



**VIVE**

# **HTC Vive SRanipal SDK Guide**

**Release version: 1.0.0.0**

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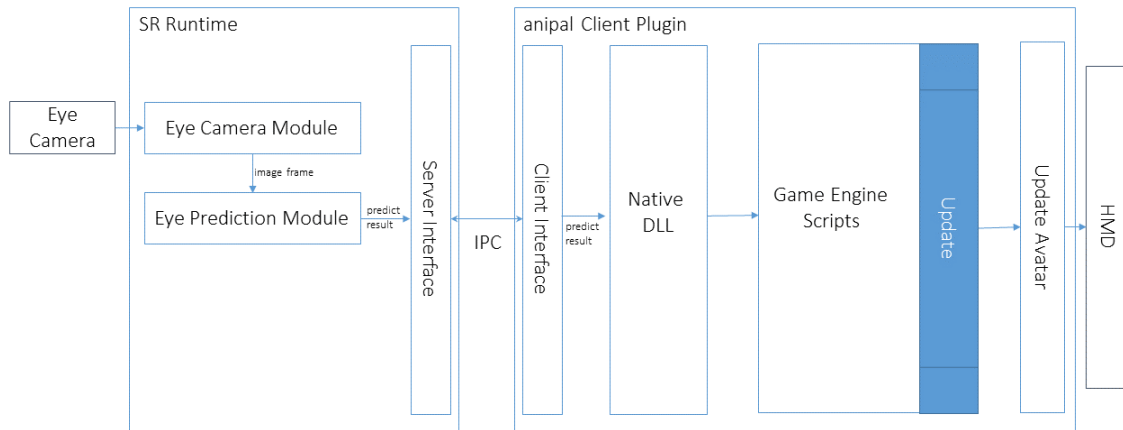
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# 1.About the Vive SRanipal SDK

The Vive SRanipal SDK is developed to help software developers create an eye-aware application with actual facial expressions on make-believe 3D avatars. “anipal” stands for “animation pal.”



## 2. System Requirements

To use Vive SRanipal SDK plugin, the following minimum software and hardware requirements should be met:

Software requirements	<ul style="list-style-type: none"><li>• Windows 8.1 or later (64-bit)</li><li>• Unity 2017.4.17 or later</li><li>• SteamVR (2018 October 14 release or later)</li><li>• SR_Runtime 1.0.0.0 or later</li></ul>
Hardware requirements	<ul style="list-style-type: none"><li>• Vive HMD with Eye capability</li></ul>

## 3. Limitations

- Support Windows 64-bit only

## 4. SDK Folder Structure

SRanipal\_version\

- SRanipal\_SDK\_Guide.pdf
- 01\_C\
  - Document\Document\_C.lnk (C API reference)
  - SRanipal\
    - SRanipal\_Sample\
      - SRanipal\_Sample.sln
- 02\_Unity\
  - Document\
    - Getting Started with SRanipal in Unity.pdf
    - Document\_Unity.lnk (SRanipal Unity API reference)
  - FaceGym\
    - FaceGym.exe
  - Vive-SRanipal-Unity-Plugin.unitypackage
- 03\_Unreal\
  - Document\
    - Getting Started with SRanipal in Unreal.pdf
    - Document\_Unreal.lnk (SRanipal Unreal API reference)
  - Vive-SRanipal-Unreal-Plugin.zip

## 5. How to Use SR\_Runtime

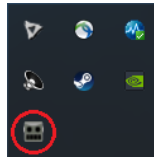
### 5.1 Installing SR\_Runtime

To enable eye tracking capability, you must download SR\_Runtime installer from [this link](#). Follow the installer's instruction to install SR\_Runtime.

### 5.2 SR\_Runtime Usage

After installing SR\_Runtime, follow below steps to start.

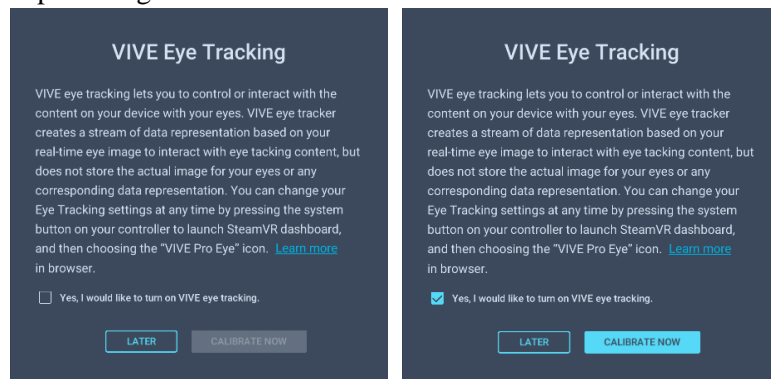
1. Ensure that Vive Pro Eye HMD is connected to your PC.
2. Launch **SR\_Runtime** and wait until the SRanipal status icon appears in the notification tray — see the image below.



