



# SRanipal Unity SDK Guide

Release version: 1.3.3.0

©2017-2020 HTC Corporation. All Rights Reserved. HTC, the HTC logo, Vive, the Vive logo, and all other HTC product and services names are the trademarks or registered trademarks of HTC Corporation and its affiliates in the U.S. and other countries.

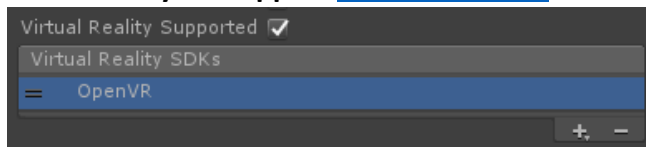
All other trademarks and service marks mentioned herein, including company names, product names, service names and logos, are the property of their respective owners and their use herein does not indicate an affiliation with, association with, or endorsement of or by HTC Corporation.

## Prerequisites

The SRanipal SDK for Unity can be implemented only when the SRanipal SDK has been setup. If not, follow the guideline below to setup the SRanipal SDK —  
SRanipal\_version\SRanipal\_SDK\_Guide.pdf.

## Create a new project and import the SDK

1. Open Unity and create a new **3D** project.
2. Select **Asset > Import Package > Custom Package**.
3. Find the SRanipal Unity package at SRanipal\_version\02\_Unity\Vive-SRanipal-Unity-Plugin.unitypackage
4. In the **Importing Package** dialog, ensure that all files are selected and click **Import**.
5. Accept any API upgrades if prompted.
6. Enable **Unity VR support** ([official manual](#)).



## Play the sample scene

1. In the Unity Project window, find the scene Sample.unity in:  
**Asset > ViveSR > Scenes**.
2. Ensure that all Requirements in SRanipal\_SDK\_Guide.docx are met and then click on **Play**.

## Build the sample app

1. Select **File > Build Settings**.
2. In the Unity **Build Settings** window, adjust the **Architecture** on x86\_64, and click on **Build and Run**.

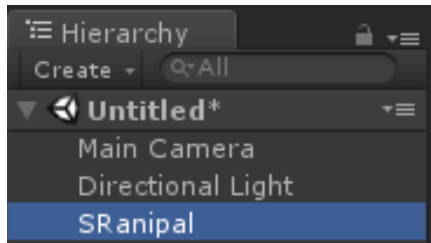
## Next Steps

- Learn how to Enable SRanipal in your app.

## Enable SRanipal in your Unity project

### Enable the SRanipal Framework

1. Create an empty GameObject. We name it “SRanipal” here.

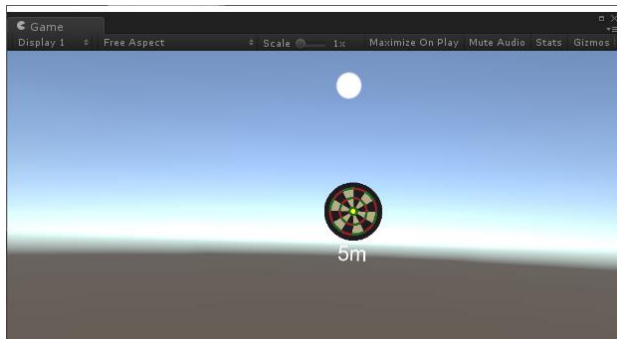


2. Add the component “SRanipal\_Framework” to the Gameobject SRanipal.
3. Toggle on “Enable Eye” to enable the eye-tracking feature of the SRanipal SDK.
4. Explore the [Eye](#) features.

## Eye relative features

### Focus

To retrieve the vector point of the player’s eye focus, refer to the script `ViveSR\Script\Sample\SRanipal_EyeFocusSample.cs`.

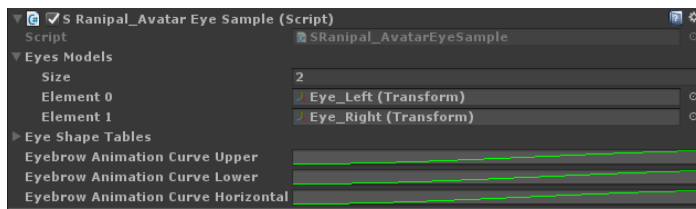


### Control Avatar’ eyes

To reflect the player’s eye rotation and eye lid movement on an avatar, refer to the script `ViveSR\Script\Sample\SRanipal_AvatarEyeSample.cs`.



