NOLO VR Unity SDK

Documentation

NOLO Co., Ltd

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1.Overview

1. 1 About NOLO

NOLO is dedicated to combine desktop-grade VR gaming experience with the convenience of mobile VR devices, redefining a mobile VR gaming experience like never before.

NOLO kit is compatible with some 87,000,000 VR headsets of all kinds currently on the market, indicating huge market potential. In addition, we' ve partnered with VR headset companies, robotic companies, and drone companies around the globe.

2. Preparation for development

Requirement for software: Unity 5.6 or above.

NOLO HOME PC version address:
http://download.nolovr.com/download/NOLO_home_PC.html

Please contact dev@nolovr.com to apply Appkey and fill it in your Unity project. You can use the public Appkey in the debugging phase, and change it to official Appkey when it is launched officially.

Public Appkey: 4e4f4c4f484f4d457eff82725bc694a5

Requirement for Hardware: NOLO X1 standalone VR headset

3.Instructions

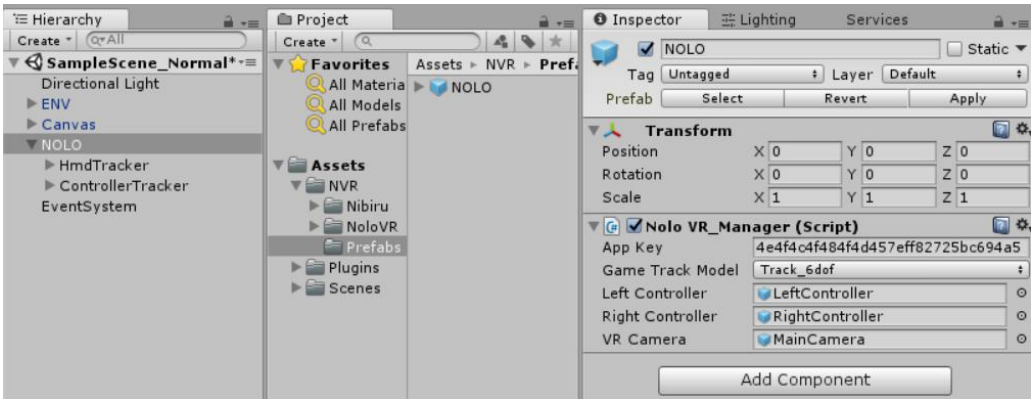
3. 1 Quick Start

（1）All-in-one project

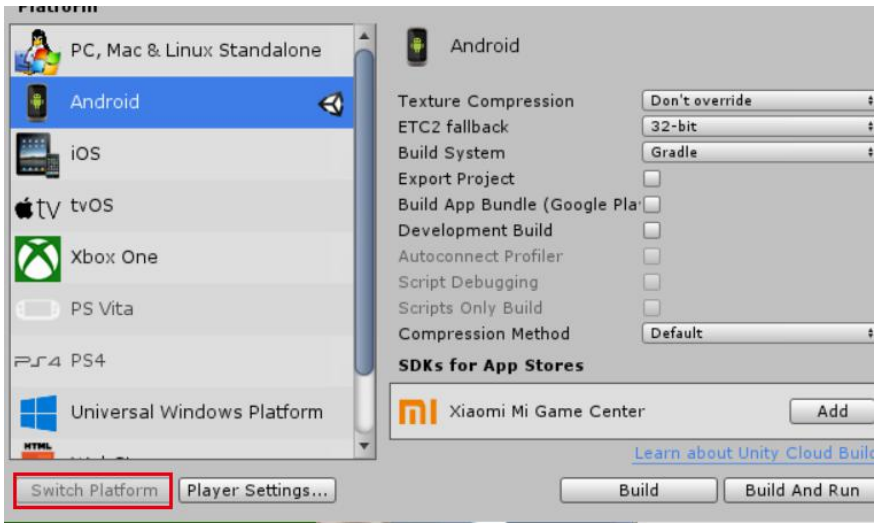
1) Create a new Unity project and import the NOLO VR Unity SDK into it.

