Mobile VR Interaction Pack v0.3 Beta

Introduction

Thanks for the purchase and support! We are a community of VR & game devs, working together to create games, experiences, development tools, and tutorials in an effort to empower emerging VR developers worldwide. Join us here: https://www.youtube.com/nurfacegames/

Video Tutorials

Intro: https://www.youtube.com/watch?v=nPTZLALVpwA
Tutorial: https://www.youtube.com/watch?v=IEIbZsCxZe4

What is Mobile VR Interaction Pack?

This pack contains a Gaze Input Module to work with Unity's Event System with custom options such as interaction distance, show outline, and click via gaze. Additionally, the pack allows the player to interaction with worldspace UI elements based on the camera's distance to the UI.

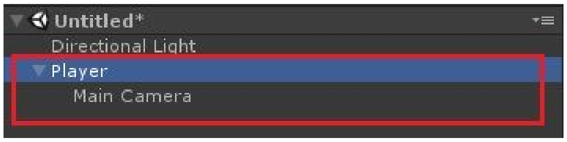
The demo scene show how to:
- Interact with UI elements
- Use an outline on objects
- Play animations
- Move physics object
- Show text descriptions over items
- Move the player
- Prevent movement when looking at interactive objects.
- Includes 2 dot 'reticles': The first is from GoogleVR, a dot which expands into a ring. The 2nd reticle is a customized version that is not shown (invisible) unless the player is looking at an interactive object, at which point it expands into a dot.

How To Use

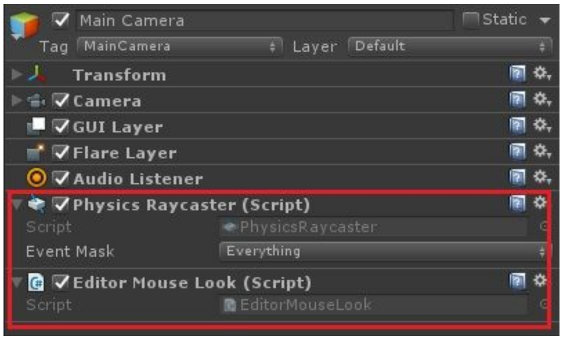
Initial Setup

[Video Tutorial: https://youtu.be/IEIbZsCxZe4]

1. In order to move Main Camera, it must be a child. Create a "Player" GameObject and make Main Camera a child of this.

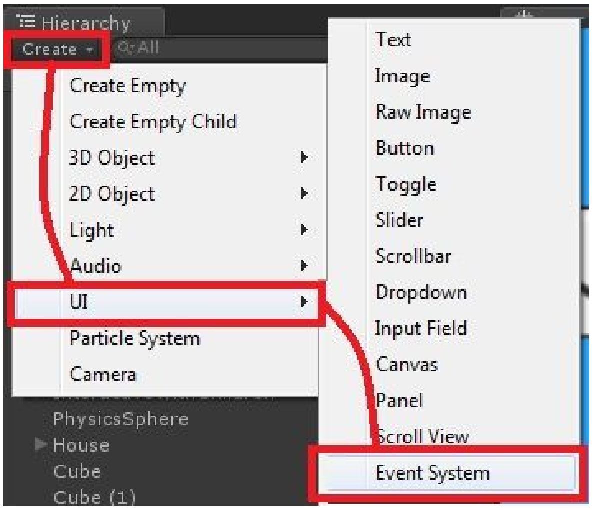


2. Add a Physics Raycaster component to the Main Camera. If you want to rotate the camera in Unity Editor while holding ALT and tilt with CTRL, add the *EditorMouseLook.cs* script:

