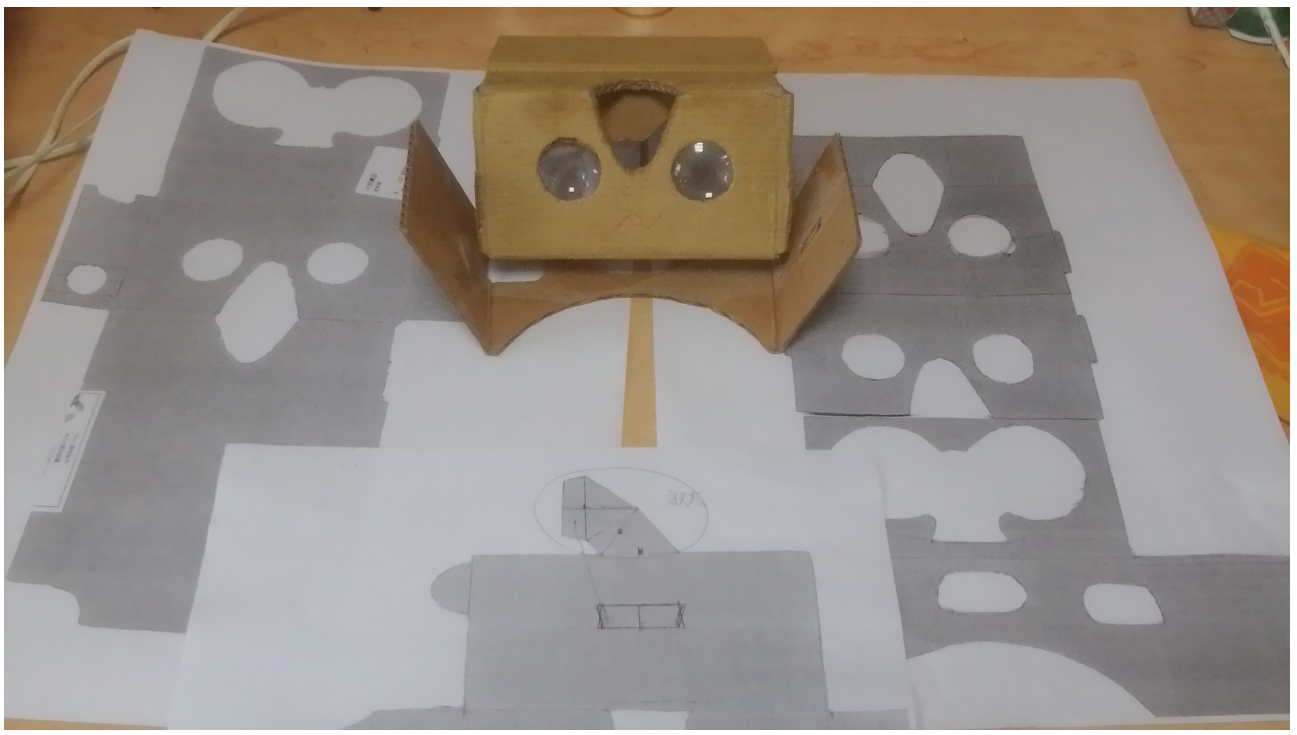
Virtual Reality

No Problem, **Virtual Reality (VR)** is the hottest spot this year, 2016. Before we continue, there are some necessary requirement for implementing the work:

- BluePrint of Cardboard (https://www.google.com/get/cardboard/developers/)



- Unity (http://unity3d.com), Certainly not absent here, 5.5.0b11 (16/11/2016);
- Cardboard SDK for Unity (https://github.com/googlesamples/cardboard-unity), 1.0.3 (till 16/11/2016).
- a little idea, :-)

News about Google VR SDK (named GVR-unity-sdk now) (2016)

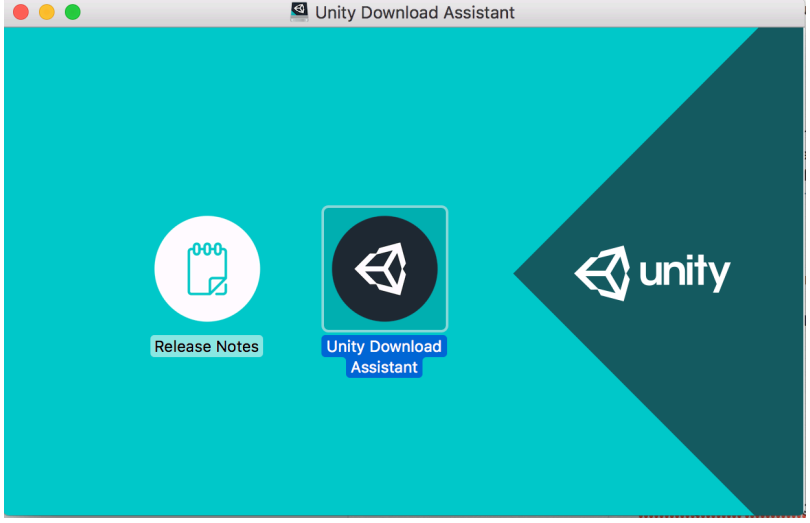
2016, Google announced Google VR SDK in Google IO (GoogleVRSDK.ipynb)