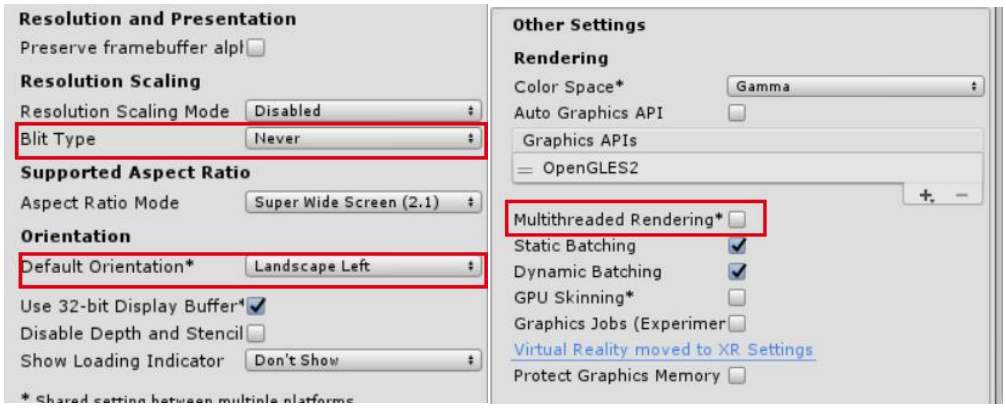
2) Create a new scenario and put NVR/Prefabs/NOLO into it and save.

3) Fill the Appkey in the following location

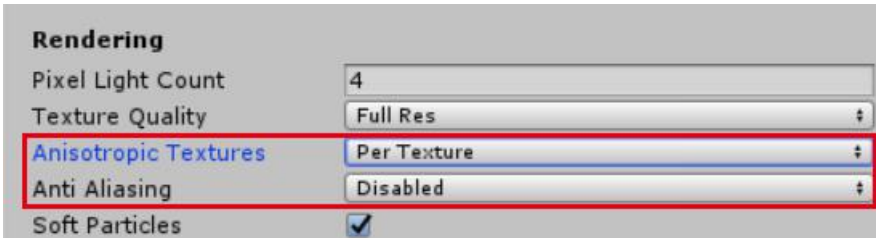


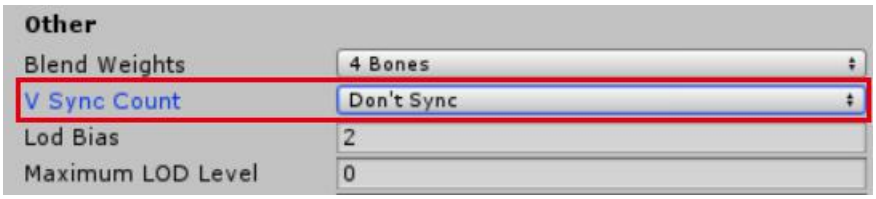
4) Player Settings: The orientation must be set to 'Landscape Left' in 'Resolution and Presentation', while the 'Multithreaded Rendering' must be set to unavailable in 'Other Settings'.





5) Quality Settings: In 'Rendering', the 'Anisotropic Textures' is set to 'Per Texture', and 'Anti Aliasing' to 'Disabled'. 'Sync Count' is set to 'Don't Sync' in 'Other'.