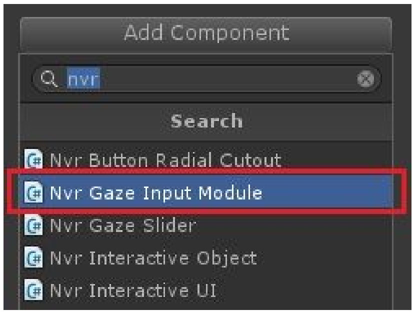


Main Camera
Tag MainCamera Layer Default
Transform
☑ Camera
☑ GUI Layer
☑ Flare Layer
☑ Audio Listener
☑ Physics Raycaster (Script)
Script PhysicsRaycaster
Event Mask Everything
☑ Editor Mouse Look (Script)
Script EditorMouseLook

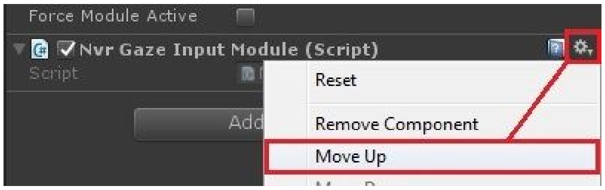
3. Add a UI Event System component to the scene:



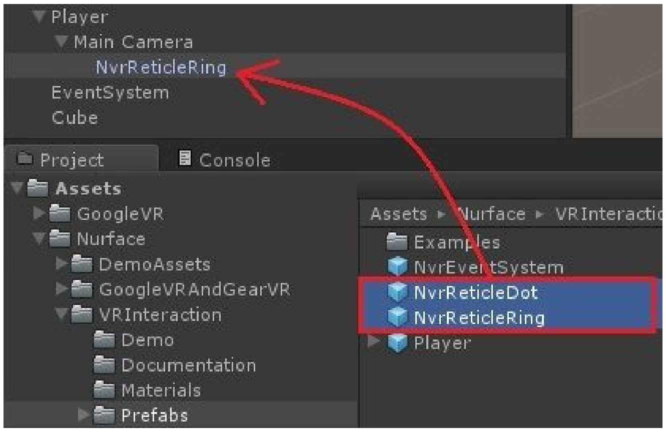
4. Add the *NvrGazeInputModule.cs* script to the Event System:



5. Move the *NvrGazeInputModule* component above the Standalone Input Module:



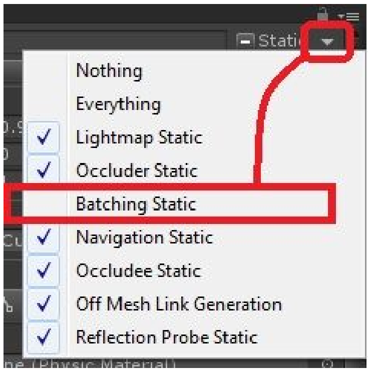
6. Add one of the Reticle Prefabs as a child of the Main Camera:



7. Now you can add Event Trigger components or the *NvrInteractiveObject* script to objects with colliders and interact with them, using the gaze as the pointer.

Interacting with Objects

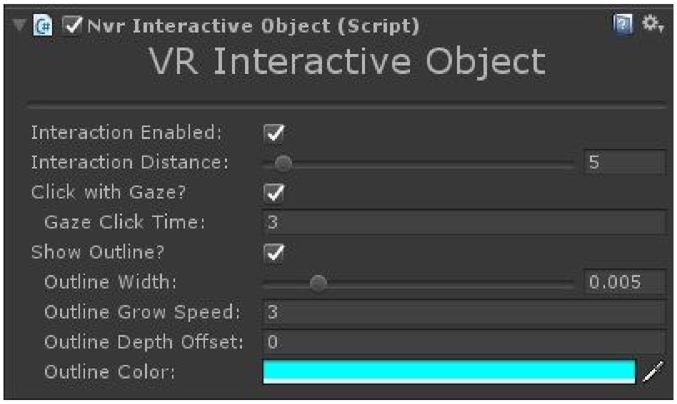
[Video Tutorial: https://youtu.be/IEIbZsCxZe4?t=6m19s]
To interact with 3D objects, make sure the gameobject has a collider (Box Collider, Sphere Collider, Mesh Collider, etc). Interactive Objects cannot be static, as the unique mesh will be used in calculating the outline. Either deselect the Static Box completely, or uncheck '*Batching Static*':



Static

- Nothing
- Everything
- ✓ Lightmap Static
- ✓ Occluder Static
- Batching Static
- ✓ Navigation Static
- ✓ Occludee Static
- ✓ Off Mesh Link Generation
- ✓ Reflection Probe Static

Add the *NvrInteractiveObject.cs* script to the gameobject.



