Guideline for Replacing Oculus SDK with Pico SDK

Version: v_1.0.1

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Contents

1 Introduction

1.1 Overview

Chapter 1 introduces the software environment and hardware tested. Chapter 2 shows the general steps of replacing Oculus SDK with Pico SDK. Chapter 3 and Chapter 4 detail the steps of replacing the Oculus SDK with Pico SDK using an example video player created from sample code included in the Oculus SDK. Chapter 5 provides more details about the replacing Oculus SDK with Pico SDK, using sample code provided by Oculus.

1.2 Software Components

The software as follow：

- Unity 2017.2.0f3
- Oculus SDK V1.23.0
- Pico SDK V2.7.6

1.3 Hardware Devices

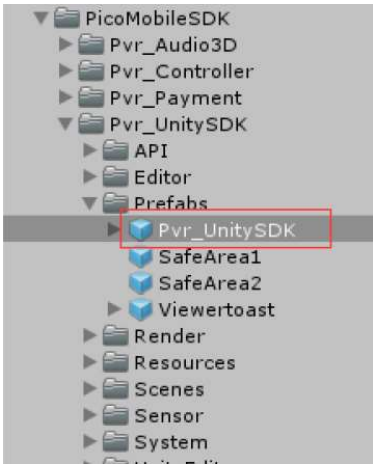
Migration from the Oculus SDK to the Pico Unity SDK has been tested on the following devices:

- Oculus device: Oculus Go.
- Pico devices: Pico Goblin， Pico Neo， Pico G2.

2 General Steps of Replacing the Oculus SDK

- Step 1：Delete the Oculus folder in the Unity project (it's strongly suggested to back-up the project first).
- Step 2：Import PicoVRUnitySDK in the Unity project
- Step 3：Replace with Pico Prefabs

a) Replace OculusVR camera **OVRCameraRig** with the PicoVR camera **Pvr_UnitySDK** (PicoMobileSDK->Pvr_UnitySDK->Pvr_UnitySDK)



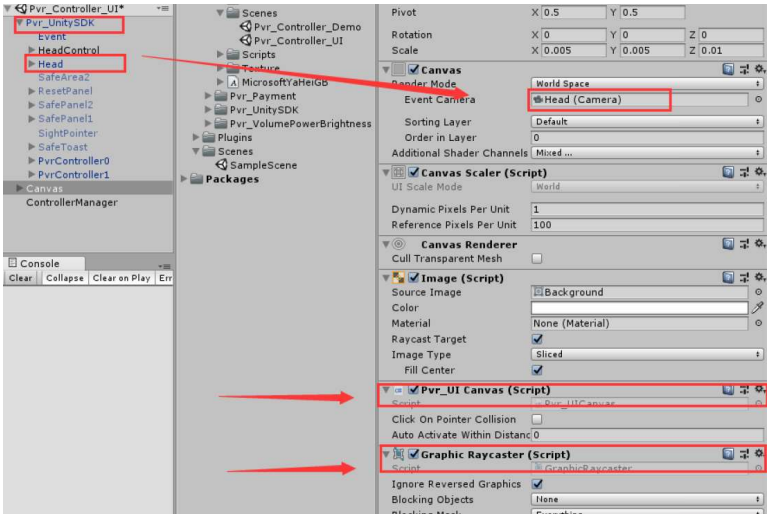
b) Transfer the existing objects and scripts added to the **OVRCameraRig** to **Pvr_UnitySDK** in the project

Note: if there is a script mounted on a camera, please transfer it respectively to LeftEye and RightEye, which are under Head.

c) Change UICanvas

i. Replace EventCamara on the Canvas component with Head

ii. Remove the Oculus script **OVRRaycaster** and add **Pvr_UICanvas** and **GraphicRaycaster**



d) Replace the existing controller related code with PicoVR controller API and key code.

