkTime];

// In the TXLiveBaseDelegate callback, determine whether the time synchronization i
- (void)onUpdateNetworkTime:(int)errCode message:(NSString *)errMsg {
    // errCode 0: 0: Time synchronization is successful and the deviation is within
    // 1: Time synchronization is successful, but the deviation may be over 30ms;
    // -1: Time synchronization failed.
    if (errCode == 0) {
        // Call TXLiveBase's getNetworkTimestamp to obtain the NTP timestamp.
        NSInteger ntpTime = [TXLiveBase getNetworkTimestamp];
```

```
    } else {
        // Call updateNetworkTime again to initiate a time synchronization.
        [TXLiveBase updateNetworkTime];
    }
}
```

2. Sending chorus signals on the main singer end



```
NSDictionary *json = @{
                        @"cmd": @"startChorus",
```

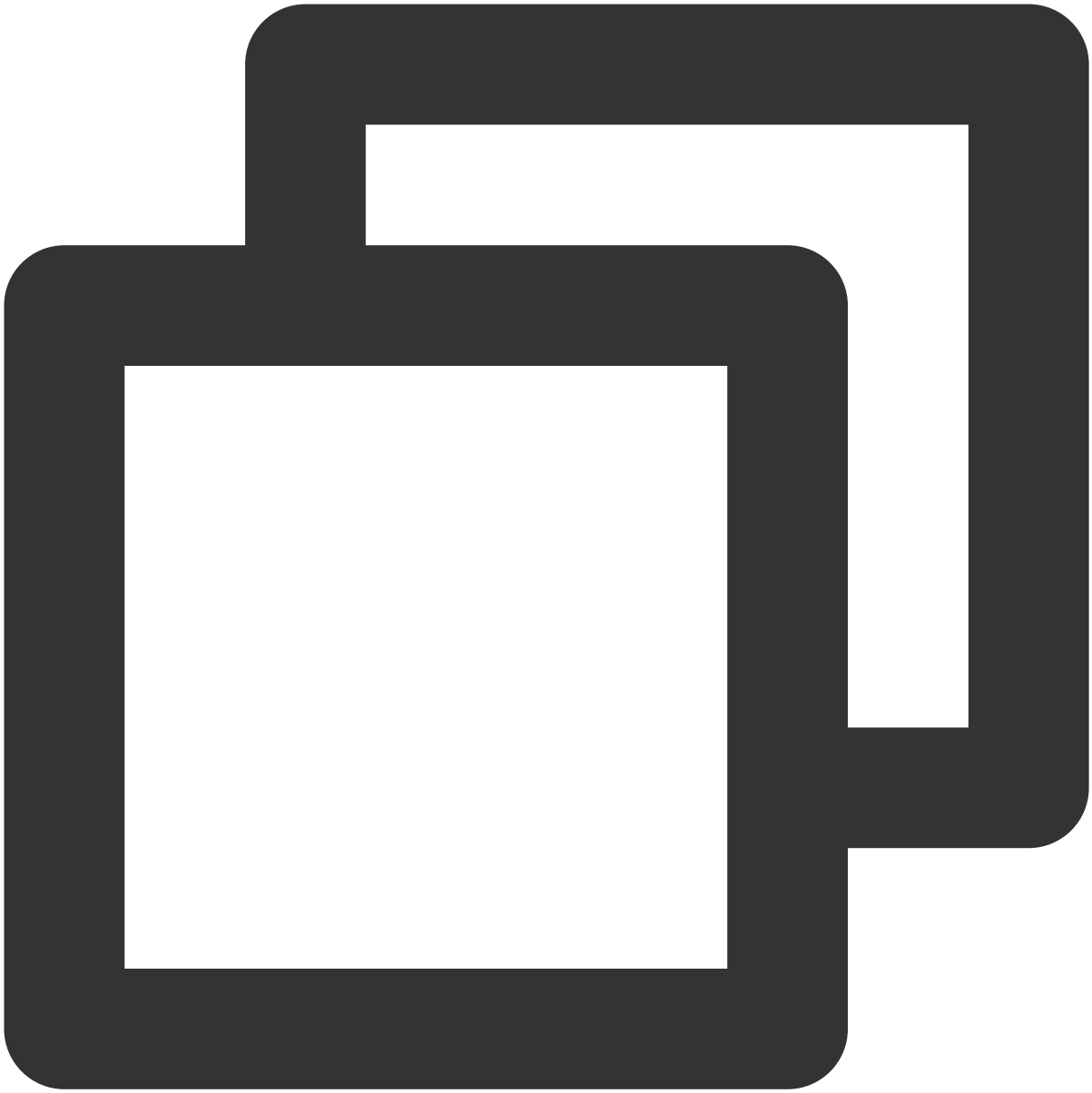
```
                        // Scheduled time for a tutti.
                        @"startPlayMusicTS": @(startTs),
                        @"musicId": @"musicId",
                        @"musicDuration": @(musicDuration),
                    };
NSString *jsonString = [self jsonStringFrom:json];
[trtcCloud sendCustomMessage:jsonString reliable:NO];
```

Note：

It is recommended that the main singer send chorus signal messages to the room at a fixed time frequency in a loop, so that chorus users can join in midway;

The reason for **not using SEI messages to send chorus signals** is that the SEI information will be inserted into the video frame, causing a lot of invalid information to be carried in the video stream pulled by the audience side.

3. Receiving chorus signals on the chorus end



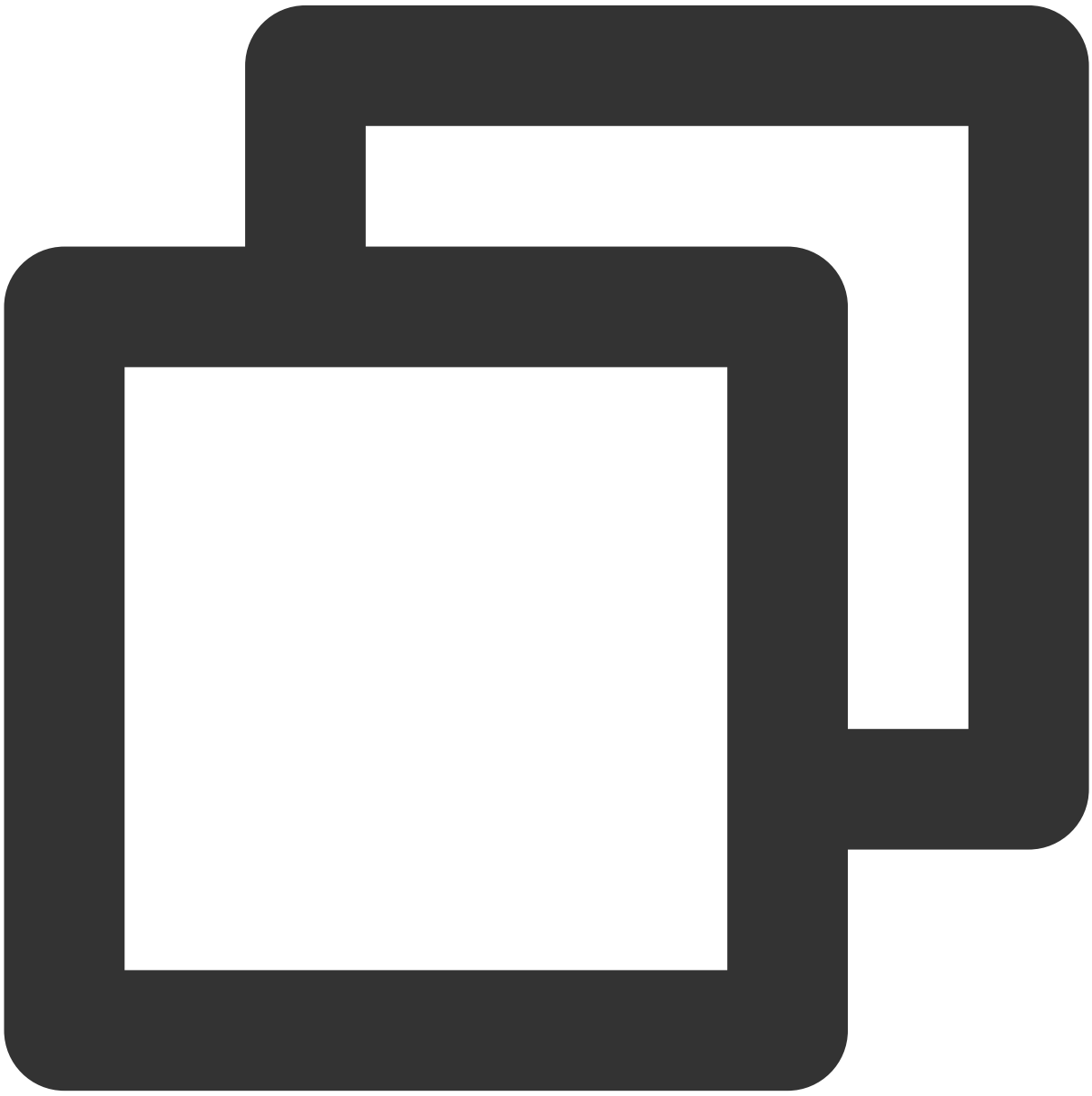
```
- (void)onRecvCustomCmdMsgUserId:(NSString *)userId cmdID:(NSInteger)cmdId seq:(UIn

    NSString *msg = [[NSString alloc] initWithData:message encoding:NSUTF8StringEnc
    NSError *error;
    NSDictionary *json = [NSJSONSerialization JSONObjectWithData:[msg dataUsingEnco
                                                         options:NSJSONReadingMutab
                                                           error:&error];

    NSObject *cmdObj = [json objectForKey:@"cmd"];

    NSInteger musicDuration = [[json objectForKey:@"musicDuration"] integerValue];
```

```
    NSString *cmd = (NSString *)cmdObj;

    // tutti command
    if ([cmd isEqualToString:@"startChorus"]) {
        // tutti start time
        NSObject *startPlayMusicTsObj = [json objectForKey:@"startPlayMusicTS"];
        NSString *musicId = [json objectForKey:@"musicId"];

        NSInteger startPlayMusicTs = ((NSNumber *)startPlayMusicTsObj).longLongValu
        // The difference between the scheduled tutti time and the current time.
        NSInteger startDelayMS = labs(startPlayMusicTs - [TXLiveBase getNetworkTime
        // Start preloading, and jump the song progress according to the difference
        // between the scheduled duet time and the current NTP time.
        NSDictionary *jsonDict = @{
            @"api": @"preloadMusic",
            @"params": @{
                    @"musicId": @(musicId),
                    @"path": path,
                    @"startTimeMS": @(startDelayMS),
            }
        };
        NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDict options
        NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSU
        [subCloud callExperimentalAPI:jsonString];

        // play music
        TXAudioMusicParam *param = [[TXAudioMusicParam alloc] init];
        param.ID = musicId;
        param.path = url;
        param.loopCount = 0;
        param.publish = NO;

        [[subCloud getAudioEffectManager] startPlayMusic:param onStart:^(NSInteger
            // star play callback
        } onProgress:^(NSInteger progressMs, NSInteger durationMs) {
            // lyric progress callback
        } onComplete:^(NSInteger errCode) {
            // play completely callback
        }];

    }
}
```

Note：

After the chorus end receives the first startChorus signal, the status should be changed from "not singing" to "singing", and no longer respond to the startChorus signal to avoid restarting the BGM playback.

4. Song playback progress correction



```
self.startPlayChorusMusicTs; // The originally scheduled tutti time.
// Current playback progress
NSInteger currentProgress = [[self audioEffecManager] getMusicCurrentPosInMS:self.c
// The ideal playback time progress of the current song.
NSInteger estimatedProgress = [TXLiveBase getNetworkTimestamp] - self.startPlayChor
if (estimatedProgress >= 0 && labs(currentProgress - estimatedProgress) > 50) {
```

```
    // When the playback progress exceeds 50ms, make adjustments.
    [[subCloud getAudioEffectManager] seekMusicToPosInMS:self.currentPlayMusicID pt
}
```

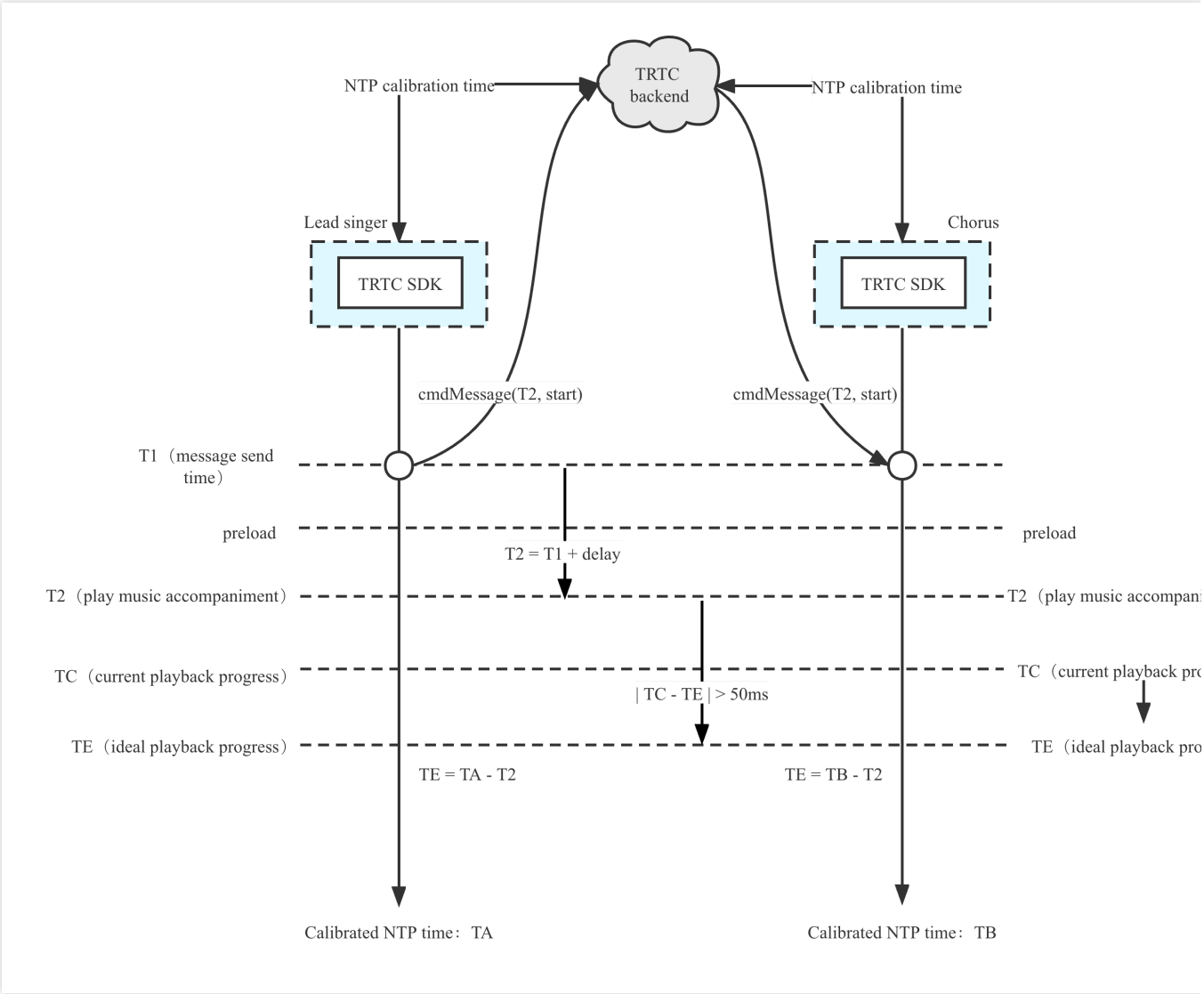
Android

Last updated：2023-09-26 16:45:13

Real-time synchronization of song progress is required in the real-time solution to avoid increasing end-to-end delay due to song errors after the start of the performance. Synchronizing the song requires using NTP time, as the local clocks of different devices are not consistent and have some error. Therefore, Tencent Cloud's self-developed NTP service needs to be introduced. In addition, users who join the chorus midway also need to synchronize the song progress before they can participate in the chorus.

Implementation process

The practice of song synchronization is as follows: The lead singer user agrees to start playing the song at a certain point in the future (e.g., after a delay of N seconds), and other users participate in the chorus. The time of each end is based on NTP time, which will be synchronized after TRTC SDK initialization.



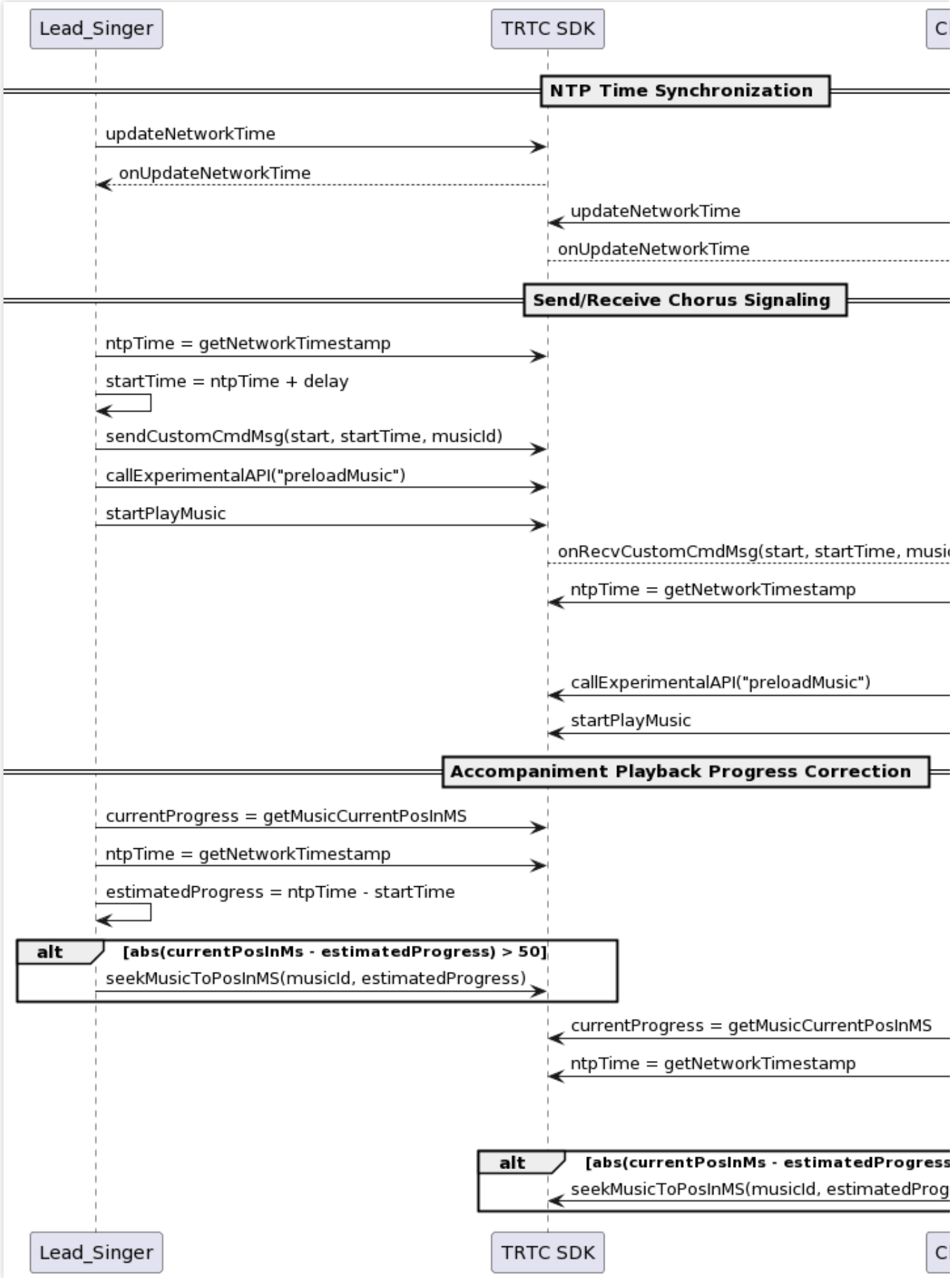
The specific process is as follows:

1. Each end performs NTP calibration, updates and obtains the latest NTP time T from the TRTC cloud.
2. The lead singer sends a chorus signaling (custom message), agreeing on the start time T2 for the chorus.
3. The local end preloads the song according to T2 and plays it on schedule.
4. Other chorus users perform step 3 after receiving the chorus signaling.
5. During the process, the local song playback progress is checked, and when the difference between TE and TC exceeds 50ms, seek calibration is performed.

Note:

The 50ms error mentioned here is a typical value, and can be adjusted according to the tolerance of the business. It is recommended to fluctuate around 50ms.

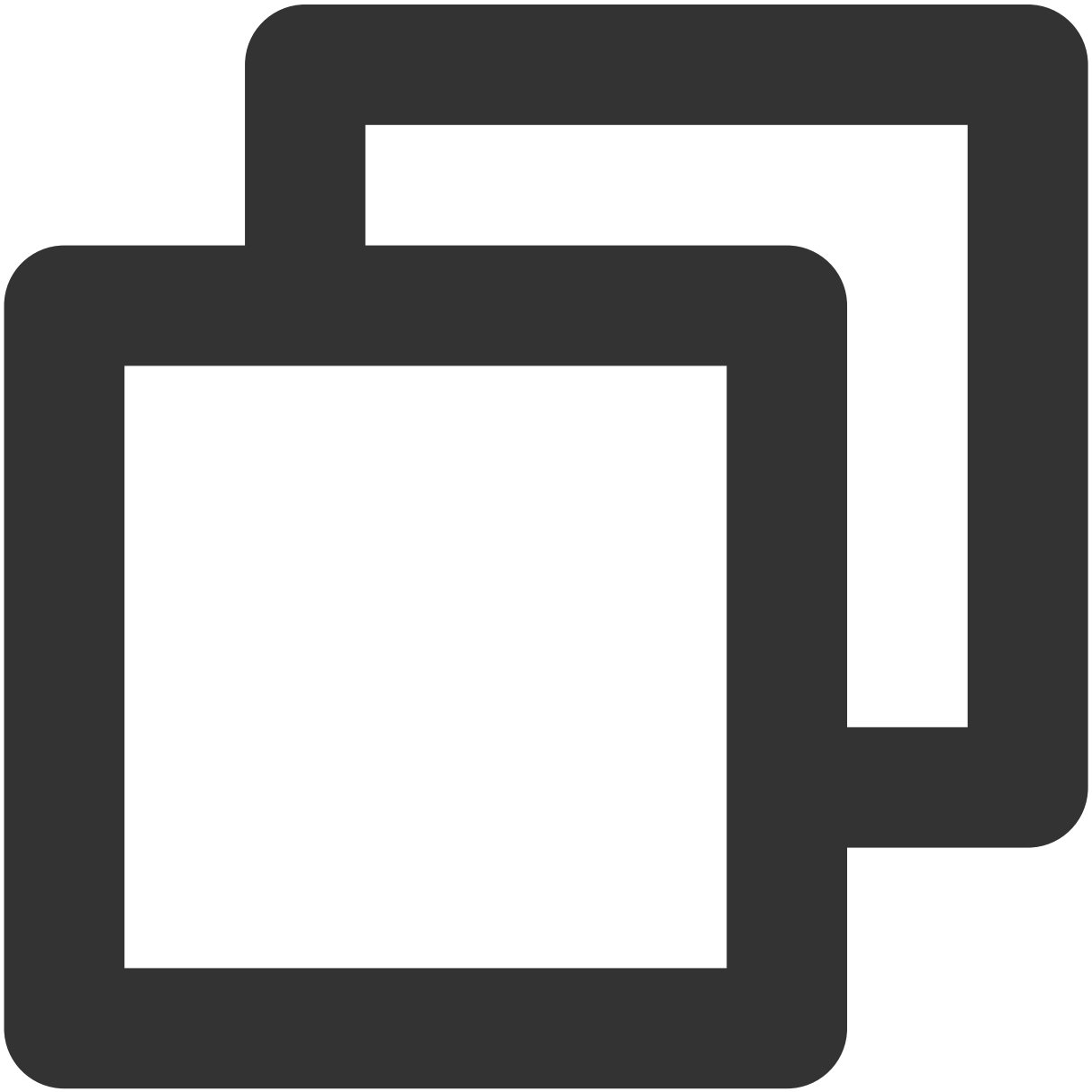
Timing diagram



The song synchronization timing can be mainly divided into three parts: NTP calibration, sending and receiving chorus signaling, and song playback progress correction. The specific code implementation for these three parts will be provided below.

Key code implementation

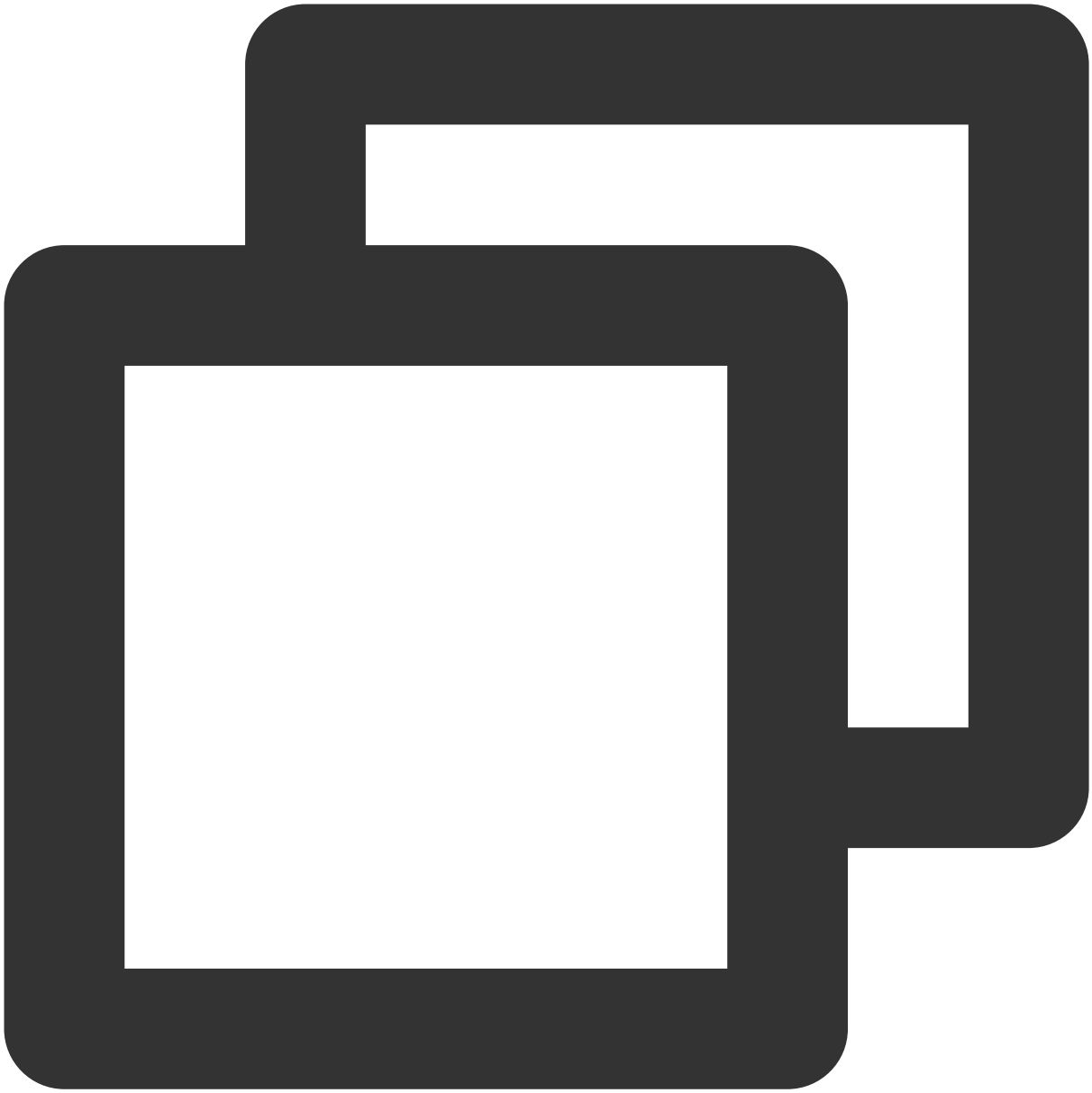
1. NTP calibration service



```
TXLiveBase.setListener(new TXLiveBaseListener() {
```

```
    @Override
    public void onUpdateNetworkTime(int errCode, String errMsg) {
        super.onUpdateNetworkTime(errCode, errMsg);
        // errCode 0: Calibration is successful and the deviation is within 30ms;
        //         1: Calibration is successful, but the deviation may be more than
        //         -1: Calibration failed.
        if (errCode == 0) {
            // Call getNetworkTimestamp of TXLivebase to get the NTP timestamp.
            long ntpTime = TXLiveBase.getNetworkTimestamp();
        } else {
            // Call updateNetworkTime again to start a calibration.
            TXLiveBase.updateNetworkTime();
        }
    }
});
TXLiveBase.updateNetworkTime();
```

2. Lead singer sends chorus signaling

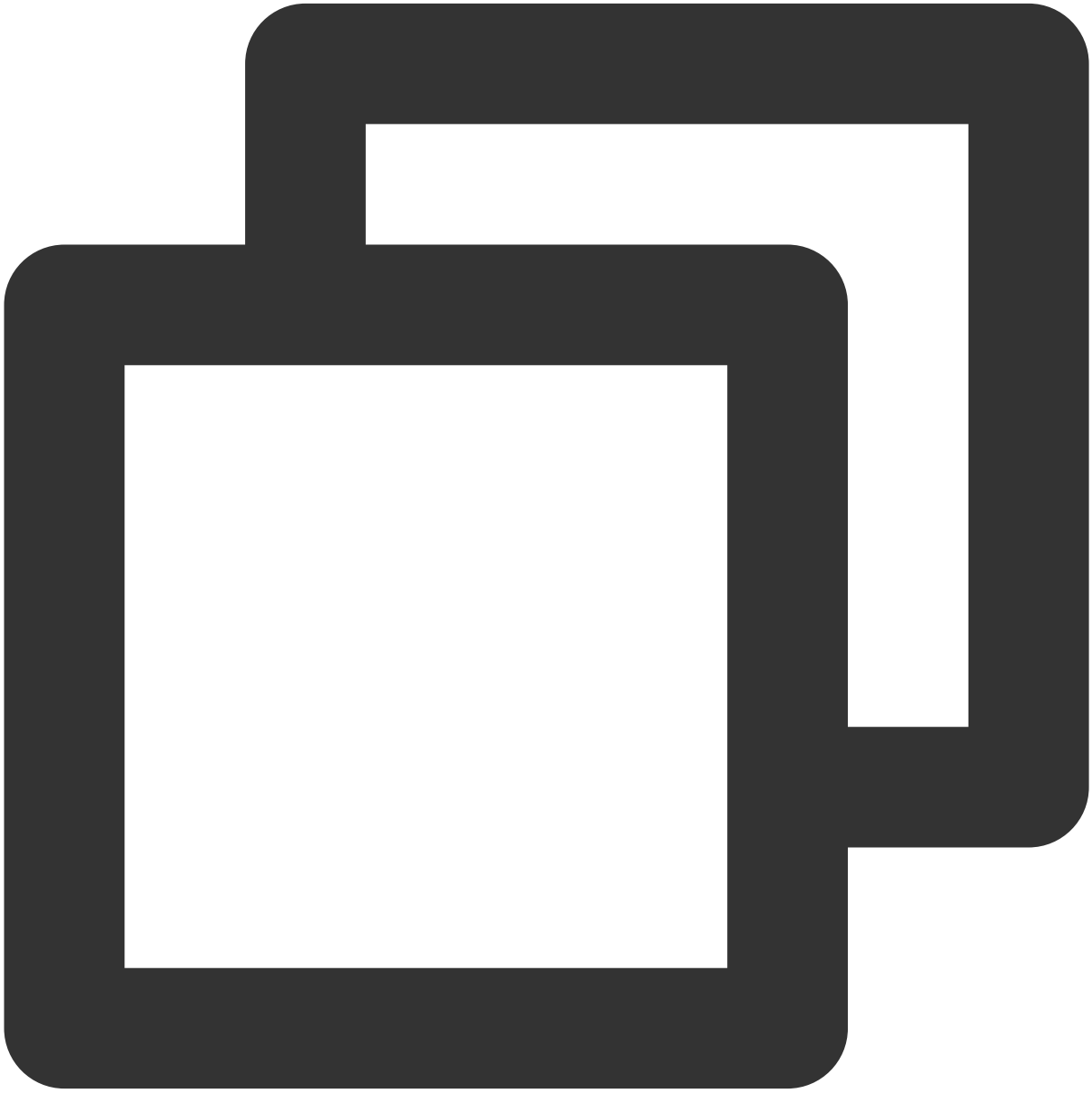


```
JSONObject jsonObject = new JSONObject();
jsonObject.put("cmd", "startChorus");
// Agree on a time for the chorus.
jsonObject.put("startPlayMusicTS", startTs);
jsonObject.put("musicId", "musicId");
String body = jsonObject.toString();
mTRTCCloud.sendCustomCmdMsg(0, body.getBytes(), false, false);
```

Note:

It is recommended that the lead singer sends chorus signaling messages to the room at a fixed time interval, so that the chorus users can join the chorus midway.
Reason for **not using SEI messages to send chorus signaling:** SEI information will be inserted into the video frame, causing the video stream pulled by the audience side to carry a lot of invalid information.

3. Chorus end receives chorus signaling



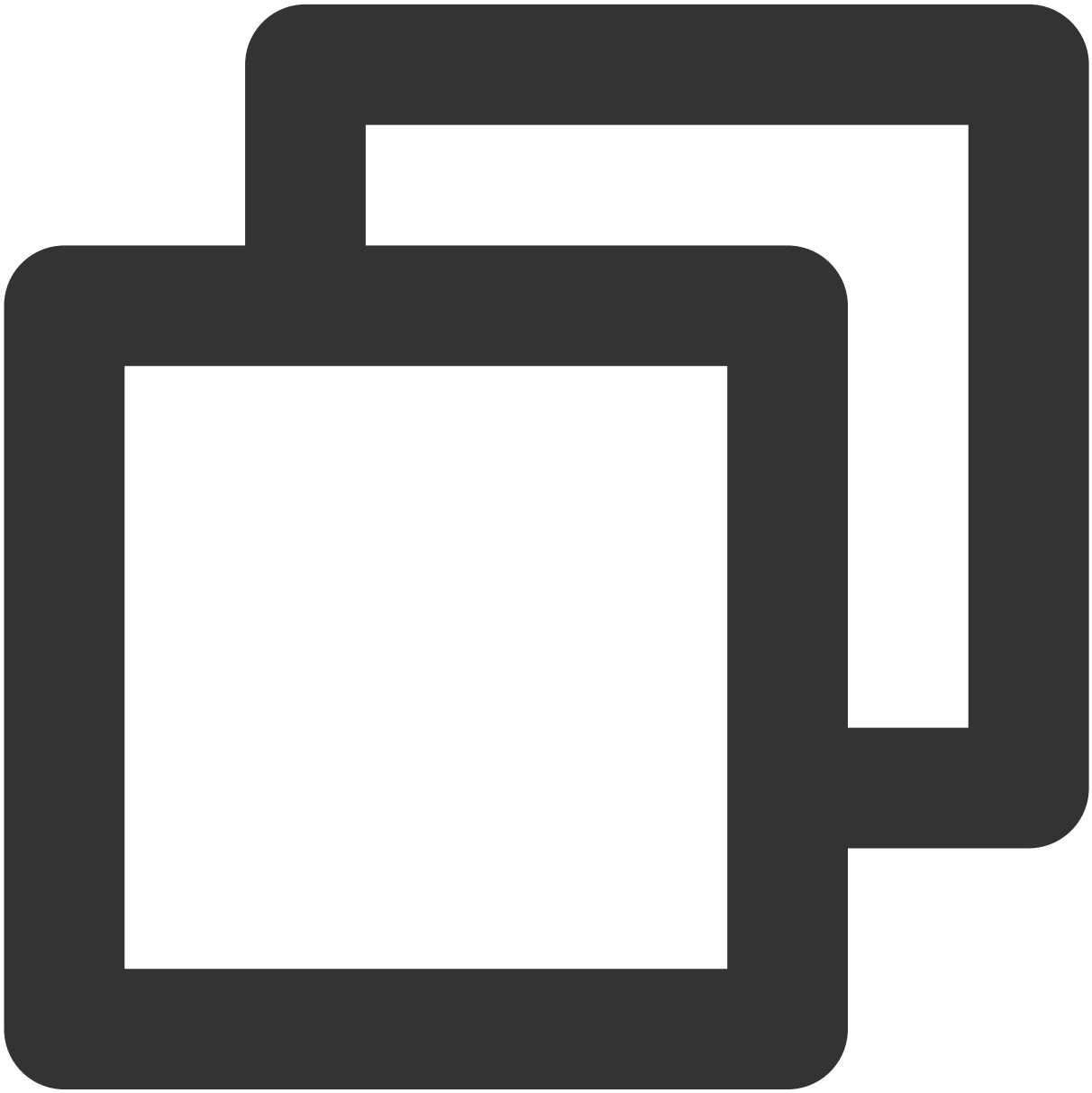
```
public void onRecvCustomCmdMsg(String userId, int cmdID, int seq, byte[] message) {
    JSONObject json = new JSONObject(new String(message, "UTF-8"));
    String cmd = json.getString("cmd");
```

```
    // Chorus command
    if (cmd.equals("startChorus")) {
    // Chorus start time
    long startPlayMusicTs = json.getLong("startPlayMusicTS");
    int musicId = json.getInt("musicId");
    // The difference between the agreed chorus time and the current time
    long delayMs = Math.abs(startPlayMusicTs - getNtpTime());
    // Start preloading, and jump the song progress according to the agreed chorus
    mTRTCCloud.callExperimentalAPI("{\\"api\\":\\"preloadMusic\\",\\"params\\": {\\
    // Play the song
    TXAudioEffectManager.AudioMusicParam param = new TXAudioEffectManager.AudioMusi
    param.publish = false;
    mTRTCCloud.getAudioEffectManager().startPlayMusic(param);
}
```

Note:

After the chorus end receives the first startChorus signaling, the status should change from "not in chorus" to "in chorus", and no longer respond to startChorus signaling to avoid restarting BGM playback.

4. Song playback progress correction



```
long mStartPlayMusicTs = "The initially agreed chorus time";
long currentProgress = subCloud.getAudioEffectManager().getMusicCurrentPosInMS(musi
// The ideal playback progress of the current song
long estimatedProgress = getNtpTime() - mStartPlayMusicTs;
// When the playback progress exceeds 50ms, make corrections
if (estimatedProgress >= 0 &&; Math.abs(currentProgress - estimatedProgress) > 50)
    subCloud.getAudioEffectManager().seekMusicToPosInMS(mMusicID, (int) estimatedPr
}
```

Lyric Synchronization
iOS

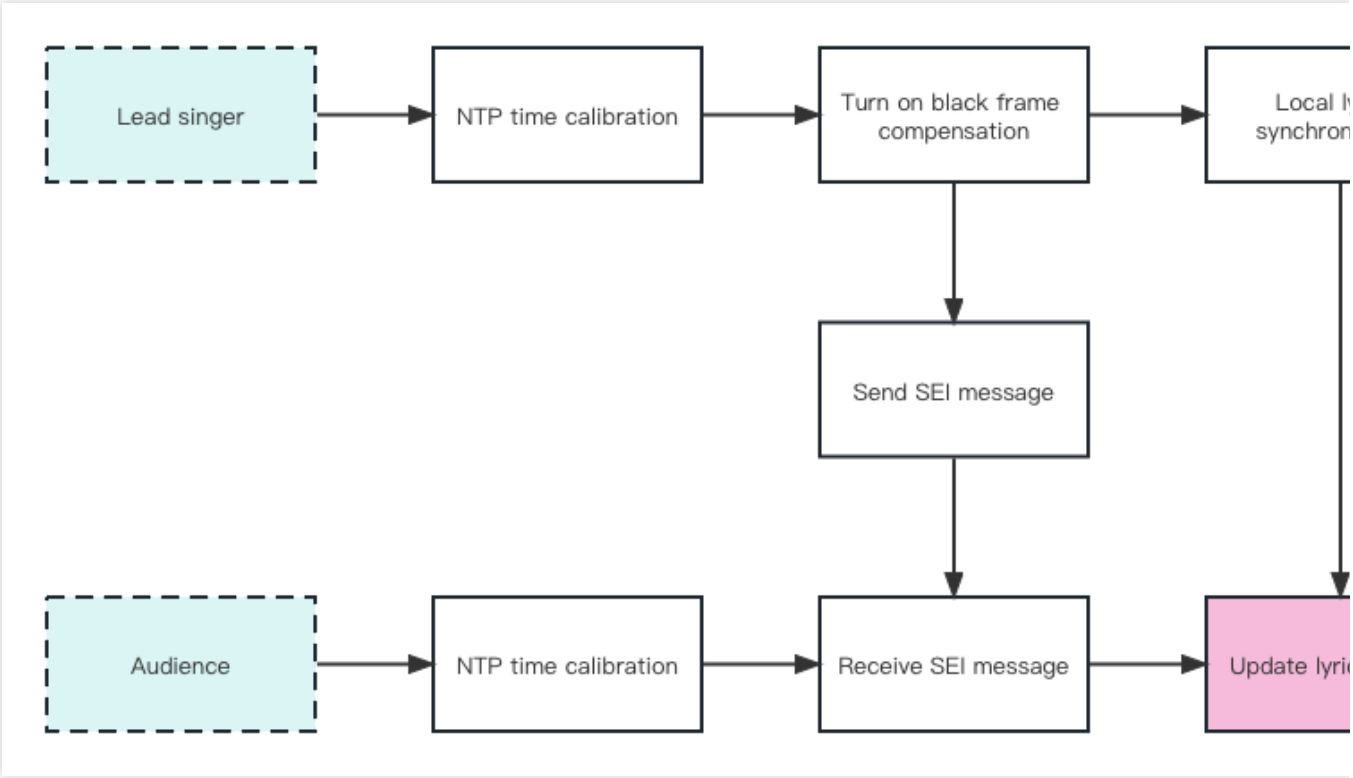
Last updated：2023-09-27 15:11:25

1.1 Implementation process

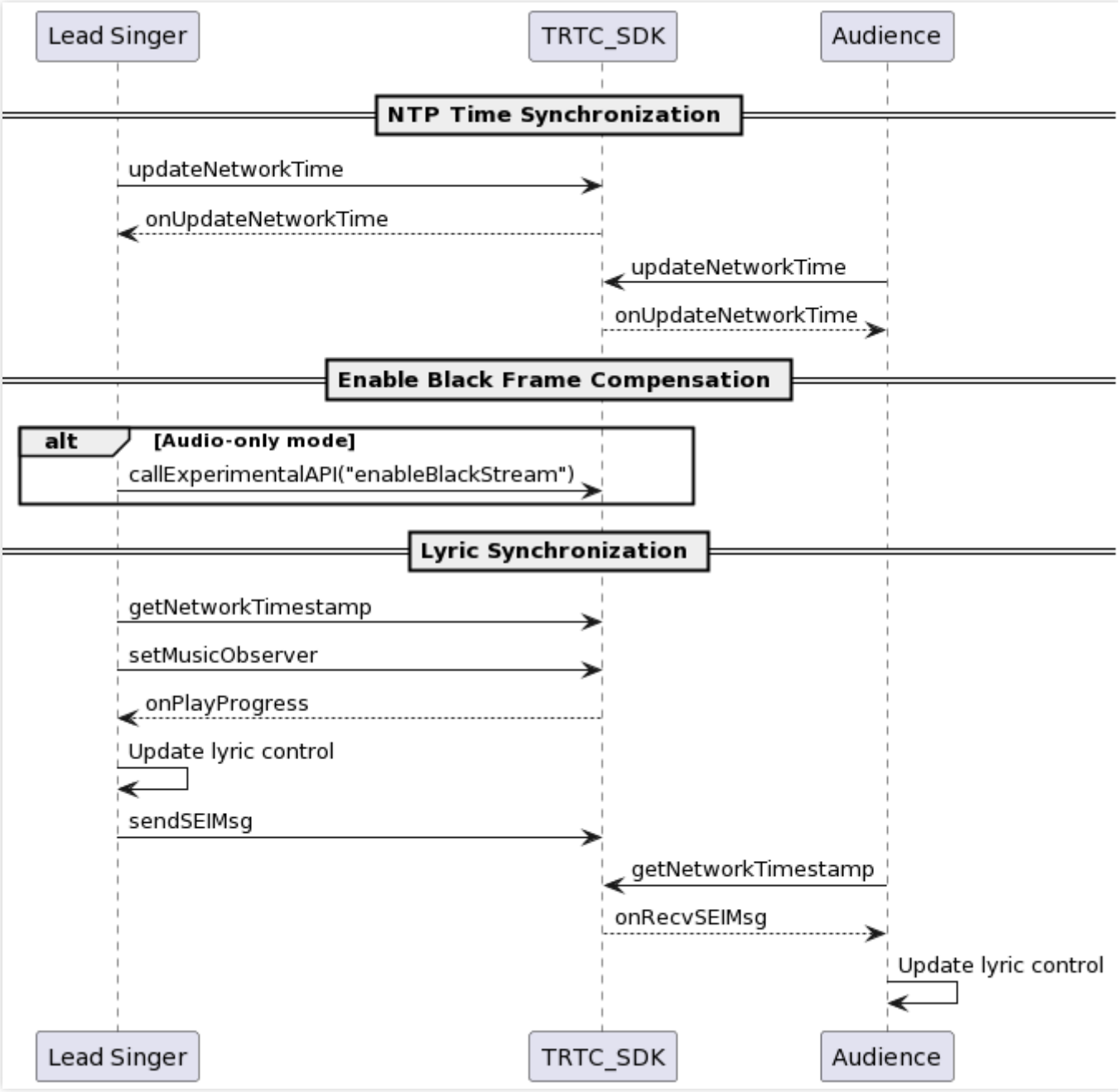
In the lyrics synchronization solution, the actions of the three different roles are as follows:

Main Singer	Chorus	Audience
NTP time calibration Enable black frame insertion Send SEI messages Local lyrics synchronization Update lyrics control	NTP time calibration Local lyrics synchronization Update lyrics control	NTP time calibration Receive SEI messages Update lyrics control

Among them, the main singer and chorus update the lyrics progress locally based on the synchronized song playback progress; the audience end needs to receive SEI messages containing the latest lyrics progress sent by the main singer end to update the local lyrics progress.



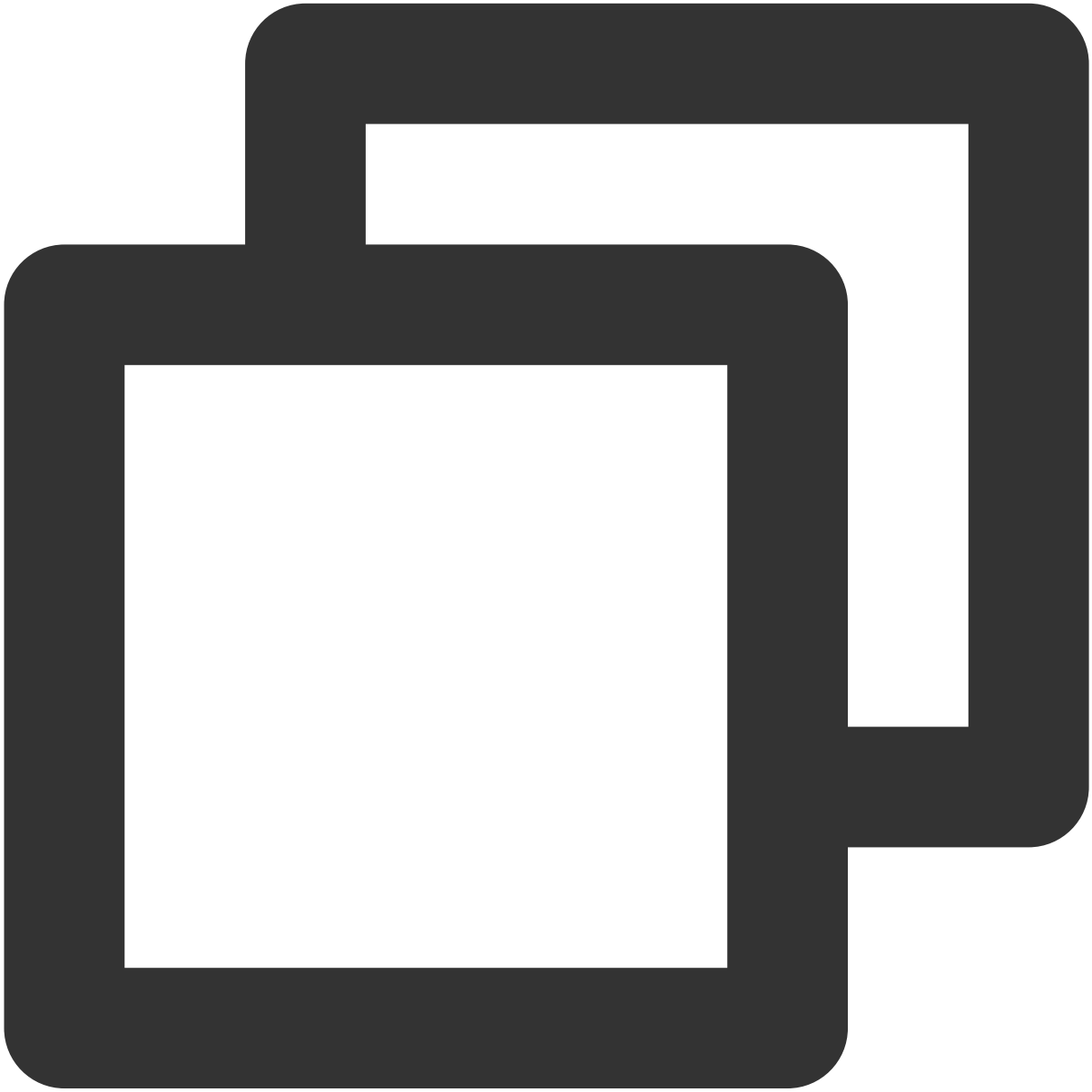
Timing diagram



The synchronization of lyrics timing can mainly be divided into three parts: NTP time synchronization, enabling black frame compensation, and local and remote lyrics synchronization. The code implementation of NTP time synchronization has been provided in the Song Synchronization document. The following will provide specific code implementation for the latter two parts.

Key code implementation

1. Enable Black Frame Insertion



```
// In pure audio mode, the main instance (vocal instance)
// needs to enable black frame padding to carry SEI messages.
NSDictionary *jsonDic = @{
                            @"api": @"enableBlackStream",
                            @"params":
                                 @{
                                    @"enable": @(1)
                                  }
                        };
```

```
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDic options:NSJSONWr
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
[trtcCloud callExperimentalAPI:jsonString];
```

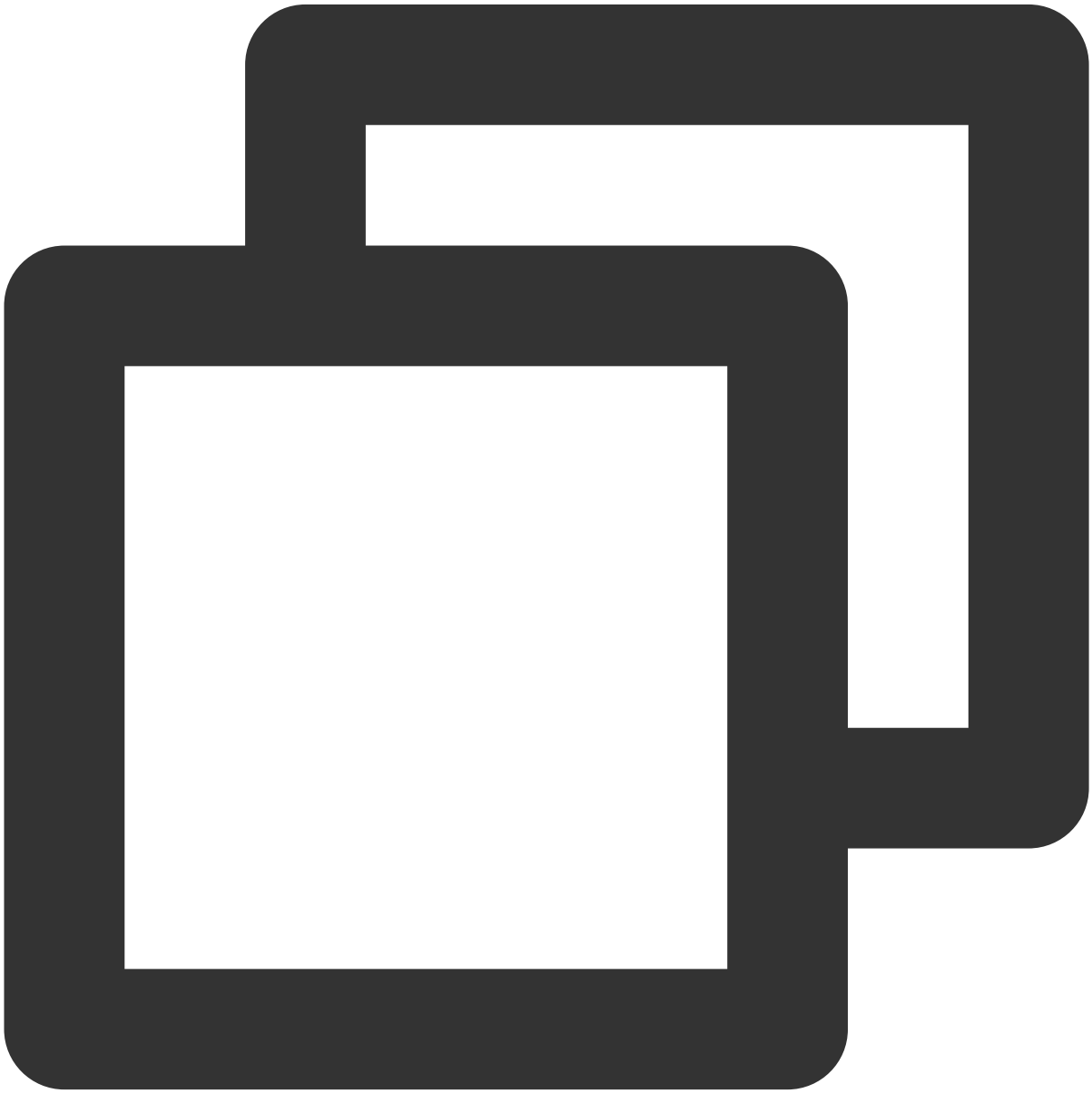
Note:

The experimental interface `enableBlackStream` needs to be called after entering the room;

On Android, the value type of the `enable` parameter is Boolean, and on iOS it is Integer;

The receiving end needs to call `startRemoteView(userId, null)` after receiving `onUserVideoAvailable(userId, true)`.

2. Sending Song Progress through SEI Message



```
TXAudioMusicProgressBlock progressBlock = ^(NSInteger progressMs, NSInteger duratio
    // current ntp time
    NSInteger ntpTime = [TXLiveBase getNetworkTimestamp];
    // Notify the song progress, users will scroll the lyrics here.
    NSDictionary *progressMsg = @{
            @"bgmProgressTime":@(progressMs),
            @"ntpTime":@(ntpTime),
            @"musicId": @(musicId),
            @"duration": @(durationMs),
    };
    NSData *jsonData = [NSJSONSerialization dataWithJSONObject:progressMsg options:
```

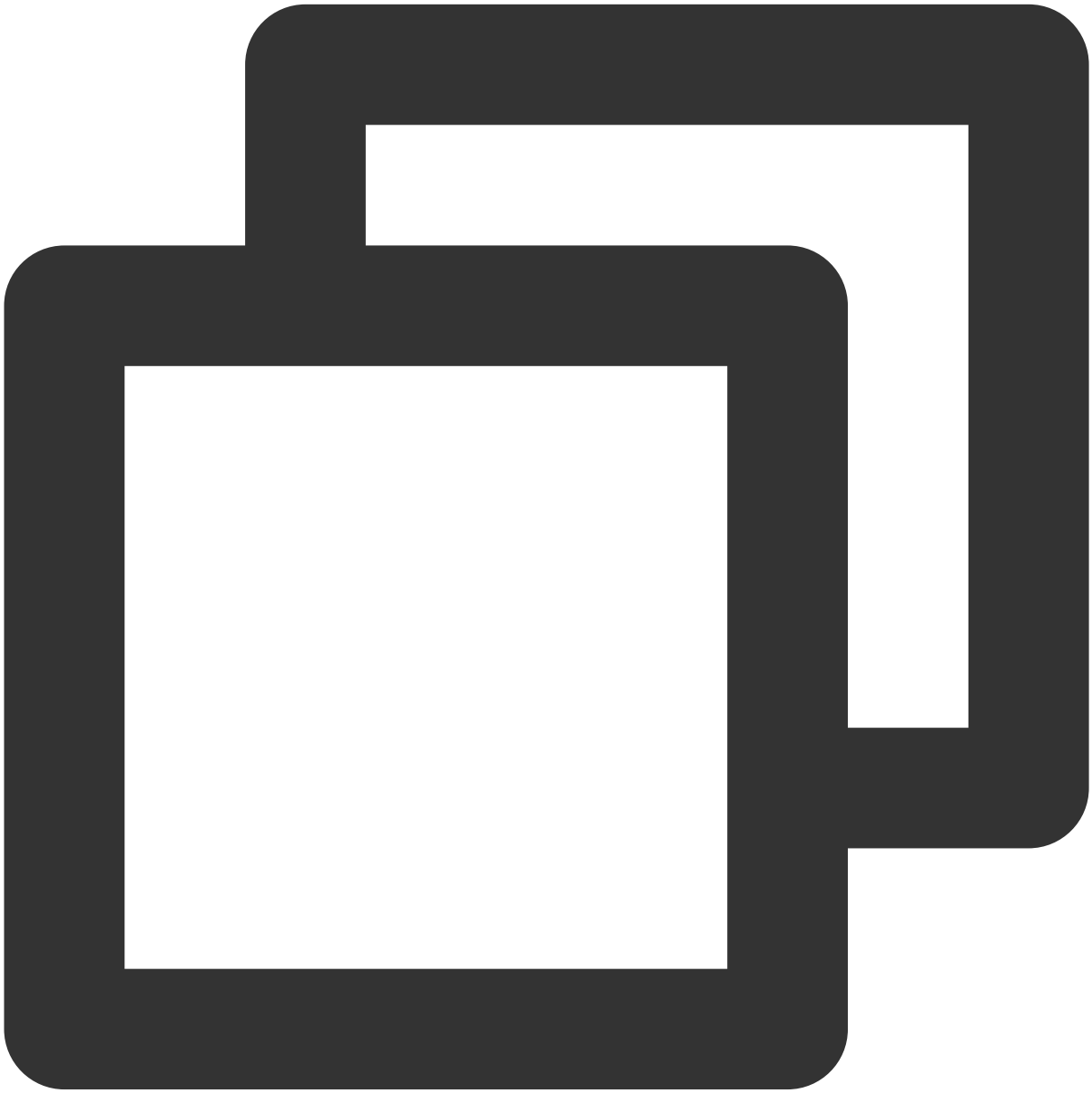
```
    NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8S
    [trtcCloud sendSEIMsg:[jsonString dataUsingEncoding:NSUTF8StringEncoding] repea
};
```

Note:

The frequency at which the lead singer sends SEI messages is determined by the frequency of background music playback event callbacks, which is usually 200ms;

The reason for **not directly using CMD messages to send song progress** is that the signaling transmitted through the SEI channel can be transmitted with the video frame to the live CDN, which has better compatibility for viewers who pull the CDN stream.

3. Synchronization of Local and Remote Lyrics



```
// local lyrics synchronization
TXAudioMusicProgressBlock progressBlock = ^(NSInteger progressMs, NSInteger duratio
    ...
    // TODO Update the logic of the lyrics control.
    // Determine whether it is necessary to seek the lyrics control
    // based on the latest progress and the error of the local lyrics progress.
    ...
};

// remote lyrics synchronization.
- (void)onRecvSEIMsg:(NSString *)userId message:(NSData *)message {
```

```
    NSError *err = nil;
    NSDictionary *dic = [NSJSONSerialization JSONObjectWithData:message options:NSJ
    if (err || ![dic isKindOfClass:[NSDictionary class]]) {
        // Parsing error.
        return;
    }
    NSInteger bgmProgressTime = [[dic objectForKey:@"bgmProgressTime"] integerValue
    NSInteger ntpTime = [[dic objectForKey:@"ntpTime"] integerValue];
    int32_t musicId = [[dic objectForKey:@"musicId"] intValue];
    NSInteger duration = [[dic objectForKey:@"duration"] integerValue];
    ...
    // TODO Update the logic of the lyrics control.
    // Determine whether it is necessary to seek the lyrics control
    // based on the received latest progress and the error of the local lyrics prog
    ...
}
```

Note

If reusing the TUIKaraoke component's lyric control, please refer to the code logic in the TUIKaraoke TRTCLyricView section to synchronize the progress of the lyric control.

Android

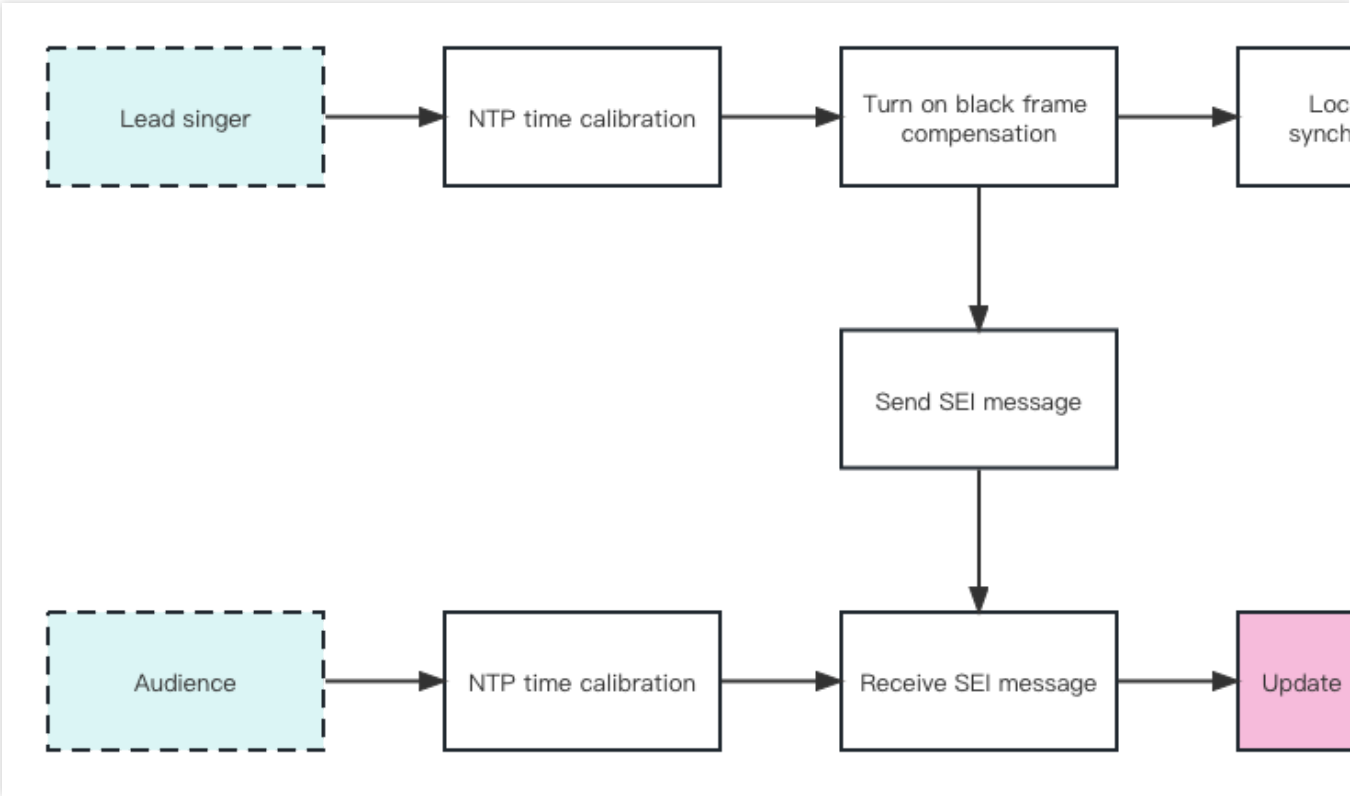
Last updated：2023-12-28 21:32:43

Implementation process

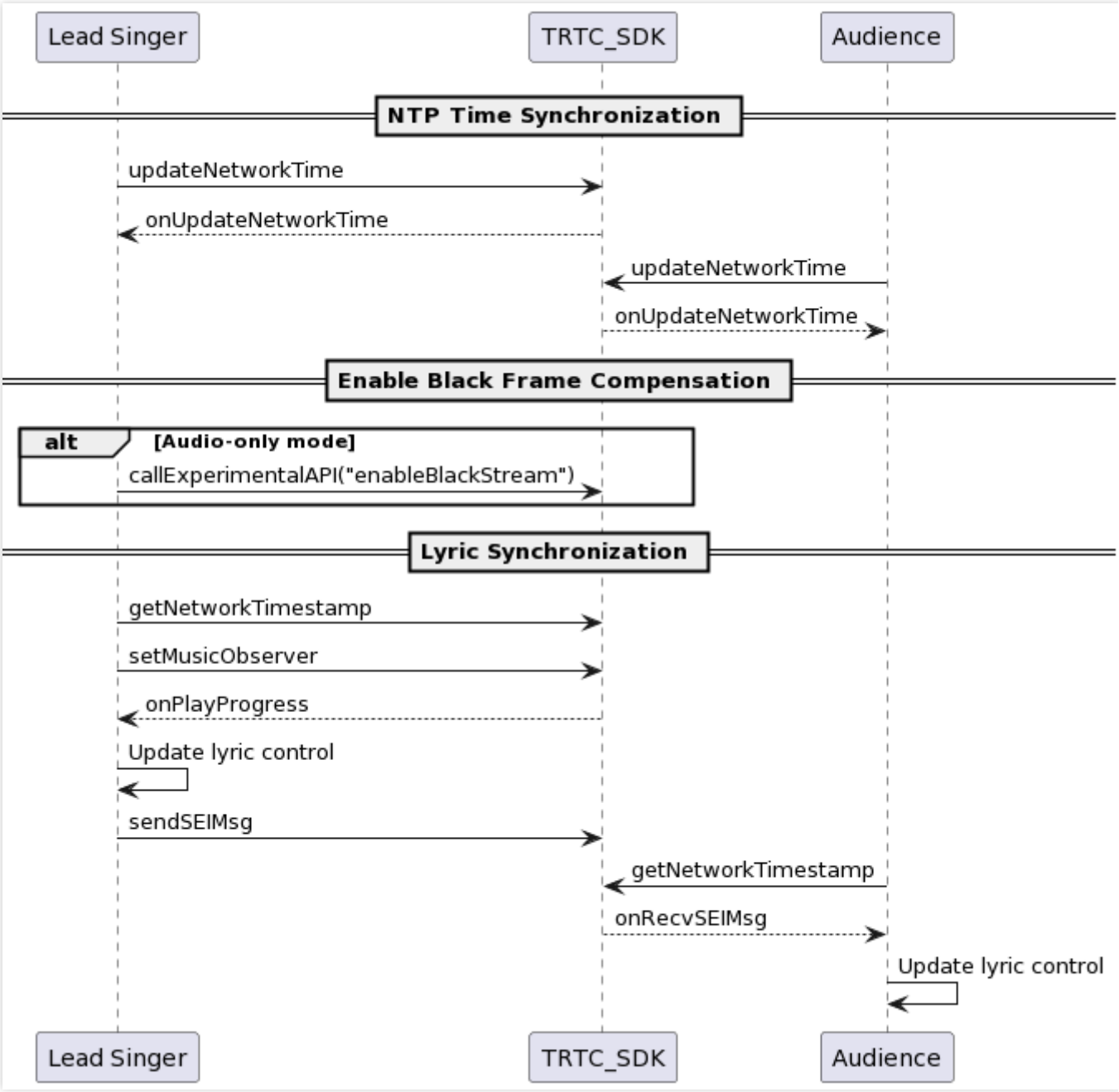
In the lyrics synchronization scheme, the actions of three different roles are as follows:

Lead Singer	Chorus	Audience
NTP time calibration Turn on black frame compensation Send SEI message Local lyrics synchronization Update lyrics widget	NTP time calibration Local lyrics synchronization Update lyrics widget	NTP time calibration Receive SEI message Update lyrics widget

The lead singer and chorus update the lyrics progress locally according to the synchronized song playback progress; the audience needs to receive the SEI message sent by the lead singer, which contains the latest lyrics progress, to update the local lyrics progress.



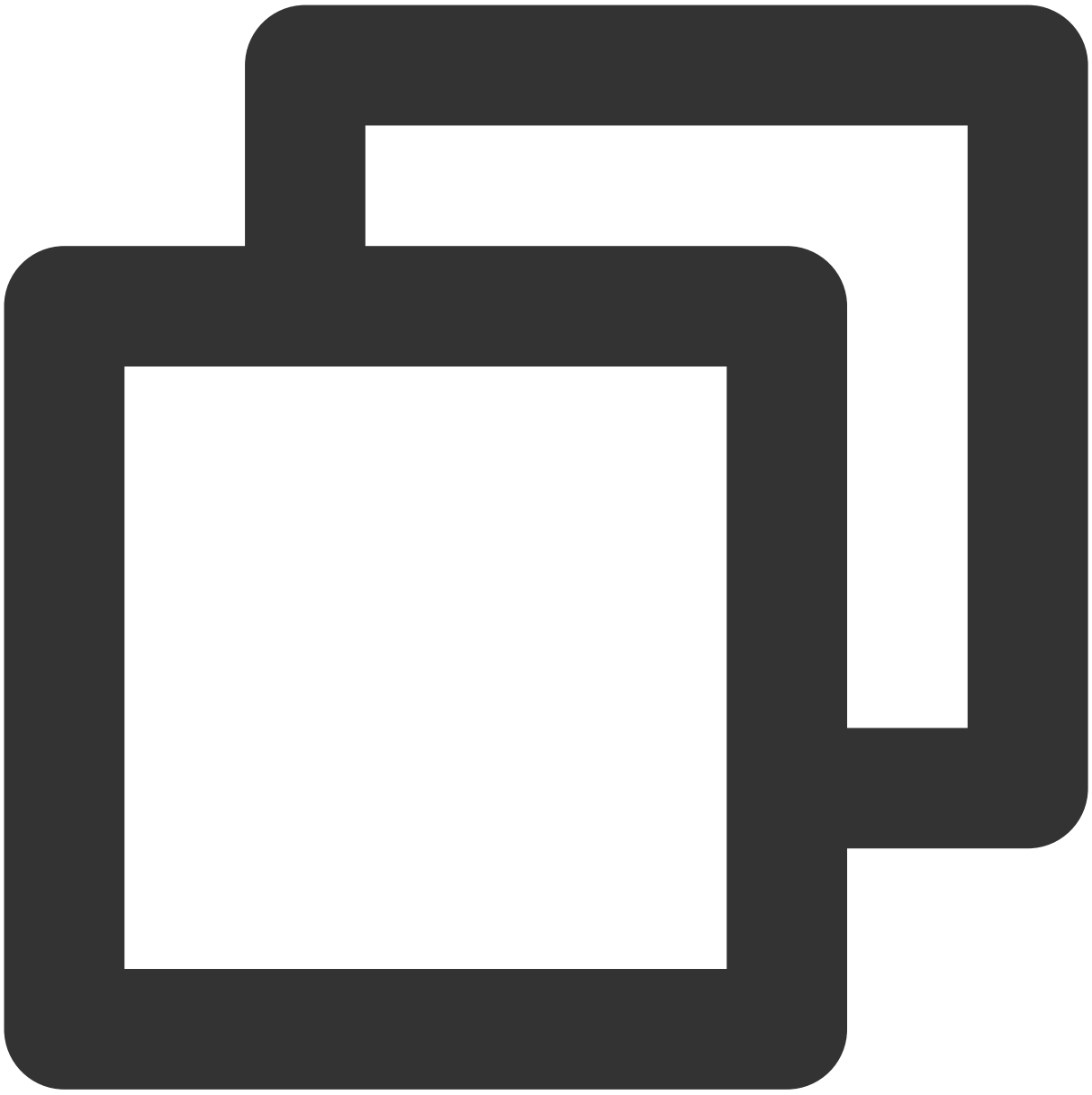
Timing diagram



The lyrics synchronization timing can be mainly divided into three parts: NTP time calibration, turning on black frame compensation, and local and remote lyrics synchronization. The code implementation of NTP time calibration has been given in the song synchronization, and the specific code implementation for the latter two parts will be provided below.

Key code implementation

1. Turn on black frame compensation



```
// In pure audio mode, the main instance (vocal instance) needs to turn on black fr
mTRTCCloud.callExperimentalAPI("{\\"api\\":\\"enableBlackStream\\",\\"params\\": {\
```

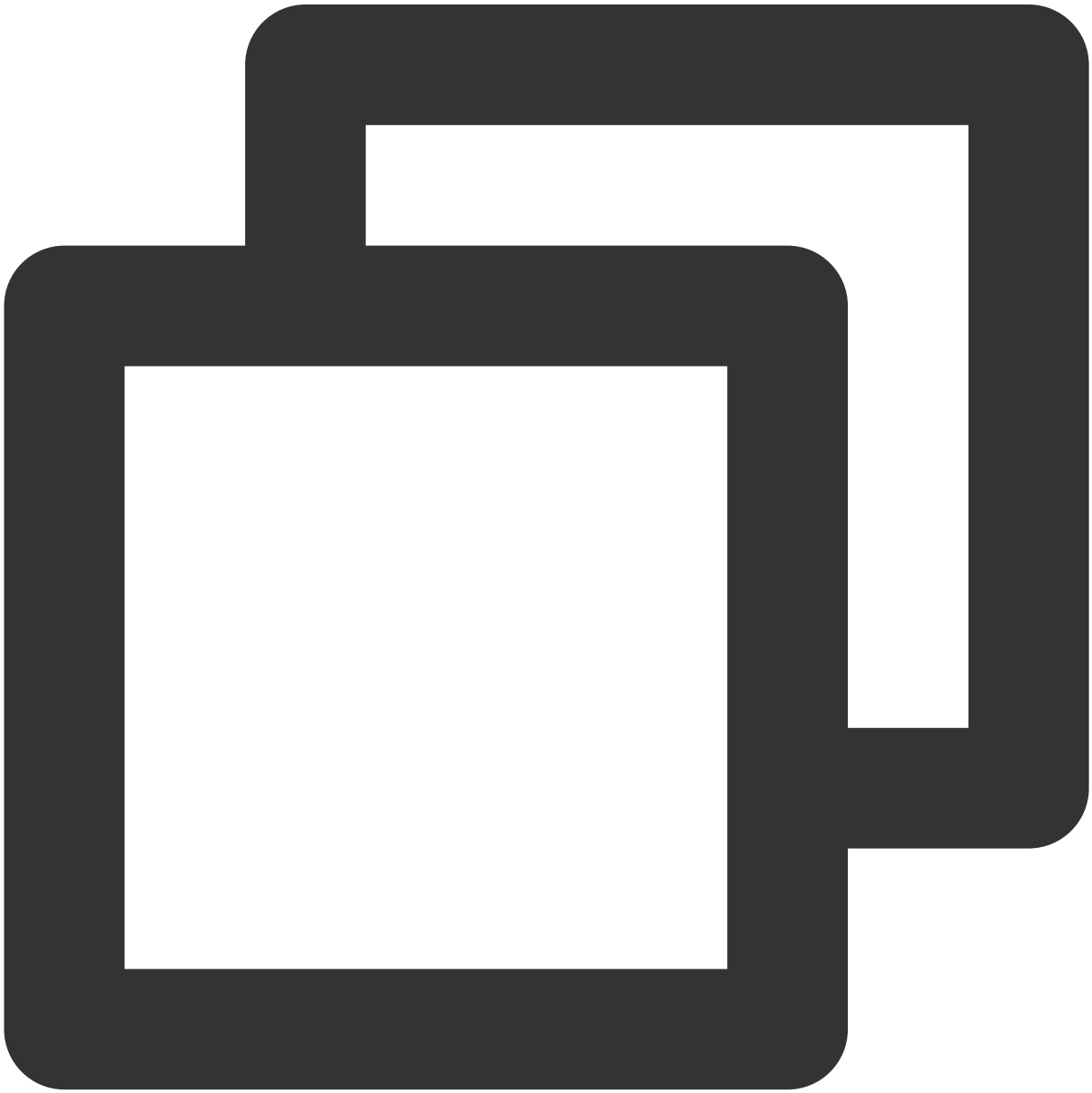
Note:

The experimental interface enableBlackStream needs to be called after entering the room.

On Android, the value type of the enable parameter is boolean, and on iOS, it is integer.

The receiver needs to call startRemoteView(userId, null) when onUserVideoAvailable(userId, true) is received.

2. Send song progress through SEI message



```
mAudioEffectManager.setMusicObserver(mCurPlayMusicId, new TXAudioEffectManager.TXMu
    @Override
    public void onPlayProgress(int id, long curPtsMS, long durationMS) {
        JSONObject jsonObject = new JSONObject();
        // Current NTP time
        long ntpTime = TXLiveBase.getNetworkTimestamp();
        jsonObject.put("bgmProgressTime", curTime);
```

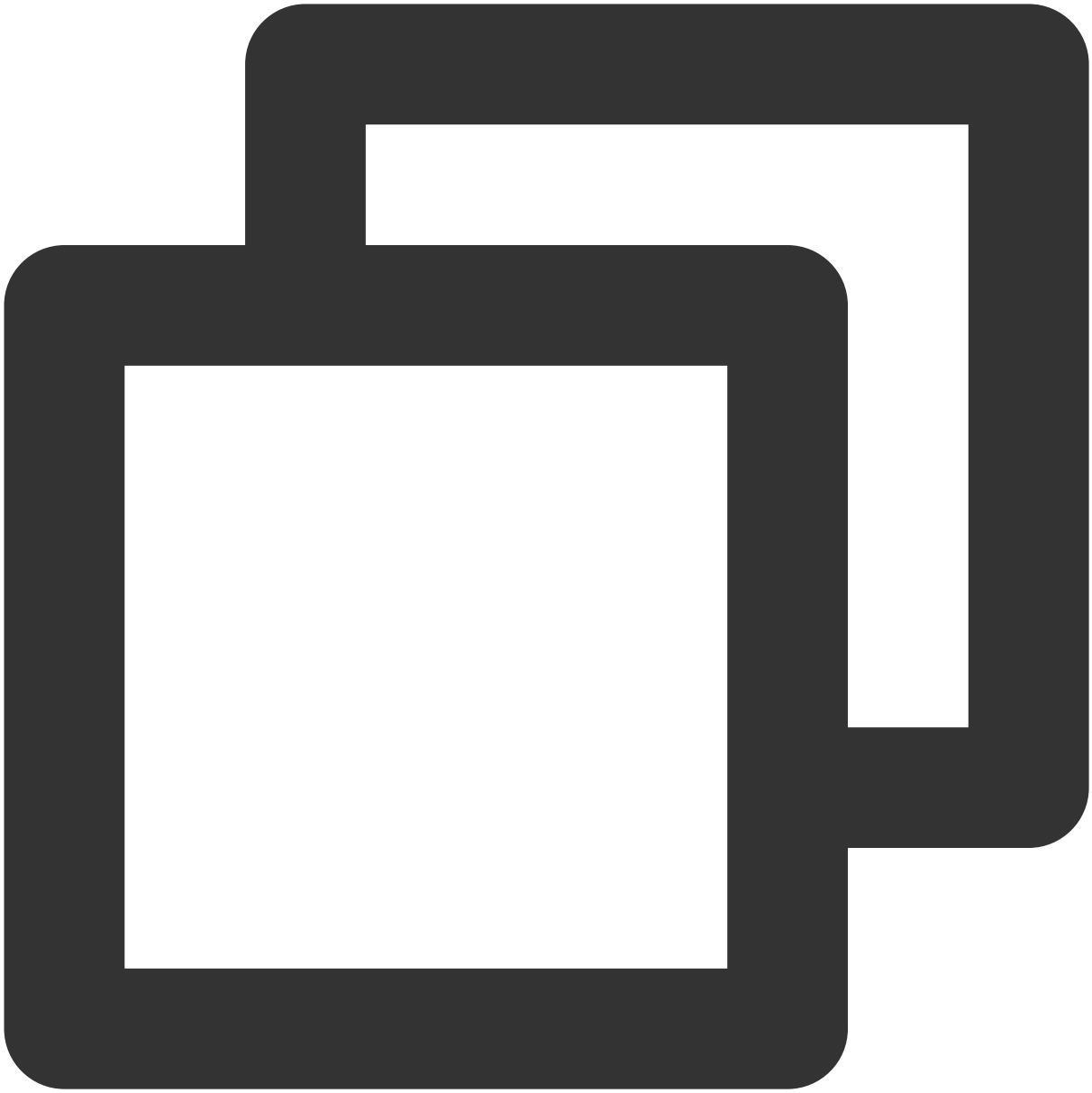
```
            jsonObject.put("ntpTime", ntpTime);
            jsonObject.put("musicId", musicId);
            jsonObject.put("duration", duration);
            jsonObject.toString().getBytes();
            mTRTCCloud.sendSEIMsg(jsonObject.toString().getBytes(), 1);
        }
    }
```

Note:

The frequency of the lead singer sending SEI messages is determined by the frequency of background music playback event callbacks, usually 200ms;

The reason for **not directly using CMD messages to send song progress**: The signaling transmitted by the SEI channel can be transmitted to the live CDN along with the video frames, providing better compatibility for the audience pulling the CDN stream.

3. Local and remote lyrics synchronization



```
// Local lyrics synchronization
mAudioEffectManager.setMusicObserver(mCurPlayMusicId, new TXAudioEffectManager.TXMu
    @Override
    public void onPlayProgress(int id, long curPtsMS, long durationMS) {
        ...
        // TODO Update lyrics widget logic:
        // Determine whether to seek the lyrics widget based on the latest progress
        ...
    }
}
```

```
// Remote lyrics synchronization
@Override
public void onRecvSEIMsg(String userId, byte[] data) {
    String result = new String(data);
    JSONObject jsonObject = new JSONObject(result);
    long bgmProgressTime = jsonObject.getLong("bgmProgressTime");
    long ntpTime = jsonObject.getLong("ntpTime");
    String musicId = jsonObject.getString("musicId");
    long duration = jsonObject.getLong("duration");
    ...
    // TODO Update lyrics widget logic:
    // If you reuse the TUIKaraoke component's lyrics widget,
    //please refer to the code logic of the TUIKaraoke LyricsView section to synchr
    ...
}
```

Note:

If you reuse the TUIKaraoke component's lyrics widget, please refer to the code logic of the TUIKaraoke LyricsView section to synchronize the lyrics widget progress.

Vocal Synchronization
iOS

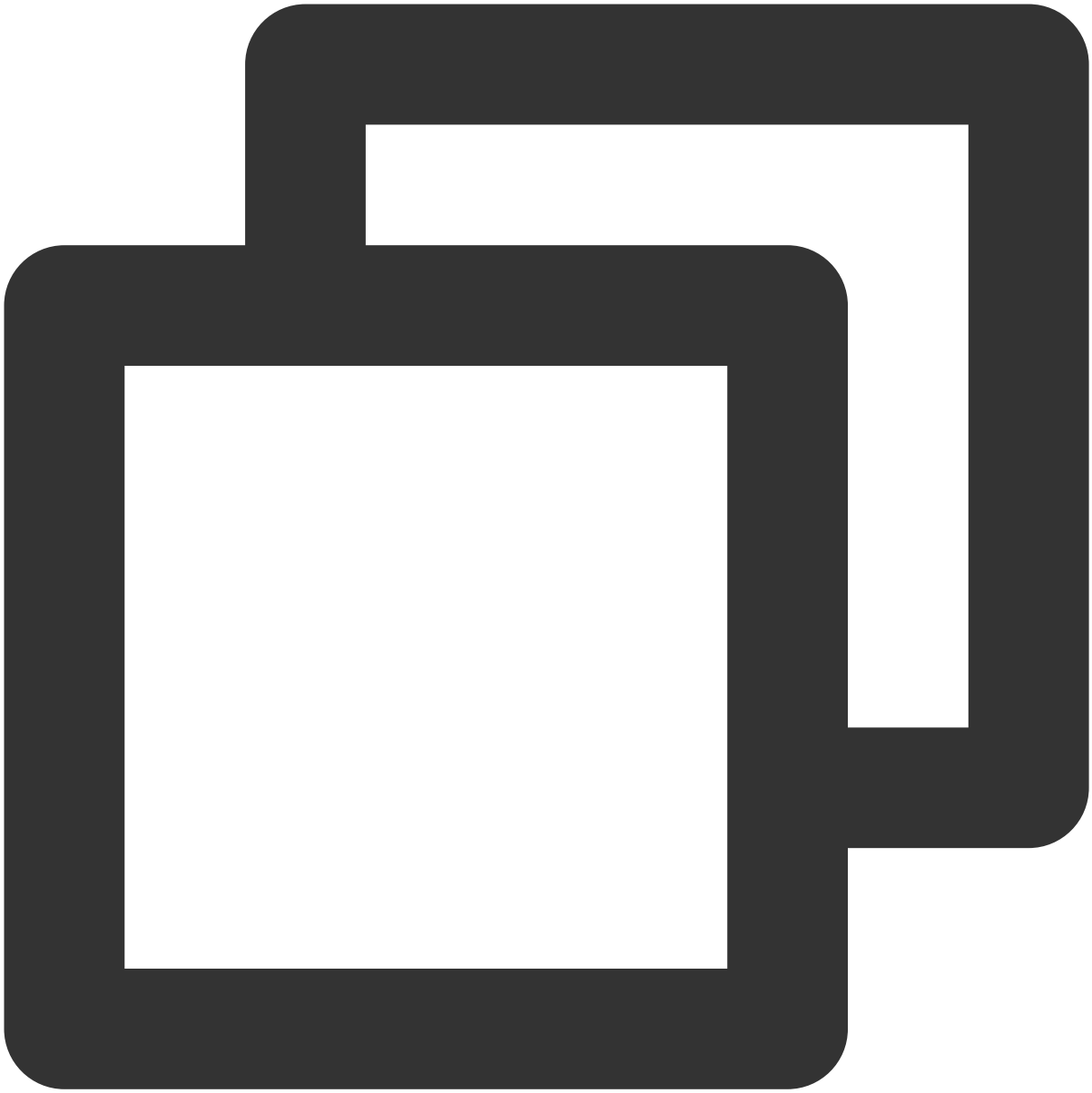
Last updated：2023-09-26 16:52:53

Introduction to Synchronization of Vocals and Songs

Due to the existence of certain gaps between the jitter buffer for local voice collection, the jitter buffer for song playback mixing, and the sound reaching the singer's ears, when the singer sings completely facing the lyrics and BGM playback, remote audiences will feel that there is a certain delay between the playback of BGM, vocals, and lyrics. The chorus solution in the TRTC SDK uses low-latency AAudio collection internally. You only need to enable chorus mode and low-latency mode after entering the room.

Specific Code Implementation

Enable Chorus Mode



```
// Enable tutti mode for the main instance (vocal instance) by reducing the buffer
// and enabling audio redundancy protection.
NSDictionary *jsonDic = @{
                            @"api": @"enableChorus",
                            @"params": @{
                                        @"enable": @(YES),
                                        @"audioSource": @(0)
                                      }
                        };
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDic options:NSJSONWr
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
```