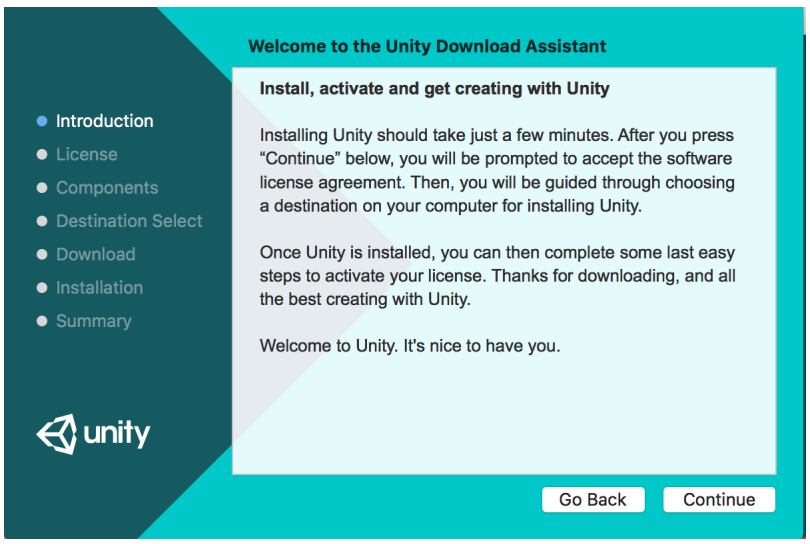
Unity

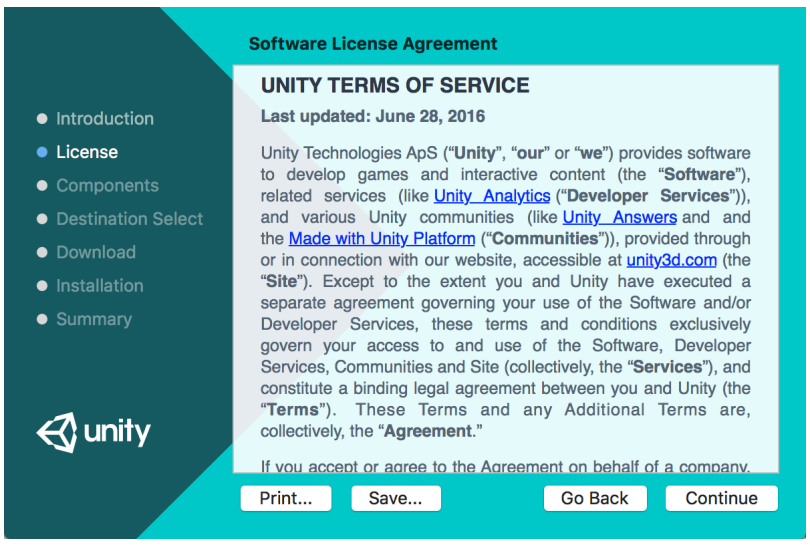
Unity is a game development platform that can create both 2D and 3D games. It’s cross platform, so it can be used to develop apps for PC, Mac OS X, consoles, iOS, Android, Windows Phone 8, the web, and more.

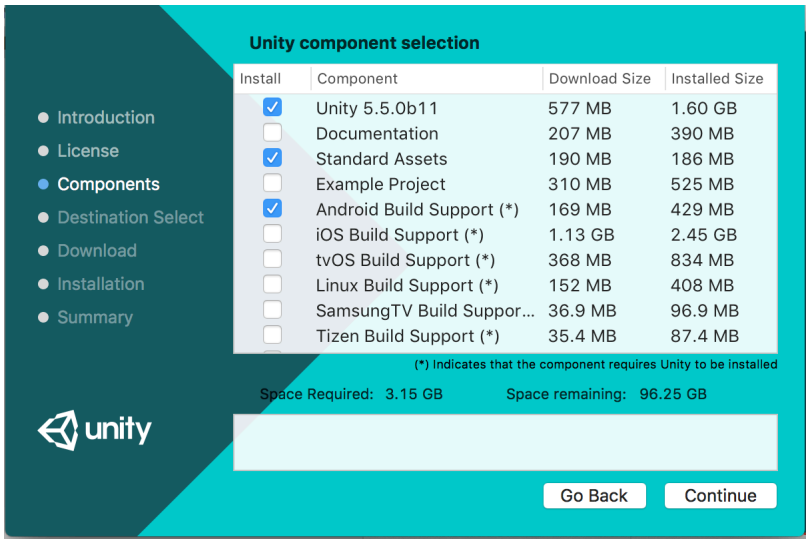
Unity installation Step by Step

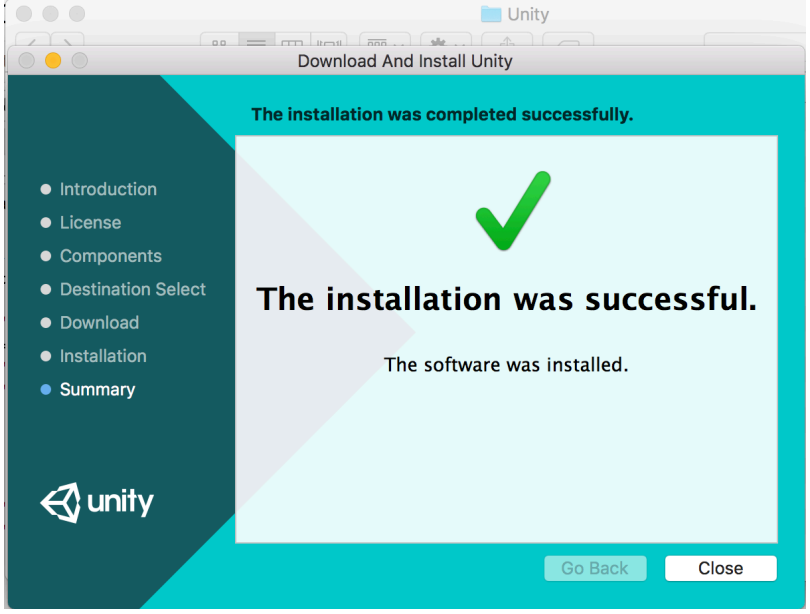
1. Download UnityDownloadAssisant (unity3d.org) from official site, for instance 5.5.0b14 (beta release);
2. As the assistant's default setting, install unity:

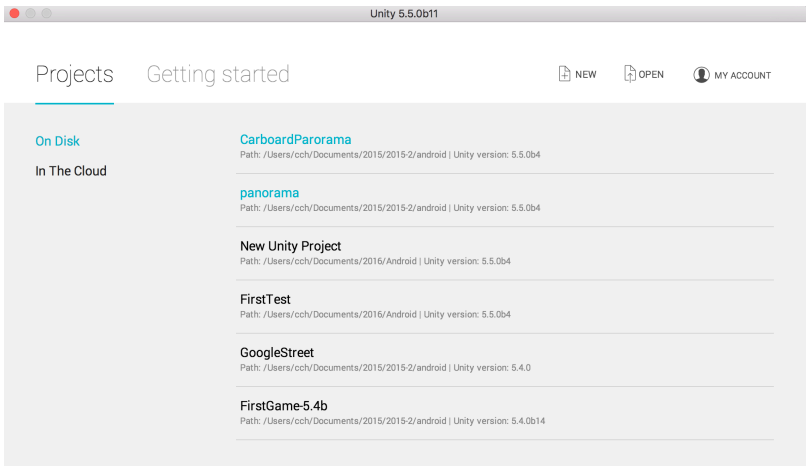

Unity Download Assistant
Release Notes
Unity Download Assistant
unity


Welcome to the Unity Download Assistant
Introduction
License
Components
Destination Select
Download
Installation
Summary
unity
Install, activate and get creating with Unity
Installing Unity should take just a few minutes. After you press "Continue" below, you will be prompted to accept the software license agreement. Then, you will be guided through choosing a destination on your computer for installing Unity.
Once Unity is installed, you can then complete some last easy steps to activate your license. Thanks for downloading, and all the best creating with Unity.
Welcome to Unity. It's nice to have you.
Go Back
Continue