Pico controller key API

Usage: Pvr_UnitySDKAPI.Controller.UPvr_GetKeyDown(Hand, Key)

Hand：Handle index，Key：Specified key

APP Key	Pvr_KeyCode.APP
Touch Key	Pvr_KeyCode.TOUCHPAD
Trigger Key	Pvr_KeyCode.TRIGGER

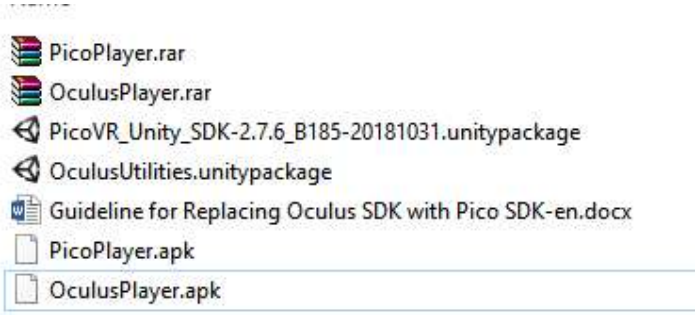
Note: Please refer to the Pico SDK API document for other settings.

- Step 4：Refer to UI interaction Demo in the Scene: Pvr_Controller_UI

3 Player Based on Oculus SDK Overview

3.1 Resources for the Migration Example

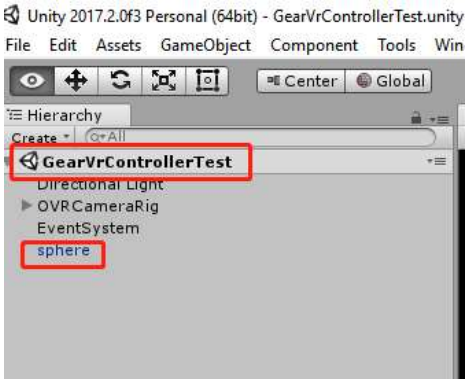
All resources used in Chapter 3 and Chapter 4:



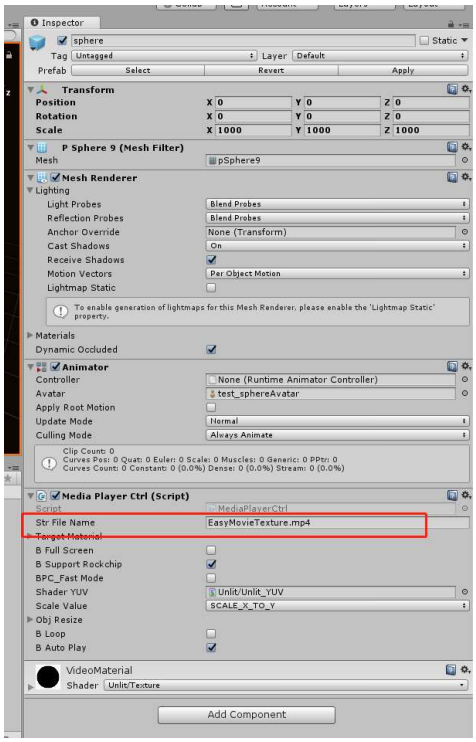
- **PicoPlayer.rar** is the project of after the Oculus SDK has been replaced
- **OculusPlayer.rar** is the project that will be migrated to the Pico SDK
- **Pico SDK V2.7.6**
- **OculusUtilities V1.23**
- **Guideline for Replacing …** is this document
- **PicoPlayer.apk** is the runnable application using the Pico SDK
- **OculusPlayer.apk** is the runnable application using the Oculus SDK

3.2 Video Player Project Based on Oculus SDK

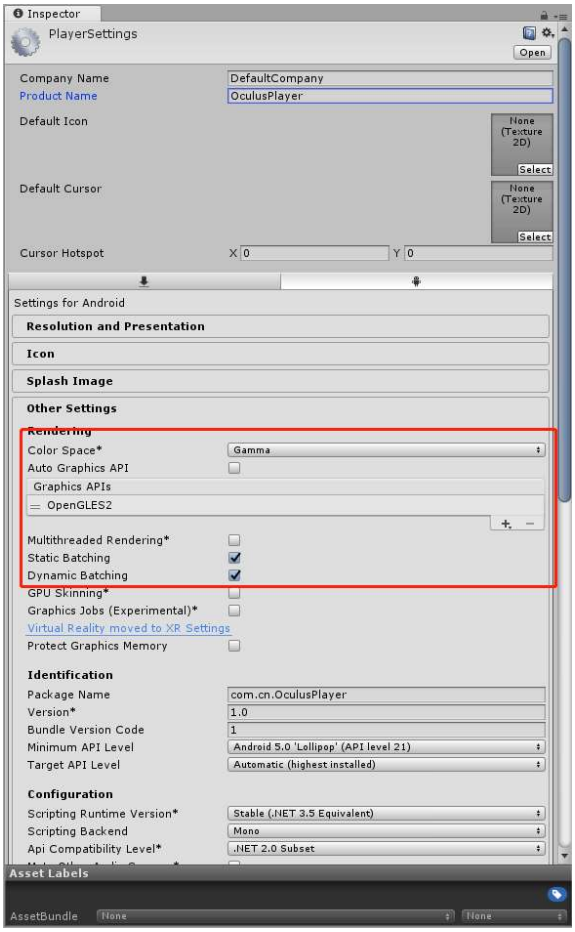
The Oculus SDK project provided (**OculusPlayer.rar**) is based on the scene of Oculus GearVrControllerTest sample where the sphere is the prefab of 360° video player.



