USB Camera for Unity Android (v2.0.1)

Android support

Preview support in the **Editor** and **Win Standalone**

System Requirements:

Build Android: API level 21 to 34 with OTG function (test on Android 6 to 15)

Support limited preview in Editor and Win Standalone

USB Camera for Unity is an Assets Plugin for using USB camera with Unity Android.

Features:

Support multiple USB cameras: 1 to 4 USB cameras

Support dynamic resolution, parameters (brightness, etc.) adjustment, and hot plugging

Support photo capture and album with multiple USB cameras

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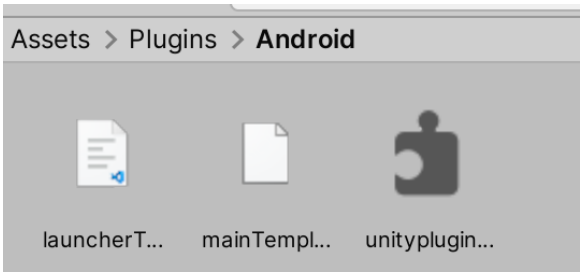
1: Example and usage:

1.1: Quick setup procedure to run the example scenes:

You need to uncheck Multithreaded Rendering, Auto Graphics API and set Graphics APIs to OpenGLES3 in the player setting.

And move the AAR file (Gradle files are optional) from Assets\USBCamera Plugins\Android to Assets\Plugins\Android



If you cannot build it, please try to download Android SDK manually and change the preferences settings.

Android SDK:

https://www.gameplaydeveloper.com/unity-android-sdk/

As for other build problems, please email me.

1.2: connect with single USB camera:

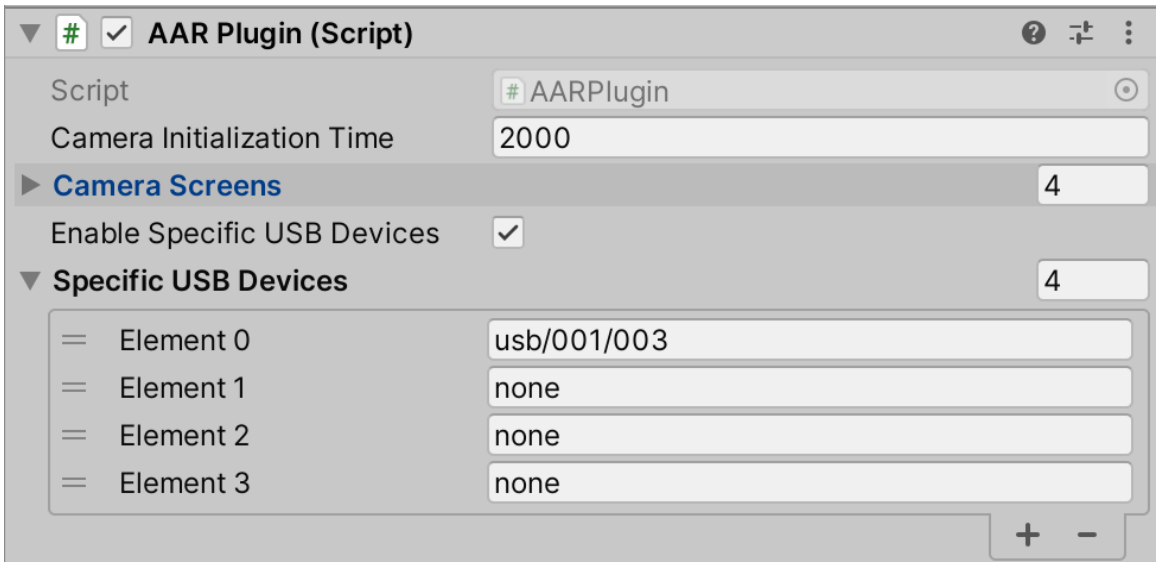
Connect the USB camera and give permission of USB camera

Example scene: singleCameraExample.unity

Start and stop preview

Example scene: singleCameraExtraExample.unity

Specify USB devices



Example scene: specificCameraExample.unity

specificMultipleCamerasExample.unity

1.3: connect with multiple USB cameras:

Connect all USB cameras to a USB hub and give permission of all USB cameras one by one (2s for each permission).

Example scene: multipleCamerasExample.unity

1.4: replug USB camera:

Please replug the USB hub instead of each USB camera. Otherwise, it will recognize the re-plugged camera as a new camera.

1.5: adjust resolution and parameters

Click on the resolution dropdown to adjust the resolution. Click on the button "Parameters" to open the parameter panel.

1.6: photo capture:

Click on the button "Take a photo".