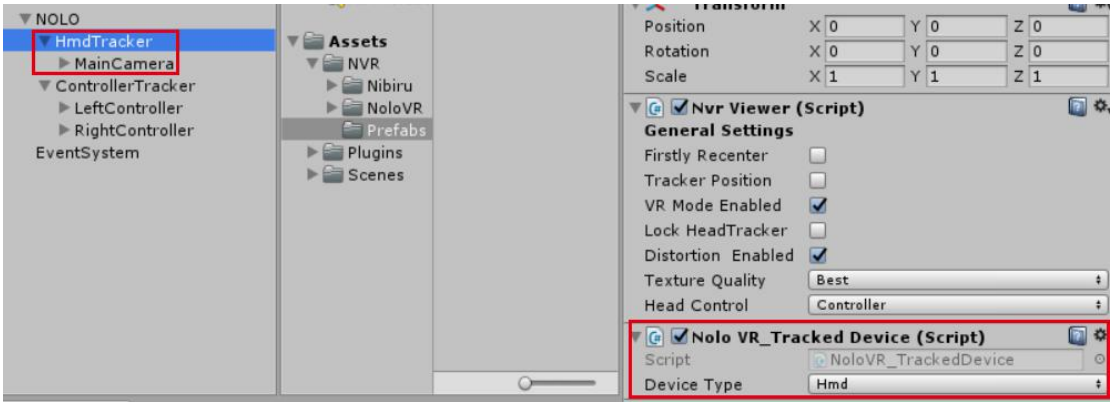




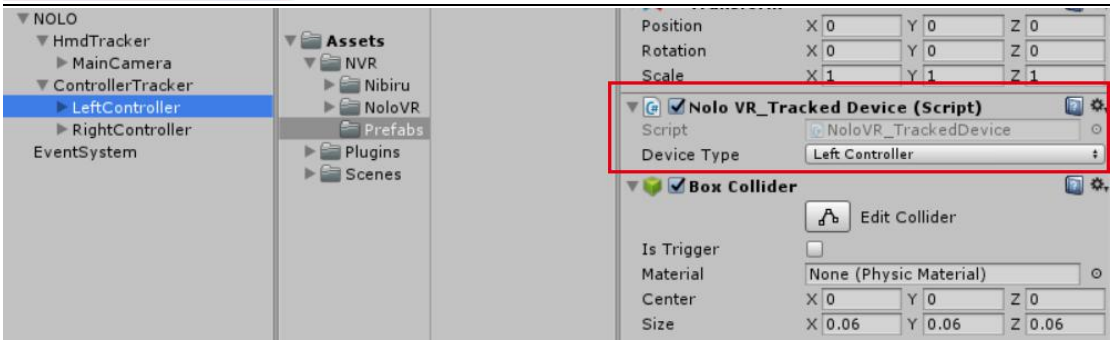
6) Fill in the correct package name information to package the settings and send it to NOLO X1 to run.

3. 2 NOLO Prefabs

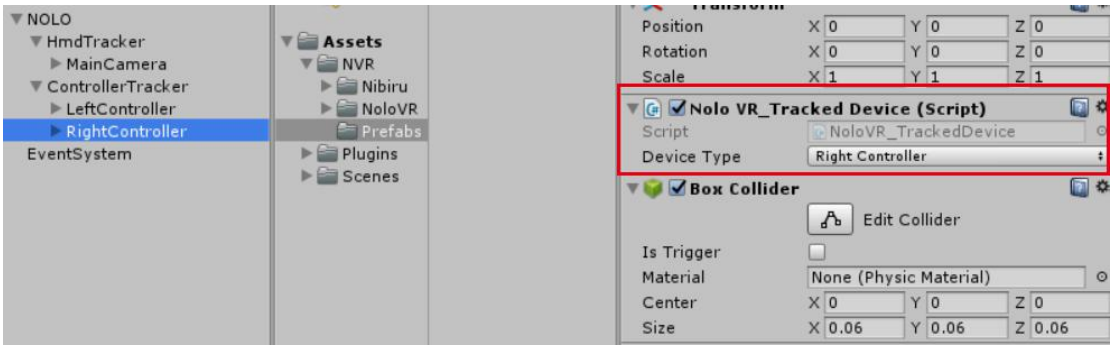
1. Head component, including head positioning information, camera information



2. Left-hand component, contains left-hand positioning information



3. Right-hand component, contains right-hand positioning information



3. 3 Debugging Instructions

Debugging in Unity Editor: Please only connect the NOLO headset marker to the PC with a USB cable. Open the NOLO HOME windows client and turn on other NOLO devices. Wait until the NOLO HOME displays the battery information of all NOLO devices, then click the Run button to debug in the Unity Editor.