```
[trtcCloud callExperimentalAPI:jsonString];
// Enable tutti mode for the sub-instance (accompaniment instance) by reducing the
// and enabling audio redundancy protection.
NSDictionary *jsonDic = @{
                            @"api": @"enableChorus",
                            @"params": @{
                                        @"enable": @(YES),
                                        @"audioSource": @(1)
                                       }
                         };
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDic options:NSJSONWr
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
[subCloud callExperimentalAPI:jsonString];
```

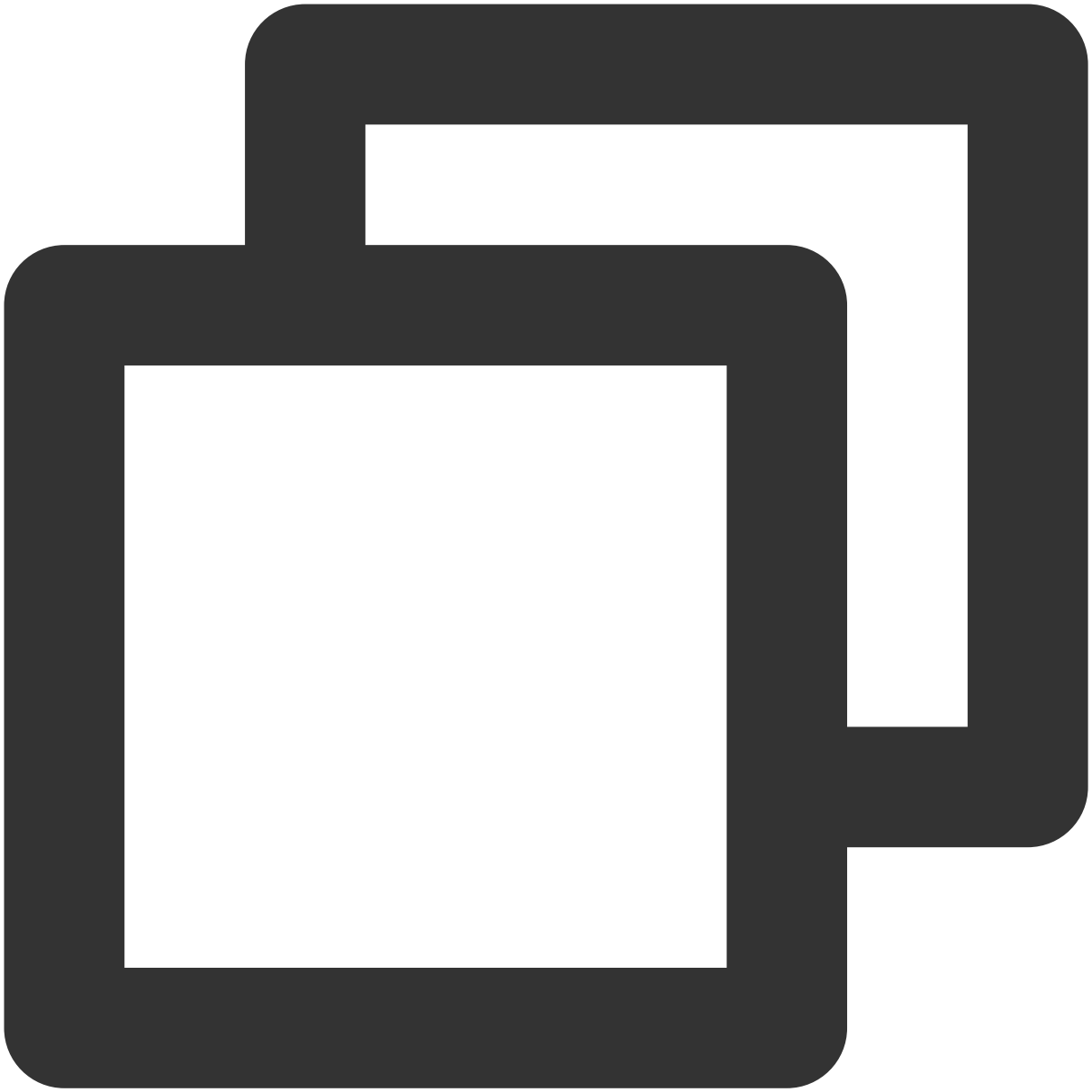
Note：

The parameter settings for enabling chorus mode through the experimental interface `enableChorus` are as follows:

audioSource: 0 (vocals)

audioSource: 1 (accompaniment)

Enable Low-Latency Mode (High-Performance Audio AAudio)



```
// Enable high-performance audio AAudio for the main instance (vocal instance).
NSDictionary *jsonDic = @{
                            @"api": @"setLowLatencyModeEnabled",
                            @"params": @{
                                        @"enable": @(1)
                                       }
                         };
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDic options:NSJSONWr
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
[trtcCloud callExperimentalAPI:jsonString];
// Enable high-performance audio AAudio for the sub-instance (accompaniment instanc
```

```
NSDictionary *jsonDic = @{
                            @"api": @"setLowLatencyModeEnabled",
                            @"params": @{
                                        @"enable": @(1)
                                      }
                        };
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDic options:NSJSONWr
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
[subCloud callExperimentalAPI:jsonString];
```

Android

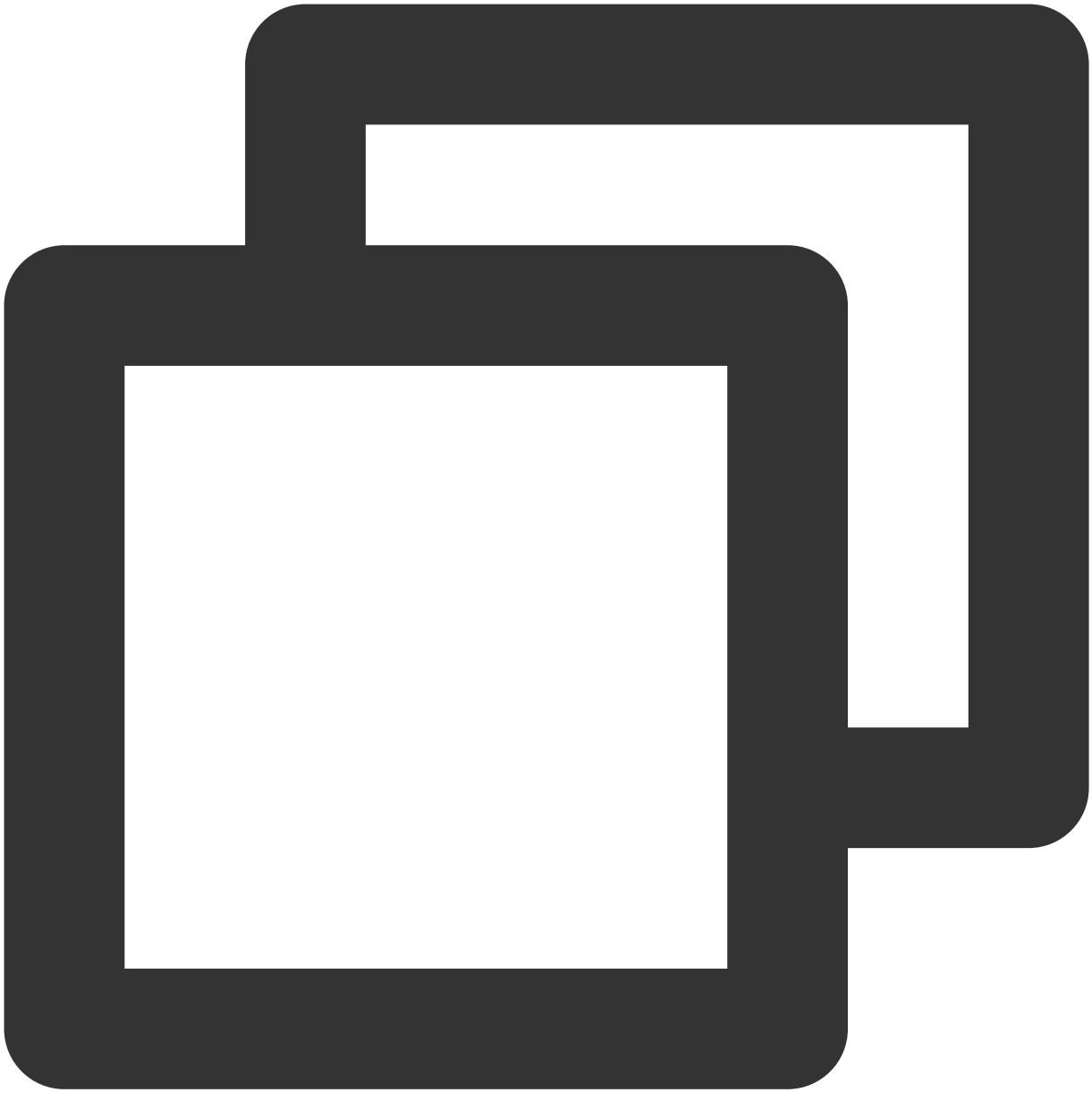
Last updated：2023-09-26 16:53:14

Introduction to vocal and song synchronization

Due to the jitter buffer of local vocal collection, the jitter buffer of song playback mixing, and the certain GAP between sound playback to the human ear and singing, when the singer sings along with the lyrics and BGM, the remote audience feels that there is a certain delay in the BGM playback, vocals, and lyrics. The chorus scheme uses low-latency AAudio collection inside the TRTC SDK. Specifically, you only need to enable the chorus mode and low-latency mode after entering the room.

Specific code implementation

Enable chorus mode



```
// The main instance (vocal instance) enables chorus mode (reducing buffer interval
mTRTCCloud.callExperimentalAPI("{\\"api\\":\\"enableChorus\\",\\"params\\":{\\"enab
// The sub-instance (accompaniment instance) enables chorus mode (reducing buffer i
subCloud.callExperimentalAPI("{\\"api\\":\\"enableChorus\\",\\"params\\":{\\"enable
```

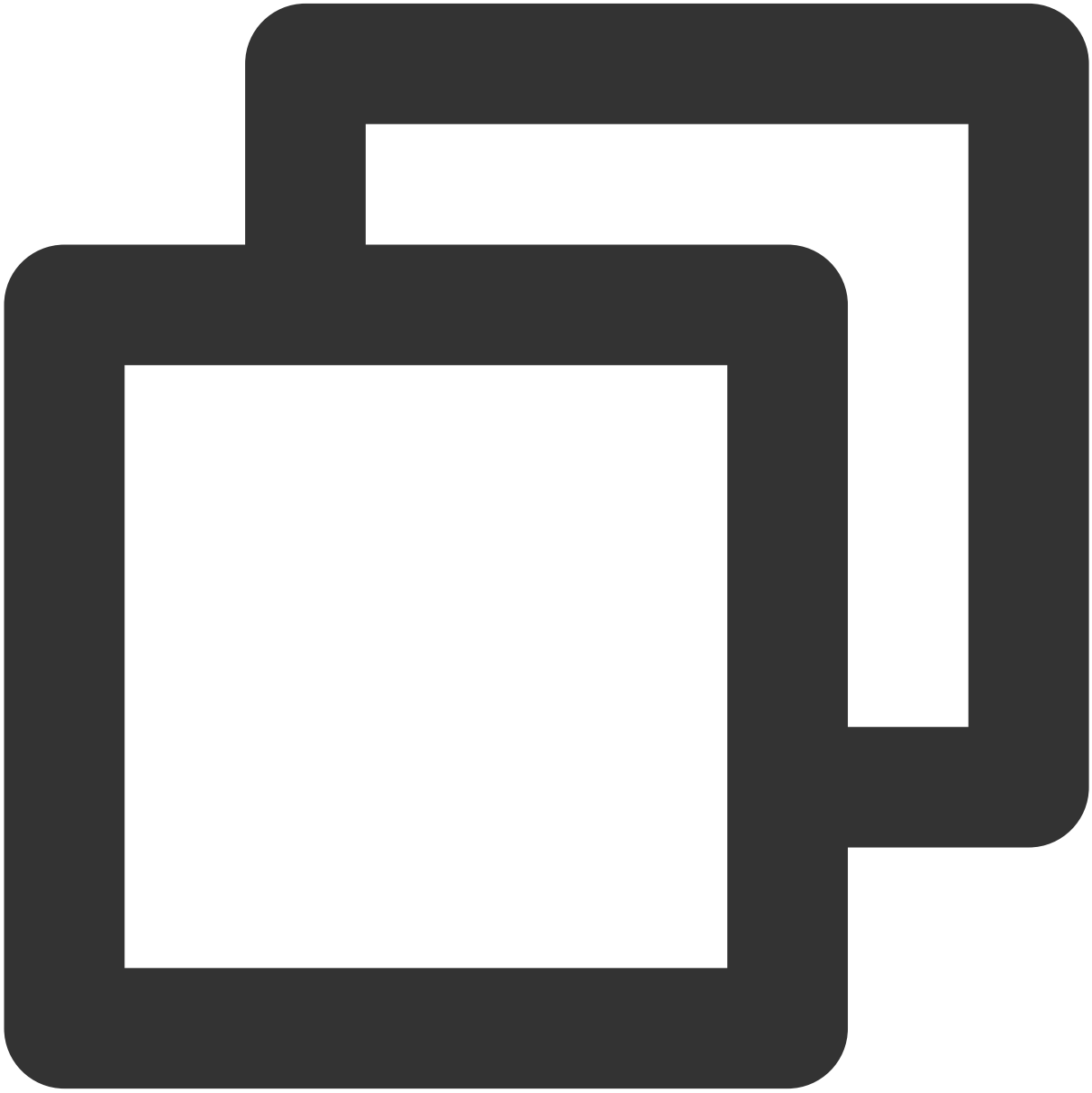
Note:

Parameter settings for the experimental interface enableChorus to enable chorus mode:

audioSource：0(vocals).

audioSource：1 (accompaniment).

Enable low-latency mode (high-performance audio AAudio)



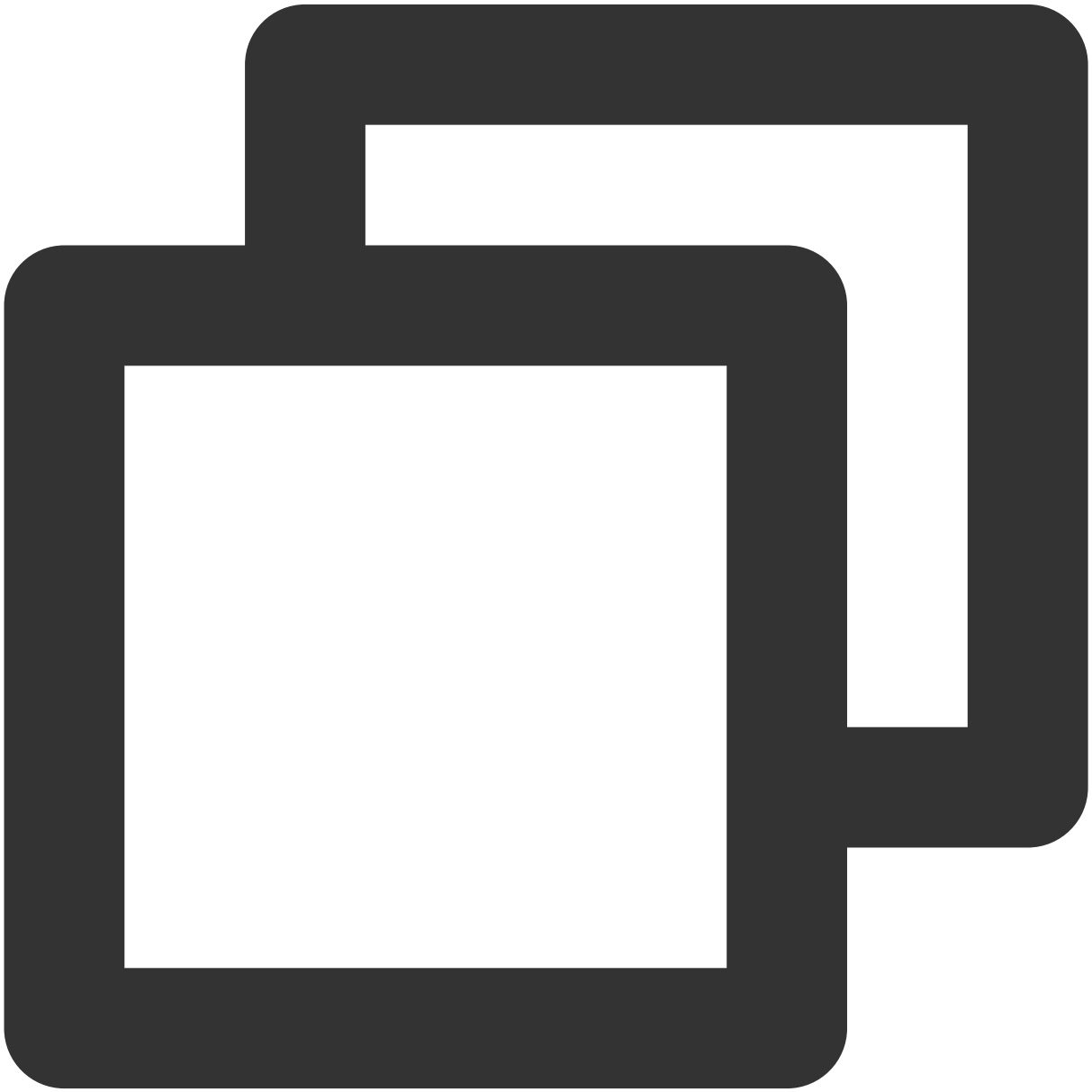
```
// The main instance (vocal instance) enables high-performance audio AAudio
mTRTCCloud.callExperimentalAPI("{\\"api\\":\\"setLowLatencyModeEnabled\\",\\"params
// The sub-instance (accompaniment instance) enables high-performance audio AAudio
subCloud.callExperimentalAPI("{\\"api\\":\\"setLowLatencyModeEnabled\\",\\"params\\
```

Mixing Stream Solution
iOS

Last updated：2023-09-26 16:53:38

Specific code implementation

1. Create main and sub-instances

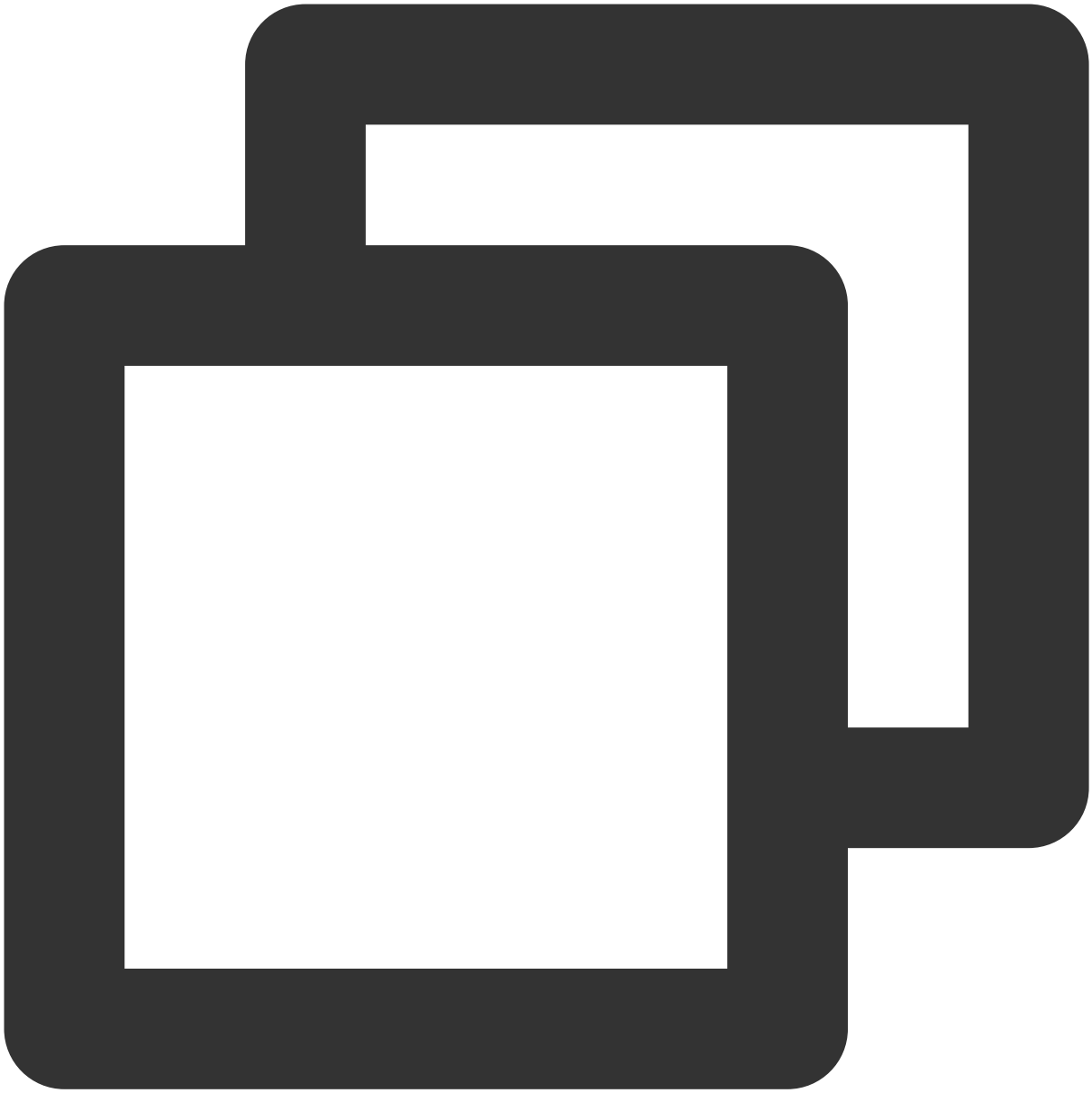


```
// Create TRTCCloud main instance (vocal instance)
TRTCCloud *trtcCloud = [TRTCCloud sharedInstance];
// Create TRTCCloud sub-instance (accompaniment instance)
TRTCCloud *subCloud = [trtcCloud createSubCloud];
```

Note：

In the real-time chorus scheme, the lead singer needs to create the main instance-vocal instance and the sub-instance-accompaniment instance separately for uploading vocals and accompaniment music.

2. Vocal instance enters the room and pushes the stream



```
TRTCParams *params = [[TRTCParams alloc] init];
params.sdkAppId = sdkAppId;
params.userId = userId;
params.userSig = userSign;
params.role = TRTCRoleAnchor;
params.roomId = roomIdIntValue;
[trtcCloud enterRoom:params appScene:TRTCAppSceneLIVE];
// Turn on audio uplink and set audio quality
[trtcCloud startLocalAudio:TRTCAudioQualityMusic];
// Set media type
[trtcCloud setSystemVolumeType:TRTCSystemVolumeTypeMedia];
```

```
// Mute remote accompaniment music
[trtcCloud muteRemoteAudio:remoteAudioId mute:YES];
```

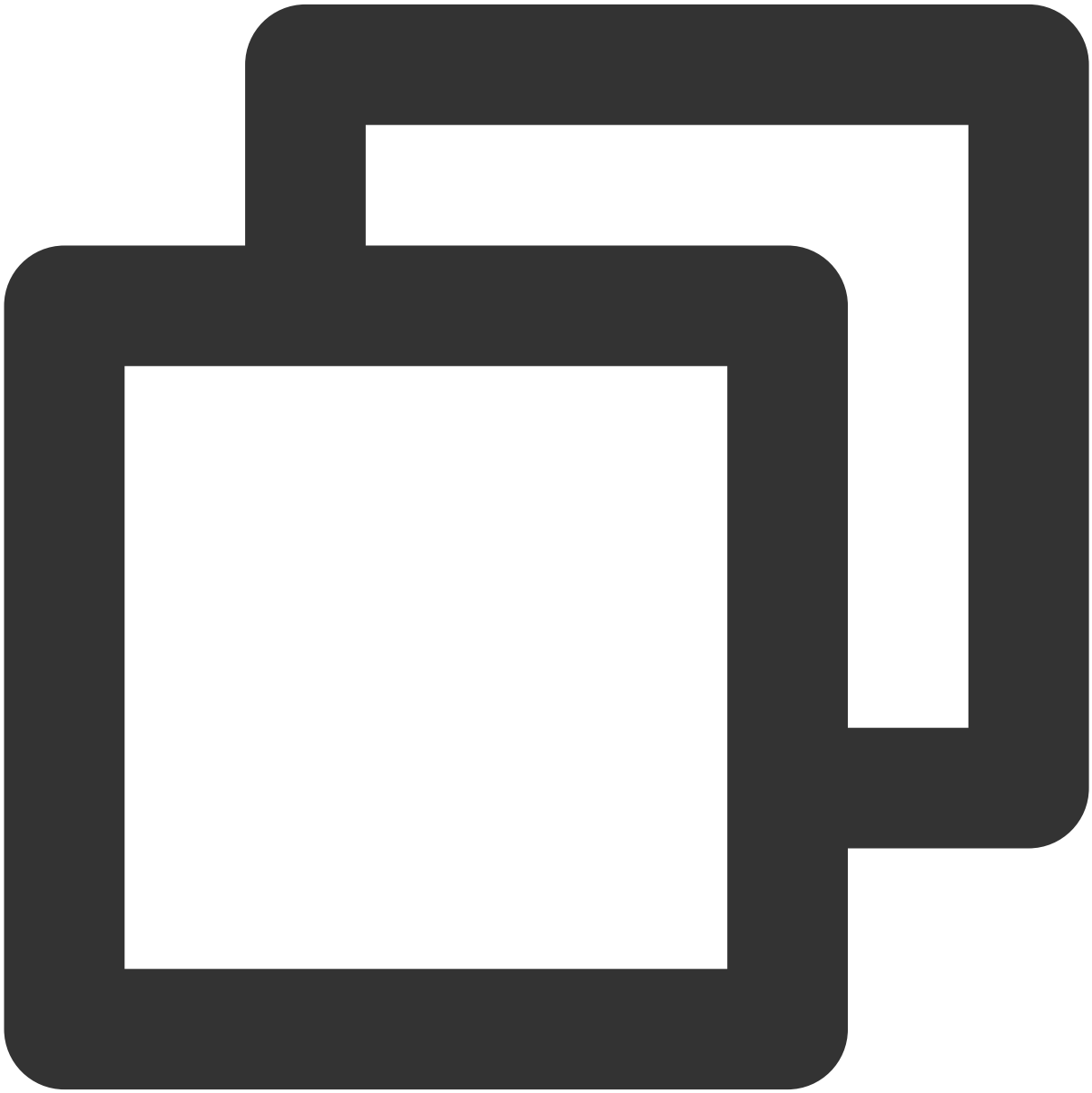
Note：

In pure RTC audio scenarios, it is recommended to use VOICE_CHATROOM for entering the room.

If there is a need for video or CDN forwarding, the room entry scenario must use LIVE, as VOICE_CHATROOM will add pure audio parameters during forwarding, causing SEI messages to fail to pass through.

The lead singer/chorus needs to muteRemoteAudio(true) to unsubscribe from the audio stream uploaded by the accompaniment instance, otherwise, the local and remote accompaniment music will be played repeatedly.

3. Accompaniment example: Joining room and pushing stream.



```
TRTCParams *bgmParams = [[TRTCParams alloc] init];
bgmParams.sdkAppId = sdkAppId;
bgmParams.userId = [NSString stringWithFormat:@"%@%@",userId,@"_bgm"];
bgmParams.userSig = bgmUserSign;
bgmParams.role = TRTCRoleAnchor;
bgmParams.roomId = roomIdIntValue;
[subCloud enterRoom:bgmParams appScene:TRTCAppSceneLIVE];
// Set media type
[subCloud setSystemVolumeType:TRTCSystemVolumeTypeMedia];
// Enable preloading
NSDictionary *jsonDict = @{
```

```
                                @"api": @"preloadMusic",
                                @"params": @{
                                            @"musicId": @(self.currentPlayMusicID),
                                            @"path": path,
                                            @"startTimeMS": @(startMs),
                                           }
                               };
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDict options:0 error
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
[subCloud callExperimentalAPI:jsonString];
// Play accompaniment music and push the stream (play at the agreed time)
TXAudioMusicParam *musicParam = [[TXAudioMusicParam alloc] init];
musicParam.ID = musicID;
musicParam.path = url;
musicParam.loopCount = 0;
musicParam.publish = YES;
// Send accompaniment music to the remote end
param.publish = YES;
[[subCloud getAudioEffectManager] startPlayMusic:musicParam onStart:startBlock onPr
```

Note：

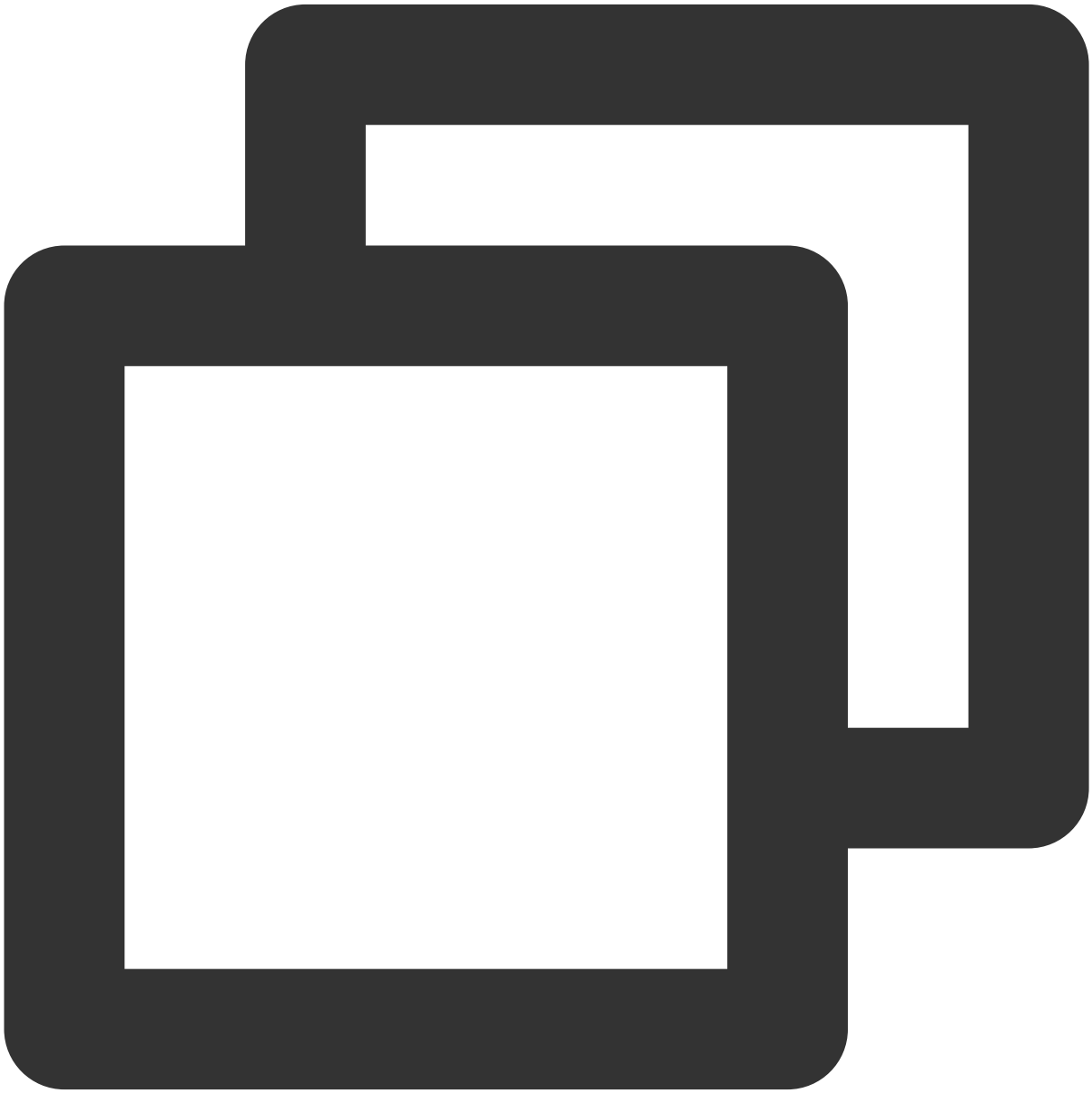
Pay attention to distinguish between the userId of the main instance and the sub-instance, ensuring that they are not duplicated and easy to identify;

Accompaniment instance background music parameter musicParam seettings:

publish：YES (while the music is playing locally, remote users can also hear the music)

publish：NO (default value, the music can only be heard locally, remote users cannot hear it)

4. Initiating mixed stream transcoding and pushing back.



```
// Create a TRTCPublishTarget object
TRTCPublishTarget *publishTarget = [[TRTCPublishTarget alloc] init];
// Push back to the room after mixing, if publishing to CDN, fill in TRTCPublishMix
publishTarget.mode = TRTCPublishMixStreamToRoom;
// The userid of the mixing robot, which cannot be duplicated with other users' use
publishTarget.mixStreamIdentity = [NSString stringWithFormat:@"%@%@",userId,@"_mix"

// Set the encoding parameters of the transcoded audio stream
TRTCStreamEncoderParam *streamEncoderParam = [[TRTCStreamEncoderParam alloc] init];
streamEncoderParam.videoEncodedFPS = 15;
streamEncoderParam.videoEncodedGOP = 3;
```

```
streamEncoderParam.videoEncodedKbps = 30;
streamEncoderParam.audioEncodedSampleRate = 48000;
streamEncoderParam.audioEncodedChannelNum = 2;
streamEncoderParam.audioEncodedKbps = 64;
streamEncoderParam.audioEncodedCodecType = 2;

// Set audio mixing parameters
TRTCStreamMixingConfig *streamMixingConfig = [[TRTCStreamMixingConfig alloc] init];
// Support filling in empty values, which will automatically mix the audio of all h
streamMixingConfig.audioMixUserList = @[];

// Initiate mixed stream transcoding and pushing request
[trtcCloud startPublishMediaStream:publishTarget encoderParam:streamEncoderParam mi
```

Note:

It is recommended to prioritize the lead singer to initiate mixed stream transcoding and pushing through the mixing robot to the backend, mixing the accompaniment music and all vocal streams and pushing them back to the TRTC room, or pushing them to the live CDN.

In automatic subscription mode, the hosts participating in the mixed stream transcoding will pull each other's single stream by default and not receive the mixed stream pushed back to the room; the audience will automatically pull the mixed stream pushed back to the room and no longer receive the single stream.

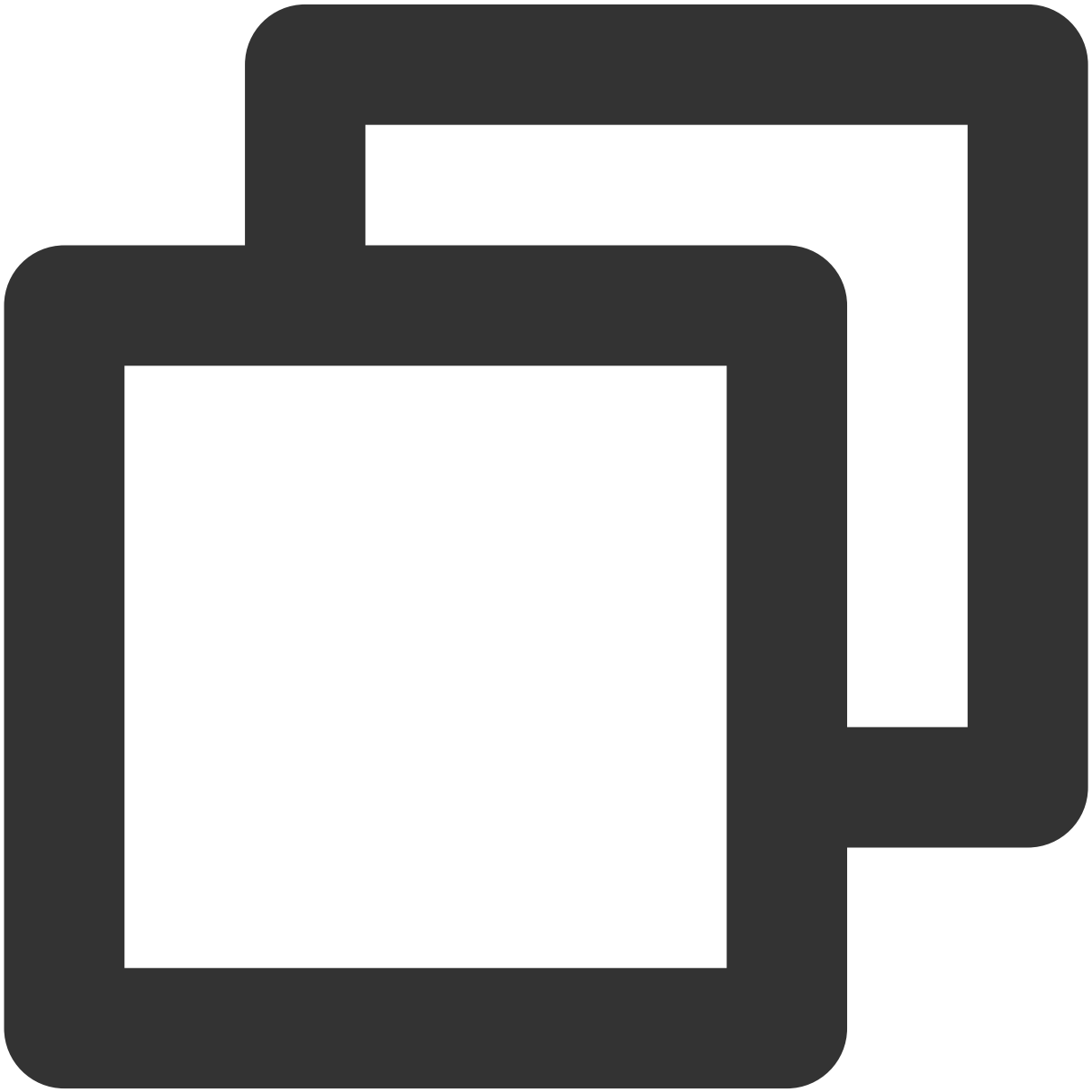
The mixed stream transcoding and pushing method startPublishMediaStream used here adopts a brand new backend architecture. The old version of the application needs to provide the SdkAppId to apply for an upgrade before it can be used.

Android

Last updated：2023-09-26 16:54:10

Specific code implementation

1. Create main and sub-instances



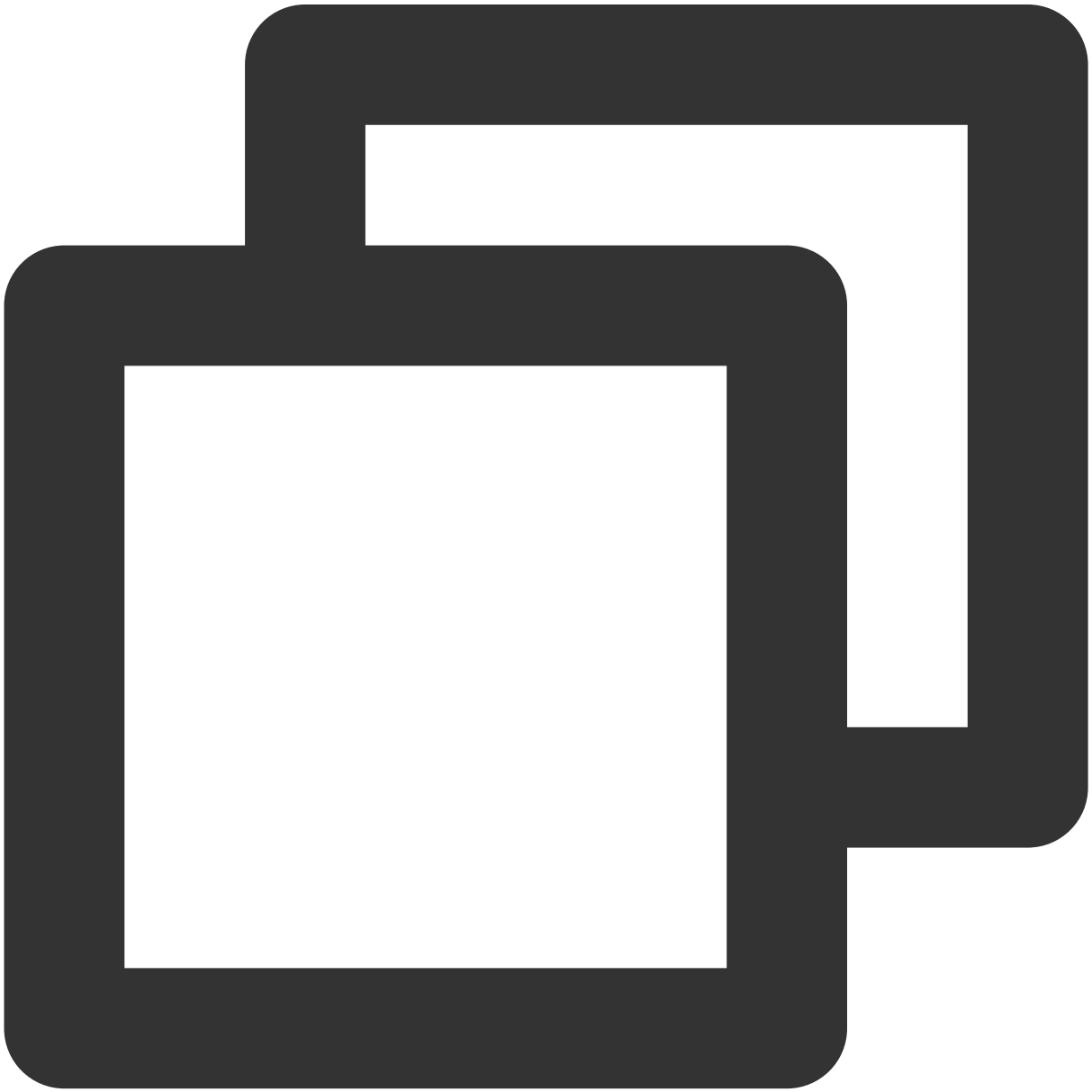
```
// Create TRTCCloud main instance (vocal instance)
```

```
TRTCCloud mTRTCCloud = TRTCCloud.sharedInstance(getApplicationContext());
// Create TRTCCloud sub-instance (accompaniment instance)
TRTCCloud subCloud = mTRTCCloud.createSubCloud();
```

Note:

In the real-time chorus scheme, the lead singer needs to create the main instance-vocal instance and the sub-instance-accompaniment instance separately for uploading vocals and accompaniment music.

2. Vocal instance enters the room and pushes the stream



```
TRTCCloudDef.TRTCParams params = new TRTCCloudDef.TRTCParams();
```

```
params.sdkAppId = sdkAppId;
params.userId = mUserId;
params.userSig = userSig;
params.role = TRTCCloudDef.TRTCRoleAnchor;
params.roomId = mRoomId;
mTRTCCloud.enterRoom(params, TRTCCloudDef.TRTC_APP_SCENE_LIVE);
// Turn on audio uplink and set audio quality
mTRTCCloud.startLocalAudio(TRTCCloudDef.TRTC_AUDIO_QUALITY_MUSIC);
// Set media type
mTRTCCloud.setSystemVolumeType(TRTCCloudDef.TRTCSystemVolumeTypeMedia);
// Mute remote accompaniment music
mTRTCCloud.muteRemoteAudio(mUserId + "_bgm", true);
```

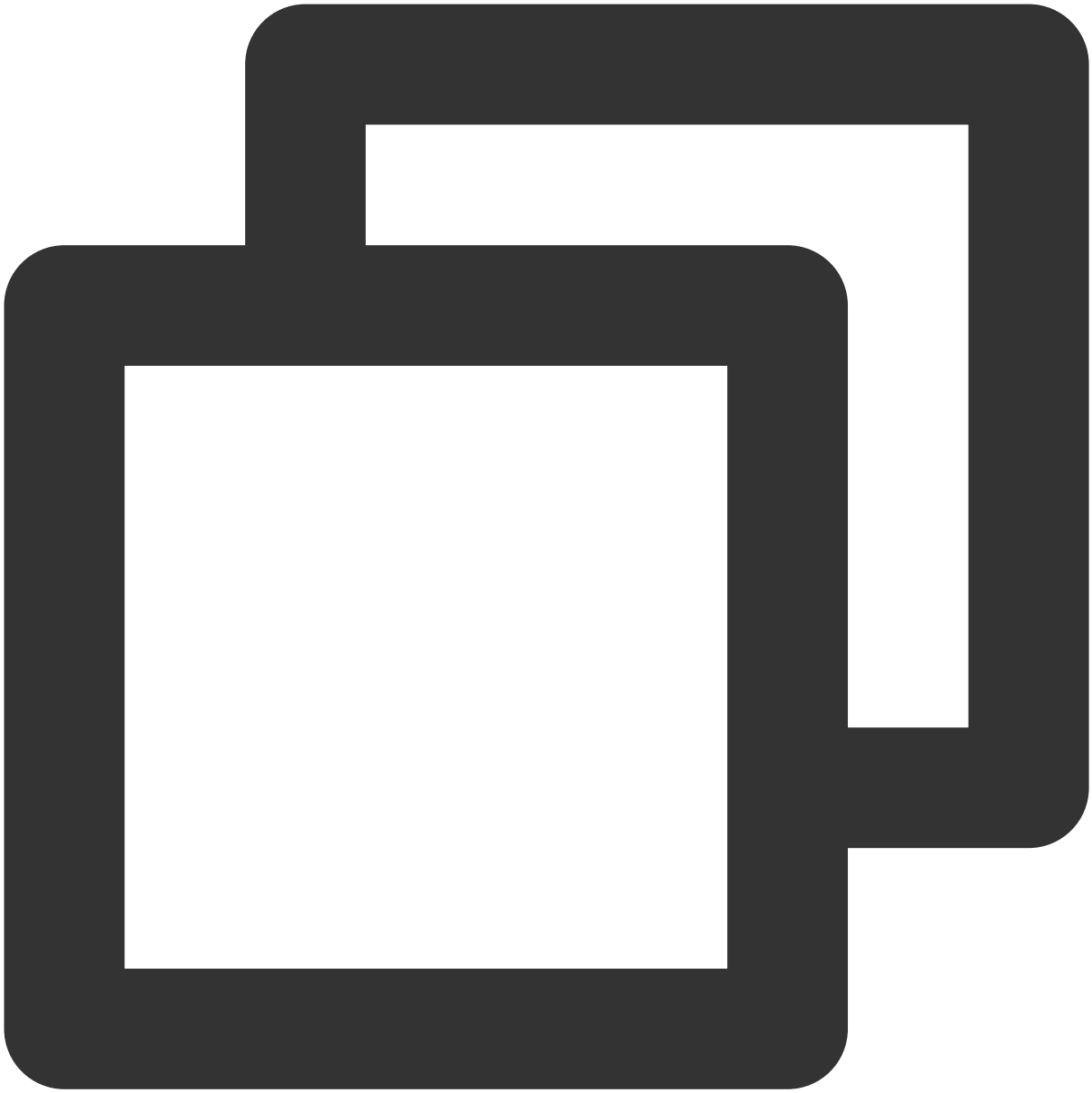
Notice：

In pure RTC audio scenarios, it is recommended to use VOICE_CHATROOM for entering the room.

If there is a need for video or CDN forwarding, the room entry scenario must use LIVE, as VOICE_CHATROOM will add pure audio parameters during forwarding, causing SEI messages to fail to pass through.

The lead singer/chorus needs to muteRemoteAudio(true) to unsubscribe from the audio stream uploaded by the accompaniment instance, otherwise, the local and remote accompaniment music will be played repeatedly.

3. Accompaniment instance enters the room and pushes the stream



```
TRTCCloudDef.TRTCParams bgmParams = new TRTCCloudDef.TRTCParams();
bgmParams.sdkAppId = sdkAppId;
bgmParams.userId = mUserId + "_bgm";
bgmParams.userSig = userSig;
bgmParams.role = TRTCCloudDef.TRTCRoleAnchor;
bgmParams.roomId = mRoomId;
subCloud.enterRoom(bgmParams, TRTCCloudDef.TRTC_APP_SCENE_LIVE);
// Set media type
subCloud.setSystemVolumeType(TRTCCloudDef.TRTCSystemVolumeTypeMedia);

// Enable preloading
```

```
subCloud.callExperimentalAPI("{\\"api\\":\\"preloadMusic\\",\\"params\\": {\\"music
// Play accompaniment music and push the stream (play at the agreed time)
TXAudioEffectManager.AudioMusicParam param = new TXAudioEffectManager.AudioMusicPar
// Send accompaniment music to the remote end
param.publish = true;
subCloud.getAudioEffectManager().startPlayMusic(param);
```

Note:

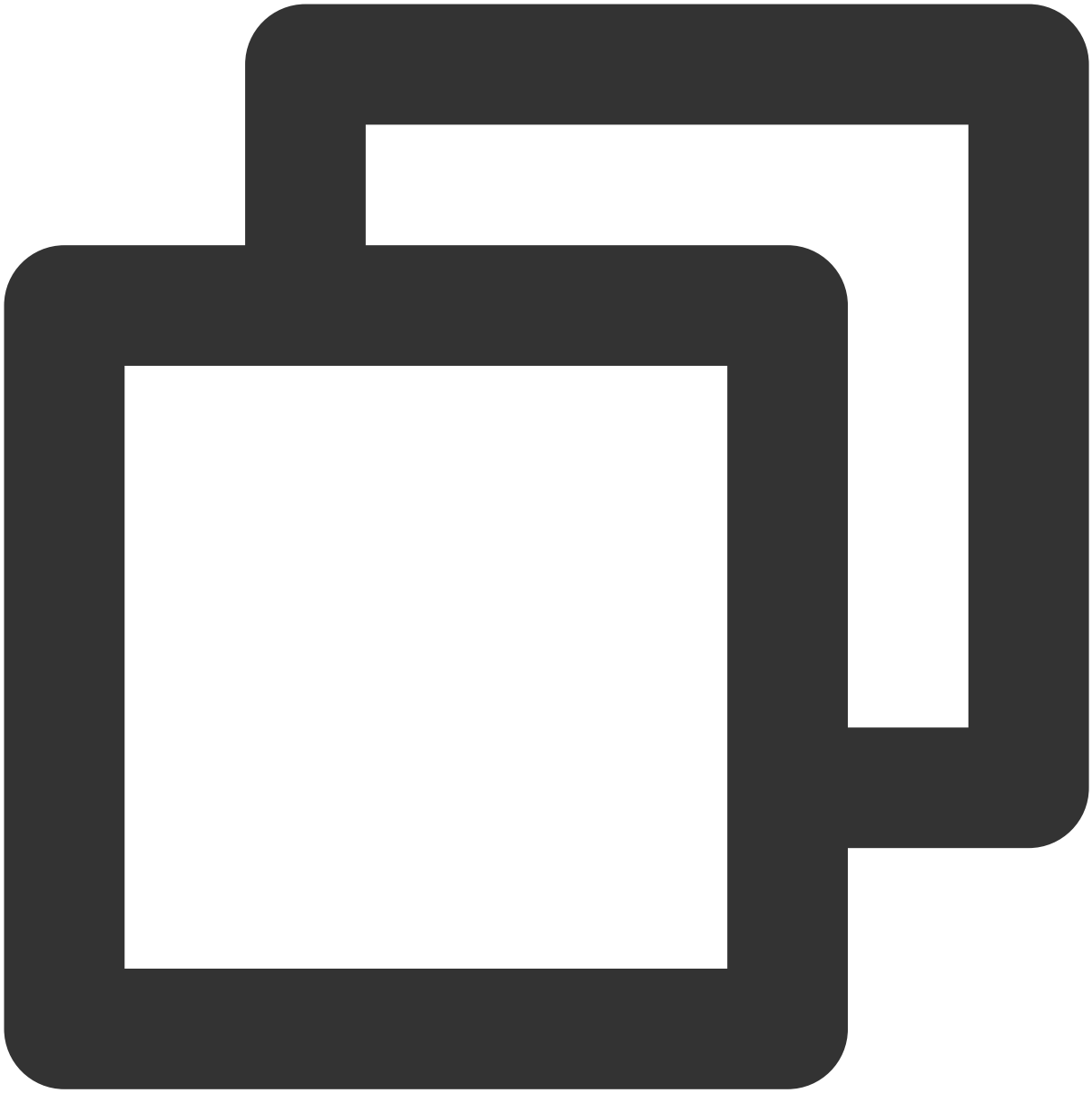
Pay attention to distinguish between the userId of the main instance and the sub-instance, ensuring that they are not duplicated and easy to identify;

Accompaniment instance background music parameter AudioMusicParam settings:

publish：true (while the music is playing locally, remote users can also hear the music)

publish：false (default value, the music can only be heard locally, remote users cannot hear it)

4. Initiate mixed stream transcoding and pushing



```
// Create a TRTCPublishTarget object
TRTCCloudDef.TRTCPublishTarget target = new TRTCCloudDef.TRTCPublishTarget();
// Push back to the room after mixing, if publishing to CDN, fill in TRTC_PublishMi
target.mode = TRTCCloudDef.TRTC_PublishMixStream_ToRoom;
target.mixStreamIdentity.intRoomId = Integer.parseInt(mRoomId);
// The userid of the mixing robot, which cannot be duplicated with other users' use
target.mixStreamIdentity.userId = mUserId + "_mix";

// Set the encoding parameters of the transcoded audio stream
TRTCCloudDef.TRTCStreamEncoderParam trtcStreamEncoderParam = new TRTCCloudDef.TRTCS
trtcStreamEncoderParam.audioEncodedChannelNum = 2;
```

```
trtcStreamEncoderParam.audioEncodedKbps = 64;
trtcStreamEncoderParam.audioEncodedCodecType = 2;
trtcStreamEncoderParam.audioEncodedSampleRate = 48000;

// Set audio mixing parameters
TRTCCloudDef.TRTCStreamMixingConfig trtcStreamMixingConfig = new TRTCCloudDef.TRTCS
// Support filling in empty values, which will automatically mix the audio of all h
trtcStreamMixingConfig.audioMixUserList = null;

// Initiate mixed stream transcoding and pushing request
mTRTCCloud.startPublishMediaStream(target, trtcStreamEncoderParam, trtcStreamMixing
```

Note：

It is recommended to prioritize the lead singer to initiate mixed stream transcoding and pushing through the mixing robot to the backend, mixing the accompaniment music and all vocal streams and pushing them back to the TRTC room, or pushing them to the live CDN.

In automatic subscription mode, the hosts participating in the mixed stream transcoding will pull each other's single stream by default and not receive the mixed stream pushed back to the room; the audience will automatically pull the mixed stream pushed back to the room and no longer receive the single stream.

The mixed stream transcoding and pushing method startPublishMediaStream used here adopts a brand new backend architecture. The old version of the application needs to provide the SdkAppId to apply for an upgrade before it can be used.

TUIKaraoke APIs
TRTCKaraoke (iOS)

Last updated：2023-09-25 10:59:08

`TRTCKaraokeRoom` is based on Tencent Real-Time Communication (TRTC) and Tencent Cloud Chat. With TRTCKaraoke:

A user can create a karaoke room and become a speaker, or enter a karaoke room as a listener.

The room owner can manage song requests as well as remove a speaker from a seat.

The room owner can also block a seat. Listeners cannot request to take a blocked seat.

A listener can become a speaker to request songs and sing. A speaker can also become a listener.

All users can send gifts and text as well as custom messages. Custom messages can be used to send on-screen comments and give likes.

Note

All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For Chat billing details, see Pricing.

`TRTCKaraokeRoom` is an open-source class depending on two closed-source Tencent Cloud SDKs. For the specific implementation process, see Karaoke (iOS).

The TRTC SDK is used as a low-latency audio chat component.

The `AVChatRoom` feature of the Chat SDK is used to implement chat rooms. The attribute APIs of IM are used to store room information such as the seat list, and invitation signaling is used to send requests to speak or invite others to speak.

`TRTCKaraokeRoom` API Overview

Basic SDK APIs

API	Description
sharedInstance	Gets a singleton object.
destroySharedInstance	Terminates a singleton object.
setDelegate	Sets event callbacks.
delegateQueue	Sets the thread where event callbacks are.

login	Logs in.
logout	Logs out.
setSelfProfile	Sets profile.

Room APIs

API	Description
createRoom	Creates a room (called by room owner). If the room does not exist, the system will automatically create a room.
destroyRoom	Terminates a room (called by room owner).
enterRoom	Enters a room (called by listener).
exitRoom	Exits a room (called by listener).
getRoomInfoList	Gets room list details.
getUserInfoList	Gets the user information of the specified `userId`. If the value is `nil`, the information of all users in the room is obtained.

Music playback APIs

API	Description
startPlayMusic	Starts music.
stopPlayMusic	Stops music.
pausePlayMusic	Pauses music.
resumePlayMusic	Resumes music.

Seat management APIs

API	Description
enterSeat	Becomes a speaker (called by room owner or listener).
leaveSeat	Becomes a listener (called by speaker).
pickSeat	Places a user in a seat (called by room owner).
kickSeat	Removes a speaker (called by room owner).

muteSeat	Mutes/Unmutes a seat (called by room owner).
closeSeat	Blocks/Unblocks a seat (called by room owner).

Local audio APIs

API	Description
startMicrophone	Starts mic capturing.
stopMicrophone	Stops mic capturing.
setAudioQuality	Sets audio quality.
muteLocalAudio	Mutes/Unmutes local audio.
setSpeaker	Sets whether to play sound from the device's speaker or receiver.
setAudioCaptureVolume	Sets mic capturing volume.
setAudioPlayoutVolume	Sets playback volume.
setVoiceEarMonitorEnable	Enables/Disables in-ear monitoring.

Remote audio APIs

API	Description
muteRemoteAudio	Mutes/Unmutes a specified member.
muteAllRemoteAudio	Mutes/Unmutes all members.

Background music and audio effect APIs

API	Description
getAudioEffectManager	Gets the background music and audio effect management object TXAudioEffectManager.

Message sending APIs

API	Description
sendRoomTextMsg	Broadcasts a text chat message in a room. This API is generally used for on-screen comments.

sendRoomCustomMsg	Sends a custom text chat message.

Invitation signaling APIs

API	Description
sendInvitation	Sends an invitation.
acceptInvitation	Accepts an invitation.
rejectInvitation	Declines an invitation.
cancelInvitation	Cancels an invitation.

`TRTCKaraokeRoomDelegate` API Overview

Common event callbacks

API	Description
onError	Callback for error.
onWarning	Callback for warning.
onDebugLog	Callback of log.

Room event callback APIs

API	Description
onRoomDestroy	The room was terminated.
onRoomInfoChange	The room information changed.
onUserVolumeUpdate	User volume

Seat list change callback APIs

API	Description
onSeatListChange	All seat changes.

onAnchorEnterSeat	A user became a speaker or was made a speaker by the room owner.
onAnchorLeaveSeat	A user became a listener or was made a listener by the room owner.
onSeatMute	The room owner muted a seat.
onUserMicrophoneMute	Whether a user's mic is muted
onSeatClose	The room owner blocked a seat.

Callback APIs for room entry/exit by listener

API	Description
onAudienceEnter	A listener entered the room.
onAudienceExit	A listener exited the room.

Message event callback APIs

API	Description
onRecvRoomTextMsg	A text chat message was received.
onRecvRoomCustomMsg	A custom message was received.

Signaling event callback APIs

API	Description
onReceiveNewInvitation	Receipt of an invitation.
onInviteeAccepted	Invitation accepted by invitee.
onInviteeRejected	Invitation declined by invitee.
onInvitationCancelled	Invitation canceled by inviter.

Song event callback APIs

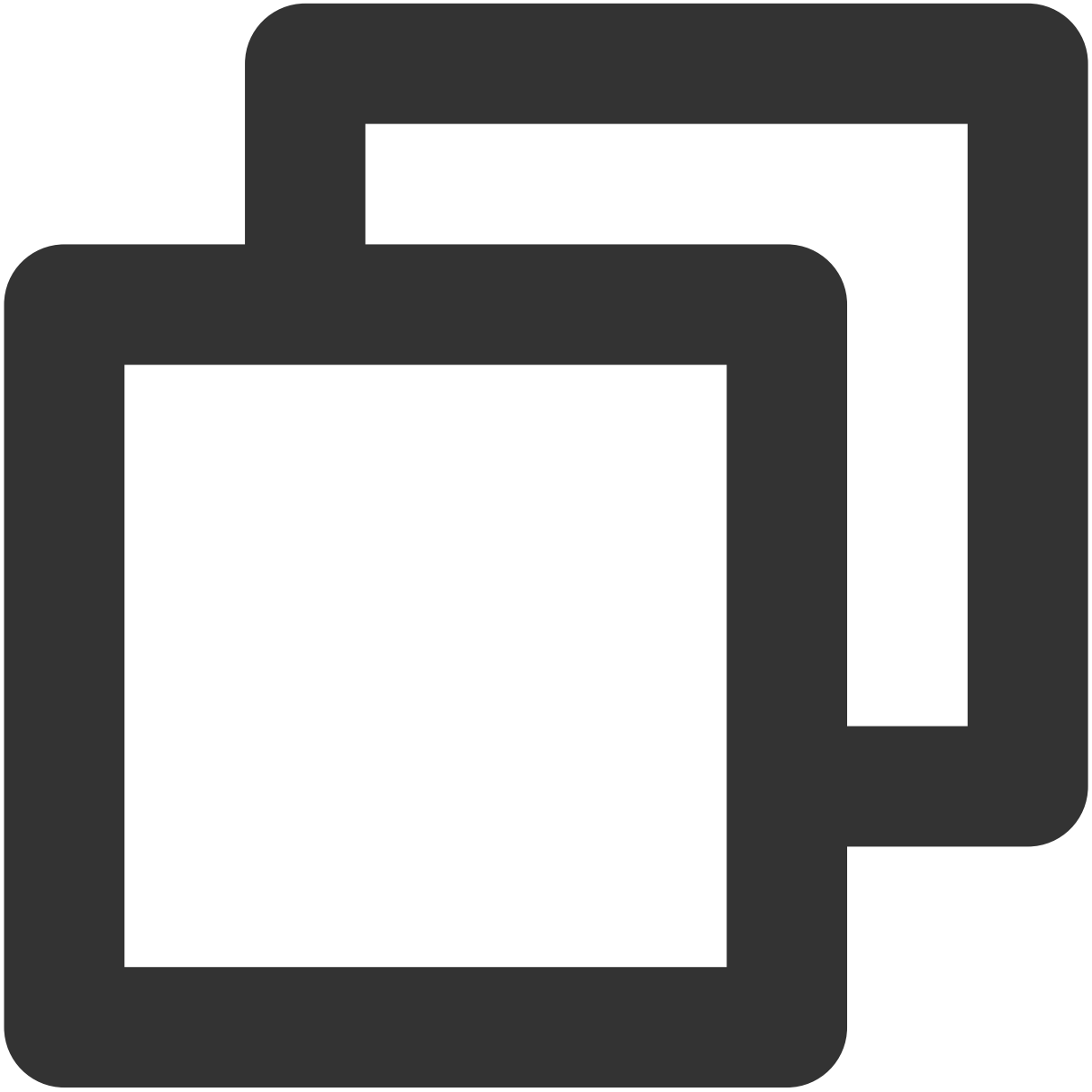
API	Description
onMusicProgressUpdate	Music playback progress.
onMusicPrepareToPlay	Music playback is ready.

onMusicCompletePlaying	Music playback was completed.

Basic SDK APIs

sharedInstance

This API is used to get a TRTCKaraokeRoom singleton object.



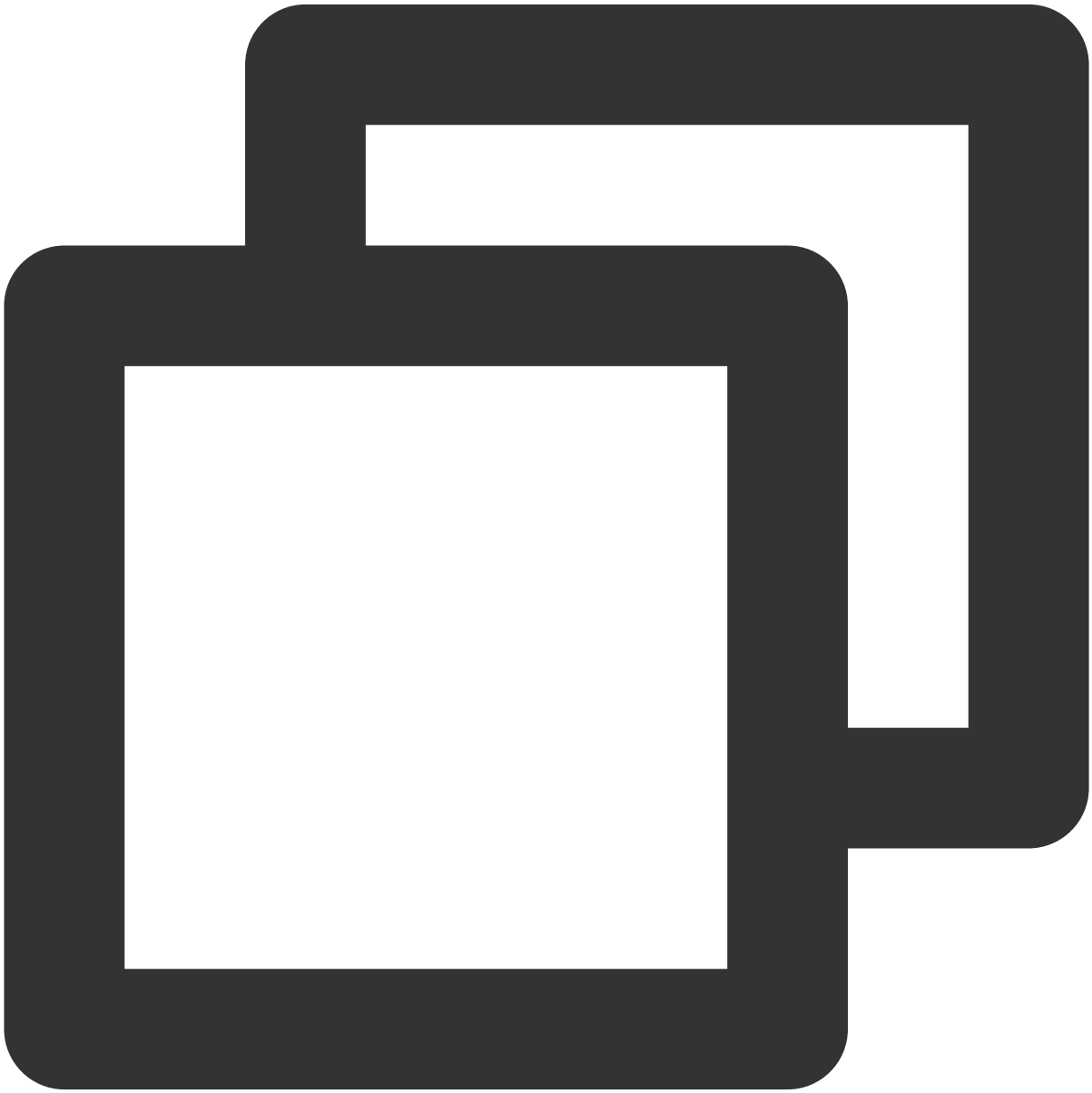
```
/**
* Get a `TRTCKaraokeRoom` singleton object
*
* - returns: `TRTCKaraokeRoom` instance
* - note: To terminate a singleton object, call {@link TRTCKaraokeRoom#destroyShare
*/
+ (instancetype)sharedInstance NS_SWIFT_NAME(shared());
```

destroySharedInstance

This API is used to terminate a TRTCKaraokeRoom singleton object.

Note

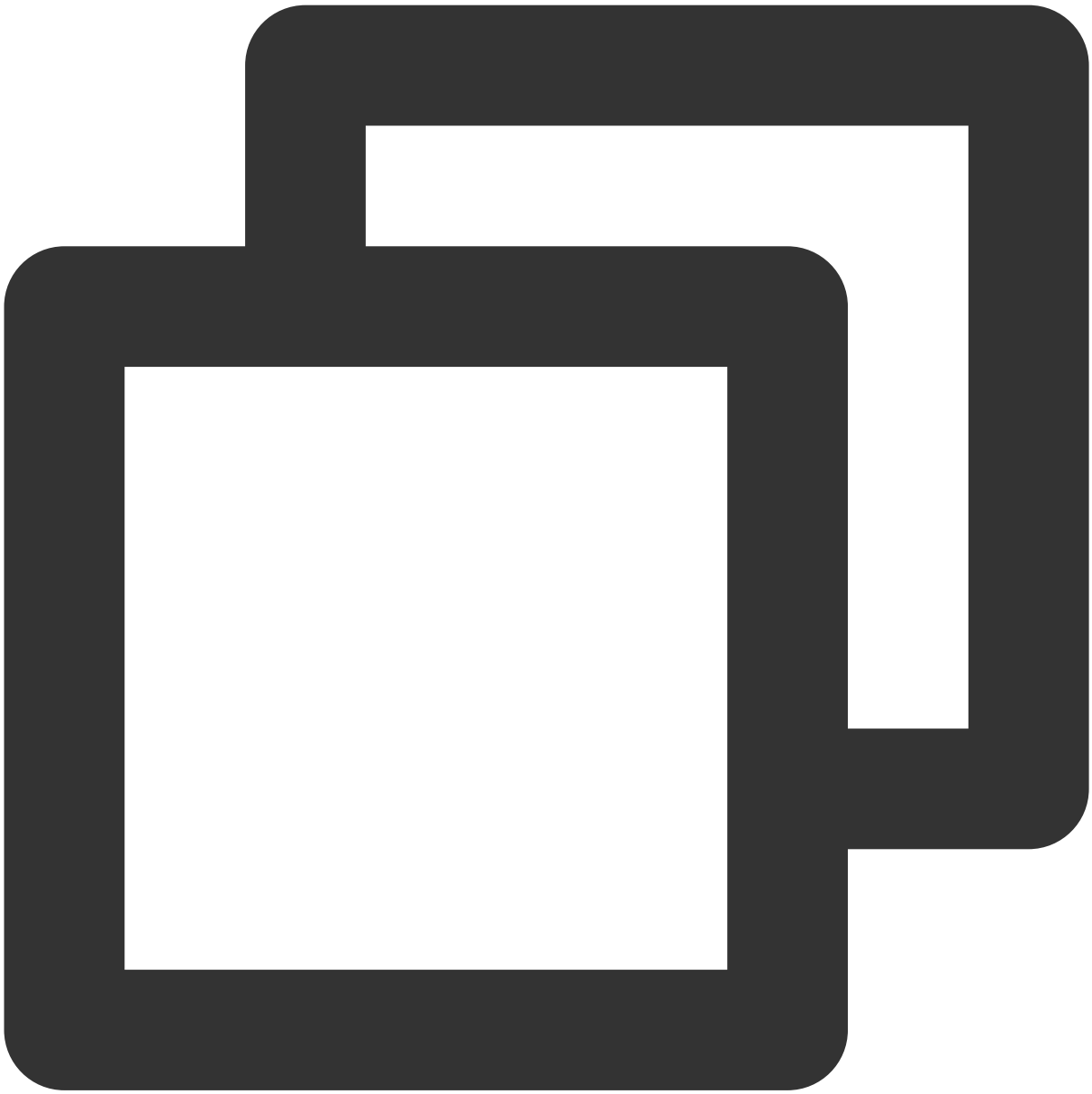
After the instance is terminated, the externally cached `TRTCKaraokeRoom` instance can no longer be used. You need to call sharedInstance again to get a new instance.



```
/**
* Terminate the `TRTCKaraokeRoom` singleton object
*
* - note: After the instance is terminated, the externally cached `TRTCKaraokeRoom`
*/
+ (void)destroySharedInstance NS_SWIFT_NAME(destroyShared());
```

setDelegate

This API is used to set the event callbacks of TRTCKaraokeRoom. You can use `TRTCKaraokeRoomDelegate` to get different status notifications of TRTCKaraokeRoom.



```
/**
* Set the event callbacks of the component
*
* You can use `TRTCKaraokeRoomDelegate` to get different status notifications of `T
*
* - parameter delegate Callback API
* - note: Callbacks in `TRTCKaraokeRoom` are sent to you in the main queue by defau
*/
```

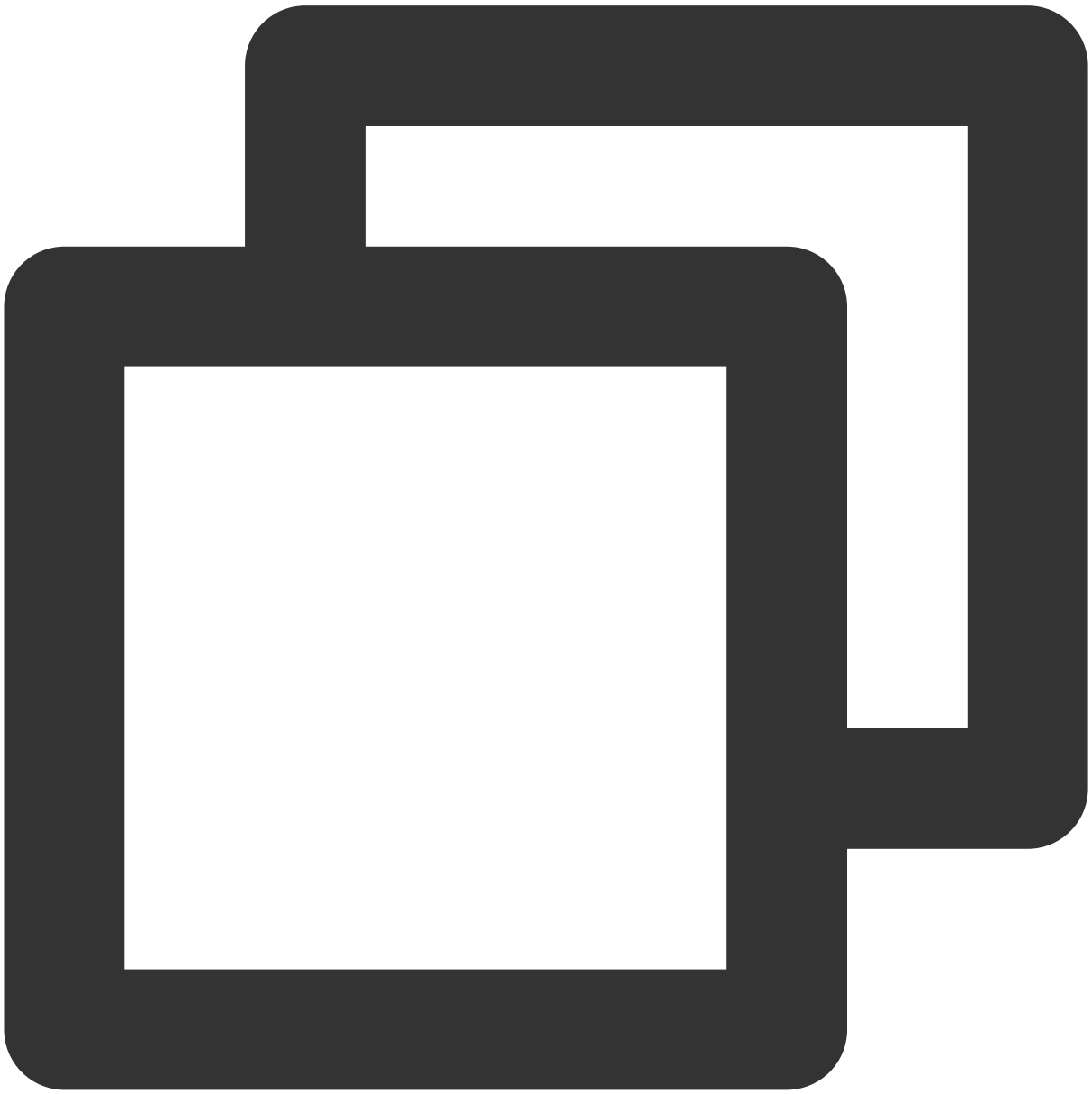
```
- (void)setDelegate:(id<TRTCKaraokeRoomDelegate>)delegate NS_SWIFT_NAME(setDelegate
```

Note

`setDelegate` is the delegate callback of `TRTCKaraokeRoom` .

setDelegateQueue

This API is used to set the thread queue for event callbacks. The main thread (MainQueue) is used by default.



```
/**
* Set the queue for event callbacks
*
```

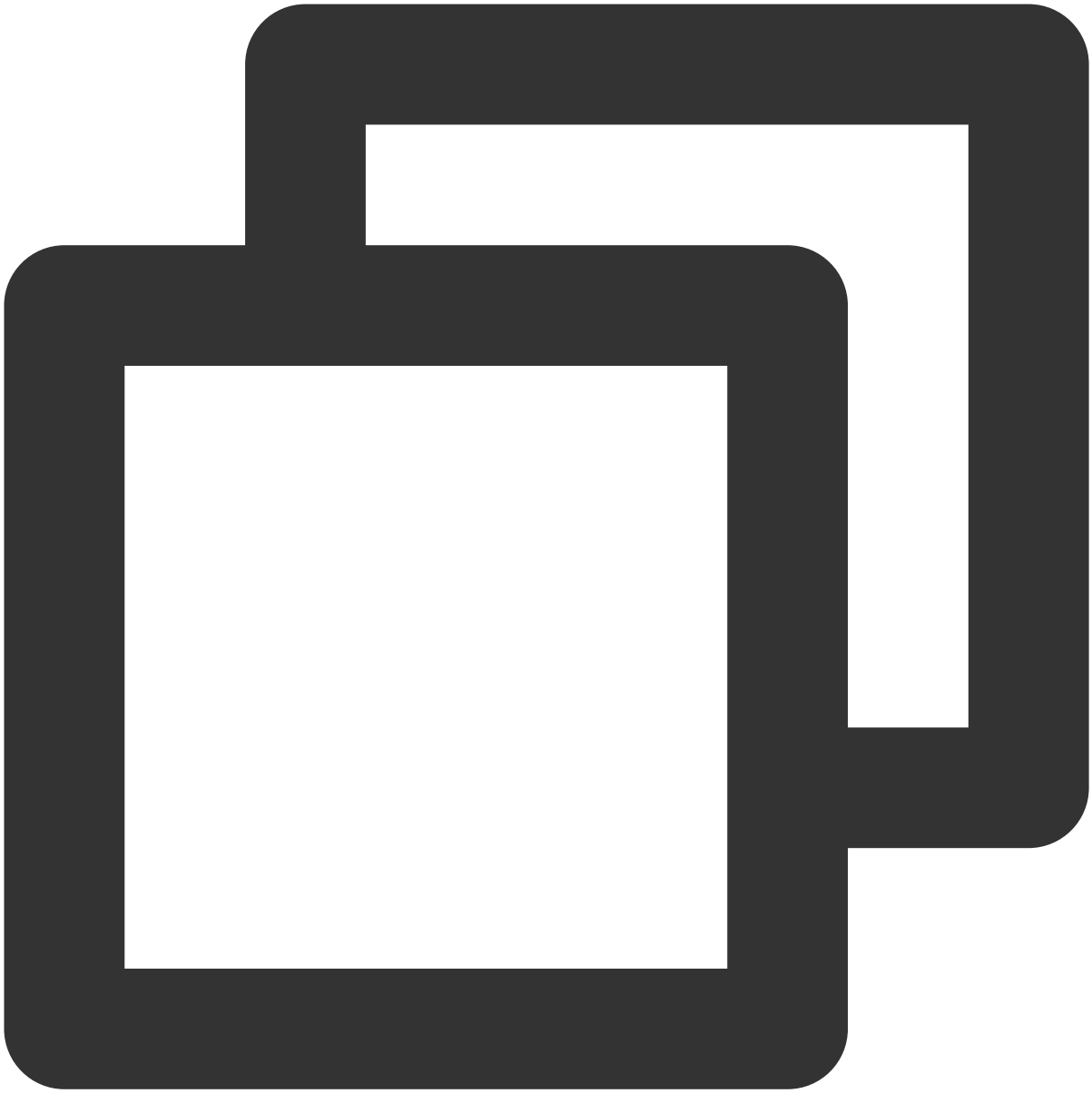
```
 * - parameter queue. The status notifications of `TRTCKaraokeRoom` will be sent to
 */
- (void)setDelegateQueue:(dispatch_queue_t)queue NS_SWIFT_NAME(setDelegateQueue(que
```

The parameters are described below:

Parameter	Type	Description
queue	dispatch_queue_t	The status notifications of `TRTCKaraokeRoom` are sent to the thread queue you specify.

login

Login



```
- (void)login:(int)sdkAppID
       userId:(NSString *)userId
      userSig:(NSString *)userSig
     callback:(ActionCallback _Nullable)callback NS_SWIFT_NAME(login(sdkAppID:userI
```

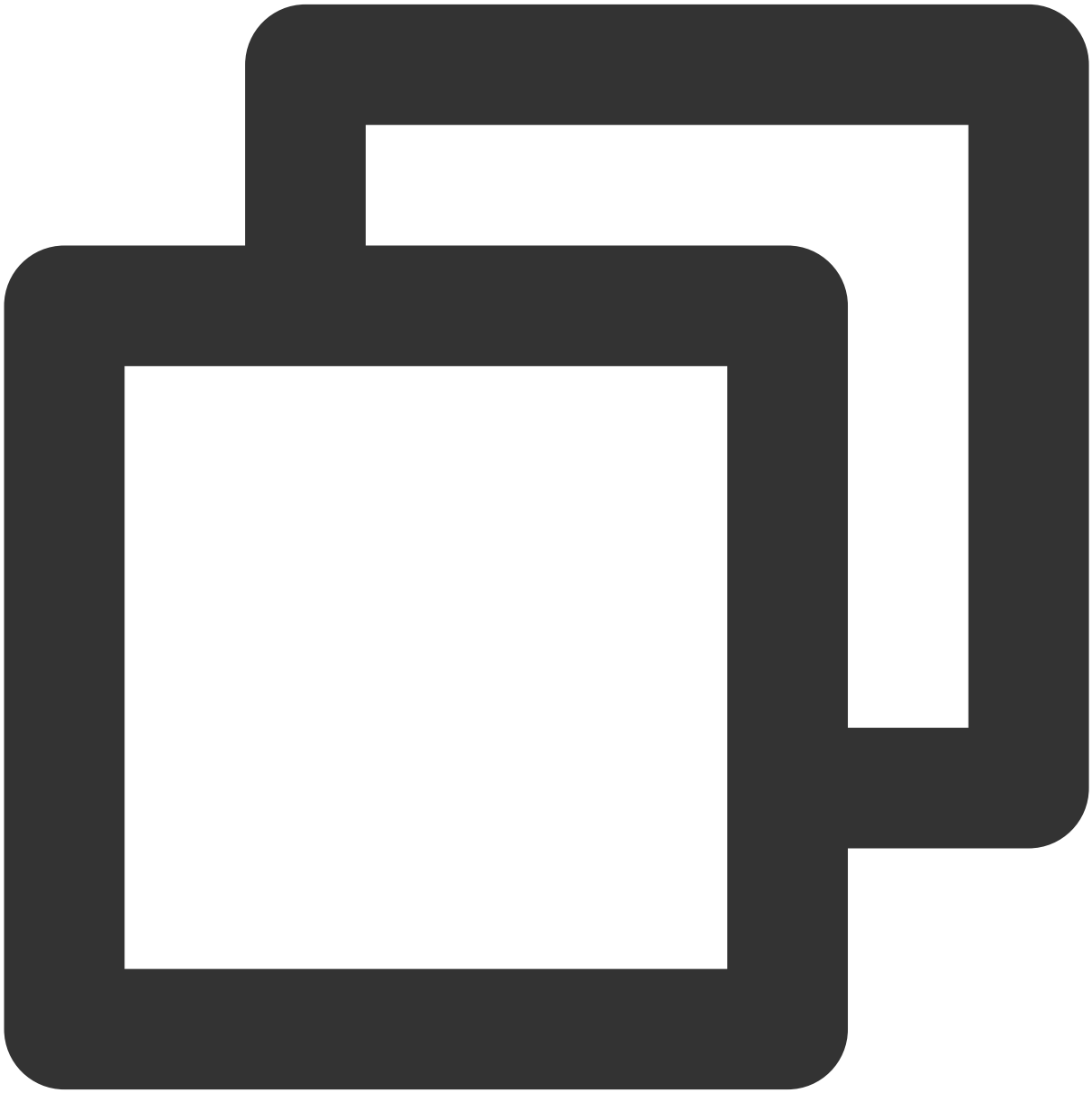
The parameters are described below:

Parameter	Type	Description
sdkAppId	int	You can view the `SDKAppID` via Application Management > **Application**

		Info in the TRTC console.
userId	String	The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_).
userSig	String	Tencent Cloud's proprietary security signature. For how to calculate and use it, see FAQs > UserSig.
callback	ActionCallback	The callback for login. The code is `0` if login succeeds.

logout

Log out



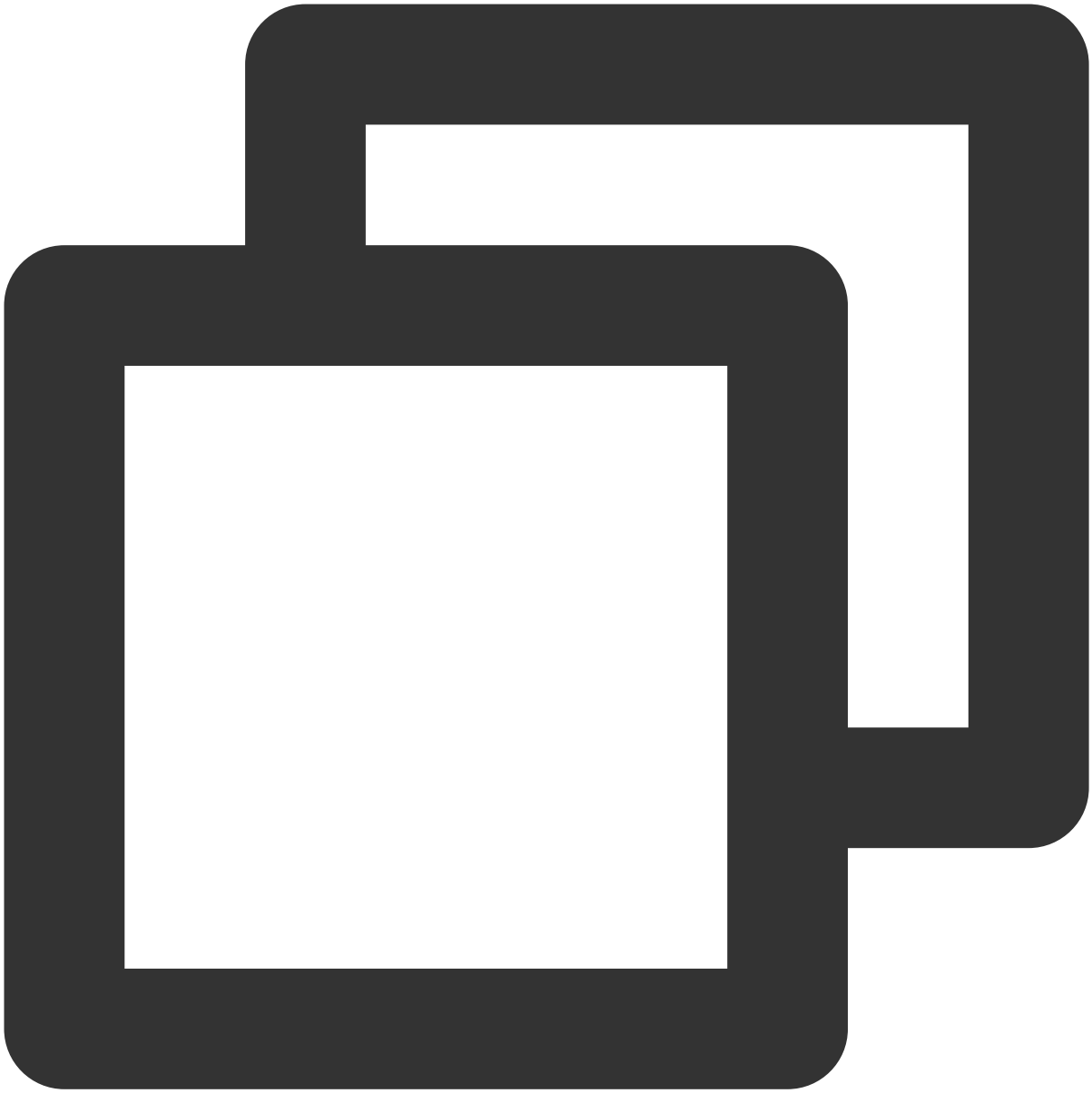
```
- (void)logout:(ActionCallback _Nullable)callback NS_SWIFT_NAME(logout(callback:));
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	The callback for logout. The code is `0` if logout succeeds.

setSelfProfile

This API is used to set the profile.



```
- (void)setSelfProfile:(NSString *)userName avatarURL:(NSString *)avatarURL callbac
```

The parameters are described below:

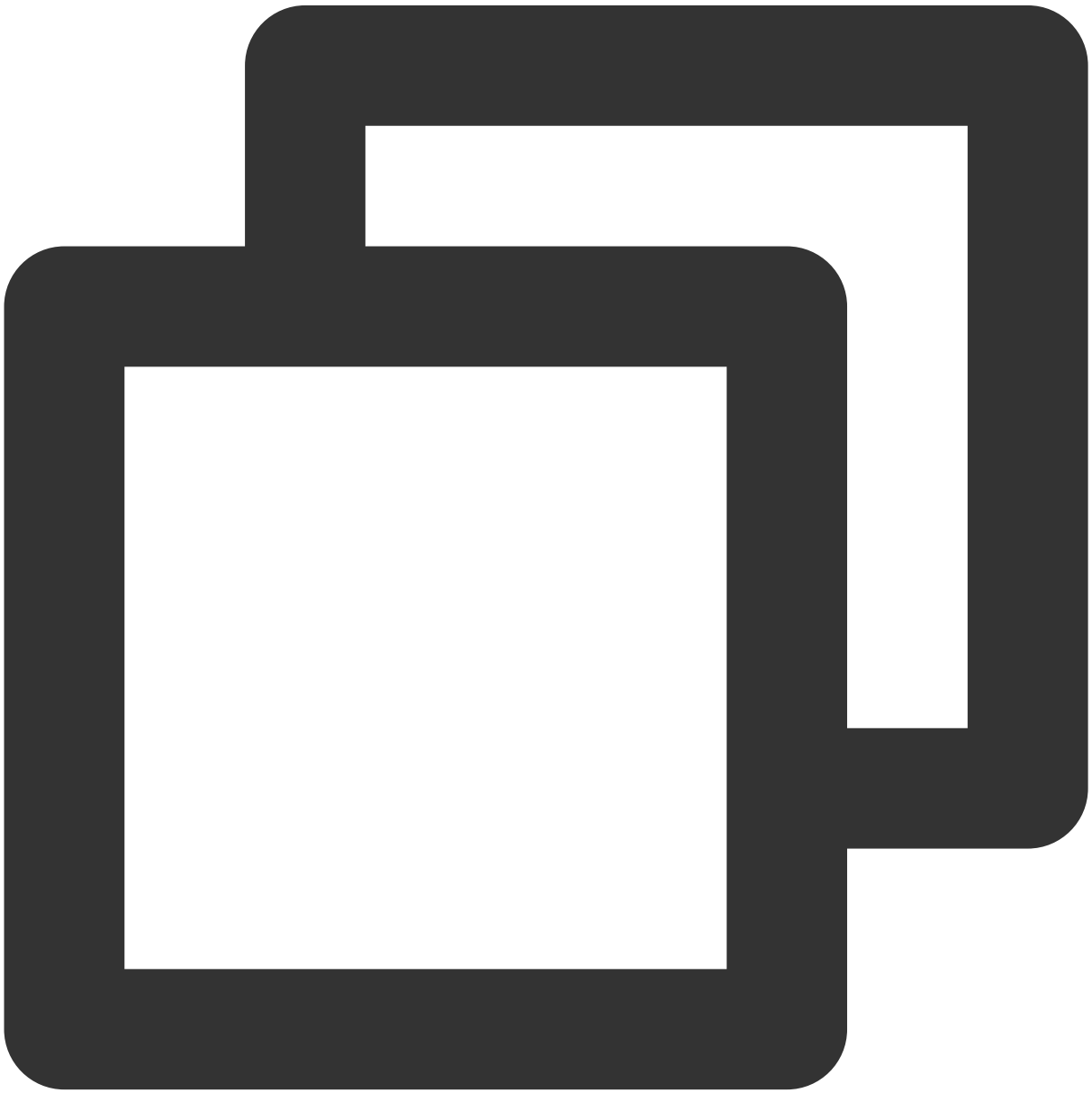
Parameter	Type	Description
userName	String	The username.
avatar	String	The address of the profile photo.
callback	ActionCallback	The callback for profile configuration. The code is `0` if the operation

		succeeds.

