NOLO Sonic Unity SDK

Document

NOLO Co., Ltd

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目录

1. Overview

1.1 NOLO Sonic Unity SDK

NOLO Sonic Unity SDK is developed by NOLO Co., Ltd. for the NOLO Sonic All-in-One VR headset (Hereafter “NOLO Sonic”), use for Unity developers to develop 6-DoF Mobile VR games.

2. Preparation for development

- Requirement for software: Unity2018.4.30 or above.
- Please contact dev@nolovr.com to obtain the 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
- Name of the project test build: com.nolo.xr.unitydemo. The apk package name should be bound with NibiruSDKKey.bin file. (If you want to modify the package name, please refer to the Nolo Unity SDK package name modification instruction 3.1 document.)
- Requirement for Hardware: NOLO Sonic.

3. Button Description

3.1 Description of Controller's buttons

- Event Buttons ID

```
public enum NoloButtonID
{
    TouchPad = 0,
    Trigger = 1,
    Nolo_Left_Menu = 2,
    Grip = 4,
    Nolo_Right_A = 12,
    Nolo_Right_B = 13,
    Nolo_Left_X = 14,
    Nolo_Left_Y = 15
}
```

- Touch Buttons ID

```
public enum NoloTouchID
{
    TouchPad = 0,
    Nolo_Right_A = 1,
    Nolo_Right_B = 2,
    Nolo_Left_X = 3,
    Nolo_Left_Y = 4,
    Trigger = 5
}
```

- Joystick Axis Button ID

```
public enum NoloAxisID
{
    TouchPad = 0,
    Trigger
}
```

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)
parameters	Enum NoloButtonID
return value	bool
prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)

function name	bool GetNoloButtonDown()

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

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

Example:

Call of press the NOLO Sonic left controller Trigger Button:

```
NoloVR_Controller.GetDevice(NoloDeviceType.LeftController).GetNoloButtonDown(NoloButtonID.Trigg
er);
```

4.2 All-in-One VR headset Buttons

Button Icon	Unity Key Value
OK	*KeyCode.JoystickButton0 or KeyCode.Joystick2Button0*
⮌	*KeyCode.Escape*

4.3 Touch Events

function name	bool GetNoloTouchPressed()

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

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

function name	bool GetNoloTouchUp()
function description	To check if the touchpad is being released. (“release” action)
parameters	Enum NoloTouchID
return value	bool
prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)

function name	Vector2 GetAxis()
function description	Get the coordinate data of the joystick, the range is -1~1
parameters	Enum NoloAxisID
return value	Vector2
prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)

Example:

Call of the axis value of the left joystick:

```
NoloVR_Controller.GetDevice(NoloDeviceType.LeftController).GetAxis(NoloAxisID.TouchPad)
```

4.4 Vibration Events (Ordinary linear vibration)

function name	void TriggerHapticPulse()
function description	Call of the Linear vibration of the controller
parameters	Float Duration, float frequence, float amplitude
return value	void
prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)

4.5 Wide-Frequency Vibration Events (Audio file)

function name	void hapticWithAudioFile()
function description	Call of controller wide-frequency vibration through audio file, audio file support format is pcm, MP3, MP4, aac
parameters	String Audio file path
return value	bool
prerequisites	NoloVR_AndroidPlayform.GetInstance()

4.6 Wide-Frequency Vibration Events (Audio stream)

For the interface, is to call the controller wide-frequency vibration through audio streaming. You need to set the audio stream parameters before calling.

function name	void setHapticAudioConfig()
function description	Set the audio stream parameters, the audio format used is the original audio data pcm format, and only supports 16-bit signed integer types.

parameters	sturct HapticAudioConfig{
	int layout;//1 is single channel, 2 is dual channel
	int format;//1 is FMT_S16 signed 16 bits
	int sample_rate;//sampling rate

