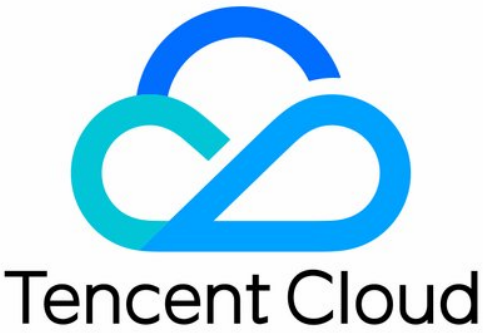
Tencent Effect SDK

Feature Guide

Product Documentation



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Feature Guide
Reducing SDK Size
iOS

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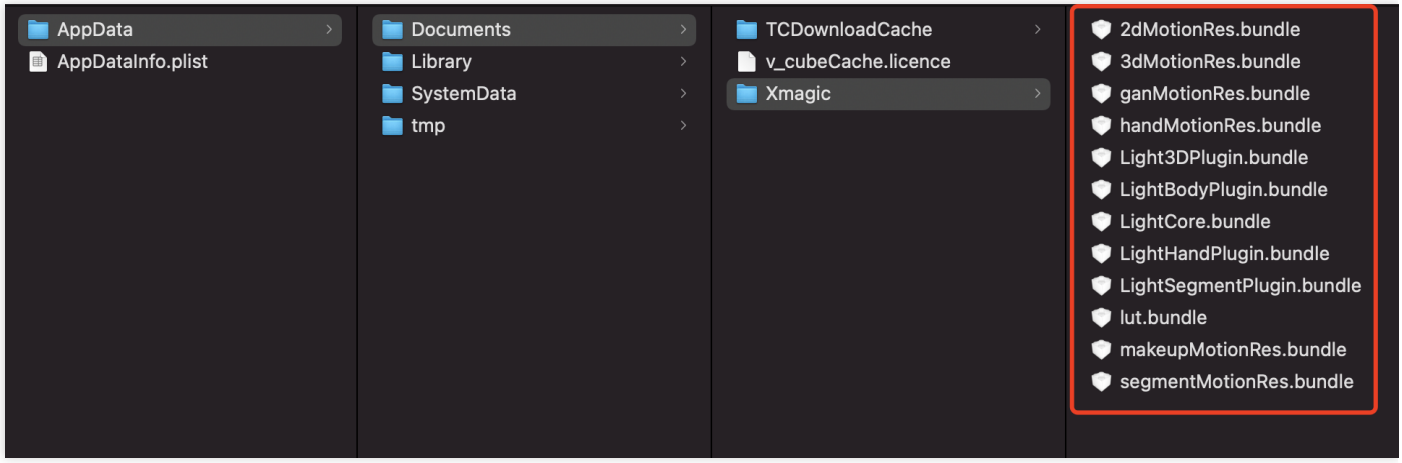
Dynamically downloading resources

To reduce the SDK package size, you can dynamically download the necessary module resources and animated effect resources (`MotionRes` , not available in some basic editions of the SDK) from a URL and, after download, pass the path of the resources to the SDK.

1. Upload a ZIP file of the effect resources to the cloud and generate a URL such as `https://server address/LightCore.bundle.zip` .

2. In your project, download the file from the URL and decompress it to the sandbox (for example: `Documents/Xmagic`).



3. When initializing the SDK, pass in the path of the sandbox to `root_path` .

```
NSDictionary *assetsDict = @{@"core_name":@"LightCore.bundle",
@"root_path":_filePath ,//_filePath is the folder to which effect resources are downloaded: Documents/Xmagic,
@"tnn_"
@"beauty_config":beautyConfigJson
};
```

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```
// Init beauty kit @"root_path":Documents/Xmagic,
self.beautyKit = [[XMagic alloc] initWithRenderSize:_inputSize assetsDict:asset
sDict];
```

4. Set the icons for different effects and get the images from the downloaded files.

```
NSMutableArray *arrayModels = [NSMutableArray array];
for (NSDictionary* dict in motionArray) {
BeautyCellModel* model = [BeautyCellModel beautyWithDict:dict];
// Load default mainbundle path of motionres
if ([model.title isEqualToString:NSLocalizedString(@"item_none_label",nil)]) {
model.icon = [NSString stringWithFormat:@"%@/%@.png", [[NSBundle mainBundle] bu
ndlePath], model.key];
[arrayModels addObject:model];
} else {
if(_useNetResource && _filePath != nil){ //When using resources from the intern
et
NSString *DirPath = [_filePath stringByAppendingPathComponent:@"2dMotionRes.bun
dle/"]; //Get the absolute path of effect resources
model.icon = [NSString stringWithFormat:@"%@/%@/template.png", DirPath, model.k
ey];
}else{
model.icon = [NSString stringWithFormat:@"%@/%@/template.png", [[NSBundle mainB
undle] pathForResource:@"2dMotionRes" ofType:@"bundle"], model.key];
}
if ([fileManager fileExistsAtPath:model.icon]) {
[arrayModels addObject:model];
}
}
}
```

5. Set parameters for effects (For details, see API Documentation).

```
/// @brief Configure effects
/// @param propertyType: The effect type, which is a string. Valid values: beau
ty, lut, motion.
/// @param propertyName: The effect name.
/// @param propertyValue: The effect value.
/// @param extraInfo: A reserved parameter, which can be used for dictionary co
nfiguration.
/// @return: If 0 is returned, the configuration is successful. If other values
are returned, the configuration has failed.
/// @note: Notes
/**
```

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```
| Effect Type | Effect Name | Effect Value| Description | Remarks |
| :---- | :---- |:---- | :---- | :---- |
| beauty | Name of beautification effect | Effect strength |Beautification effe
ct API | - |
| lut | Filter path + Filter name | Filter strength | Filter API | - |
| motion | Name of animated effect | Path of animated effect | Animated effect
API| Make sure the path you pass in is writable. For ZIP files, you must manual
ly unzip them first if you want to build the resources into your app. |
```

```
**/
```

- `(int)configPropertyWithType:(NSString *_Nonnull)propertyType withName:(NSString *_Nonnull)propertyName withData:(NSString_Nonnull)propertyValue withExtraInfo:(id _Nullable)extraInfo;`

Examples

Configuring a beautification effect

No extra configuration is needed for beautification or body retouch effects. The SDK will automatically use the resource files downloaded. Below is a request sample for the skin brightening effect.

```
[self.beautyKitRef configPropertyWithType:@"beauty" withName:@"beauty.whiten" wit
hData:@"30" withExtraInfo:nil];
```

Request parameters:

Parameter	Value
propertyType	beauty
propertyName	beauty.whiten
propertyValue	30
extraInfo	nil

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Configuring filter effects

For filter effects, you need to configure `key` first. You can use the SDK's built-in effect resources or resources downloaded from the internet.

```
NSString *key = [_model.lutIDs[index] path];
if (key != nil) {
key = [@"lut.bundle/" stringByAppendingPathComponent:key];//The relative path of the filter effect image
}
if(_useNetResource && _filePath != nil){ //If a resource downloaded from the internet is used
key = [_filePath stringByAppendingPathComponent:key];//Get the absolute path of the image
}
[self.beautyKitRef configPropertyWithType:@"lut" withName:key withData:[NSString stringWithFormat:@"%f",value] withExtraInfo:nil];
```

Configuring the brightening filter

Request parameters:

Parameter	Value (Local Resource)	Value (Internet Resource)
propertyType	lut	lut
propertyName	lut.bundle/n_baixi.png	`/var/mobile/Containers/Data/Application/25C7D01A-73F6-4F1B-AEB6-5EE03A221D18/Documents/Xmagic/lut.bundle/n_baixi.pr`
propertyValue	60.000000	60.000000
extraInfo	null	null

Configuring animated, makeup, and keying effects

For animated, makeup, and keying effects, you need to configure `propertyValue` first. You can use the SDK's built-in effect resources or resources downloaded from the internet.

```
NSString *key = [_model.motionIDs[index] key];
NSString *path = [_model.motionIDs[index] path];
NSString *motionRootPath = path==nil?[[NSBundle mainBundle] pathForResource:@"MotionRes" ofType:@"bundle"]:path;
if(_useNetResource && _filePath != nil){ //If a resource downloaded from the inte
```

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```
rnet is used
motionRootPath = [_filePath stringByAppendingPathComponent:@"2dMotionRes.bundle"
];//Get the absolute path of `2dMotionRes`
}
[self.beautyKitRef configPropertyWithType:@"motion" withName:key withData:motionR
ootPath withExtraInfo:nil];
```

Configuring the animated 2D cute effect

Request parameters:

Parameter	Value (Local Resource)	Value (Internet Re
propertyType	motion	motion
propertyName	video_keaituya	video_keaituya
propertyValue	`/private/var/containers/Bundle/Application/FD2D7912-E58E-4584-B7E4-8715B8D2338F/BeautyDemo.app/2dMotionRes.bundle`	`/var/mobile/C 73F6-4F1B-AEB 5EE03A221D18/I`
extraInfo	nil	nil

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Android

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To downsize the package, you can download the `assets` resources, `so` libraries, and animated effect resources `MotionRes` (unavailable in some basic SDKs) required by the SDK online. After successful download, set the paths of the above files in the SDK.

We recommend you reuse the download logic of the demo. You can also use your existing download service.

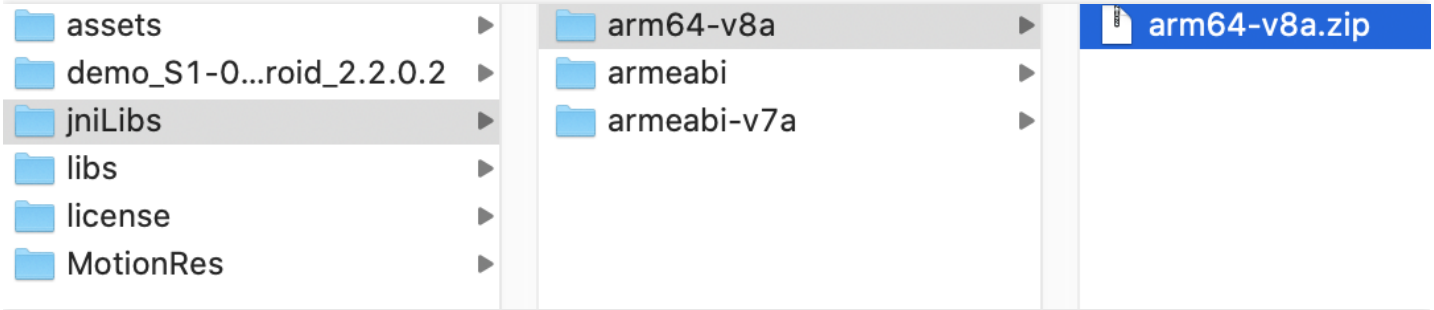
If you reuse the demo download logic, note that the checkpoint restart feature is enabled by default in the demo, so that a download can be resumed later if it is interrupted. To use this feature, make sure that your download server supports the checkpoint restart capabilities.

Check method

```
Check whether the web server supports range requests. If range requests are suppo
rted, then the server supports checkpoint restart. Run the following `curl` comma
nd on the command line:
curl -i --range 0-9 https://your server address/name of the file to be download
For example:
curl -i --range 0-9 https://mediacloud-76607.gzc.vod.tencent-cloud.com/TencentEff
ect/Android/2.4.1.119/xmagic_S1-04_android_2.4.1.119.zip
If the returned content contains the `Content-Range` field, the server supports c
heckpoint restart.
```

Dynamically Downloading .so Libraries

`.so` library packages are in `jniLibs/arm64-v8a` and `jniLibs/armeabi-v7a`.



- To reuse the download service in the demo
- To use your own download service

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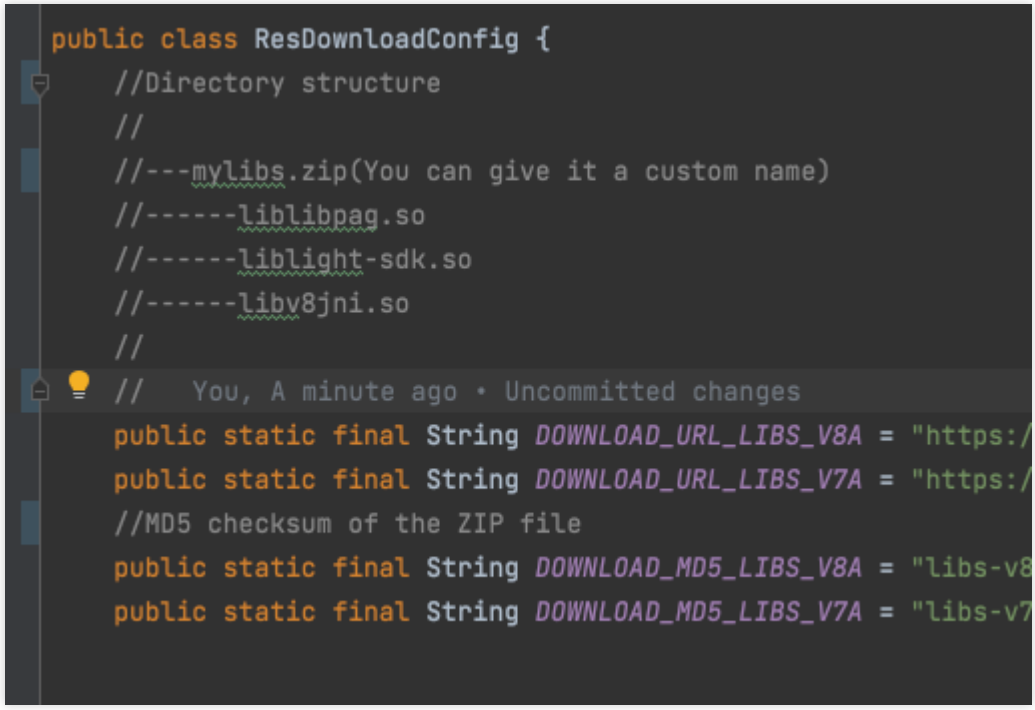
1. Calculate the MD5 value of the two ZIP packages. To do so on macOS, directly run `MD5 file path/filename` in Terminal or use an applicable tool.
2. Upload the packages to your server and get the download URLs.
3. Update the values of the following constants in `ResDownloadConfig` in the demo project:



```
public class ResDownloadConfig {
    //Directory structure
    //
    //---mylibs.zip(You can give it a custom name)
    //------liblibpag.so
    //------liblight-sdk.so
    //------libv8jni.so
    //
    //   You, A minute ago • Uncommitted changes
    public static final String DOWNLOAD_URL_LIBS_V8A = "https:/
    public static final String DOWNLOAD_URL_LIBS_V7A = "https:/
    //MD5 checksum of the ZIP file
    public static final String DOWNLOAD_MD5_LIBS_V8A = "libs-v8
    public static final String DOWNLOAD_MD5_LIBS_V7A = "libs-v7
```

4. Call `ResDownloadUtil.checkOrDownloadFiles` to start download.

Note：

- When the SDK version is updated, the corresponding `.so` libraries may also change, and you need to download the `.so` libraries again. We recommend you refer to the method in the demo and use the MD5 value for verification.
- Regardless of whether you choose to download `.so` libraries on your own or reuse the download service in the demo, check whether they have been downloaded before calling the `auth` API of the SDK. `ResDownloadUtil` provides the following method for checking. If they have been downloaded, set their paths in the SDK as shown below:

```
String validLibsDirectory = ResDownloadUtil.getValidLibsDirectory(LaunchActivity.
this,
isCpuV8a() ? ResDownloadConfig.DOWNLOAD_MD5_LIBS_V8A : ResDownloadConfig.DOWNLOAD
_MD5_LIBS_V7A);
if (validLibsDirectory == null) {
```

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```
Toast.makeText(LaunchActivity.this,"Libraries are not downloaded. Download them f
irst",Toast.LENGTH_LONG).show();
return;
}
XmagicApi.setLibPathAndLoad(validLibsDirectory);
auth();
```

Dynamically Downloading `assets` Resources

You can dynamically download `assets` resources as follows:

1. Configure the following in `assets` in your local project:
   - **On 2.4.0 or later**: No files in the local `assets` directory need to be retained.
   - **On versions earlier than 2.4.0**: You need to retain the license file and four JSON configuration files: `brand_name.json`, `device_config.json`, `phone_info.json`, and `score_phone.json`.
2. Find the `download_assets.zip` package in the SDK.

3. Calculate the MD5 value of the ZIP package in the same way as described above for the .so files, Then, upload the packages to the server to get the download addresses.
   - To reuse the download service in the demo
   - To use your own download service

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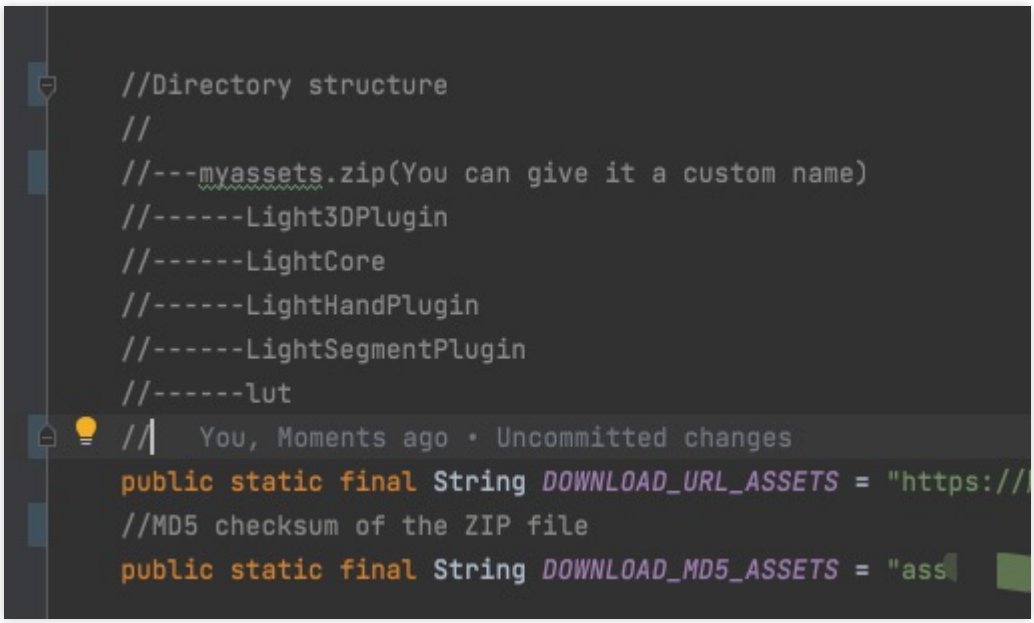
i. Update the download address and MD5 value in the following figure.



ii. Call `ResDownloadUtil.checkOrDownloadFiles` to start download and call `ResDownloadUtil.getValidAssetsDirectory` to get the path of the downloaded `assets`. For detailed directions, see `LaunchActivity.java`.

Note：

- When the SDK version is updated, the corresponding `assets` may also change, and you need to download the `assets` again to ensure compatibility. We recommend you refer to the method in the demo and use the MD5 value for verification.
- Regardless of whether you choose to download the `assets` on your own or reuse the download service in the demo, check whether `assets` have been downloaded before capturing video. `ResDownloadUtil` provides the following method for checking. If they have been downloaded, set their paths in the SDK. For detailed directions, see `LaunchActivity.java`.

```
String validAssetsDirectory = ResDownloadUtil.getValidAssetsDirectory(LaunchActiv
ity.this,ResDownloadConfig.DOWNLOAD_MD5_ASSETS);
if (validAssetsDirectory == null) {
Toast.makeText(LaunchActivity.this,"The `assets` are not downloaded. Download the
m first",Toast.LENGTH_LONG).show();
return;
}
XmagicResParser.setResPath(validAssetsDirectory);
startActivity(intent);
```

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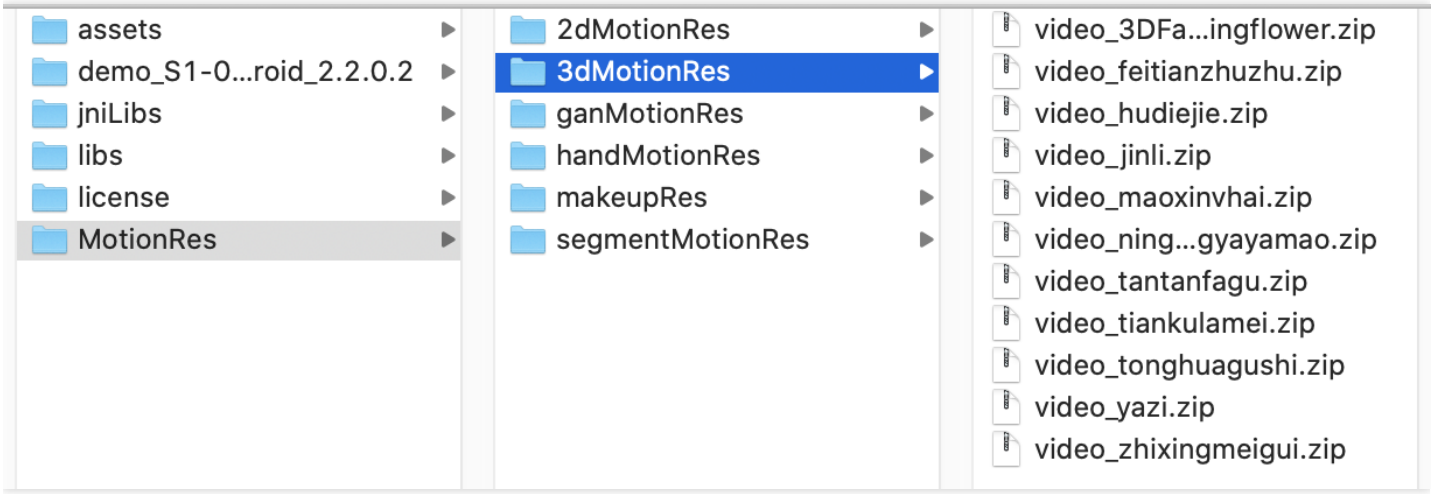
Downloading Animated Effect Resources `MotionRes`

Some basic editions don't have animated effect resources. You can skip this section based on your actual conditions.

Animated effects are divided into six types, and each type has several ZIP packages, each of which contains an animated effect. The file content varies by your purchased edition.



Animated effect resources can be downloaded as needed. For example, download can start after a user enters the relevant feature page or after clicking the icon of an animated effect.

You need to upload these ZIP packages to the server and get the download address of each ZIP package.

Note：

The `MotionRes` directory of downloaded animated effect resources must be at the same level as `light_assets` and `light_material` described in the previous section. In addition, each animated effect needs to be extracted and cannot be placed in the same ZIP package.

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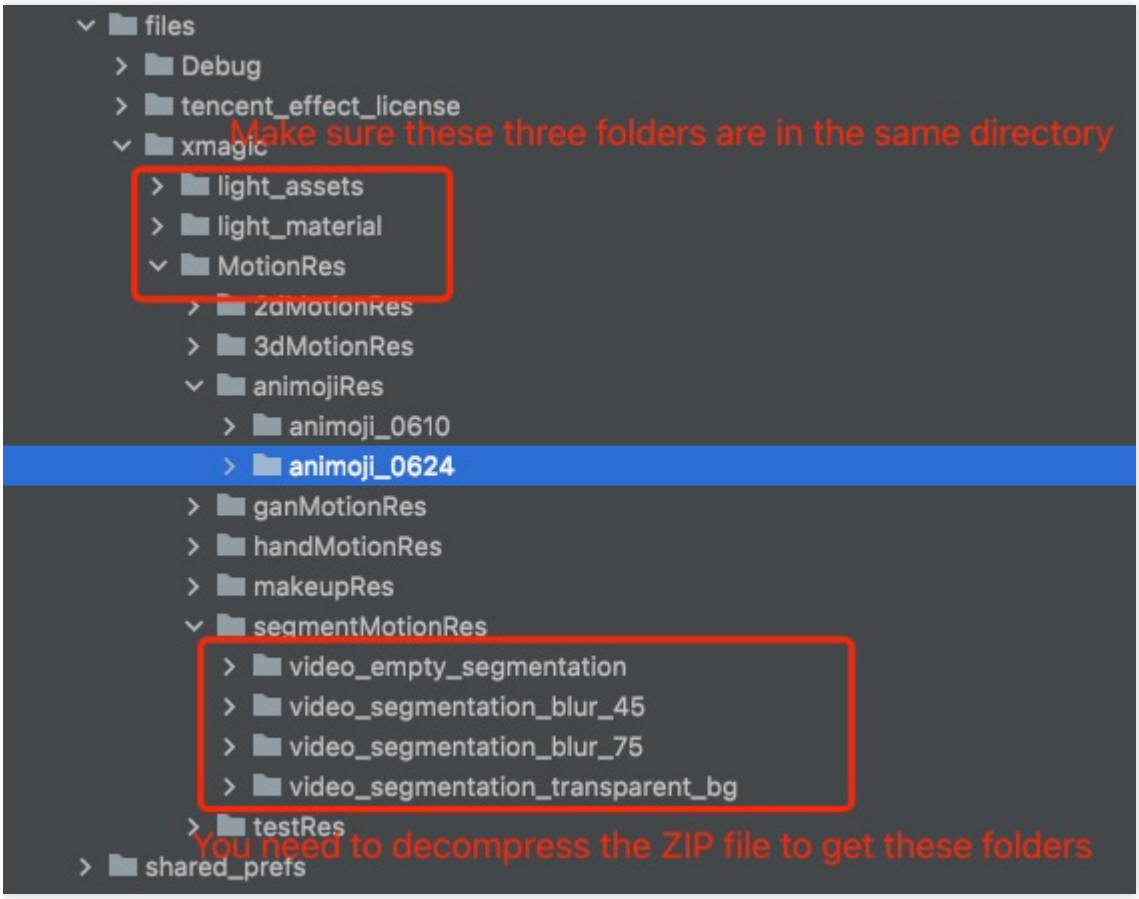

To download `MotionRes`, refer to the `ResDownloadUtil.checkOrDownloadMotions` method. We recommend you download such resources one by one.

To reuse the download service in the demo, replace the value of the `MOTION_RES_DOWNLOAD_PREFIX` constant in `ResDownloadConfig` with your download URL prefix.

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SDK Integration Issue Troubleshooting

Android

Last updated：2024-07-05 12:40:00

How to resolve the problem when the Android release package reports errors about missing certain methods?

If you enable compilation optimization (setting minifyEnabled to true) when packaging the release, it will trim some code that is not called in the Java layer. This code may possibly be called by the native layer, thus causing the `no xxx method` error.

If you enabled such compilation optimization, you should add these keep rules to avoid trimming xmagic's code:

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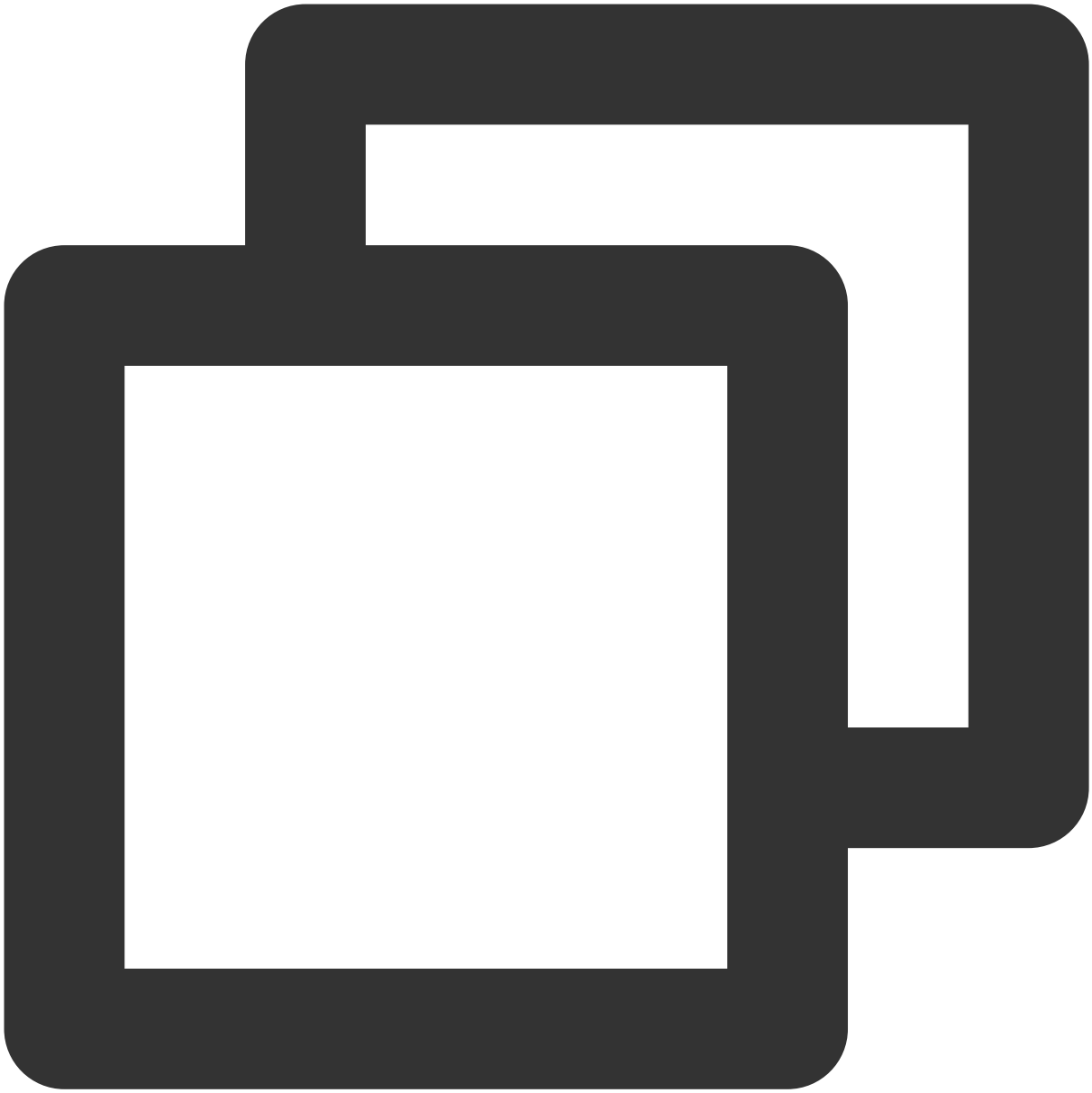

```
-keep class com.tencent.xmagic.** { *;}
-keep class org.light.** { *;}
-keep class org.libpag.** { *;}
-keep class org.extra.** { *;}
-keep class com.gyailib.**{ *;}
-keep class com.tencent.cloud.iai.lib.** { *;}
-keep class com.tencent.beacon.** { *;}
-keep class com.tencent.qimei.** { *;}
-keep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

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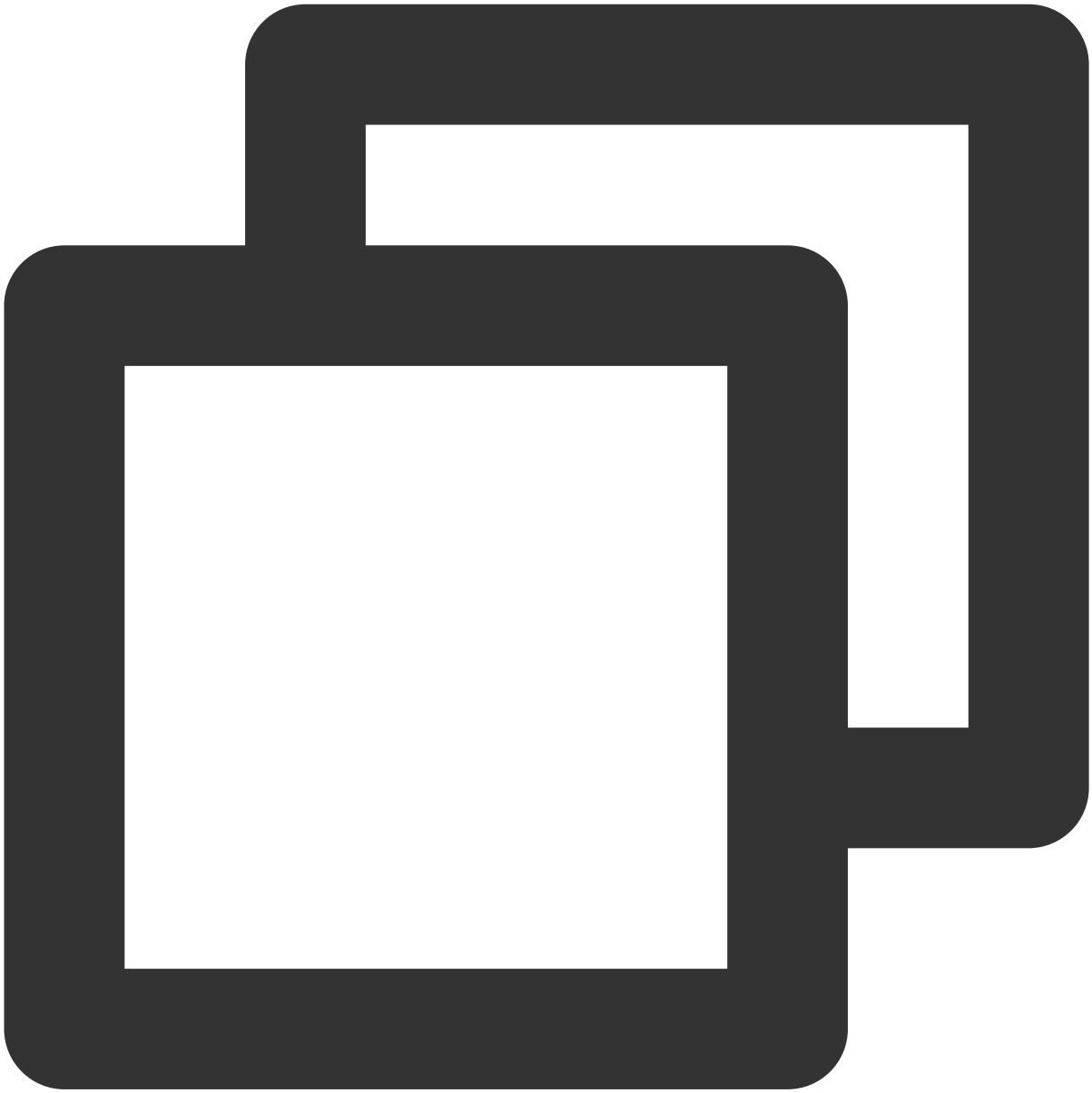
2. How to resolve the conflict of the gson library when integrating Android SDK into the host project?

Add the following code into the `build.gradle` file of the host project:



```
Android{
  configurations {
    all*.exclude group: 'com.google.code.gson'
  }
}
```

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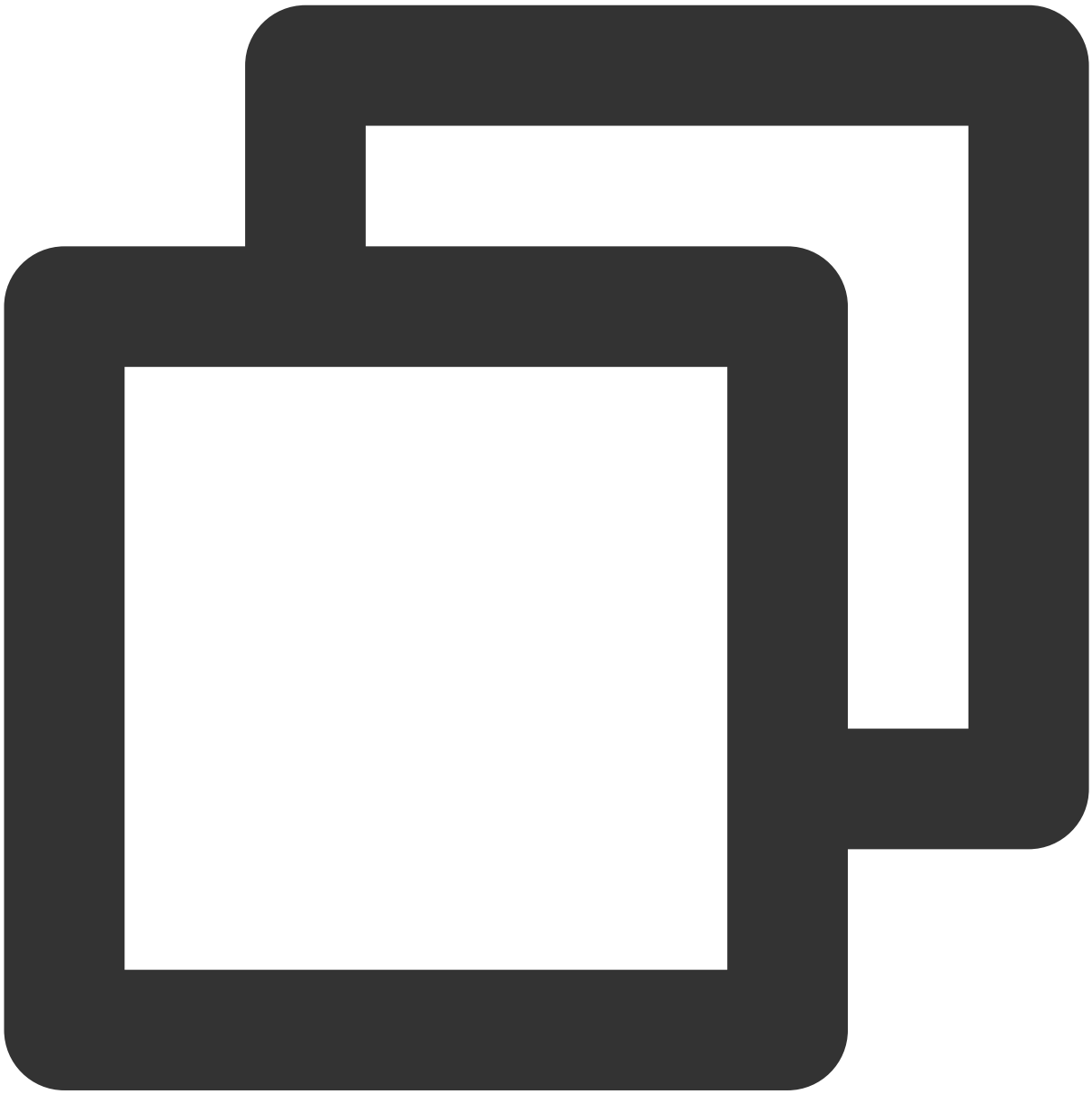
3. Why did the .so library fail to load or why can't GAN-type effects (such as fairytale visage and childhood bubble gum) be used when Android targetSdkVersion is 31 or later?

When Android targetSdkVersion is 31 or later, locate the `AndroidManifest.xml` file under the app module, and then insert the following tag within the application tag:



```
<uses-native-library
          android:name="libOpenCL.so"
          android:required="false" />
      //true indicates that libOpenCL is essential for the current app. Without t
      //false indicates that libOpenCL is not essential for the current app. The
```

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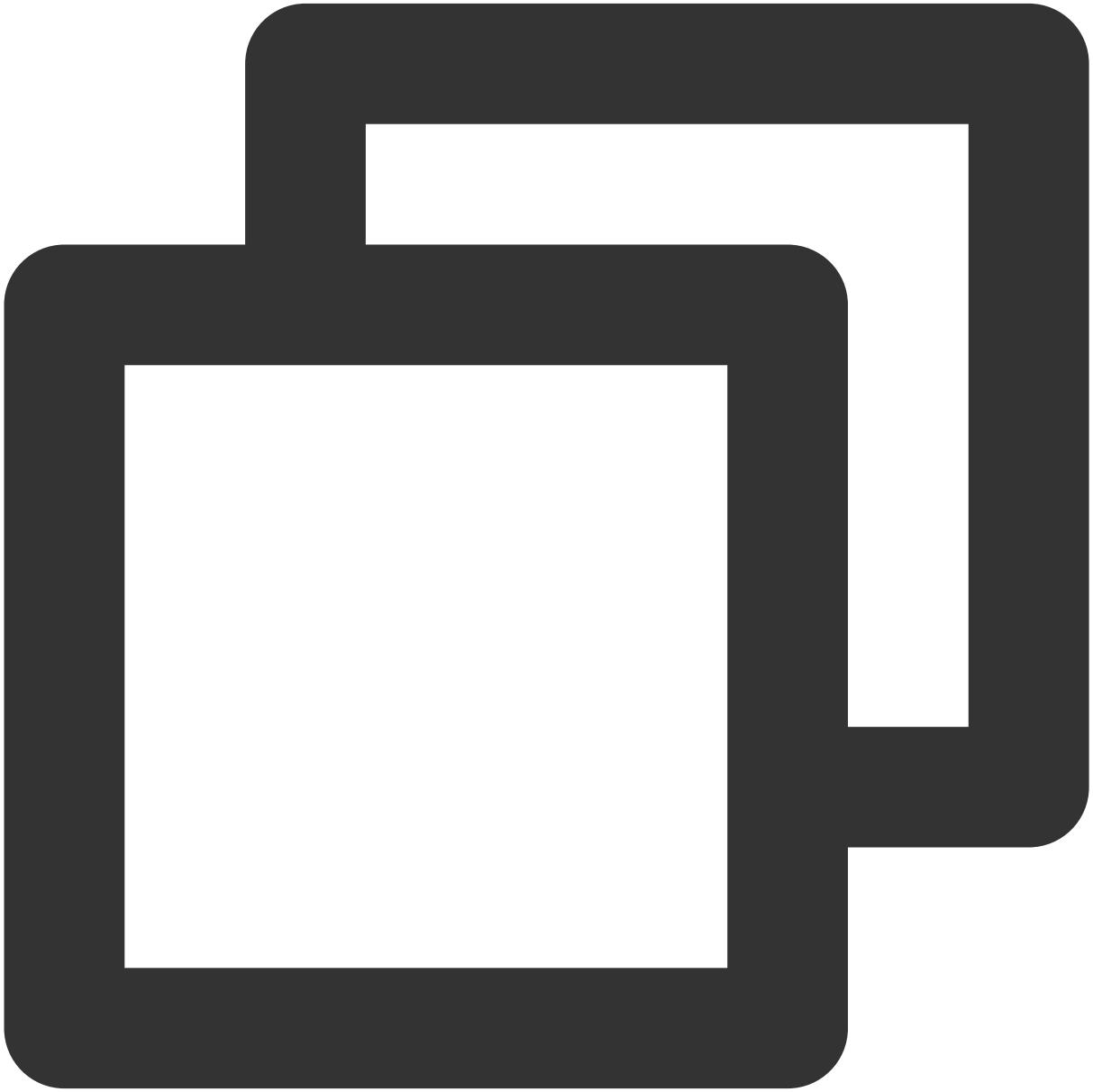
```
        //For information about uses-native-library, refer to the Android official
```

Refer to Development Guide for further details.

4. When I use the beauty filter, the texture passed is a horizontal texture. How can this be resolved?

You can use the convert method of the tool class `TextureConverter.java` in the demo to rotate the texture, convert it to portrait mode, and then pass it to the beauty SDK.



```
    /**
```

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```
     * This method is used to rotate and mirror 'RGBA' textures. The process is as
     * Use case: Some streaming SDKs return horizontal textures or the orientation
     *
     * @param srcID   RGBA texture
     * @param width   Texture width
     * @param height  Texture height
     * @param rotation Degrees of required rotation
     * @return Rotated texture. Note: If rotated by 90 or 270 degrees, the width an
     */
    public int convert(int srcID, int width, int height, @RotationDegreesValue int
```

5. When I use the beauty filter, the texture passed is an OES texture. How can this be resolved?

You can use the oes2Rgba method of the tool class `TextureConverter.java` in the demo to convert the texture into an RGBA texture, and then pass it to the beauty SDK.

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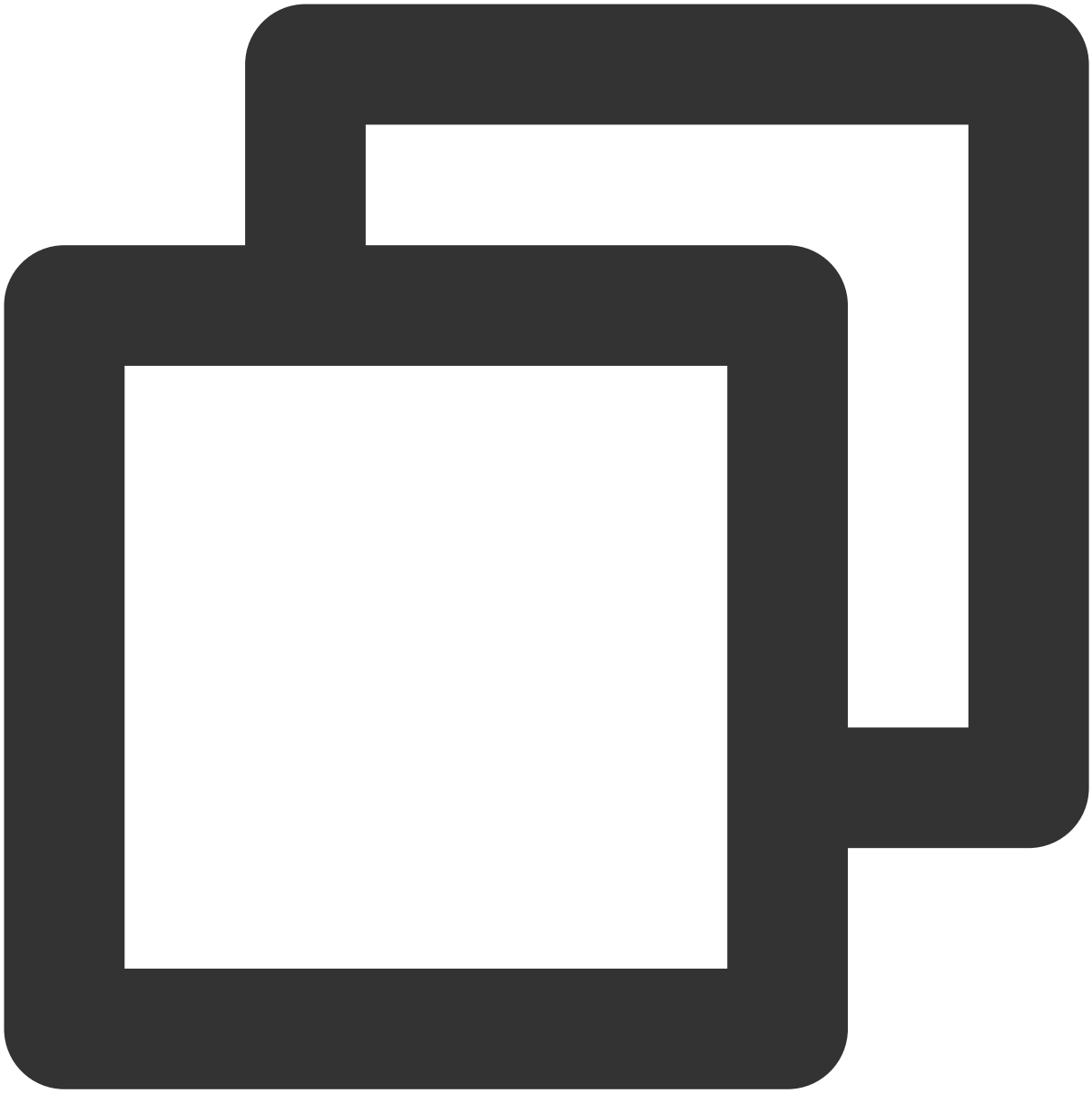

```
/**
  * This method is used to convert OES textures to RGBA textures.
  *
  * @param srcID  OES texture
  * @param width  Texture width
  * @param height Texture height
  * @return RGBA texture ID
  */
 public int oes2Rgba(int srcID, int width, int height)
```

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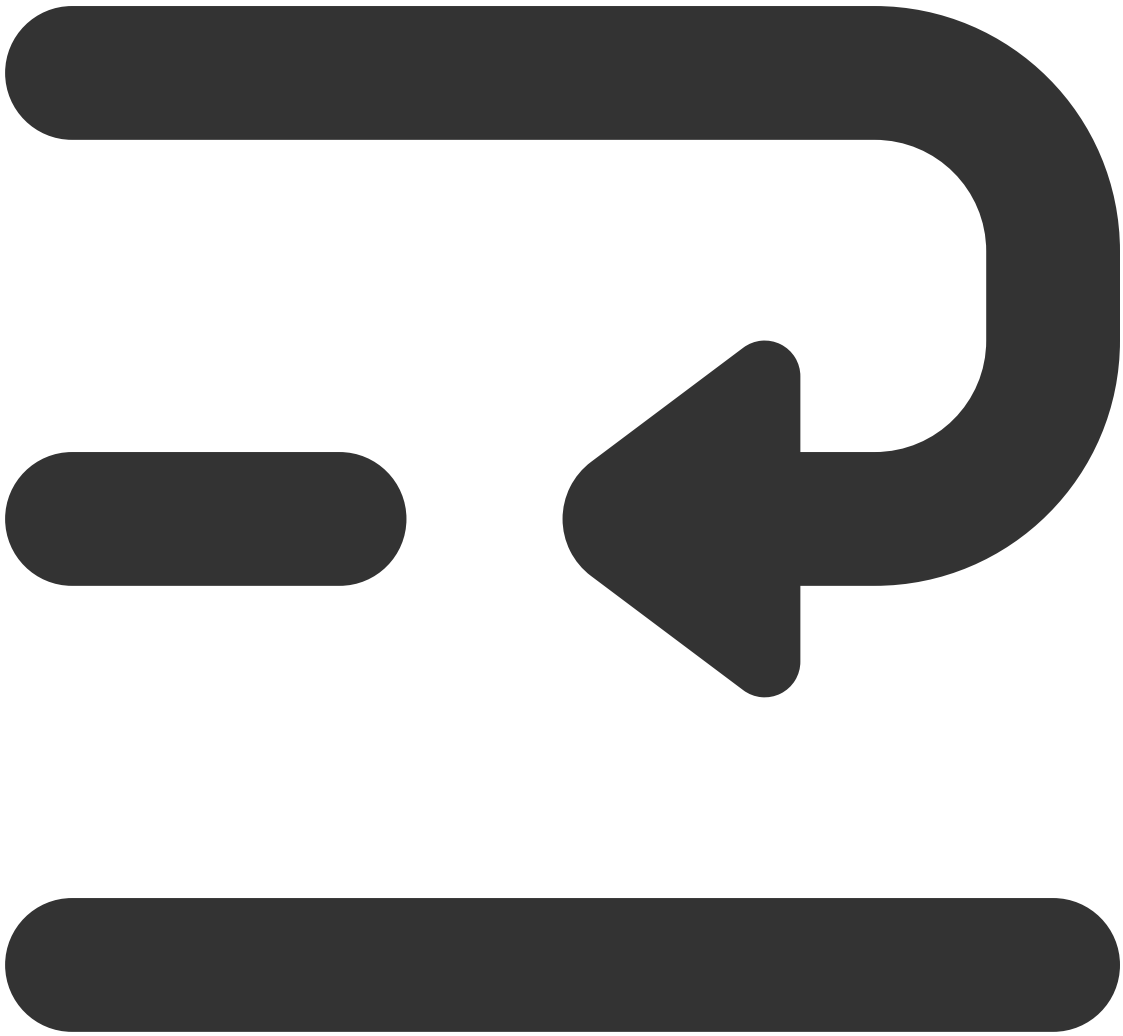
6. If I want to use a different version of PAG, how can I resolve it? Versions 3.5.0 and later are supported.

When integrating the Beauty SDK for customers:

For integration via Maven, PAG can be imported by implementation TencentEffect. If you do not want to use the PAG dependency of TencentEffect, you can exclude it and then introduce the version of PAG you need in your app's build.gradle:



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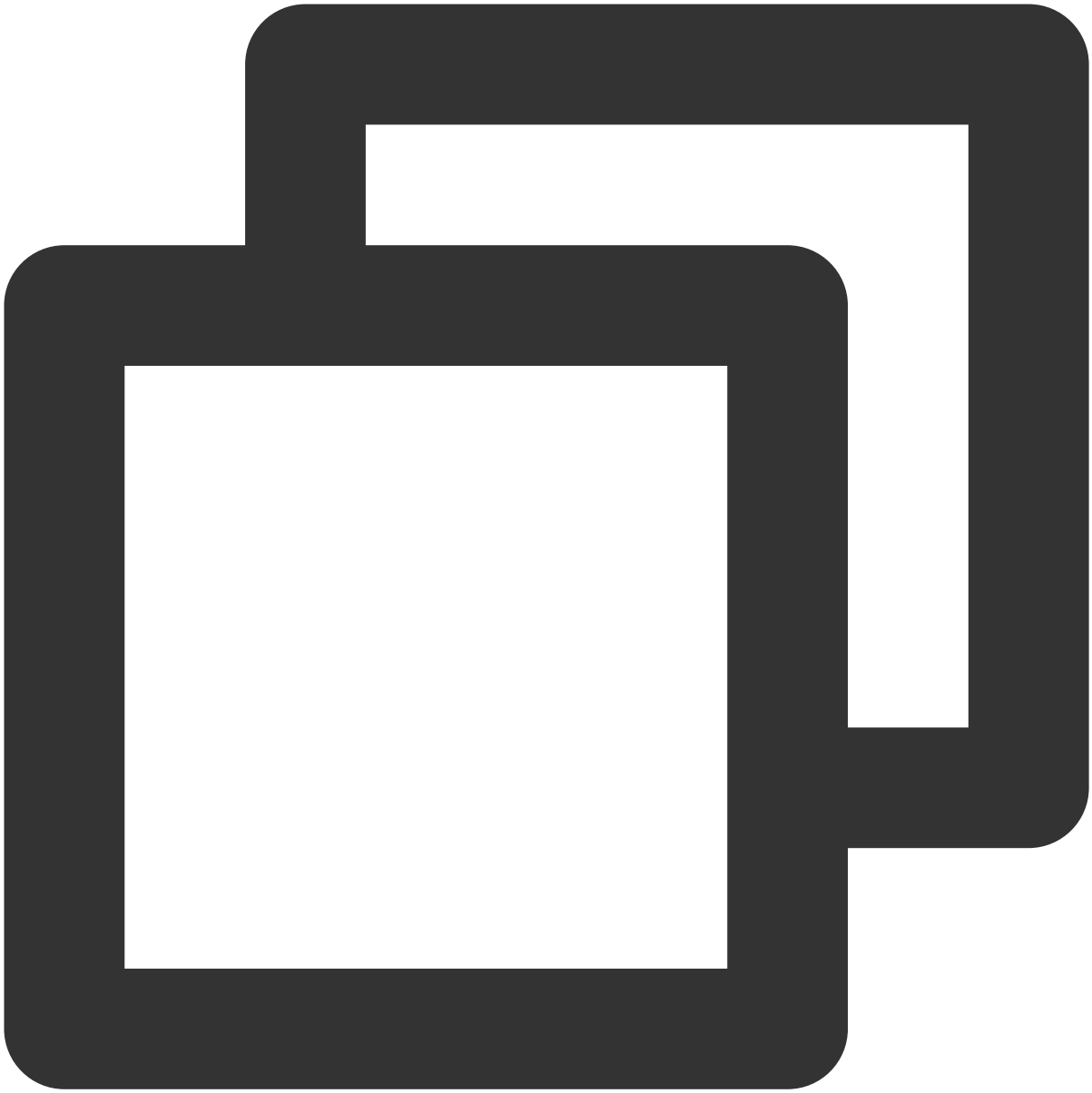

```
implementation ('com.tencent.mediacloud:TencentEffect_S1-04:version number'){
       exclude group:       "com.tencent.tav", module: "libpag"
}
```

For manual integration by downloading the beauty SDK's aar, the integration is dependent on TencentEffect.aar in the project. This aar does not include PAG, and you need to add an implementation PAG statement in your app's build.gradle to use PAG:

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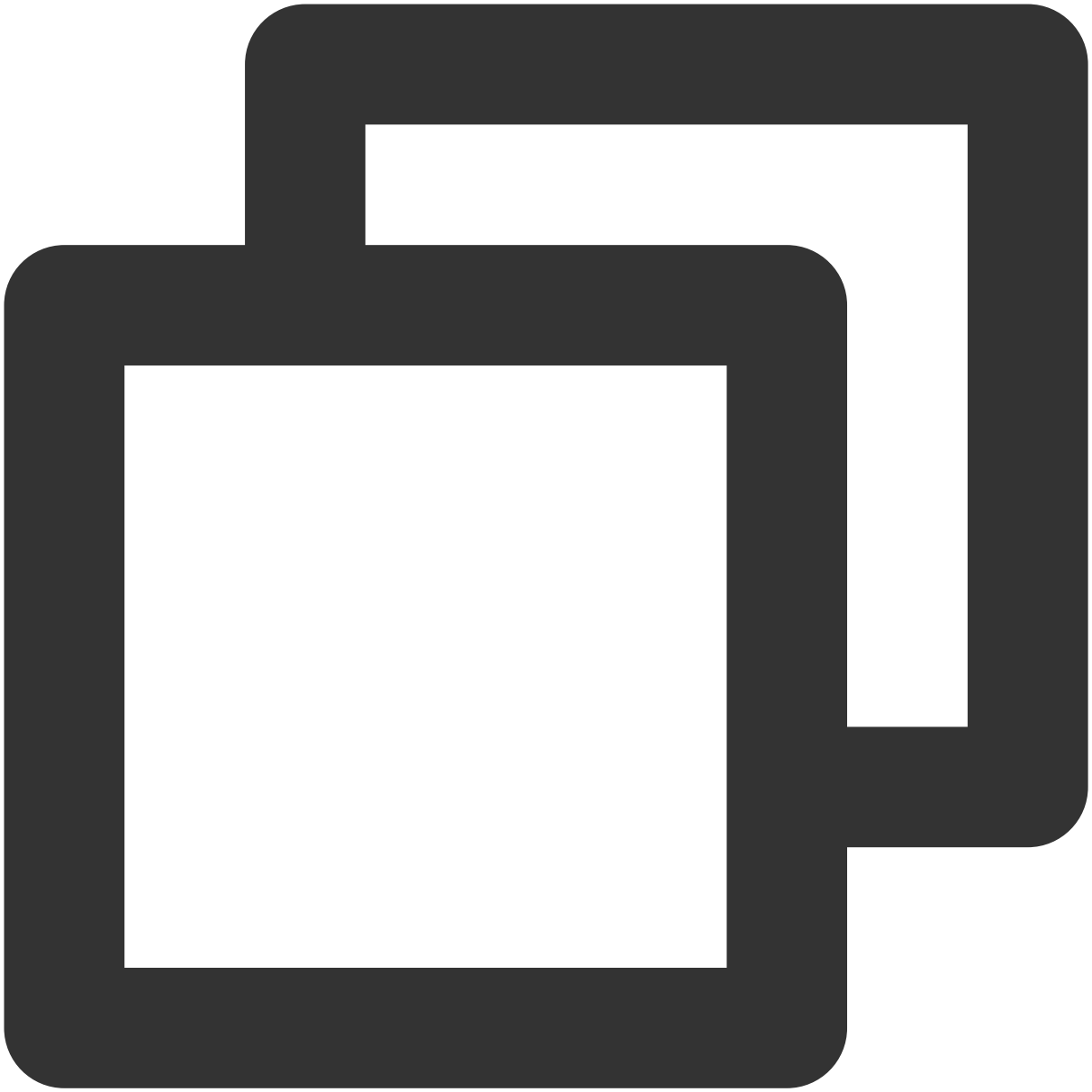

```
implementation 'com.tencent.tav:libpag:4.3.33-noffavc'
```

If you want to dynamically download the PAG's .so files, go to the PAG official website to find the version you need, download the .aar, rename the .aar to .zip, extract it, remove the .so files, compress the remaining files back into a .zip, and then rename it back to .aar. Finally, import this .aar of PAG without the .so files, the PAG's .so files will then be downloaded dynamically over the internet.

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iOS

Last updated：2024-07-05 12:40:20

1. What should I do if an error occurs after the running of iOS import resources?

Xcode 12.X compilation prompt: **Building for iOS Simulator, but the linked and embedded framework '.framework'...**
Navigate to **Build Settings** > **Build Options** > **Validate Workspace**, and set Validate Workspace to 'Yes' and press **Run**.
Note:
Once 'Validate Workspace' is set to 'Yes' and the compilation is completed, you can set it back to 'No' and the application will work normally.

2. What should I do if the filter settings don't take effect?

Check whether the values are set properly (value range: 0-100). You may have set too small a value so the effect is not obvious.

3. What should I do if there's an error upon dSYM generation during compilation of the iOS Demo?

Error message:

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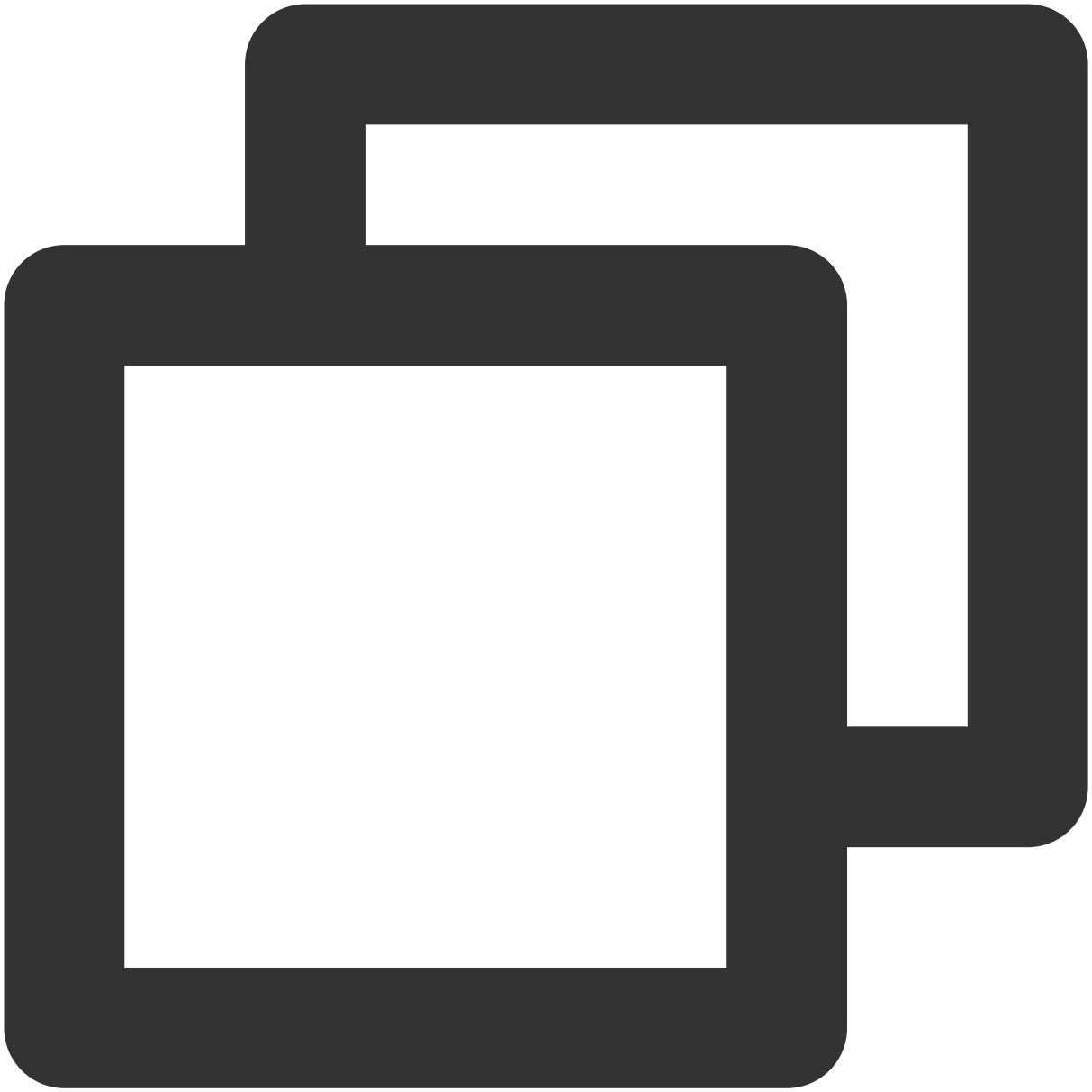

```
PhaseScriptExecution CMake\\ PostBuild\\ Rules build/XMagicDemo.build/Debug-iphoneo
  cd /Users/zhenli/Downloads/xmagic_s106
  /bin/sh -c /Users/zhenli/Downloads/xmagic_s106/build/XMagicDemo.build/Debug-iphon

Command /bin/sh failed with exit code 1
```

Problem analysis: The cause is the failure of re-signing `libpag.framework` and `Masonary.framework`.

Solution:

1.1 Open **demo/copy_framework.sh**.

1.2 Change `$(which cmake)` to an absolute local cmake path.

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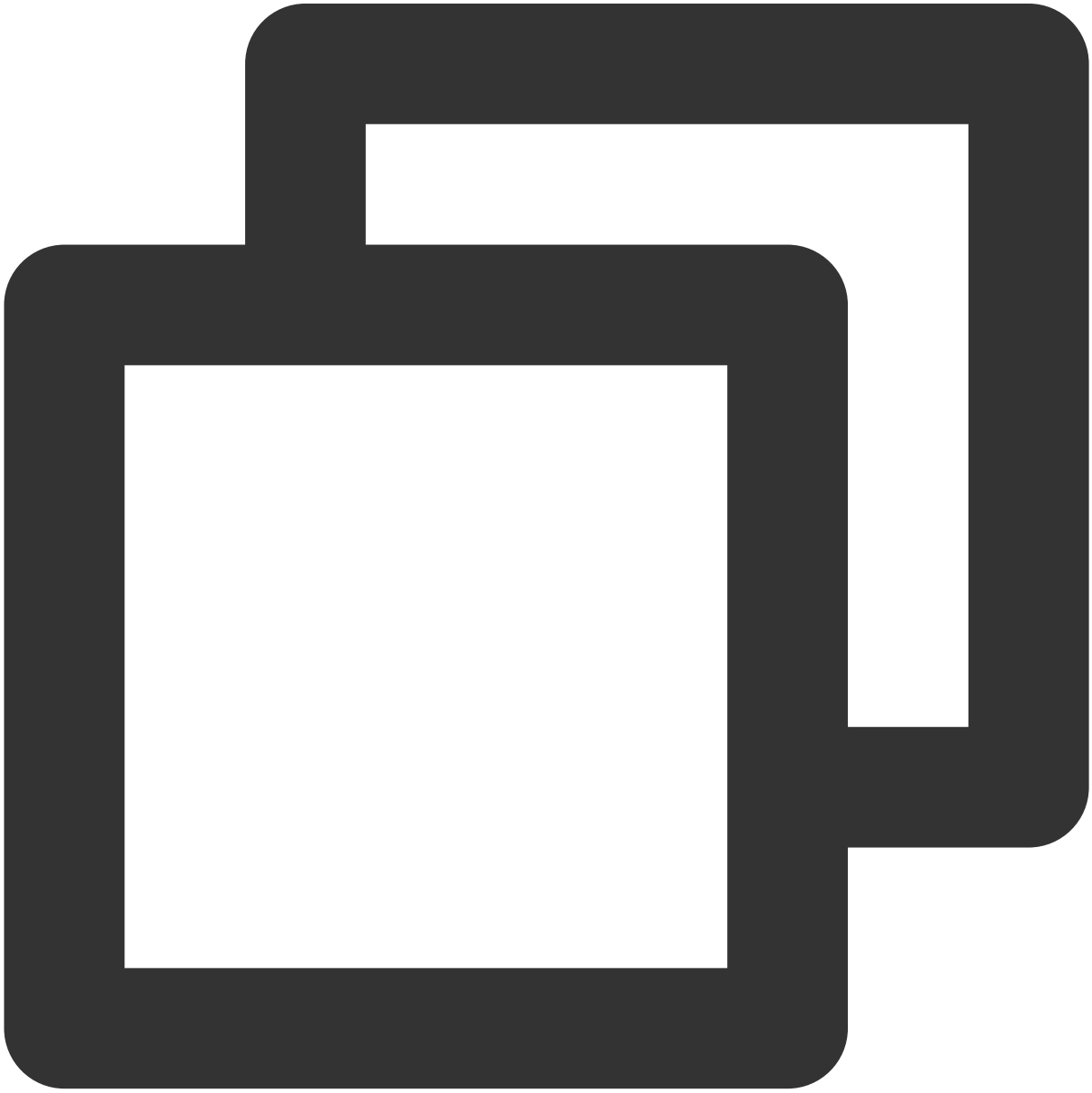
1.3 Replace the `Apple Development: ......` signature with your own account's signature.

4. What should I do if a license error is displayed when I enter the homepage of the iOS Demo?

Check the license failure error code printed in the log. If you are using a local license file, check whether the file has been added to the project.

5. What should I do upon a compilation error in the iOS Demo?

Error message:



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```
unexpected service error: build aborted due to an internal error: unable to write m
```

Solution:

1.1 Navigate to **File** > **Project settings** > **Build System**, and select **Legacy Build System**.

1.2 For Xcode 13.0 and later versions, navigate to **File** > **Workspace Settings** and check **Do not show a diagnostic issue about build system deprecation**.

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Performance Fine-Tuning
High-Performance Mode Usage Guide

Last updated：2024-07-05 12:41:43

What is High-Performance Mode?

When High-Performance Mode is enabled, the beauty feature occupies less resources on your system's CPU/GPU. This effectively mitigates the heating and lagging issues of your mobile device and is particularly beneficial for extended operation on low-end devices.

Note: When High-Performance Mode is enabled, the skin smoothing effect is less natural than that in Regular Mode, and the following beauty options will be unavailable:

1. Eyes: Eye Width, Eye Level, Puffy Eye Removal.
2. Eyebrows: Angle, Distance, Height, Length, Thickness, Brow Peak.
3. Mouth: Smile Lips.
4. Face: Chin Retraction, Wrinkle Removal, Nasolabial Fold Removal. In versions prior to SDK 3.7.0, Slim Face (Natural, Goddess, Handsome) will also be unavailable.
5. Nose: Nasal Bridge, Root of the Nose.

It is recommended to enable High-Performance Mode only on low-end devices, while mid-to-high-end devices should use Regular Mode for better beauty effects.

How to Enable High-Performance Mode

Android

iOS

Flutter

Method 1

If you are directly using the `XmagicApi` object, then **call the following API immediately after creating the** `XmagicApi` **object** to enable High-Performance Mode:

For SDK 3.7.0 and later: Call the `enableHighPerformance` method.

For SDK earlier than 3.7.0: Call the `setDowngradePerformance` method.

Method 2

If you are using the TEBeautyKit object, you can use the following method to enable High-Performance Mode.

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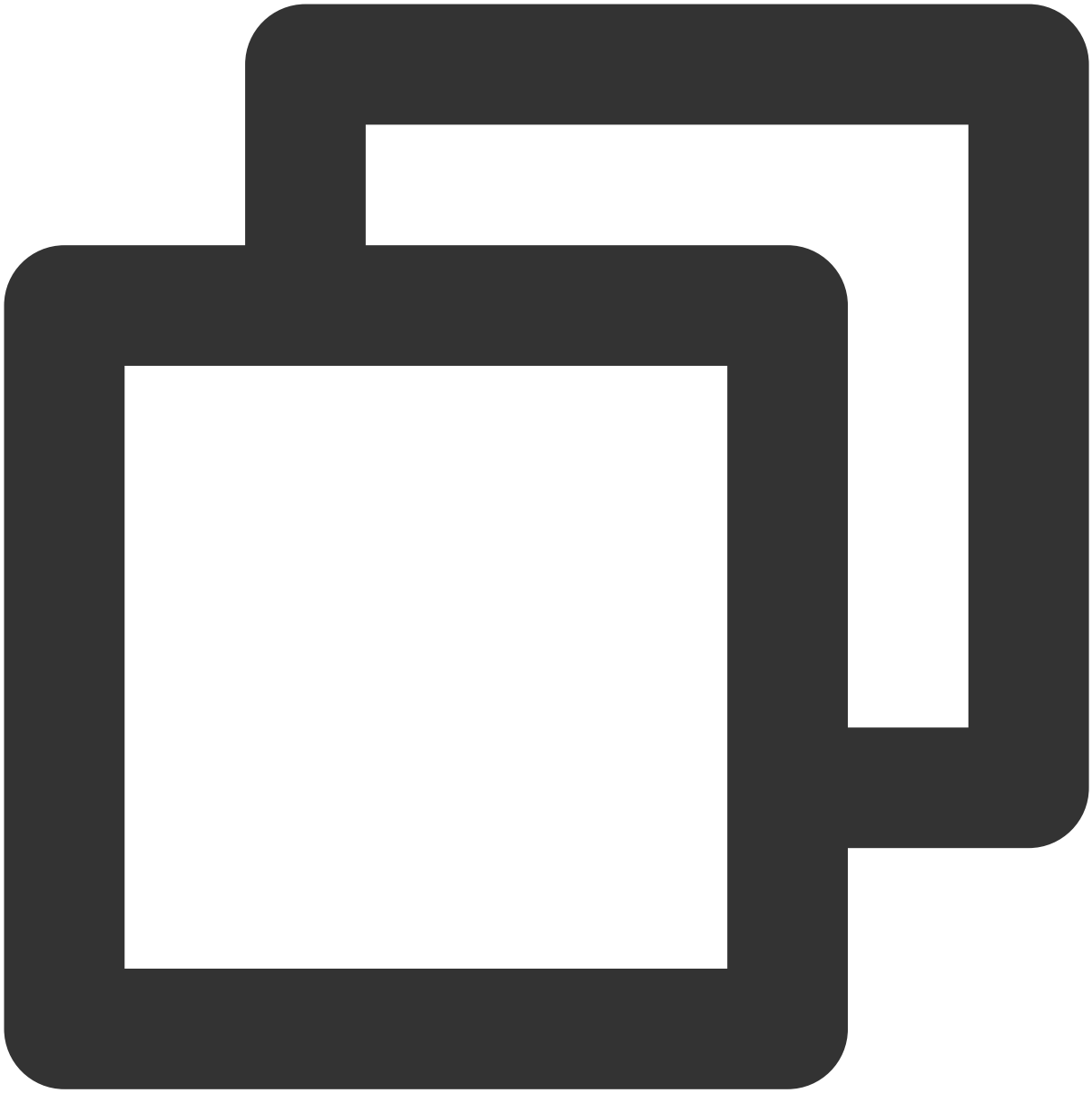

```
  /**
 * @param context                 Application context
 * @param isEnableHighPerformance Whether to enable High-Performance Mode
 */
public TEBeautyKit(Context context, boolean isEnableHighPerformance)

  /**
 *
 * Asynchronously create a TEBeautyKit object
 * @param context Android application context
```

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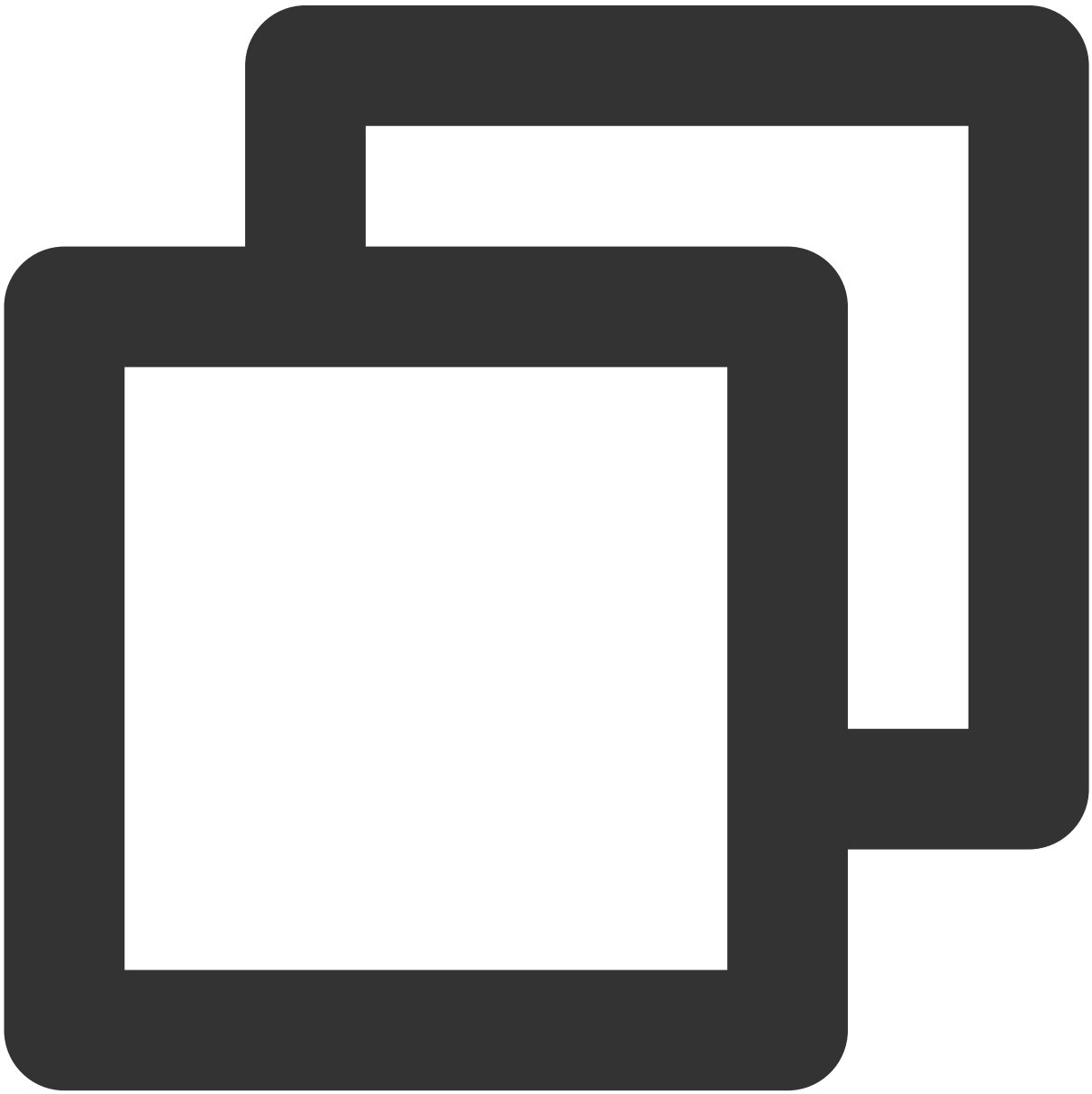
```
    * @param isEnableHighPerformance Whether to enable enhanced mode
    * @param initListener Initialize the callback interface.
    */
   public static void create(@NonNull Context context, boolean isEnableHighPerformance
```

Method 1

If you are directly using the `XMagic` object, you can enable High-Performance Mode during the initialization of `XMagic`:

For SDK 3.7.0 and later: Set `enableHighPerformance` to YES in the assetsDict dictionary.

For SDK earlier than 3.7.0: Set `setDowngradePerformance` to YES in the assetsDict dictionary.



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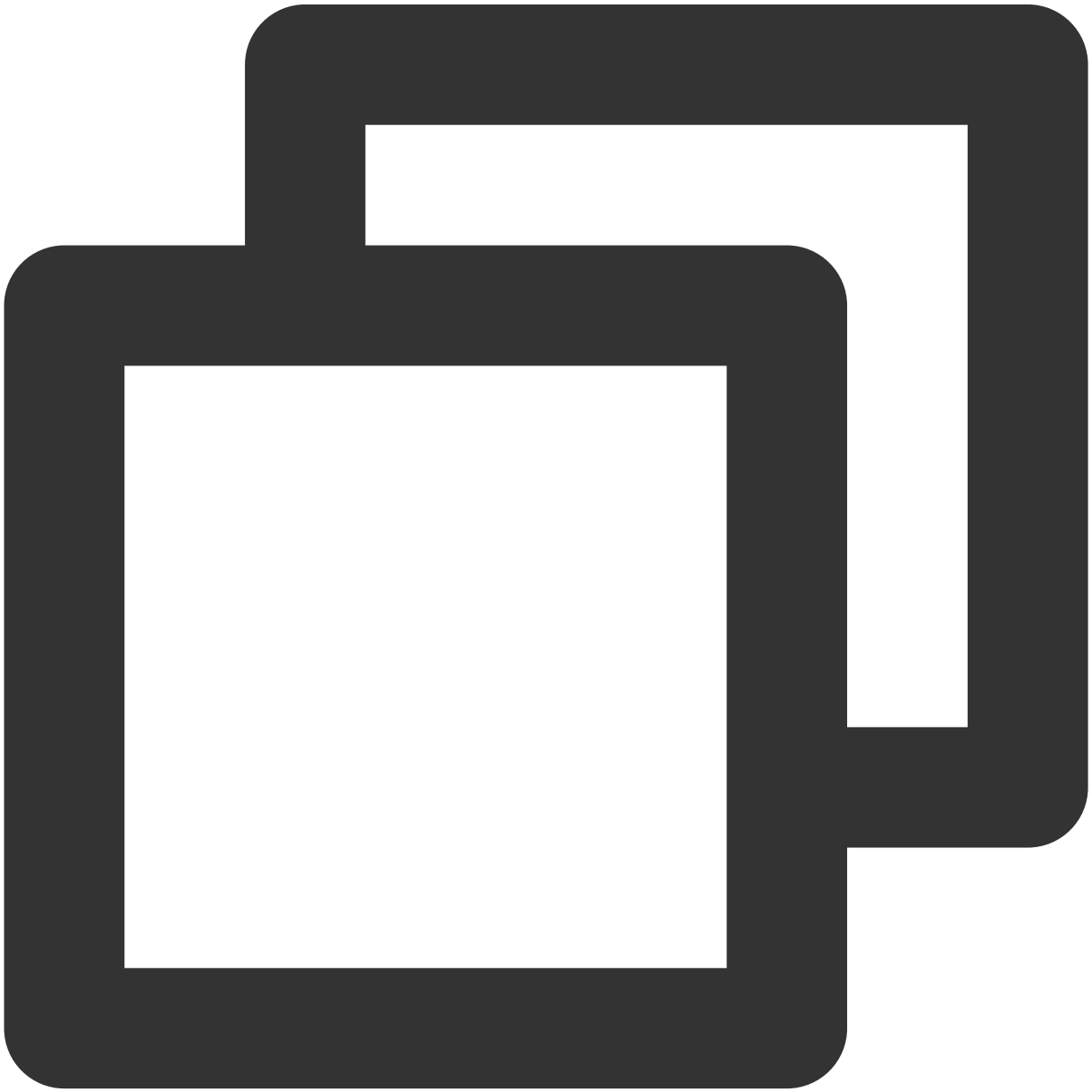
```
NSDictionary *assetsDict = @{
@"core_name":@"LightCore.bundle",
@"root_path":[NSBundle mainBundle] bundlePath],
@"setDowngradePerformance":@(YES)//YES: Enable High-Performance Mode; NO: Do not en
};
self.xmagic = [[XMagic alloc] initWithRenderSize:CGSizeMake(720, 1280) assetsDict:a
```

Method 2

If you are using the TEBeautyKit object, you can use the following method to enable High-Performance Mode.



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```
/**
*
* Create a TEBeautyKit object
* @param isEnableHighPerformance Whether to enable High-Performance Mode YES: Enab
* @param initListener Initialize callback interface.
*/
+ (void)create:(BOOL)isEnableHighPerformance onInitListener:(OnInitListener _Nullab
```

You can enable High-Performance Mode by calling the setDowngradePerformance method of `TencentEffectApi` .

Note:

This method needs to be called before the beauty feature is started, that is, before the `enableCustomVideoProcess` method in `TRTC or Live` is called.

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Performance Issue Troubleshooting

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If you find that the beauty filter processing takes a considerable amount of time, you can troubleshoot using the following methods.

Step 1: Check the resolution of the image being processed by the beauty filter.

Reason: Resolution refers to the number of pixels in an image or video, typically represented by width and height. Beauty filter processing involves complex algorithmic computations and treatments on the image, such as skin smoothing, whitening, and removing blemishes. Therefore, the size of the resolution directly affects the duration of beauty filter processing.
A higher resolution means more pixels in the image, requiring more computations and processing. This results in a longer duration needed for beauty filter processing. Conversely, a lower resolution means fewer pixels in the image, needing less computational effort and therefore, a shorter duration for beauty filter processing.
Additionally, beauty filter processing often involves treating multiple areas of the image, such as face detection and facial feature point localization. In images with a higher resolution, more pixels and more complex image details need to be processed, which may require more time to complete.
Therefore, it is necessary to balance the resolution and beauty effects to achieve satisfactory processing speed and image quality.

Step 2: Check the log switch.

When the log is set to `Log.DEBUG` , the beauty filter will print a large amount of log information during processing, thus affecting performance. So, it is advised to set it to `LOG.WARN` when releasing the application package.

Step 3: 3D/GAN stickers are resource-intensive and may cause lag on low-end devices. Whether to enable them can be determined based on the actual situation.

Step 4: If experiencing screen lag, check if the push stream frame rate is set too low. It is recommended to adjust it to above 24 fps.

If your application is not smooth even without the Beauty Filter, it is necessary to check the camera frame rate in the RTC module. You may improve the smoothness of the video by appropriately increasing the camera frame rate.
If you are using TRTC, you can refer to this document for frame rate adjustment.

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Effect Fine-Tuning
Enhanced Mode Usage Guide

Last updated：2024-07-05 14:19:26

What is Enhanced Mode?

In the SDK, it is recommended to set the beauty parameters in the range of 0 to 100 or -100 to 100 (see Beauty Effect Parameters). Adjusting parameters within this range typically achieves satisfactory beauty effects. If adjusting a parameter to the maximum or minimum value still does not meet your needs, you may consider using Enhanced Mode. Enhanced Mode can make the beauty effects more pronounced, such as more noticeable skin smoothing and slimming the face further.

How to Use Enhanced Mode

In versions after SDK 3.5.0, we have optimized the method of using Enhanced Mode. **You just need to set larger values in the SDK**, for example, if the suggested value range is -100 to 100, then you can set -120 to 120 in the SDK.

Android

iOS

Flutter

uniapp

1. **If you are using our UI component TEBeautyKit:**

Call the `enableEnhancedMode` method of `TEBeautyKit` . After the call, TEBeautyKit will multiply the value displayed on the panel by an appropriate multiplier before setting it in the SDK. For example, if the Face Slimming Value set on the UI panel is 80, TEBeautyKit will multiply it by 1.2 to make it 96 before setting it in the SDK.

2. **If you are not using TEBeautyKit but are directly using XmagicApi instead:**

When calling the setEffect method of XmagicApi, just multiply the value by an appropriate multiplier.

1. **If you are using our UI component TEBeautyKit:**

In `TEPanelView` , call the `setEnhancedMode` method. After the call, TEBeautyKit will multiply the value displayed on the panel by an appropriate multiplier before setting it to the SDK. For example, if the Face Slimming Value set on the UI panel is 80, TEBeautyKit will multiply it by 1.2 to make it 96 before setting it to the SDK.

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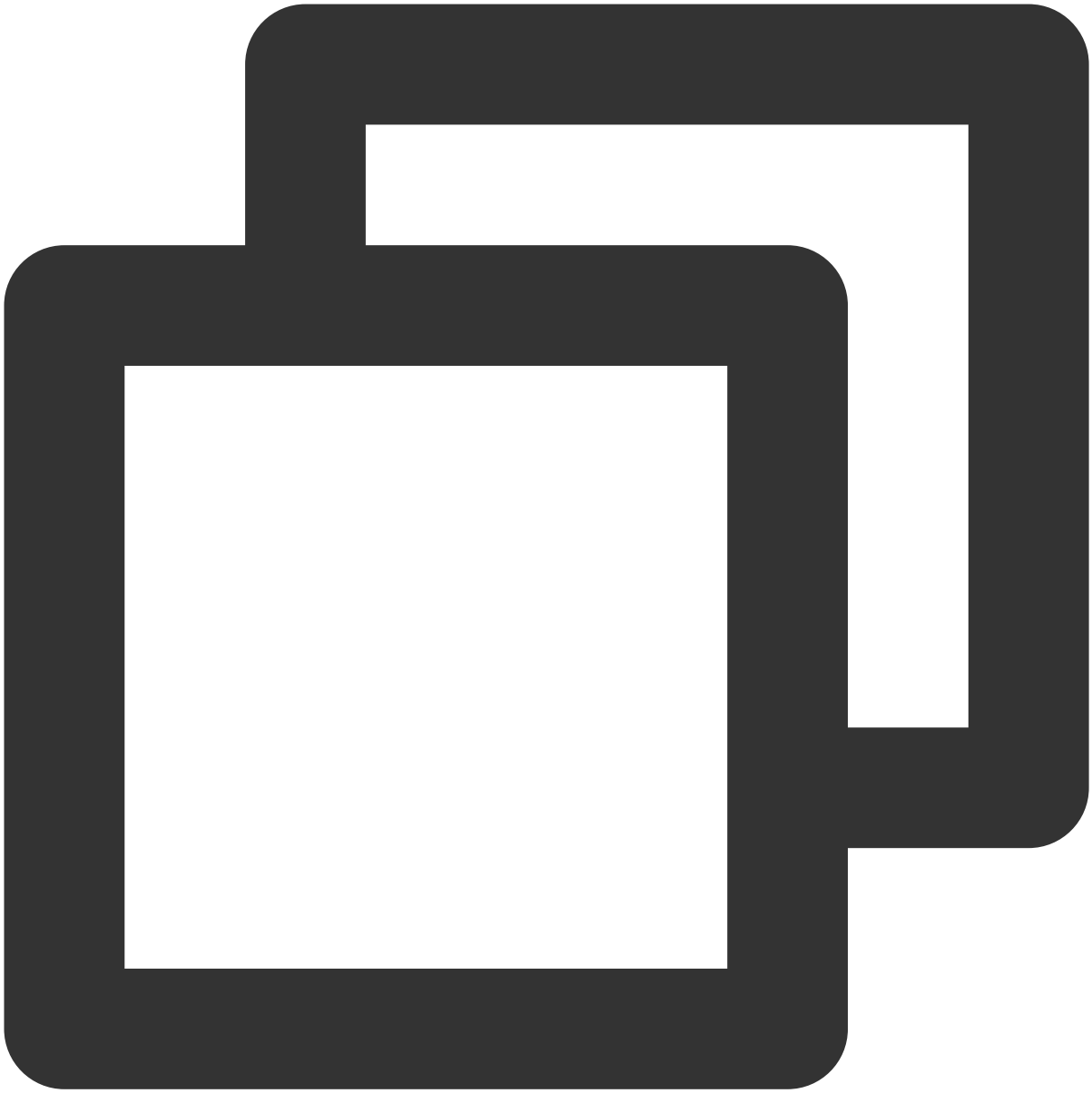

```
/**
*

* Enabling Enhanced Mode
* @param enhancedMode Whether to enable Enhanced Mode. YES: Enable Enhanced Mode;
*/
[self.tePanelView setEnhancedMode:YES];
```

2. **If you are not using TEBeautyKit but are directly using `XMagic` object:**

When calling the setEffect method, just multiply the value by an appropriate multiplier.

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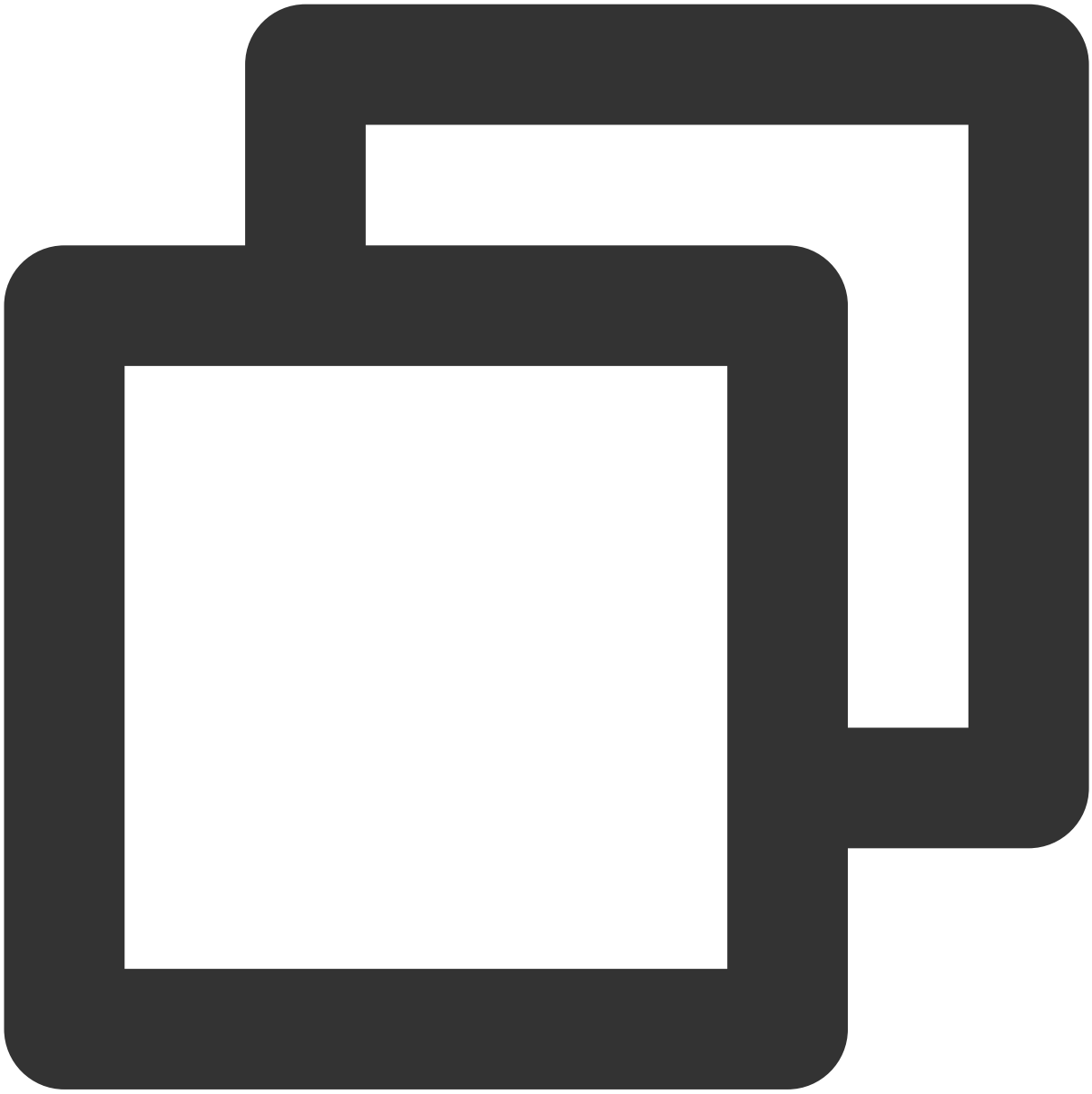
1. Call the `enableEnhancedMode` method of `TencentEffectApi` to enable Enhanced Mode.
2. When you set beauty parameters with the `setEffect` method, the maximum value of `effectValue` can be the maximum value recommended in the table below.



```
void setEffect(String effectName,int effectValue,String? resourcePath,Map<String,St
```

1. Call the `enableEnhancedMode` method of `XmagicApi` to enable Enhanced Mode.
2. When you set beauty parameters with the `setEffect` method, the maximum value of `effectValue` can be the maximum value recommended in the table below.

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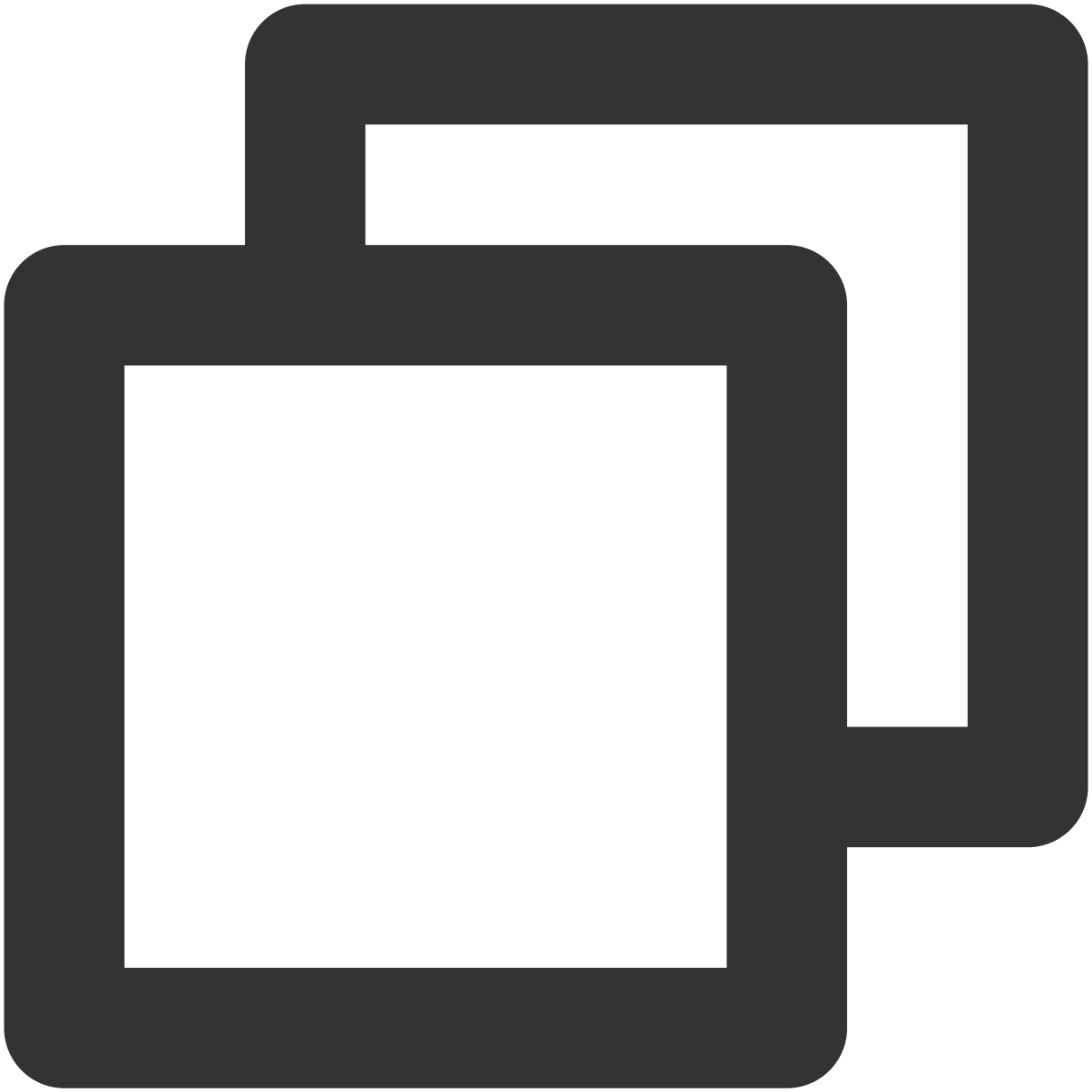

```
/**
 * Updating Beauty Object
 * @param effect Structure as follows
 * {
 *     effectName:"", Non-empty string. Refer to the Beauty Parameters table.
 *     effectValue: Numerical value, usually in the range of -100 to 100. Refer to
 *     resourcePath: Path of the resource file. Refer to the Beauty Parameters tabl
 *     extraInfo: A map collection. For specific values, refer to the Beauty Parame
 * }
 */
static setEffect(effect)
```

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Recommended Enhancement Multiplier for Enhanced Mode

We provide a reference value for the enhancement multiplier. It is not recommended to exceed our suggested value. Otherwise, the beauty effect may deteriorate. See below for the reference value:

Beauty Item Name	Recommended Maximum Enhancement Multiplier
Whitening, shortening the face, V-face, eye distance, nose position, removal of laugh lines, lipstick, three-dimensional appearance	1.3x
Eye lightening	1.5x
Blush	1.8x
Others	1.2x

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Effect Issue Troubleshooting

Last updated：2024-07-05 14:20:55

1. What to do if noise appears in the image?

If you are in a low-light environment and noise appears in the image, you can enable the noise reduction attribute.

2. What to do if the segmentation effect is not very good?

When the background segmentation effect is used, it is recommended not to have a too complex background. The background color and clothing color should not be too similar. Otherwise, the segmentation effect will be reduced.