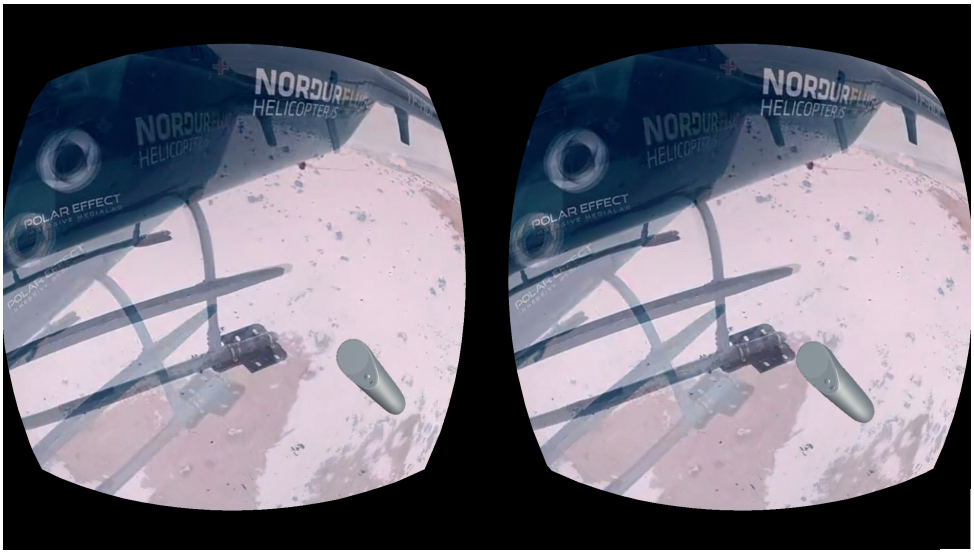
Set the video source under the Media Player Ctrl (Script)：



Only OpenGLES2 is supported in this player, so set OpenGLES2 as the selected Graphics APIs under Rendering:

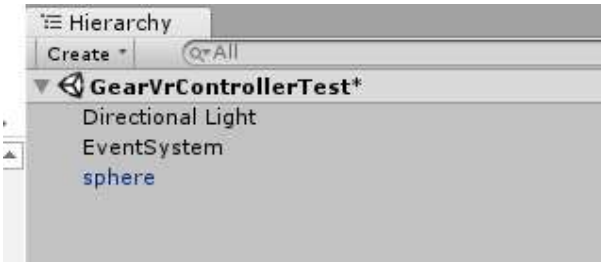


This is the application running:

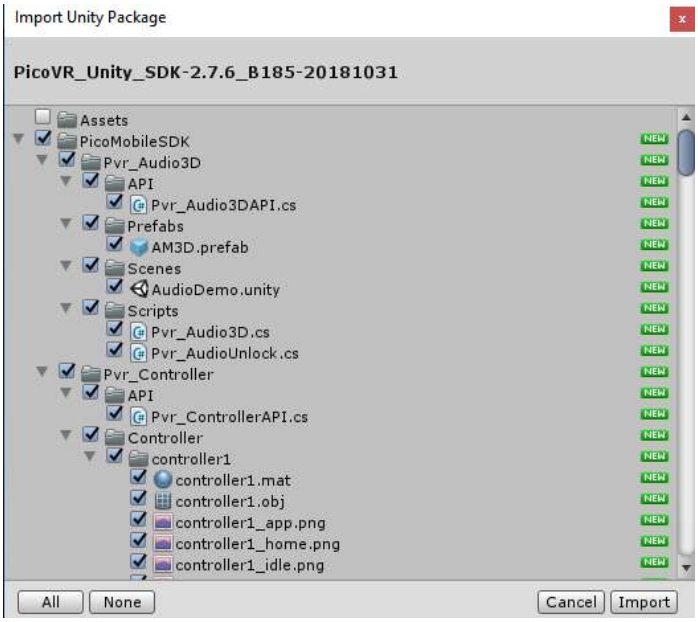


4 Detailed Steps of Replacing Oculus SDK with Pico SDK

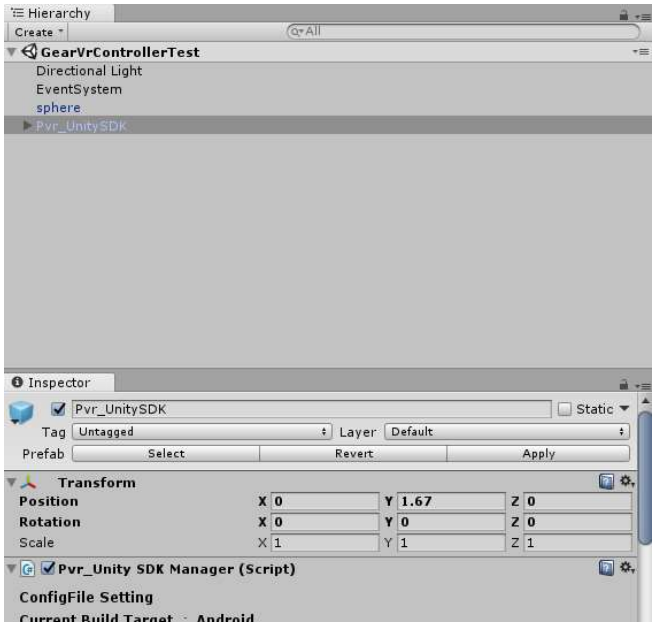
- Step1：Delete the Oculus SDK prefab of scene.



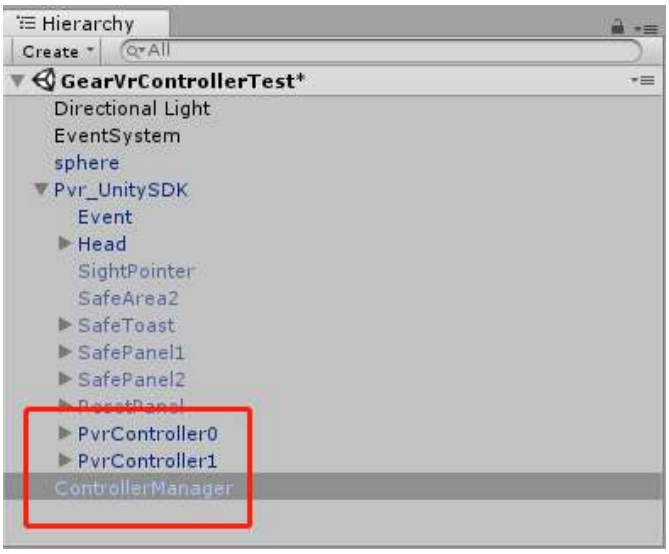
- Step2：Import Pico SDK unitypackage.



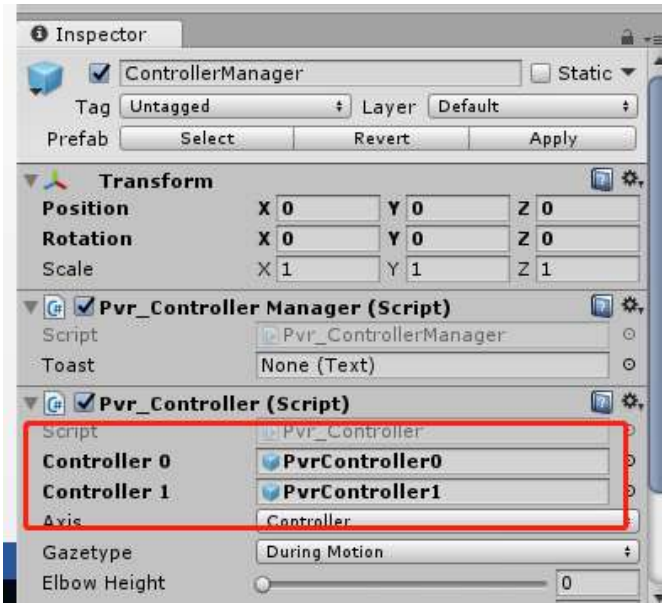
- Step3：Drag PicoMobileSDK/Pvr_UnitySDK/Prefabs/Pvr_UnitySDK into the scene and set the position.