The status icon reflects the status of your tracking devices:

	SR runtime is launched but HMD does not support eye tracking or eye tracking disabled by user.
	The eye tracking device is in idle mode.
	Eye tracking is active; i.e., a program is retrieving data from it.

3. Start **SteamVR** (If not running already)
4. Put on your HMD.
5. Read and accept user agreement.



6. Start eye calibration (See more detail in next section)

7. Done! You are ready to develop or use eye-aware applications
8. If you want to quit `SR_Runtime.exe`, right-click on the status icon and click **Quit** to stop `SR_Runtime`.



## 5.3 Build C Sample Code

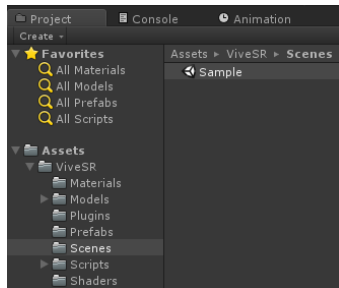
1. Open the solution file of the sample code at  
`$(SRANIPAL)\01_C\SRanipal\SRanipal_Sample.sln` with Visual Studio 2015.
2. For details about this API, refer to `$(SRANIPAL)\01_C\Document_C.lnk`.

## 5.4 Build the Unity Plugin

1. Open unity and create a new **3D** project.
2. Select **Asset > Import Package > Custom Package**.
3. Select the `Vive-SRanipal-Unity-Plugin.unitypackage`
4. In the **Importing Package** dialog, ensure that all package options are selected and click on **Import**.
5. Accept any API upgrades if prompted.

### - Opening a sample scene

1. In the Unity Project window, find the scene file Sample.unity in  
**Asset > ViveSR > Scenes**.

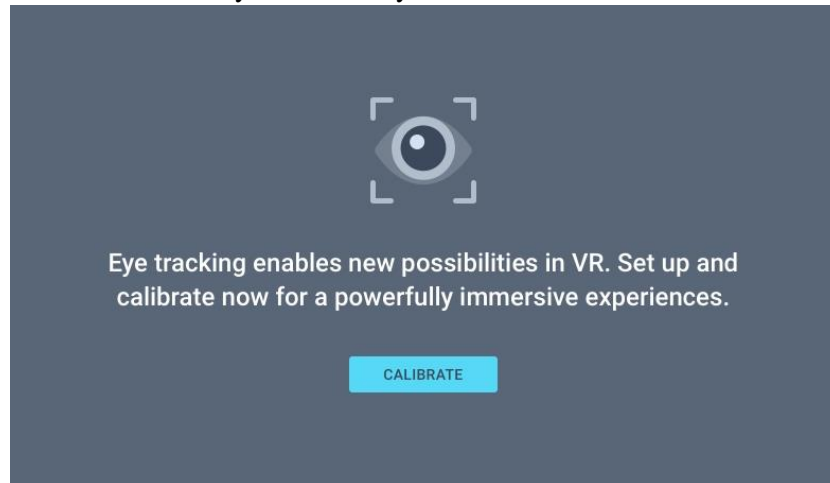


2. Ensure that all [Requirements](#) are met and then click **Play**.
3. For details about this sample, please refer to `$(SRANIPAL)\02_Unity\Plugin\Getting Started with SRanipal in Unity.pdf`.
4. For details about this API, please refer to `$(SRANIPAL)\02_Unity\Document_Unity.lnk`.

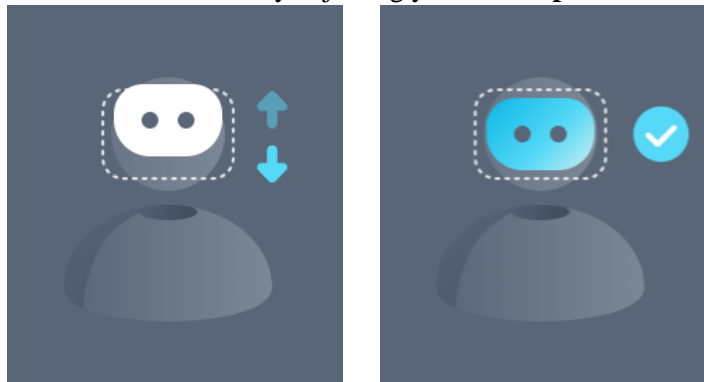
## 6. Eye Calibration

To calibrate for the eye-tracking feature of SRanipal, please follow the below process. Note that for the highest precision, it is recommended to recalibrate for different users, as the eye positions and the pupillary distance are different for each individual.