3. What is the relationship between beauty makeup materials and beauty filter?

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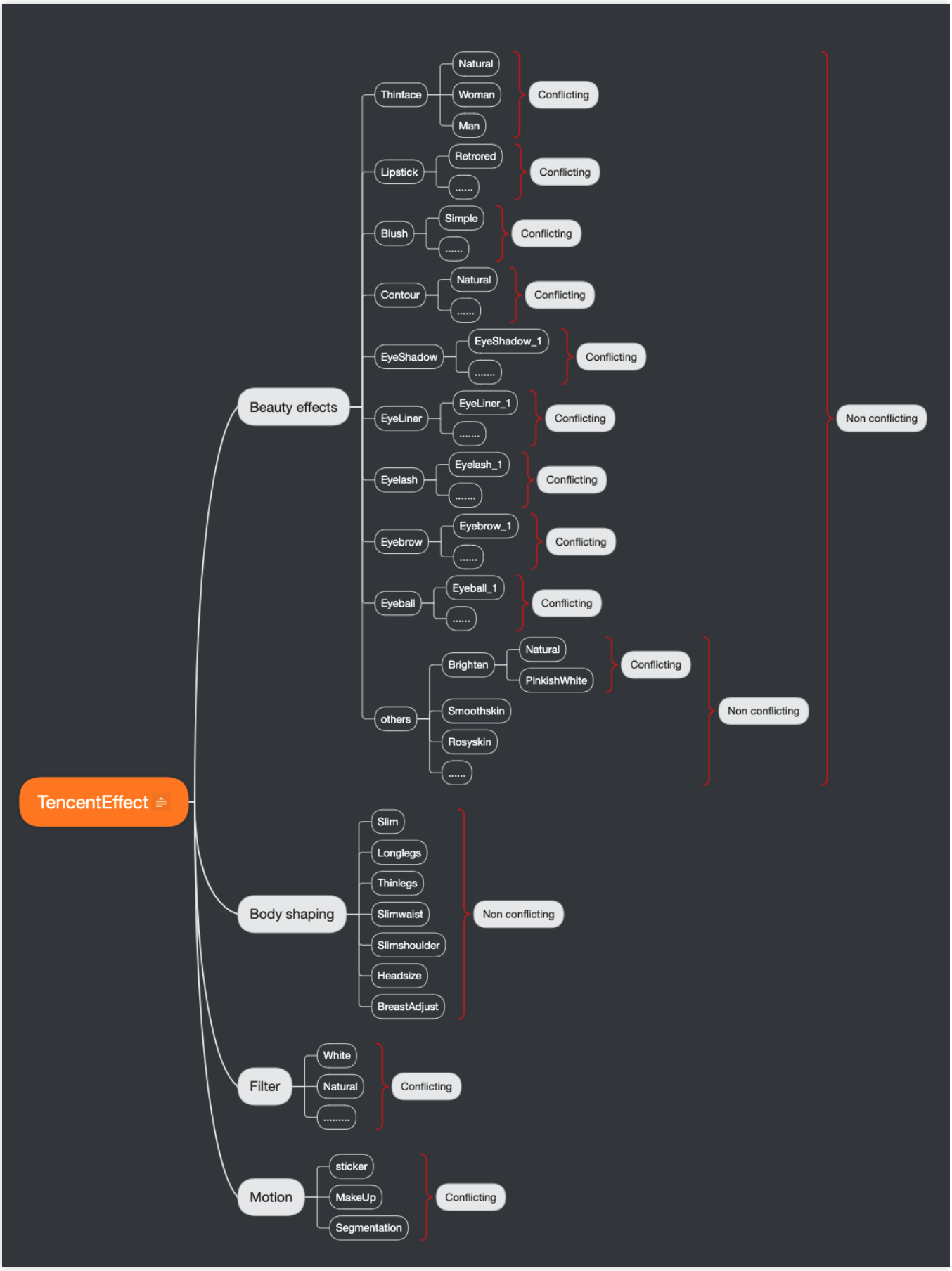

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4. What to do if using a certain beauty filter has no effect?

This could be a license permission issue or a parameter issue (for example, the path issue with filters and animation effects). It is recommended to check the property parameters.

5. What to do if the edges of the screen are blurry after the beauty filter is applied?

This situation occurs because the face slimming effect is on (face slimming effect leads to the stretching of pixels around the face). If the face is too close to the edge of the screen, there's more stretching at the edge. This can be handled by cropping the edge of the screen. For the cropping method, refer to the demo.

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Material Usage
Material Integration Guide
Android

Last updated：2024-07-05 14:33:26

Filters

Each filter is an image in png format. When using it, you need to pass the image path to the SDK. See below for the operation steps.

Scenario1: Using TEBeautyKit

TEBeautyKit is a UI panel library for Tencent Effect. It is designed for users to use and manage beauty features quickly and conveniently.
See below for the operation steps.
1. **Refer to** Integrating TEBeautyKit**.**
2. **Adding Filter Resources**
Place the newly added filter image in your project's `assets/lut` directory. Then, modify the panel configuration file `assets/beauty_panel/lut.json` , adding a new item based on the existing content in json. When the APP runs, calling the `TEBeautyKit``copyRes` method will copy the filter image from the assets directory to the downloadPath directory configured in `lut.json` .
3. **Configuring Filter Icons**
The icon field in `lut.json` represents the icon of the filter. Place the icon in the `assets/beauty_panel/panel_icon/lut_icon` directory. The value of the icon field can also be the URL of the icon, starting with `http` or `https` , and TEBeautyKit will fetch the icon from the internet.
4. **Configuring Filter Resources**
The resourceUri field in `lut.json` is the path where the filter image is saved in the app's private directory. Configure the resources based on the existing items and change the suffix of resourceUri from "xxx.png" to the file name of the newly added filter, avoiding conflicts with existing filters in `lut.json` . The resourceUri field can also be the URL of the filter image, starting with `http` or `https` . When the URL is clicked, the filter image will be downloaded from the internet and saved in the downloadPath directory configured in `lut.json` .

Scenario 2: Integrating the Tencent Effect SDK Directly

1. Place the newly added filter image in any directory of your project's assets. Then, upon app initialization, copy the image to the app's private directory or SD card to get the image path, marked as

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`/path/to/your/lut_xxx.png` . For simplicity, it is recommended to place the image in the assets/lut directory and then copy the copyRes code of TEBeautyKit from the demo project for use.
2. When using a filter, call the SDK's setEffect method and pass the filter image path to the SDK.

Animation Stickers

Each animation is a folder. When using it, you need to pass the path of the folder to the SDK. See below for the operation steps.

Scenario 1: Using TEBeautyKit

TEBeautyKit is a UI panel library for Tencent Effect. It is designed for users to use and manage the beauty features quickly and conveniently.
See below for the operation steps.
1. **Refer to** Integrating TEBeautyKit**.**
2. **Adding Animation Materials**
Place the newly added animation folder in the `assets/MotionRes` directory of your project. Then, modify the panel configuration file `assets/beauty_panel/motions.json` , adding a new item based on the existing content. When the APP runs, calling the `TEBeautyKit` 's `copyRes` method will copy the animation folder from the assets directory to the downloadPath directory configured in `motions.json` .
3. **Configuring Animation Icons**
The icon field in `motions.json` represents the icon of the animation. Place the icon in the `assets/beauty_panel/panel_icon/motions_icon` directory. The value of the icon field can also be the URL of the icon, starting with `http` or `https` , and TEBeautyKit will fetch the icon from the internet.
4. **Configuring Animation Materials**
The resourceUri field in `motions.json` is the path where the animation is saved in the app's private directory. Configure the materials based on the existing items, avoiding conflicts with existing animations in `motions.json` . The resourceUri field can also be the URL of the animation zip file, starting with `http` or `https` . When the URL is clicked, the zip file will be downloaded from the internet and saved in the downloadPath directory configured in `motions.json` .

Scenario 2: Integrating the Tencent Effect SDK Directly

Place the newly added animation folder in any directory of your project's assets. Then, upon app initialization, copy the folder to the app's private directory or SD card to get the animation folder, marked as `/path/to/your/motion` . When using the animation, call the SDK's setEffect method and pass the path to the SDK.

Beauty Makeup and Background Segmentation

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Their usage is the same as the Animation Sticker described above, with the corresponding json files being `makeup.json` and `segmentation.json`, respectively.

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iOS

Last updated：2024-07-05 14:35:45

Filters

Each filter is an image in png format. When using it, you need to pass the image path to the SDK.

Scenario 1: Using TEBeautyKit

`TEBeautyKit` is a UI panel library for Tencent Effect. It is designed for users to use and manage beauty features quickly and conveniently. See below for the operation steps.

1. **Refer to** Integrating TEBeautyKit**.**

2. **Adding Filter Materials**

Place the newly added filter image in your project's `lut.bundle` directory. Then, modify the panel configuration file `TEBeautyKit/Assets/json/lut.json` , adding a new item based on the existing content in json.

3. **Configuring Filter Icons**

The icon field in `lut.json` represents the icon of the filter. Place the icon in the `TEBeautyKit/Assets/BeautyRes` directory. The value of the icon field can also be the URL of the icon, starting with http or https, and `TEBeautyKit` will fetch the icon from the internet.

4. **Configuring Filter Resources**

The `resourceUri` field in `lut.json` is the path where the filter image is saved in the app's private directory. Configure the resources based on the existing items in json and change the suffix of `resourceUri` from "xxx.png" to the file name of the newly added filter, avoiding conflicts with existing filters in lut.json. The `resourceUri` field can also be the URL of the filter image, starting with http or https. When the URL is clicked, the filter image will be downloaded from the internet and saved in the `downloadPath` directory configured in `lut.json` .

Scenario 2: Integrating the Tencent Effect SDK Directly

1. Place the newly added filter image in your project's `lut.bundle` directory. If using a dynamic download approach, download the filter image to the sandbox and record the path of the filter image.

2. When using a filter, call the SDK's `setEffect` method and pass the path of the filter image to the SDK. For the method of operation, refer to Beauty Parameter Description.

Animation Stickers

Each animation is a folder. When using it, you need to pass the path of this folder to the SDK. See below for the operation steps.

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Scenario 1: Using TEBeautyKit

TEBeautyKit is a UI panel library for Tencent Effect. It is designed for users to use and manage the beauty features quickly and conveniently.

1. **Refer to** Integrating TEBeautyKit**.**

2. **Adding Animation Resources**

Place the newly added animation folder in the corresponding `resource bundle` directory of your project: in `2dMotionRes.bundle` for 2D animations, in `3dMotionRes.bundle` for 3D animations, in `ganMotionRes.bundle` for fun animations, or in `handMotionRes.bundle` for gesture animations. Then, modify the panel configuration file `TEBeautyKit/Assets/json/motions.json` , adding a new item based on the existing content.

3. **Configuring Animation Icons**

The `icon` field in `motions.json` represents the icon of the animation. Place the icon in the `TEBeautyKit/Assets/BeautyRes` directory. The value of the icon field can also be the URL of the icon, starting with `http or https` , and `TEBeautyKit` will fetch the icon from the internet.

4. **Configuring Animation Resources**

The `resourceUri` field in `motions.json` is the path where the animation is saved in the app's private directory. Configure the resources based on the existing items, avoiding conflicts with existing animations in `motions.json` . The `resourceUri` field can also be the URL of the animation zip file, starting with `http or https` . When the URL is clicked, the zip file will be downloaded from the internet and saved in the `downloadPath` directory configured in `motions.json` . The animation zip file needs to be unzipped before use.

Scenario 2: Integrating the Tencent Effect SDK Directly

Place the newly added animation folder in the corresponding `resource bundle` directory of your project: in `2dMotionRes.bundle` for 2D animations, in `3dMotionRes.bundle` for 3D animations, in `ganMotionRes.bundle` for fun animations, or in `handMotionRes.bundle` for gesture animations. In Tencent Effect SDK of version 3.6.0 or earlier, if the animation file is encrypted, you need to copy it to the sandbox and record its path. If using a dynamic download approach, download the animation file to the sandbox and unzip it, and then record the path of the unzipped animation folder. When using the animation, call the SDK's setEffect method and pass the path to the SDK. Refer to Beauty Parameter Table.

Beauty Makeup and Background Segmentation

Their usage is the same as the Animation Sticker described above, with the corresponding json files being makeup.json and segmentation.json, respectively.

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Material Overlay Guide

Last updated：2024-07-05 14:40:29

Animation Material Overlay refers to the simultaneous activation of multiple animation materials.

Points to Note on Material Overlay:

1. Users shall manage the compatibility of their materials for overlaying. Here are two examples:

Example 1: Effect A turns a face into a royal visage, while Effect B turns a face into a fairytale visage. The overlay of these two effects may result in an unnaturally distorted image.

Example 2: Effect A represents rabbit ears, while Effect B represents pig ears. The overlay of these two effects presents two types of ears.

In Example 1 and Example 2, Material Overlay is not suitable. If Effect A is a pair of rabbit ears, and Effect B is blowing a kiss, these two effects won't conflict and are hence suitable for overlay.

2. Only the overlay of simple materials is supported. Simple materials refer to single animation effects, or single makeup effects, or single background, etc. Complex materials refer to those that contain multiple effects. There is no clear distinction between simple and complex materials. It is recommended that users thoroughly test and manage which materials can be overlaid and which cannot.

3. In Material Overlay, effects triggered by actions (such as stretching out a hand or smiling) are classified as complex effects and need to be placed first, with simple effects applied on top of them.

4. Example: The anchor uses Effect A, and then the audience gifts Effect B. Effect B is applied on top of Effect A. After a period of time, Effect B disappears and only Effect A is used. The setting process is as follows:

4.1 Setting Effect A: Set mergeWithCurrentMotion to false.

4.2 Setting Effect B: Set mergeWithCurrentMotion to true.

4.3 After a brief period, proceed with setting Effect A by setting mergeWithCurrentMotion to false.

How to Configure for Simultaneous Activation?

v3.5.0 or later versions

v3.0.1 or later versions

1. If you are using the `setEffect` method to update Beauty Properties, to implement the Material Overlay feature, you can add the `mergeWithCurrentMotion` field in `extrainfo` and set it to `"true"`.

2. If you are using the `updateProperty` method, you can refer to the methods listed in V3.0.1.

Android:

If you want to overlay a certain animation, make-up, or segmentation material on the current material, then set 'mergeWithCurrentMotion' of the **XmagicProperty** object of the material to true. For other property settings, see Beauty Parameter Settings.

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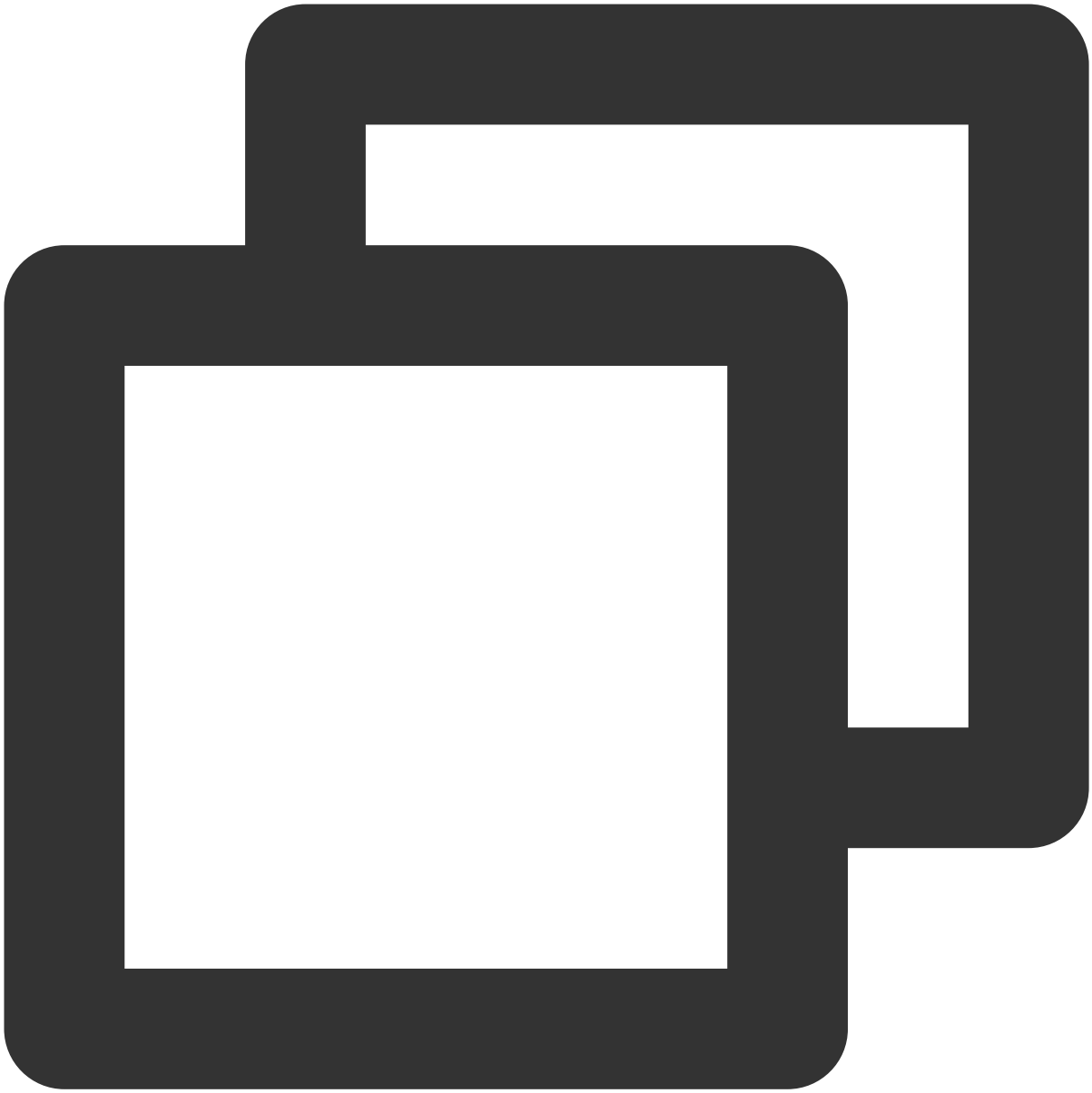

```
XmagicProperty xmagicProperty = new XmagicProperty(XmagicProperty.Category.MOTION,"
xmagicProperty.mergeWithCurrentMotion = true;
mXMagicApi.updateProperty(xmagicProperty);
```

iOS:

If you want to overlay a certain animation, make-up, or segmentation material on the current material, then while setting the material, in the withExtraInfo dictionary, set mergeWithCurrentMotion to true. Here is an example:

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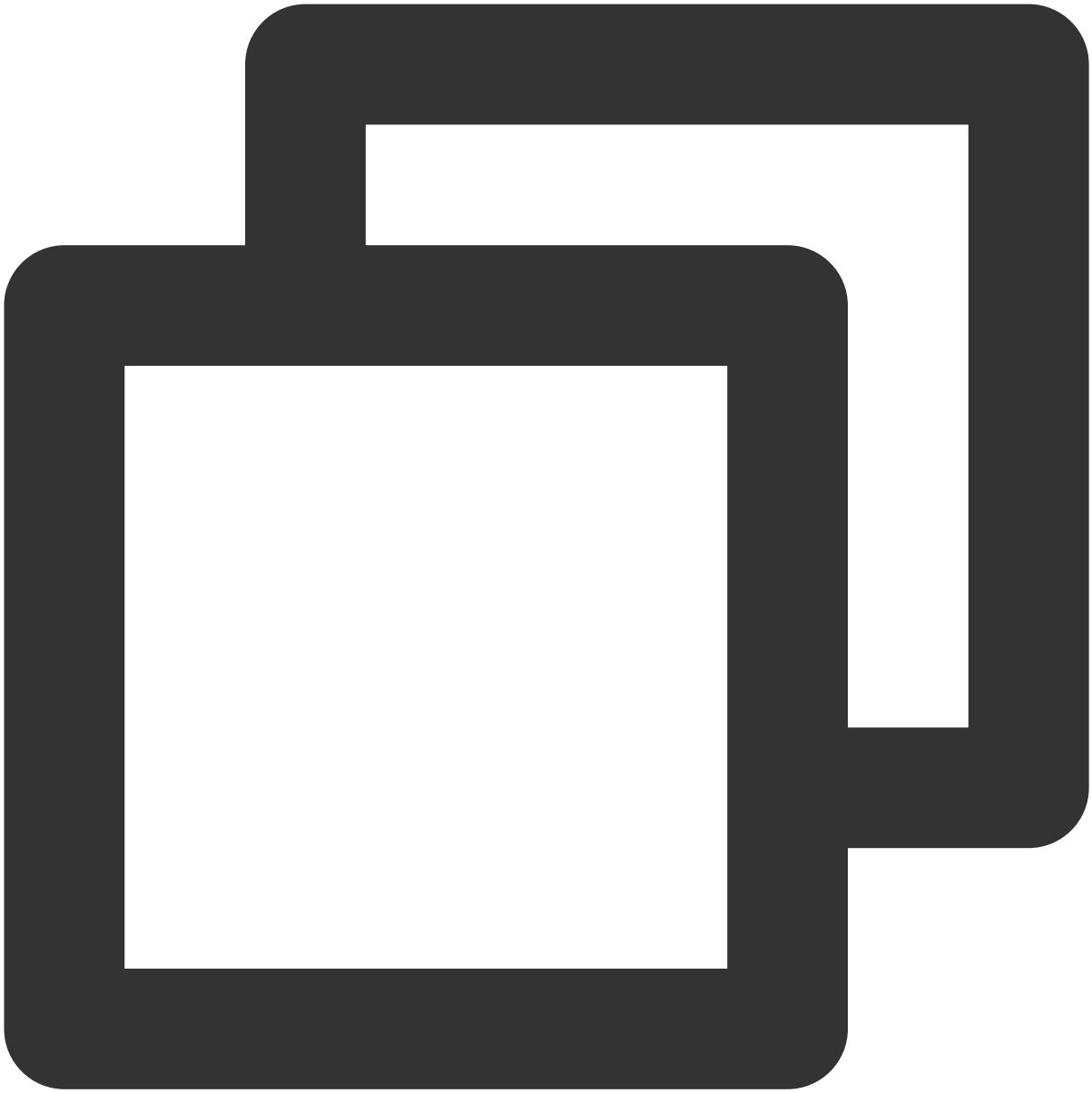

```
NSString *key = _xmagicUIProperty.property.Id;
NSString *value = [[NSBundle mainBundle] pathForResource:@"makeupMotionRes" ofType:
NSDictionary* extraInfo = @{@"mergeWithCurrentMotion":@(true)};
 [self.beautyKitRef configPropertyWithType:@"motion" withName:key withData:[NSStrin
```

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Effect Parameters
Android & iOS

Last updated：2024-08-08 19:57:01

When using the `setEffect` feature to refresh the beautification effects, you may refer to the following parameter table. The `effectName` constants, as delineated in the parameter table, are defined within the `XmagicConstant.java` file for Android, and within the `XmagicConstant.h` file for iOS.
Note: If the SDK version you're using is V3.3.0 or earlier, please consult the Android Legacy Beautification Parameter Table, iOS Legacy Beautification Parameter Table.

Beautification, Body Beautification

Type	Name	effectName	
		Constant Name	Constant Value
Beauty filter	Brighten	BEAUTY_WHITEN	beauty.lutFoundationAlpha
	Brighten 2	BEAUTY_WHITEN2	beauty.lutFoundationAlpha2
	Brighten 3	BEAUTY_WHITEN3	beauty.lutFoundationAlpha3
	Black (V3.7.0)	BEAUTY_BLACK_1	beauty.lutBlackAlpha1
	Brown (V3.7.0)	BEAUTY_BLACK_2	beauty.lutBlackAlpha2
	Smooth skin	BEAUTY_SMOOTH	smooth.smooth
	Rosy skin	BEAUTY_ROSY	smooth.rosy
Screen Adjustment	Contrast	BEAUTY_CONTRAST	beauty.imageContrastAlpha
	Saturation	BEAUTY_SATURATION	smooth.saturation
	Sharpness	BEAUTY_CLEAR	beauty.lutClearAlpha

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	Sharpen	BEAUTY_SHAPE	smooth.sharpen
	Brightness (V3.8.0)	BEAUTY_IMAGE_BRIGHTNESS	beauty.imageBrightness
	Denoise **(V3.6.0)**	BEAUTY_IMAGE_DENOISE	postEffect.denoise
	Warmth	BEAUTY_IMAGE_WARMTH	beauty.imageWarmth
	Tint	BEAUTY_IMAGE_TINT	beauty.imageTint
Advanced Aesthetics	Big eyes	BEAUTY_ENLARGE_EYE	basicV7.enlargeEye
	Bright eyes	BEAUTY_EYE_LIGHTEN	beauty.eyeLighten
	Eye distance	BEAUTY_EYE_DISTANCE	basicV7.eyeDistance
	Eye corners	BEAUTY_EYE_ANGLE	basicV7.eyeAngle
	Eye width	BEAUTY_EYE_WIDTH	basicV7.eyeWidth
	Eye height	BEAUTY_EYE_HEIGHT	basicV7.eyeHeight
	Eye position (V3.8.0)	BEAUTY_EYE_POSITION	basicV7.eyePosition
	Eye bags	BEAUTY_FACE_REMOVE_EYE_BAGS	beauty.removeEyeBags
	Angle of eyebrows	BEAUTY_EYEBROW_ANGLE	basicV7.eyebrowAngle
	Eyebrow distance	BEAUTY_EYEBROW_DISTANCE	basicV7.eyebrowDistance
	Eyebrow height	BEAUTY_EYEBROW_HEIGHT	basicV7.eyebrowHeight
	Eyebrow length	BEAUTY_EYEBROW_LENGTH	basicV7.eyebrowLength
	Thickness of the eyebrows	BEAUTY_EYEBROW_THICKNESS	basicV7.eyebrowThickness
	Eyebrow ridge	BEAUTY_EYEBROW_RIDGE	basicV7.eyebrowRidge

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thin Nose	BEAUTY_NOSE_THIN	basicV7.thinNose
Nose wings	BEAUTY_NOSE_WING	basicV7.noseWing
Nose position	BEAUTY_NOSE_HEIGHT	basicV7.noseHeight
Nasal bridge	BEAUTY_NOSE_BRIDGE_WIDTH	basicV7.noseBridgeWidth
Mountain Root	BEAUTY_NASION	basicV7.nasion
White teeth	BEAUTY_TOOTH_WHITEN	beauty.toothWhiten
Mouth Shape	BEAUTY_MOUTH_SIZE	basicV7.mouthSize
Lip height	BEAUTY_MOUTH_HEIGHT	basicV7.mouthHeight
Lip Width	BEAUTY_MOUTH_WIDTH	basicV7.mouthWidth
Lip position	BEAUTY_MOUTH_POSITION	basicV7.mouthPosition
Smiling lips	BEAUTY_SMILE_FACE	basicV7.smileFace
Face width	BEAUTY_FACE_THIN	basicV7.thinFace
Slim face - Natural	BEAUTY_FACE_NATURE	basicV7.natureFace
Slim face-Goddess	BEAUTY_FACE_GODNESS	basicV7.godnessFace
Slim face-Handsome	BEAUTY_FACE_MALE_GOD	basicV7.maleGodFace
V-shaped face	BEAUTY_FACE_V	basicV7.vFace
Slim jaw	BEAUTY_FACE_JAW	basicV7.faceJaw
Short Face	BEAUTY_FACE_SHORT	basicV7.shortFace
Face shape	BEAUTY_FACE_BASIC	liquefaction.basic3
Chin	BEAUTY_FACE_THIN_CHIN	basicV7.chin
Forehead	BEAUTY_FACE_FOREHEAD	basicV7.forehead

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	Wrinkle Removal	BEAUTY_FACE_REMOVE_WRINKLE	beauty.removeWrinkle
	Eliminate Nasolabial Folds	BEAUTY_FACE_REMOVE_LAW_LINE	beauty.removeLawLine
	Cheekbones	BEAUTY_FACE_THIN_CHEEKBONE	basicV7.cheekboneThin
Single-point makeup	Lipstick	BEAUTY_MOUTH_LIPSTICK	beauty.faceFeatureLipsLut
	Blush	BEAUTY_FACE_RED_CHEEK	beauty.faceFeatureRedCheek
	Contour	BEAUTY_FACE_SOFTLIGHT	beauty.faceFeatureSoftlight
	HairColor (V3.7.0)	BEAUTY_HAIR_COLOR_LUT	beauty.hairColorLut
	Eyeshadow	BEAUTY_FACE_EYE_SHADOW	beauty.faceFeatureEyesMakeup.e
	Eyeliner	BEAUTY_FACE_EYE_LINER	beauty.faceFeatureEyesMakeup.e
	Eyelashes	BEAUTY_FACE_EYELASH	beauty.faceFeatureEyesMakeup.e
	Eyebrows	BEAUTY_FACE_EYEBROW	beauty.faceFeatureEyesMakeup.e
	Colored Contacts	BEAUTY_FACE_EYEBALL	beauty.faceFeatureEyesMakeup.e
	Eyelids (V3.8.0)	BEAUTY_FACE_MAKEUP_EYELIDS	beauty.faceFeatureEyesMakeup.e

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	Wocan (V3.8.0)	BEAUTY_FACE_MAKEUP_EYEWOCAN	beauty.faceFeatureEyesMakeup.e
Body beautification	One-click slimming	BODY_AUTOTHIN_BODY_STRENGTH	body.autothinBodyStrength
	Long legs	BODY_LEG_STRETCH	body.legStretch
	Thin legs	BODY_SLIM_LEG_STRENGTH	body.slimLegStrength
	Slim waist	BODY_WAIST_STRENGTH	body.waistStrength
	Slim shoulders	BODY_THIN_SHOULDER_STRENGTH	body.thinShoulderStrength
	Chest Adjustment	BODY_ENLARGE_CHEST_STRENGTH	body.enlargeChestStrength
	Small head	BODY_SLIM_HEAD_STRENGTH	body.slimHeadStrength

Filters, Cosmetics, Motion Effects, Segmentation

Type	**effectName**		**effectValue**	**resourcePath**
	Constant Name	**Constant Value**	**Effect Intensity**	**Resource Path**
Filter	EFFECT_LUT	lut	0 ~ 100	The absolute path of the filter `/data/user/0/com.ten` If you wish to cancel the filter
Makeup	EFFECT_MAKEUP	makeup	0 ~ 100	Absolute path to beauty mate To cancel beauty makeup, fil
Motion	EFFECT_MOTION	motion	No	The absolute path of the moti `/data/user/0/com.ten` If you wish to cancel the moti

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Background Demarcation（ordinary）	EFFECT_SEGMENTATION	segmentation	No	The absolute path of the bacl If you want to cancel the segr
Background Demarcation（Green Screen ）	EFFECT_SEGMENTATION	segmentation	No	The absolute path of the bacl If you want to cancel the segr
Background Demarcation（Custom）	EFFECT_SEGMENTATION	segmentation	No	The absolute path of the bacl If you want to cancel the segr

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Recommended Parameters in Beautification Scenarios

Last updated：2024-07-05 14:51:09

Below is the parameter table for one-click beauty effect in the project demo. If you want to achieve the one-click beauty effect in the application, you can configure the corresponding beauty effects according to the parameters below.

Default Demo Effects:

Feature Type	Recommended Parameter
Whitening/natural	40
Smooth skin	40
Clarity	80
Sharpening	30
Narrow face	5
Slim face/natural	30
V-shaped face	20
Eliminate nasolabial folds	30
Big eyes	20
Bright eyes	40
Remove eye bags	50
Slim nose	20
White teeth	40

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UGSV Enterprise Edition Migration Guide

Last updated：2022-07-18 10:06:18

UGSV Enterprise Edition has been discontinued, and its beauty filter module has been decoupled to form Tencent Effect SDK. Tencent Effect SDK has more natural beautification effects, more powerful features, and more flexible integration methods. This document describes how to migrate from UGSV Enterprise Edition to Tencent Effect SDK.

Notes

1. Modify the version number of the `glide` library in the `xmagic` module to make it the same as the actual version number.
2. Modify the earliest version number in the `xmagic` module to make it the same as the actual version number.

Integration steps

Step 1. Decompress the demo project

1. Download the UGSV demo which has integrated the Tencent Effect SDK. This demo is built based on the Tencent Effect SDK S1-04 edition.
2. Replace the SDK files in the demo with the files for the SDK you actually use. Specifically, follow the steps below:
   - Replace the `.aar` file in the `libs` directory of the `Xmagic` module with the `.aar` file in `libs` of your SDK.
   - Replace all the files in `../src/main/assets` of the `Xmagic` module with those in `assets/` of your SDK. If there are files in the `MotionRes` folder of your SDK package, also copy them to the `../src/main/assets` directory.
   - Replace all the `.so` files in `../src/main/jniLibs` of the `Xmagic` module with the `.so` files in `jniLibs` of your SDK package (you need to decompress the ZIP files in the `jinLibs` folder to get the `.so` files for arm64-v8a and armeabi-v7a).
3. Import the `Xmagic` module in the demo into your project.

Step 2. Upgrade the SDK edition

Upgrade the SDK from Enterprise Edition to Pro Edition.

- **Before replacement:** `implementation 'com.tencent.liteav:LiteAVSDK_Enterprise:latest.release'`

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- **After replacement:** `implementation 'com.tencent.liteav:LiteAVSDK_Professional:latest.release'`

Step 3. Set the beauty filter license

1. Call the `oncreate` method in `application` in the project as follows:

```
XMagicImpl.init(this);
XMagicImpl.checkAuth(null);
```

2. Replace the content in the `XMagicImpl` class with your obtained Tencent Effect SDK **license URL and key**.

Step 4. Implement the code

Take the UGSV recording page `TCVideoRecordActivity.java` as an example:

1. Add the following variable code to the `TCVideoRecordActivity.java` class:

```
private XMagicImpl mXMagic;
private int isPause = 0;// 0: not paused; 1: paused; 2: pausing; 3: to be termi
nated
```

2. Add the following code after the `onCreate` method in the `TCVideoRecordActivity.java` class:

```
TXUGCRecord instance = TXUGCRecord.getInstance(this);
instance.setVideoProcessListener(new TXUGCRecord.VideoCustomProcessListener() {
@Override
public int onTextureCustomProcess(int textureId, int width, int height) {
if (isPause == 0 && mXMagic != null) {
return mXMagic.process(textureId, width, height);
}
return 0;
}
@Override
public void onDetectFacePoints(float[] floats) {
}
@Override
public void onTextureDestroyed() {
if (Looper.getMainLooper() != Looper.myLooper()) { // Not the main thread
if (isPause == 1) {
isPause = 2;
if (mXMagic != null) {
```

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```
mXMagic.onDestroy();
}
initXMagic();
isPause = 0;
} else if (isPause == 3) {
if (mXMagic != null) {
mXMagic.onDestroy();
}
}
}
}
});
XMagicImpl.checkAuth((errorCode, msg) -> {
if (errorCode == TELicenseCheck.ERROR_OK) {
loadXmagicRes();
} else {
TXCLog.e("TAG", "Authentication failed. Check the authentication URL and key" +
errorCode + " " + msg);
}
});
```

3. Add the following code to the `onStop` method:

```
isPause = 1;
if (mXMagic != null) {
mXMagic.onPause();
}
```

4. Add the following code to the `onDestroy` method:

```
isPause = 3;
XmagicPanelDataManager.getInstance().clearData();
```

5. Add the following code at the beginning of the `onActivityResult` method:

```
if (mXMagic != null) {
mXMagic.onActivityResult(requestCode, resultCode, data);
}
```

6. Add the following two methods to the end of this class:

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```
private void loadXmagicRes() {
if (XMagicImpl.isLoadedRes) {
XmagicResParser.parseRes(getApplicationContext());
initXMagic();
return;
}
new Thread(() -> {
XmagicResParser.setResPath(new File(getFilesDir(), "xmagic").getAbsolutePath
());
XmagicResParser.copyRes(getApplicationContext());
XmagicResParser.parseRes(getApplicationContext());
XMagicImpl.isLoadedRes = true;
new Handler(Looper.getMainLooper()).post(() -> {
initXMagic();
});
}).start();
}
/**
```

- Initialize the beauty filter SDK
- /

```
private void initXMagic() {
if (mXMagic == null) {
  mXMagic = <span class="hljs-keyword">new</span> XMagicImpl(<span class="hljs-ke
  yword">this</span>, mUGCKitVideoRecord.getBeautyPanel());
}else {
  mXMagic.onResume();
}
}
```

Step 5. Modify other classes

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1. Change the `mBeautyPanel` type in the `AbsVideoRecordUI` class to the `RelativeLayout` type and the response type of the `getBeautyPanel()` method to `RelativeLayout`. You also need to modify the corresponding XML configuration to comment out the code that reports errors.
2. Comment out the code that reports errors in the `UGCKitVideoRecord` class.
3. Modify the code in the `ScrollFilterView` class to delete the `mBeautyPanel` variable and comment out the code that reports errors.

Step 6. Delete the dependencies on the `beautysettingkit` module

Delete the dependencies on the `beautysettingkit` module in the `build.gradle` file in the `ugckit` module and compile the project to comment out the code that report errors.

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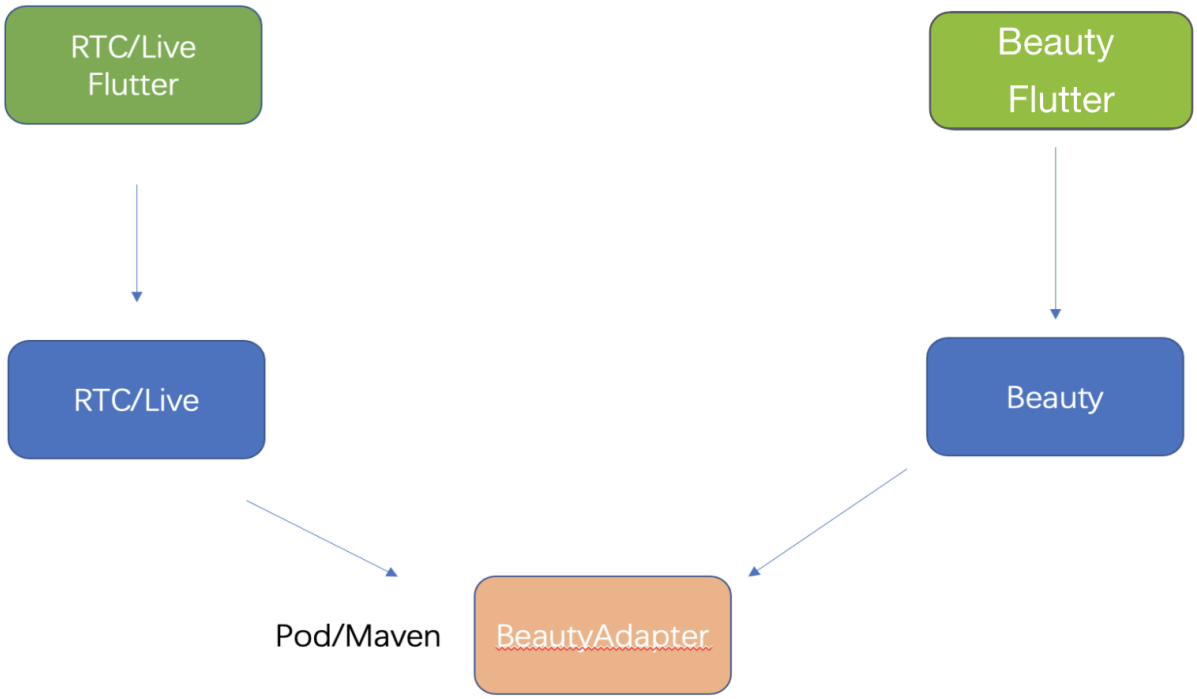
Integrating Tencent Effect for Third-Party Publishers (Flutter)

Last updated：2022-11-30 18:02:11

Because the Flutter OpenGL environment is isolated from a native environment, you cannot integrate the Tencent Effect SDK directly into Flutter. You need to establish connections between them at the native side.



How It Works

1. Create an API abstraction layer and implement the API at the Tencent Effect SDK side.
2. When the application is launched, register the API with the third-party publisher so that the third-party publisher can use it to create, use, and terminate an effect instance.
3. The third-party publisher exposes the capabilities of creating and terminating effect instances to the Flutter side.
4. Use the Tencent Effect Flutter SDK to configure effects.

Example (TRTC)

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API defined at the Tencent Effect side

```
public interface ITXCustomBeautyProcesserFactory {
/**
* Create an instance
* @return
*/
ITXCustomBeautyProcesser createCustomBeautyProcesser();
/**
* Terminate an instance (this API must be called in the OpenGL thread)
*/
void destroyCustomBeautyProcesser();
}
public interface ITXCustomBeautyProcesser {
// Get the pixel formats supported for video frames. Tencent Effect supports Open GL 2D textures.
TXCustomBeautyPixelFormat getSupportedPixelFormat();
// Get the container formats supported for video frames. Tencent Effect supports V2TXLiveBufferTypeTexture, which delivers the best performance and has the smallest impact on video quality.
TXCustomBeautyBufferType getSupportedBufferType();
// Call this API in the OpenGL thread (`srcFrame` must include RGBA textures and the width and height). After processing, the texture object will be included in `texture.textureId` of `dstFrame`.
void onProcessVideoFrame(TXCustomBeautyVideoFrame srcFrame, TXCustomBeautyVideoFrame dstFrame);
}
```

1. TRTC offers a registration method. When the application is launched, register `com.tencent.effect.tencent_effect_flutter.XmagicProcesserFactory`, the implementation

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class of `ITXCustomBeautyProcesserFactory` with TRTC (at the native side).

```
package com.tencent.effect.tencent_effect_flutter_example;

import android.os.Bundle;

import androidx.annotation.Nullable;

import com.tencent.effect.tencent_effect_flutter.XmagicProcesserFactory;
import com.tencent.live.TXLivePluginManager;   kevinxlhua, 2022/5/9, 3:38 下午 • 添加对 直播flutter版本的依赖，由于现在

import io.flutter.embedding.android.FlutterActivity;
import com.tencent.trtcplugin.TRTCCloudPlugin;

public class MainActivity extends FlutterActivity {

    @Override
    protected void onCreate(@Nullable Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        TXLivePluginManager.register(new XmagicProcesserFactory());
        TRTCCloudPlugin.register(new XmagicProcesserFactory());
    }
}
```

2. At the `Flutter` layer, provide `Future<v2txlivecode> enableCustomVideoProcess(bool enable)` , which is used to enable or disable custom effects.
3. Enable or disable effects at the TRTC native side.

```
public void enableCustomVideoProcess(MethodCall call, MethodChannel.Result result) {
    boolean enable = CommonUtil.getParam(call, result, "enable");
    ITXCustomBeautyProcesserFactory processerFactory = TRTCCloudPlugin.getBeautyProcesserFactory();
    mCustomBeautyProcesser = processerFactory.createCustomBeautyProcesser();
    TXCustomBeautyBufferType bufferType = mCustomBeautyProcesser.getSupportedBufferType();
    TXCustomBeautyPixelFormat pixelFormat = mCustomBeautyProcesser.getSupportedPixelFormat();
    if(enable) {
        ProcessVideoFrame processVideo =  new ProcessVideoFrame(mCustomBeautyProcesser);
        int ret = trtcCloud.setLocalVideoProcessListener(convertTRTCPixelFormat(pixelFormat), convertTRTCBufferType(bufferType), processVideo);
        result.success(ret);
    } else {
        int ret = trtcCloud.setLocalVideoProcessListener(convertTRTCPixelFormat(pixelFormat), convertTRTCBufferType(bufferType), null);
        // processerFactory.destroyCustomBeautyProcesser();
        mCustomBeautyProcesser = null;
        result.success(ret);
    }
}
```

When set to null, the onGlContextDestroy method of the last set processVideo will be called back

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.dart ProcessVideoFrame.java

```java
package com.tencent.trtcplugin.listener;
import com.tencent.live.beauty.custom.TXCustomBeautyDef;
import com.tencent.trtc.TRTCCloudDef;
import com.tencent.trtc.TRTCCloudListener;

import com.tencent.live.beauty.custom.ITXCustomBeautyProcesserFactory;
import com.tencent.live.beauty.custom.ITXCustomBeautyProcesser;
import com.tencent.trtcplugin.TRTCCloudPlugin;

import static com.tencent.live.beauty.custom.TXCustomBeautyDef.TXCustomBeautyBufferType;
import static com.tencent.live.beauty.custom.TXCustomBeautyDef.TXCustomBeautyPixelFormat;
import static com.tencent.live.beauty.custom.TXCustomBeautyDef.TXCustomBeautyVideoFrame;

public class ProcessVideoFrame implements TRTCCloudListener.TRTCVideoFrameListener {
    private ITXCustomBeautyProcesser    mCustomBeautyProcesser;

    public ProcessVideoFrame(ITXCustomBeautyProcesser processer) {
        mCustomBeautyProcesser = processer;
    }


    private static TXCustomBeautyVideoFrame createCustomBeautyVideoFrame(TRTCCloudDef.TRTCVideoFrame frame) {...}


    public int onProcessVideoFrame(TRTCCloudDef.TRTCVideoFrame  srcFrame,
                                   TRTCCloudDef.TRTCVideoFrame  dstFrame) {...}


    public void onGLContextCreated() {}

    public void onGLContextDestory() {...}
}
```

Appendix

The abstraction layer dependency provided by Tencent Effect

```
///
implementation 'com.tencent.liteav:custom-video-processor:latest.release'
```

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Integrating Beauty AR Web into Mini Programs

Last updated：2023-04-11 16:08:06

Preparations

For more information on how to get started with mini program development, see the Weixin Mini Program documentation.
Read Overview to learn about how to use the Beauty AR Web SDK.

Getting Started

Step 1. Configure the domain allowlist on the mini program backend

As the SDK internally will request the backend to perform authentication and load resources, you need to configure the domain allowlist on the mini program backend after creating the mini program.
1. Open the mini program backend and go to **Development** > **Development Management** > **Development Settings** > **Server Domain Name**.
2. Click **Modify**, configure the following domain names, and save them.
Request domain name:

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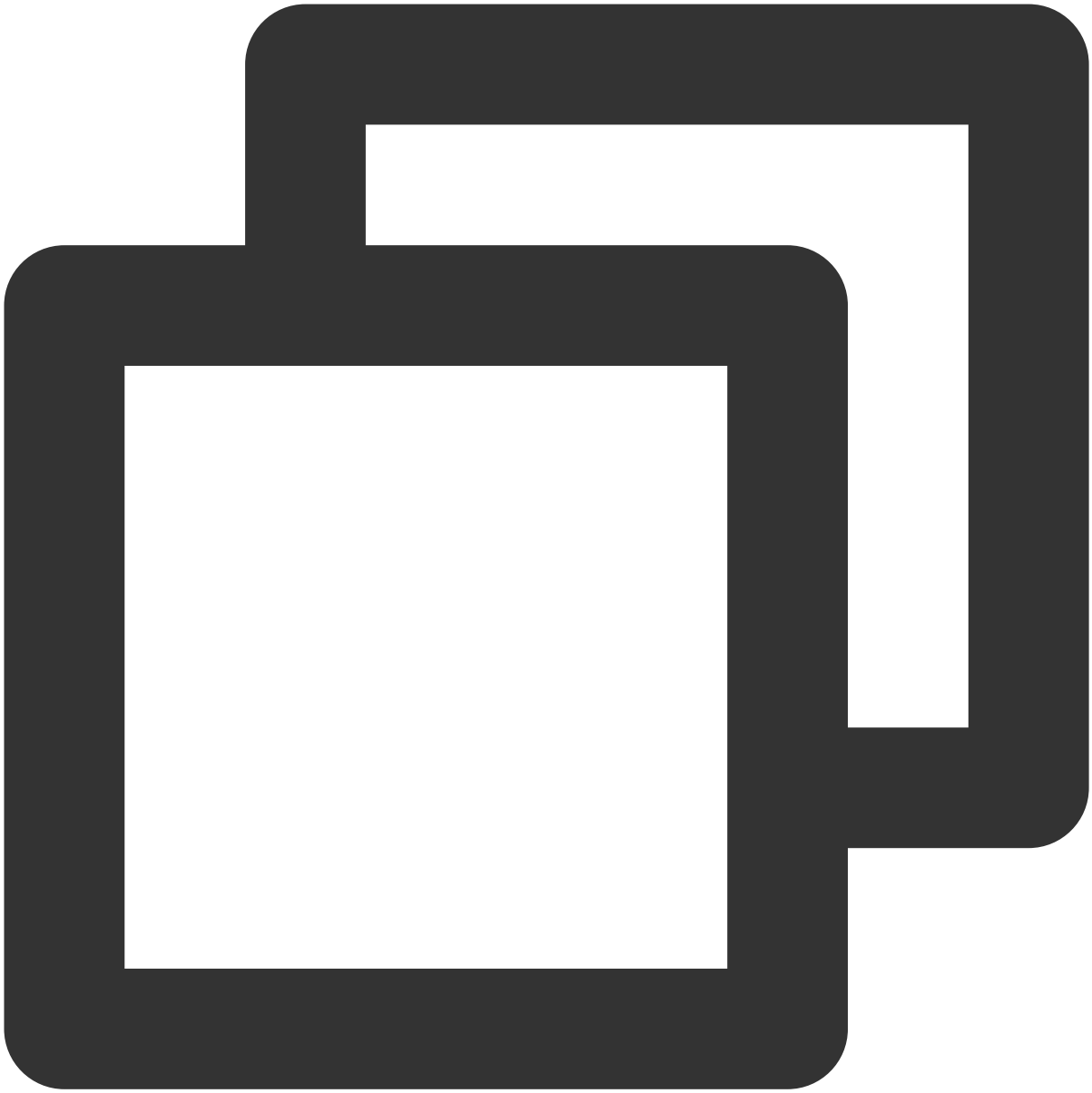

```
https://webar.qcloud.com;
https://webar-static.tencent-cloud.com;
https://aegis.qq.com;
The URL of the authentication signature API (`get-ar-sign`)
```

`downloadFile` domain name:

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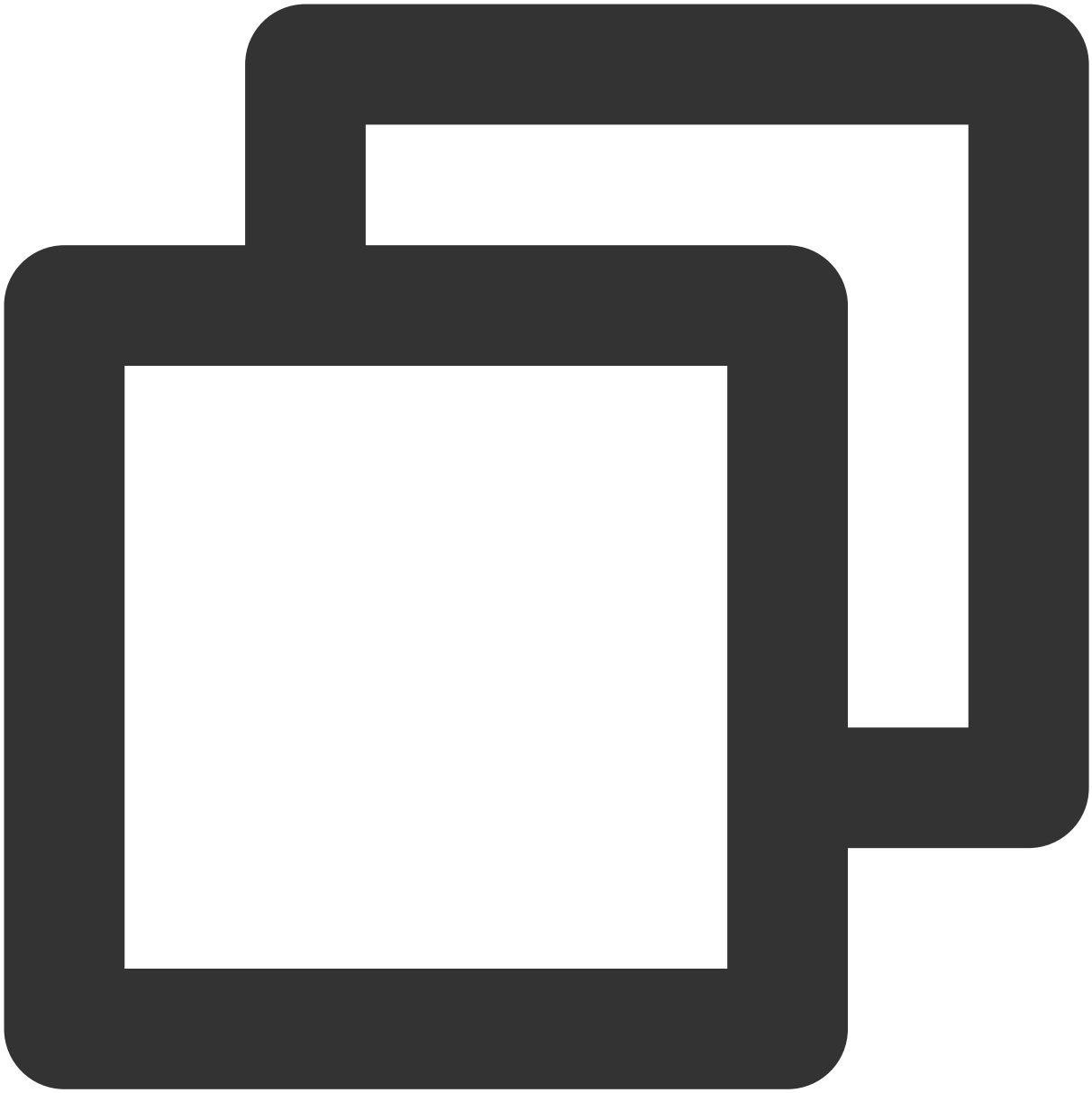

```
https://webar-static.tencent-cloud.com
```

Step 2. Install the SDK and build the npm

For more information on the mini program npm package, see Using npm in Mini Program.

1. Install:

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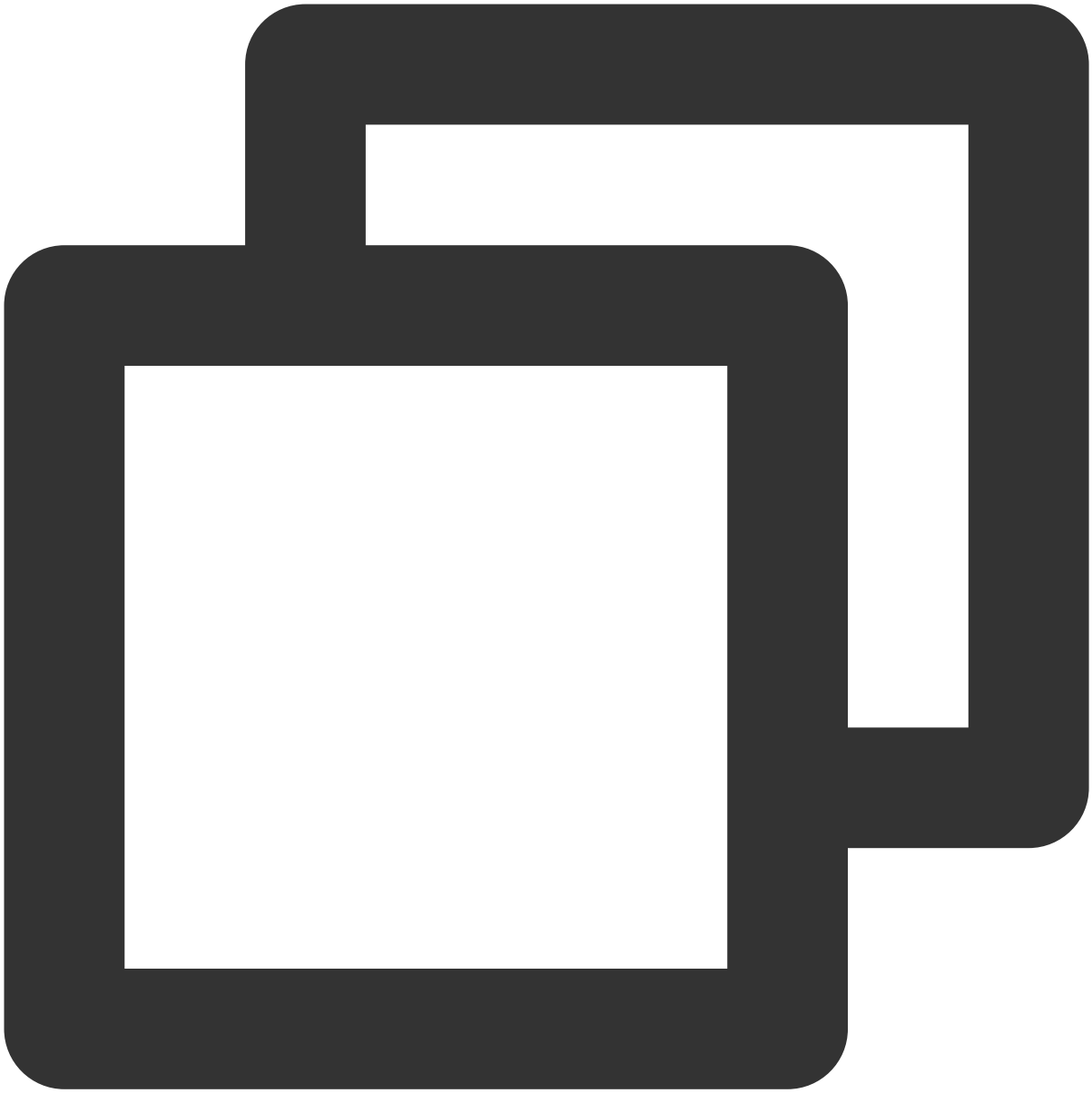

```
npm install tencentcloud-webar
```

2. Build:

Open the DevTools tool and select **Tools** > **Build npm** on the topbar.

3. Configure the path of `workers` in `app.json` :

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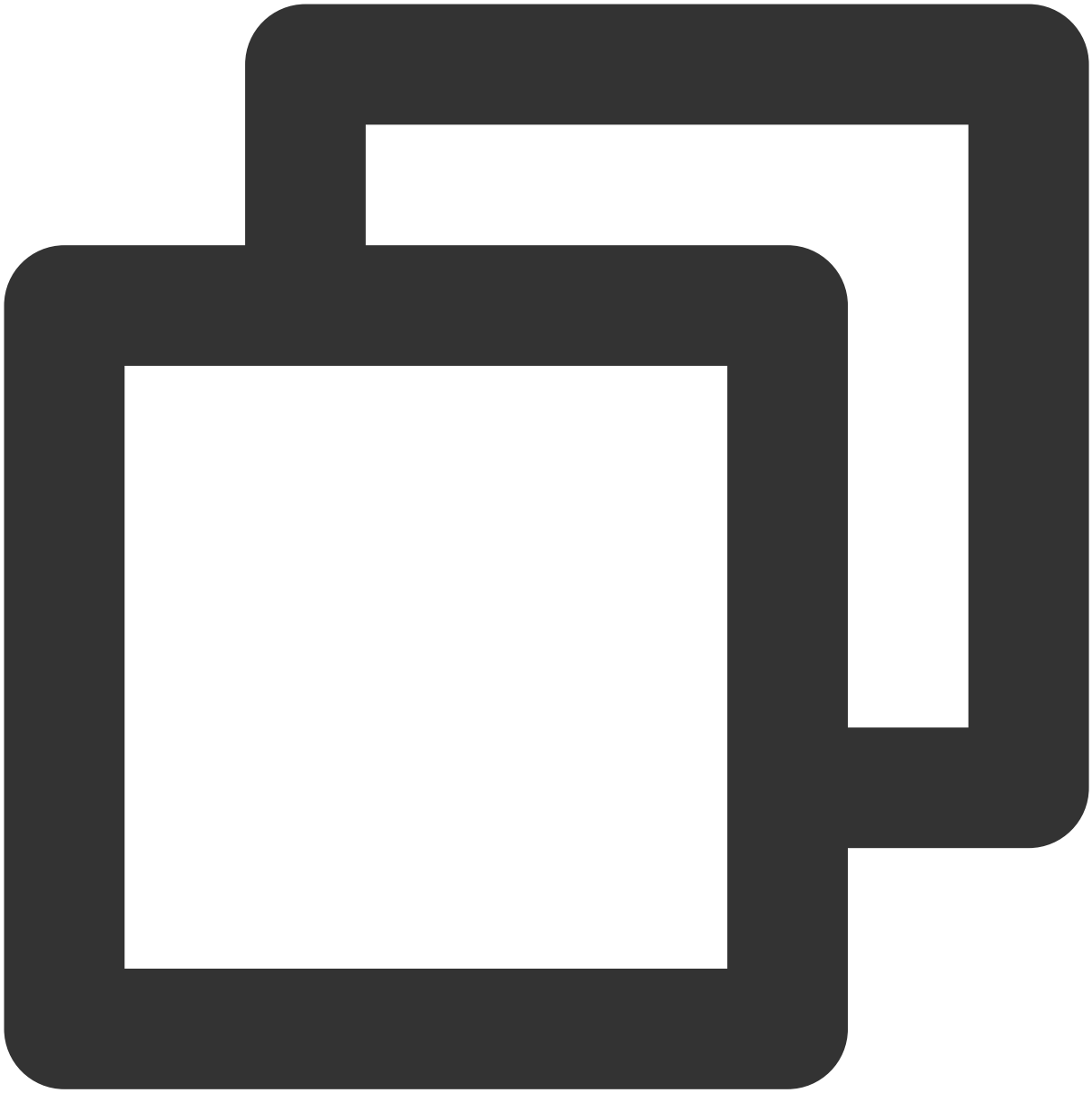

```
"workers": "miniprogram_npm/tencentcloud-webar/worker"
```

Step 3. Import files

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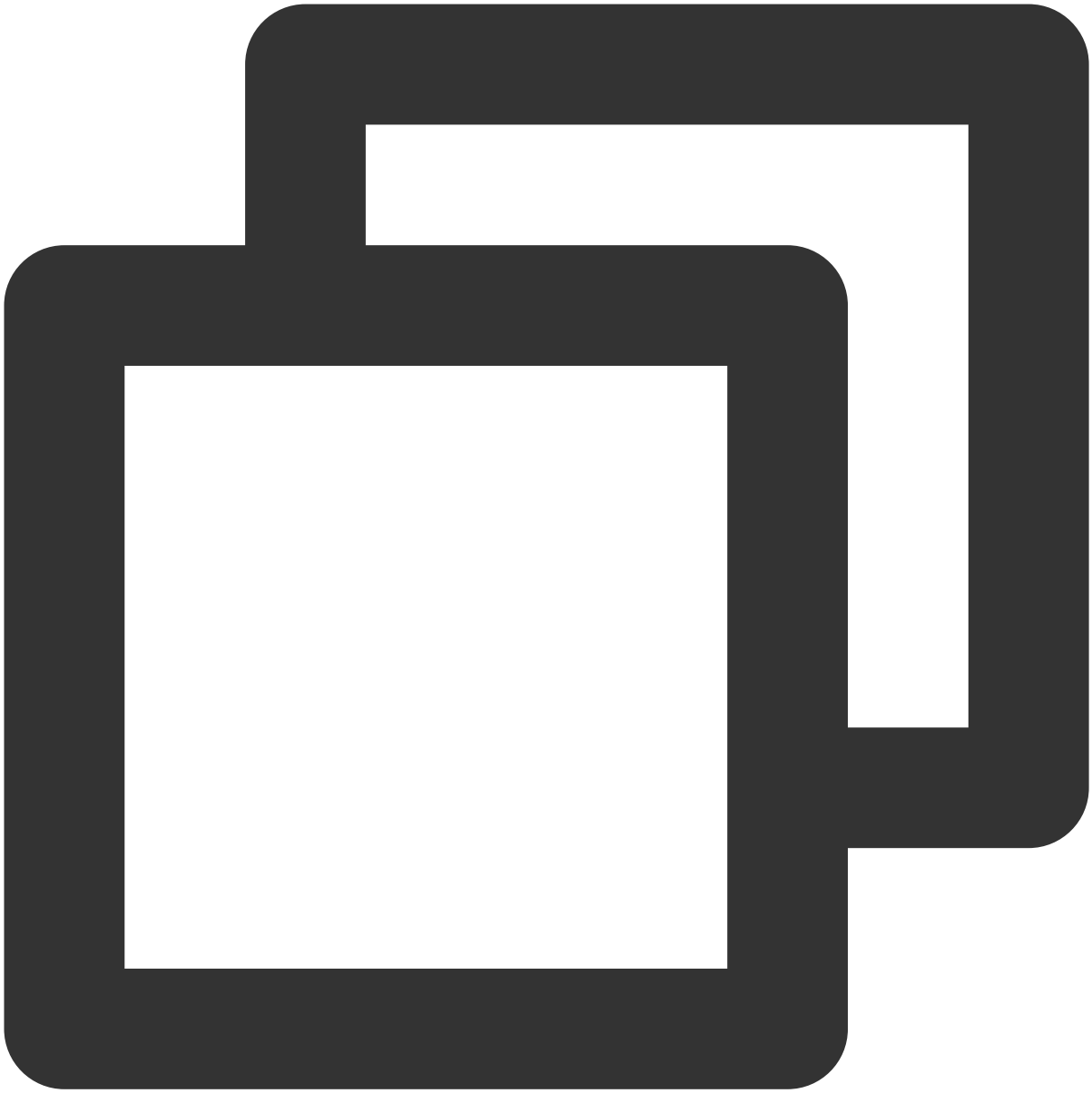

```
// The import method for versions earlier than 0.3.0 (one file)
// import "../../miniprogram_npm/tencentcloud-webar/lib.js";
// The import method for v0.3.0 or later (two files and the 3D module, which can be
import '../../miniprogram_npm/tencentcloud-webar/lib.js';
import '../../miniprogram_npm/tencentcloud-webar/core.js';
// Initialize the 3D plugin as needed. If 3D is not needed, the following can be sk
import '../../miniprogram_npm/tencentcloud-webar/lib-3d.js';
import { plugin3d } from '../../miniprogram_npm/tencentcloud-webar/plugin-3d'
// Import `ArSdk`
import { ArSdk } from "../../miniprogram_npm/tencentcloud-webar/index.js";
```

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Note

As mini programs require that a single file cannot exceed 500 KB, the SDK is provided through two JS files. Starting from v0.3.0, the SDK is further split to support 3D, and the 3D module can be loaded as needed. Before import, check the current SDK version and select the corresponding import method.

Step 4. Initialize the SDK

Note

Before initializing the SDK in the mini program, you must configure the mini program `APPID` in the console as instructed in Getting Started.

You need to insert the `camera` label into the page to open the camera, and then set the camera parameters as detailed in Overview.

Mini programs do not support `getOutput` , so you need to pass in an onscreen WebGL canvas, and the SDK will directly output the image onto this canvas.

Sample code:

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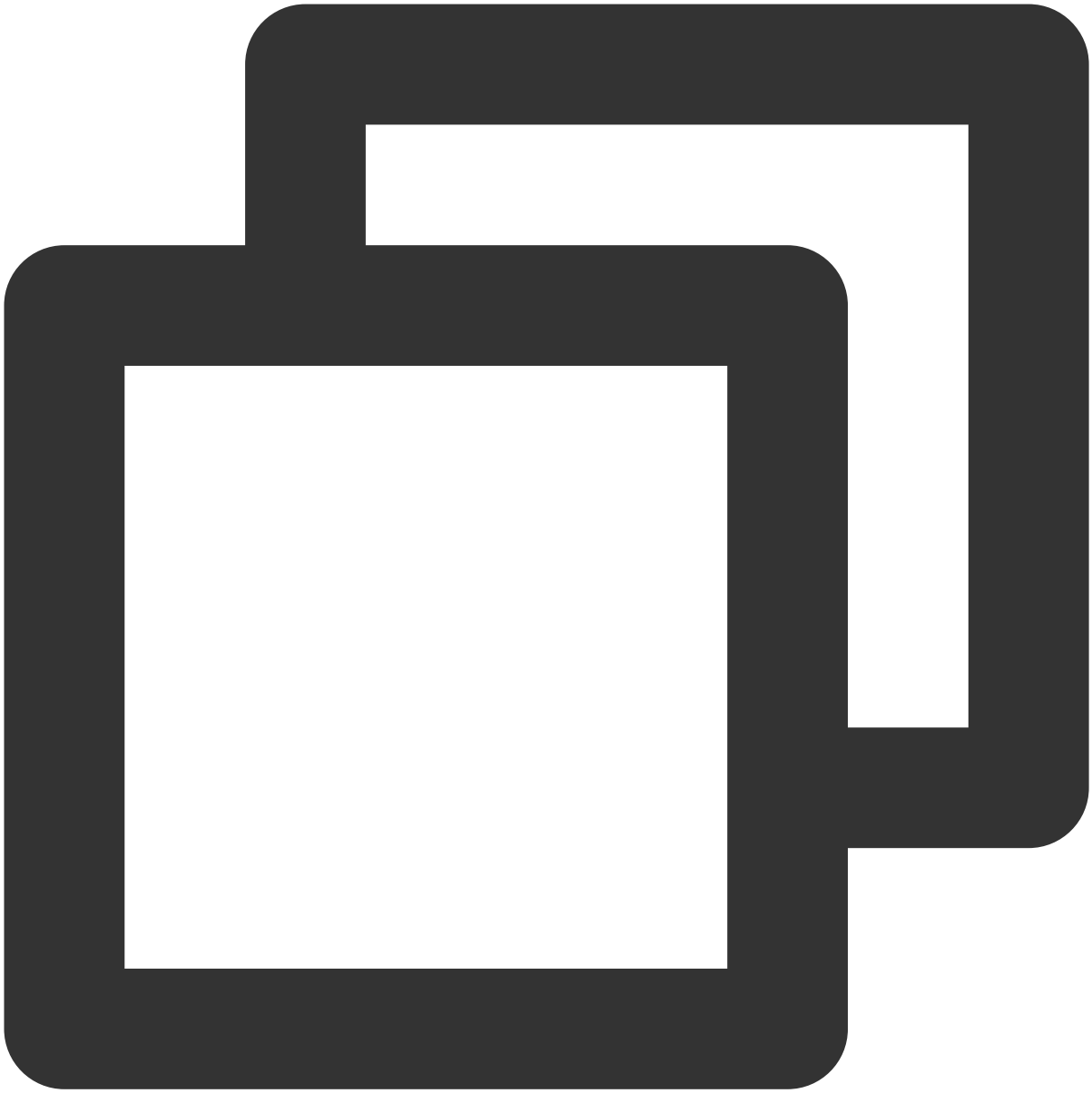

```
// wxml
// Open the camera and hide it through `position`
<camera
  device-position="{{'front'}}"
  frame-size="large" flash="off" resolution="medium"
  style="width: 750rpx; height: 134rpx;position:absolute;top:-9999px;"
/>
// The SDK outputs the processed image to the canvas in real time.
<canvas
  type="webgl"
  canvas-id="main-canvas"
```

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```
  id="main-canvas"
  style="width: 750rpx; height: 1334rpx;">
</canvas>
// Take a photo to draw the `ImageData` object onto the canvas
<canvas
  type="2d"
  canvas-id="photo-canvas"
  id="photo-canvas"
  style="position:absolute;width:720px;height:1280px;top:-9999px;left:-9999px;">
</canvas>
// js
/** ----- Authentication configuration ----- */

/**
 * `APPID` of your Tencent Cloud account
 *
 * Go to the [Account Center](https://console.cloud.tencent.com/developer) to view
 */
const APPID = ''; // Enter your own parameter

/**
 * Web LicenseKey
 *
 * On the [**Web licenses**](https://console.cloud.tencent.com/vcube/web) page of t
 */
const LICENSE_KEY = ''; // Enter your own parameter

/**
 * The token used to calculate the signature
 *
 * Note: Here, it is used for demo debugging only. In the production environment, k
 * [Signature algorithm](https://cloud.tencent.com/document/product/616/71370#.E7.A
 */
const token = ''; // Enter your own parameter

Component({
    data: {
        makeupList: [],
        stickerList: [],
        filterList: [],
        recording: false
    },
    methods: {
        async getCanvasNode(id) {
            return new Promise((resolve) => {
                this.createSelectorQuery()
                    .select(`#${id}`)
```

```
                .node()
                .exec((res) => {
                    const canvasNode = res[0].node;
                    resolve(canvasNode);
                });
        });
    },
    getSignature() {
        const timestamp = Math.round(new Date().getTime() / 1000);
        const signature = sha256(timestamp + token + APPID + timestamp).toUpper
        return { signature, timestamp };
    },
    // Initialize the camera type
    async initSdkCamera() {
        // Get the onscreen canvas. The SDK will output the processed image to
        const outputCanvas = await this.getCanvasNode("main-canvas");
        // Get the authentication information
        const auth = {
            licenseKey: LICENSE_KEY,
            appId: APP_ID,
            authFunc: this.getSignature
        };
        // Construct SDK initialization parameters
        const config = {
            auth,
            camera: {
                width:720,
                height:1280,
            },
            output: outputCanvas,
            // Initial beauty effects (optional)
            beautify: {
                whiten: 0.1, // The brightening effect. Value range: 0-1.
                dermabrasion: 0.3, // The smooth skin effect. Value range: 0-1.
                lift: 0, // The slim face effect. Value range: 0-1.
                shave: 0, // The V shape effect. Value range: 0-1.
                eye: 0.2, // The big eyes effect. Value range: 0-1.
                chin: 0, // The chin effect. Value range: 0-1.
            }
        };
        const ar = new ArSdk(config);
        // The list of built-in effects and filters can be obtained in the `cre
        ar.on('created', () => {
            // Get the list of built-in makeup effects and stickers
            ar.getEffectList({
                Type: 'Preset'
            }).then((res) => {
```

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```
                const list = res.map(item => ({
                    name: item.Name,
                    id: item.EffectId,
                    cover: item.CoverUrl,
                    url: item.Url,
                    label: item.Label,
                    type: item.PresetType,
                }));
                const makeupList = list.filter(item=>item.label.indexOf('makeup
                const stickerList = list.filter(item=>item.label.indexOf('stick
                // Render the list of effects
                this.setData({
                    makeupList,
                    stickerList
                });
            }).catch((e) => {
                console.log(e);
            });
            // Built-in filters
            ar.getCommonFilter().then((res) => {
                const list = res.map(item => ({
                    name: item.Name,
                    id: item.EffectId,
                    cover: item.CoverUrl,
                    url: item.Url,
                    label: item.Label,
                    type: item.PresetType,
                }));
                // Render the list of filters
                this.setData({
                    filterList: list
                });
            }).catch((e) => {
                console.log(e);
            });
        });
        // You can set beauty filters and effects in the `ready` callback.
        ar.on('ready', (e) => {
            this._sdkReady = true
        });

        ar.on('error', (e) => {
            console.log(e);
        });

        this.ar = ar
    },
```

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```
        // Change the beauty filter parameters. Make sure the SDK is ready.
        onChangeBeauty(val){
            if(!this._sdkReady) return
            // You can set beauty effects through `setBeautify`. Six attributes are
            this.ar.setBeautify({
                dermabrasion: val.dermabrasion, // The smooth skin effect. Value ra
            });
        },
        // Change the makeup style. Make sure the SDK is ready.
        onChangeMakeup(id, intensity){
            if(!this._sdkReady) return
            // Use `setEffect` to configure the effect. Its input parameters can be
            this.ar.setEffect([{id, intensity}]);
        },
        // Change the sticker. Make sure the SDK is ready.
        onChangeSticker(id, intensity){
            if(!this._sdkReady) return
            // Use `setEffect` to configure the effect. Its input parameters can be
            this.ar.setEffect([{id, intensity}]);
        },
        // Change the filter. Make sure the SDK is ready.
        onChangeFilter(id, intensity){
            if(!this._sdkReady) return
            // Use `setFilter` to configure the filter. The second parameter indica
            this.ar.setFilter(id, 1);
        }
    }
})
```

Step 5. Implement the photo capturing and recording features

Sample code:

Camera

Recording

The SDK will return an object containing the width, height, and buffer data, and you can draw the data on the preset 2D canvas (in the above code, `id` is `photo-canvas`.) on your page and export it as an image file.

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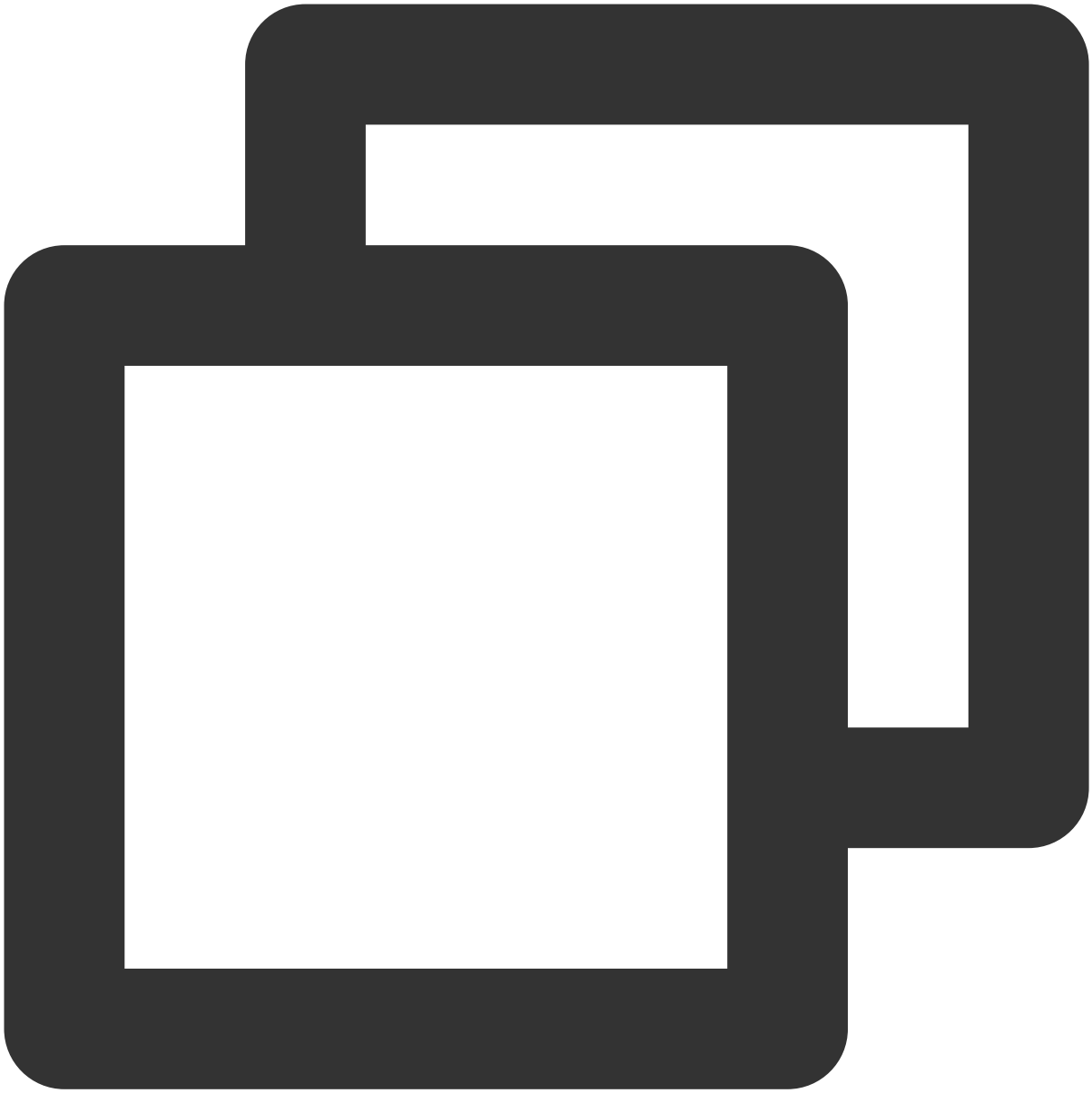

```
async takePhoto() {
    const {uint8ArrayData, width, height} = this.ar.takePhoto(); // The `takePhoto`
    const photoCanvasNode = await this.getCanvasNode('photo-canvas');
    photoCanvasNode.width = parseInt(width);
    photoCanvasNode.height = parseInt(height);
    const ctx = photoCanvasNode.getContext('2d');
    // Create the `ImageData` object with the data returned by the SDK
    const imageData = photoCanvasNode.createImageData(uint8ArrayData, width, height
    // Draw the `ImageData` object onto the canvas
    ctx.putImageData(imageData,0,0,0,0,width,height);
    // Save the canvas as a local image
```

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```
    wx.canvasToTempFilePath({
        canvas: photoCanvasNode,
        x: 0,
        y: 0,
        width: width,
        height: height,
        destWidth: width,
        destHeight: height,
        success: (res) => {
            // Save the photo
            wx.saveImageToPhotosAlbum({
                filePath: res.tempFilePath
            });
        }
    })
}
```

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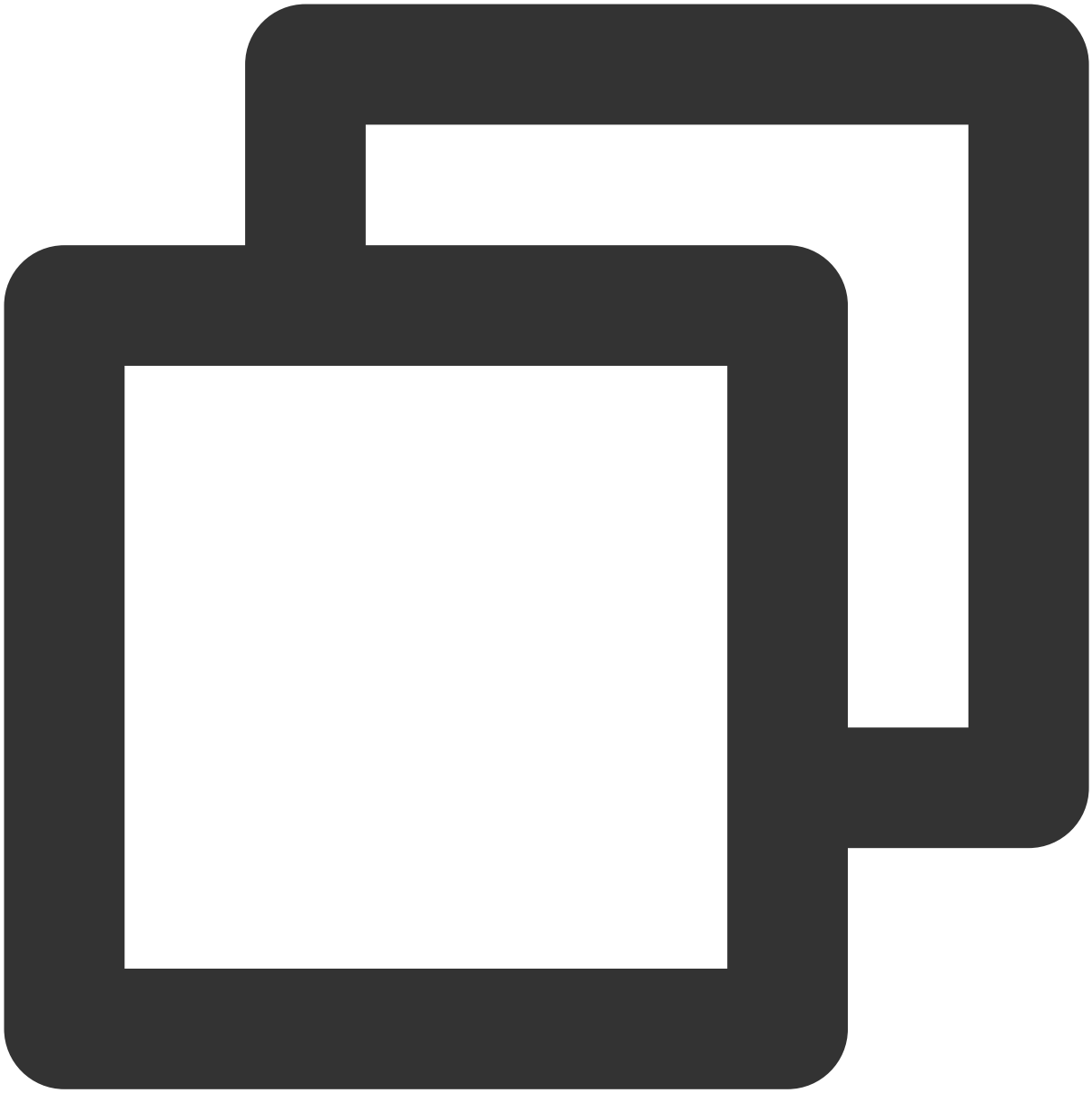

```
Component({
    methods: {
        // Start recording
        startRecord() {
            this.setData({
                recording: true
            });
            this.ar.startRecord()
        }
        // Stop recording
        async stopRecord() {
```

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```
            const res = await this.ar.stopRecord();
            // Save the recording
            wx.saveVideoToPhotosAlbum({
                filePath: res.tempFilePath
            });
            this.setData({
                recording: false
            });
        }
    }
})
```

When the mini program is switched to the background or the screen is locked, `stopRecord` needs to be called to stop recording, and the SDK can be started again when the page is opened again.

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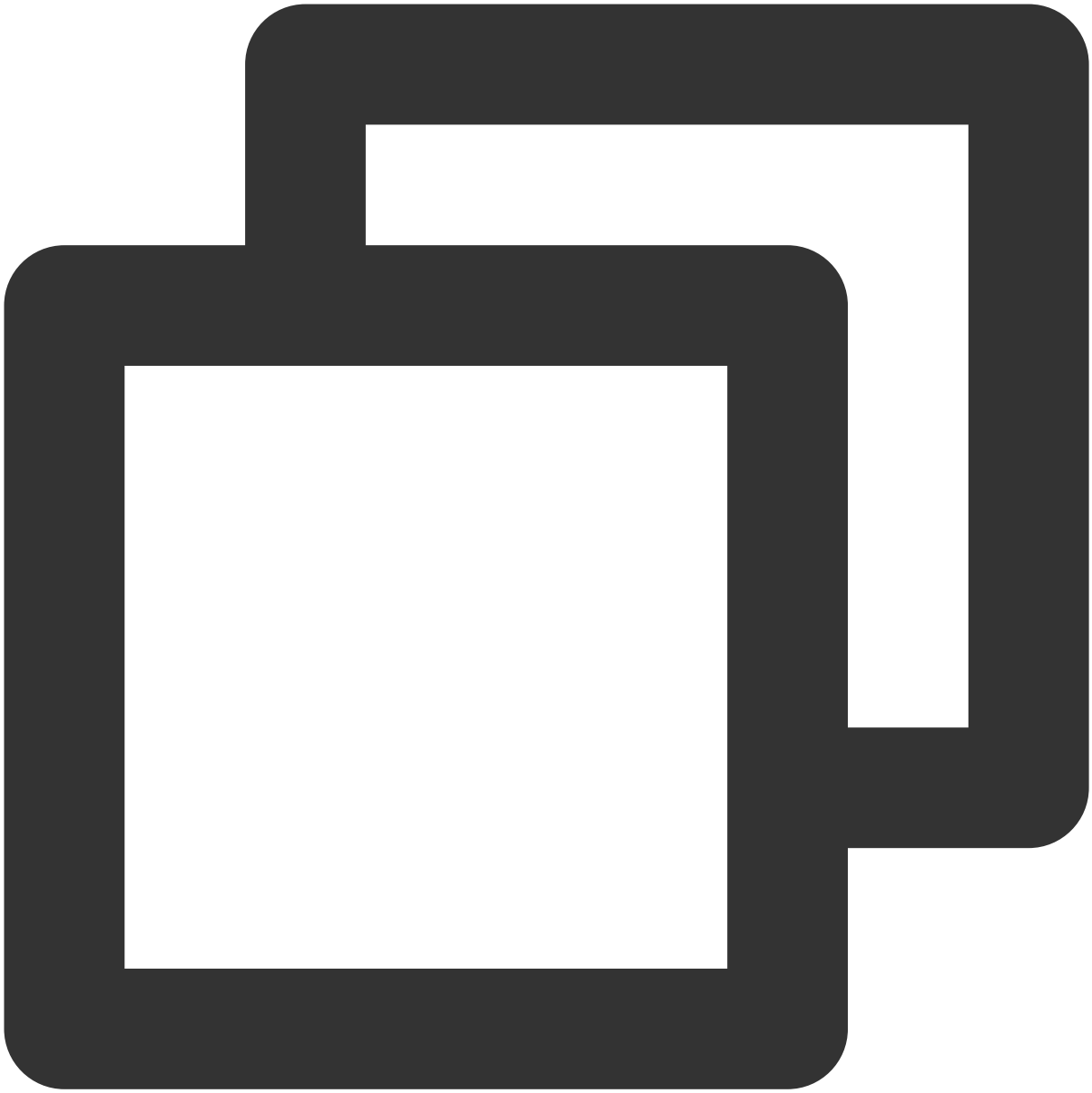

```
onShow() {
    this.ar && this.ar.start();
},
onHide() {
    this.ar && this.ar.stop();
},
async onUnload() {
    try {
        this.ar && this.ar.stop();
        if (this.data.recording) {
            await this.ar.stopRecord({
```

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```
                destroy: true,
            });
        }
    } catch (e) {
    }
    this.ar && this.ar.destroy();
}
```

Sample Code

You can download the sample code, decompress it, and view the `ar-miniprogram` code directory.

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Tencent Effect Studio Utilize
Tencent Effect Studio Introduction

Last updated：2024-03-19 15:28:43

Product Introduction

Tencent Effect Studio is a material creation tool that supports customers to customize 2D and 3D stickers for personalized material production. After completing the production, the materials can be imported into the SDK for use.

Tool features

AI Configuration: AI capability modular editing
3D Editing: Design 3D model materials
Process Control: Rich process control options for creating various complex dynamic effects
Dynamic Effect Import: Support importing local dynamic materials to preview effects

Tool Download

Windows	Mac
DOWNLOAD	DOWNLOAD

Product Capability Introduction

1、2D stickers & Beauty Special Effects Design

Code environment panel visualization, even novice designers can easily get started.

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2、3D Interactive Special Effects

Supports rendering of various materials, achieving rich special effects production effects.

3、List of Material Production Capabilities

Type	Items	Type	Items
Gnenral	Filter Music	AI	Segmentataion Facial features

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	Workflow Script		Head AI face change Face merging Expression migration
Stickers	Foreground sticker Face-tracking sticker Hand-tracking sticker Body-tracking sticker Cat face-tracking sticker	Special effects	Capture one frame Frame capture Face customization Liquify Post-processing Avatar2D
Make up	Full-face makeup Eyebrow makeup Eye makeup Eye color Lipstick	3D	Camera Light source 3D head .....
Beautify	Face beautification Body beautification Hair color	3D module	Cube Sphere Cylinder Plane .....

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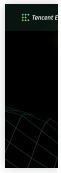
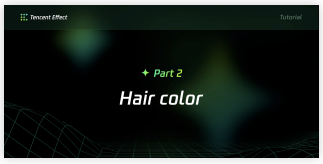
Tencent Effect Studio Video Tutorial

Last updated：2024-03-12 14:32:05

We have provided a **Video Tutorial** on how to utilize our material creation tools, along with pertinent resources, which can be examined by selecting the download option.

<table>
<tr><td>Item</td><td colspan="3">Download to View</td></tr>
<tr><td>Interface Introduction</td><td colspan="3">The user interface introdution
</td></tr>
<tr><td rowspan="3">2D Effects</td><td>Face customization
</td><td>Makeup
</td><td>Face-track
  </td></tr>
<tr><td>Hair color
 
</td><td>Filter
</td><td>Music setti
 </td></tr>
<tr><td>Background removal</td><td></td><td></td></tr>
</table>

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	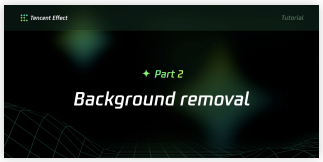		
3D Effects	How to create 3D effects 		
Related Resources	Related resources that may be used in the tutorial experience		

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Tencent Effect Creator's Complete Guide
Software Usage
Beginner's Guide

Last updated：2024-03-22 18:45:44

Introduction to Tencent Effect

Tencent Effect is a tool for combining and configuring short video gameplay materials. It can help you create template gameplay, shooting gameplay, and more for short video platforms. It allows creators ranging from AE professionals to Photoshop enthusiasts to create their own customized gameplay projects.

Customized Gameplay Requires Downloading Tools

PAG Plugin Download.

Contract Signing and Authentication

Log in

Open TE, the login page pops up.
Enter Studio Key
Login successful: Enter TE Homepage.

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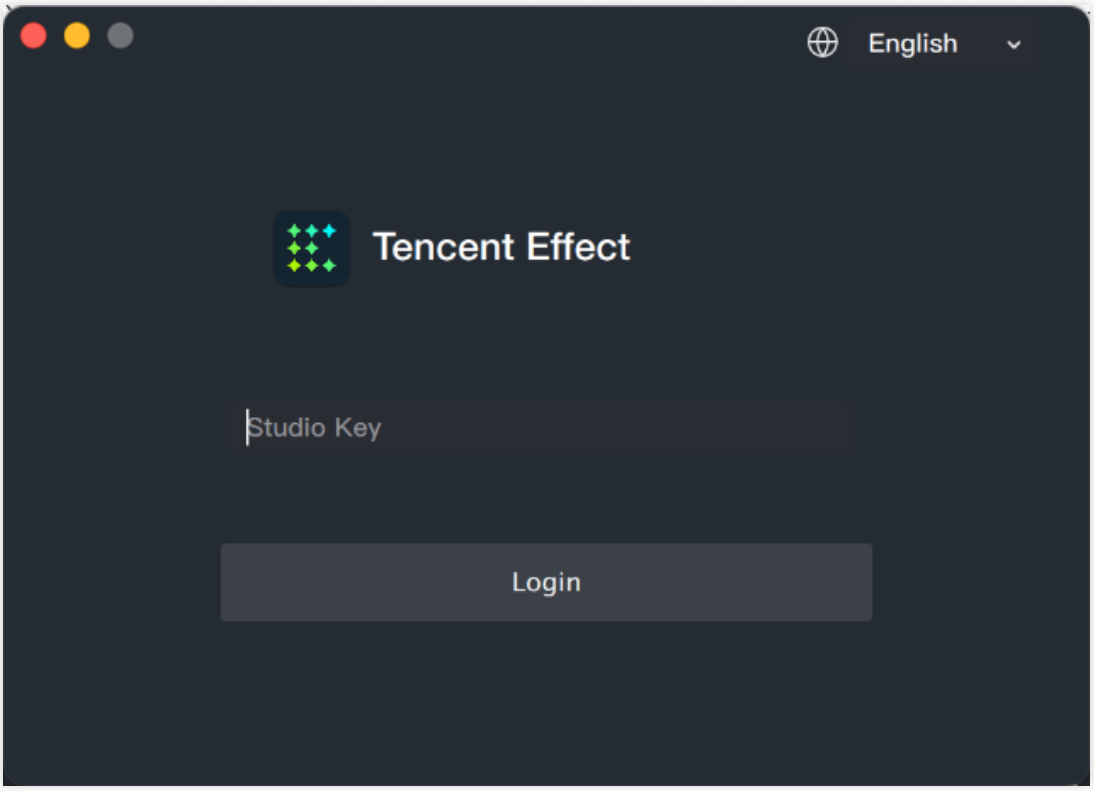

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Panel Introduction

Last updated：2024-03-25 11:43:19

Home Introduction

The home page of Tencent Effect includes the following Features：

New Project

Camera Project

Recent Projects: Support saving recently opened projects, allowing for quick open next time.

Open Project: Support opening local saved projects.

Manual

Clear cache

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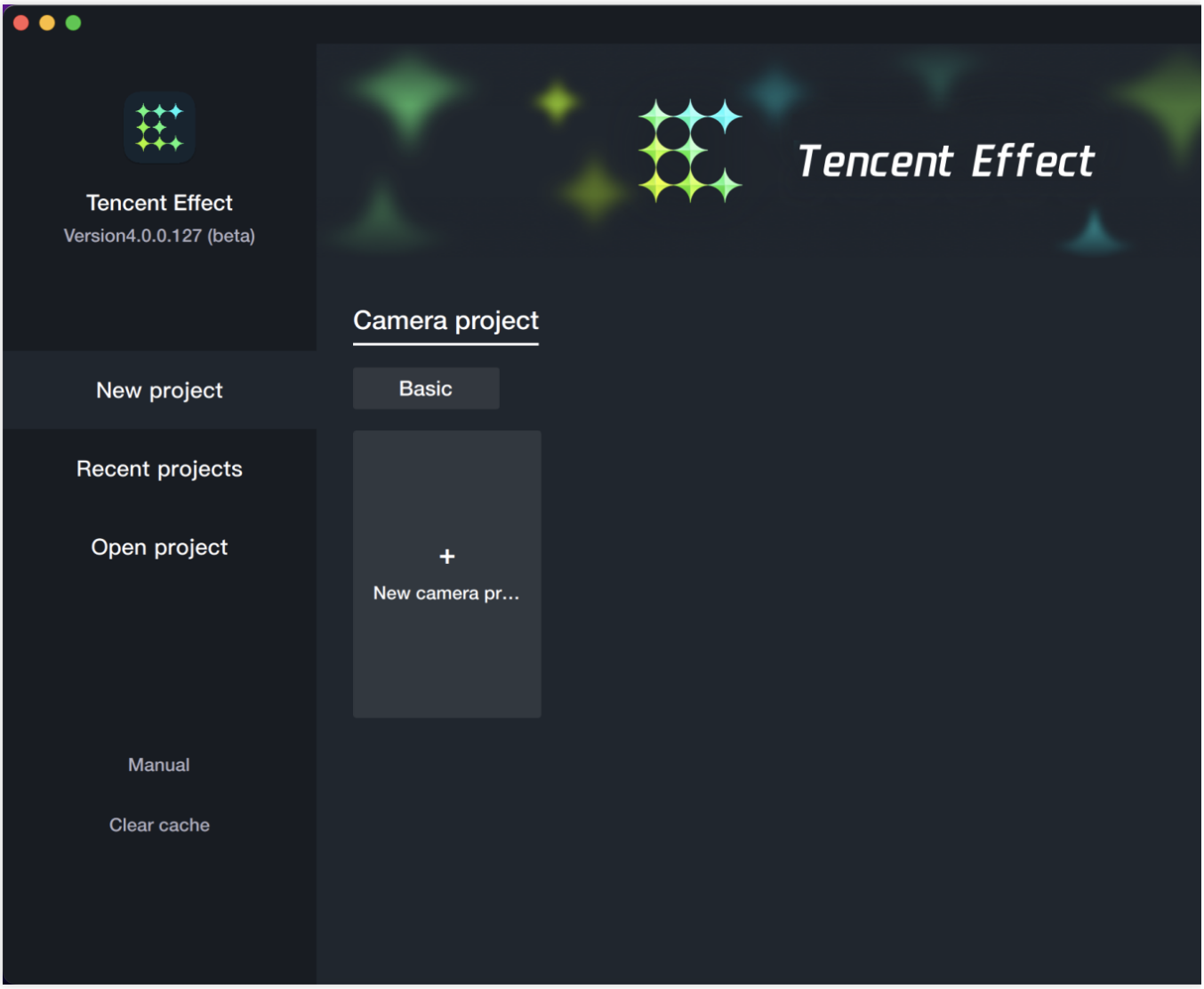

Work Panel Introduction

The workspace of Tencent Effect is composed of a set of modular panels. The panels are the main working area for production editing in Tencent Effect. All panels can be scaled, and the preview panel also supports hiding and expanding.

Menu Bar

The Menu Bar mainly provides some file and project-related operations to help you better manage project, including: New project, Open, Home, Save, Save as, Export material package, previous versions and close.

