LYROBOTIX

Notice

1.NOLO’s coordinate systems for position and rotation is different from that of OpenVR. Therefore, we need to adjust as follows. Source code of controller driver is available for your reference.

Adjustment of position data:

```
m_Pose.vecPosition[0] = data.pos[0];
    m_Pose.vecPosition[1] = data.pos[1];
    m_Pose.vecPosition[2] = -data.pos[2];//Z
```

Adjustment of rotation data:

```
    m_Pose.qRotation.w = -data.rot_quat[0];//w
    m_Pose.qRotation.x = data.rot_quat[1];
    m_Pose.qRotation.y = data.rot_quat[2];
    m_Pose.qRotation.z = -data.rot_quat[3];//z
```

2.We need to set up the center of rotation in OpenVR as follows. Source code of controller driver is available for your reference.

```
m_Pose.vecDriverFromHeadTranslation[0] = 0.000f;
m_Pose.vecDriverFromHeadTranslation[1] = 0.007f;
m_Pose.vecDriverFromHeadTranslation[2] = -0.073f
```

3.Under the circumstance of realizing throwing function,we can’t keep providing data of speed and acceleration to OpenVR all the time, resulting violate vibration of controller.We can provide speed and acceleration to OpenVR when pressing Trigger button, while, set the data as 0 when releasing the

button. Source code of controller driver is available for your reference.

4. We do not recommend using rotation data of NOLO headset marker but that data of the third-party HMD when it comes to HMD data.

5. This SDK comes with SteamVR Room Setup function. We can place the headset marker on ground and press its pairing button. By doing this, we realize the SteamVR Room Setup function. In addition, the first-time SteamVR users need to do SteamVR Room Setup at first.

6. Headset driver of SteamVR:

In case of being kicked out by some games:

```
Prop_ModelNumber_String: "ViveMV",
Prop_ManufacturerName_String: "HTC"
m_Pose.shouldApplyHeadModel = false;
```

Controller driver of SteamVR:

Choices of controller models:

```
Prop_RenderModelName_String:" vr_controller_vive_1_5"
```

Vibration setting:

```
bool NOLOTrackedDevice::TriggerHapticPulse(uint32_t unAxisId, uint16_t
usPulseDurationMicroseconds)
{
    int n = usPulseDurationMicroseconds/40;
    if (n>50)
        n = 50;
```

```
    }
    if (m_nId == 0) {
        set_Nolo_TriggerHapticPulse(NoloDeviceType::LeftControllerDevice, 50+n);
    }
    else if (m_nId == 1)
    {
        set_Nolo_TriggerHapticPulse(NoloDeviceType::RightControllerDevice,50+n);
    }
    return true;
}
```

The following function must be realized when NOLO is connected:

1.The connection situation of NOLO device and the left power of battery must be demonstrated on your software. Make it convenient for users to check whether the device is working.

2.Calibrate the position by double clicking the system button of any controller.In other words, making the controller face directly to the NOLO base station and double click the system button on the controller, reset the position on the Yaw axis of the HMD, that is to ensure the middle and forward direction of SteamVR directly faces to NOLO base station.

3.Must realize a rotation of 180° by double clicking the menu button of any controller.

4. During using your software, must notify the user to close NOLO PC software, when your software monitored and found that the user has opened NOLO PC software.

5. Please do not run this SDK in the background when user closes your software.

```
close_Nolo_Device();
```