Room APIs

createRoom

This API is used to create a room (called by room owner).



```
- (void)createRoom:(int)roomID roomParam:(RoomParam *)roomParam callback:(ActionCal
```

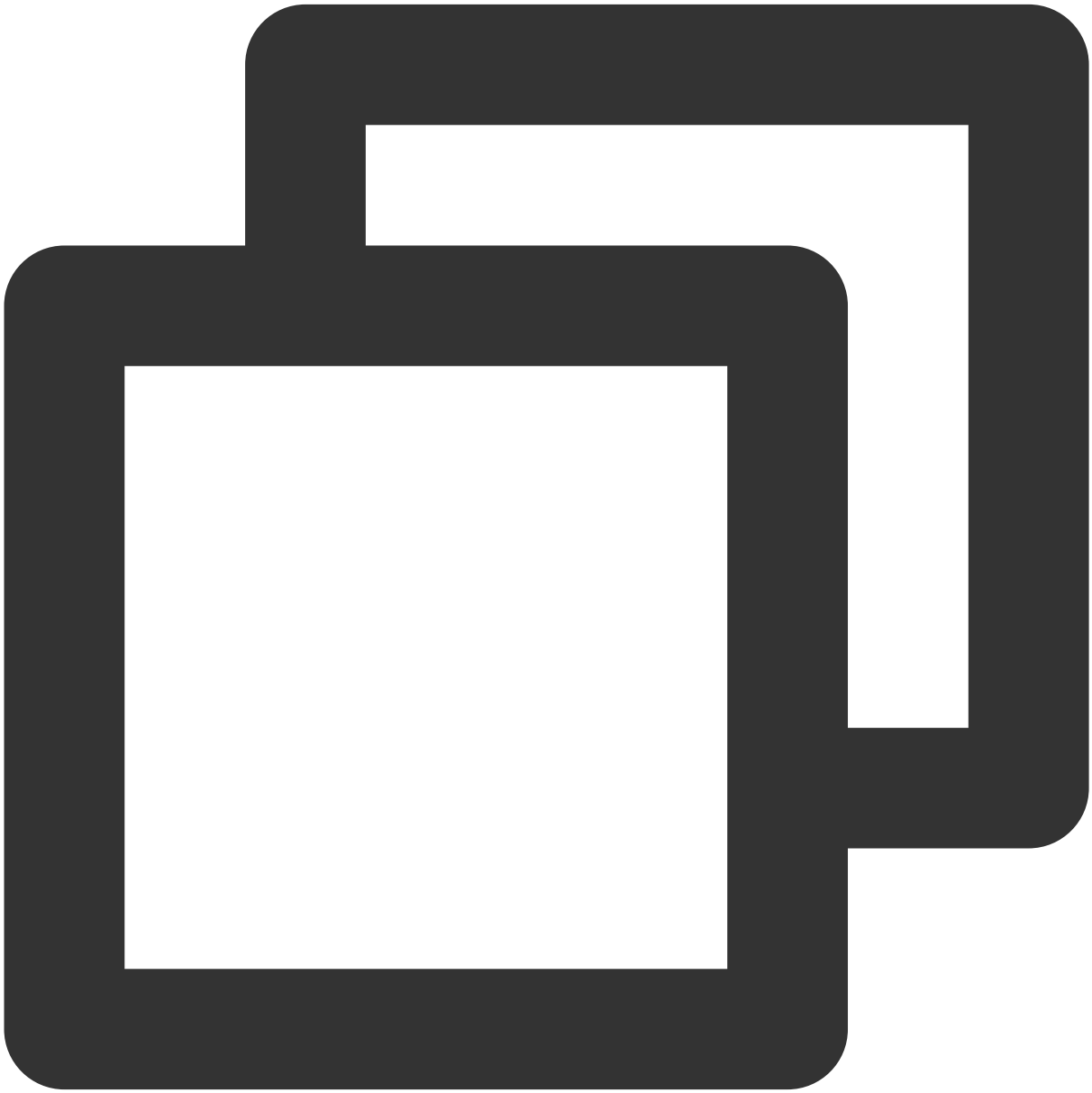
The parameters are described below:

Parameter	Type	Description
roomId	int	The room ID. You need to assign and manage room IDs in a centralized manner. Multiple `roomID` values can be aggregated into a room list. Currently, Tencent Cloud does not provide management services for room lists. Please manage your own room lists.
roomParam	TRTCCreateRoomParam	Room information, such as room name, seat list information, and cover information. To manage seats, you must enter the number of seats in the room.
callback	ActionCallback	The callback for room creation. The code is 0 if the operation succeeds.

The process of creating a karaoke room and becoming a speaker is as follows:
1. A user calls `createRoom` to create a karaoke room, passing in room attributes (e.g., room ID, whether listeners need room owner's permission to speak, number of seats).
2. After creating the room, the user calls `enterSeat` to become a speaker.
3. The user will receive an `onSeatListChanget` notification about the change of the seat list, and can update the change to the UI.
4. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker, and mic capturing will be enabled automatically.

destroyRoom

This API is used to terminate a room (called by room owner).



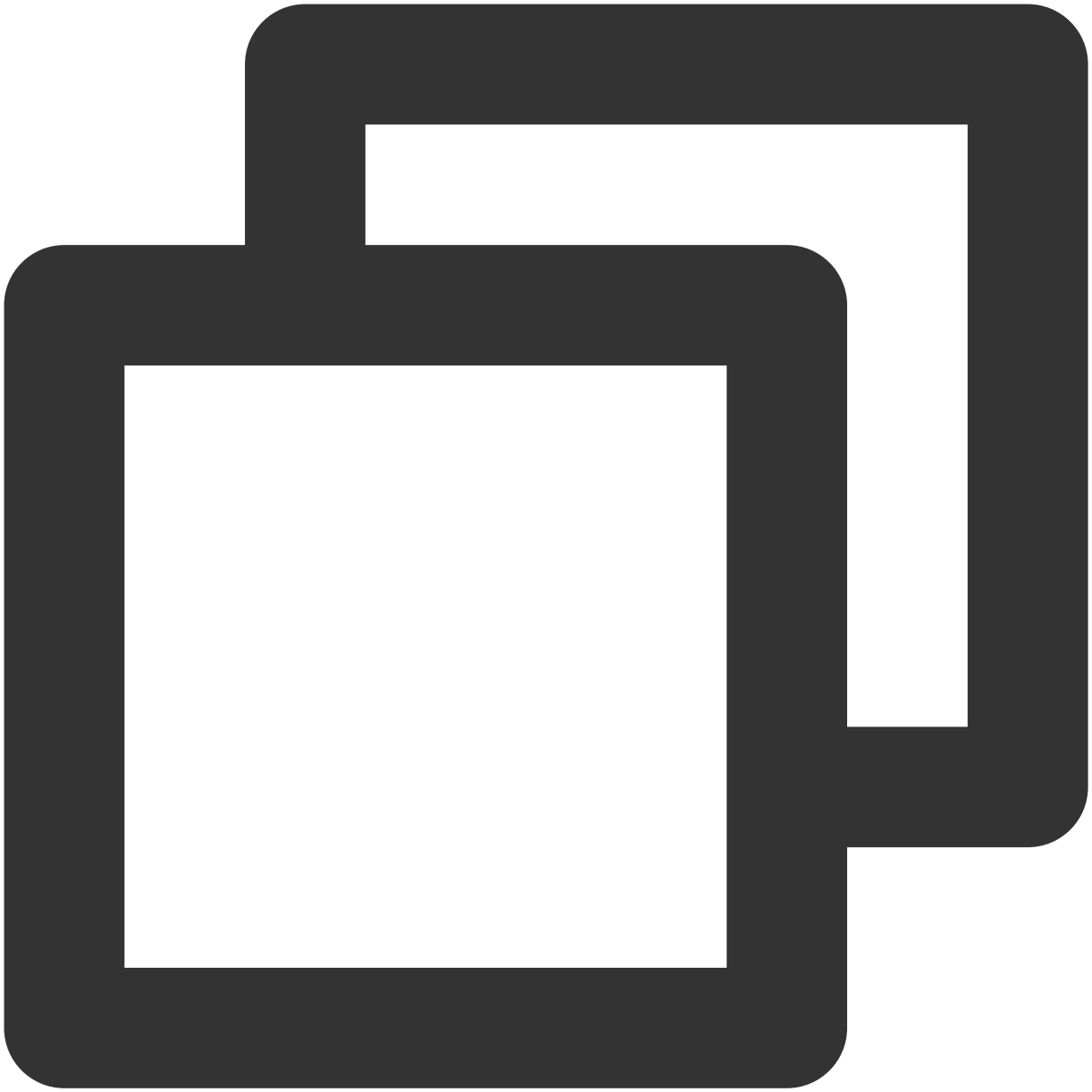
```
- (void)destroyRoom:(ActionCallback _Nullable)callback NS_SWIFT_NAME(destroyRoom(ca
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	The callback for room termination. The code is `0` if the operation succeeds.

enterRoom

This API is used to enter a room (called by listener).



```
- (void)enterRoom:(NSInteger)roomID callback:(ActionCallback _Nullable)callback NS_
```

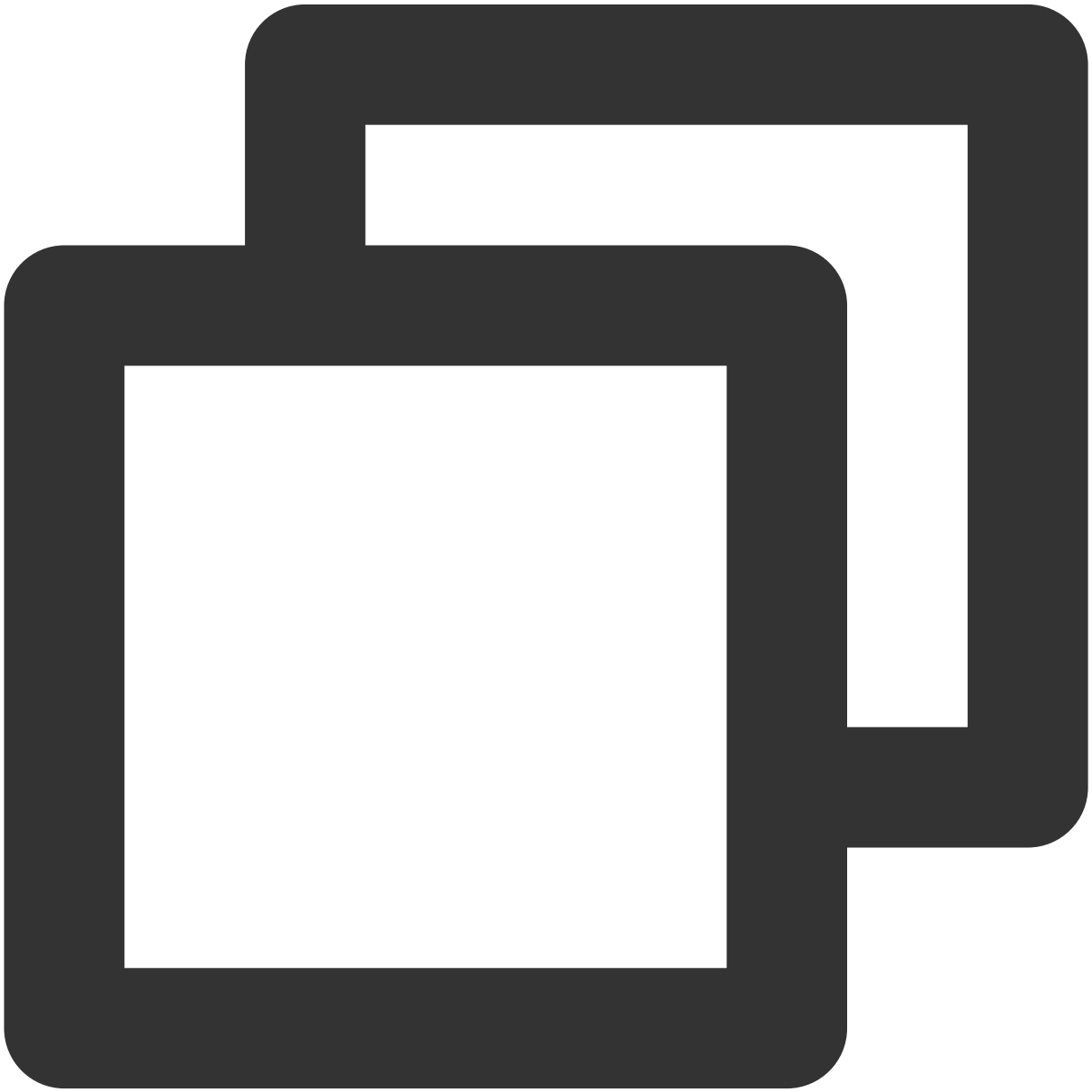
The parameters are described below:

Parameter	Type	Description
roomId	int	The room ID.
callback	ActionCallback	The callback for room entry. The code is `0` if the operation succeeds.

The process of entering a room as a listener is as follows:
1. A user gets the latest karaoke room list from your server. The list may contain the `roomId` and room information of multiple karaoke rooms.
2. The user selects a room, and enters the room by calling `enterRoom` with the room ID passed in.
3. After entering the room, the user receives an `onRoomInfoChange` notification about room attribute change from the component. The attributes can be recorded, and corresponding changes can be made to the UI, including room name, whether room owner's permission is required for listeners to speak, etc.
4. The user will receive an `onSeatListChange` notification about the change of the seat list and can update the change to the UI.
5. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker.

exitRoom

Leave room



```
- (void)exitRoom:(ActionCallback _Nullable)callback NS_SWIFT_NAME(exitRoom(callback
```

The parameters are described below:

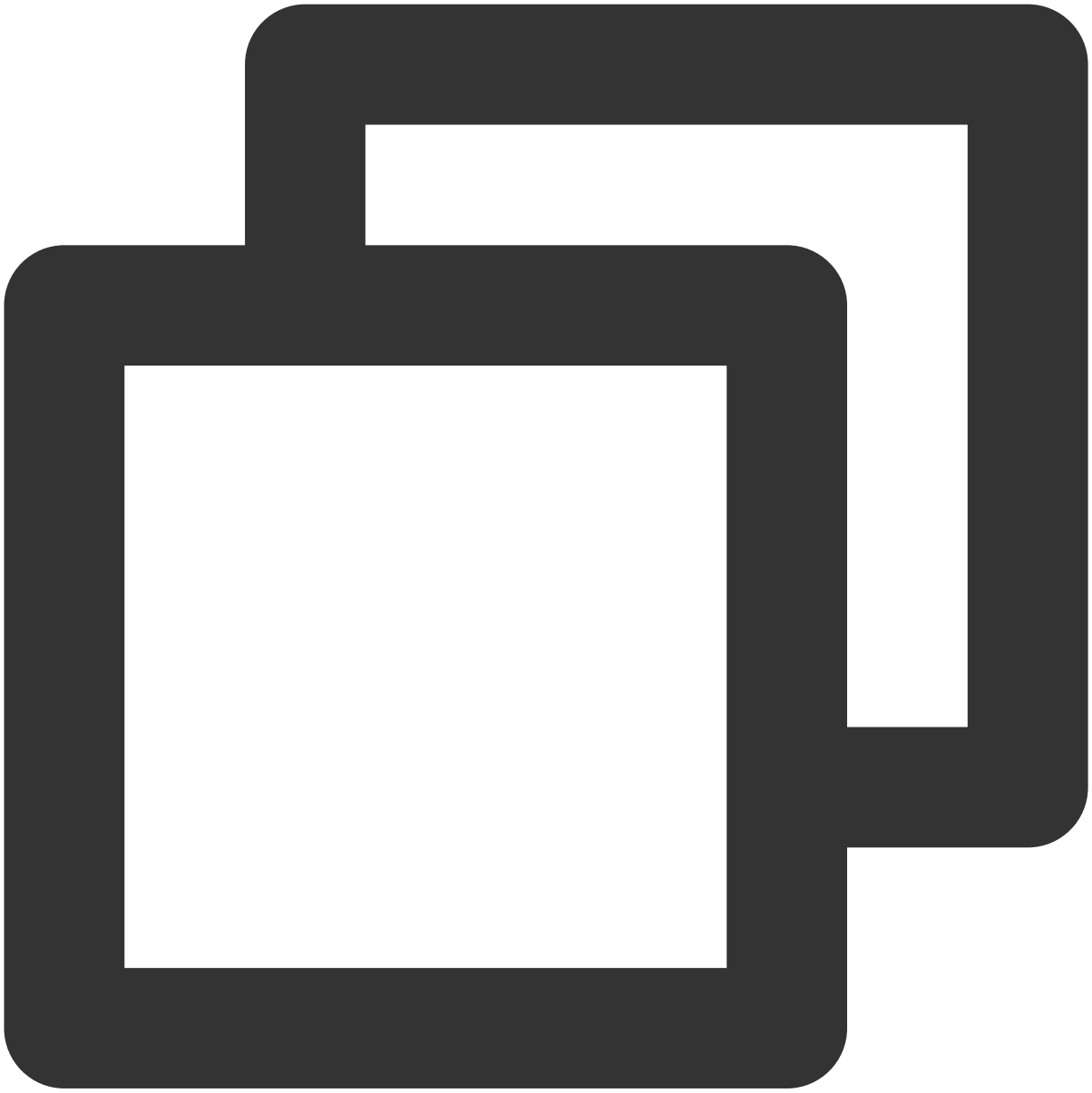
Parameter	Type	Description
callback	ActionCallback	The callback for room exit. The code is `0` if the operation succeeds.

getRoomInfoList

This API is used to get room list details. The room name and cover are set by the room owner via `roomInfo` when calling `createRoom()` .

Note

You don't need this API if both the room list and room information are managed on your server.



```
- (void)getRoomInfoList:(NSArray<NSNumber *> *)roomIdList callback:(KaraokeInfoCall
```

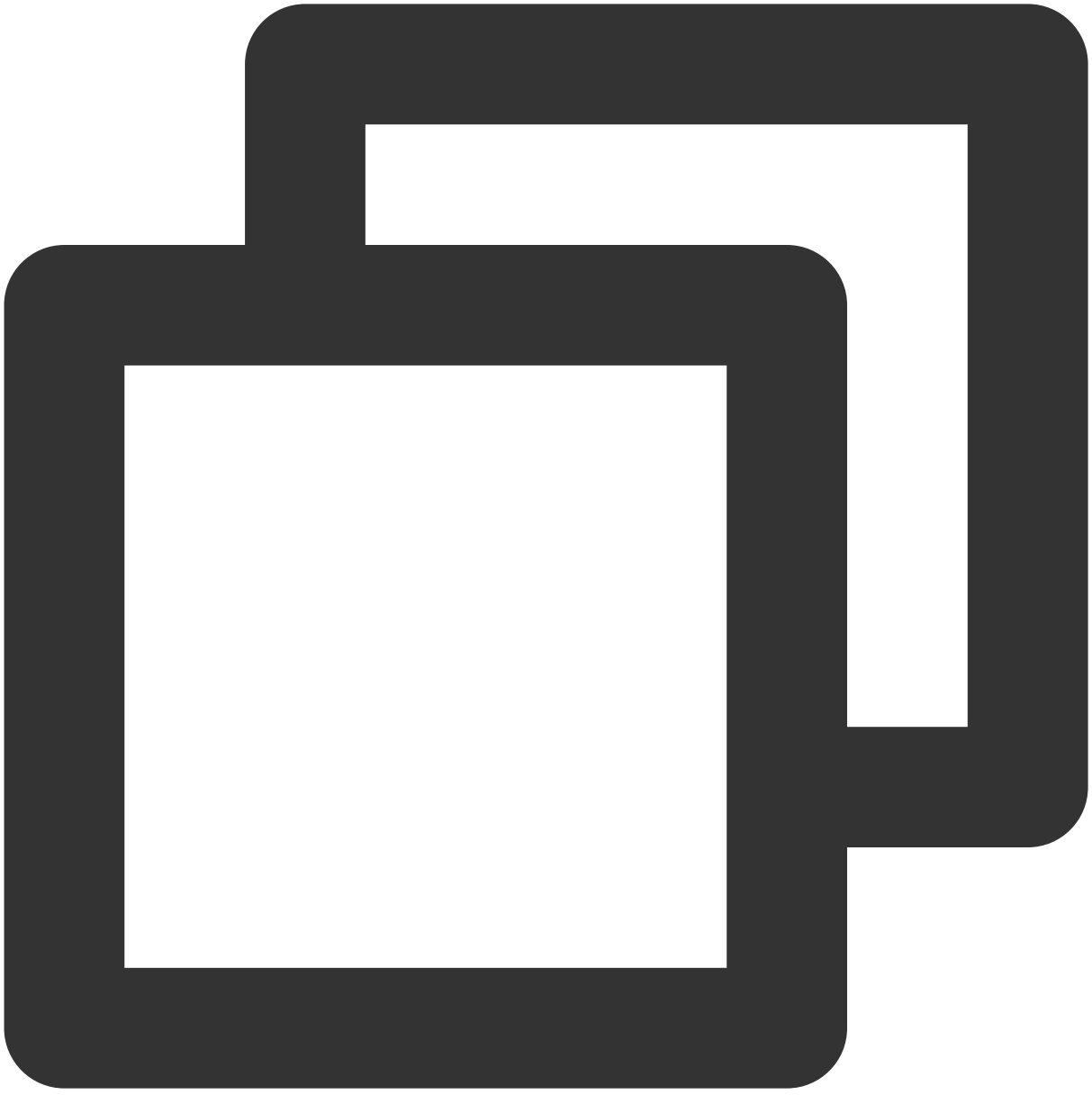
The parameters are described below:

Parameter	Type	Description

roomIdList	List<Integer>	The room ID list.
callback	RoomInfoCallback	The callback of room details.

getUserInfoList

This API is used to get the information of specific users (`userId`).



```
- (void)getUserInfoList:(NSArray<NSString *> * _Nullable)userIDList callback:(Karao
```

The parameters are described below:

Parameter	Type	Description
userIdList	List<String>	The user IDs to query. If this parameter is `null`, the information of all users in the room is queried.
userlistcallback	UserListCallback	The callback of user details.

Music Playback APIs

startPlayMusic

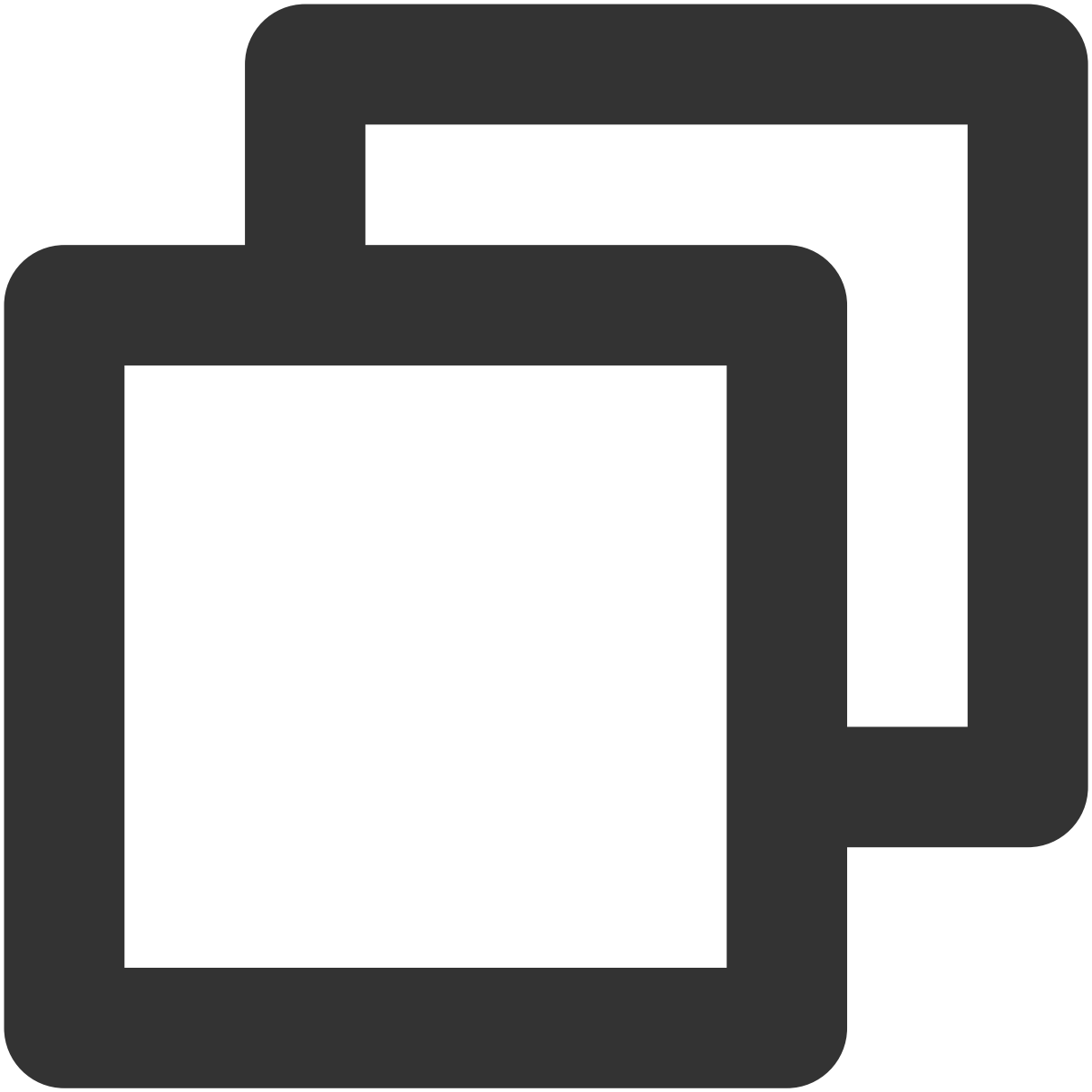
This API is used to play music (called after becoming a speaker).

Note

After music playback starts, you will receive an `onMusicPrepareToPlay` notification.

During music playback, all members in the room will continuously receive an `onMusicProgressUpdate` notification.

After music playback stops, you will receive an `onMusicCompletePlaying` notification.



```
- (void)startPlayMusic:(int32_t)musicID originalUrl:(NSString *)originalUrl accompa
```

The parameters are described below:

Parameter	Type	Description
musicID	int32_t	The music ID.
originalUrl	String	The absolute path of the vocal track.
accompanyUrl	String	The absolute path of the instrumental track.

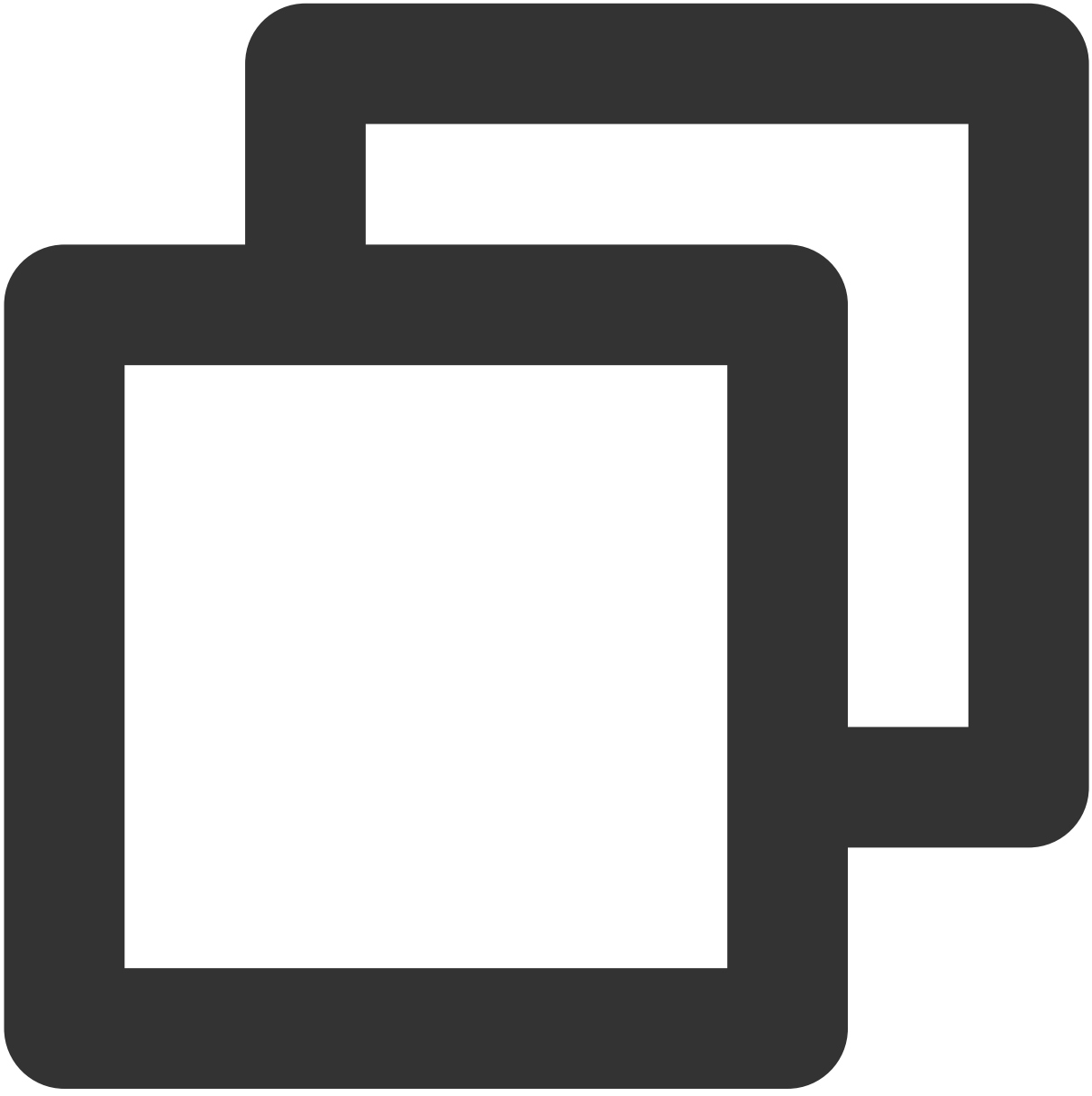
After this API is called, the song being played will stop.

stopPlayMusic

This API is used to stop music (called during music playback).

Note

After music playback stops, you will receive an `onMusicCompletePlaying` notification.



```
- (void)stopPlayMusic NS_SWIFT_NAME(stopPlayMusic());
```

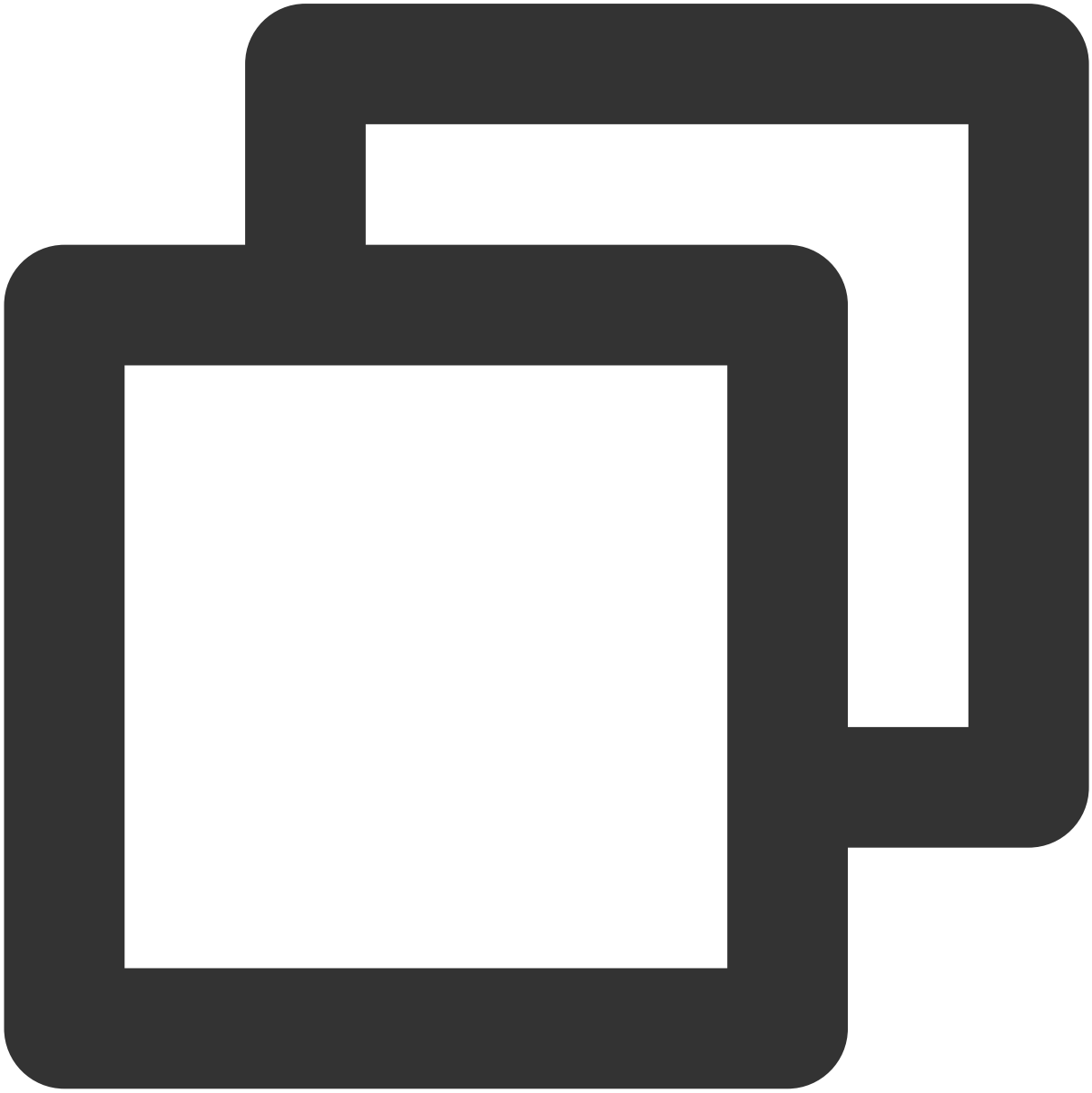
pausePlayMusic

This API is used to pause music (called during music playback).

Note

The `onMusicProgressUpdate` notification will be paused.

No `onMusicCompletePlaying` notification will be received.



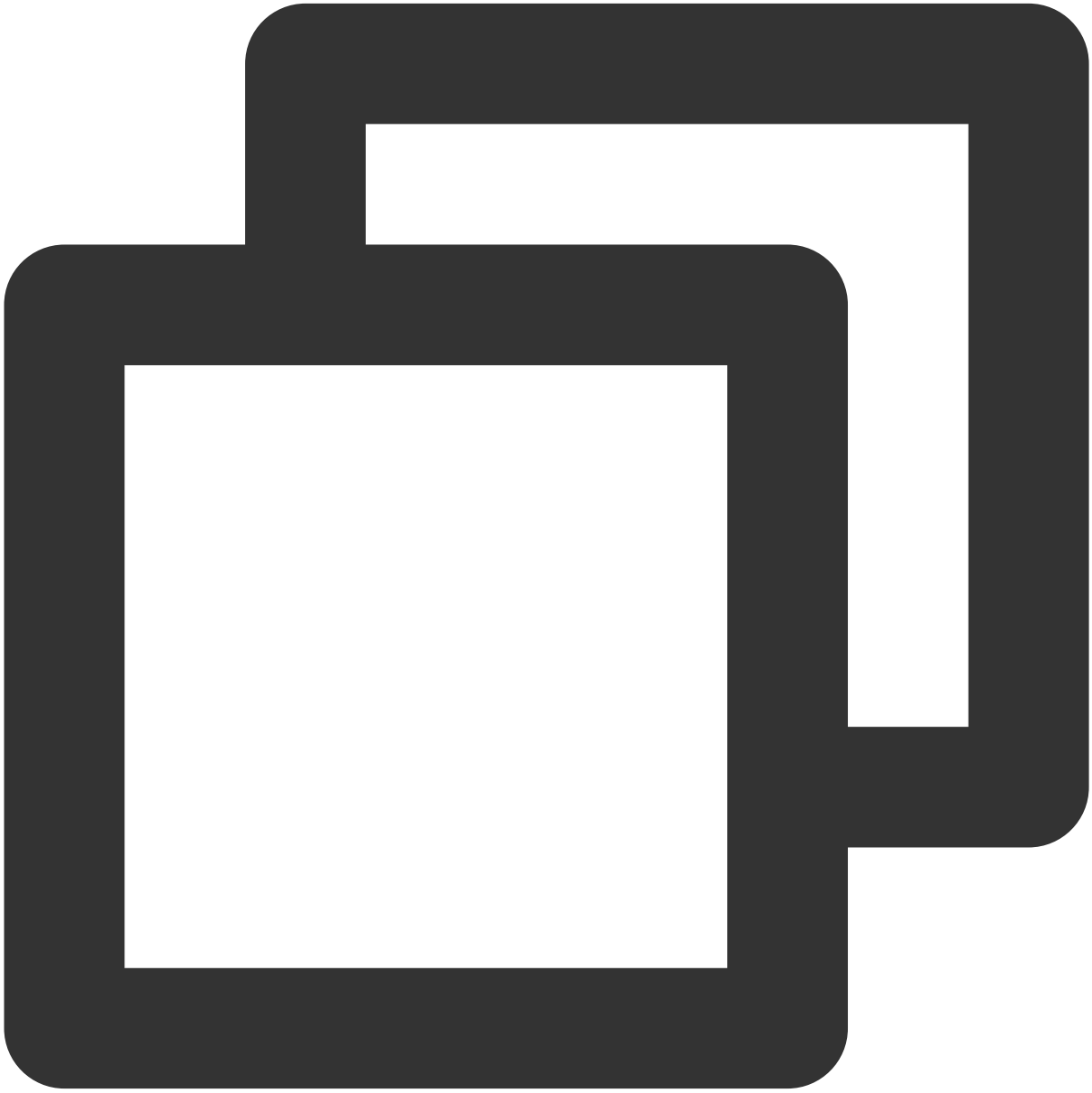
```
- (void)pausePlayMusic NS_SWIFT_NAME(pausePlayMusic());
```

resumePlayMusic

This API is used to resume music (called after music playback is paused).

Note

No `onMusicPrepareToPlay` notification will be received.



```
- (void)resumePlayMusic NS_SWIFT_NAME(resumePlayMusic());
```

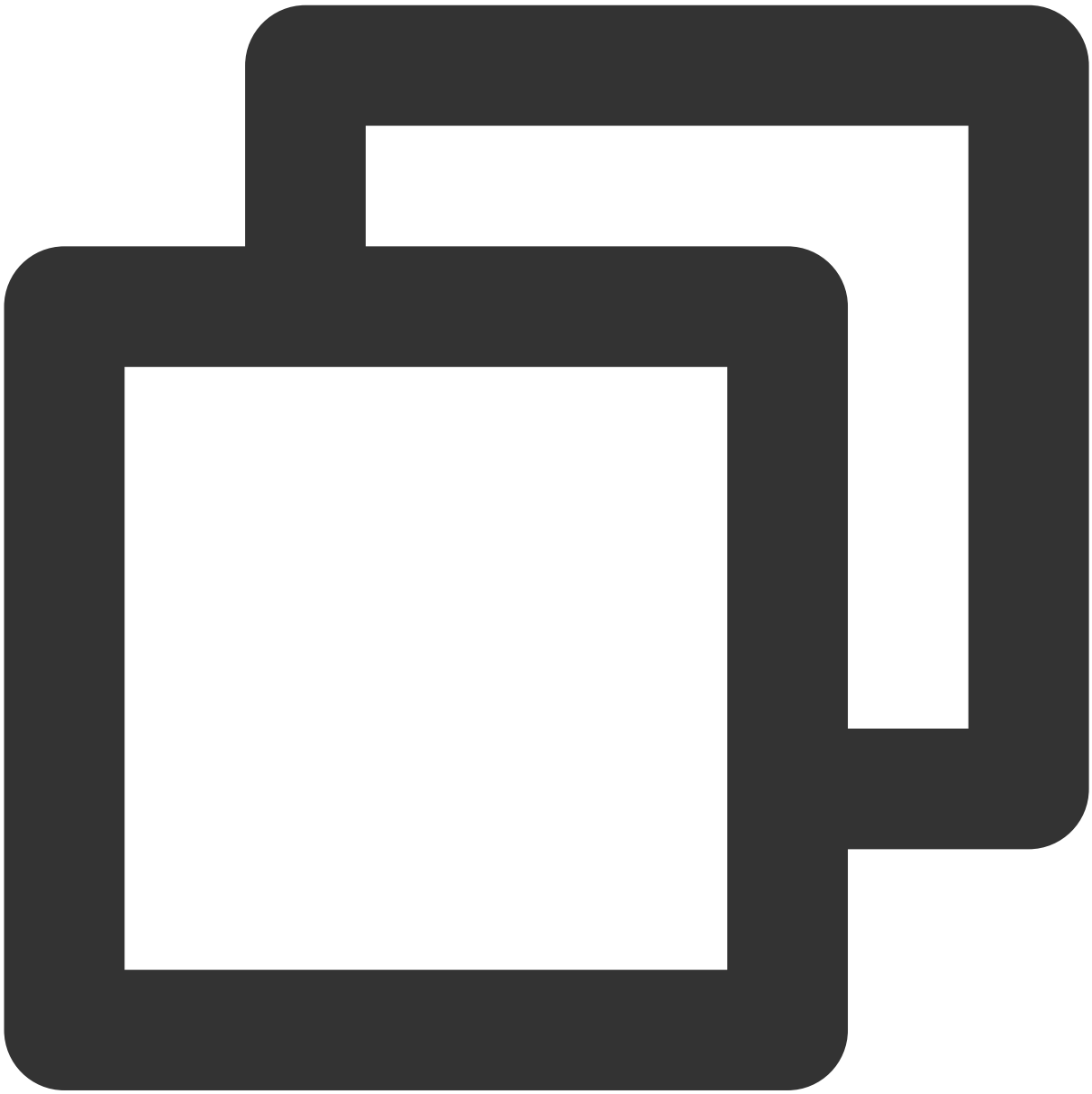
Seat Management APIs

enterSeat

This API is used to become a speaker (called by room owner or listener).

Note

After a user becomes a speaker, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
- (void)enterSeat:(NSInteger)seatIndex callback:(ActionCallback _Nullable)callback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to be taken.
callback	ActionCallback	The callback for the operation.

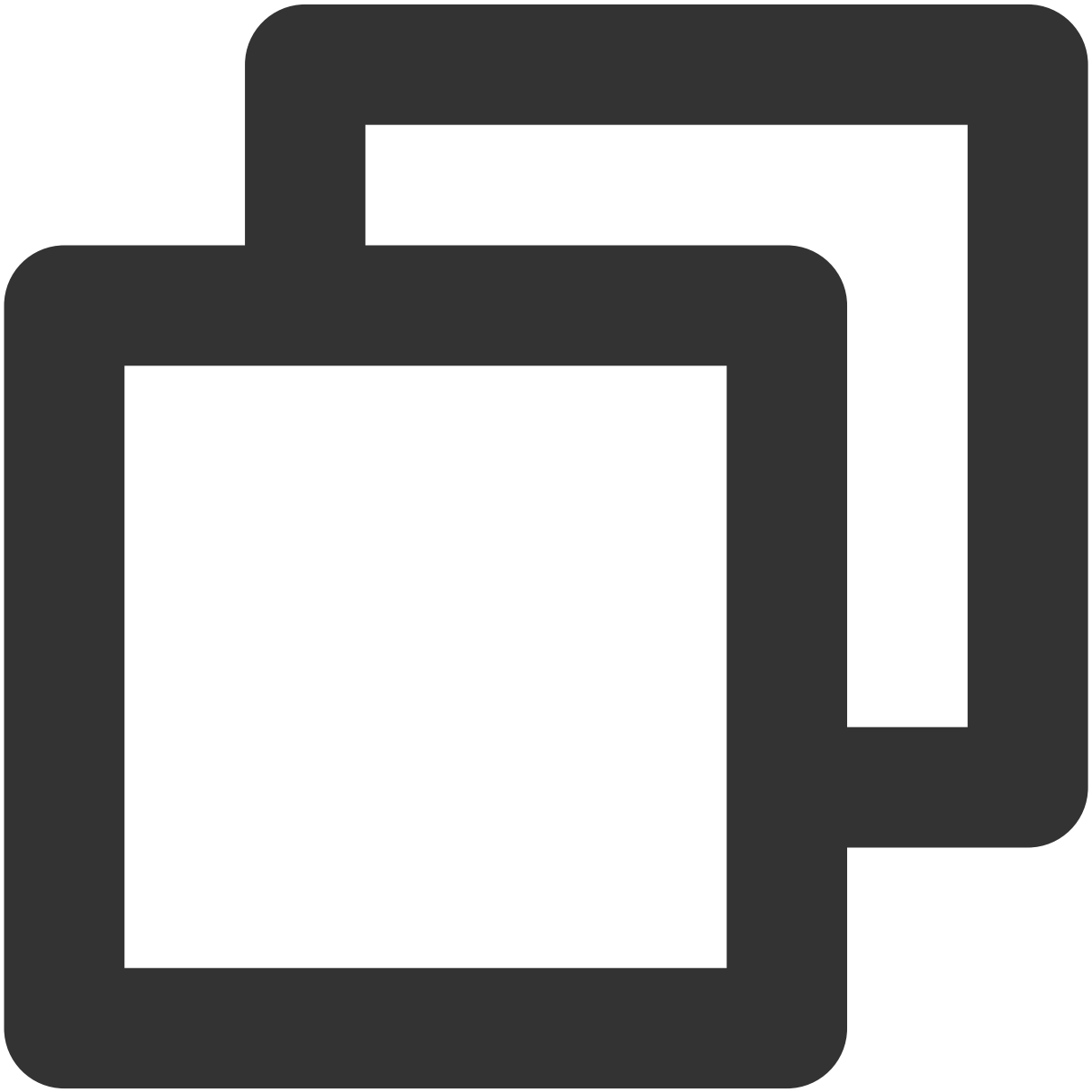
Calling this API will immediately modify the seat list. In cases where listeners need the room owner's permission to take a seat, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept`, call this API.

leaveSeat

This API is used to become a listener (called by speaker).

Note

After a speaker becomes a listener, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
- (void)leaveSeat:(ActionCallback _Nullable)callback NS_SWIFT_NAME(leaveSeat(callba
```

The parameters are described below:

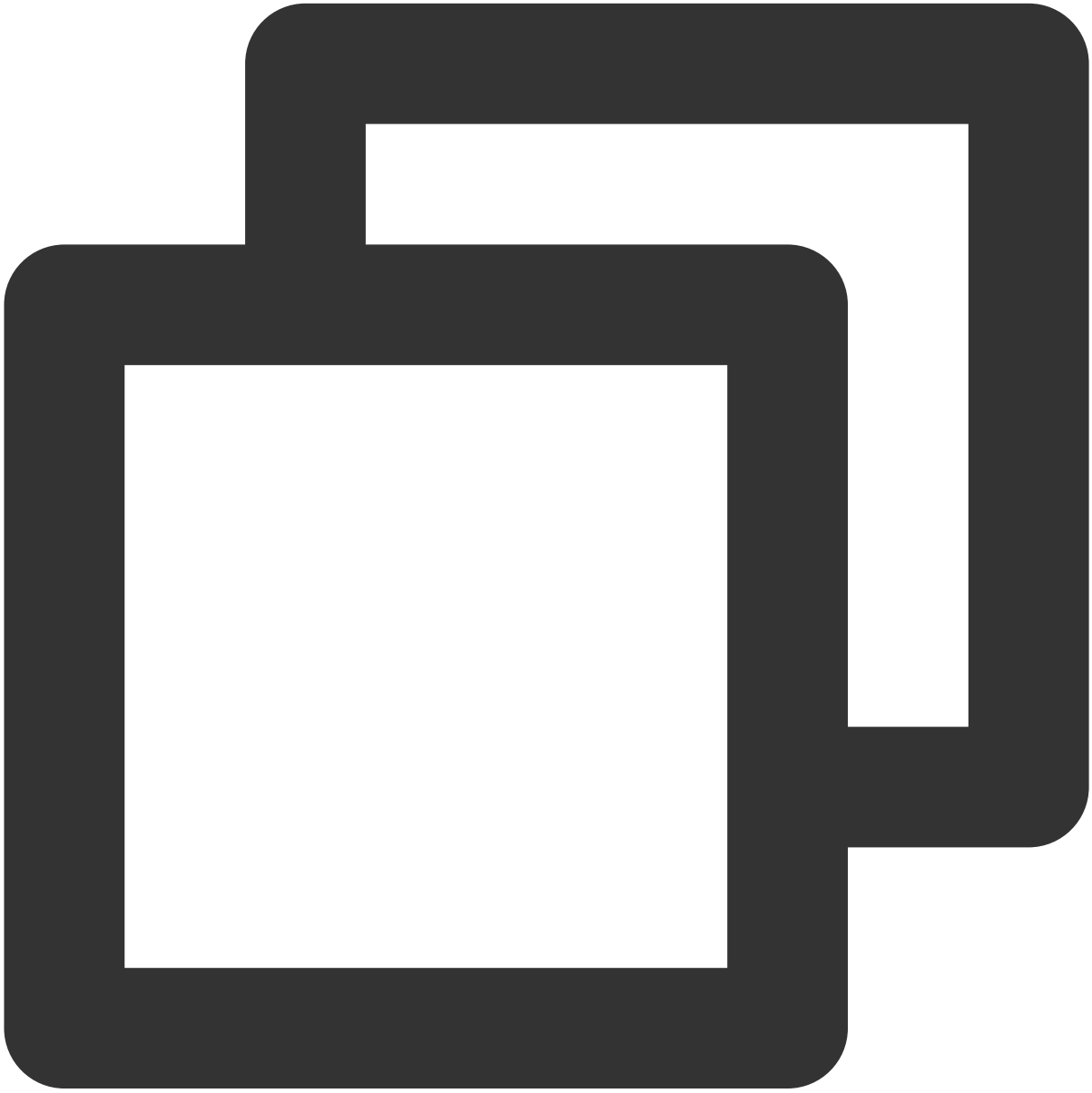
Parameter	Type	Description
callback	ActionCallback	The callback for the operation.

pickSeat

This API is used to place a user in a seat (called by room owner).

Note

After the room owner makes someone a speaker, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
- (void)pickSeat:(NSInteger)seatIndex userId:(NSString *)userId callback:(ActionCal
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to place the listener in.

userId	String	The User ID.
callback	ActionCallback	The callback for the operation.

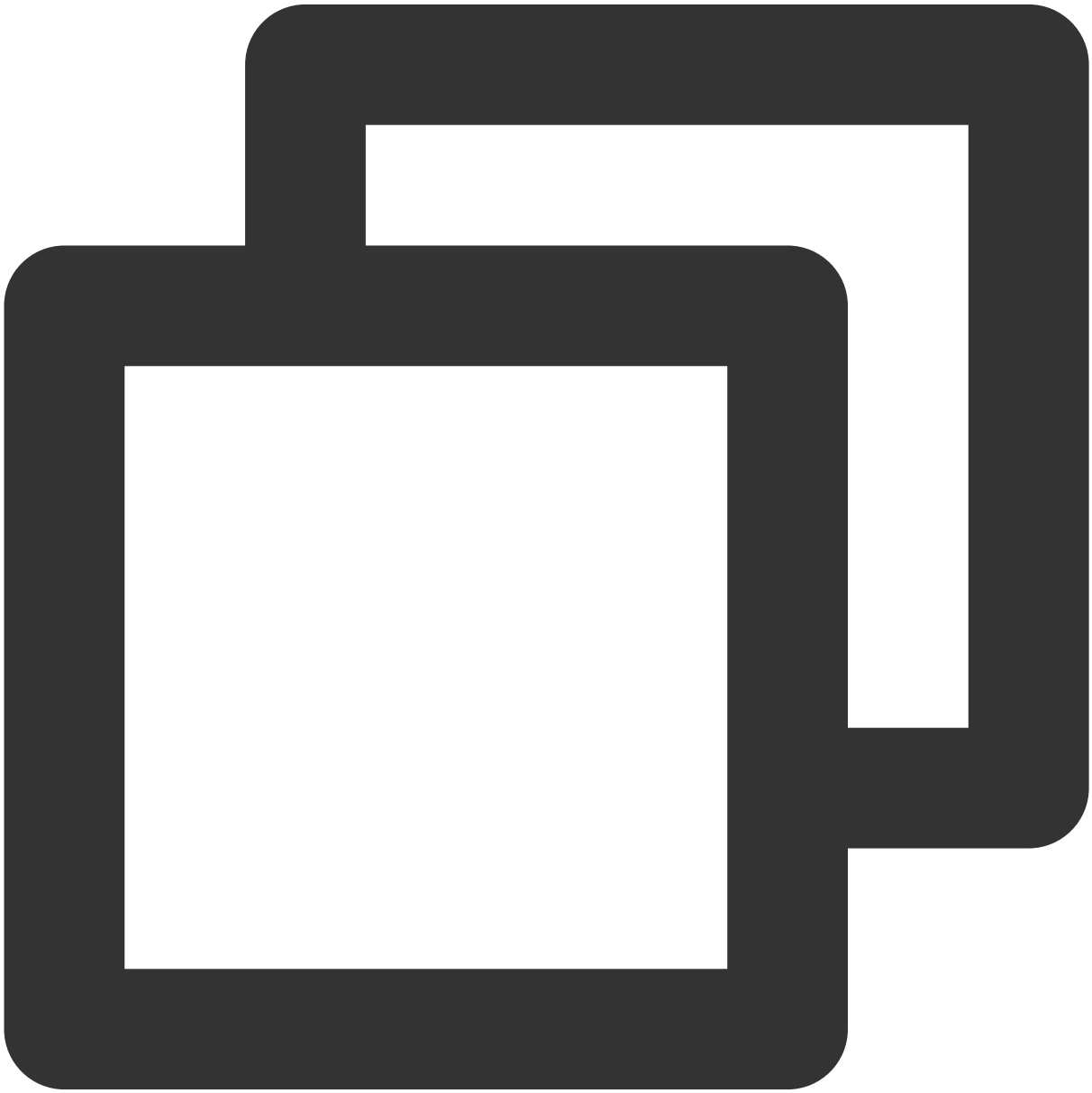
Calling this API will immediately modify the seat list. In cases where the room owner needs listeners' permission to make them speakers, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept` , call `pickSeat` .

kickSeat

This API is used to remove a speaker (called by room owner).

Note

After a speaker is removed from a seat, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
- (void)kickSeat:(NSInteger)seatIndex callback:(ActionCallback _Nullable)callback N
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to remove the speaker from.
callback	ActionCallback	The callback for the operation.

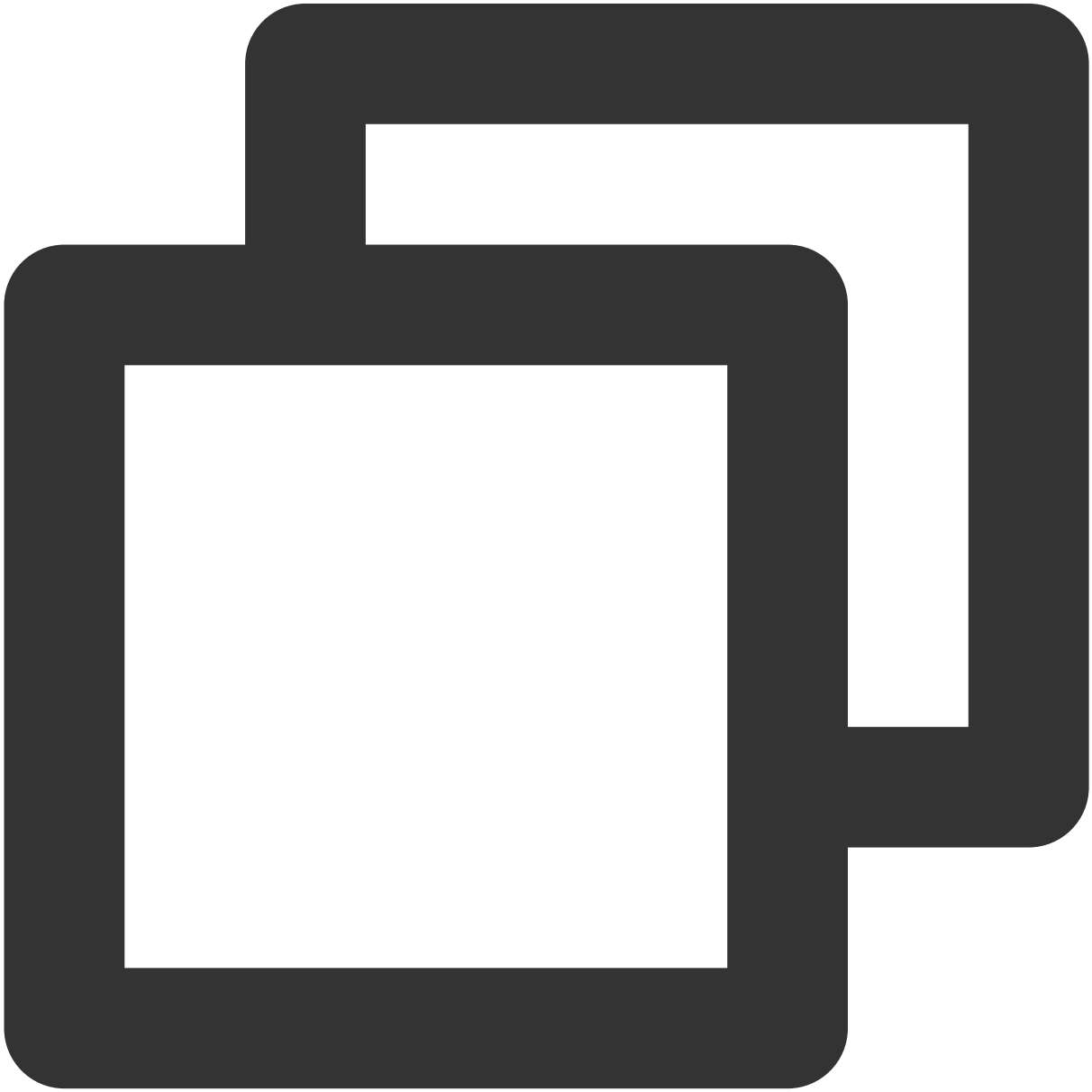
Calling this API will immediately modify the seat list.

muteSeat

This API is used to mute/unmute a seat (called by room owner).

Note

After a seat is muted/unmuted, all members in the room will receive an `onSeatListChange` notification and an `onSeatMute` notification.



```
- (void)muteSeat:(NSInteger)seatIndex isMute:(BOOL)isMute callback:(ActionCallback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to mute/unmute.
isMute	boolean	`true` : Mute; `false` : Unmute
callback	ActionCallback	The callback for the operation.

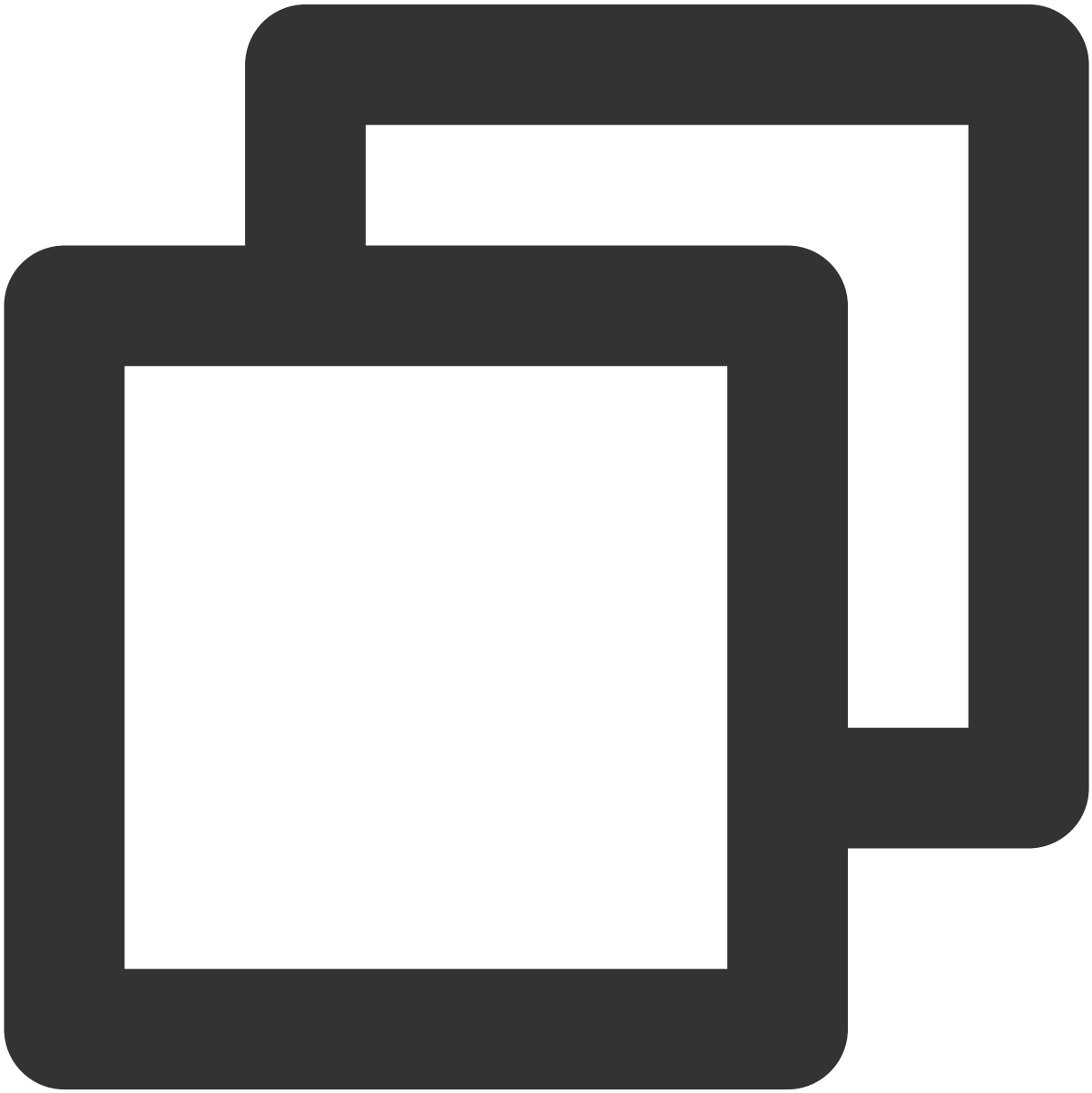
Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will call `muteAudio` to mute/unmute his or her audio.

closeSeat

This API is used to block/unblock a seat (called by room owner).

Note

After a seat is blocked/unblocked, all members in the room will receive an `onSeatListChange` notification and an `onSeatClose` notification.



```
- (void)closeSeat:(NSInteger)seatIndex isClose:(BOOL)isClose callback:(ActionCallba
```

The parameters are described below:

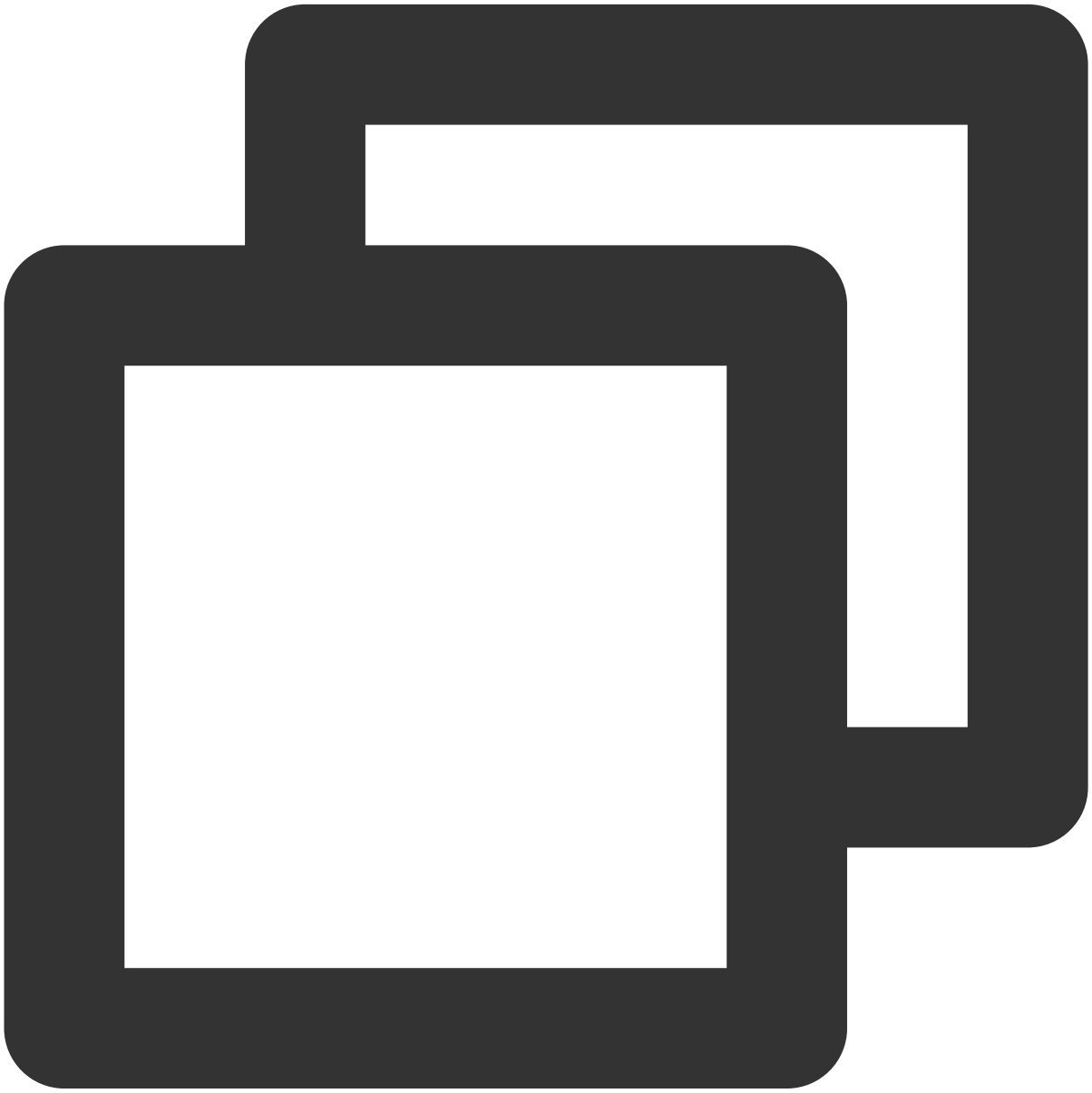
Parameter	Type	Description
seatIndex	int	The number of the seat to block/unblock.
isClose	boolean	`true` : Block; `false` : Unblock
callback	ActionCallback	The callback for the operation.

Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will leave the seat.

Local Audio APIs

startMicrophone

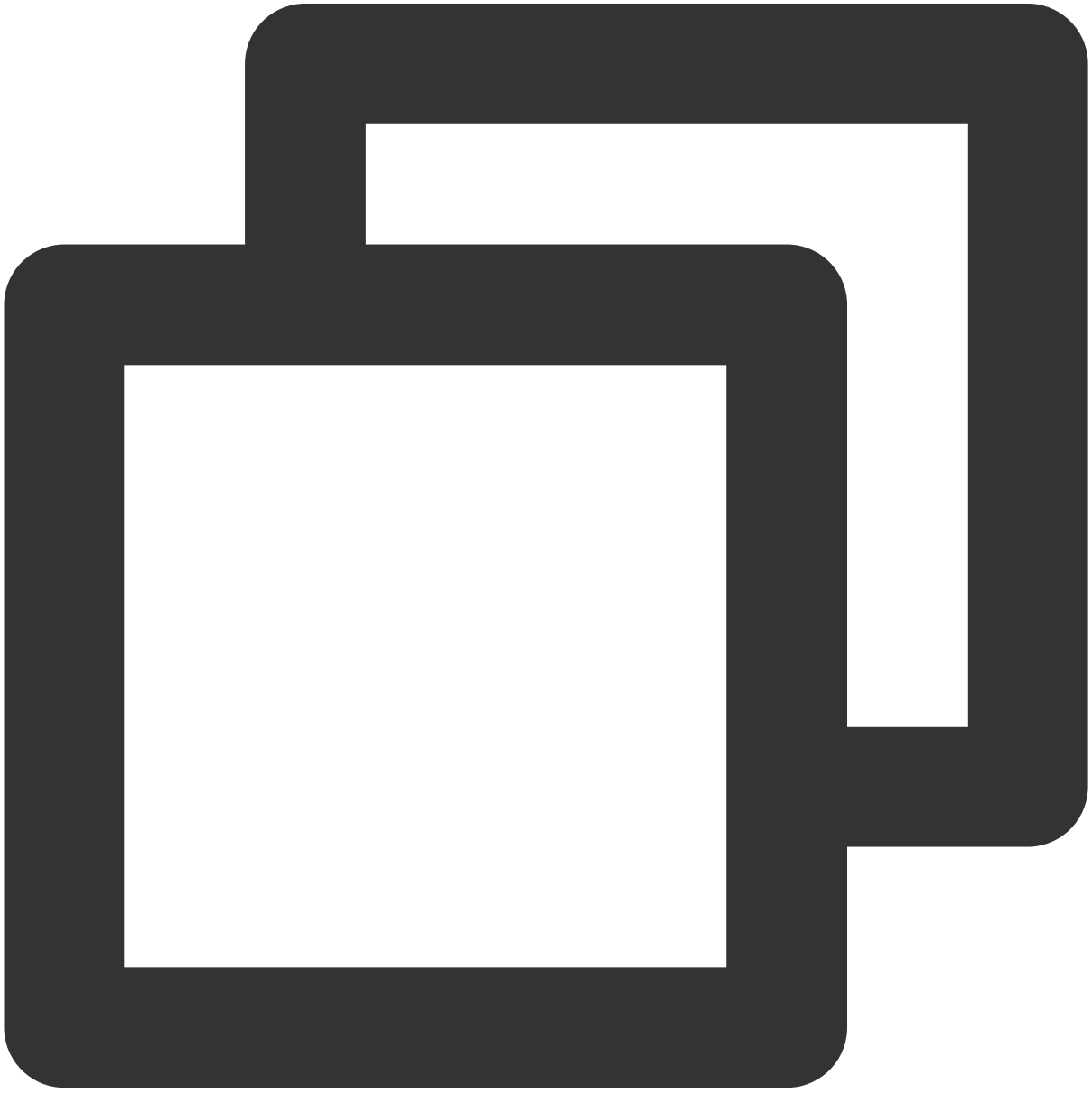
This API is used to start mic capturing.



```
- (void)startMicrophone;
```

stopMicrophone

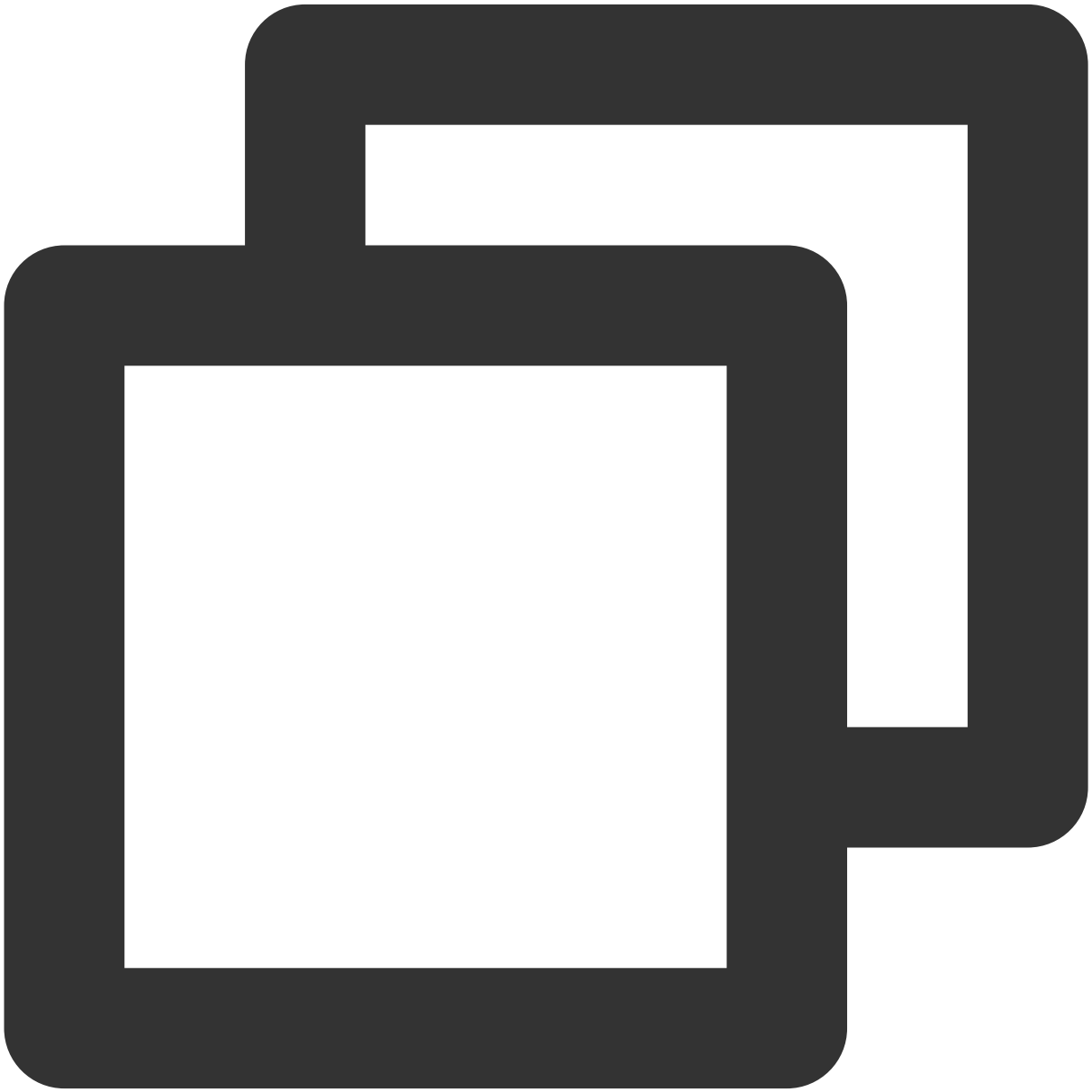
This API is used to stop mic capturing.



```
- (void)stopMicrophone;
```

setAudioQuality

This API is used to set audio quality.



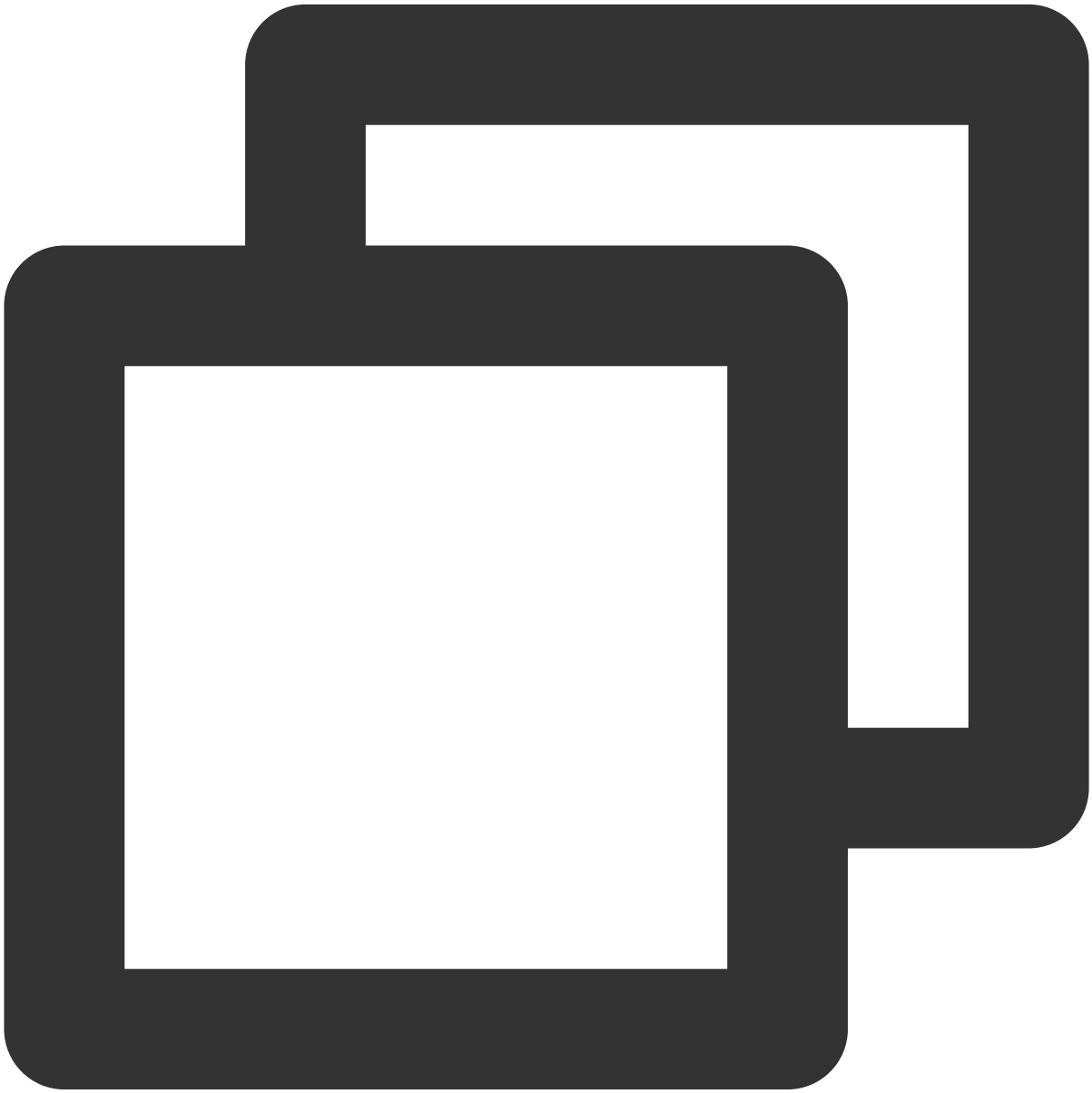
```
- (void)setAuidoQuality:(NSInteger)quality NS_SWIFT_NAME(setAuidoQuality(quality:))
```

The parameters are described below:

Parameter	Type	Description
quality	int	The audio quality. For more information, see setAudioQuality().

muteLocalAudio

This API is used to mute/unmute local audio.



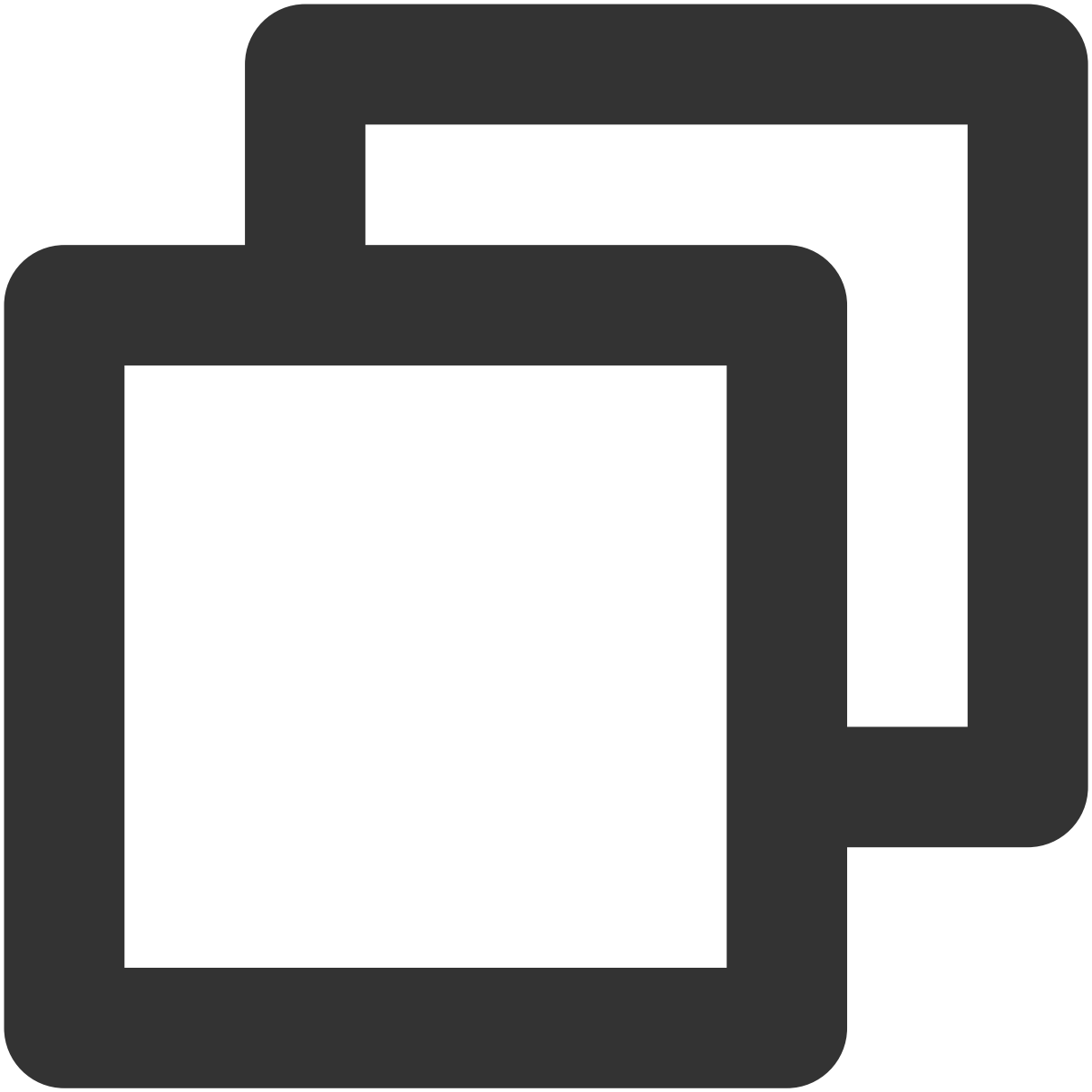
```
- (void)muteLocalAudio:(BOOL)mute NS_SWIFT_NAME(muteLocalAudio(mute:));
```

The parameters are described below:

Parameter	Type	Description
mute	boolean	Whether to mute or unmute audio. For more information, see muteLocalAudio().

setSpeaker

This API is used to set whether to play sound from the device's speaker or receiver.



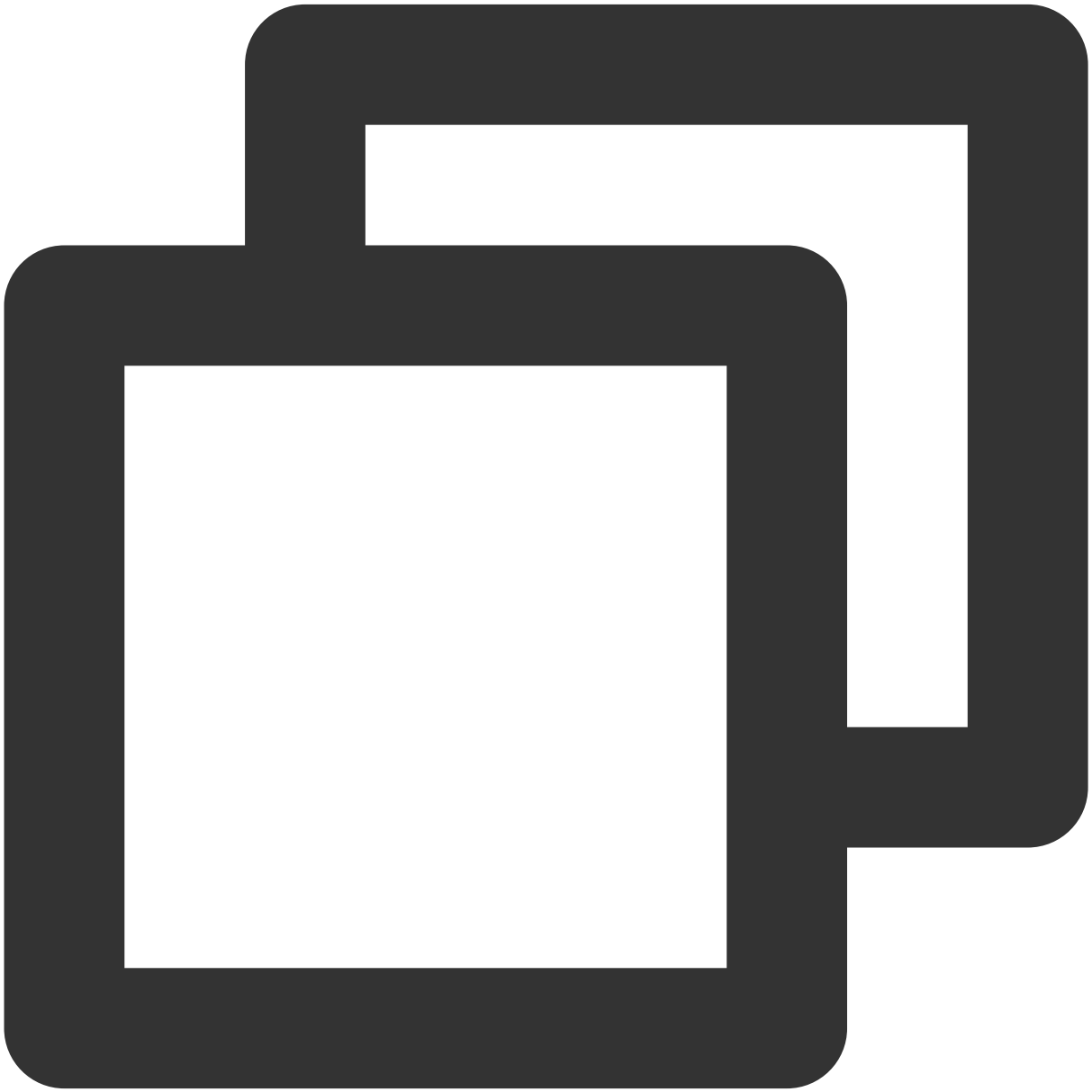
```
- (void)setSpeaker:(BOOL)userSpeaker NS_SWIFT_NAME(setSpeaker(userSpeaker:));
```

The parameters are described below:

Parameter	Type	Description
useSpeaker	boolean	`true` : Speaker; `false` : Receiver

setAudioCaptureVolume

This API is used to set the mic capturing volume.



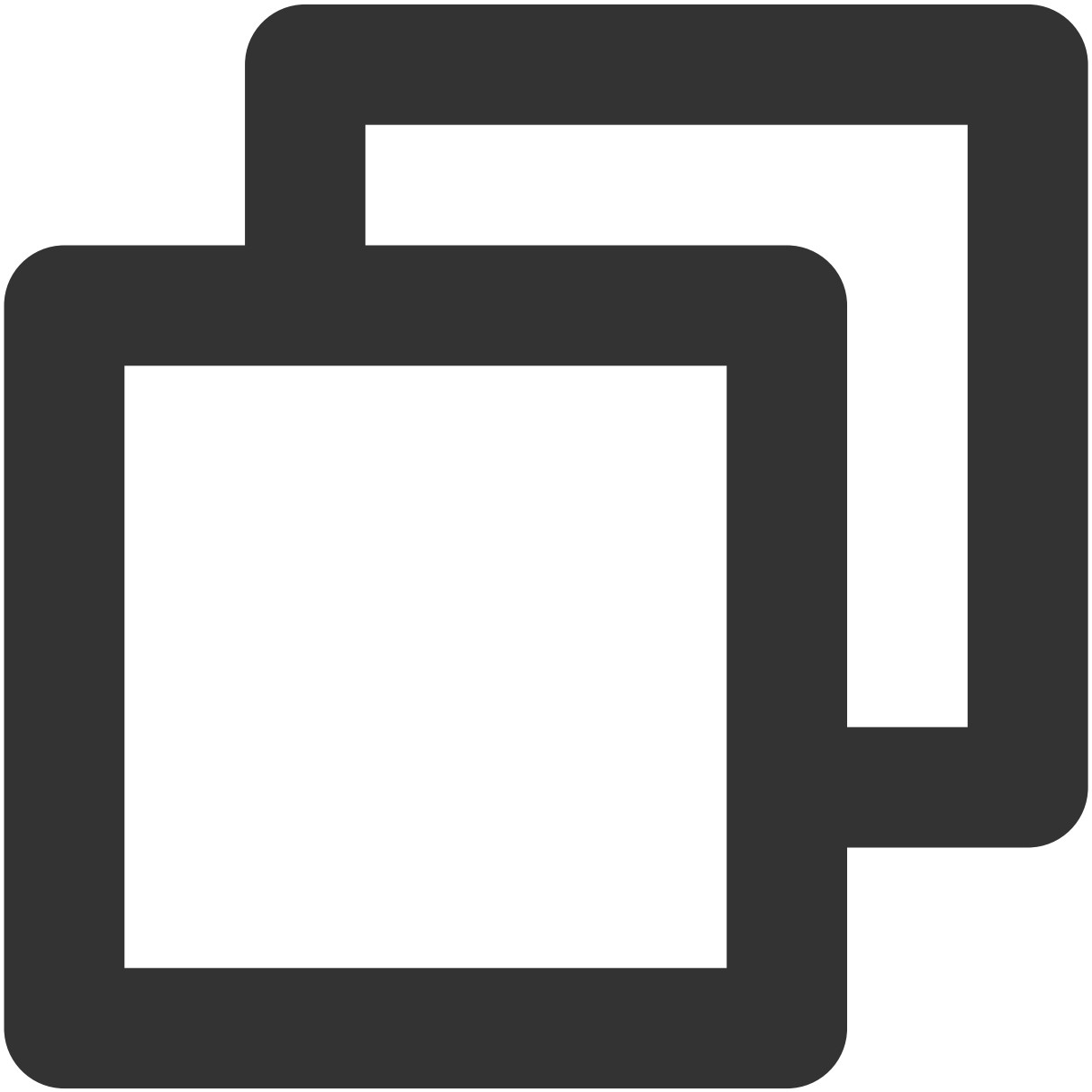
```
- (void)setAudioCaptureVolume:(NSInteger)volume NS_SWIFT_NAME(setAudioCaptureVolume
```

The parameters are described below:

Parameter	Type	Description
volume	int	The capturing volume. Value range: 0-100 (default: 100)

setAudioPlayoutVolume

This API is used to set the playback volume.



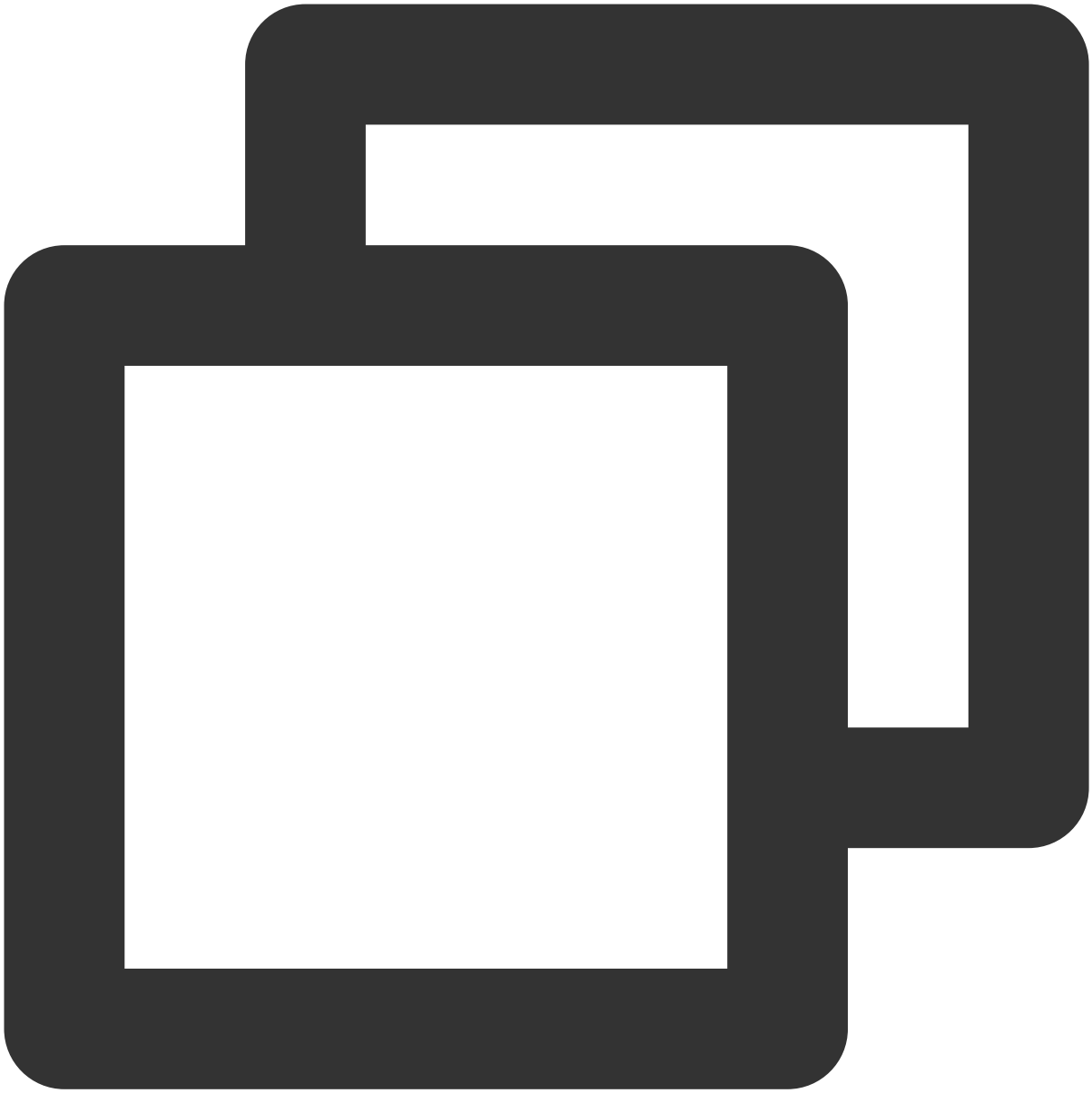
```
- (void)setAudioPlayoutVolume:(NSInteger)volume NS_SWIFT_NAME(setAudioPlayoutVolume
```

The parameters are described below:

Parameter	Type	Description
volume	int	The playback volume. Value range: 0-100 (default: 100)

muteRemoteAudio

This API is used to mute/unmute a specified user.



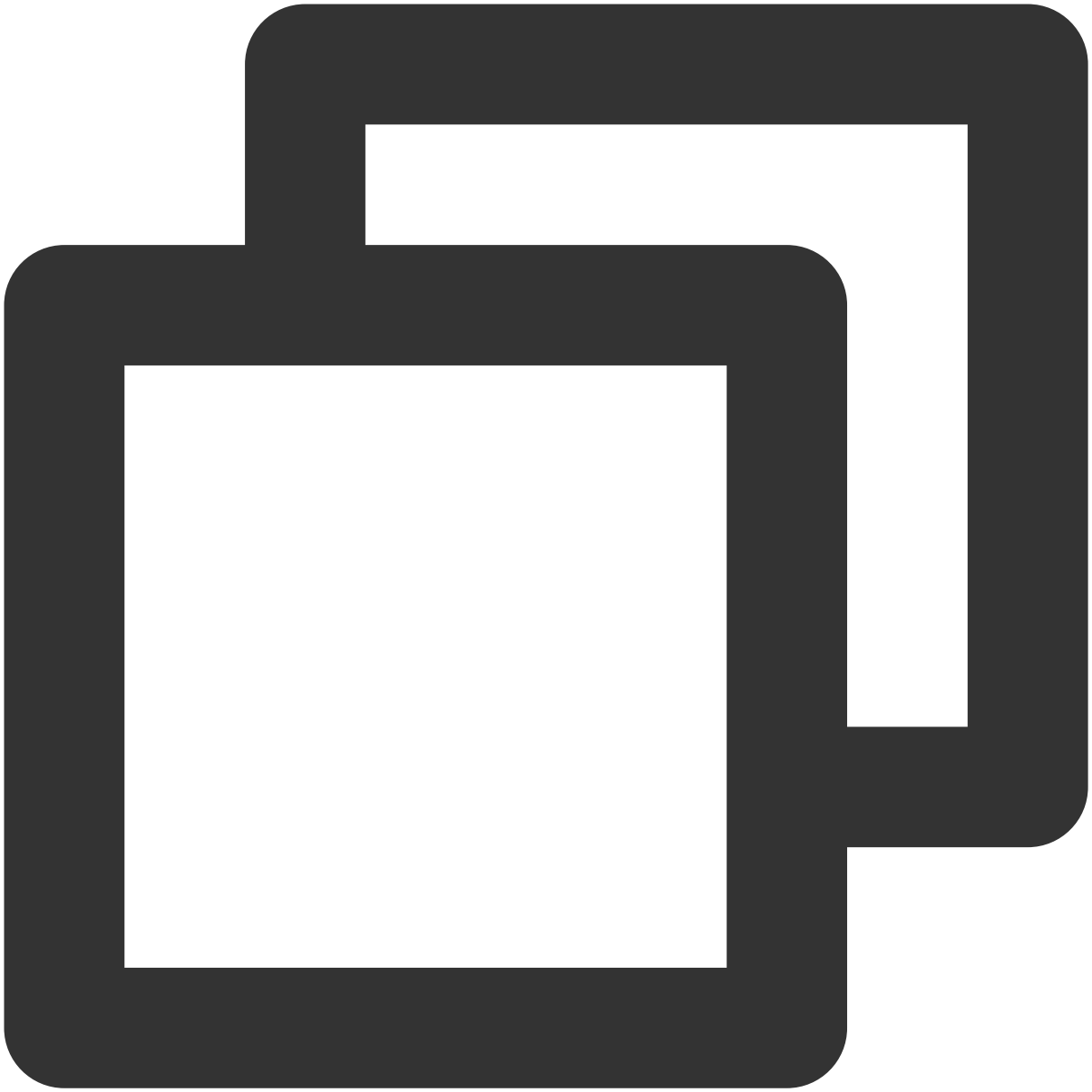
```
- (void)muteRemoteAudio:(NSString *)userId mute:(BOOL)mute NS_SWIFT_NAME(muteRemote
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.
mute	boolean	`true` : Mute; `false` : Unmute

muteAllRemoteAudio

This API is used to mute/unmute all users.