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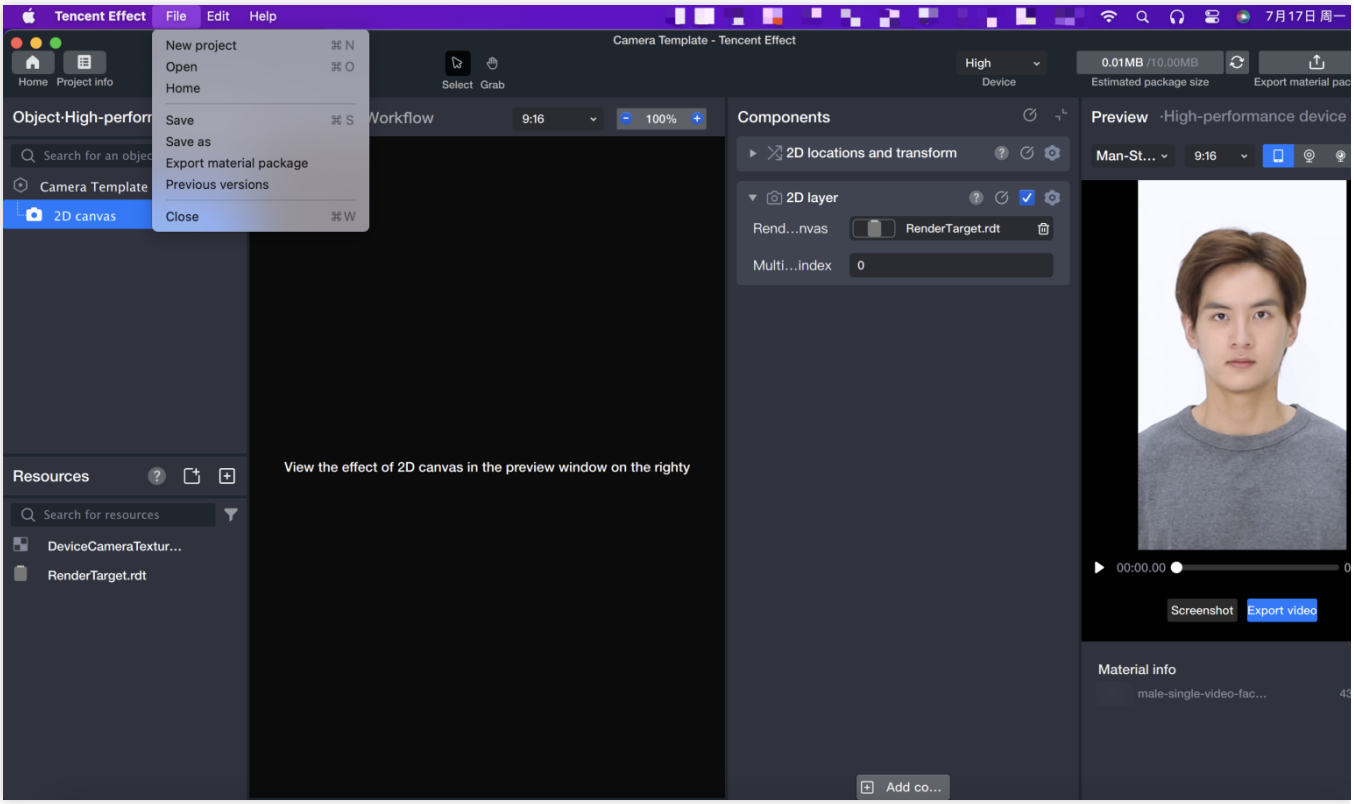
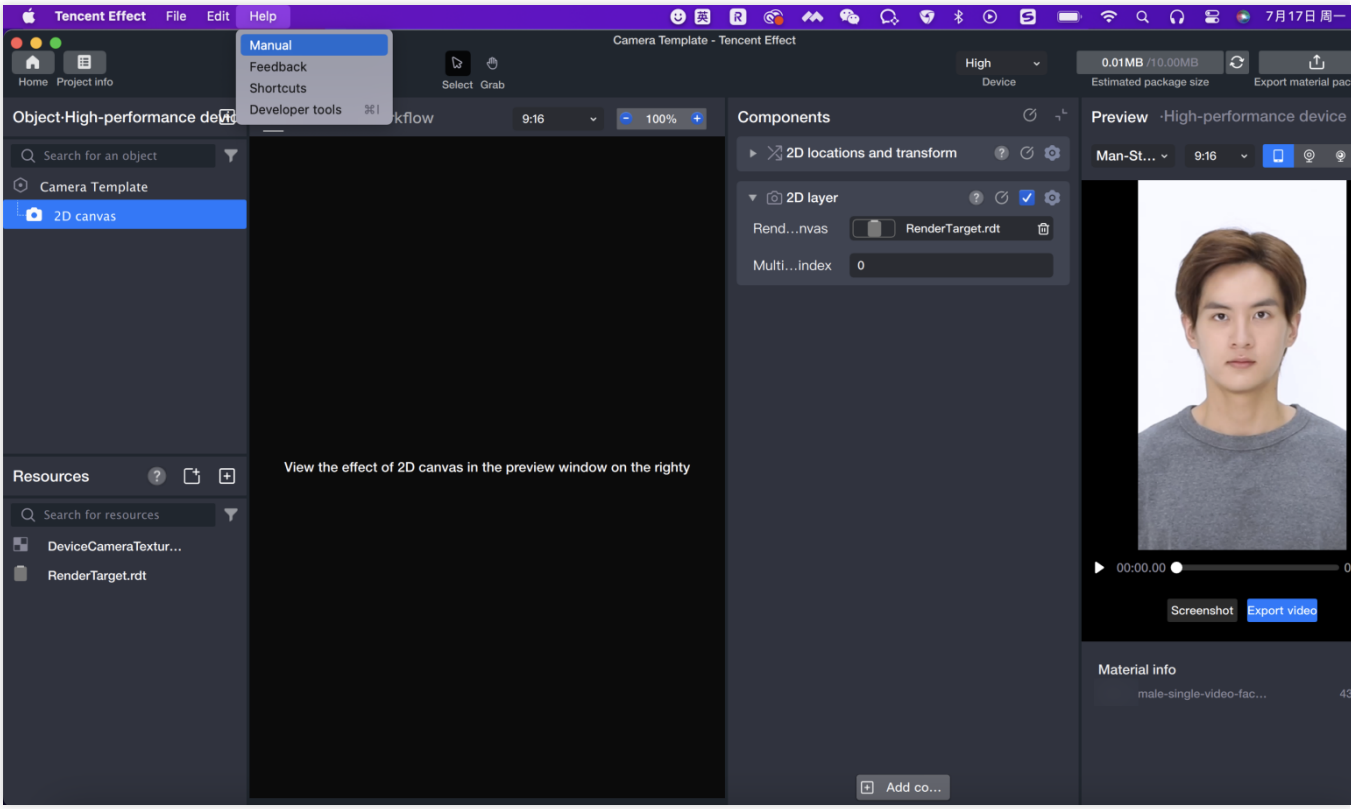


The **Manual** in the **Help** can help you quickly get started with production steps:



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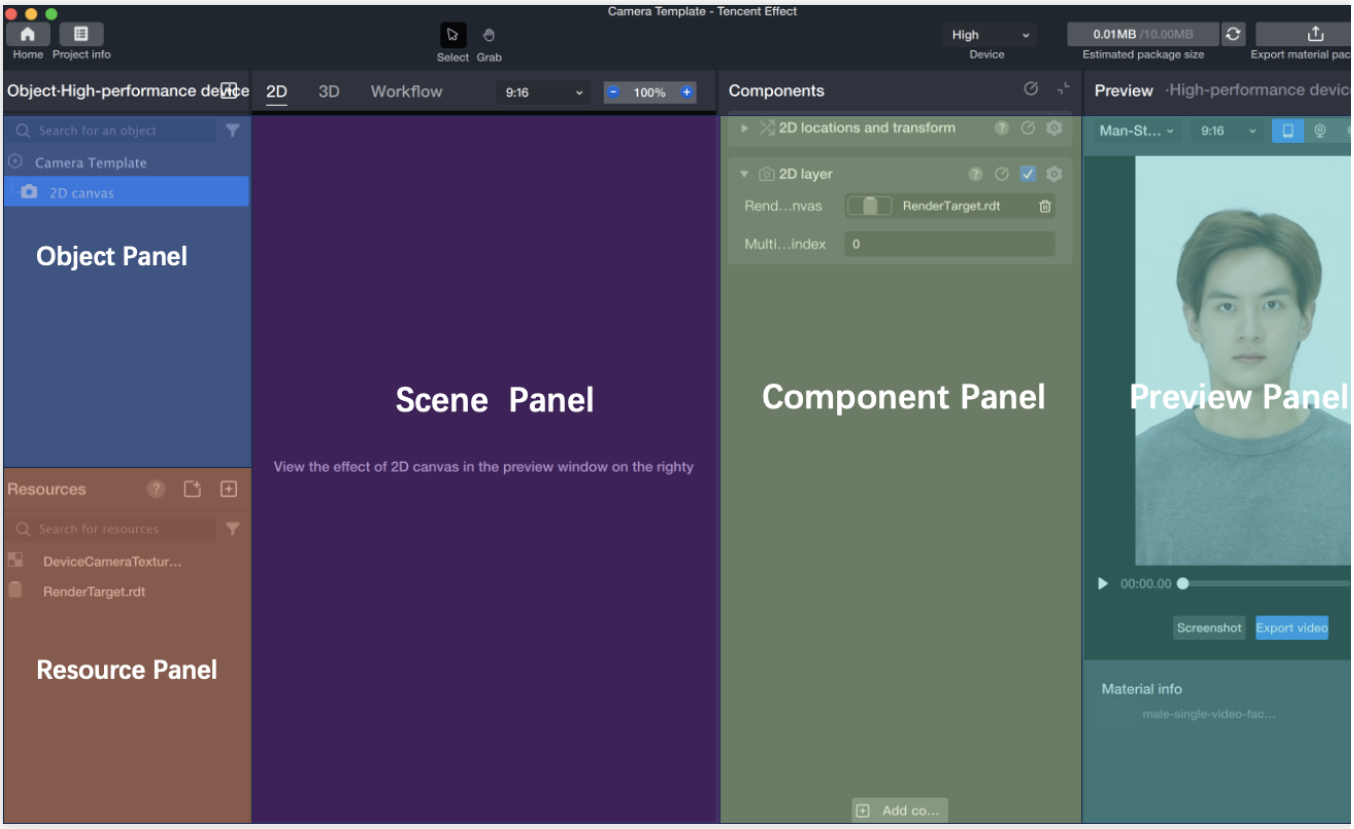
Work Panel

Camera Project Panel



Object Panel

The Object Panel is used to build the video structure of gameplay projects in the operation area. It structures the display of all objects in the scene through the hierarchical structure on the panel. The Object Panel also controls the rendering order, which is from top to bottom, with the bottom object appearing at the top layer of the screen. The basic operations are as follows:

Add Object: Create a new object by dragging resources to the Object Panel, or add from the Add Object Mini Panel, or right-click to add.

Drag Object: Adjust the up and down position of the object by simple drag and drop, or adjust the objects as parent objects to each other.

Copy/Paste/Delete/Rename Object: Select the object and right-click to complete the related operations.

Enable/Disable Object: Click the small eye icon on the right side of the object to enable or disable it.

The Add Object Mini Panel comes with preset common objects that you can directly add and use, or you can choose to add an empty object and combine related components yourself.

Resource Panel

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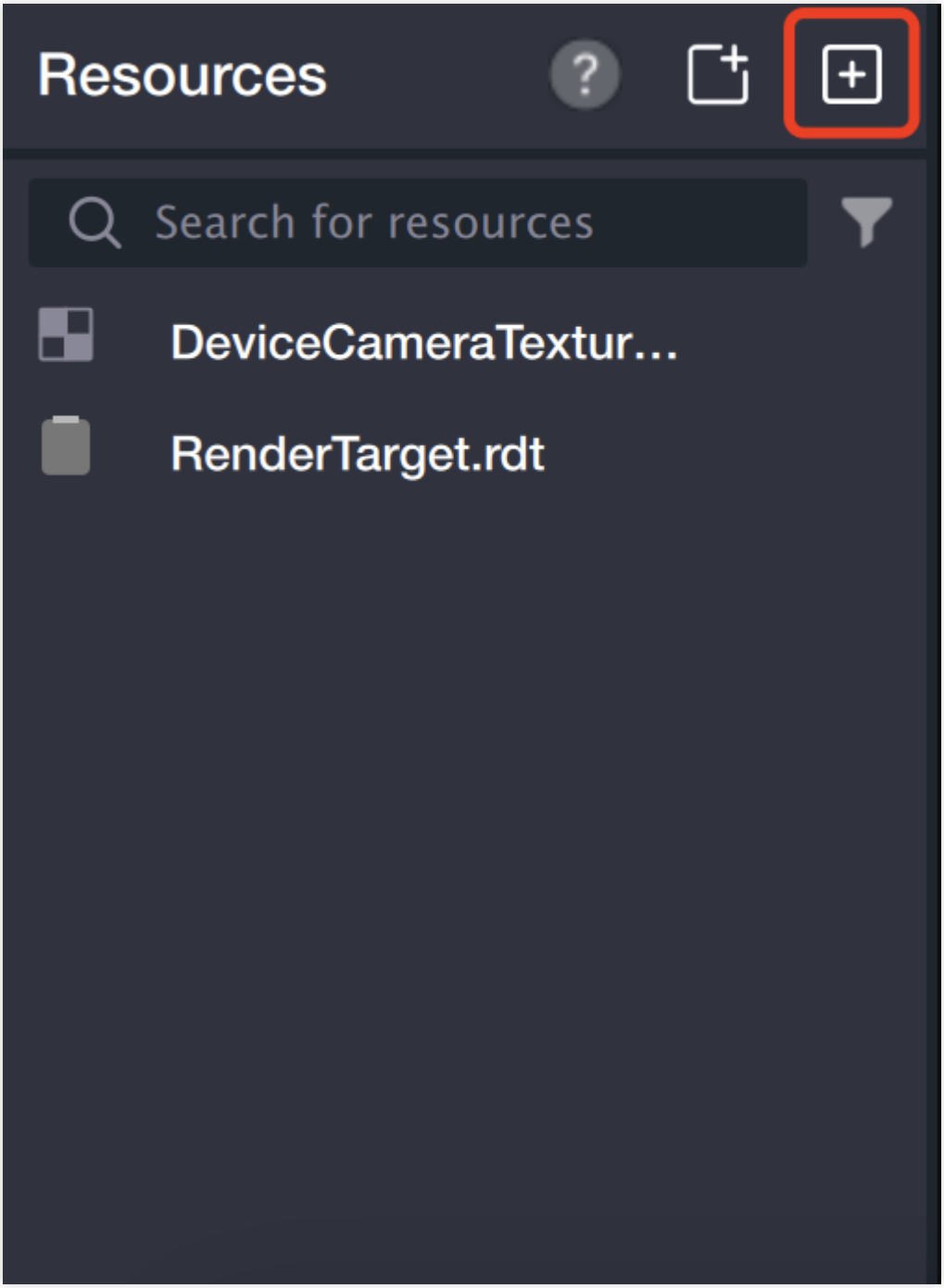
Can import configuration resources into the current project.

Addition Method:

Click the resource panel's [Add button] to add resources, which can be used to add the resources needed for the project to the resource panel in advance for standby.



Transfer computer files or folders directly to the Resource panel, and it will automatically recognize the resource type and add it.

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When dragging the sequence frame resource folder to the Resource panel, it will automatically convert to the PAG format with better performance, and you can set the frame rate.

Resource Base Management:

You can perform the following operations on the Resource Panel by right-clicking on the Resource File:
Copy, cut, delete, rename.
Group selected objects: Create folders to categorize resources.
Resource editing: Image resource supports compression.

Scene Panel

The Scene Panel displays the visual effects of different objects on the Object Panel:

General:

You can view the effects of makeup, filters, liquify, etc.
You can adjust the position, size, and rotation angle of foreground materials, face stickers, etc.
In the 3D Panel, you can adjust the position, size, and rotation angle of 3D props, as well as the effects of materials, lighting, etc.
In Animation Mode, you can display the animation playback effect.

In a General Template Project:

You can view frames at different time points by adjusting the Positioning Line on the Timeline.
Pressing the Spacebar can control the Play and Pause of the video in the Scene Panel.
The Scene Panel provides editing capability for different objects, such as Select, Move, Scale, Bind, etc., allowing users to operate more Conveniently.

Component Panel

On the Component Panel, there are a number of freely Combinable components, which are Atomic Capability Units used to define the functions and properties of the objects you create.
Through the Component Panel, you can edit any selected object and modify any parameter on it:

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You can also add new components to any selected object by using the **Add Component** feature:

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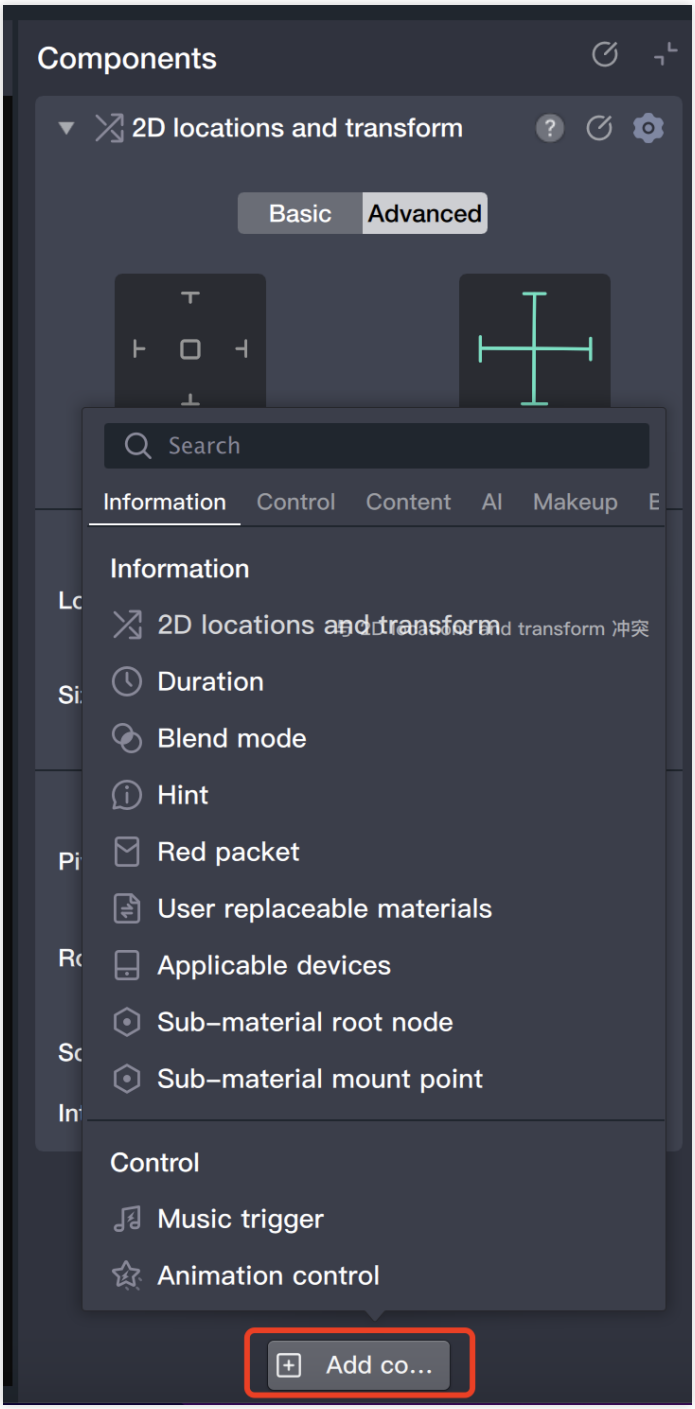

Preview Panel

The Preview Panel can real-time display your gameplay experience.

Tencent Effect has preset a series of preview videos and images, which can be used to experience the work effect by switching different videos and images:

You can switch materials through the dropdown option.

You can also upload your own preview materials, such as photos or videos compressed into a zip file.

Satisfactory preview videos can be directly exported as HD videos for promotion or showcase use.

Turn on the PC camera or external camera for preview.

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In the shooting project scene, you can also turn on the PC camera or external camera for real-time preview.
Through the small button in the upper left corner, you can hide or expand the preview panel:

Workflow Panel

In short video gameplay, besides the flat and straightforward effect display, there are often some plots or trigger logic. At this time, the workflow panel is needed. The main function of the workflow panel is to allow users to organize their design effects in an orderly and regulated manner, presenting a complete plot script for the gameplay.
The workflow panel provides four major elements for building gameplay process: trigger condition, logic judgment, trigger result, and value definition. With these four elements, the design of gameplay process can be relatively simple, such as timing trigger, specific condition trigger, visibility, switch, etc.

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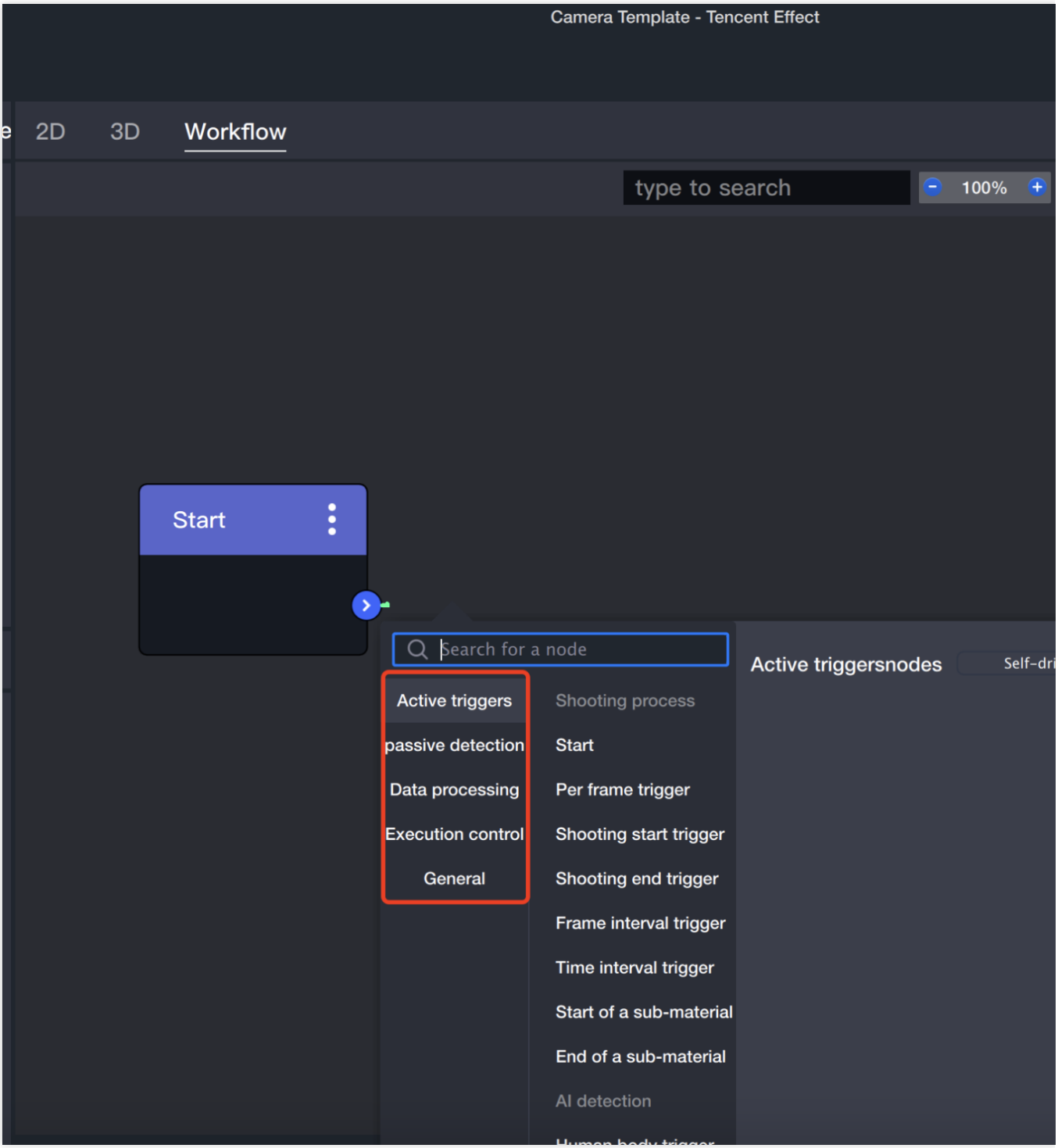

Add node method:

Right-click any blank area - Add Node.

Click the "+" in the top right corner of the panel to add.

Timeline Panel

In a General Template Project:

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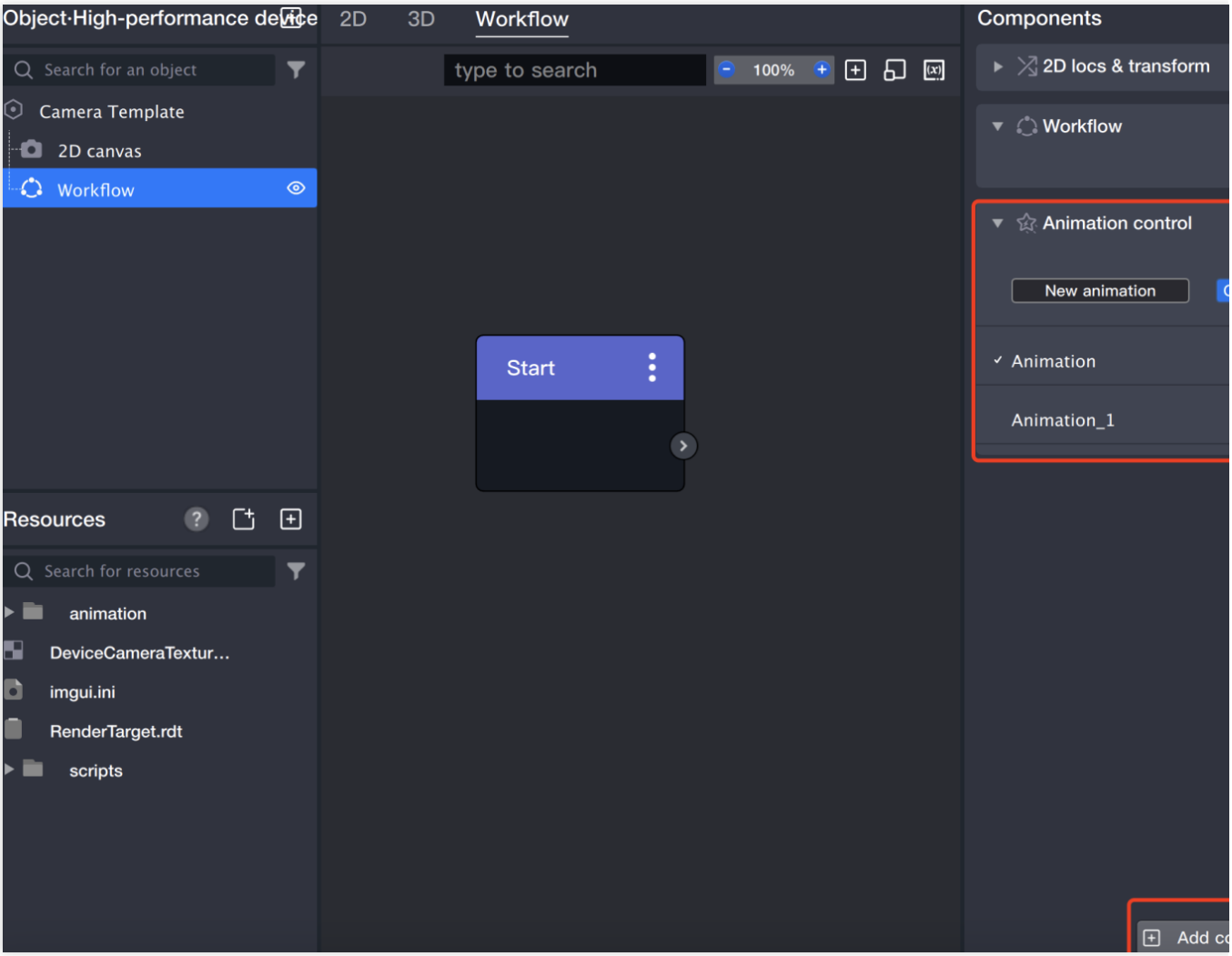
The Timeline Panel will display the relationship between all objects on the Object Panel in terms of time and rendering space, to better help you adjust time parameters and rendering relationships.
By adjusting the duration component on the Component Panel, it can be displayed in real-time on the Timeline Panel. Similarly, dragging or stretching different objects on the Timeline Panel will also cause the parameters of the duration component on the Component Panel to change in real-time.

Animation Panel

The function of the Animation Panel is to create animations, mainly targeting the editable attributes of objects in the Scene Panel. It can set these attributes to gradually change between different values or states, and record the process of the change to be saved as an animation file for use.
The switch for the Animation Panel is located on the Animation Control Component, supporting both collapsing and expanding.



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Material Package Download

Last updated：2024-03-22 18:45:44

Special Effects Props Category Material Package:

Icon Model Image(Copyrighted)

Makeup Package

Filter Package

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Material Specification
2D Makeup and Filter Specification

Last updated：2024-03-22 18:45:44

Model Picture

Expressionless state

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Mouth open state

The makeup PSD internal source file contains the above two images, take as needed.

(Open-mouth pictures are generally used for effect verification, and the actual makeup needs to be drawn on the expressionless model image.)

The output size of the standard makeup png is: 1536x2048.

(Please ensure the output PNG size, otherwise the makeup preview will not be available.)

Makeup PSD template download link.

Model Image Grid Description

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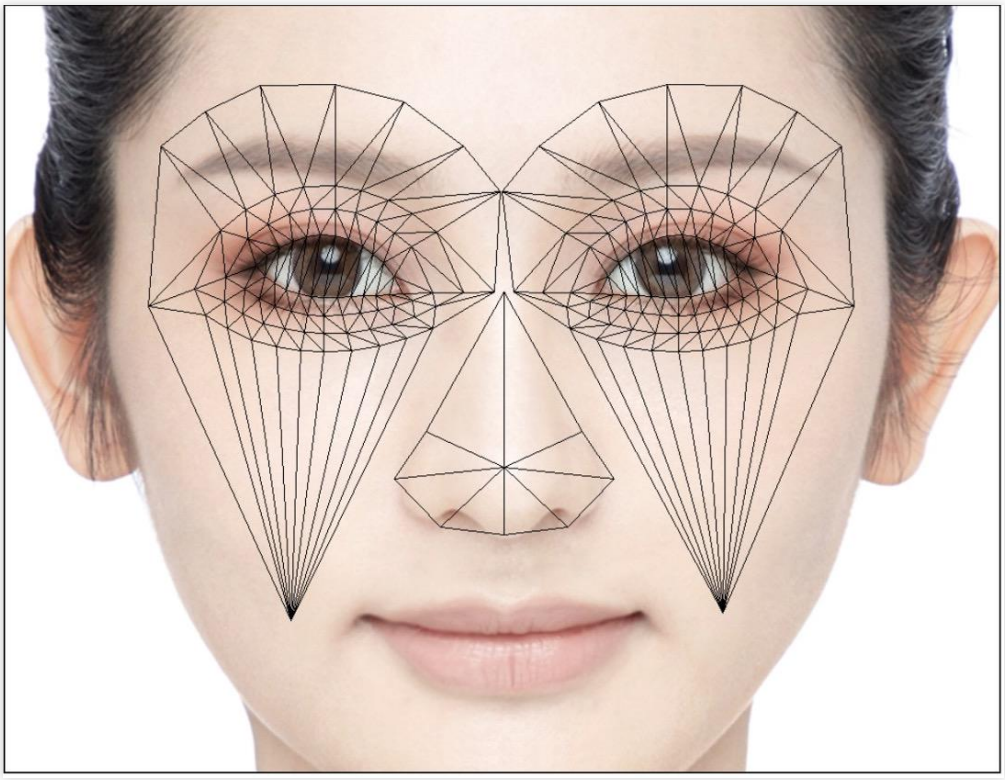

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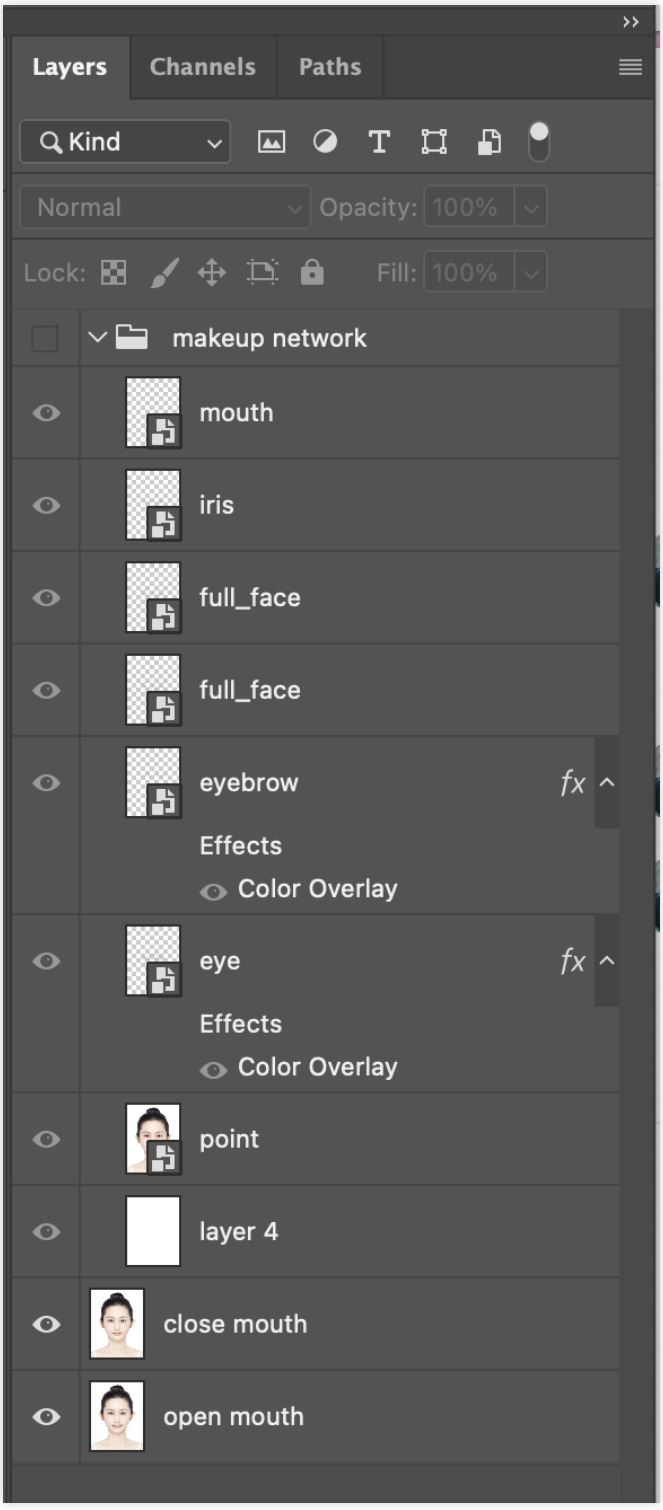

Makeup should be drawn within the grid protection range, exceeding it may cause stretch distortion risk.
(PSD file contains grid maps for various parts, refer as needed.)

Colored Contact Lens Material Production

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Colored contact lens material output size: 125x125.

Colored contact lens effect should be drawn in the white area of the image above, the black area is the instant transition area, and the material is not displayed.

Colored contact lens PSD template download link.

Makeup Output

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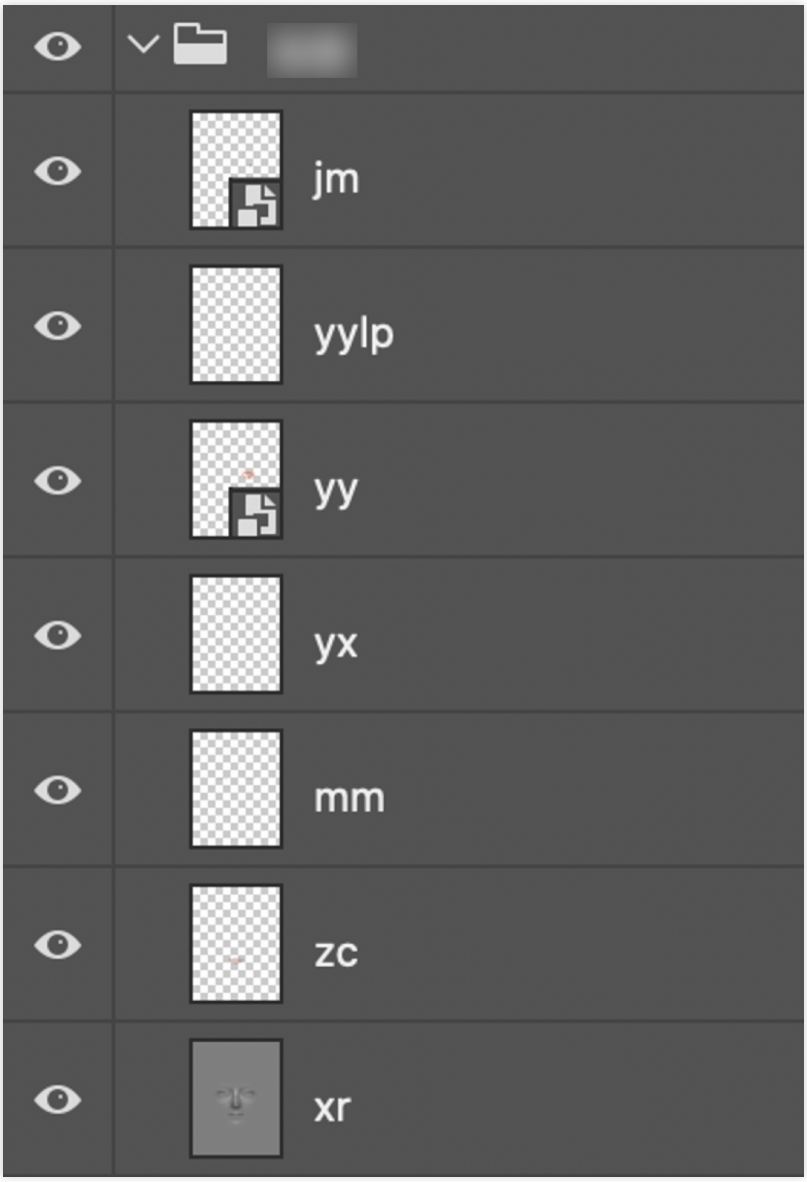

Makeup grid is divided into five parts: eyes, eyebrows, lips, full face makeup, and colored contact lenses.

When exporting from Photoshop, it is recommended to use layer export to file and check Visible Layers Only.

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The file structure of the exported makeup package can refer to the above figure.

In general, the blending mode for contouring parts such as eyeshadow, blush, and contouring is multiply; the highlight category for brightening parts is color burn or soft light.

Filter Output

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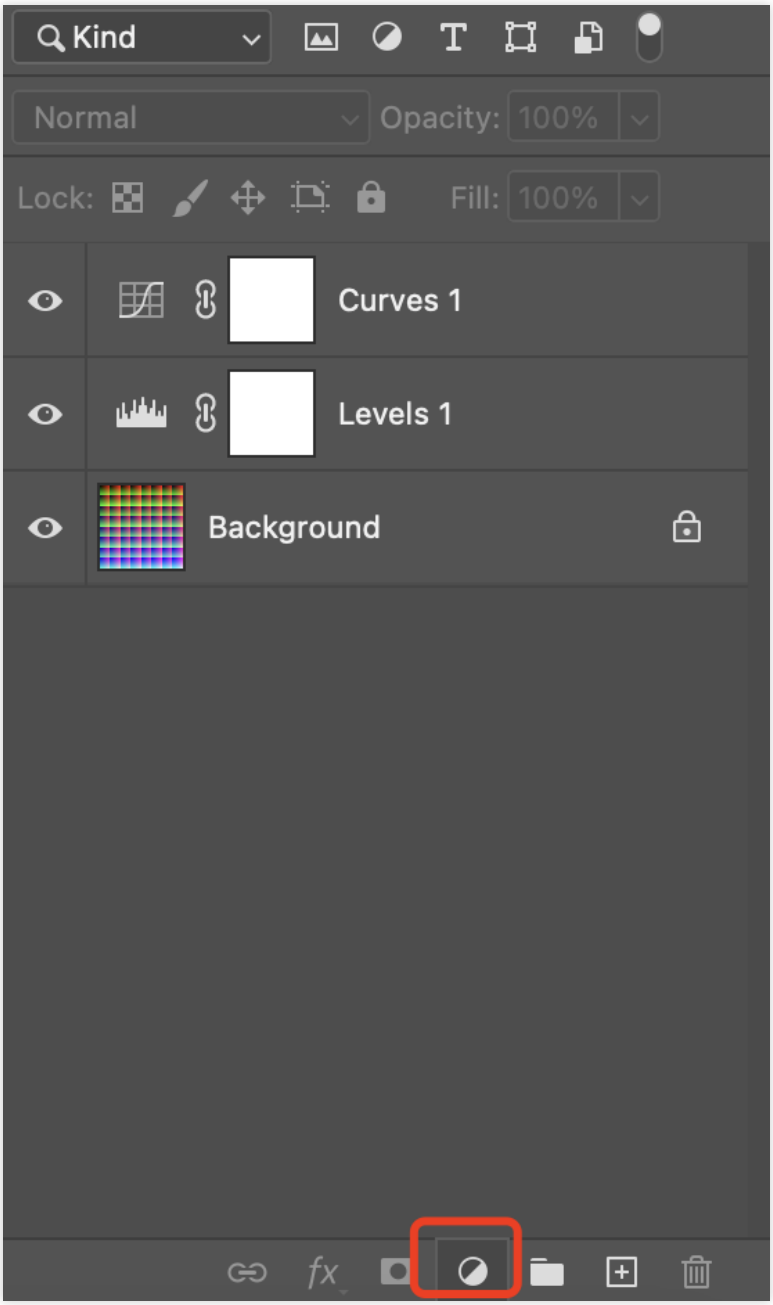

Apply color adjustment files in PS, apply to LUT, and export PNG image.

Do not compress the LUT image.

Filter standard LUT image download link.

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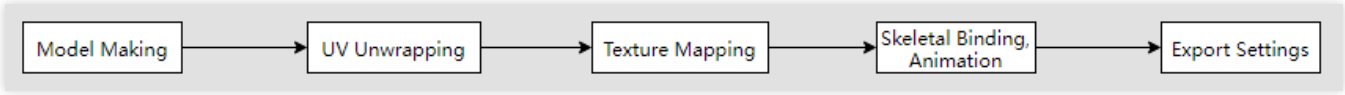
3D Production Material Specification

Last updated：2024-03-22 18:45:44

Production Process

The basic linear process is as follows:



Model Making

Production software: Maya, c4d, blender, zbrush, as long as the final result can export fbx or glb files.
The model size needs to correspond to a specific head model size, and the size and position of the head model cannot be modified.
The triangle face count of daily 3D props should be controlled at around 8000 faces, with a limit count of 20,000 faces.
The completed model should center the pivot (the center point of the world coordinate system), clear history, and freeze transformation.
Naming convention: Use English characters for file names, models, and textures.
Low-poly topology should be reasonable, standard, and uniform.
The model can be split into multiple models for production, and the final output can be a single file.
When creating the model, mainly create the part facing the camera, because the final online prop will display the front and 45° side effects at most. Therefore, the invisible model at the back of the head can be directly deleted to reduce the face count and optimize performance.

UV Unwrapping

Unfold the UV and flatten it as much as possible.
Minimize seams and place them in less noticeable locations. Make full use of the texture space.

Production of pictures

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Requirements
The maximum size is 1024*1024, and to ensure the effect, both width and height dimensions should be multiples of 4.
The memory size needs to be controlled within 1M, and the final pictures used need to be compressed (using TinyPNG compression).
Set the depth to 8-bit and the format to PNG.
PBR material
The textures needed are basecolor, normal, occlusionRoughnessMetallic.
Emissive is not necessary, but can be used when needed. When not needed, set the Emissive color to black.
Unlit material(unlit)
A single baked picture is enough, prioritize using Arnold and SP baking, prioritize effect.

Skeletal Binding, Animation

No skeleton (static model) can skip this step.
Physical skeleton binding.
Dynamic joint can be added to achieve physical jitter.
The maximum number of skeletons is 50.
The vertex skeleton influence number should be less than or equal to 4 (the maximum number of skeletons that can affect each model point during skinning).
The skeleton structure must have only one hierarchy, and the name of the highest-level skeleton should be named: Root (special structures will be described when sending the package).
Use skeleton skinning, avoid using other objects.
For skeletons that require physical calculations, the root skeleton name can be named with numbers, ABC+numbers for easy physical configuration.
Skeleton animation production.
The duration should be controlled within 15 seconds, with a frame rate of 30 frames/second.
The output animation needs to bake the keyframes on the skeleton.

Export Settings

Tencent Effect only supports importing fbx and glb formats, and does not support importing obj.
Export fbx format (2014-2019 version).
3D MAX export, check **geometry: normal tangent and triangulation, animation: animation, deformed model: skinning non-blended deformation**.
MAYA export, check projects with skeletal animation.

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Delete useless keyframes outside the animation timeline (for example, if it's 0-100 frames, there should be no animation frames before 0 and after 100).
Export glb.

Head model download

Download link.

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Export PAG Specification

Last updated：2024-03-22 18:45:44

Determine the PAG export method (whether to enter the animation stage)

PS Static Frame Export: No need for animation effect, you can directly export a PNG in PS.

PNG size: 720*1280.

Click to select the layer you want to export, then click Menu File > Export > Format: PNG..

(Compress the PNG as much as possible)

AE Direct Export: The effect needs to be animated in AE, and PAG can be directly exported in AE.

Video size: 720*1280.

PAG parameter setting in AE (only need to set it before the first export, set as follows)

After Effects > Preferences > PAG Config...

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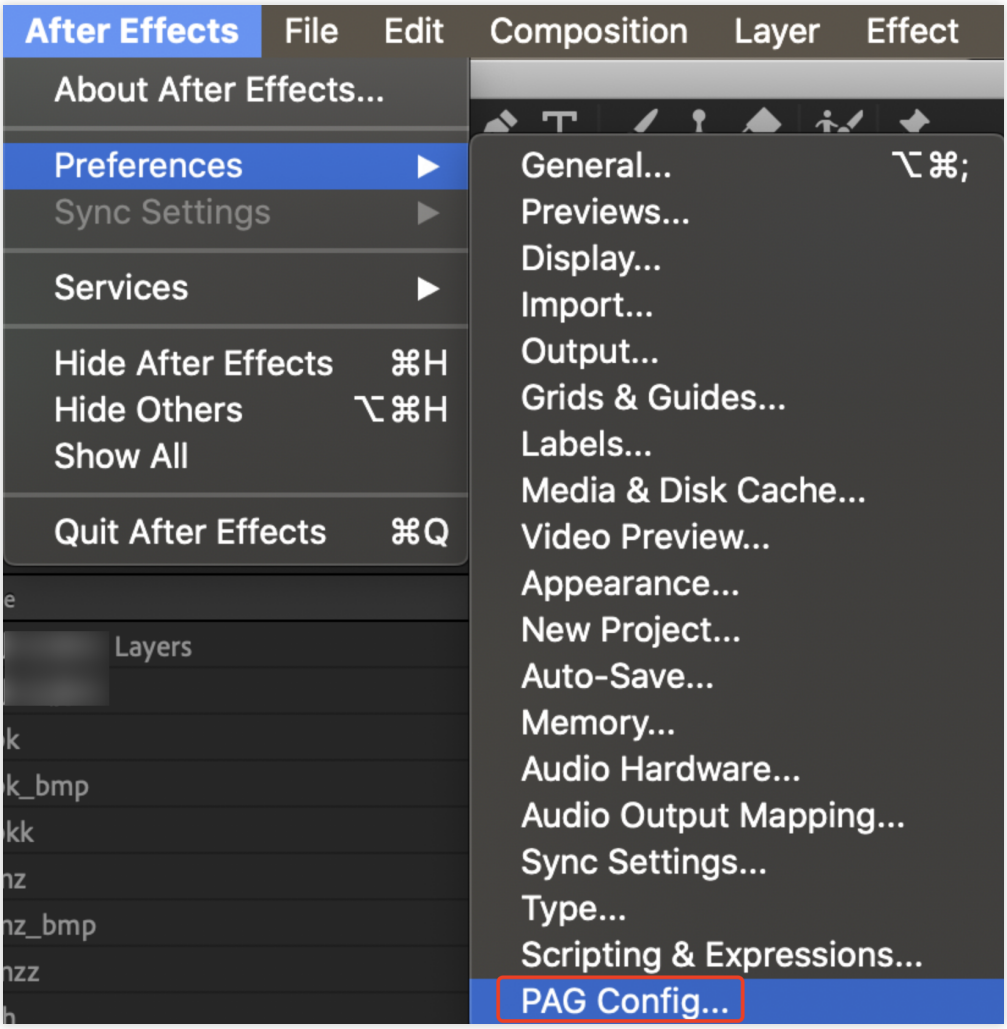

Image compression quality parameter is set to default 80, which can be adjusted according to the final effect quality and package size.

Sequence Frame Type: Video Sequence Frame.

The default parameter for sequence frame image quality is 80, and the upper limit for export size is 720, which can be adjusted according to the actual situation.

PAG Export Before

When the exported effects support PAG, you can name them according to the material abbreviation for easy identification of the materials.

When you need to export effects that PAG does not support, you need to create a new composition for the corresponding layer or sub-composition, and add the _bmp suffix when naming the new composition.

Note:

When adding the "_bmp" suffix, it should be added to the composition naming, not the layer naming.

Please make sure that the duration of the exported composition is consistent with the actual duration of the material.

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Different Scenarios PAG Export

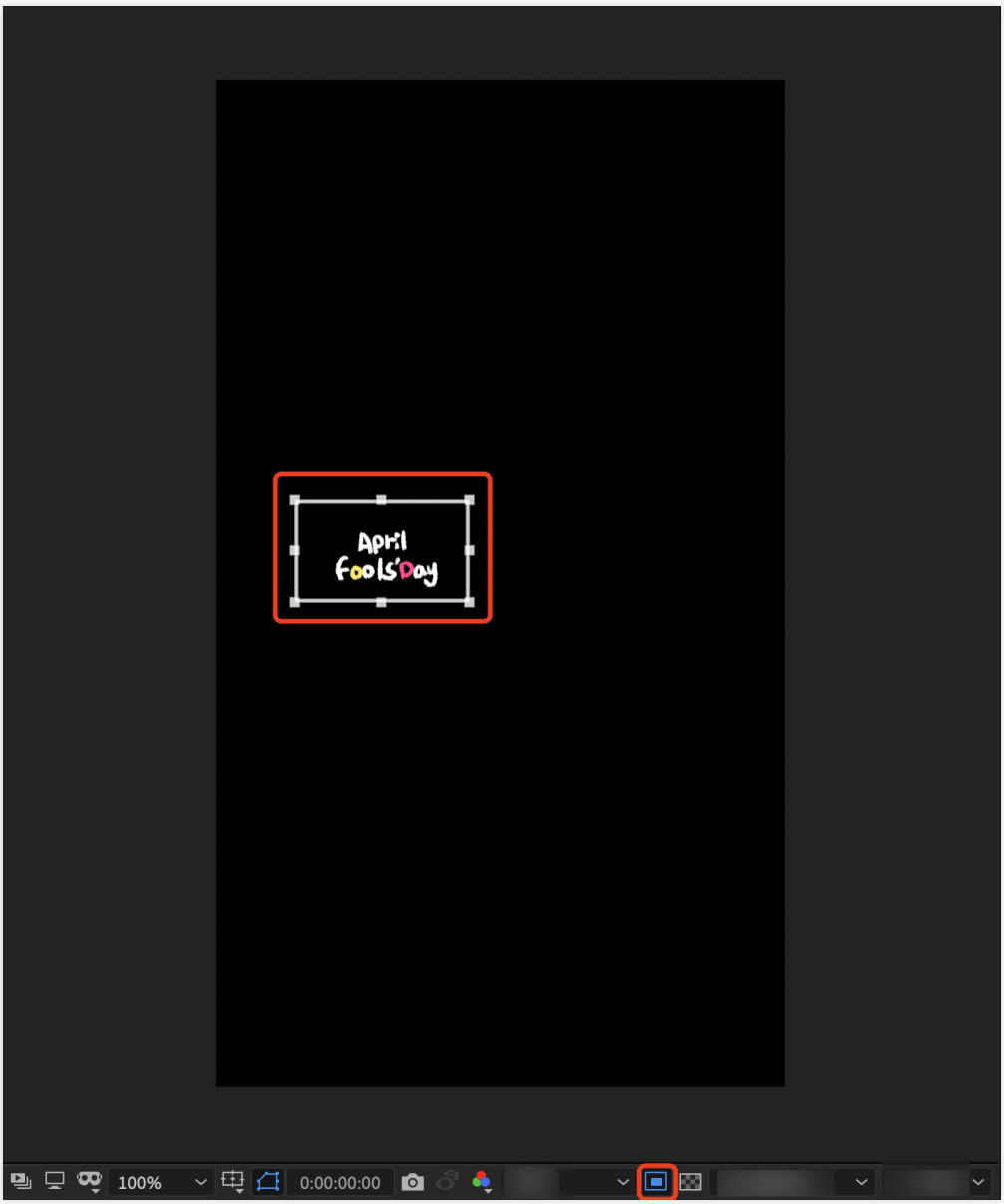
PAG export scene types: Full-screen material, facial tracking material, with or without overlay mode.

Full-screen material (fixed on the screen, not following user movement): Directly export according to screen size (720*1280).

File > Export > PAG File

Facial tracking part: Facial tracking stickers (such as: Blush, Head stickers, Facial tracking stickers, etc.). Use the region of interest tool.

Use the region of interest to draw an appropriate size bounding box.



Cut out appropriate size, synthesize > crop and synthesize to target area.

Obtained after cutting.

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Repeat direct export steps: File > Export > PAG File.

If there is an overlay method, export the corresponding PAG for the composites under the same overlay method.

After PAG export, you can directly preview it with PAGViewer.

PAG Export Size, Frame Rate, Duration, Naming, Quantity, and Size Specification

Pag export size: The size of facial stickers depends on the sticker size; for panorama (foreground/background) dynamic stickers, it is recommended that the long side does not exceed 720px; for static stickers, also ensure that they are within 720px, and it is recommended to directly export a single png (within 720*1280) using Photoshop.

Pag frame rate: 24fps.

Pag duration: Basically around 5s, not exceeding 8s at the longest, unless in special cases (such as lyrics type), and pay attention to seamless looping.

Pag naming: It is recommended to use the english alphabet

Pag quantity: In a PAG package, it is best not to exceed 5 individual pags.

Pag package size: Control the total size of all individual pags within 5M.

Attachment

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PAG Viewer download link.

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Material Export Specification

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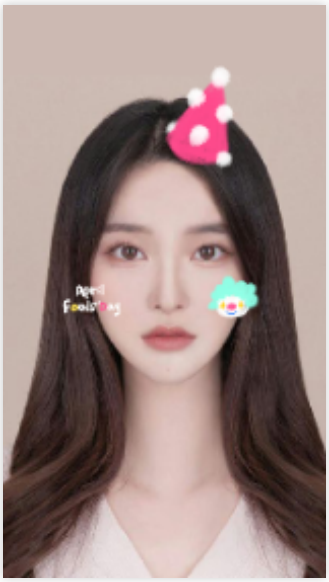
Components

Follow facial material —— Follow face movement.

Foreground material/Keying material —— Fixed position, not following face movement.



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Complete Effect Follow-up Material Foreground Material

Follow Facial Material Export

Export various material parts separately, maintaining the file size as small as possible.

The animation frame rate is 24 frames/second (can be adjusted according to actual demand).

Sequence frame naming format: use english.

Package each group of sequence frames into a folder, with the name consistent with the sequence frame prefix.

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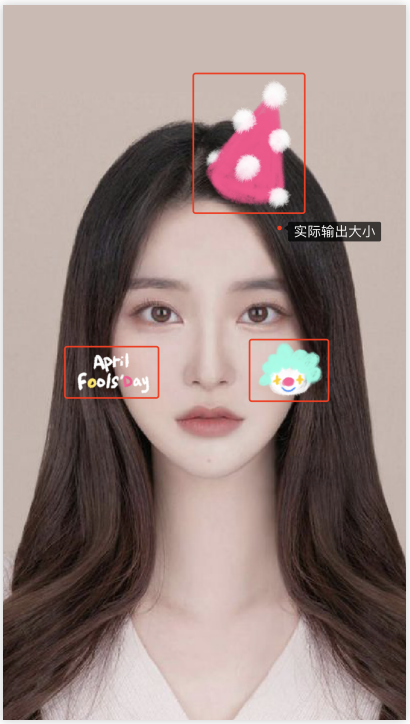

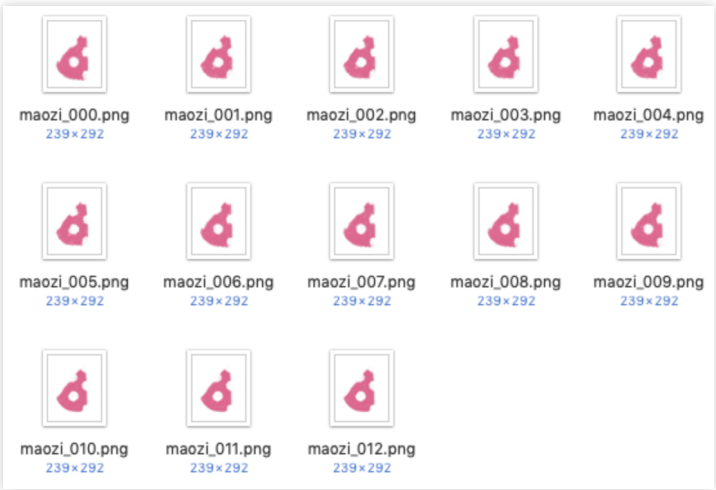

Actual Output Size Folder Naming Sequence Frame Naming

Foreground Material/Cutout Background Material Export

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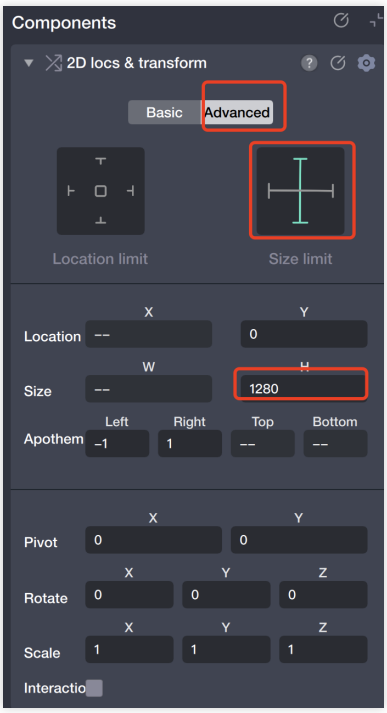
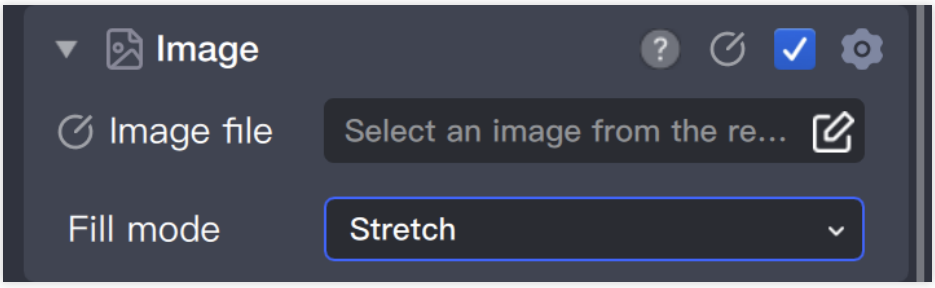
Not following the face, fixed position, located at the top layer of the screen.
Adapt to multiple platform ratio export methods:
It is recommended that the foreground material export ratio is 720*1280. In order to ensure the display effect on multiple platforms, please have the creator perform a multi-ratio inspection of the preview effect, ensuring that all ratios have a complete element display and avoid cutting edges.
(Required check ratios: 9:16, 4:3, full, 1:1).
Applicable type: Do not want to be cropped, stretch material to adapt to multiple ratios.





Applicable types: By cropping to adapt multiple ratios.

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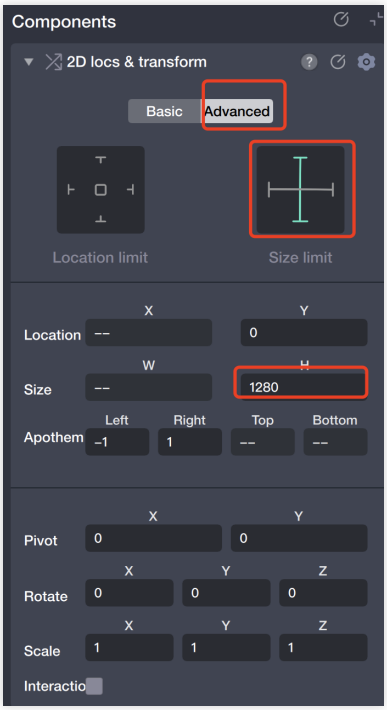

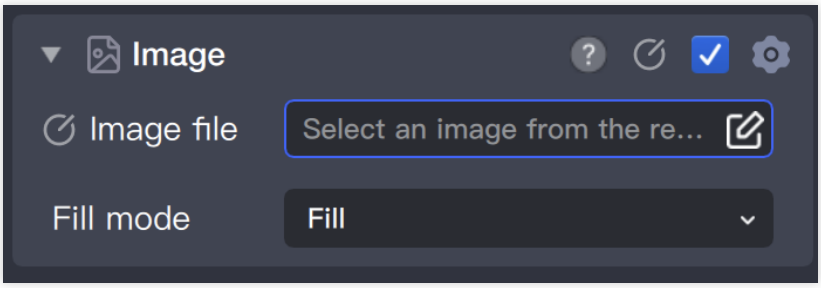

The export ratio of foreground material is 720*960. Please design the material according to the standard shown in the picture below, and adjust the effect on Tencent Effect with multi-ratio preview.

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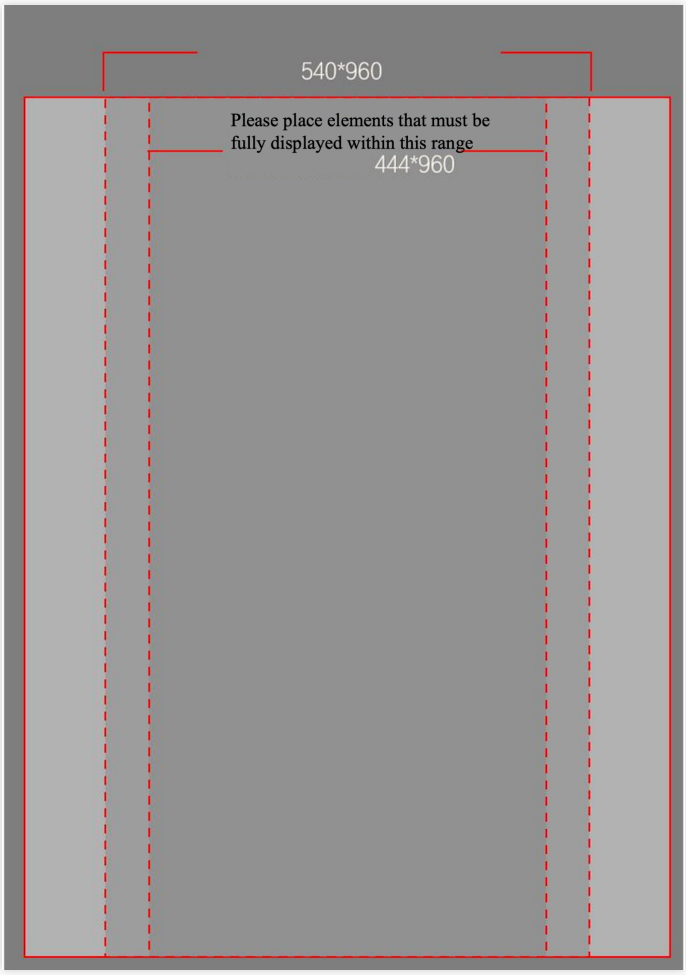

TE Engineering Package

Best control around 10M, not exceed 15M.

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Thumbnail Icon Production Standard

Last updated：2024-03-22 18:45:44

Icon

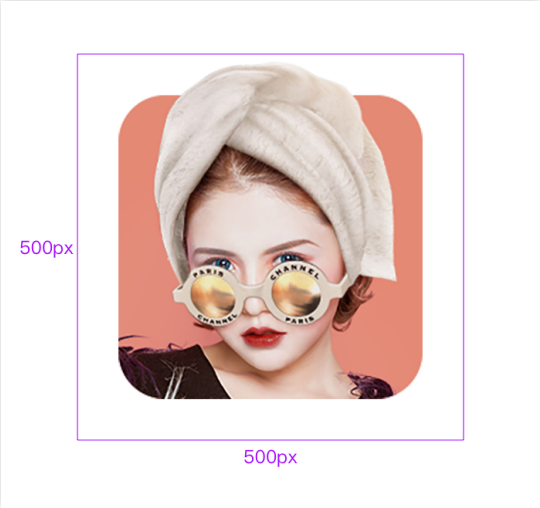
For display in the Prop Panel.

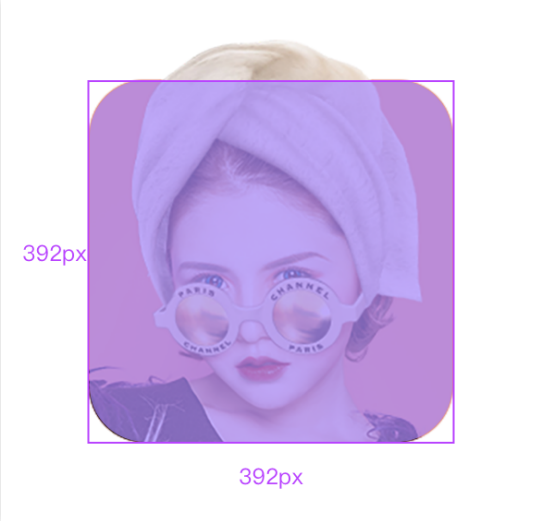
Please note that the model in the icon must hold copyright. At this stage, please click the link below to download the copyrighted model image for icon production.

Icon Model Image Material.

Icon Export

Basic Specification

<table>
<tr>
<td> 

Output: 500X500px</td>
<td> 

Main rounded rectangle part: 392X392px Rounded corner: 60px</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</table>

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Safe range: 480px Circular + 392px Rounded rectangle
Content must not exceed the Purple area

Need to check if important information is within the circular 392px area.

Thumbnail Composition Suggestion

Model photo priority selection: Full face half side, even lighting, light makeup, no filter.

Avoid selecting uneven lighting, overly heavy makeup, excessive filter, and side profile model images.

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When the model picture has a messy background that affects the icon composition, you can cut out the character subject and place it on a suitable background color, and use appropriate makeup to emphasize the facial features.

The design of the icon should be consistent with the content of the prop effect image.

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Model's face should try to be centered and occupy more than 50% of the proportion, **ensuring the character's face is upright and clear**, avoiding severe tilting of the head, and having pendant elements with strong readability.

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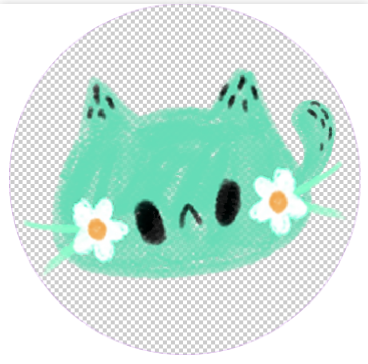
Special Icon Precautions

Transparent icon

Transparent background icon.



Selected state automatically adds semi-transparent black background.

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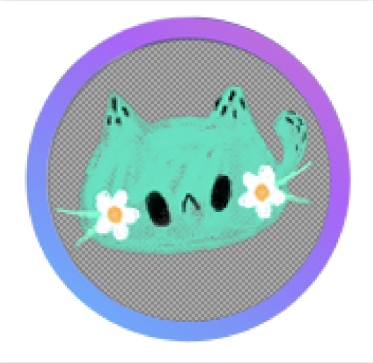

Special-shaped icon

Special-shaped icon.

Special-shaped icon selected, default cut off .exposed part.

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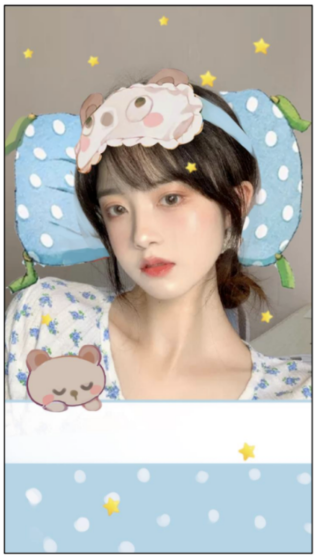
Tutorial
Prop Making Tutorial
Creative Process

Last updated：2024-03-22 18:45:44

Step1 Creative Preparation

Determine gameplay creativity, clarify style and elements.

Conception of creative proposal, with reference to:



Effect presentation:
3D accessories + 2D stickers around + makeup effect + foreground atmosphere stickers.

Game logic:
Eye mask pillow follows user's head, bedtime music atmosphere, animated bear pulling blanket.

Core elements:
Pillow, eye mask, sleepy bear.

Target users:
Girls who like taking selfies.

Publishing motivation
Good night before bed, creating a relaxed and lazy atmosphere.

Step2 Material Production

Please refer to the Material Specification in the Guideline Document for details.

2D Makeup and Filter Specification

3D Production Material Specifications

2D Material

Content	Tool	Template

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Atmosphere	PS	-
Makeup (Face makeup, Eyebrow makeup, Eye makeup, Blush, Contouring, Lip makeup, etc.)	PS	psd template
Colored contact lenses	PS	psd template
Filter	PS	png template
PAG (Transition, Animated stickers, etc.)	AE	-

3D Material

Content	Tools
Models	3D MAX, Maya, C4D, blender, zbrush, etc., as long as the final output can be FBX or GLB format files.
Textures	-
3D Model Animation	Maya, C4D, etc.
Environment HDR	PS, download on your own.

Step3 Configuration & Preview

Import the material file into the Tencent Effect resource panel.

2D Section

In the Object Panel, add:

1. Filter ➡ Add filter resources in the Component Panel.
2. Makeup look (Specific makeup look specification and configuration process description: 2D Makeup and Filter Specification)

2.1 Add the corresponding makeup look object in the Object Panel, and select the corresponding beauty makeup material in the Component Panel, and set the blending mode and opacity.

2.2 Beauty.

2.3 Facial beautification.

3. Animated stickers

3.1 Foreground stickers ➡ Add corresponding resources in the Component Panel.

3.2 Transition ➡ Add corresponding resources in the Component Panel.

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3D Section

(Specific material specifications and configuration process description: 3D Production Material Specifications)
In the Object Panel, add:
1. 3D scene object group.
1.1 3D human head.
1.2 Drag the xxx.prefab file from the 3D resources to the sublevel of the 3D human head object.

Music

Add music in the Object Panel and add music resources in the Component Panel.

Add Process

Add process in the Process Panel, specific process configuration tutorial: Process Panel Tutorial .

Step4 Effect Preview

Tencent Effect Preview Panel.

Step5 Final Acceptance

Icon Creation

Note:
The model in the icon must have copyright. At this stage, please click the link below to download the copyrighted model image for creating the icon. Model image material.
Export specification for the icon:Thumbnail Icon Production Standard

Material Package Self-check

Material Package Self-check List			
Self-check items	Format Requirements	Specification Size	Word Limit
Material Package	ZIP	15m or less (10m is optimal)	/
Icon	PNG	Round, 342*342, 50-100k.	Preferably within 4 characters.
Music	MP3	<30s, <1m	/

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Special Effect Name	/	/	Within 4 characters
Makeup	PNG	Refer to export specifications.	/a

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Makeup & Filter Configuration Tutorial

Last updated：2024-03-25 11:43:19

Makeup Configuration

Makeup Material Configuration Package Composition

The standard size of a single makeup material png is: 1536x2048.

Makeup PSD template download link.

Colored contact lenses PSD template download link.

Makeup Material Import

Import compliant makeup materials into the bottom-left resource panel of Tencent Effect.

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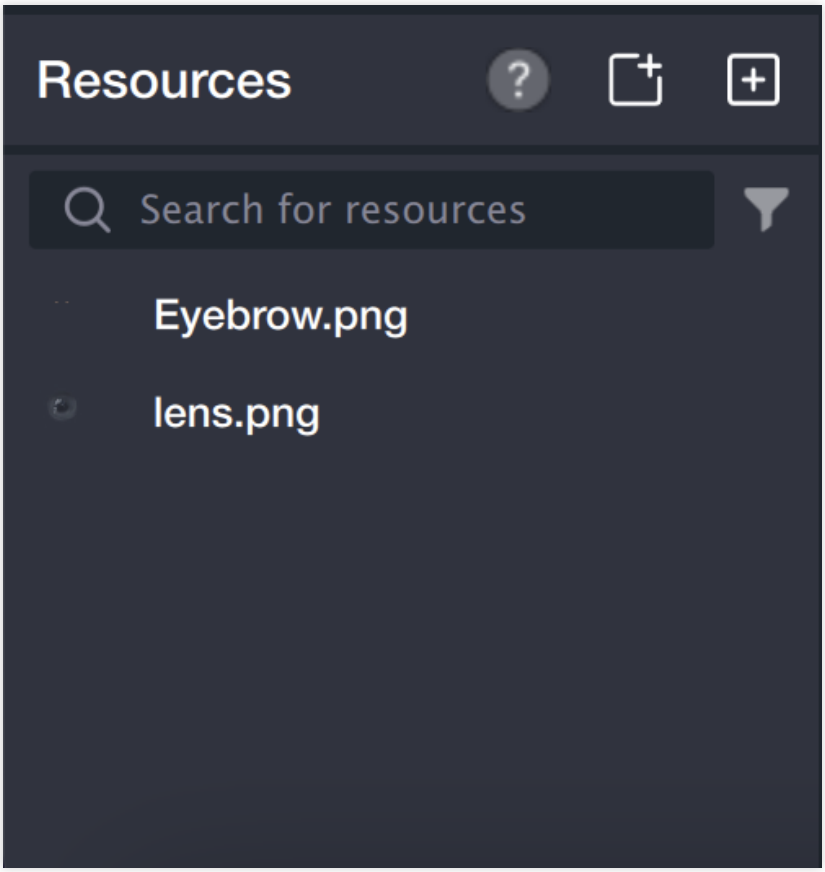

Makeup Material Configuration

In the Object Panel, select the makeup object corresponding to the facial feature position that needs to be configured. Pay attention to the layering relationship between makeups, such as Glitter Type materials should be configured on the material upper layer of normal blending materials.

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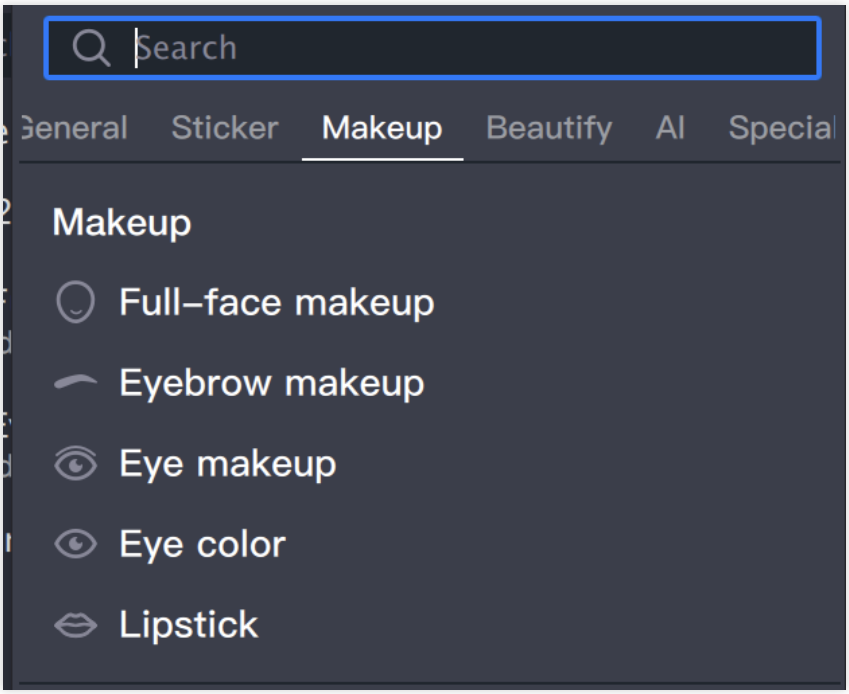

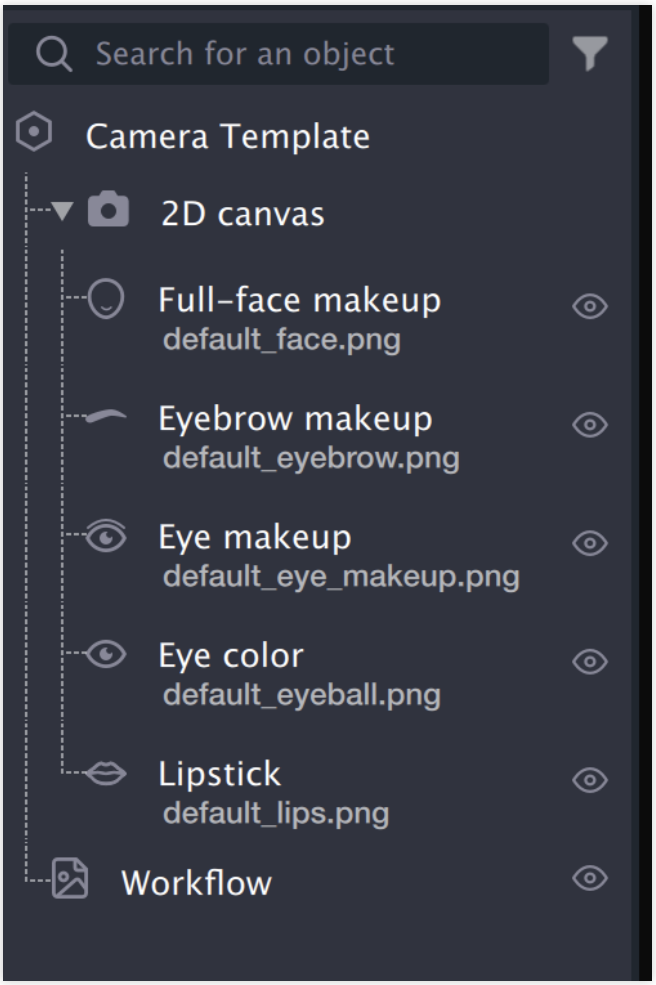

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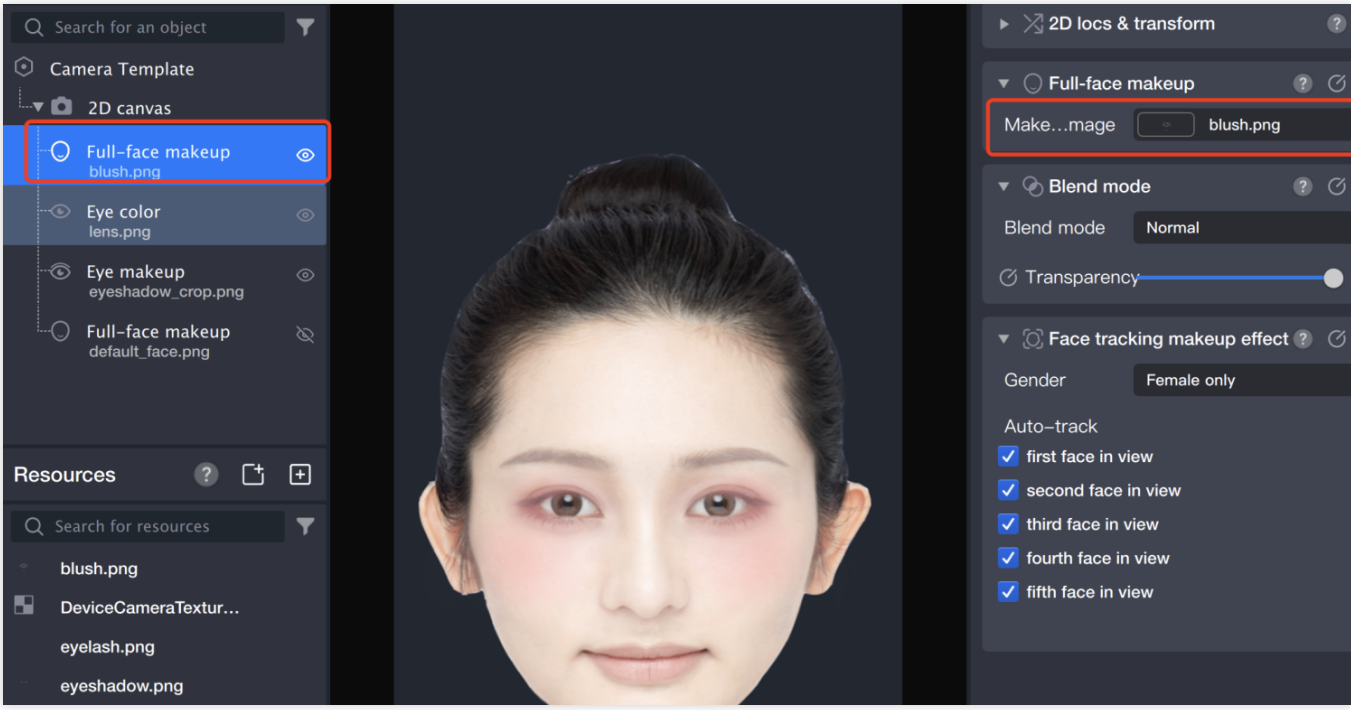
Makeup component panel, select the corresponding makeup material in the Resource panel.

Configure makeup material blending mode and opacity.

Note：

Makeup materials cannot be moved in Tencent Effect due to binding facial landmarks. To adjust the makeup position, you need to modify it in the PS source file and re-export.



Filter Configuration

Filter Material Import

Import the color-graded LUT into the Resource Panel. Please note that LUT design should be done on a standard file. Filter standard LUT image download link.

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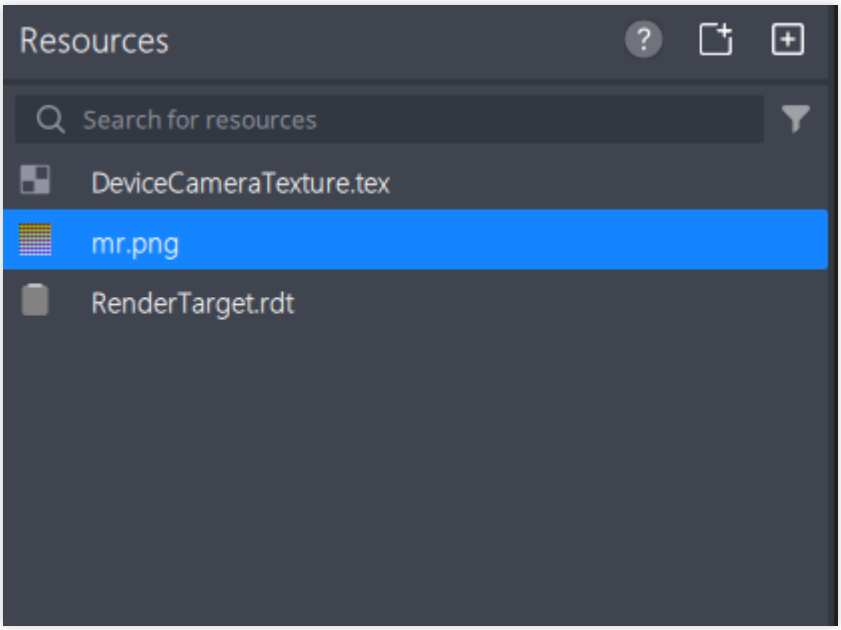

Filter Material Configuration

Select the filter object in the Object Panel.

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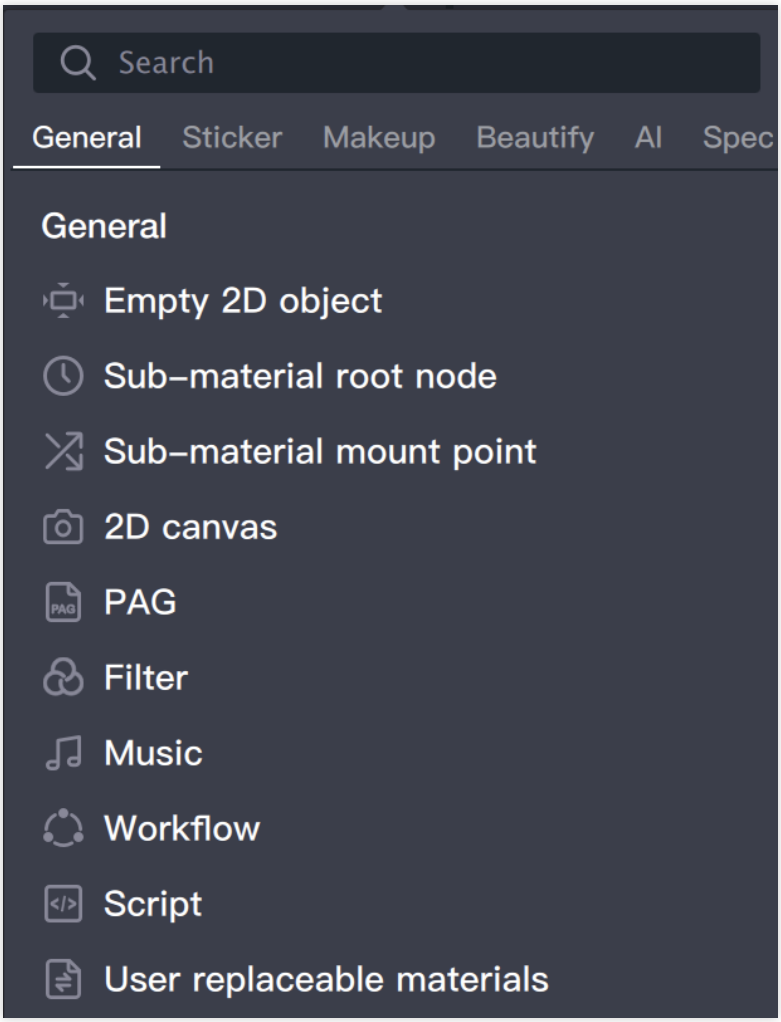

Import LUT file in the right-side filter component panel, and adjust the corresponding opacity.

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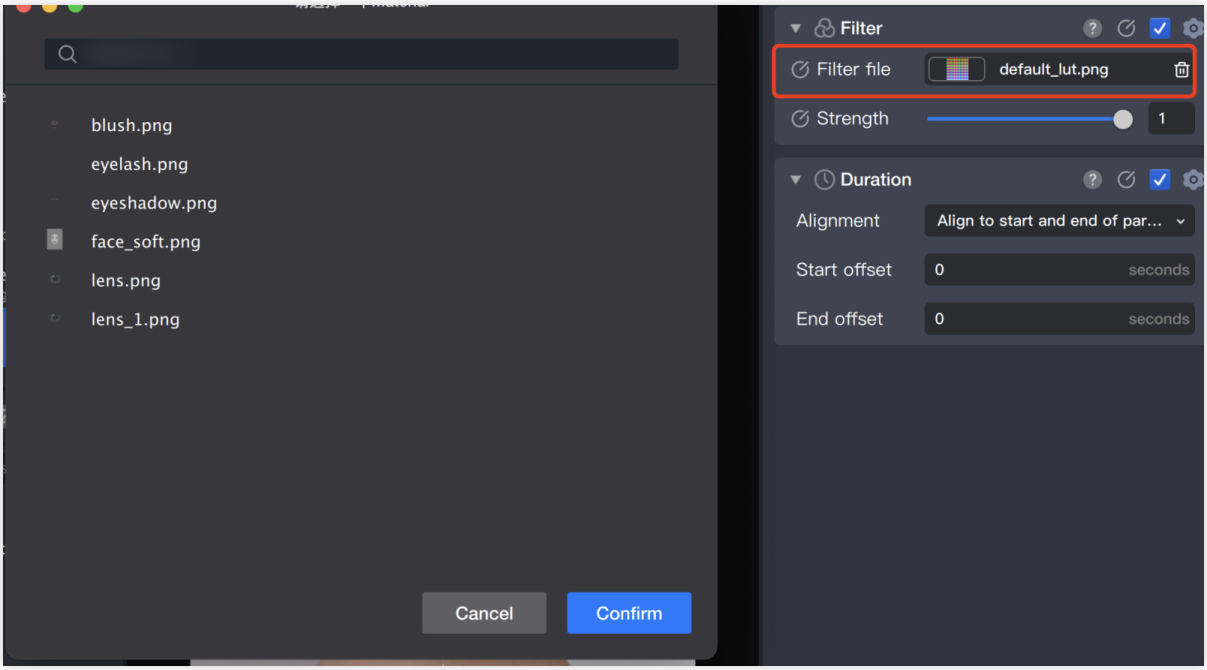

Filter Effect Real-time Preview

You can view the effect in real time in the preview panel

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Export pag Tutorial

Last updated：2024-03-22 18:45:44

Preparation Work: Download and install pag into AE.

Install PAGViewer: How to Install PAGViewer.
Open AE, and if you see "File > Export > PAG File..." in the menu, it means the installation is successful.

Software Production

Creating dynamic dticker dffect using After Effects software.
Dynamic sticker effect production specifications:
Production composition size: 720*1280.
Composition frame rate: 24fps.
Duration: Generally around 5s, no longer than 8s, unless in special cases (such as lyrics), pay attention to loop connection at the beginning and end.

Pag Export

After completing the production of the dynamic sticker effect in AE, export the corresponding separate pag package.
First, split all the content that needs to be exported separately, and put them into their own new compositions and name them.
Split content:
Foreground: It does not follow the user's face and is placed at the top to cover the user's view. Common examples include frames, magazine cover layouts, etc.
Facial stickers: Follow the user's face or stick to the user's face. Common examples include blush, nose, head ears, beard, etc.
Cutout background: It does not follow the user's face and is placed at the bottom, covered by the user's view area, providing background content for the user.
Put all the layers or compositions with the same blending mode under the named composition into a new composition, and the duration of the new composition is the loop duration of the dynamic effect.
Select the large composition under all layers or compositions, right-click and choose "Pre-compose".
In general situations, it is suggested to name the new synthesized name as the material abbreviation, such as: hat-mz, and check "Move all attributes to the new synthesized image."

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If the new synthesis contains effects that pag does not support, a "_bmp" suffix needs to be added to the new synthesis naming.
To obtain the new synthesis as shown in the following figure.
Ensure large synthesis duration is consistent with new synthesis duration, open synthesis, shortcut key: COM+K, can modify large synthesis duration.
Export the synthesis PAG, click File --- Export --- PAG File.

The Difference between Facial Stickers and Foreground / Background Export

The overall steps are the same as the export steps of the foreground PAG, the only difference is that the facial stickers need to be cut to size first, and then exported in the same way:
Click the "region of interest" tool, draw the area where the hat is located, and drag it to the pointer on the timeline, adjust the smallest area within the safe area, and be careful not to cut to the sticker.
Crop to the appropriate size, Combine > Crop and combine to the target area.
Derive the following size, and export.
If there are different stacking methods, put the layers or compositions under the same stacking mode into a new composition, and export step by step.

Other Considerations

To preview the PAG package, you need to install PAGViewer.
When adding the suffix "_bmp", it is for composite naming, not for layer naming.

Attachment

Example diagram's AE output project file download link.
PAGViewer download link.

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Configuration Tutorial

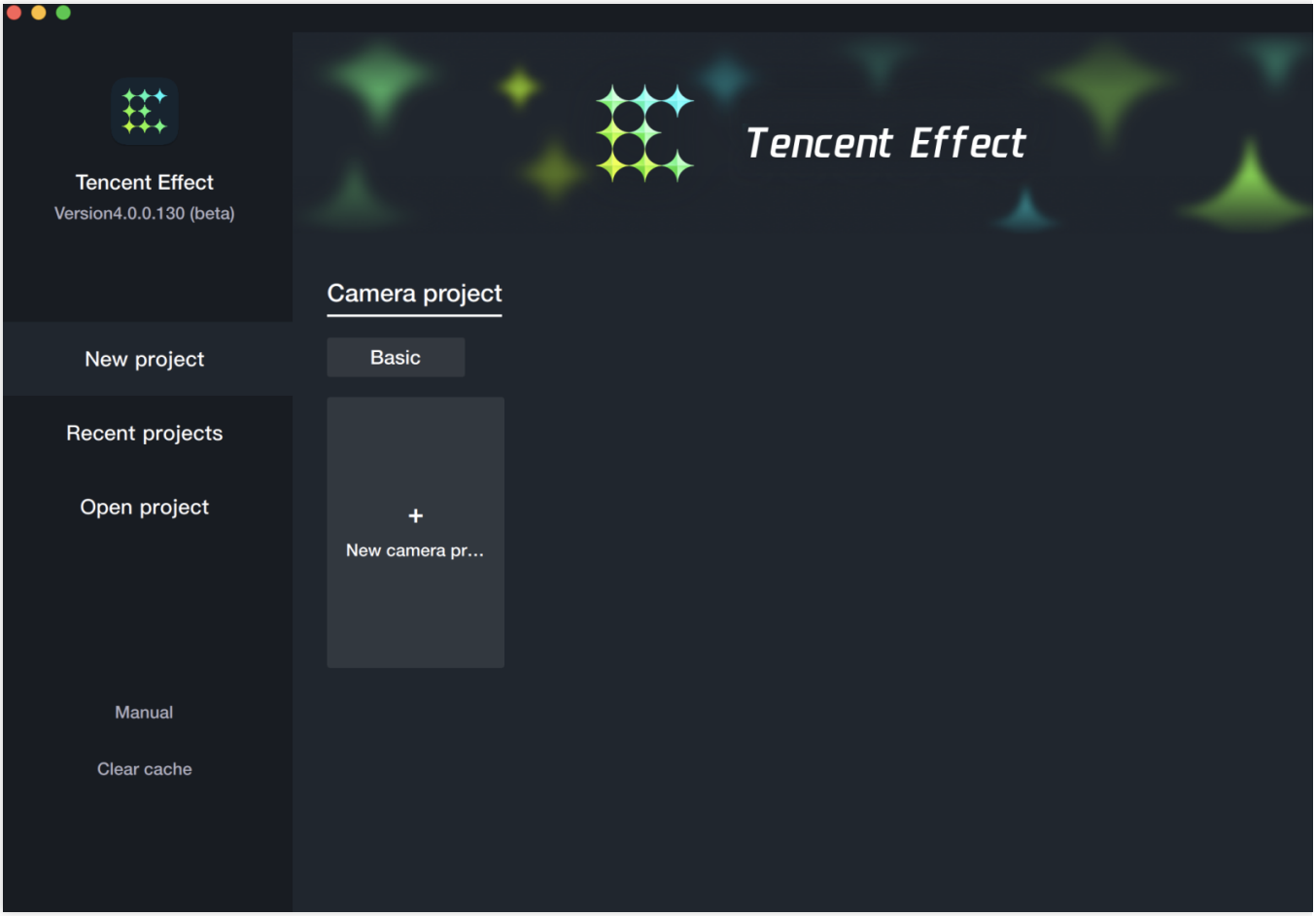
Last updated：2024-03-25 11:43:19

Open Project

New project: Start your new creation.

Recent projects: Enter my project management.

Open project: Open the locally saved engineering files.



Material Import

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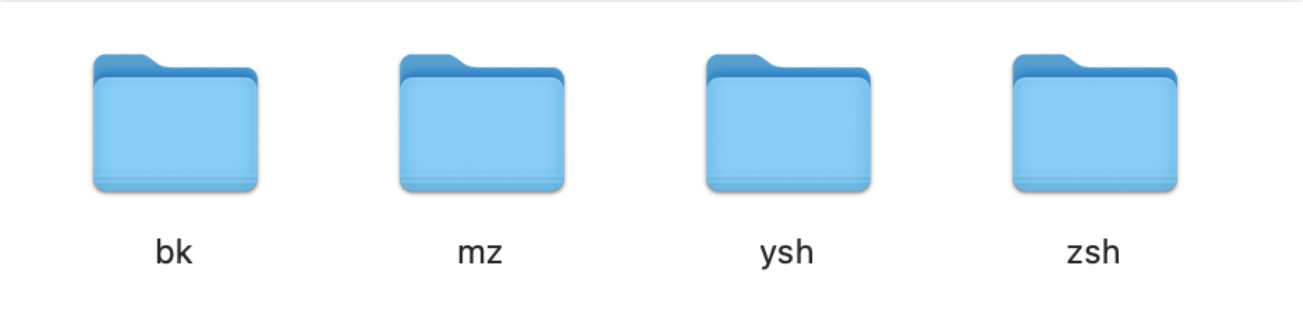
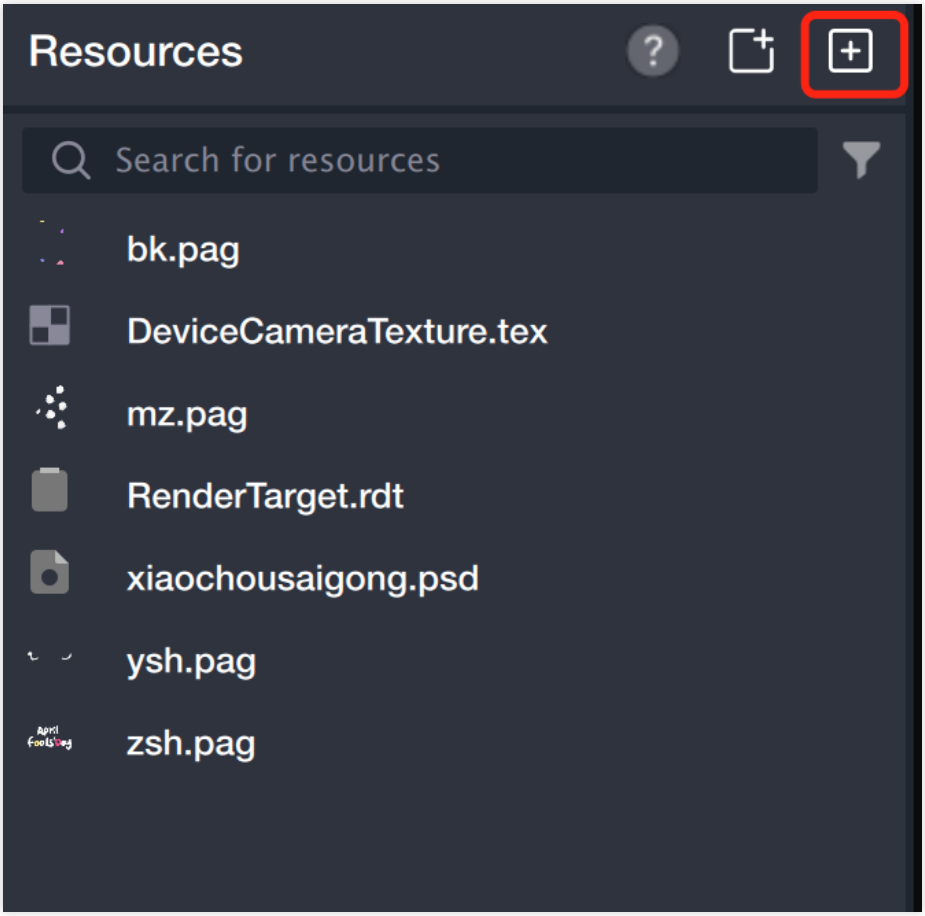
Output according to specifications for material standby.
Sequence frame: Drag directly to the resource panel or click the add button to add, TE will automatically convert the sequence frame folder into pag. (The sequence frame folder is named according to the output specification, with no special symbols.)





Pag: Direct dragging to the Resource Panel or click add button to add.