Debug on Android clients: Install NOLO HOME on the mobile device, fill the correct Appkey in the project, and use the test key for debugging before the Appkey is reviewed. Also connect the NOLO headset marker with the OTG cable to the mobile phone or all-in-one. If it is prompted

that "Run NOLO HOME to access USB device?", click OK to get the NOLO data in your APP.

4.API Description

4. 1 Button Events

function name	bool GetNoloButtonPressed()
function description	To check if a button is continuously being pressed down. (“pressed” status)
input parameters	Enum NoloButtonID
return value	bool
prerequisites	NoloVR_Controller.GetDevice()

function name	bool GetNoloButtonDown()
function description	To check if a button is being pressed from “release” status. (“press” action)
input parameters	Enum NoloButtonID
return value	bool
prerequisites	NoloVR_Controller.GetDevice()

function name	bool GetNoloButtonUp()

function description	To check if a button is being released from ‘pressed’ status. (“release” action)
input parameters	Enum NoloButtonID
return value	bool
prerequisites	NoloVR_Controller.GetDevice()

4. 2 Touch Events

function name	bool GetNoloTouchPressed()
function description	To check if the touchpad is touched. (“touched” status)
input parameters	Enum NoloTouchID
return value	bool
prerequisites	NoloVR_Controller.GetDevice()

function name	bool GetNoloTouchDown()
function description	To check if the touchpad is being touched. (“touch” action)
input parameters	Enum NoloTouchID
return value	bool
prerequisites	NoloVR_Controller.GetDevice()

function name	bool GetNoloTouchUp()
function description	To check if the touchpad is being released. (“release” action)

input parameters	Enum NoloTouchID
return value	bool
prerequisites	NoloVR_Controller.GetDevice()

function name	Vector2 GetAxis()
function description	To get the coordinates of the touched spot on the touchpad.
input parameters	Enum NoloTouchID: touchpad(default), other parameters are void (see appendix)
return value	Vector2
prerequisites	NoloVR_Controller.GetDevice()

4. 3 Vibration Events

function name	void TriggerHapticPulse()
function description	**To trigger controller vibration.**
input parameters	**Vibration intensity: 0~100 (int)**
return value	void
prerequisites	NoloVR_Controller.GetDevice()

4. 4 Positional Information

function name	Nolo_Transform GetPose()
function description	Get device position.

input parameters	Null
return value	Nolo_Transform
prerequisites	NoloVR_Controller.GetDevice()

4. 5 Error Report

function name	void ReportError ()
function description	Log error messages.
input parameters	string
return value	void
prerequisites	NoloVR_Playform.GetInstance()

4. 6 Connection Status of Device

function name	bool GetNoloConnectStatus()
function description	Get connection status of NOLO device
input parameters	int/NoloDeviceType
return value	bool
prerequisites	NoloVR_Plugins.GetNoloConnectStatus()

4. 7 Electricity of Device

function name	int GetElectricity()
function description	Get GetElectricity of NOLO device
input parameters	int/NoloDeviceType
return value	int，Range（0~5）
prerequisites	NoloVR_Plugins.GetElectricity()

5. Notes

5. 1 Set Origin

Turn on all NOLO devices, place the headset marker on the ground, press the button on the headset marker. The headset marker’s current position will be the origin in the game, aka the position of “NOLO” in the game engine. The origin’s coordinates will be saved. This process only needs to be repeated if the Base Station has been moved.

5. 2 Set AppKey

A game must acquire an AppKey to run properly with NOLO CV1. An AppKey will be generated automatically when developers apply for their game on NOLO Developer Center. Please add NoloVR_Manager script to

your project workspace, and fill in the AppKey.