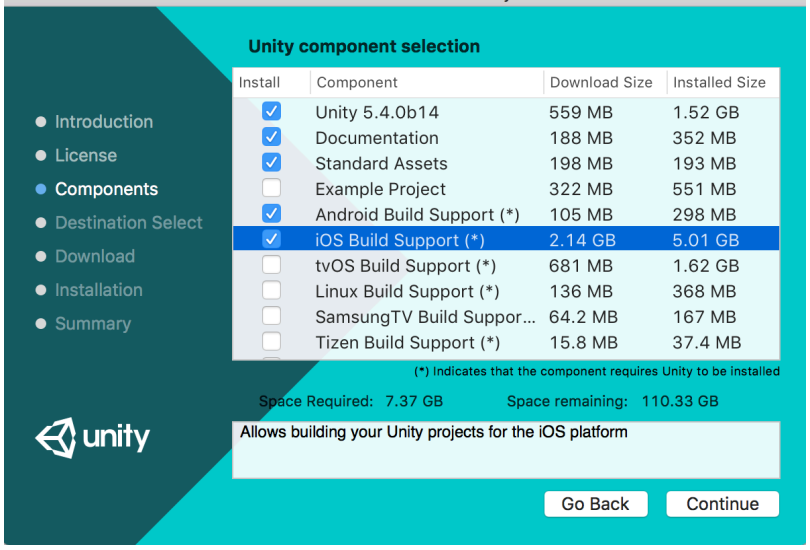

Software License Agreement
Introduction
License
Components
Destination Select
Download
Installation
Summary
unity
UNITY TERMS OF SERVICE
Last updated: June 28, 2016
Unity Technologies ApS ("Unity", "our" or "we") provides software to develop games and interactive content (the "Software"), related services (like Unity Analytics ("Developer Services")), and various Unity communities (like Unity Answers and and the Made with Unity Platform ("Communities")), provided through or in connection with our website, accessible at unity3d.com (the "Site"). Except to the extent you and Unity have executed a separate agreement governing your use of the Software and/or Developer Services, these terms and conditions exclusively govern your access to and use of the Software, Developer Services, Communities and Site (collectively, the "Services"), and constitute a binding legal agreement between you and Unity (the "Terms"). These Terms and any Additional Terms are, collectively, the "Agreement."
If you accept or agree to the Agreement on behalf of a company,
Print...
Save...
Go Back
Continue


Unity component selection
Introduction
License
Components
Destination Select
Download
Installation
Summary
unity
Install
Component
Download Size
Installed Size
Unity 5.5.0b11 577 MB 1.60 GB
Documentation 207 MB 390 MB
Standard Assets 190 MB 186 MB
Example Project 310 MB 525 MB
Android Build Support (*) 169 MB 429 MB
iOS Build Support (*) 1.13 GB 2.45 GB
tvOS Build Support (*) 368 MB 834 MB
Linux Build Support (*) 152 MB 408 MB
SamsungTV Build Suppor... 36.9 MB 96.9 MB
Tizen Build Support (*) 35.4 MB 87.4 MB
(*) Indicates that the component requires Unity to be installed
Space Required: 3.15 GB
Space remaining: 96.25 GB
Go Back
Continue





While installing Unity via its `Unity Download Assistant`, also install the platform supports you want to make, for instance ios for Apple mobile devices:



~~Make a Virtual Reality Game with Unity For Google Cardboard~~

Prerequisites

- Cardboard Unity Plugin (https://github.com/googlesamples/cardboard-unity) v.0.6 (01/01/2016)
  - Modify the file, [cardboard-unity/Cardboard/Scripts/]*Cardboard.cs* as follows:

```
public RenderTexture StereoScreen {
get {
  ...
  }
  return stereoScreen;
}
set {
  /// For 5.3.x
  if (stereoScreen != null && !stereoScreen.IsCreated()) {
      stereoScreen.Create();
  }
  ///
  if (value == stereoScreen) {
    return;
  }
  ...
  }
```

- [Cardboard Unity Plugin] v.0.7 (04/15/2016)
- [Cardboard Unity Plugin] v.0.8 (05/20/2016)