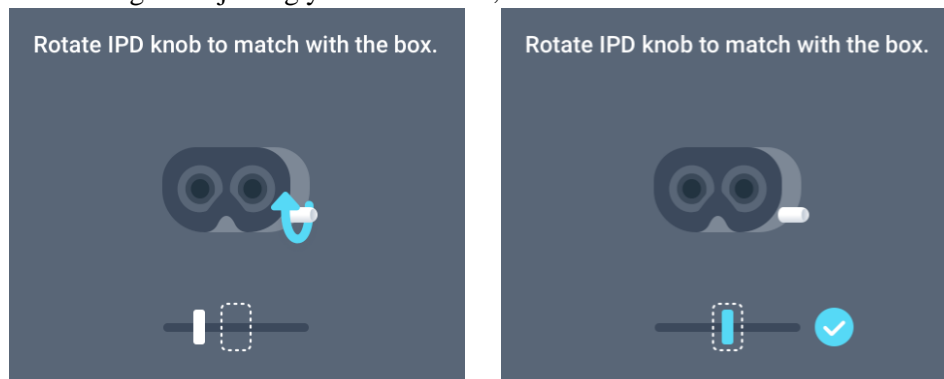
1. To start eye calibration, press VIVE controller's **system button** and the calibration program will show an overlay window on your HMD.



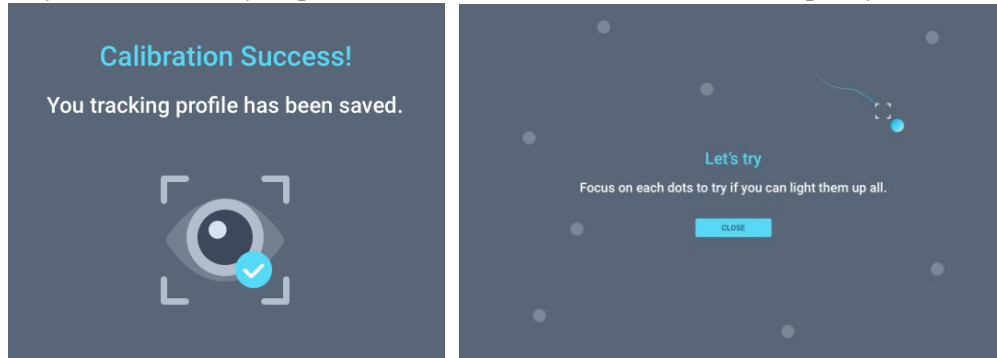
2. If you can't find it in your overlay window, launch SR\_Runtime to open it.
3. Press **Calibrate** to start and it starts by adjusting your **HMD position**



4. The second stage is adjusting your **IPD value**, as shown below.

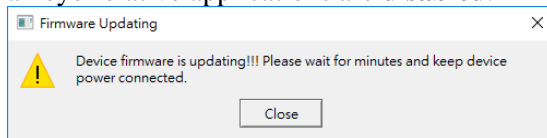


5. After that, it will guide you to do gaze calibration. **Please look at the blue-dot** sequentially shown at the center, right, left, upper and lower of panel till success information is shown.
6. The program will close automatically.
7. Done! You are ready to develop eye-aware applications.
8. Now you can have a try or press VIVE controller's **system button** to quit eye calibration.

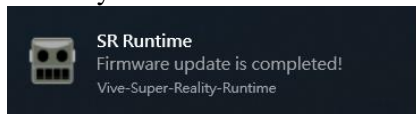


## 7. Known Issues

- If your HMD requires a firmware update, the below window will pop up. During the process, all eye-relative applications are **disabled**.



After the firmware update, the below notification will show up. Reboot the SR\_Runtime.exe to use eye-relative functions.



## 8. Frequently Asked Questions

### 8.1 Calibration Issues

- *How to do eye calibration?*
  - Please check **Section 6: Eye Calibration** and follow the instructions.
- *Can calibration be done during eye-aware application while the framework is running?*
  - Yes, calibration can be done when SR\_Runtime is up and running.

### 8.2 Update Issues

- *How to update device firmware?*
  - SR\_Runtime automatically checks/updates device firmware.
- *How to update SR\_Runtime?*
  - SR\_Runtime automatically checks/updates new version from HTC server.

### 8.3 Other Common Issues

- *Why my eye tracking is not working?*
  - Check if the installation steps listed in **Section 5** are all successfully finished.
  - Check if SR\_Runtime is running.
  - Check if the HMD is turned on and connected to the PC.
  - Make sure you accepted the user agreement and the eye tracking feature is not disabled.
- *Why I can't see my eye camera version?*
  - If you break(etc. plug out HMD or turn off HMD power) device firmware upgrade process, you may need to reboot HMD and follow the instruction in Section 7: Known Issues.
- *Do I need to calibrate for different users?*
  - Since every individual has different IPD setting, it is recommended to do eye calibration for each user to get the best eye tracking precision.