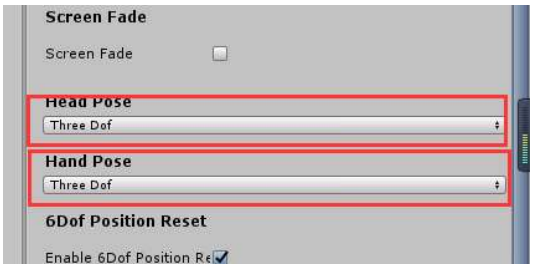
- Step4： Add **PvrController0**， **PvrController1** to **Pvr_UnitySDK** as children. Add **ControllerManager** into scene.



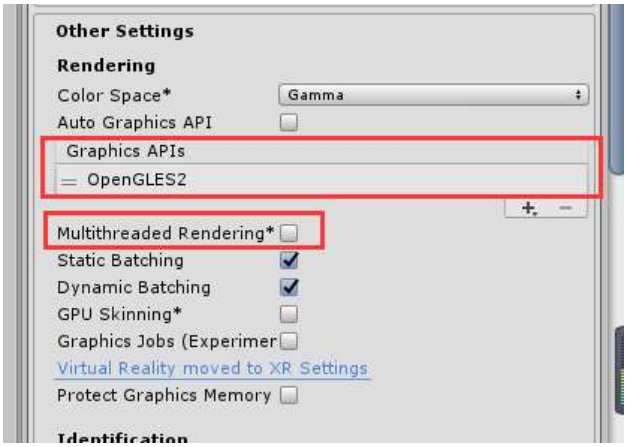
- Step5：Update the **ControllerManager** settings.

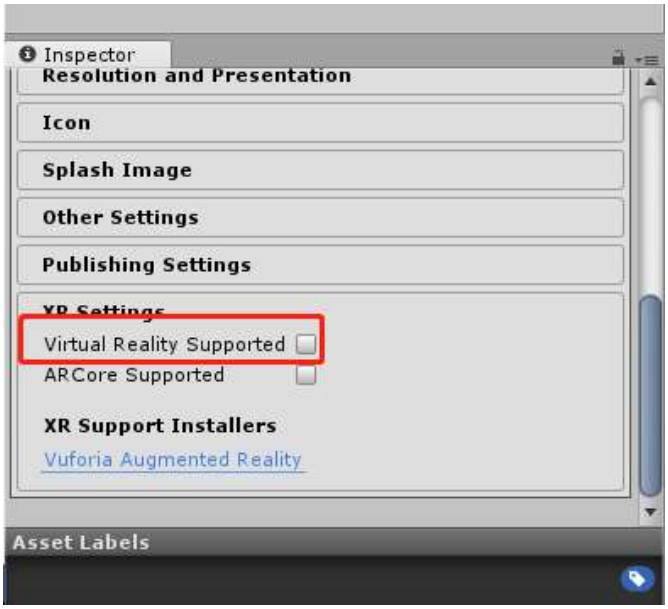


- Step6：Set Head Pose and Hand Pose of **Pvr_UnitySDK** Manager to Three Dof.



- Step7： Under Rendering, set OpenGLES2 as the only Graphics API and uncheck Multithreaded Rendering. Uncheck Virtual Reality Supported under XR Settings.