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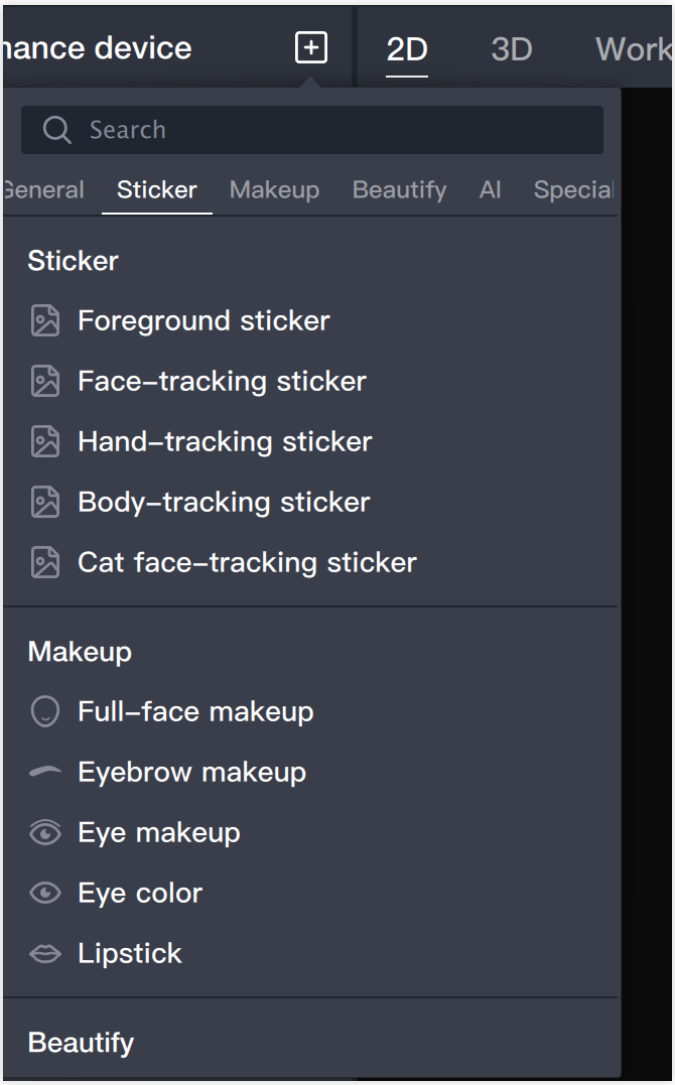
Add Object

Face tracking sticker: Follows the movement of the face.

Foreground sticker: Fixed position, does not follow the movement of the face.



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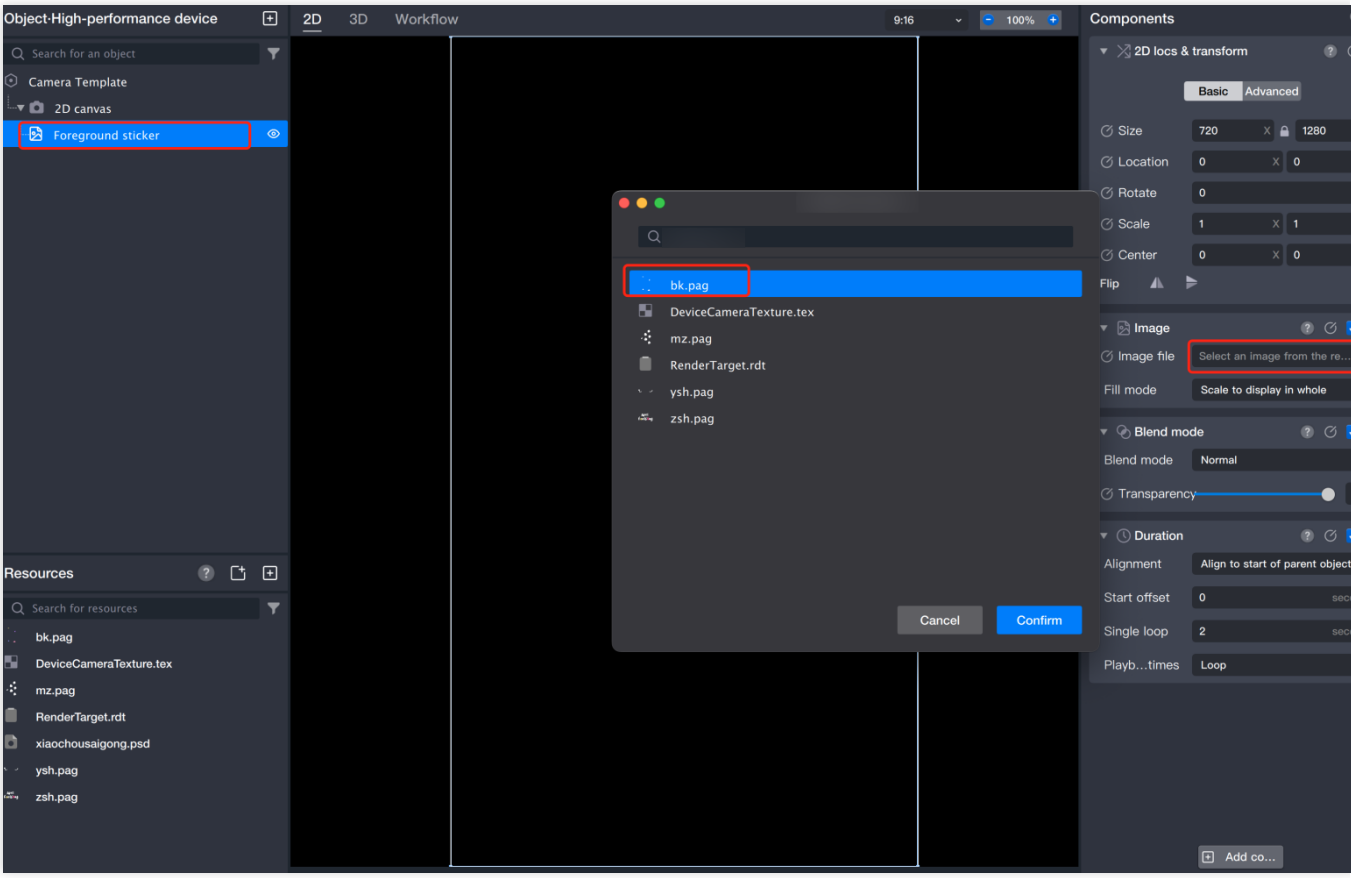
Material Configuration

Foreground Sticker - Border



Face Tracking Sticker - Hat

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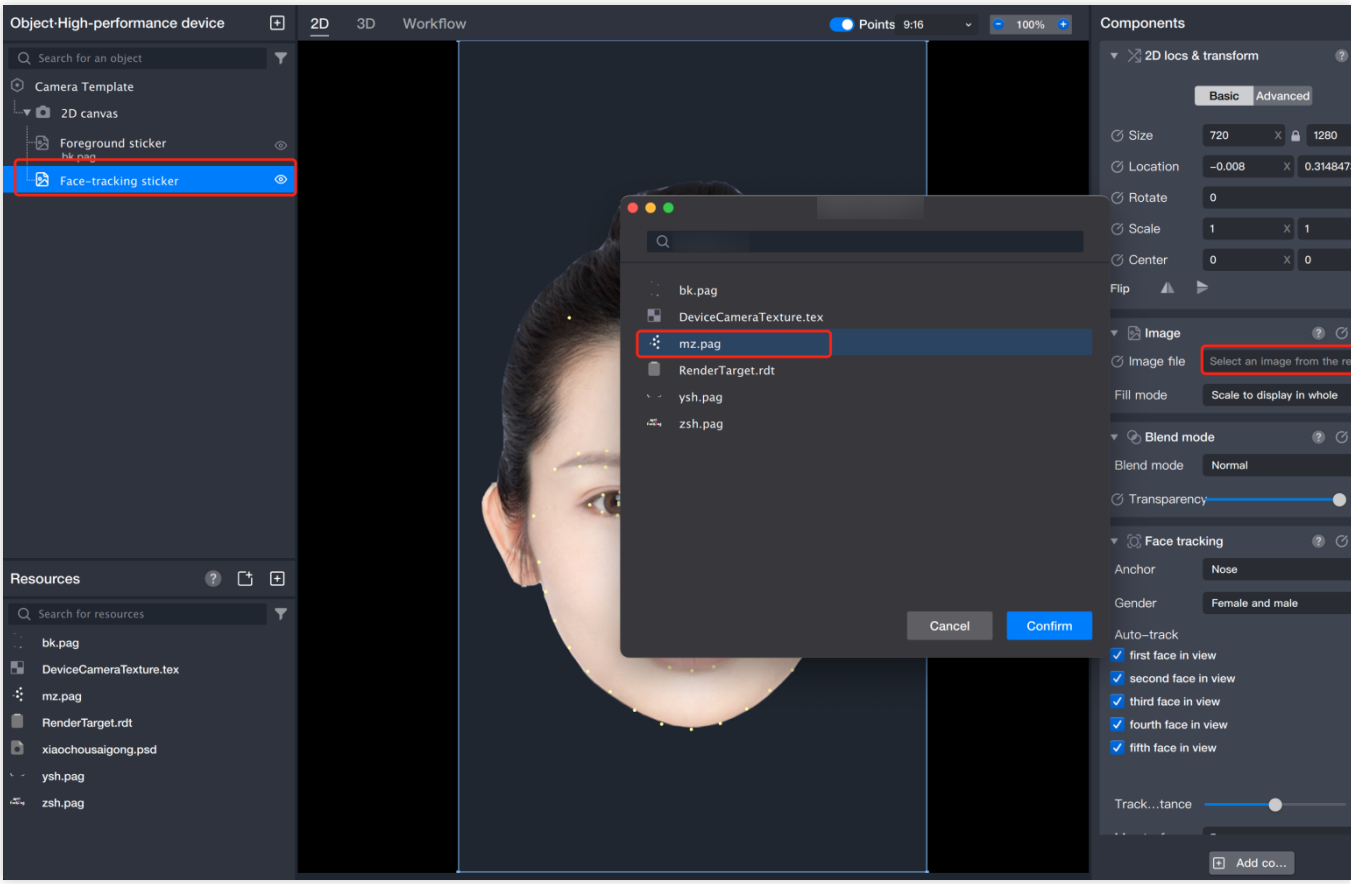

You can adjust the size, position, and rotation angle by dragging.

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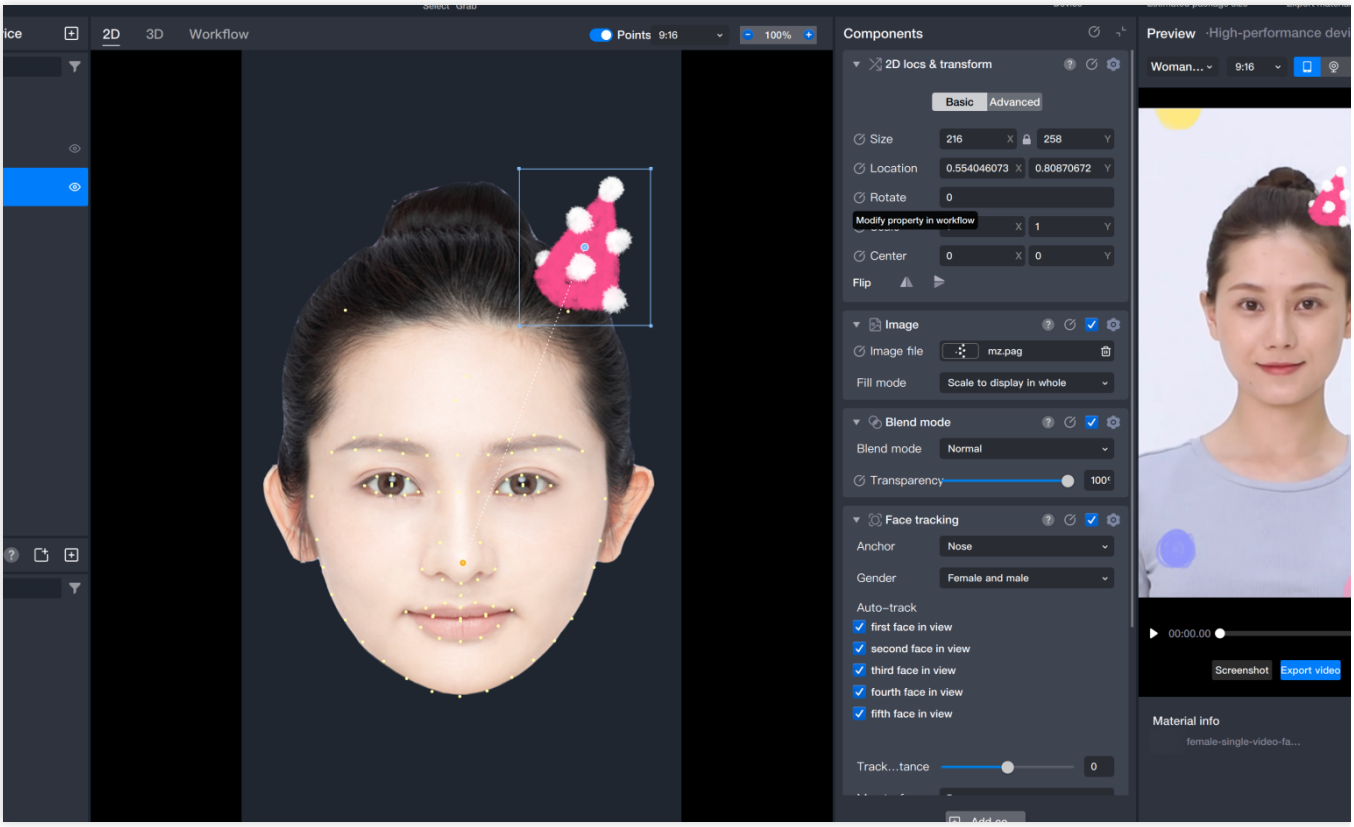

The configuration of other face materials is the same as that of the hat.

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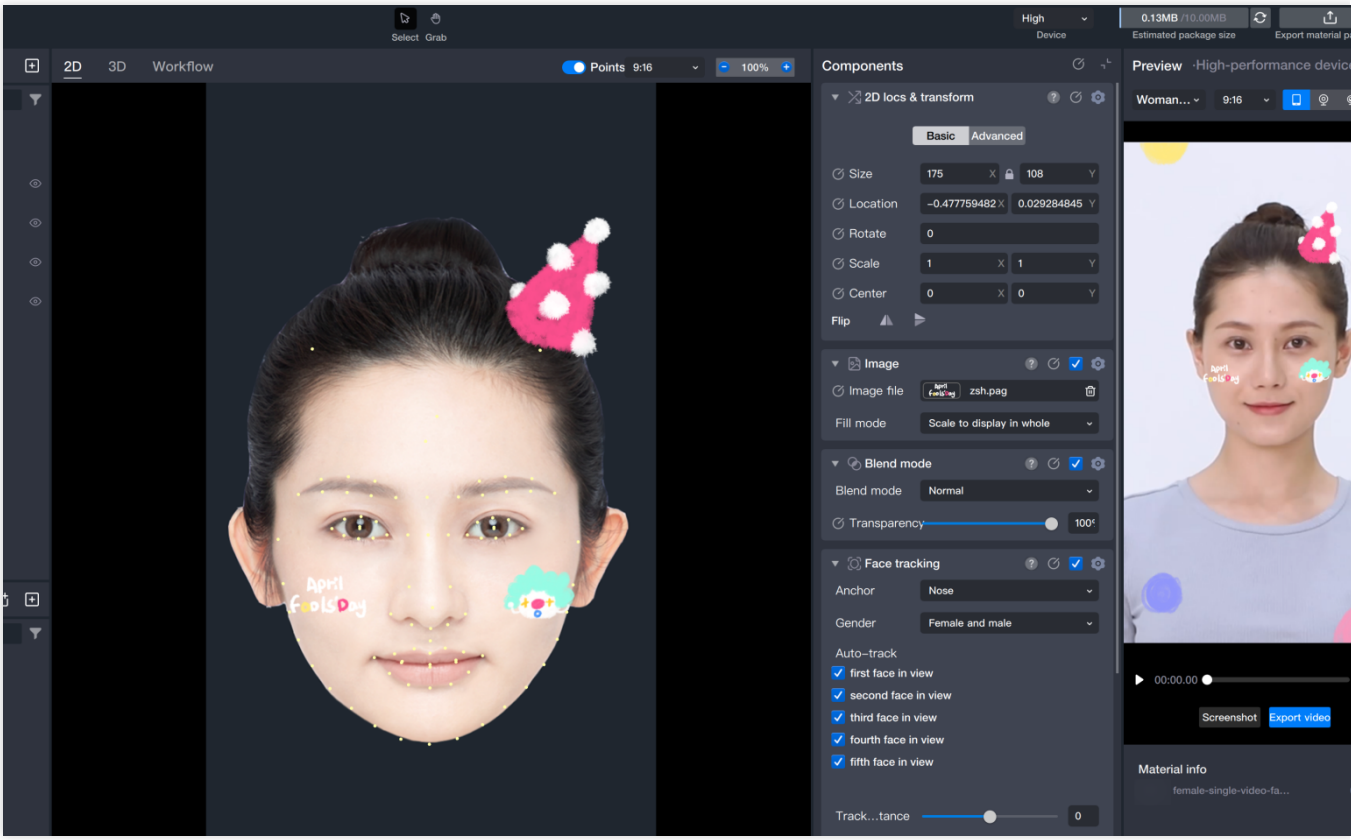


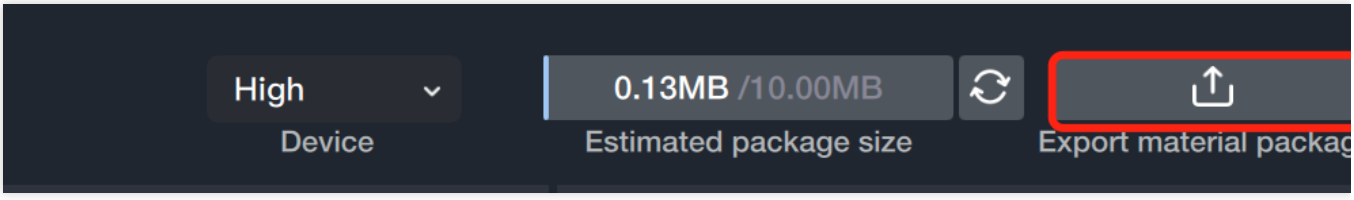
Check and Publish

Real-time Effect Preview

View real-time effects in the preview panel

Publish Project

Click on Export material package:



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Process Panel Tutorial

Last updated：2024-03-22 18:45:44

Introduction

Process control, that is, according to the set process, let events develop as we want. For example, when a nodding action occurs, a hat appears on the head.
In the process control of Tencent Effect, there are five major sections:
Trigger conditions
Logical operations
Trigger results
Data processing
Trigger result
Each section contains different triggers, which can be used in combination to achieve the desired playback effect.

Basic Usage

1. Facial Expression Trigger

Facial expression trigger refers to triggering the next node when the specified expression is detected to appear/disappear.
Basic usage:
(1) Import resources.

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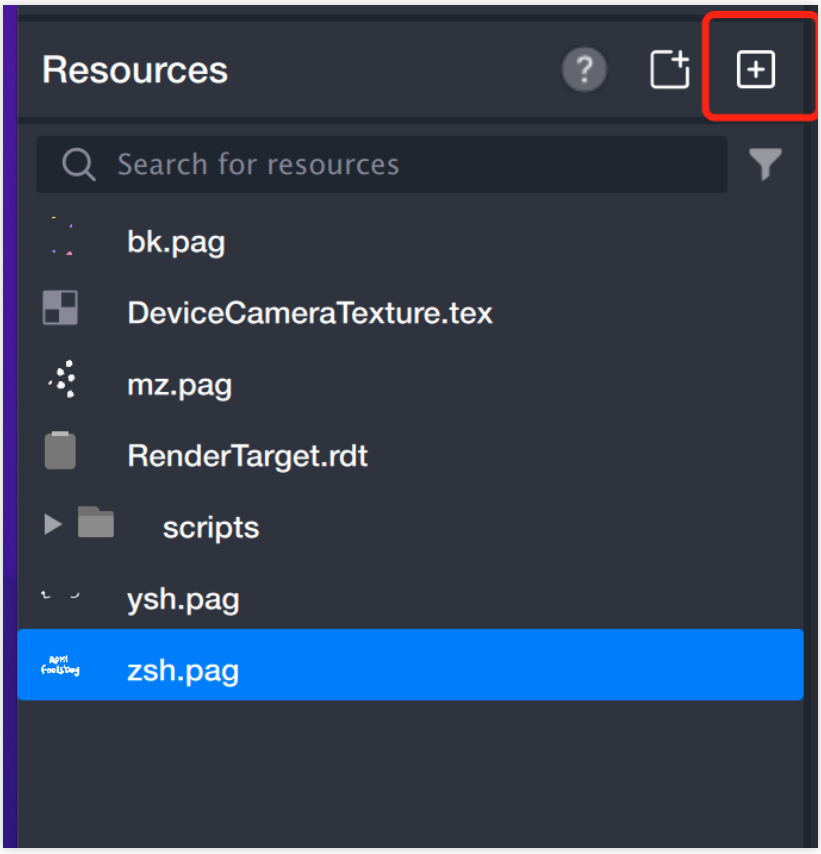

(2) Add a foreground sticker in the Object Panel.

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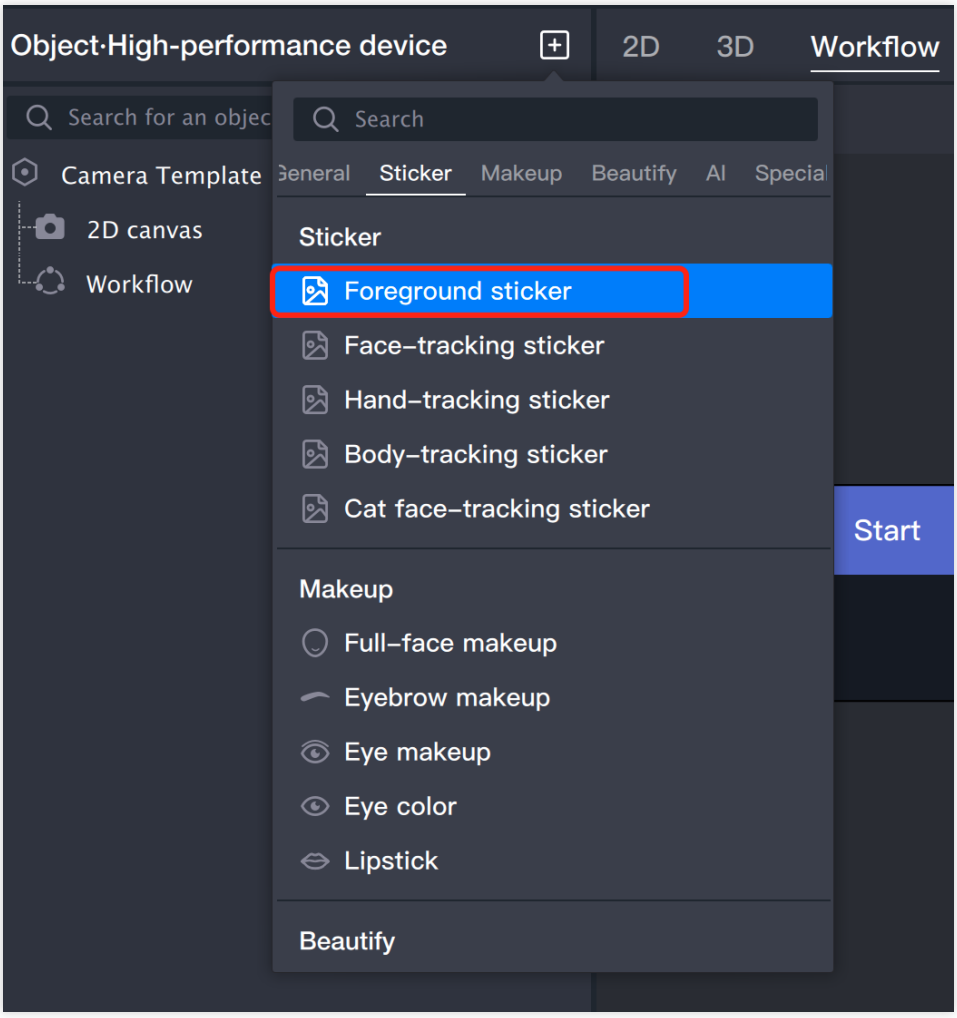

(3) Select an image file for the foreground sticker.

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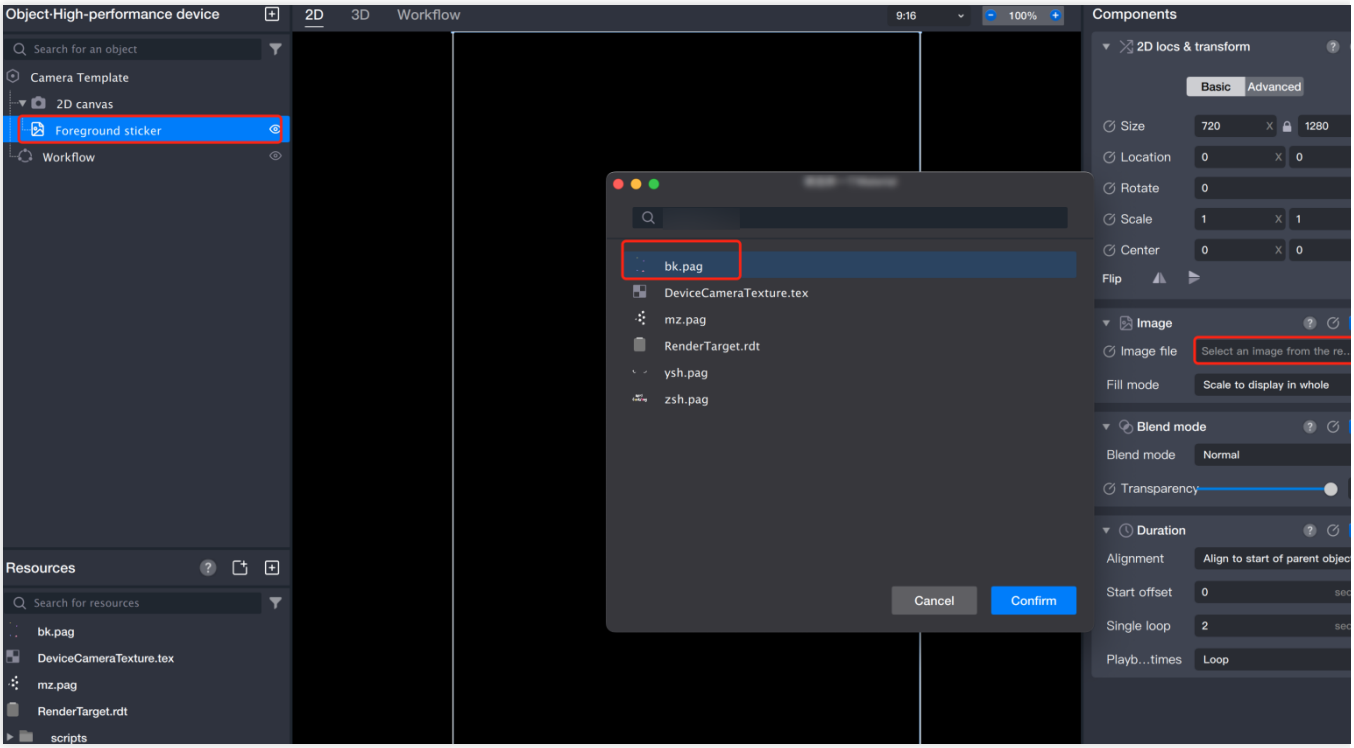
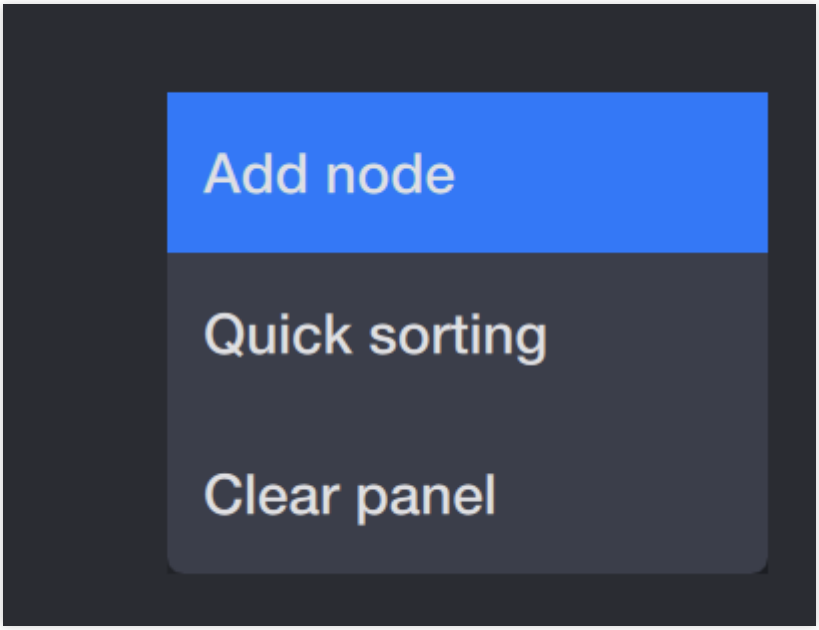


(4) Adjust the position of the image file.

(5) Switch the Scene Panel to the Process Panel and add a Workflow,



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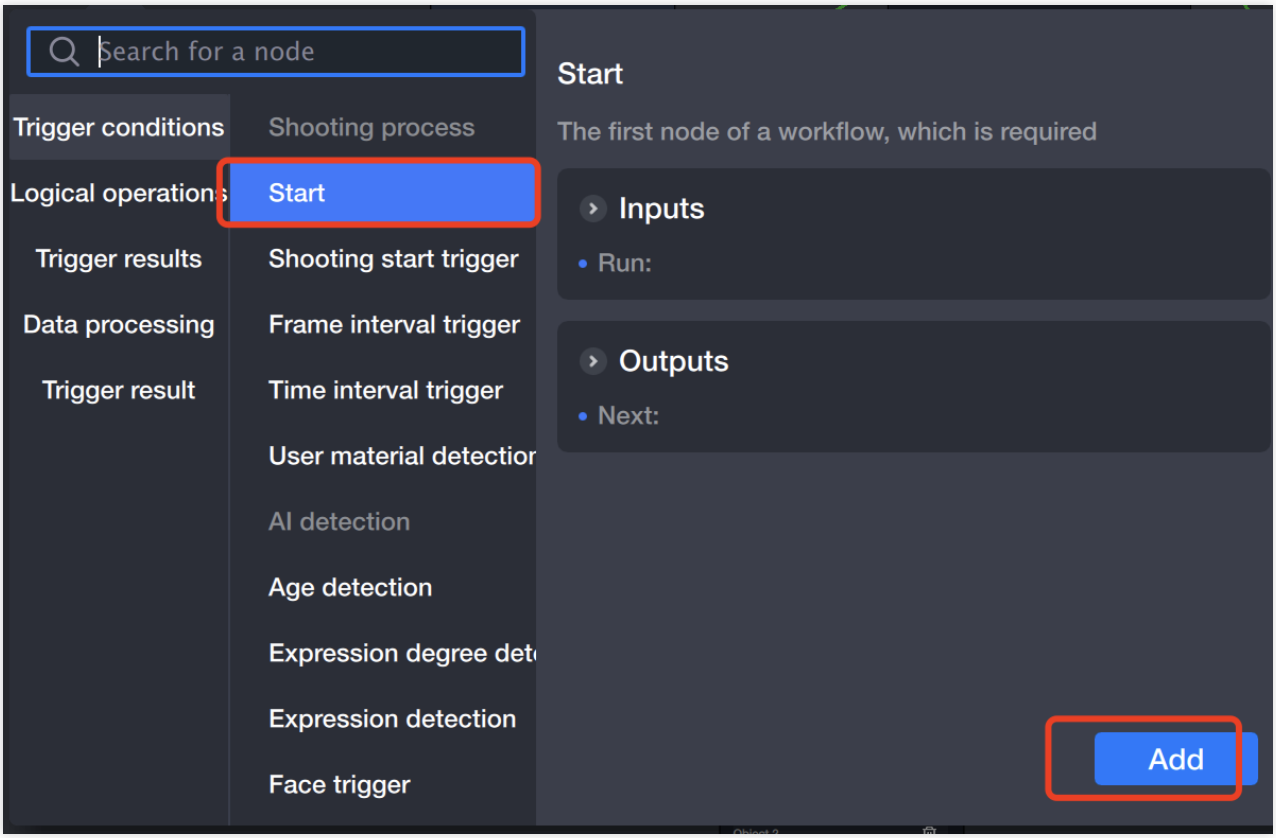

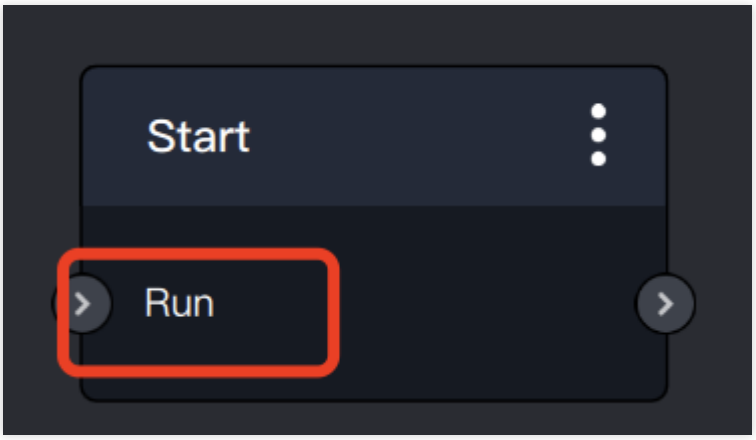

Must have the word run

(6) Right-click on the Process Panel, select **Add node**, and add **Display**/**Hide**.

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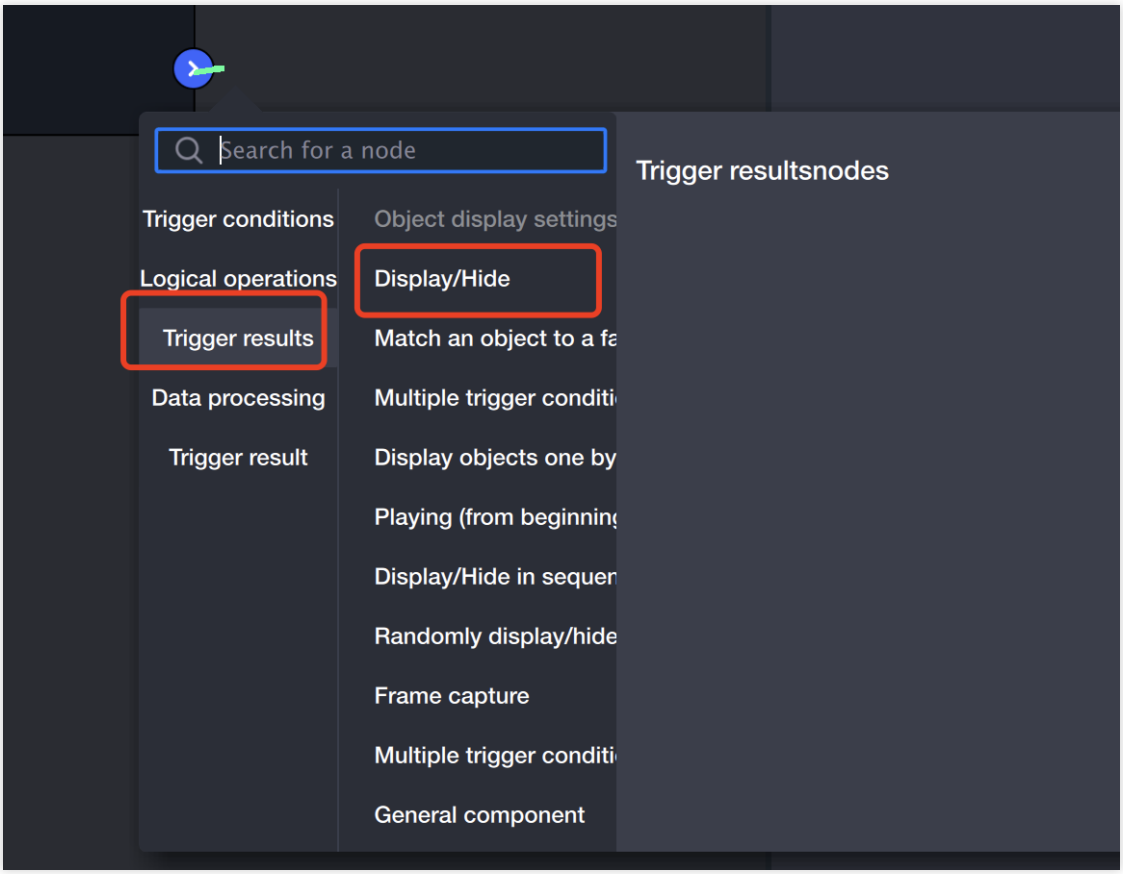
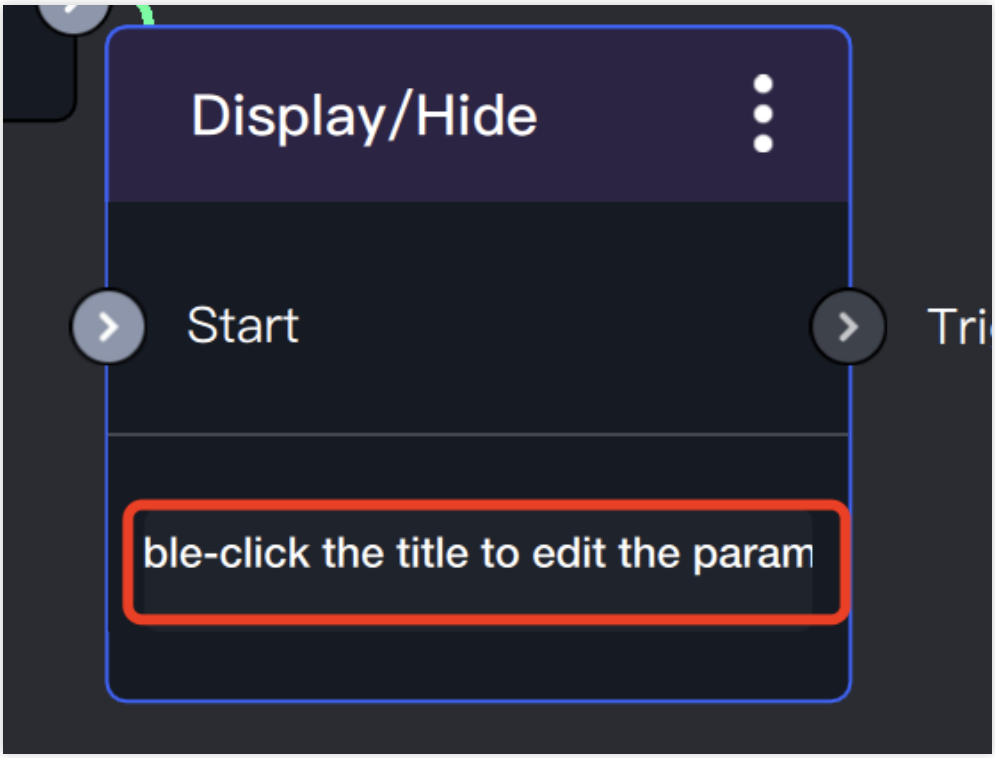


(7) Add an object to the **Display/Hide** added in (6).



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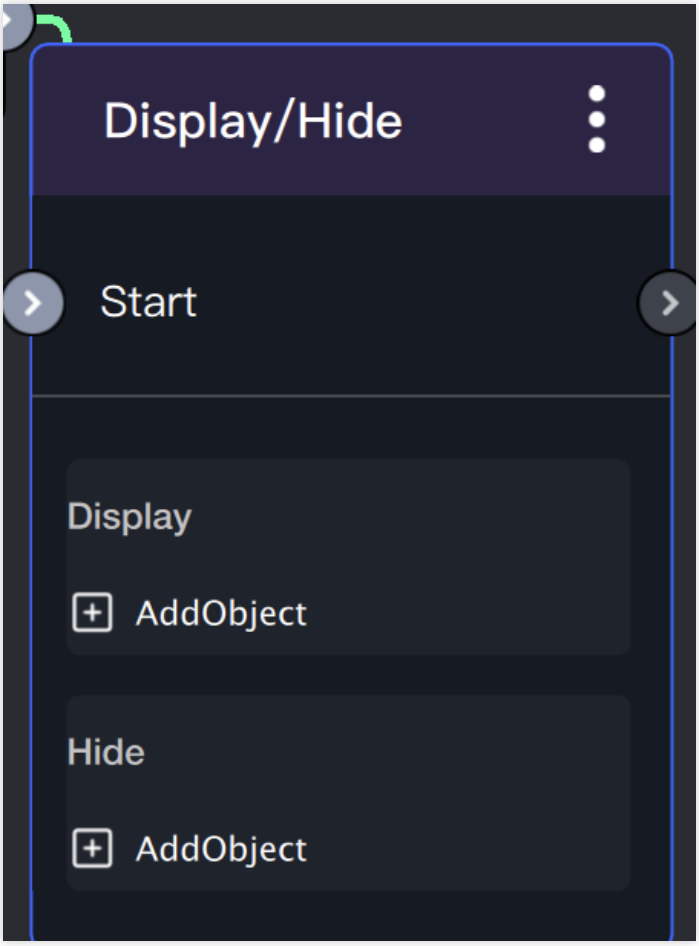

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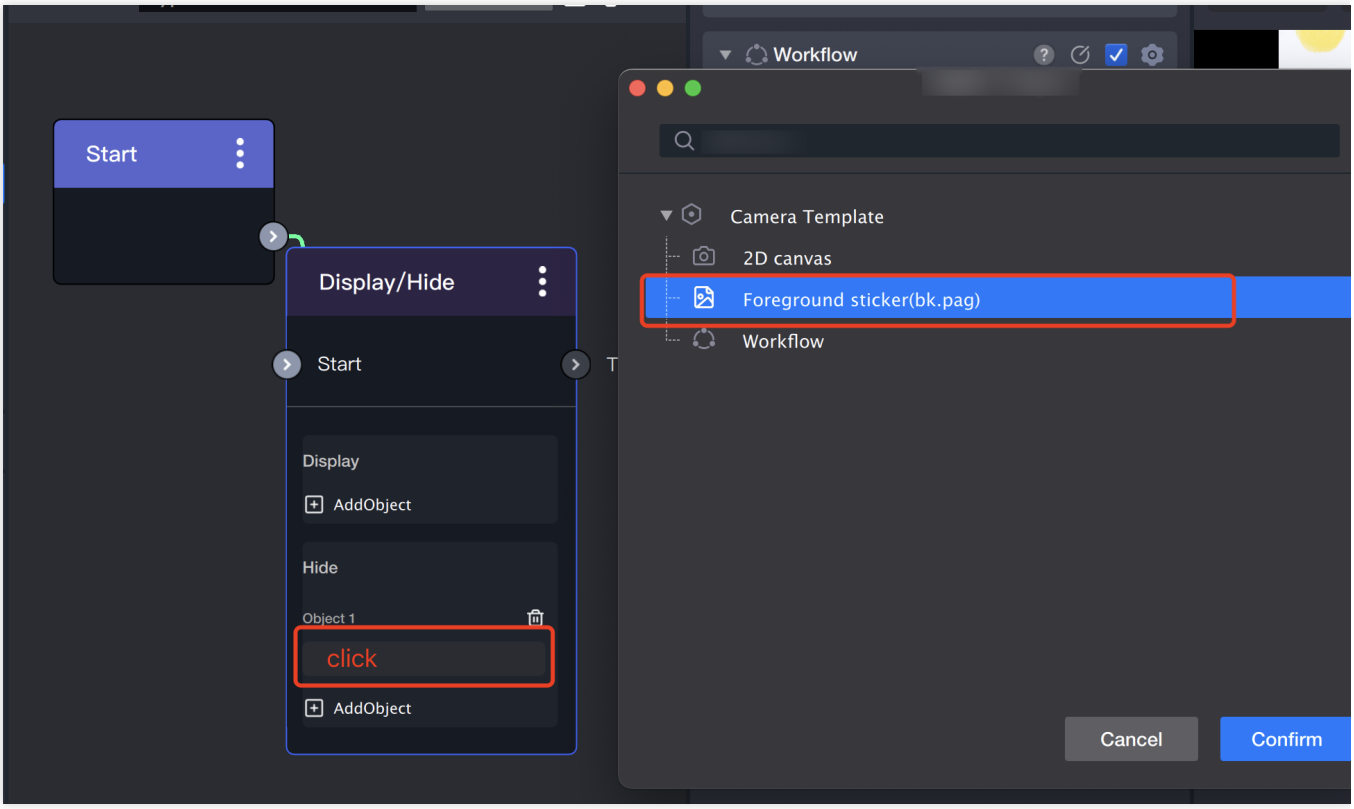
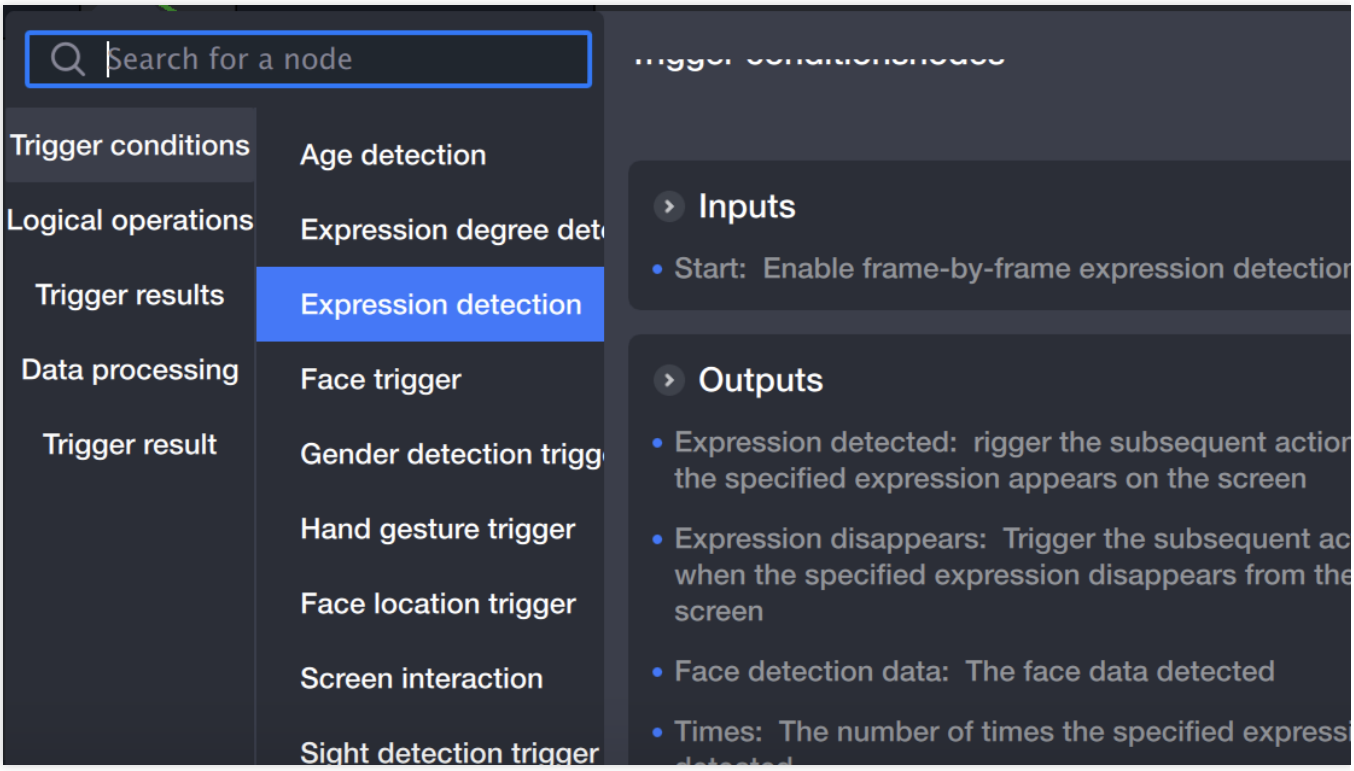


(8) Right-click on the Process Panel, select **Add node**, and add **Expression detection**.



(9) Right-click on the Process Panel, select **Add node**, and add **Display/hide**.

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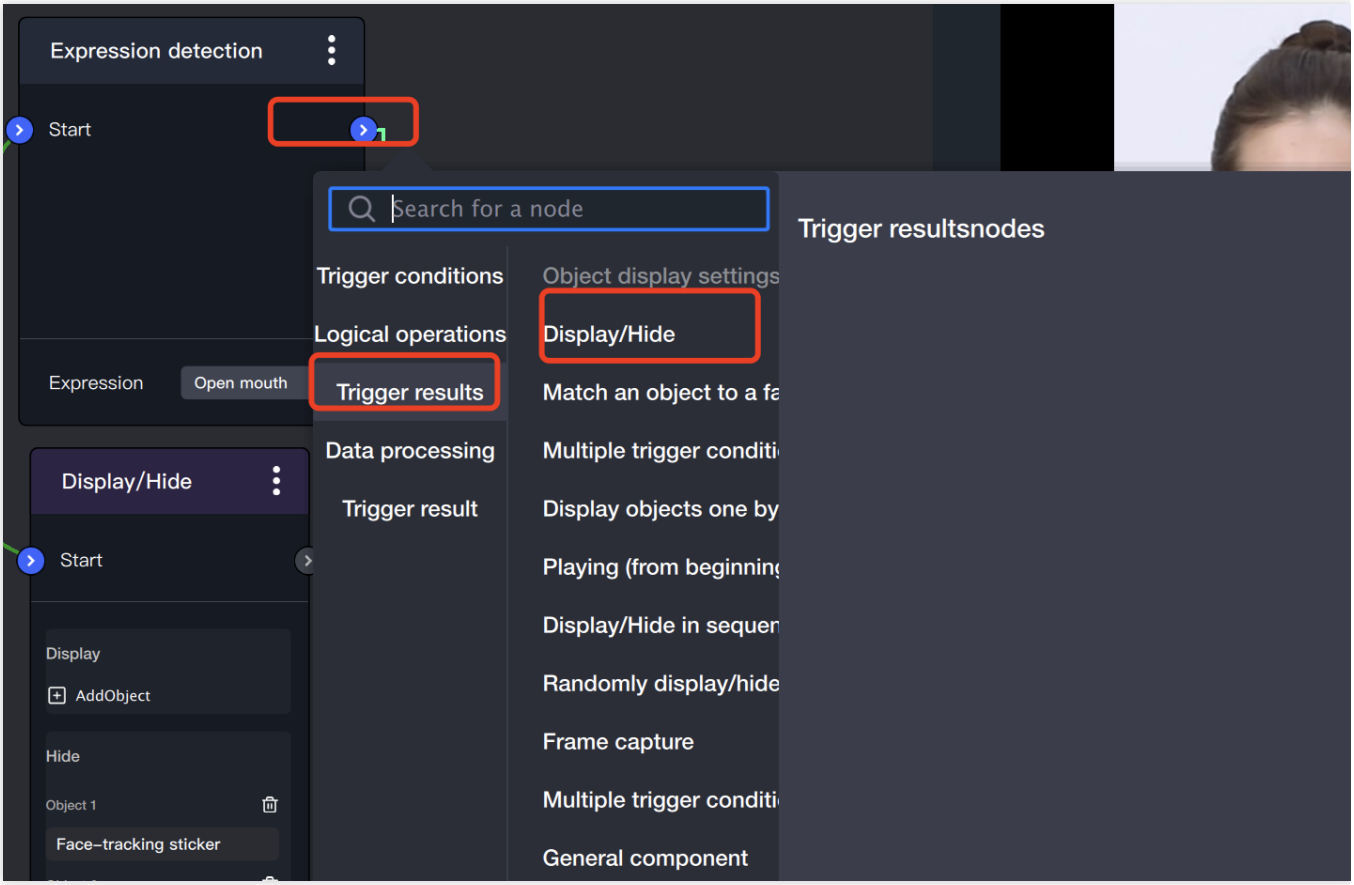

(10) Add an object to the **Display**/**Hide** added in (9).

(11) Connect nodes: At the beginning, the foreground sticker is not displayed. When the mouth-opening action occurs, the foreground sticker

appears.

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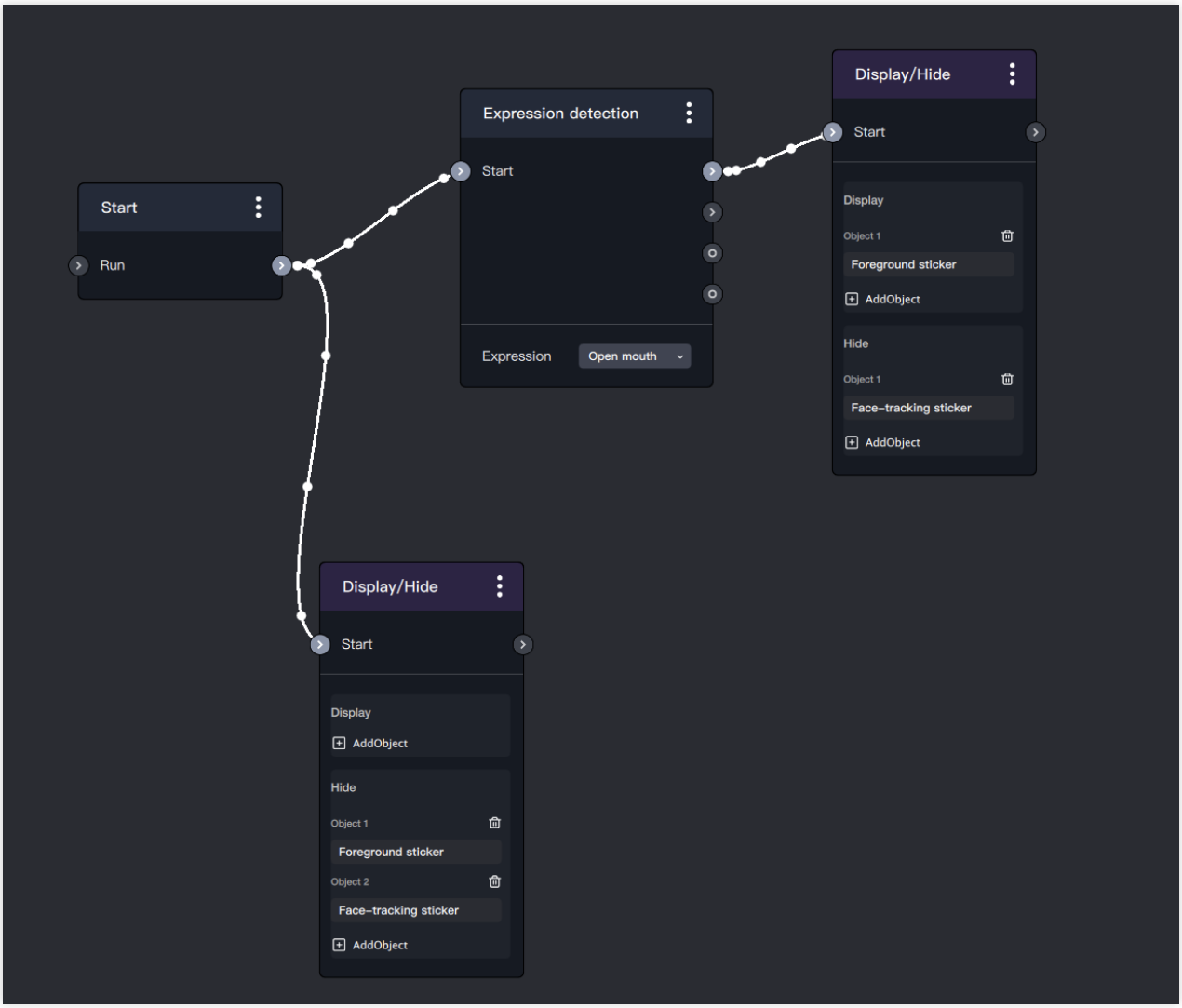

(12) Preview: Click the play button to preview the effect.

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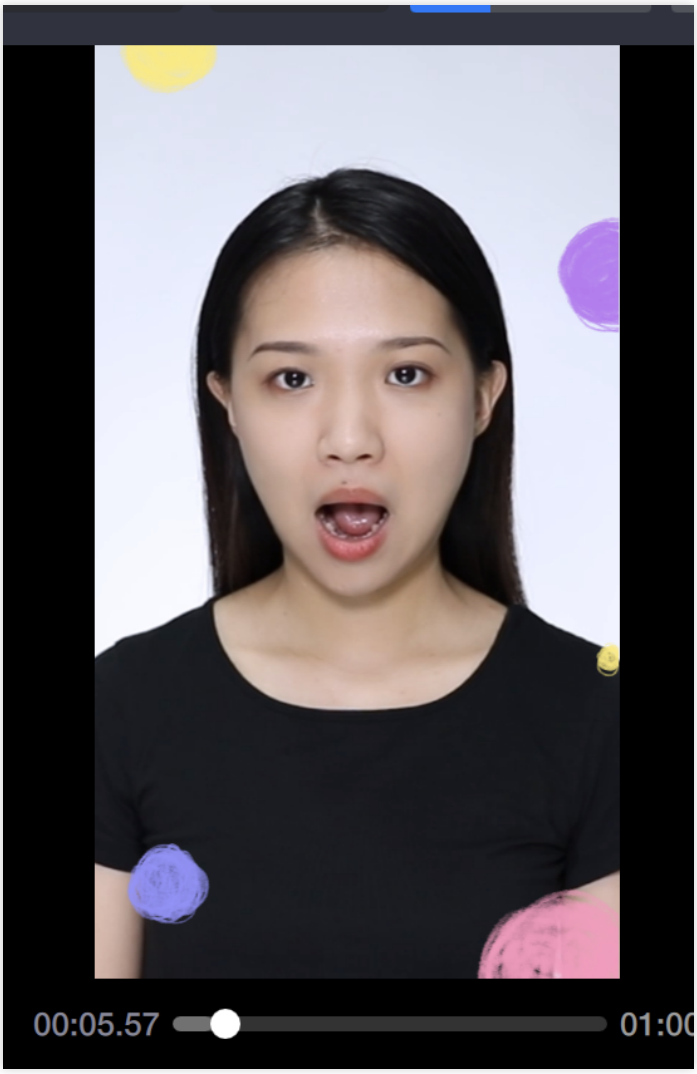

2. Trigger Carousel

Trigger carousel is applied to expressions/actions and other triggers, which can be played in a loop, switching materials with each action.

Basic Usage

(1) Follow steps (1) to (11) of the facial expression trigger tutorial, create a project, import two image files, add a foreground sticker and a face

tracking sticker, add two "**Display**/**Hide**" nodes and an "expression detection" node, and finally connect them as shown in the figure below:

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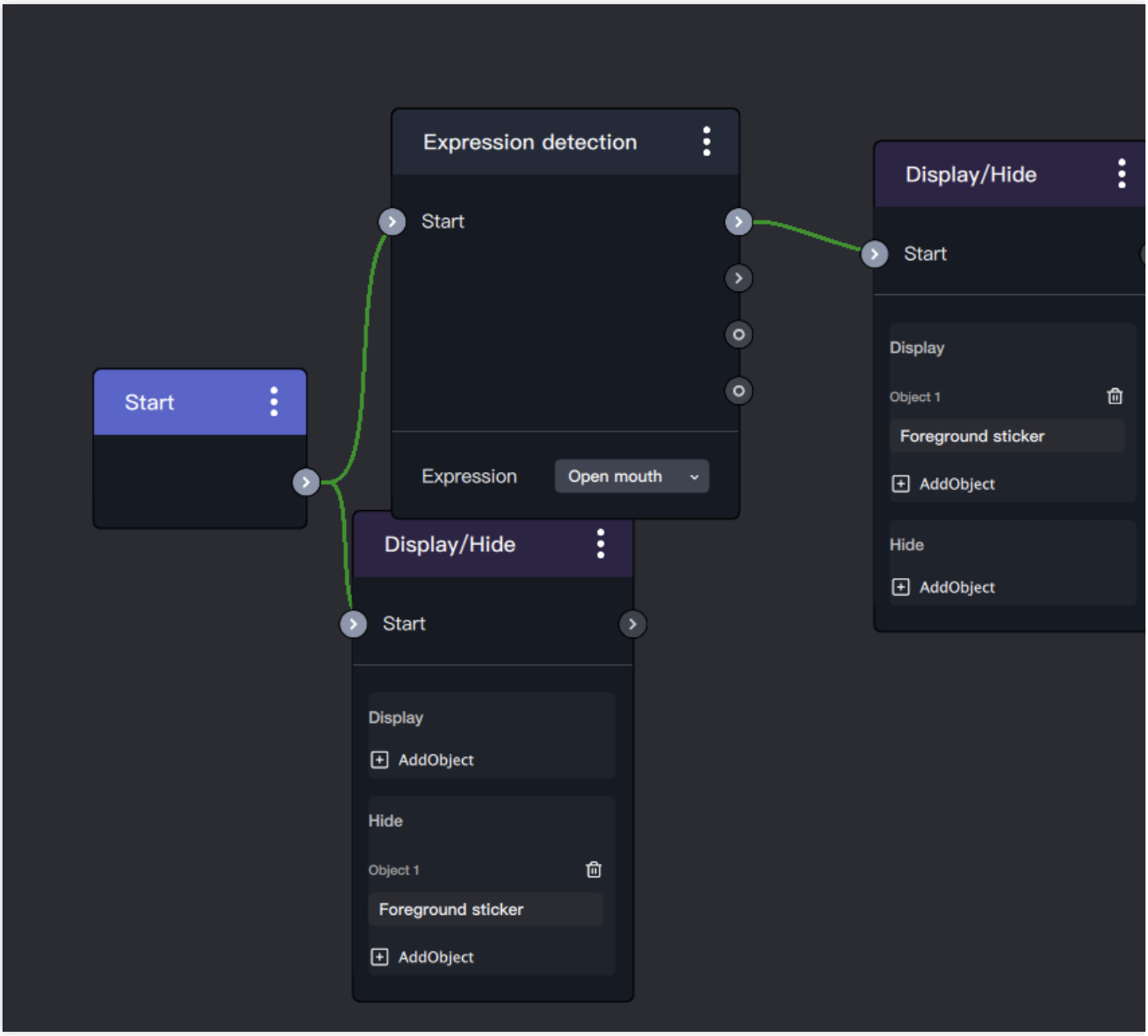

(2) Add a "Trigger period" node (The trigger cycle is to prevent the user from nodding for too long and causing a second trigger, so a trigger
throttling is generally required here, and a time of 0.5-0.8s can be set).

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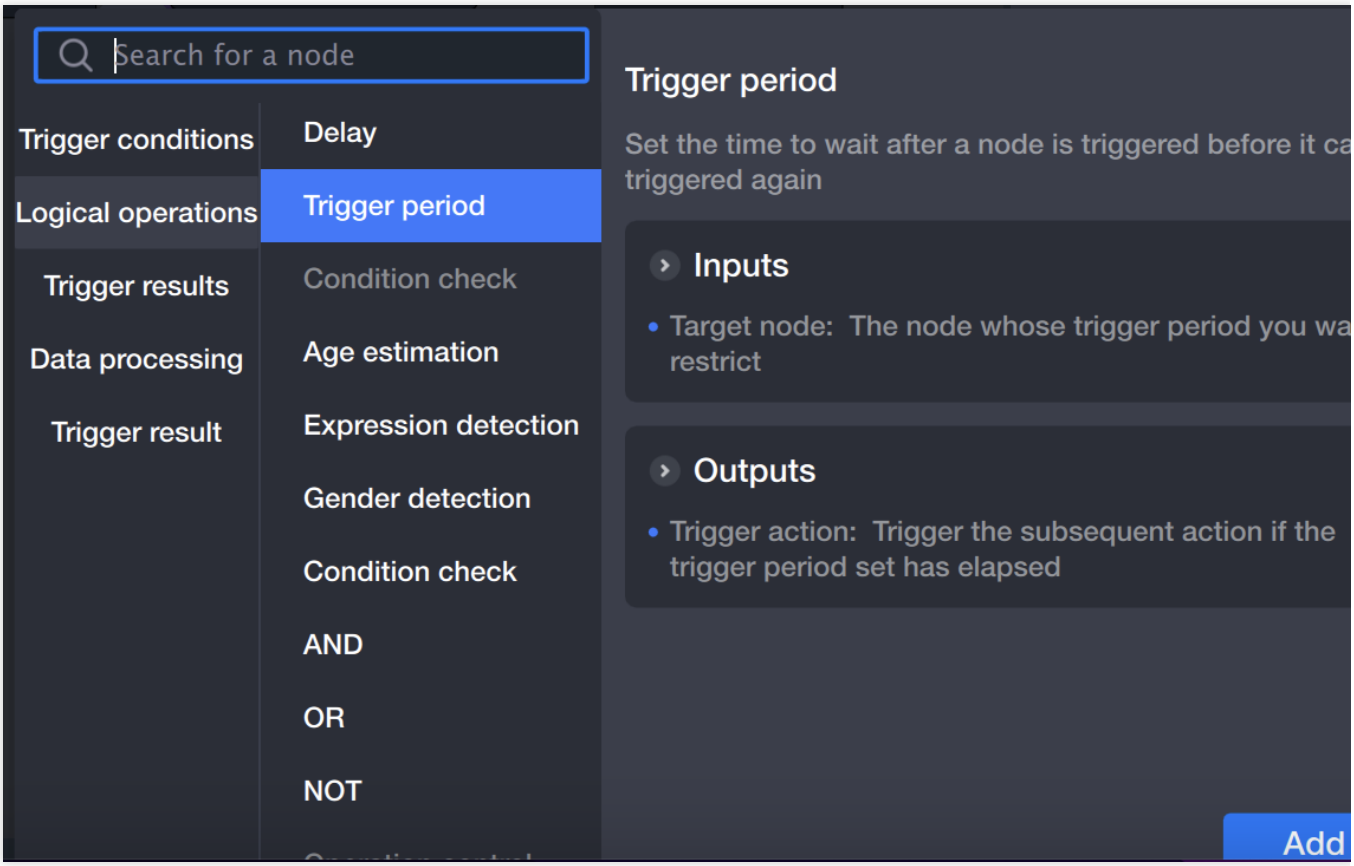

(3) Double-click to change the trigger time to once every 0.5 seconds.

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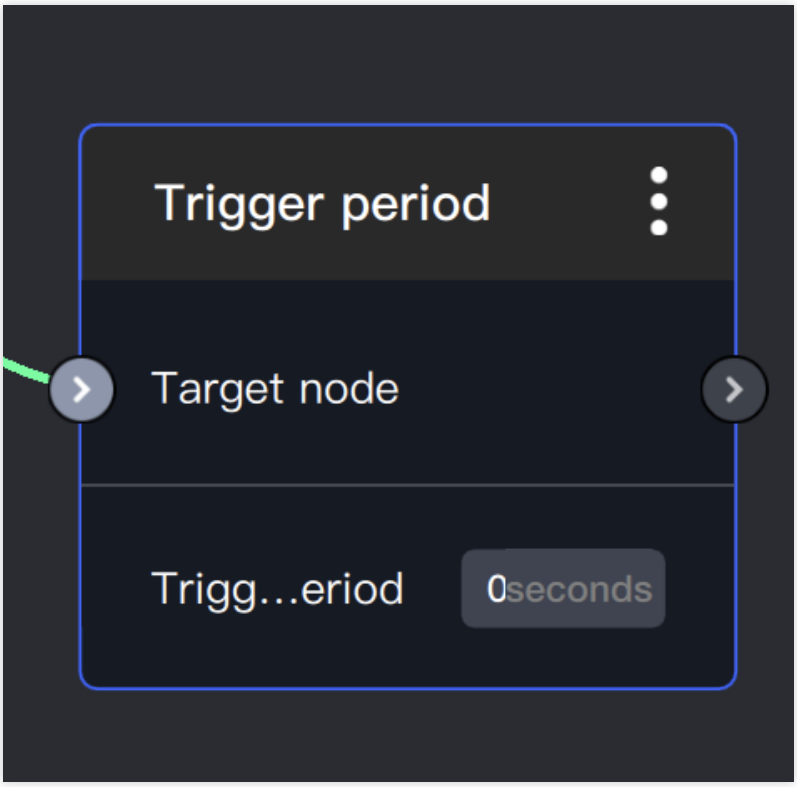

(4) Add a "Display objects one by one" node.

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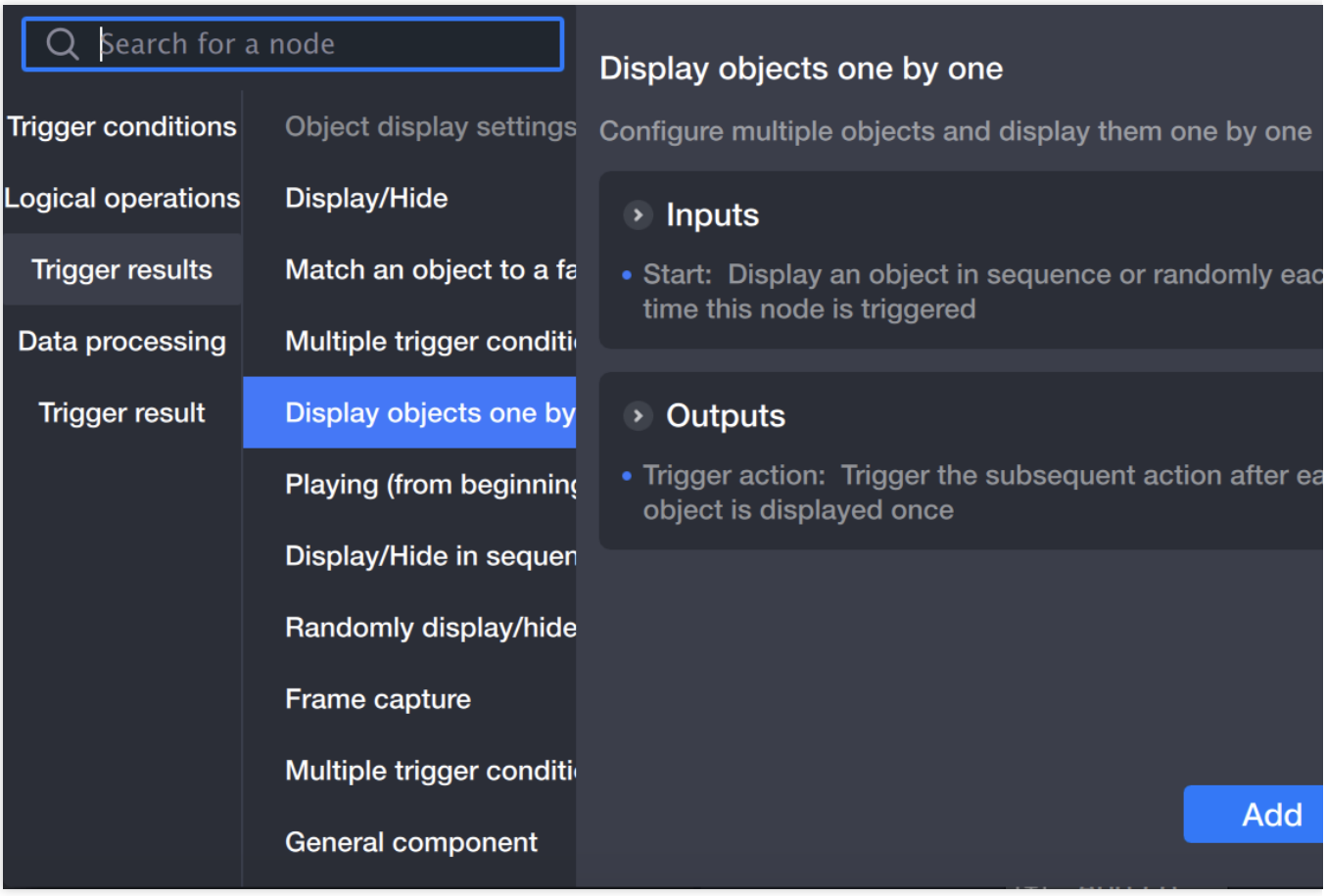

(5) Add carousel objects: Add the foreground sticker and face tracking sticker objects separately.

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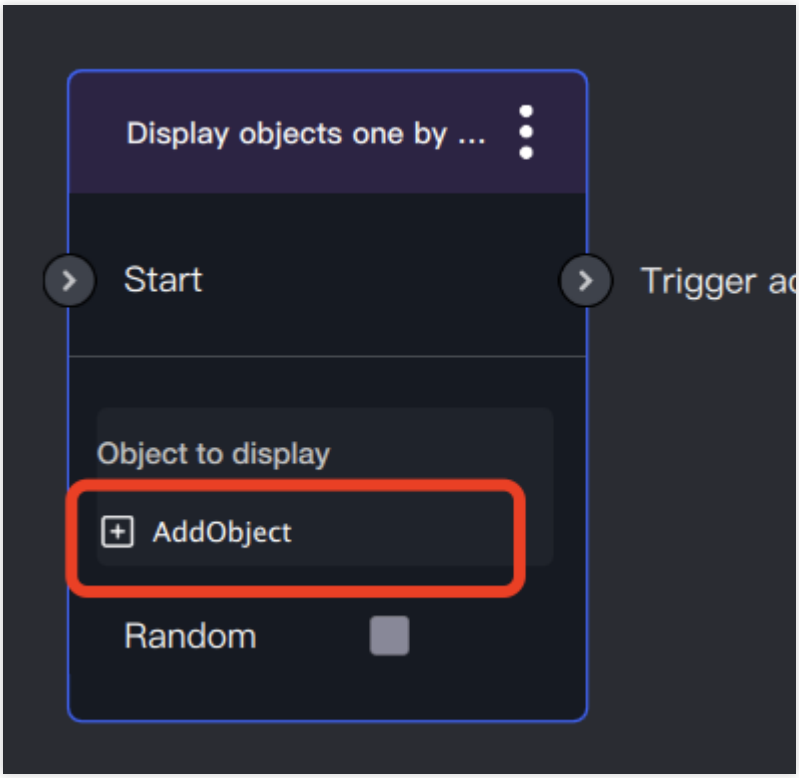

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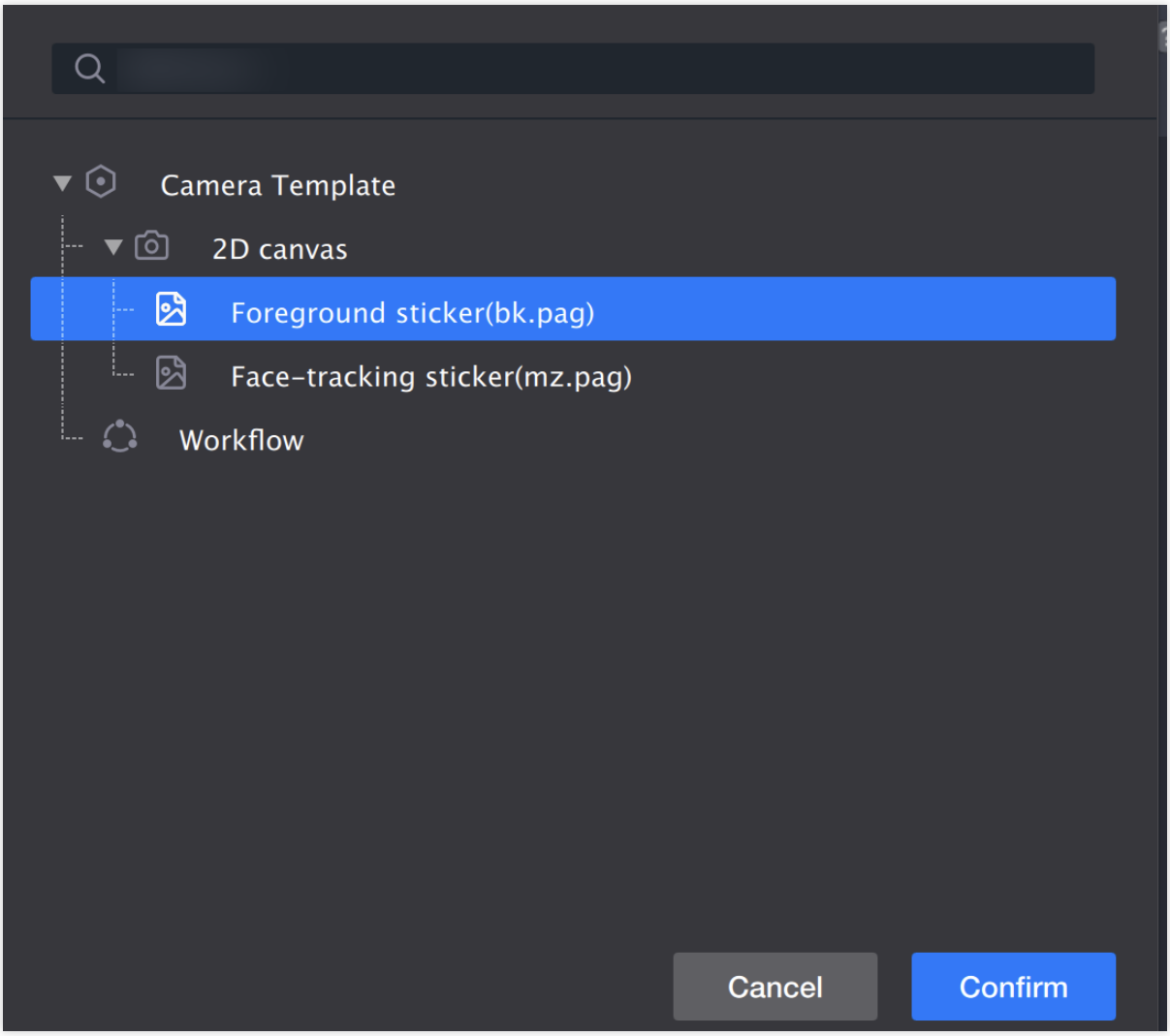

(6) Connect all nodes as shown in the figure below:

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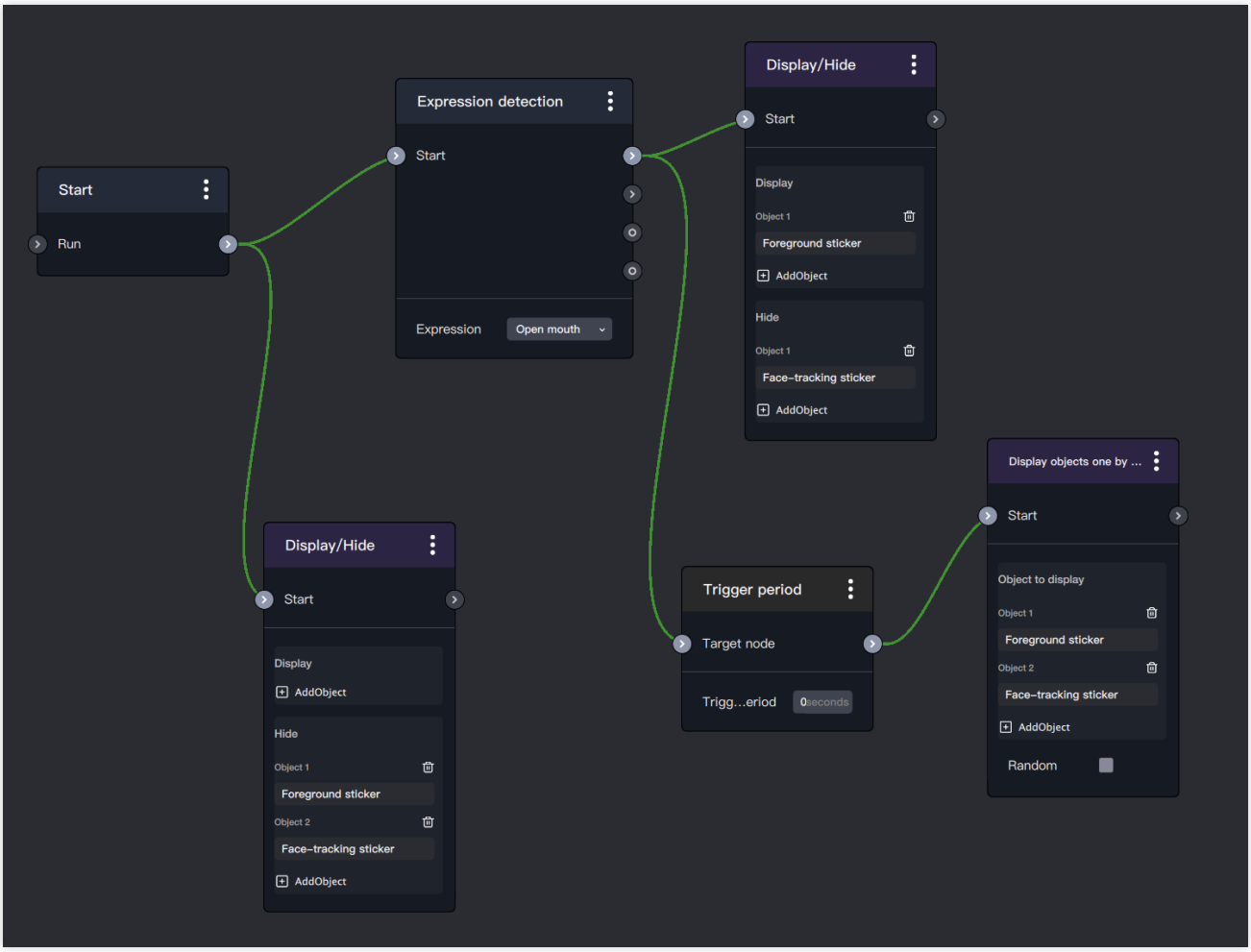

(7) Preview.

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Production Frequently Asked Questions

Last updated：2024-03-22 18:45:44

Frequently Asked Questions:

1. Q: Size limit of the submitted project package.

A: It is best to control it around 10M, and not exceed 15M.

2. Q: Does pag support radial blur?

A: Not supported for now, only Gaussian blur and motion blur are supported (6/8/2021)

Tips:

1. Facial beautification parameters reference:

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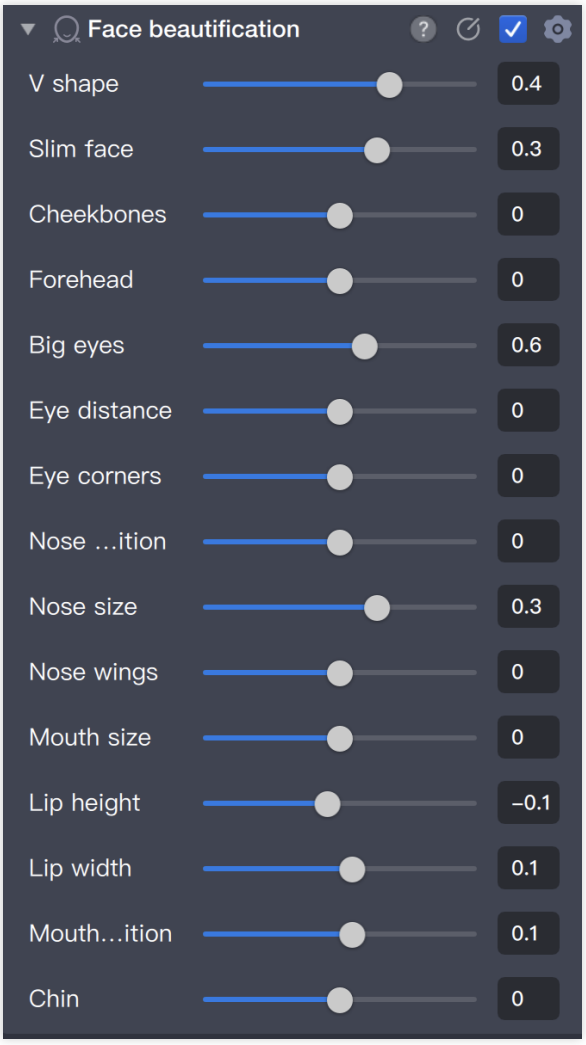

2. Non-makeup oriented special effects props are recommended for female makeup only.

In the face tracking component, select **Only effective for females**.

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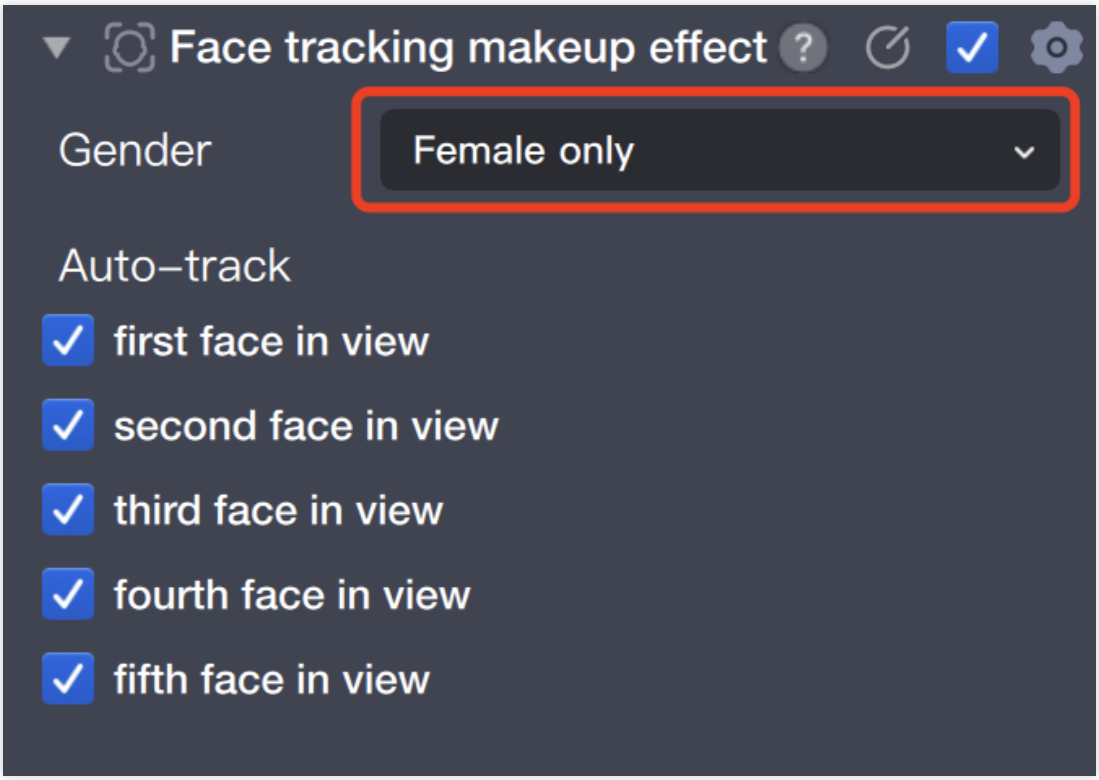
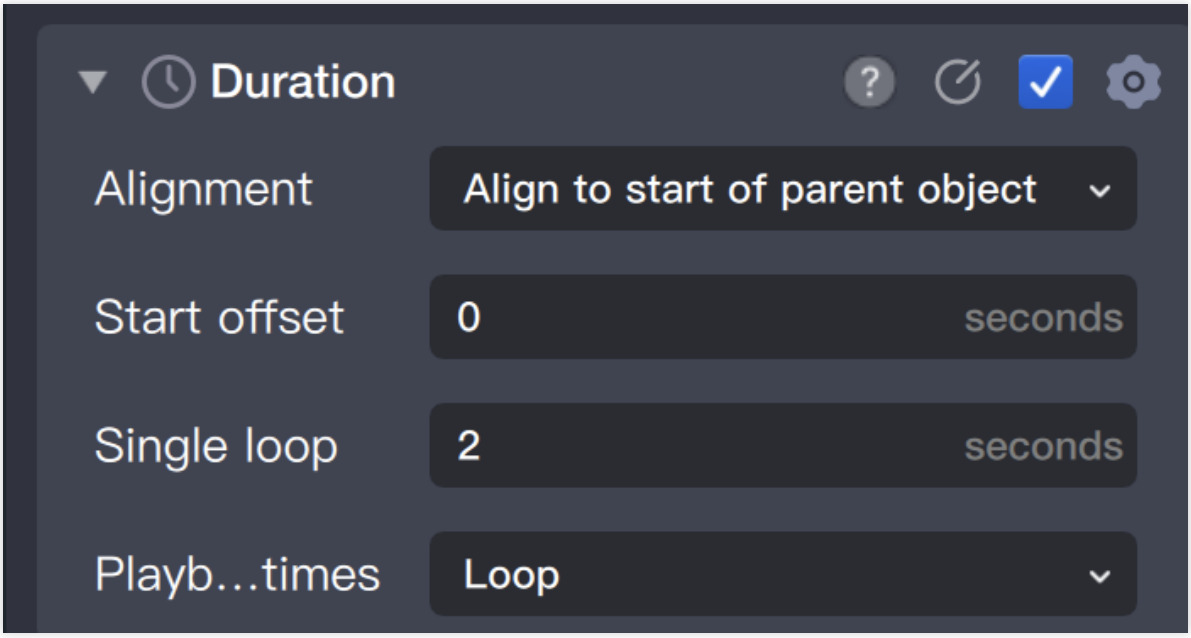


3. When adding music to special effects props,

For props with no need to record ambient sound, choose [BGM] (recommended).

For props that need to record ambient sound, choose [Effect].

And change the playback times in the duration component to infinite loop.



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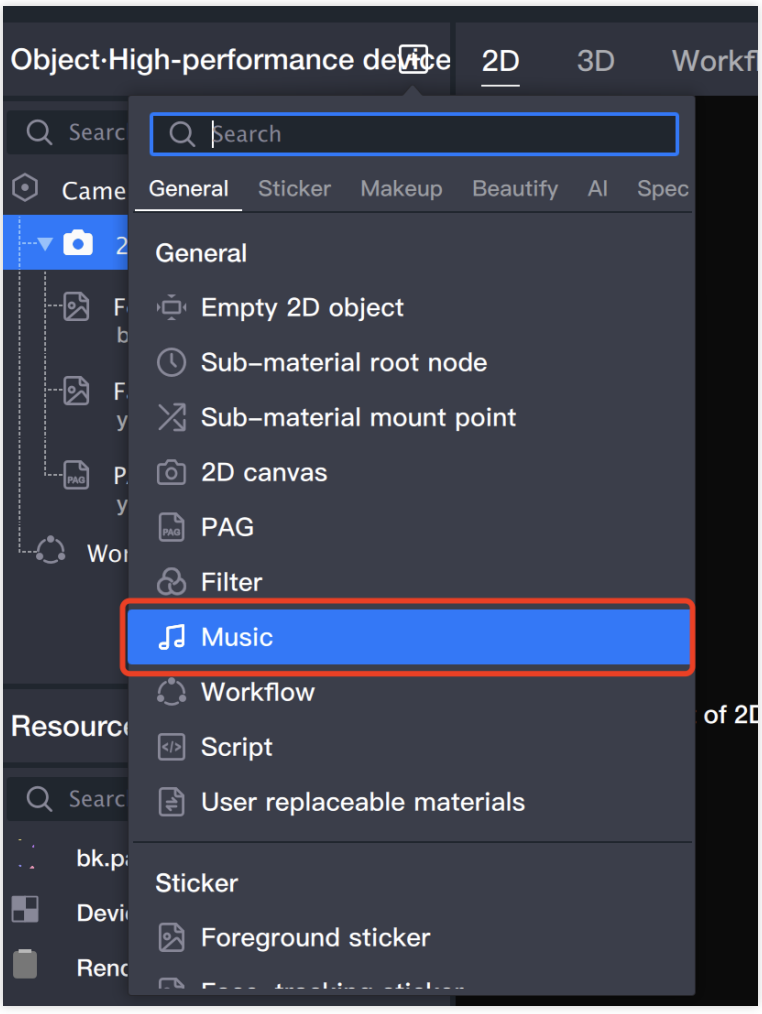
General Tutorial
Music Configuration

Last updated：2024-03-22 18:45:44

Music Configuration

Add Music Object



Select Music Source

Choose music from the local.

If it is a self-adapted Remix audio (such as adding dialogue/sound effects, etc.), you can directly use local upload.

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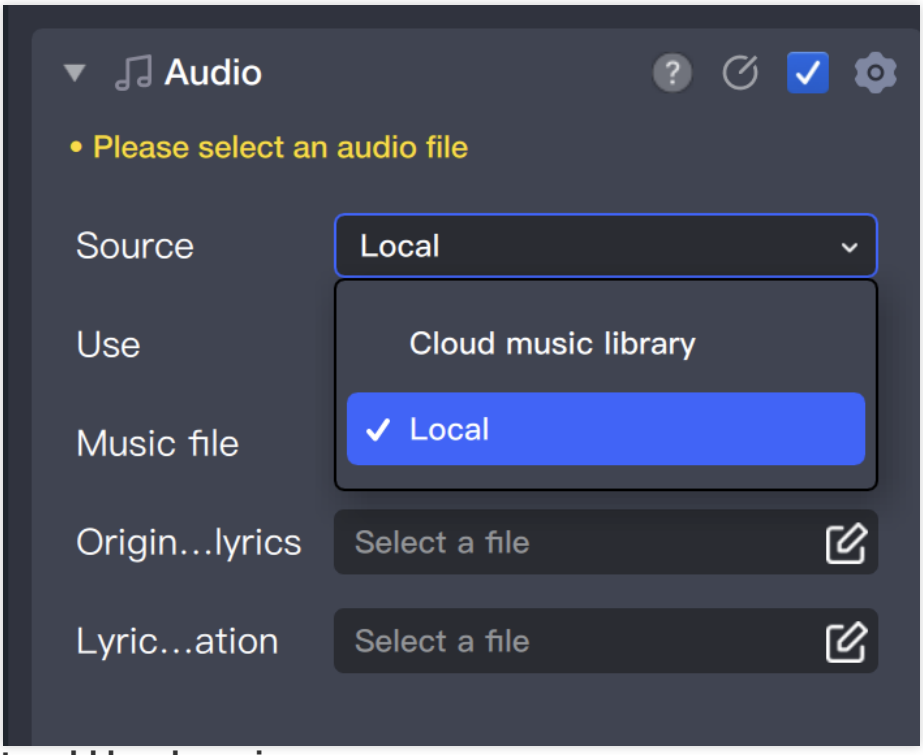
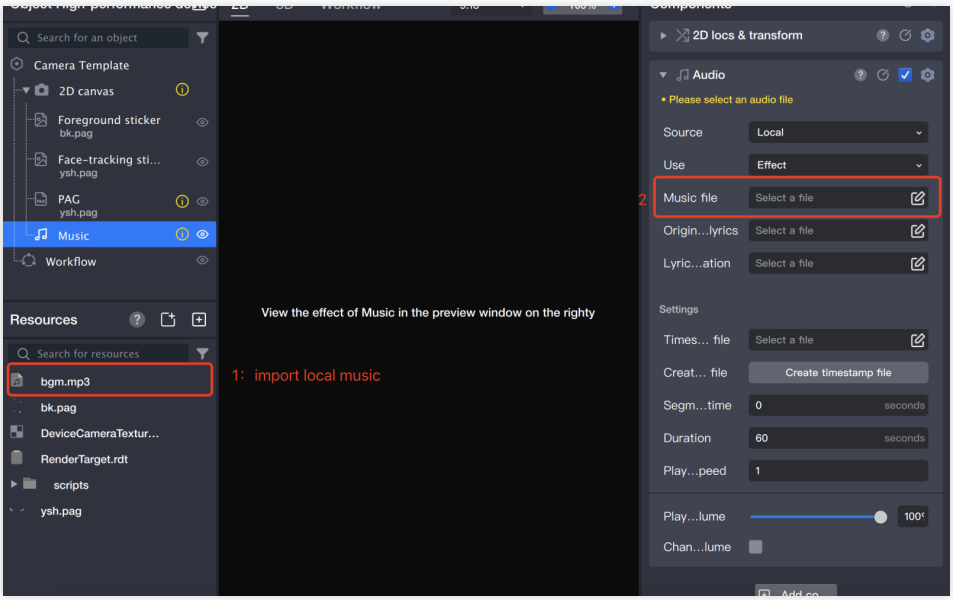


How to add local music.



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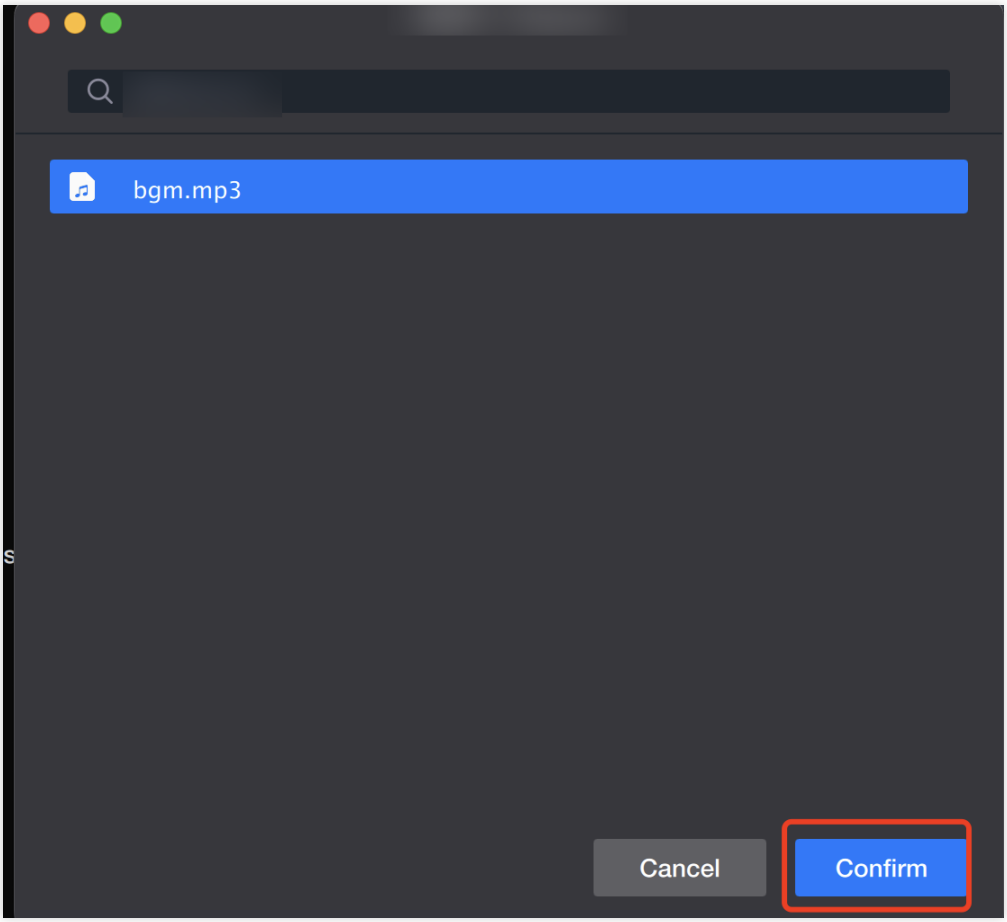

Choose the appropriate starting point, duration & number of loops.

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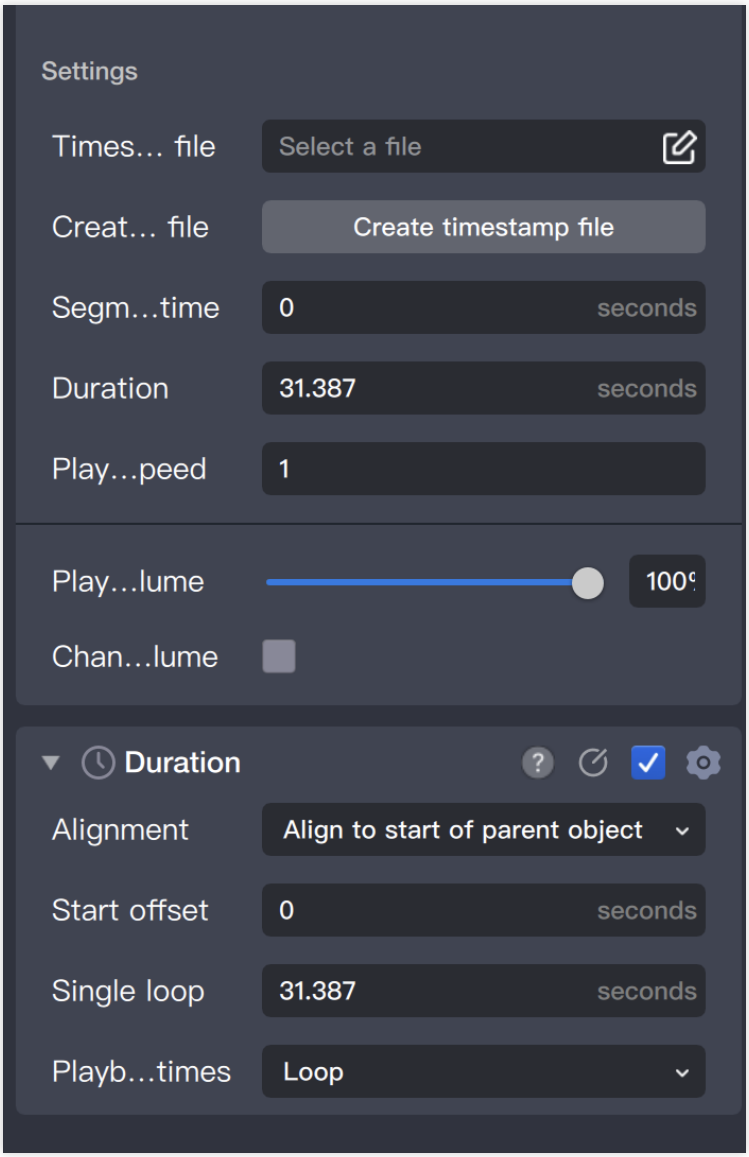

Timestamp file: Upload if available, otherwise no need to worry.