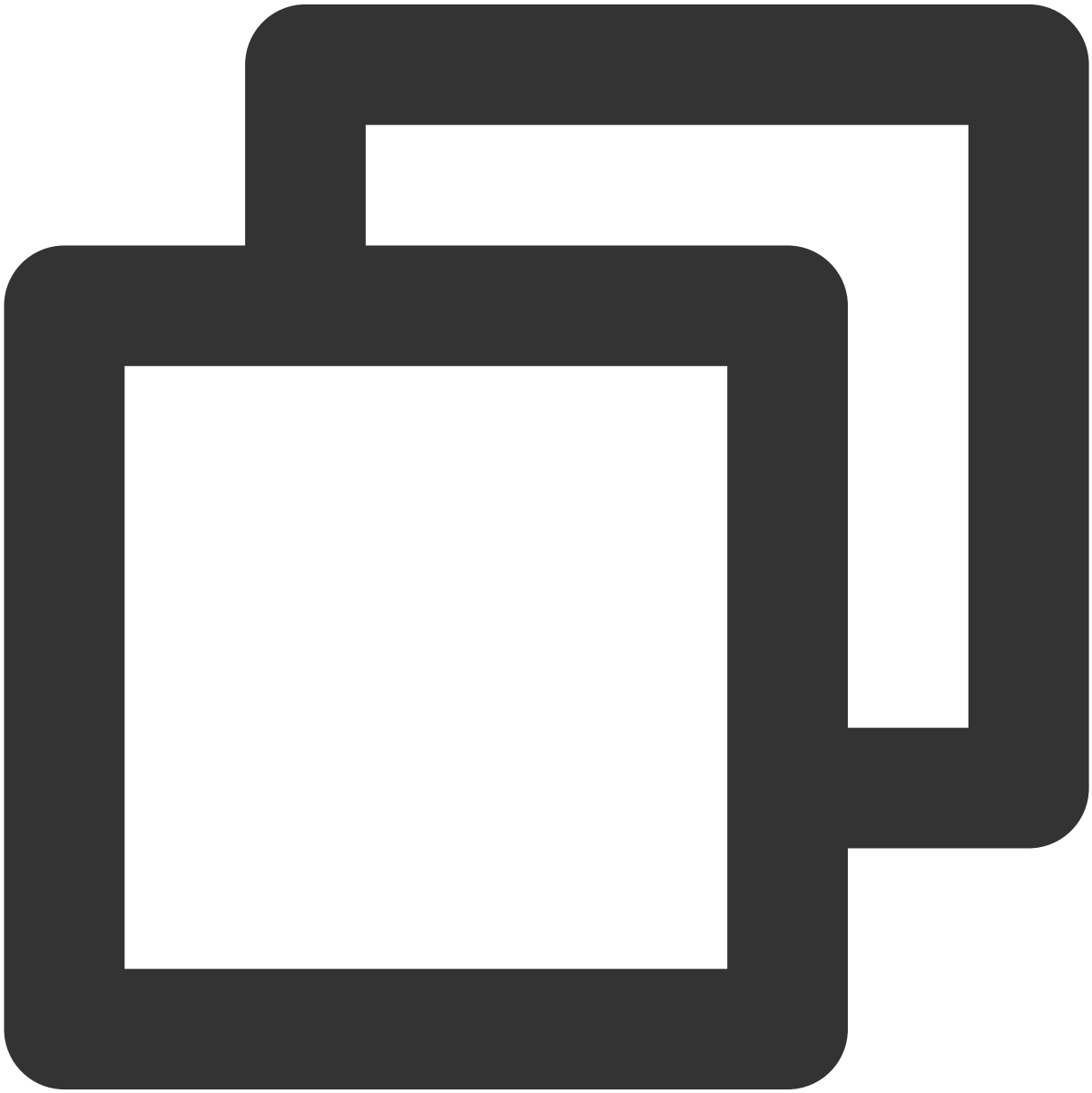
```
- (void)muteAllRemoteAudio:(BOOL)isMute NS_SWIFT_NAME(muteAllRemoteAudio(isMute:));
```

The parameters are described below:

Parameter	Type	Description
isMute	boolean	`true` : Mute; `false` : Unmute

setVoiceEarMonitorEnable

This API is used to enable/disable in-ear monitoring.



```
- (void)setVoiceEarMonitorEnable:(BOOL)enable NS_SWIFT_NAME(setVoiceEarMonitor(enab
```

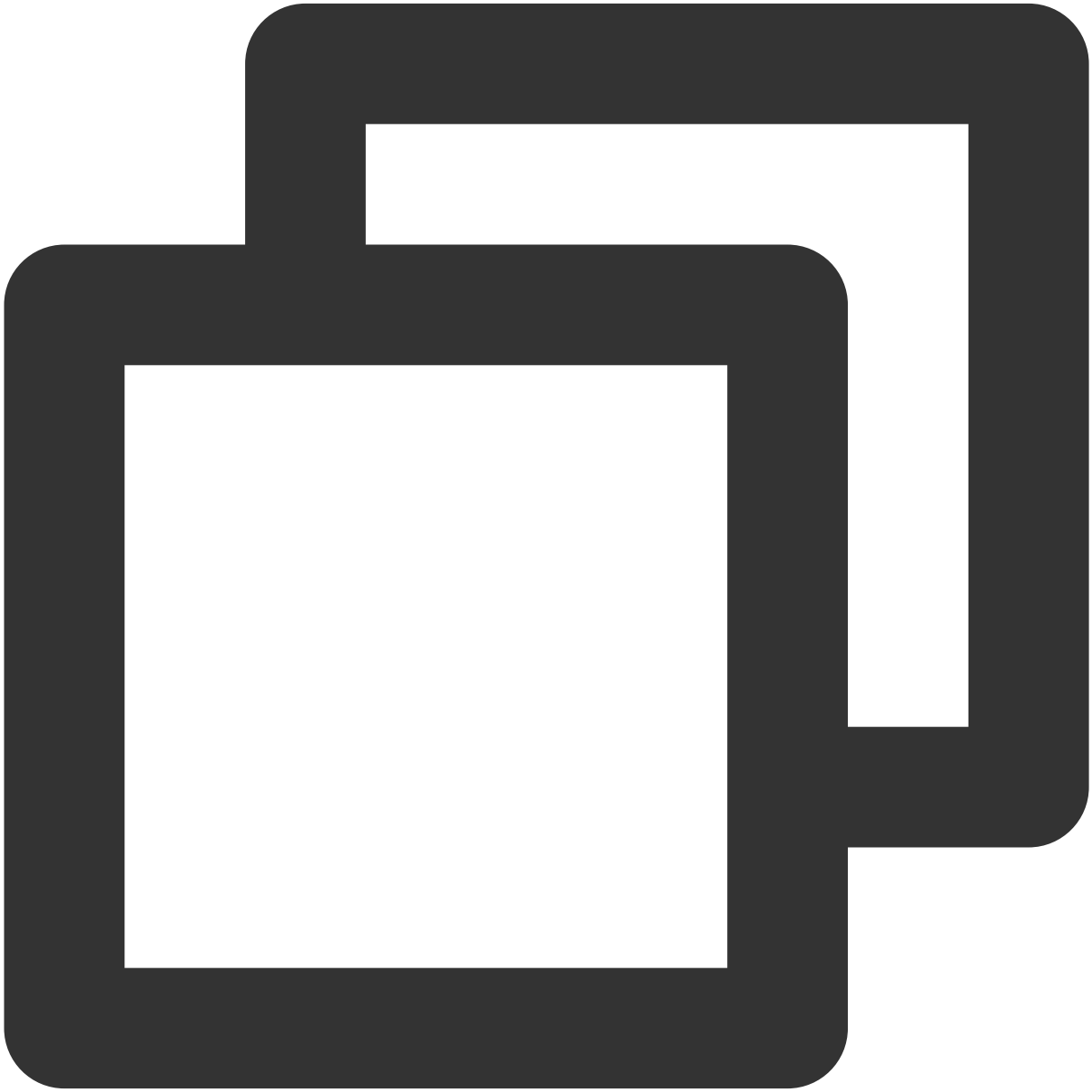
The parameters are described below:

Parameter	Type	Description
enable	boolean	`true` : Enable; `false` : Disable

Background Music and Audio Effect APIs

getAudioEffectManager

This API is used to get the background music and audio effect management object TXAudioEffectManager.

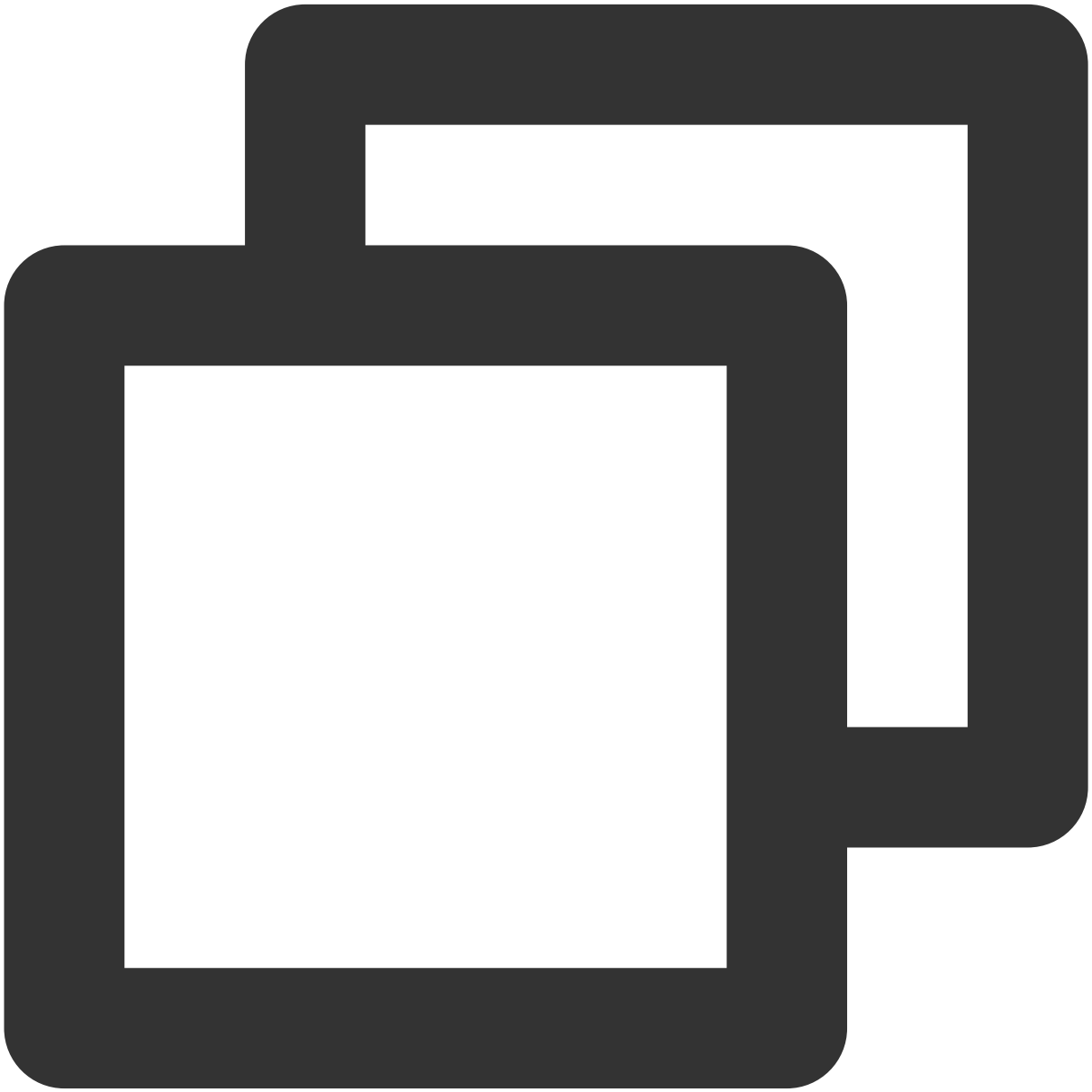


```
- (TXAudioEffectManager * _Nullable)getAudioEffectManager;
```

Message Sending APIs

sendRoomTextMsg

This API is used to broadcast a text chat message in a room, which is generally used for on-screen comments.



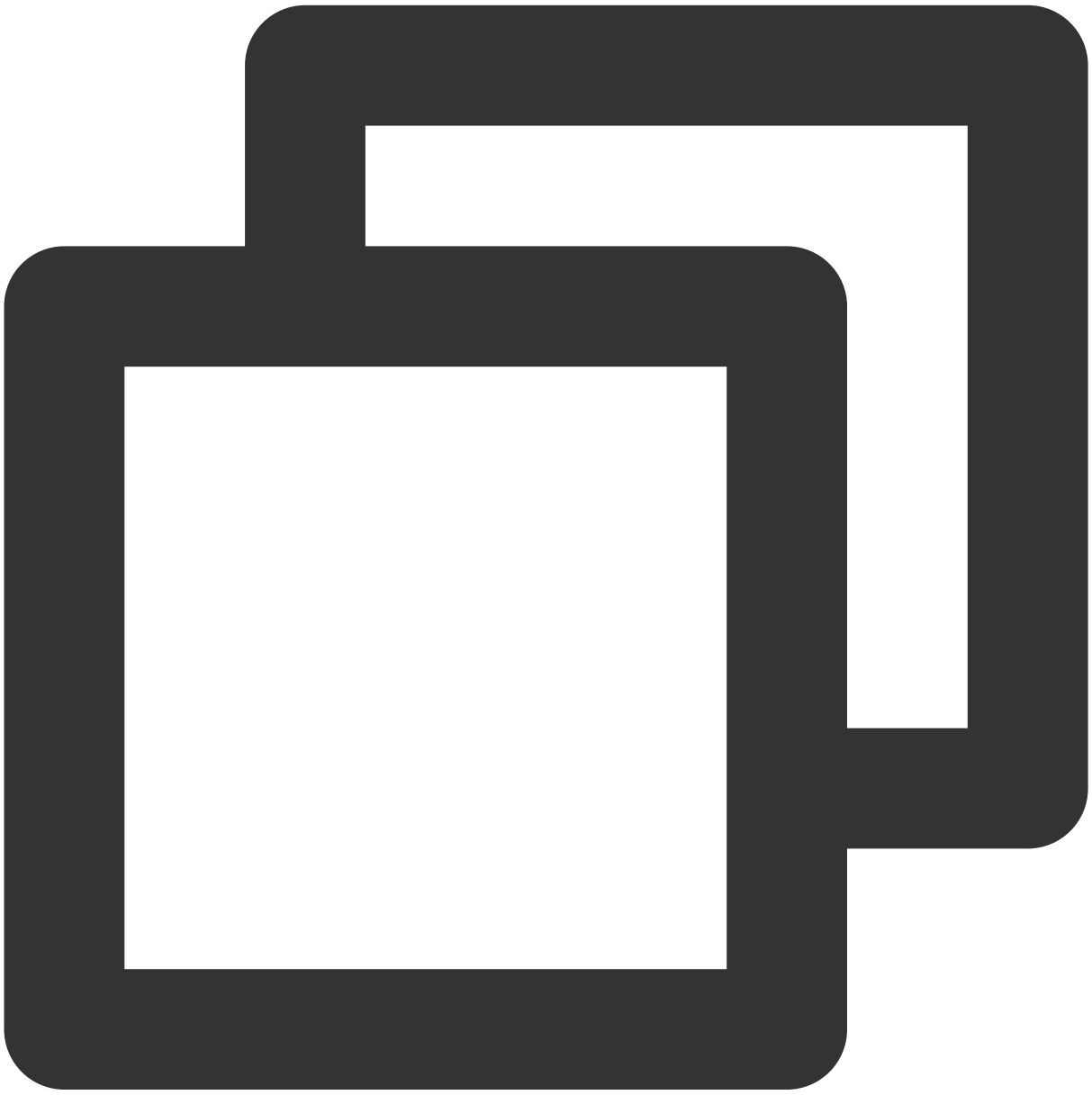
```
- (void)sendRoomTextMsg:(NSString *)message callback:(ActionCallback _Nullable)call
```

The parameters are described below:

Parameter	Type	Description
message	String	A text chat message.
callback	ActionCallback	The callback for the operation.

sendRoomCustomMsg

This API is used to send a custom text chat message.



```
- (void)sendRoomCustomMsg:(NSString *)cmd message:(NSString *)message callback:(Act
```

The parameters are described below:

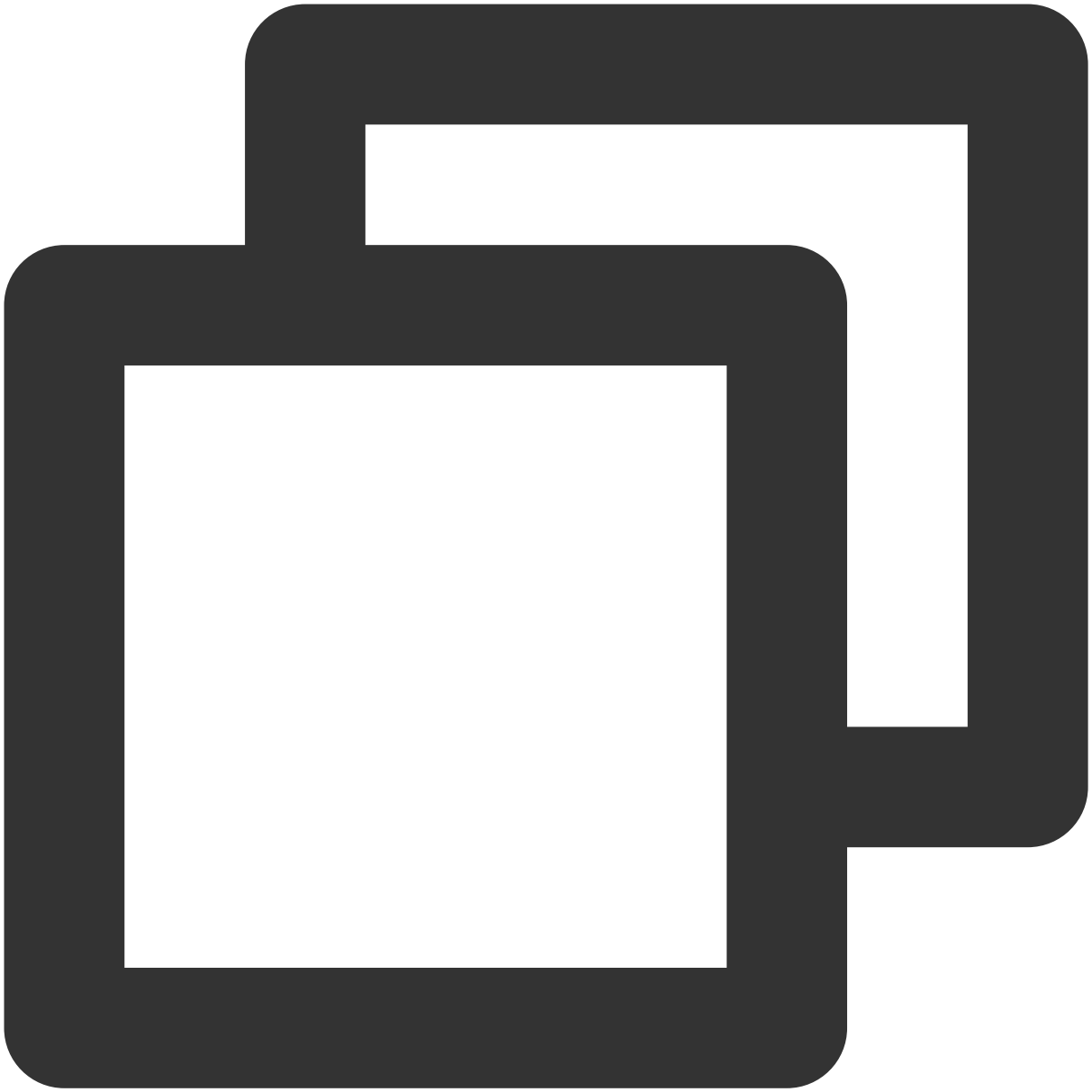
Parameter	Type	Description
cmd	String	A custom command word used to distinguish between different message

		types.
message	String	A text chat message.
callback	ActionCallback	The callback for the operation.

Invitation Signaling APIs

sendInvitation

This API is used to send an invitation.



```
- (NSString *)sendInvitation:(NSString *)cmd
                      userId:(NSString *)userId
                     content:(NSString *)content
                    callback:(ActionCallback _Nullable)callback NS_SWIFT_NAME(sendI
```

The parameters are described below:

Parameter	Type	Description
cmd	String	Custom command of business

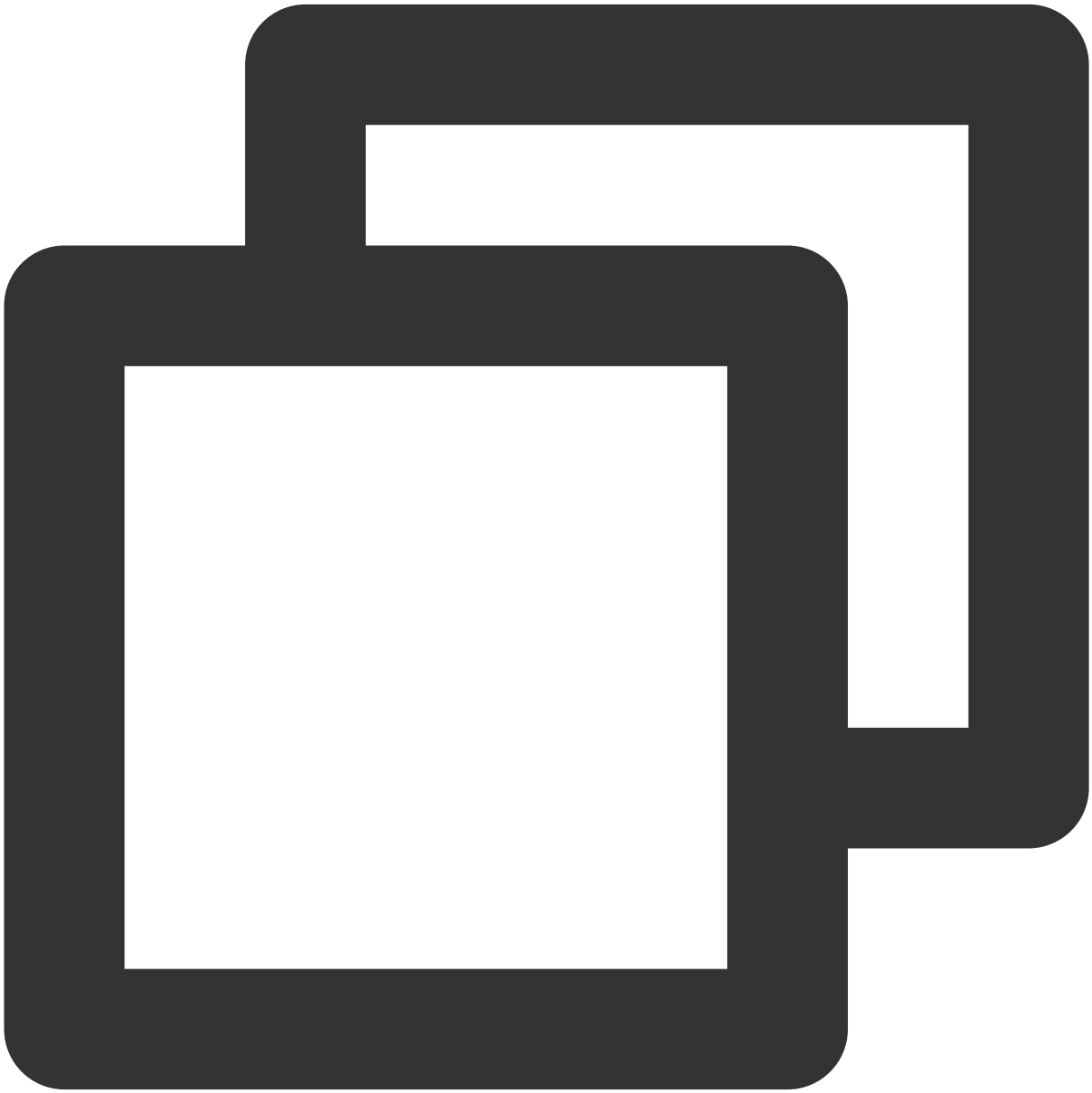
userId	String	The user ID of the invitee.
content	String	The content of the invitation.
callback	ActionCallback	The callback for the operation.

Response parameters:

Parameter	Type	Description
inviteId	String	The invitation ID.

acceptInvitation

This API is used to accept an invitation.



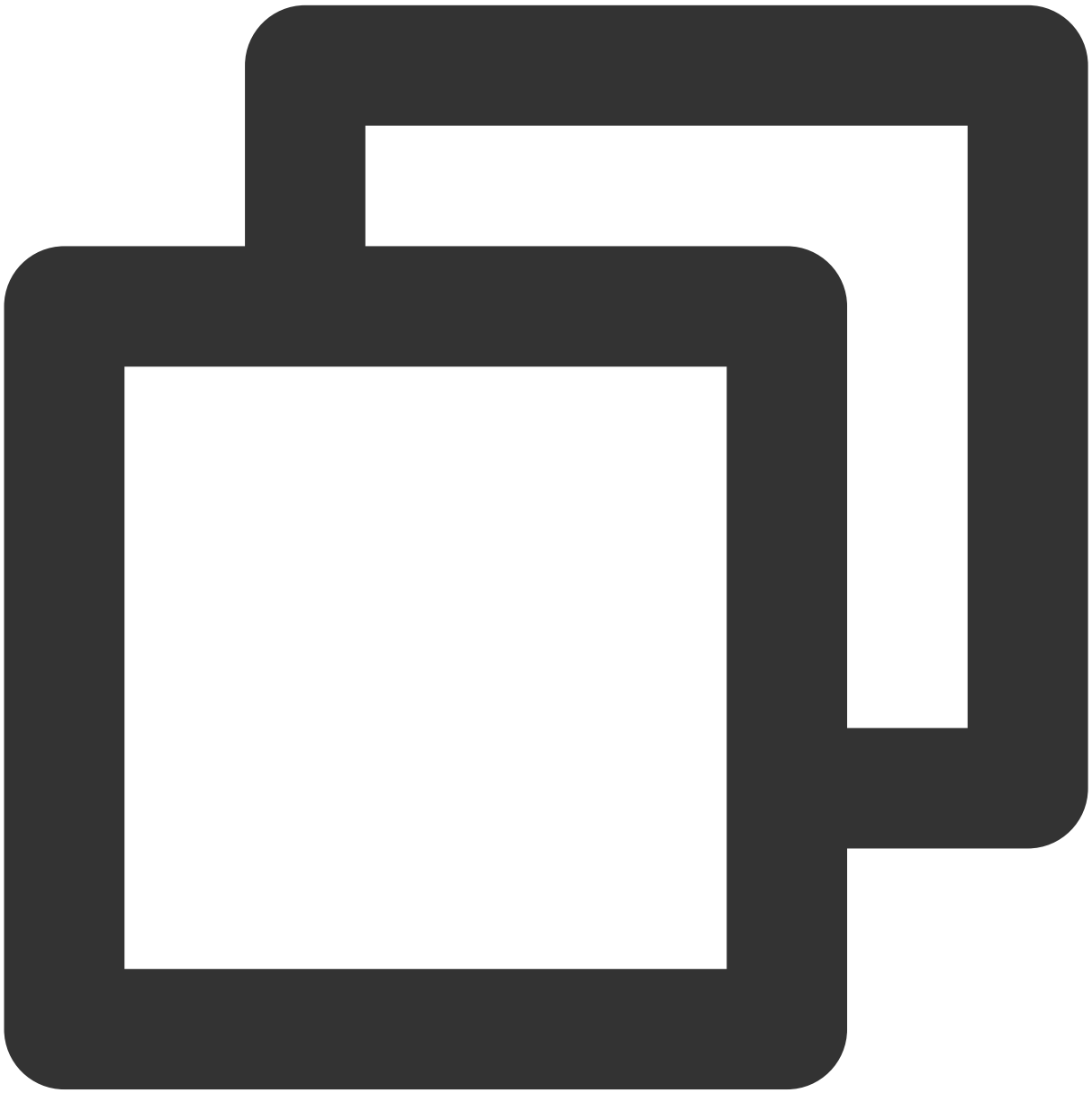
```
- (void)acceptInvitation:(NSString *)identifier callback:(ActionCallback _Nullable)
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
callback	ActionCallback	The callback for the operation.

rejectInvitation

This API is used to decline an invitation.



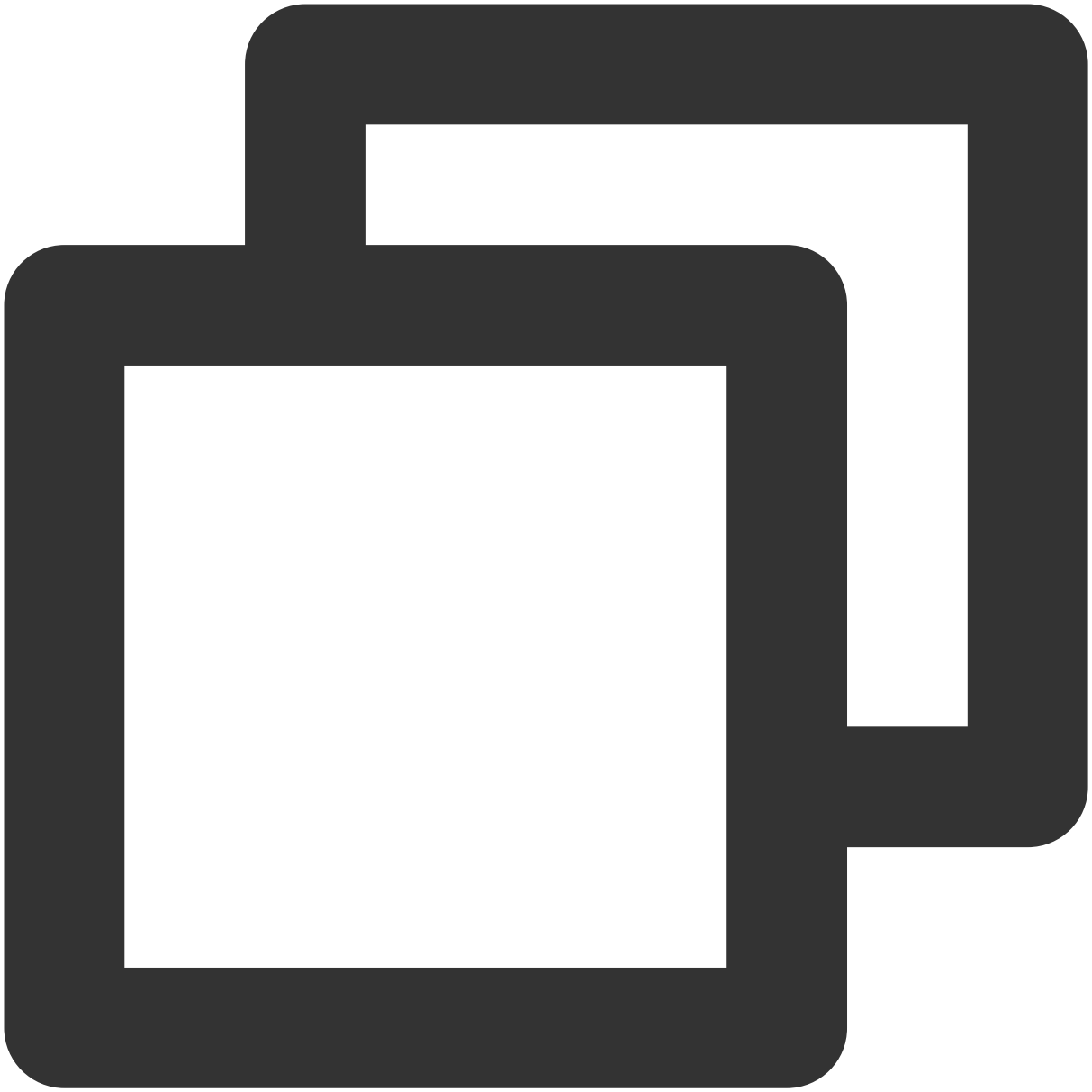
```
- (void)rejectInvitation:(NSString *)identifier callback:(ActionCallback _Nullable)
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
callback	ActionCallback	The callback for the operation.

cancelInvitation

This API is used to cancel an invitation.



```
- (void)cancelInvitation:(NSString *)identifier callback:(ActionCallback _Nullable)
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
callback	ActionCallback	The callback for the operation.

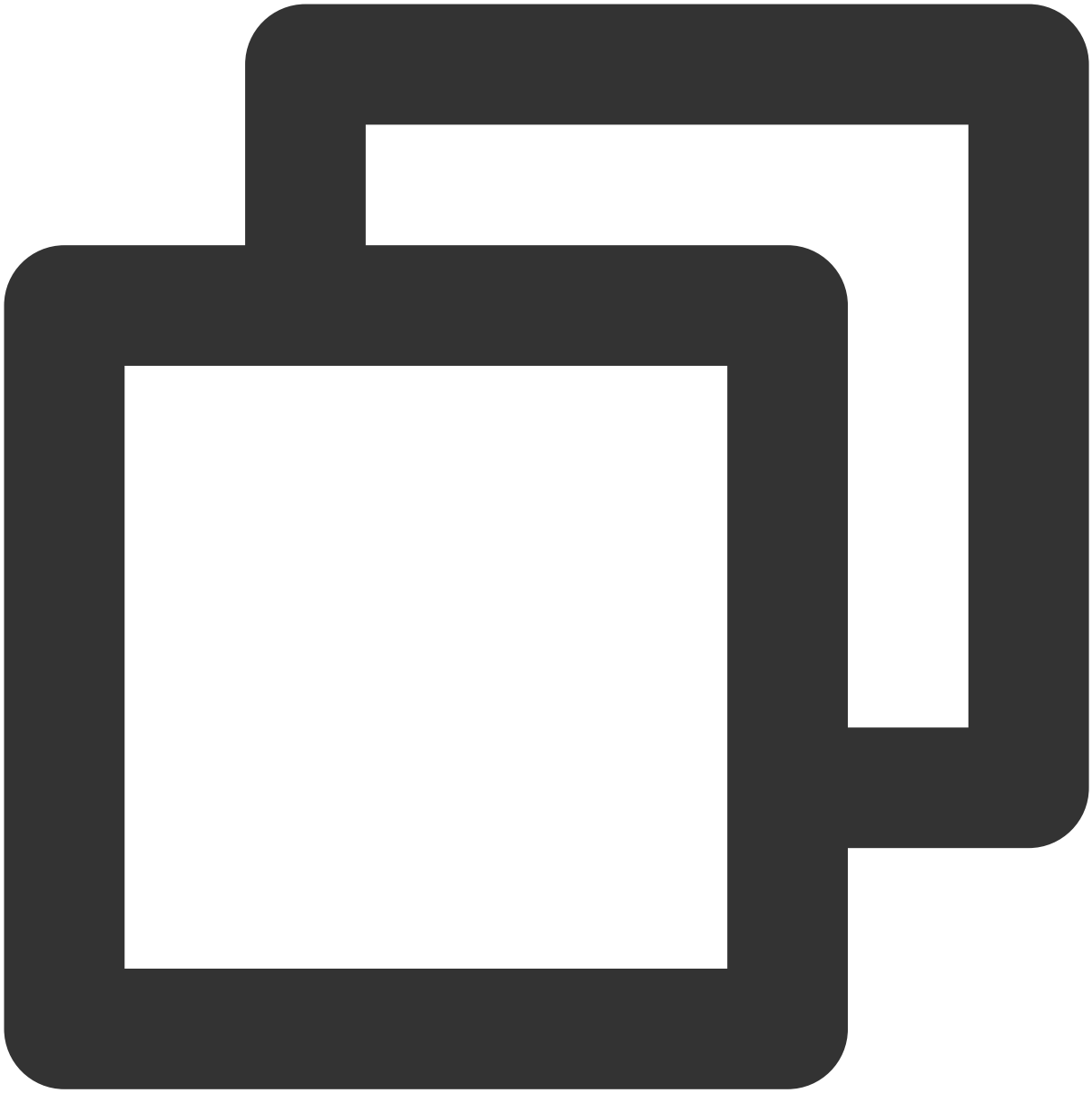
`TRTCKaraokeRoomDelegate` Event Callback APIs

Common Event Callback APIs

onError

Callback for error.

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users depending if necessary.



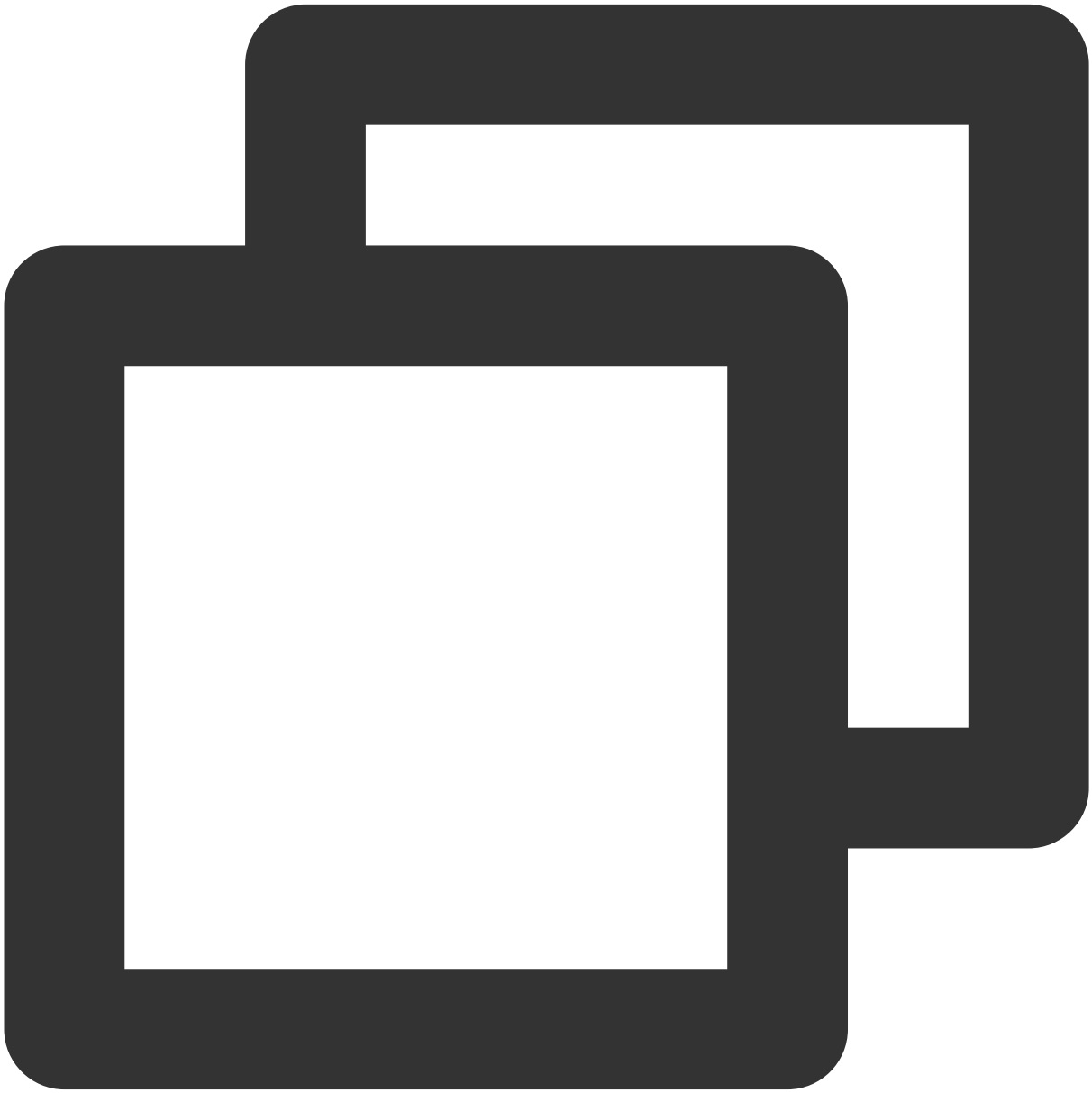
```
- (void)onError:(int)code
                message:(NSString*)message
NS_SWIFT_NAME(onError(code:message:));
```

The parameters are described below:

Parameter	Type	Description
code	int	The error code.
message	String	The error message.

onWarning

Callback for warning.



```
- (void)onWarning:(int)code
                  message:(NSString *)message
NS_SWIFT_NAME(onWarning(code:message:));
```

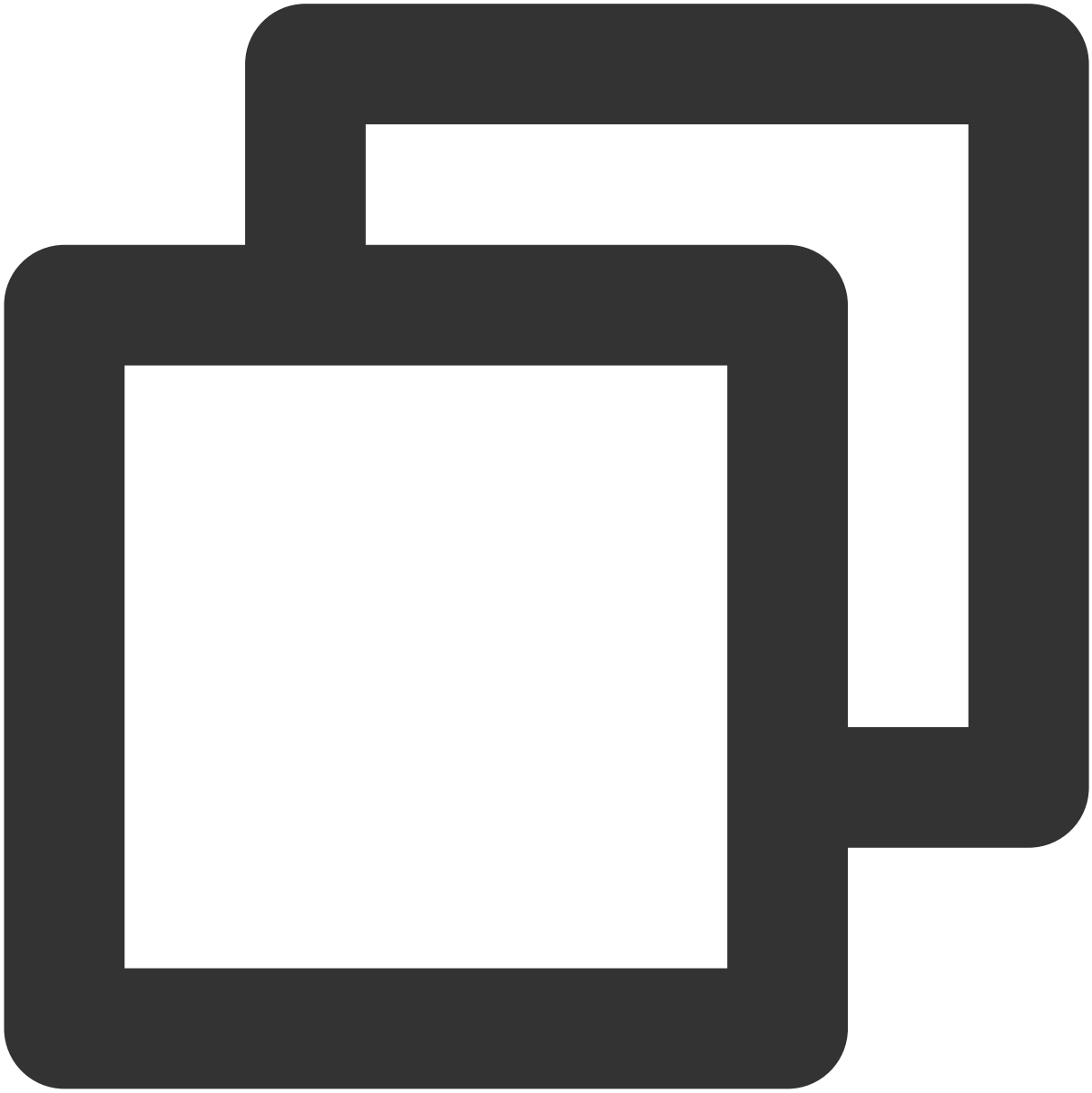
The parameters are described below:

Parameter	Type	Description

code	int	Error code
message	String	Warning message

onDebugLog

Callback for log.



```
- (void)onDebugLog:(NSString *)message
NS_SWIFT_NAME(onDebugLog(message:));
```

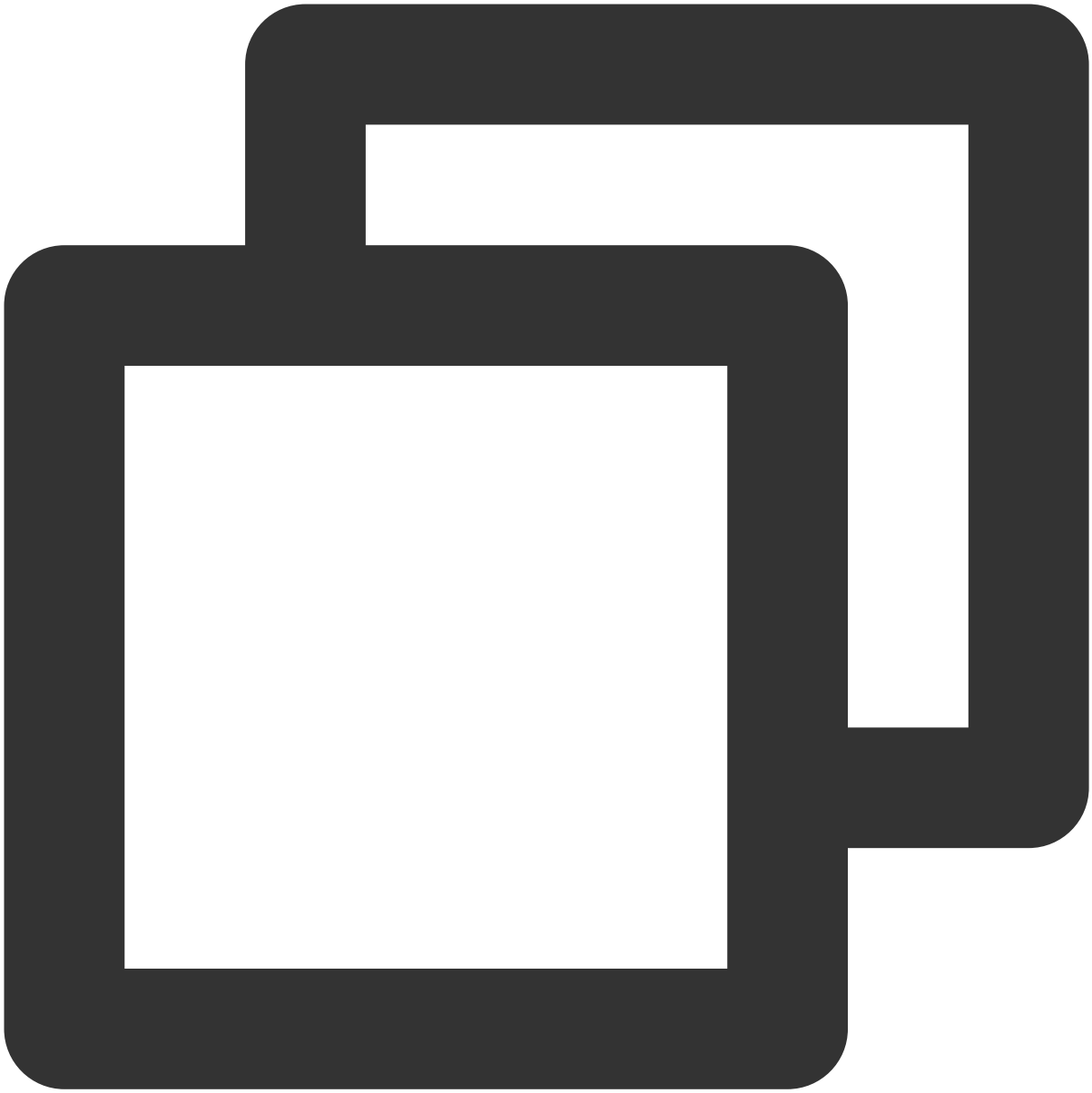
The parameters are described below:

Parameter	Type	Description
message	String	Log information

Room Event Callback APIs

onRoomDestroy

Callback for room termination. When the owner terminates the room, all users in the room will receive this callback.



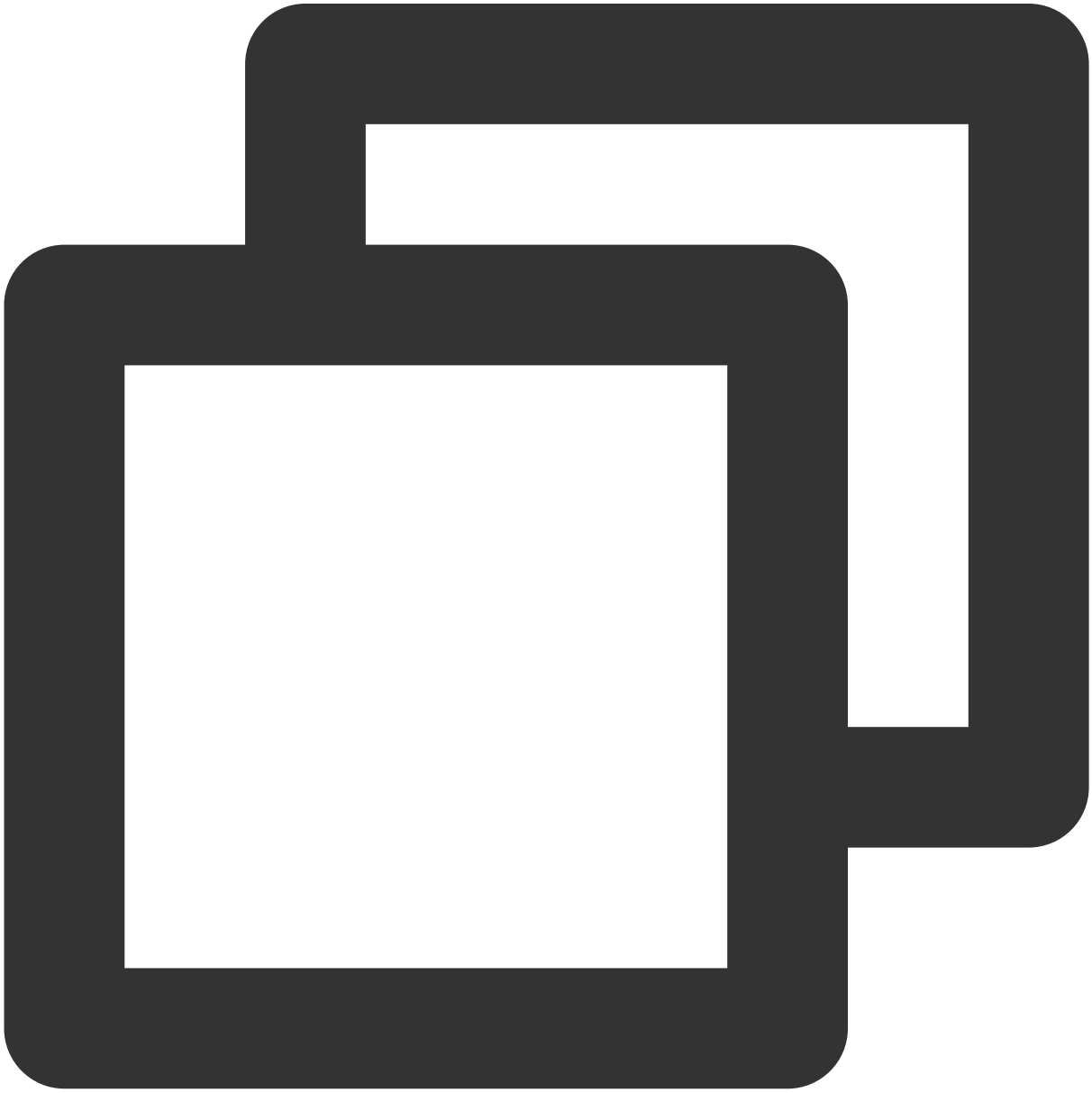
```
- (void)onRoomDestroy:(NSString *)message
NS_SWIFT_NAME(onRoomDestroy(message:));
```

The parameters are described below:

Parameter	Type	Description
message	String	Callback information

onRoomInfoChange

Callback for change of room information. This callback is sent after successful room entry. The information in `roomInfo` is passed in by the room owner during room creation.



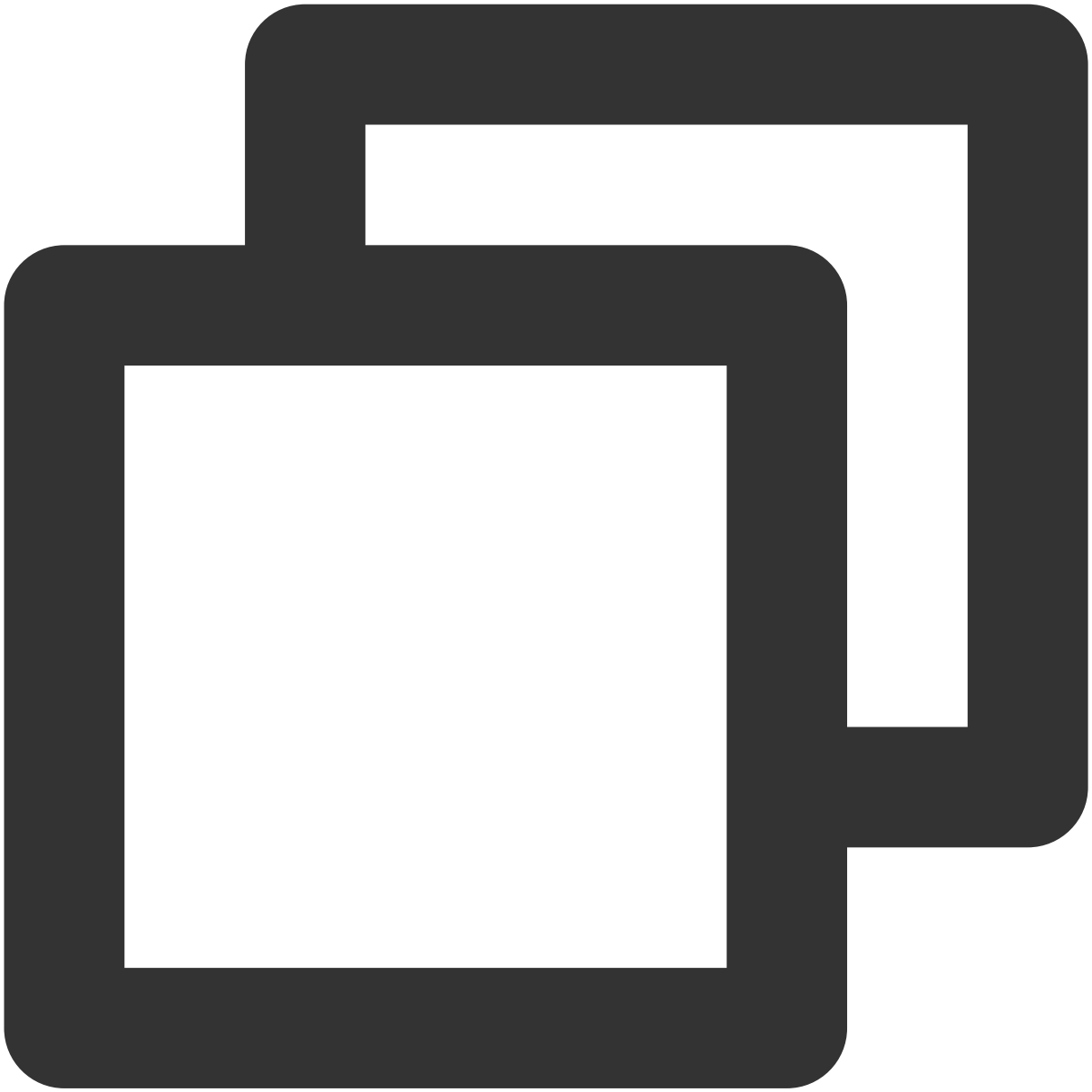
```
- (void)onRoomInfoChange:(KaraokeInfo *)roomInfo
NS_SWIFT_NAME(onRoomInfoChange(roomInfo:));
```

The parameters are described below:

Parameter	Type	Description
roomInfo	RoomInfo	Room information

onUserMicrophoneMute

Callback of whether a user's mic is muted. When a user calls `muteLocalAudio`, all members in the room will receive this callback.



```
- (void)onUserMicrophoneMute:(NSString *)userId mute:(BOOL)mute
NS_SWIFT_NAME(onUserMicrophoneMute(userId:mute:));
```

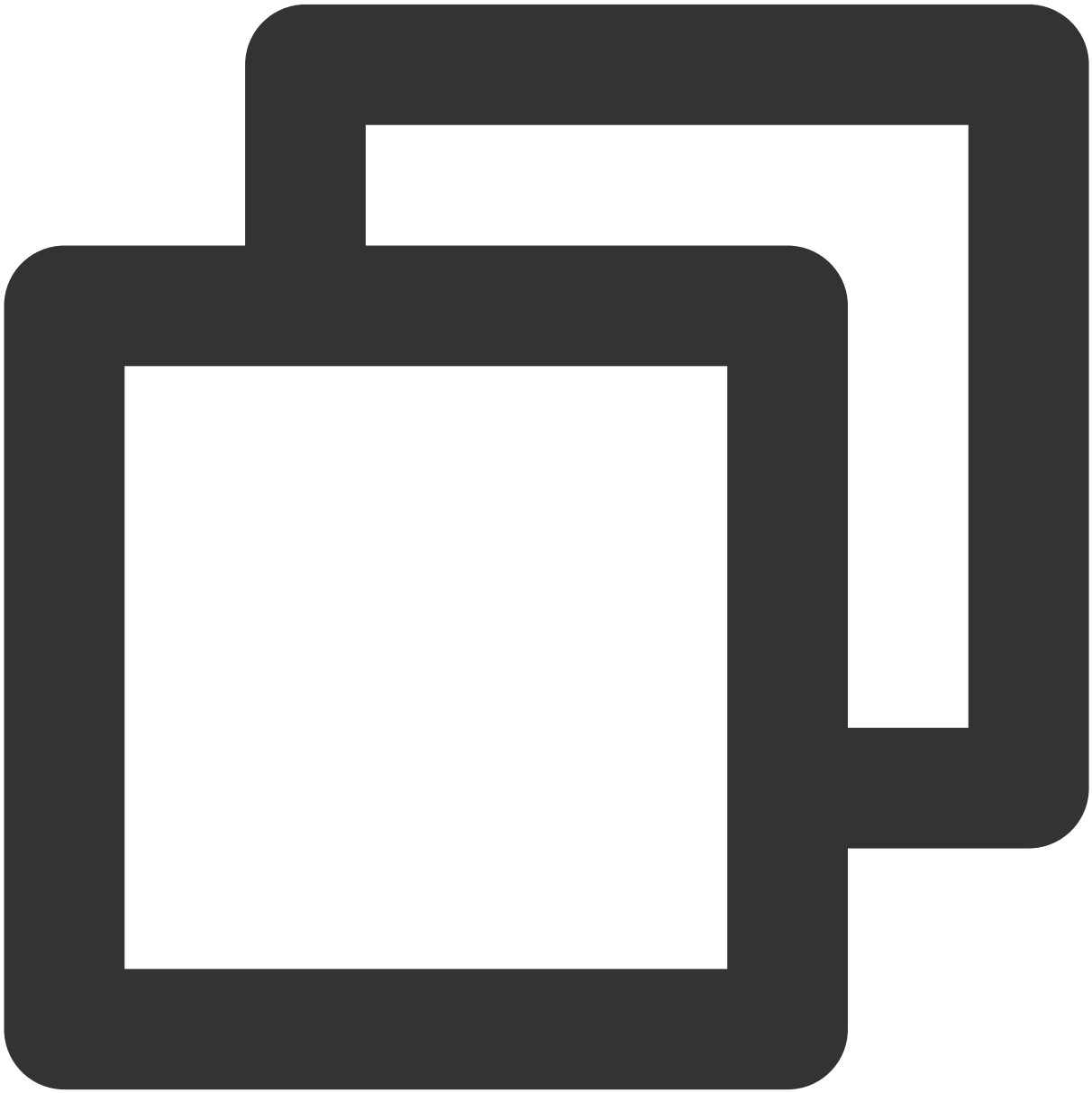
The parameters are described below:

Parameter	Type	Description

userId	String	The User ID.
mute	boolean	Volume. Value range: 0-100

onUserVolumeUpdate

Notification to all members of the volume after the volume reminder is enabled.



```
- (void)onUserVolumeUpdate:(NSArray<TRTCVolumeInfo *> *)userVolumes totalVolume:(NS
NS_SWIFT_NAME(onUserVolumeUpdate(userVolumes:totalVolume:));
```

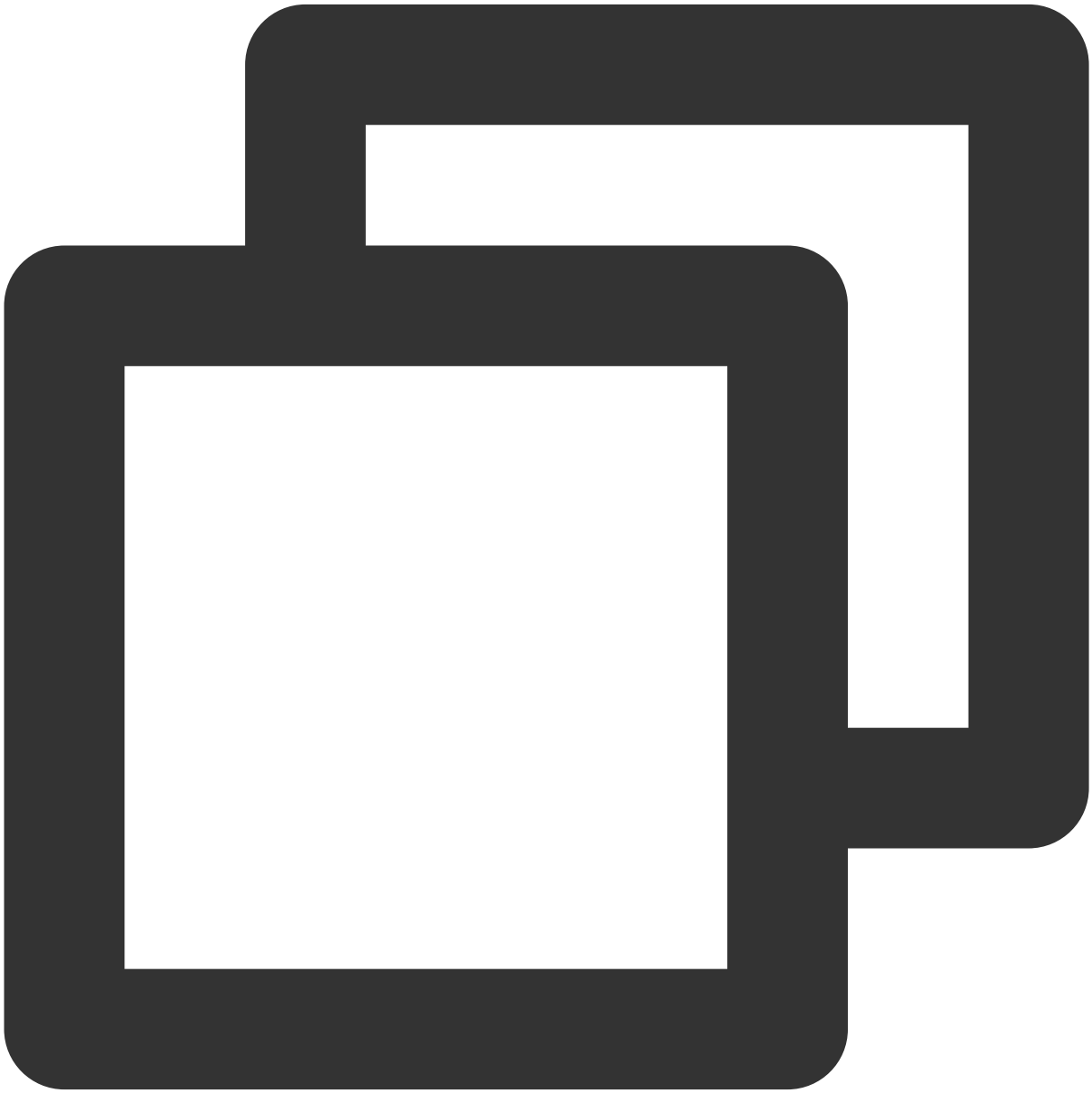
The parameters are described below:

Parameter	Type	Description
userVolumes	List	List of user volumes
totalVolume	int	Total volume. Value range: 0-100

Seat Callback APIs

onSeatListChange

Callback for all seat changes.



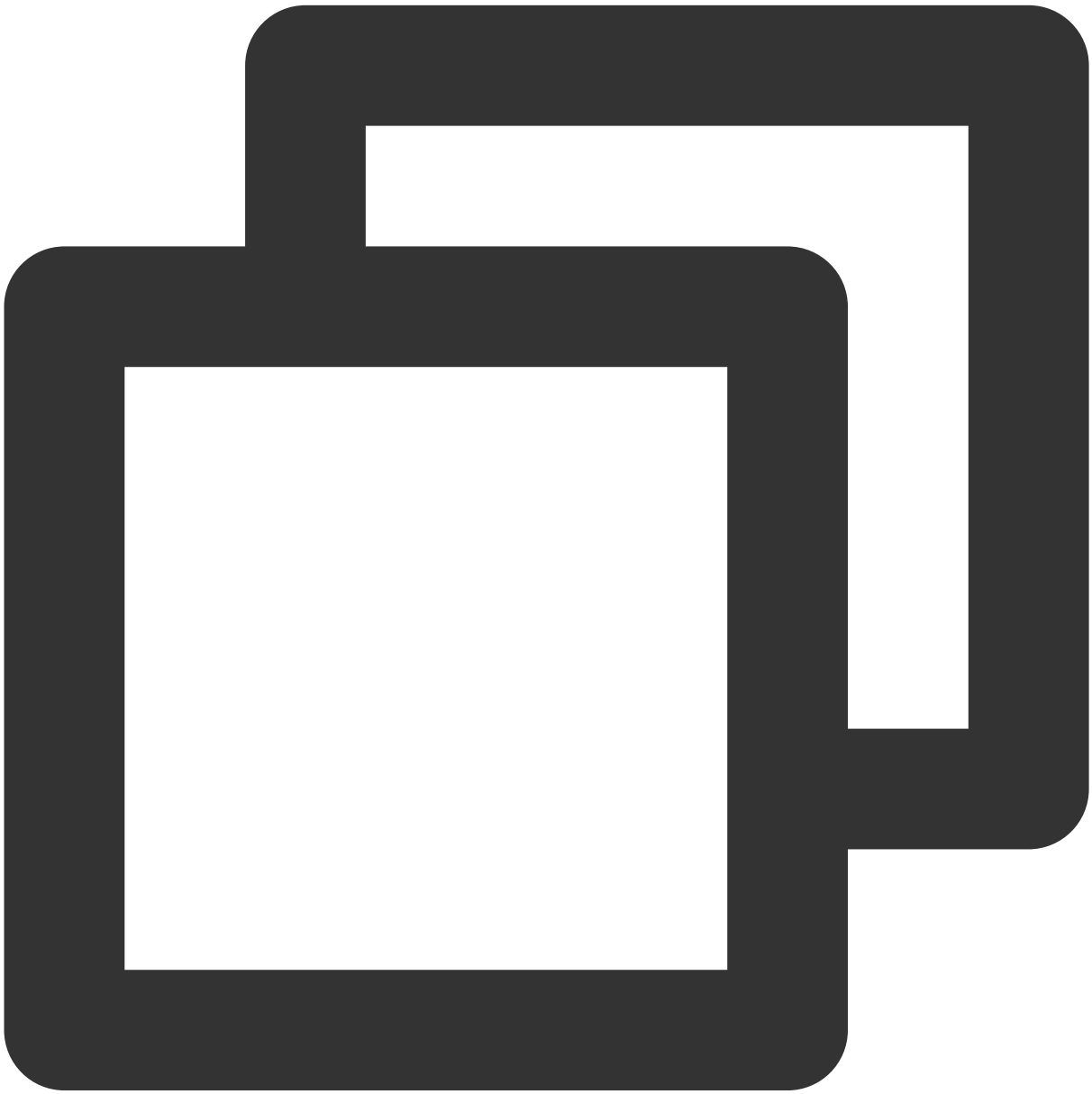
```
- (void)onSeatInfoChange:(NSArray<KaraokeSeatInfo *> *)seatInfolist
NS_SWIFT_NAME(onSeatListChange(seatInfoList:));
```

The parameters are described below:

Parameter	Type	Description
seatInfoList	List<SeatInfo>	Full seat list

onAnchorEnterSeat

Someone became a speaker or was made a speaker by the owner.



```
- (void)onAnchorEnterSeat:(NSInteger)index
                     user:(KaraokeUserInfo *)user
NS_SWIFT_NAME(onAnchorEnterSeat(index:user:));
```

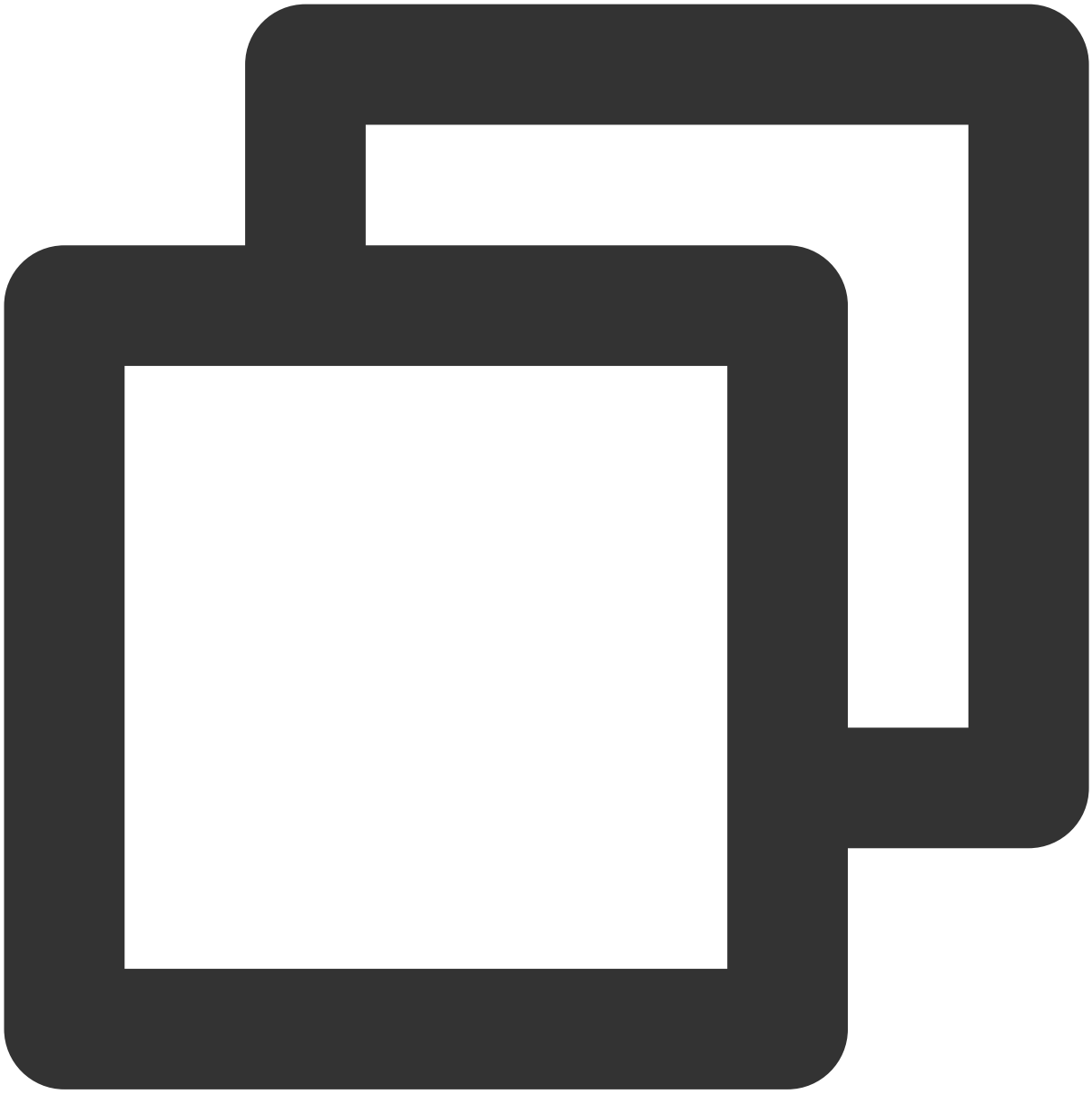
The parameters are described below:

Parameter	Type	Description
index	int	The seat taken

user	UserInfo	Details of the user who took the seat

onAnchorLeaveSeat

A speaker became a listener or was moved to listeners by the room owner.



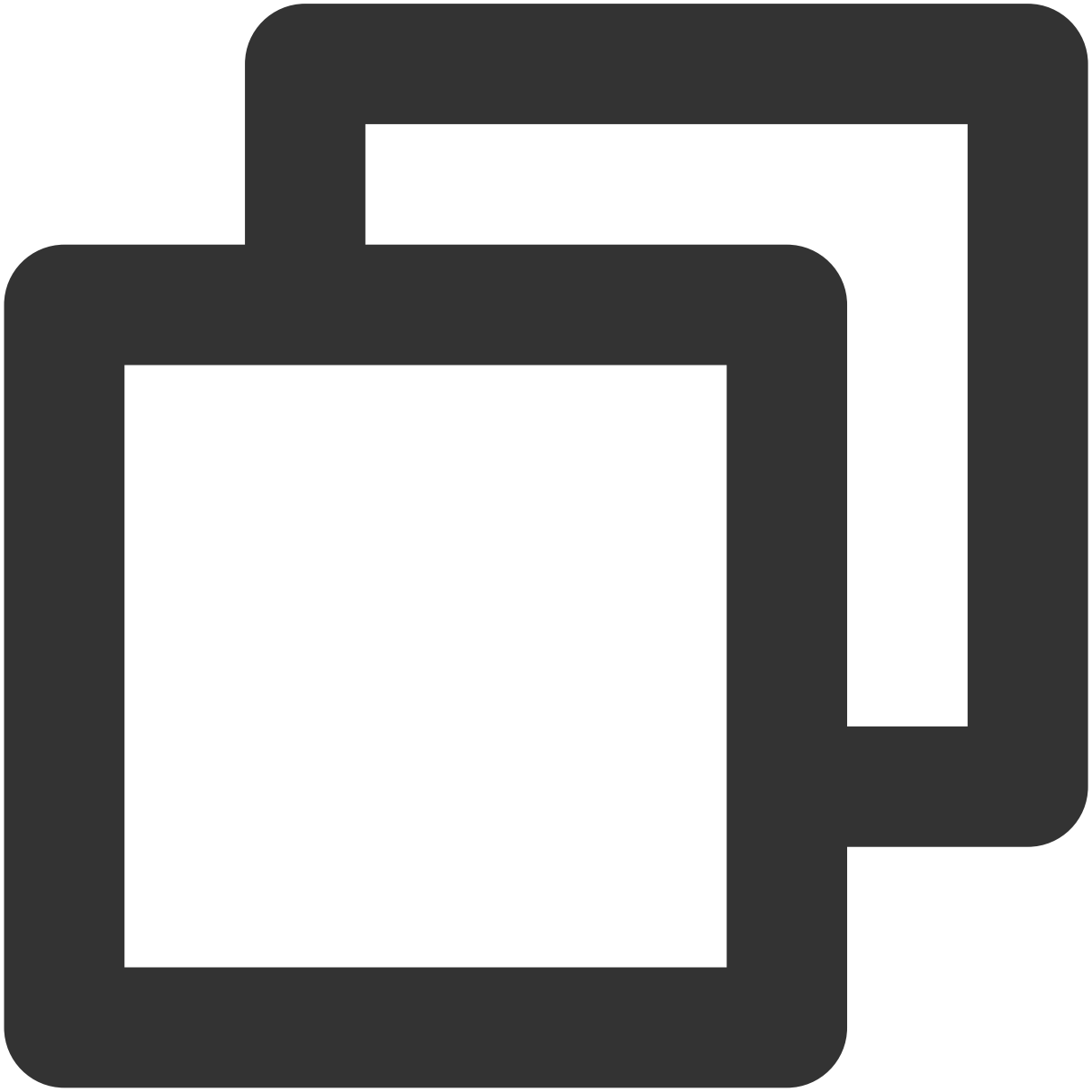
```
- (void)onAnchorLeaveSeat:(NSInteger)index
                     user:(KaraokeUserInfo *)user
NS_SWIFT_NAME(onAnchorLeaveSeat(index:user:));
```

The parameters are described below:

Parameter	Type	Description
index	int	The seat previously occupied by the speaker
user	UserInfo	Details of the user who took the seat

onSeatMute

The room owner muted/unmuted a seat.