	} Json string
return value	bool
prerequisites	NoloVR_AndroidPlayform.GetInstance()

function name	void hapticWithAudioBuffer()
function description	Call of Wide-Frequency Vibration of the controller
parameters	Byte [] buffer，int nb_samples (number of audio samples)
return value	bool
prerequisites	NoloVR_AndroidPlayform.GetInstance()

4.7 Positional Information

function name	Nolo_Transform GetPose()
function description	Obtain device positioning information
parameters	Null
return value	Nolo_Transform
prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)
prerequisites	NoloVR_Playform.GetInstance()，setHapticAudioConfig()

4.8 Device Connection Status

function name	bool GetNoloConnectStatus()
function description	Obtain NOLO device connection status information
parameters	Null
return value	bool

prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)

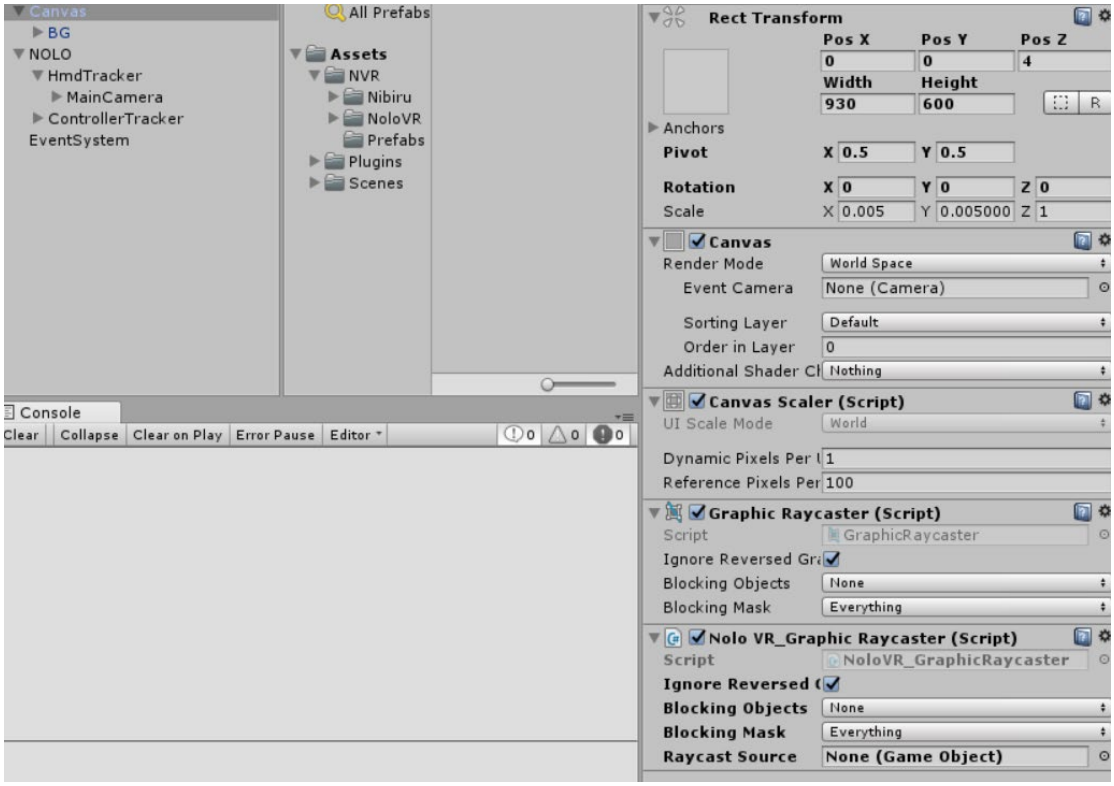
4.9 Device Battery Information

function name	int GetNoloDeviceElectricity()
function description	Obtain NOLO device battery information
parameters	null
return value	int, range (0~100)
prerequisites	NoloVR_Controller.GetDevice(NoloDeviceType)