Segment start time: Music start time (accurate to 1 decimal place, default is 0, adjust as needed).

Duration: Music playback duration (default is 60 seconds or the maximum audio length **less than 60 seconds**).

Playback speed: Default normal speed 1, adjust as needed.

Playback volume: Default value 20% is equal to normal 100% volume, adjust as needed.

Change volume : Set fade in and out effects, adjust as needed.

Playback times: Choose 1 time, multiple times, or infinite loop (if the selected music playback duration is 60 seconds+, choose 1 time; if less than 60 seconds, choose multiple loops).

Note:

Maximum shooting time is 60 seconds.

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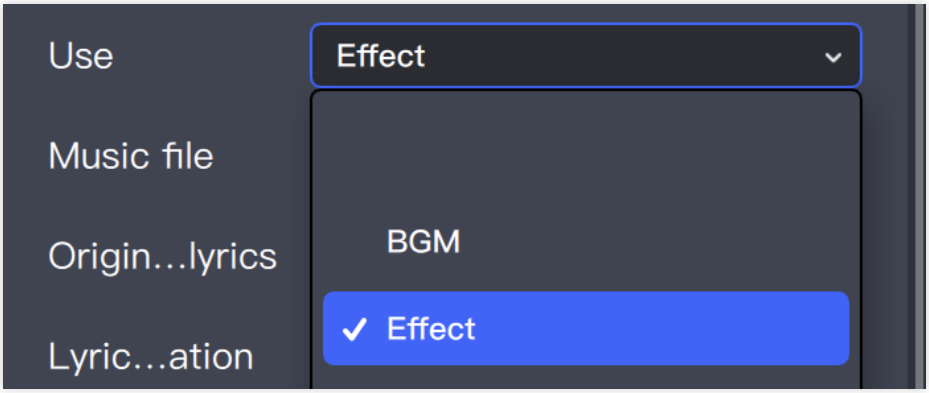
Selecting Music Usage

You can choose between BGM / Effect for two purposes.



Two Different Settings' Functions and Displays

Effect: Can record, poor bgm quality.
BGM: Cannot record, normal bgm quality.

Select Music Usage Based on Project

Shooting projects can choose the appropriate audio usage according to the designed prop type. The default choice is BGM. If the prop requires users to record their own audio, such as Olympic Cheering Station pendants, choose Effect.
For **ordinary template projects**, choose BGM uniformly.

How to Control Music in the Process

Depending on the designed prop requirements, you can use the process panel's node to control the music's play/stop.
Use AI detection capability to control music playback.
Facial expression detection of mouth opening triggers music playback, with the following process settings:

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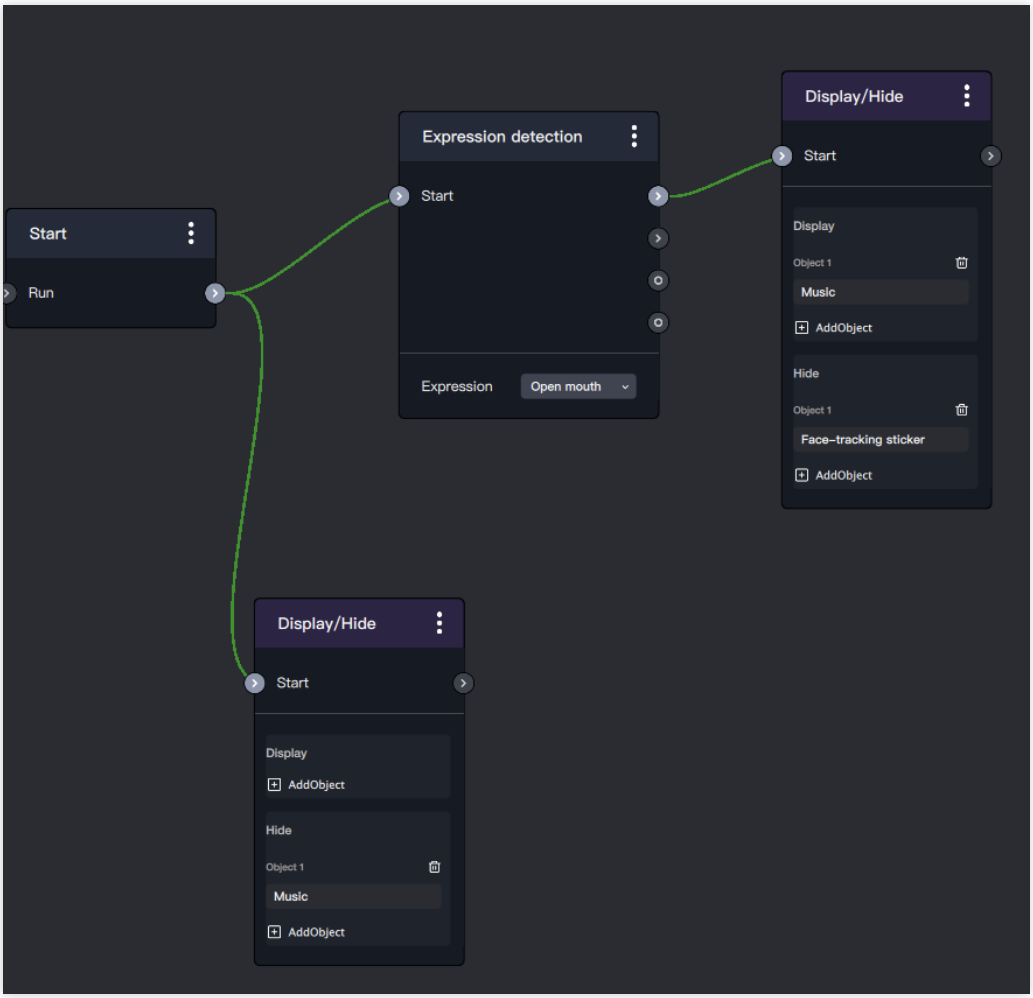

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Shortcut key

Last updated：2024-03-22 18:45:44

3D Scene Panel

Shortcut Name	Shortcut key
View Rotation	Right Mouse Button
View Movement	Middle Mouse Button + Press
View Zoom	Middle Mouse Button Scroll Wheel
View Switch to Home	Ctrl+1
View Switch to Top	Ctrl+2
View Switch to Front	Ctrl+3
View Switch to Right	Ctrl+4

2D Scene Panel

Shortcut Name	Shortcut key
Zoom	Middle Mouse Button Scroll Wheel
Sticker Move Up	Up / W
Sticker Move Down	Down / S
Sticker Move Left	Left / A
Sticker Move Right	Right / D

Main Panel

Shortcut Name	Shortcut key
Close	Ctrl+W

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New Project	Ctrl+N
Open Project	Ctrl+O
Save Project	Ctrl+S
Undo	Ctrl+Z
Redo	Ctrl+Z+Shift
Copy	Ctrl+C
Cut	Ctrl+X
Paste	Ctrl+V
Delete	Del

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2D Function Manual
Following Ability

Last updated：2024-03-25 11:43:19

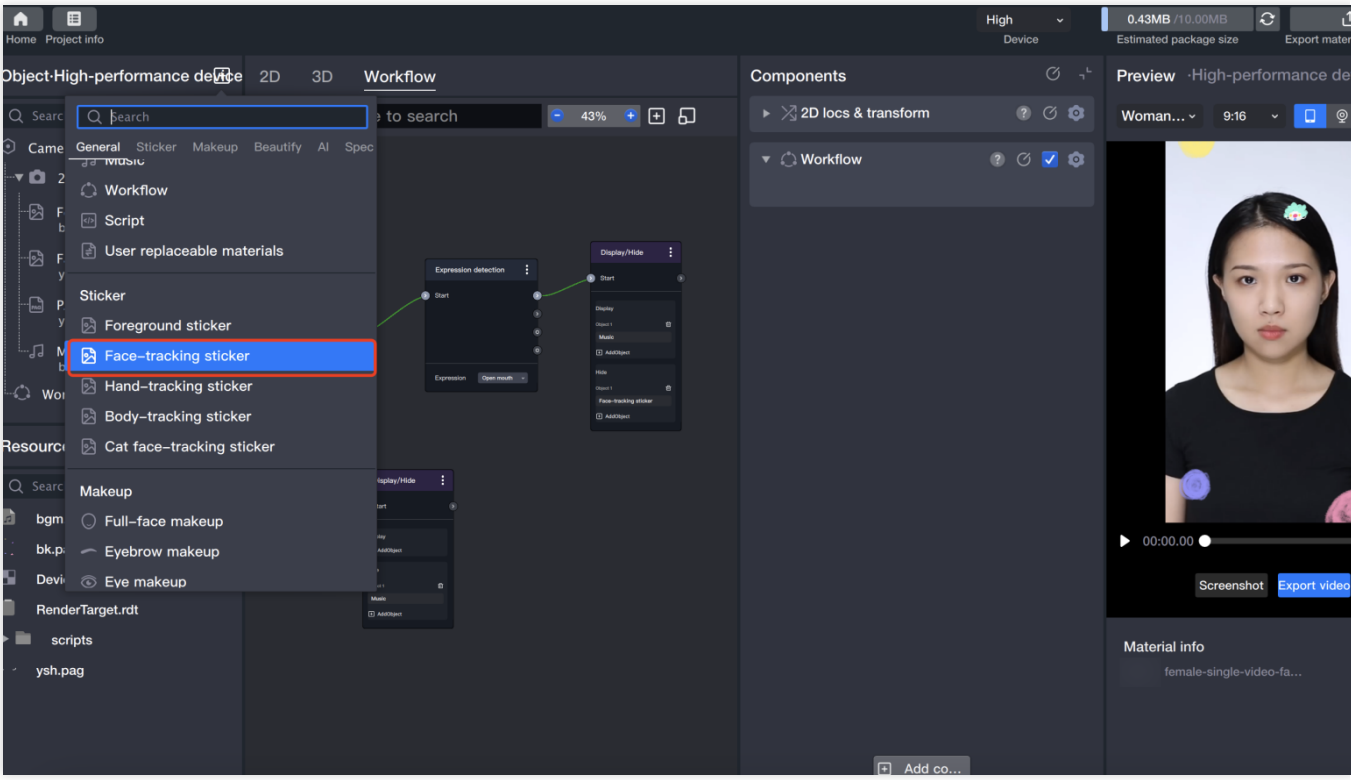
Introduction

In the Following Component, you can add 2D images, pag files, etc. to specific objects that appear on the screen. Currently, Tencent Effect supports face, gesture, body, and cat face tracking.

Basic Usage Method

1. Add Following Object

Add following object: Add following sticker in the object panel.



You can also directly add tracking components: Add tracking components in the component panel.

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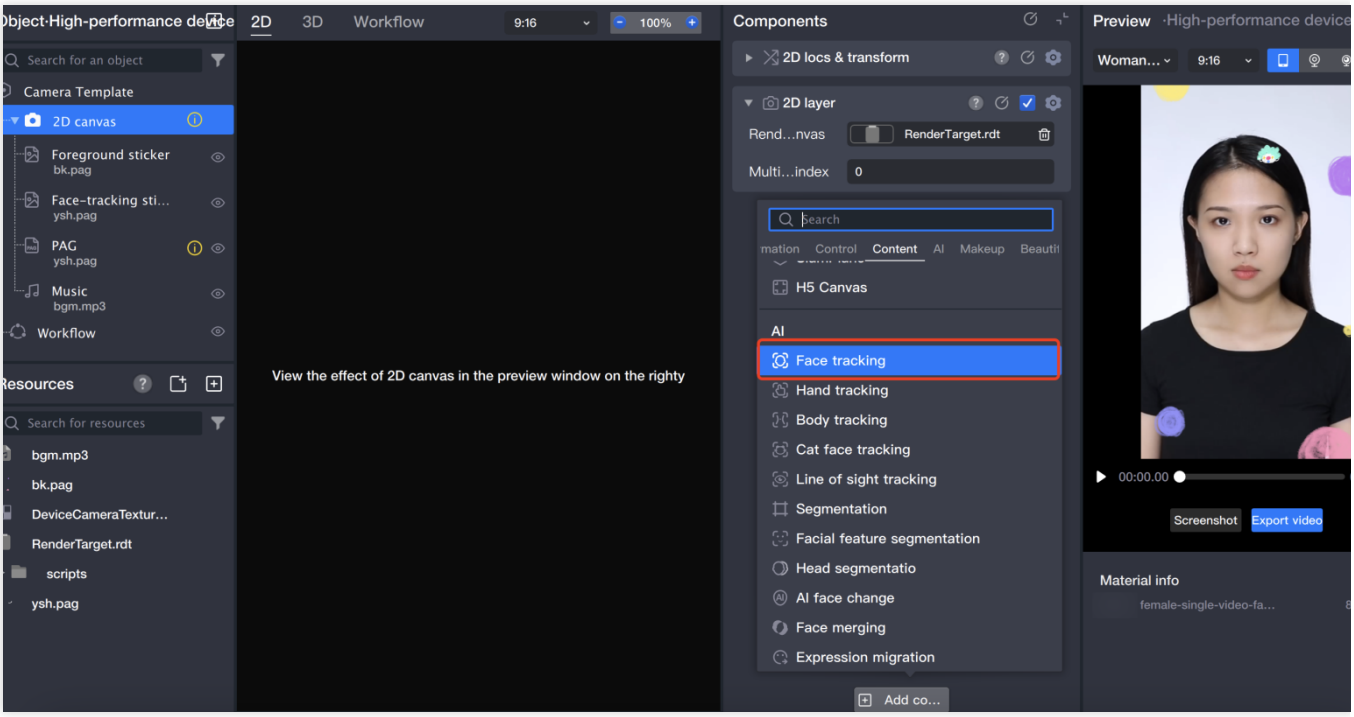

After adding any following component, the scene panel will provide a model point map accordingly.

2. Import sticker file

Local import: Access computer local materials.

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Select sticker file in the component panel.

3. Material parameter adjustment

3.1 Binding points.

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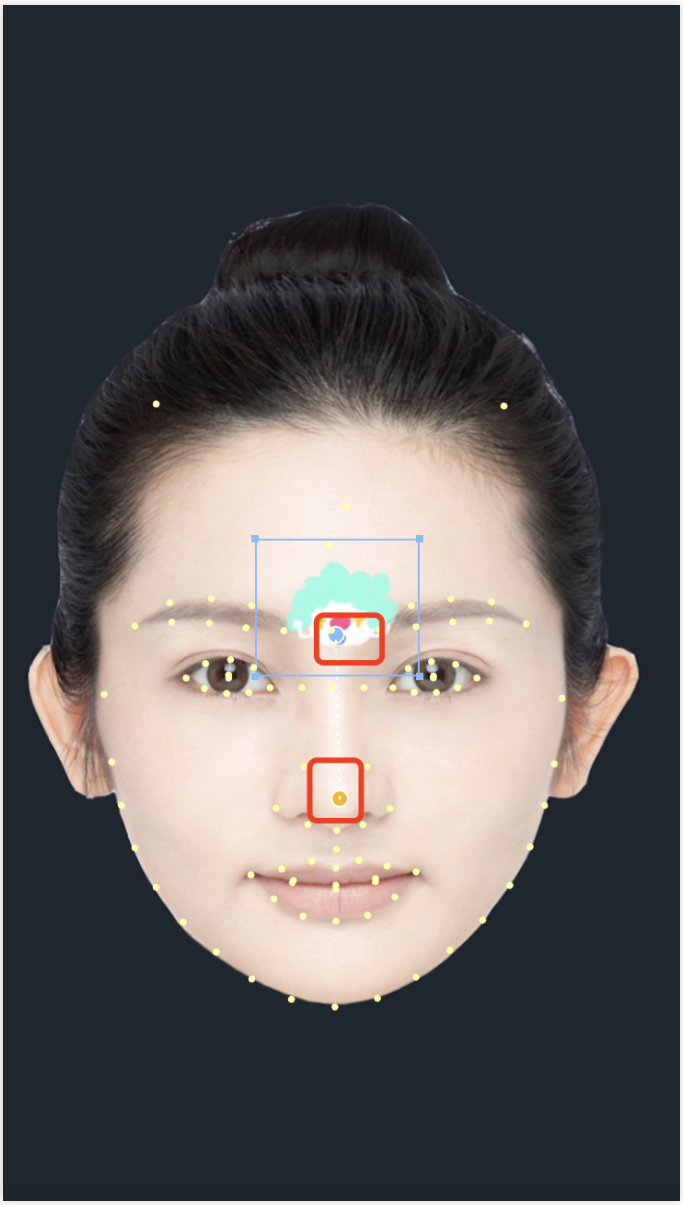
By dragging the binding points.



Adjust through the component panel.

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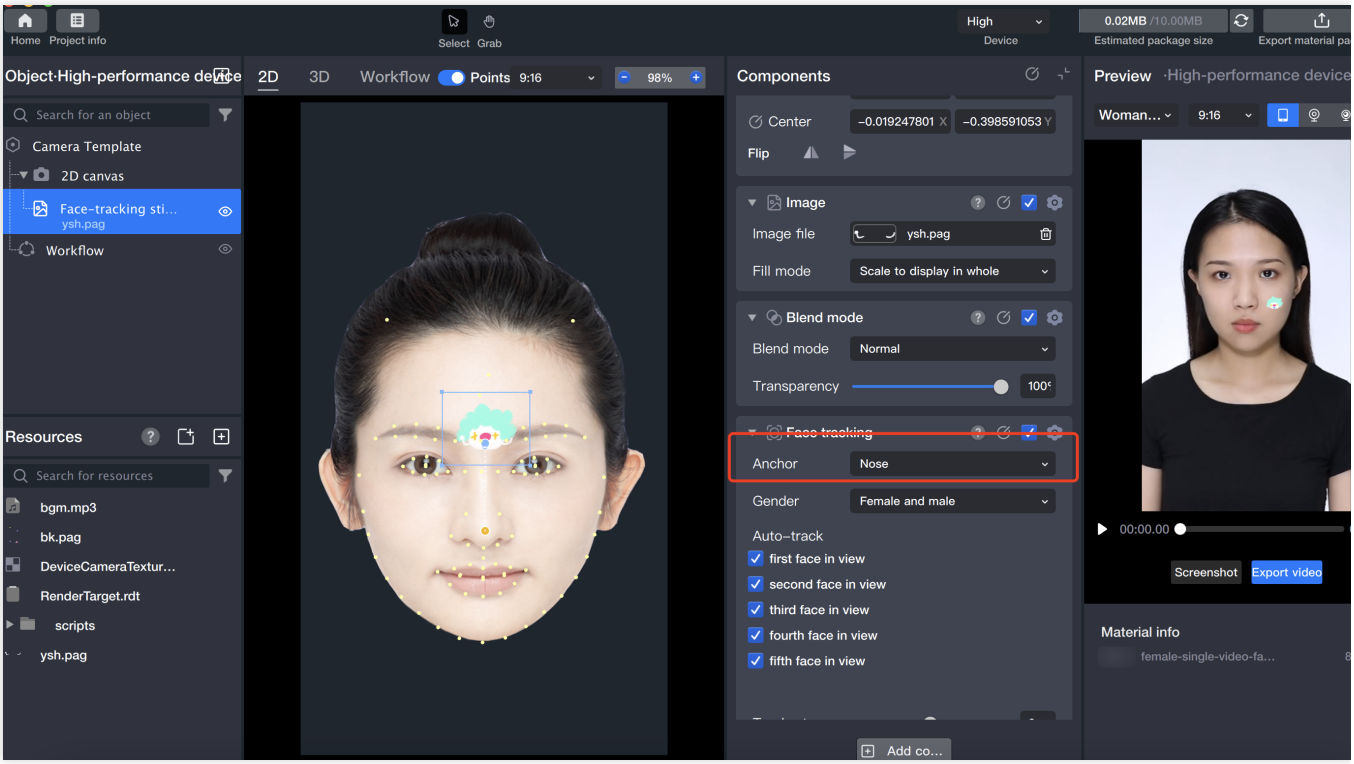

3.2 Change the sticker position, direction, and size.

Drag the sticker position in the scene panel.

Change the position and transformation in the component panel.

You need to select this object or its parent object in the object panel.

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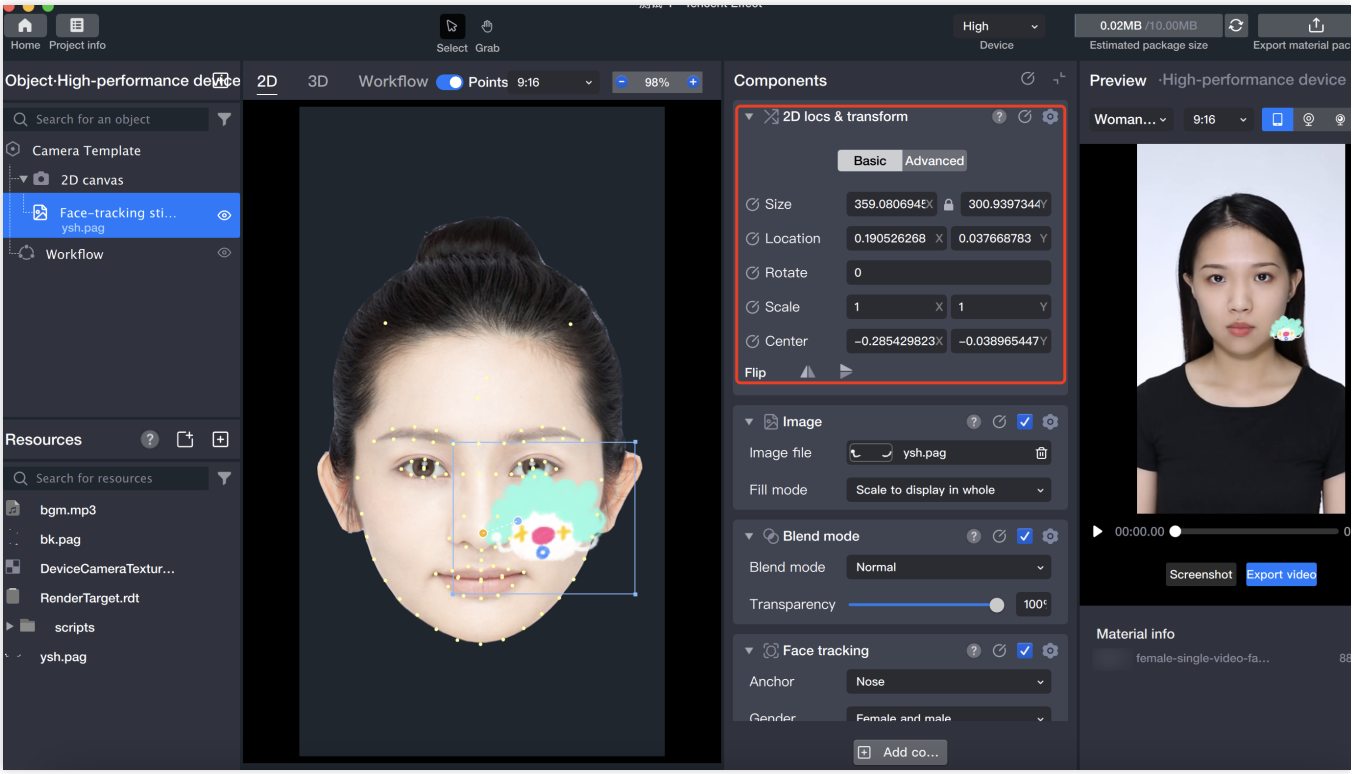

3.3 Mode modification.

To help designers understand the image effect, refer to the muptiply mode and normal mode in the designer's commonly used design software parameters according to the component sticker material parameters.

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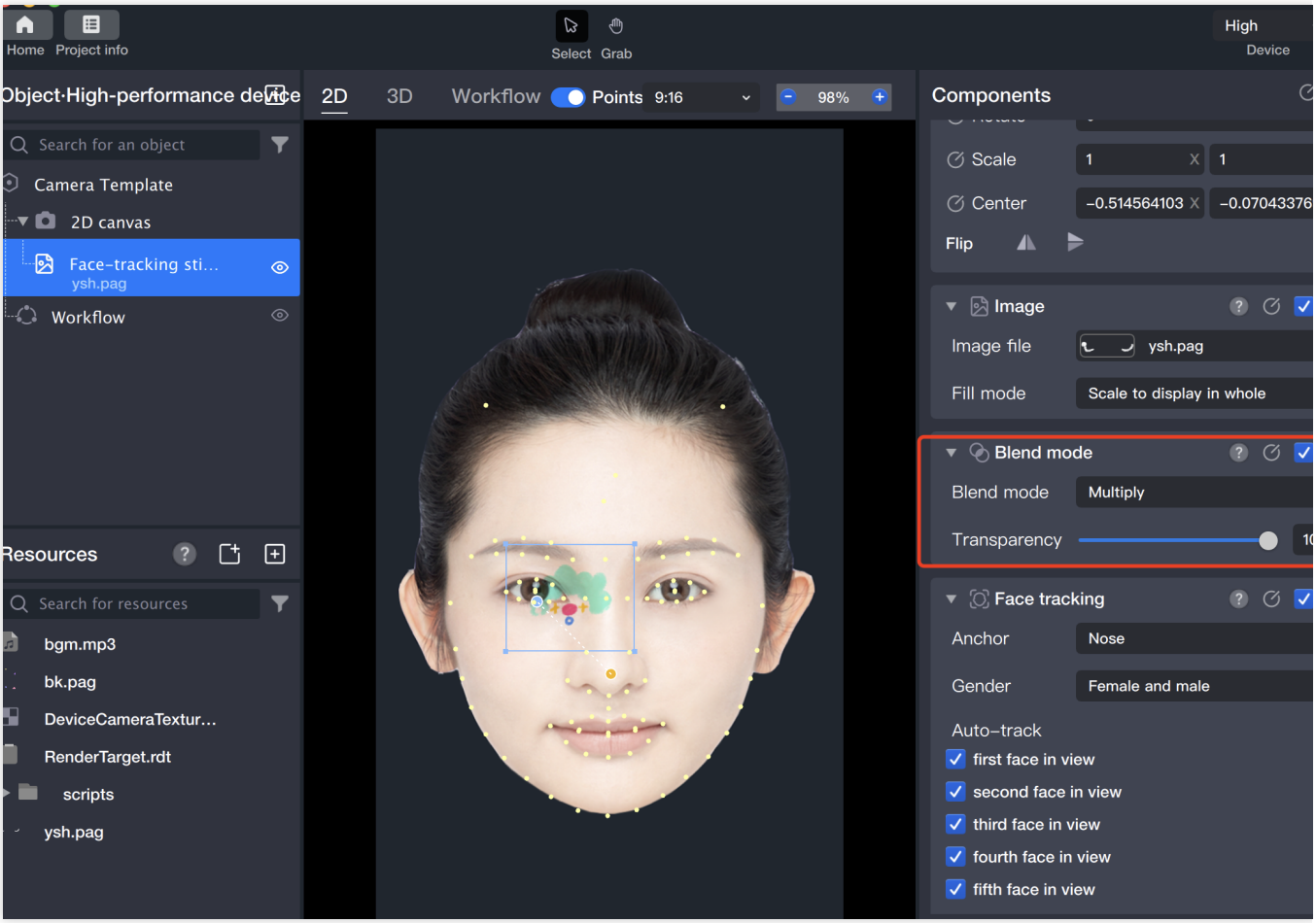

Here, only the face tracking gameplay is introduced, and other tracking gameplays are similar.

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Gesture Following

Last updated：2024-03-22 18:45:44

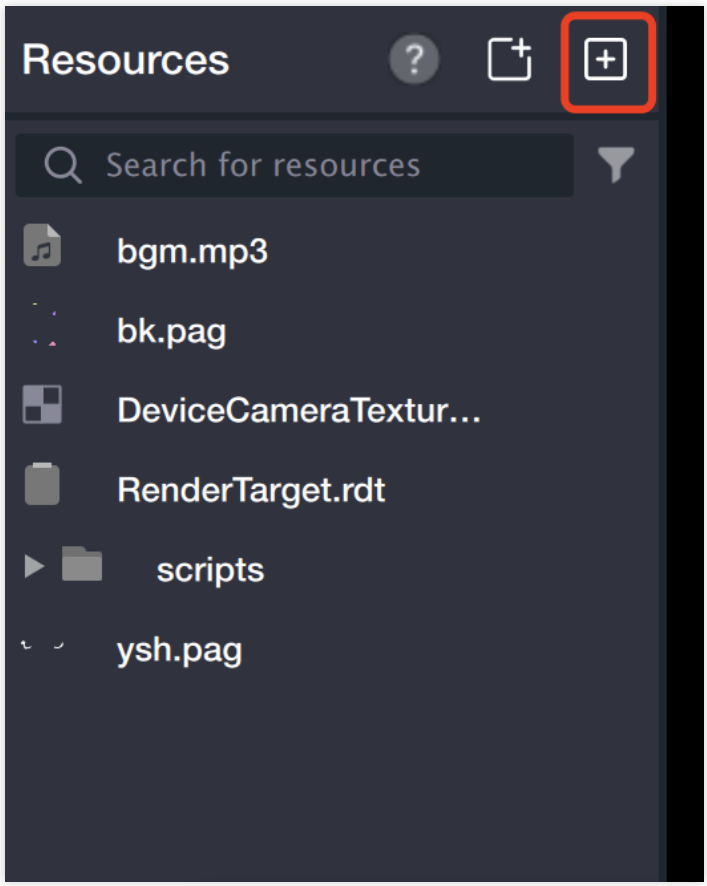
Concept Introduction

Gesture-following stickers, as the name suggests, are stickers that follow the hand in real-time during shooting. Currently, Tencent Effect supports adding 2D sticker files and PAG files to the hand.

Basic Usage Method

Step One: Import The Texture File.

Drag the texture file directly to the resource panel, or click the file input icon in the upper right corner of the resource panel, call up the computer's local folder, select and confirm to import.



Step Two: Create Follow Object/Component

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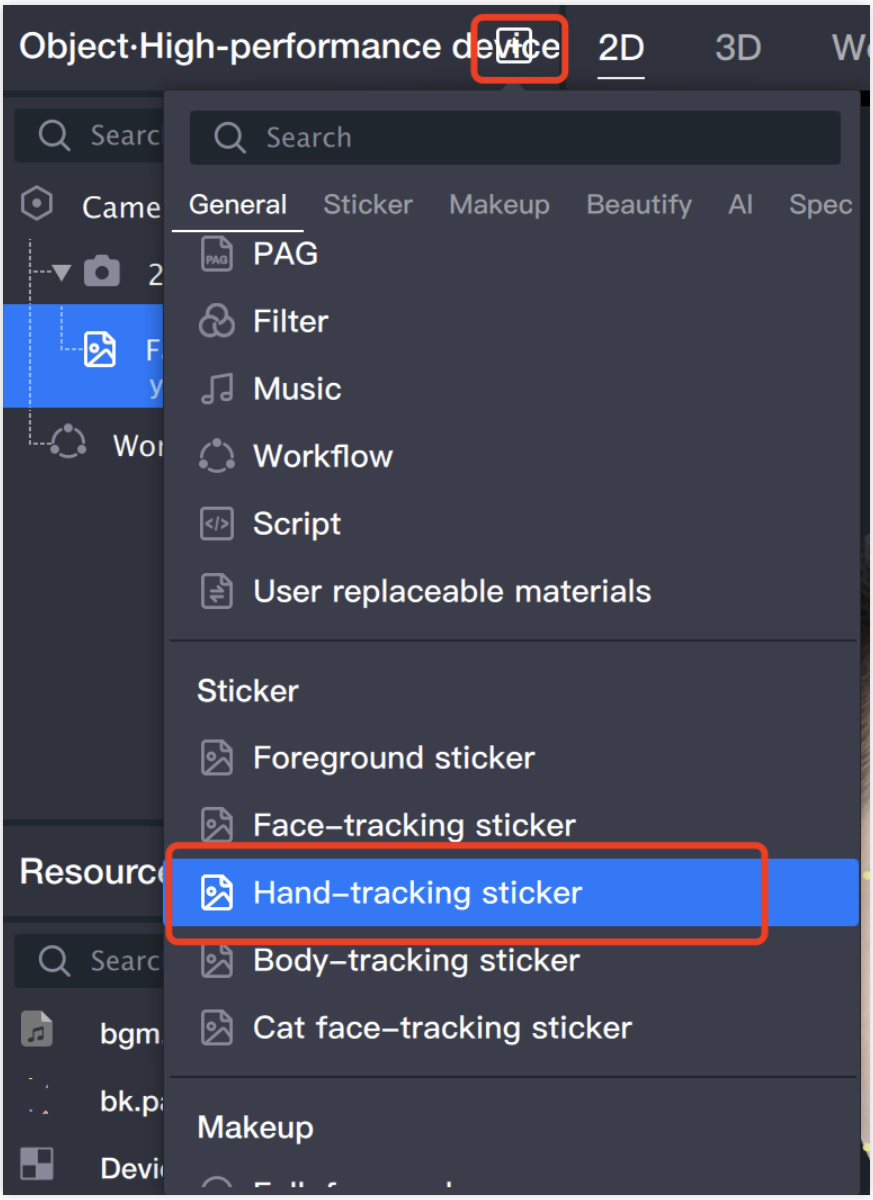
【Object】 **Panel** > 【+】 **Add** > **Gesture Follow Sticker**



Step Three: Import Sticker File

Select the gesture follow object in the object panel, find the **Sticker File** in the component panel, and click its file input box.

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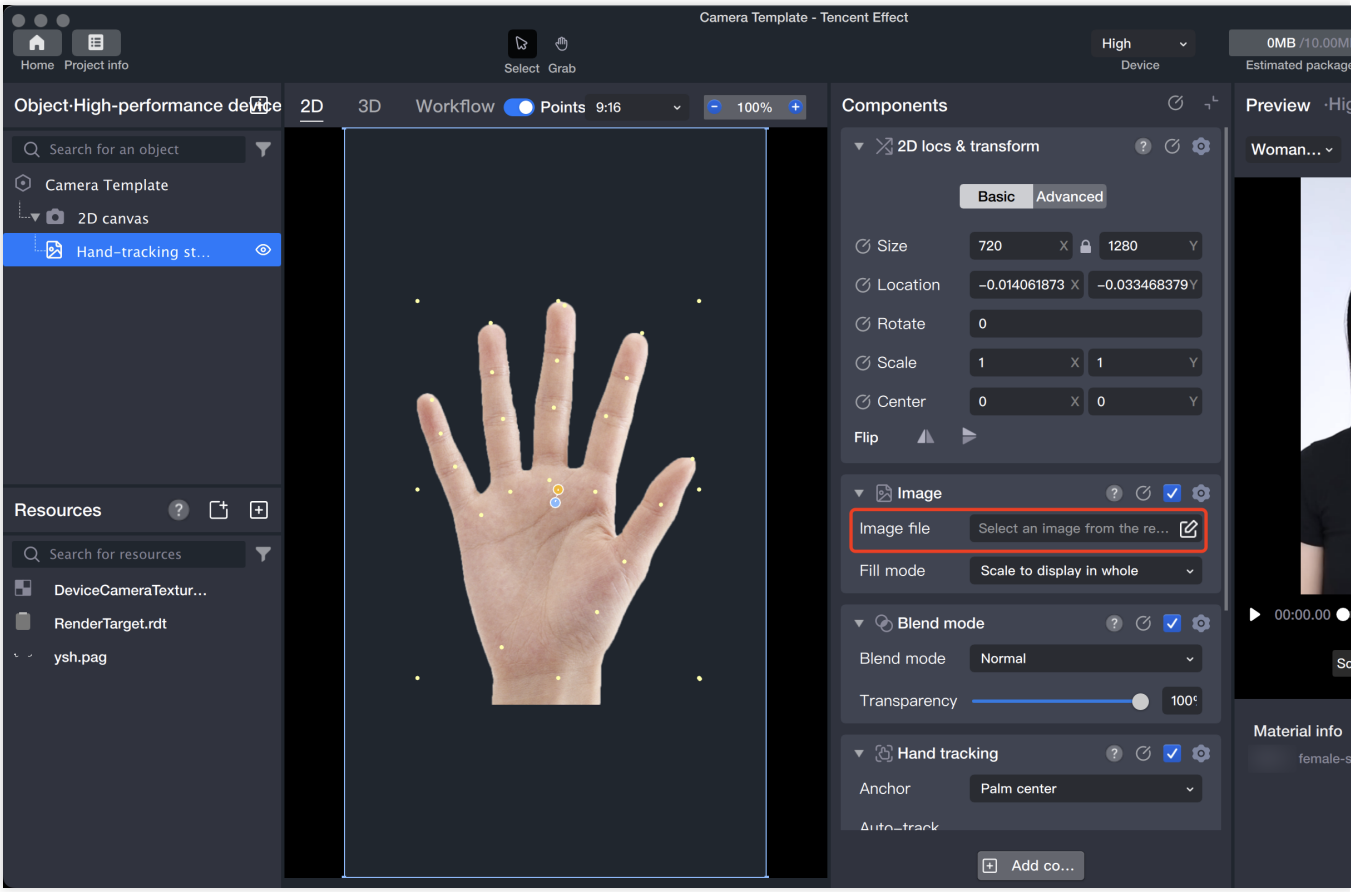

The resource panel will open immediately, select the file and confirm, the file will be added to the hand.

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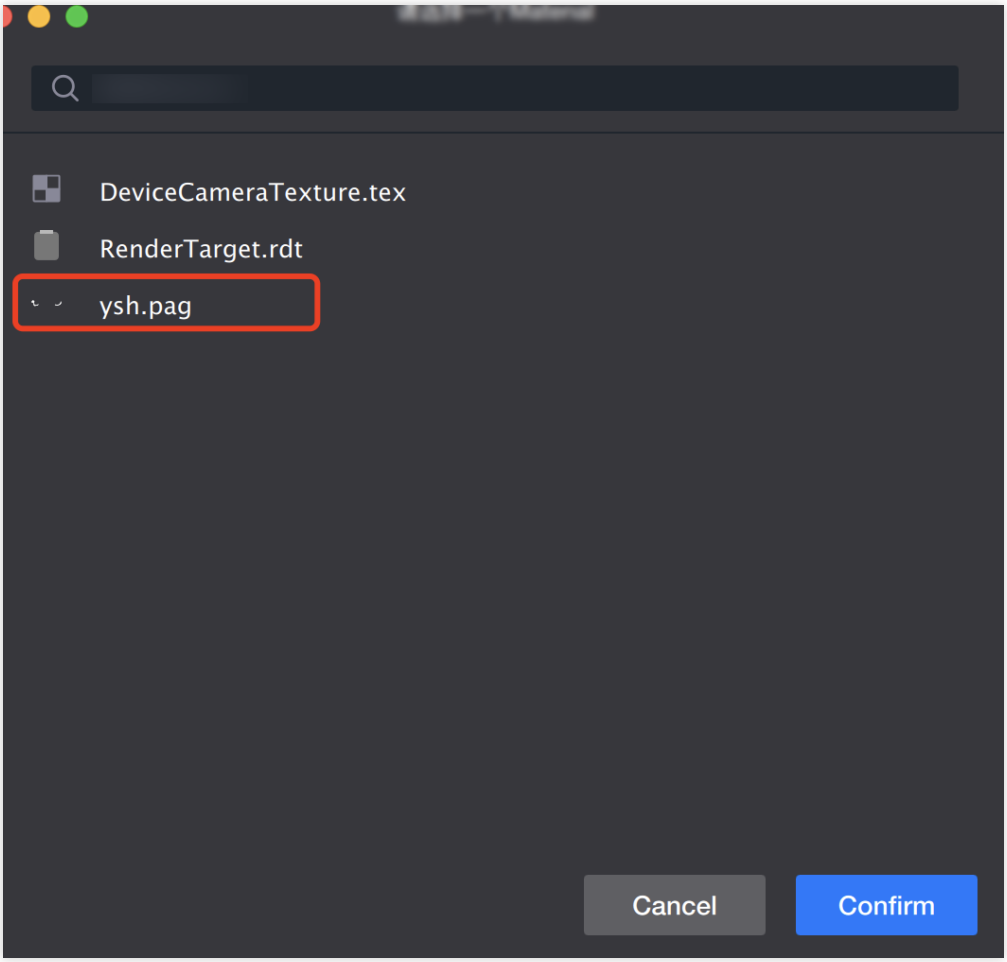

Step Four: Adjust Material

Gesture follow sticker supports binding two points by default, and binds two points by default. The binding points can be merged into one or split into two by dragging. The binding points represent the points bound when the shooting object moves. The points can be adjusted by dragging the yellow selected points on the panel, or by adjusting the component panel.

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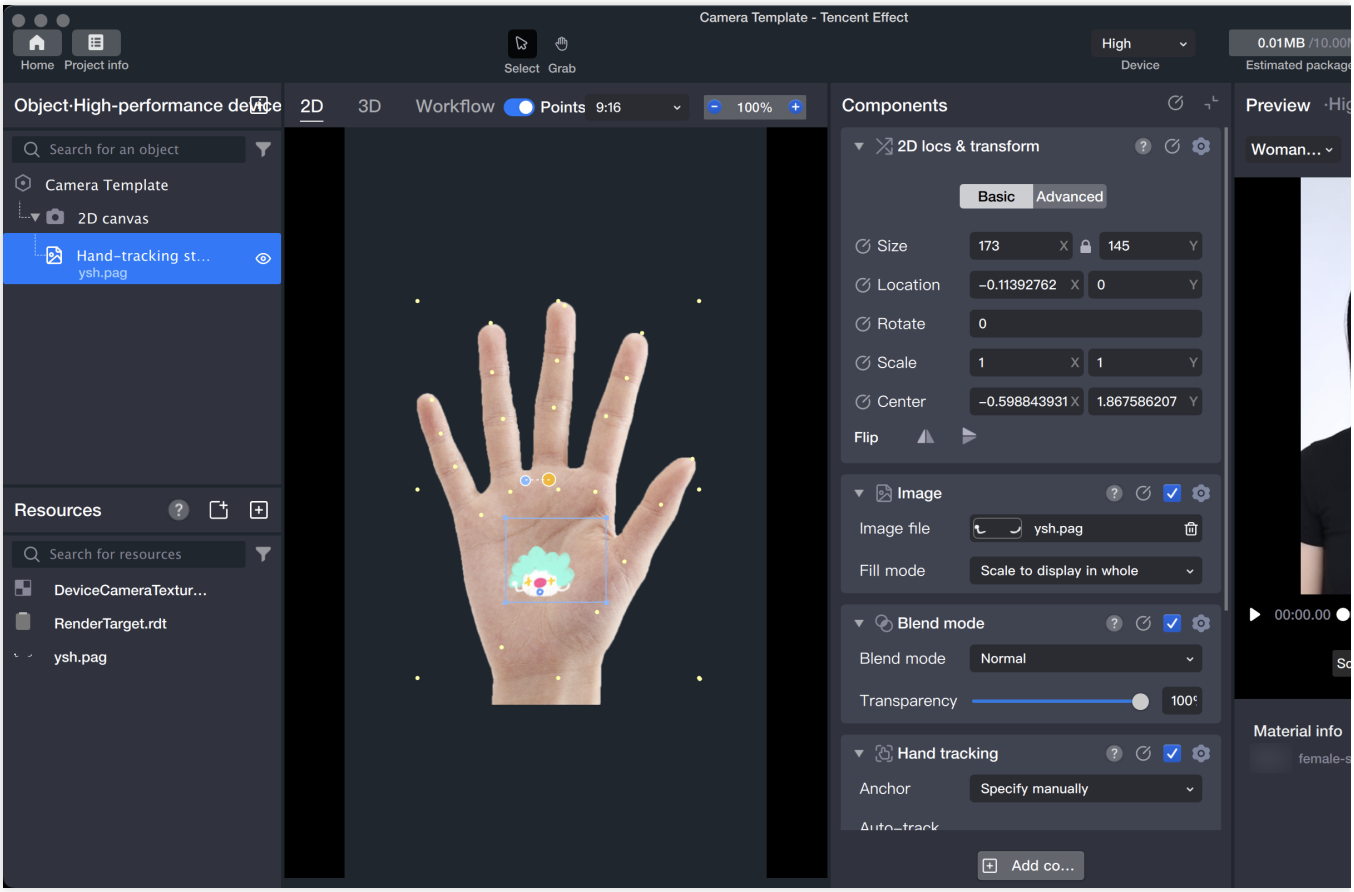

The sticker position can be adjusted through the **2D locs and Transformation** in the component panel, or by dragging in the scene panel to change the position, direction, and size. It should be noted that you need to select this object or its parent object in the object panel.

Step Five: Preview

To see the filter effect more intuitively, you need to change the preview image to a model with gesture action.
Find the preview panel in the upper right corner, click the drop-down box, select Gesture, and choose an appropriate hand action.

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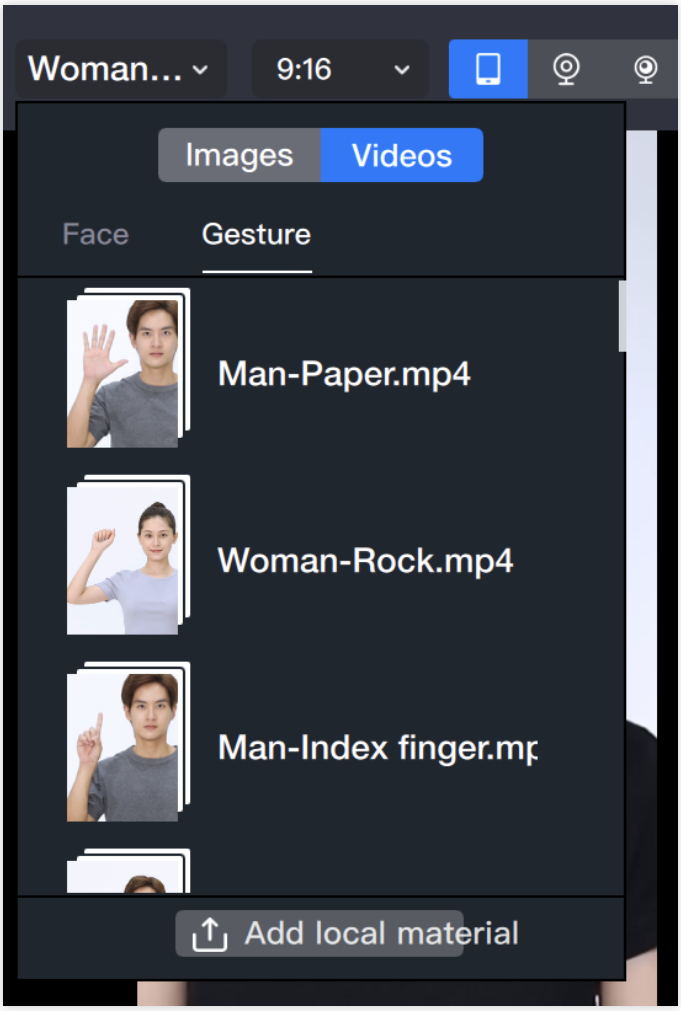

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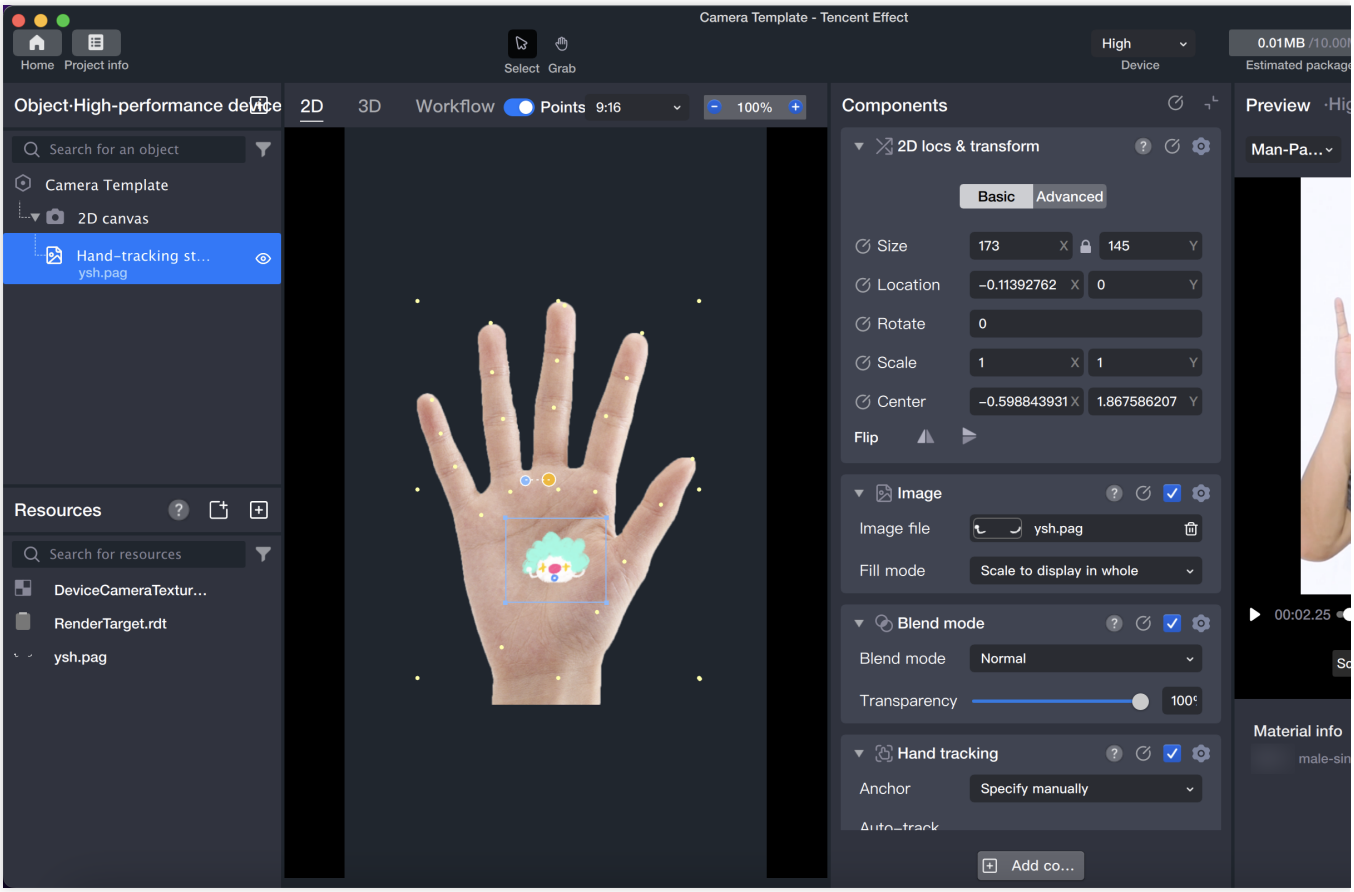

After the settings are completed, you can start the preview.

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Body Following

Last updated：2024-03-22 18:45:44

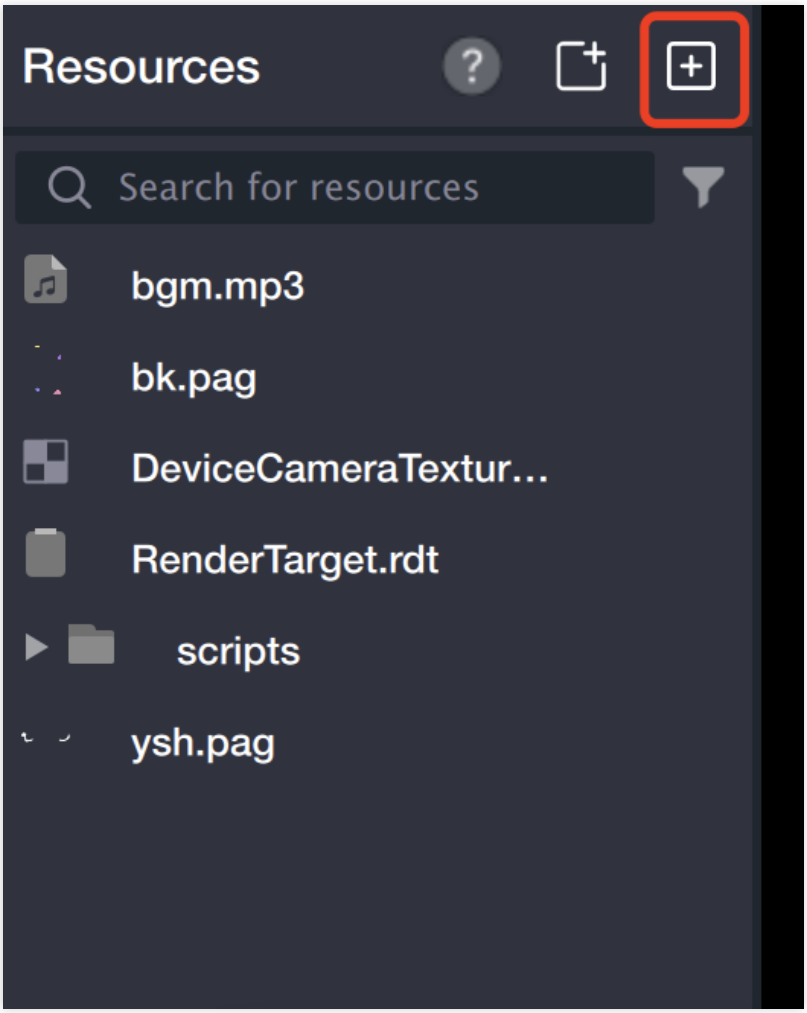
Concept Introduction

Body-following stickers are stickers that move with the body's movements during filming.

Basic Usage Method

Step One: Import Texture File

Drag the texture file directly to the Resource Panel, or click the File Input Icon in the upper right corner of the Resource Panel, access the computer's local folder, and confirm the selection to import.



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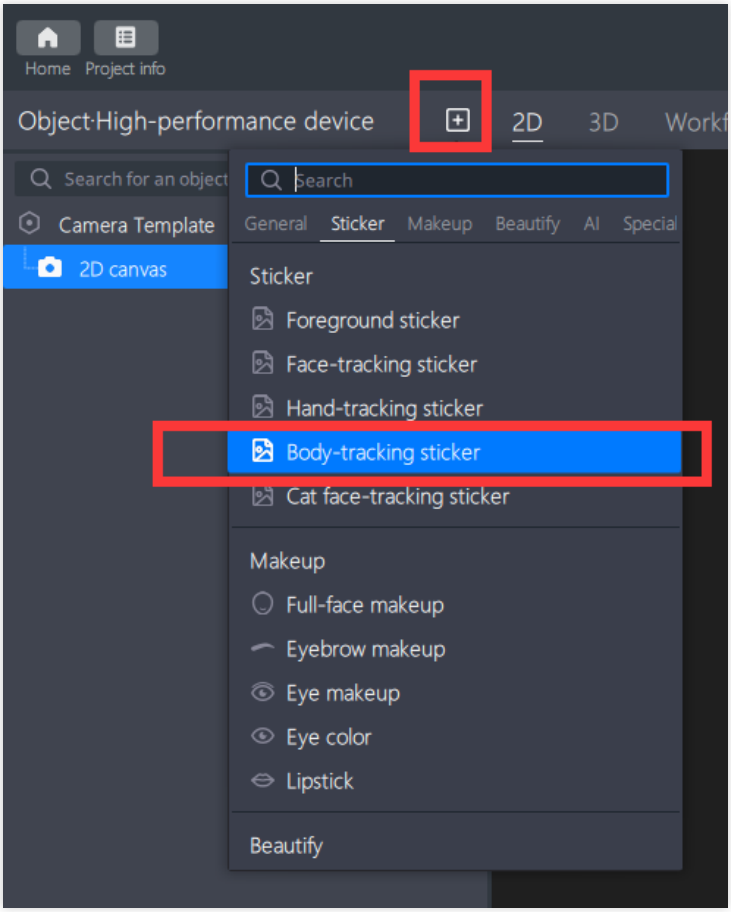
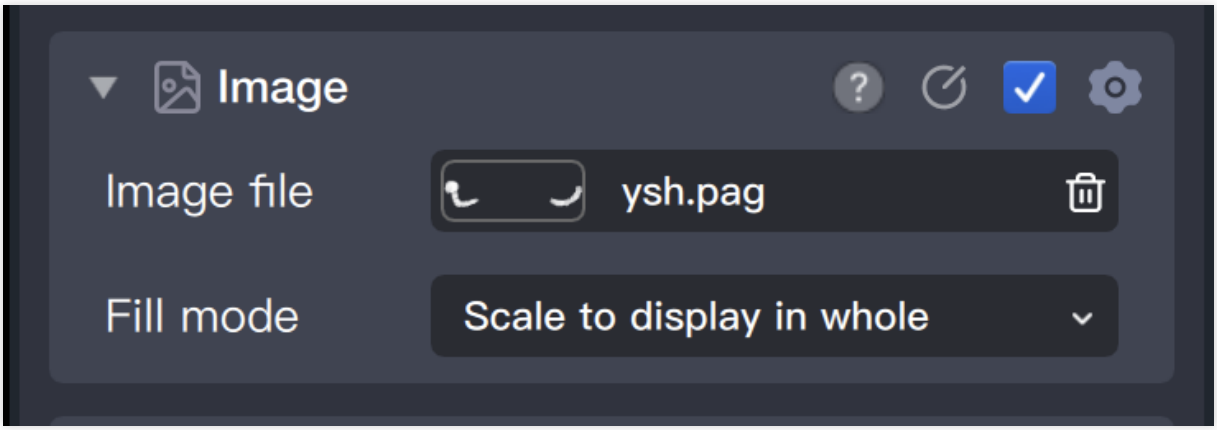
Step Two: Create Following Object

【Object】 **Panel** > 【+】 **Add** > **Body-following Stickers**



Step Three: Import Sticker File

Select the body following object in the left object panel, and find the [Sticker File] in the component panel on the right. Click on its file input box.



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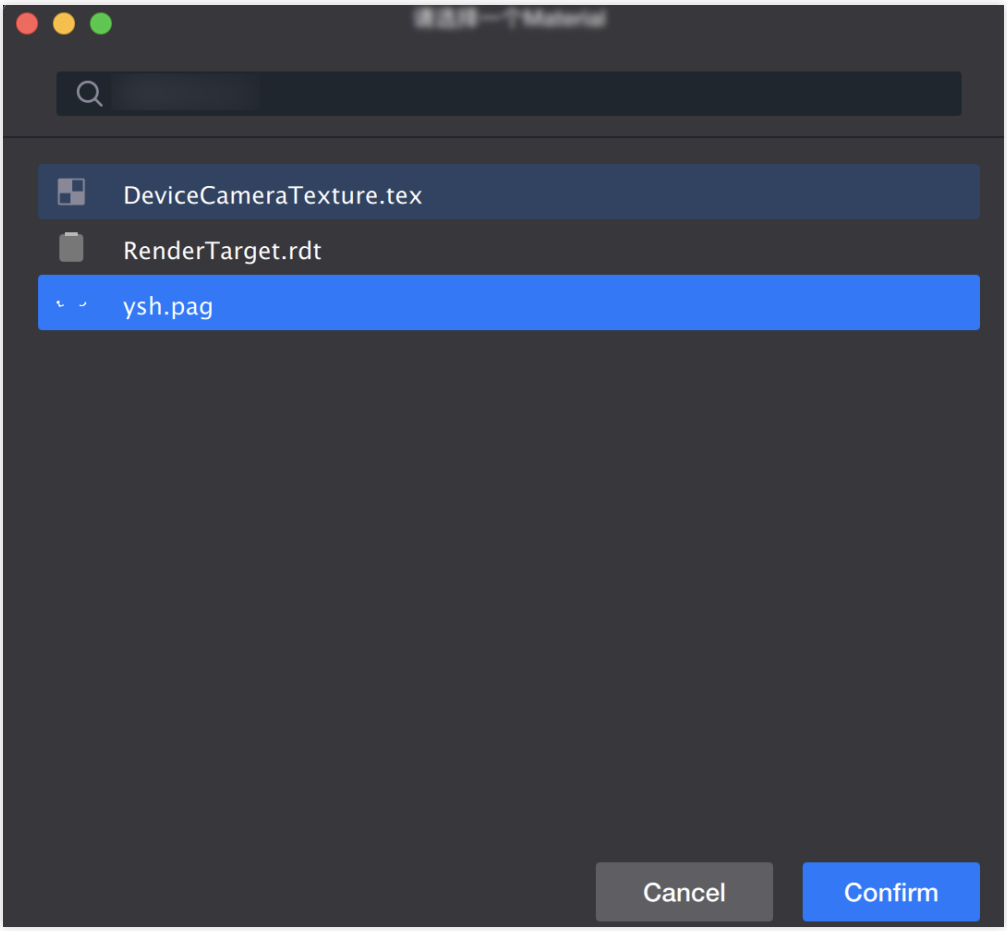
The resource panel will open immediately. Select the file and confirm, and the file will be added to the body.



Step Four: Adjust Material

The body following sticker supports binding two points. By default, it binds two points. You can merge the binding points into one or split them into two by dragging the binding points. The bound points represent the points of the shooting object when it moves. The points can be adjusted by dragging the yellow selected point in the panel or by adjusting the component panel.

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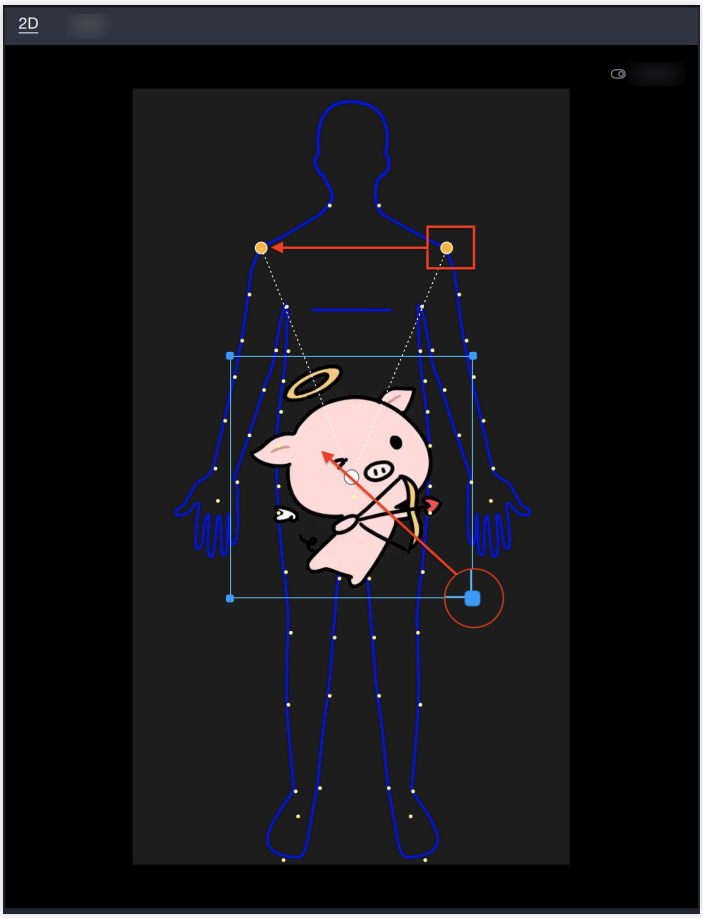

The sticker position can be adjusted through the [Position and Transformation] in the component panel, or by dragging in the scene panel to change the position, direction, and size. Please note that you need to select this object or its parent object in the object panel.

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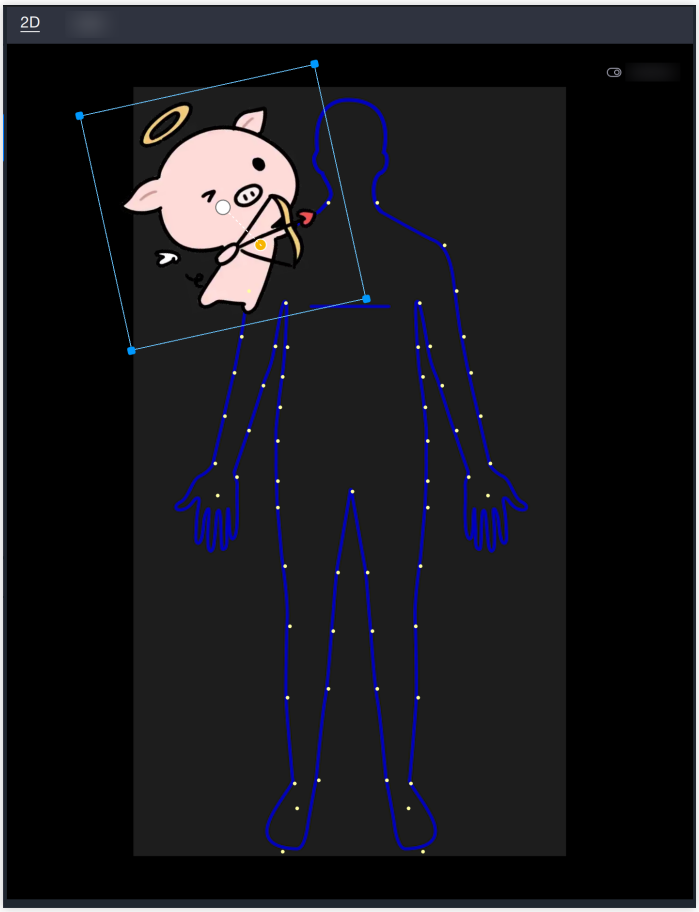

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Cat Face Following

Last updated：2024-03-25 11:43:19

Concept Introduction

To meet the needs of more gameplay, Tencent Effect can add stickers that recognize and follow cat faces.

Component Application

In the cat face tracking sticker, it is possible to implement a creepy gameplay by adding the cat owner's facial features to the cat face, or to add Disney eyes to the cat.

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Basic Usage Method

Step One: Import the sticker file

Drag the sticker file directly to the resource panel, or click the file input icon in the upper right corner of the resource panel, call up the local computer folder, and confirm after selecting.

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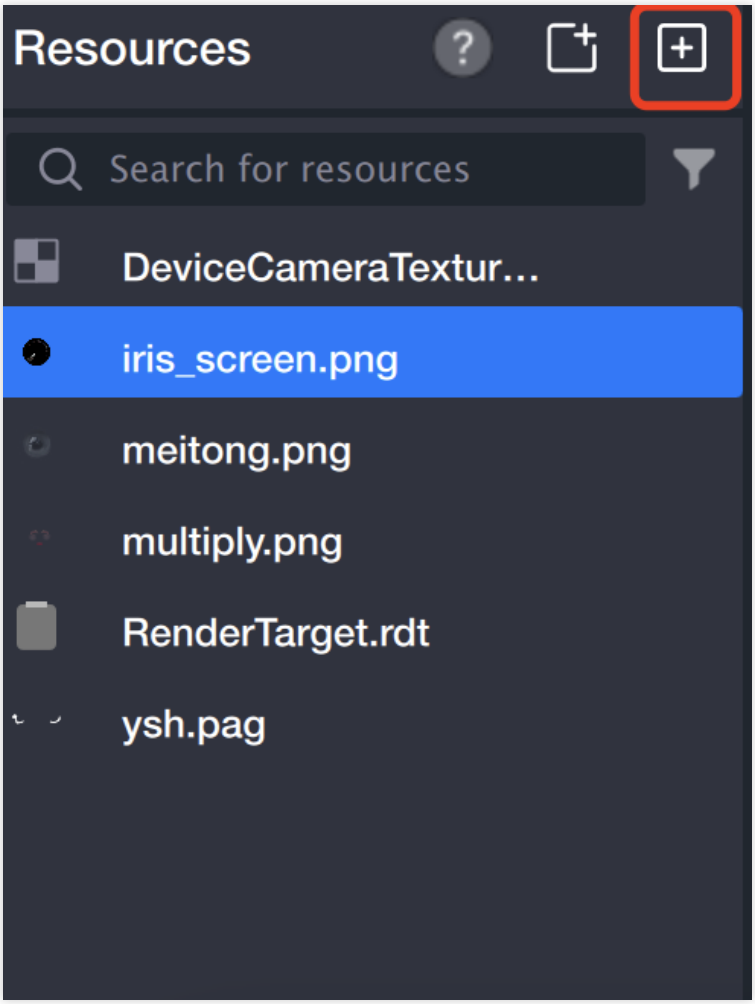

Step Two: Create Follow Object

Panel > **Add** > **Cat Face Follow Sticker**

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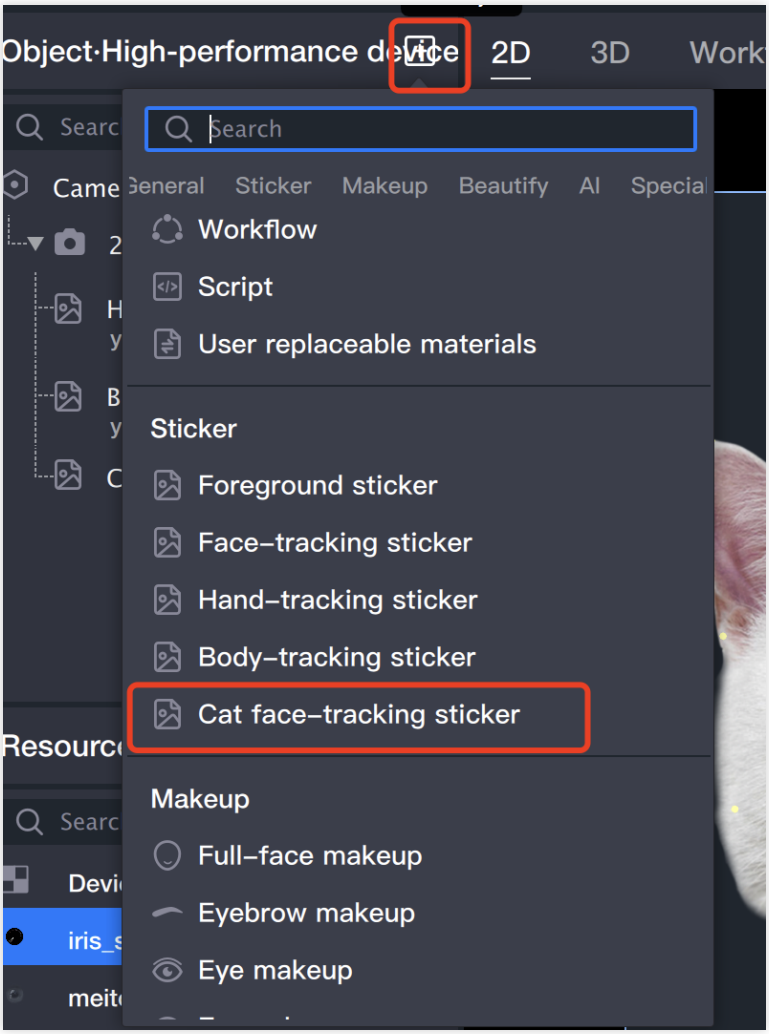

Step Three: Import Sticker File

Select the body follow object in the left object panel, find the Sticker File in the component panel on the right, and click its file input box.

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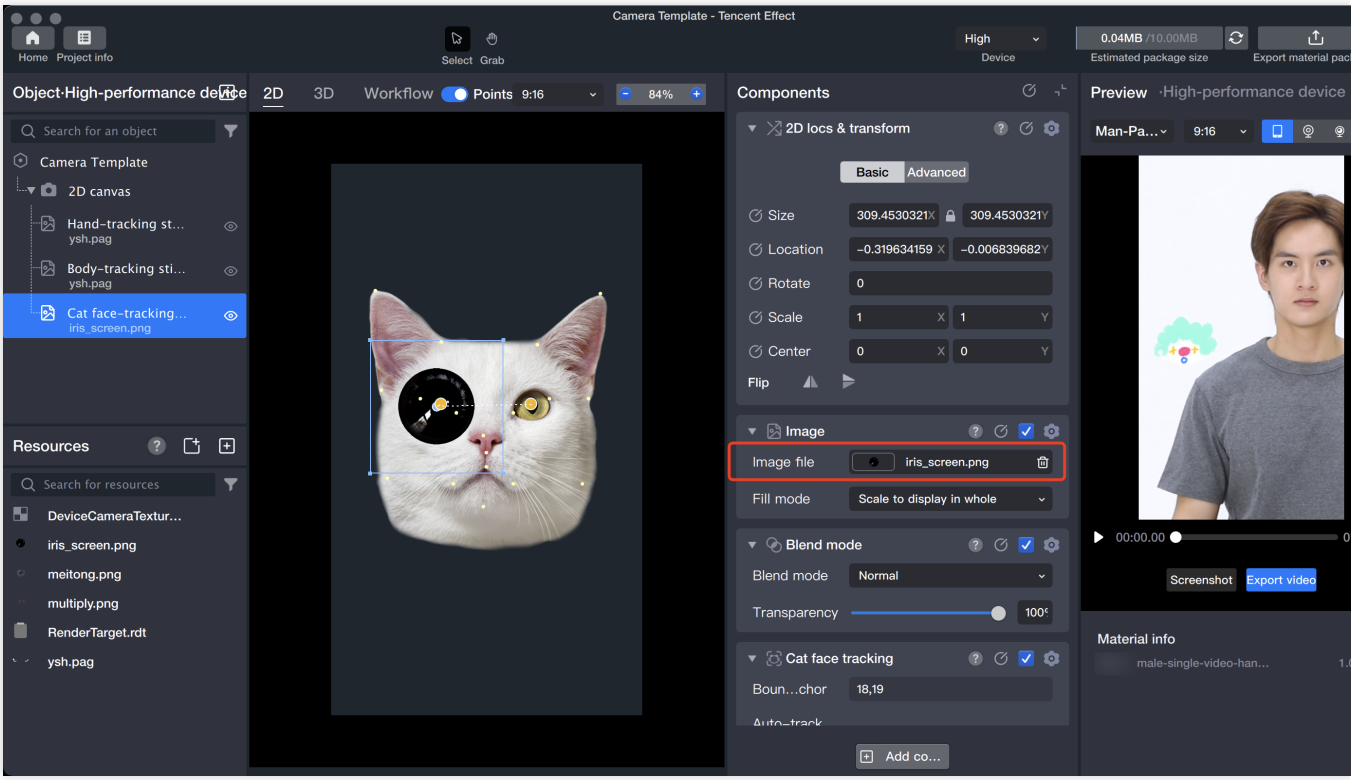

The resource panel will open, select the file and confirm, the file will be added to the cat face.

Step Four: Adjust Material

The cat face follow sticker supports binding two points by default, and binds two points by default. You can merge the binding points into one or split them into two by dragging the binding points. The bound points represent the points that the shooting object moves to when moving. The points can be adjusted by dragging the yellow selected point in the panel or by adjusting the component panel.

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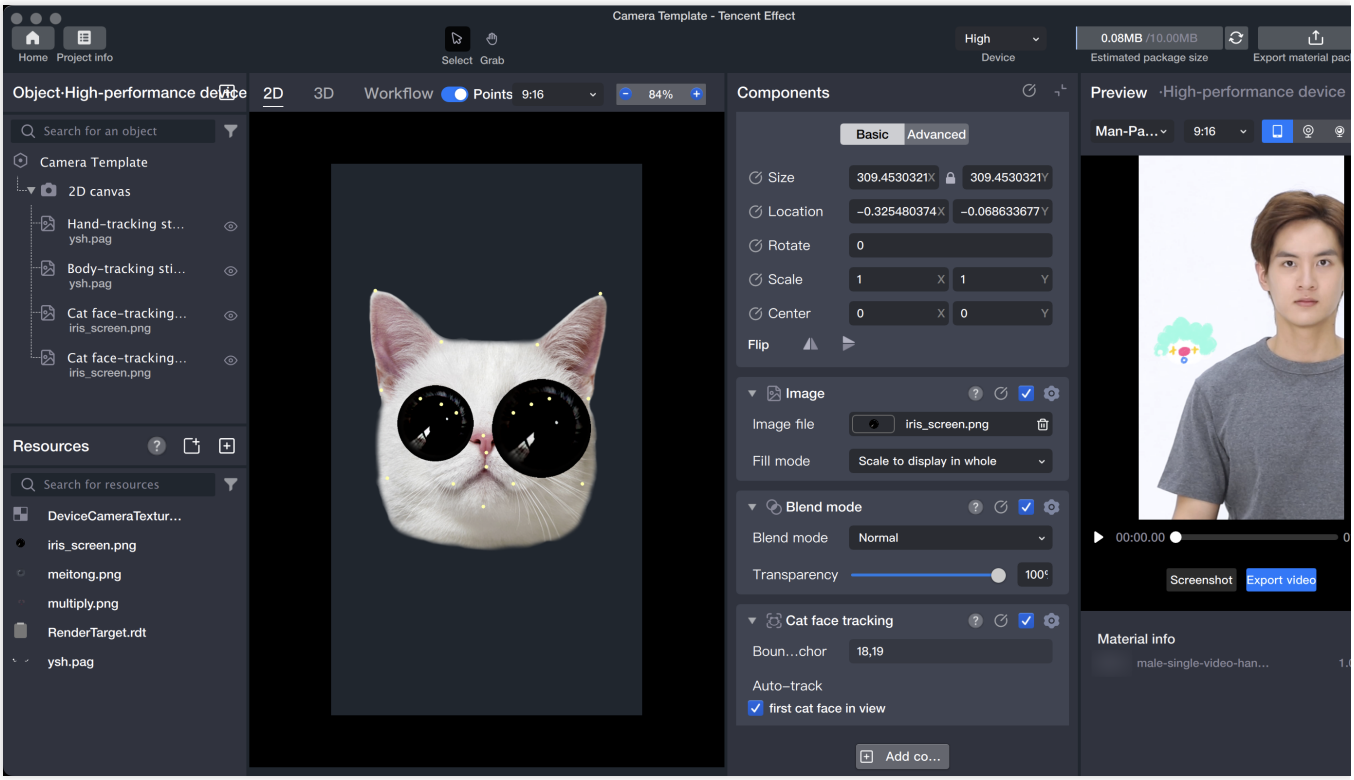

The sticker position can be adjusted through the Position and Transformation in the component panel, or by dragging in the scene panel to change the position, direction, and size. It should be noted that you need to select this object or the parent object in the object panel.

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GAN Gameplay

Last updated：2024-03-25 11:43:19

Introduction

GAN gameplay, that is, creating different presentation effects for the entire screen, such as the comic face effect.

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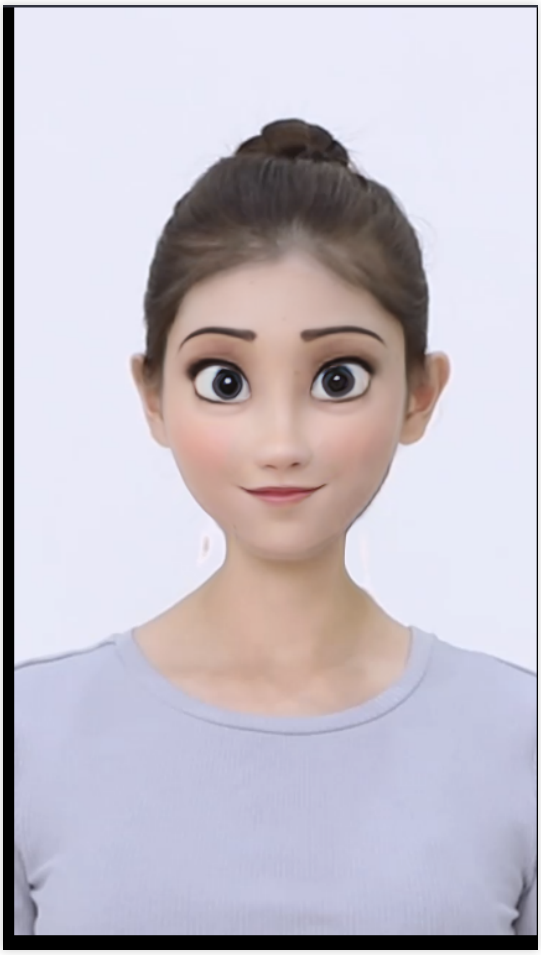

Original Effect Add GAN

Basic Usage

1. Import Materials

Import local material.

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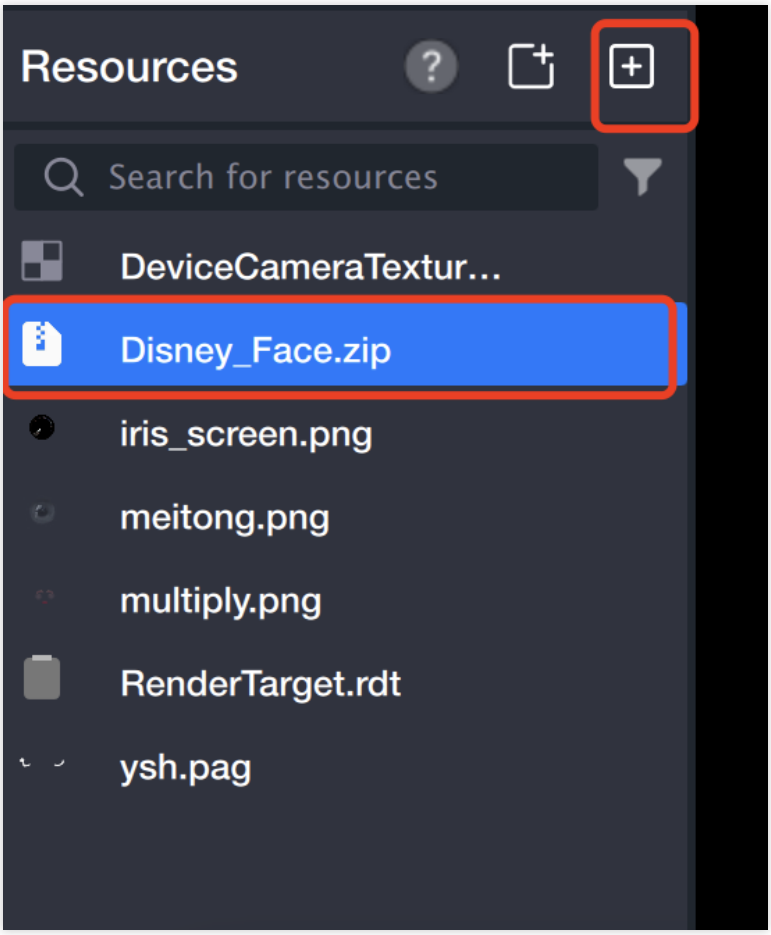

2. Create GA Object

Add **GAN** in the Object Panel.

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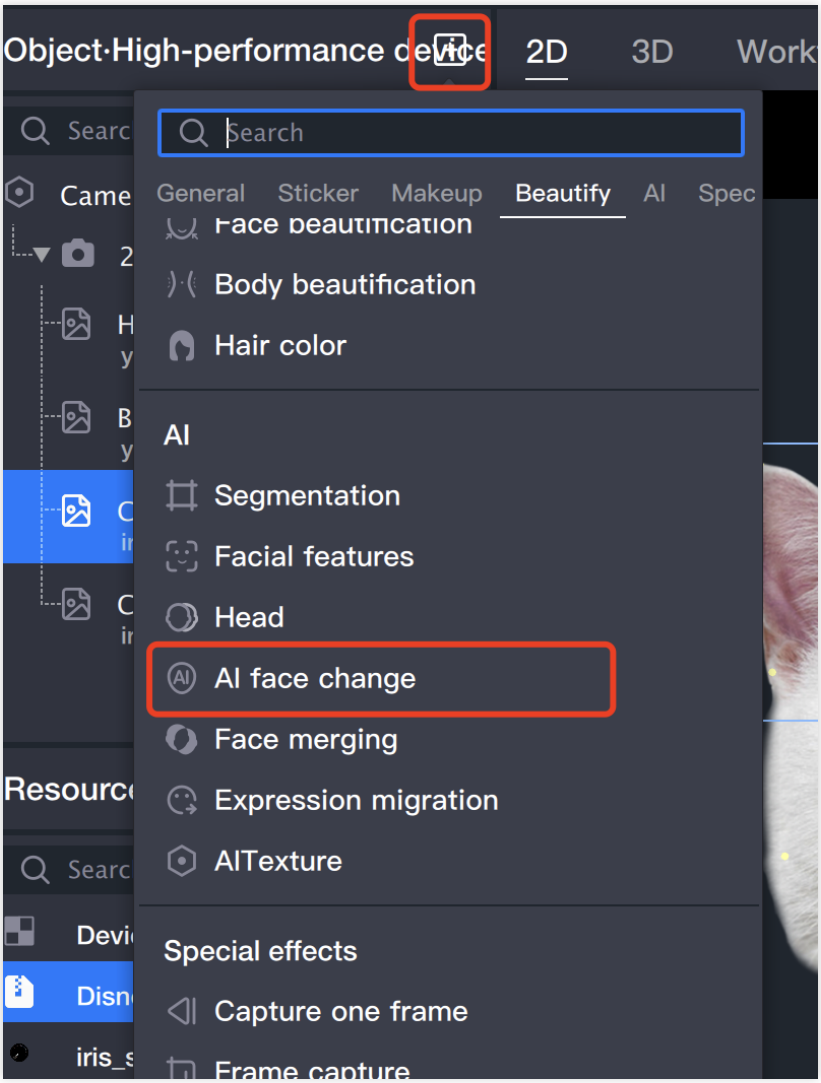

3. Select GAN Resource File

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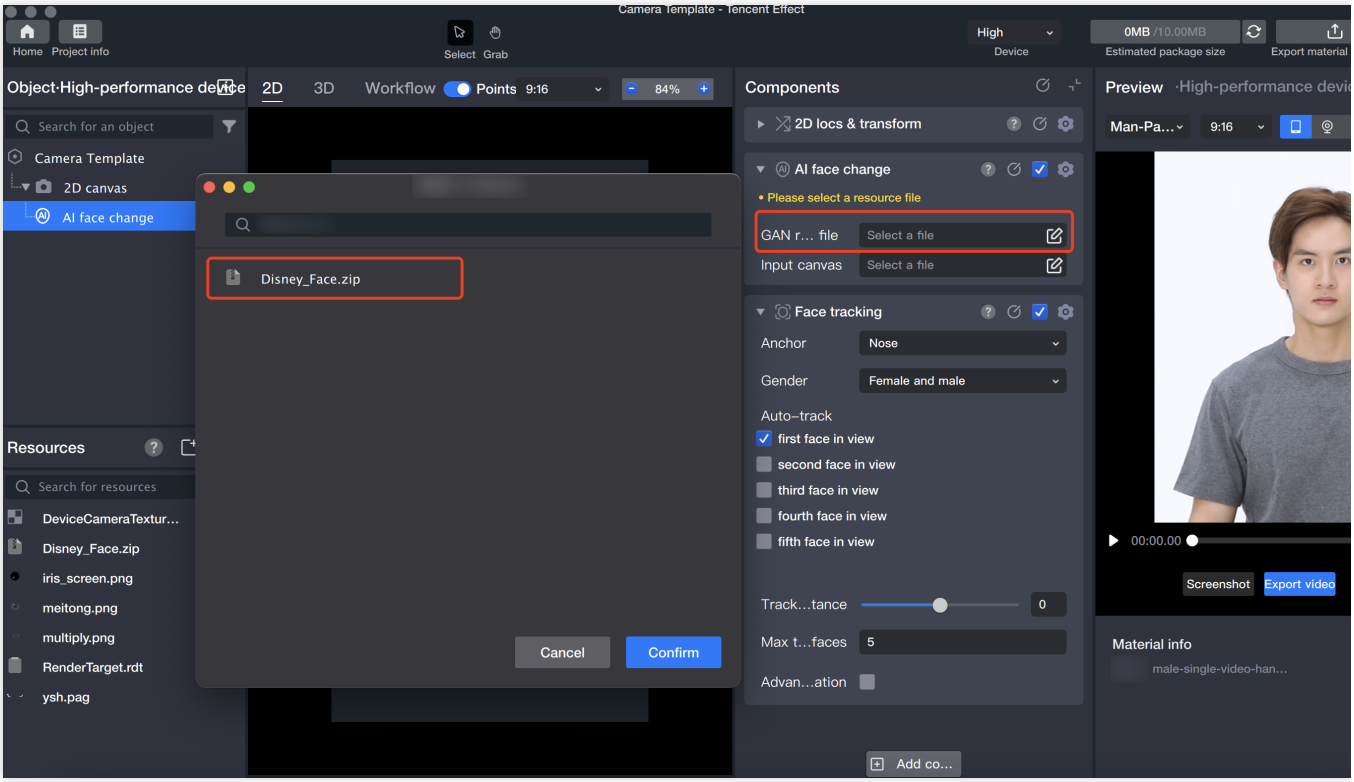

4. Preview

Computer preview.

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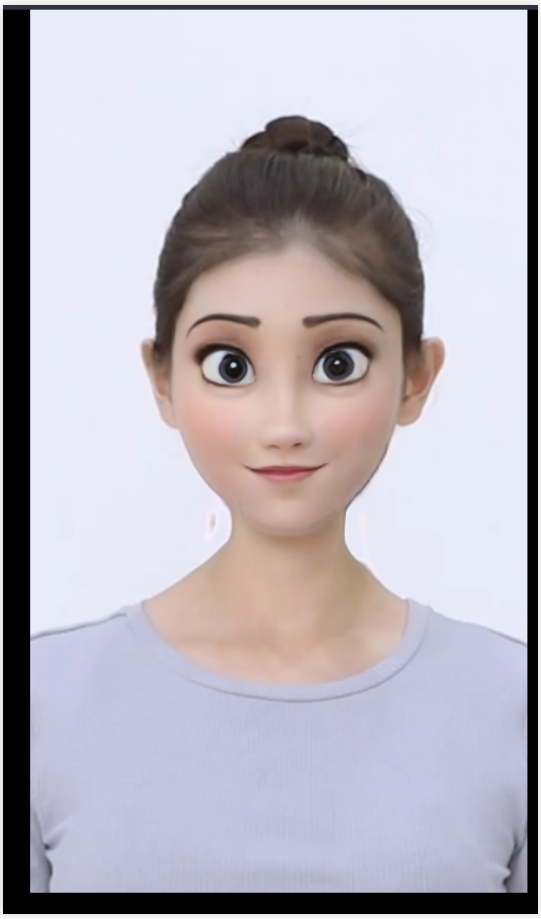

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Background removal

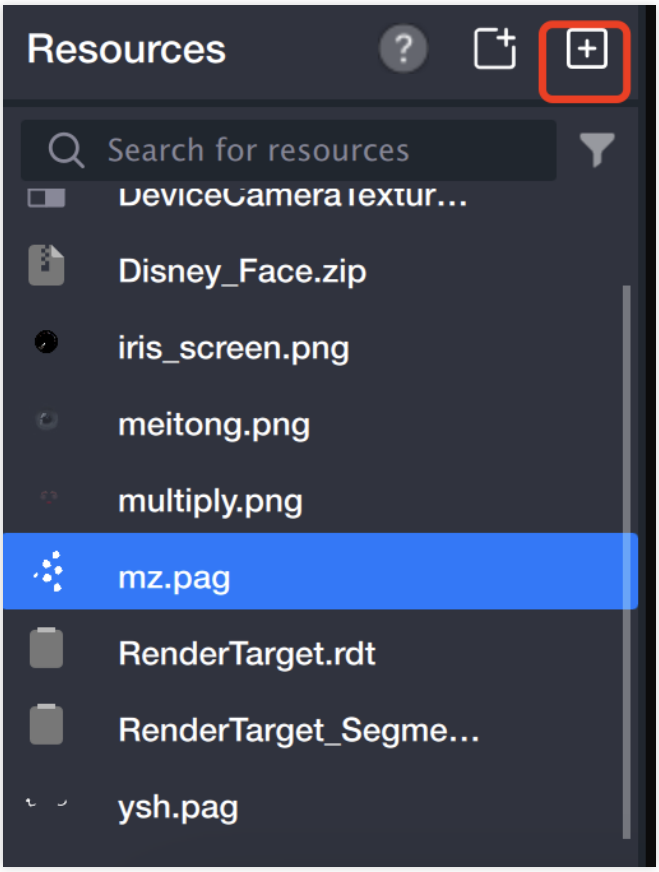
Last updated：2024-03-25 11:43:19

Introduction

Background removal, that is, separating the main character and the background in images or videos to obtain images with clear boundaries of the main character. For example, portrait matting in PhotoShop is a simple application of matting. Tencent Effect integrates AI algorithms to perform real-time matting on video streams.

Basic Usage

1. Import materials



2. Create segmentation object

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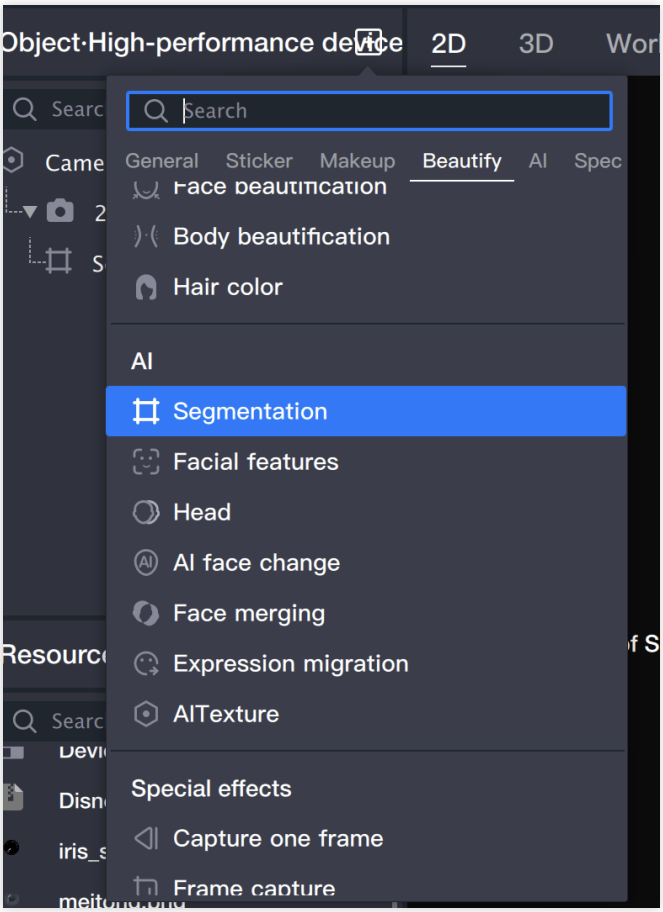

3. Add background

3.1 Add foreground sticker (the foreground sticker added here is the background).

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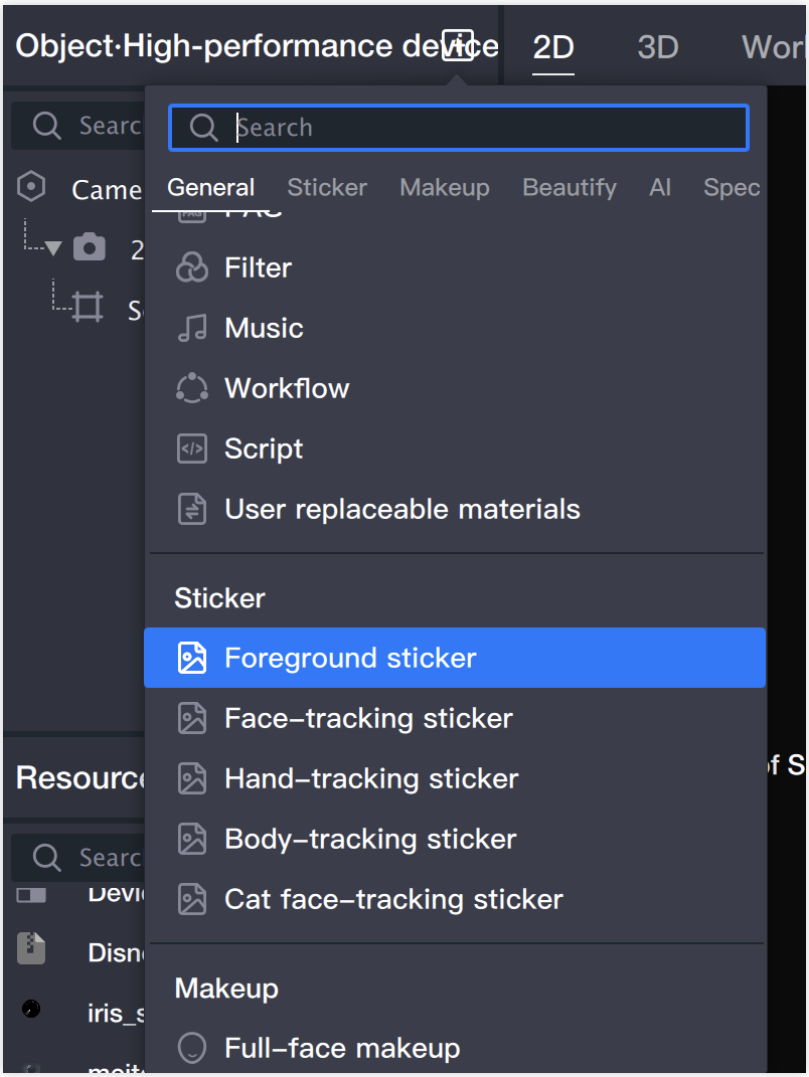

3.2 Rename the foreground sticker to "background sticker": right-click on the **Foreground sticker**, and click Rename.

(This sticker is the background, making it easy to distinguish from the foreground stickers added later.)

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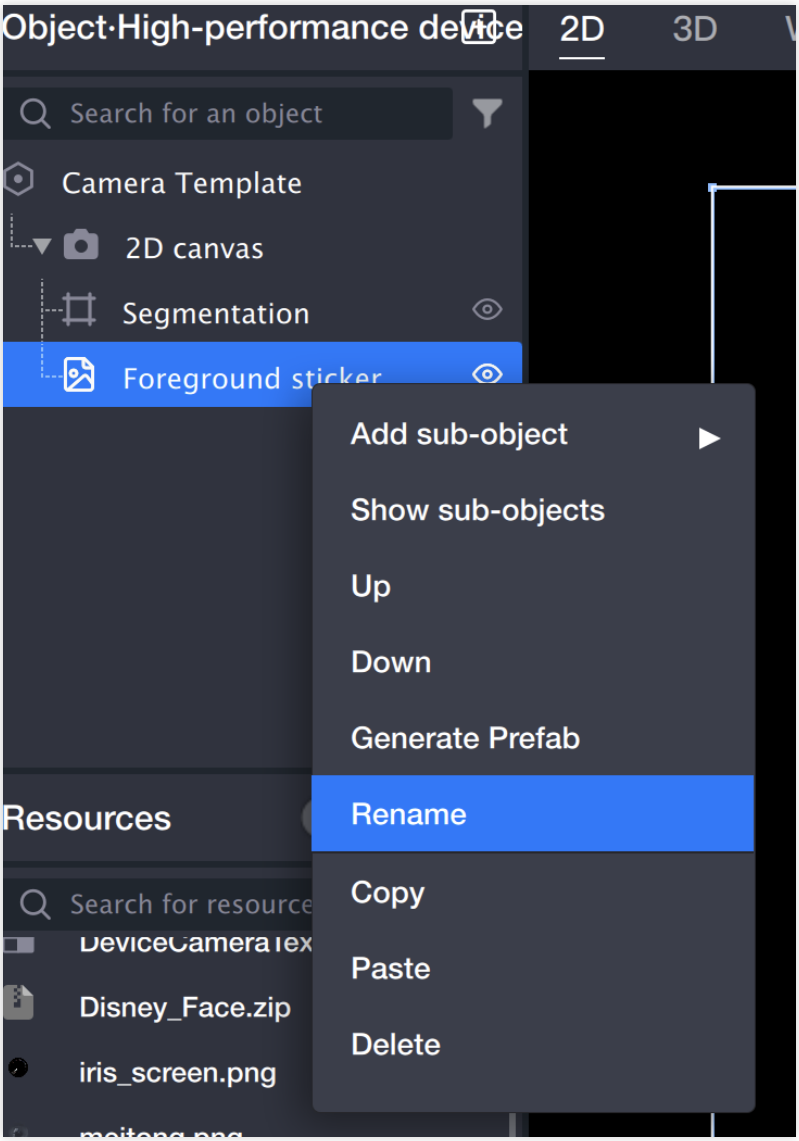

3.3 Select sticker file: When the background sticker is selected, click on the image file, and choose the sticker file in the pop-up window.