1.7: album:

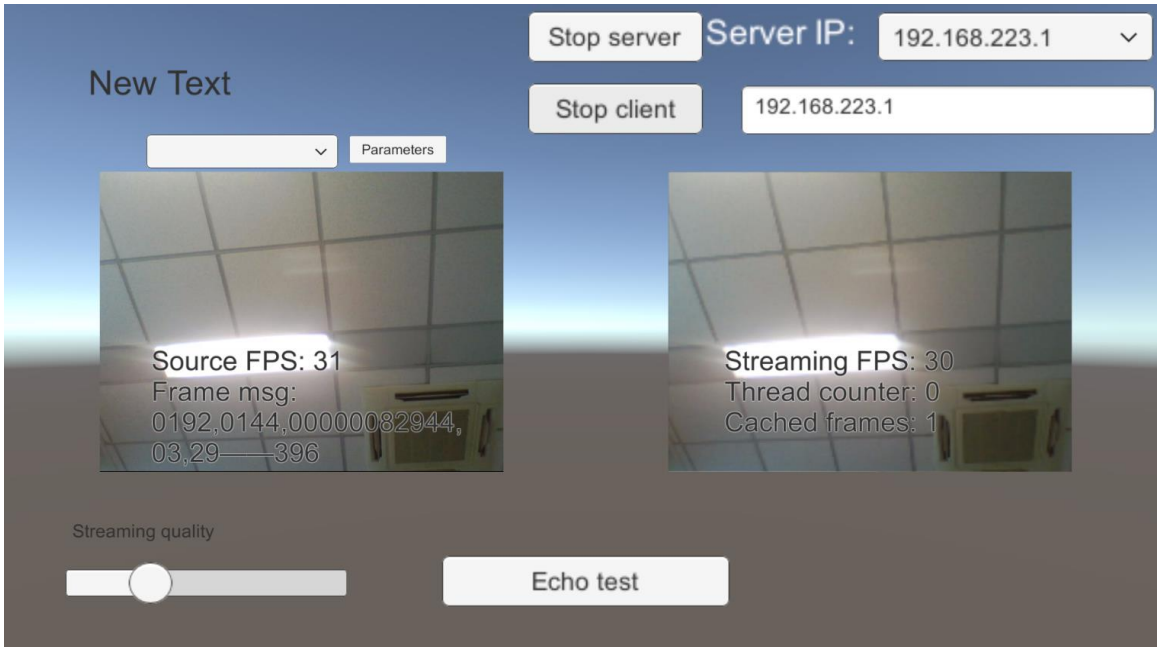
Click on the button “Album”. Click on the button “Delete” to delete the photo in the photo preview panel.

1.8: preview in Editor and Win Standalone:

Please switch the platform to standalone in the player setting.

1.9: video streaming:

A: Please make sure the server and client are connected with the same Wi-Fi network or Local Area Network. B: Launch the server: select an IP address and click on “Start server”. C: Launch the client: input the IP address and click on “Start client”. D: Using the “Streaming quality” slider to adjust the streaming quality to get a stable video.



1.10: frame format adjustment:

YUV is quite slow in comparison with MJPEG. Therefore the default frame format is MJPEG.

Example scene: frameFormatAdjustment.unity

1.11: 4 cameras example:

For 3 or above cameras, due to the limited power of OTG and limited bandwidth of USB2.0, you may fail to connect or replug all cameras simultaneously. In that case, please try to connect the cameras one by one. A USB hub with extra power supply and an android device with USB 3.0 maybe more stable for 3 or above cameras. 5 or above cameras is also possible but not recommended. You can modify the including source project to support 5 or above cameras.

Example scene: fourCamerasExample.unity

2: FAQ

2.1: Q: how to check if my mobile phone supports OTG function?

A: If your mobile phone can connect a USB flash disk (through a USB hub), then it supports OTG.

2.2: Q: camera cannot reset after replugging.

A: If you encounter this problem, please restart your APP.

2.3: Q: where is the path of photos?

A: You can find the save path of each photo in the photo preview panel of the album.

2.4: Q: what is promiscuous mode?

A: In promiscuous mode, the plugin will recognize all USB devices as a USB camera. Do not enable this mode unless you failed to connect to your camera.

2.5: Q: what is camera initialization time?

A: The camera initialization time (default 2000ms) is designed for multiple cameras. If you only need to connect one camera, you can try a smaller value such as 500ms. The actual initialization time for each camera = 2* camera device index * camera initialization time.

For example, for 4 cameras with camera initialization time 3000ms, the actual initialization time for each camera are 6000ms, 12000ms, 18000ms, and 24000ms. You can try a smaller value.

And for each camera, you have camera device index * camera initialization time to click on the permission button.

3: Version Changes:

V1.0.0: first release

V1.1.0: added video streaming with USB and native camera for all platforms except WebGL. Minor bug fixes.

V1.2.0: added promiscuous mode. Optimized hot plugging and debug info. Minor bug fixes.

V1.3.0: expanded the list of supported Android devices and USB cameras. Refactor of the source project. Added example scenes for frame format adjustment and 4 cameras. Added camera initialization time adjustment. Minor bug fixes.

V1.4.0: fixed compatibility problems with Vuforia and Oculus Quest. Updated configuration tutorial. Added optional Heterogeneous Mode. Minor bug fixes.

V1.4.1: updated configuration tutorial

V1.4.2: added arm64-v8a support. Fixed build problem of Android source project.

V2.0.0: added support for Opengles3 and higher target API versions. More examples.

V2.0.1: added support for API34 on Android > 12.