☑ Nvr Interactive Object (Script)

VR Interactive Object

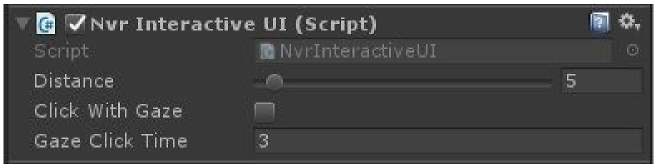
Interaction Enabled: ☑
Interaction Distance: 5
Click with Gaze? ☑
Gaze Click Time: 3
Show Outline? ☑
Outline Width: 0.005
Outline Grow Speed: 3
Outline Depth Offset: 0
Outline Color:

Interaction Enabled: Is it possible to interact with this object or not. May be changed at runtime.
Interaction Distance: This is maximum interaction distance between the camera and this object.
Click with Gaze?: Enabling this will allow the gaze to perform an actual 'click' in the Event System by gazing at the object for X seconds.
Gaze Click Time: How long to gaze at the object before a click happens.
Show Outline?: Enable/disable an outline for the object. Will only work for gameobjects with a Mesh Renderer.
Outline Width: The width of the outline. Too small and the outline is not visible. Too large and the outline separates from the object.
Outline Grow Speed: How fast the outline will grow to its full width.
Outline Depth Offset: The Depth at which the outline is drawn.
Outline Color: Select a color for the outline.

The *NvrInteractiveObject* script will add an Event Trigger if one is not present, so adding one manually is not required. However, you may add an Event Trigger and configure events for the PointerEnter, PointerExit, PointerDown, PointerUp, and PointerClick events.

Interacting with Unity UI

[Video Tutorial: https://youtu.be/lEIbZsCxZe4?t=13m59s]
To interact with Unity UI elements, add the *NvrInteractiveUI.cs* script to the gameobject. The gaze pointer will not respond the UI elements that do not have this script attached.



☑ Nvr Interactive UI (Script)

Script: NvrInteractiveUI

Distance: 5

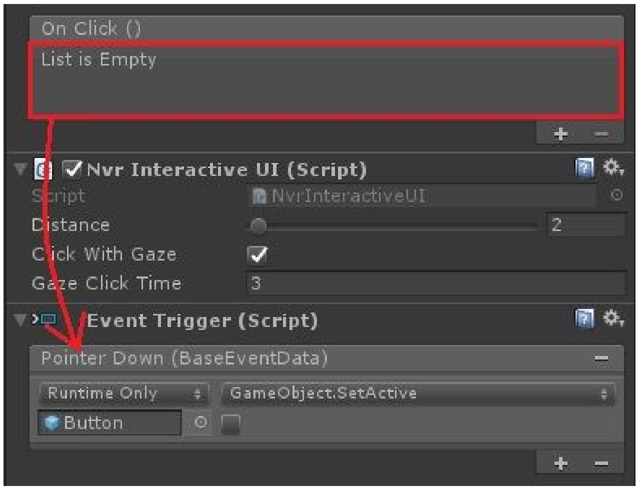
Click With Gaze: □

Gaze Click Time: 3

Distance: This is maximum interaction distance between the camera and this object.
Click with Gaze: Enabling this will allow the gaze to perform an actual 'click' in the Event System by gazing at the object for X seconds.
Gaze Click Time: How long to gaze at the object before a click happens.