4.10 Ray Inspection

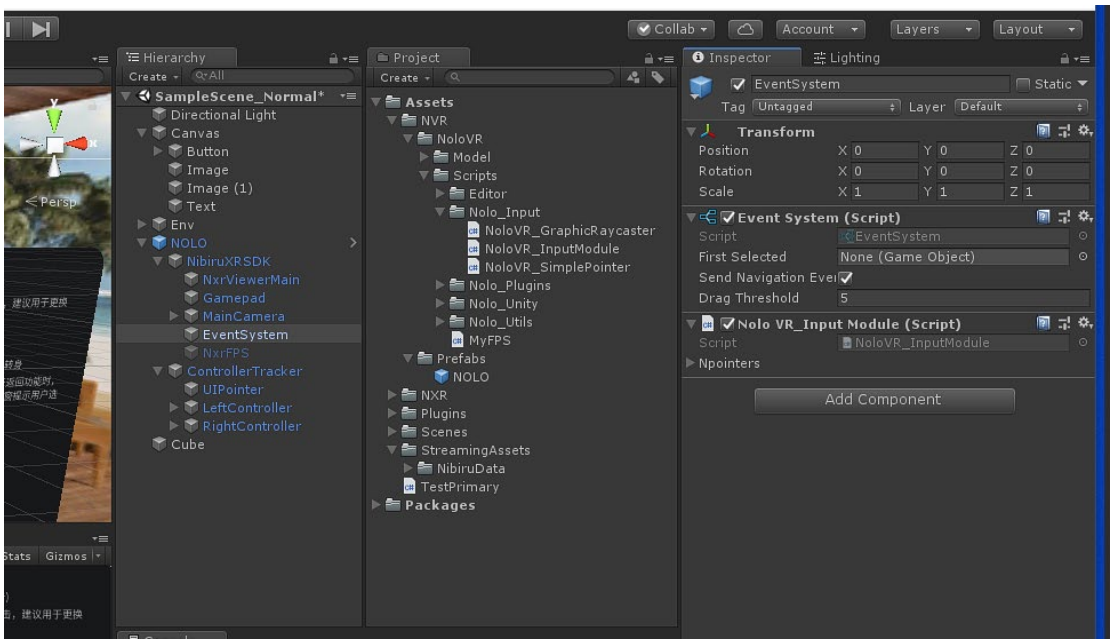
NOLO provides a set of UGUI ray triggering schemes:

1) Add NoloVR_GraphicRaycaster.cs script to Canvas of UGUI

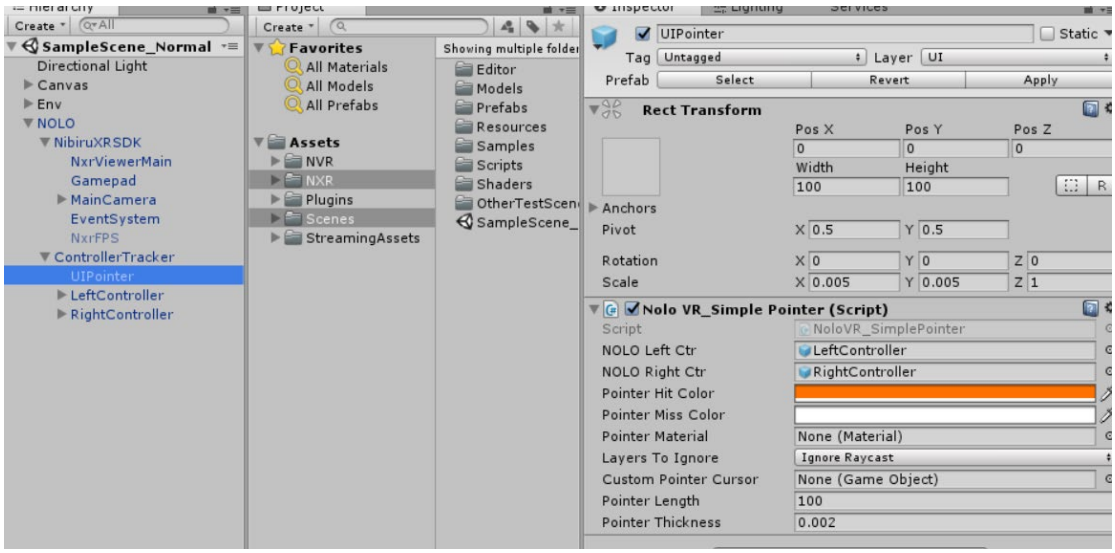


2) Add NoloVR_InputModule.cs script on the EventSystem component object,

For an example of interacting with 3D objects, please see the SampleScene_Normal scene.