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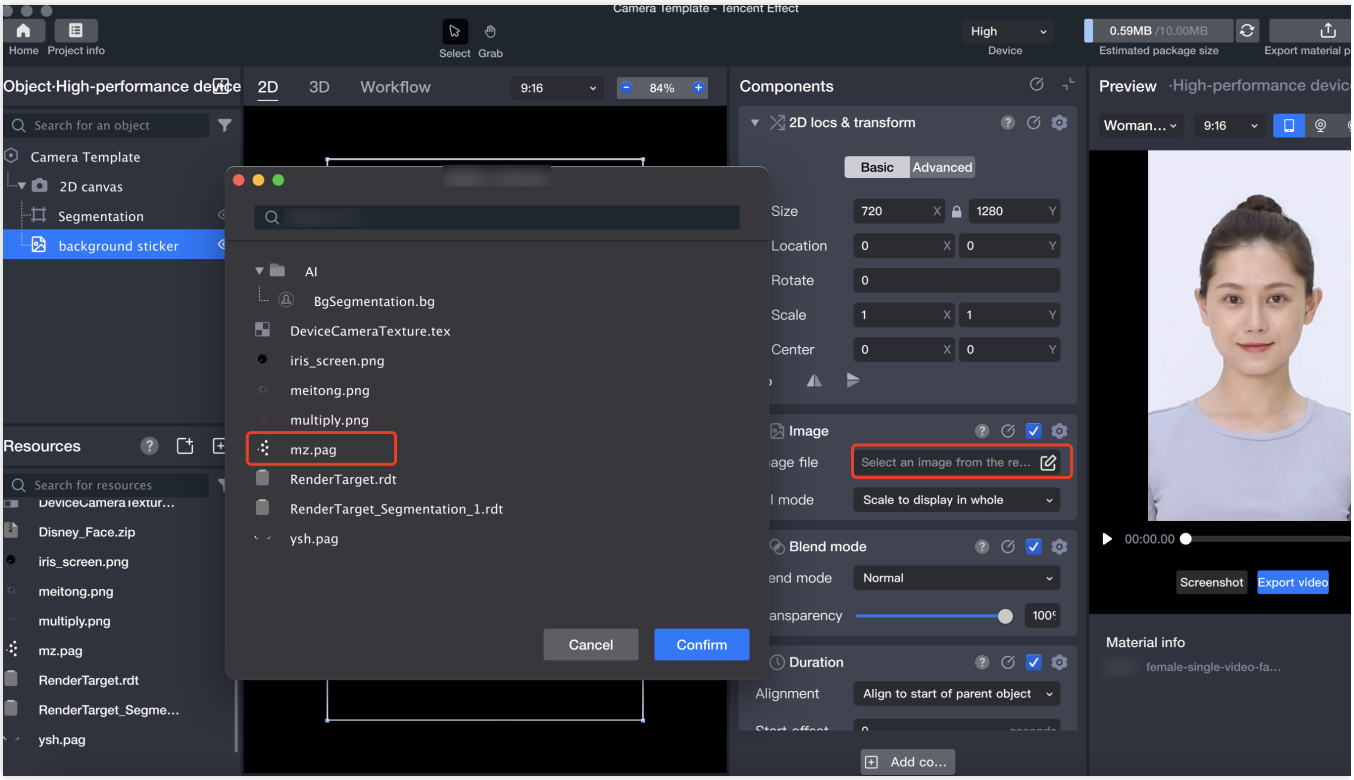
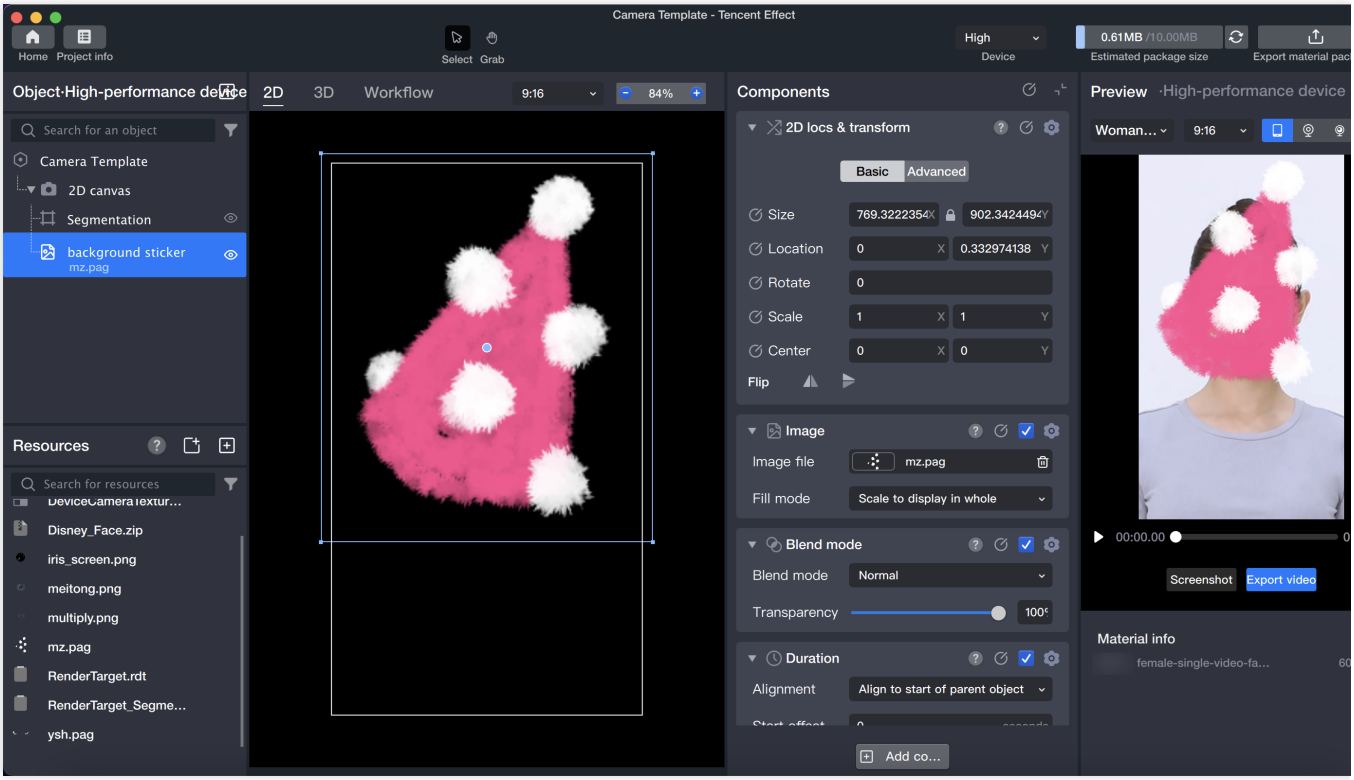


3.4 Adjust the background position and size.



4. Add foreground

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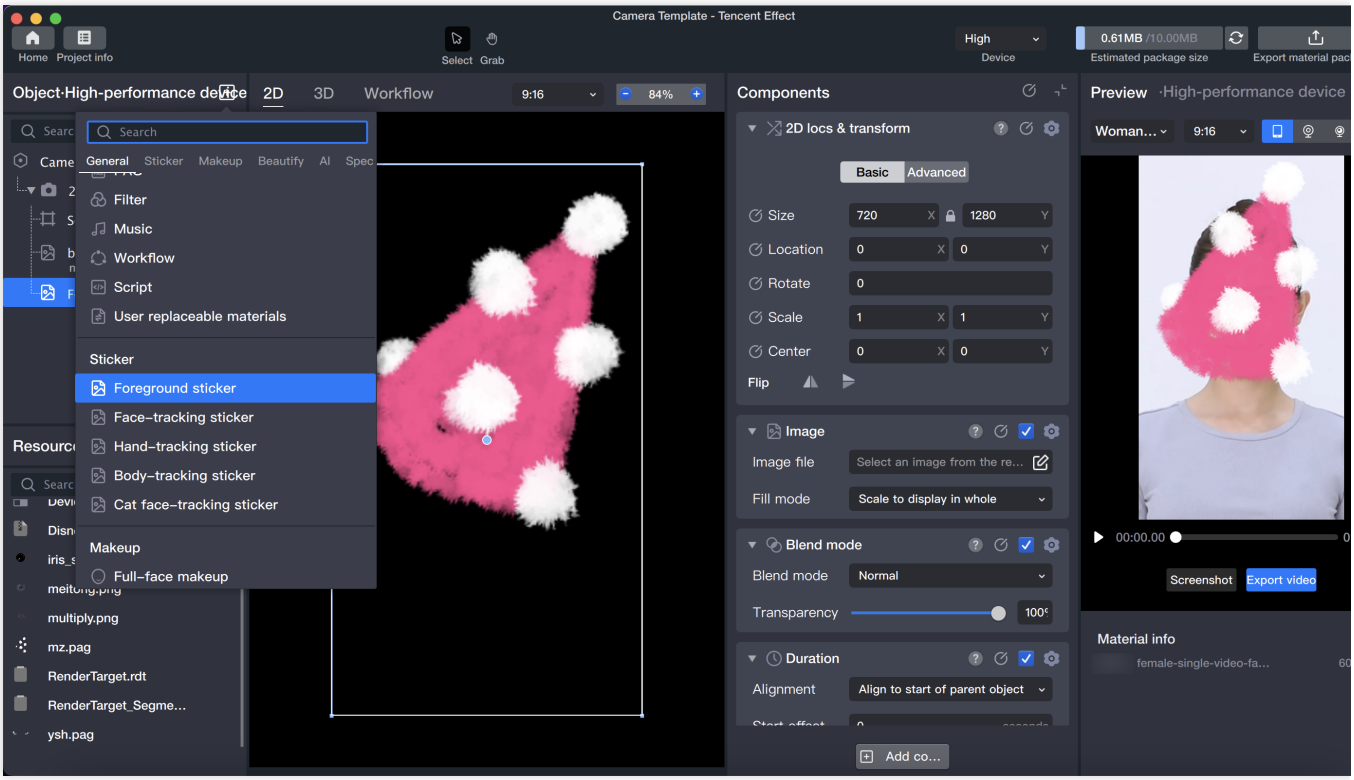
4.1 Add foreground sticker object.



4.2 Select sticker file: Select the foreground sticker, click on the image file, and choose RenderTarget_Segmentation_1.rdt file.

(The RenderTarget_Segmentation_1.rdt file is generated when creating a segmentation object, which displays the separated portrait of the foreground.)

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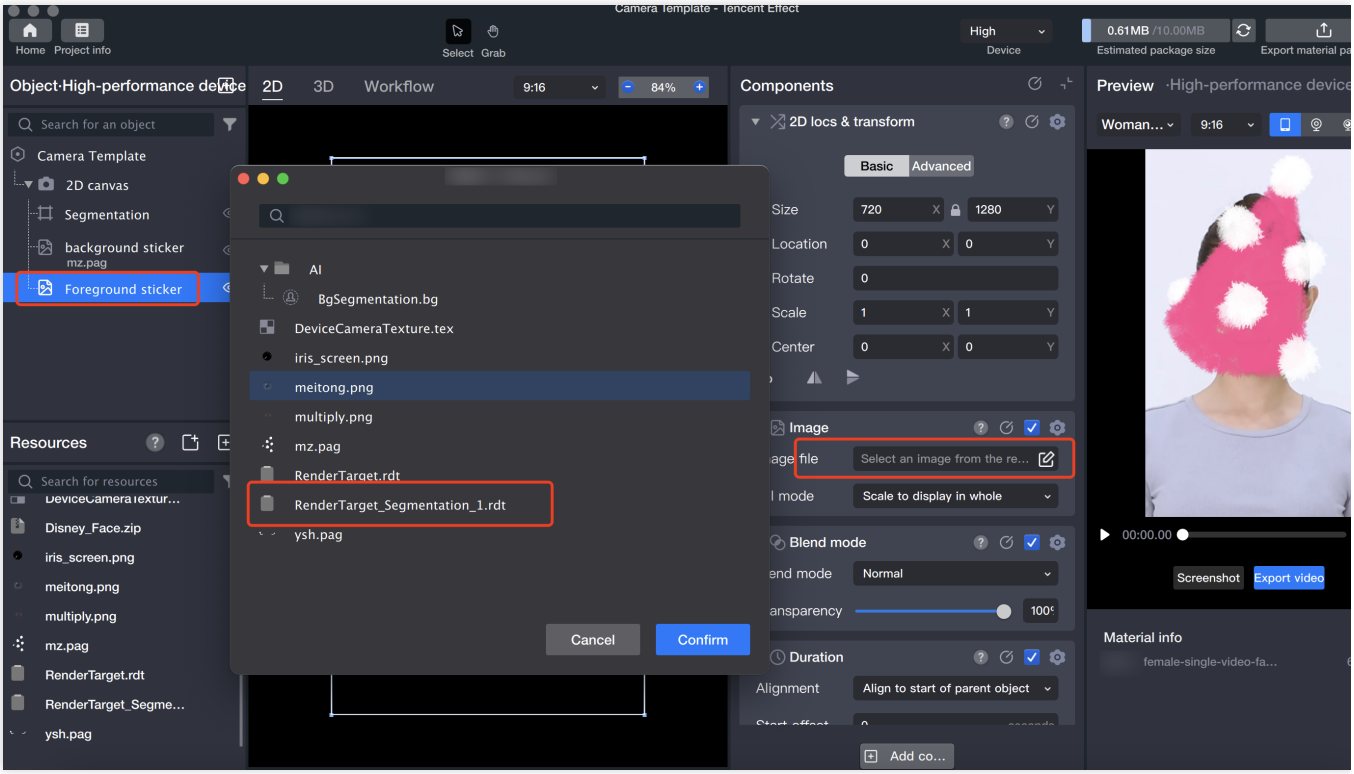

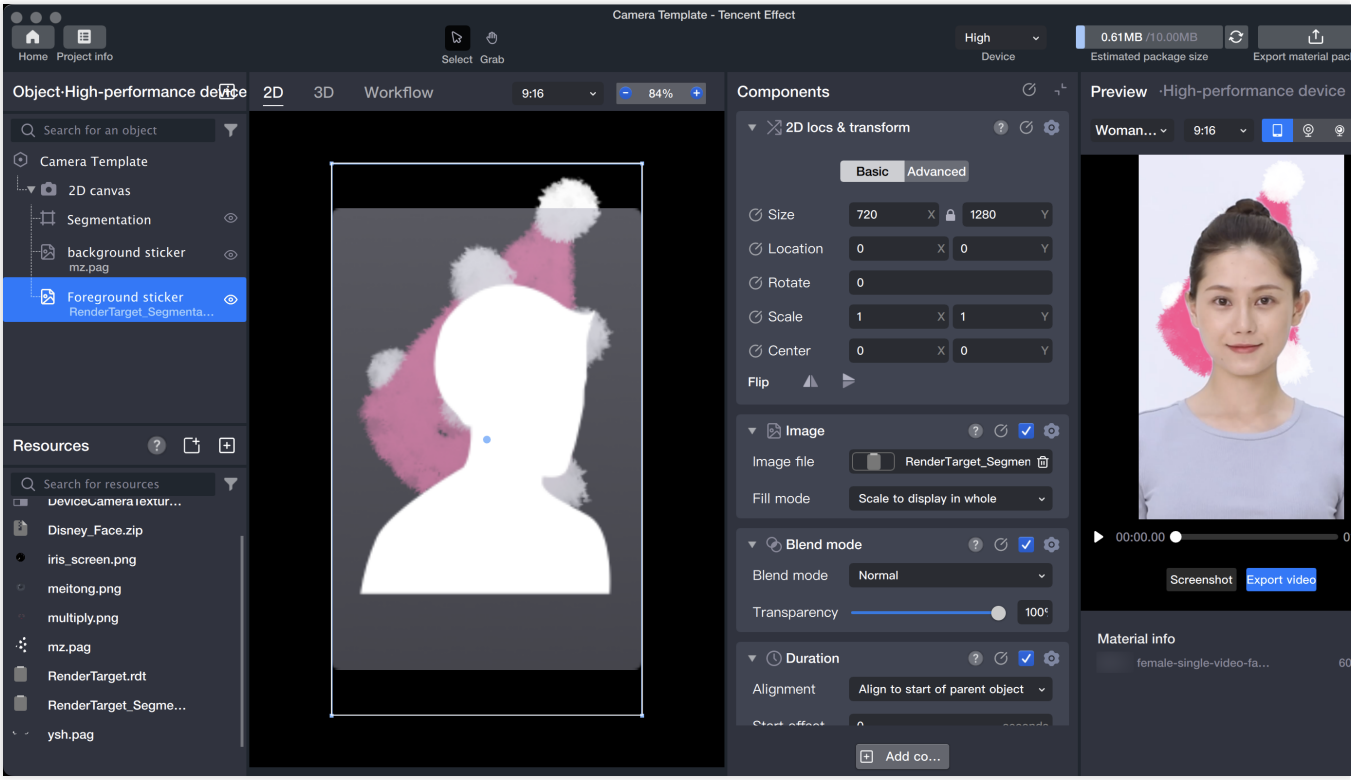

5. Adjust layer order

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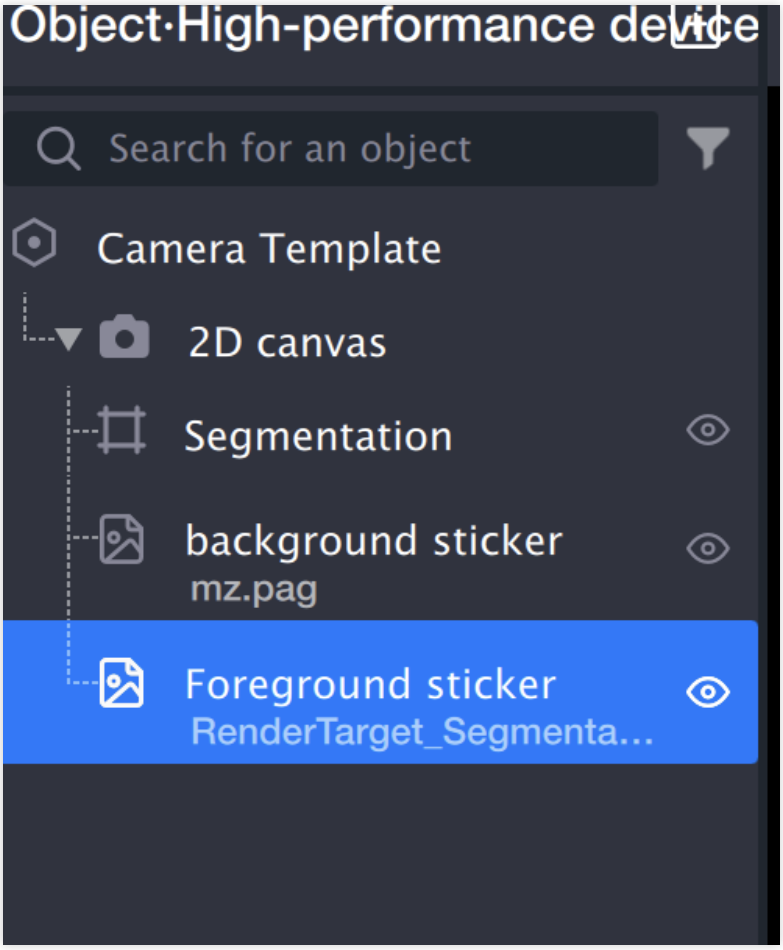
The order of the layers determines the rendering order. Adjust the layer order from top to bottom, in the order of segmentation capability, background sticker, and foreground sticker.



6. Preview

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Hair Dyeing

Last updated：2024-03-22 18:45:44

Introduction

Hair dyeing, which separates the hair of the shooting object and dyes or adds special effects to specific hair areas. Through the segmentation function in hair dyeing, the hair can be dyed in different colors. Tencent Effect can also automatically add hair segmentation mask and yin-yang segmentation mask, which can quickly achieve the hair dyeing effect of the full head, left half of hair, or right half of hair.

Basic Usage

1. Create a hair dyeing object

1.1 Add hair dyeing in the object/component panel;
Adding hair dyeing is similar to adding human body segmentation ability. It does not add a layer, but adds an ability block. This ability can process the content input by the camera and output the result. We can use these output results for further processing.

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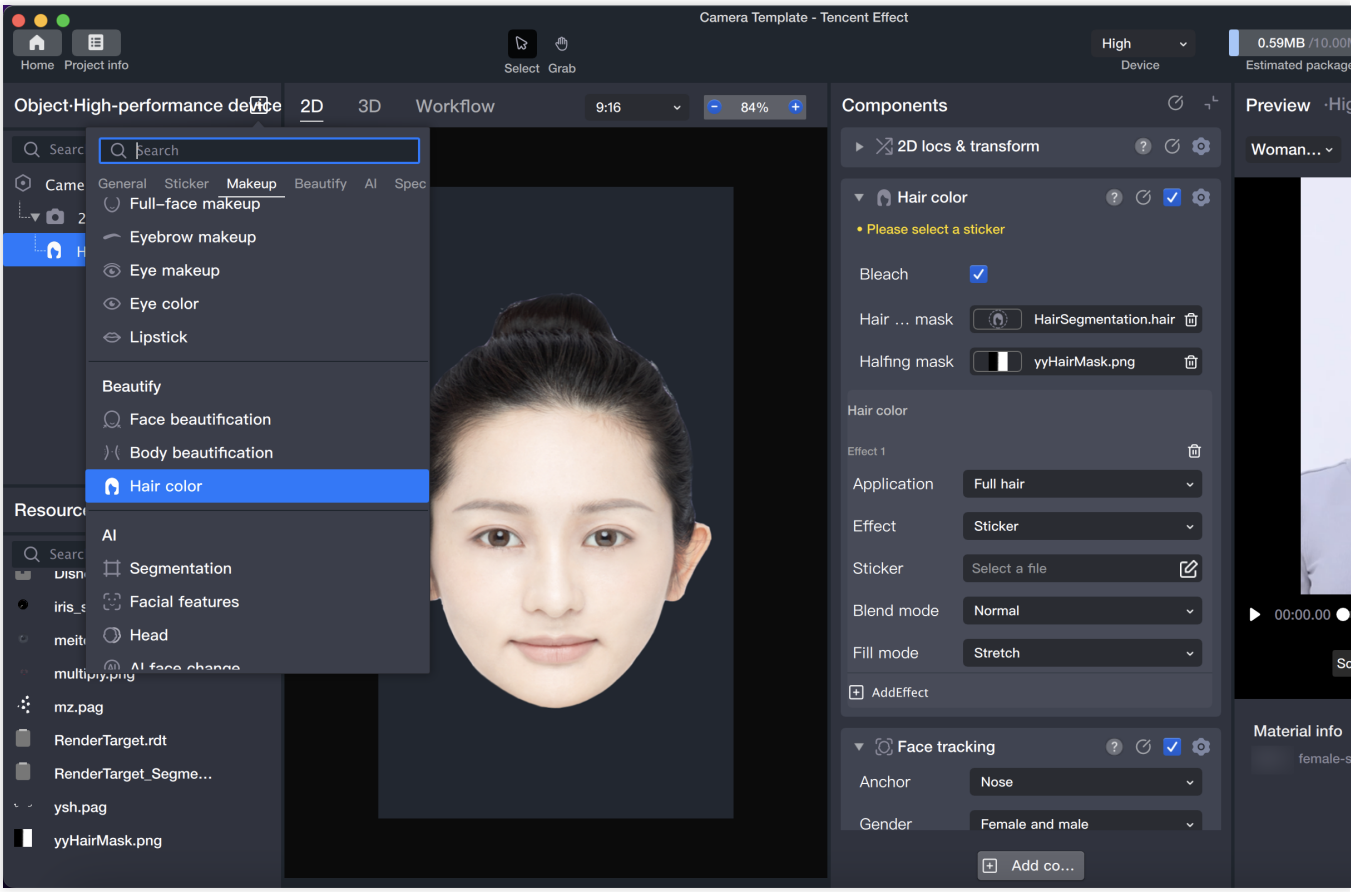

1.2 After adding the hair dyeing ability, two files will be added to the **Resource** window.

HairSegmentation.hair: After adding the hair dyeing component, a mask that recognizes the full head of hair will be added.

yyHairMask.png: Based on the recognition of the full head of hair, yyHairMask will divide the hair into left and right halves.

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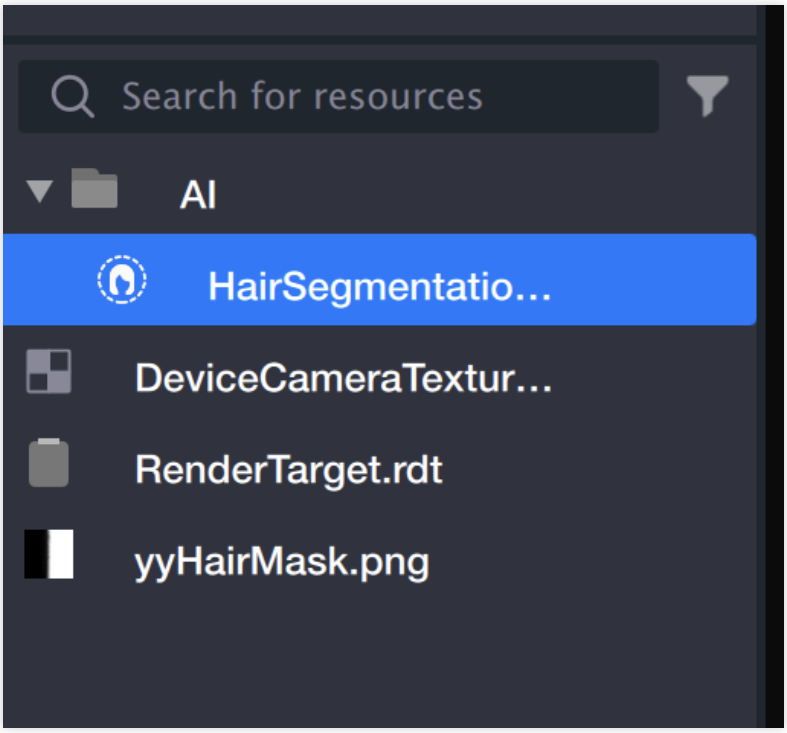

1.3 The files will be automatically filled in the corresponding file input box in the component panel.
If there are special requirements, you can add the mask file to the resource panel yourself and then import the file selection box.

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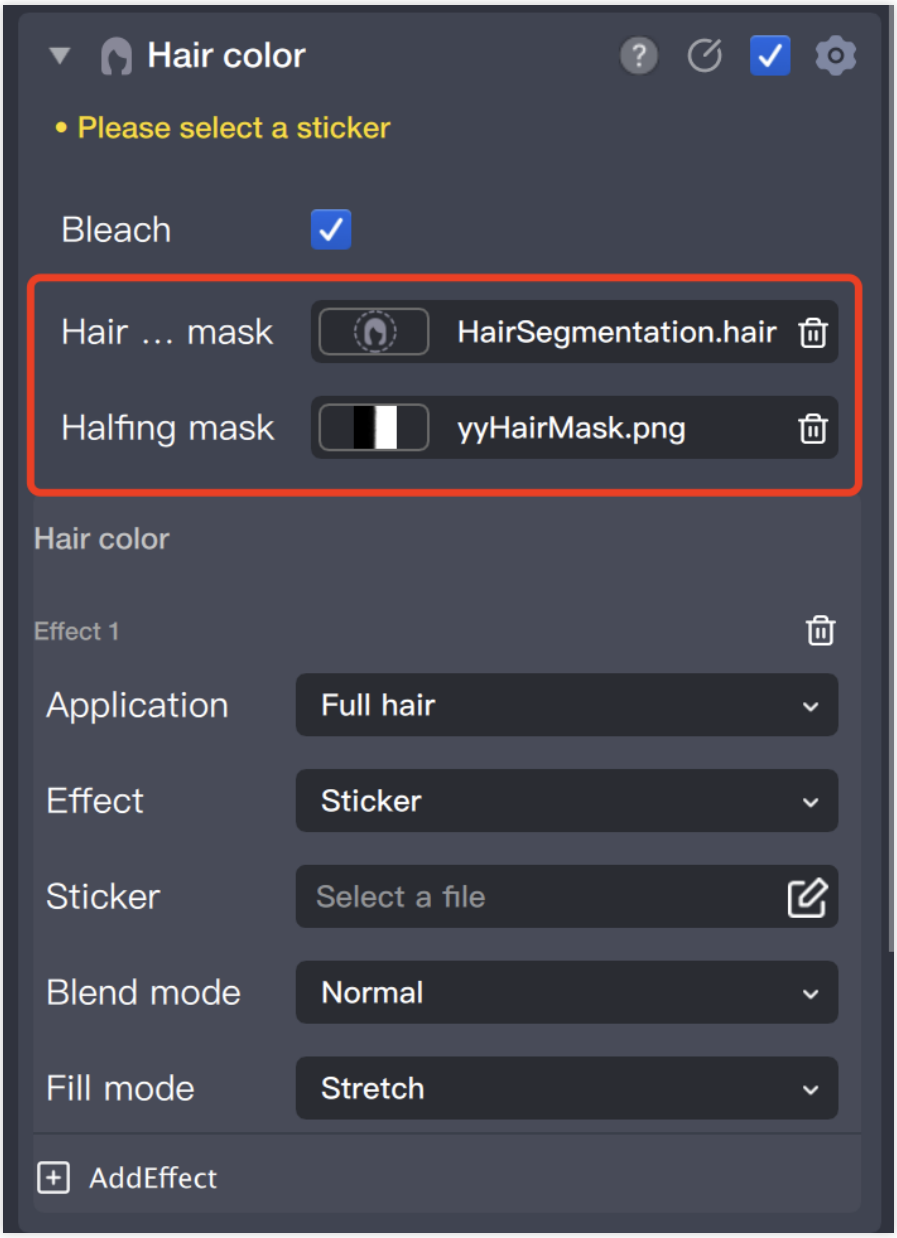

2. Configure hair dyeing parameters

After adding the hair dyeing object, the component will enable a hair dyeing effect by default. Hair dyeing effects can be added and deleted repeatedly.

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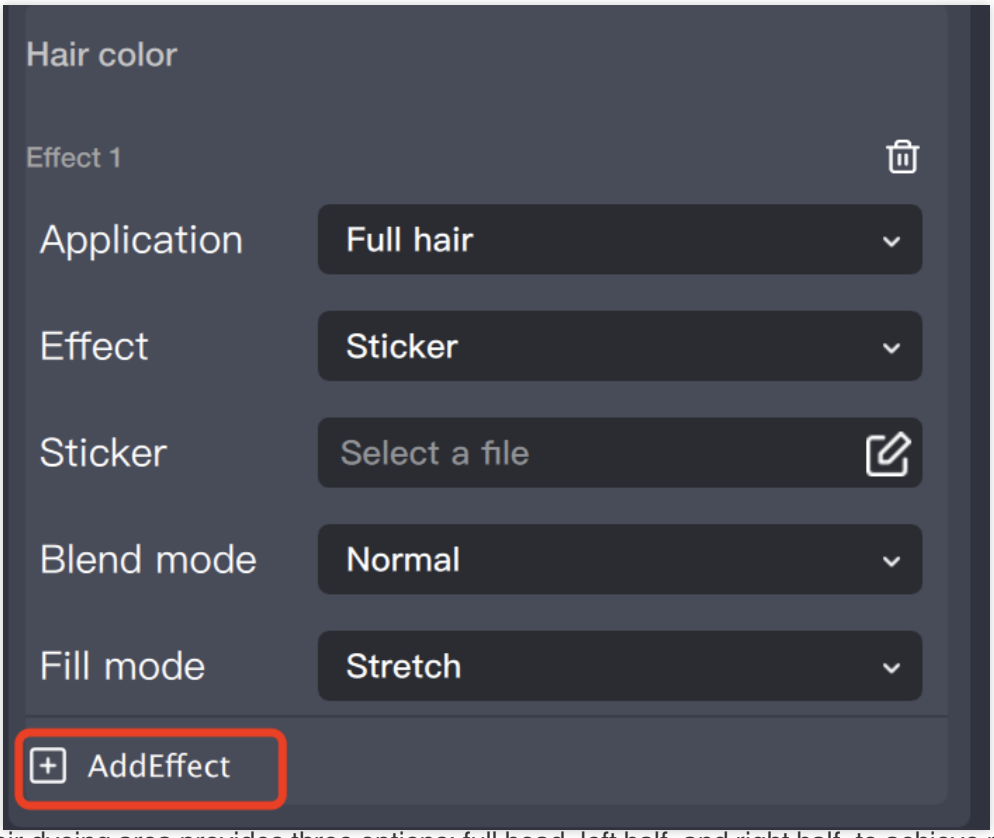

The hair dyeing area provides three options: full head, left half, and right half, to achieve regional hair dyeing.

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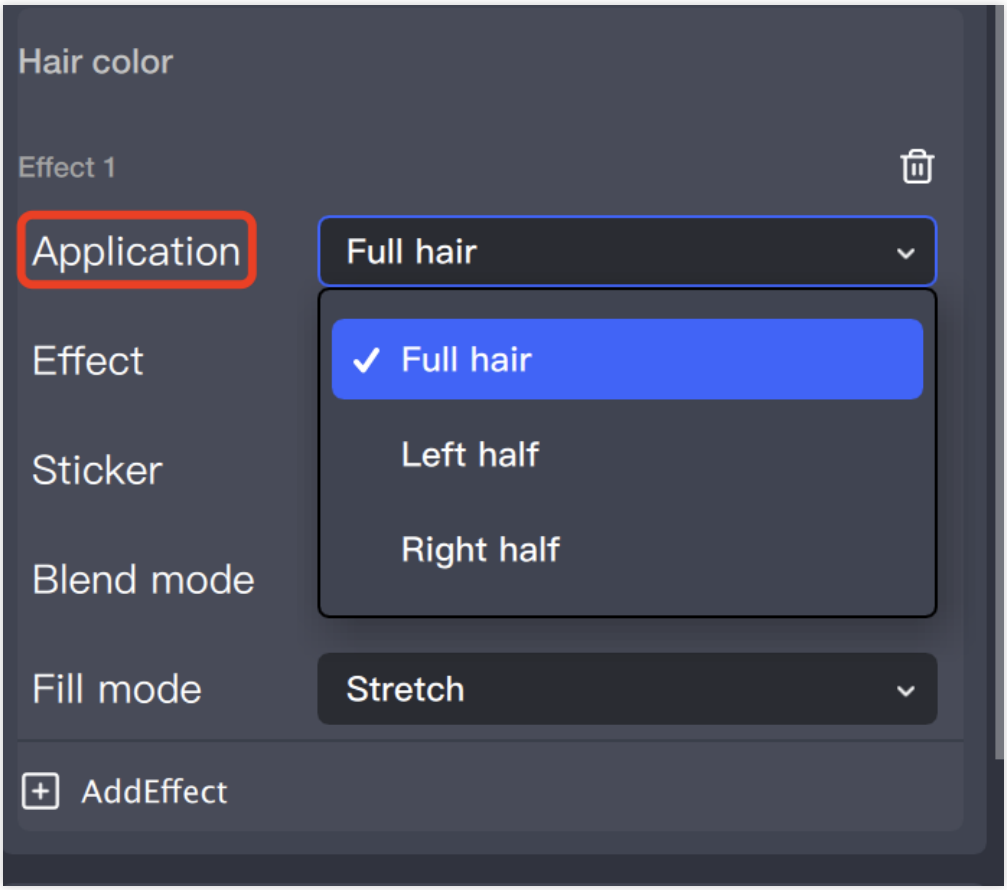

Hair dyeing effects are divided into stickers and Lut. After selecting one, the corresponding input box and corresponding parameters will appear. Sticker files include JPG, PNG, PAG, and other common texture materials.

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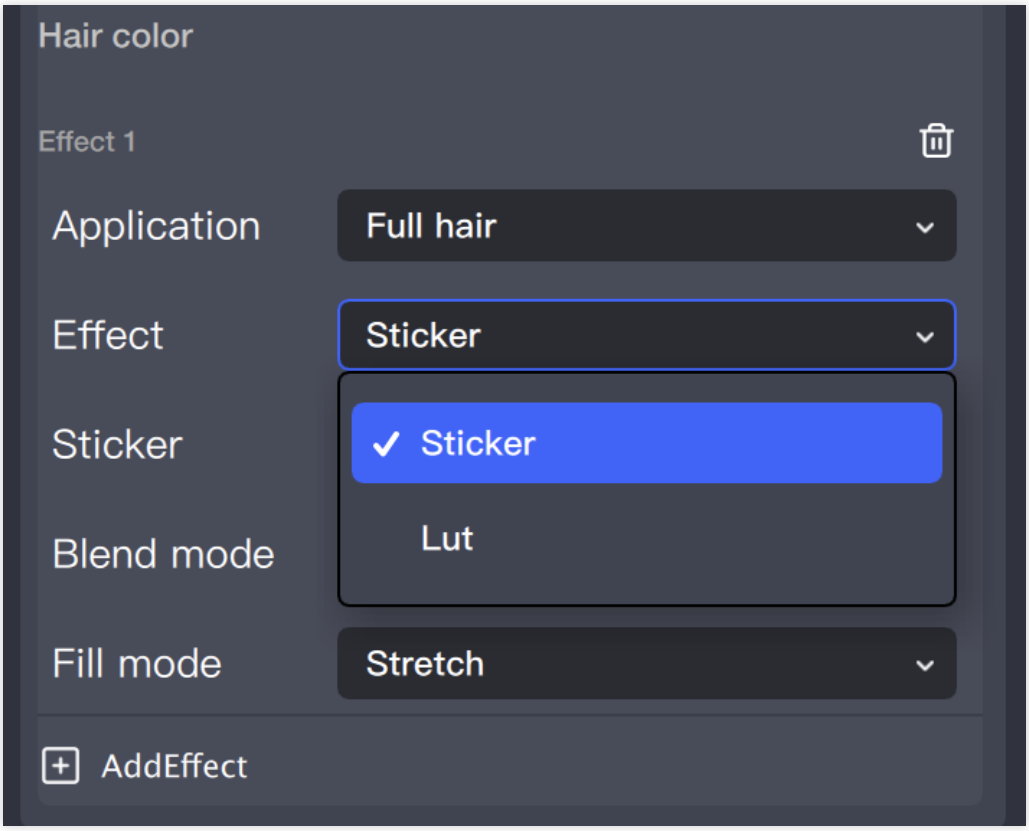

Import a lut-hair file， and Click the lut box to configure the effect.

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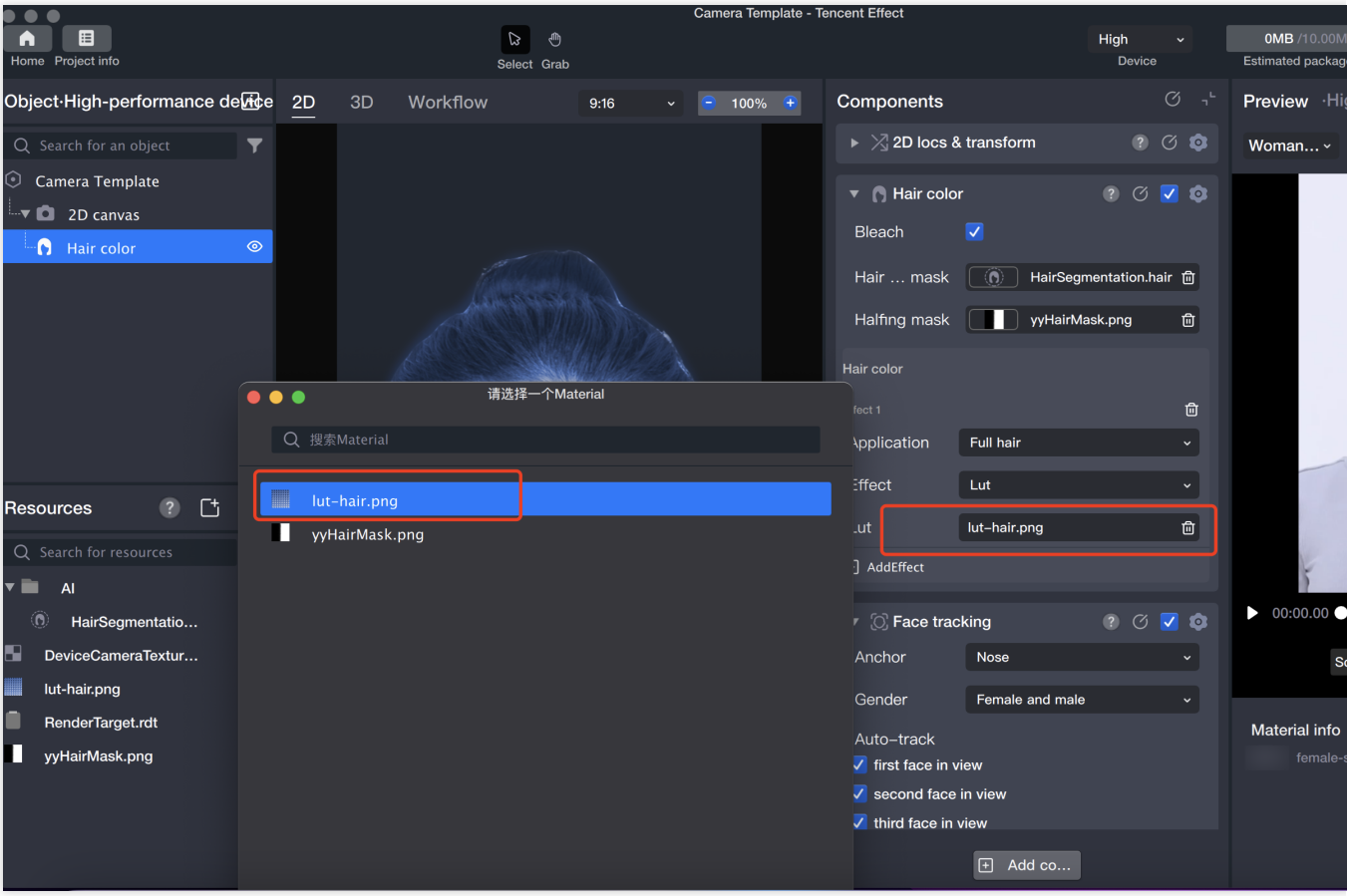

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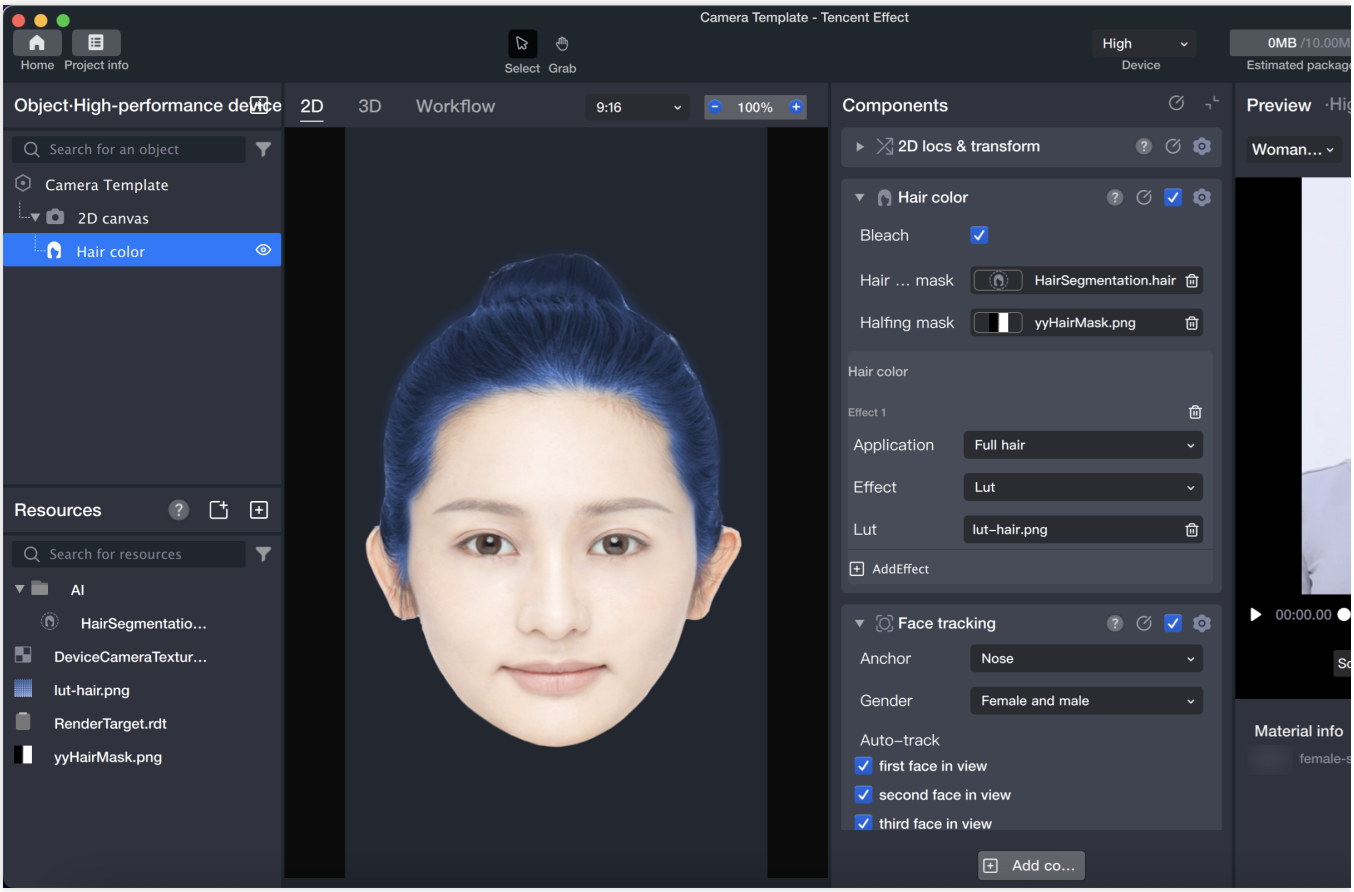

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Selecting Facial Features

Last updated：2024-03-22 18:45:44

Introduction

Select facial features, that is, separate specific facial features from the face, and obtain images with clear boundaries of the selected facial features. You can add the selected facial features to any position on the canvas to achieve some interesting and weird effects, such as adding eyes to the middle of the forehead, or extending the palm to show the photographer's facial features.

Basic Usage

1. Create a Cut out facial features object

Add **Facial features** in the object panel.

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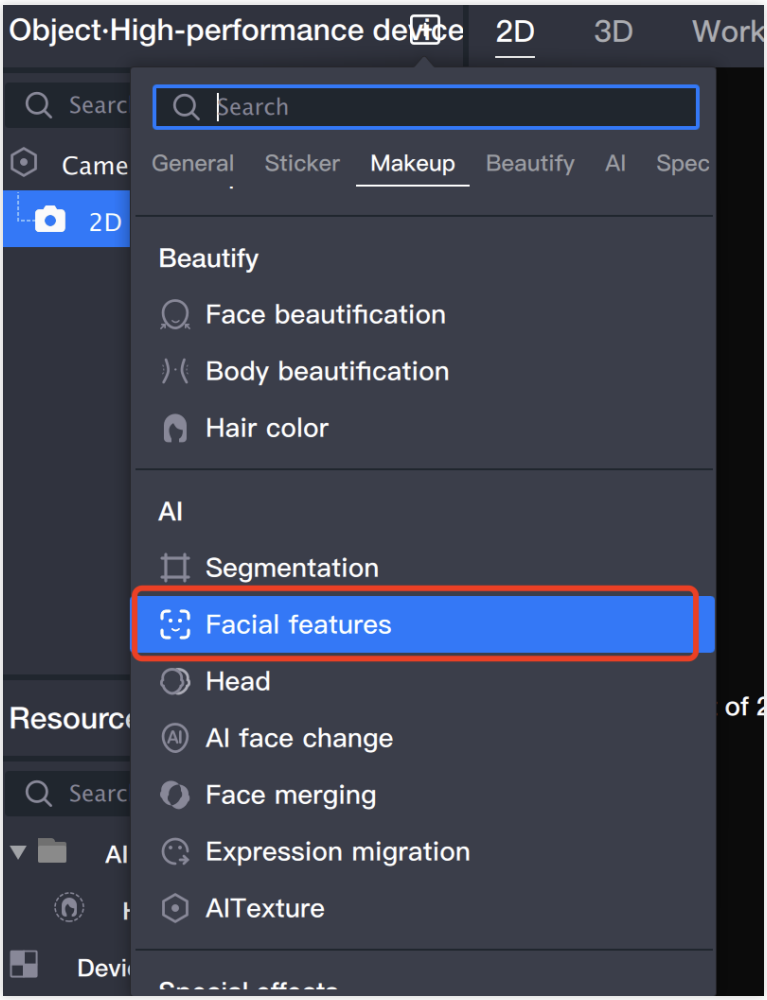

After adding the ability to select facial features, a RenderTarget_FaceInset1.rdt file will appear in the resource panel. This file is the output result of the segmentation ability, that is, the cut-out facial features will be output to this file (which can be used as a sticker later).

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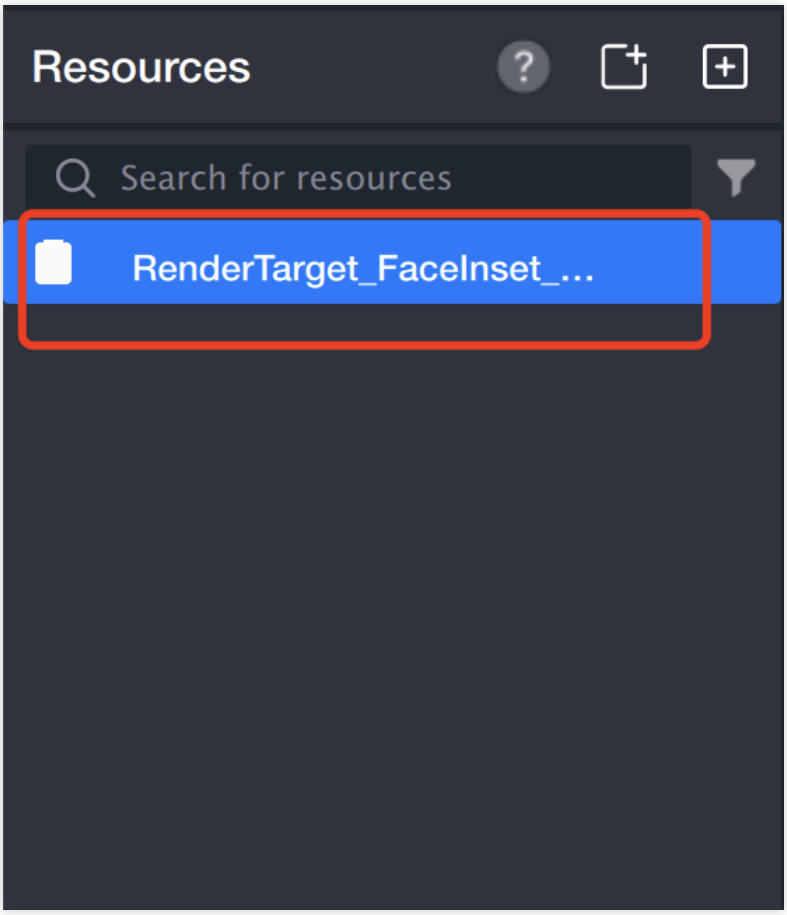

2. Select the area to be cut out

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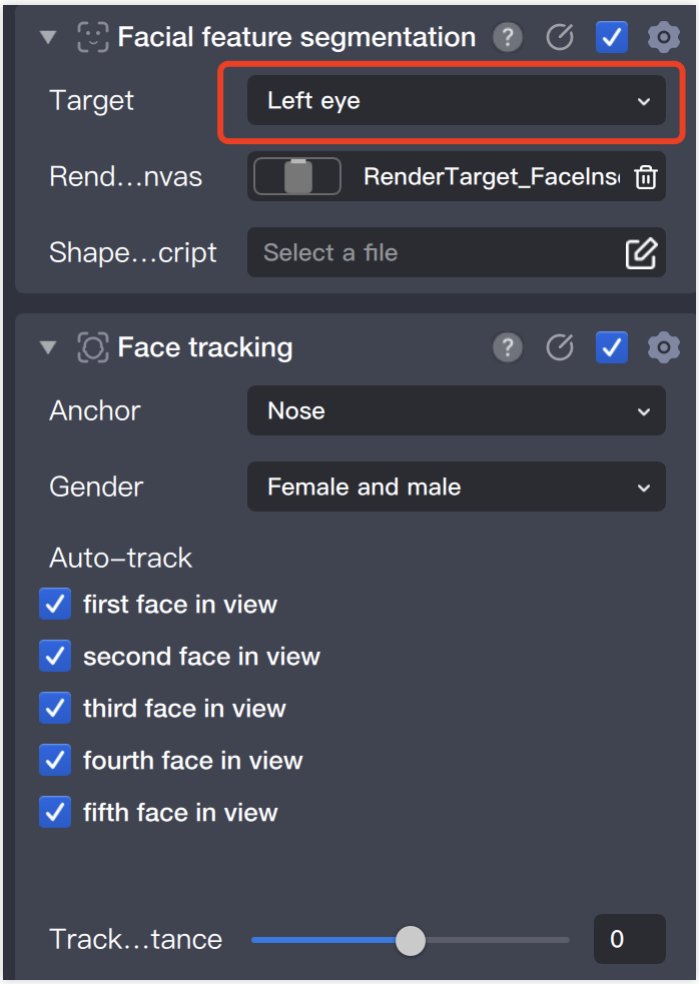

3. Add face-tracking stickers to the cut-out facial features.

3.1 Add face-tracking stickers in the object panel.

(You can also add foreground stickers/gesture-tracking stickers/body-tracking stickers/cat face-tracking stickers.)

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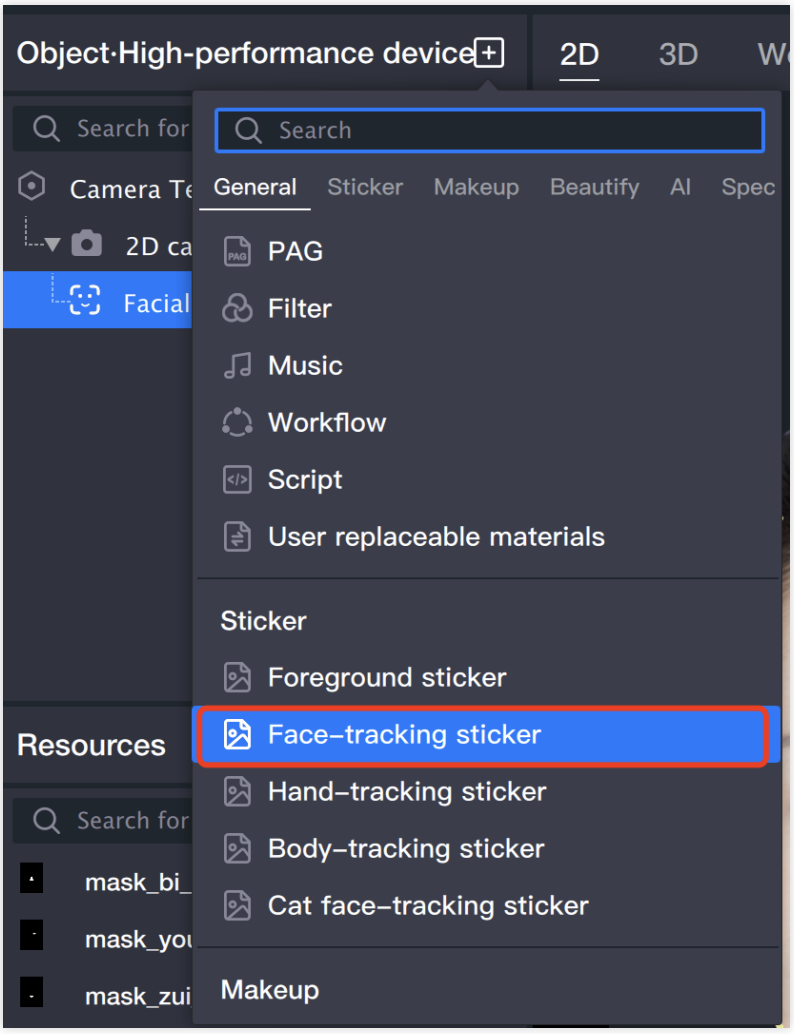

3.2 Select the sticker file (the sticker selected at this time is the cut-out facial features).

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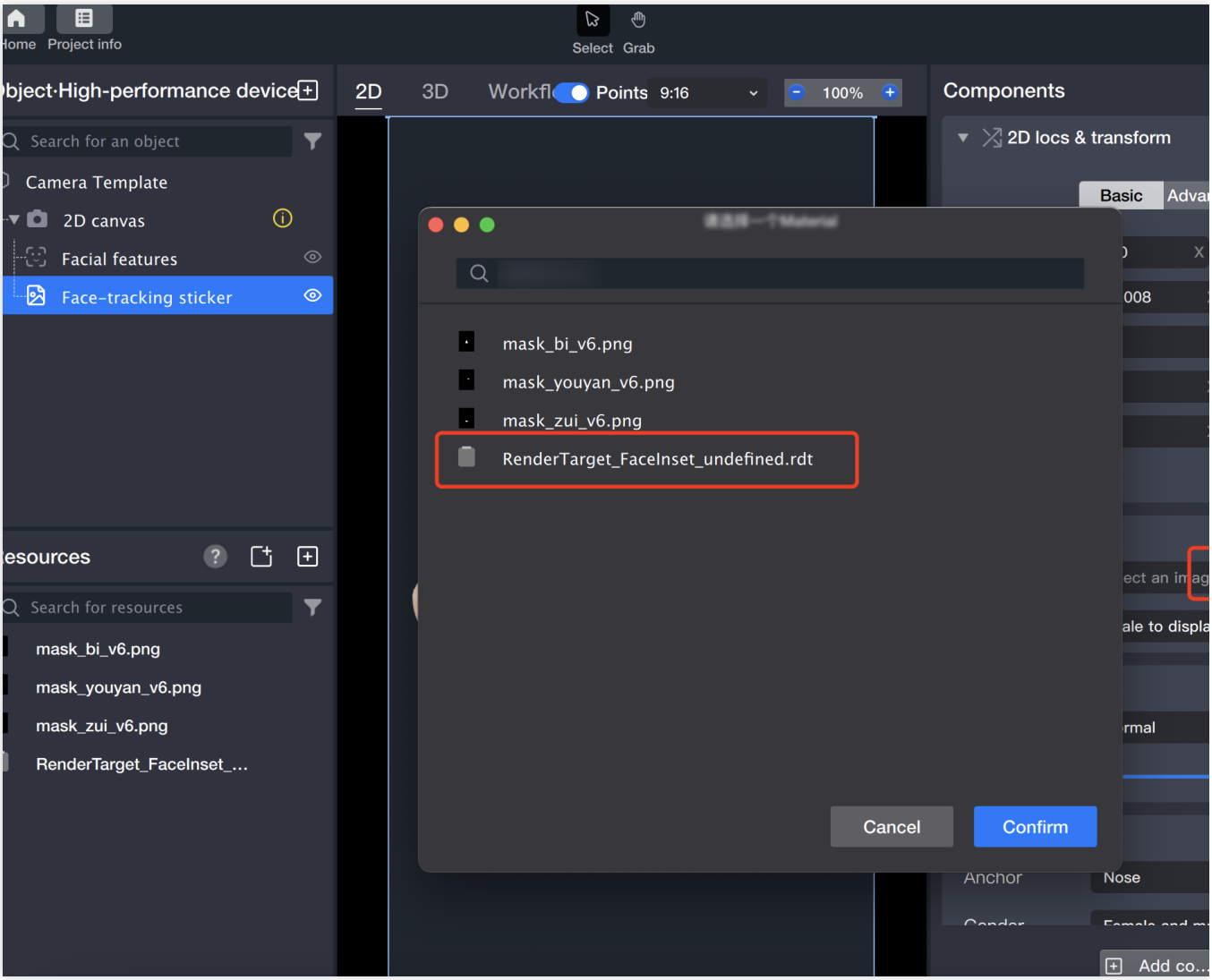

3.3 Adjust the position and size as needed to complete the use of the Select facial features component.

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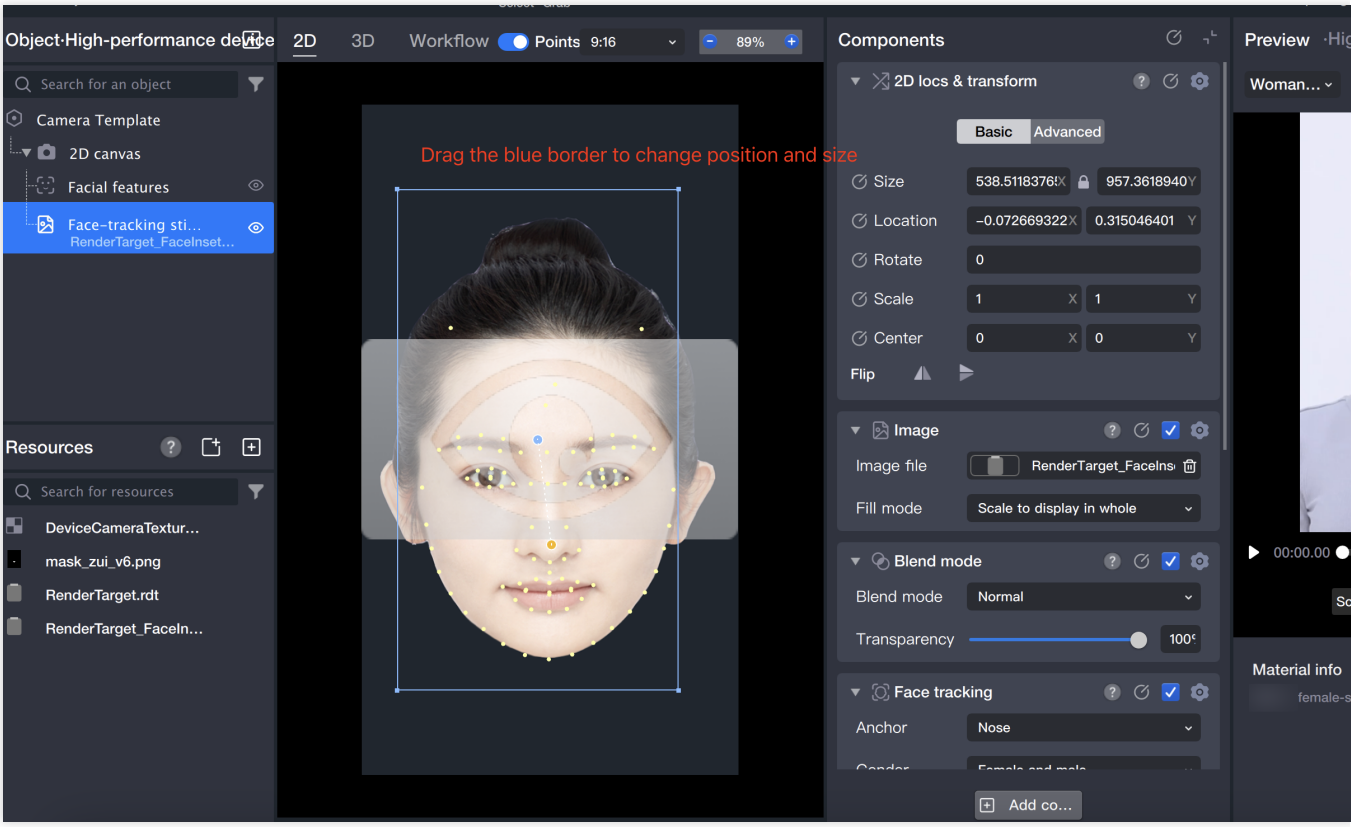

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Head Clipping

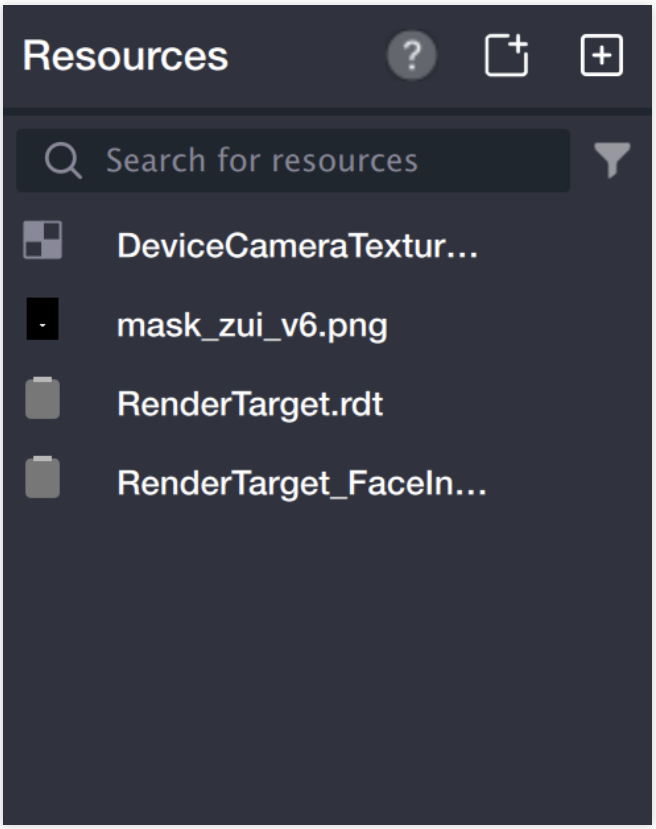
Last updated：2024-03-25 11:43:19

Introduction

Head clipping is a type of segmentation ability, which separates the head part of an image or video from the rest of the scene, resulting in a clear head boundary image. In Tencent Effect, the head clipping ability can quickly identify the head position and rotation angle, achieving real-time and accurate segmentation results.

Basic Usage

1. Import materials



2. Create Head Clipping Object

2.1. Add **Head Clipping** in the Object Panel.

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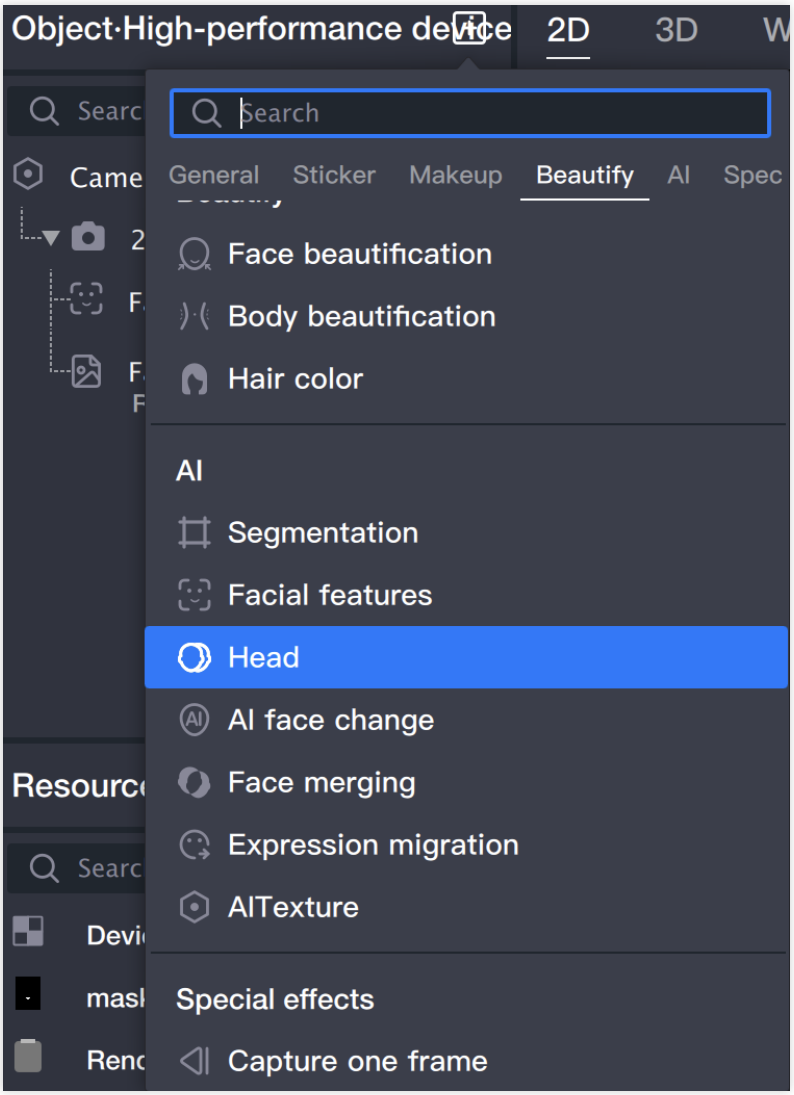

2.2 After adding the head clipping ability, a RenderTarget_HeadInset_1.rdt file will appear in the Resource Panel. This file is the output result of

the head clipping ability, i.e., the clipped head image will be output to this file (which can be used as a sticker later).

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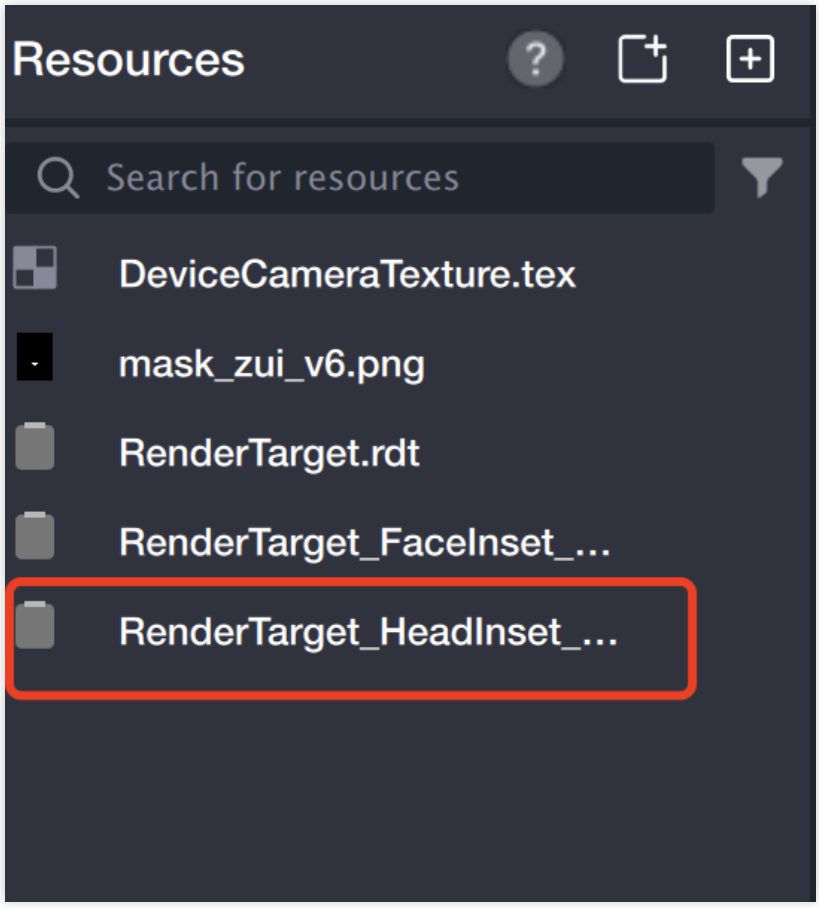

3. Add Background

3.1. Add foreground sticker (the background you want to replace).

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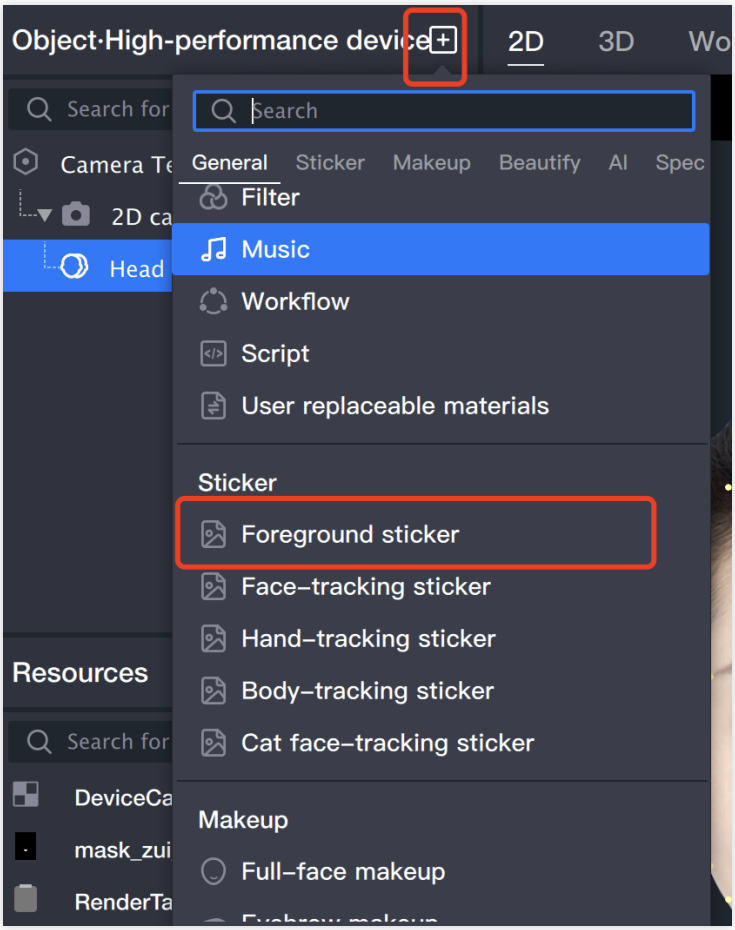

3.2. Rename the foreground sticker to "Background Image" (to avoid confusion with the foreground stickers added later).

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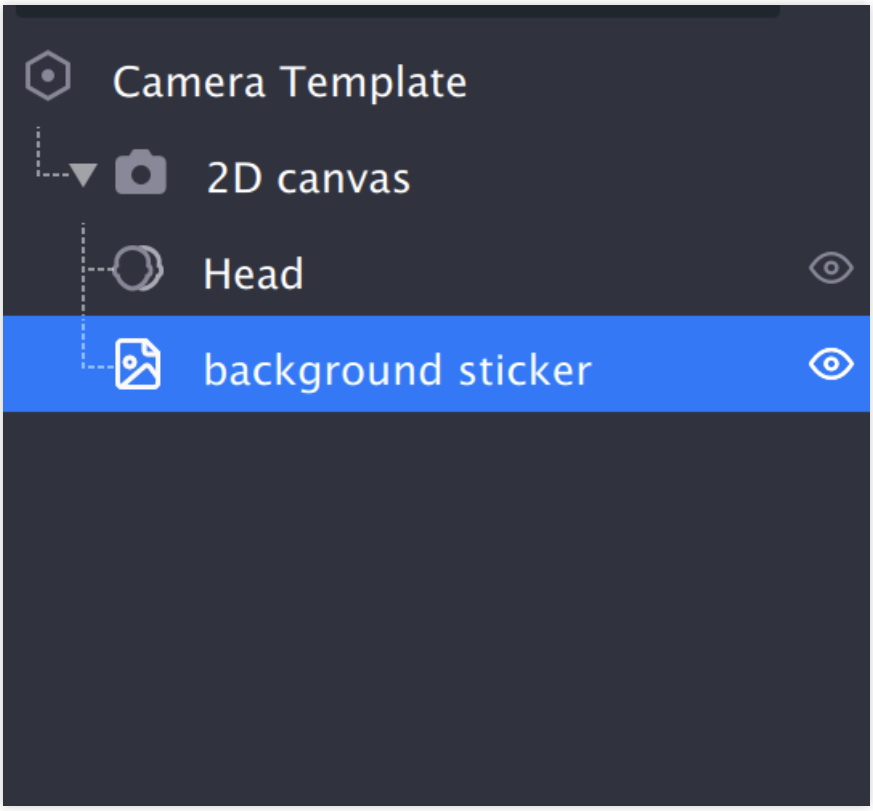
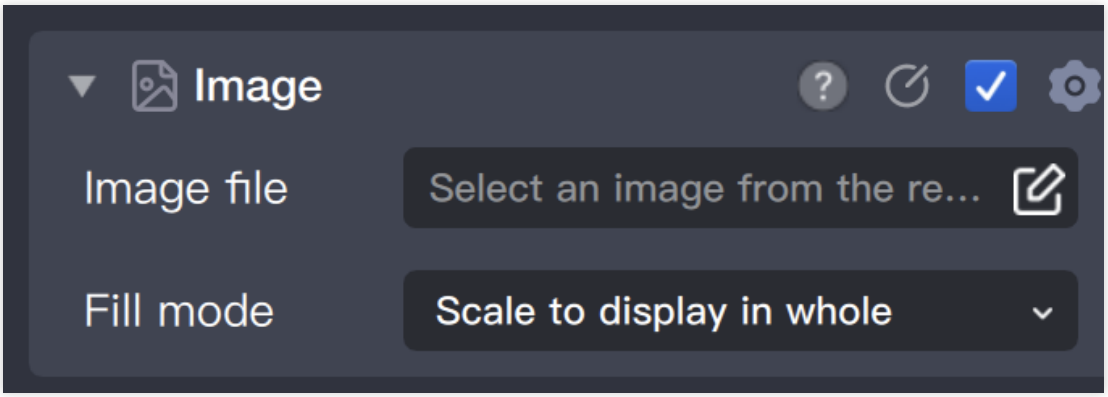


3.3 Select image file.



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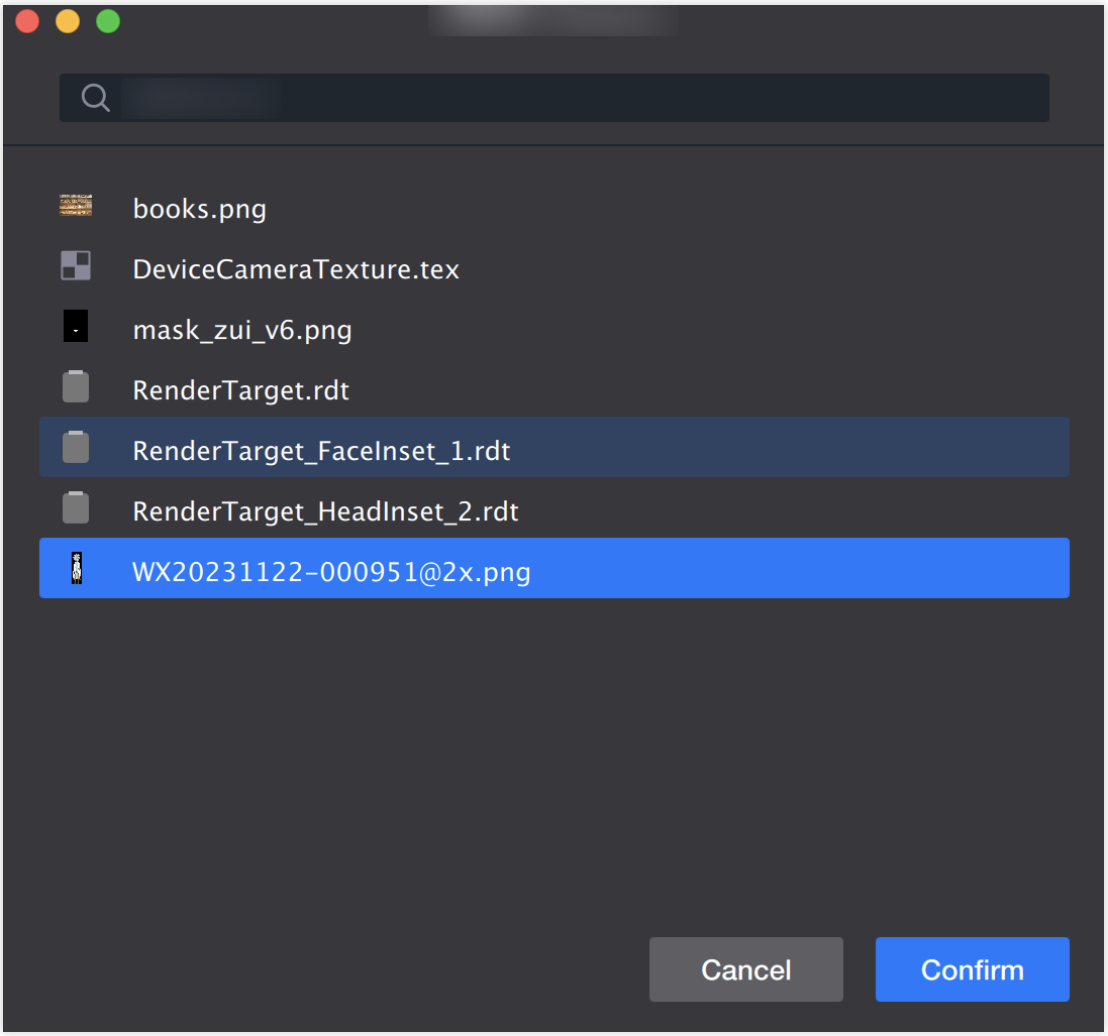

3.4 Adjust background position and size.

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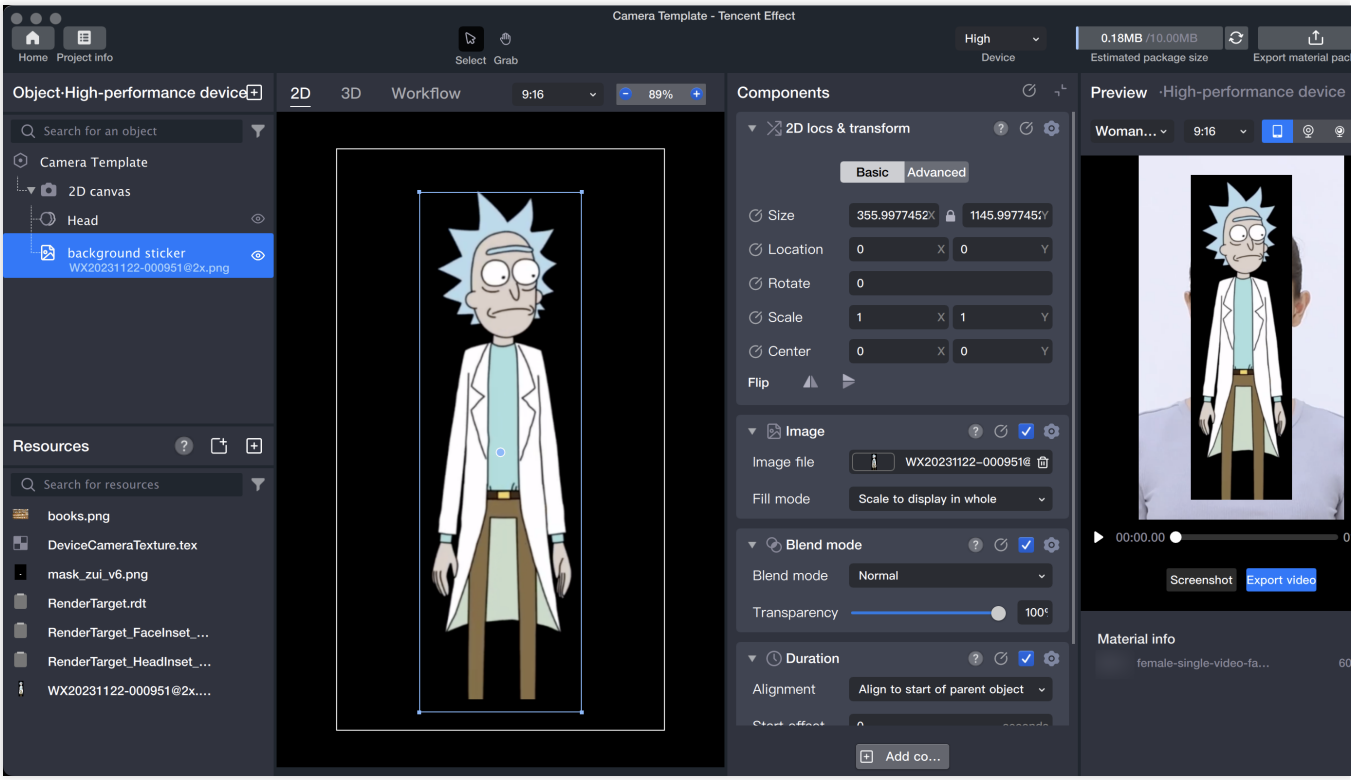

4. Add foreground sticker to the clipped head image.

4.1 Add **Foreground Sticker** in the Object Panel.

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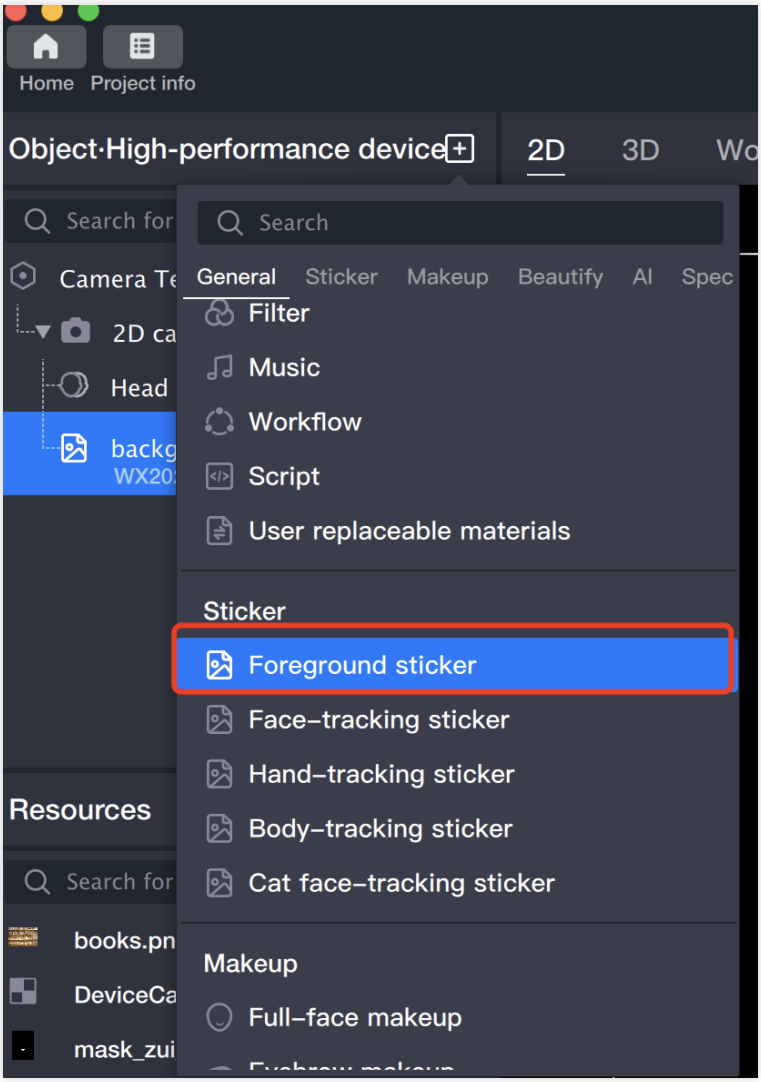
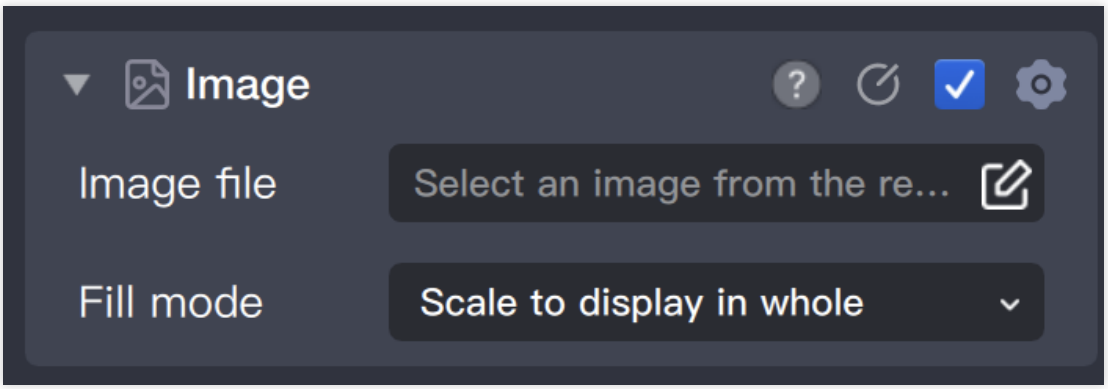


4.2 Select image file.



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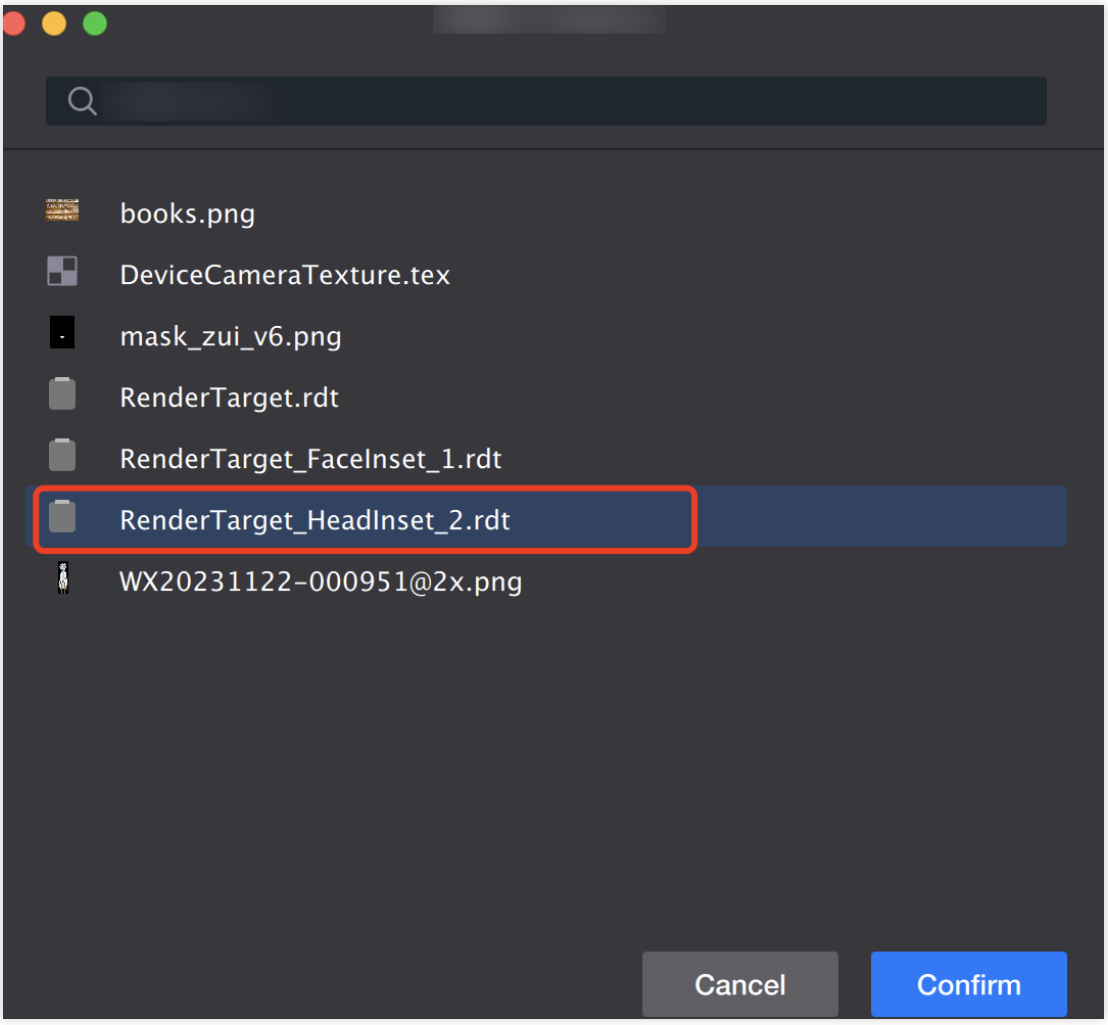

4.3 Adjust head image position.

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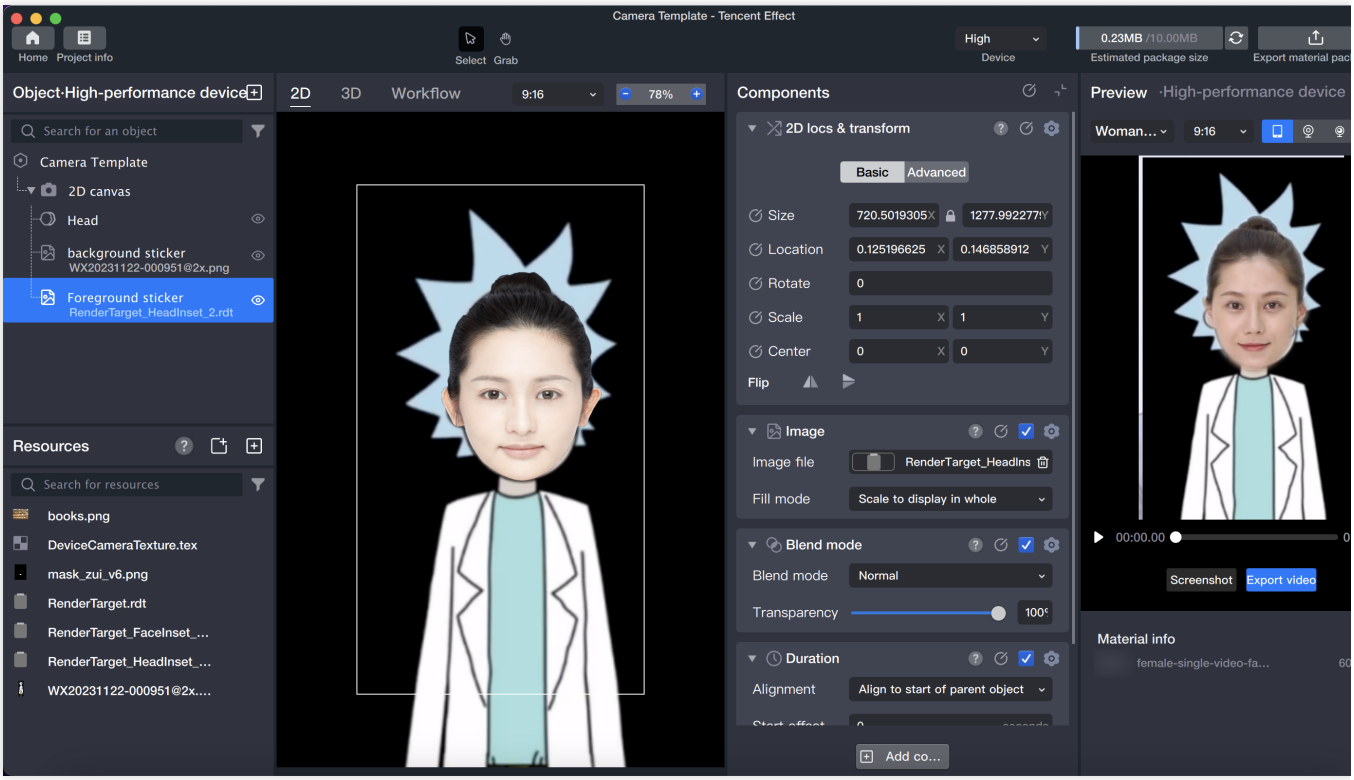

5. Preview

Computer Preview: Click the play button.

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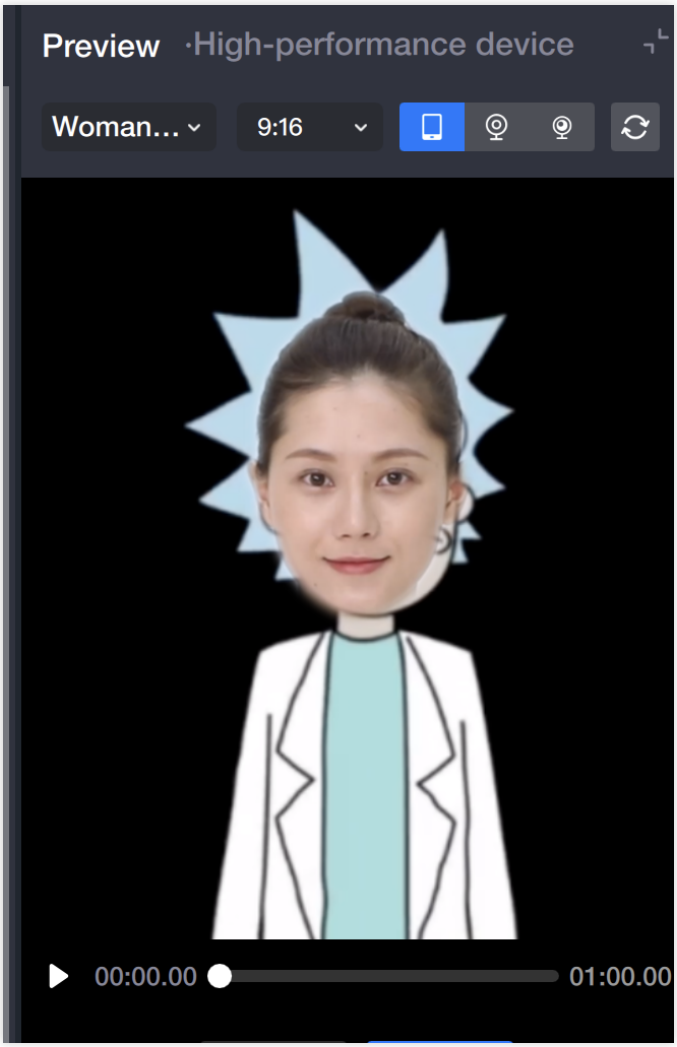

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Face Liquification

Last updated：2024-03-25 11:43:19

Introduction

Face liquify is used in the form of a brush, which can be freely moved and repeatedly added, changing the shape of the image it is on. The brush parameters determine whether the area covered by the brush shrinks or expands. Face Liquify is an important component for creating prank filters for faces.

Basic Usage

1. Add a Face Liquify object

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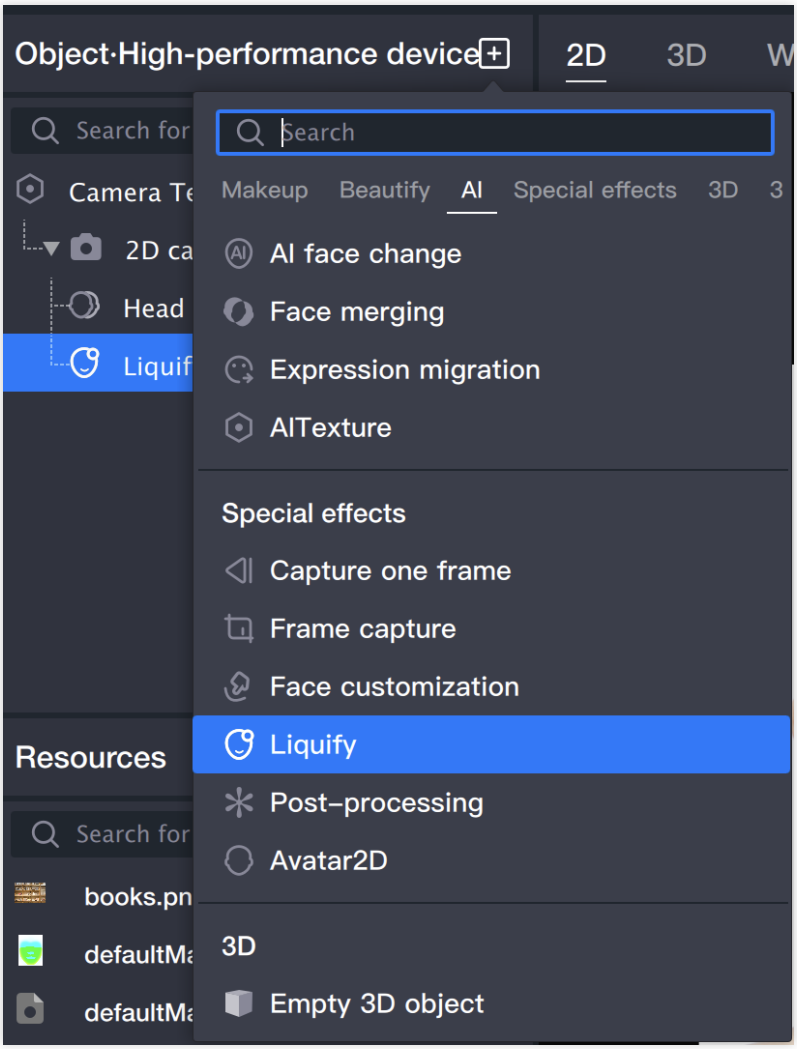

2. Adjust Parameters

Brush Scaling: Supports direct scaling in the scene panel, hold and drag the edge of the brush, expand the brush outward, and shrink the brush inward; you can also adjust the Brush Size in the Face Liquify component, click the lock button in the middle, when the aspect ratio is locked, the brush scales according to the current ratio.
Left and Right Face Symmetry: When left and right face symmetry deformation is disabled, there is only one circular brush in the scene panel, and when you hold and drag the circle, local deformation occurs; when enabled, two circles appear in the scene panel, one solid and one dashed, and when you hold and drag the solid circle, the dashed circle changes symmetrically.

