Tutorial

Getting Started!

To experience pointers, teleportation, interactions in VRTK

Main Introduction

Unity (Game Engine):

Unity is a cross-platform game engine developed by Unity Technologies. The engine can be used to create three-dimensional, two-dimensional, virtual reality, and augmented reality games, as well as simulations and other experiences. The engine has been adopted by industries outside video gaming, such as film, automotive, architecture, engineering and construction[1].

SteamVR (Tool for setting VR device and much more):

SteamVR is the ultimate tool for experiencing VR content on the hardware of your choice. SteamVR supports the Valve Index, HTC Vive, Oculus Rift, Windows Mixed Reality headsets, and others. Stay informed of your VR system's status at a glance with the ever-present VR Status Monitor. Tweak and customize visual, audio, and input settings with this easy-to-use window. Even you can make a boundary with steamvr in your room and can be aware of that space while you are immersed in VR [2]. To know more about steamVR: https://www.pcgamer.com/steamvr-everything-you-need-to-know/
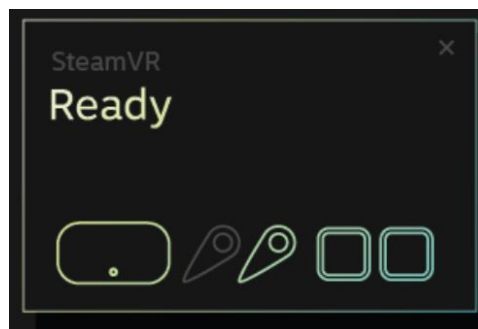
VRTK (Tool Kit):

VRTK is a collection of useful scripts and concepts to aid building VR solutions rapidly and easily in Unity3d [3]. It covers a number of common solutions such as:

- Locomotion within virtual space.
- Interactions like touching, grabbing and using objects
- Interacting with Unity3d UI elements through pointers or touch.
- Body physics within virtual space.
- 2D and 3D controls like buttons, levers, doors, drawers, etc.
- And much more...

Practical: VR Setup using Unity, SteamVR and VRTK

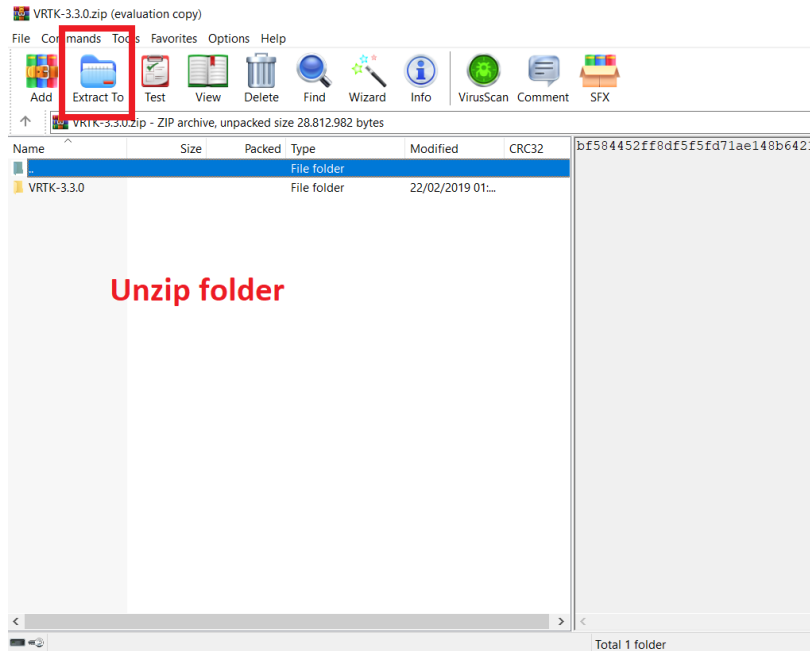## Versions Used:

- Unity 2018.3.9f1
- SteamVR 1.2.3
- VRTK 3.3

Steps to Setup:

- Download repository (VRTK tool) from VRTK github releases "VRTK 3.3"
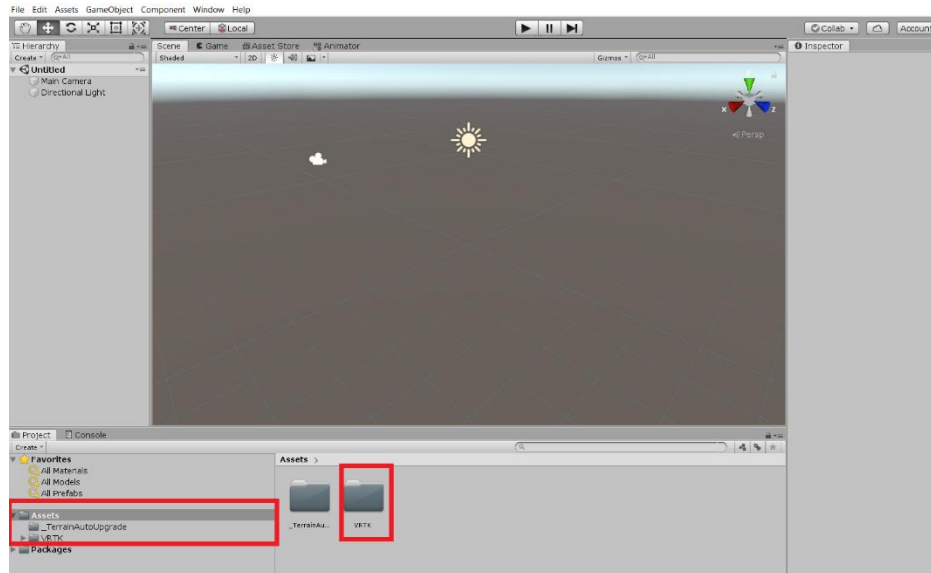 https://github.com/ExtendRealityLtd/VRTK/releases

Click Source Code (zip) and download

- Open the downloaded folder and click 'extract to'. It is converted into normal folder. (remember the path where you extracted it)


- Open Unity 2018.3.9f1 and select above extracted folder (VRTK-3.3.0). It will open vrtk project in unity.
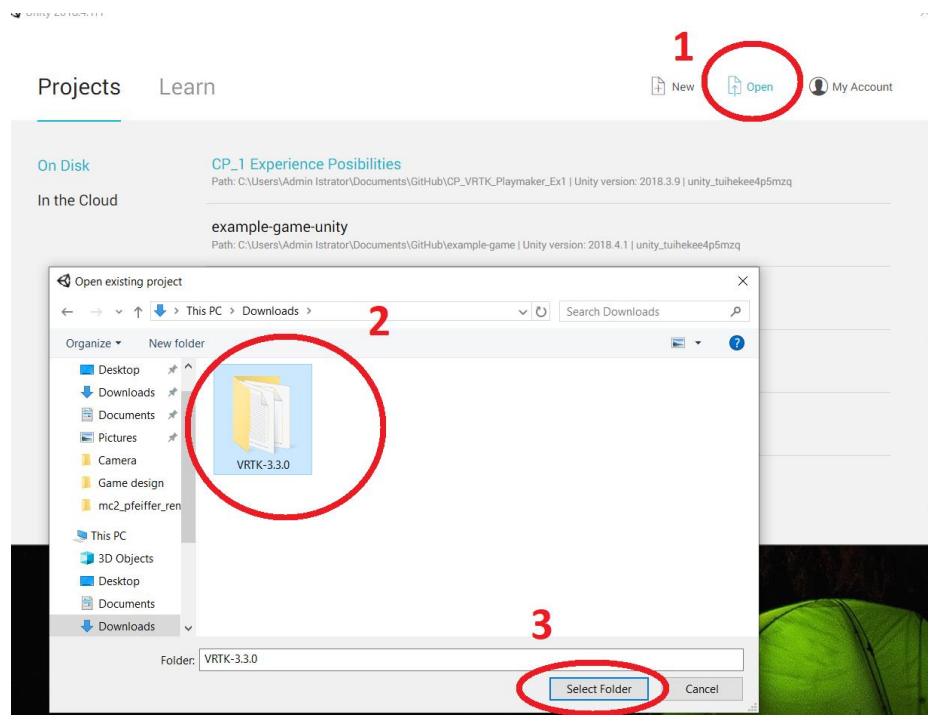
- Download repository (steamvr plugin) from steamvr github releases "SteamVR plugin 1.2.3" :
  https://github.com/ValveSoftware/steamvr_unity_plugin/releases/download/1.2.3/SteamVR.Plugin.unitypackage