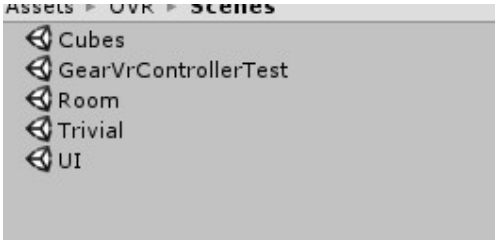




- Step 8： Build the application and install. To compare, an already updated project in is in **PicoPlayer.rar.** This is the application running:

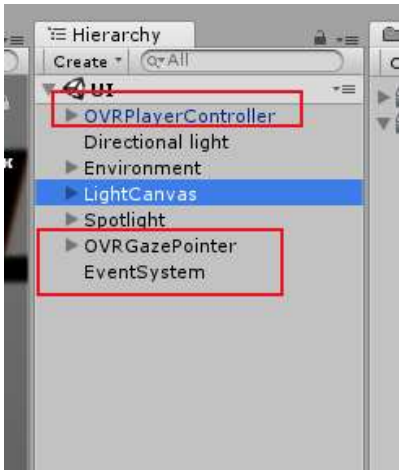
5 Oculus Samples Replacement

Other Oculus samples can be updated in a similar way as the video player example:

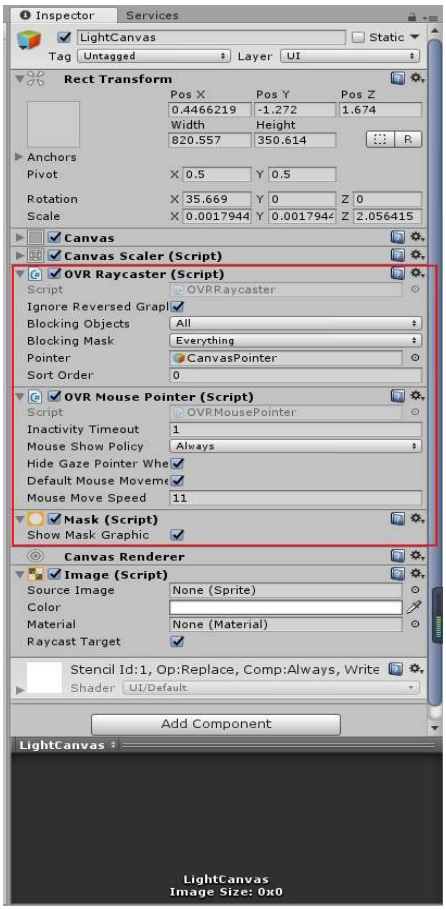


1. Oculus Player is created based on the GearVrControllerTest scene.
2. Room can be replaced just as steps 1-8.
3. Cubes can be done using only steps 1-3.
4. The Trivial scene is easy, just replace MainCamera by Pvr_UnitySDK prefab.
5. The UI scene is little different, the steps are as follows:

- Step 1：Delete the component of **OVR**, including EventSystem:

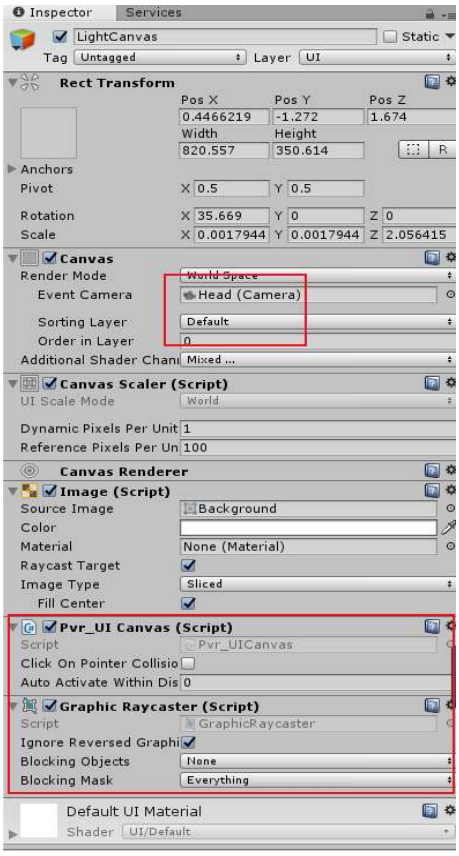


- Step 2：Delete the scripts of **OVR** and Mask as follows:



- Step 3: Drag **Pvr_UnitySDK** and **ControllerManager** from **Pvr_Controller_UI** to this scene:

- Step 4: Add the **Pvr_UICanvas** script and Graphic Raycaster to LightCanvas, set Canvas like this:



- Step 5：Build the application and install.