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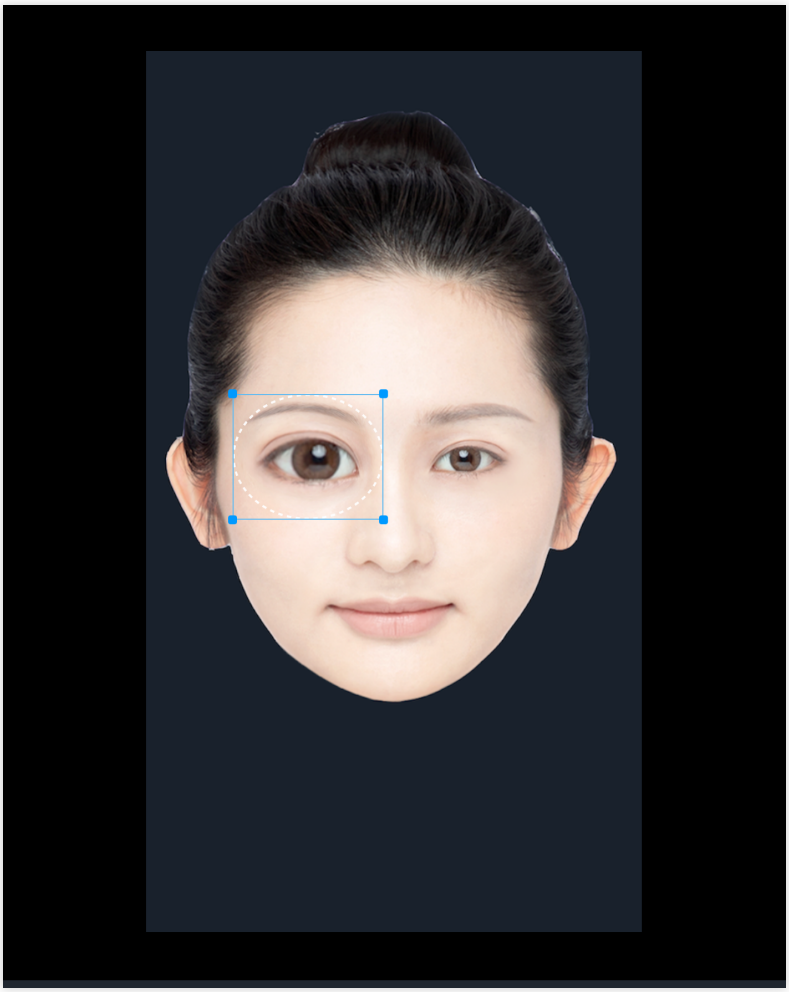

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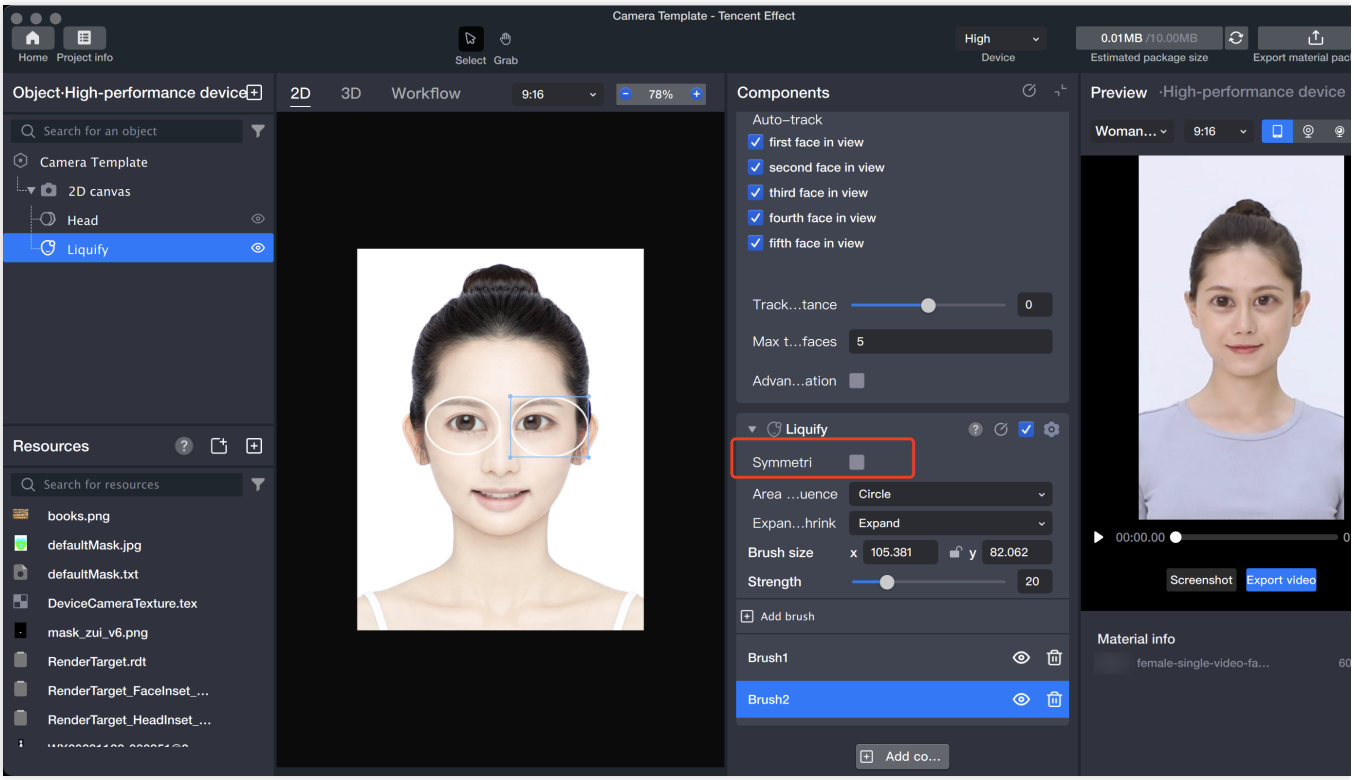

Expansion and Contraction: The parameter is used in conjunction with brush strength, when the brush is selected to expand, the local area expands as the degree approaches expansion, and the local area wrinkles as the degree approaches contraction;

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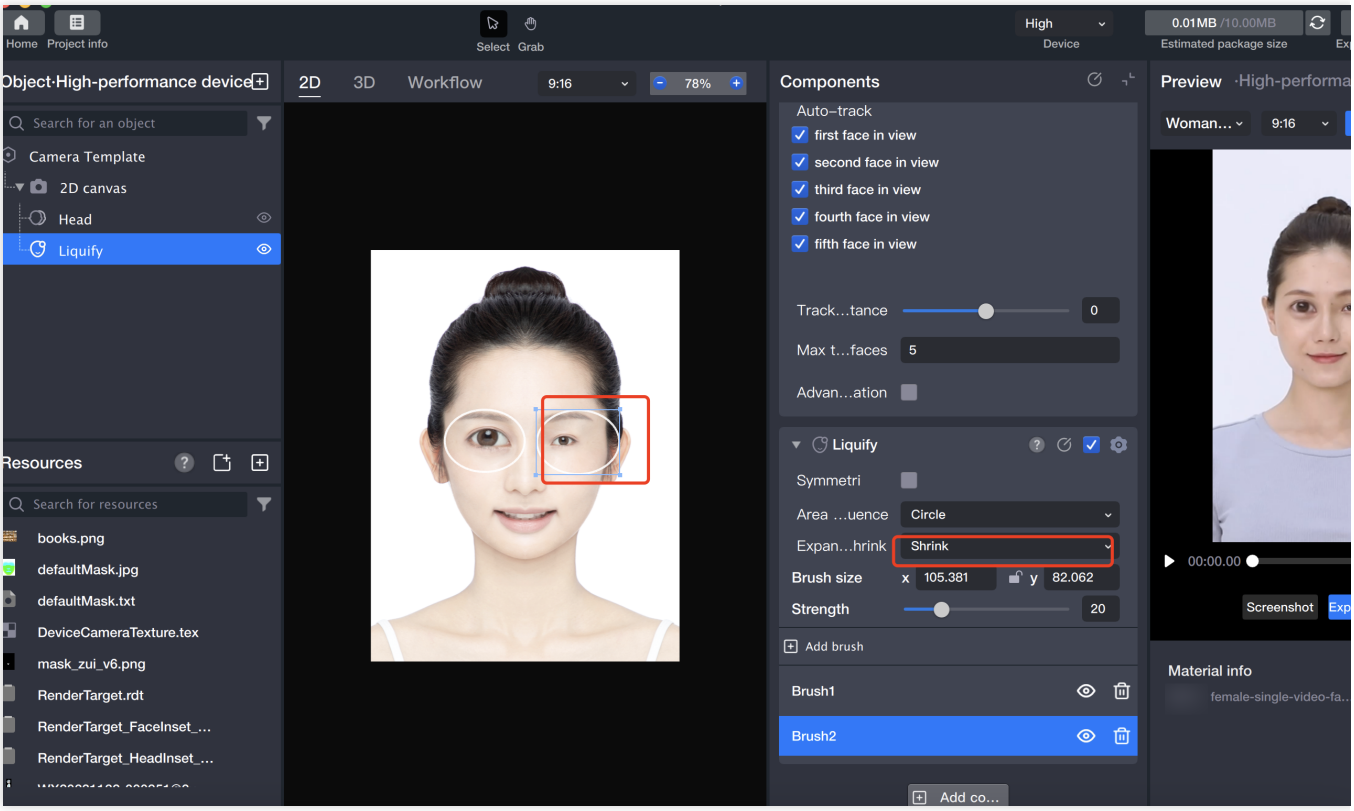

Brush Strength: Brush strength determines the degree of expansion or contraction.

Add Brushes: The Face Liquify tool supports adding multiple brushes in a single component, with the brushes simultaneously deforming the face, and overlapping deformation effects in the intersecting areas between brushes.

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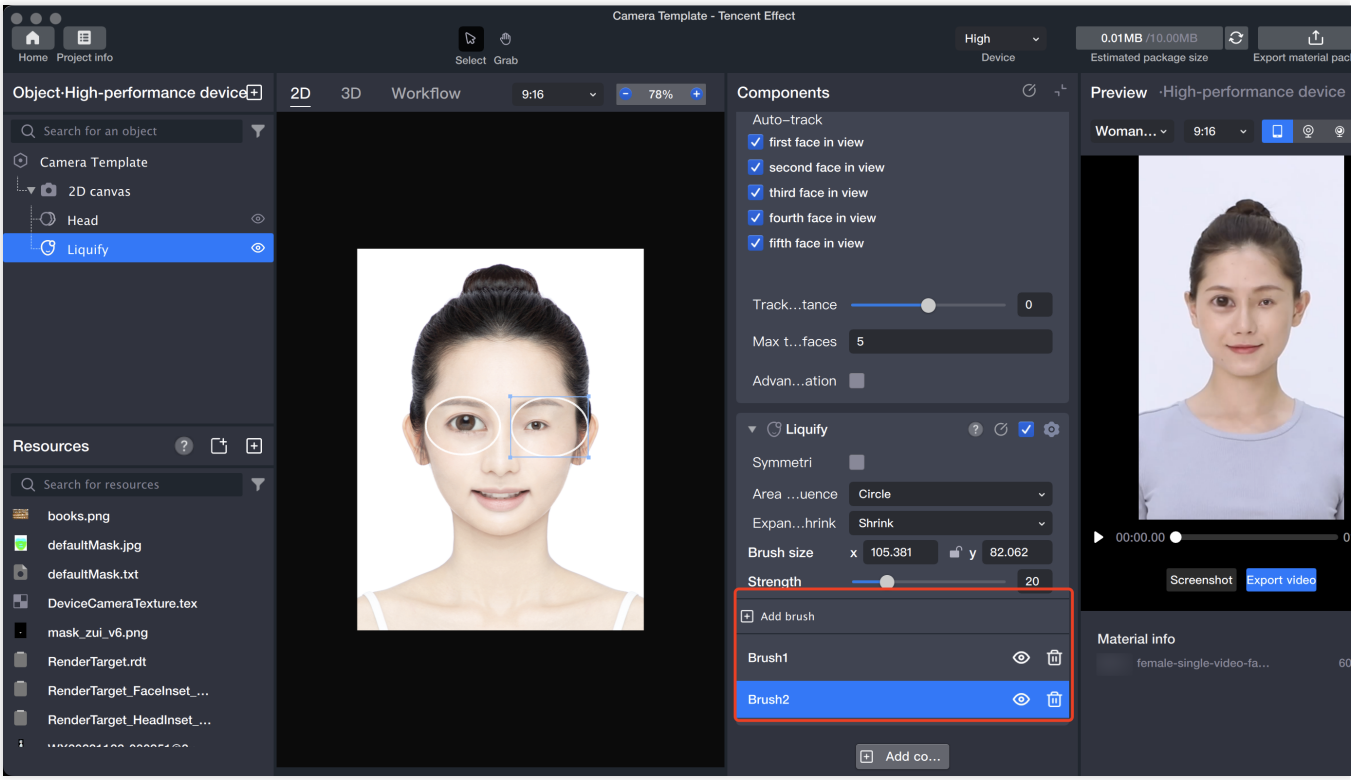

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Face Pinching

Last updated：2024-03-25 11:43:19

Introduction

Add a "Pinch Face" object, which allows you to adjust the whole face and facial features to achieve the desired effect. For example, adjusting the chin width, eye spacing, etc.

Basic Usage

1. Add a " Face customization" object/component

Add a "Face customization" object in the Object Panel

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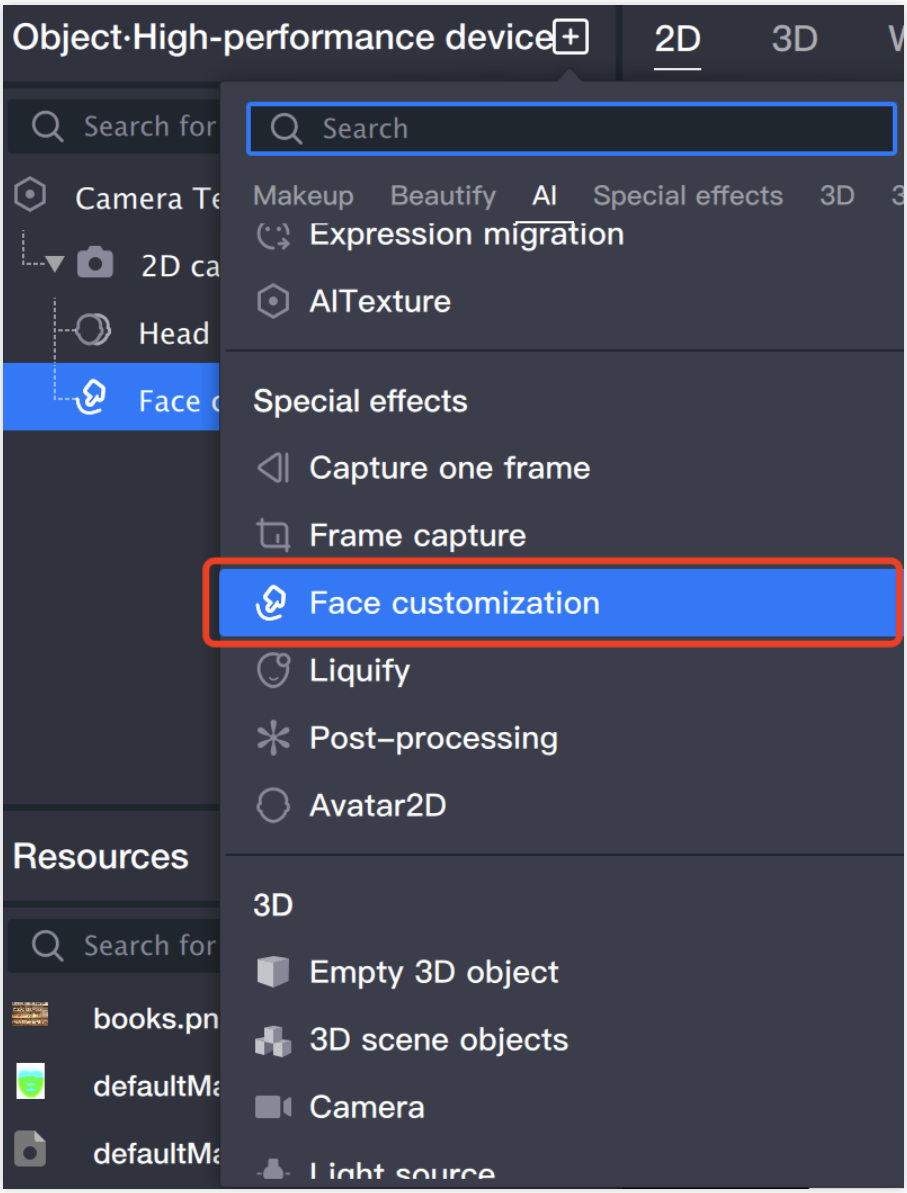

2. Adjust Parameters

You can directly drag the points in the Scene Panel with the mouse to modify the face.

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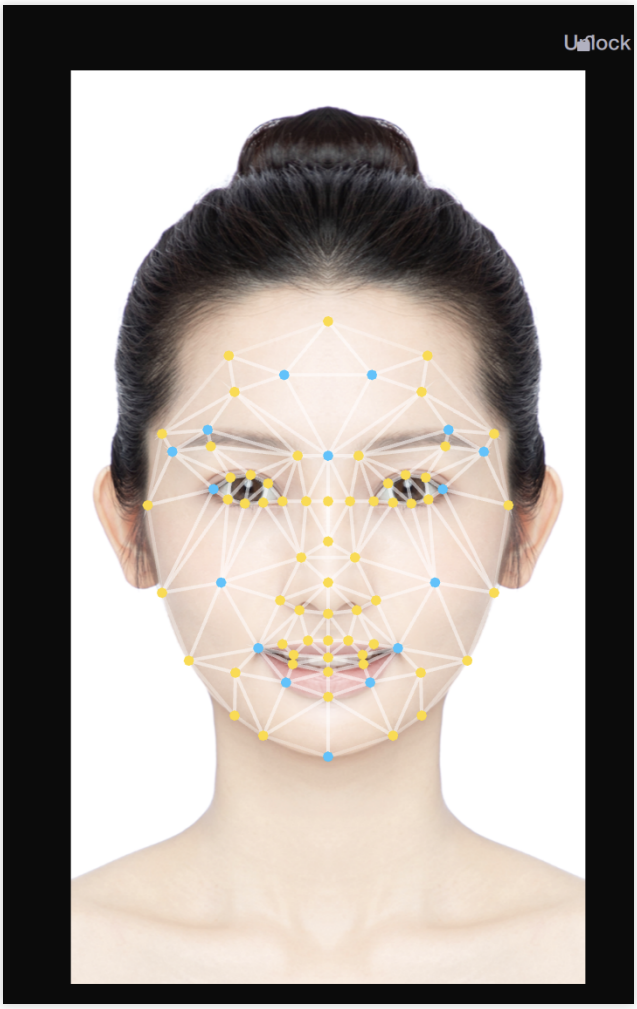
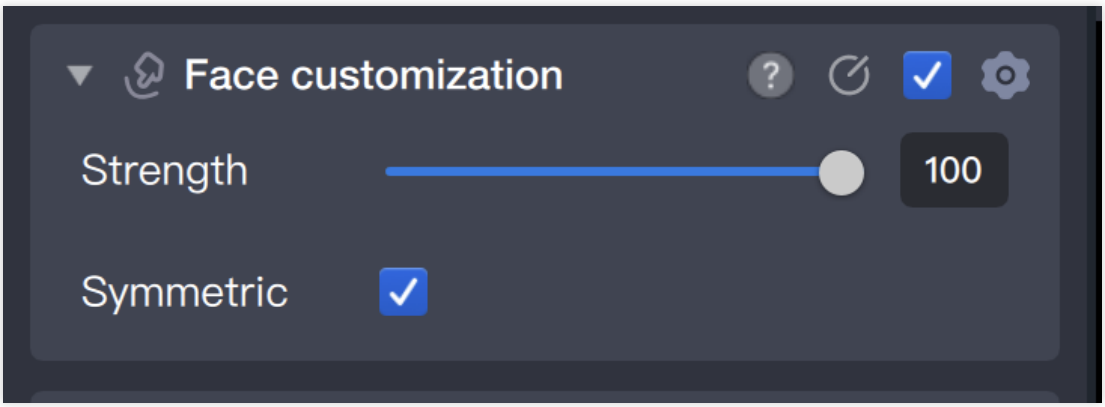


You can also change the intensity and symmetry of the left and right faces through the Component Panel.



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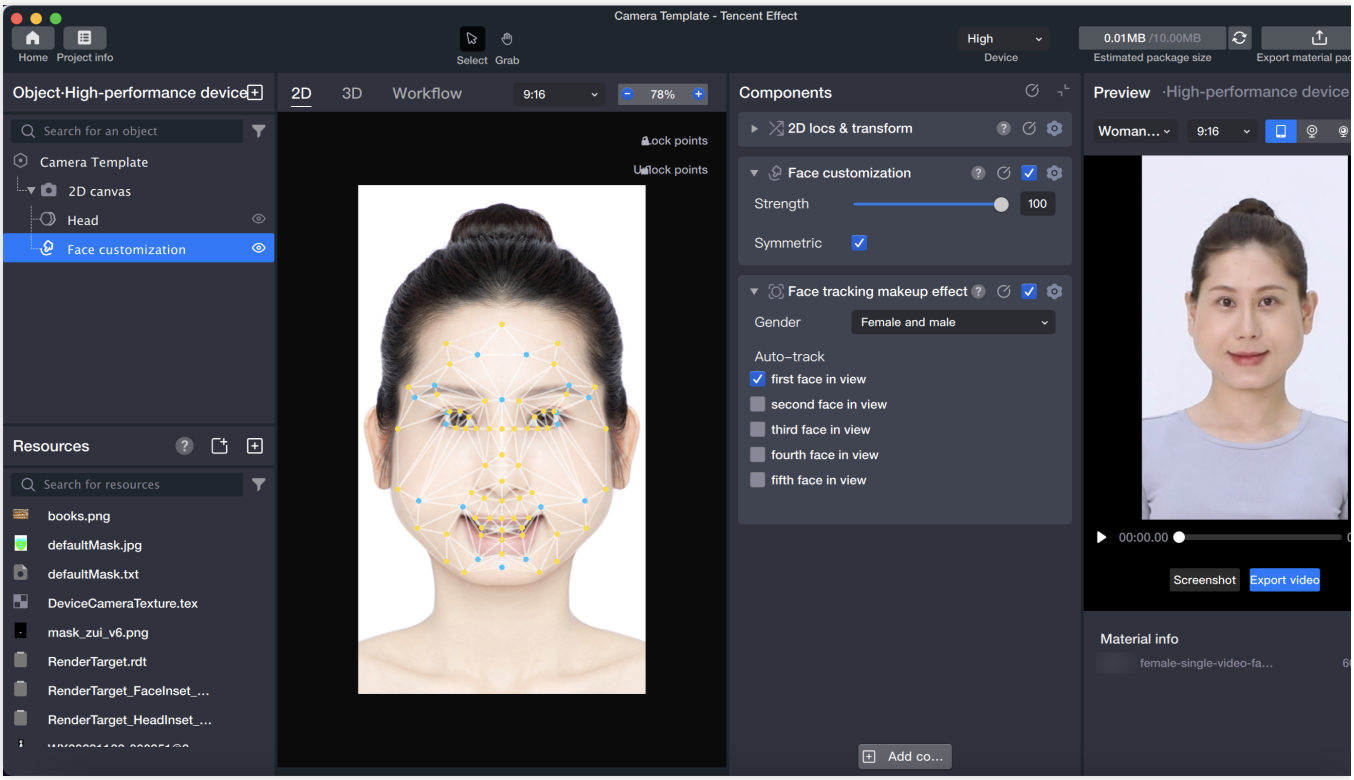

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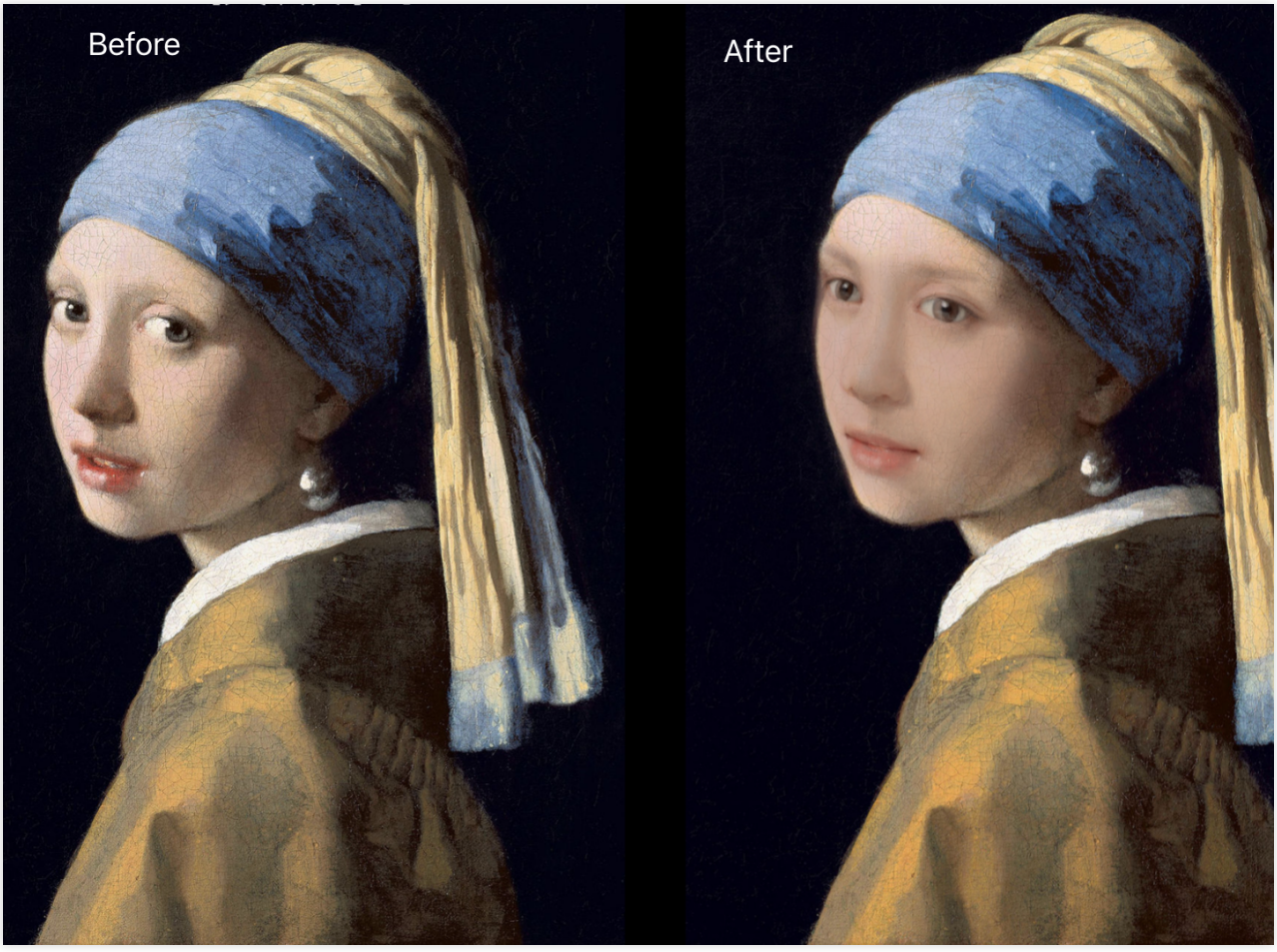
Face Fusion

Last updated：2024-03-25 11:43:19

Introduction

Face merging is the process of blending a user-uploaded character photo with a specific object photo to create a combined image with shared features.



Basic Usage

1. Import Material

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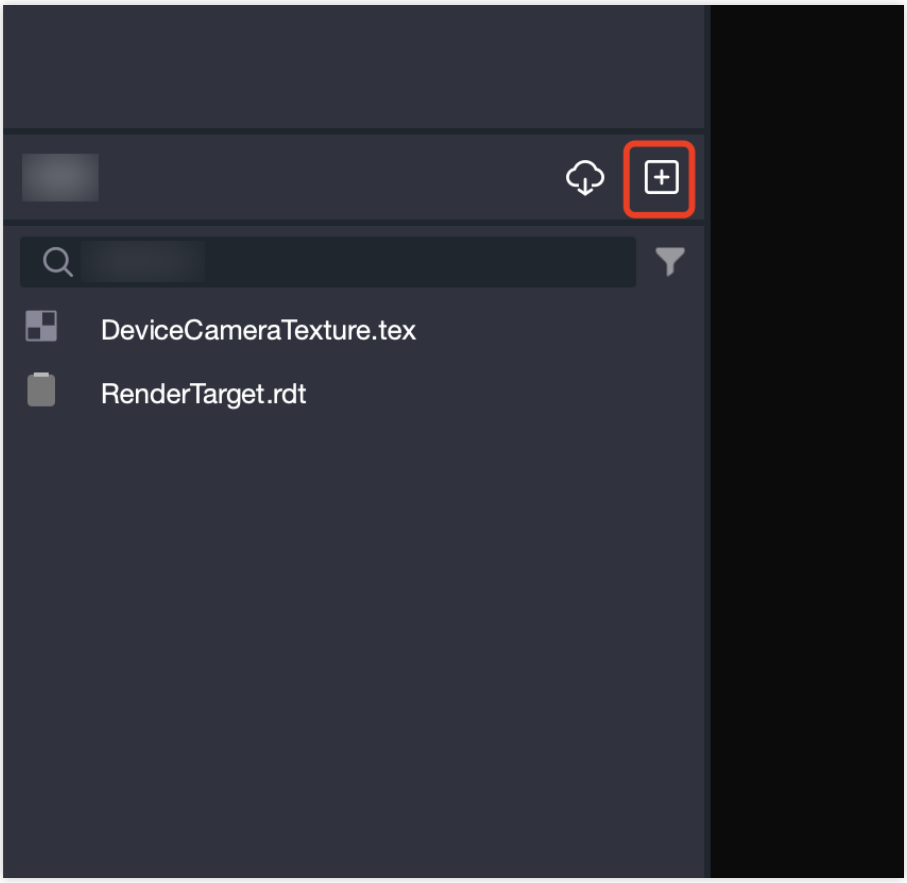

2. Add Face merging Object

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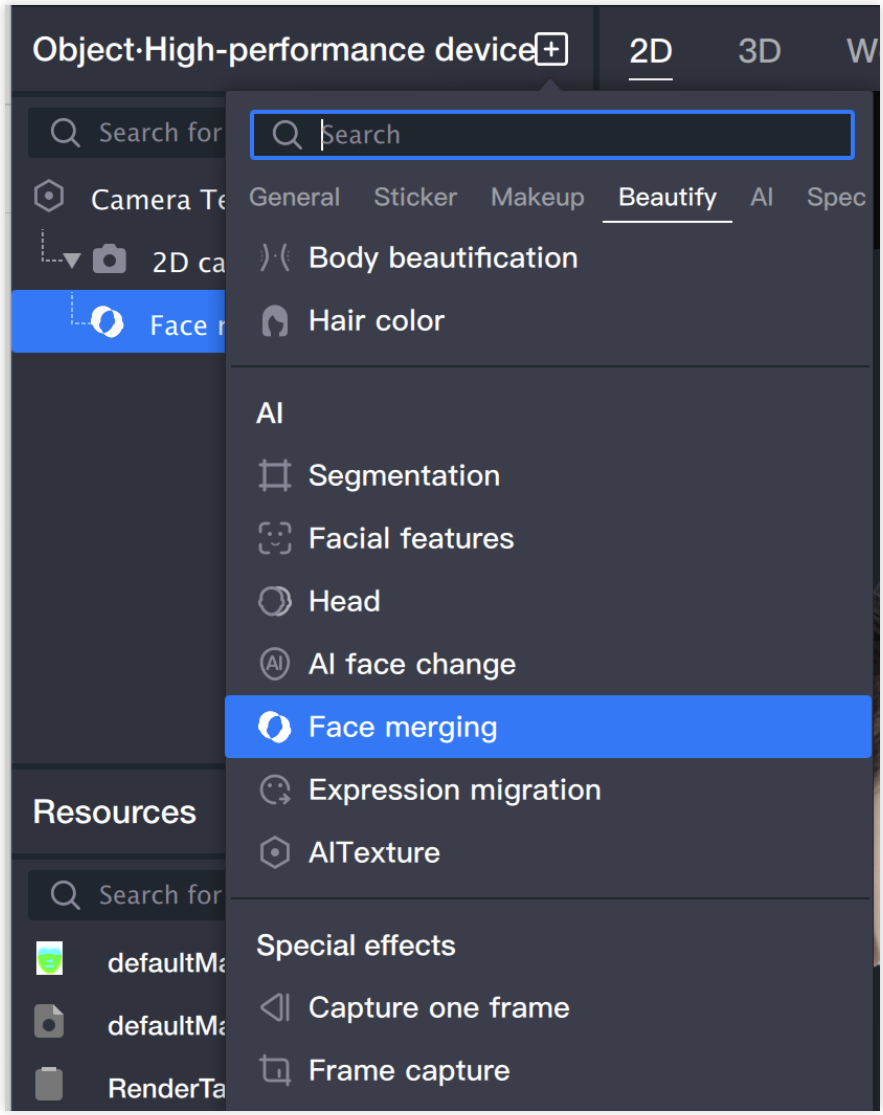

3. Add Model Image

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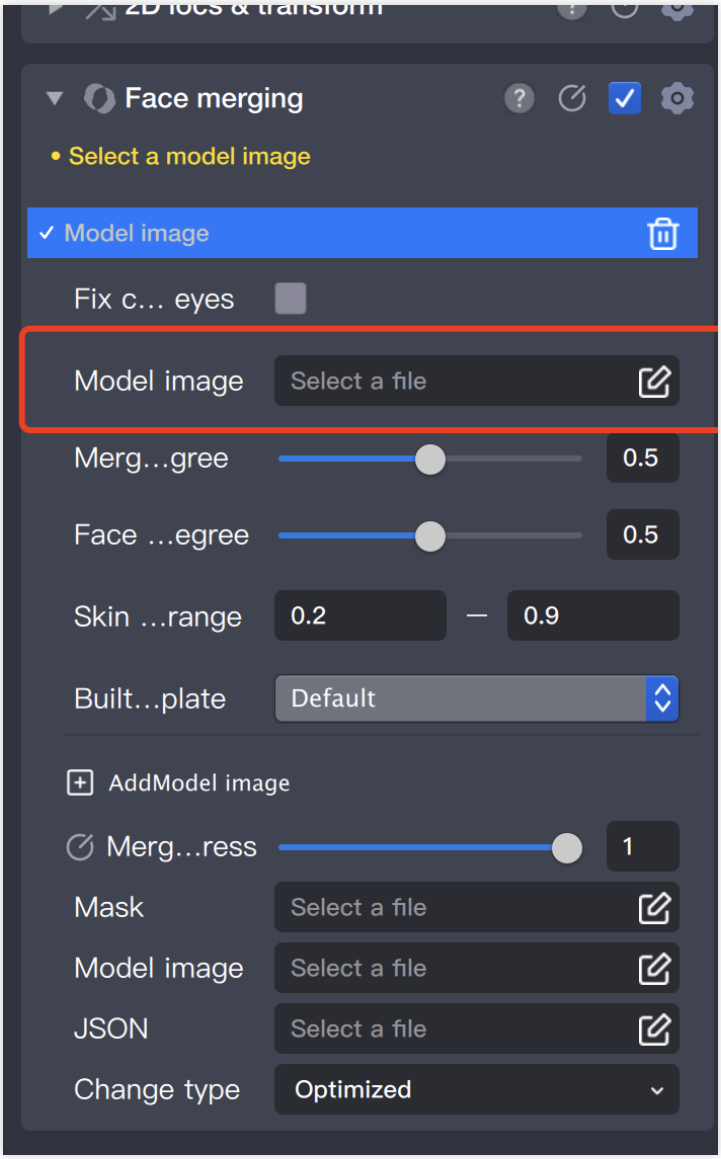

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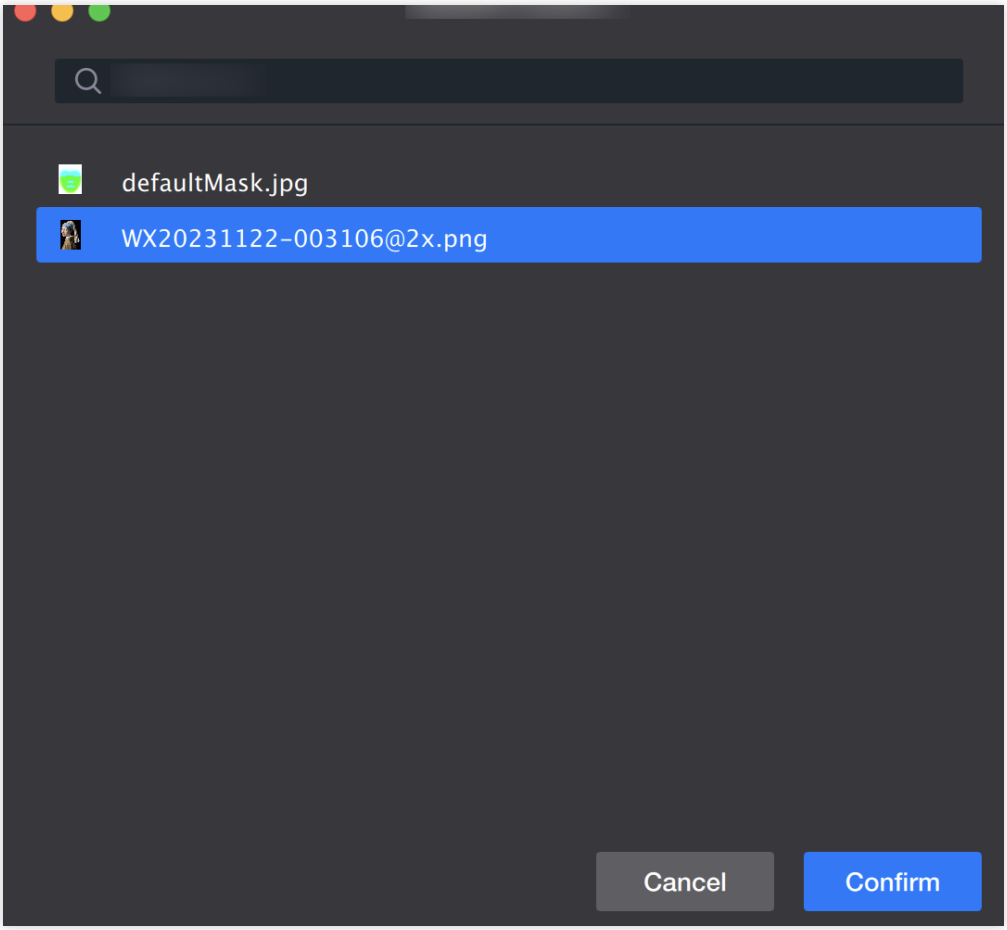

4. Adjust Fusion Parameters

Blending Level: The higher the blending level, the closer the facial features of the fused image will be to the model image's features.

Deformation Level: The higher the deformation level, the closer the face shape of the fused image will be to the model image's face shape.

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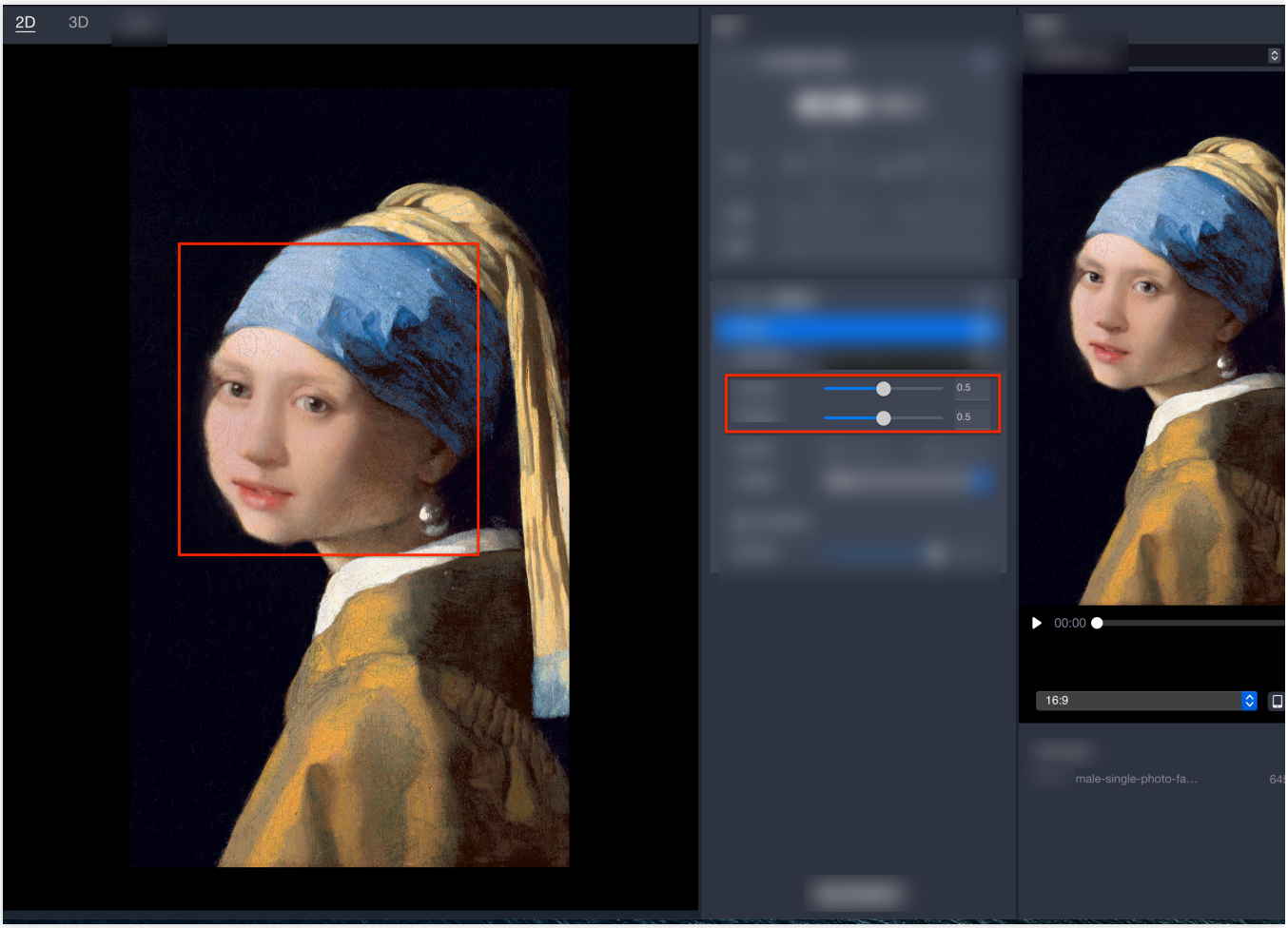

In the Fusion Masterpiece gameplay, we want the face shape and skin color and texture to be closer to the masterpiece, while retaining more of the photographer's facial features. In this case, we need to lower the blending level, increase the deformation level, and adjust the skin color range to 0.8-1.

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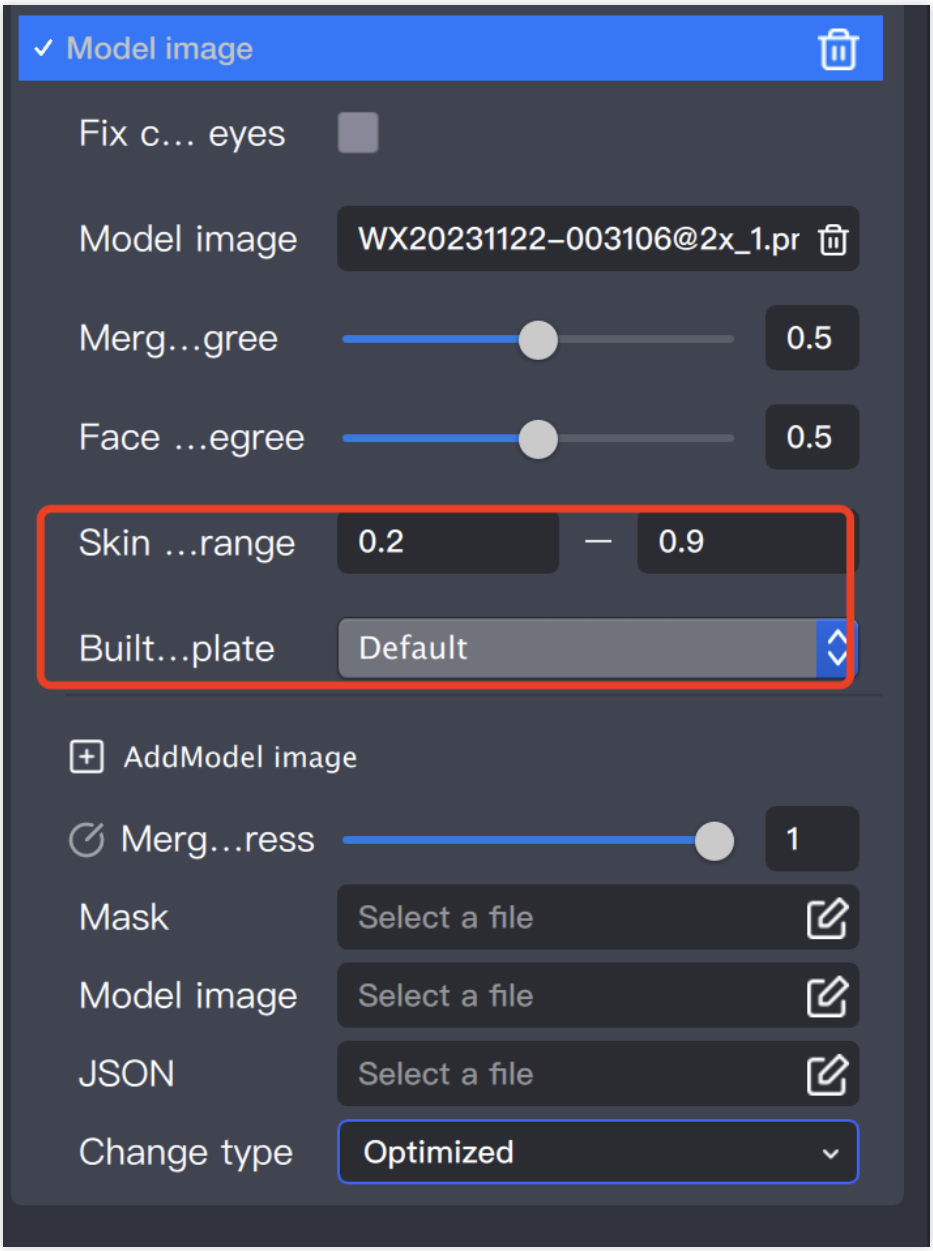

5. Refresh

After refreshing, you can see the fusion effect.

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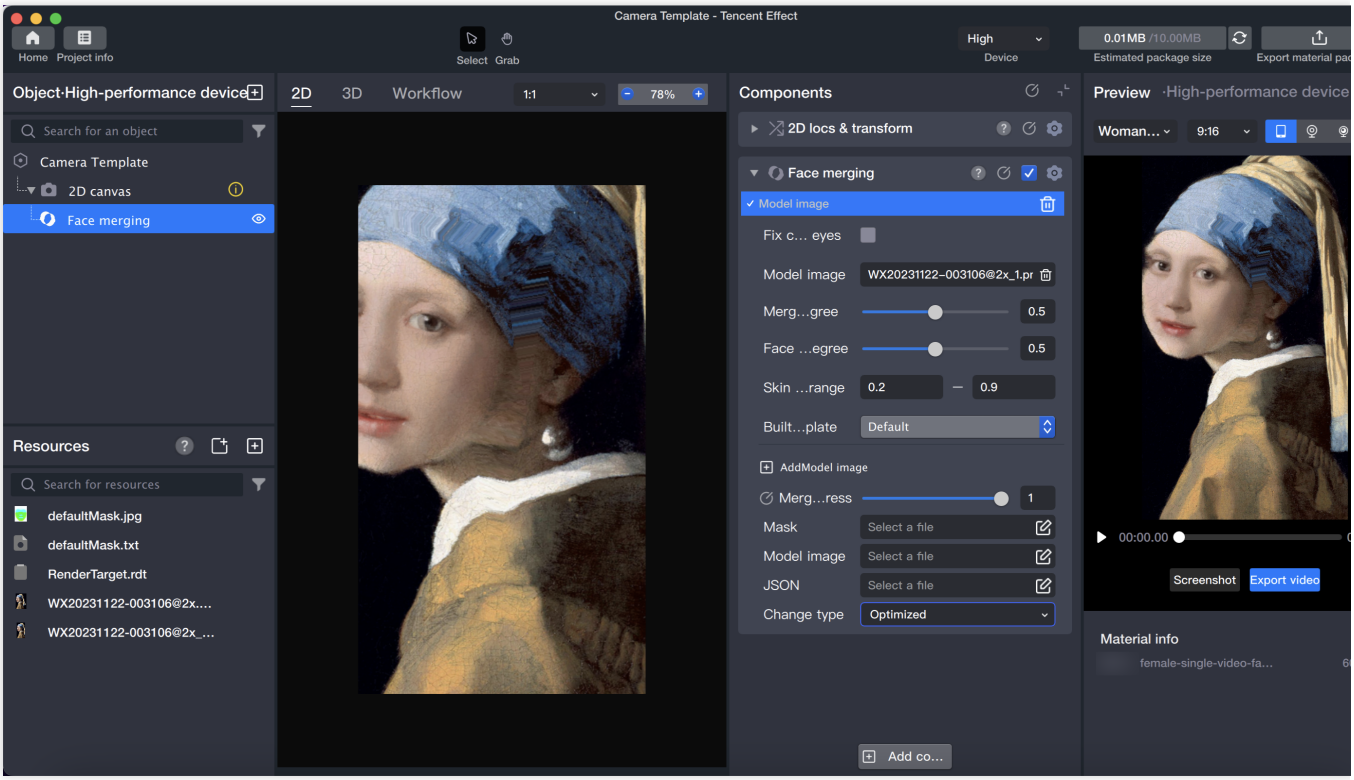

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Body Beautification

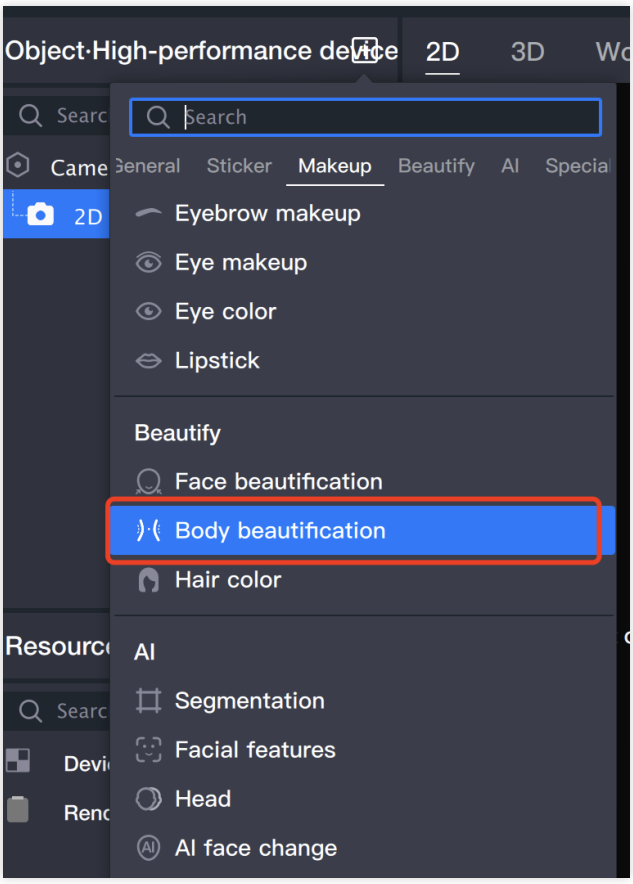
Last updated：2024-03-25 11:43:19

Introduction

The Body Beautification Component can naturally enhance the body lines of the subject, making them more confident in their figure when engaging in full-body gameplay. The Body Beautification Object provides four parameters: long legs, slim body, slim shoulders, and slim waist. By adjusting these parameters, the intensity of the beautification can be modified.

Basic Usage

1. Add a Body Beautification Object



2. Adjust the Beautification Parameters

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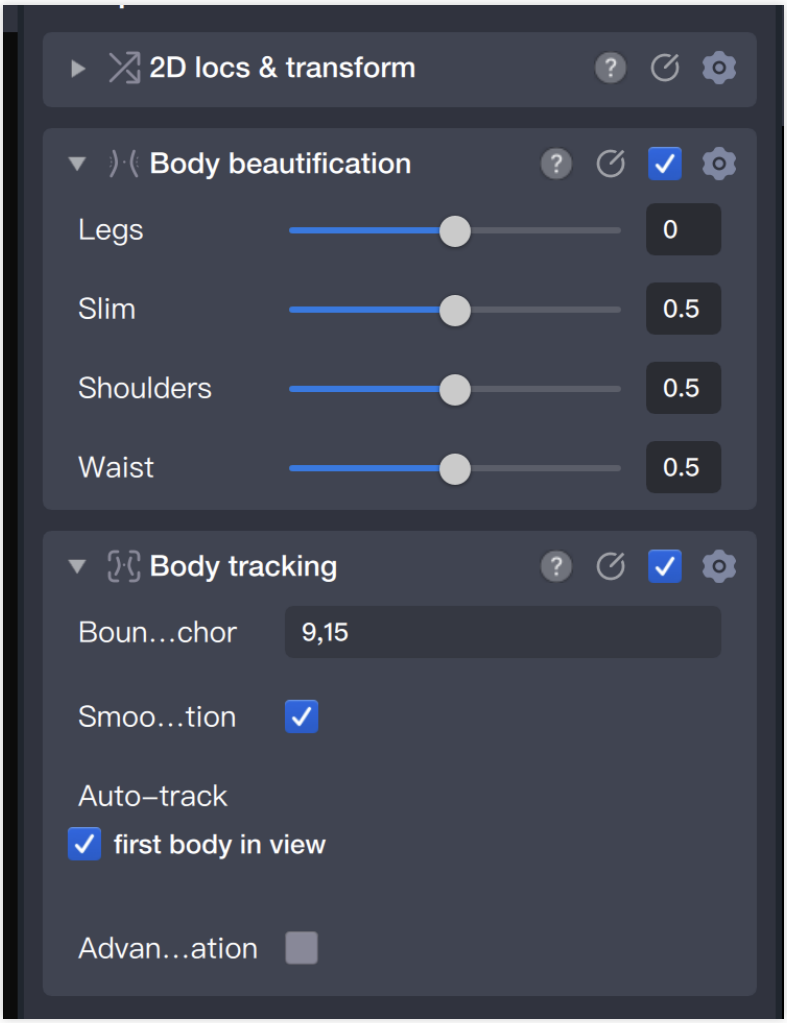
The Component Panel allows you to modify the parameters of the beautification.



The Scene Panel displays the model image, allowing you to preview the effects of the modifications in real-time.

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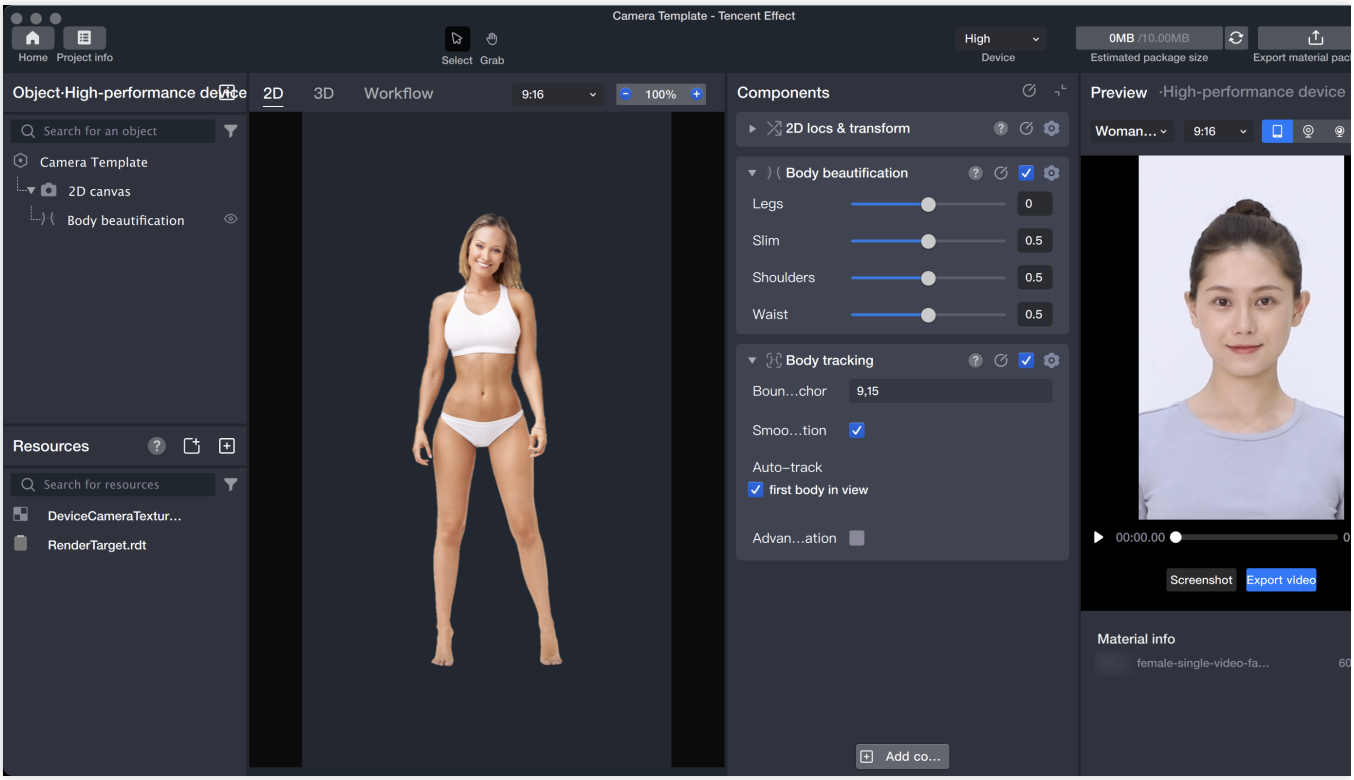

Camera Template - Tencent Effect
Home
Project info
Select
Grab
High
Device
0MB /10.00MB
Estimated package size
Export material pac
Object·High-performance device
2D
3D
Workflow
9:16
100%
Components
Preview ·High-performance device
Search for an object
Camera Template
2D canvas
Body beautification
2D locs & transform
Body beautification
Legs
0
Slim
0.5
Shoulders
0.5
Waist
0.5
Body tracking
Boun…chor
9,15
Smoo…tion
Auto-track
first body in view
Advan…ation
Woman…
9:16
00:00.00
Screenshot
Export video
Material info
female-single-video-fa…
Resources
Search for resources
DeviceCameraTextur…
RenderTarget.rdt
Add co…

Multi-Grid

Last updated：2024-03-25 11:43:19

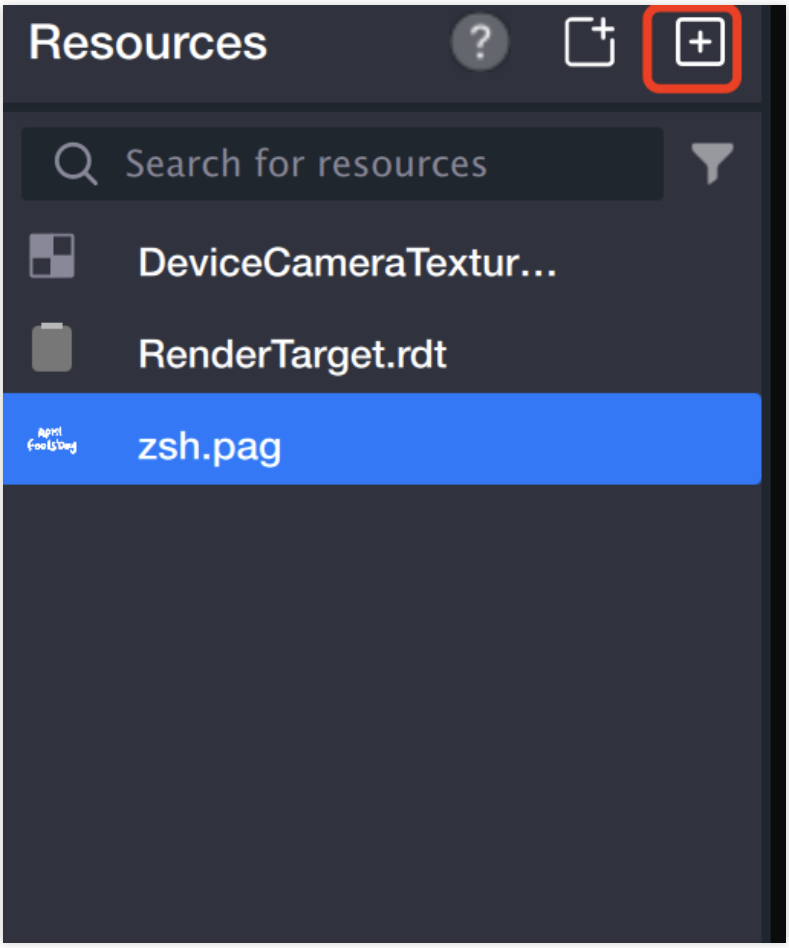
Introduction

Multi-frame, that is, multiple frames appearing on a screen and being shot simultaneously, is the basis for many gameplay in shooting templates.

Basic Usage

1. Import Material

Drag the file directly into the Resource panel.



2. Create Canvas

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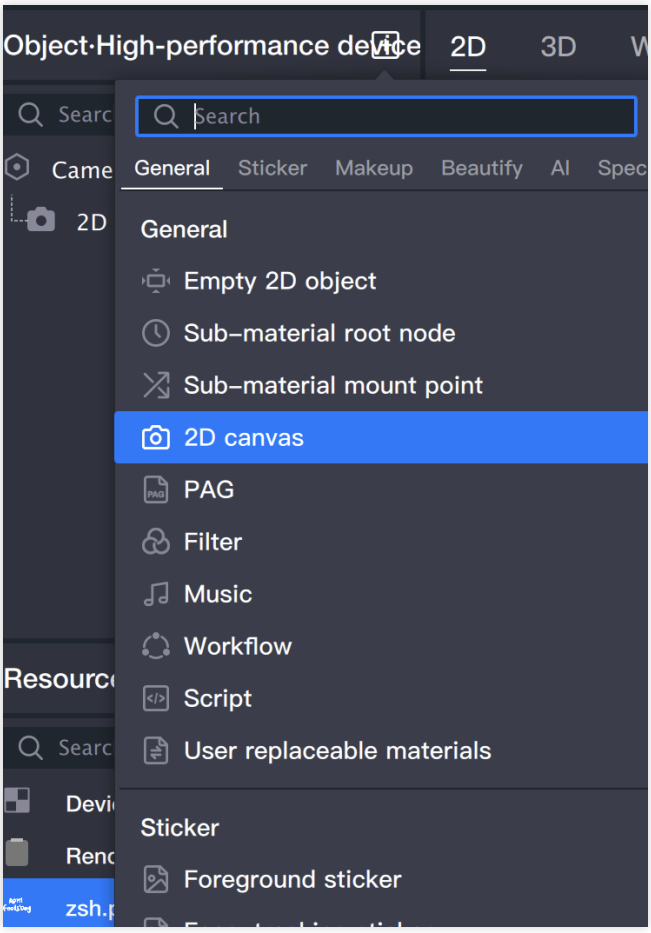
2.1 Add a **2D Canvas** in the Object panel.



2.2 Add another 2D canvas (same steps as (1))

2.3 At this point, the Resource panel will add RenderTarget_camera_1.rdt and RenderTarget_camera_2.rdt files.

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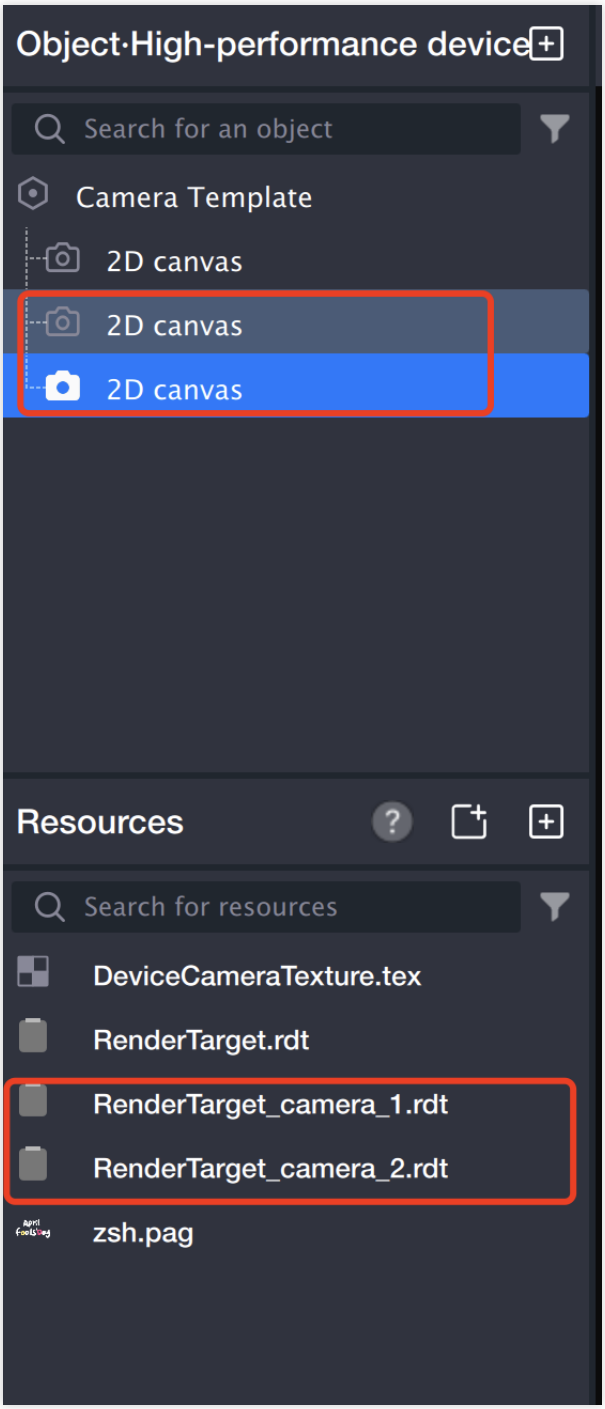

3. Create face-tracking stickers in the first two 2D canvases

3.1 Add a **Face-tracking Sticker** in each of the first two 2D canvases.

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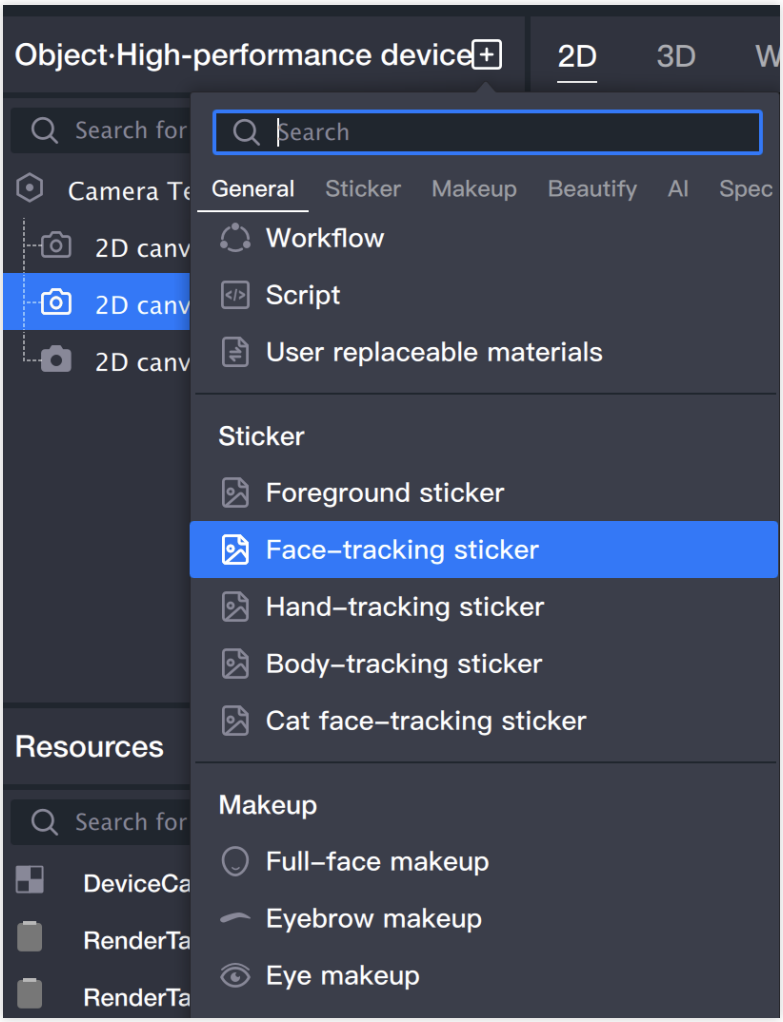

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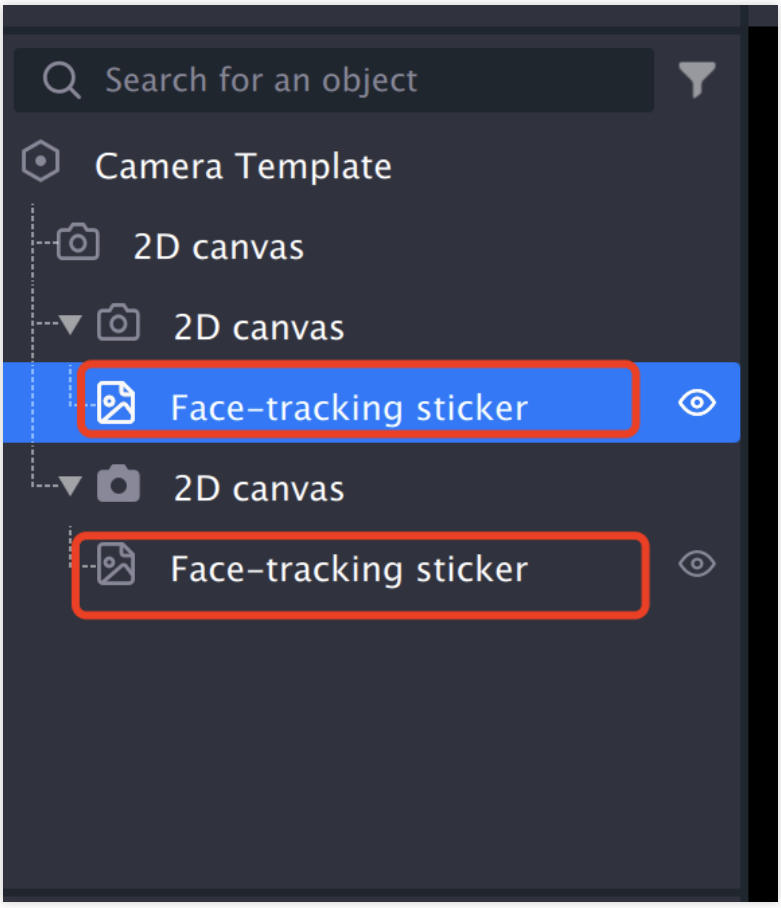

3.2 Add **Image File** to the first two face-tracking stickers.

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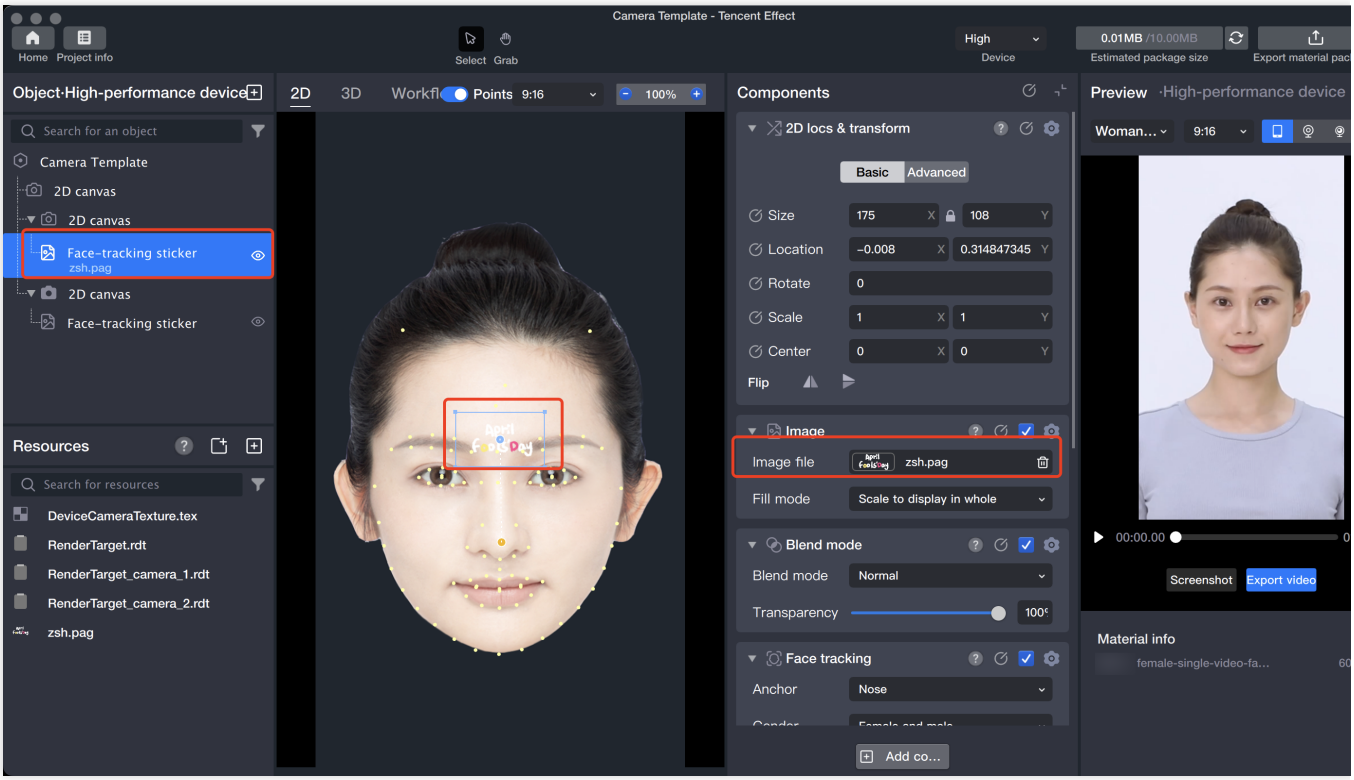

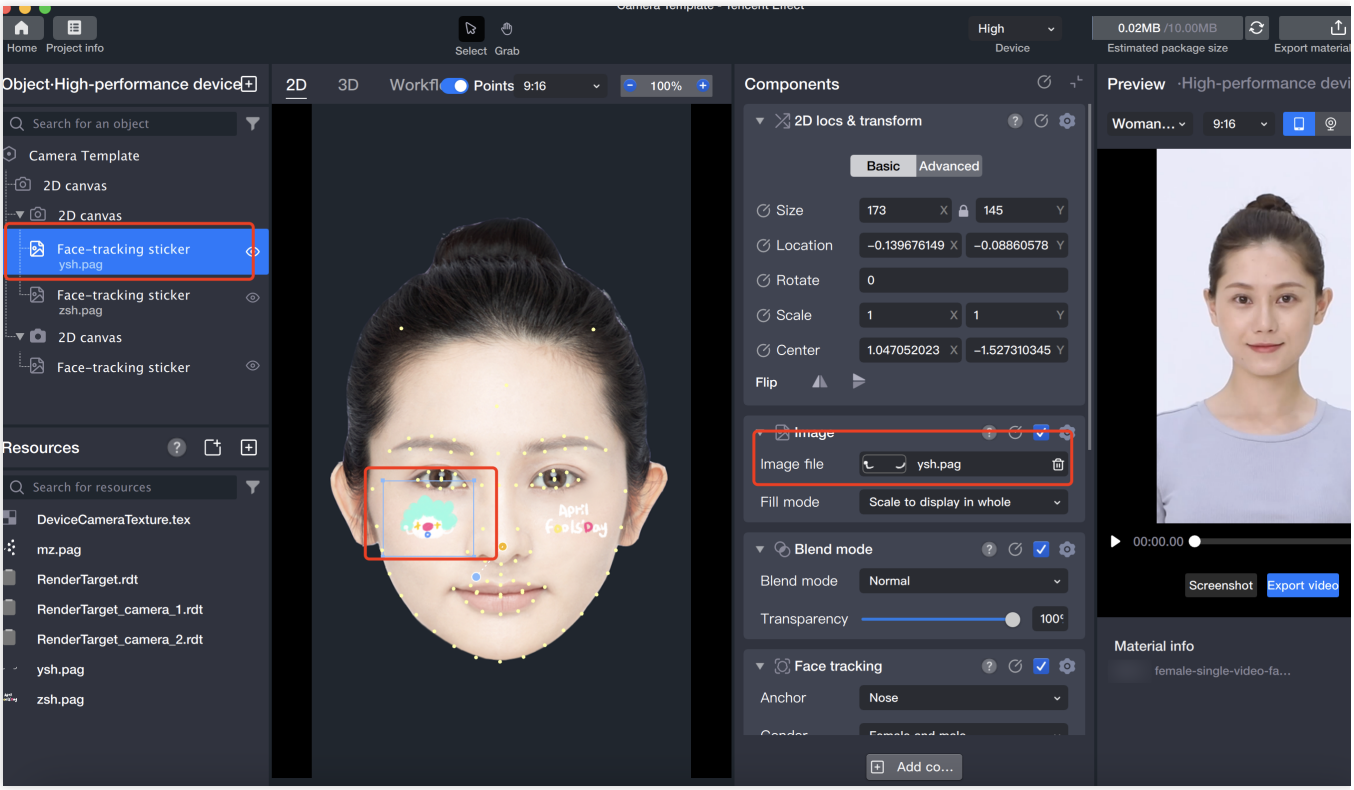

3.3 After properly adjusting the material position, the first canvas effect is obtained:

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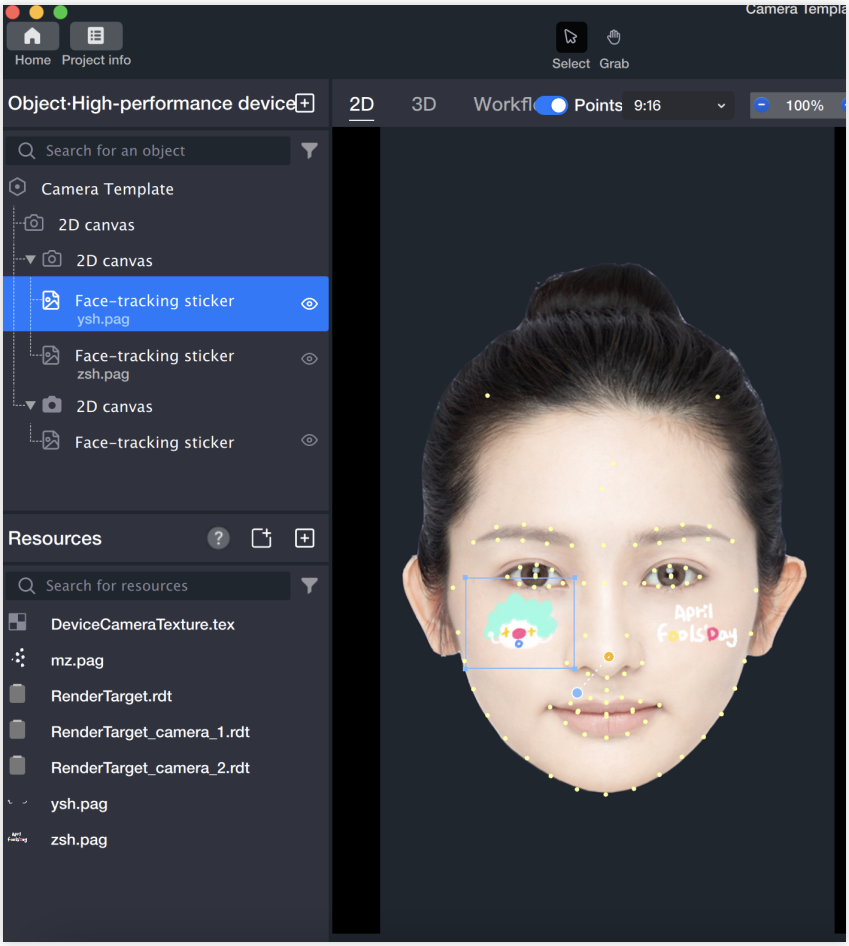

3.4 Repeat the same operation for another 2D canvas, and the second canvas effect is:

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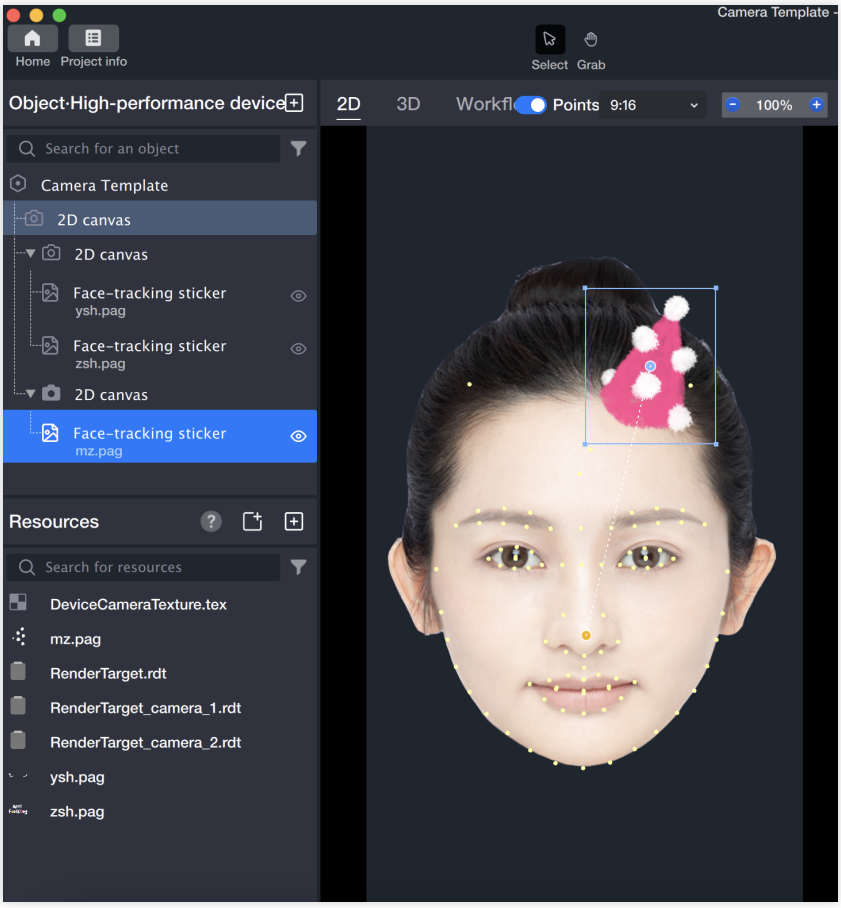

4. Add the first two canvases in top-down order to the third canvas

Since the Tencent Effect object panel has a rendering order logic, the topmost content on the screen is at the bottom of the object panel; if we want to make a multi-frame shooting project, there should be three 2D canvases in the object, so the bottom 2D canvas should be used to place the top two canvases, that is, the third canvas is the final rendering layer. The following figure shows the hierarchical relationship between the three canvases, so the first two canvases need to be added to the third canvas in top-down order, as follows:

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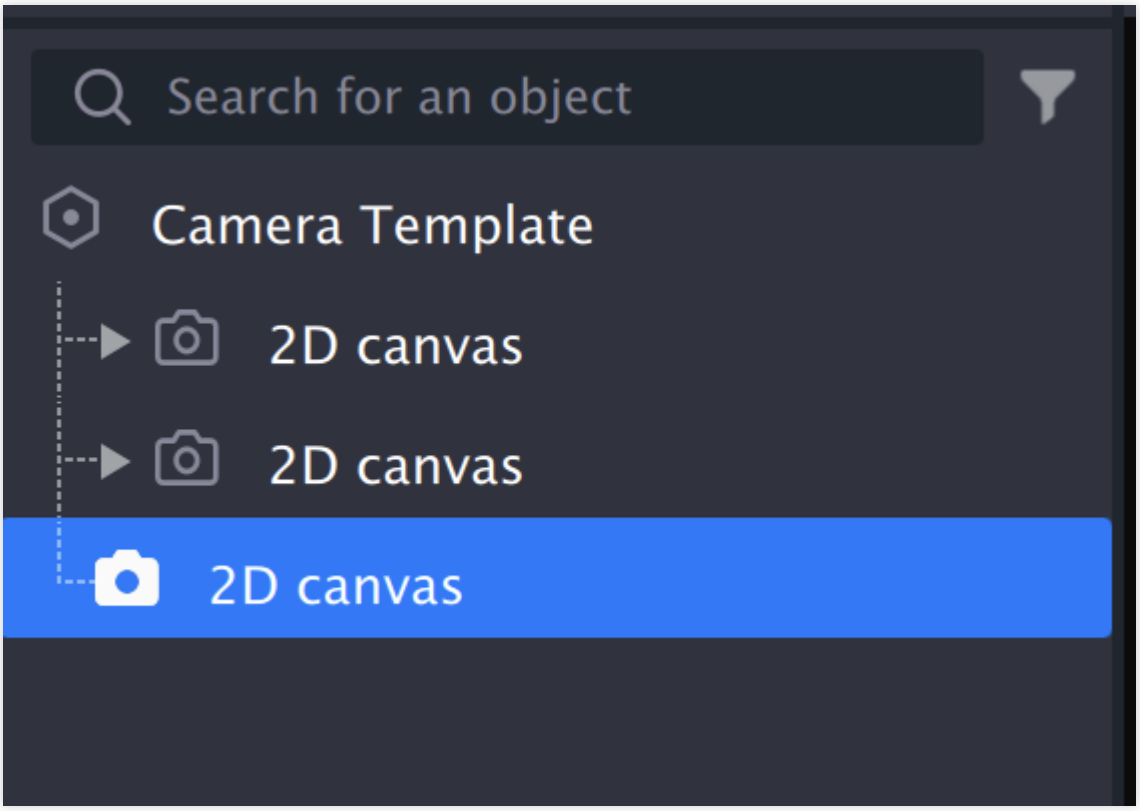

4.1 Add two **pag** components on the third 2D canvas.

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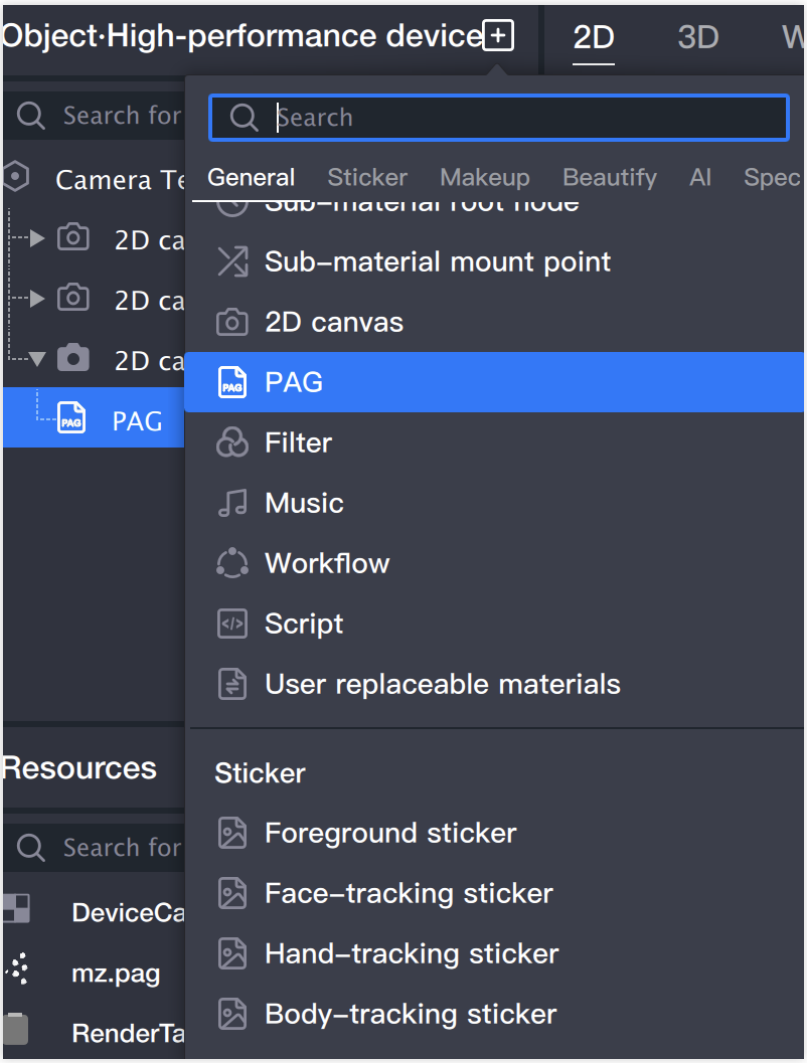
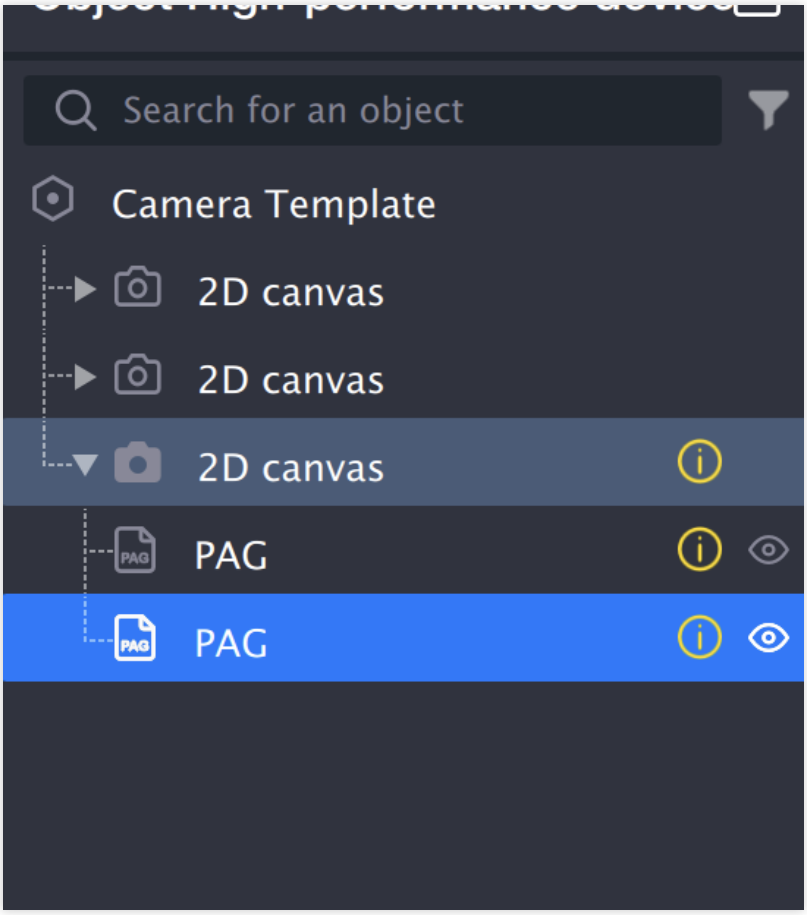


©2013-2022 Tencent Cloud. All rights reserved.



4.2 Change the **pag** component of the added two pag objects to **Image** component: first delete the **pag** component, then add a new **Image** component.

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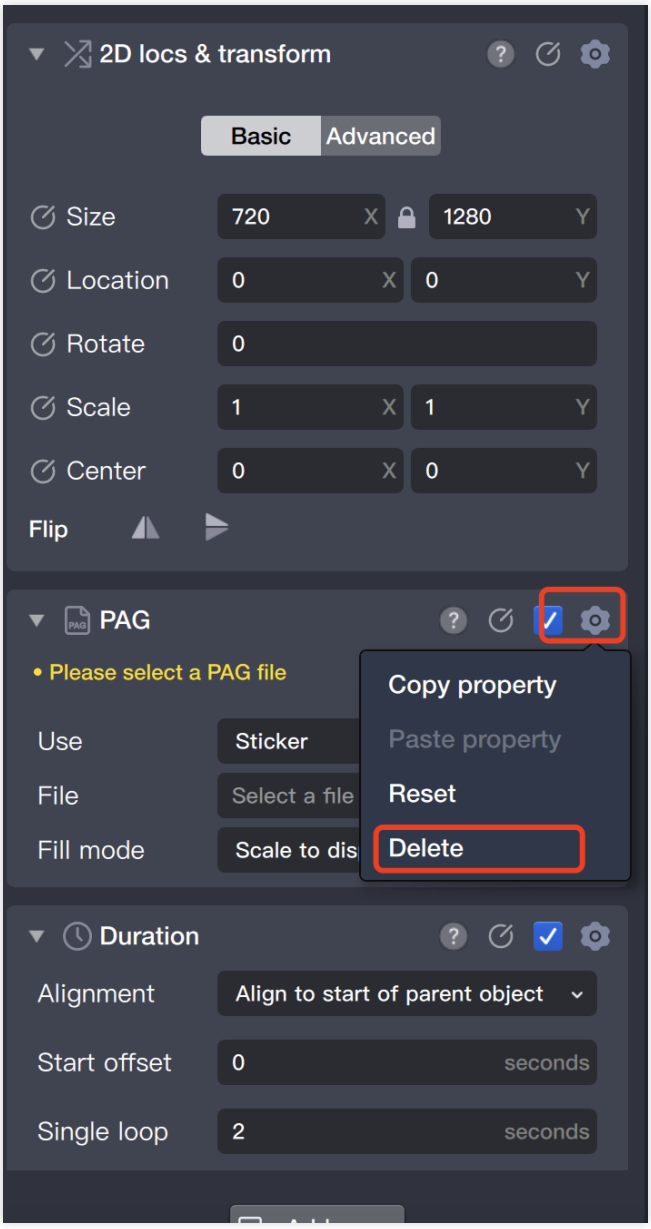

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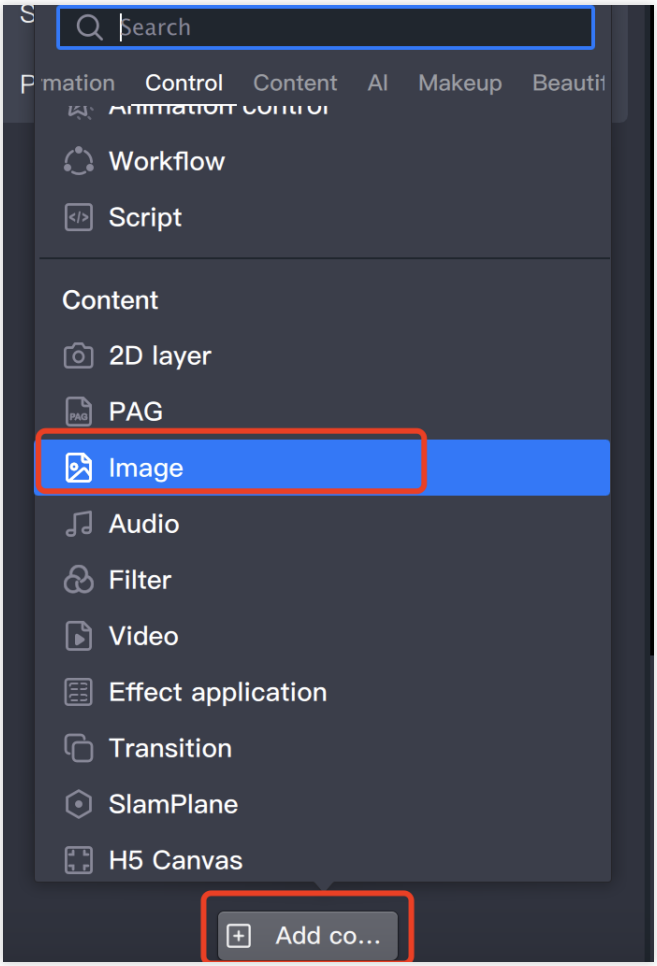

4.3 Check the rendering files of the first two 2D canvases (the same search method for the second canvas as for the first one).