When the game does not upload NOLO HOME, you can use this public Appkey for development testing.

Public Appkey：4e4f4c4f484f4d457eff82725bc694a5

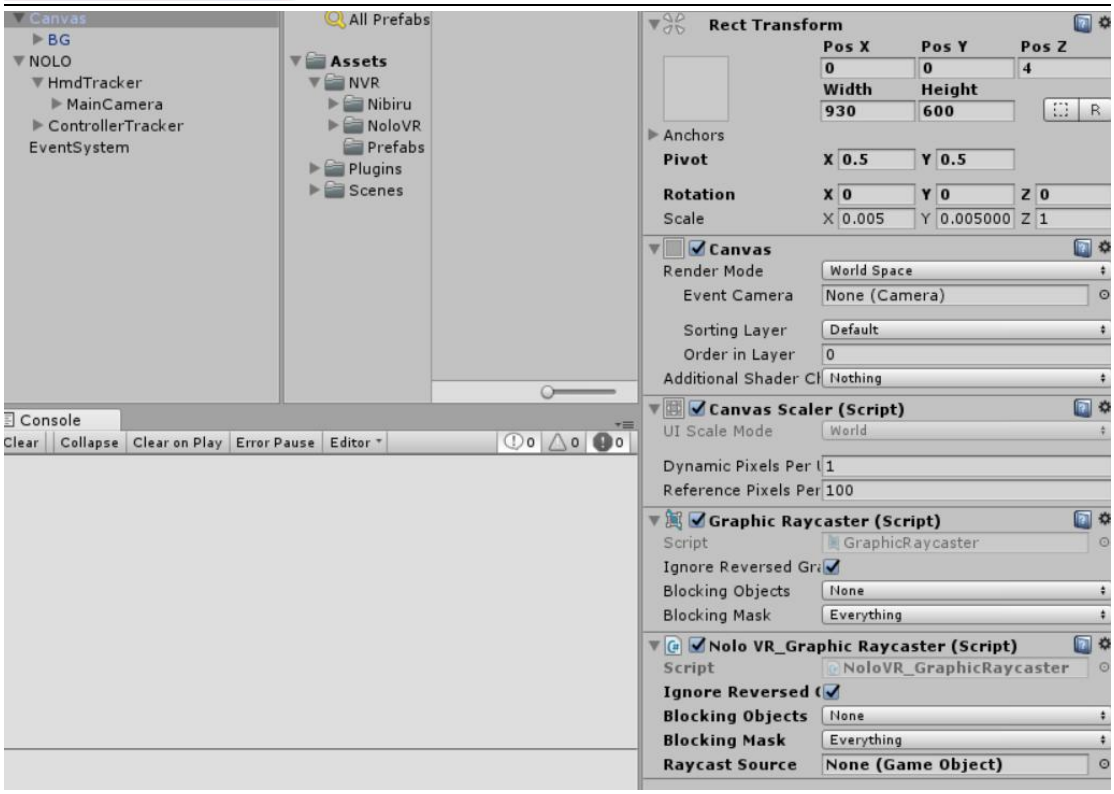
5.3 Reset Orientation

Upon starting a game, if the forward direction in the game does not point towards Nolo Base Station, or the controller orientation seems a little odd, you may need to reset orientation by doing the following: Put on your headset, face the Nolo Base Station, point both controllers towards the Nolo Base Station, then double click the power button on either controller.