```
- (void)onSeatMute:(NSInteger)index
```

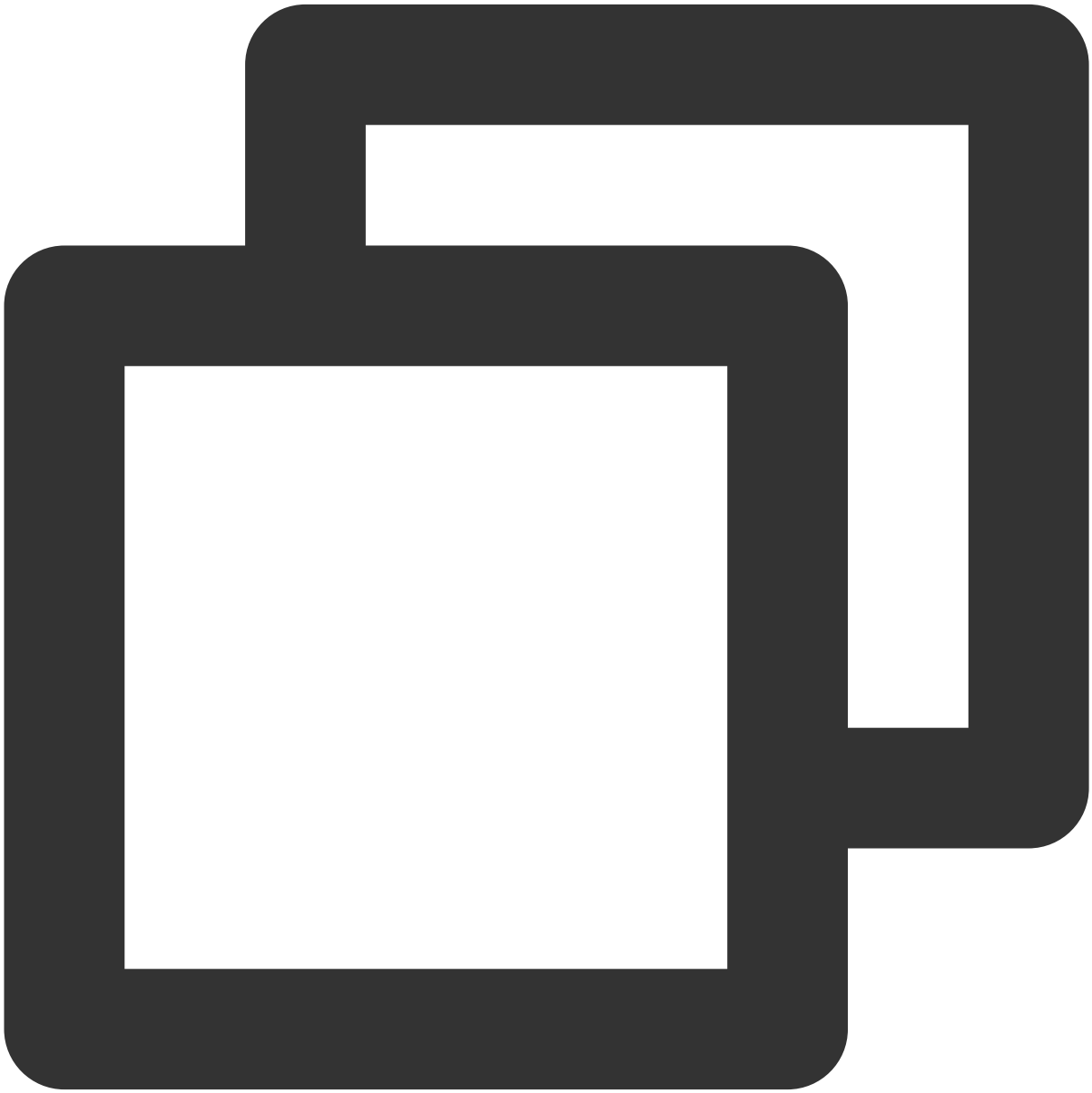
```
                isMute:(BOOL)isMute
NS_SWIFT_NAME(onSeatMute(index:isMute:));
```

The parameters are described below:

Parameter	Type	Description
index	int	The seat muted/unmuted
isMute	boolean	`true` : Muted; `false` : Unmuted

onSeatClose

The room owner blocked/unblocked a seat.



```
- (void)onSeatClose:(NSInteger)index
            isClose:(BOOL)isClose
NS_SWIFT_NAME(onSeatClose(index:isClose:));
```

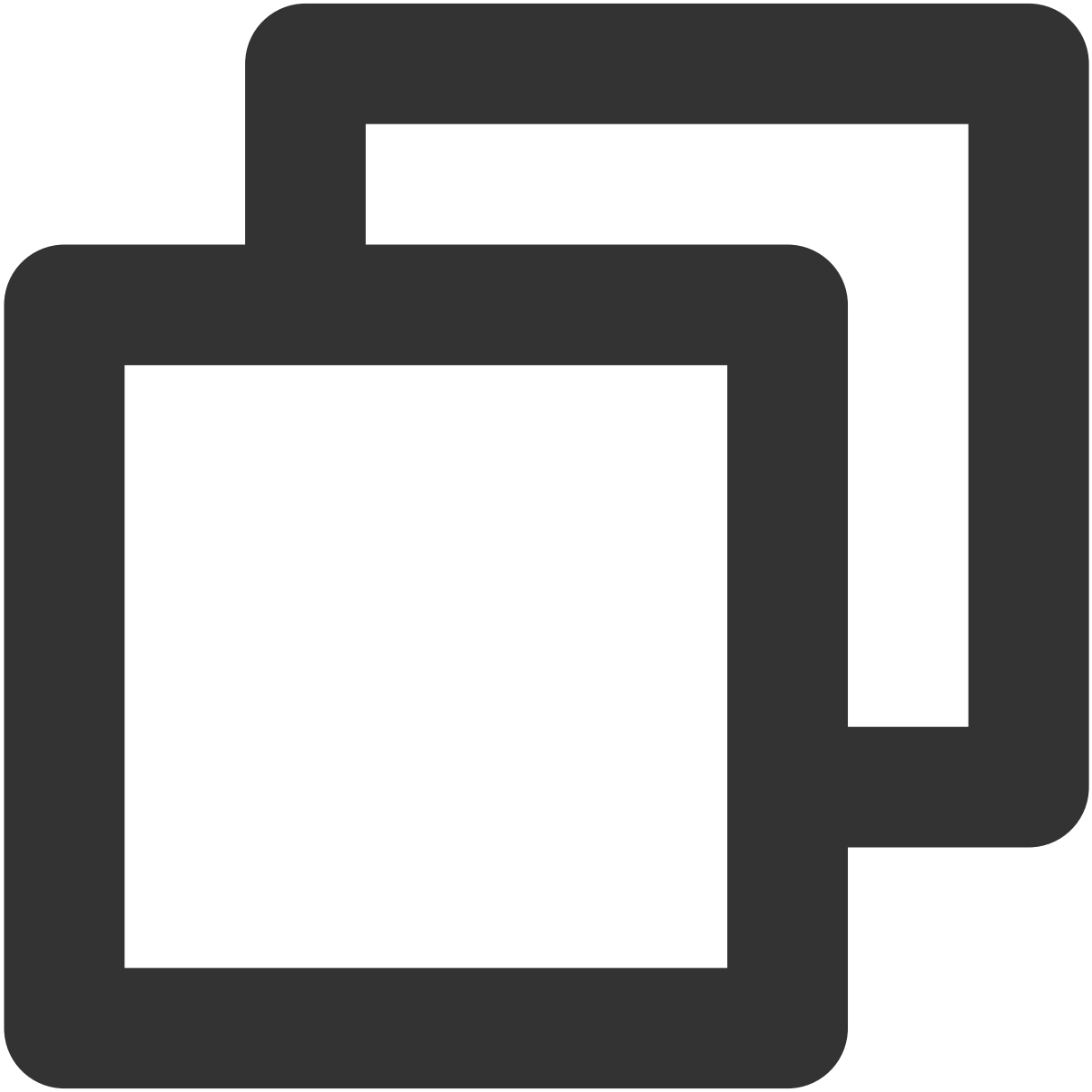
The parameters are described below:

Parameter	Type	Description
index	int	The seat blocked/unblocked
isClose	boolean	`true` : Blocked; `false` : Unblocked

Callback APIs for Room Entry/Exit by Listener

onAudienceEnter

A listener entered the room.



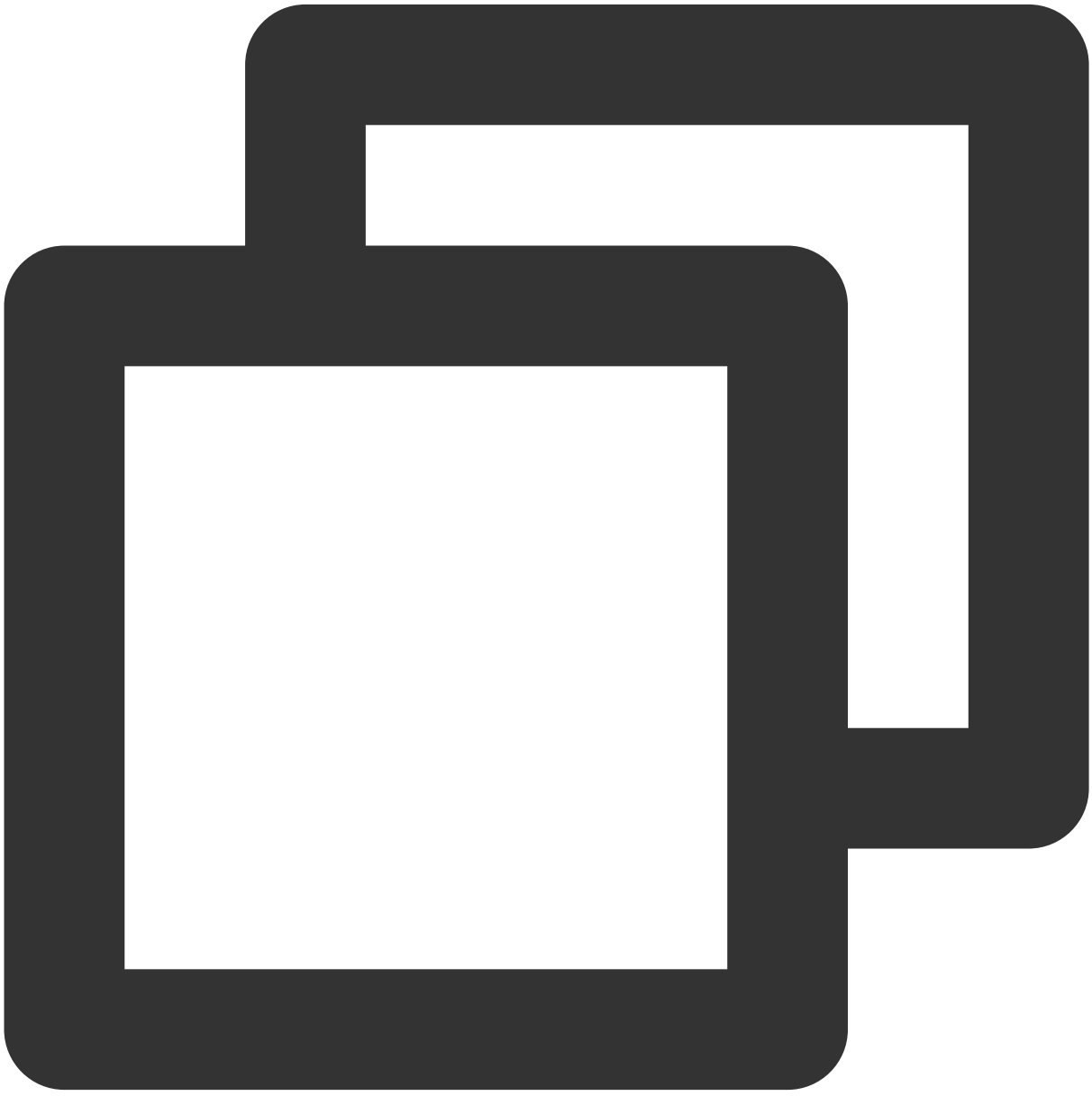
```
- (void)onAudienceEnter:(KaraokeUserInfo *)userInfo
NS_SWIFT_NAME(onAudienceEnter(userInfo:));
```

The parameters are described below:

Parameter	Type	Description
userInfo	UserInfo	Information of the listener who entered the room

onAudienceExit

A listener exited the room.



```
- (void)onAudienceExit:(KaraokeUserInfo *)userInfo
NS_SWIFT_NAME(onAudienceExit(userInfo:));
```

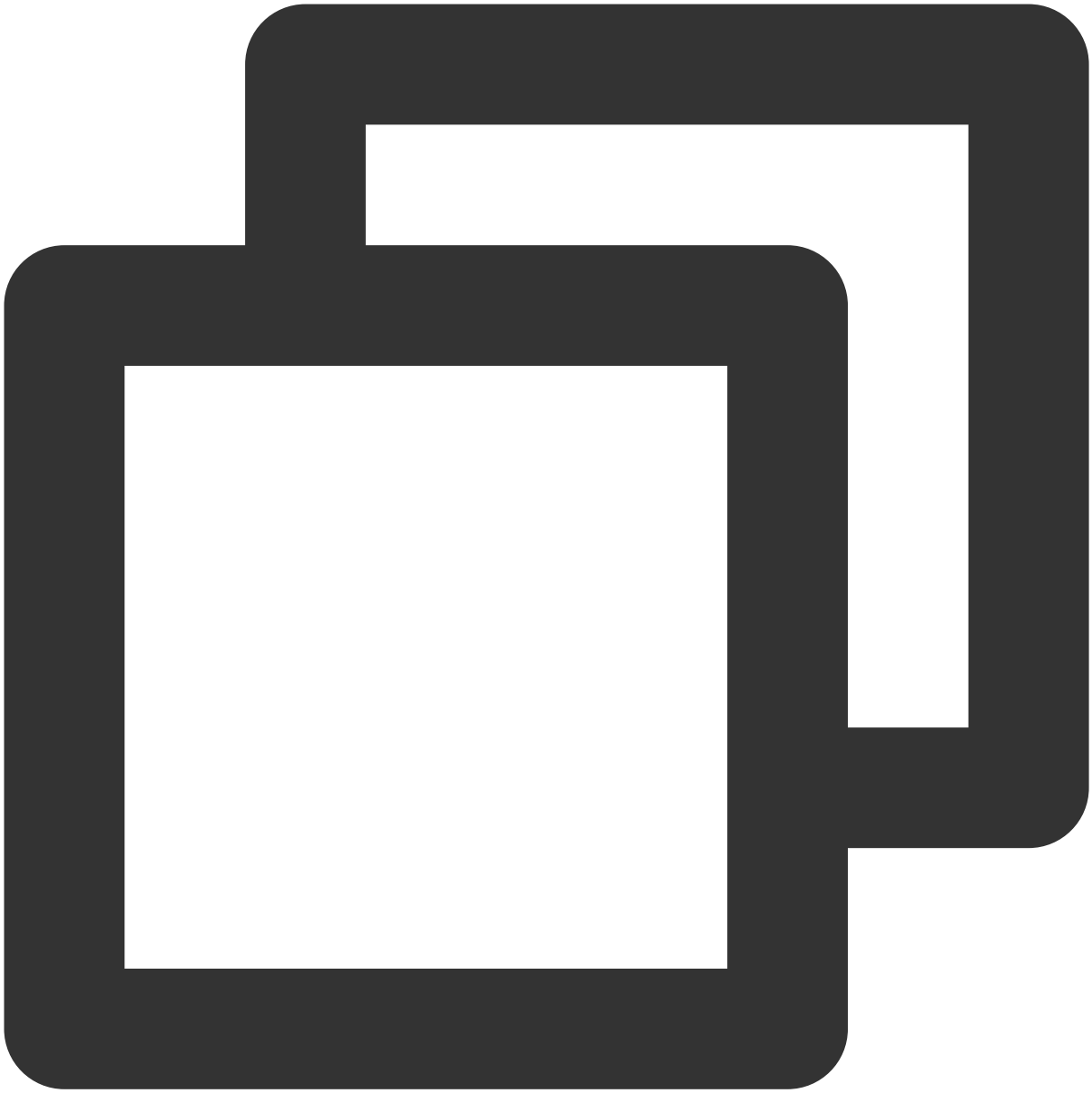
The parameters are described below:

Parameter	Type	Description
userInfo	UserInfo	Information of the listener who exited the room

Message Event Callback APIs

onRecvRoomTextMsg

Callback for receiving a text chat message.



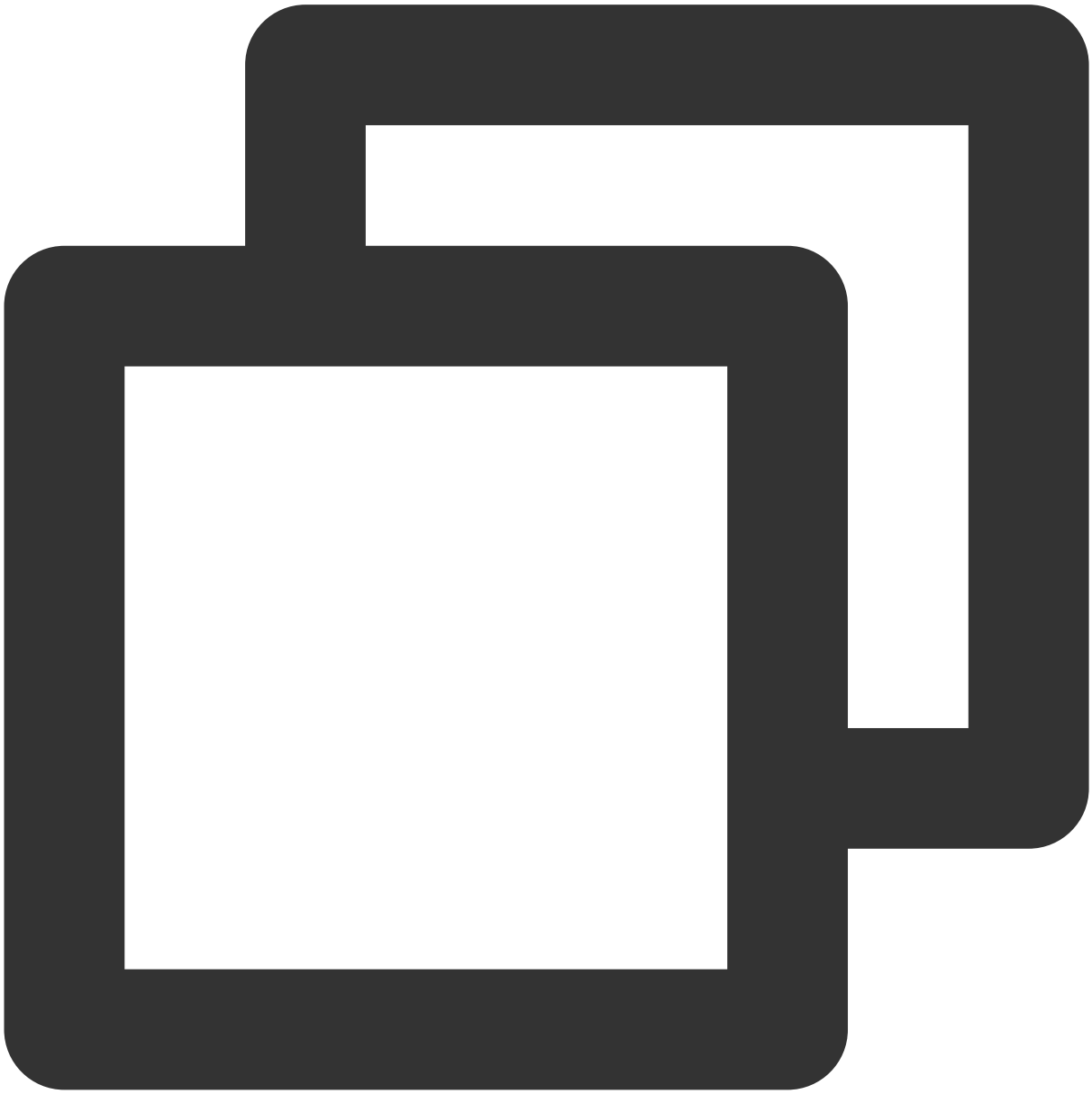
```
- (void)onRecvRoomTextMsg:(NSString *)message
                 userInfo:(KaraokeUserInfo *)userInfo
NS_SWIFT_NAME(onRecvRoomTextMsg(message:userInfo:));
```

The parameters are described below:

Parameter	Type	Description
message	String	A text chat message.
userInfo	UserInfo	Information of the sender

onRecvRoomCustomMsg

A custom message was received.



```
- (void)onRecvRoomCustomMsg:(NSString *)cmd
                    message:(NSString *)message
                   userInfo:(KaraokeUserInfo *)userInfo
NS_SWIFT_NAME(onRecvRoomCustomMsg(cmd:message:userInfo:));
```

The parameters are described below:

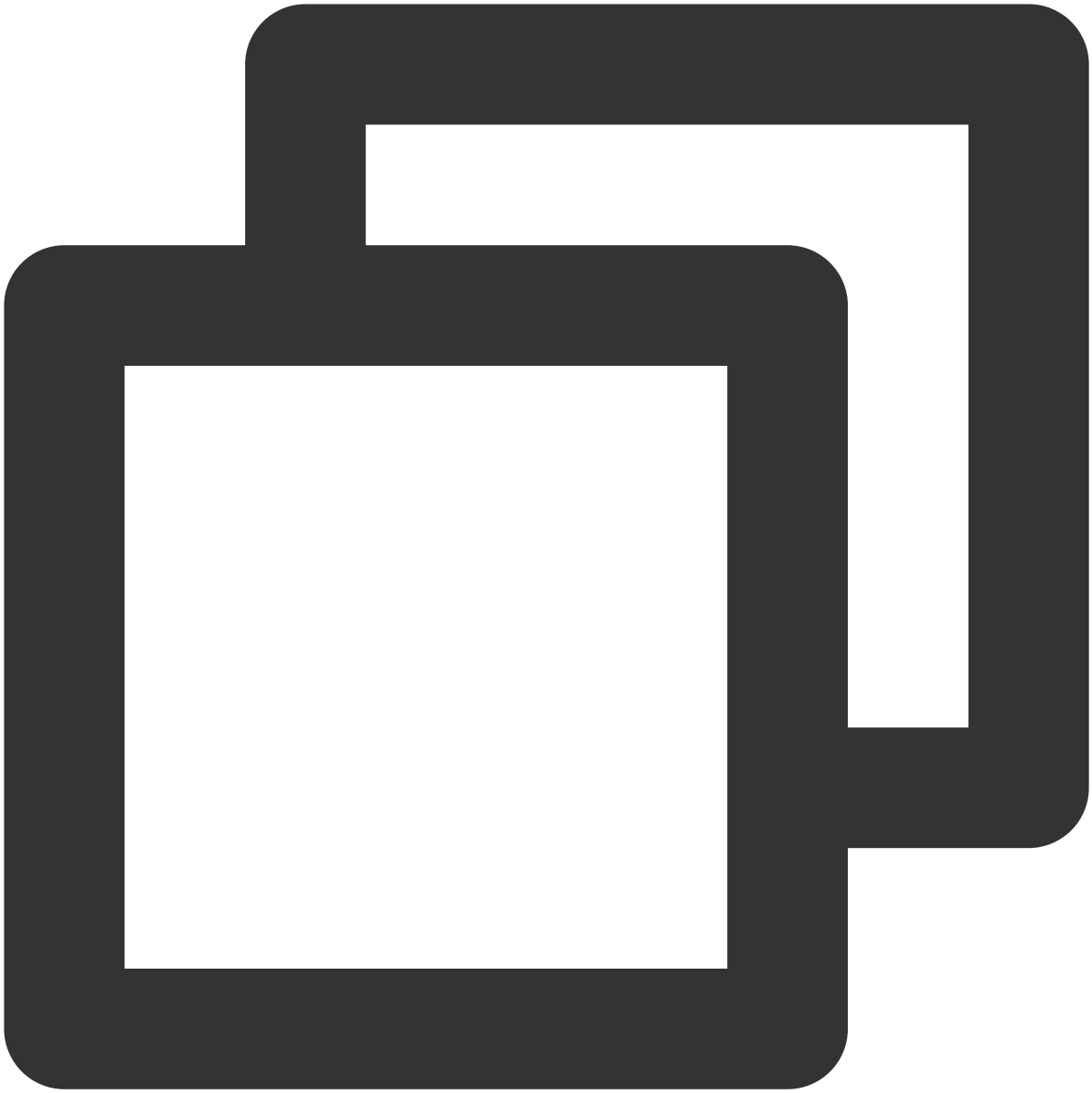
Parameter	Type	Description

command	String	Custom command word used to distinguish between different message types
message	String	A text chat message.
userInfo	UserInfo	Information of the sender

Invitation Signaling Callback APIs

onReceiveNewInvitation

An invitation was received.



```
- (void)onReceiveNewInvitation:(NSString *)identifier
                       inviter:(NSString *)inviter
                           cmd:(NSString *)cmd
                       content:(NSString *)content
NS_SWIFT_NAME(onReceiveNewInvitation(identifier:inviter:cmd:content:));
```

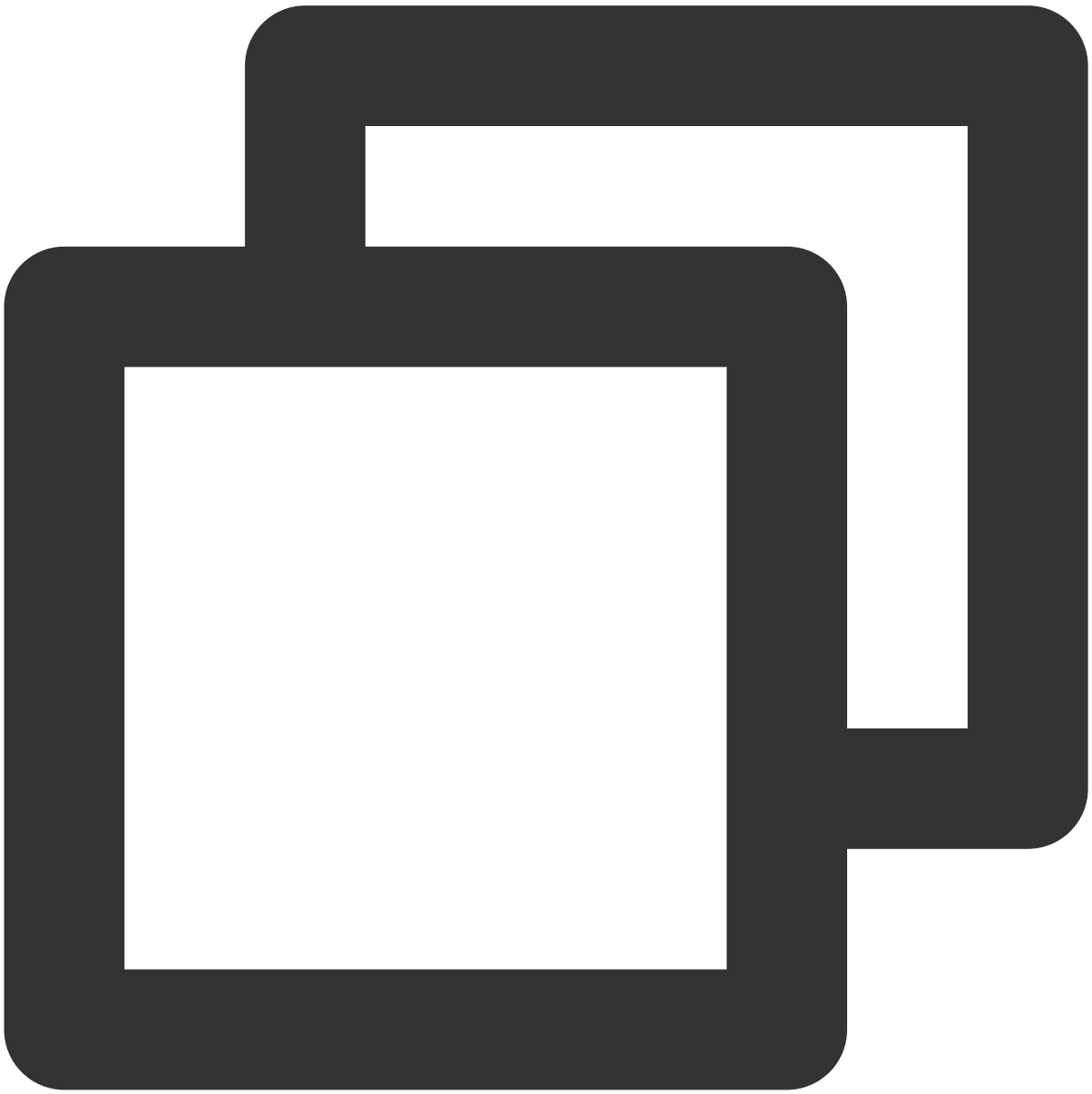
The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.

inviter	String	The user ID of the inviter.
cmd	String	A custom command word specified by business.
content	UserInfo	Content specified by business

onInviteeAccepted

The invitee accepted the invitation



```
- (void)onInviteeAccepted:(NSString *)identifier
```

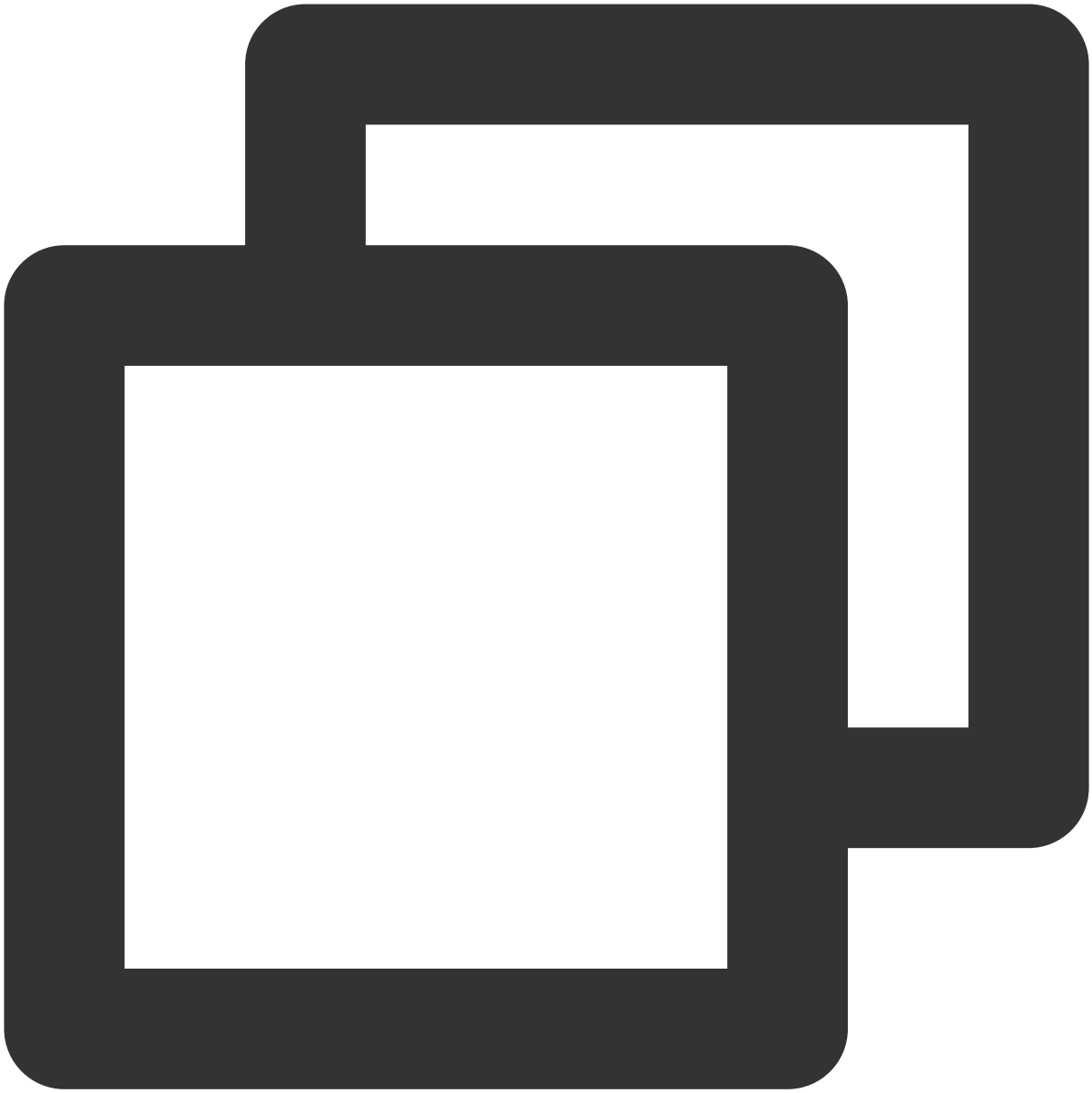
```
                    invitee:(NSString *)invitee
NS_SWIFT_NAME(onInviteeAccepted(identifier:invitee:));
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
invitee	String	The user ID of the invitee.

onInviteeRejected

The invitee declined the invitation



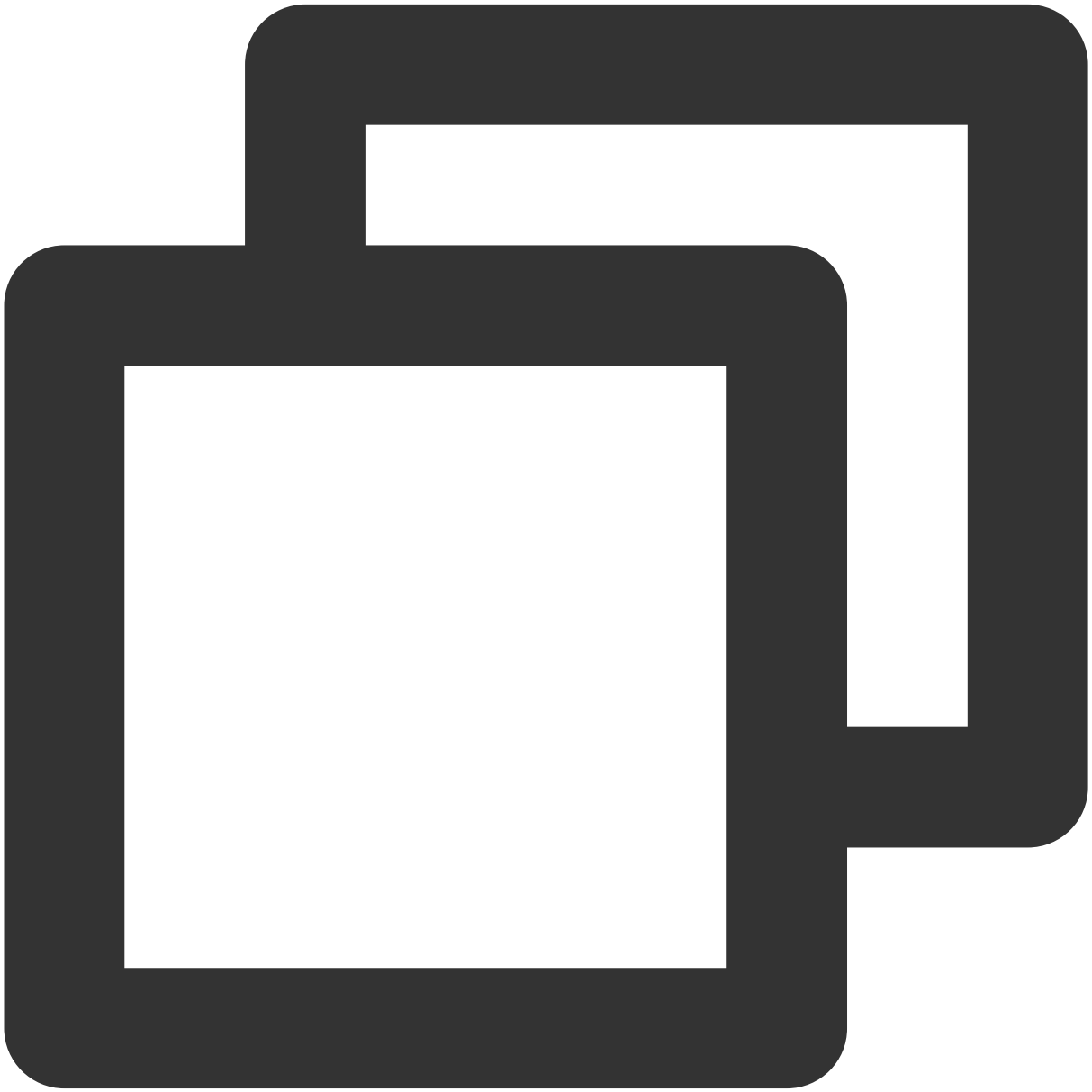
```
- (void)onInviteeRejected:(NSString *)identifier
                  invitee:(NSString *)invitee
NS_SWIFT_NAME(onInviteeRejected(identifier:invitee:));
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
invitee	String	The user ID of the invitee.

onInvitationCancelled

The inviter canceled the invitation.



```
- (void)onInvitationCancelled:(NSString *)identifier
                      invitee:(NSString *)invitee NS_SWIFT_NAME(onInvitationCancell
```

The parameters are described below:

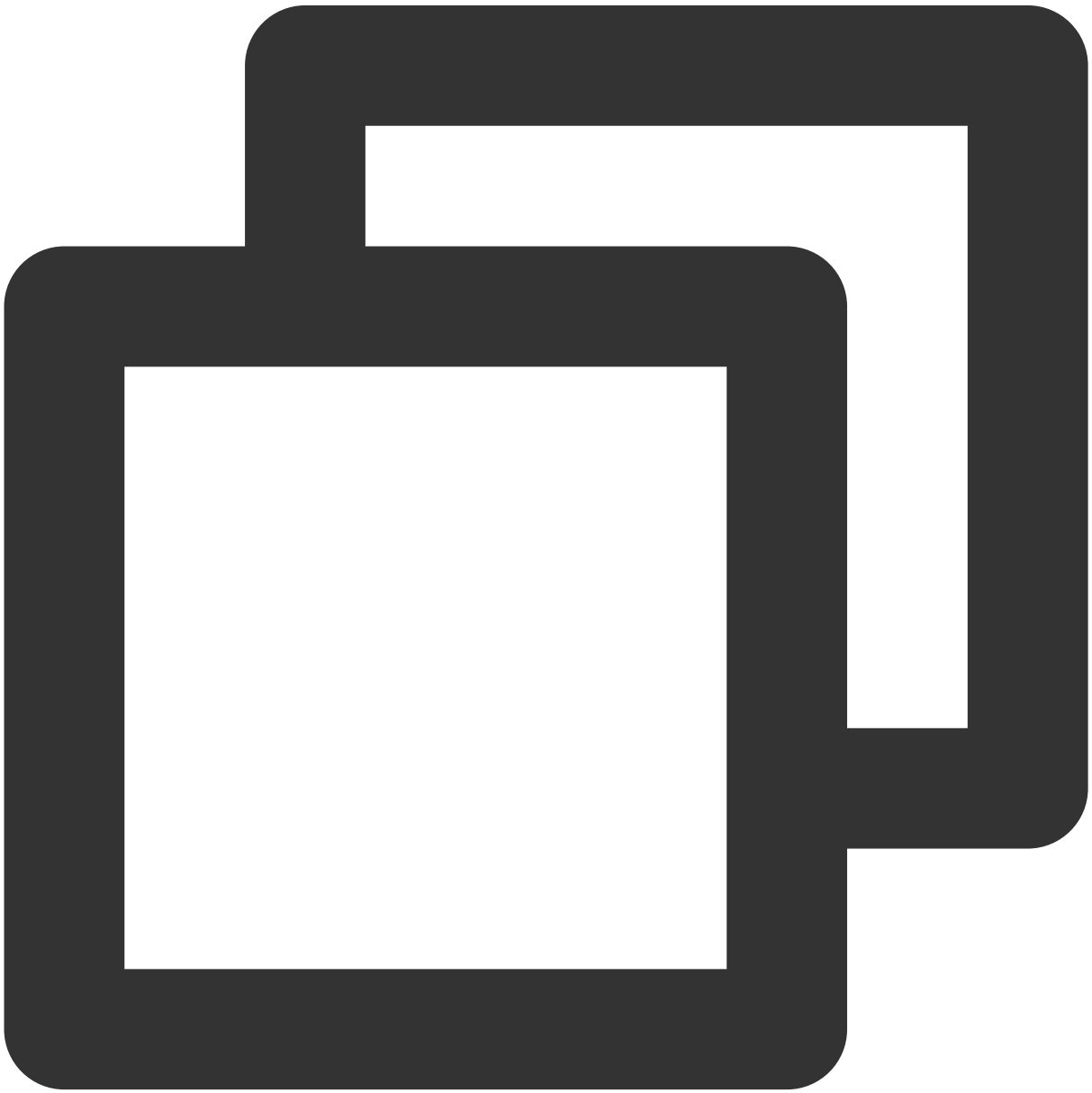
Parameter	Type	Description
id	String	The invitation ID.

invitee	String	The user ID of the invitee.

Music Playback Status Callback APIs

onMusicPrepareToPlay

Music playback is ready.



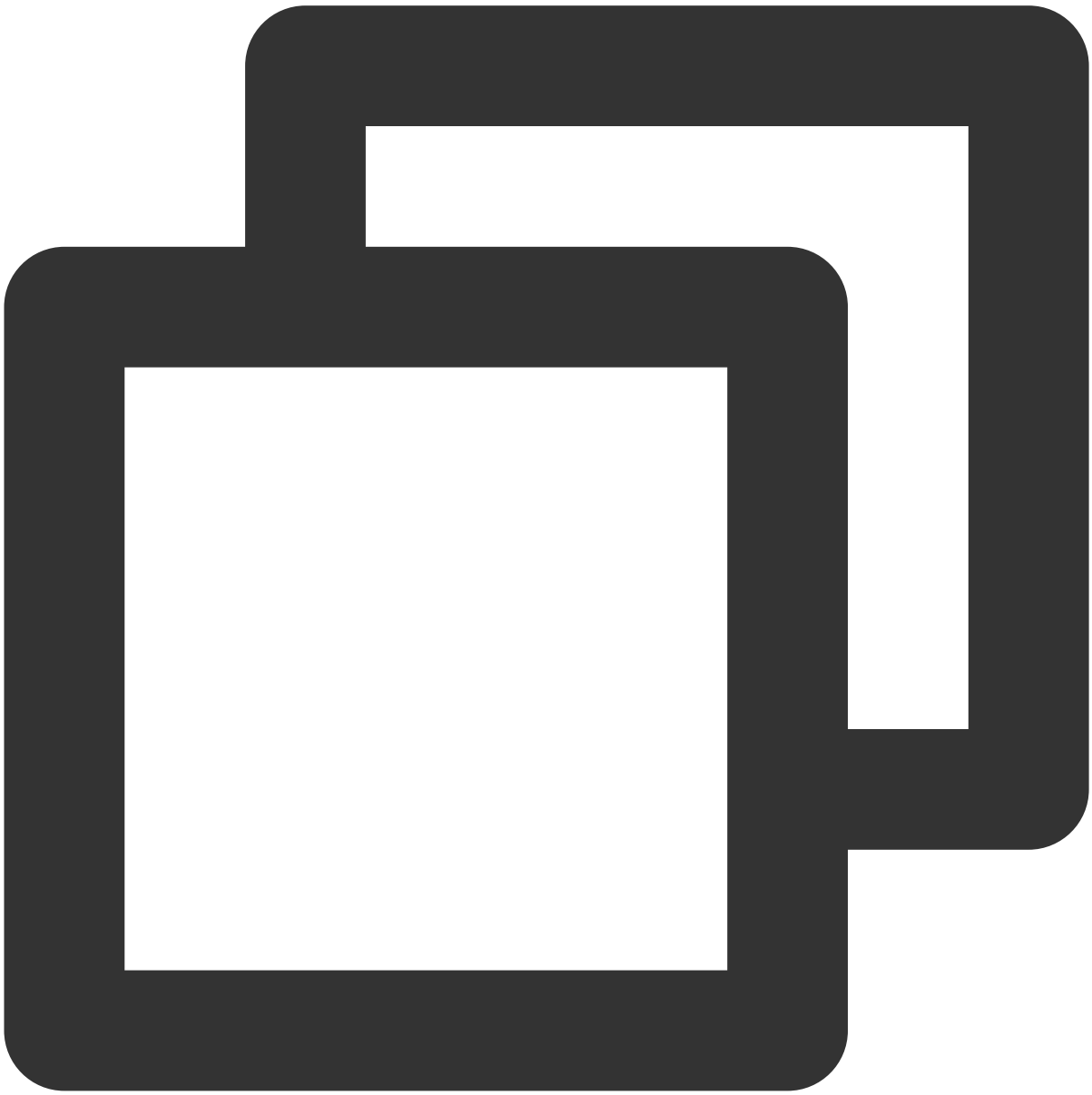
```
- (void)onMusicPrepareToPlay:(int32_t)musicID
NS_SWIFT_NAME(onMusicPrepareToPlay(musicID:));
```

The parameters are described below:

Parameter	Type	Description
musicID	int32_t	`musicID` passed in for playback

onMusicProgressUpdate

Music playback progress.



```
- (void)onMusicProgressUpdate:(int32_t)musicID
```

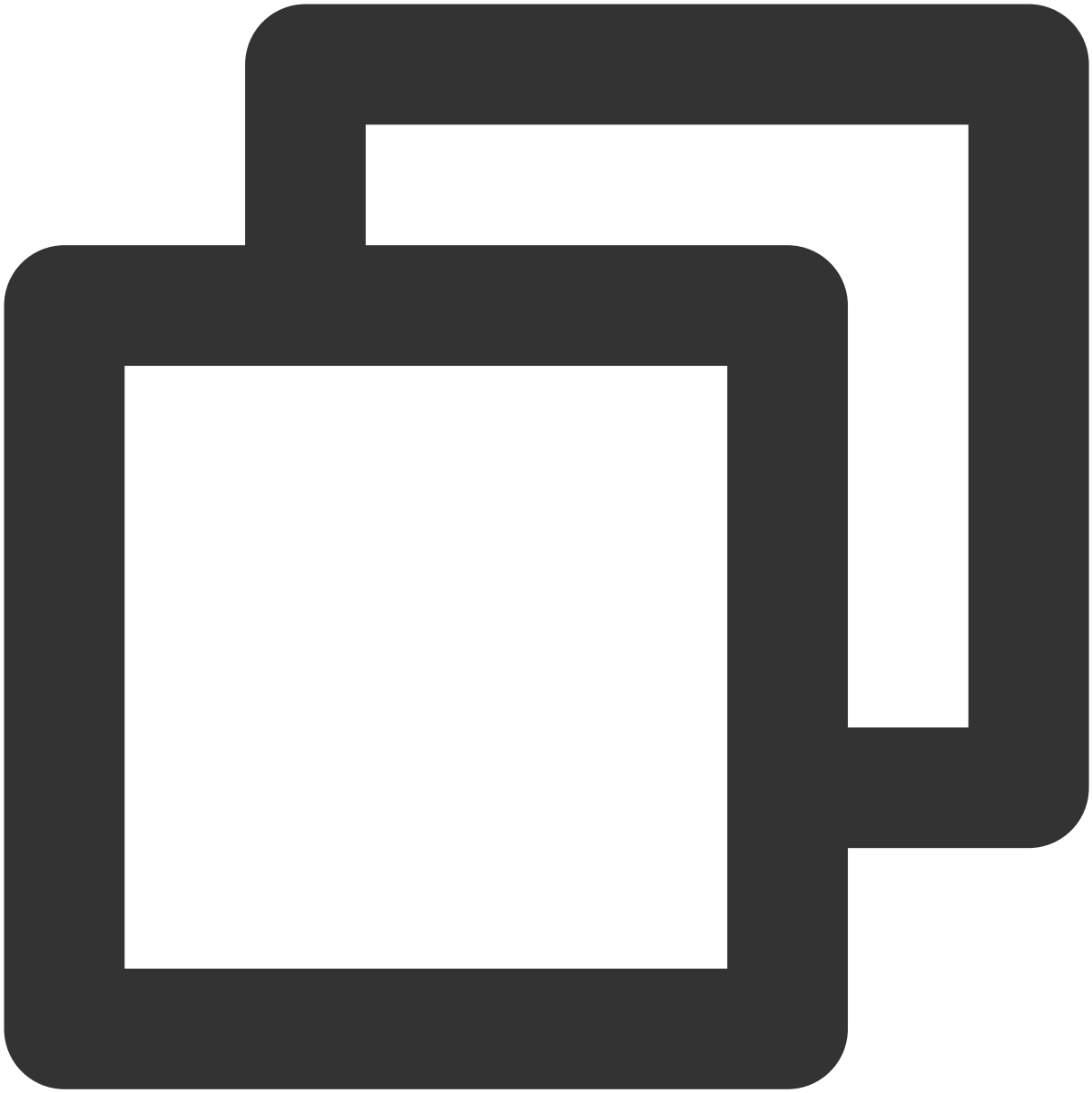
```
                    progress:(NSInteger)progress total:(NSInteger)total
NS_SWIFT_NAME(onMusicProgressUpdate(musicID:progress:total:));
```

The parameters are described below:

Parameter	Type	Description
musicID	int32_t	`musicID` passed in for playback
progress	NSInteger	Current playback progress in ms
total	NSInteger	Total duration in ms

onMusicCompletePlaying

Music playback was completed.



```
- (void)onMusicCompletePlaying:(int32_t)musicID
NS_SWIFT_NAME(onMusicCompletePlaying(musicID:));
```

The parameters are described below:

Parameter	Type	Description
musicID	int32_t	`musicID` passed in for playback

TRTCKaraoke (Android)

Last updated：2023-09-25 10:59:36

`TRTCKaraokeRoom` includes the following features, which are based on Tencent Real-Time Communication (TRTC) and Tencent Cloud Chat.

A user can create a karaoke room and become a speaker or enter a karaoke room as a listener.

The room owner can manage song requests as well as remove a speaker from a seat.

The room owner can also block a seat. A listener cannot request to take a blocked seat to become a speaker.

A listener can become a speaker to request songs and sing. A speaker can also become a listener.

All users can send gifts as well as custom chat messages. Custom messages can be used to send on-screen comments and give likes.

Note

All TUIKit components are based on two basic PaaS services of Tencent Cloud, namely TRTC and Chat. When you activate TRTC, the Chat SDK trial edition (which supports up to 100 DAUs) will be activated automatically. For Chat billing details, see Pricing.

`TRTCKaraokeRoom` is an open-source class that depends on two closed-source Tencent Cloud SDKs. For the specific implementation process, see Karaoke (Android).

The TRTC SDK is used as a low-latency audio chat component.

The `AVChatRoom` feature of the Chat SDK is used to implement chat rooms. The attribute APIs of Chat are used to store room information such as the seat list, and invitation signaling is used to send requests to speak or invite others to speak.

`TRTCKaraokeRoom` API Overview

Basic SDK APIs

API	Description
sharedInstance	Gets a singleton object.
destroySharedInstance	Terminates a singleton object.
setDelegate	Sets event callbacks.
setDelegateHandler	Sets the thread where event callbacks are.
login	Logs in.

logout	Logs out.
setSelfProfile	Sets profile.

Room APIs

API	Description
createRoom	Creates a room (called by room owner). If the room does not exist, the system will automatically create a room.
destroyRoom	Terminates a room (called by room owner).
enterRoom	Enters a room (called by listener).
exitRoom	Exits a room (called by listener).
getRoomInfoList	Gets room list details.
getUserInfoList	Gets the user information of the specified `userId`. If the value is `null`, the information of all users in the room is obtained.

Music playback APIs

API	Description
startPlayMusic	Starts music.
stopPlayMusic	Stops music.
pausePlayMusic	Pauses music.
resumePlayMusic	Resumes music.

Seat management APIs

API	Description
enterSeat	Becomes a speaker (called by room owner or listener).
leaveSeat	Becomes a listener (called by speaker).
pickSeat	Places a user in a seat (called by room owner).
kickSeat	Removes a speaker (called by room owner).
muteSeat	Mutes/Unmutes a seat (called by room owner).

closeSeat	Blocks/Unblocks a seat (called by room owner).

Local audio APIs

API	Description
startMicrophone	Starts mic capturing.
stopMicrophone	Stops mic capturing.
setAudioQuality	Sets audio quality.
muteLocalAudio	Mutes/Unmutes local audio.
setSpeaker	Sets whether to use the device speaker or receiver to play audio.
setAudioCaptureVolume	Sets mic capturing volume.
setAudioPlayoutVolume	Sets playback volume.
setVoiceEarMonitorEnable	Enables/Disables in-ear monitoring.

Remote audio APIs

API	Description
muteRemoteAudio	Mutes/Unmutes a specified member.
muteAllRemoteAudio	Mutes/Unmutes all members.

Background music and audio effect APIs

API	Description
getAudioEffectManager	Gets the background music and audio effect management object TXAudioEffectManager.

Message sending APIs

API	Description
sendRoomTextMsg	Broadcasts a text chat message in a room. This API is generally used for on-screen comments.
sendRoomCustomMsg	Sends a custom text message.

Invitation signaling APIs

API	Description
sendInvitation	Sends an invitation.
acceptInvitation	Accepts an invitation.
rejectInvitation	Declines an invitation.
cancelInvitation	Cancels an invitation.

`TRTCKaraokeRoomDelegate` API Overview

Common event callbacks

API	Description
onError	Callback for error.
onWarning	Callback for warning.
onDebugLog	Callback of log.

Room event callback APIs

API	Description
onRoomDestroy	The room was terminated.
onRoomInfoChange	The room information changed.
onUserVolumeUpdate	The user volume.

Seat list change callback APIs

API	Description
onSeatListChange	All seat changes.
onAnchorEnterSeat	A user became a speaker or was made a speaker by the room owner.
onAnchorLeaveSeat	A user became a listener or was made a listener by the room owner.

onSeatMute	The room owner muted a seat.
onUserMicrophoneMute	Whether a user's mic is muted.
onSeatClose	The room owner blocked a seat.

Callback APIs for room entry/exit by listener

API	Description
onAudienceEnter	A listener entered the room.
onAudienceExit	A listener exited the room.

Message event callback APIs

API	Description
onRecvRoomTextMsg	A text chat message was received.
onRecvRoomCustomMsg	A custom message was received.

Signaling Event Callback APIs

API	Description
onReceiveNewInvitation	Receipt of an invitation.
onInviteeAccepted	Invitation accepted by invitee.
onInviteeRejected	Invitation declined by invitee.
onInvitationCancelled	The inviter canceled the invitation.

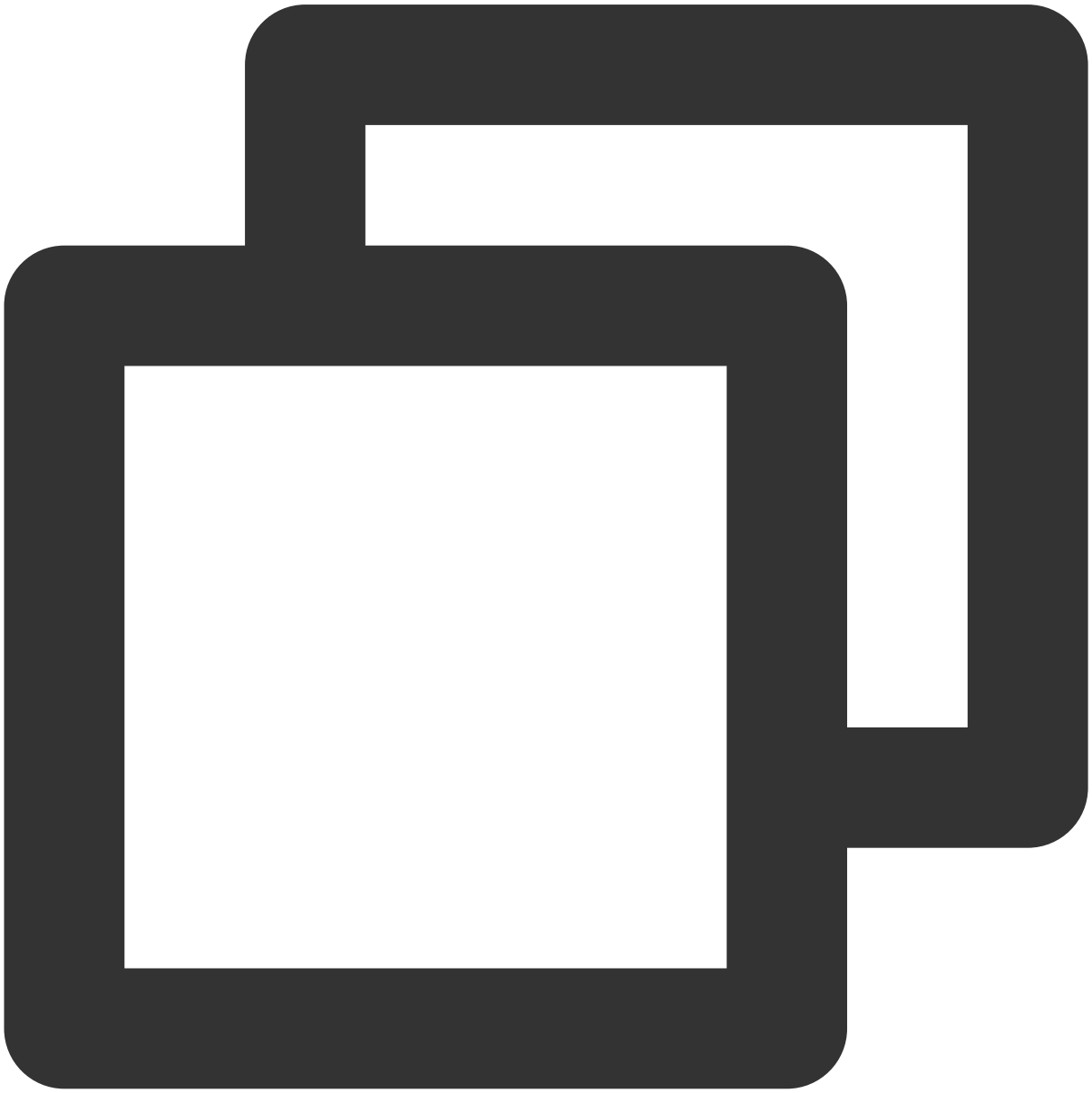
Song event callback APIs

API	Description
onMusicProgressUpdate	Music playback progress.
onMusicPrepareToPlay	Music playback is ready.
onMusicCompletePlaying	Music playback was completed.

Basic SDK APIs

sharedInstance

This API is used to get a TRTCKaraokeRoom singleton object.



```
public static synchronized TRTCKaraokeRoom sharedInstance(Context context);
```

The parameters are described below:

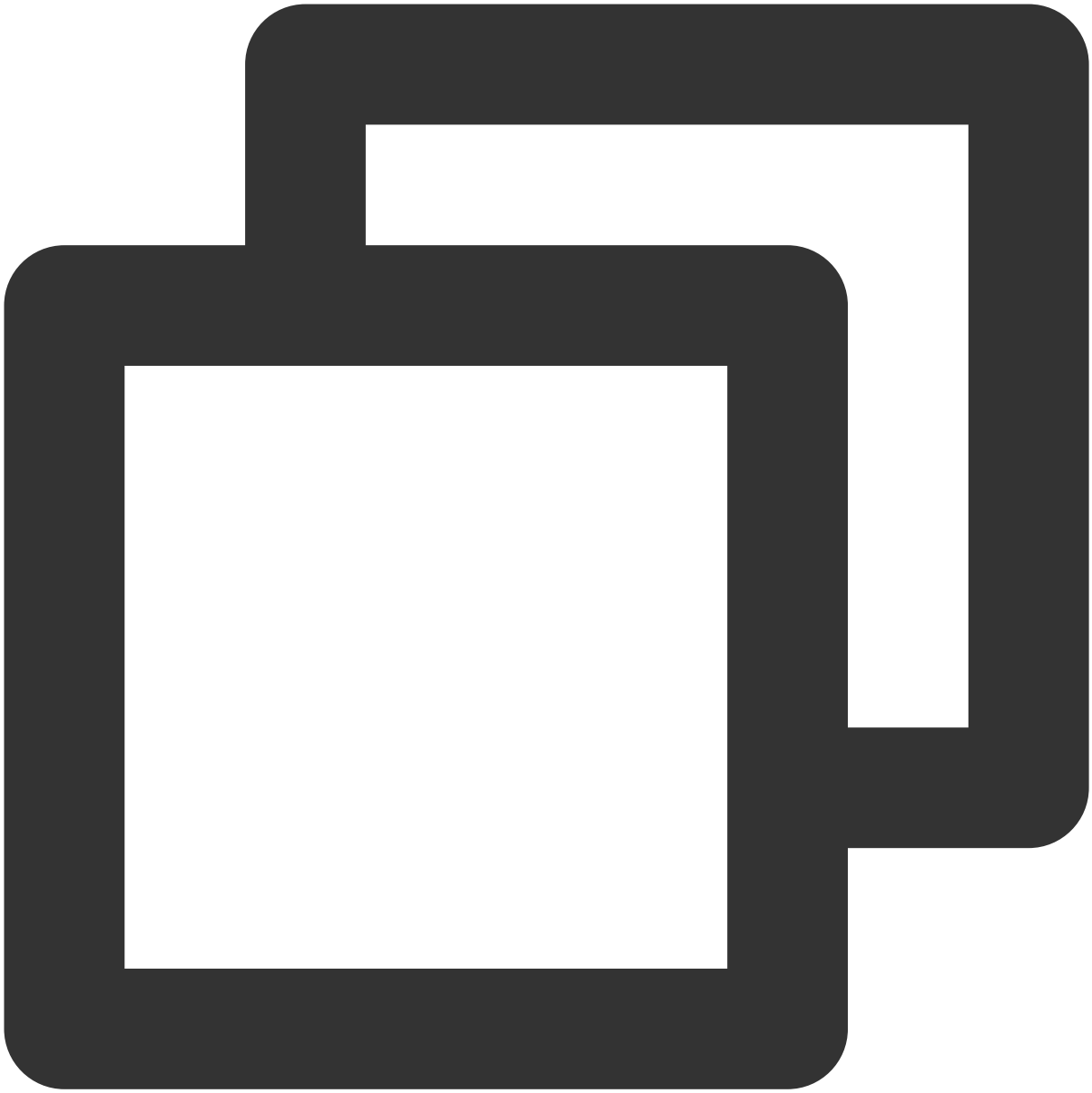
Parameter	Type	Description
context	Context	Android context, which will be converted to `ApplicationContext` for the calling of system APIs.

destroySharedInstance

This API is used to terminate a TRTCKaraokeRoom singleton object.

Note

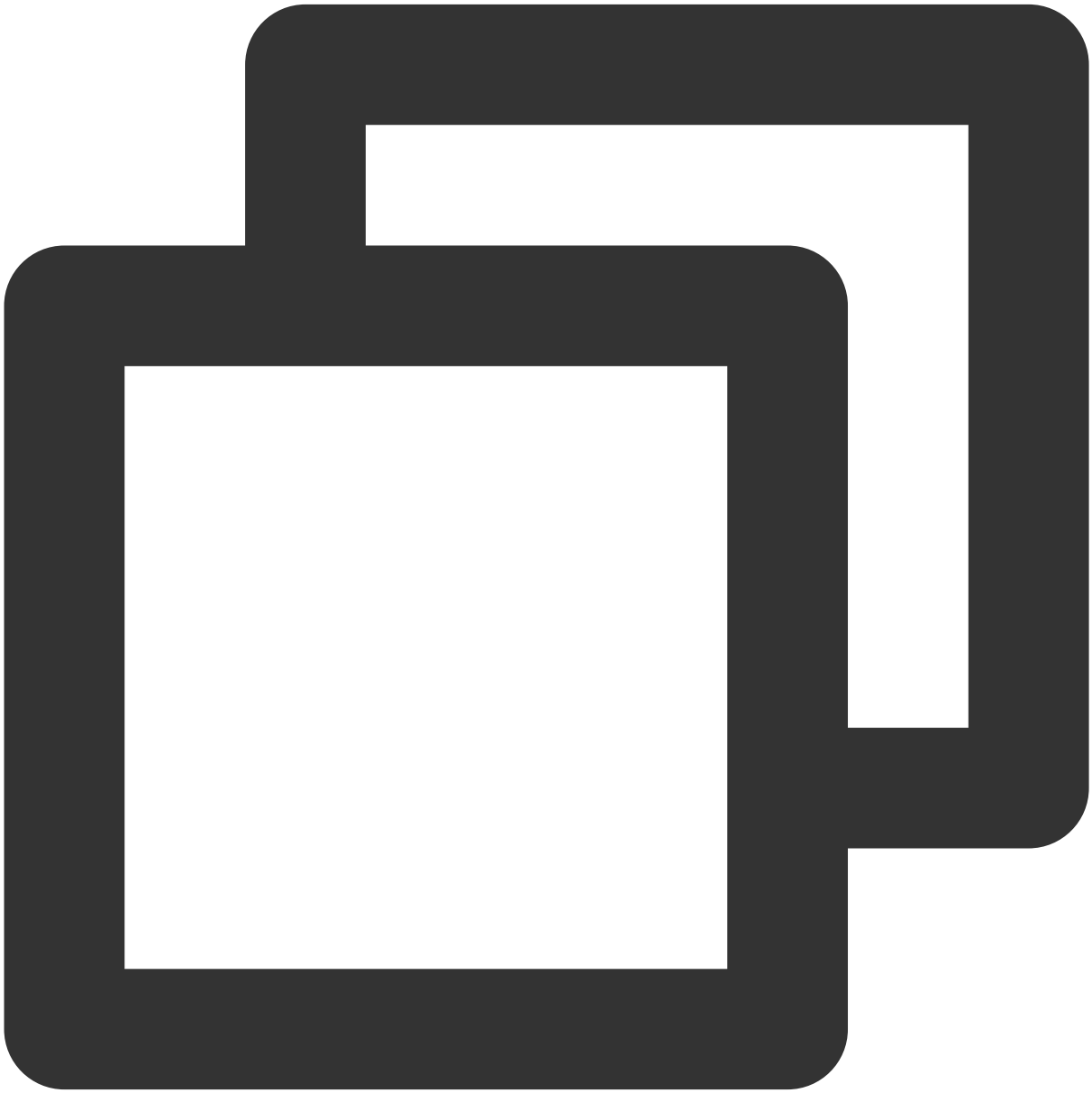
After the instance is terminated, the externally cached `TRTCKaraokeRoom` instance can no longer be used. You need to call sharedInstance again to get a new instance.



```
public static void destroySharedInstance();
```

setDelegate

This API is used to set the event callbacks of TRTCKaraokeRoom. You can use `TRTCKaraokeRoomDelegate` to get different status notifications of TRTCKaraokeRoom.



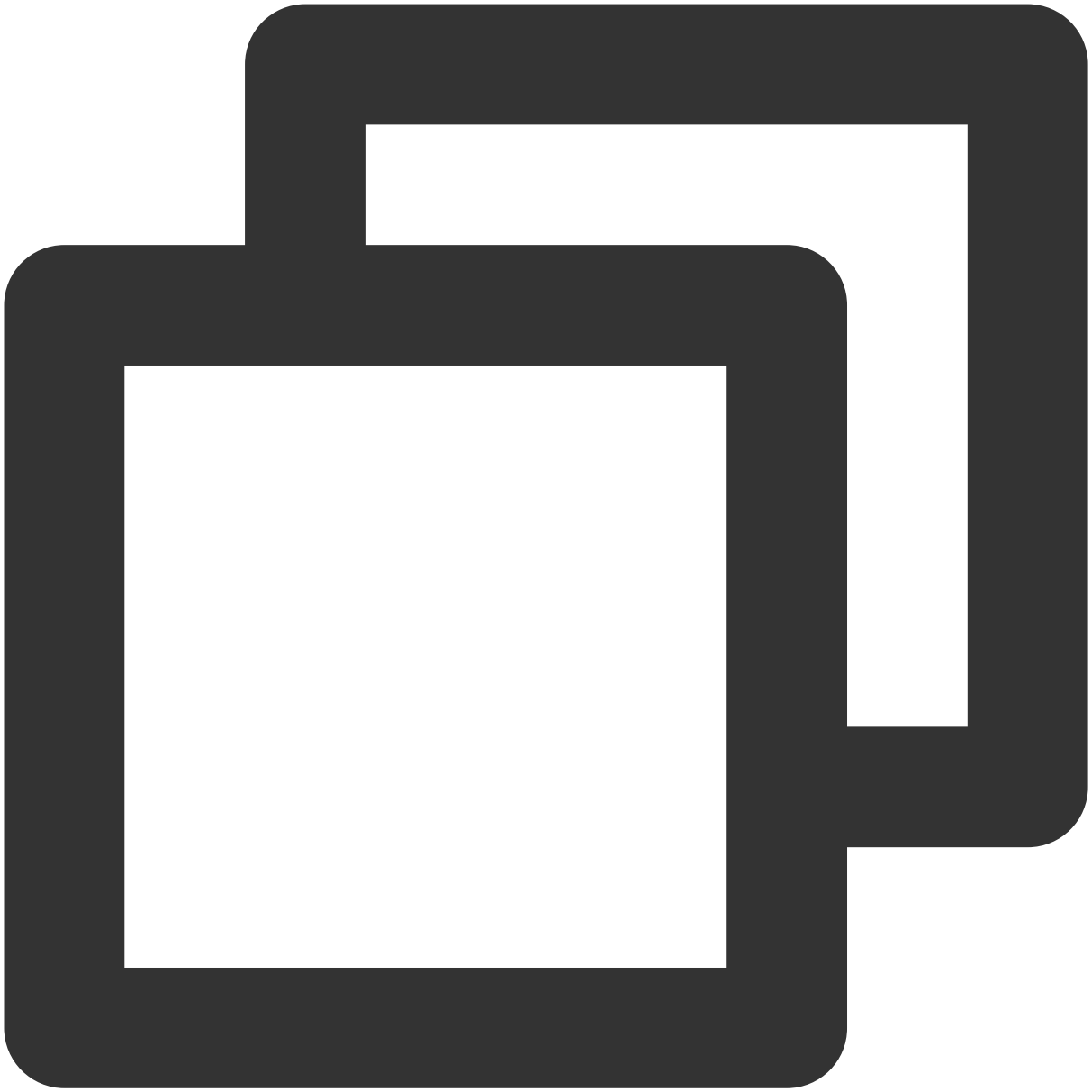
```
public abstract void setDelegate(TRTCKaraokeRoomDelegate delegate);
```

Note

`setDelegate` is the delegate callback of `TRTCKaraokeRoom`.

setDelegateHandler

This API is used to set the thread where event callbacks are.



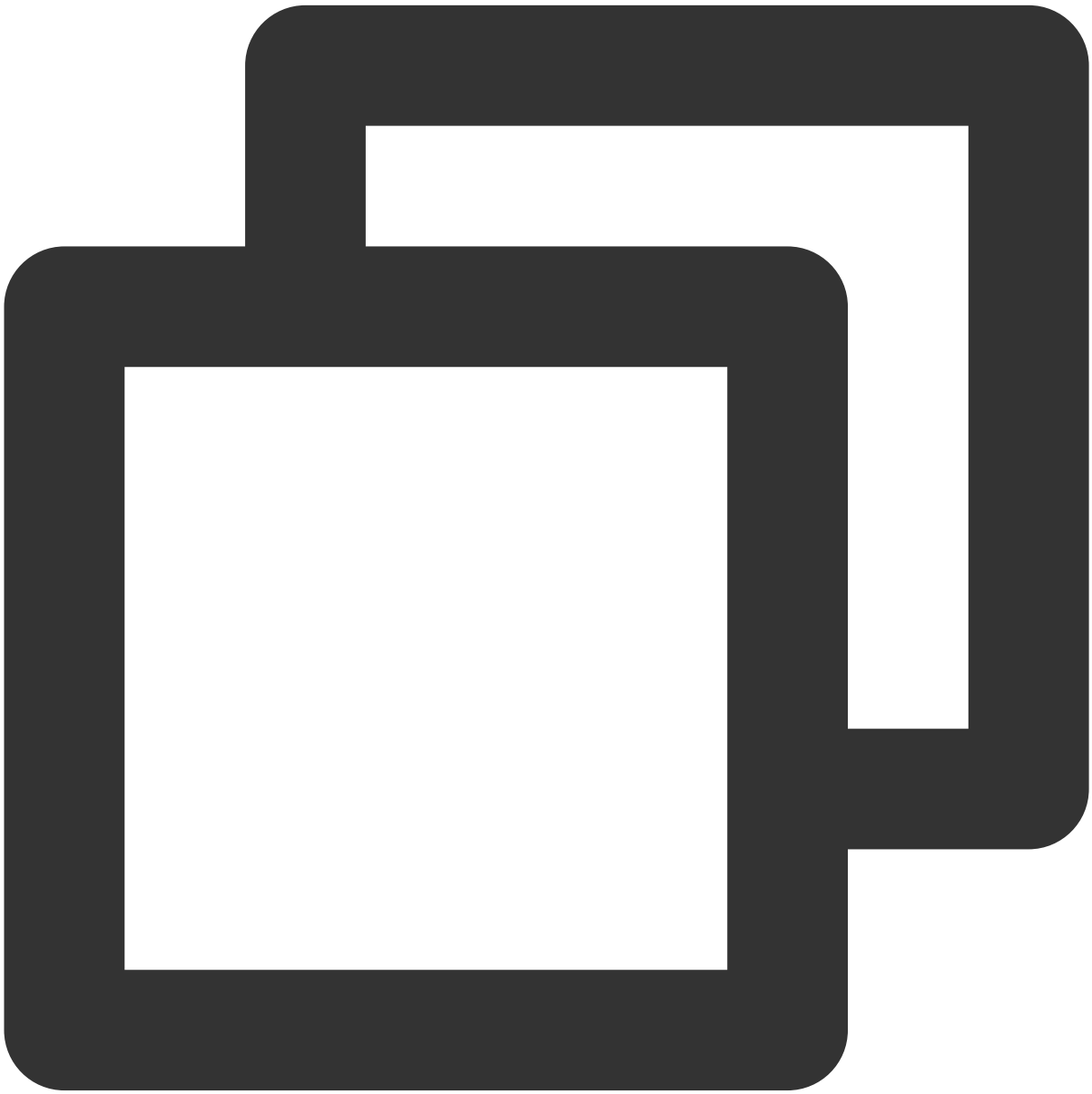
```
public abstract void setDelegateHandler(Handler handler);
```

The parameters are described below:

Parameter	Type	Description
handler	Handler	The status notifications of `TRTCKaraokeRoom` are sent to the handler thread you specify.

login

Login



```
public abstract void login(int sdkAppId,
 String userId, String userSig,
TRTCKaraokeRoomCallback.ActionCallback callback);
```

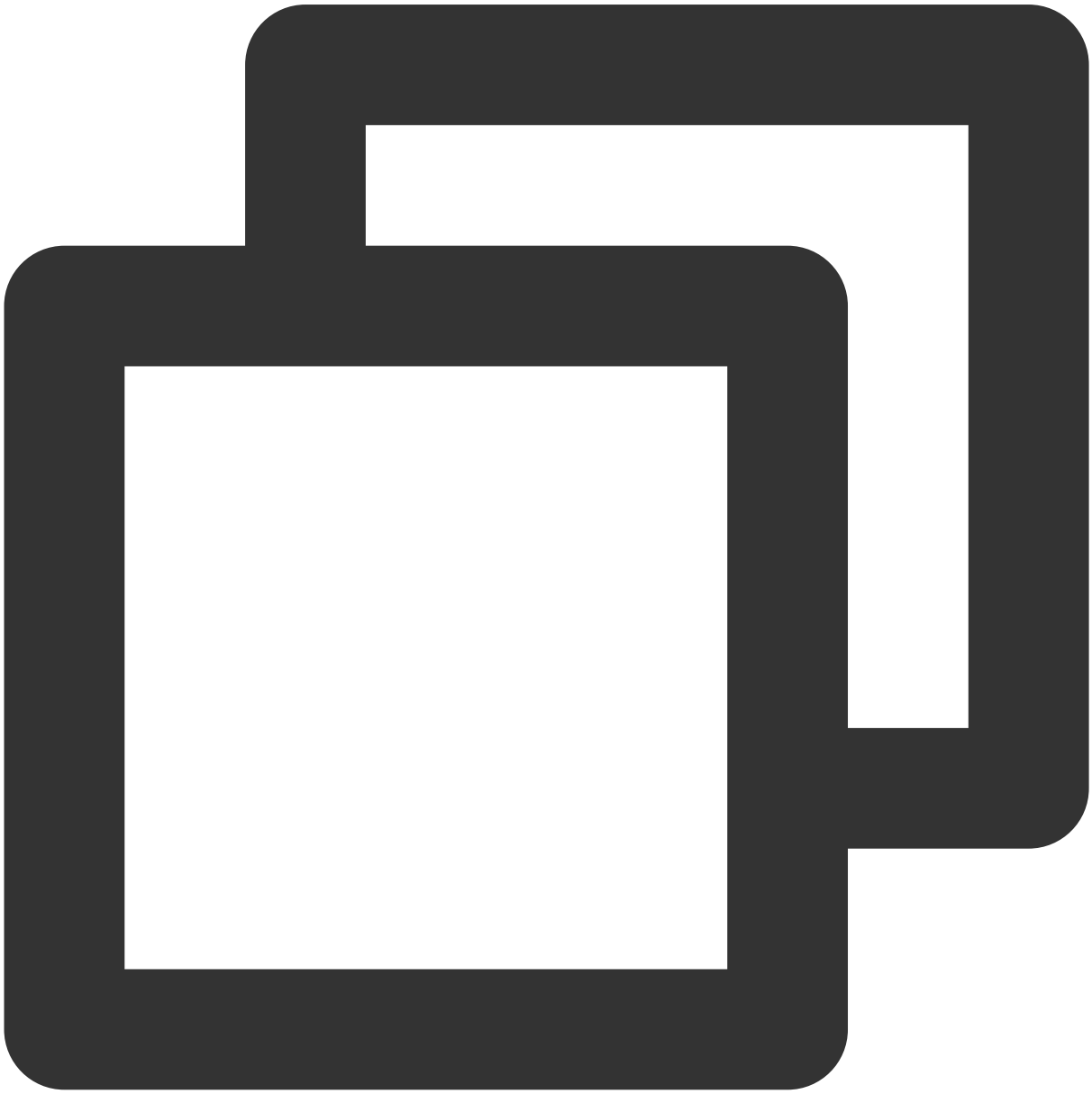
The parameters are described below:

Parameter	Type	Description
sdkAppId	int	You can view the `SDKAppID` via Application Management > **Application Info** in the TRTC console.

userId	String	The ID of the current user, which is a string that can contain only letters (a-z and A-Z), digits (0-9), hyphens (-), and underscores (_).
userSig	String	Tencent Cloud's proprietary security signature. For how to calculate and use it, see FAQs > UserSig.
callback	ActionCallback	The callback for login. The code is `0` if login succeeds.

logout

Log out



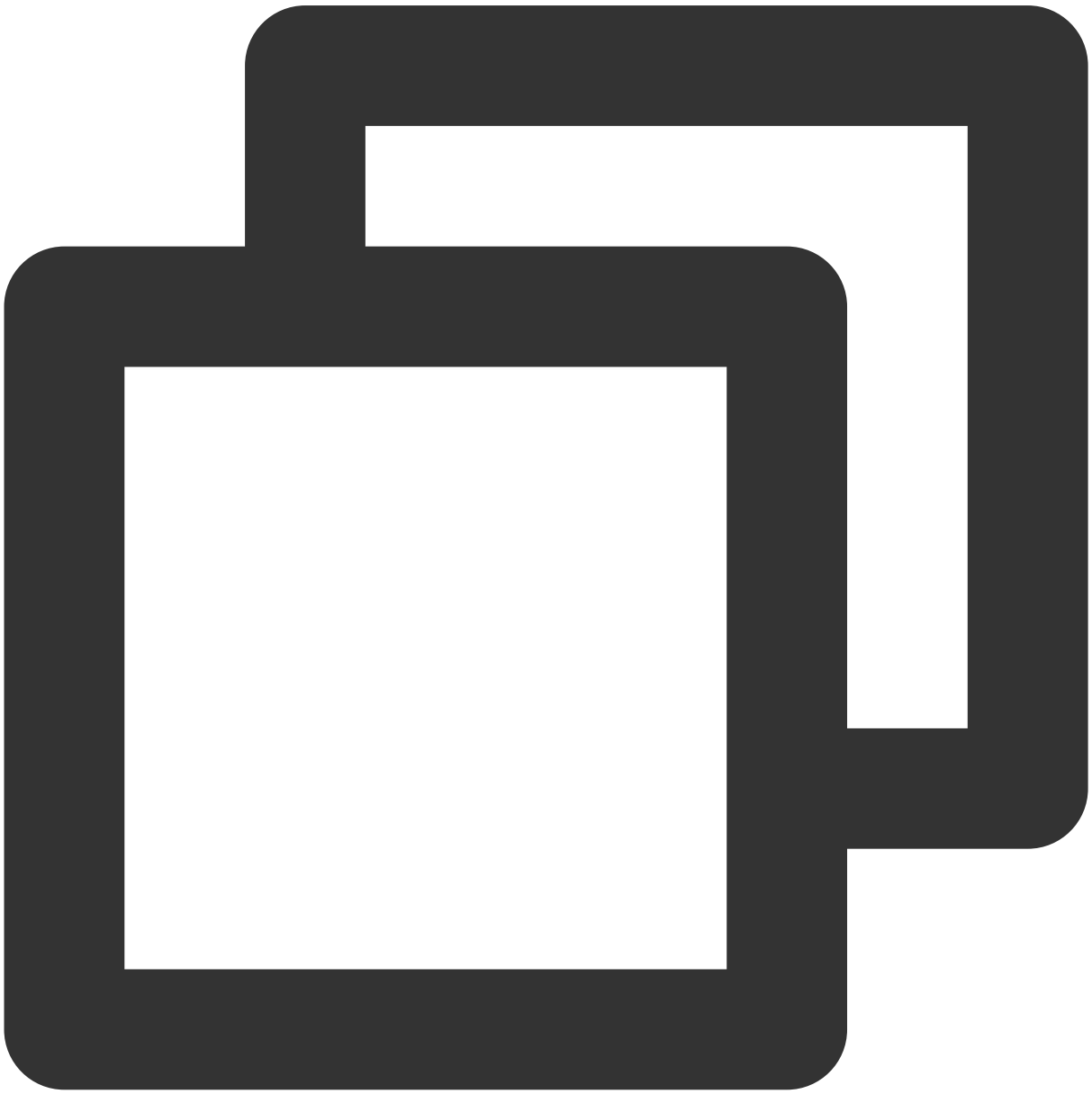
```
public abstract void logout(TRTCKaraokeRoomCallback.ActionCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	The callback for logout. The code is `0` if logout succeeds.

setSelfProfile

This API is used to set the profile.



```
public abstract void setSelfProfile(String userName, String avatarURL, TRTCKaraokeR
```

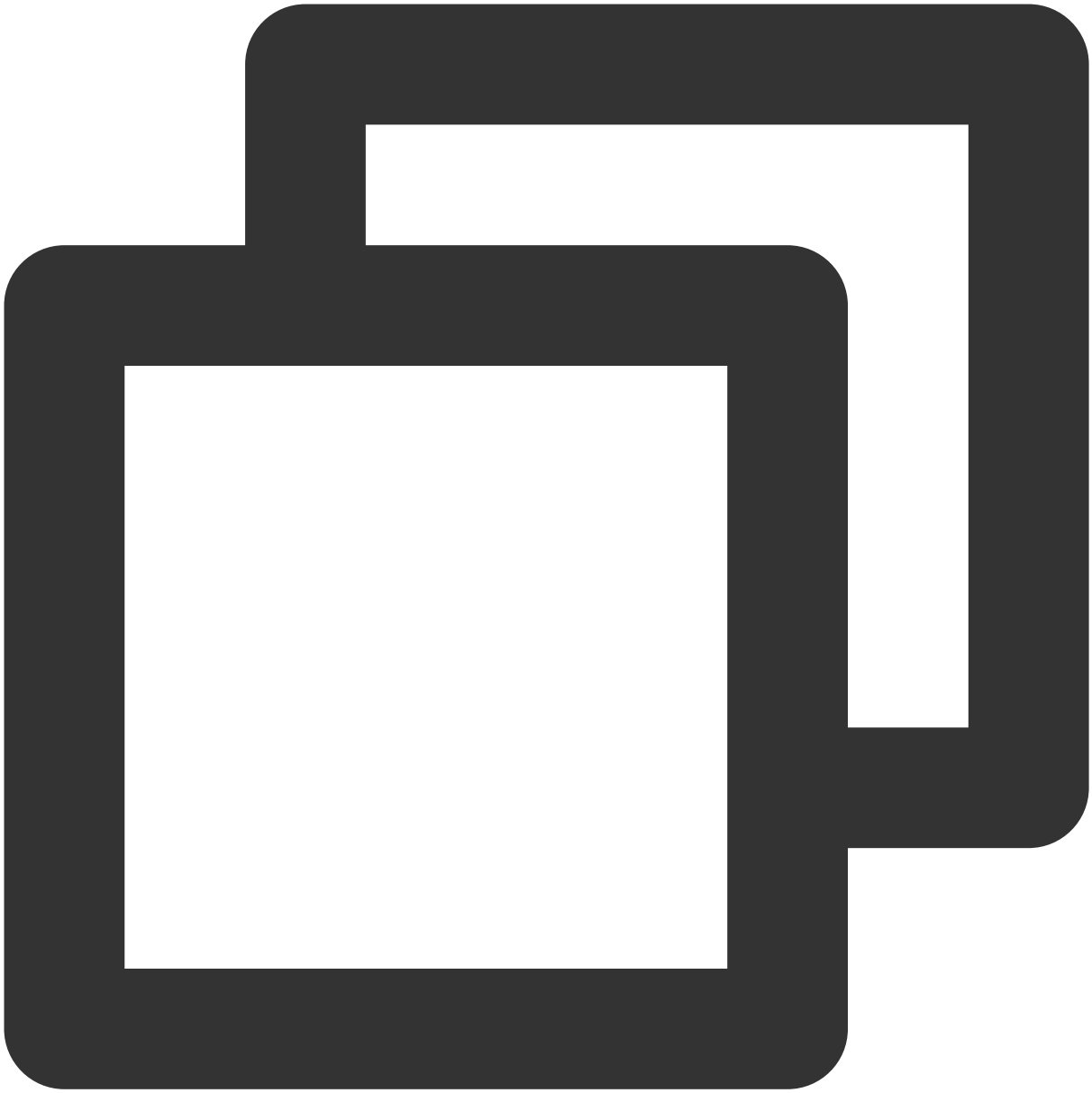
The parameters are described below:

Parameter	Type	Description
userName	String	The username.
avatar	String	The address of the profile photo.
callback	ActionCallback	The callback for profile configuration. The code is `0` if the operation succeeds.

Room APIs

createRoom

This API is used to create a room (called by room owner).



```
public abstract void createRoom(int roomId, TRTCKaraokeRoomDef.RoomParam roomParam,
```

The parameters are described below:

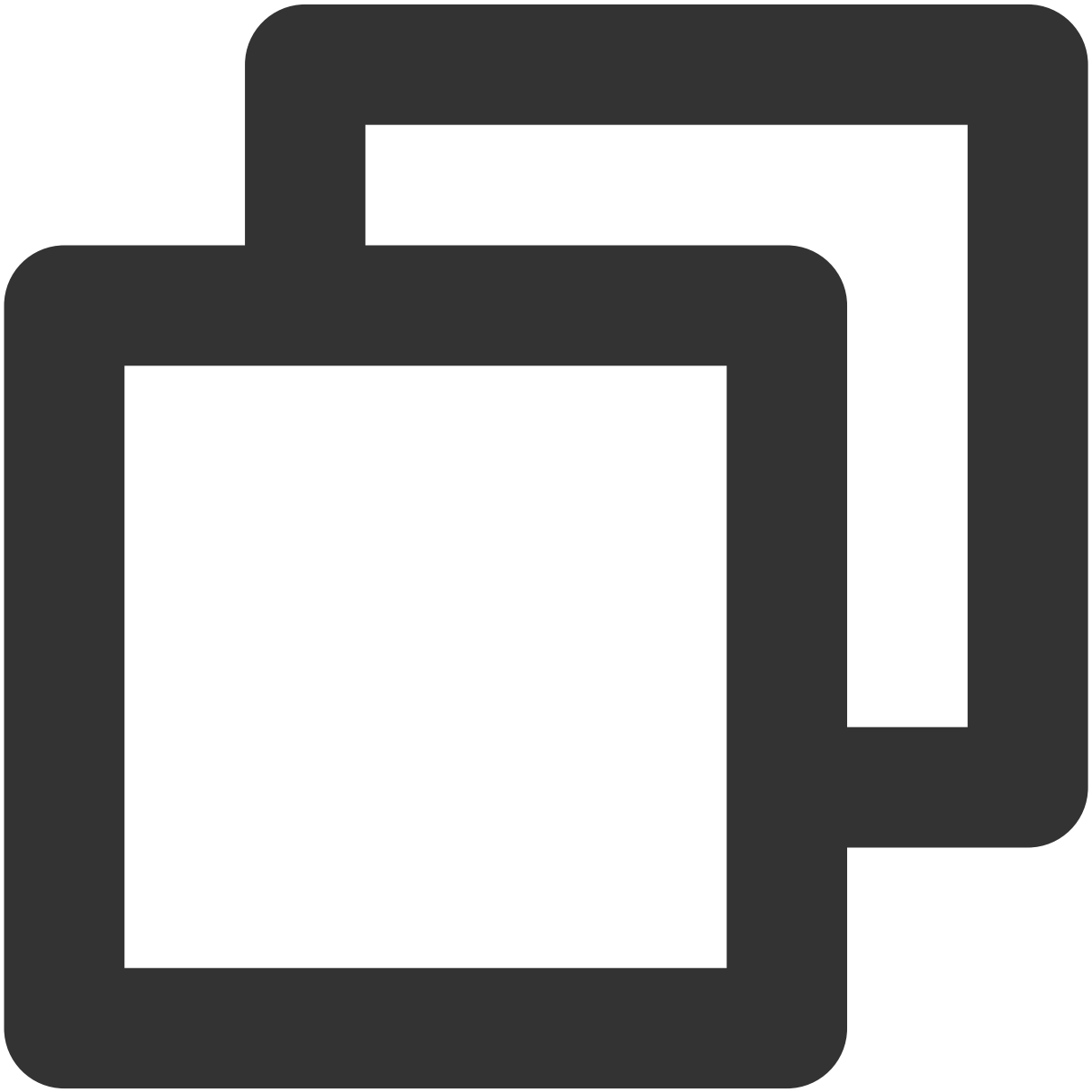
Parameter	Type	Description
roomId	int	The room ID. You need to assign and manage room IDs in a centralized manner. Multiple `roomID` values can be aggregated into a karaoke room list. Currently, Tencent Cloud does not provide management services for karaoke room lists. Please manage your own room lists.

roomParam	TRTCCreateRoomParam	Room information, such as room name, seat list information, and cover information. To manage seats, you must enter the number of seats in the room.
callback	ActionCallback	The callback for room creation. The code is `0` if the operation succeeds.