GVR Unity SDK

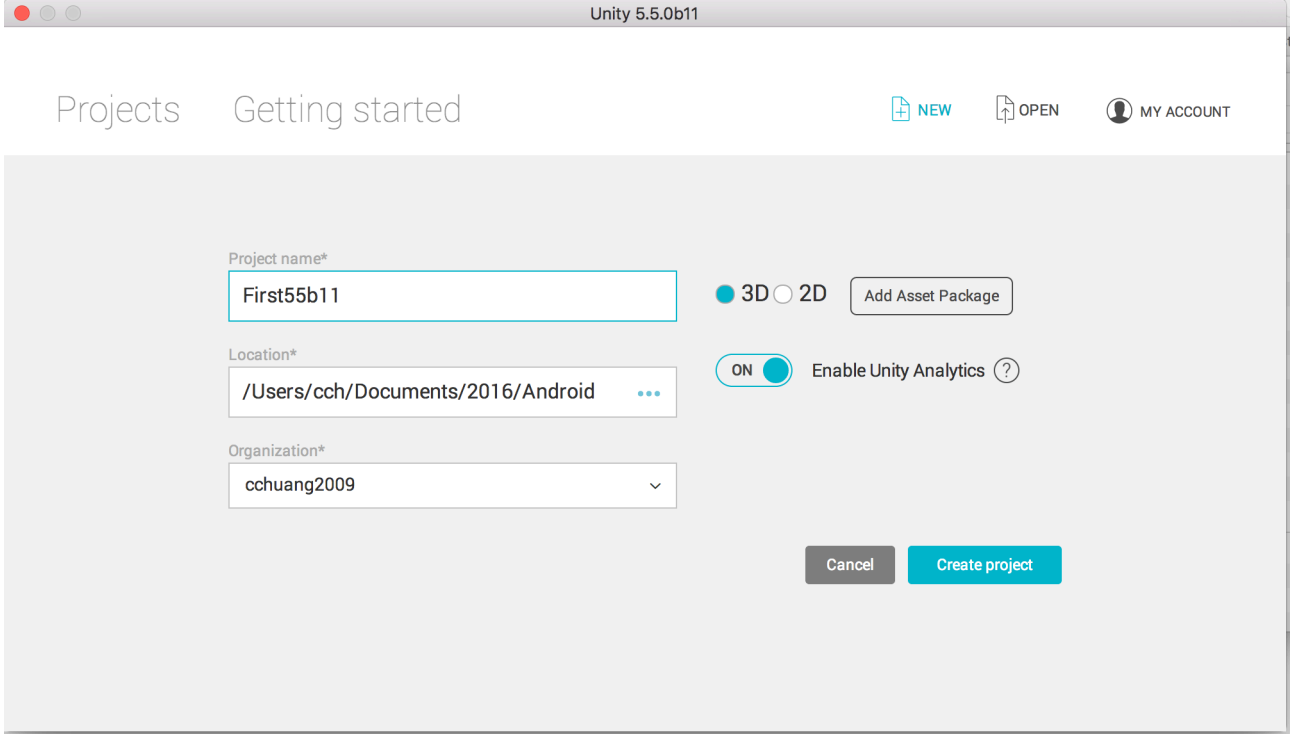
The new name for Google VR SDK for plugin,

- Version 1.0.3 / 2016/11/21 (https://github.com/googlevr/gvr-unity-sdk)

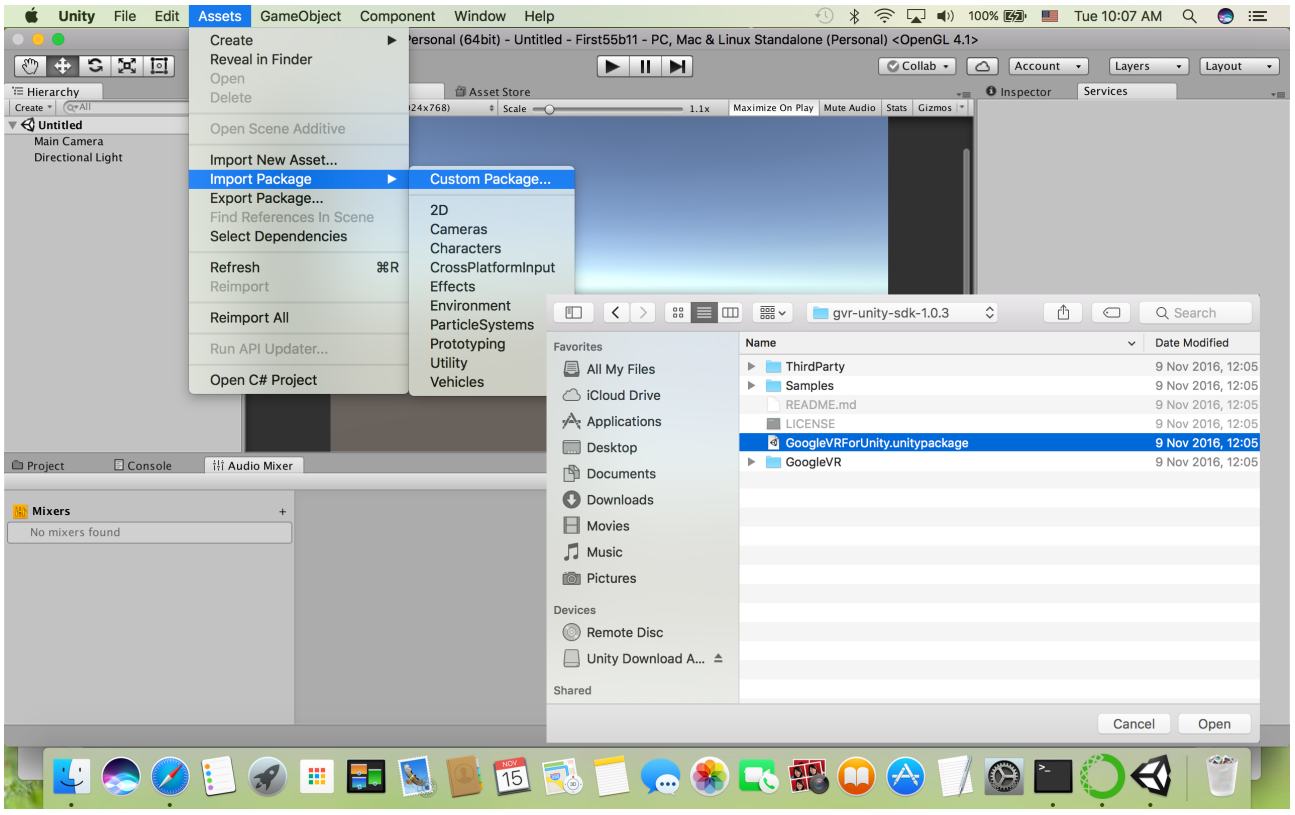
Brief of Steps of Usinf Unitywith Sample Project