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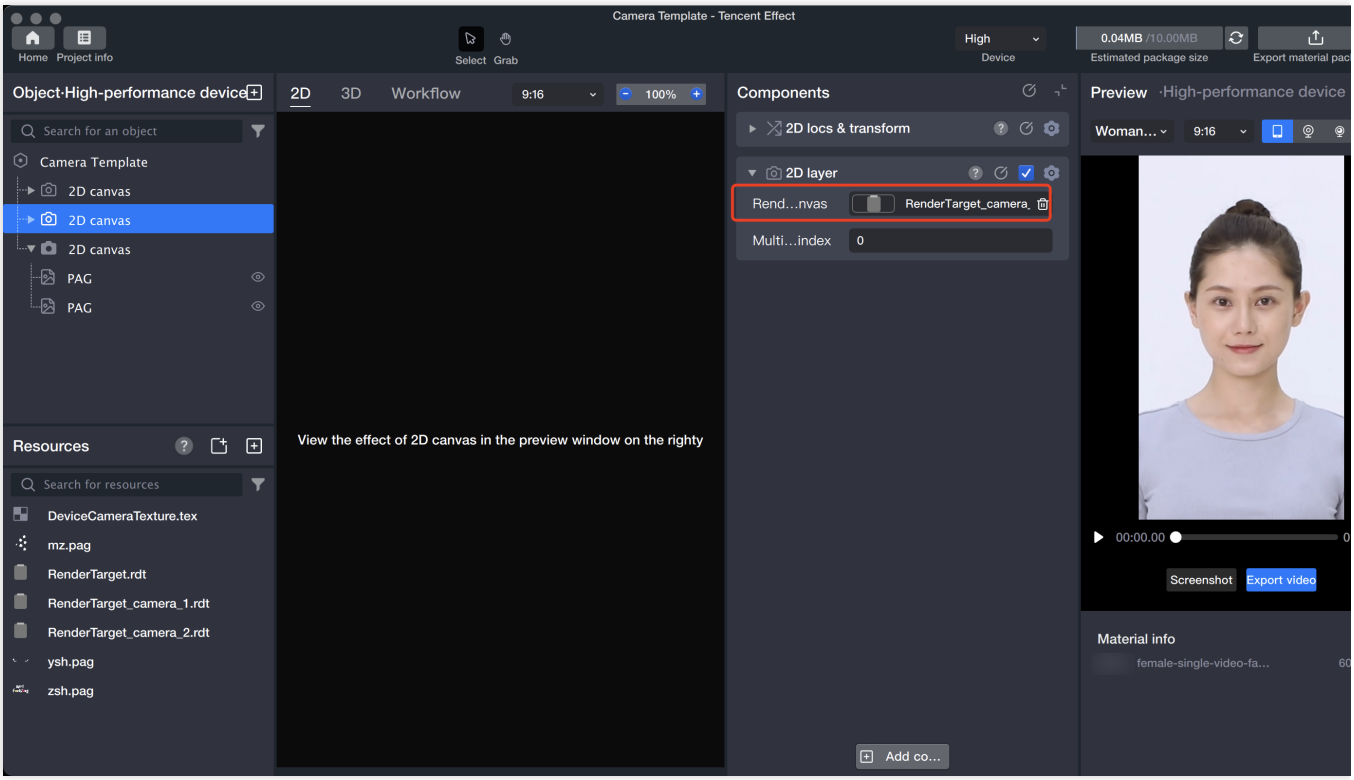
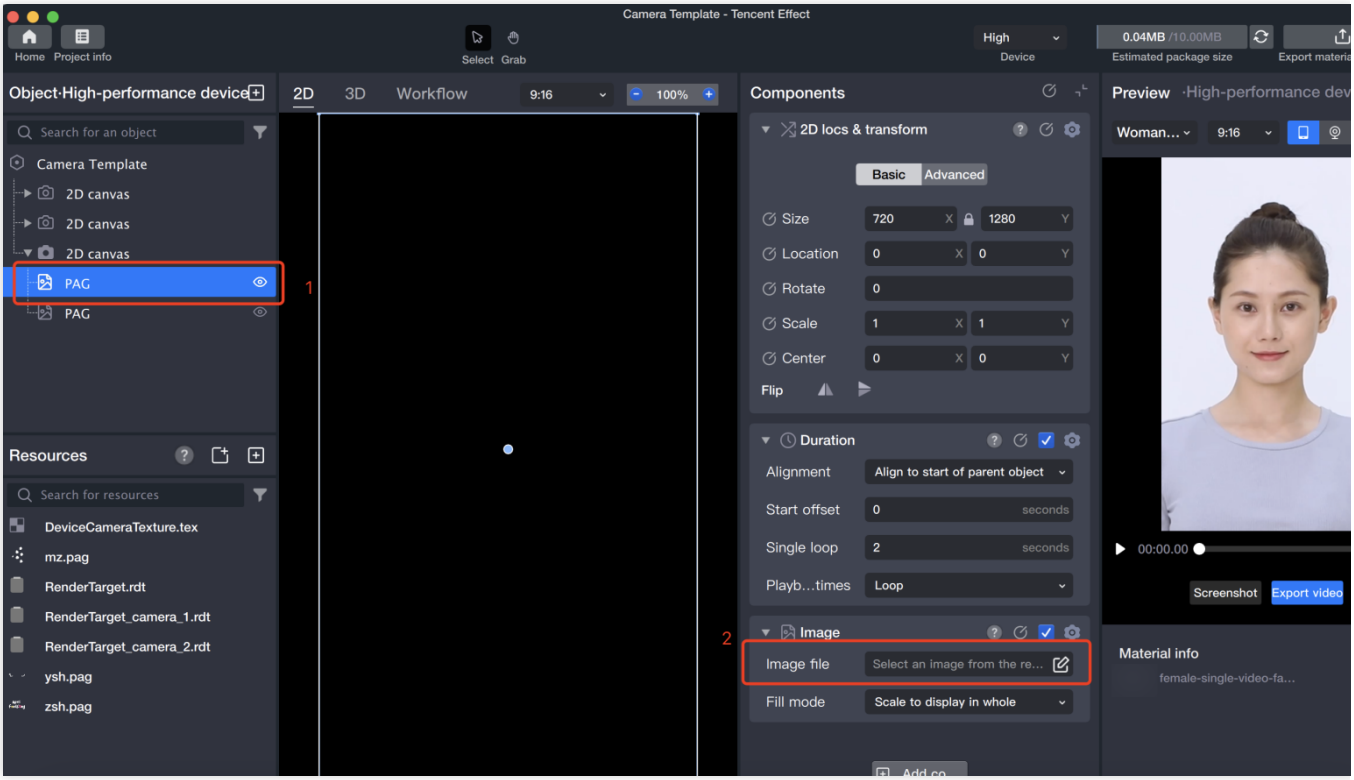


4.4 Select the corresponding image files for the **Image** components of the two **pag** objects.



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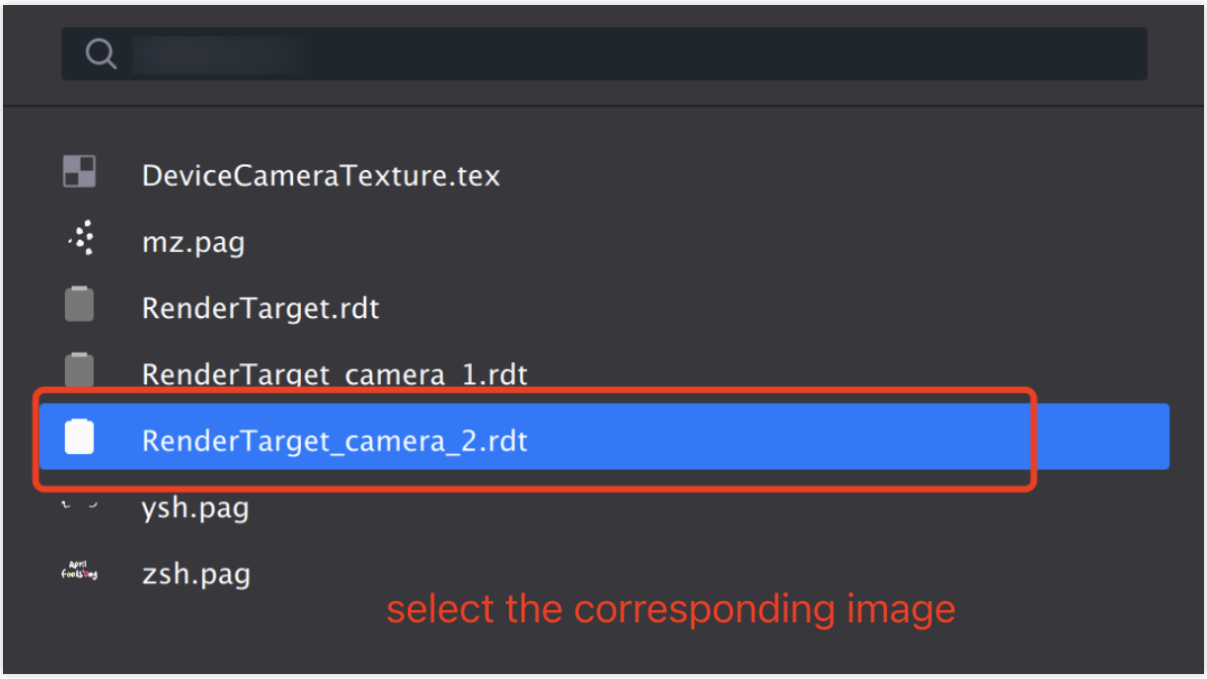

the second PAG file is operated in the same way

5. Adjust the size and position of the【Image】component.

5.1 Select the first **pag** object, find its position and transformation in the component panel, and unlock the size parameters.

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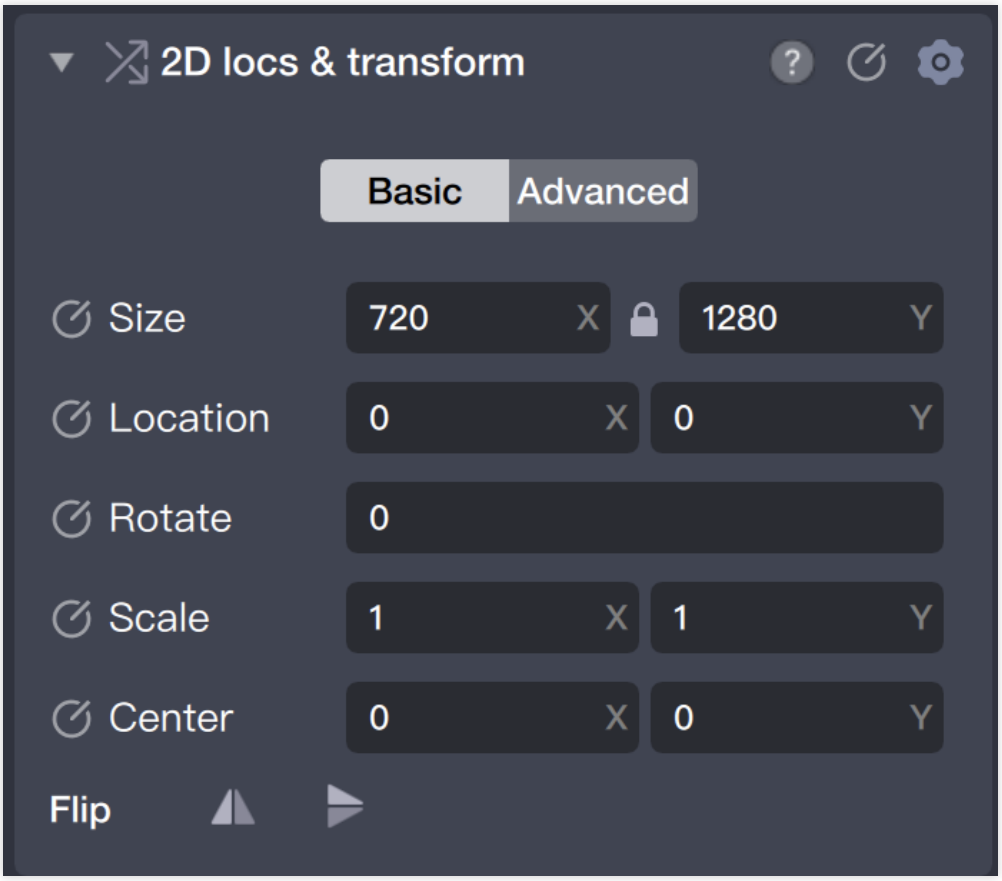

5.2 Adjust the H (Height) value to half the size, i.e., 640.

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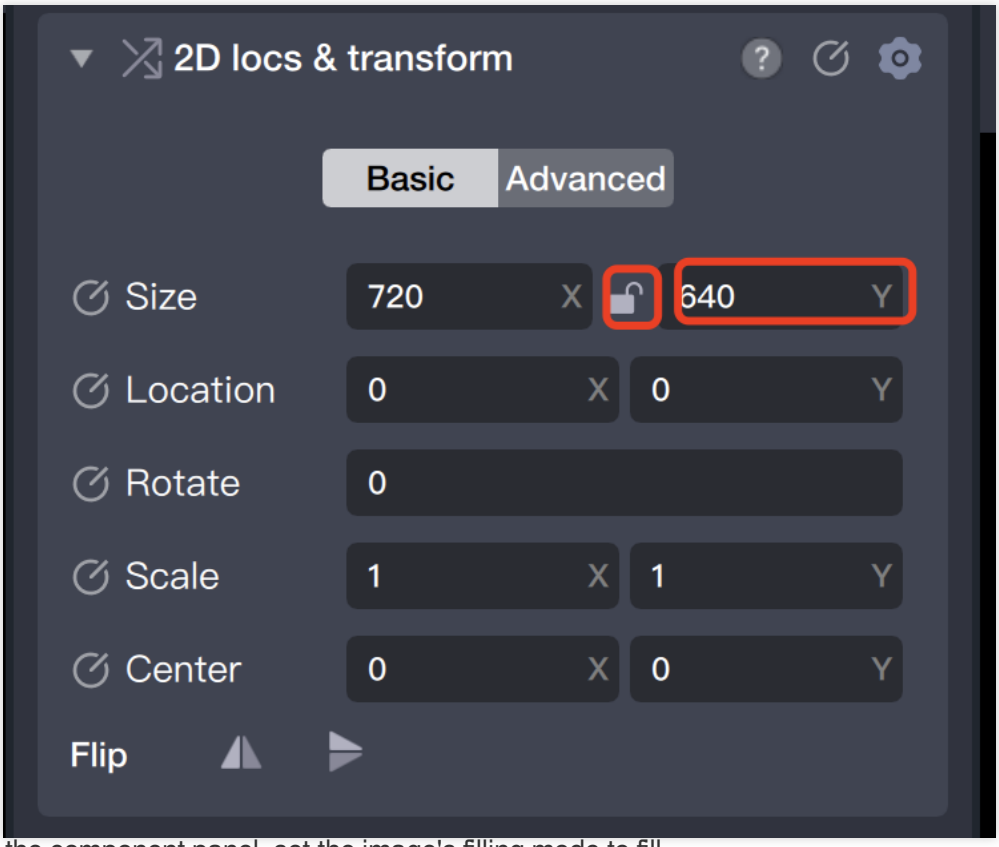
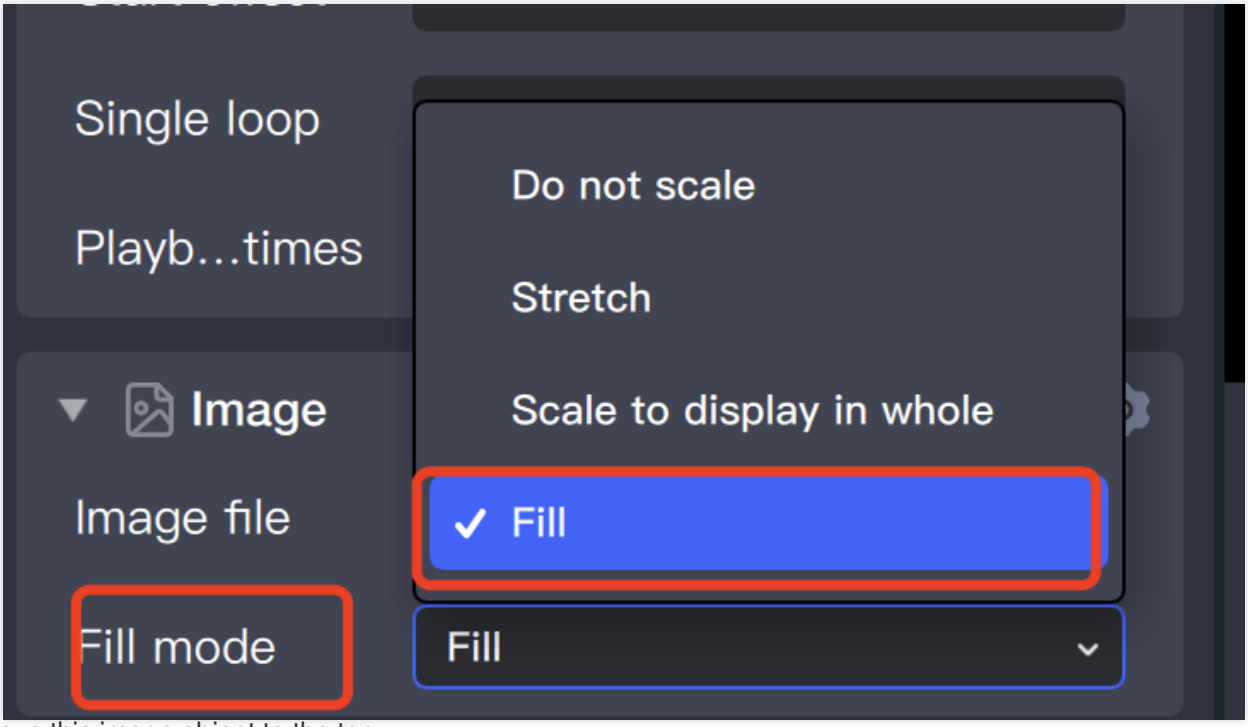


5.3 In the component panel, set the image's filling mode to fill.



5.4 Move this image object to the top.

5.5 Repeat the above steps, adjust the size of the second image object and drag it down, finally showing the following form:

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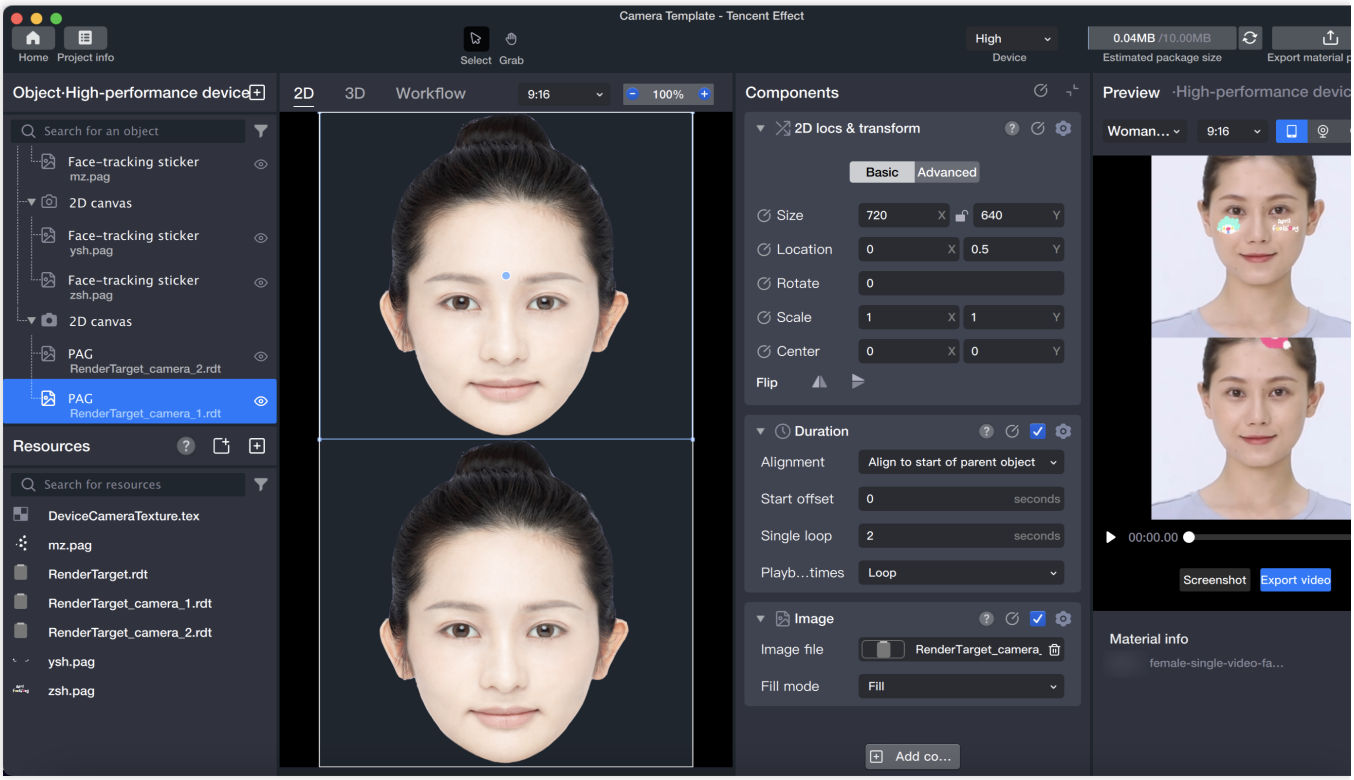

6. Preview

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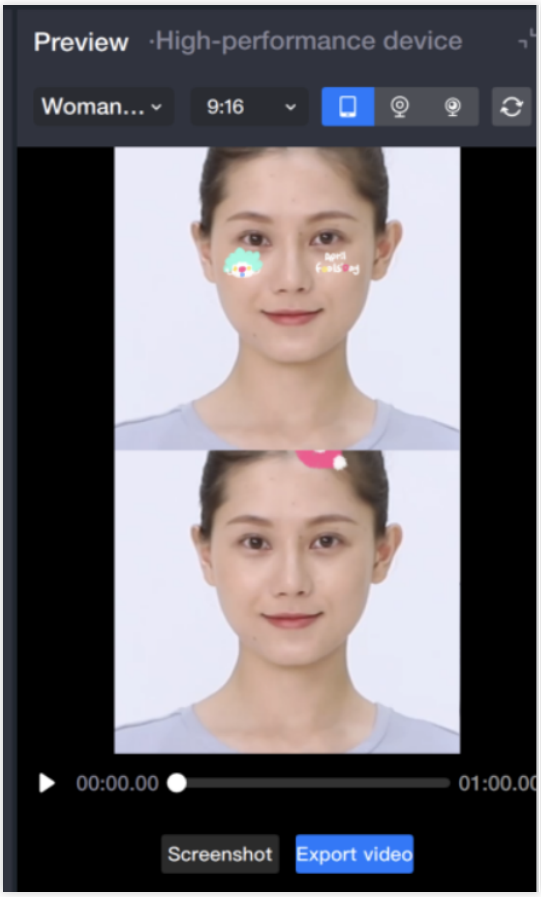

Sample Project

Sample project .

Material package .

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Post-processing

Last updated：2024-03-25 11:43:19

Introduction

By applying post-processing effects, you can add blur, hazy, colorful filters, noise reduction, and kira effects to your videos.

Basic Usage: Global Blur

1. Add a post-processing object

1.1 Add a **Post-processing** object in the object panel.

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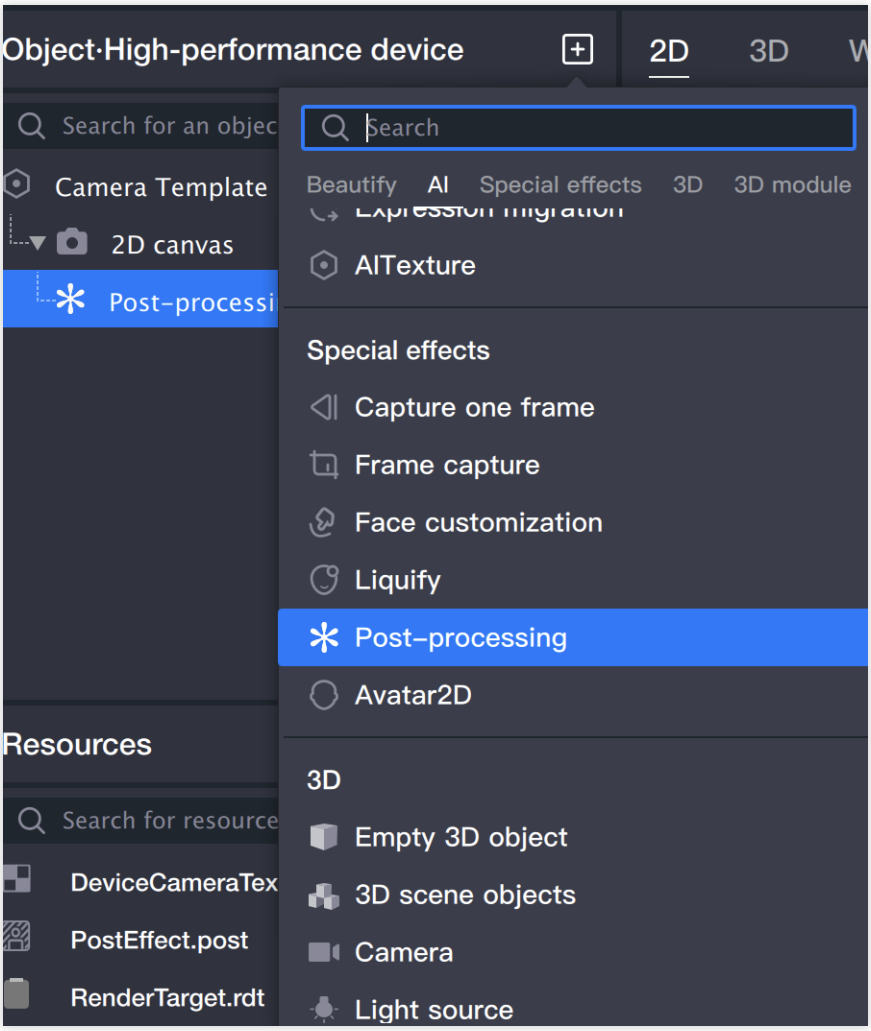

1.2 This object will automatically add a post-processing effect component, and the post-processing file property in the component will point to a

file in the resource panel: PostEffect.post. All subsequent post-processing effect modifications and parameter adjustments are based on this file.

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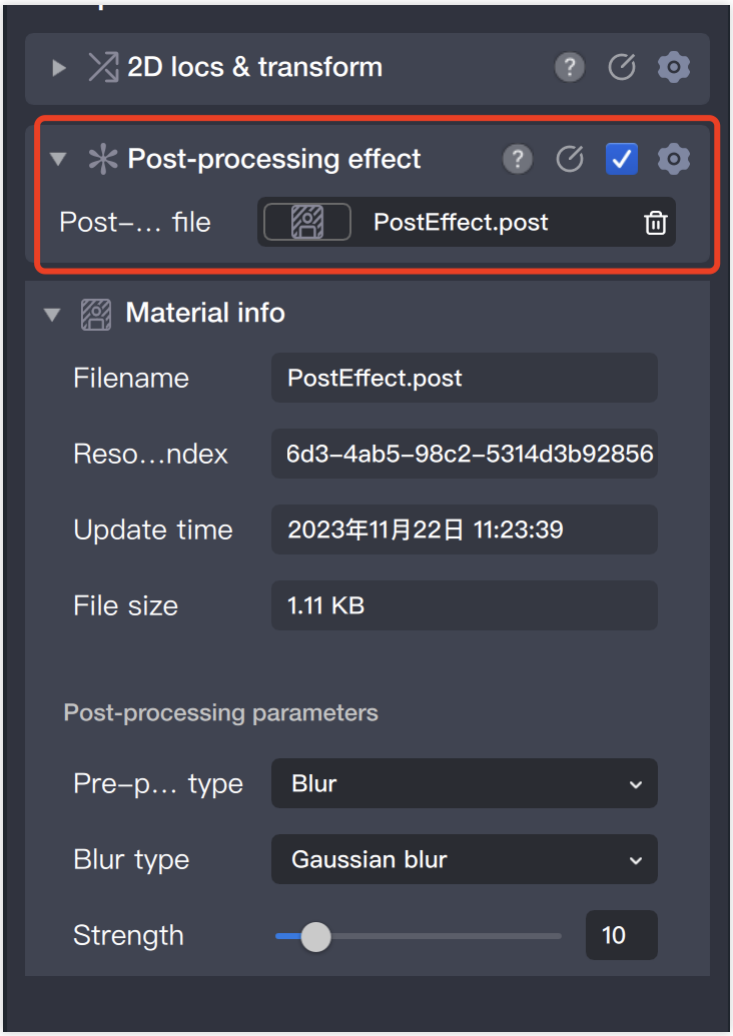

1.3 After adding the post-processing object, you can see the default post-processing effect: blur in the preview panel.

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2. Modify post-processing effects

2.1 Select the post-processing file mentioned above in the resource panel: PostEffect.post

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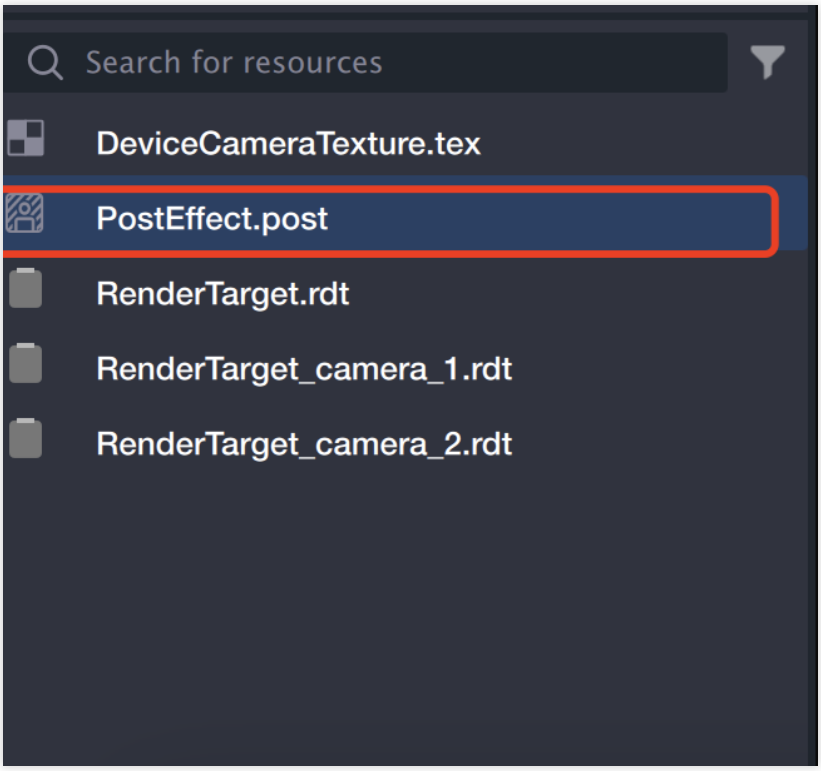

2.2 Modify the post-processing parameters in the component panel.

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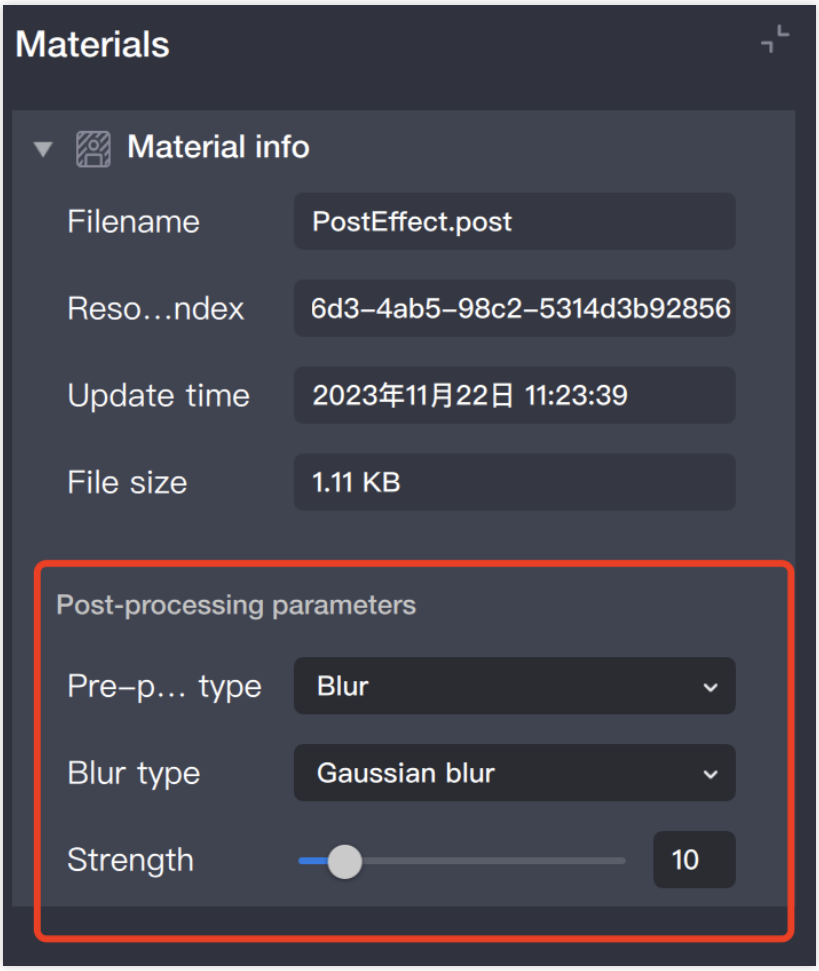

Local Blur

1. **First, add a global blur effect.**
2. **Locally add a mask image for local blur**

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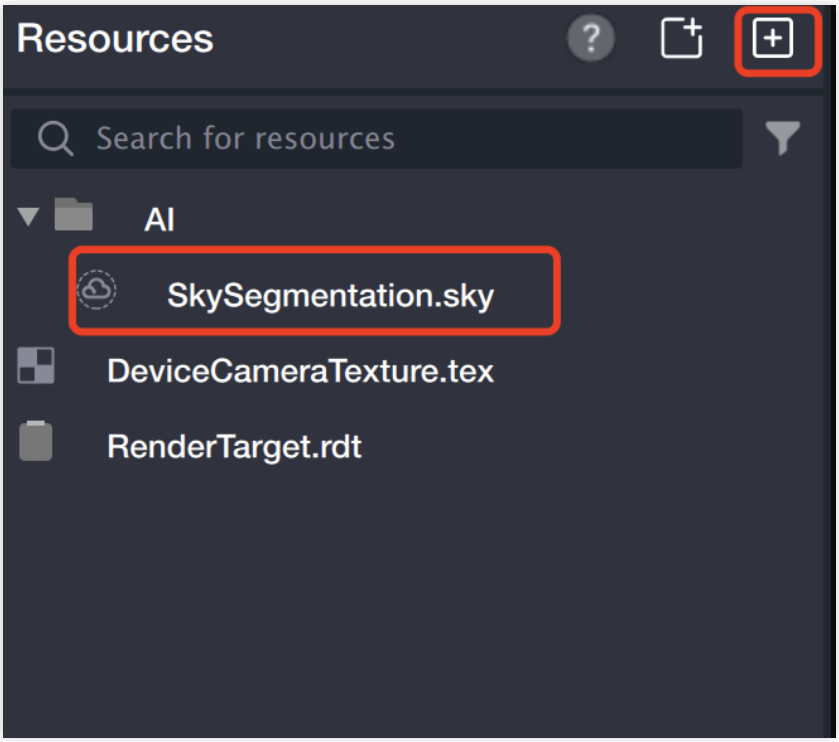

3. Add a [Segmentation] object.

3.1 Add a **Segmentation** object in the object panel.

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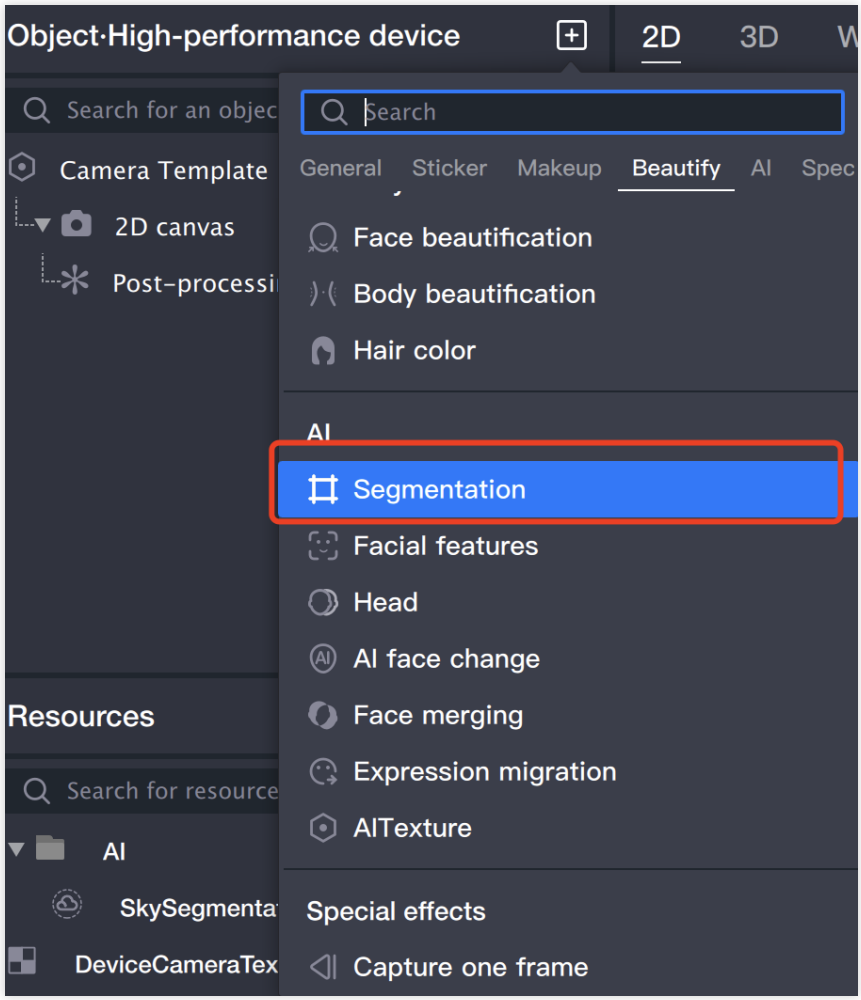

3.2 After adding the **Segmentation** object, the mask image in the component panel will automatically be filled with the imported mask image.

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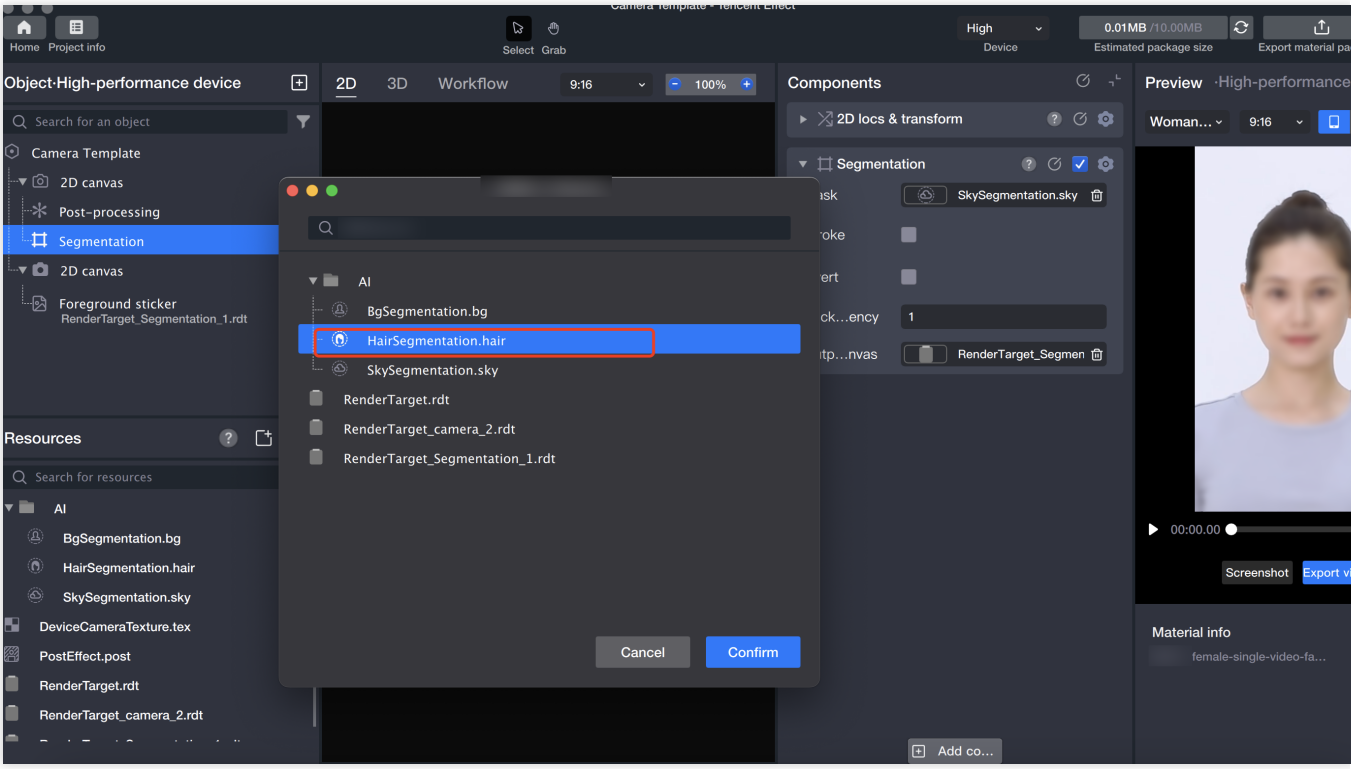

4. Use the mask image to achieve local blur.

4.1 Create a new 2D canvas in the object panel.

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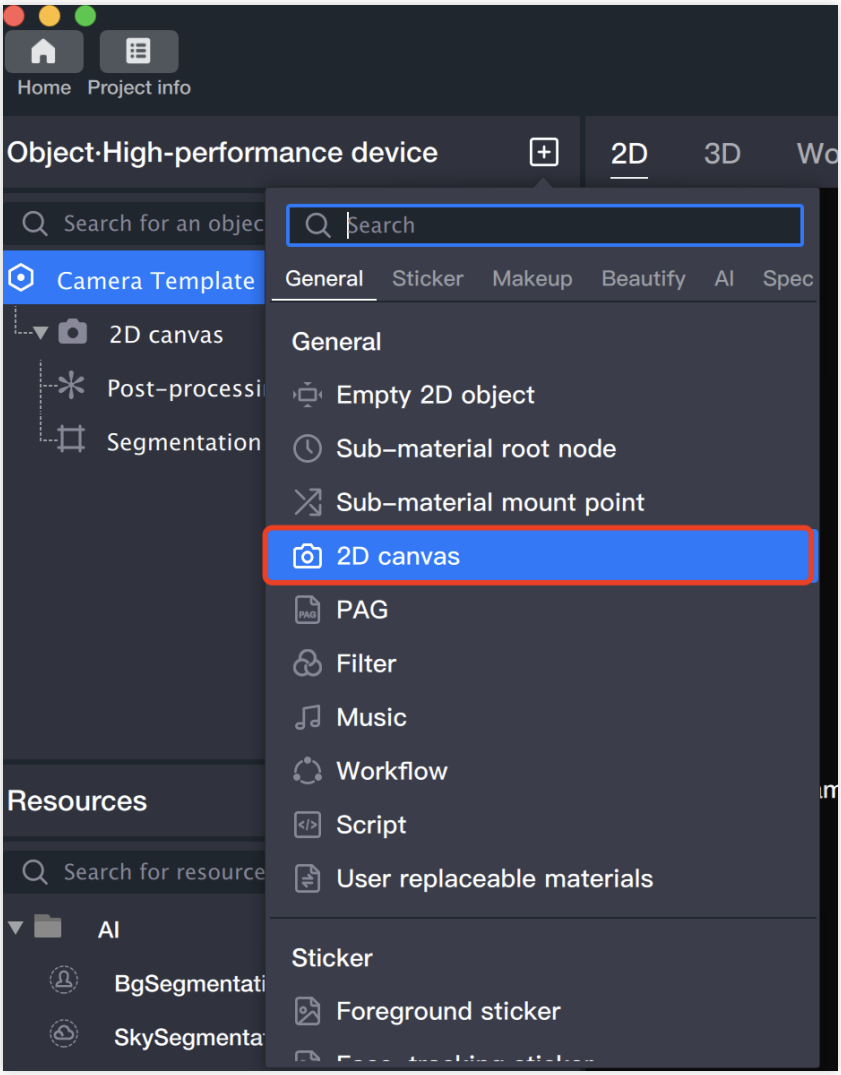

4.2 Add a **Foreground Sticker** object on the newly created canvas.

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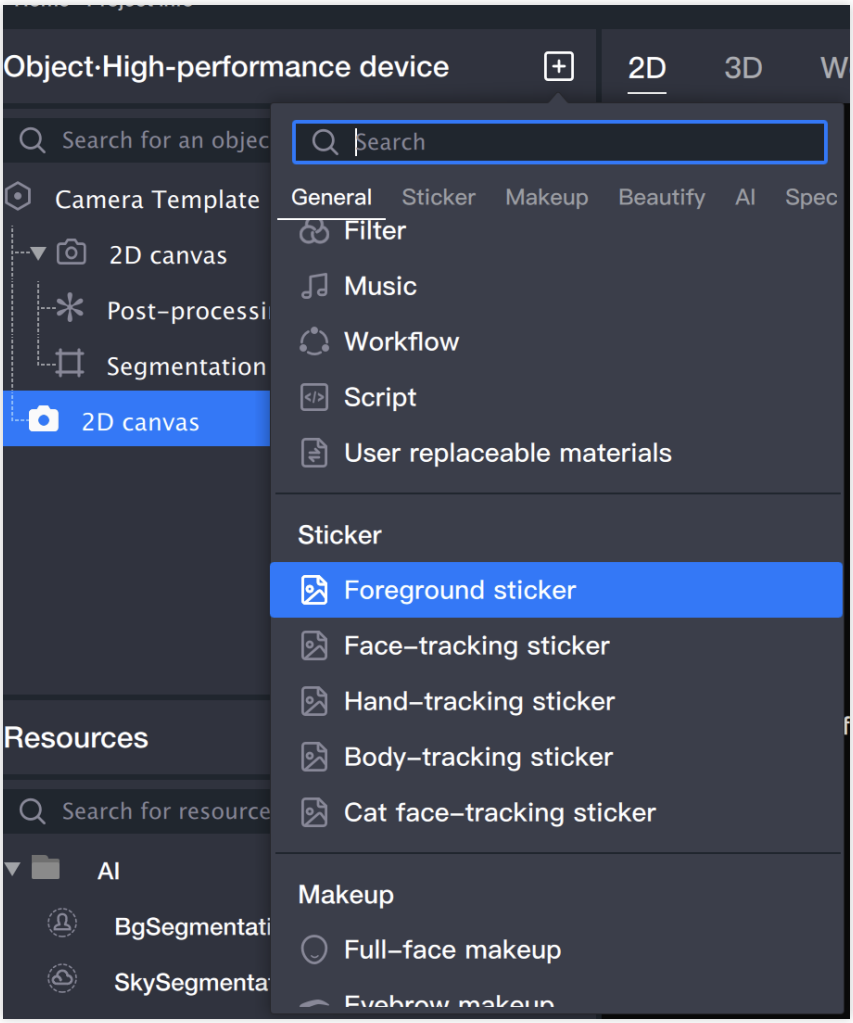

4.3 Select the output canvas of the **Segmentation** object as the foreground sticker.

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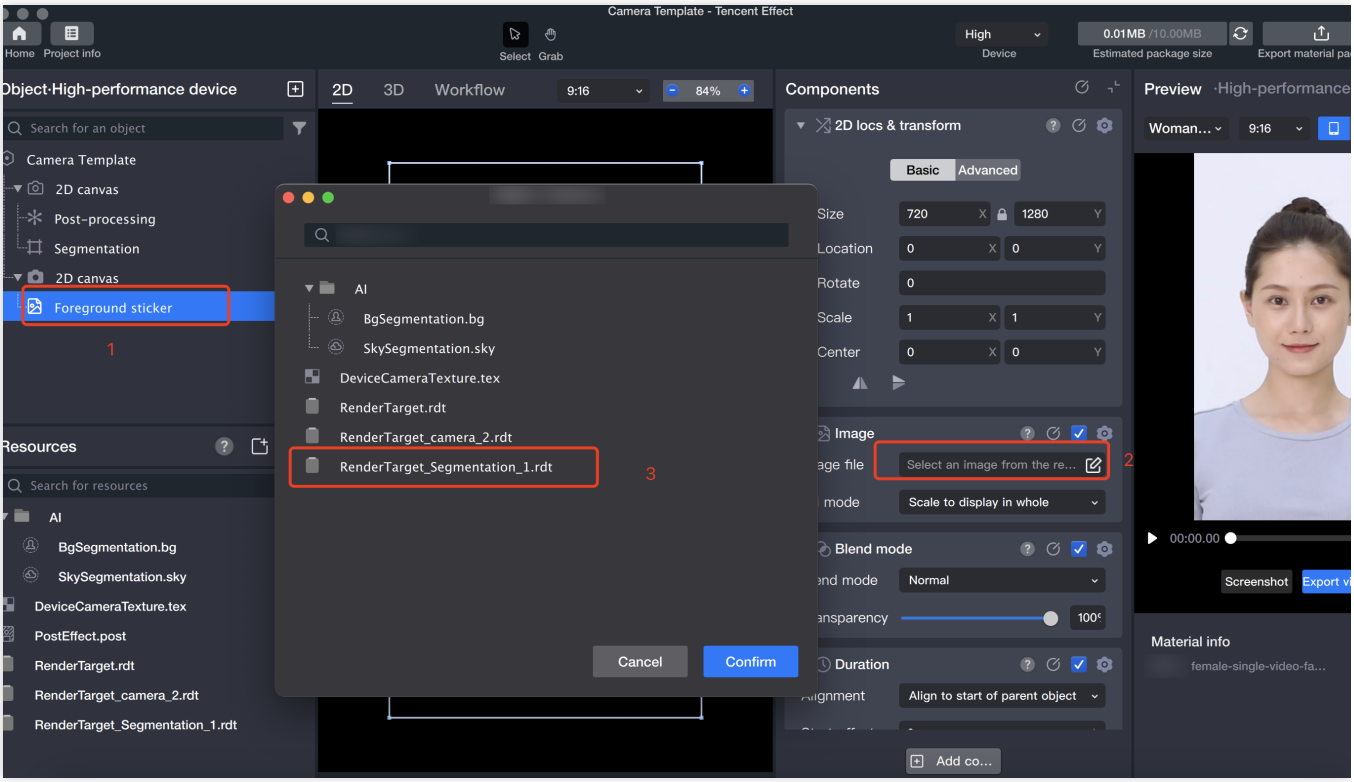
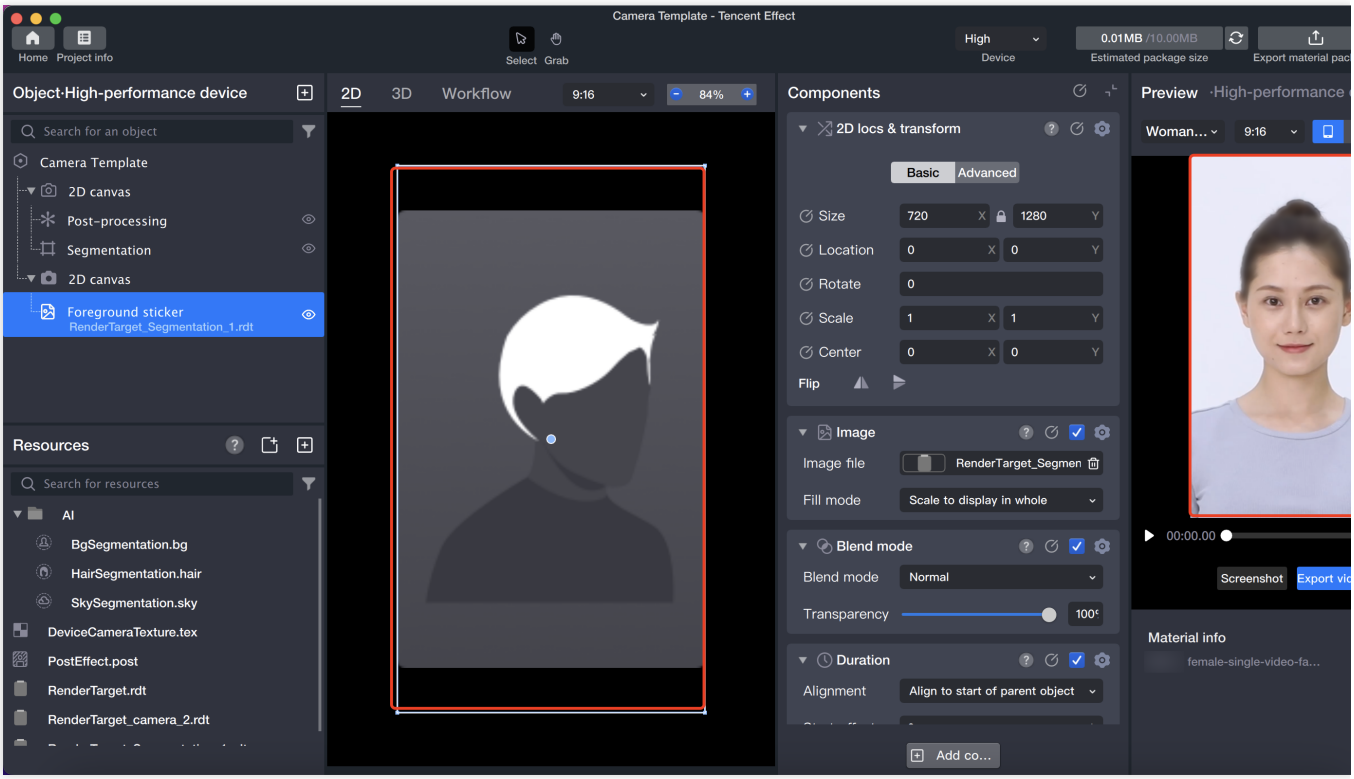


5. Preview.



adjust the PostEffect.post

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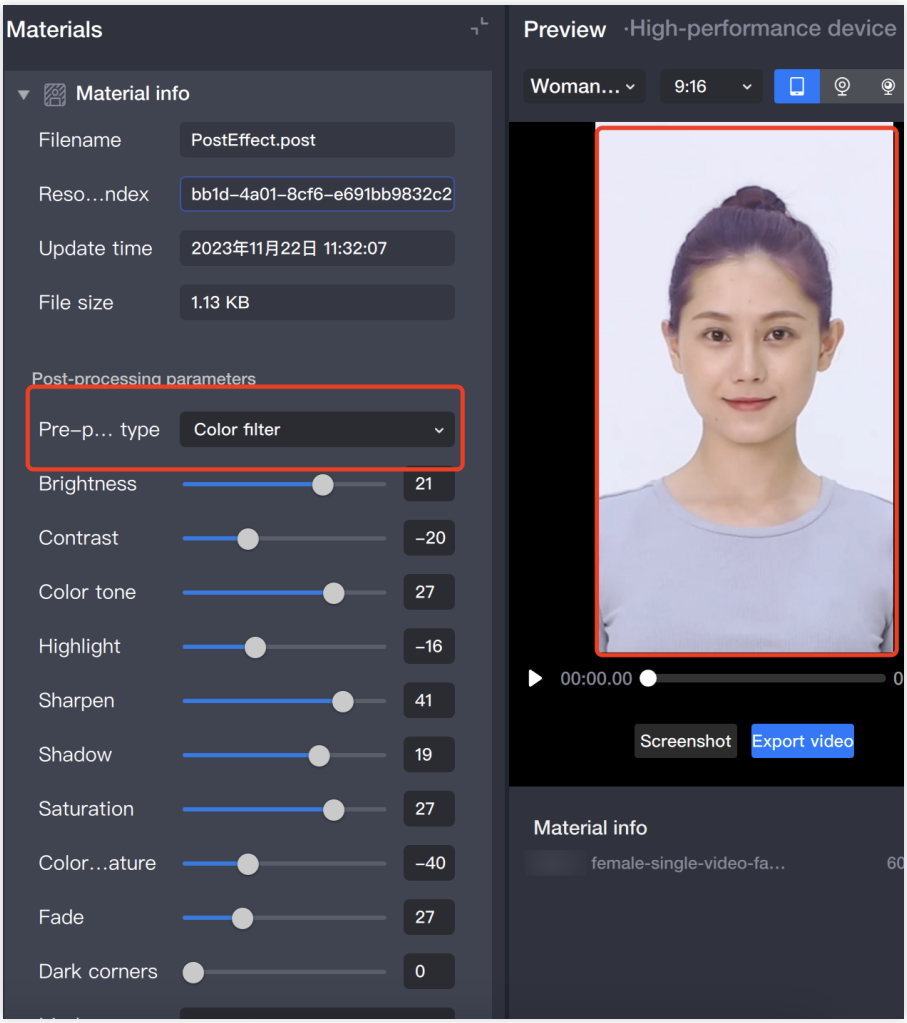
we can get different effects

for example:



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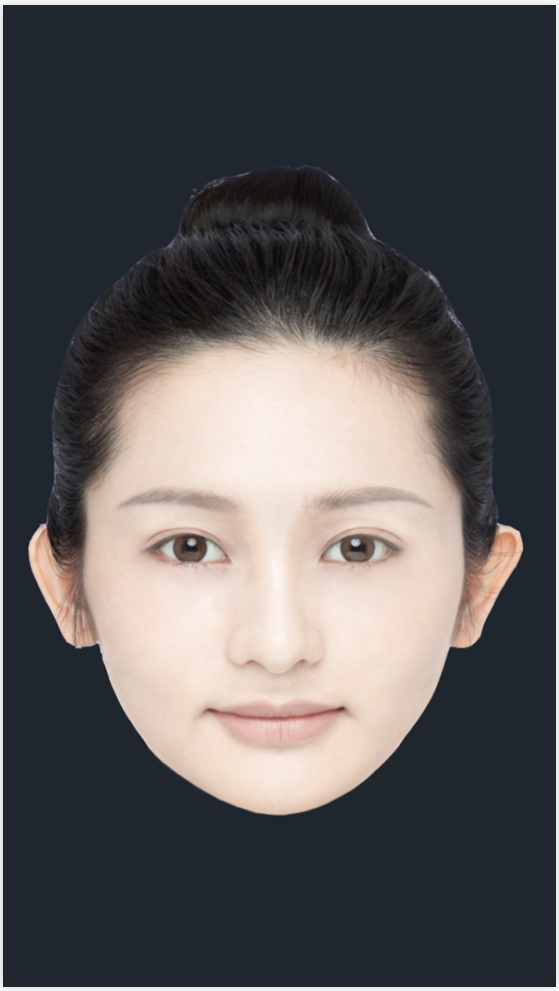
Freeze Frame & Frame Capture

Last updated：2024-03-25 11:43:19

Introduction

capture one frame is similar to frame capture, which means capturing the result image of a certain rendering for other processing. capture one frame only captures one frame at a specific time, while frame capture captures multiple frames based on conditions. The captured result can be considered as a simple image, which can be used for Foreground Sticker, Tracking Sticker, and any other components that require input images.



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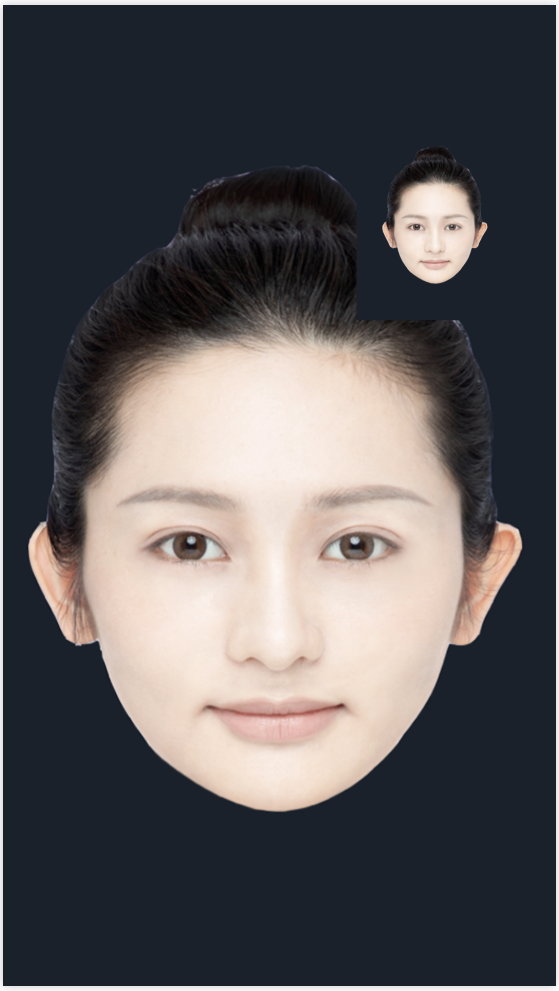

Original Image

After adding frame capture

Basic usage of capture one frame.

1. Add a capture one frame Object.

1.1 Add "capture one frame" in the Object Panel.

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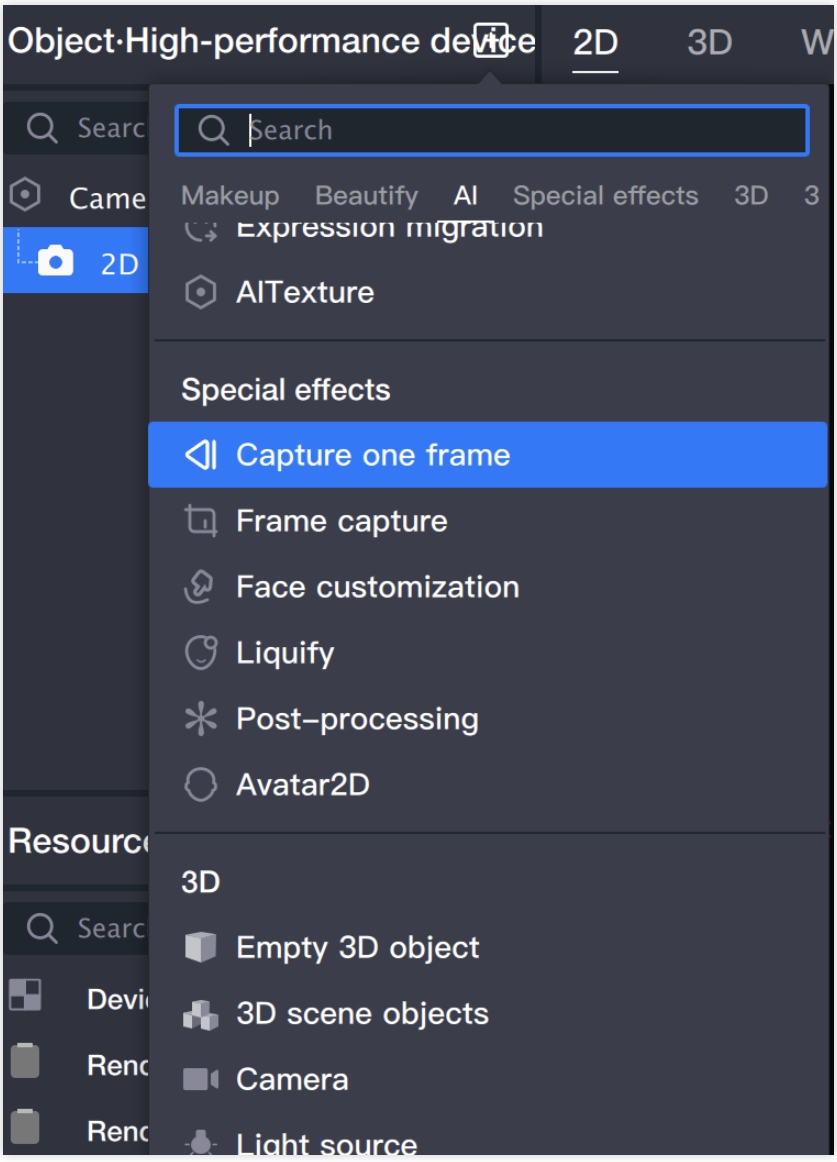

1.2 After creating a capture one frame Object, you can see that a RenderTarget_SnapOneShot_2.rdt will be automatically added to the Resource Panel. This file serves as the output of the capture one frame Object.

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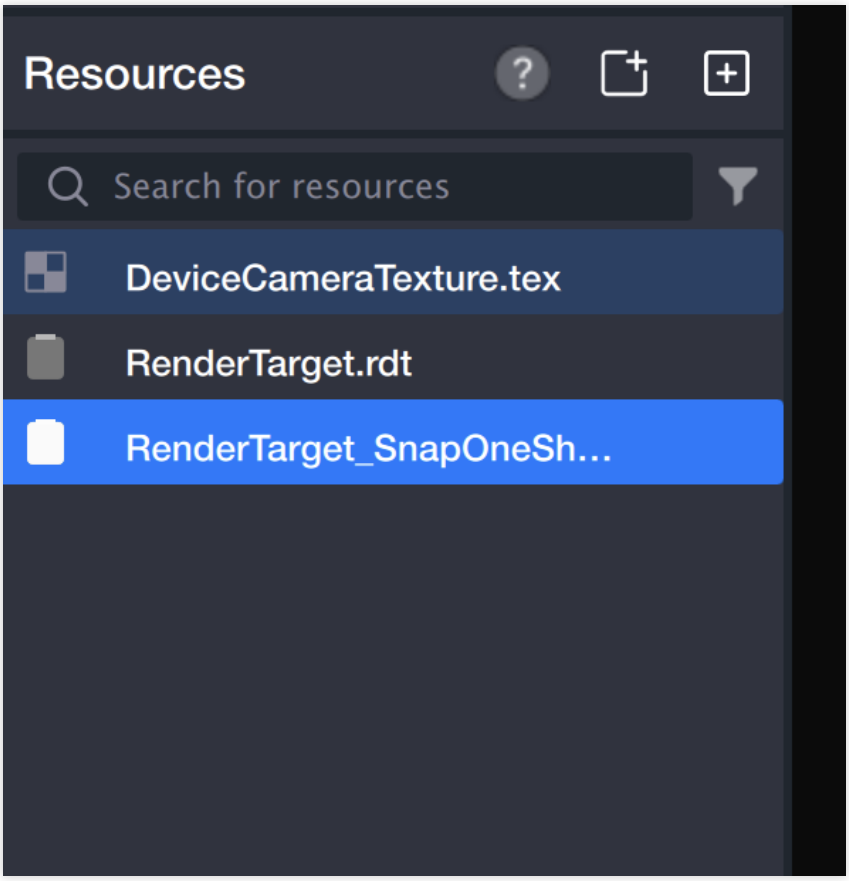

2. Add a Face-following Sticker to the output image.

2.1 Add "Face-following Sticker" in the Object Panel.

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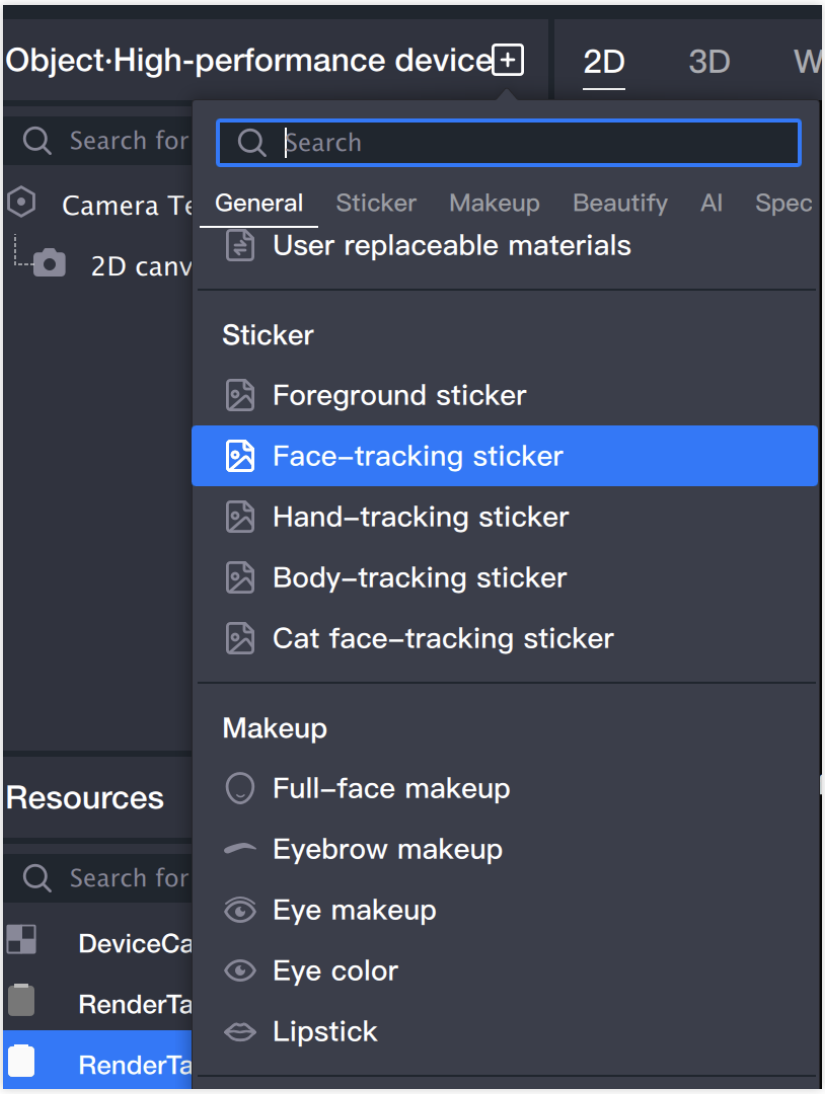

2.2 Select the output image of the capture one frame in the image file.

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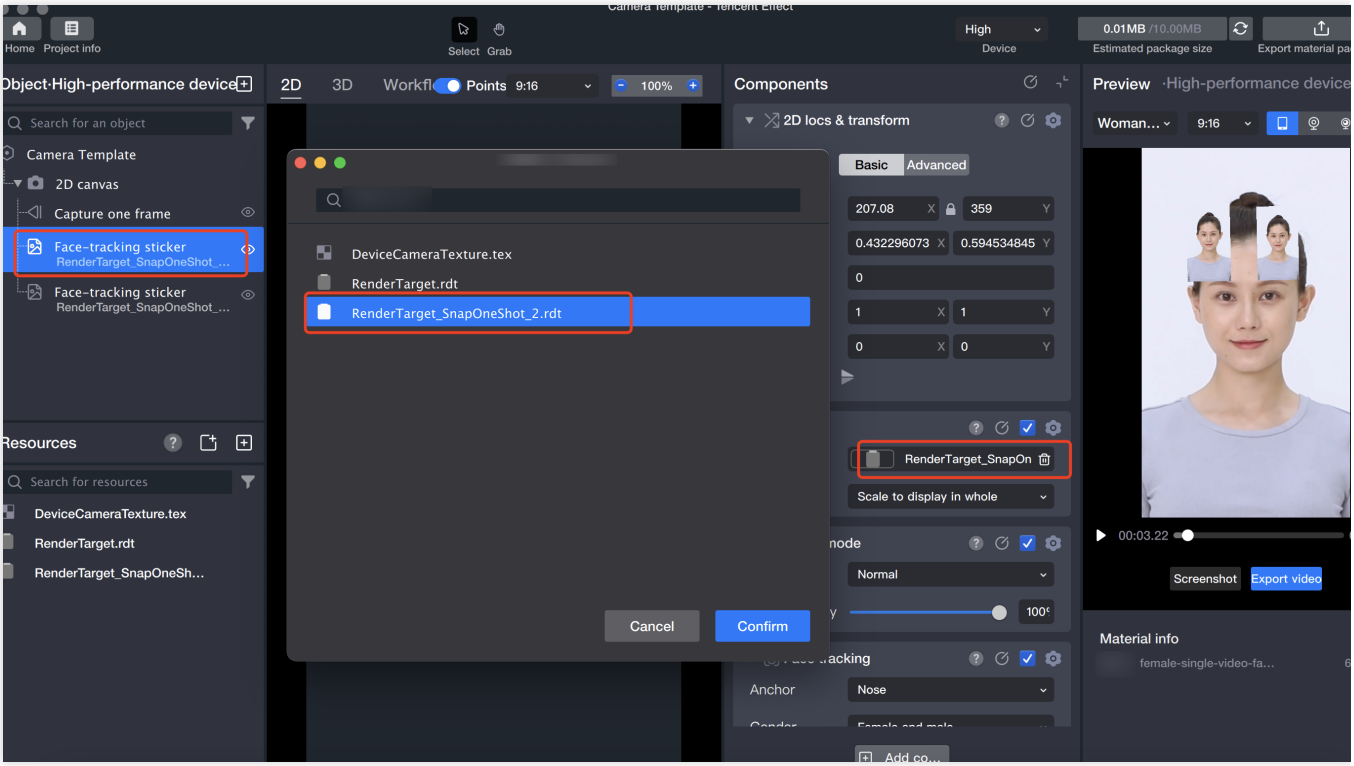
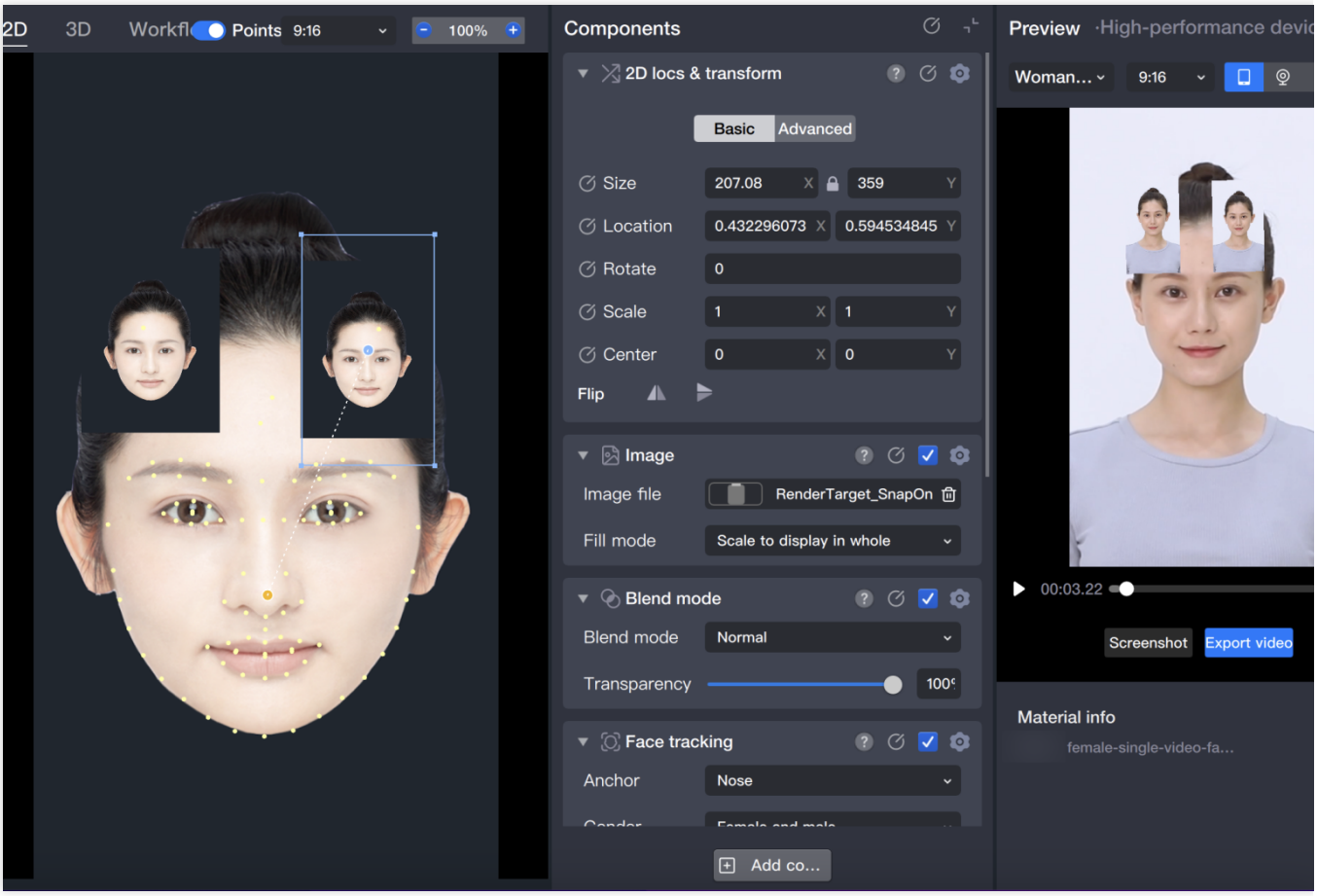


2.3 Adjust the size and position of the output image of the capture one frame.

the output image：



Basic usage of frame capture

Similar to the usage of capture one frame, the difference is that the added object is "frame capture", and the generated file in the Resource Panel is RenderTarget_frame capture_1.rdt.

The difference is that the frame capture Object will continuously capture images, so you can see in Tencent Effect that the image of the Face-following Sticker (input as the captured image of the frame capture Object) also changes over time.

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Background Removal + GAN

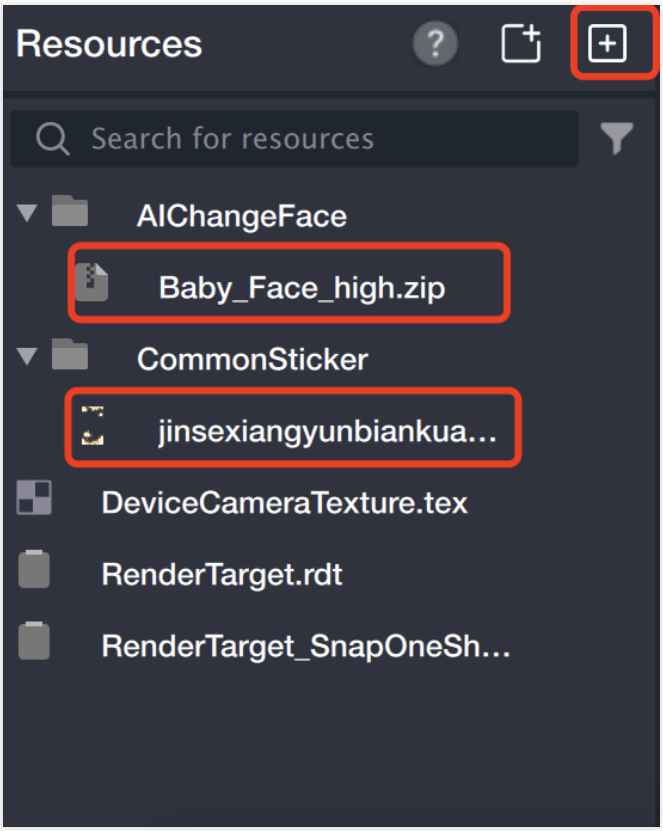
Last updated：2024-03-25 11:43:19

Introduction

In Tencent Effect, different gameplay can be combined to achieve diversified gameplay. For example, background removal and GAN can be used at the same time, replacing the background of the video while also replacing the characters in the video with cartoon faces.

Basic Usage

1. Import materials



2. Create a segmentation object.

Add a "Segmentation" object in the object panel.

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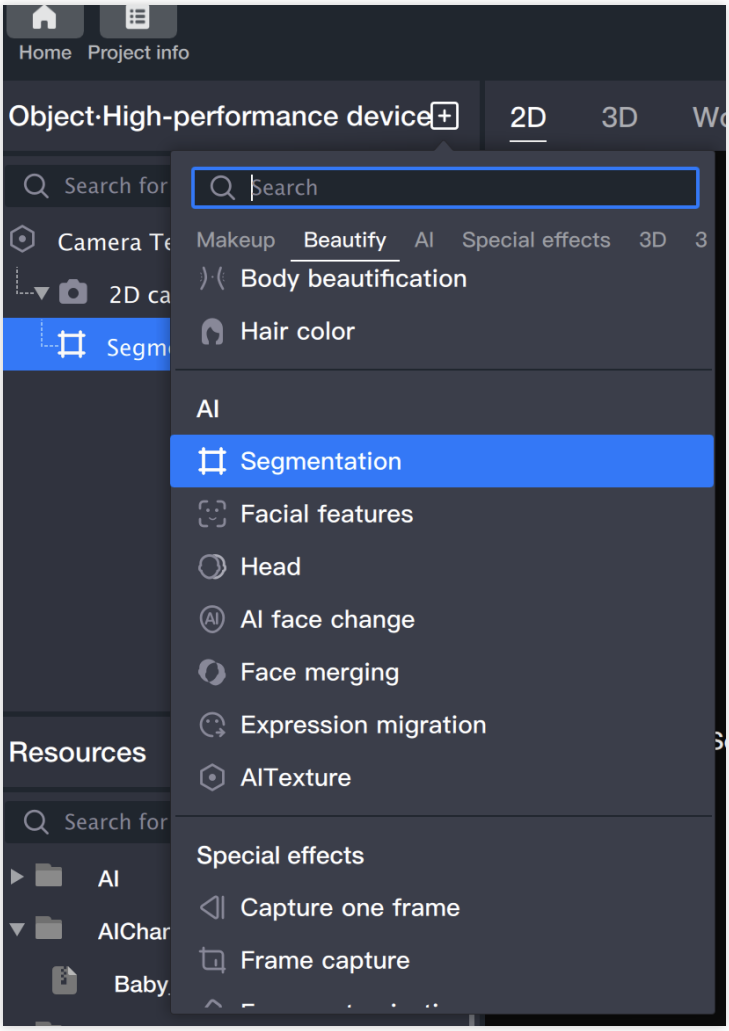

In the resource panel, a RenderTarget_Segmentation_1.rdt generated by the segmentation object appears.

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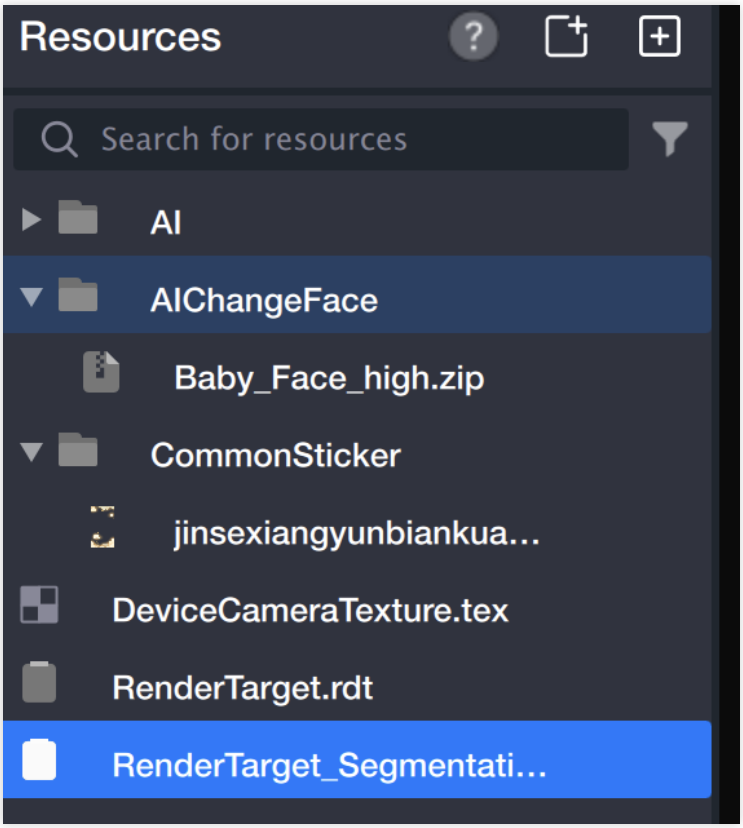

3. Add background

3.1 Add a "Foreground Sticker" in the object panel: This sticker will be used as the background.

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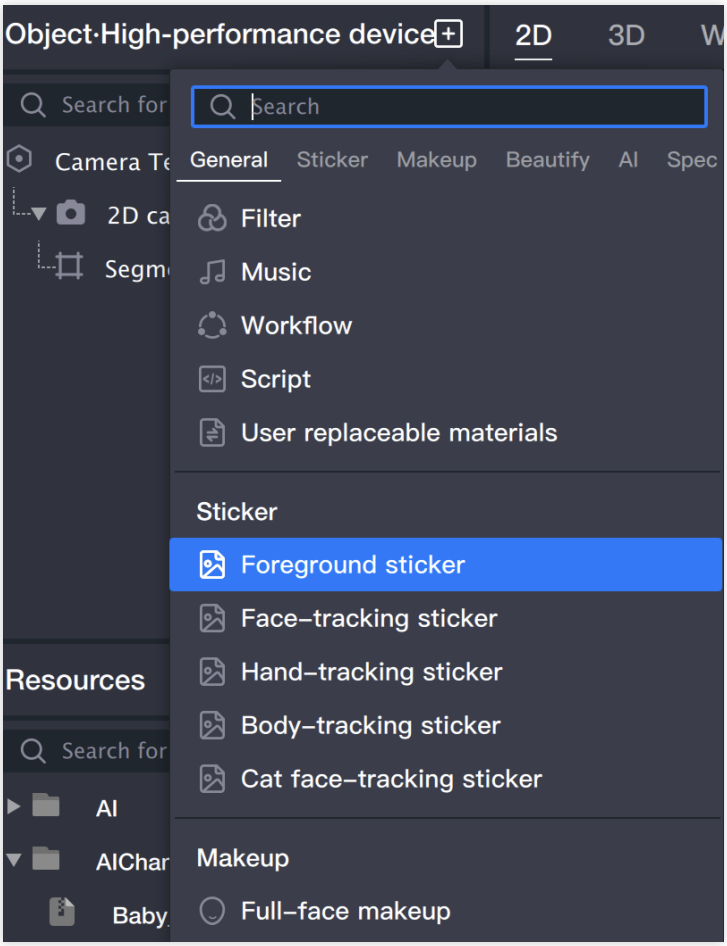
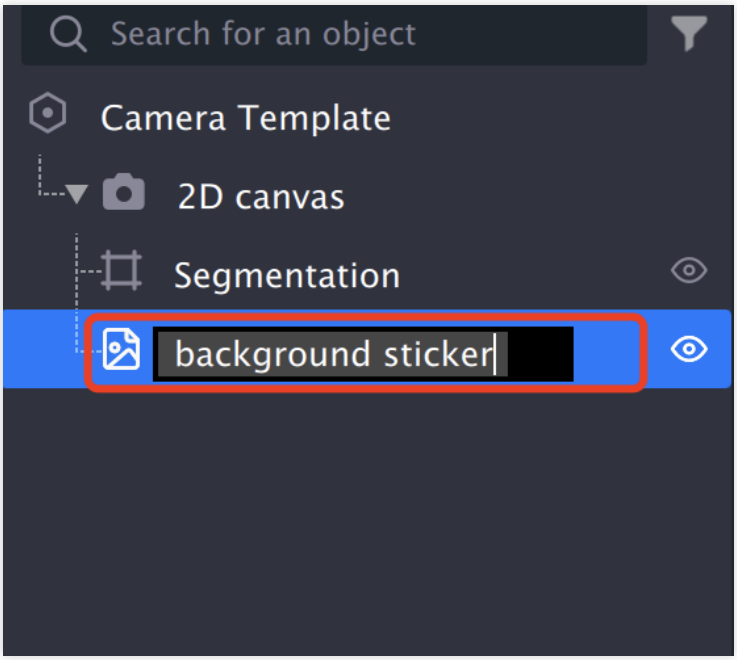


3.2 Rename the "Foreground Sticker" to "Background" (to distinguish it from the foreground stickers added later).



3.3 Select the image file in the component panel.

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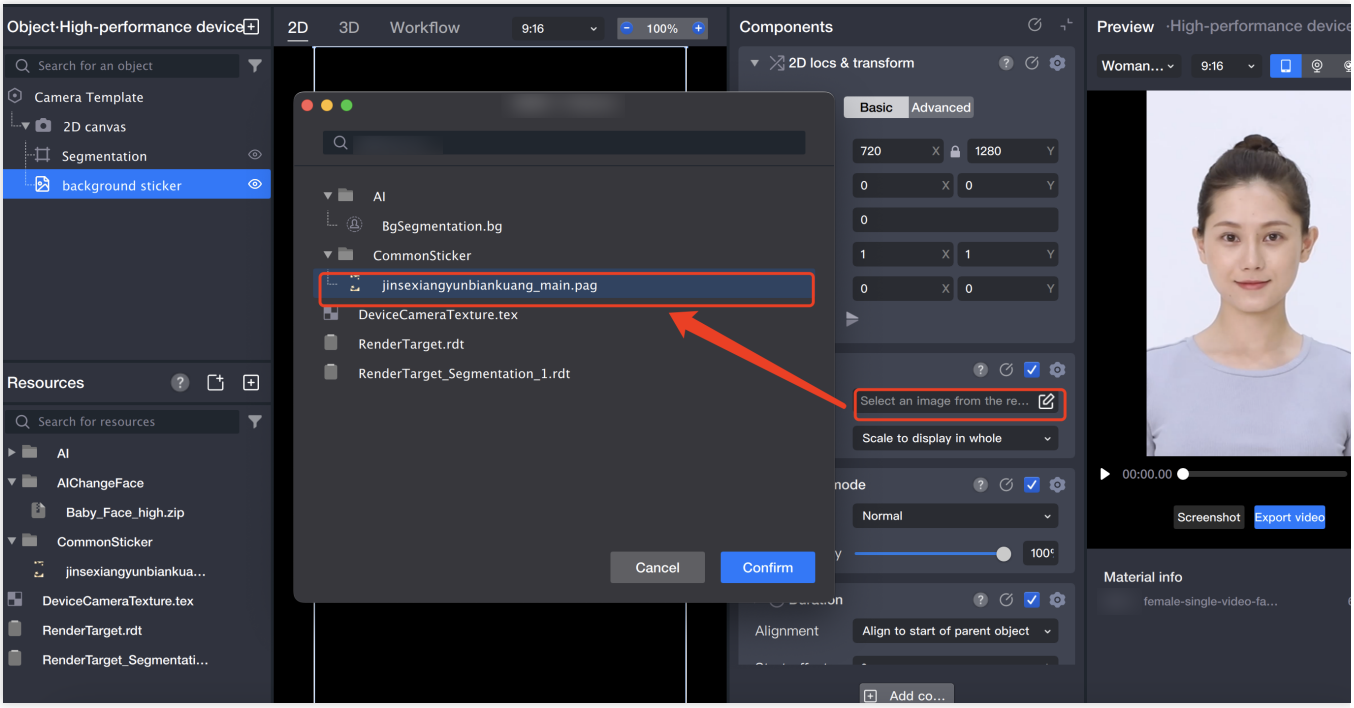

3.4 Adjust the resource to the appropriate size.

4. Add foreground

4.1 Add a "Foreground Sticker" in the object panel: Add the segmented portrait to a canvas.

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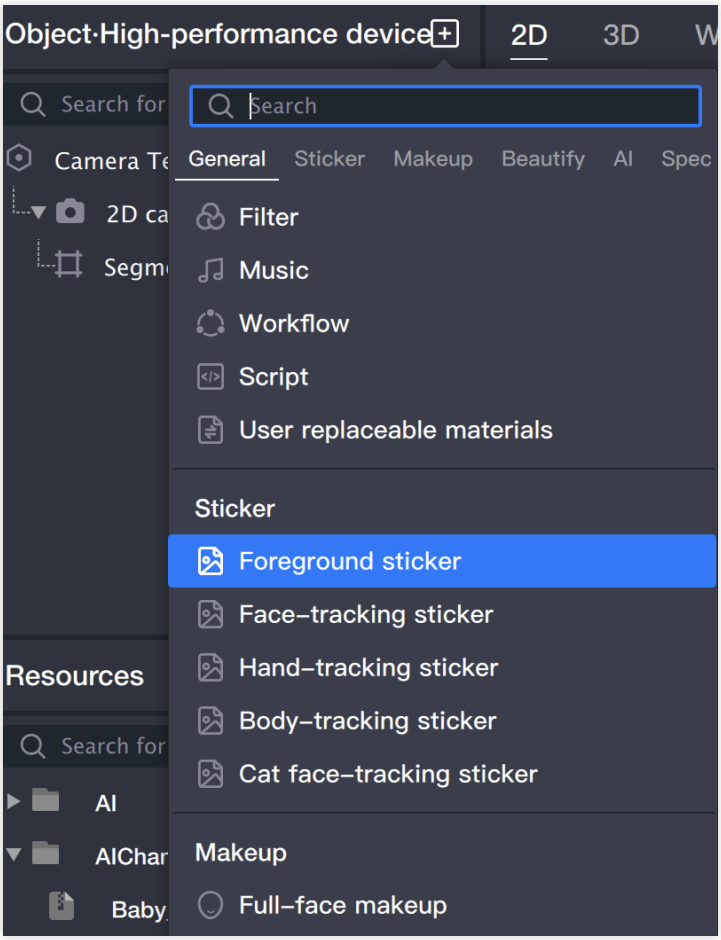

4.2 Rename the "Foreground Sticker" to "Segmented Portrait".

4.3 In the component panel, select the image file for the "Foreground Sticker": Select the RenderTarget_Segmentation_1.rdt file generated when the segmentation object was created, which is the foreground showing the just segmented portrait.

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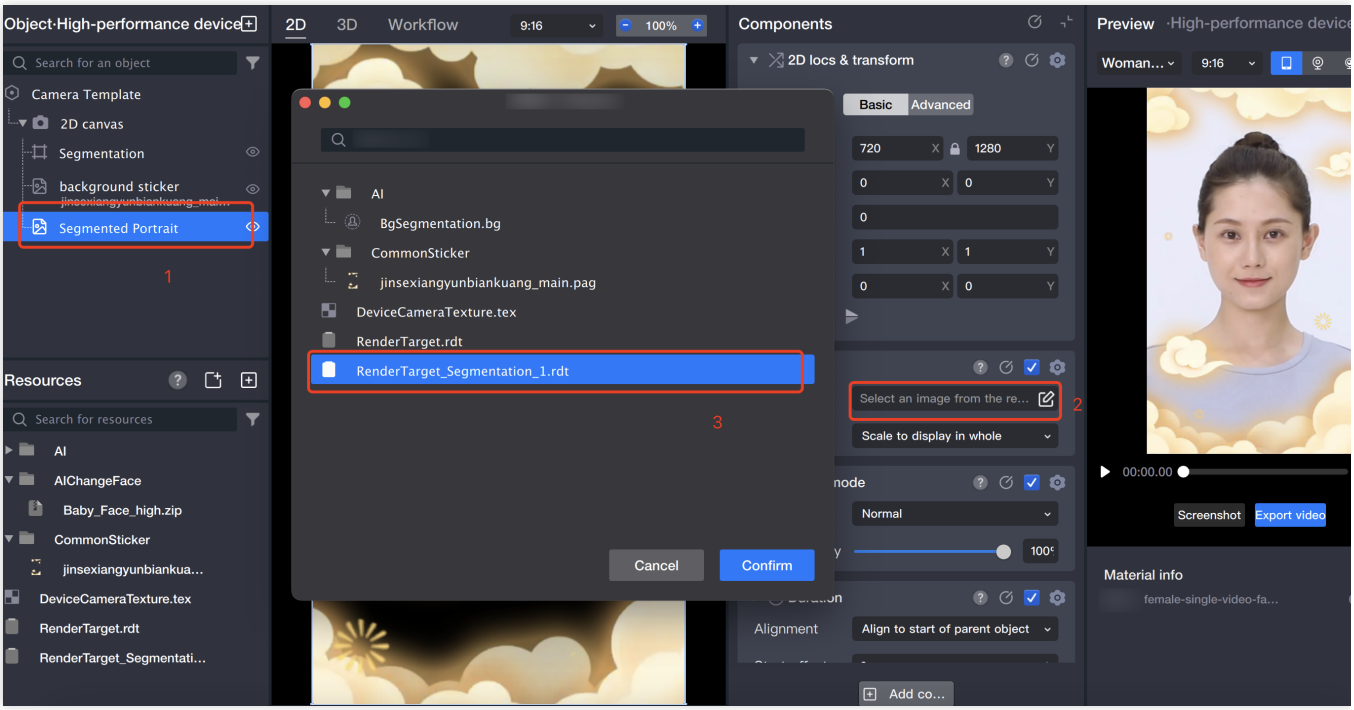

5. Add GAN

5.1 Add a "GAN" in the object panel.

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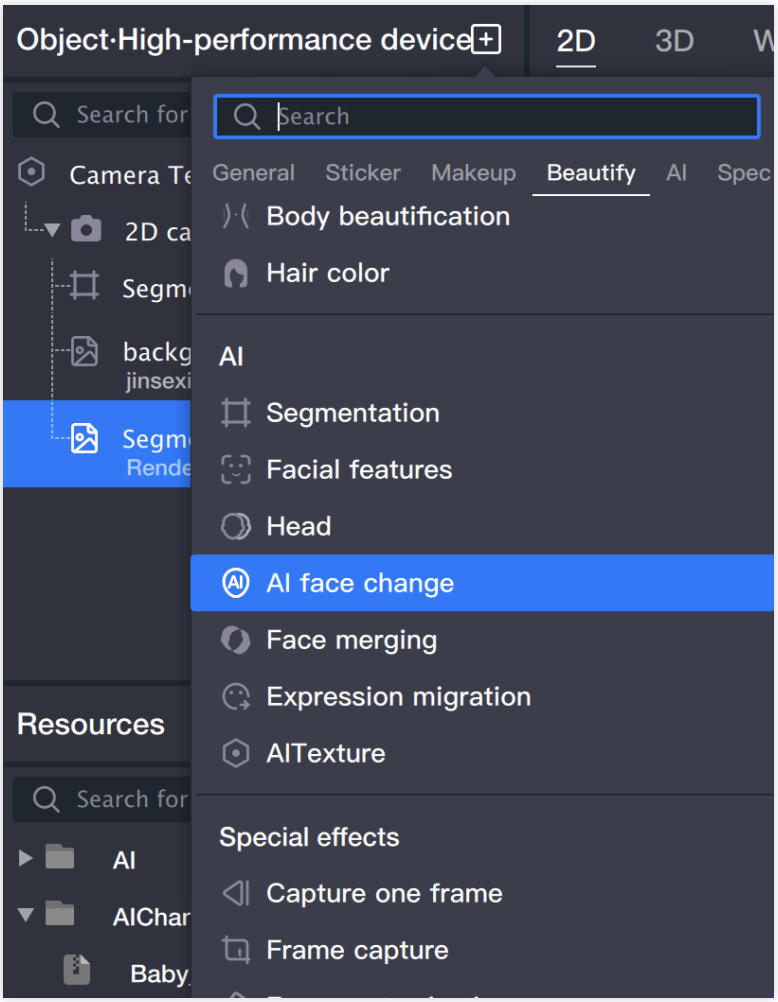

5.2 In the component panel, import resources for the "GAN" object.

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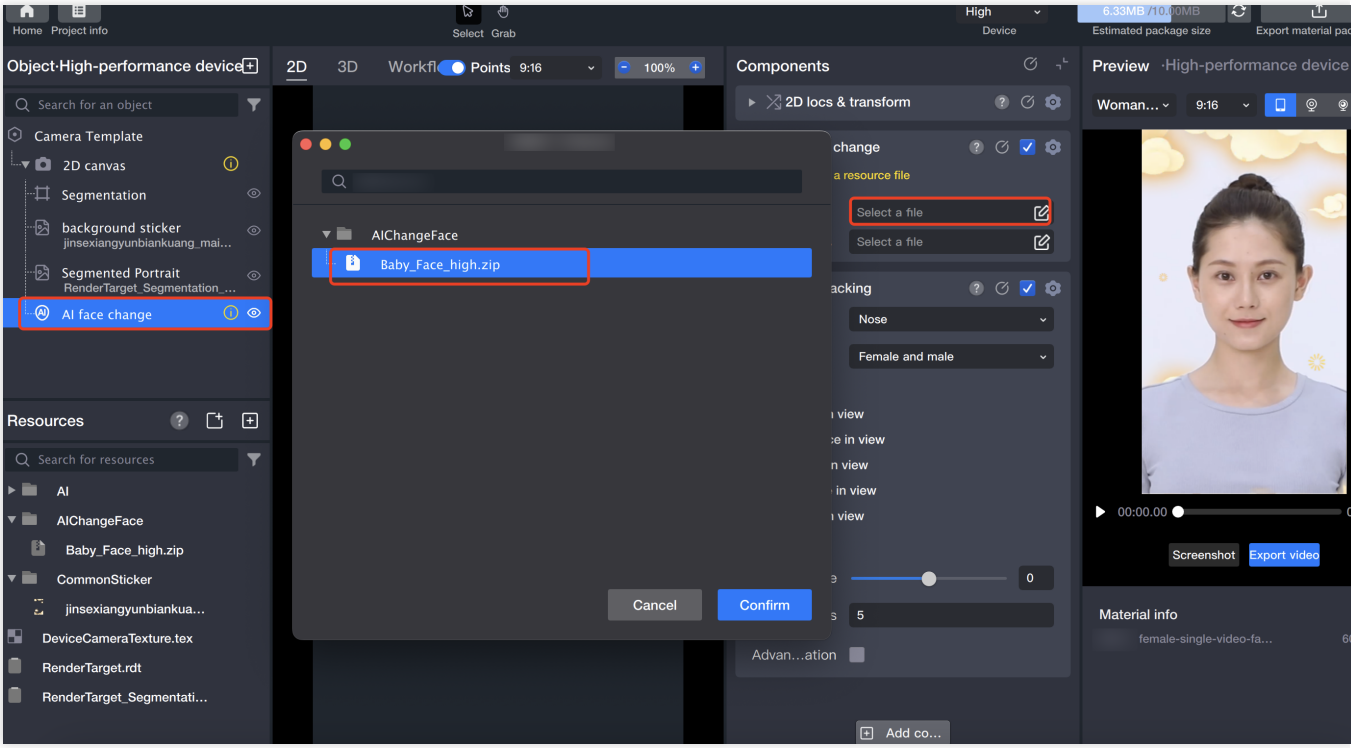

6. Preview

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