VR Locomotion Solutions

Documentation & Tutorial

This document provides you with everything you need to know about the plugin. Covers how to setup with a new project, or integrate it into your own! It also covers public variables/functions that you may want to utilize and how to use them.

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Getting Started:

Setup in a new project:

Video tutorial: https://www.youtube.com

Step One:

Create a new scene in unity, and call it whatever you like. Also ensure you open this scene.

Step Two:

Go to the Unity navigation bar at the top, and select: **Tools>VR Locomotion Essentials>Settings.**

This will open a unity window, drag and dock this wherever you like

Step Three:

In your project panel go to **SteamVR>Prefabs>[CameraRig]** And drag that into your Scene/Hierarchy.

Step Four:

Navigate to the window you opened earlier "*VR Locomotion*" and click the button, **Find & Setup Locomotion.**

Step Five:

Lastly we have to setup the navigation, right click in your hierarchy and click **3D Object>Plane** and you should get a white plane in your scene.

Go to the Unity navigation bar at the top, and select **Window>Navigation** this will open the navigation panel, dock this wherever you like. Select Navigation Static and click Bake.

All Done! Now ensure you have steamVR setup and opened, click play and start testing!

Setup in an existing project:

Video tutorial: https://www.youtube.com

Adding the VRCharacterController:

Video tutorial: https://www.youtube.com

Using Example Scenes:

Video tutorial: https://www.youtube.com

Step One:

In the unity Project panel navigate to "**Locomotion Essentials>VR>Examples>[DESRIED SCENE]**" double click the unity scene to open it.

Step Two:

Click play! Everything should be working!

Custom Events:

These events occur at key moments in movement such as, on a head bob detection. Subscribe to these events in your scripts and do as you please!

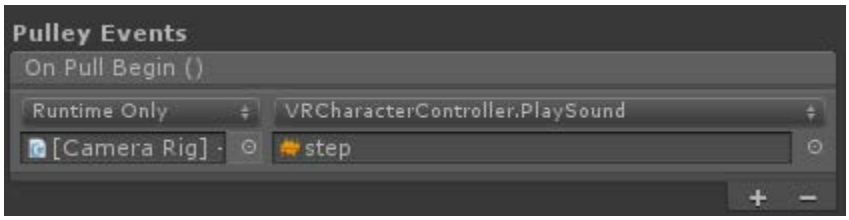
Subscribing to events:

Video tutorial: https://www.youtube.com

Subscribing to these events is quite simple, all you need to do is reference the VRCharacterController in your script and call the set functions. variableName.InvokeOnBob(), this simply invokes the method! So for every ladder step, invoke a playSFX method!

```
if(leftController.GetTriggerDown() && !m_grabbing) {
    m_grabPoint = leftController.transform.position;
    m_grabbing = true;
    m_pullState = ePullState.PULLING_WITH_LEFT;
    leftController.TriggerHapticPulse();
    if (leftController.hoveringRope) cont.InvokePullStartEvent();
}
```

This is invoking the OnPullStartMethod for every pull begin, only if you are hovering a rope. You can easily tie in sound effects to this!



This is playing a step sound, for every pull begin! This is used in the example ladder scene. This will call all the functions that you will setup in the editor, this example I only have one, but by pressing the plus you can add another custom event.

For example you might want to increment a step count value?

Head Bob Events:

These events are invoked at key points in head bob detection. Maybe bind a function to play a footstep?

OnBobDetected()

This event is called for every head bob that is detected.

OnBobbingStart()

This event is called when the 'bobbing' state is entered. So when you start moving forward. This is called at the same time as OnBobDetected, but only on the first head Bob.

OnBobbingStop()

This event is called when you have finished running on the spot and it stops detecting head bobs

Arm Swing Events:

These events are invoked at key points in arm swing detection. Maybe bind a function that renders trail on hands on swing start?

OnSwingForward()

OnSwingBack()

Pulley Events:

These events are invoked at key points in pulley detection. Maybe bind a function that plays climb sfx?

OnPullBegin()

When you click on a rope/ladder/whatever you want to climb, this is called!

OnPullEnd()

When you let go of a rope/ladder/whatever you were climbing, this is called!

Other:

OnMovementSwap()

This will call an event every time you swap locomotion types. A good use for this would be briefly displaying a gif for the new action required to move!

Locomotion Settings:

To navigate to locomotion settings, go to "Tools>VR Locomotion Essentials>Settings" and drag it to where you see fit.

These settings simply define how you want you custom VR locomotion rig to be initially setup! Below are the options and what they mean/do.

VR Type:

This is very simple. This just sets what VR Type you want to set this up with. (Currently only VIVE support).

Movement Type:

This option simply defines what movement state/type you want to have initially set on your VR Locomotion rig.

Start Movement Speed:

This options sets up the default speed for traversing through your scene. This sets all movement types 'speed' attribute to this value, however can be set individually for each movement type!

VR Rig:

This doesn't need to be touched, however if the "Find and Setup" doesn't auto find the steamVR rig prefab, you can simply locate to the prefab and drag it in!

Find & Setup Locomotion:

This simply attempts to setup a custom rig based on the settings you have provided!

First it checks to see if the user has dragged in a prefab to the Vr Rig slot, if not it checks for a CameraRig (provided by SteamVR) in your scene, if it cannot find that it will log an error message telling you to drag the rig provided by steam into your scene, or drag the prefab into the slot.

After it has located the [CameraRig] prefab, it then begins to add the required components to the rig, and all the components required on child objects to the rig, for example, the 'HeadBob' component is added to the "Head" child obj.

It then takes it upon itself to disable the default SteamVR rig in your scene to avoid any unnecessary warnings being logged.

Click to reset Settings & Scene:

This simply resets your scene to a starting point! Removing any locomotion rigs, and re-enabling the SteamVR rig to give you a fresh scene to start the process again!