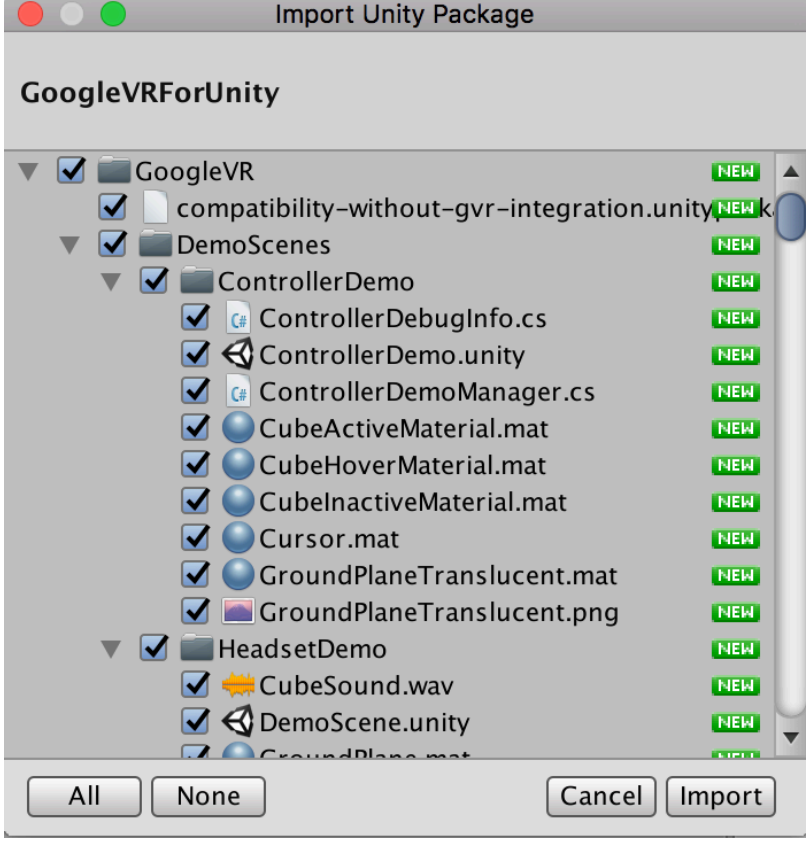
Reference the official documentation (https://developers.google.com/vr/unity/get-started-android), let us to explore the first Cardboad app by unity:

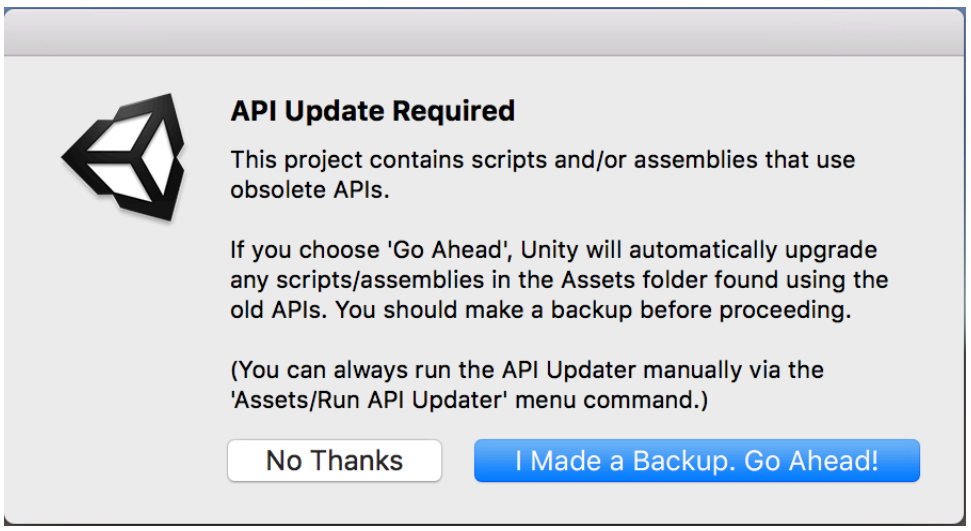
1. Open Unity, creating a new project.

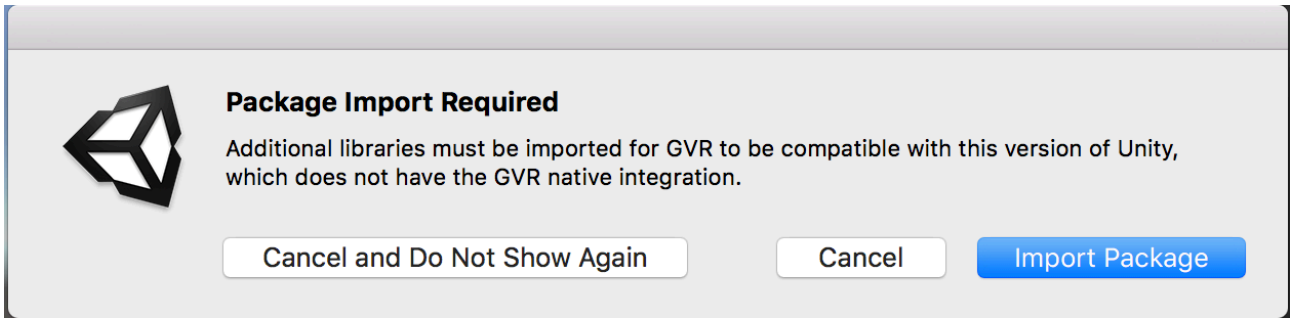


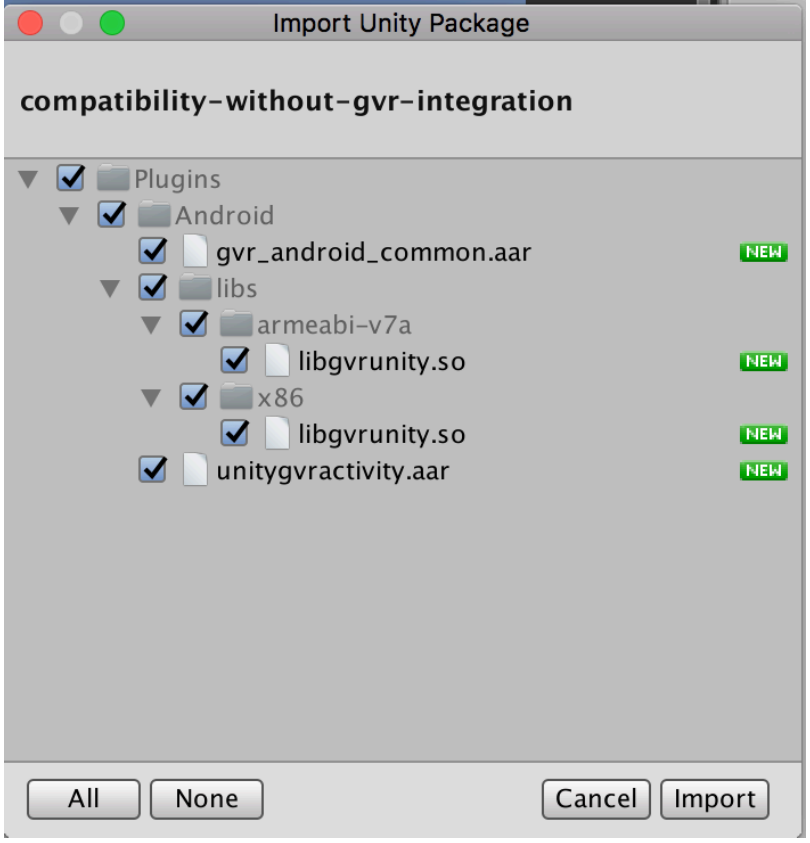
2. Import the SDK package: **Assets > Import Package > Custom Package**. Select the *GoogleVRSDKForUnity* (~~CardboardSDKForUnity~~, pre 0,8) unitypackage where you downloaded it and click **Open**. Make sure all the boxes are checked in the Importing Package dialog and click **Import**. Note: If you are using Unity 5, you may be warned that the APIs will be automatically upgraded. Accept it and continue if it happens.



