



# SRanipal Unreal SDK Guide

Release version: 1.3.3.0

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## Prerequisites

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

## Create a new project and add the SDK

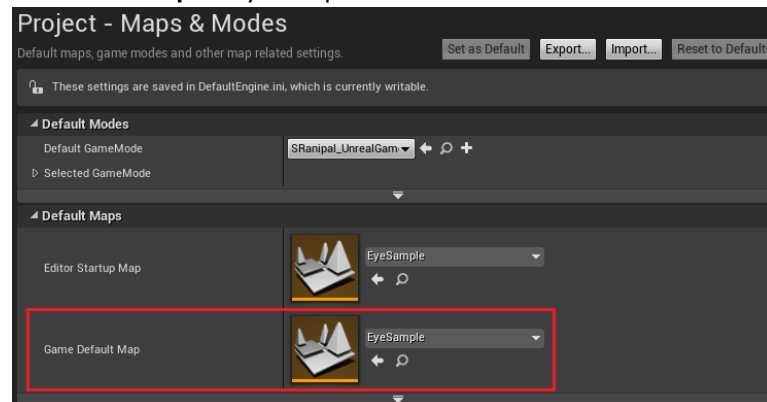
1. Open Unreal Engine and create a new **C++ project**.
2. Unzip the plugins at *SRanipal\_version\03\_Unreal\Vive-SRanipal-Unreal-Plugin.zip*
3. Copy the folder **Plugins** inside the folder you unzip above into your project.
4. Restart the editor and enable **SRanipal** in **Settings > Plugins**.

## Play the sample level

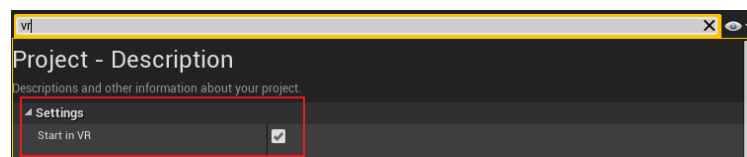
1. In the Unreal content browser, you can find the sample level in:  
*SRanipal Content/Level/EyeSample*.
2. Ensure that all Requirements mentioned in *SRanipal\_SDK\_Guide.docx* are met and then click **VR\_Preview**.