The process of creating a karaoke room and becoming a speaker is as follows:
1. A user calls `createRoom` to create a karaoke room, passing in room attributes (i.e., room ID, whether listeners need room owner's permission to speak, number of seats).
2. After creating the room, the user calls `enterSeat` to become a speaker.
3. The user will receive an `onSeatListChanget` notification about the change of the seat list, and can update the change to the UI.
4. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker, and mic capturing will be enabled automatically.

destroyRoom

This API is used to terminate a room (called by room owner).



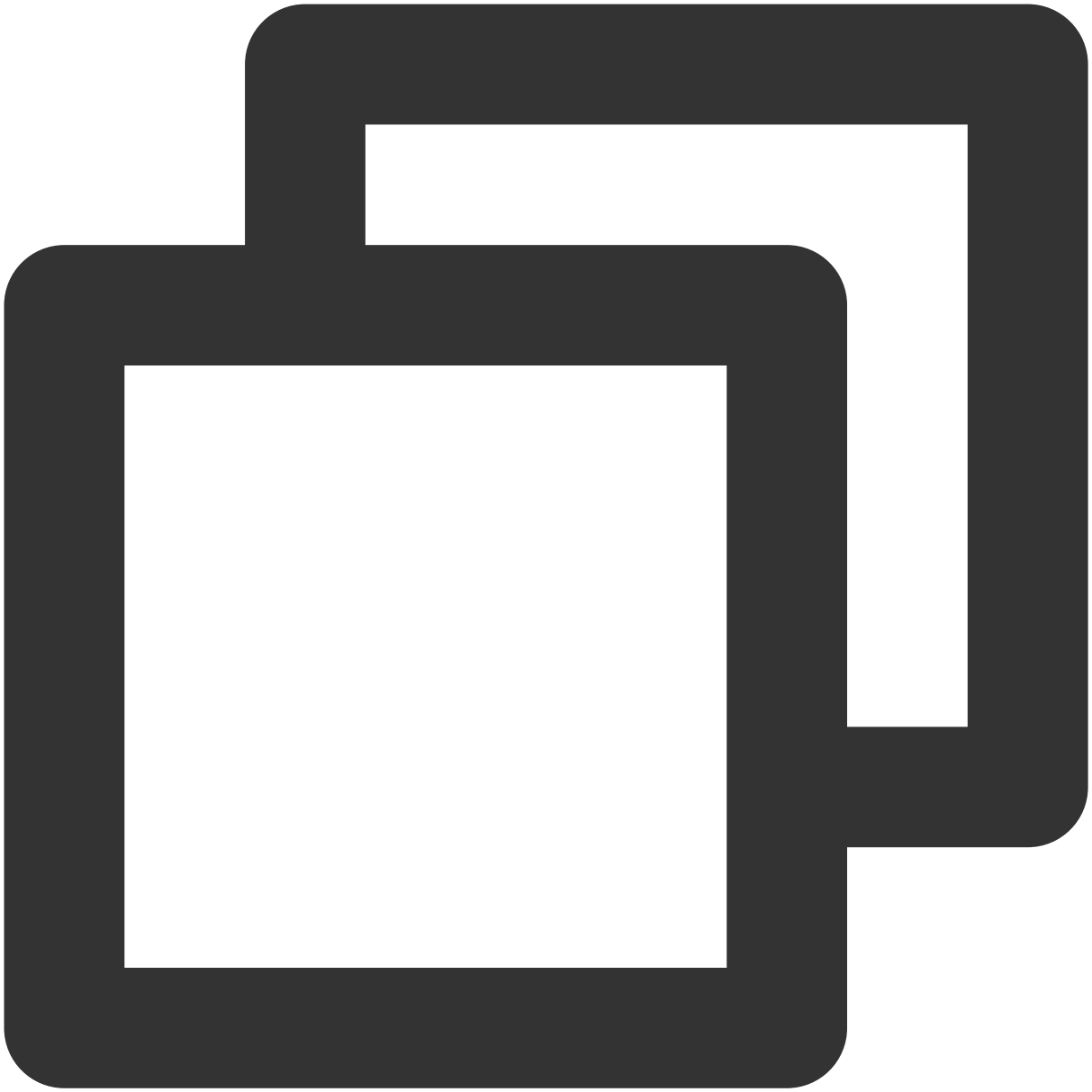
```
public abstract void destroyRoom(TRTCKaraokeRoomCallback.ActionCallback callback);
```

The parameters are described below:

Parameter	Type	Description
callback	ActionCallback	The callback for room termination. The code is `0` if the operation succeeds.

enterRoom

This API is used to enter a room (called by listener).



```
public abstract void enterRoom(int roomId, TRTCKaraokeRoomCallback.ActionCallback c
```

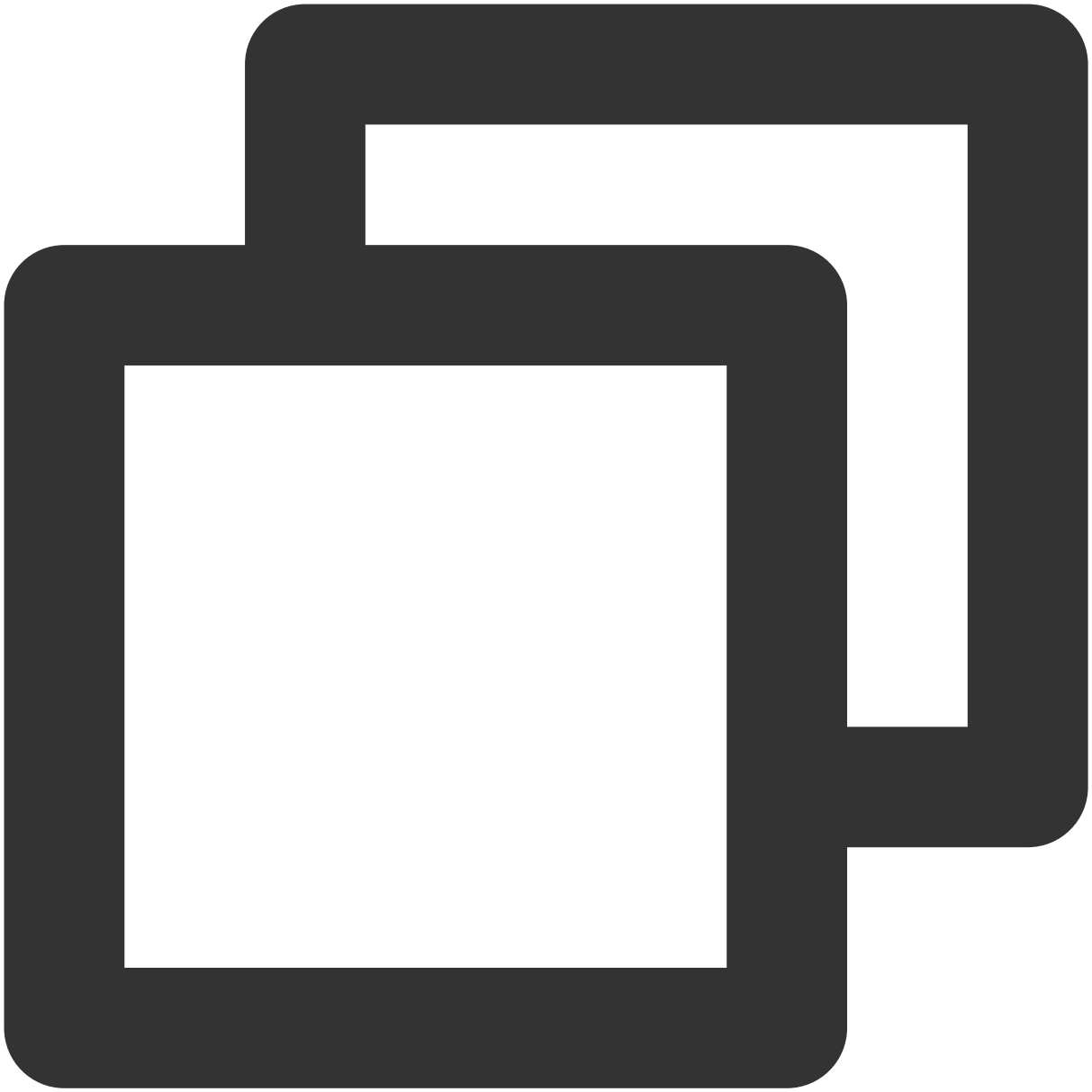
The parameters are described below:

Parameter	Type	Description
roomId	int	The room ID.
callback	ActionCallback	The callback for room entry. The code is `0` if the operation succeeds.

The process of entering a room as a listener is as follows:
1. A user gets the latest karaoke room list from your server. The list may contain the `roomId` and room information of multiple karaoke rooms.
2. The user selects a room, and enters the room by calling `enterRoom` with the room ID passed in.
3. After entering the room, the user receives an `onRoomInfoChange` notification about room attribute change from the component. The attributes can be recorded, and corresponding changes can be made to the UI, including room name, whether room owner's permission is required for listeners to speak, etc.
4. The user will receive an `onSeatListChange` notification about the change of the seat list and can update the change to the UI.
5. The user will also receive an `onAnchorEnterSeat` notification that someone became a speaker.

exitRoom

Leave room



```
public abstract void exitRoom(TRTCKaraokeRoomCallback.ActionCallback callback);
```

The parameters are described below:

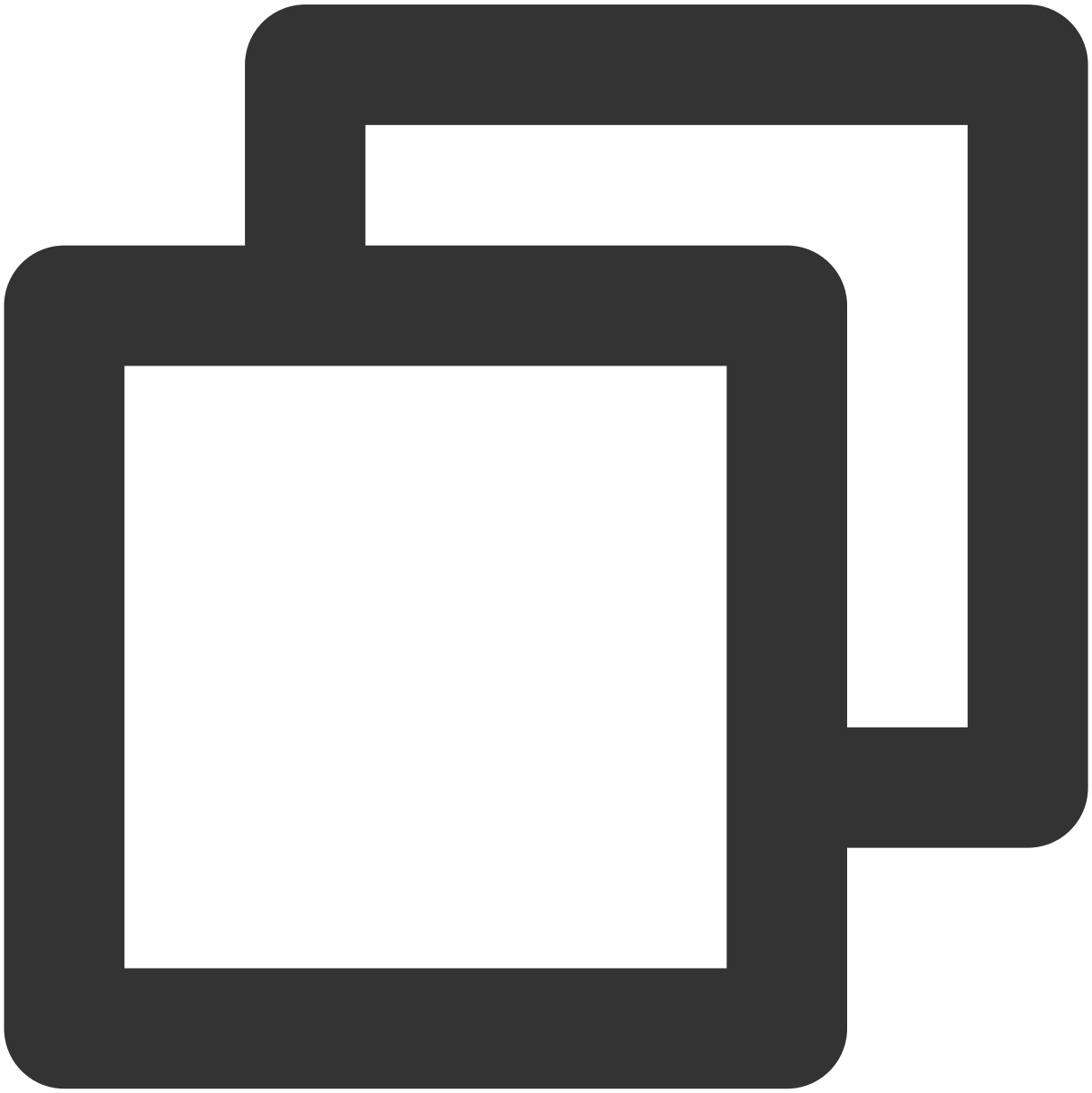
Parameter	Type	Description
callback	ActionCallback	The callback for room exit. The code is `0` if the operation succeeds.

getRoomInfoList

This API is used to get room list details. The room name and cover are set by the room owner via `roomInfo` when calling `createRoom()` .

Note

You don’t need this API if both the room list and room information are managed on your server.



```
public abstract void getRoomInfoList(List<Integer> roomIdList, TRTCKaraokeRoomCallb
```

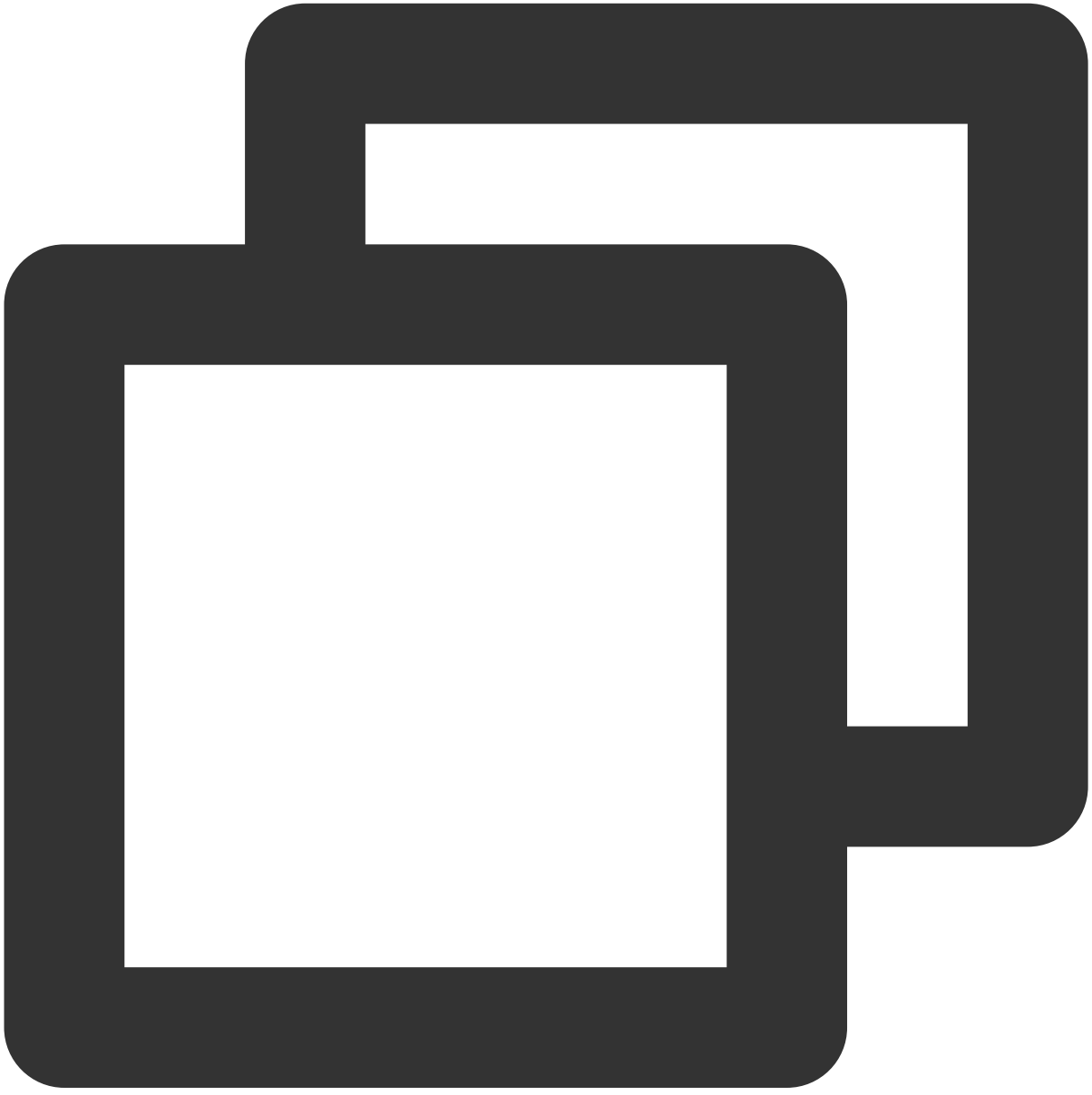
The parameters are described below:

Parameter	Type	Description

roomIdList	List<Integer>	The list of room IDs.
callback	RoomInfoCallback	The callback of room details.

getUserInfoList

This API is used to get the user information of a specified `userId` .



```
public abstract void getUserInfoList(List<String> userIdList, TRTCKaraokeRoomCallba
```

The parameters are described below:

Parameter	Type	Description
userIdList	List<String>	The IDs of the users to query. If this parameter is `null`, the information of all users in the room is queried.
userlistcallback	UserListCallback	The callback of user details.

Music Playback APIs

startPlayMusic

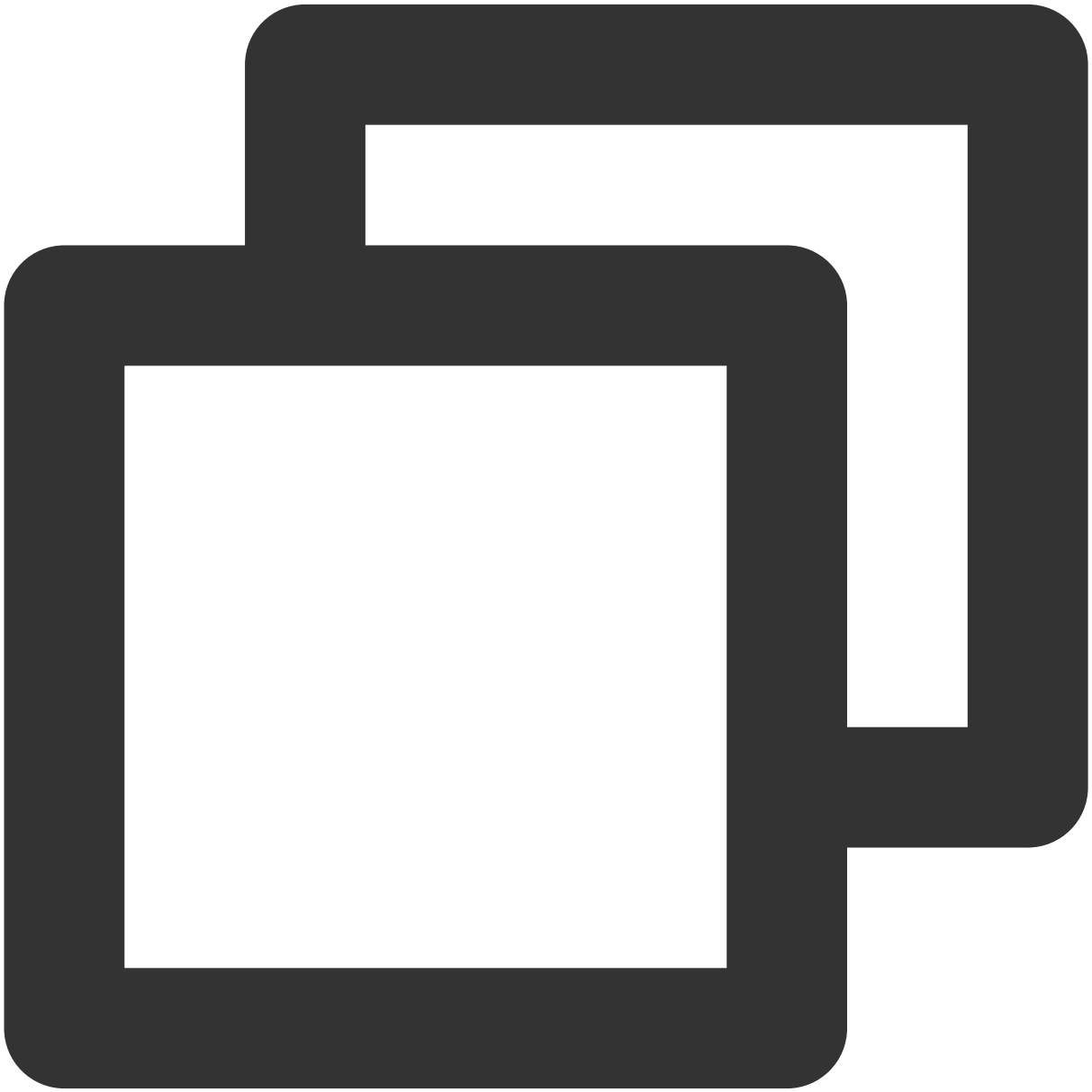
This API is used to play music (called after becoming a speaker).

Note

After music playback starts, you will receive an `onMusicPrepareToPlay` notification.

During music playback, all members in the room will continuously receive an `onMusicProgressUpdate` notification.

After music playback stops, you will receive an `onMusicCompletePlaying` notification.



```
public abstract void startPlayMusic(int musicID, String originalUrl, String accompa
```

The parameters are described below:

Parameter	Type	Description
musicID	int	The music ID.
originalUrl	String	The absolute path of the vocal track.
accompanyUrl	String	The absolute path of the instrumental track.

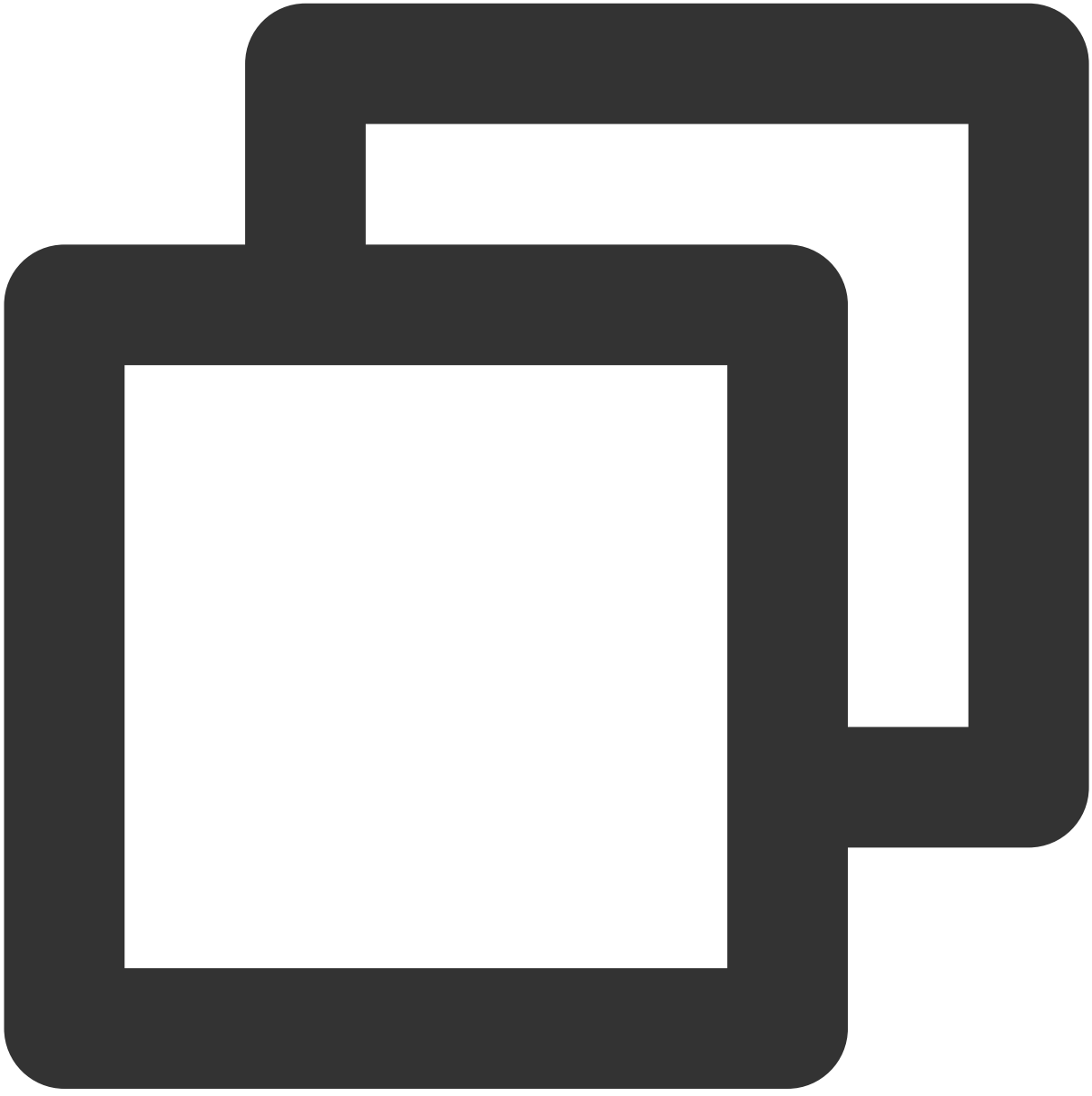
After this API is called, the song that is currently playing will stop.

stopPlayMusic

This API is used to stop music (called during music playback).

Note

After music playback stops, you will receive an `onMusicCompletePlaying` notification.



```
public abstract void stopPlayMusic();
```

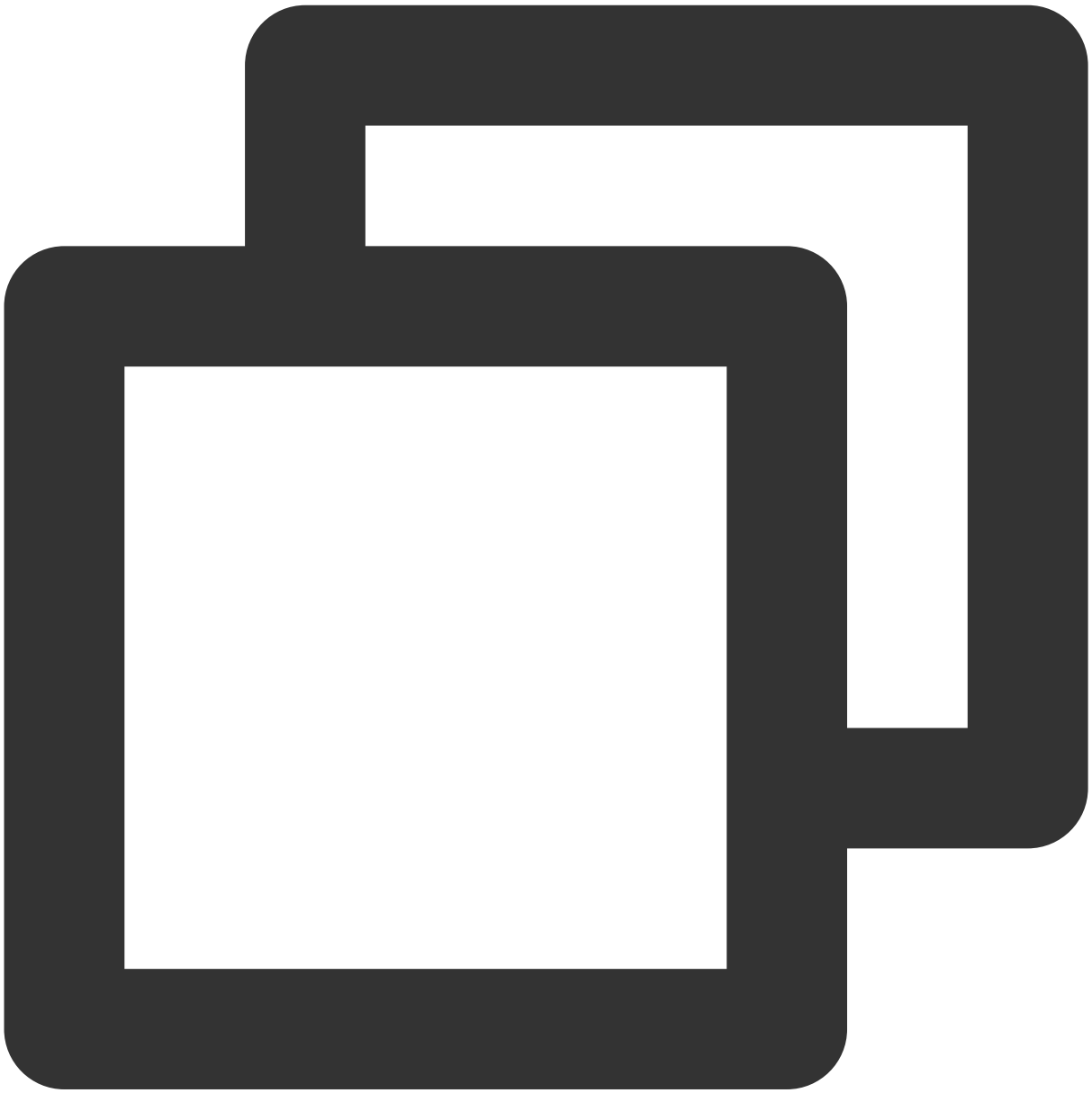
pausePlayMusic

This API is used to pause music (called during music playback).

Note

The `onMusicProgressUpdate` notification will be paused.

No `onMusicCompletePlaying` notification will be received.



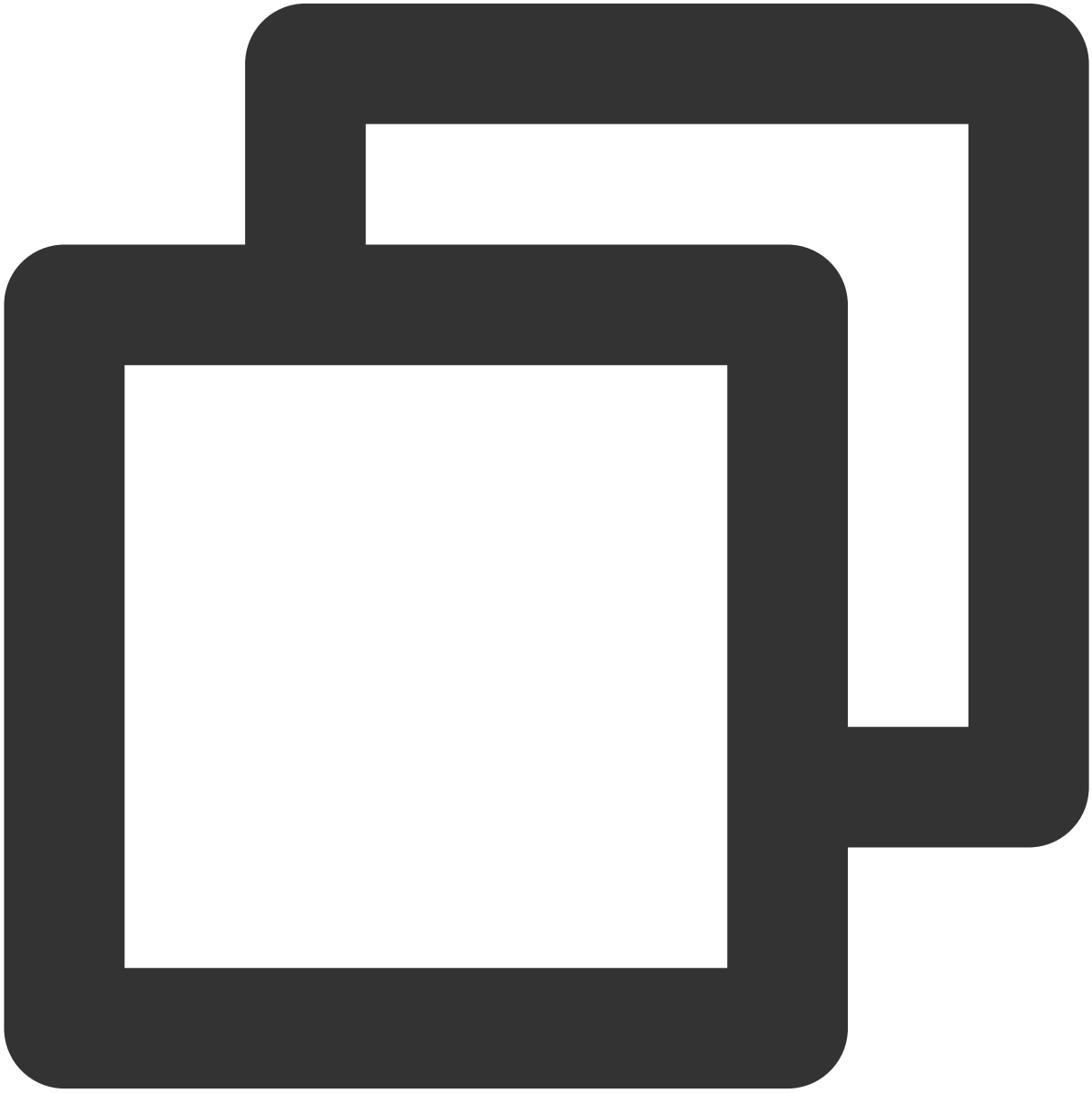
```
public abstract void pausePlayMusic();
```

resumePlayMusic

This API is used to resume music (called after music playback is paused).

Note

No `onMusicPrepareToPlay` notification will be received.



```
public abstract void resumePlayMusic();
```

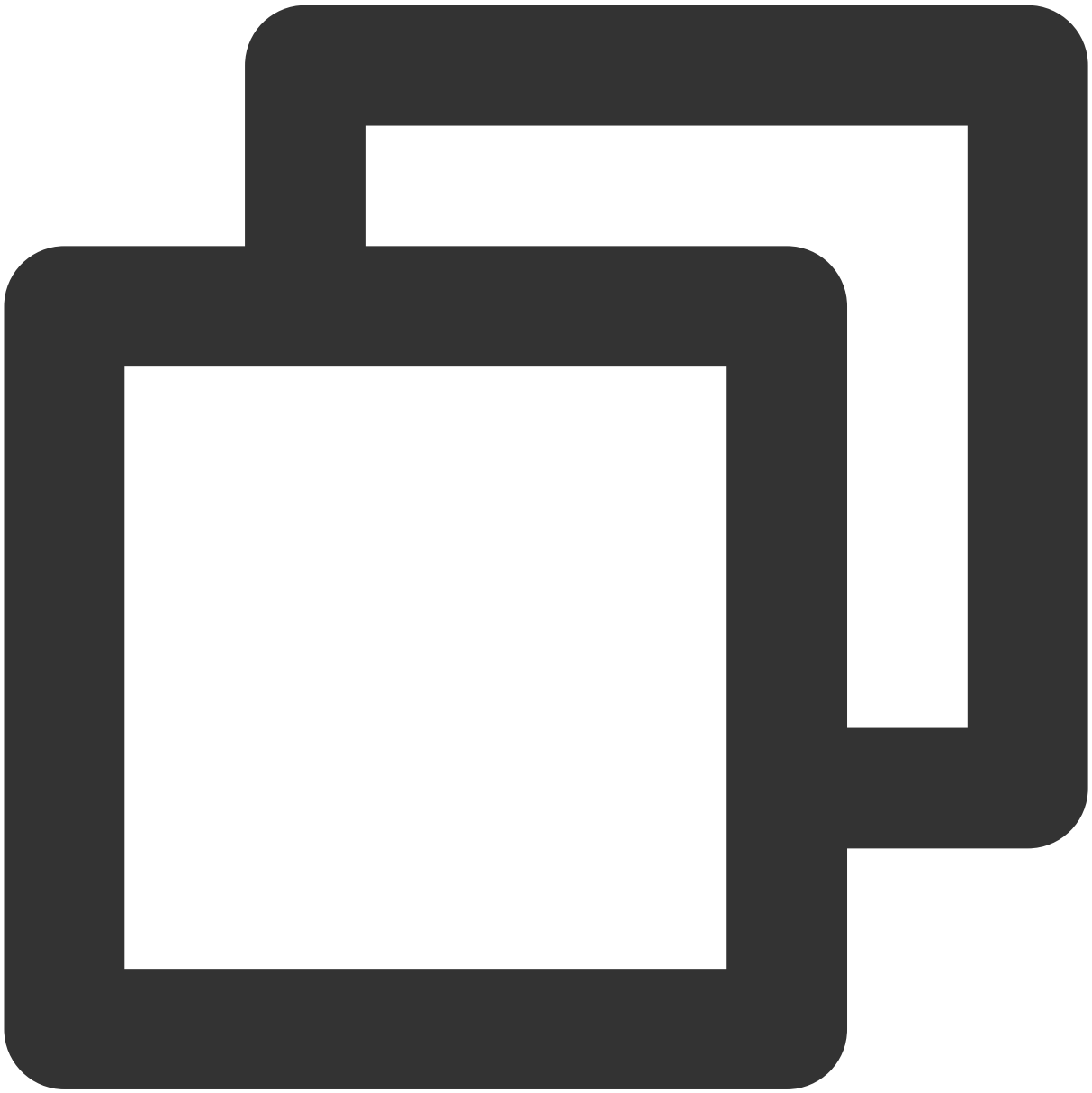
Seat Management APIs

enterSeat

This API is used to become a speaker (called by room owner or listener).

Note

After a user becomes a speaker, all users in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
public abstract void enterSeat(int seatIndex, TRTCKaraokeRoomCallback.ActionCallbac
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to be taken.
callback	ActionCallback	The callback for the operation.

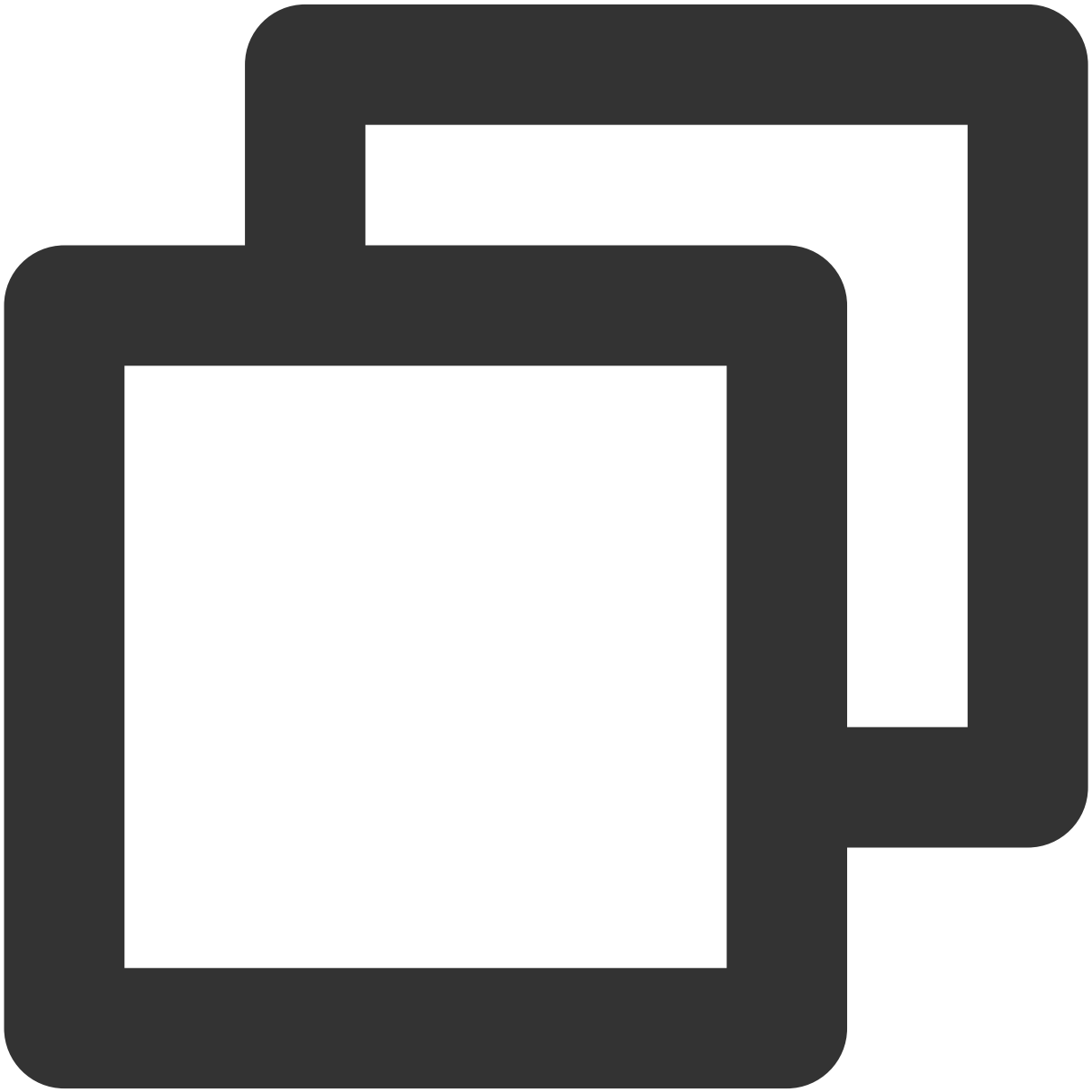
Calling this API will immediately modify the seat list. In cases where listeners need the room owner's permission to take a seat, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept`, call this API.

leaveSeat

This API is used to become a listener (called by speaker).

Note

After a speaker becomes a listener, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
public abstract void leaveSeat(TRTCKaraokeRoomCallback.ActionCallback callback);
```

The parameters are described below:

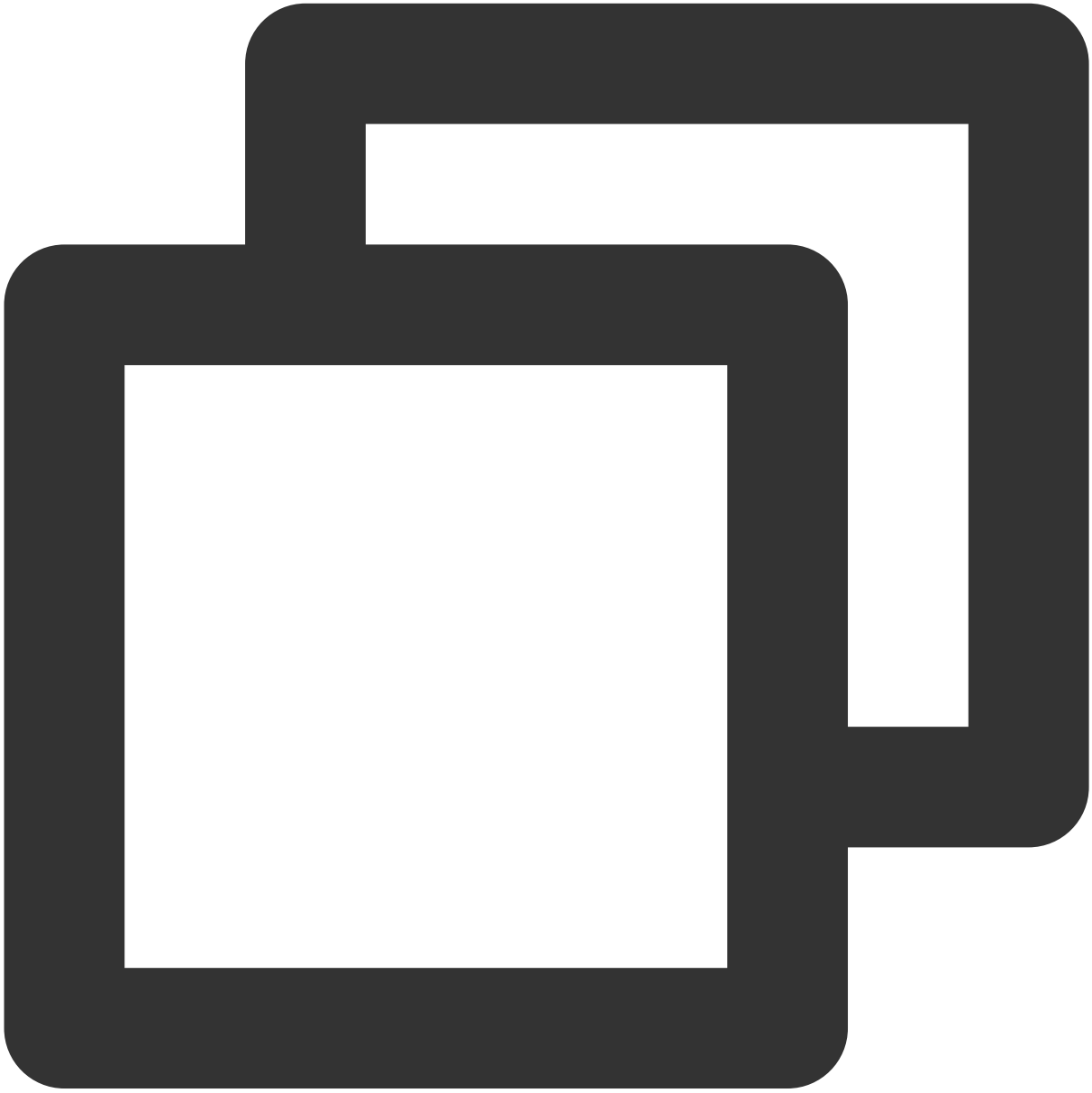
Parameter	Type	Description
callback	ActionCallback	The callback for the operation.

pickSeat

This API is used to place a user in a seat (called by room owner).

Note

After the room owner makes someone a speaker, all members in the room will receive an `onSeatListChange` notification and an `onAnchorEnterSeat` notification.



```
public abstract void pickSeat(int seatIndex, String userId, TRTCKaraokeRoomCallback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to place the listener in.

userId	String	The user ID.
callback	ActionCallback	The callback for the operation.

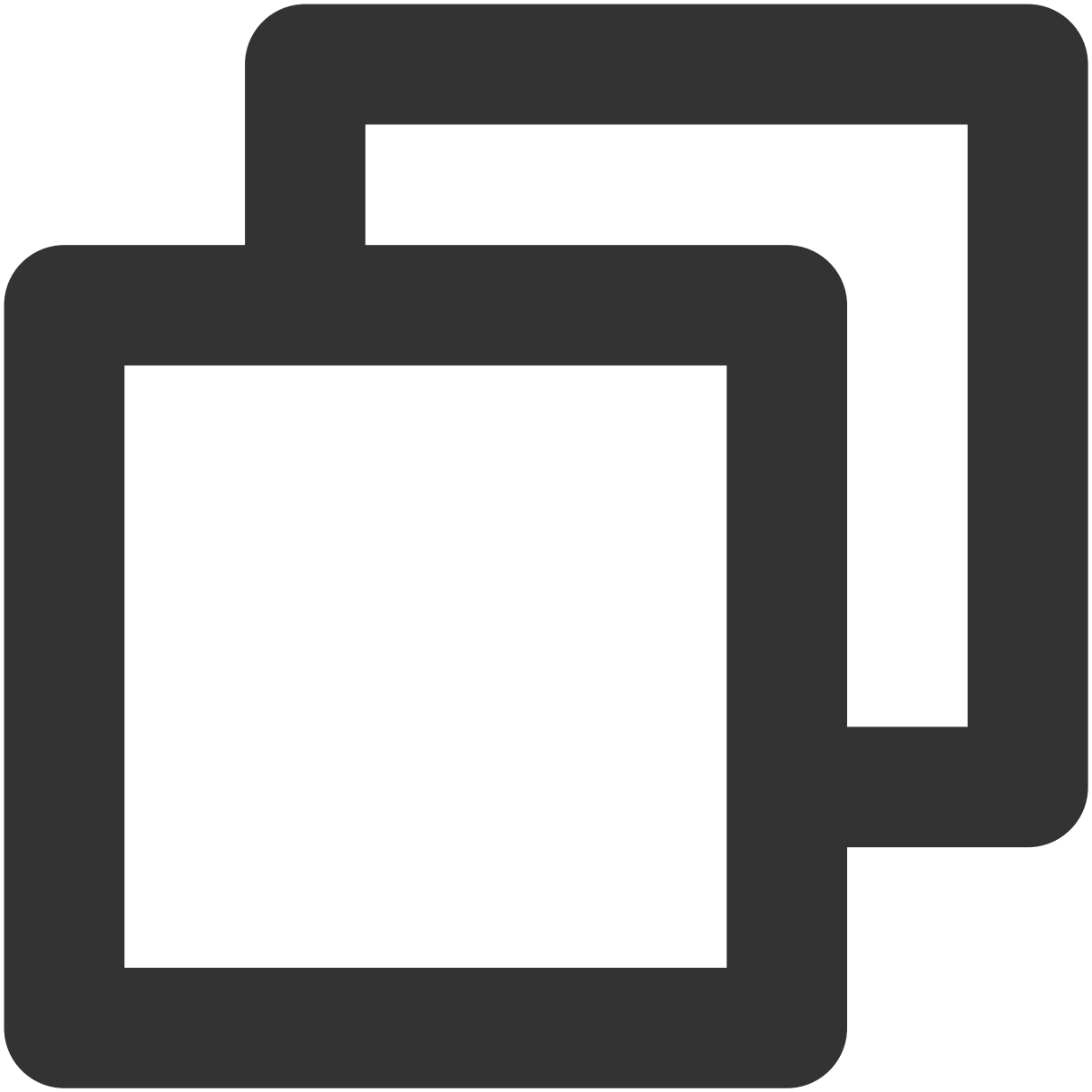
Calling this API will immediately modify the seat list. In cases where the room owner needs listeners' permission to make them speakers, you can call `sendInvitation` first to send a request and, after receiving `onInvitationAccept`, call `pickSeat`.

kickSeat

This API is used to remove a speaker (called by room owner).

Note

After a speaker is removed from a seat, all members in the room will receive an `onSeatListChange` notification and an `onAnchorLeaveSeat` notification.



```
public abstract void kickSeat(int seatIndex, TRTCKaraokeRoomCallback.ActionCallback
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to remove the speaker from.
callback	ActionCallback	The callback for the operation.

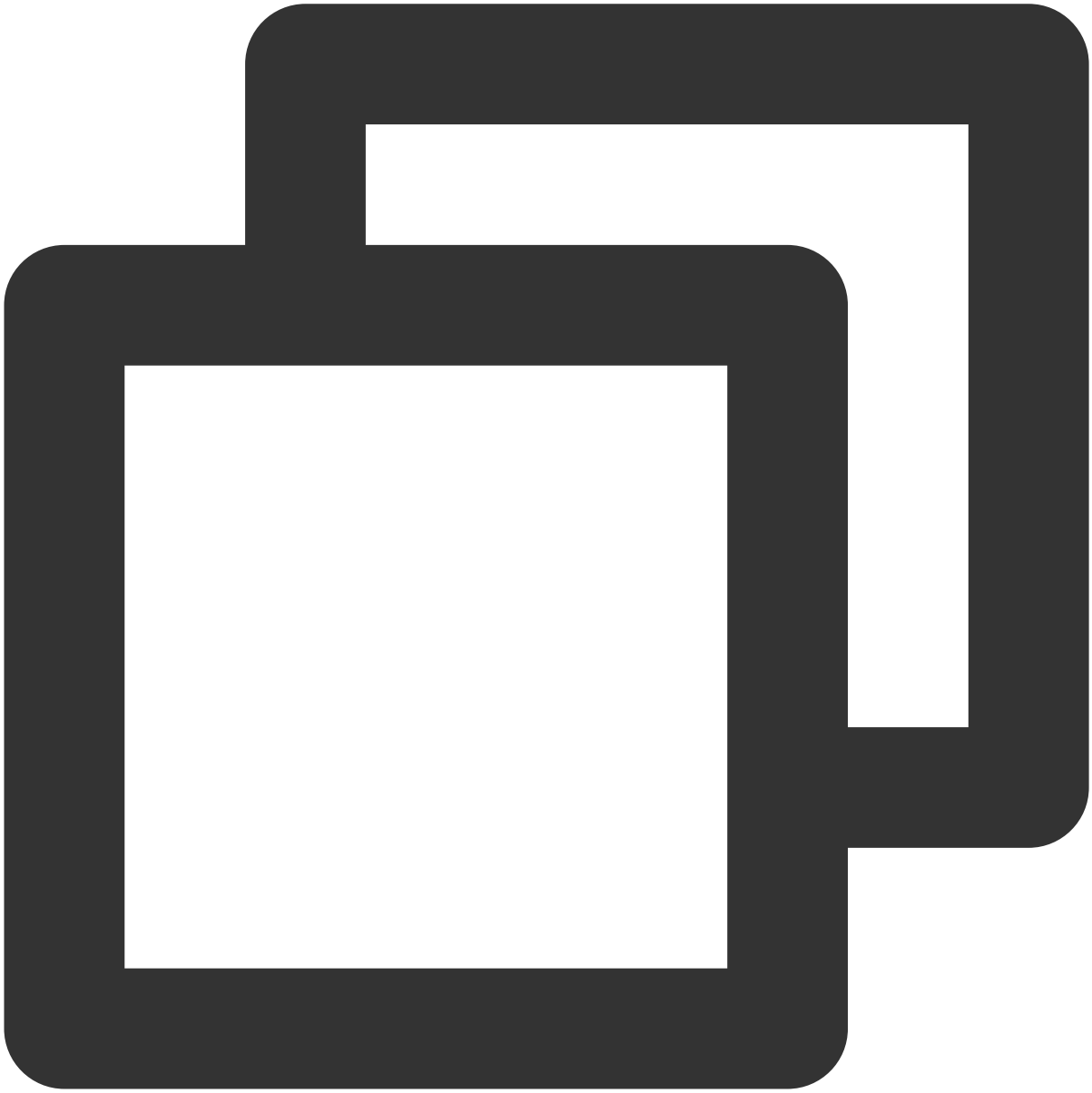
Calling this API will immediately modify the seat list.

muteSeat

This API is used to mute/unmute a seat (called by room owner).

Note

After a seat is muted/unmuted, all members in the room will receive an `onSeatListChange` notification and an `onSeatMute` notification.



```
public abstract void muteSeat(int seatIndex, boolean isMute, TRTCKaraokeRoomCallbac
```

The parameters are described below:

Parameter	Type	Description
seatIndex	int	The number of the seat to mute/unmute.
isMute	boolean	`true` : Mute; `false` : Unmute
callback	ActionCallback	The callback for the operation.

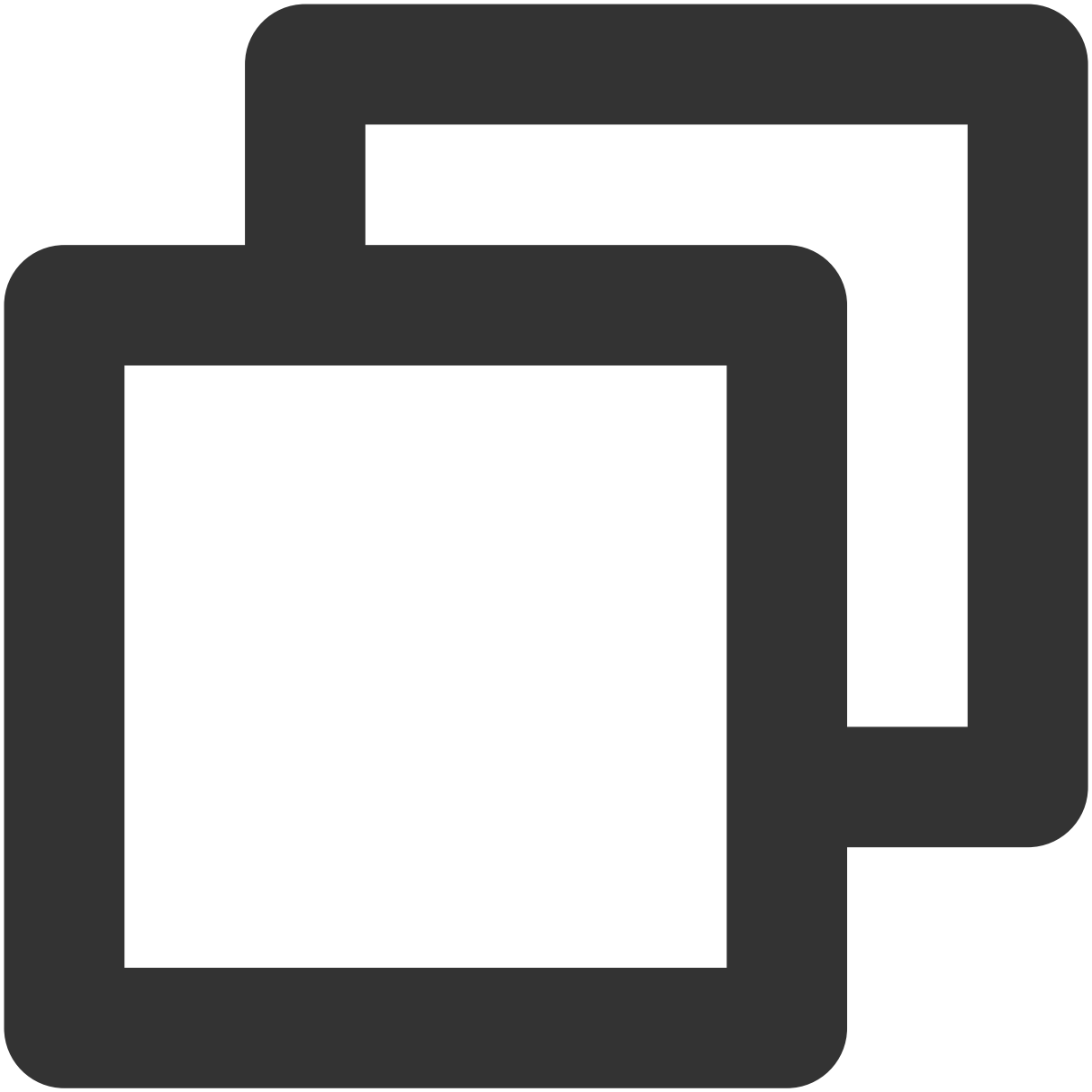
Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will call `muteAudio` to mute/unmute his or her audio.

closeSeat

This API is used to block/unblock a seat (called by room owner).

Note

After a seat is blocked/unblocked, all members in the room will receive an `onSeatListChange` notification and an `onSeatClose` notification.



```
public abstract void closeSeat(int seatIndex, boolean isClose, TRTCKaraokeRoomCallb
```

The parameters are described below:

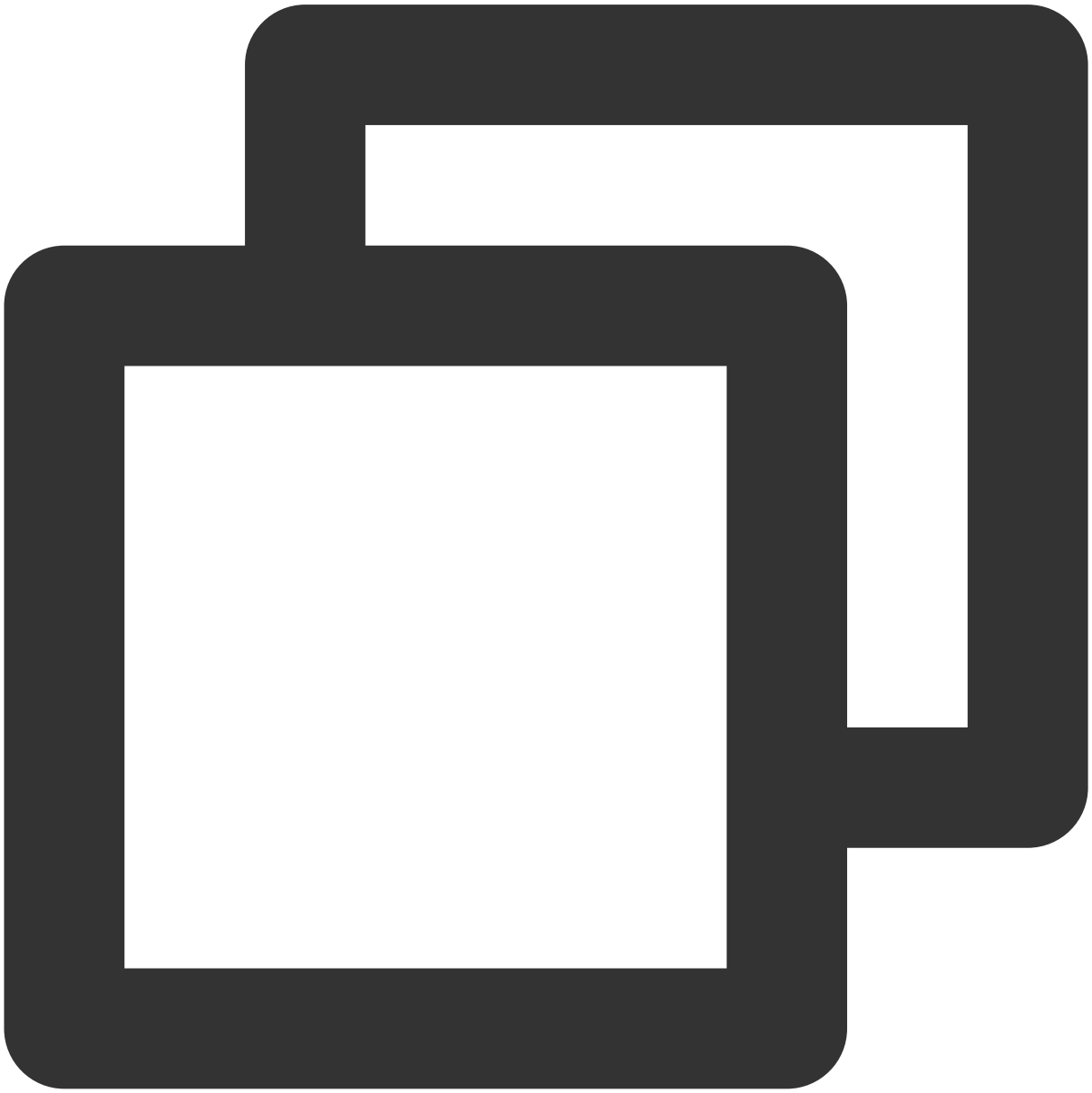
Parameter	Type	Description
seatIndex	int	The number of the seat to block/unblock.
isClose	boolean	`true` : Block; `false` : Unblock
callback	ActionCallback	The callback for the operation.

Calling this API will immediately modify the seat list. The speaker on the seat specified by `seatIndex` will leave the seat.

Local Audio APIs

startMicrophone

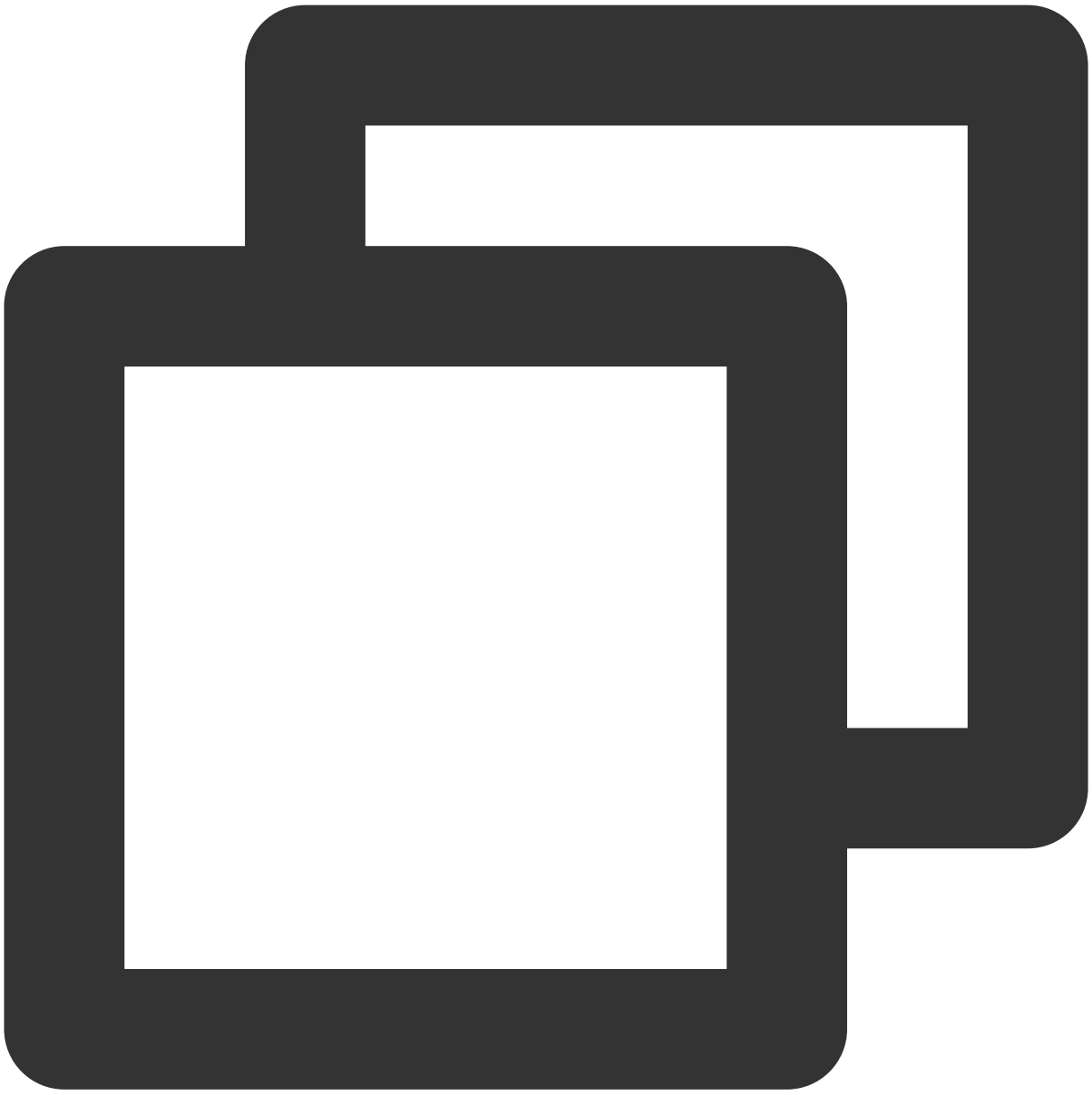
This API is used to start mic capturing.



```
public abstract void startMicrophone();
```

stopMicrophone

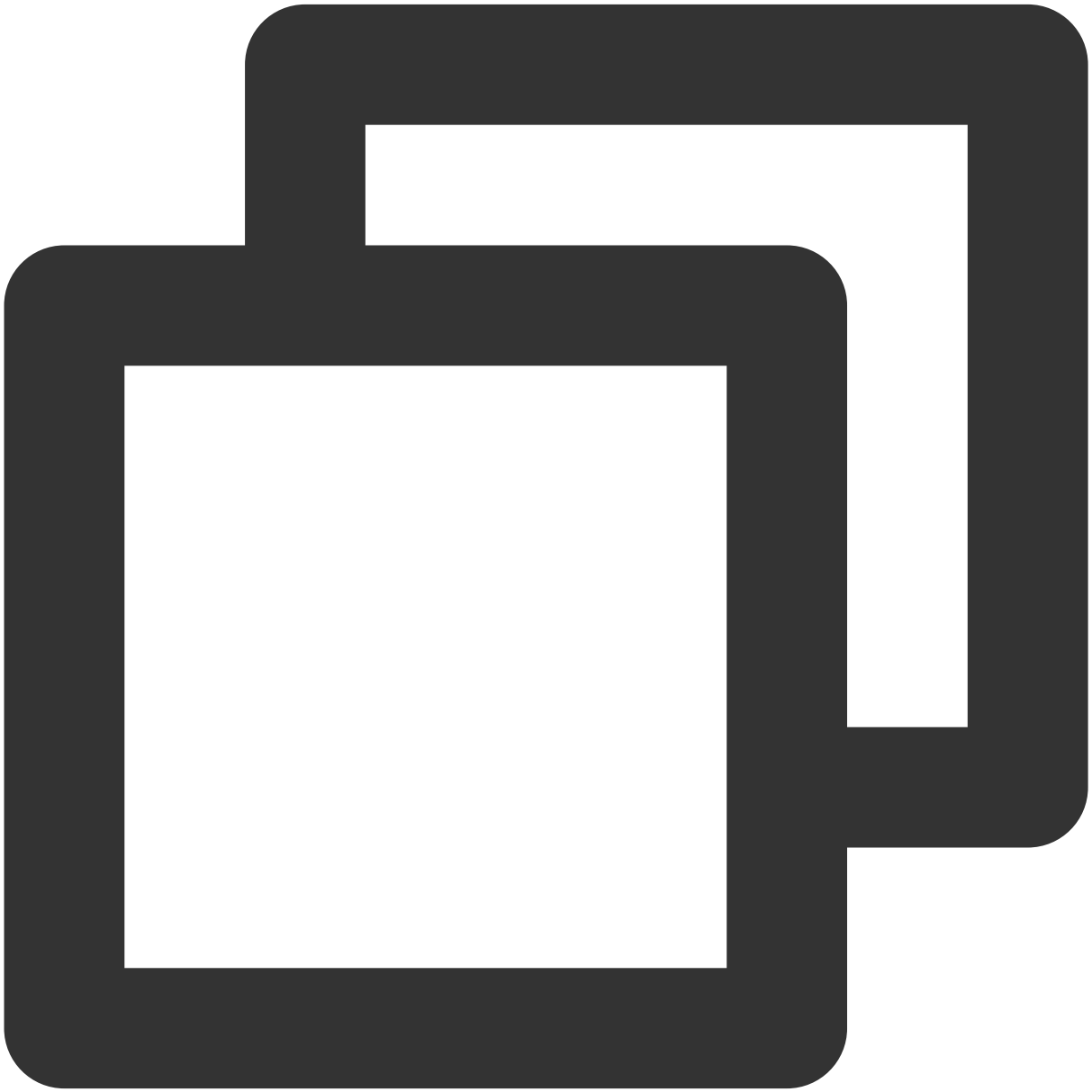
This API is used to stop mic capturing.



```
public abstract void stopMicrophone();
```

setAudioQuality

This API is used to set audio quality.



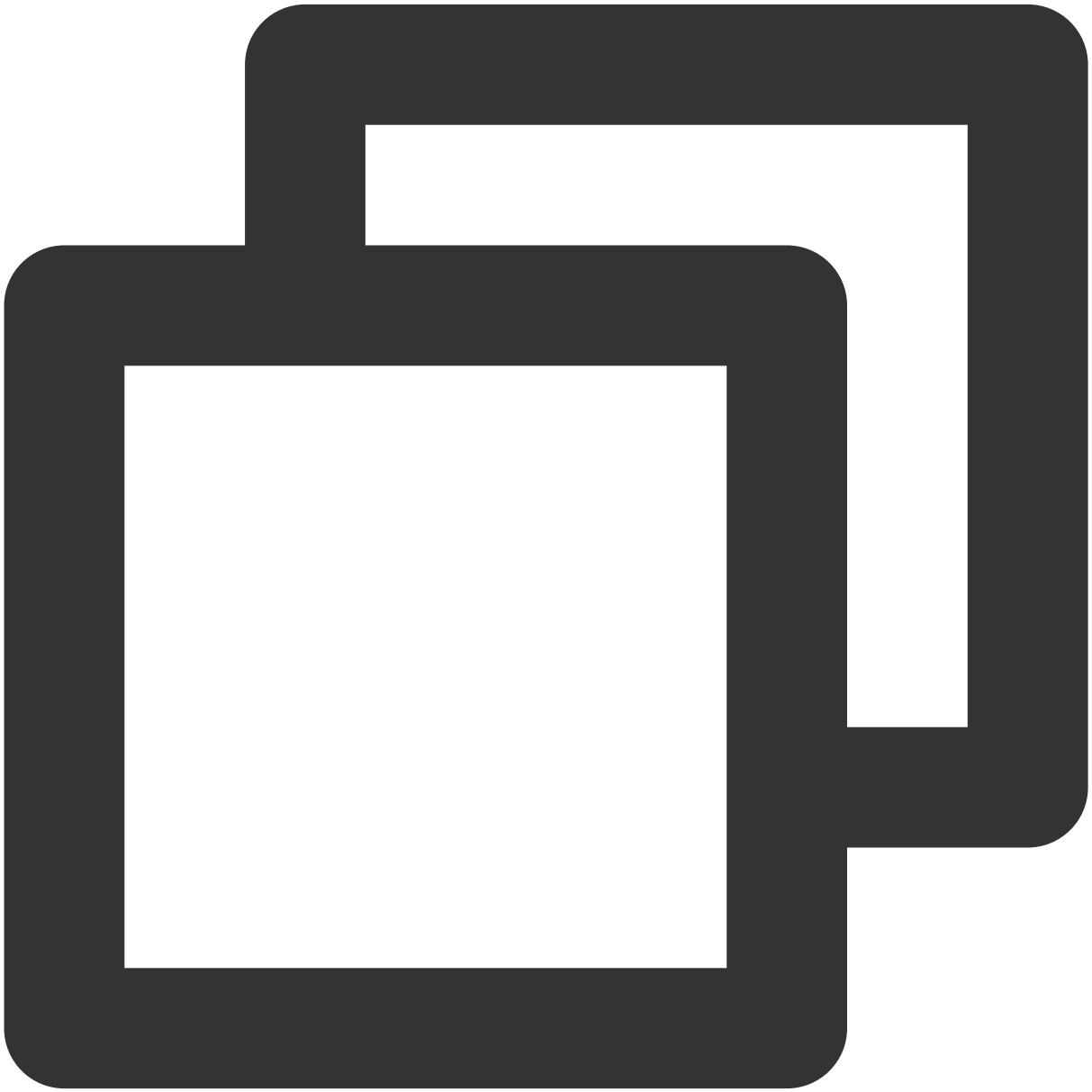
```
public abstract void setAudioQuality(int quality);
```

The parameters are described below:

Parameter	Type	Description
quality	int	The audio quality. For more information, see setAudioQuality().

muteLocalAudio

This API is used to mute/unmute local audio.



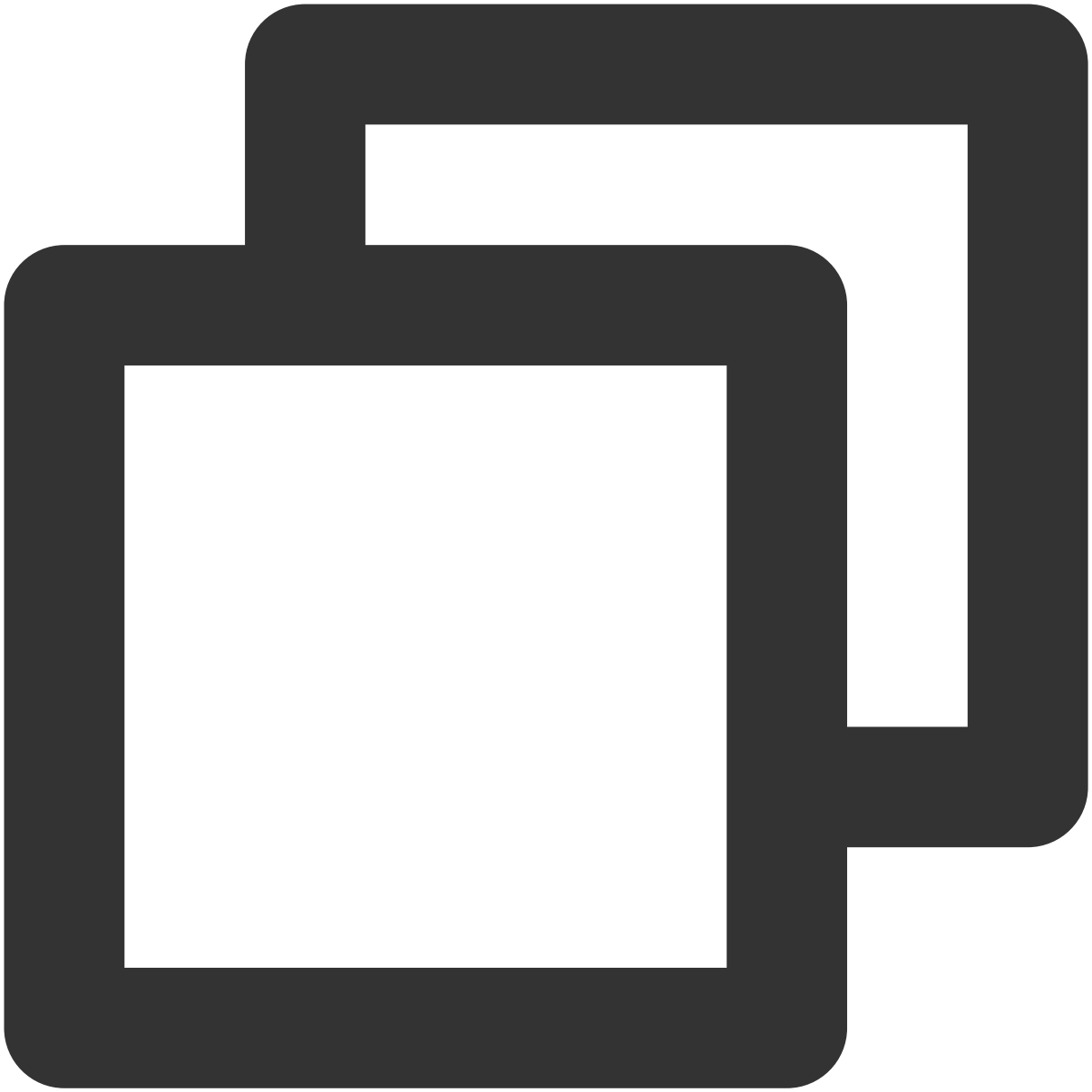
```
public abstract void muteLocalAudio(boolean mute);
```

The parameters are described below:

Parameter	Type	Description
mute	boolean	Whether to mute or unmute audio. For more information, see muteLocalAudio().

setSpeaker

This API is used to set whether to play sound from the device's speaker or receiver.



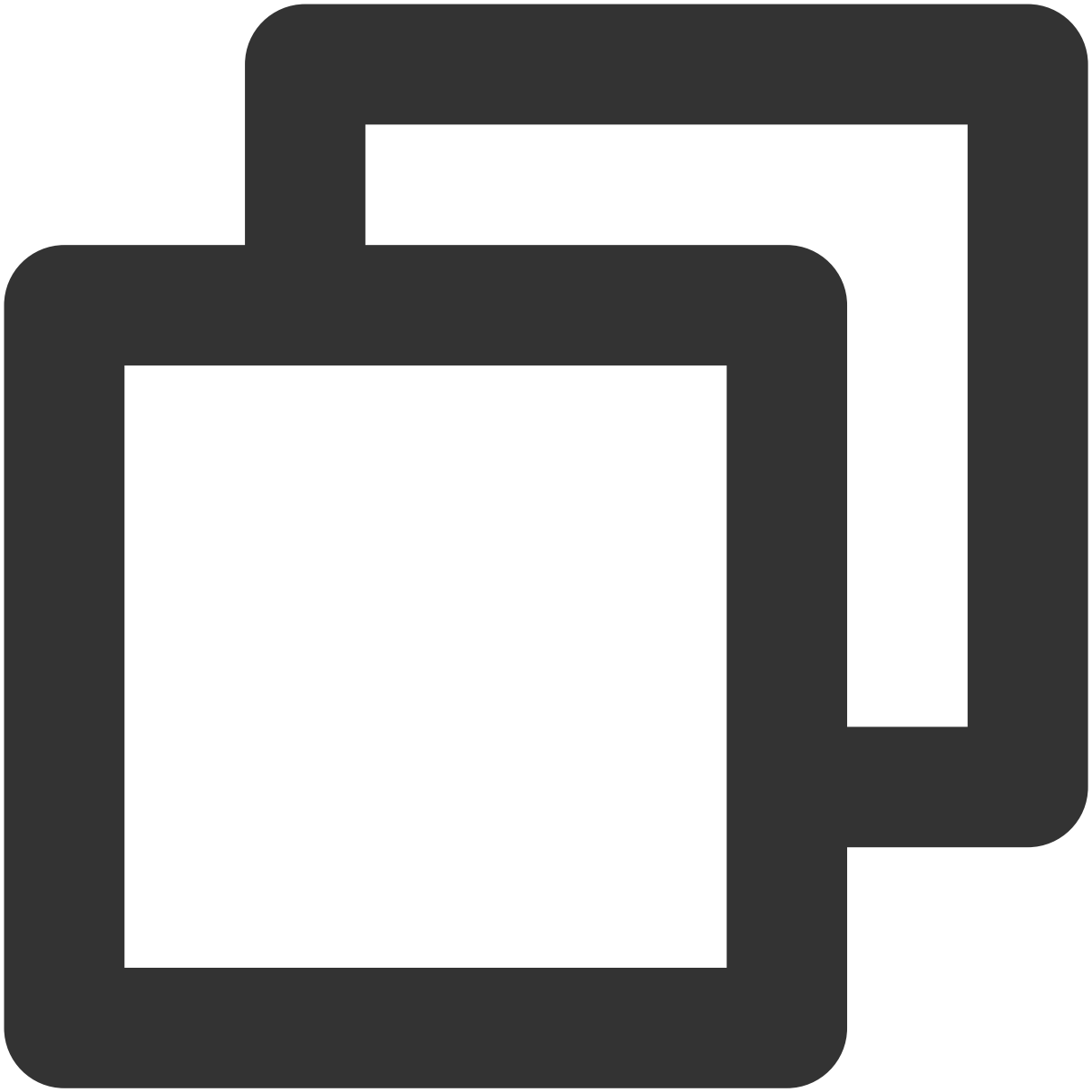
```
public abstract void setSpeaker(boolean useSpeaker);
```

The parameters are described below:

Parameter	Type	Description
useSpeaker	boolean	`true` : Speaker; `false` : Receiver

setAudioCaptureVolume

This API is used to set the mic capturing volume.



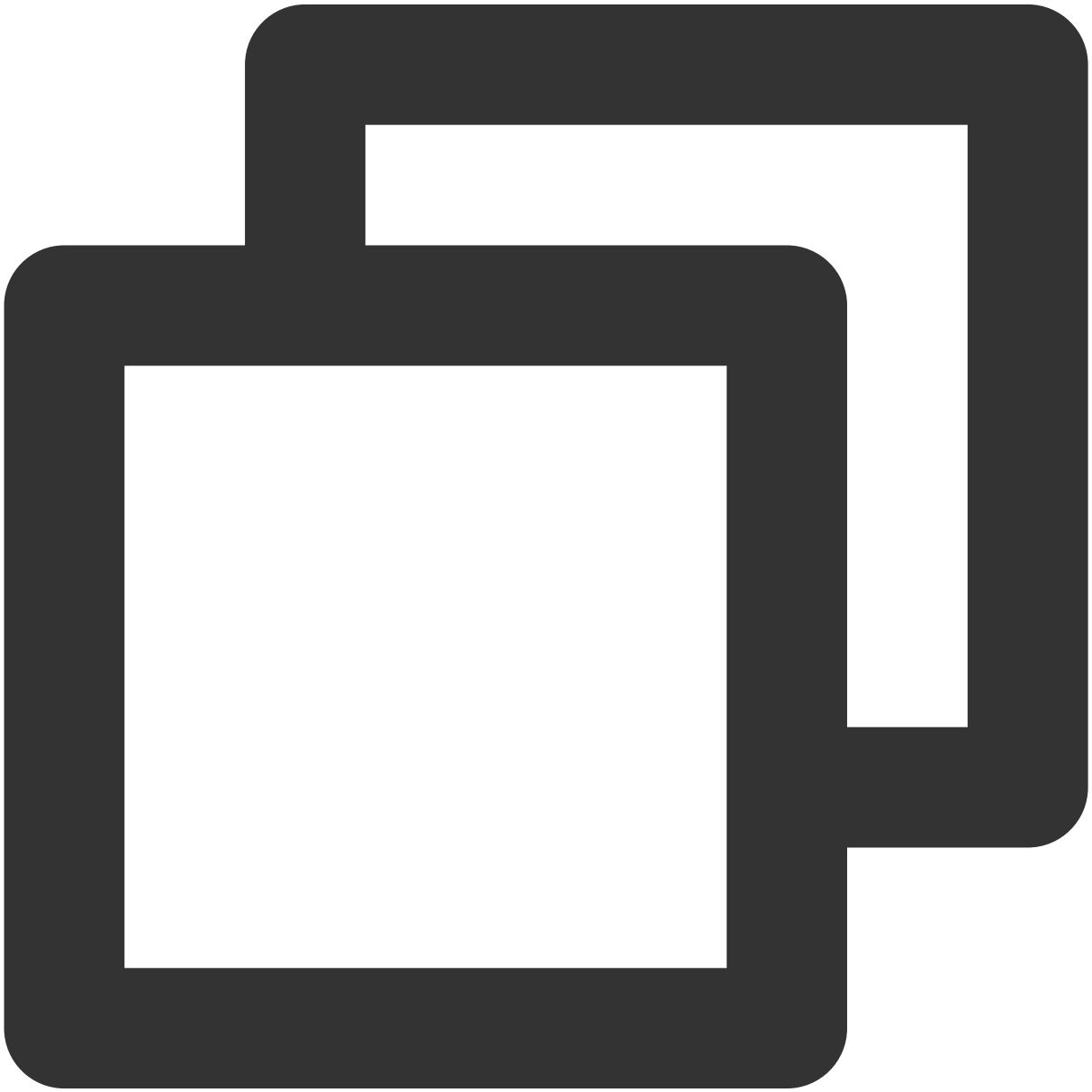
```
public abstract void setAudioCaptureVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	int	The capturing volume. Value range: 0-100 (default: 100)

setAudioPlayoutVolume

This API is used to set the playback volume.