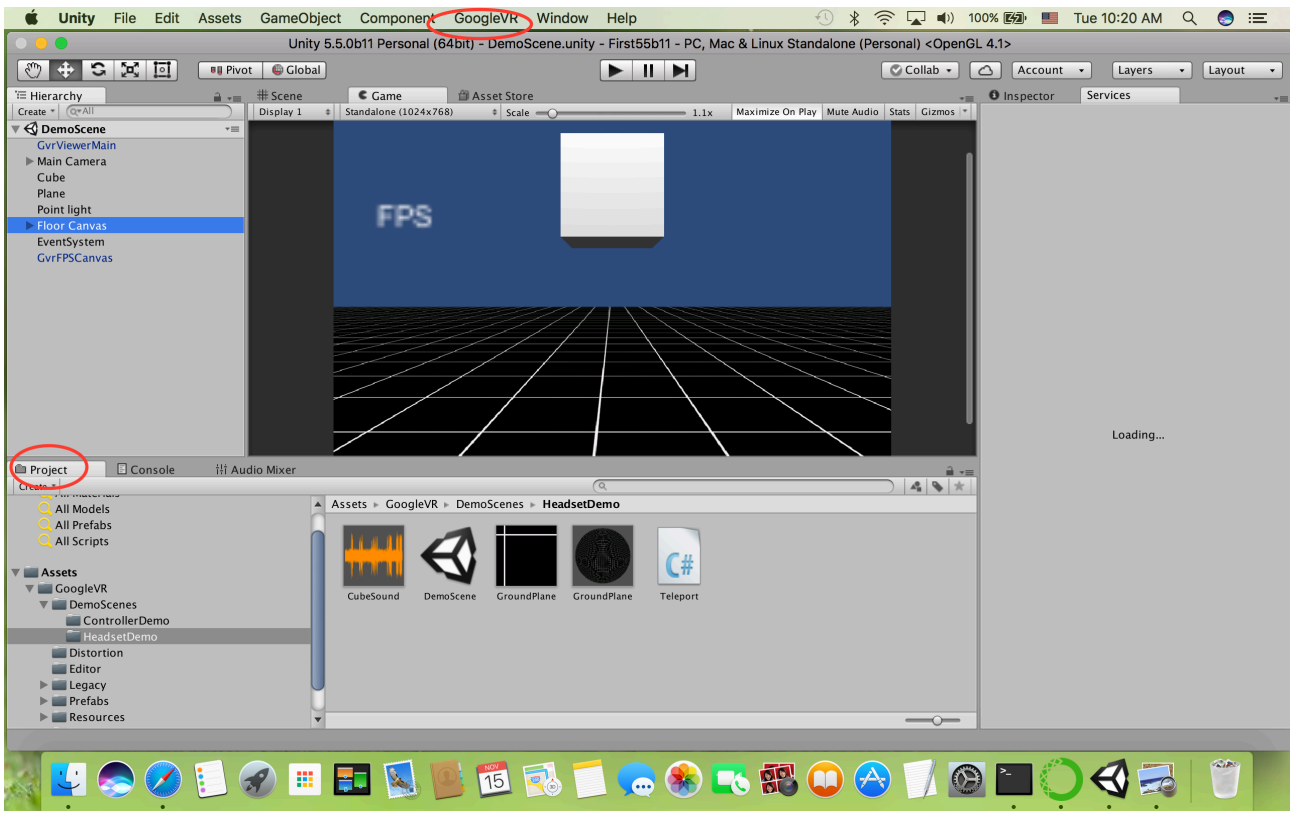

Import Unity Package
GoogleVRForUnity
GoogleVR
compatibility-without-gvr-integration.unity
DemoScenes
ControllerDemo
ControllerDebugInfo.cs
ControllerDemo.unity
ControllerDemoManager.cs
CubeActiveMaterial.mat
CubeHoverMaterial.mat
CubeInactiveMaterial.mat
Cursor.mat
GroundPlaneTranslucent.mat
GroundPlaneTranslucent.png
HeadsetDemo
CubeSound.wav
DemoScene.unity
NEW
All
None
Cancel
Import


API Update Required
This project contains scripts and/or assemblies that use obsolete APIs.
If you choose 'Go Ahead', Unity will automatically upgrade any scripts/assemblies in the Assets folder found using the old APIs. You should make a backup before proceeding.
(You can always run the API Updater manually via the 'Assets/Run API Updater' menu command.)
No Thanks
I Made a Backup. Go Ahead!


Package Import Required
Additional libraries must be imported for GVR to be compatible with this version of Unity, which does not have the GVR native integration.
Cancel and Do Not Show Again
Cancel
Import Package



3. In the editor's project pane, navigate to **Assets > Cardboard > DemoScene** folder and open **DemoScene**. You should see a scene with a textured grid plane with a cube floating above it. Also an new option, GoogleVR, appears at the top menu bar.