## Package the sample app

1. In **Edit > Project Settings** choose **Maps & Modes**
2. Change the **Game Default Map** to **EyeSample**.



3. In **Edit > Project Settings** choose **Description** (Or you can search “vr”).
4. Enable **Start in VR**.



5. Select **File > Package Project > Windows > Windows (64-bit)**.

## Enable SRanipal functionality in your Unreal project.

# NOTE that the **Enable SRanipal functionality** step has been changed after **SRanipal v1.3.0.9**.

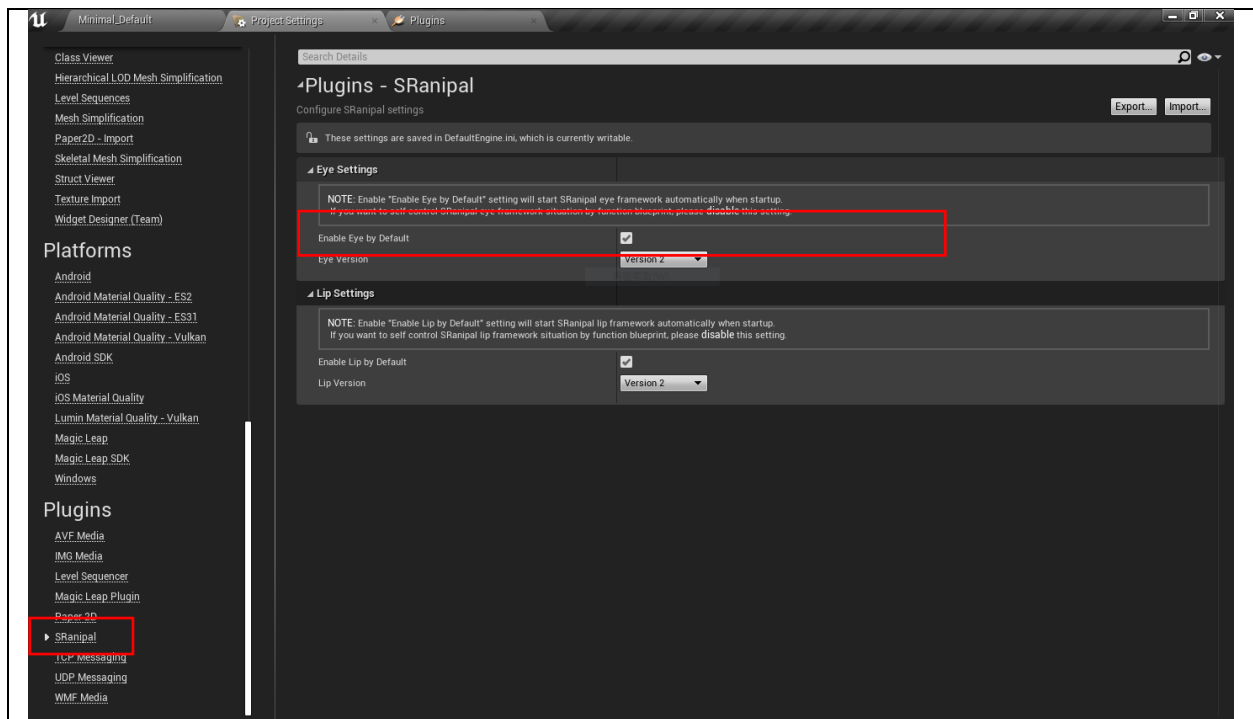
Enable the SRanipal Framework (You should ignore this step if you are using SRanipal after version 1.3.0.9.)

1. You can find the actor: **SRanipal\_Eye\_Framework** under: **SRanipal C++ Classes/SRanipal/Public**
2. Put the framework actor in your level.
3. Toggle “**Enable Eye**” in the actor’s Details Panel to enable the eye-tracking feature of the SRanipal SDK.
4. Explore the Eye features.

## Enable the SRanipal Framework in SRanipal v1.3.3.0

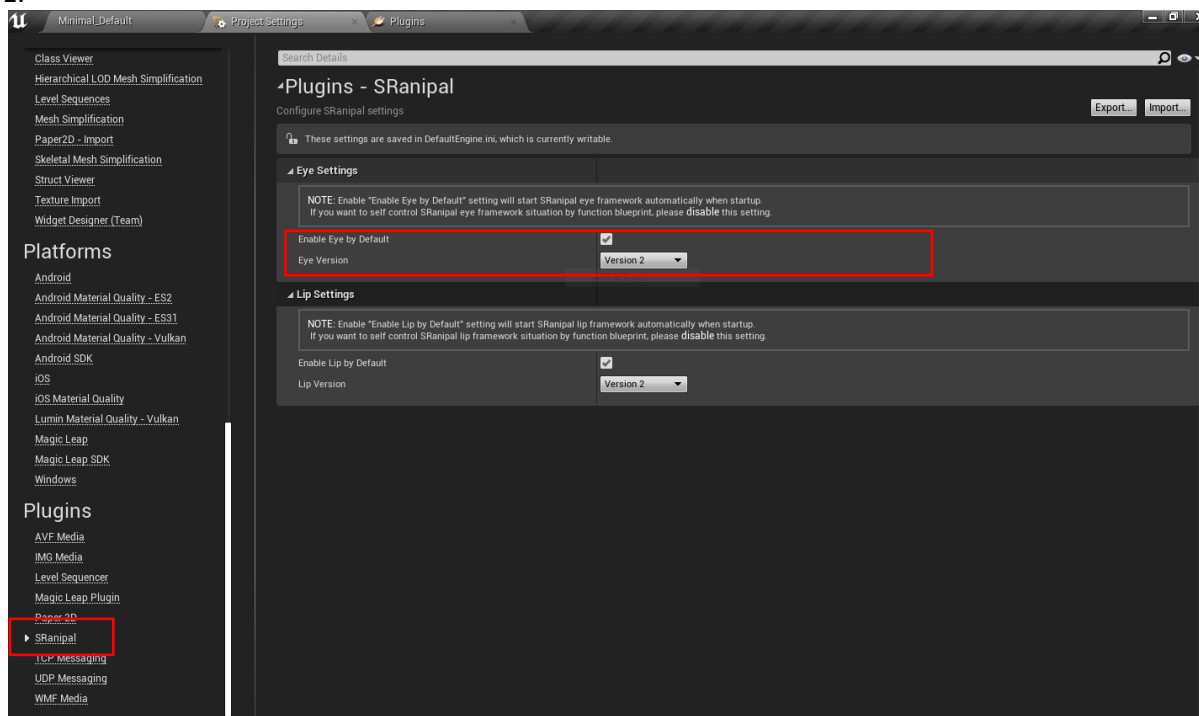
# In SRanipal v1.3.3.0, Eye Tracking is disable by default.