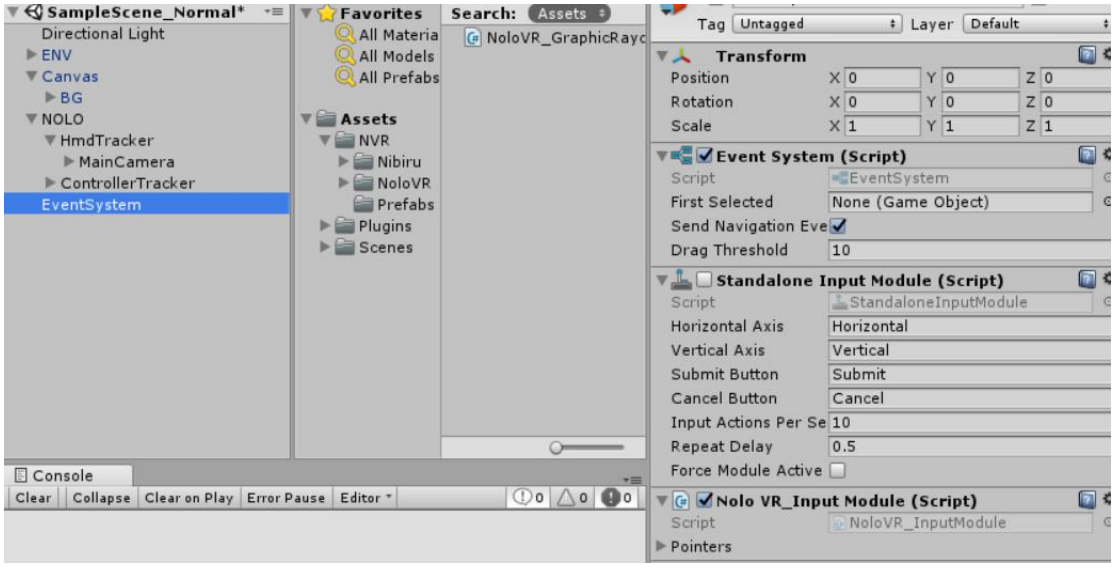
5.4 Raycast Target

NOLO provides a set of UGUI recast triggering scheme：

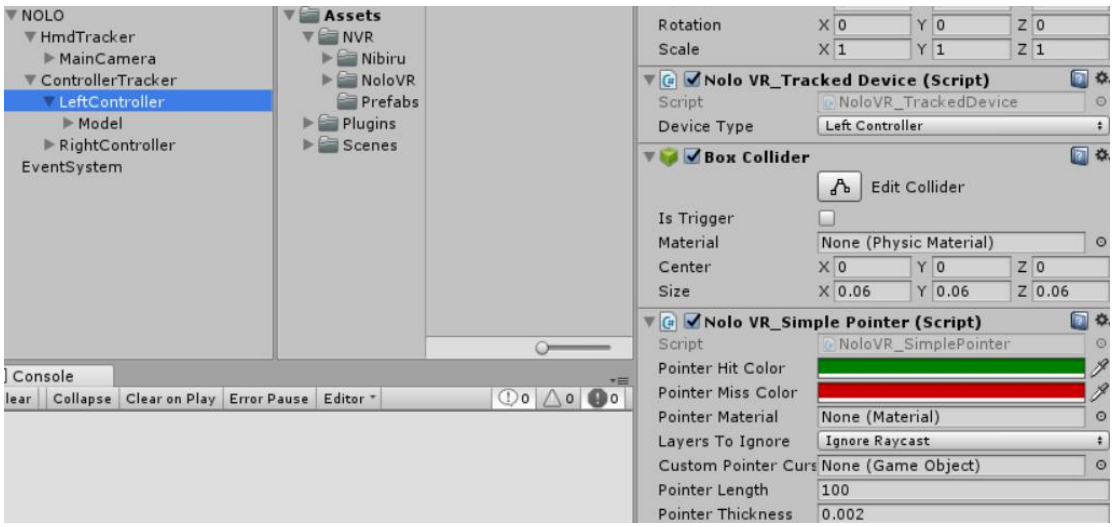
1. Add NoloVR_GraphicRaycaster.cs script to Canvas in UGUI



2. Add NoloVR_InputModule.cs script to EventSystem in UGUI



3. Add the NoloVR_SimplePointer.cs script to one of the controller to trigger UGUI related components with the secondary controller.



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