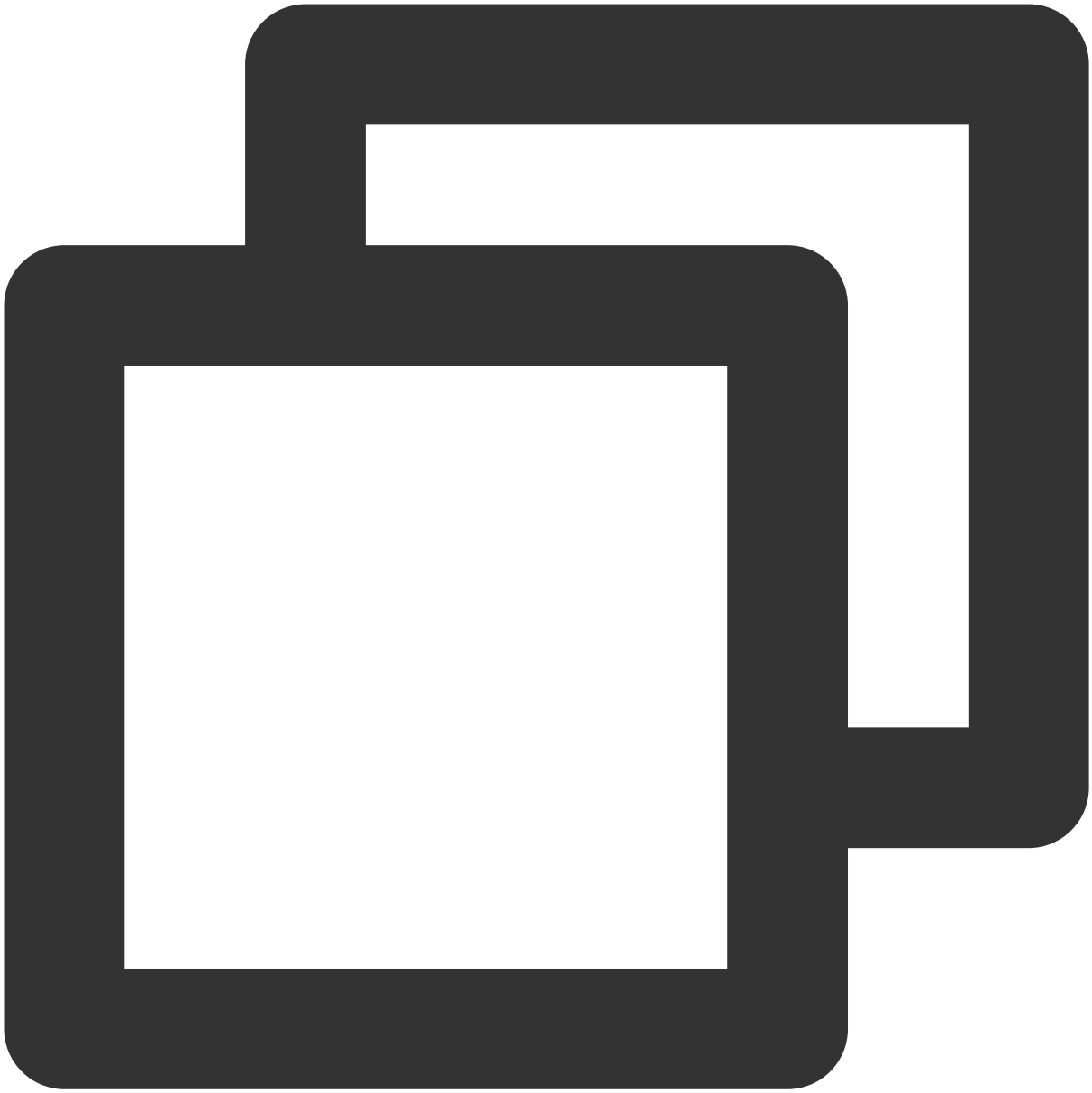
```
public abstract void setAudioPlayoutVolume(int volume);
```

The parameters are described below:

Parameter	Type	Description
volume	int	The playback volume. Value range: 0-100 (default: 100)

muteRemoteAudio

This API is used to mute/unmute a specified user.



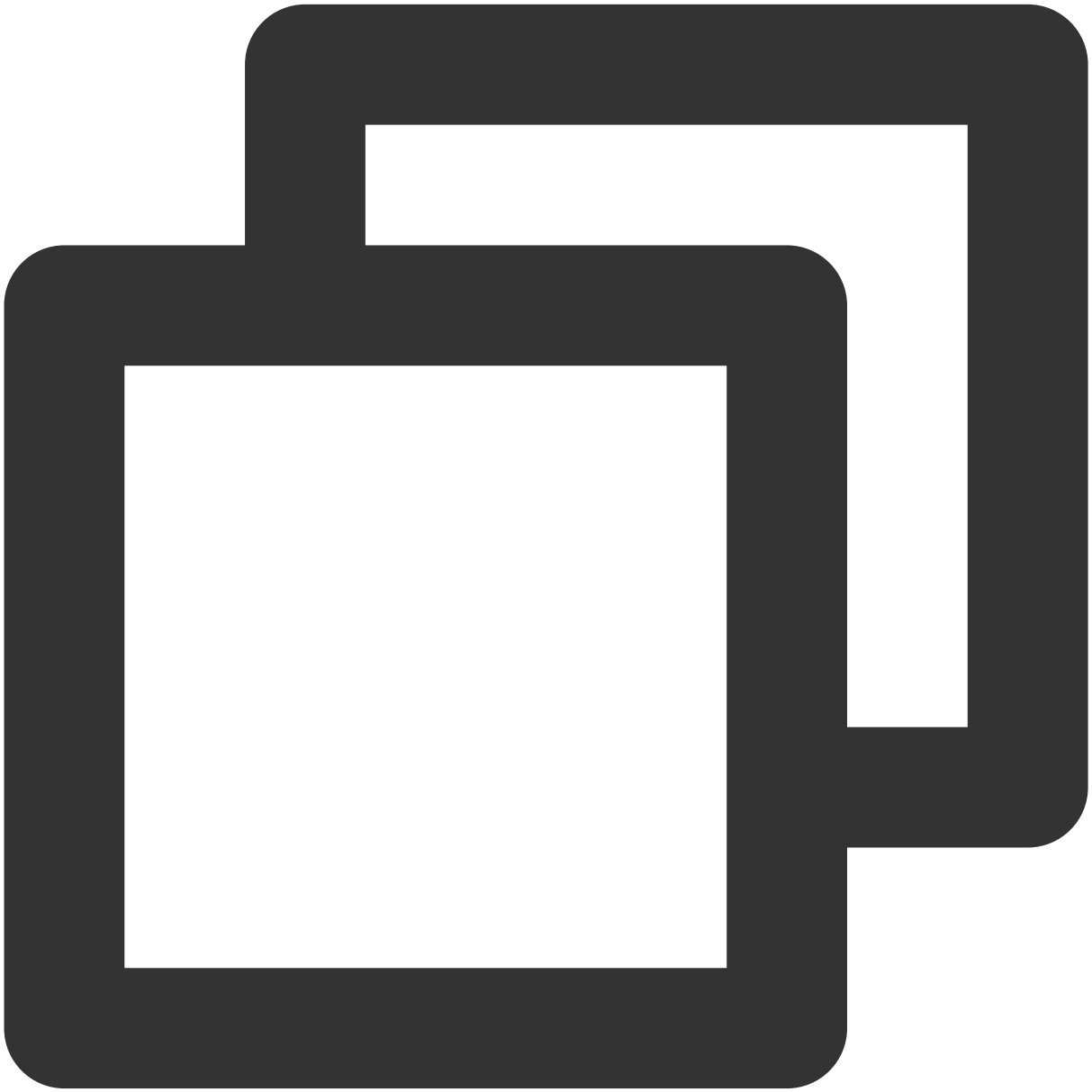
```
public abstract void muteRemoteAudio(String userId, boolean mute);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.
mute	boolean	`true` : Mute; `false` : Unmute

muteAllRemoteAudio

This API is used to mute/unmute all users.



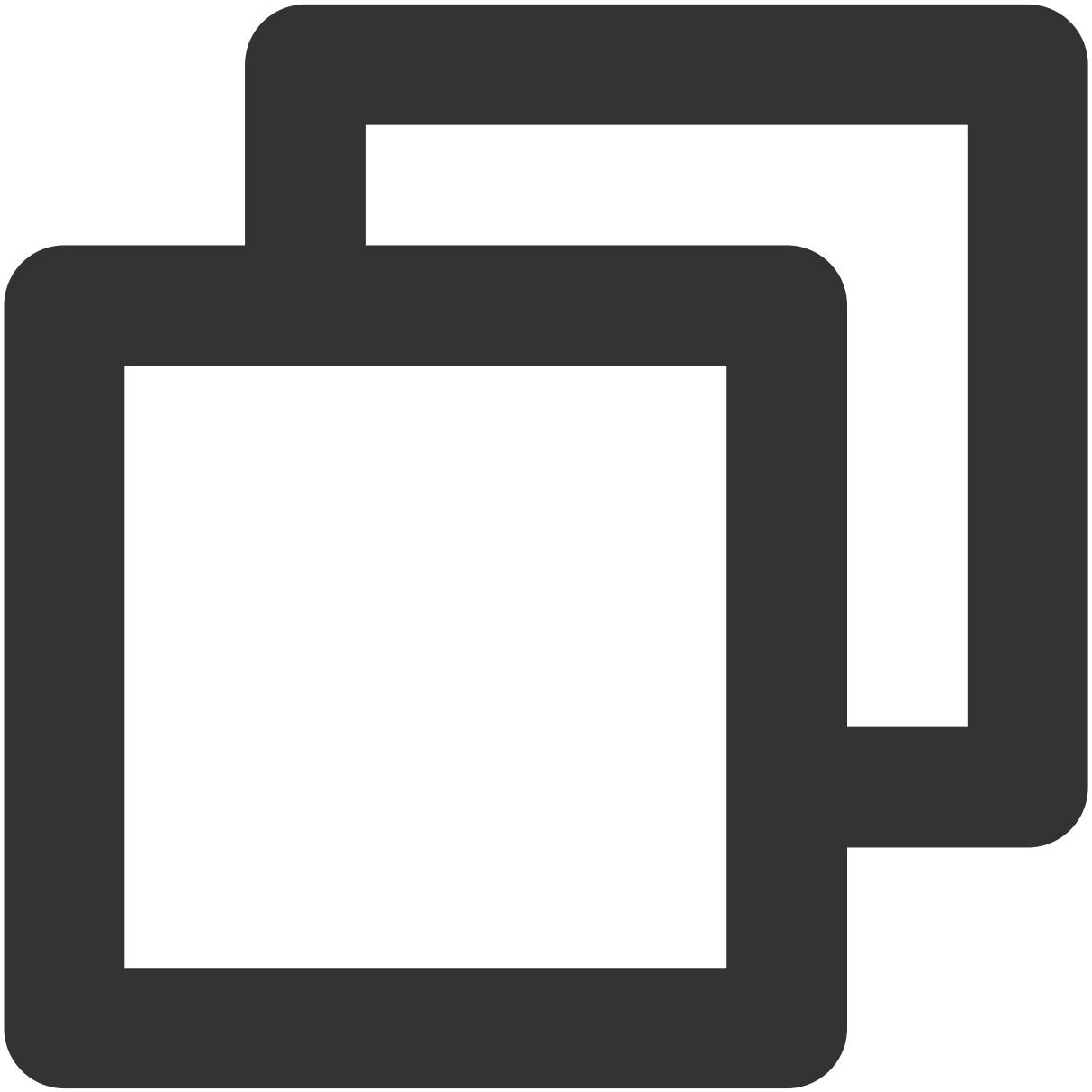
```
public abstract void muteAllRemoteAudio(boolean mute);
```

The parameters are described below:

Parameter	Type	Description
mute	boolean	`true` : Mute; `false` : Unmute

setVoiceEarMonitorEnable

This API is used to enable/disable in-ear monitoring.



```
public abstract void setVoiceEarMonitorEnable(boolean enable);
```

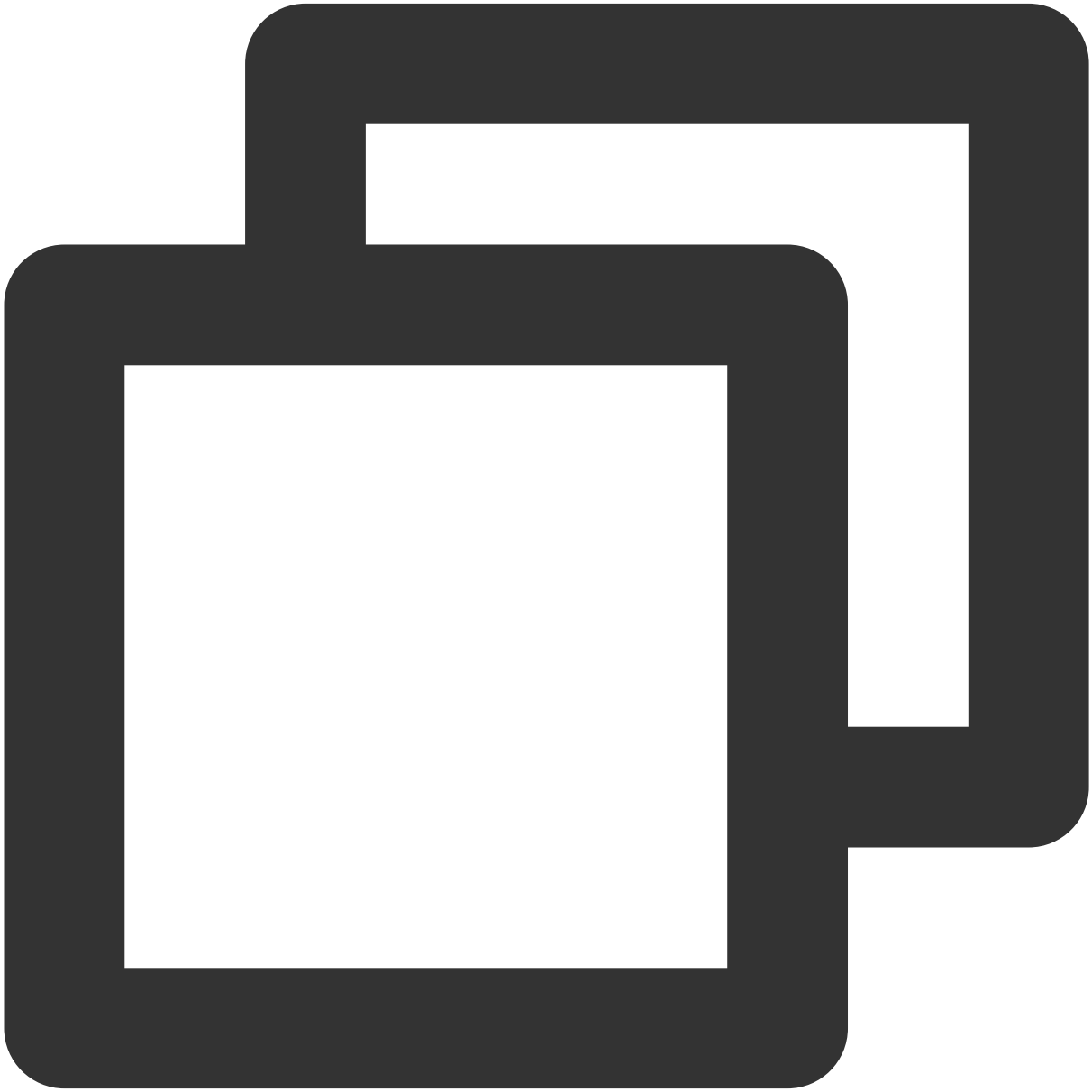
The parameters are described below:

Parameter	Type	Description
enable	boolean	`true` : Enable; `false` : Disable

Background Music and Audio Effect APIs

getAudioEffectManager

This API is used to get the background music and audio effect management object TXAudioEffectManager.

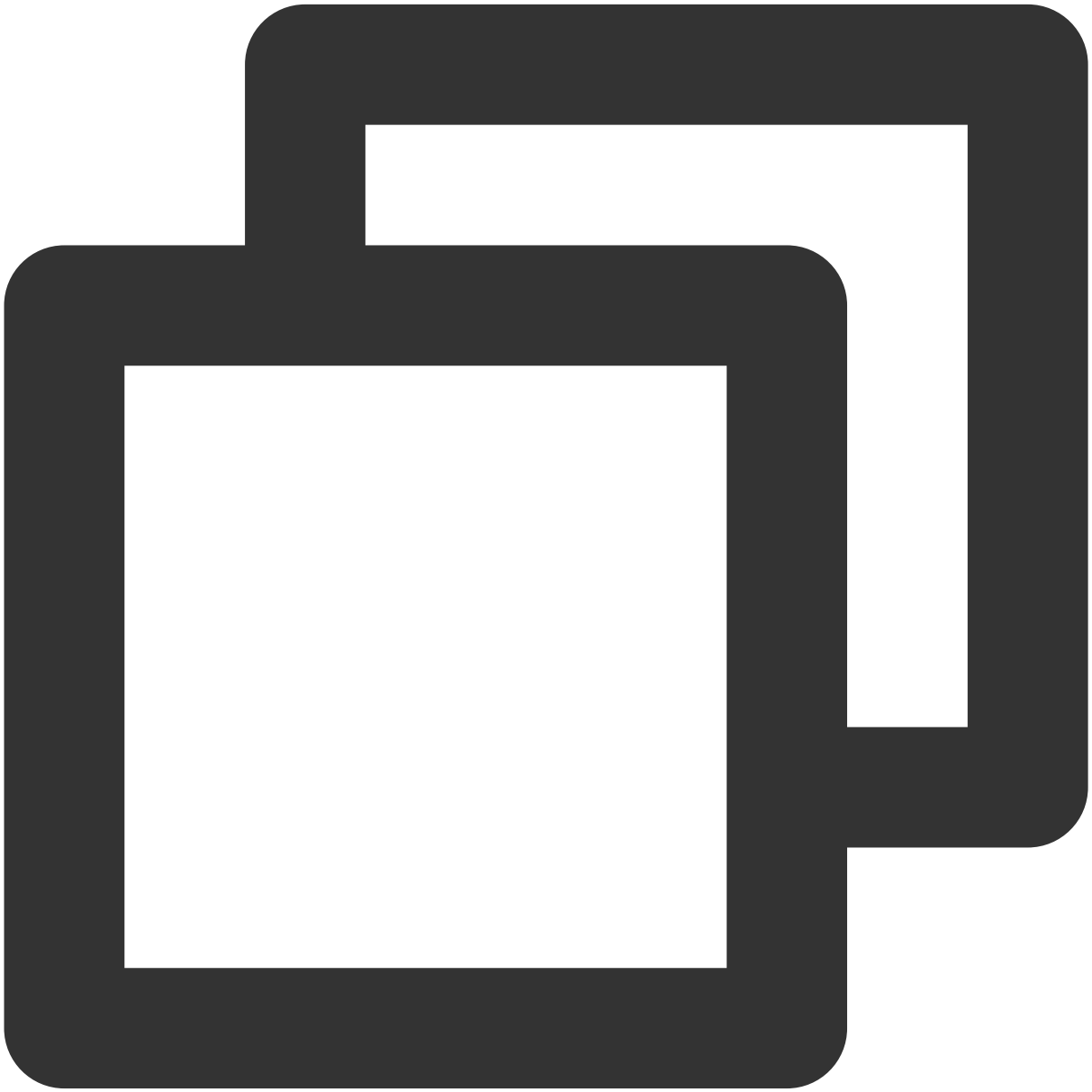


```
public abstract TXAudioEffectManager getAudioEffectManager();
```

Message Sending APIs

sendRoomTextMsg

This API is used to broadcast a text chat message in a room, which is generally used for on-screen comments.



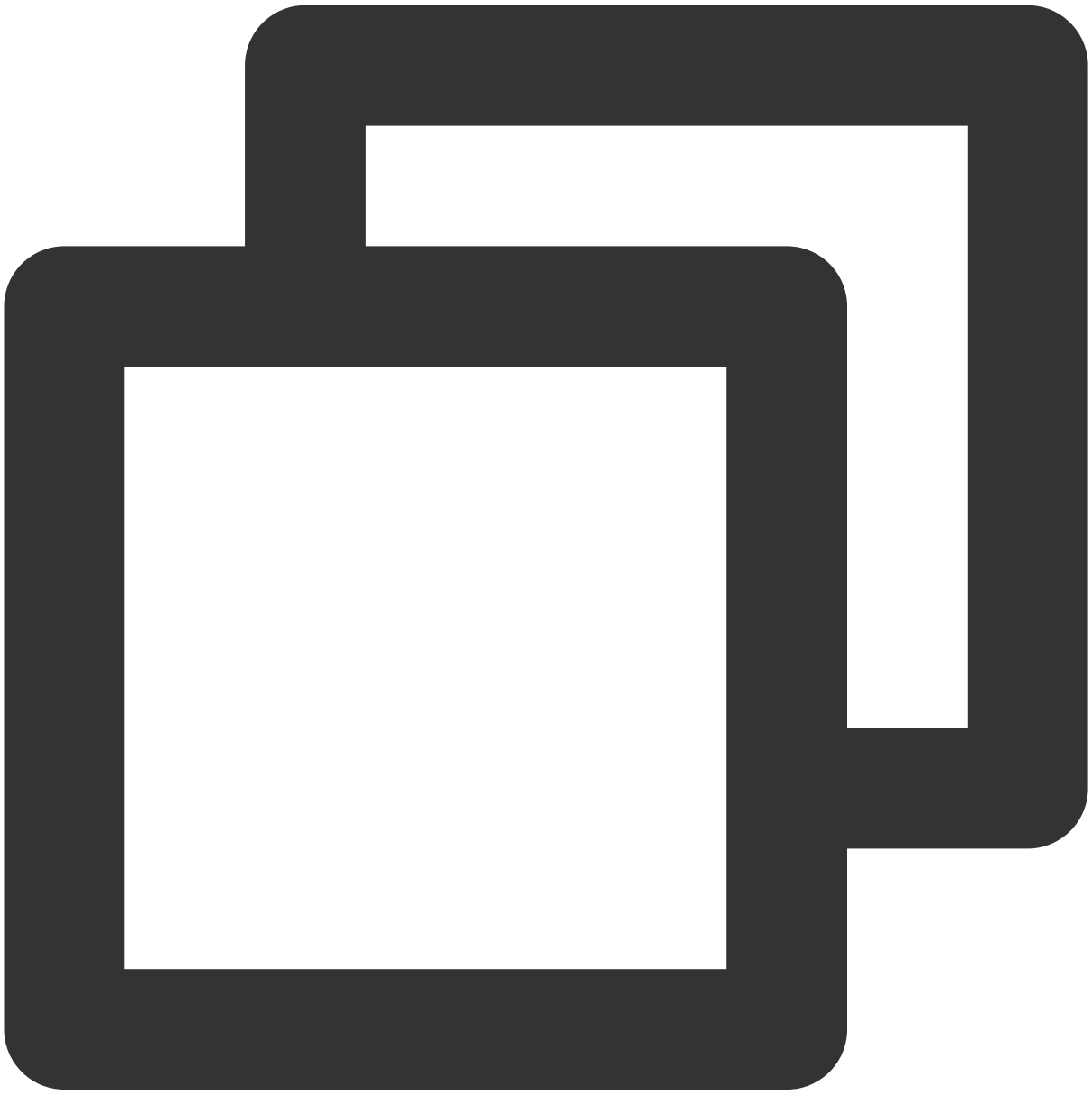
```
public abstract void sendRoomTextMsg(String message, TRTCKaraokeRoomCallback.Action
```

The parameters are described below:

Parameter	Type	Description
message	String	A text chat message.
callback	ActionCallback	The callback for the operation.

sendRoomCustomMsg

This API is used to send a custom text message.



```
public abstract void sendRoomCustomMsg(String cmd, String message, TRTCKaraokeRoomC
```

The parameters are described below:

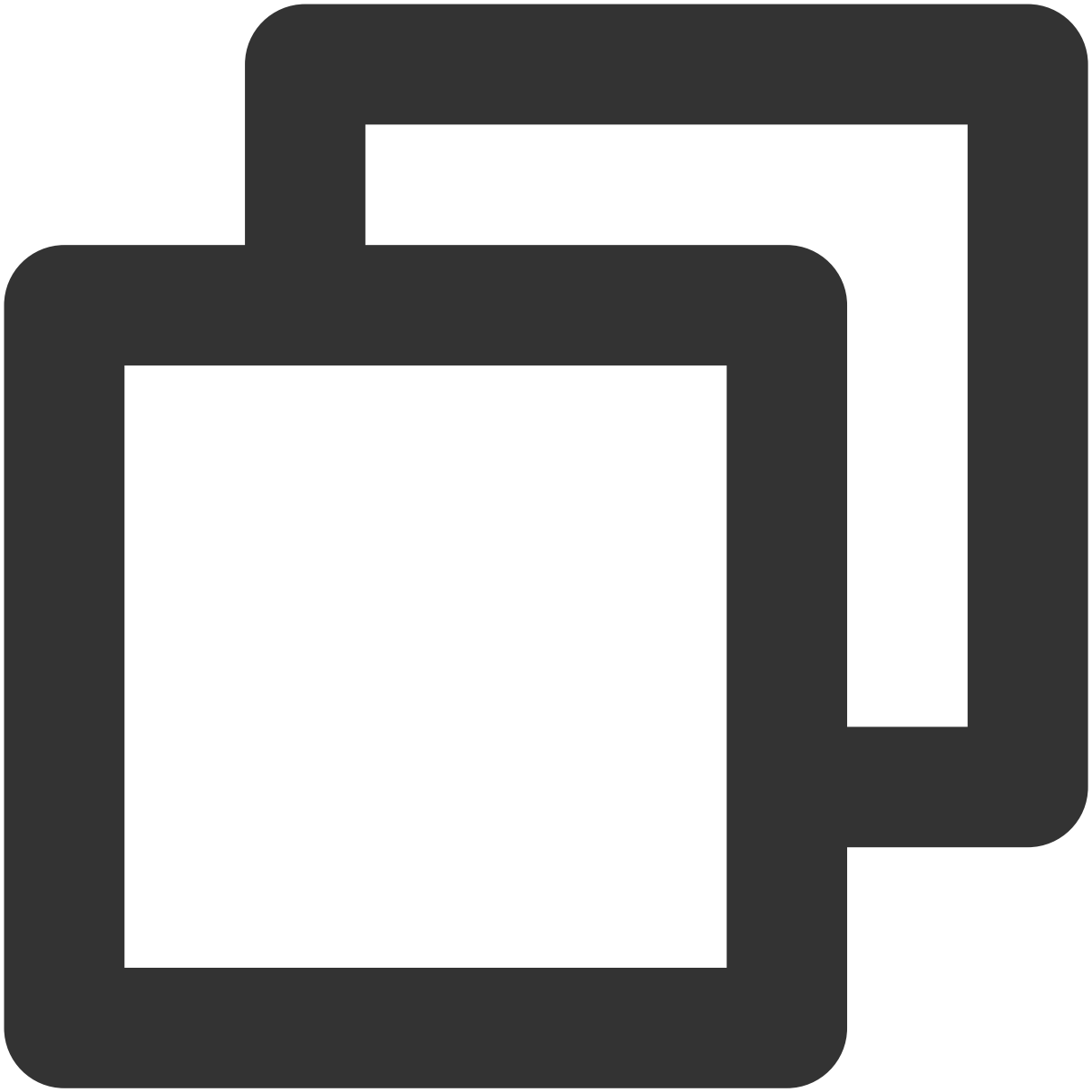
Parameter	Type	Description
cmd	String	A custom command word used to distinguish between different message

		types.
message	String	A text chat message.
callback	ActionCallback	The callback for the operation.

Invitation Signaling APIs

sendInvitation

This API is used to send an invitation.



```
public abstract String sendInvitation(String cmd, String userId, String content, TR
```

The parameters are described below:

Parameter	Type	Description
cmd	String	Custom command of business
userId	String	The user ID of the invitee.
content	String	The content of the invitation.

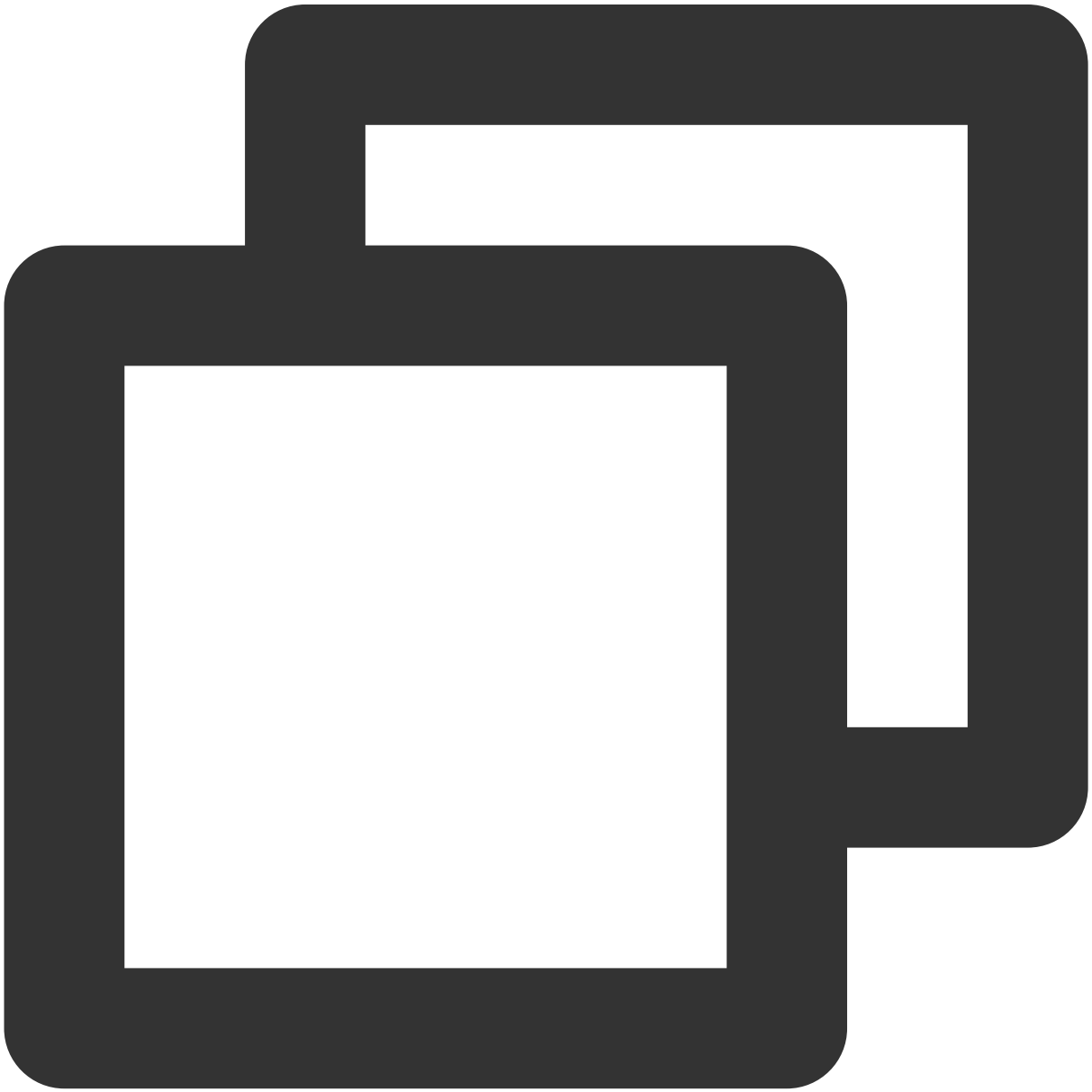
callback	ActionCallback	The callback for the operation.

Response parameters:

Parameter	Type	Description
inviteId	String	The invitation ID.

acceptInvitation

This API is used to accept an invitation.



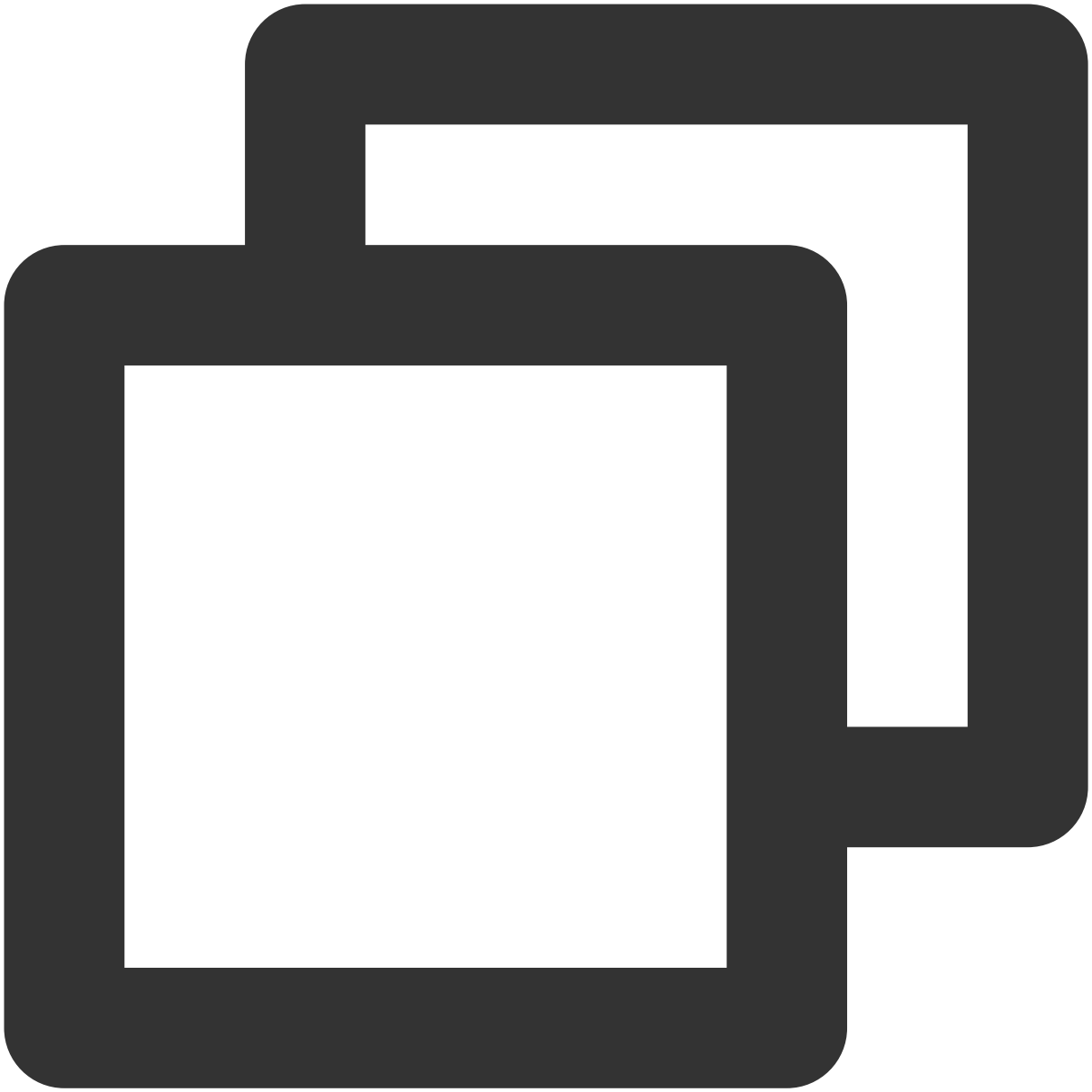
```
public abstract void acceptInvitation(String id, TRTCKaraokeRoomCallback.ActionCall
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
callback	ActionCallback	The callback for the operation.

rejectInvitation

This API is used to decline an invitation.



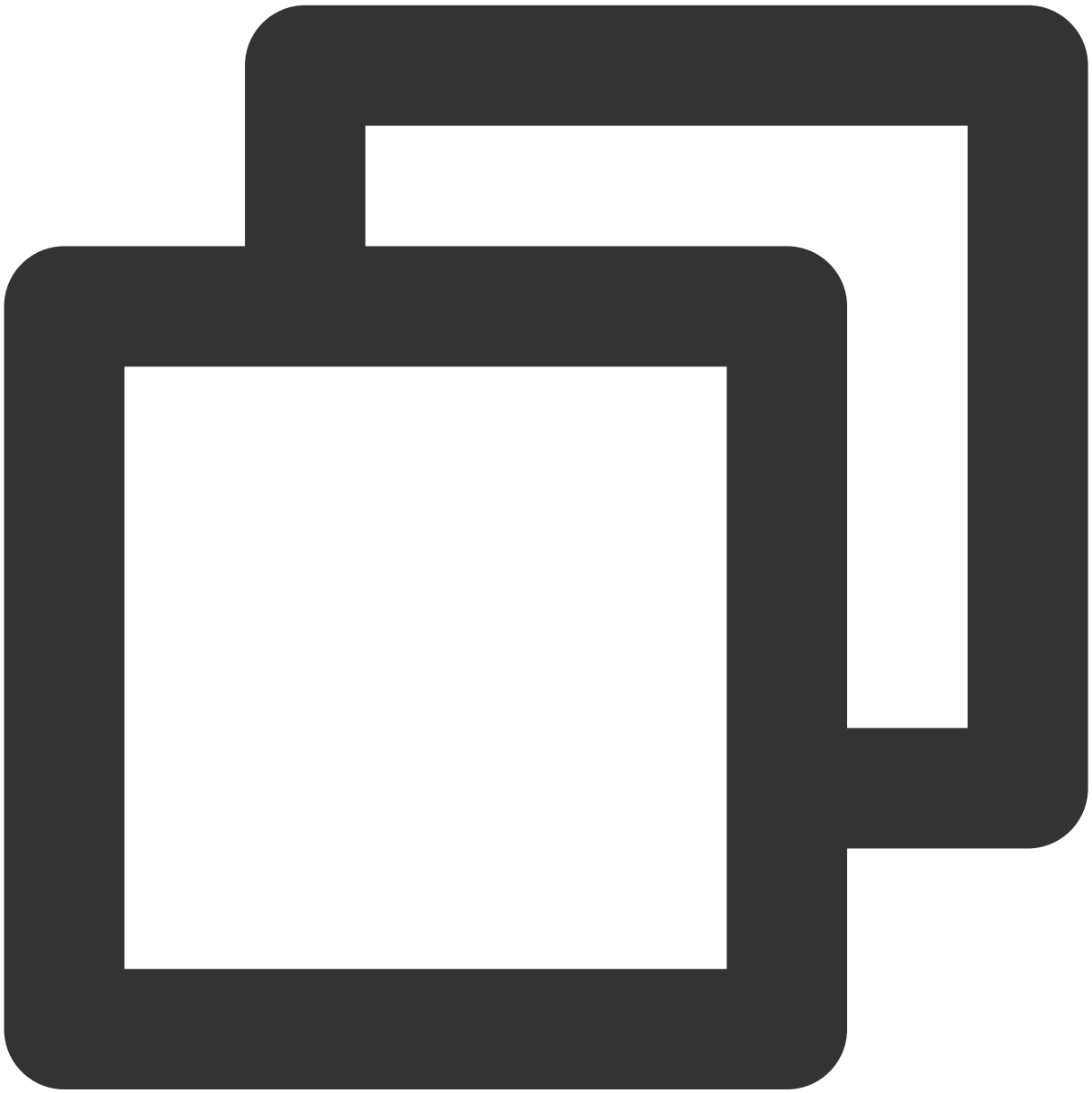
```
public abstract void rejectInvitation(String id, TRTCKaraokeRoomCallback.ActionCall
```

The parameters are described below:

Parameter	Type	Description
id	String	Invitation ID
callback	ActionCallback	The callback for the operation.

cancelInvitation

This API is used to cancel an invitation.



```
public abstract void cancelInvitation(String id, TRTCKaraokeRoomCallback.ActionCall
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
callback	ActionCallback	The callback for the operation.

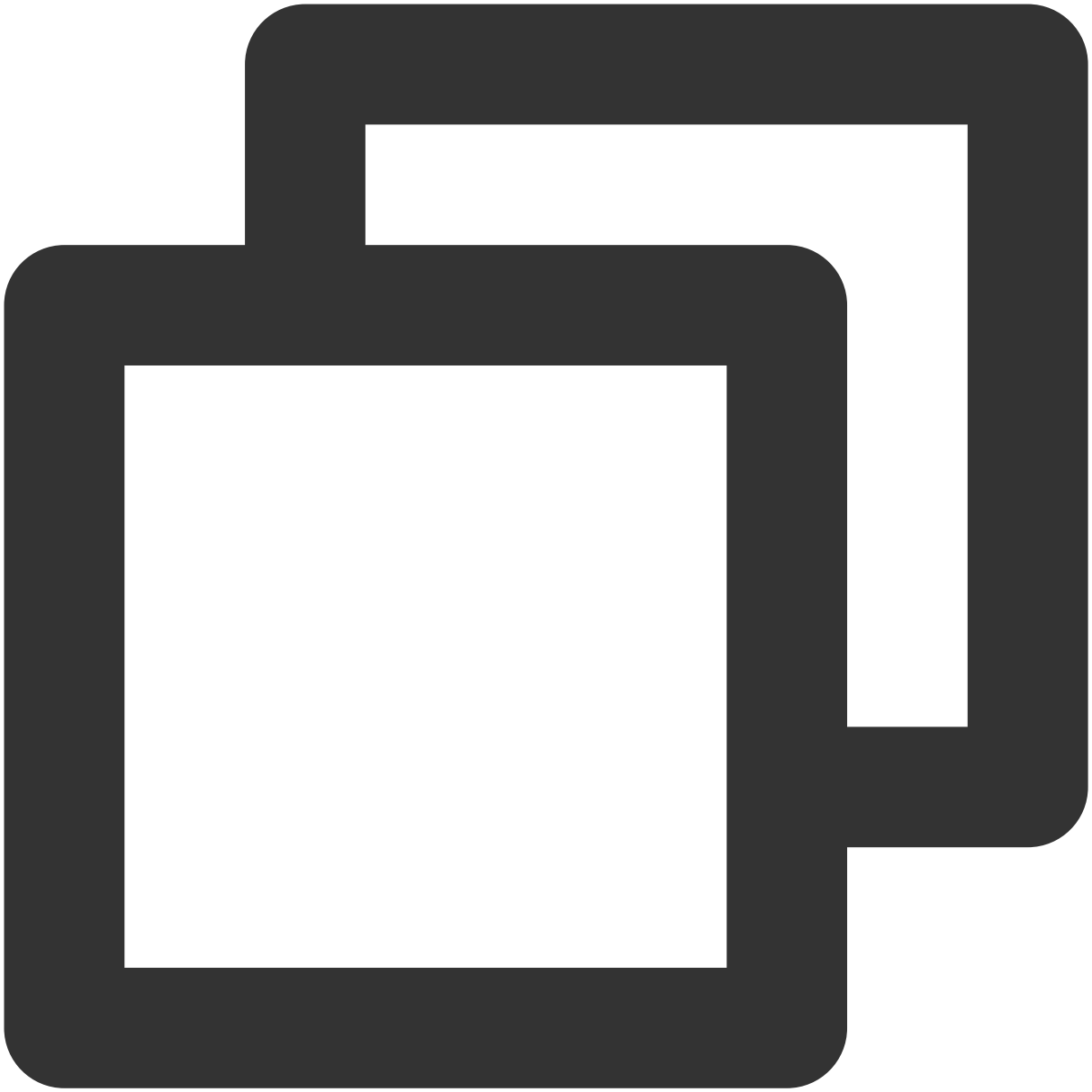
`TRTCKaraokeRoomDelegate` Event Callback APIs

Common Event Callback APIs

onError

Callback for error.

This callback indicates that the SDK encountered an unrecoverable error. Such errors must be listened for, and UI reminders should be sent to users depending if necessary.



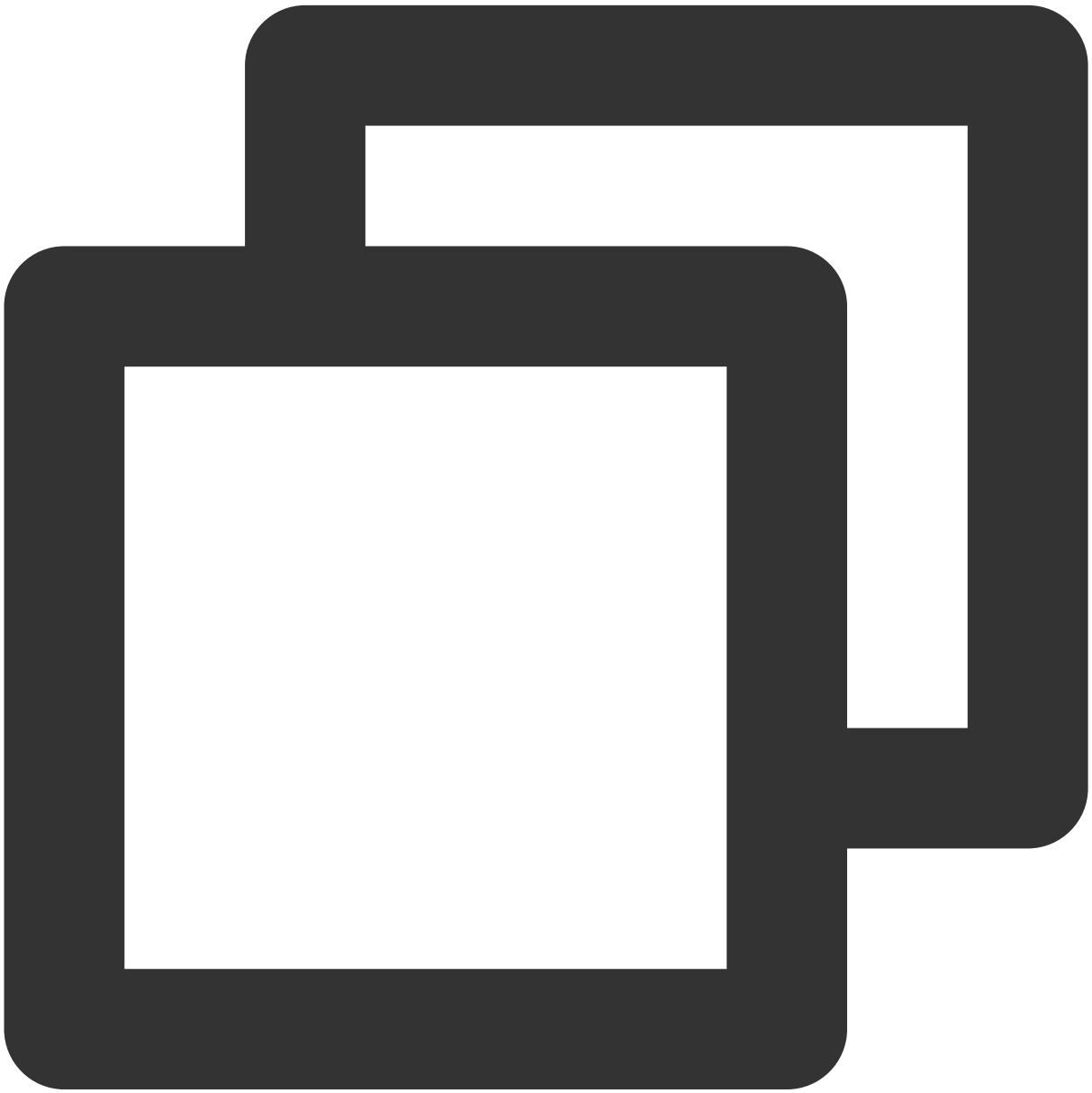
```
void onError(int code, String message);
```

The parameters are described below:

Parameter	Type	Description
code	int	The error code.
message	String	The error message.

onWarning

Callback for warning.



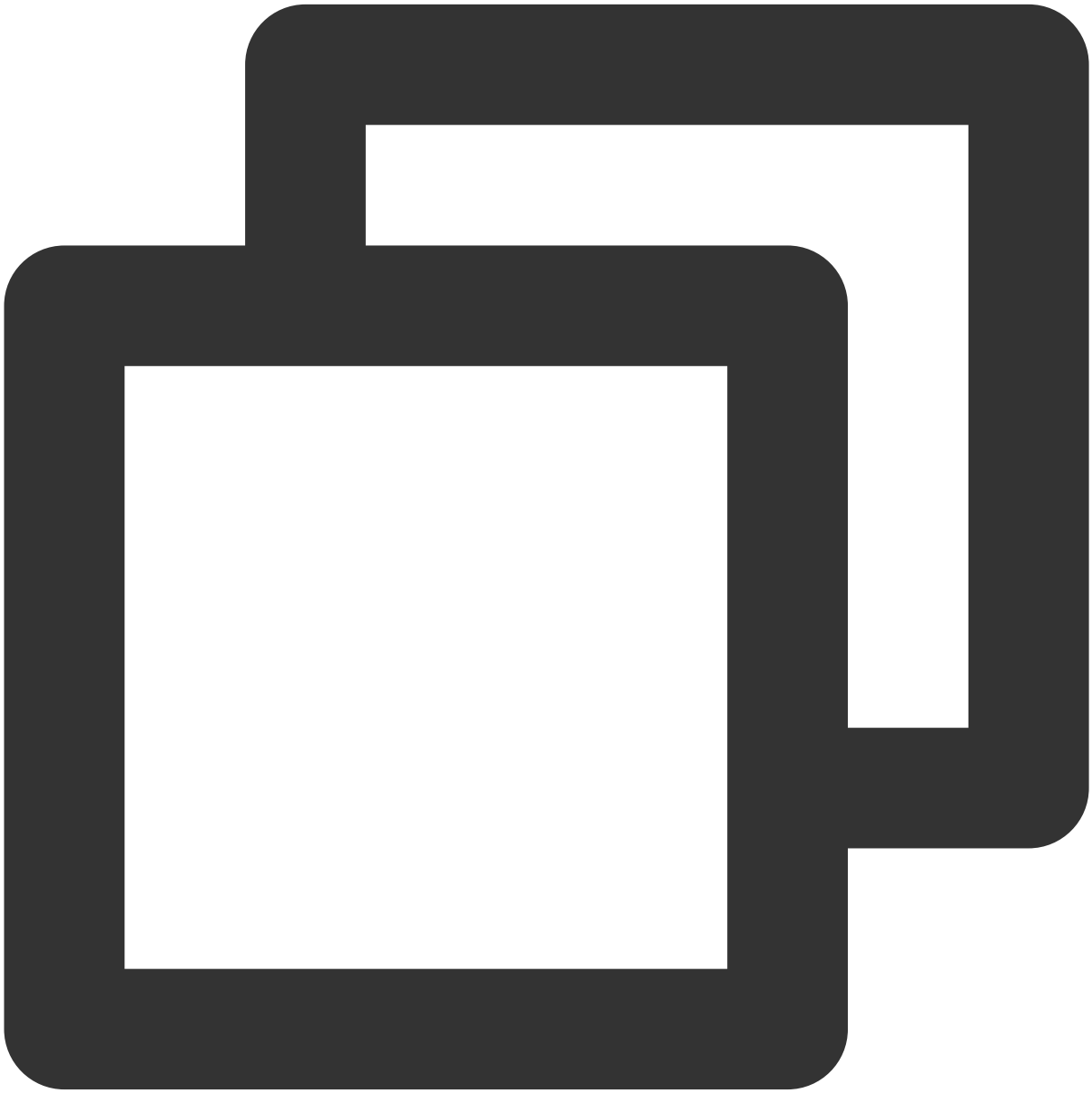
```
void onWarning(int code, String message);
```

The parameters are described below:

Parameter	Type	Description
code	int	The error code.
message	String	The warning message.

onDebugLog

Callback for log.



```
void onDebugLog(String message);
```

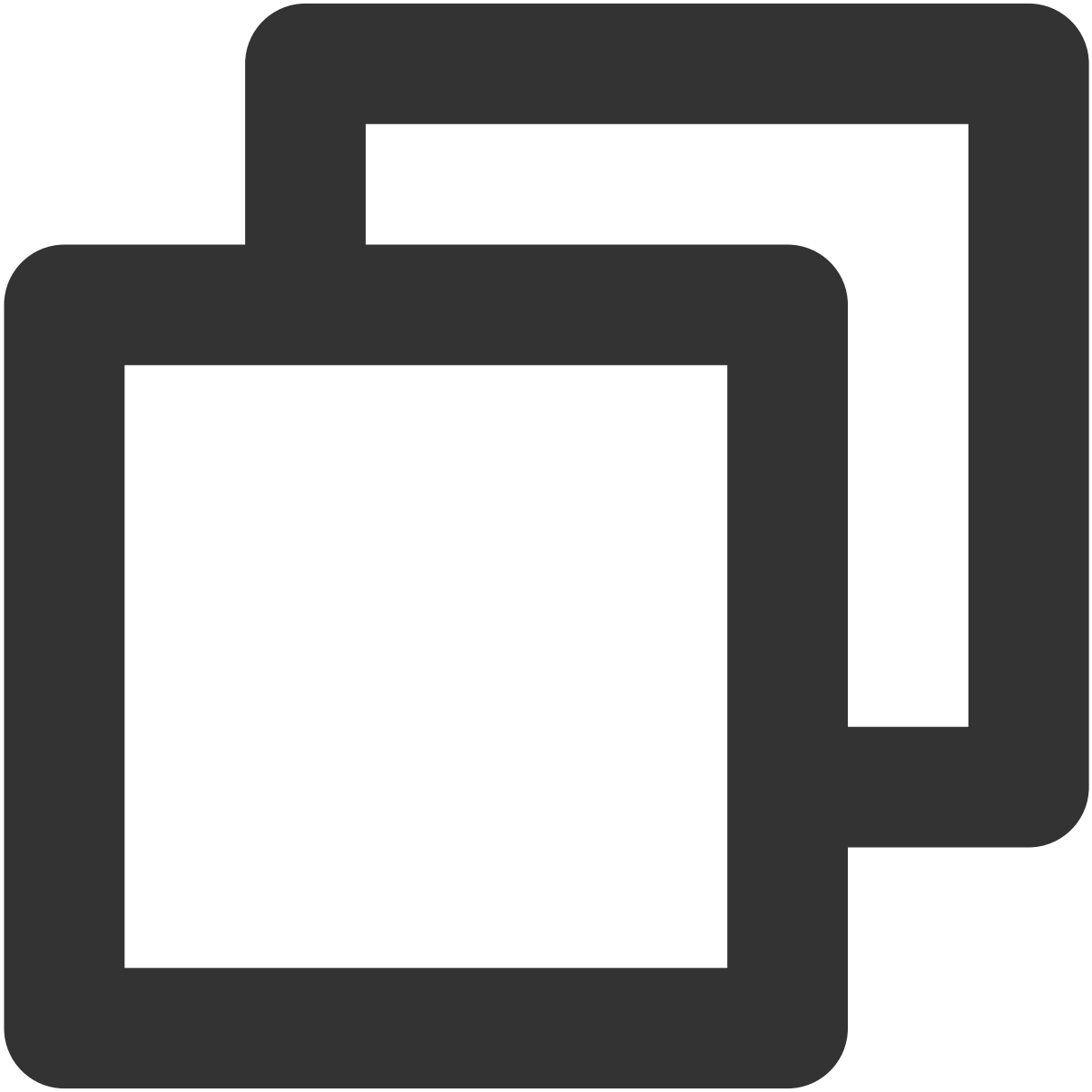
The parameters are described below:

Parameter	Type	Description
message	String	Log information.

Room Event Callback APIs

onRoomDestroy

Callback for room termination. When the owner terminates the room, all users in the room will receive this callback.



```
void onRoomDestroy(String roomId);
```

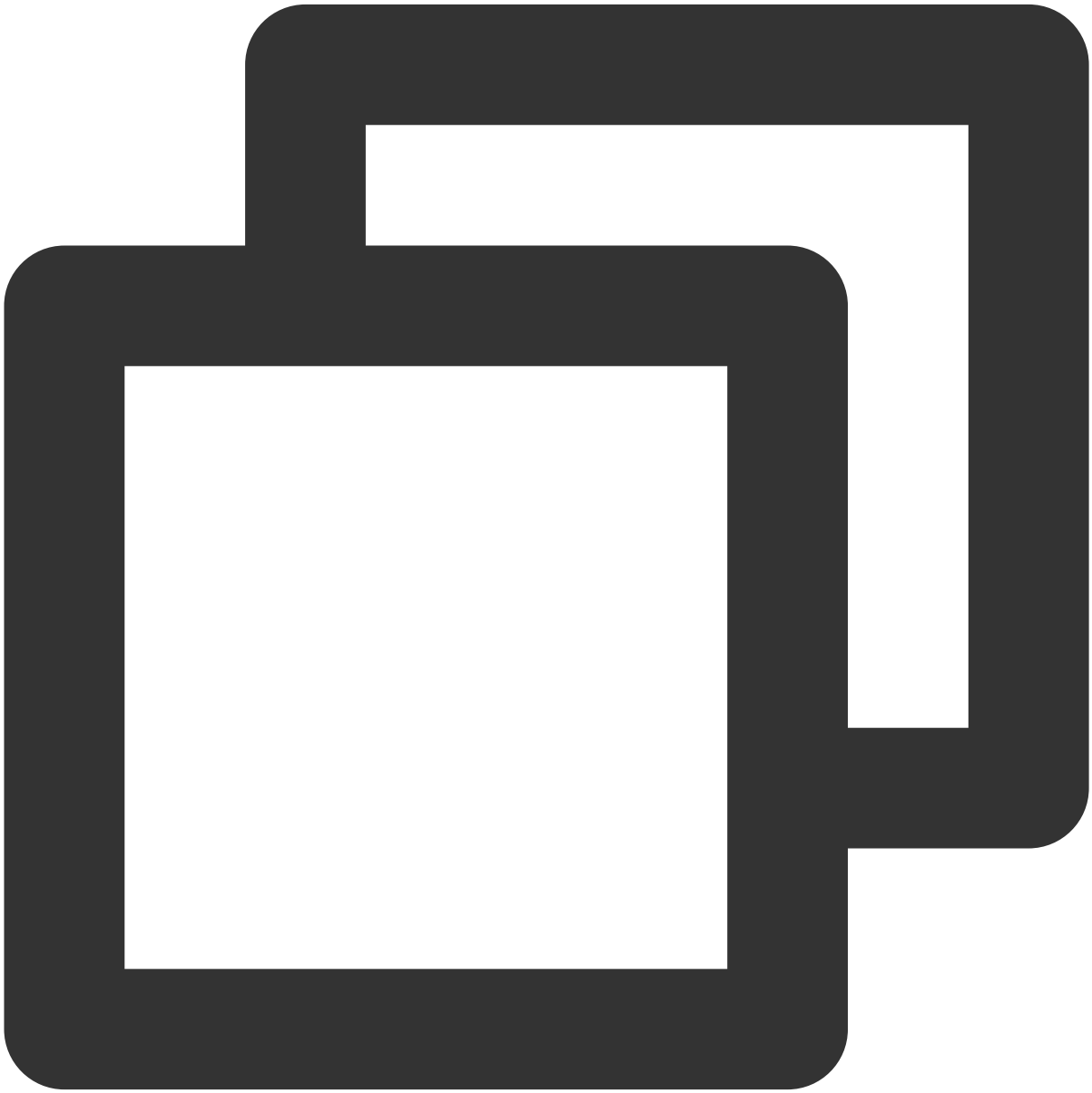
The parameters are described below:

Parameter	Type	Description

roomId	String	The room ID.

onRoomInfoChange

Callback for change of room information. This callback is sent after successful room entry. The information in `roomInfo` is passed in by the room owner during room creation.



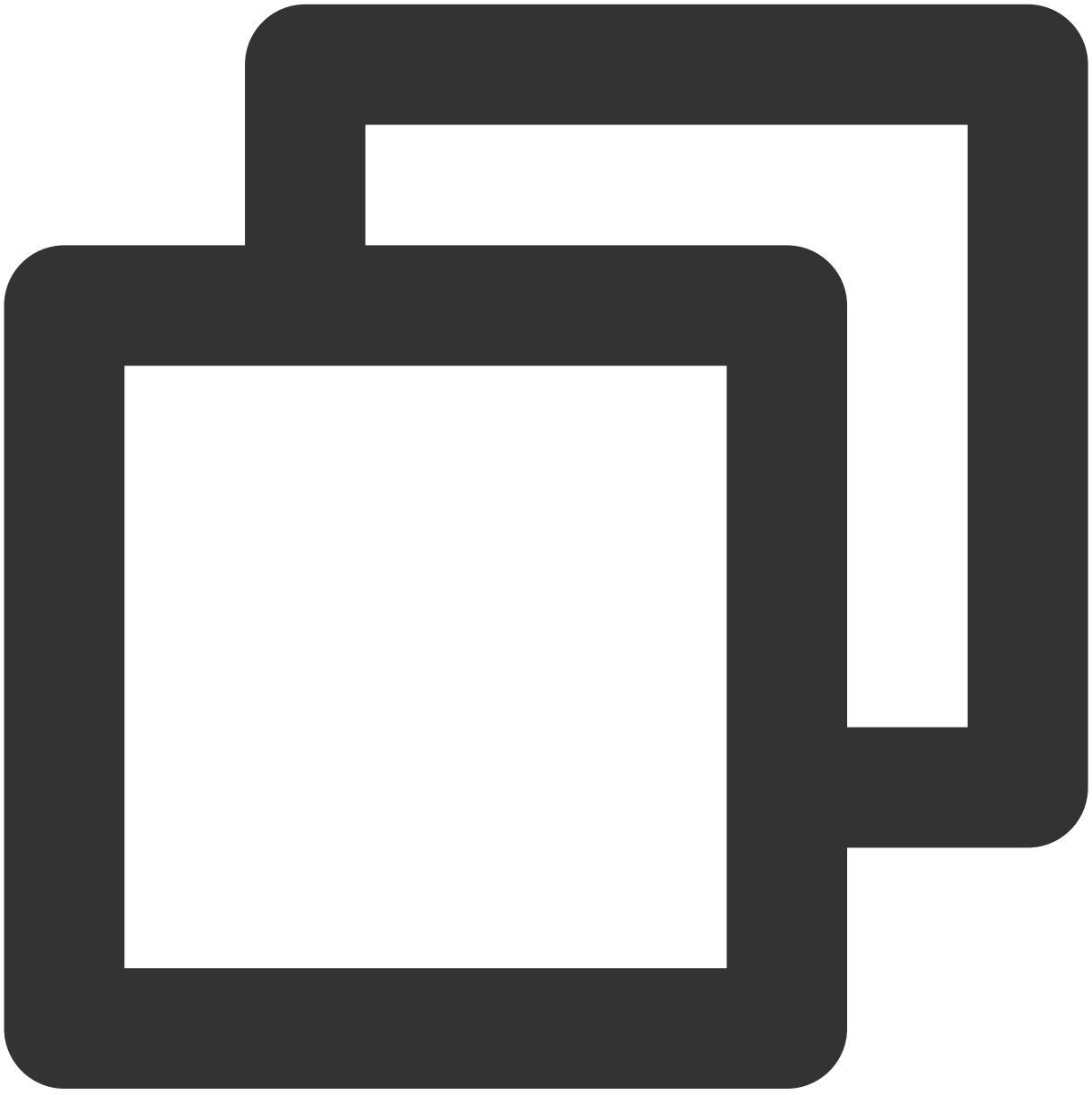
```
void onRoomInfoChange(TRTCKaraokeRoomDef.RoomInfo roomInfo);
```

The parameters are described below:

Parameter	Type	Description
roomInfo	RoomInfo	Room information.

onUserMicrophoneMute

Callback of whether a user's mic is muted. When a user calls `muteLocalAudio` , all members in the room will receive this callback.



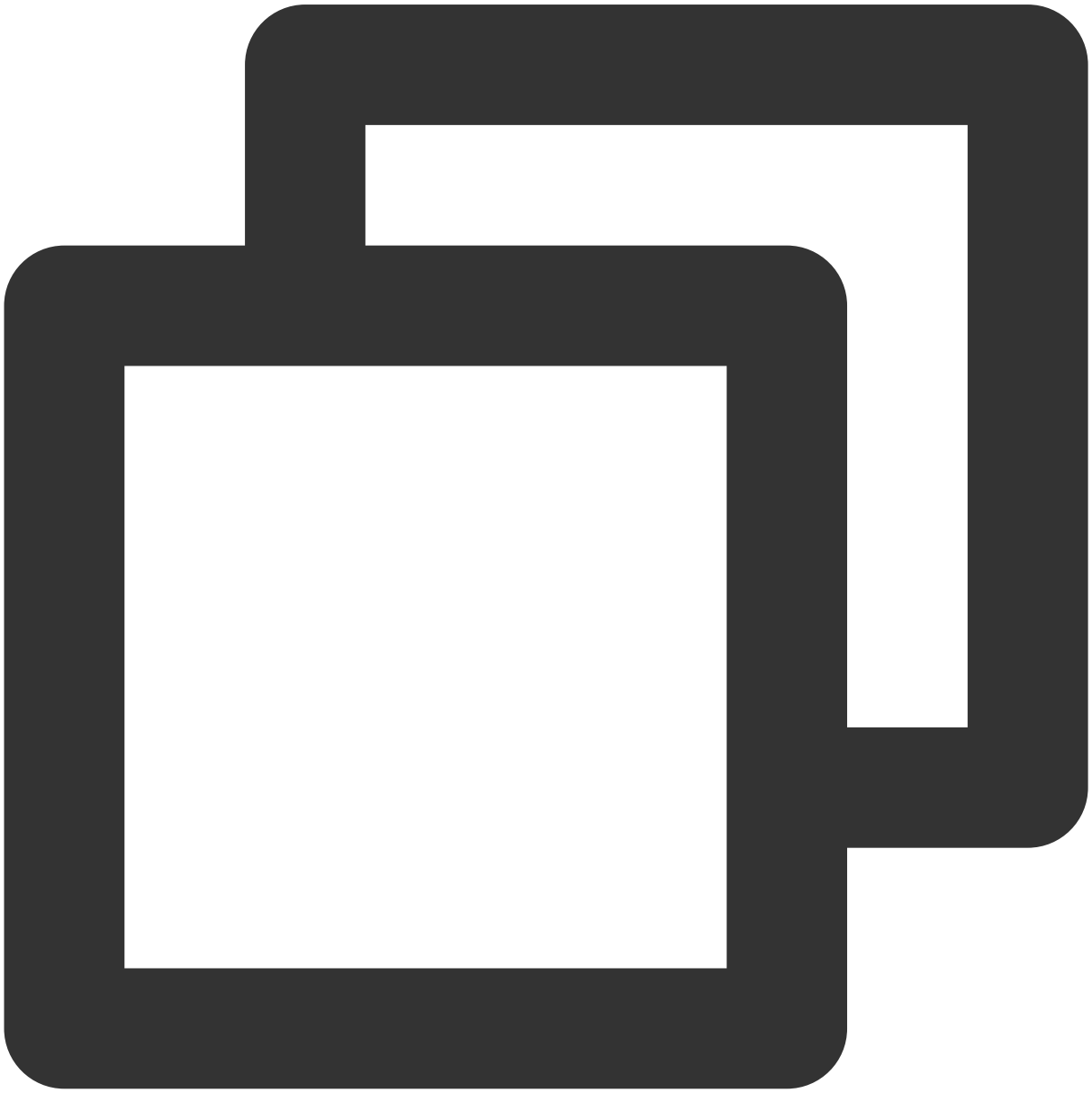
```
void onUserMicrophoneMute(String userId, boolean mute);
```

The parameters are described below:

Parameter	Type	Description
userId	String	The user ID.
mute	boolean	The volume level. Value range: 0-100

onUserVolumeUpdate

Notification to all members of the volume after the volume reminder is enabled.



```
void onUserVolumeUpdate(List<TRTCCloudDef.TRTCVolumeInfo> userVolumes, int totalVol
```

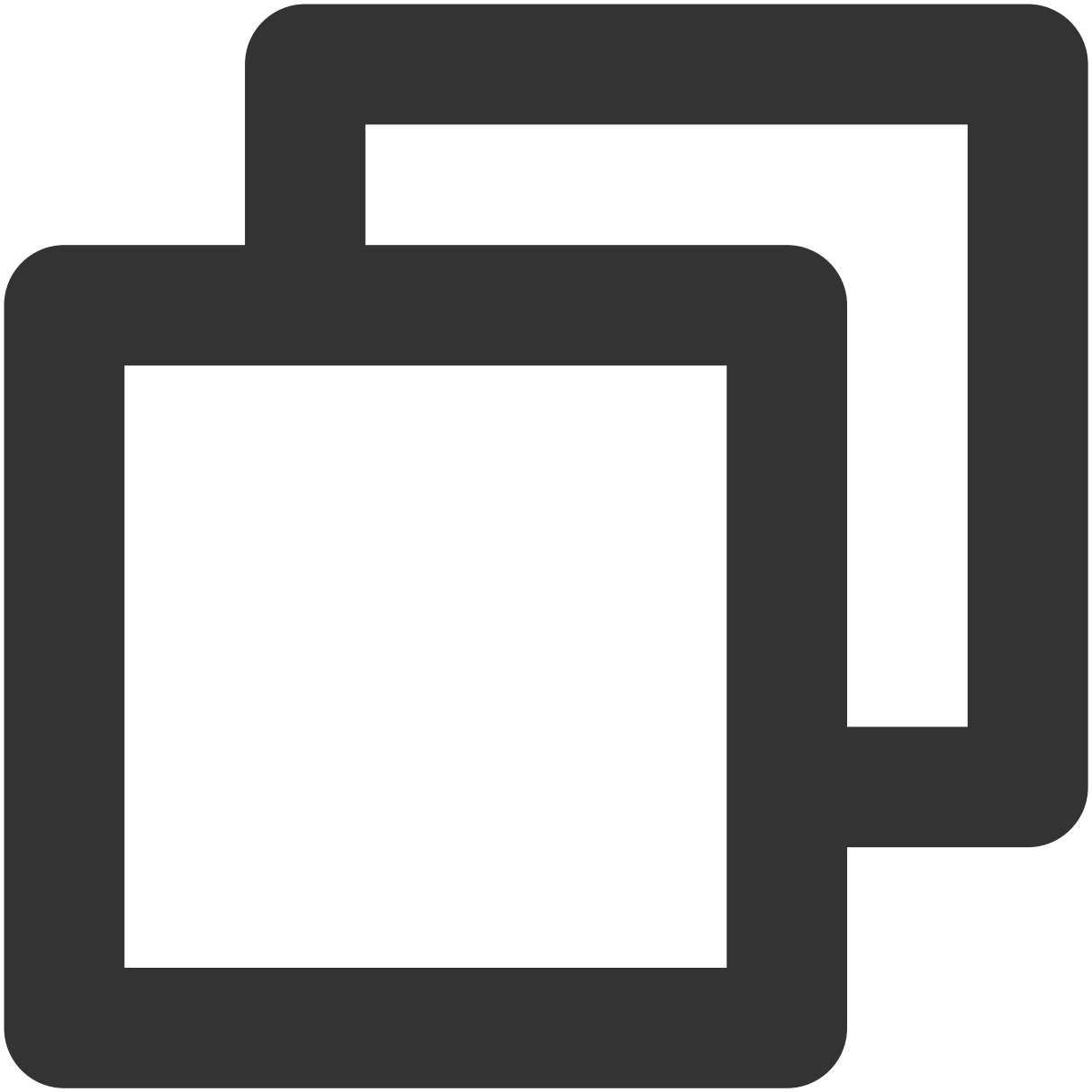
The parameters are described below:

Parameter	Type	Description
userVolumes	List	List of user volumes.
totalVolume	int	The total volume. Value range: 0-100

Seat Callback APIs

onSeatListChange

Callback for all seat changes.



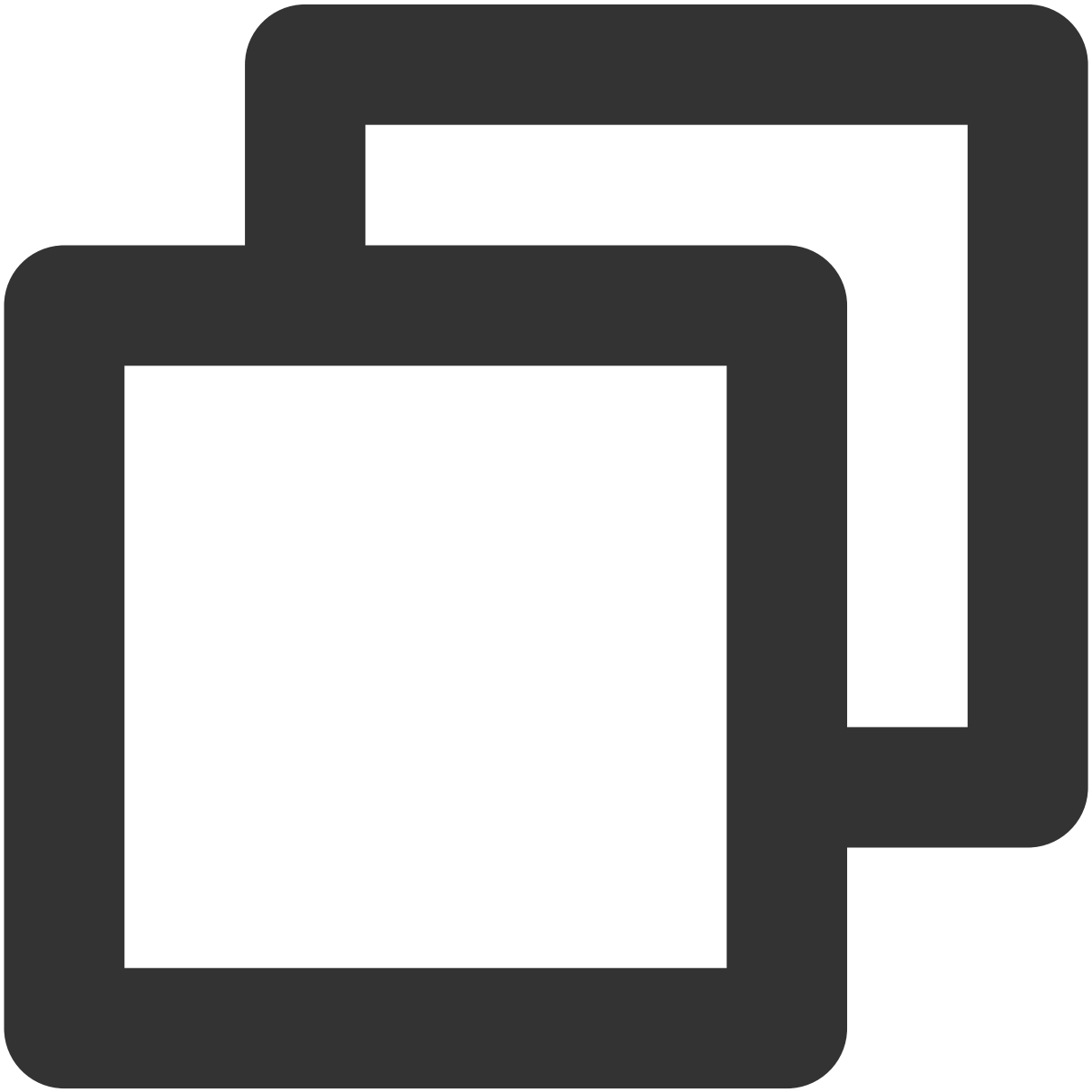
```
void onSeatListChange(List<SeatInfo> seatInfoList);
```

The parameters are described below:

Parameter	Type	Description
seatInfoList	List<SeatInfo>	The full seat list.

onAnchorEnterSeat

Someone became a speaker or was made a speaker by the owner.



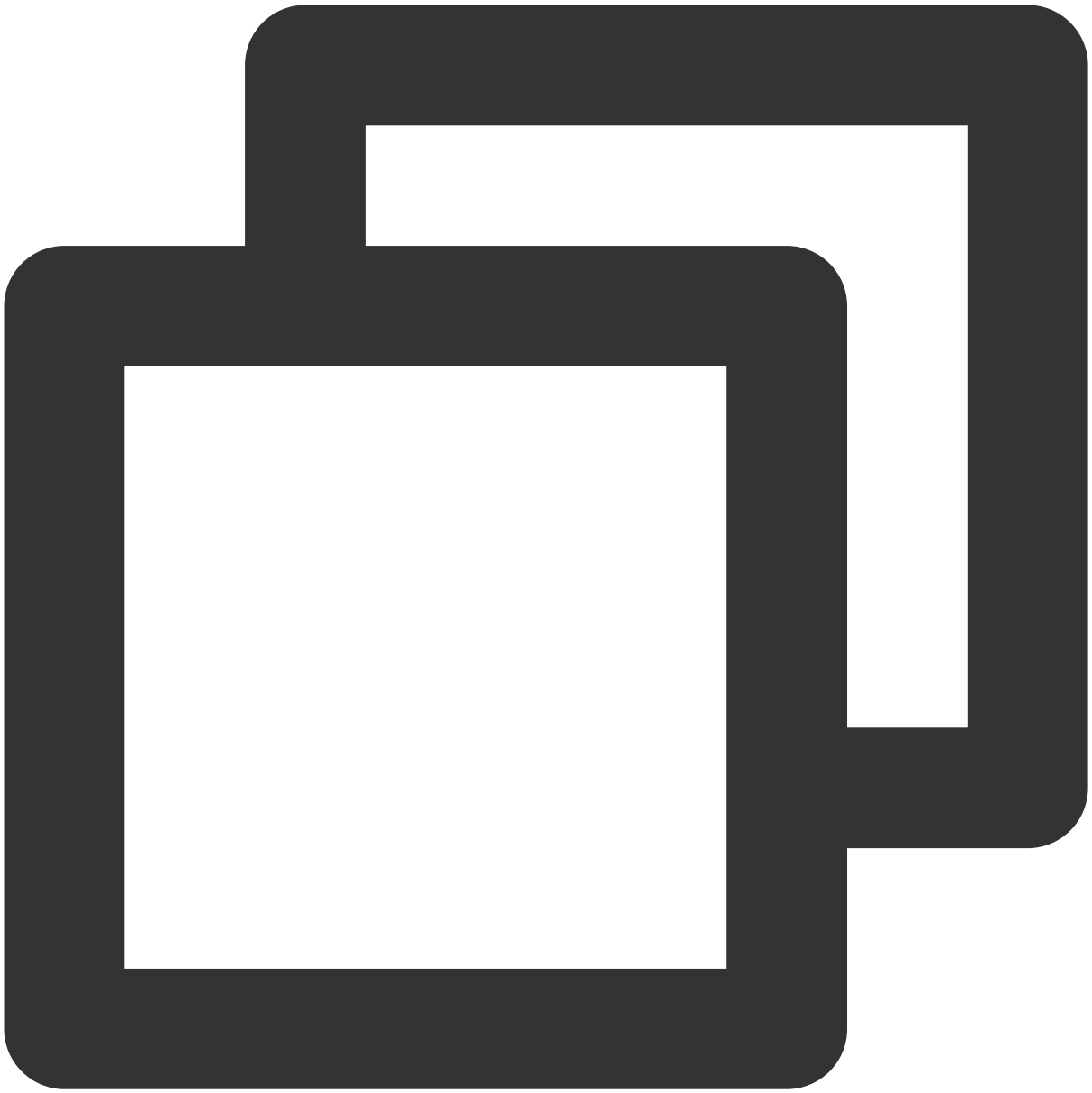
```
void onAnchorEnterSeat(int index, TRTCKaraokeRoomDef.UserInfo user);
```

The parameters are described below:

Parameter	Type	Description
index	int	The seat taken.
user	UserInfo	The details of the user who took the seat.

onAnchorLeaveSeat

A speaker became a listener or was made a listener by the room owner.



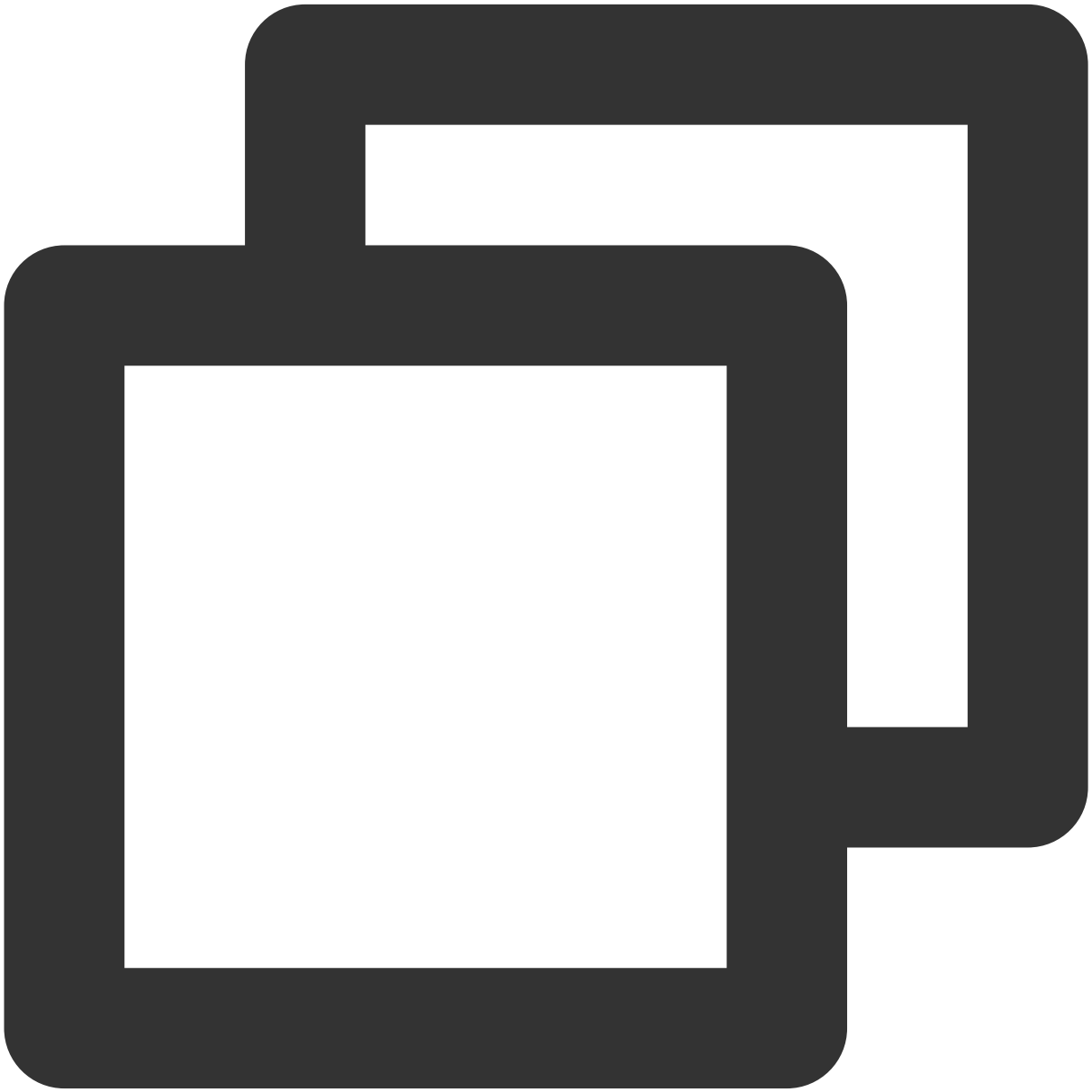
```
void onAnchorLeaveSeat(int index, TRTCKaraokeRoomDef.UserInfo user);
```

The parameters are described below:

Parameter	Type	Description
index	int	The seat previously occupied by the speaker.
user	UserInfo	The details of the user who became a listener.

onSeatMute

The room owner muted/unmuted a seat.



```
void onSeatMute(int index, boolean isMute);
```

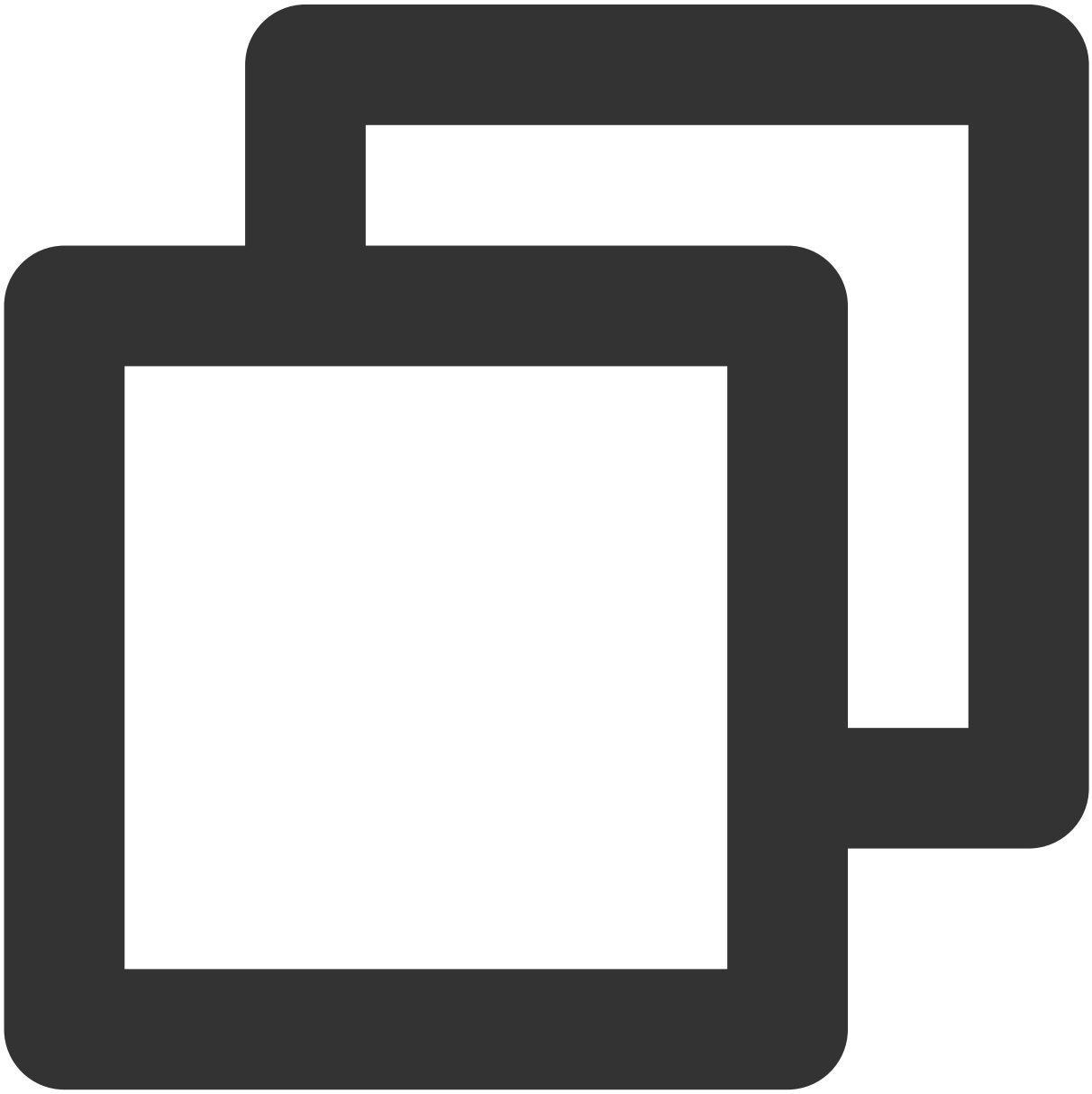
The parameters are described below:

Parameter	Type	Description
index	int	The seat muted/unmuted.
isMute	boolean	

		`true` : Muted; `false` : Unmuted

onSeatClose

The room owner blocked/unblocked a seat.