- If you want to use Eye tracking in **Editor**, you need to tick the “**Enable Eye by Default**” box in **Project Settings -> Plugins -> SRanipal** of your UE4 project.

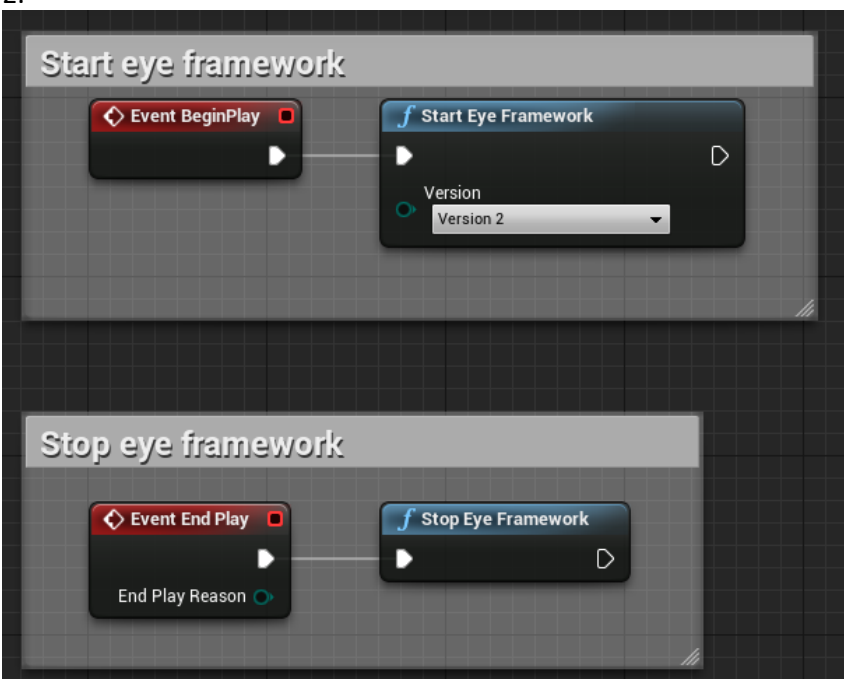


- If you want to use Eye tracking in a **Package Build**, you can **1. Tick the box “Enable Eye by Default” in Project Settings -> Plugins -> SRanipal** or **2. Call the “Start Eye Framework” function.**

1.



2.



## Eye relative features

### Focus

# Note that this features is called DartBoard after SRanipal v1.3.0.9.

To retrieve the vector point of the player's eye focus, refer to the actors: **SRanipal\_EyeFocusSample** in **SRanipal C++ Classes/SRanipal/Public**.