To animate the avatar's eye lids, we use Animation Curve in the sample script below to control the range of movement—ViveSR\Script\Sample\SRanipal\_AvatarEyeSample.cs.



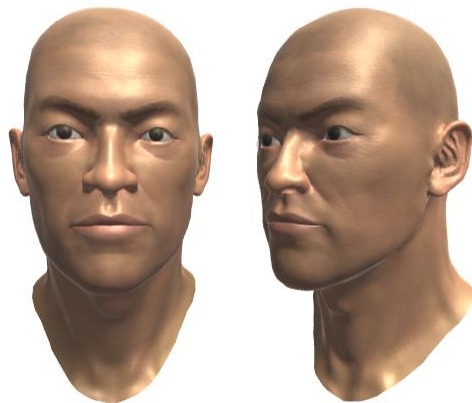
## Eye Settings

To launch the eye calibration program and to adjust eye-tracking sensitivity, refer to the script ViveSR\Script\Sample\SRanipal\_EyeSettingSample.cs.

## SRanipal Compatible Avatar


### Overview


Through SRanipal's eye-tracking features, an avatar's blendShape values can be animated with the player's eye movement. A compatible avatar for SRanipal has 12 blendshapes in version 1 and 2 more blendshapes in version 2 for eye tracking, demonstrated in this section.



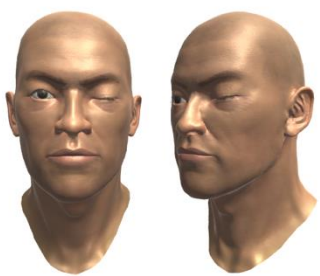
Sample Avatar

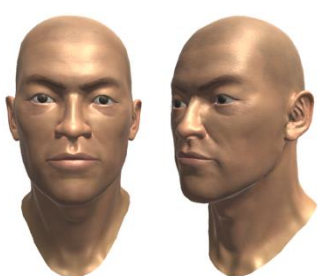
### Version 2: add 2 new blendshapes

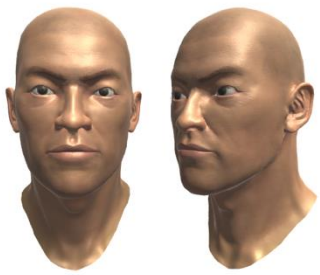
Eye_Left_squeeze	
	Description
	The blendShape close eye tightly when Eye_Left_Blink value is 100.

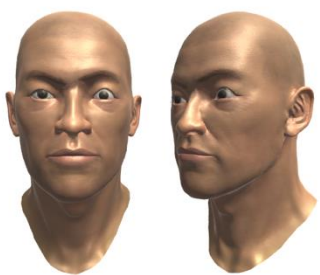
Eye_Right_squeeze	
	Description
	The blendShape close eye tightly when Eye_Right_Blink value is 100.

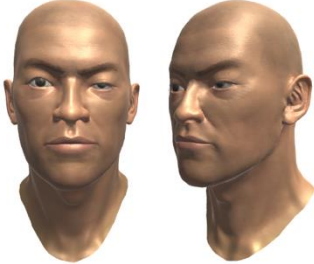
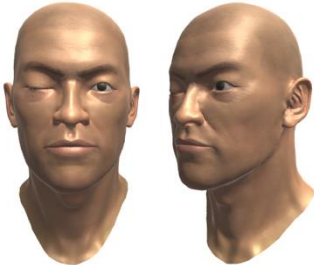
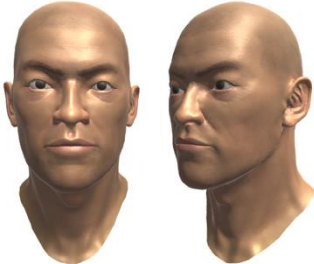
## Version 1: Eye BlendShapes

Eye_Left_Blink	
	<b>Description</b>
	This blendShape influences blinking of the left eye, closing it further with a higher value.