The *NvrInteractiveUI* script will add an Event Trigger if one is not present, so adding one manually is not required. However, you may add an Event Trigger and configure events for the PointerEnter, PointerExit, PointerDown, PointerUp, and PointerClick events.

Note: It is recommended to use PointerDown instead of PointerClick for click events. A click consists of a PointerDown AND a PointerUp event happening, and this is not always registered on Mobile VR platforms. For example if you use the UI element button you should not use the OnClick() event, but instead add an Event Trigger and perform the click functions in the PointerDown event:



On Click ()

List is Empty

☑ Nvr Interactive UI (Script)

Script: NvrInteractiveUI

Distance: 2

Click With Gaze: ☑

Gaze Click Time: 3

Event Trigger (Script)

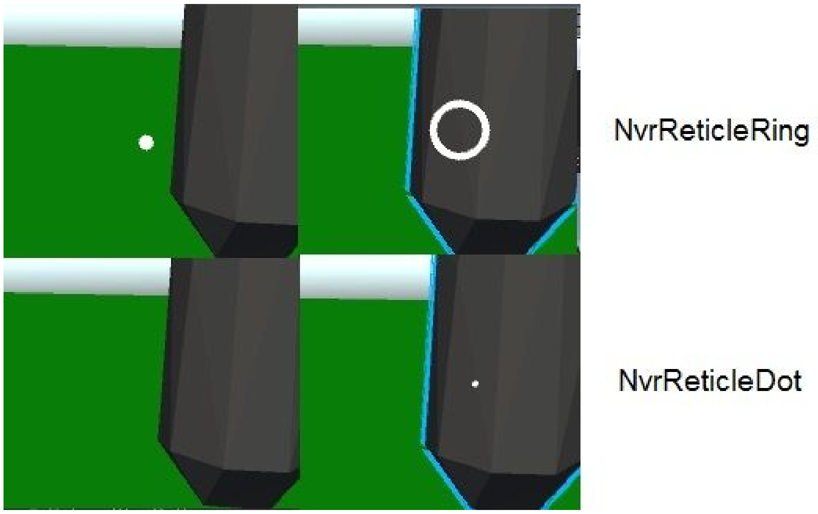
Pointer Down (BaseEventData)

Runtime Only | GameObject.SetActive

Button | □

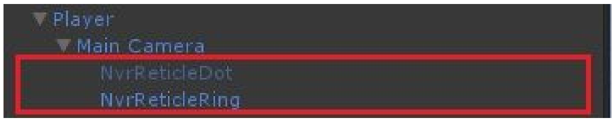
Adding & Changing the Reticle

[Video Tutorial: https://youtu.be/lEIbZsCxZe4?t=5m50s]
This pack includes the reticle that comes with GoogleVR SDK, *NvrReticleRing*. A modified reticle is also included and is not visible unless gazing at an interactive object, *NvrReticleDot*.



- **NvrReticleDot** prefab is located at */Nurface/VRInteraction/Prefabs/NvrReticleDot*
- **NvrReticleRing** prefab is located at */Nurface/VRInteraction/Prefabs/NvrReticleRing*

To use a reticle, add the corresponding prefab as a child of the Main Camera. Ensure the reticle Gameobject's position is at 0,0,0. The *NvrGazeInputModule* is required as mentioned in Initial Setup. In the demo, both reticles are added but one is disabled.



```
▼ Player
  ▼ Main Camera
      NvrReticleDot
      NvrReticleRing
```

Using With GoogleVR SDK

If you import the GoogleVR SDK, there are no special setup instructions. Simply use the included *NvrGazeInputModule* instead of GoogleVR's GazeInputModule or GvrPointerInputModule.