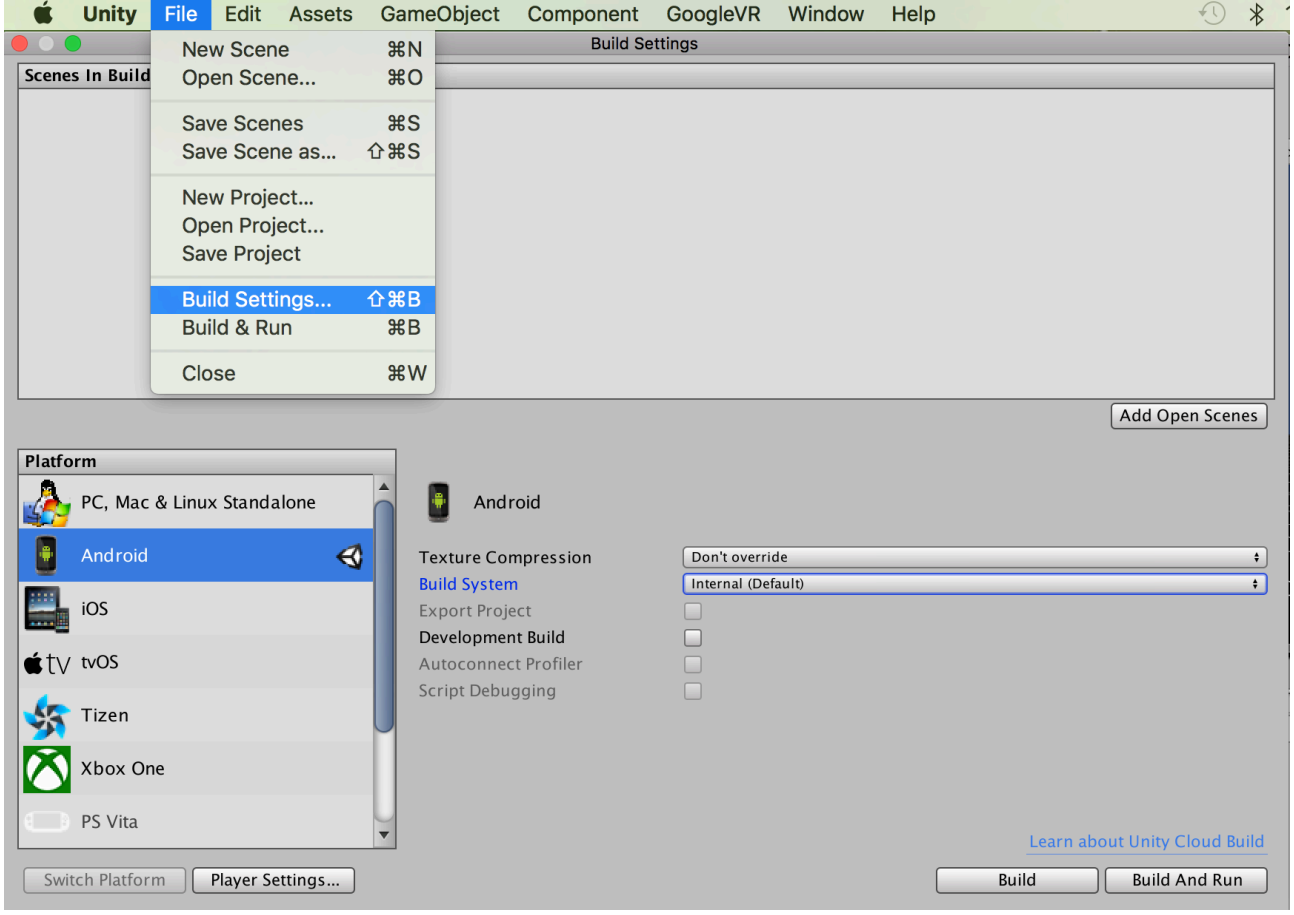


4. Press **Play**, and you should see the game view showing a stereo rendering of a red cube. Press the **Control** key on your keyboard and move your mouse back and forth to tilt your view. You can also press the **option** button (**Alt** button for Windows) on your keyboard and move your mouse to pan around your view of the VR environment.

