21 March 2017

Building a Simple Virtual Reality (VR) Application in Unity

For Samsung Gear VR (Android)

Lab 4 PDF (Student Copy)

Part 1 | Android SDK Setup

Download the Android SDK

1. Go to https://developer.android.com/studio/index/html. Download and unpack the latest Android SDK.
2. Take note of the root folder where you store your sdk.
3. You can skip the optional sections relating to Eclipse.
4. In step 4 of Installing the SDK, be sure to add at least one Android platform with API level >= 9 (Platform 2.3 or greater), the Platform Tools, and the USB drivers if you're using Windows.

Enable USB debugging on your Android device (enable Developer options)

5. As this procedure can vary greatly depending on phone model, kindly search online how you can enable Developer Options for your android phone model.

Connect your Android device to the SDK

6. Your device may come with additional information or specific drivers from the manufacturer.

    a. Windows: If the Android device is automatically recognized by the system you still might need to update the drivers with the ones that came with the Android SDK. You can do this through the Windows Device Manager. If the device is not recognized automatically, use the drivers from the Android SDK, or any specific drivers provided by the manufacturer. Find further information regarding USB Drivers for Windows on the Android Developer page.

    b. Mac: If you're developing on macOS, you usually don't need any additional drivers.

7. If you are unsure whether your device is properly installed on your system, please read the https://docs.unity3d.com/Manual/TroubleShootingAndroid.html page for details.

Add the Android SDK path to Unity

8. Unity may prompt you to locate your Android SDK. If so, select the root folder of the SDK installation. If you wish to change the location of the Android SDK, in the menu bar, go to Unity > Preferences > External Tools.

Part 2 | OEM Drivers (optional)

OEM Driver Installation

9. Go to https://developer.android.com/studio/run/oem-usb.html to download the suitable package for your phone, and install as per the instructions on the website.

Part 3 | Build in Unity

Get OSig file (need for publishing and debugging in Gear VR)

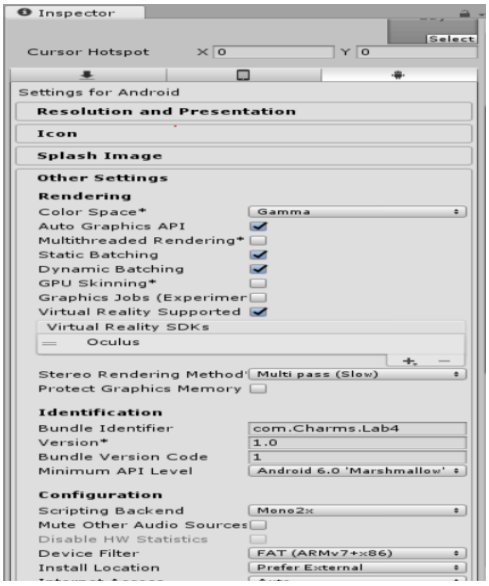
10. Obtain the Device ID of your android device (you can do this by simple installing the app "Device ID".
11. Go to https://dashboard.oculus.com/tools/osig-generator/. Create an account or Log in. Generate your id.
12. Store the signature file somewhere accessible (file can be reused in other projects for the same android device it is generated for).
13. Create a new Unity project.
14. Drag a copy of the signature file to <project name>/Assets/Plugins/Android/assets/. Save project.

Build Settings in Unity

15. Complete your Unity application until its ready to be tested (e.g. build a simple plane and a cube for visualization).
16. Go to your Build Settings (File > Build Settings).
17. Select the target platform (Android, for Gear VR).

Player Settings

18. Click on the "Player Settings" button at the bottom of the Build Settings window.
19. Check the box "Virtual Reality Supported".
20. Set the bundle identifier with a valid company and product name.



Build APK file

21. Return to your Build Settings. Click "Build" and wait for the apk file to be built. Upload the apk file to your android device, and test.