3) Add NoloVR_SimplePointer.cs script to the ray object, and switch the controller ray through the trigger button.



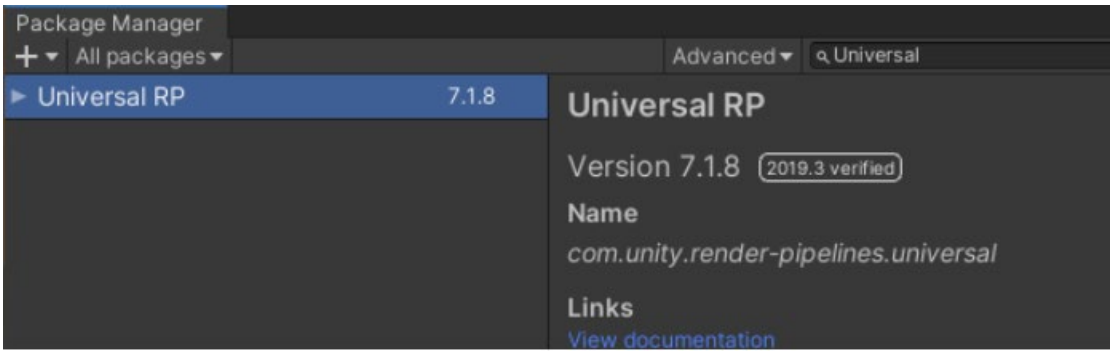
5. Notes

5.1 Universal RP (Universal Rendering Pipeline) configuration instructions

Unity version: Unity2019.3.6

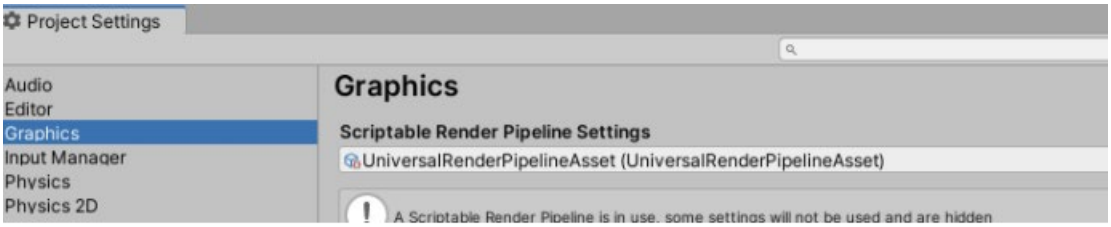
URP version: V7.1.8

1) Open Window/Package Manager, Search for Universal RP, and Click Install.

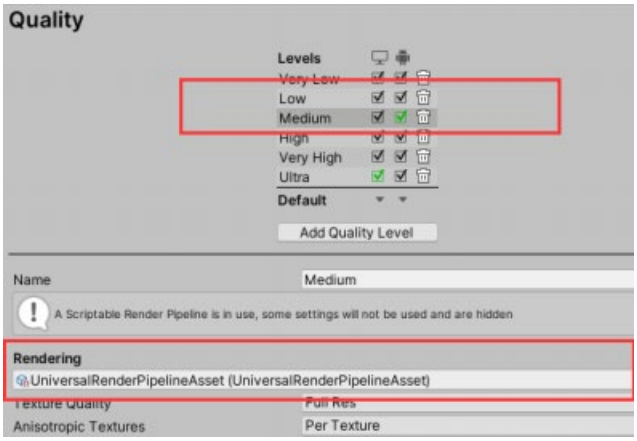


2) Installation is complete, create UniversalRenderPipelineAsset, Assets/Create/Remdering/Universal Render Pipeline/Pipeline Asset.