```
void onSeatClose(int index, boolean isClose);
```

The parameters are described below:

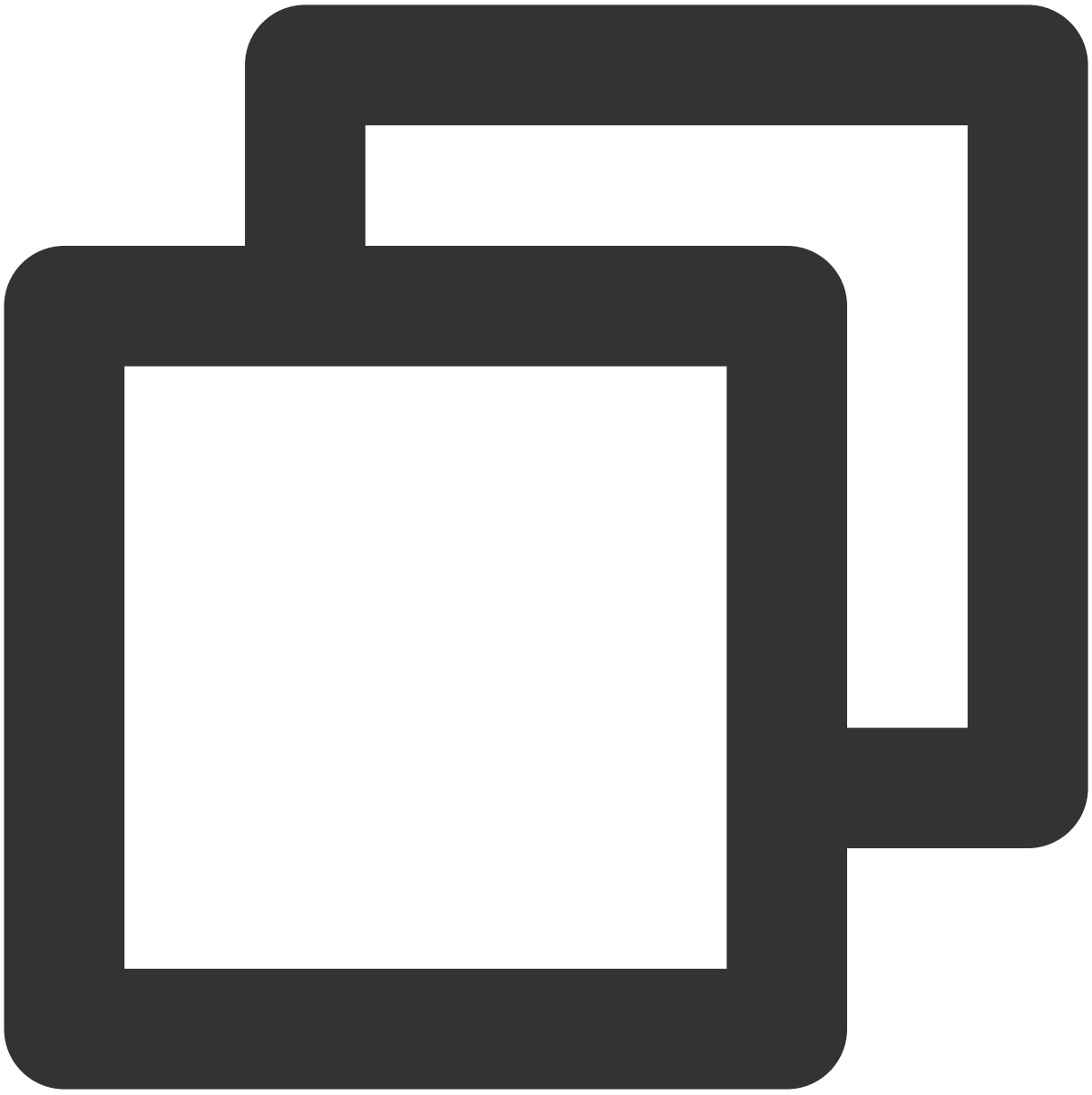
Parameter	Type	Description

index	int	The seat blocked/unblocked.
isClose	boolean	`true` : Blocked; `false` : Unblocked

Callback APIs for Room Entry/Exit by Listener

onAudienceEnter

A listener entered the room.



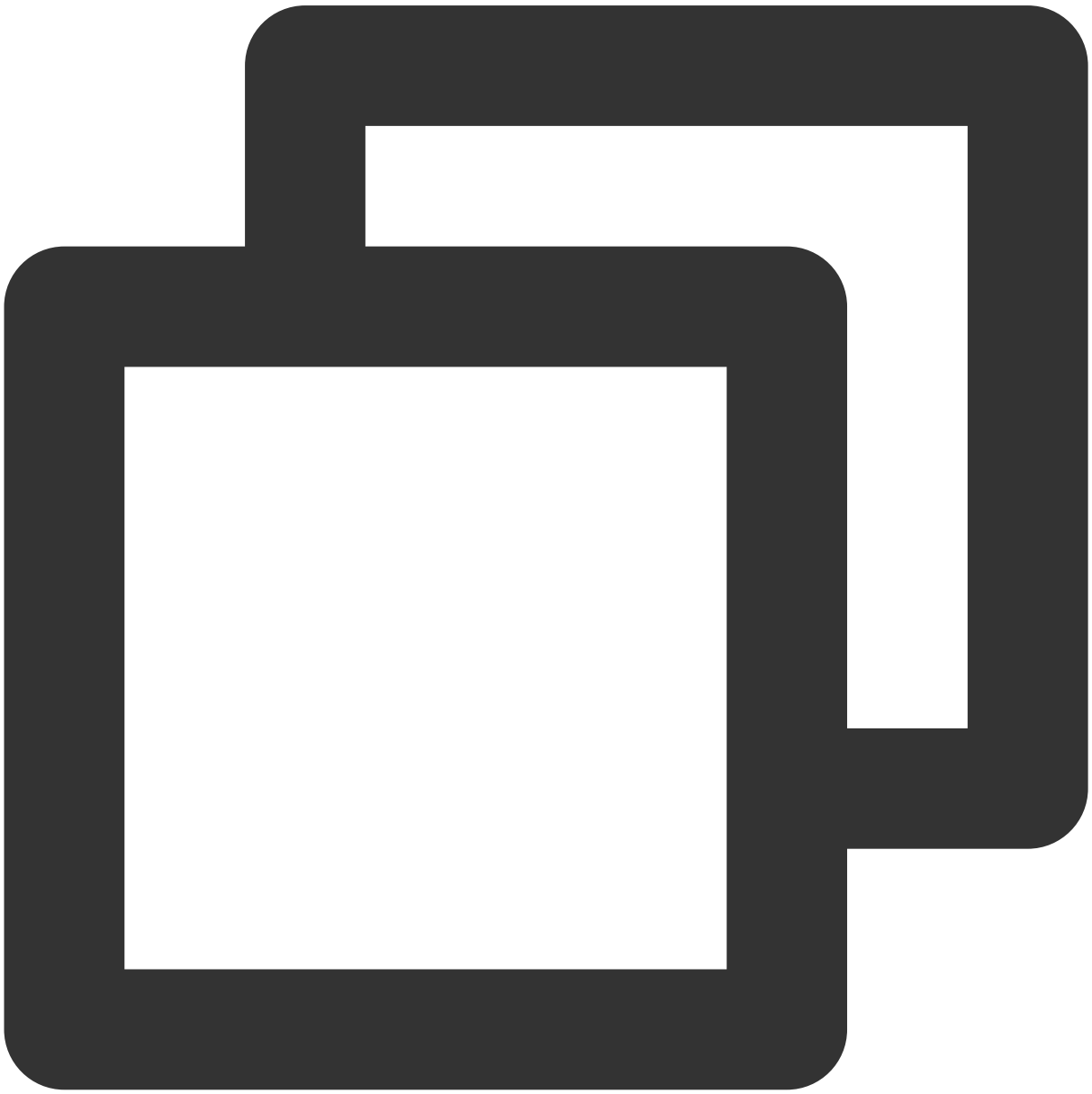
```
void onAudienceEnter(TRTCKaraokeRoomDef.UserInfo userInfo);
```

The parameters are described below:

Parameter	Type	Description
userInfo	UserInfo	The information of the listener who entered the room.

onAudienceExit

A listener exited the room.



```
void onAudienceExit(TRTCKaraokeRoomDef.UserInfo userInfo);
```

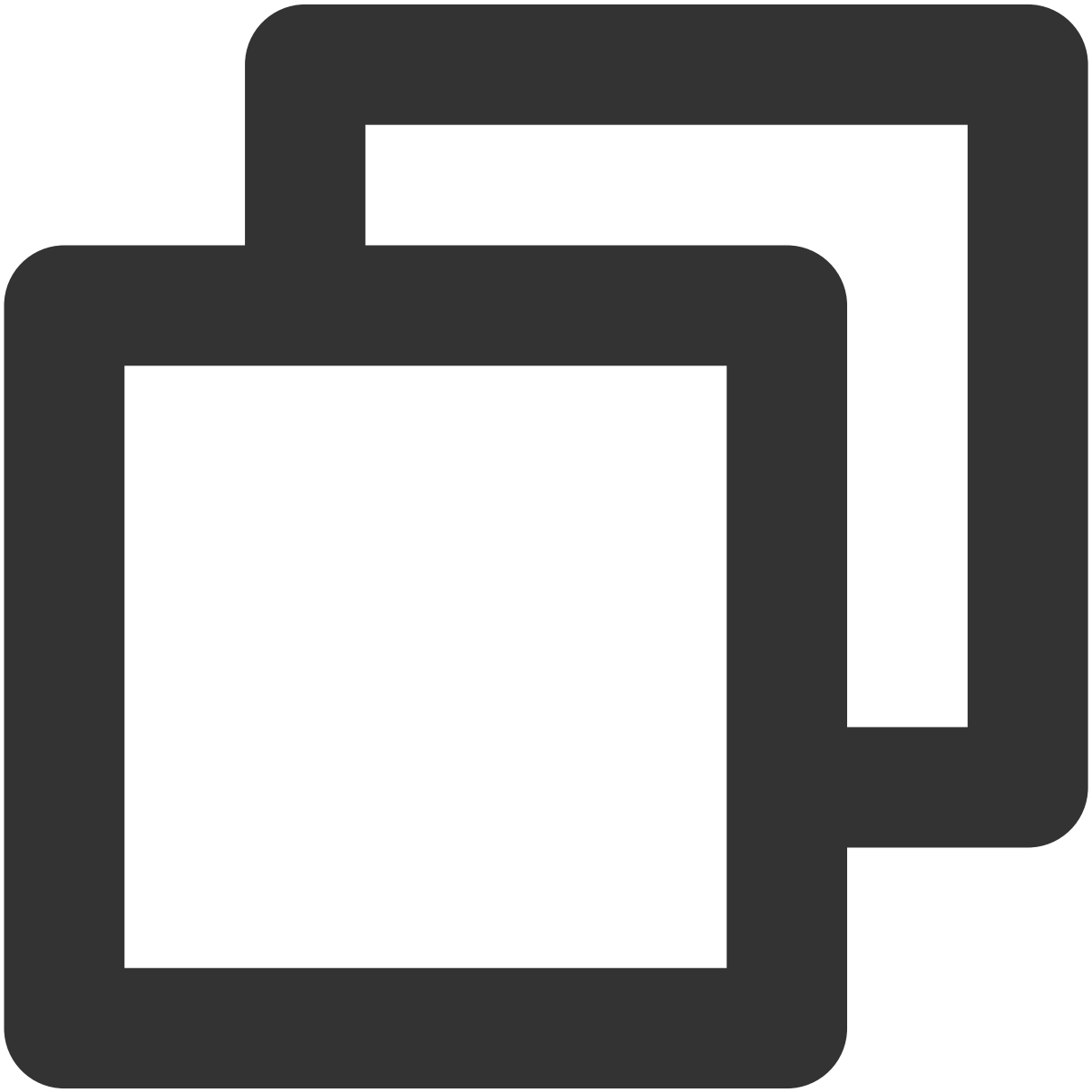
The parameters are described below:

Parameter	Type	Description
userInfo	UserInfo	The information of the listener who exited the room.

Message Event Callback APIs

onRecvRoomTextMsg

Callback for receiving a text chat message.



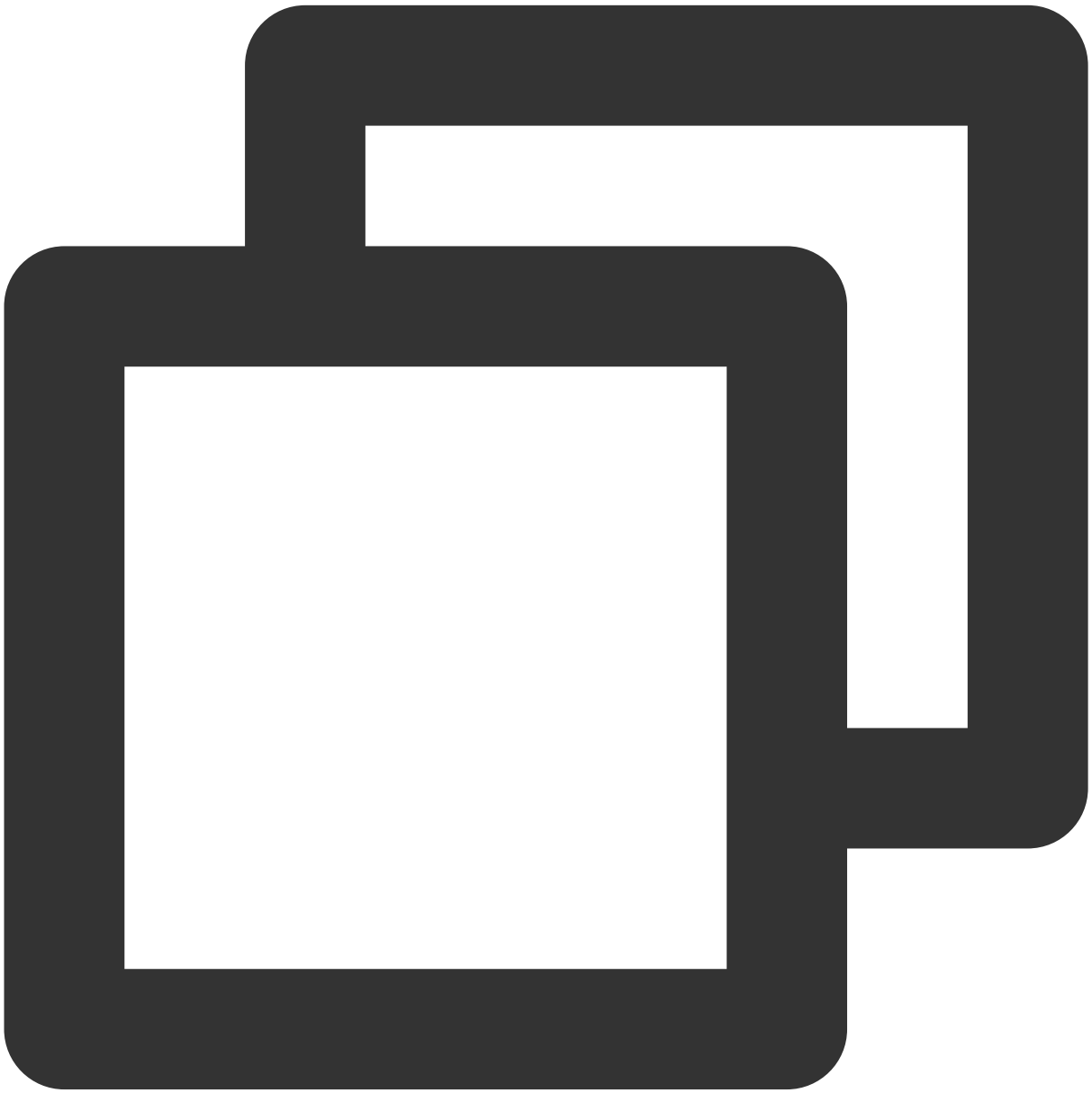
```
void onRecvRoomTextMsg(String message, TRTCKaraokeRoomDef.UserInfo userInfo);
```

The parameters are described below:

Parameter	Type	Description
message	String	A text chat message.
userInfo	UserInfo	Information of the sender.

onRecvRoomCustomMsg

A custom message was received.



```
void onRecvRoomCustomMsg(String cmd, String message, TRTCKaraokeRoomDef.UserInfo us
```

The parameters are described below:

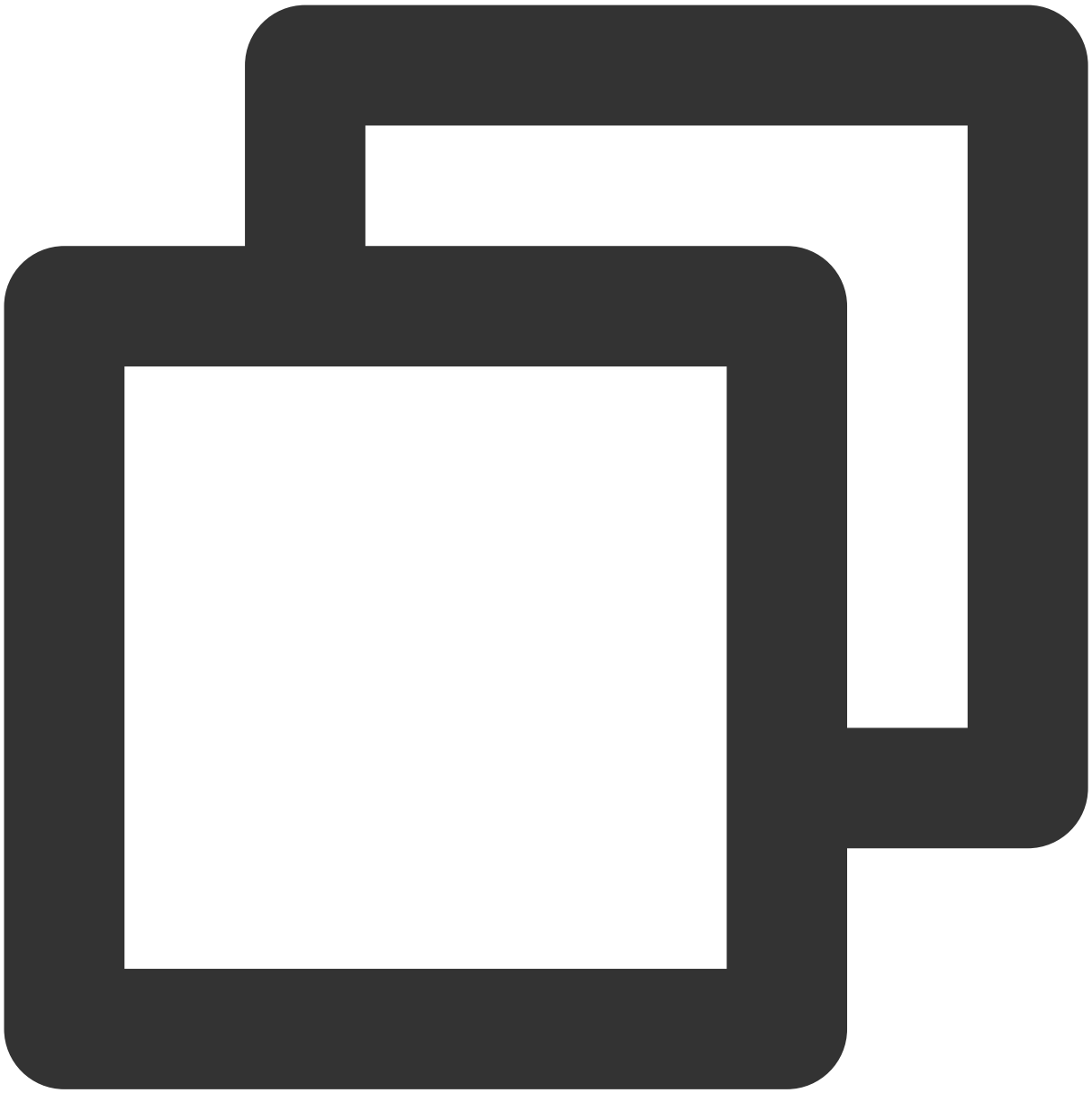
Parameter	Type	Description
command	String	A custom command word used to distinguish between different message types.
message	String	A text chat message.

userInfo	UserInfo	Information of the sender.

Invitation Signaling Callback APIs

onReceiveNewInvitation

An invitation was received.



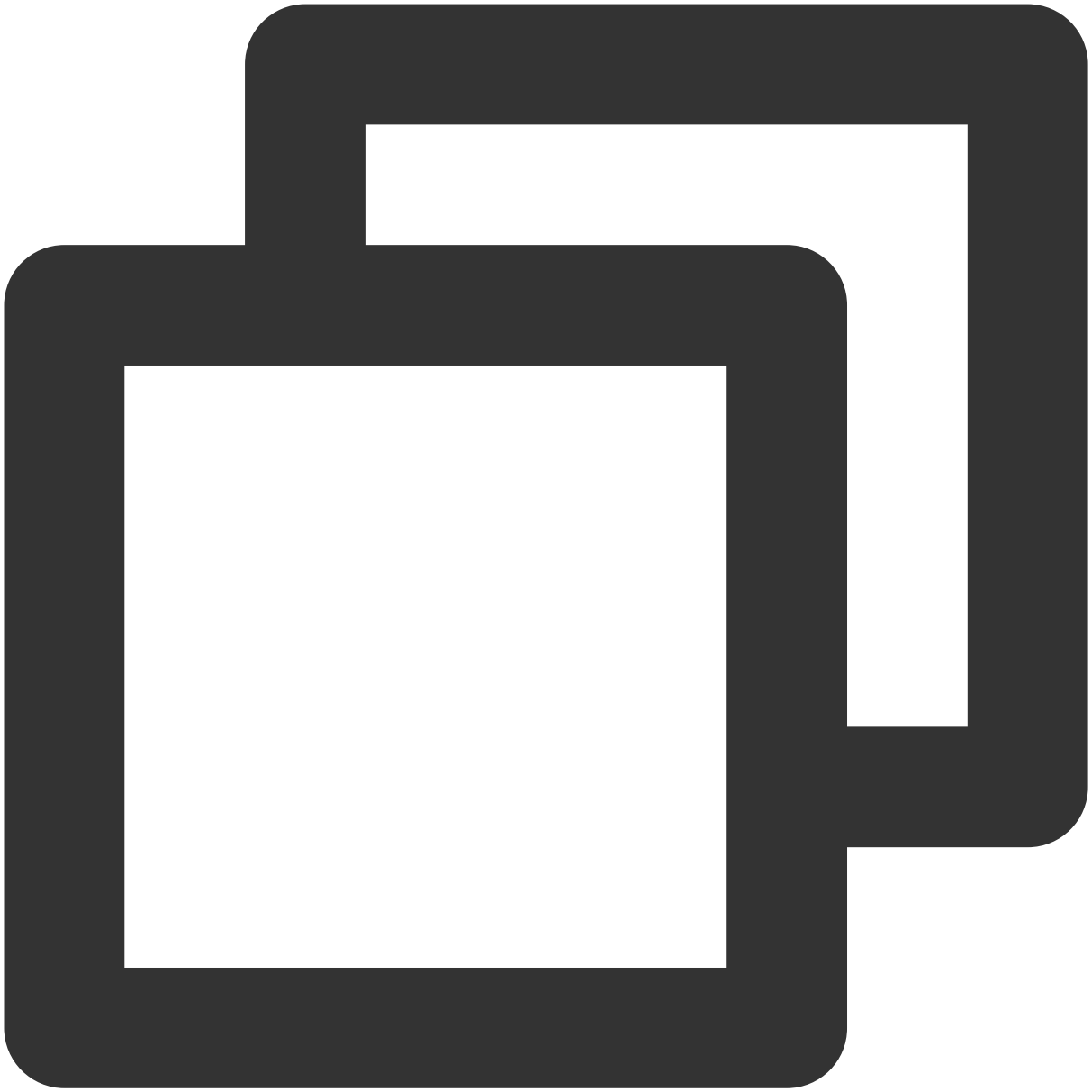
```
void onReceiveNewInvitation(String id, String inviter, String cmd, String content);
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
inviter	String	The user ID of the inviter.
cmd	String	A custom command word specified by business.
content	String	Content specified by business

onInviteeAccepted

The invitee accepted the invitation.



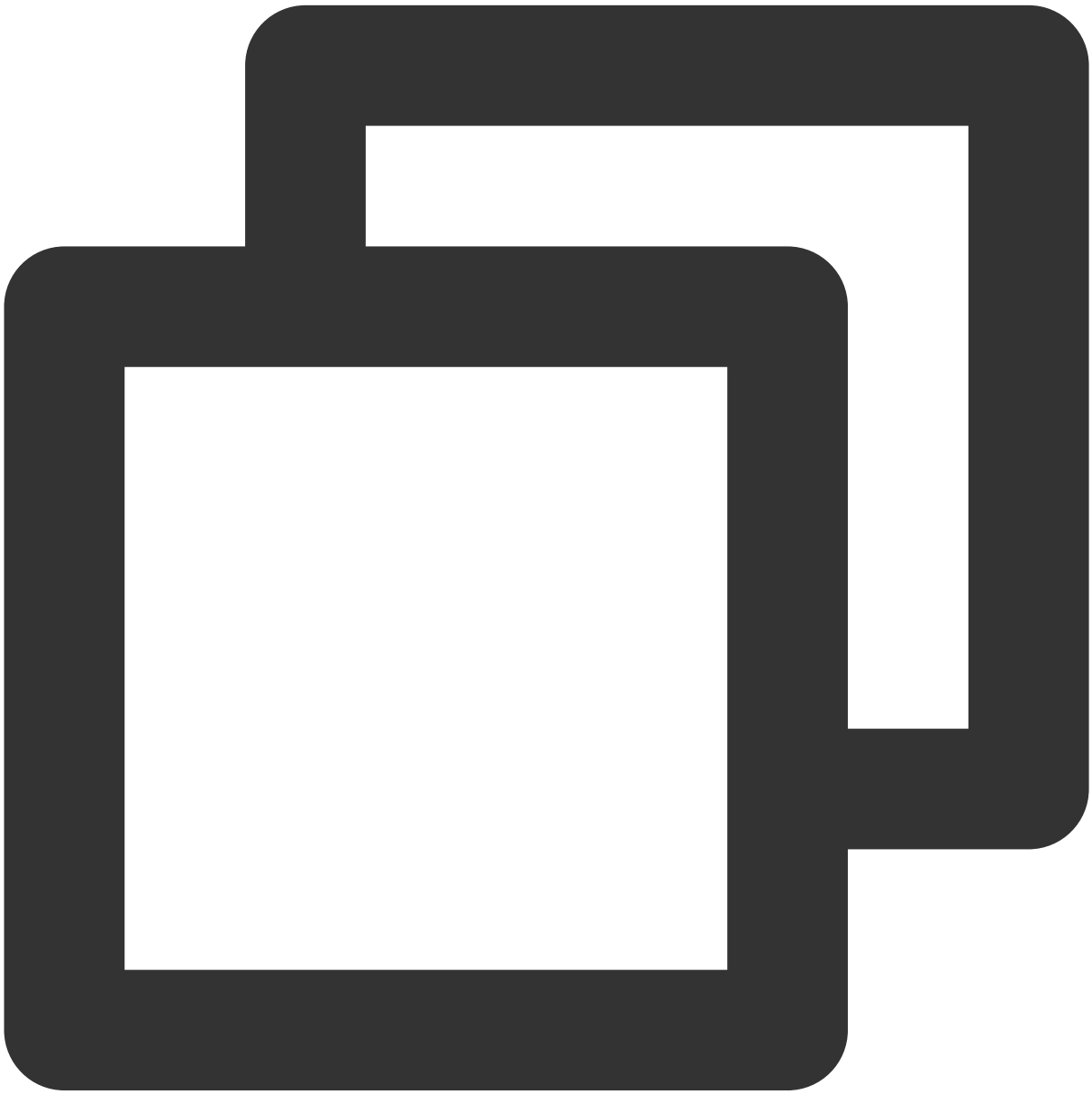
```
void onInviteeAccepted(String id, String invitee);
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
invitee	String	The user ID of the invitee.

onInviteeRejected

The invitee declined the invitation.



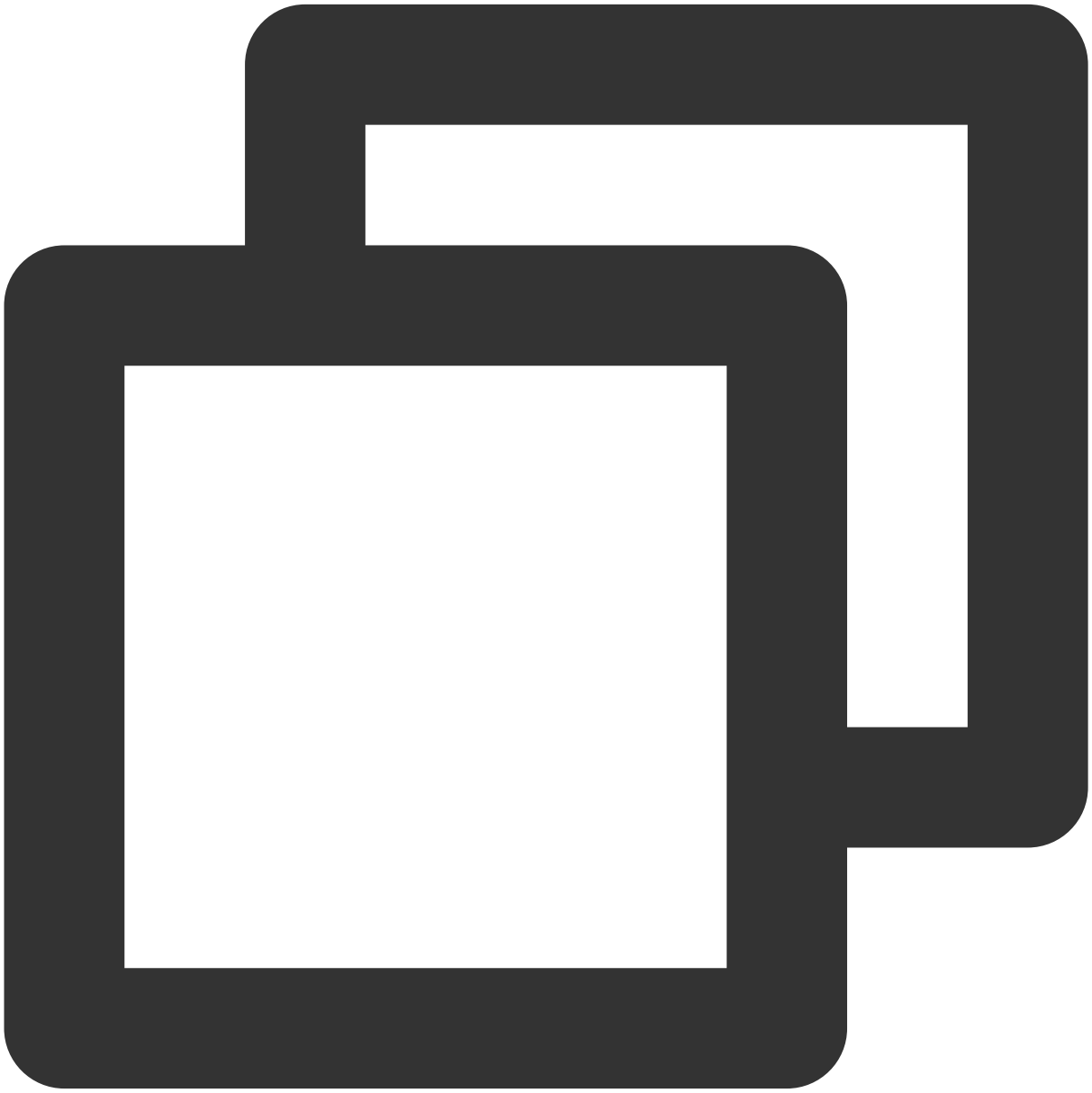
```
void onInviteeRejected(String id, String invitee);
```

The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
invitee	String	The user ID of the invitee.

onInvitationCancelled

The inviter canceled the invitation.



```
void onInvitationCancelled(String id, String inviter);
```

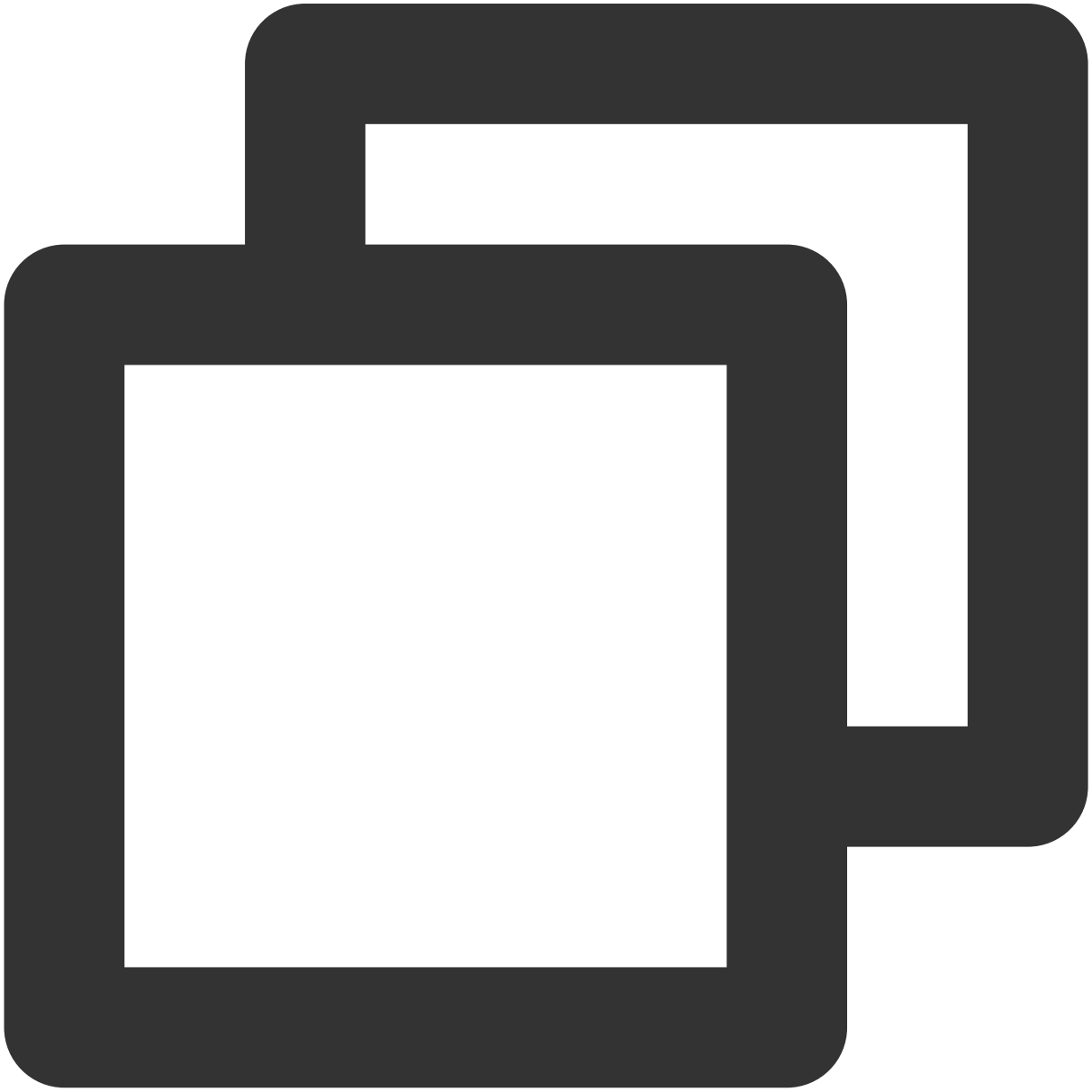
The parameters are described below:

Parameter	Type	Description
id	String	The invitation ID.
inviter	String	The user ID of the inviter.

Music Playback Status Callback APIs

onMusicPrepareToPlay

Music playback is ready.



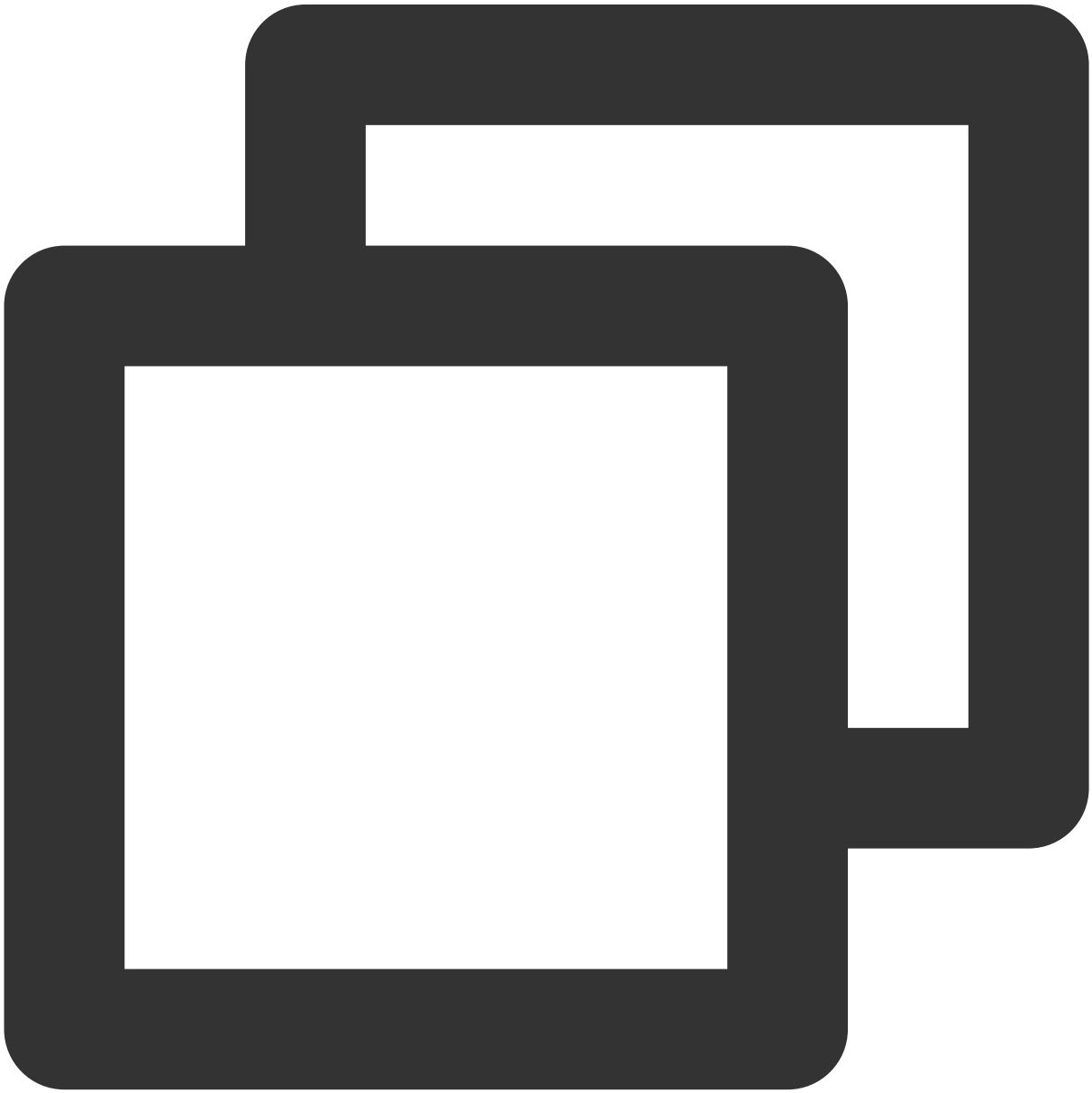
```
void onMusicPrepareToPlay(int musicID);
```

The parameters are described below:

Parameter	Type	Description
musicID	int	The `musicID` passed in for playback.

onMusicProgressUpdate

Music playback progress.



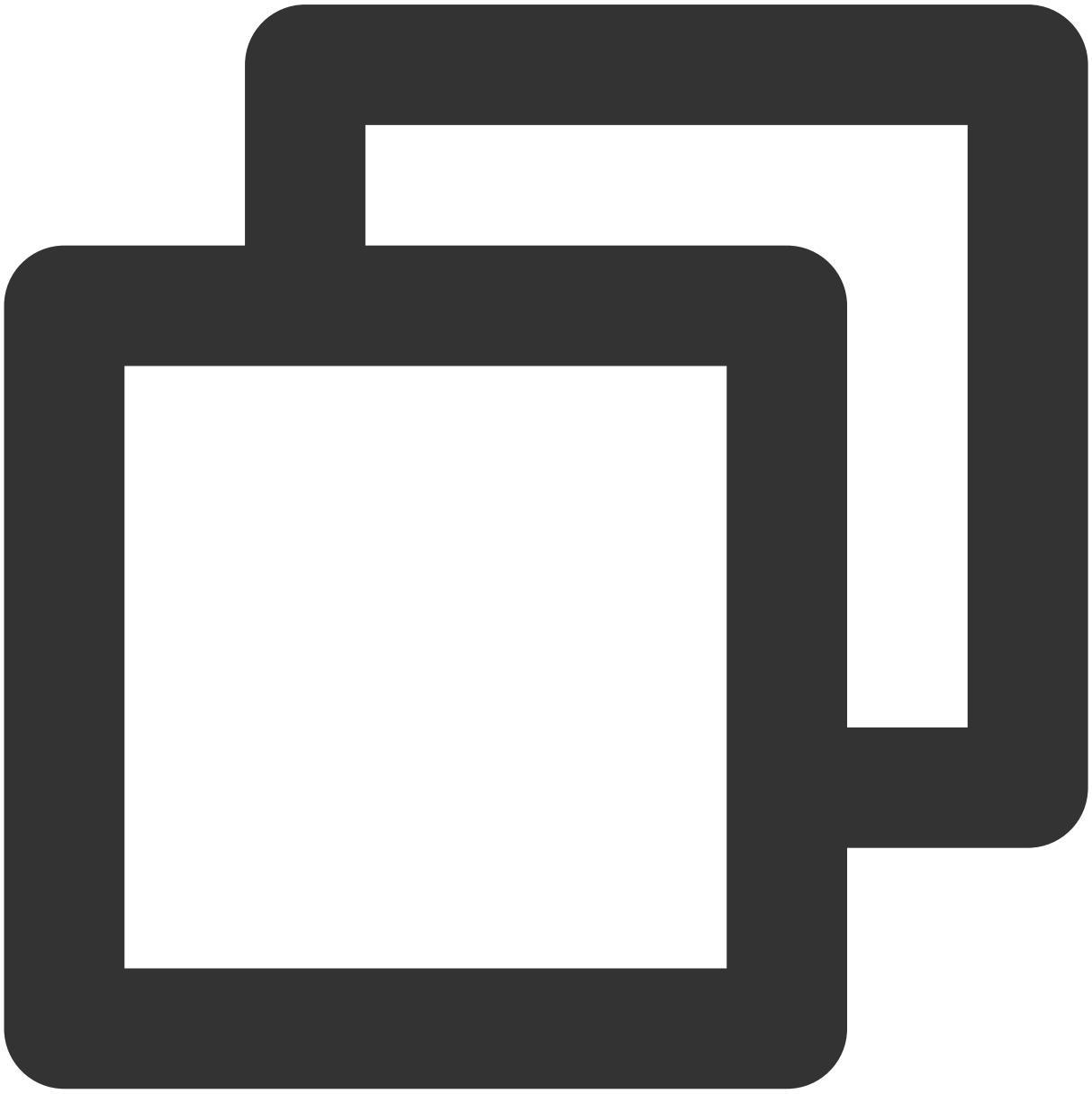
```
void onMusicProgressUpdate(int musicID, long progress, long total);
```

The parameters are described below:

Parameter	Type	Description
musicID	int	The `musicID` passed in for playback.
progress	long	The current playback progress in ms.
total	long	The total duration in ms.

onMusicCompletePlaying

Music playback was completed.



```
void onMusicCompletePlaying(int musicID);
```

The parameters are described below:

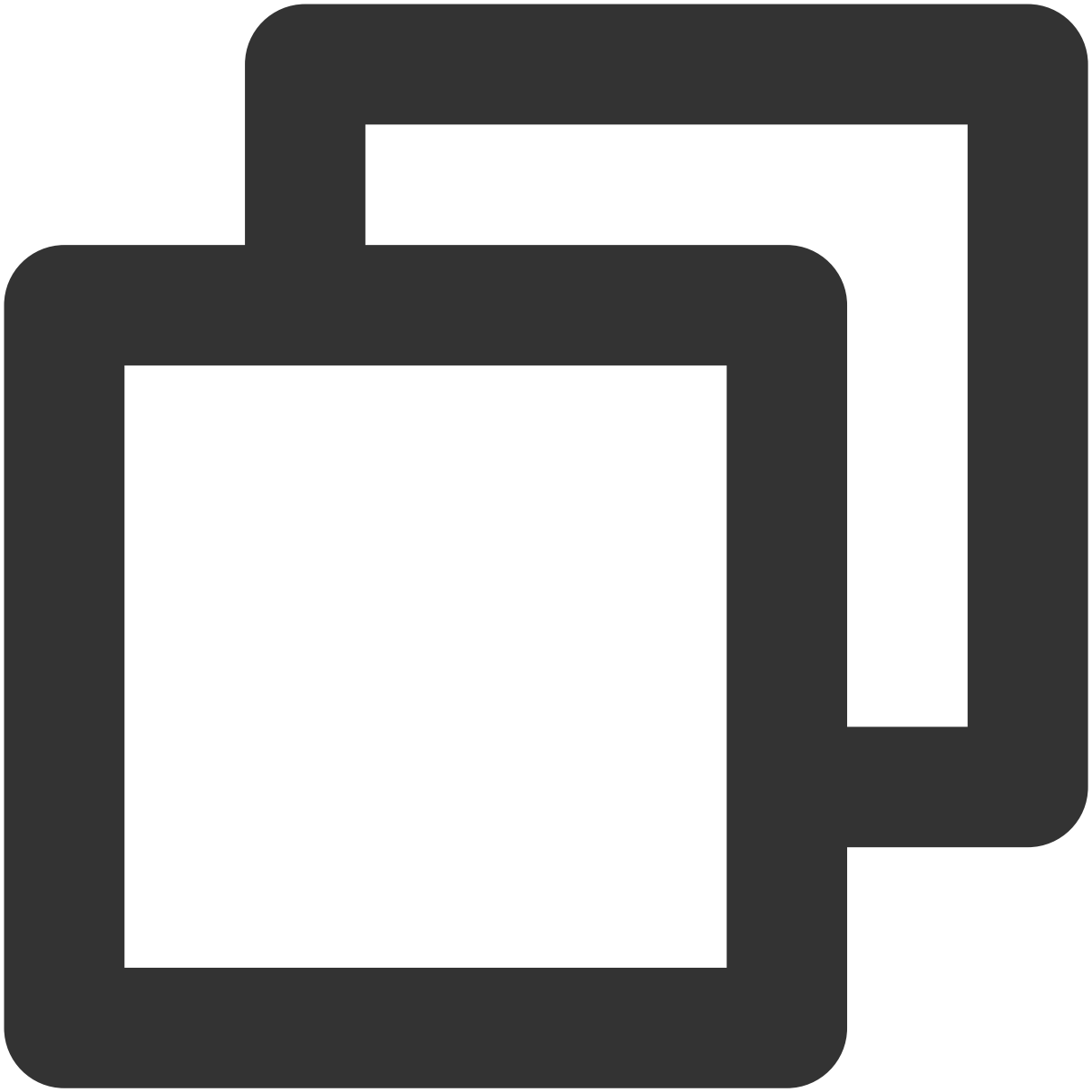
Parameter	Type	Description
musicID	int	The `musicID` passed in for playback.

FAQs
iOS

Last updated：2023-09-26 17:01:07

Ear Monitor-related Issues

In Karaoke scenarios, ear monitoring is likely to be used. How can I enable the ear monitoring function?



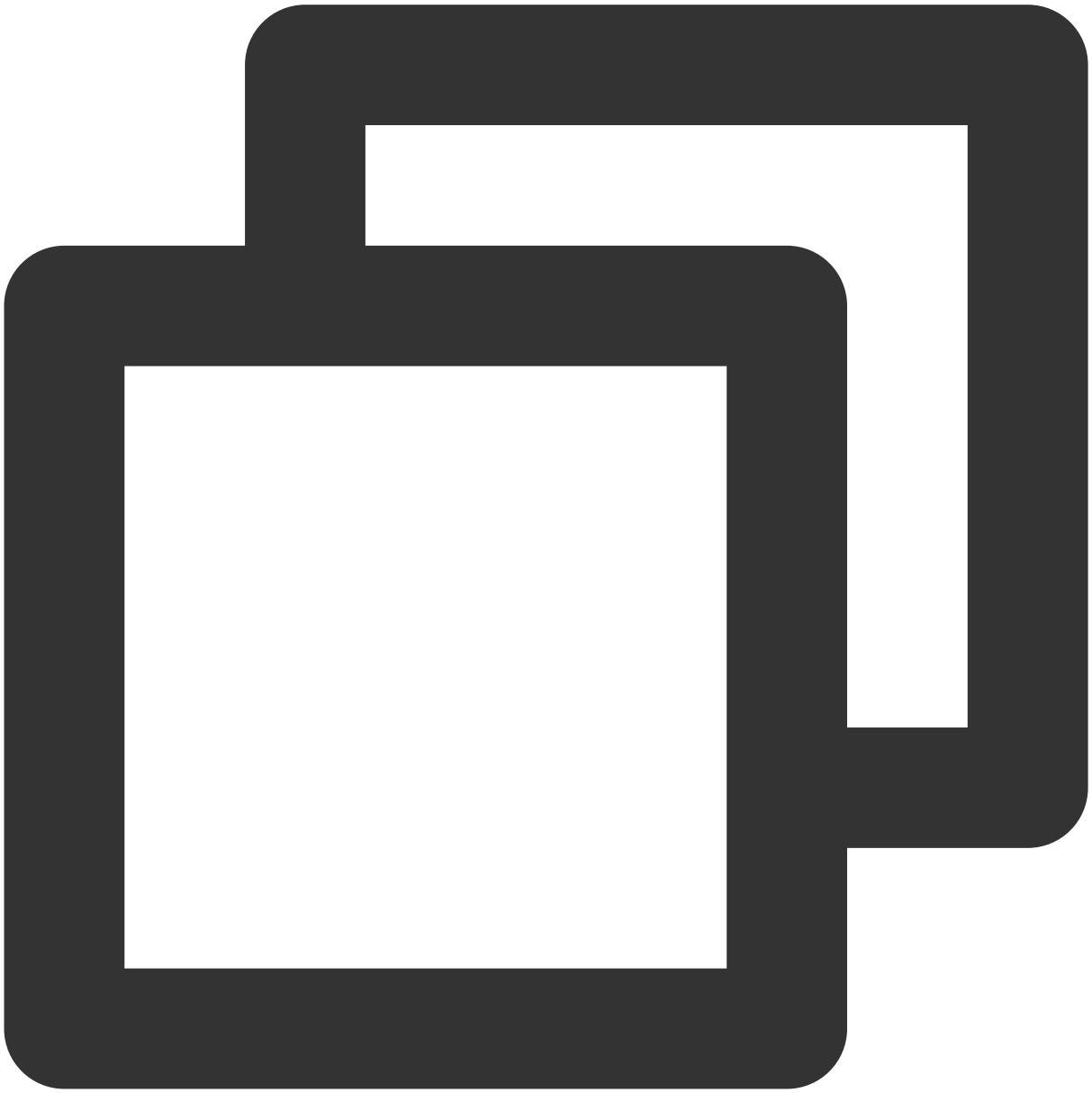
```
[[trtcCloud getAudioEffectManager] enableVoiceEarMonitor:YES];
```

What if there is no effect after enabling the ear monitoring function?

Due to the high hardware latency of Bluetooth headsets, please try to prompt the host to wear wired headphones on the user interface. At the same time, please note that not all phones can achieve excellent ear monitoring effects after enabling this feature. The TRTC SDK has already blocked this effect on some phones with poor ear monitoring performance.

Is the ear monitoring latency too high?

Please check if you are using a Bluetooth headset. Due to the high hardware latency of Bluetooth headsets, please try to use wired headphones as much as possible.
In addition, you can try to improve the high latency of ear monitoring by enabling hardware ear monitoring through the experimental interface setSystemAudioKitEnabled. Currently, for Huawei and Vivo devices, the SDK uses hardware ear monitoring by default, while other devices use software ear monitoring by default.



```
// Enable hardware ear monitoring
NSDictionary *jsonDic = @{
                            @"api": @"setSystemAudioKitEnabled",
```

```
                                @"params": @{@"enable": @(1)}
                            };
NSData *jsonData = [NSJSONSerialization dataWithJSONObject:jsonDic options:NSJSONWr
NSString *jsonString = [[NSString alloc] initWithData:jsonData encoding:NSUTF8Strin
[trtcCloud callExperimentalAPI:jsonString];
```

NTP Time Synchronization Issues

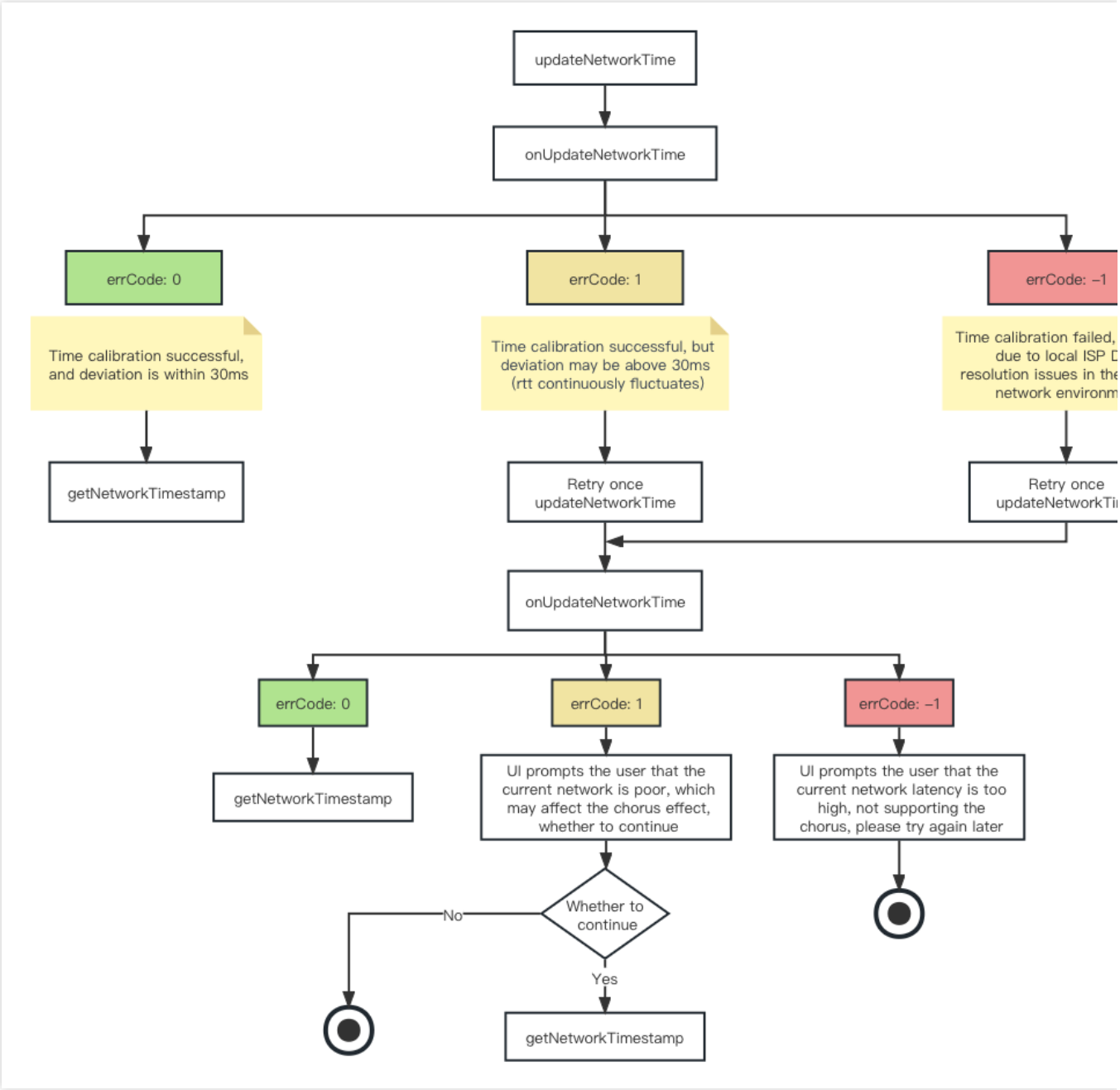
Reminder: “NTP time sync finished, but result maybe inaccurate”？

NTP time synchronization is successful, but the deviation may be more than 30ms, reflecting poor client network environment and continuous rtt jitter.

Reminder: “Error in AddressResolver: No address associated with hostname”？

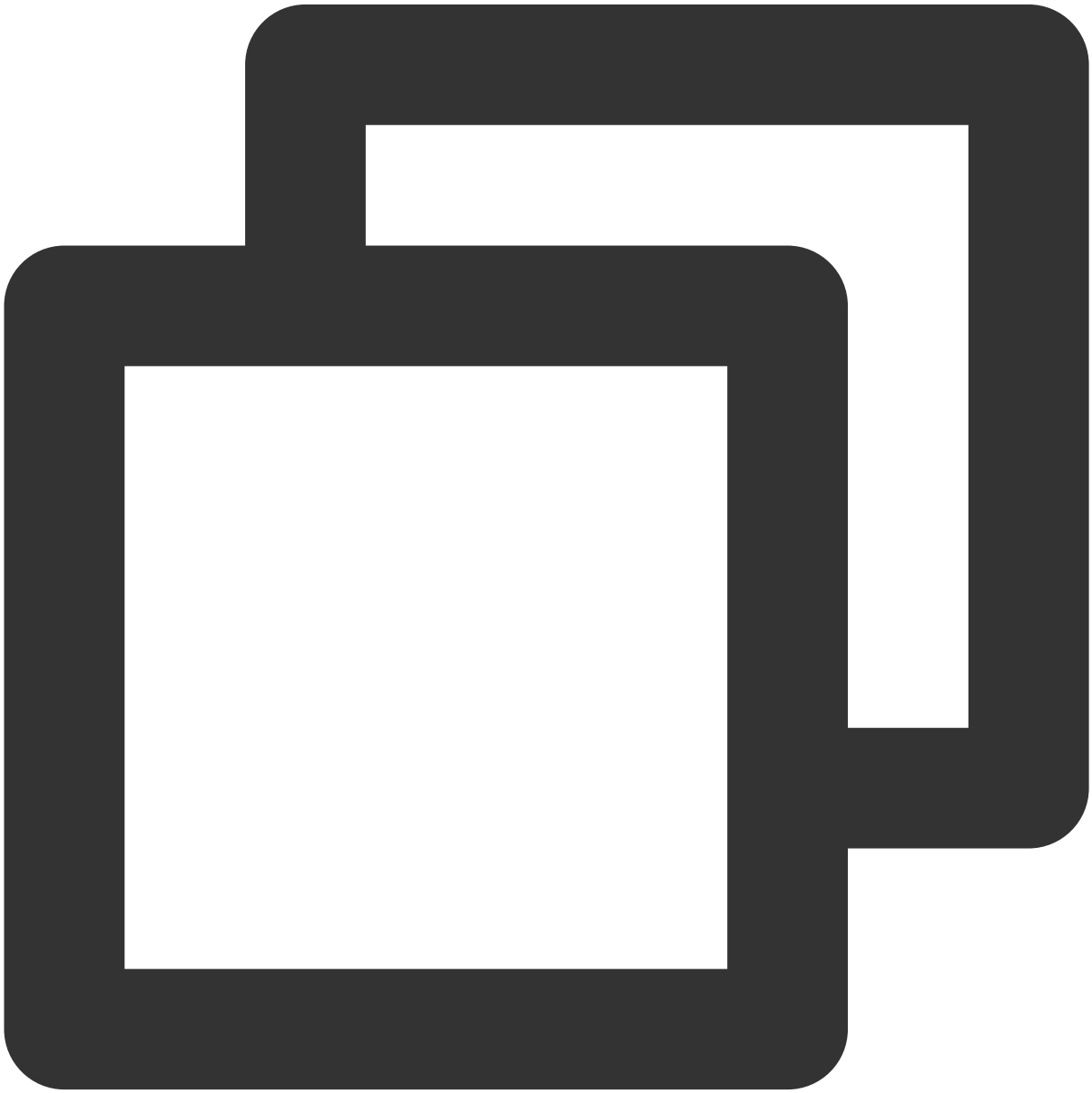
NTP time synchronization failure may be due to temporary anomalies in the local carrier DNS resolution under the current network environment. Please try again later.

NTP service retry processing logic?



Network Speed Test Recommendations

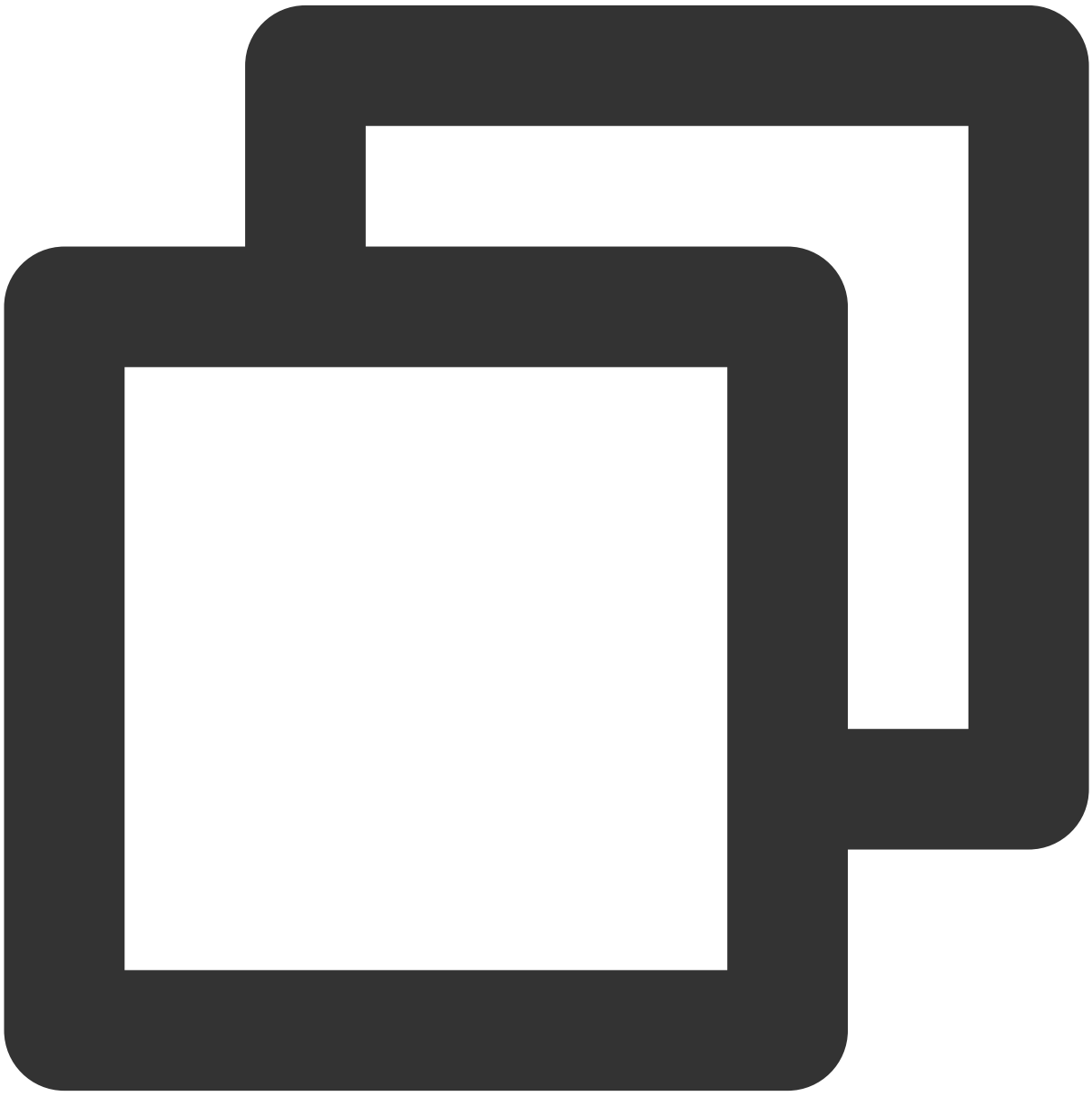
Online Karaoke scenarios have high network requirements for users, especially real-time chorus. A high-quality and stable network environment is necessary for a good Karaoke experience. Therefore, it is recommended to perform a network speed test on the user before entering the room, and give a UI layer reminder to users who do not meet the network requirements, prohibiting them from joining the Karaoke room or participating in chorus.
Initiating network speed test with TRTC SDK:



```
TRTCSpeedTestParams *speedTestParams = [[TRTCSpeedTestParams alloc] init];
speedTestParams.sdkAppId = SDK_APP_ID;
speedTestParams.userId = userId;
speedTestParams.userSig = userSig;
// If the actual bandwidth is higher than the expected value, the test result is th
// if the actual bandwidth is lower than the expected value, the test result is the
speedTestParams.expectedDownBandwidth = 3000; // Expected downstream bandwidth, ran
speedTestParams.expectedUpBandwidth = 3000; // Expected upstream bandwidth, ranging
[trtcCloud startSpeedTest:speedTestParams];
```

Note：

Expected upstream bandwidth, ranging from 10 to 5000 kbps
Please perform the network speed test before entering the room. Network speed testing in the room will affect the normal audio and video transmission effects, and due to too much interference, the network speed test results will also be inaccurate.
TRTC SDK network speed test result callback:



```
- (void)onSpeedTestResult:(TRTCSpeedTestResult *)result {
    NSString *tquality = @"Unknown";
    switch (result.quality) {
        case TRTCQuality_Unknown:
```

```
            tquality = @"Unknown";
            break;
        case TRTCQuality_Excellent:
            tquality = @"The current network is excellent";
            break;
        case TRTCQuality_Good:
            tquality = @"The current network is good";
            break;
        case TRTCQuality_Poor:
            tquality = @"The current network is poor";
            break;
        case TRTCQuality_Bad:
            tquality = @"The current network is bad";
            break;
        case TRTCQuality_Vbad:
            tquality = @"The current network is very bad";
            break;
        case TRTCQuality_Down:
            tquality = @"The current network does not meet TRTC\\`s minimum request
            break;
        default:
            break;
    }

    if (result.success) {
        [mTextTestResult addObject:@"test successfull！\\n"];
        [mTextTestResult addObject:[NSString stringWithFormat:@"IP address：%@ \\n",
        [mTextTestResult addObject:[NSString stringWithFormat:@"uplink packet loss
        [mTextTestResult addObject:[NSString stringWithFormat:@"downlink packet los
        [mTextTestResult addObject:[NSString stringWithFormat:@"network lantency：%u
        [mTextTestResult addObject:[NSString stringWithFormat:@"downlink bandwidth：
        [mTextTestResult addObject:[NSString stringWithFormat:@"uplink bandwidth：%l
        [mTextTestResult addObject:[NSString stringWithFormat:@"downlink bandwidth：
    } else {
        [mTextTestResult addObject:@"test successfull！\\n"];
        [mTextTestResult addObject:[NSString stringWithFormat:@"errMsg：%@ \\n", res
    }
}
```

Joining a Chorus Midway

The real-time chorus solution theoretically has no limit on the number of chorus participants, supporting multiple people to participate in the chorus simultaneously, as well as joining the chorus midway.

The following are the key actions for joining a chorus midway:

NTP time synchronization

Enable chorus experimental interface

Enter the room and start streaming on the microphone

Receive chorus signaling, obtain accompaniment resources and chorus agreed time

Calculate the difference between the agreed time and the current time, preload and seek accompaniment

Start participating in the chorus and synchronize accompaniment progress and lyrics progress in real-time

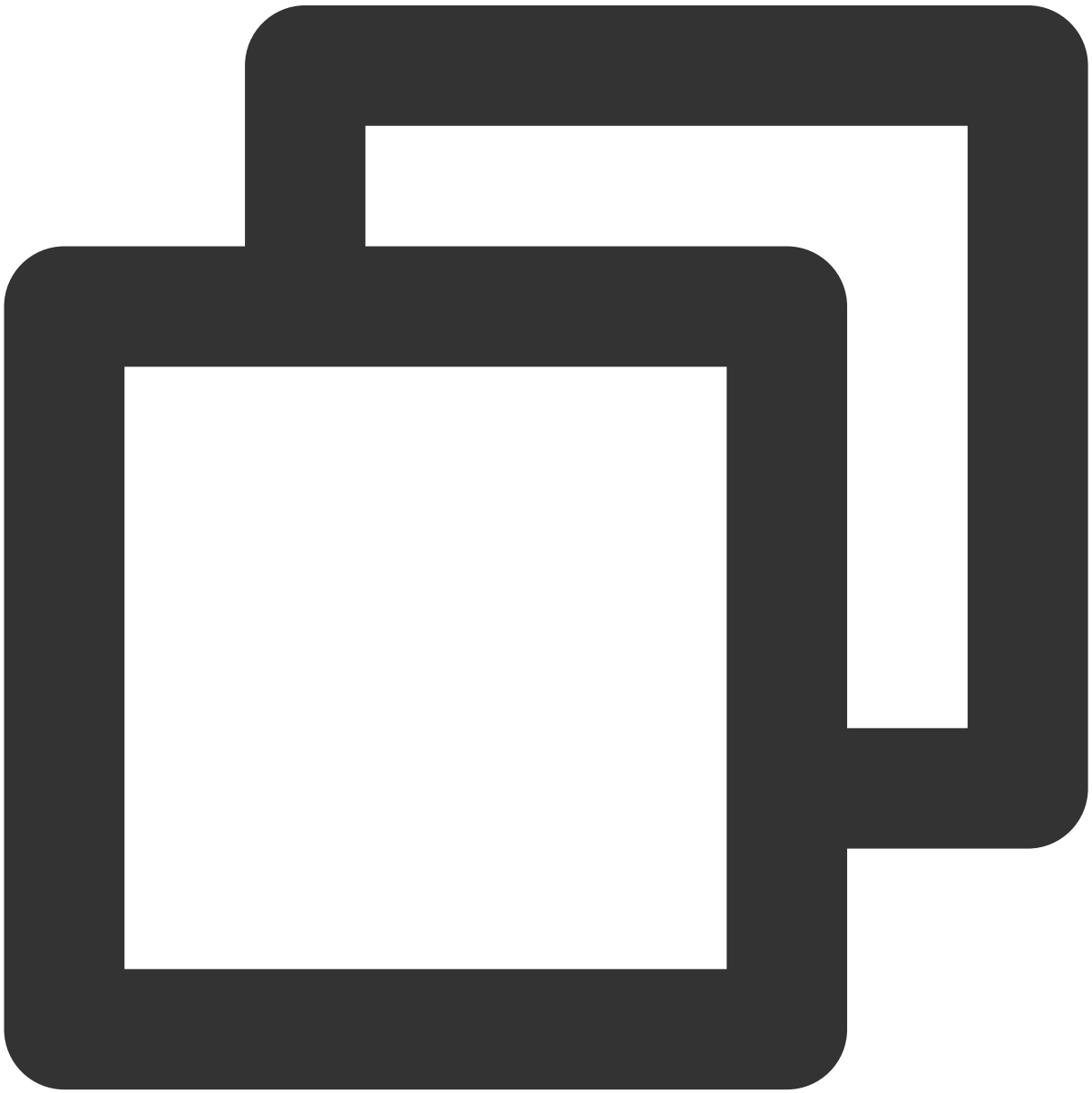
For the specific implementation process and code implementation of the above key actions, please refer to the documentation onsong synchronization, lyrics synchronization, vocal synchronization.

Android

Last updated：2023-09-27 11:28:11

Ear Monitor-related Issues

In Karaoke scenarios, ear monitoring is likely to be used. How can I enable the ear monitoring function?



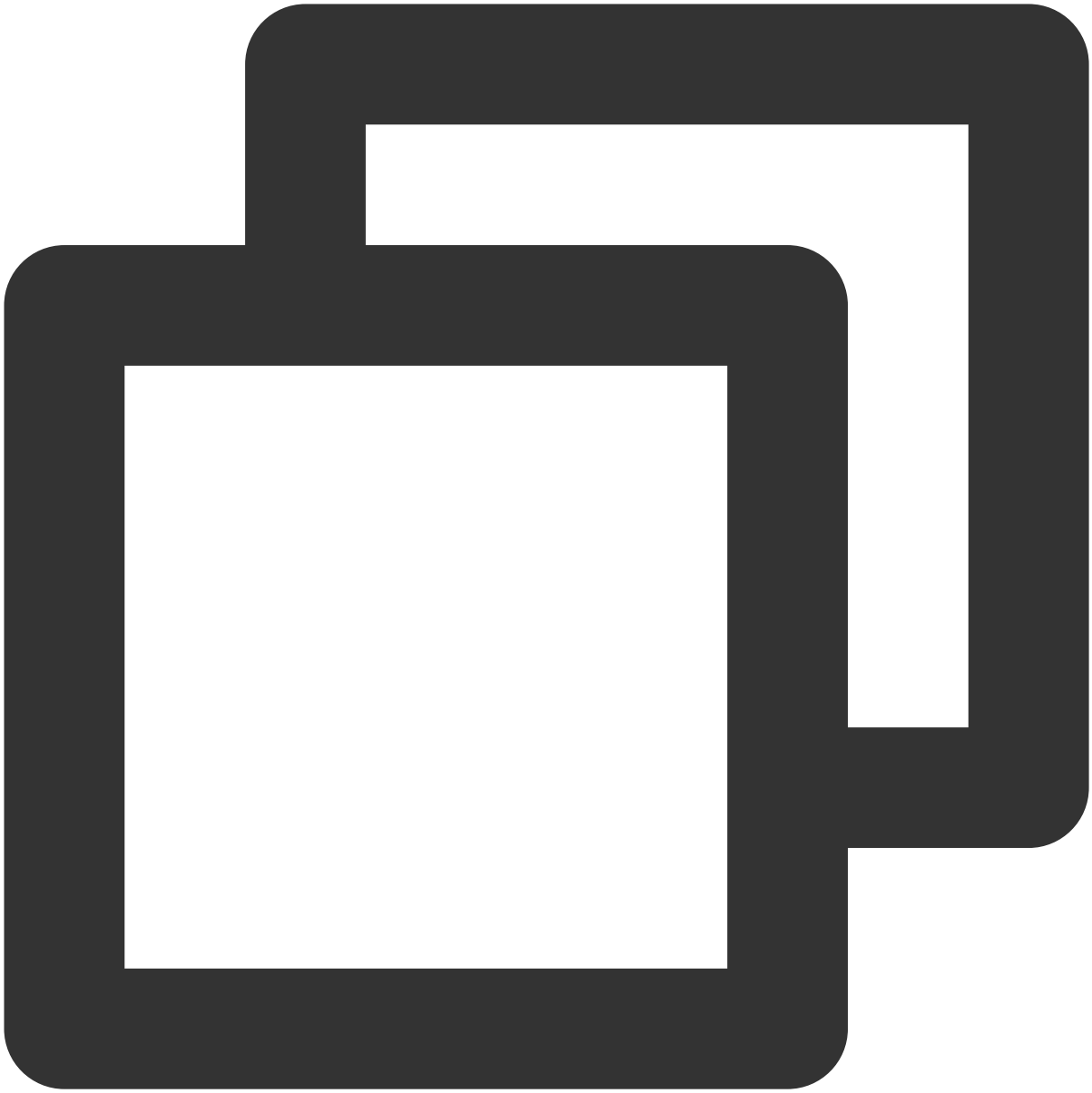
```
mTRTCCloud.getAudioEffectManager().enableVoiceEarMonitor(true)
```

What if there is no effect after enabling the ear monitoring function?

Due to the high hardware latency of Bluetooth headsets, please try to prompt the host to wear wired headphones on the user interface. At the same time, please note that not all phones can achieve excellent ear monitoring effects after enabling this feature. The TRTC SDK has already blocked this effect on some phones with poor ear monitoring performance.

Is the ear monitoring latency too high?

Please check if you are using a Bluetooth headset. Due to the high hardware latency of Bluetooth headsets, please try to use wired headphones as much as possible.
In addition, you can try to improve the high latency of ear monitoring by enabling hardware ear monitoring through the experimental interface setSystemAudioKitEnabled. Currently, for Huawei and Vivo devices, the SDK uses hardware ear monitoring by default, while other devices use software ear monitoring by default.



```
// Enable hardware ear monitoring
mTRTCCloud.callExperimentalAPI("{\\"api\\":\\"setSystemAudioKitEnabled\\", \\"param
```

NTP Time Synchronization Issues

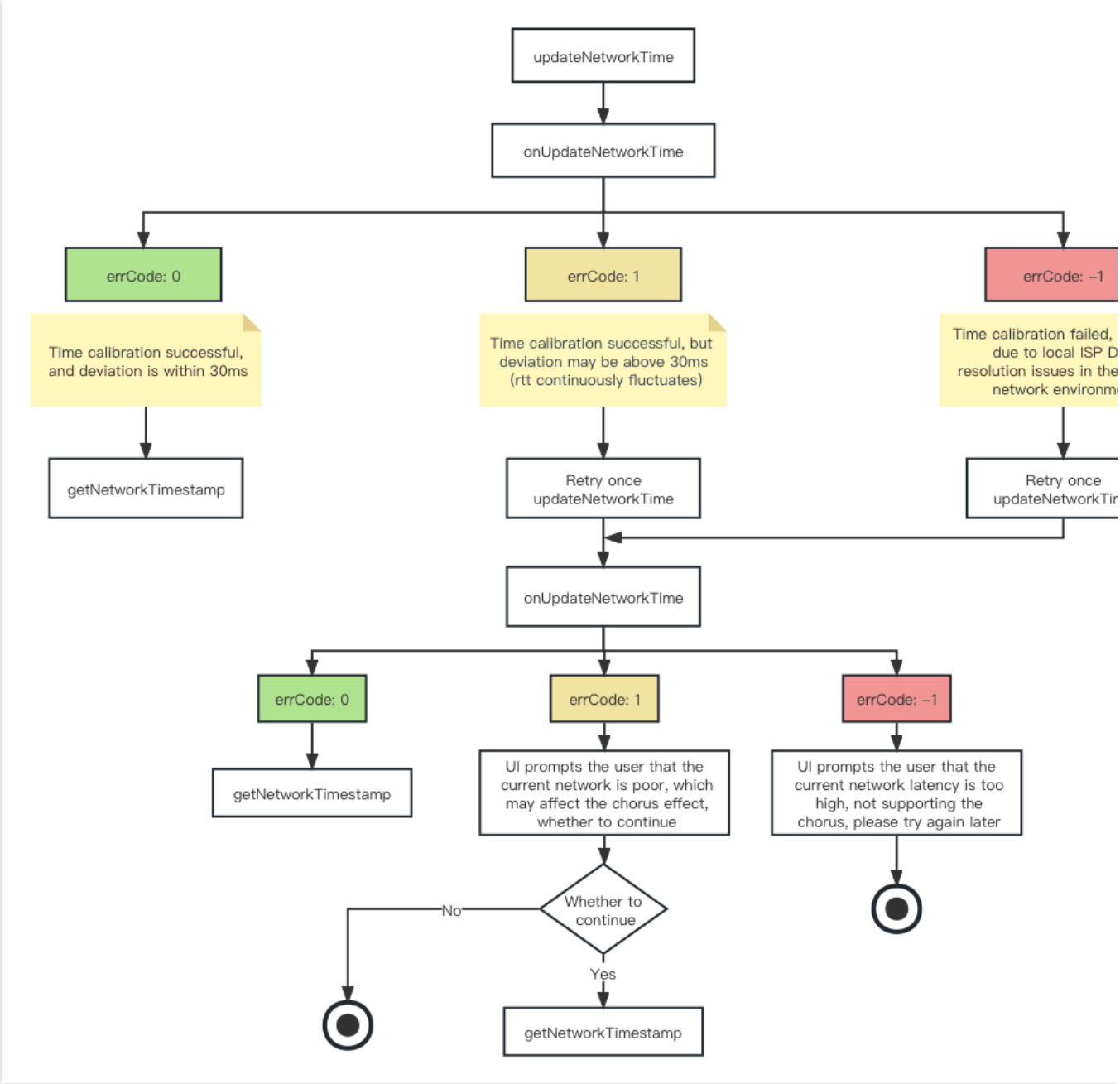
Reminder: “NTP time sync finished, but result maybe inaccurate” ?

NTP time synchronization is successful, but the deviation may be more than 30ms, reflecting poor client network environment and continuous rtt jitter.

Reminder: “Error in AddressResolver: No address associated with hostname” ?

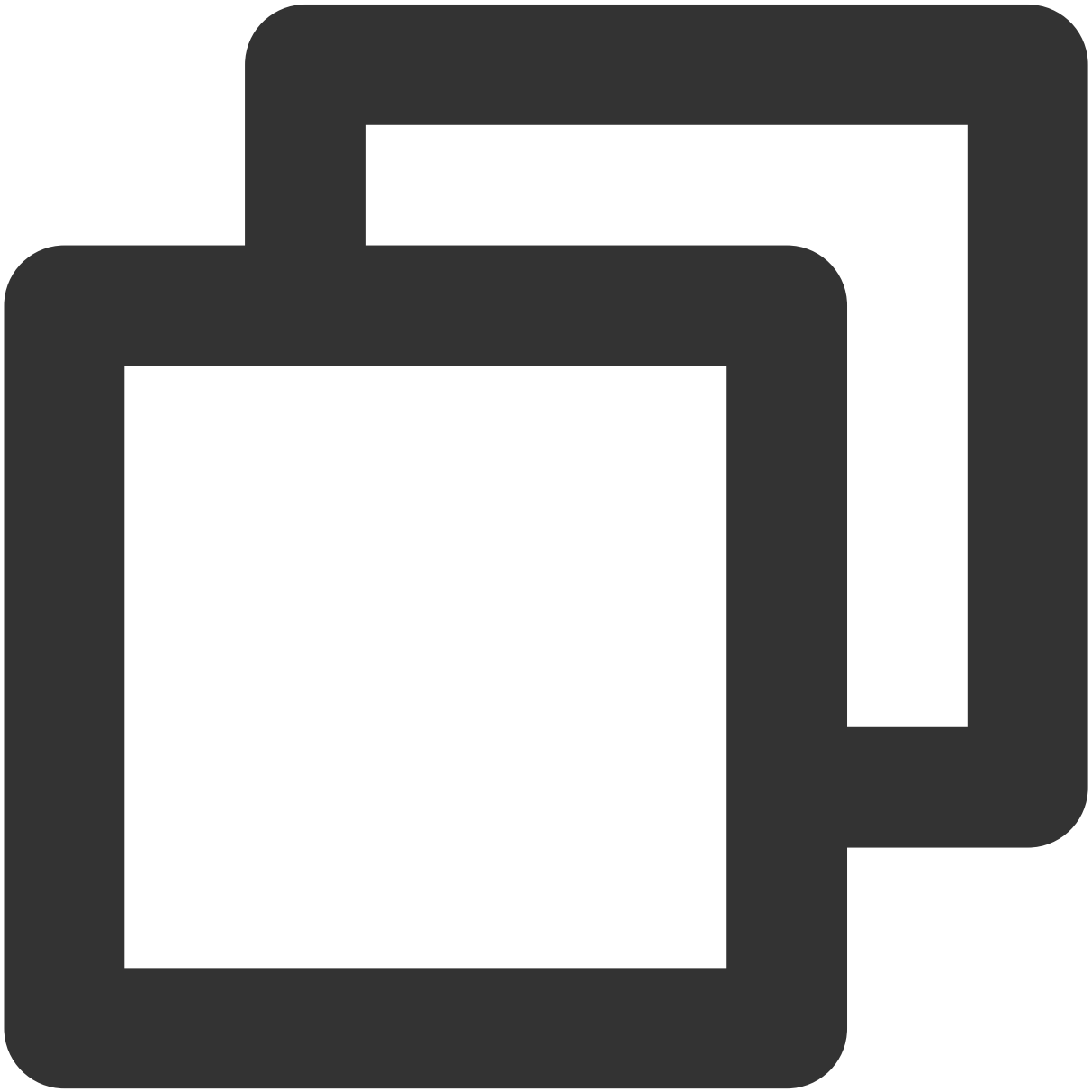
NTP time synchronization failure may be due to temporary anomalies in the local carrier DNS resolution under the current network environment. Please try again later.

NTP service retry processing logic?



Network Speed Test Recommendations

Online Karaoke scenarios have high network requirements for users, especially real-time chorus. A high-quality and stable network environment is necessary for a good Karaoke experience. Therefore, it is recommended to perform a network speed test on the user before entering the room, and give a UI layer reminder to users who do not meet the network requirements, prohibiting them from joining the Karaoke room or participating in chorus.
Initiating network speed test with TRTC SDK:



```
TRTCCloudDef.TRTCSpeedTestParams speedTestParams = new TRTCCloudDef.TRTCSpeedTestPa
speedTestParams.sdkAppId = SDK_APP_ID;
```

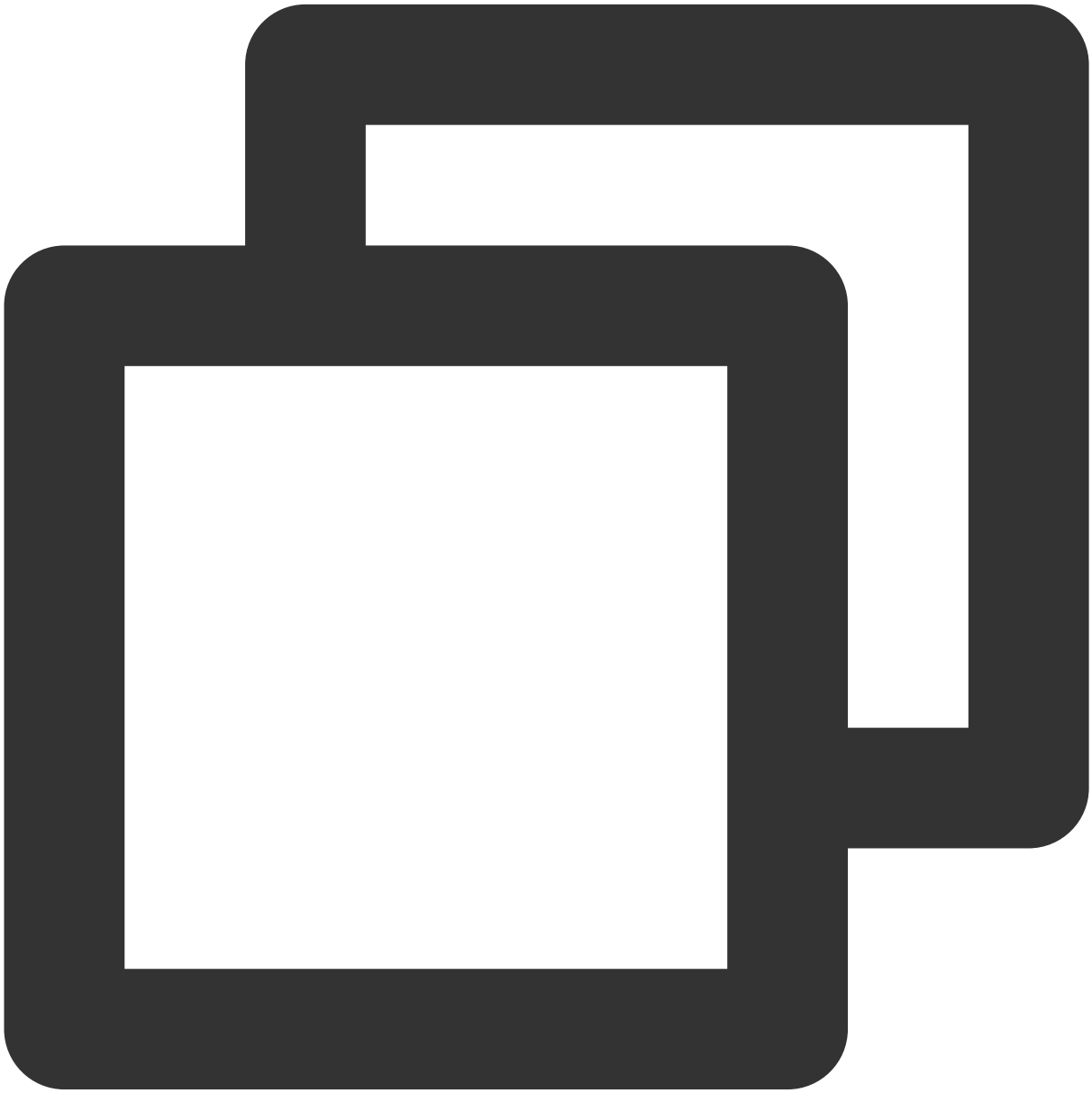
```
speedTestParams.userId = userId;
speedTestParams.userSig = userSig;
// If the actual bandwidth is higher than the expected value, the test result is th
// if the actual bandwidth is lower than the expected value, the test result is the
speedTestParams.expectedDownBandwidth = 3000; // Expected downstream bandwidth, ran
speedTestParams.expectedUpBandwidth = 3000; // Expected upstream bandwidth, ranging
mTRTCCloud.startSpeedTest(speedTestParams);
```

Note:

Expected upstream bandwidth, ranging from 10 to 5000 kbps

Please perform the network speed test before entering the room. Network speed testing in the room will affect the normal audio and video transmission effects, and due to too much interference, the network speed test results will also be inaccurate.

TRTC SDK network speed test result callback:



```
@Override
public void onSpeedTestResult(TRTCCloudDef.TRTCSpeedTestResult result) {
    String tquality = "Unknown";
    switch (result.quality) {
        case 0:
            tquality = "Unknown";
            break;
        case 1:
            tquality = "The current network is very good";
            break;
        case 2:
```

```
            tquality = "The current network is good";
            break;
        case 3:
            tquality = "The current network is average";
            break;
        case 4:
            tquality = "The current network is poor";
            break;
        case 5:
            tquality = "The current network is very poor";
            break;
        case 6:
            tquality = "The current network does not meet TRTC's minimum requiremen
            break;
    }

    if (result.success) {
        mTextTestResult.append("Speed test successful!" + "\\n");
        mTextTestResult.append("IP address: " + result.ip + "\\n");
        mTextTestResult.append("Uplink packet loss rate: " + result.upLostRate + "\
        mTextTestResult.append("Downlink packet loss rate: " + result.downLostRate
        mTextTestResult.append("Network latency: " + result.rtt + "ms\\n");
        mTextTestResult.append("Downlink bandwidth: " + result.availableDownBandwid
        mTextTestResult.append("Uplink bandwidth: " + result.availableUpBandwidth +
        mTextTestResult.append("Network quality: " + tquality + "\\n");
    } else {
        mTextTestResult.append("Speed test failed!" + "\\n");
        mTextTestResult.append("Error message: " + result.errMsg + "\\n");
    }
}
```

Joining a Chorus Midway

The real-time chorus solution theoretically has no limit on the number of chorus participants, supporting multiple people to participate in the chorus simultaneously, as well as joining the chorus midway.

The following are the key actions for joining a chorus midway:

NTP time synchronization

Enable chorus experimental interface

Enter the room and start streaming on the microphone

Receive chorus signaling, obtain accompaniment resources and chorus agreed time

Calculate the difference between the agreed time and the current time, preload and seek accompaniment

Start participating in the chorus and synchronize accompaniment progress and lyrics progress in real-time

For the specific implementation process and code implementation of the above key actions, please refer to the documentation onsong synchronization, lyrics synchronization, vocal synchronization.