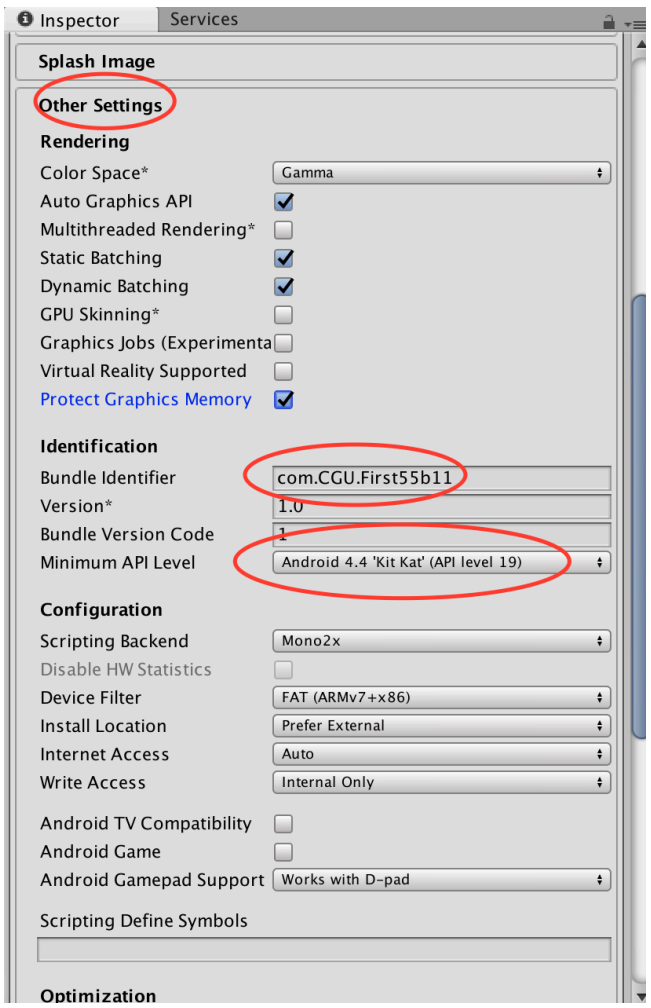
Build and Run APP

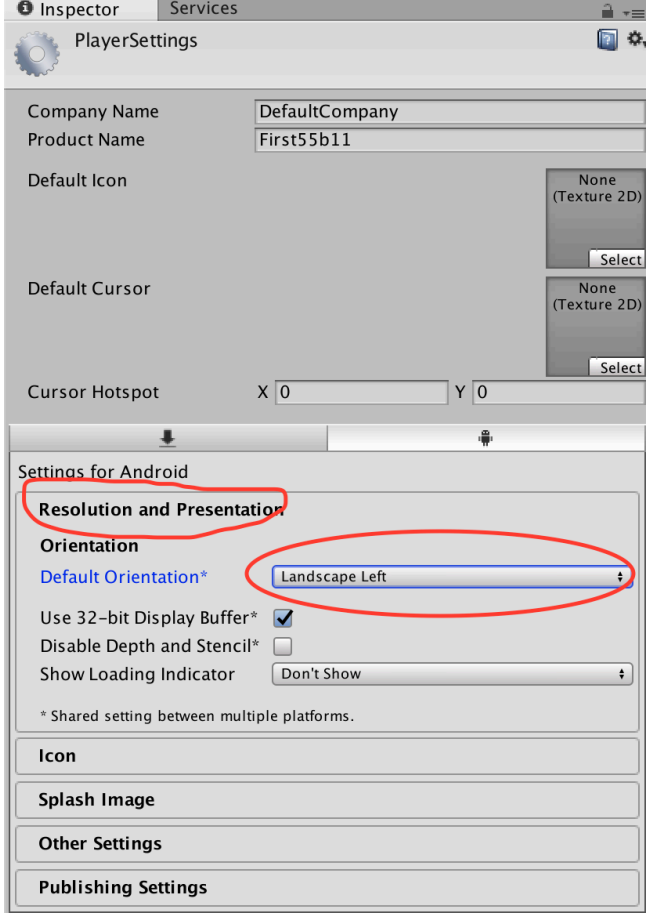
Building and deploying above demo to mobile app, for instance Andoid:

1. In **File > Build Settings**, select **Android** as the platform and click **Switch Platform**:

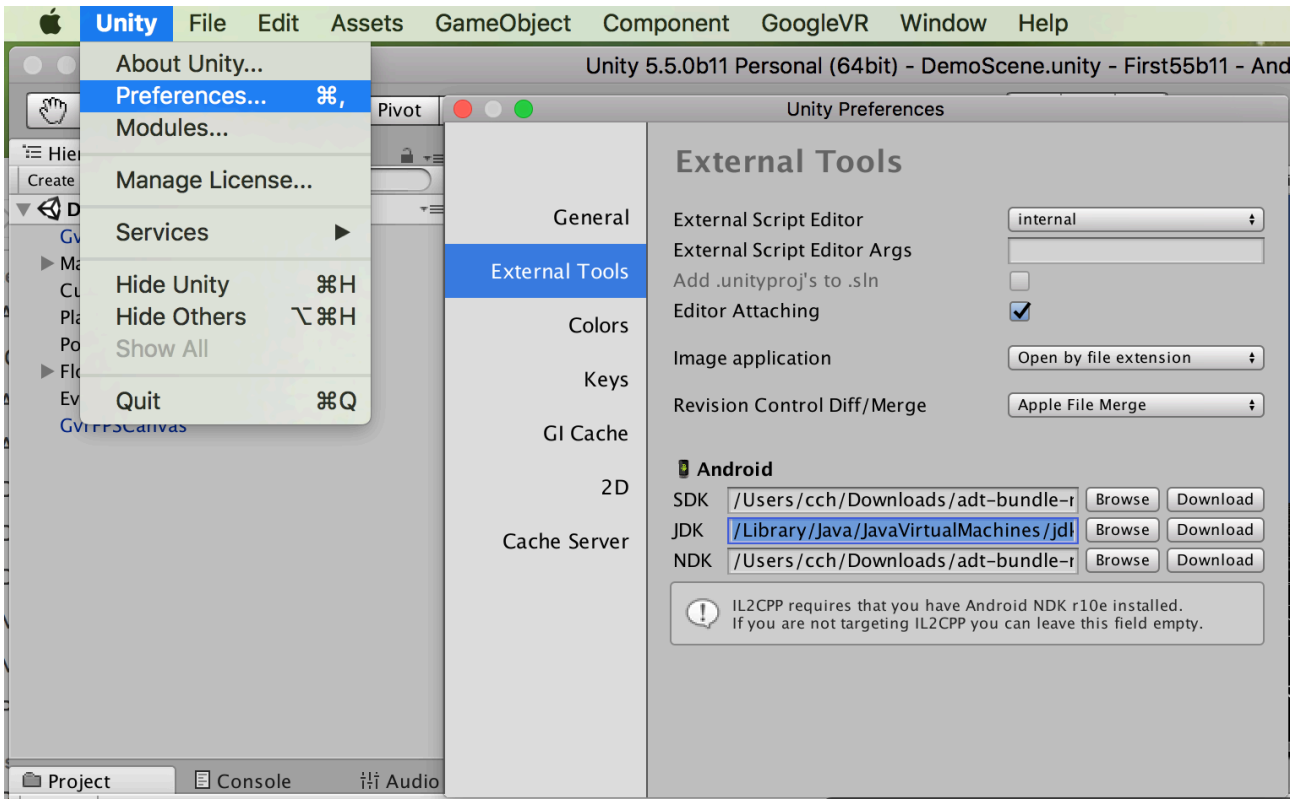


2. Click Player Settings. Under “Other Settings”, enter a package name into the "Bundle Identifier" field (for example, `com.example.CardboardUnityDemo`). Under “Resolution and Presentation”, change the orientation “Landscape Left”.





3. Click **Build and Run**. If prompted for location of the Android SDK, select unzipped SDK at which it had been installed. If not worked for JDK not found, check Unity preference:



In [ ]:

```
```

In [4]:

```
!jupyter nbconvert Unity-Get-Started-2016-11.ipynb
```

```
[NbConvertApp] Converting notebook Unity-Get-Started-2016-11.ipynb
to html
[NbConvertApp] Writing 262980 bytes to Unity-Get-Started-2016-11.h
tml
```

Google Street View App

1. Add Street View to Skybox,
2. input Latitude/longitude
3. get the skybox pictures
4. Import FPsControl, Assets -> import package -> Characters
5. drag the pictures into Scence