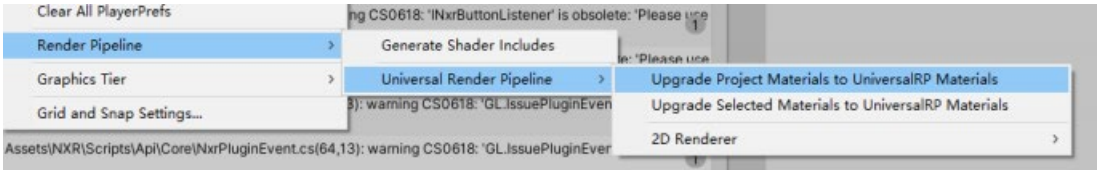
3) Open Edit/Project Settings/Graphics/, select the created PipelineAsset in Scriptable Render Pipeline Settings.



4) Open the Edit/Project Settings/Quality interface, select the Android category, and select the created PipelineAsset in Rendering.



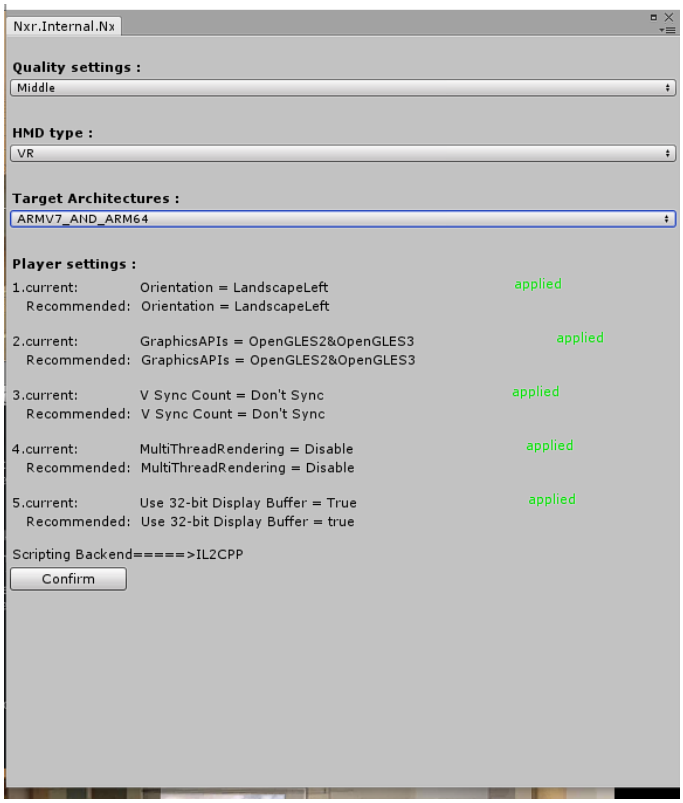
5) Upgrade Project Materials



Note: Cancel SPR Batcher/Dynamic Batching in UniversalRenderPipelineAsset, otherwise memory leaks will occur.

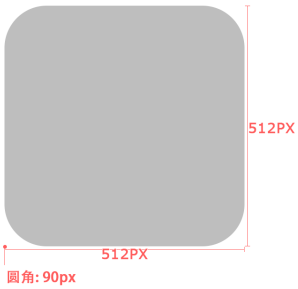
5.2 NOLO SDK supports Armv8

1) In the Building settings, click on the menu NibiruXR-->XR Settings, the settings panel will pop up, just follow the figure below to operate.



5.3 Building Standards

Game icon, 512 x 512, png format with rounded corners 90px, less than 200kb. The icon needs to add “NOLO_HOME” corner mark, see following template.



5.4 Contact details

If you have any questions or suggestions, please feel free to contact us at dev@nolovr.com.