- Click the downloaded SteamVR plugin, it automatically configured to unity. Press Import button and you will see the steamvr folder created in assets.
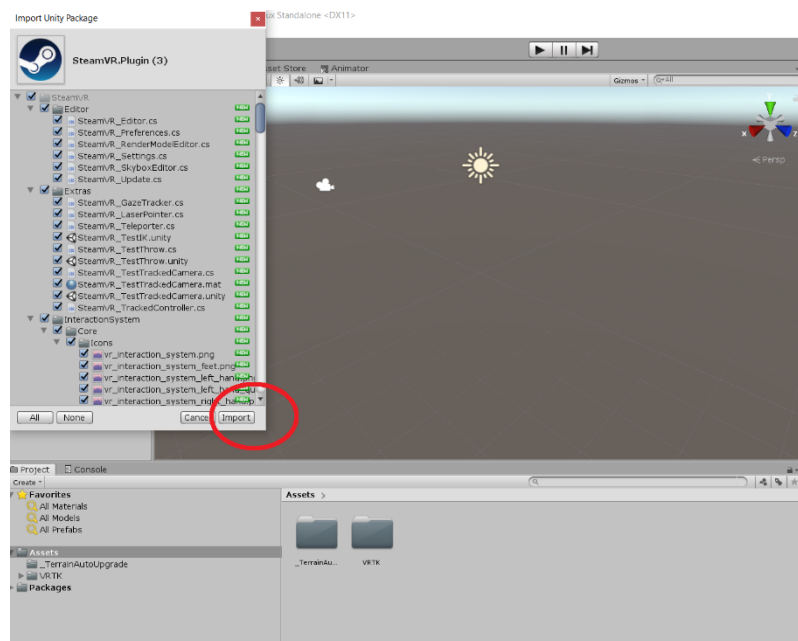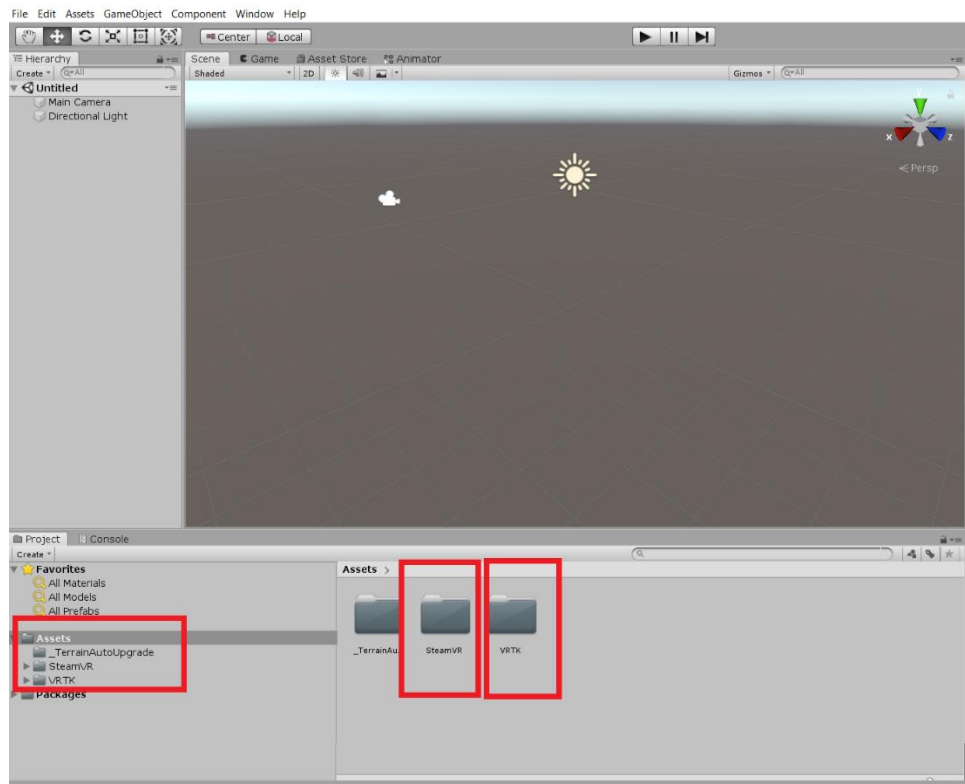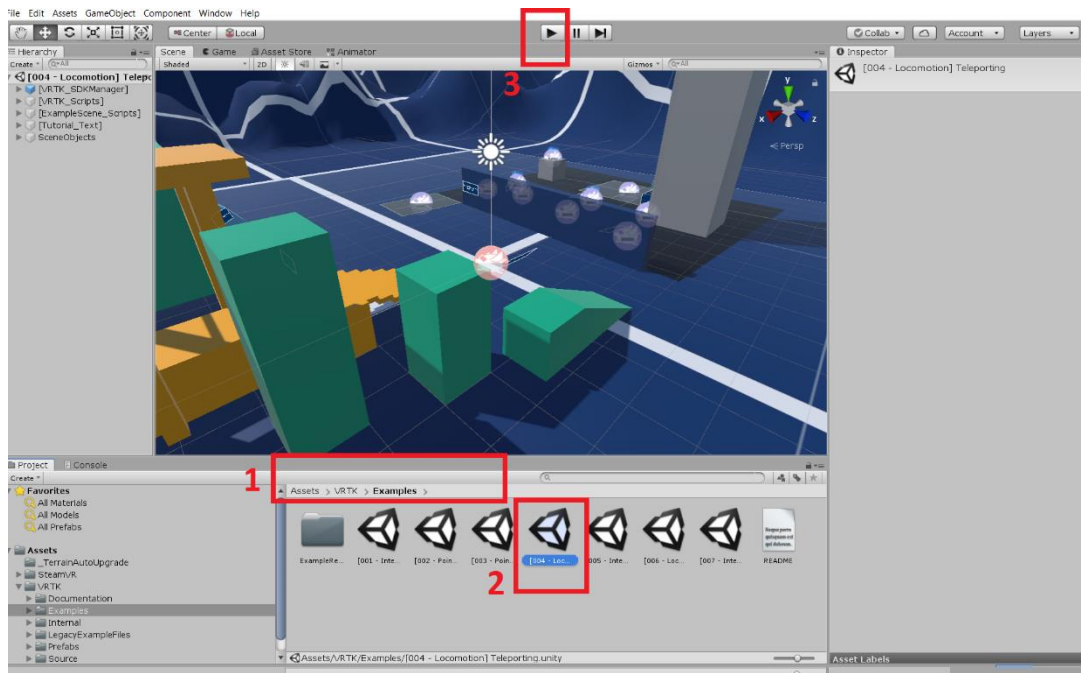
- Open any example from VRTK folder and click vrtk sdk on upper left side, you will see Setups on right side. And steamVR is highlighted. It means, now you can use steamvr device (htc vive) with it.
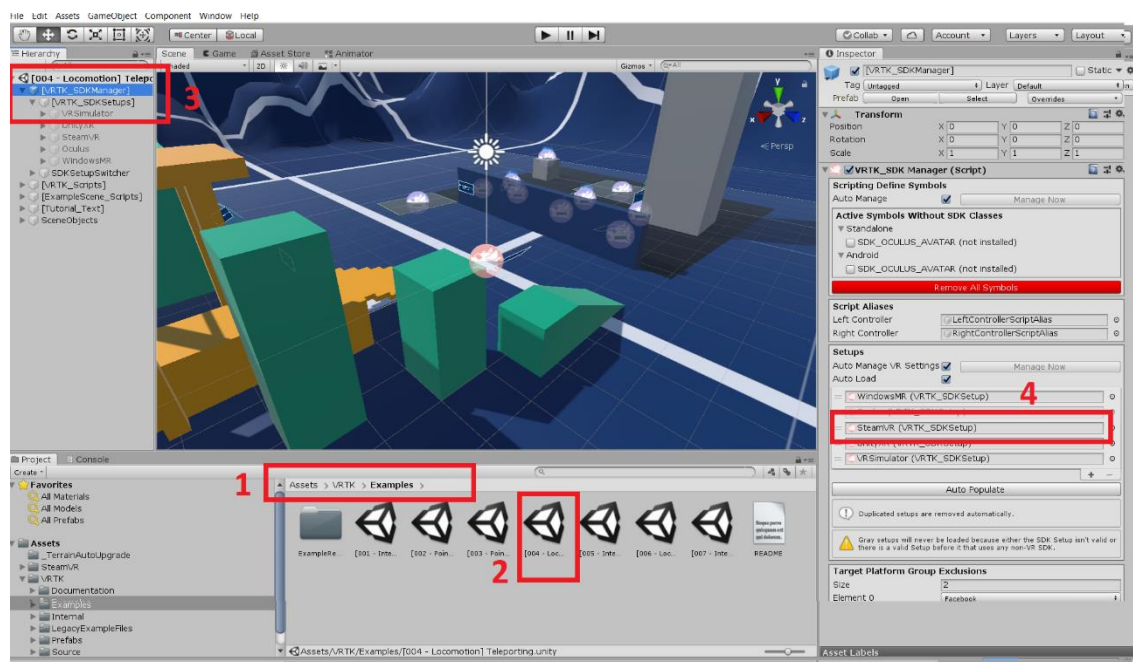
- Now you are good to go! From examples, you can test pointers, interactions, teleportation and menus. It will give you a lot of possibilities in VR world.

To build your own example from scratch using VRTK scripts:
For example Pointers, Teleporting and Object Interactions [4]:

Follow: https://www.youtube.com/watch?v=sW9lxEUXfe8&t=142s

- Working Setup: Unity 2018.3.9f1
- Error caught pointer not working
- Fix: Uncheck auto populate (on upper right) under steamvr folder (on upper left)

References:

[1] https://unity.com/

[2] https://www.steamvr.com/en/

[3] https://vrtoolkit.readme.io/docs/summary

[4] https://www.youtube.com/channel/UCWRk-LEMUNoZxUmY1wO7DBQ