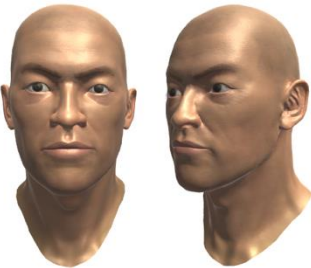
Eye_Left_Right	
	<b>Description</b>
	This blendShape influences the muscles around the left eye, moving these muscles further rightward with a higher value.

Eye_Left_Left	
	<b>Description</b>
	This blendShape influences the muscles around the left eye, moving these muscles further leftward with a higher value.

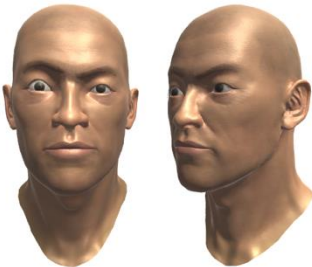
Eye_Left_Up	
	<b>Description</b>
	This blendShape influences the muscles around the left eye, moving these muscles further upward with a higher value.

Eye_Left_Down	
	Description
	This blendShape influences the muscles around the left eye, moving these muscles further downward with a higher value.
Eye_Right_Blink	
	Description
	This blendShape influences blinking of the right eye, closing it further with a higher value.
Eye_Right_Right	
	Description
	This blendShape influences the muscles around the right eye, moving these muscles further rightward with a higher value.
Eye_Right_Left	
	Description

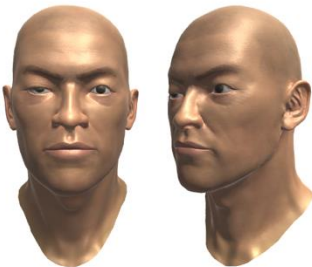


	<p>This blendShape influences the muscles around the right eye, moving these muscles further leftward with a higher value.</p>
---	--

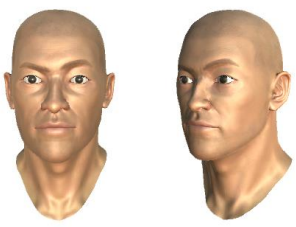
**Eye\_Right\_Up**

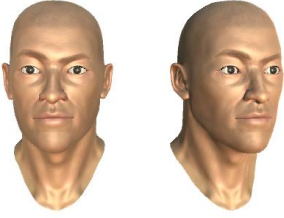
	<table><tr><th data-bbox="609 573 763 598">Description</th></tr><tr><td data-bbox="609 606 1406 678">This blendShape influences the muscles around the right eye, moving these muscles further upward with a higher value.</td></tr></table>	Description	This blendShape influences the muscles around the right eye, moving these muscles further upward with a higher value.
Description			
This blendShape influences the muscles around the right eye, moving these muscles further upward with a higher value.			

**Eye\_Right\_Down**

	<table><tr><th data-bbox="609 1010 763 1035">Description</th></tr><tr><td data-bbox="609 1043 1406 1115">This blendShape influences the muscles around the right eye, moving these muscles further downward with a higher value.</td></tr></table>	Description	This blendShape influences the muscles around the right eye, moving these muscles further downward with a higher value.
Description			
This blendShape influences the muscles around the right eye, moving these muscles further downward with a higher value.			

**Eye\_Left\_Wide**

	<table><tr><th data-bbox="609 1442 763 1467">Description</th></tr><tr><td data-bbox="609 1476 1406 1547">This blendShape will open avatar's left eye wide, it should be done when Eye_Blink_Left = 0.</td></tr></table>	Description	This blendShape will open avatar's left eye wide, it should be done when Eye_Blink_Left = 0.
Description			
This blendShape will open avatar's left eye wide, it should be done when Eye_Blink_Left = 0.			

Eye_Right_Wide	
	Description
	This blendShape will open avatar's right eye wide, it should be done when Eye_Blink_Right = 0.