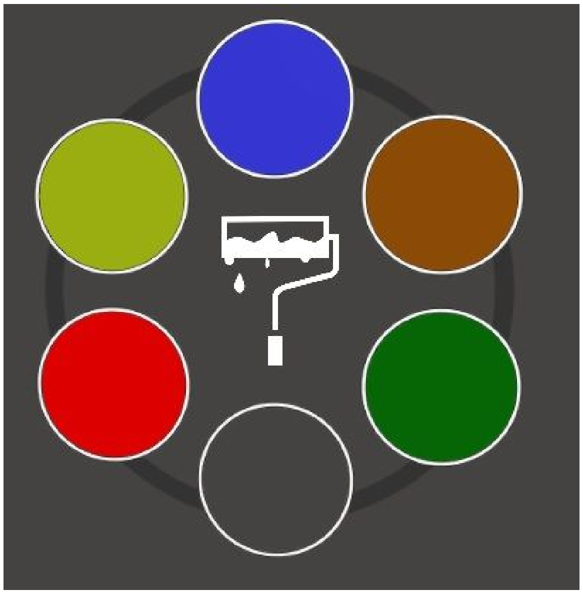
Using With GoogleVR/GearVR Camera Asset

Video Tutorial: https://youtu.be/lEIbZsCxZe4?t=21m51s

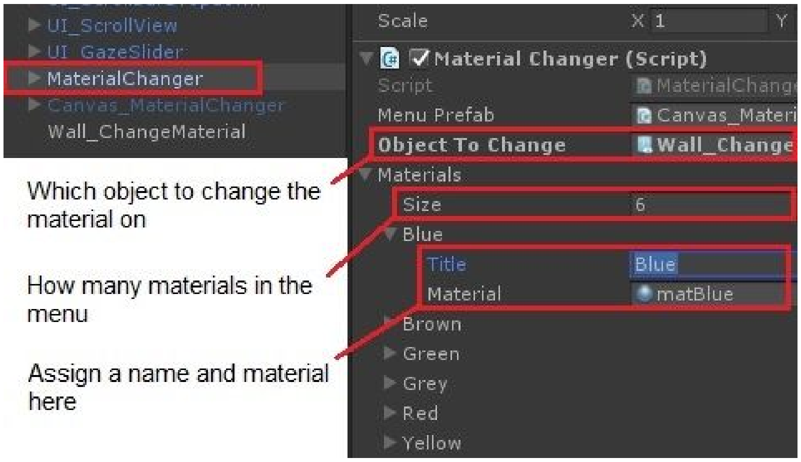
1. Import the GoogleVR/GearVR Camera Asset.
2. Import GoogleVR SDK (1.03 or 1.20).
3. Add GvrViewerMain to the scene.
4. Add GvrHead script to the Main Camera
5. Select *VR Build Settings > Build GoogleVR* or *VR Build Settings > Build GearVR.*

Material Changer Menu

We added a “Material Changer” UI which supports changing materials on objects.



Find the MaterialChanger gameobject in the demo scene:



UI_ScrollView
UI_GazeSlider
MaterialChanger
Canvas_MaterialChanger
Wall_ChangeMaterial

Which object to change the material on

How many materials in the menu

Assign a name and material here

Scale X 1 Y

☑ Material Changer (Script)

Script MaterialChang
Menu Prefab Canvas_Materi
Object To Change Wall_Change
Materials
Size 6
Blue
Title Blue
Material matBlue
Brown
Green
Grey
Red
Yellow

For a detailed look at how this works, check the following videos:

Part 1: The Menu UI	https://www.youtube.com/watch?v=mLxkczeIP88
Part 2: Menu Spawner	https://www.youtube.com/watch?v=_ve3XW6c024
Part 3: C# Scripts	https://www.youtube.com/watch?v=ubVefEN5k2w
Part 4: Open/Close Animation	https://www.youtube.com/watch?v=8_kBtW8y6Nw

Thanks to http://game-icons.net/ for the paintbrush icon!

Help And Support

For a video tutorial related to this asset, please click here:
Intro: https://www.youtube.com/watch?v=nPTZLALVpwA
Tutorial: https://www.youtube.com/watch?v=IEIbZsCxZe4

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