### Control Avatar' eyes

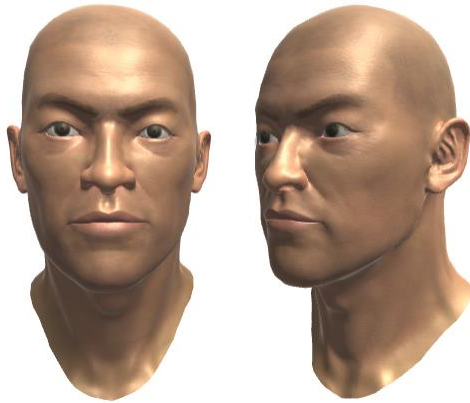
To reflect the player's eye rotation and eye lid movement on an avatar, refer to the sample actor **SRanipal\_AvatarEyeSample** in **SRanipal C++ Classes/SRanipalEye/Public**.



## SRanipal Compatible Avatar


### Overview


Through SRanipal's eye-tracking features, an avatar's morph targets values can be animated with the player's eye movement. A compatible avatar for SRanipal has 12 blendshapes for eye tracking, demonstrated in this section.



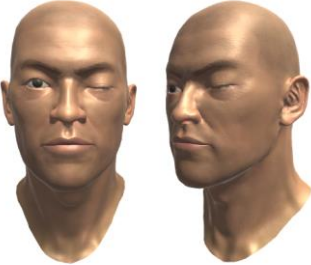
Sample Avatar

## Version 2: add 2 new morph

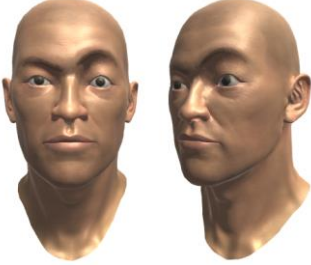
Eye_Left_squeeze	
	Description
	This morph close eye tightly when Eye_Left_Blink value is 100.

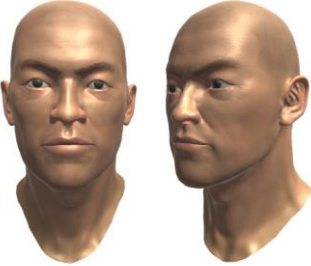
Eye_Right_squeeze	
	Description
	This morph close eye tightly when Eye_Right_Blink value is 100.

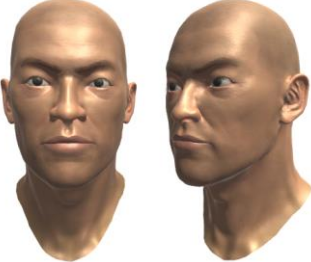
## Version 1: Eye Morph Target Examples

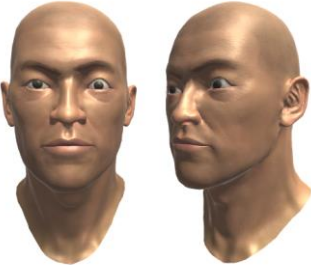
Eye_Left_Blink	
	Description
	This morph target influence the left eye's openness. With the higher value, the left eye will close more.

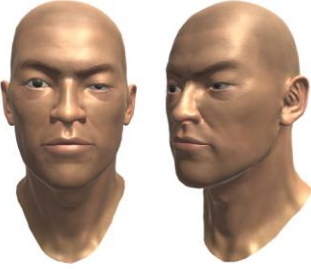


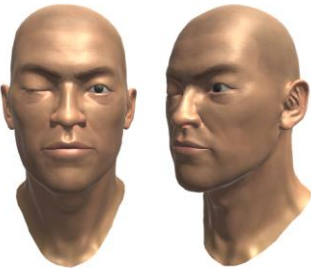
Eye_Left_Wide	
	Description
	This morph target will open avatar's left eye wide. With the higher value, the left eye will open more.

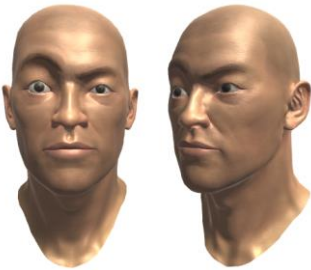
Eye_Left_Right	
	Description
	This morph target influence the muscle around left eye. It moves these muscle rightward.

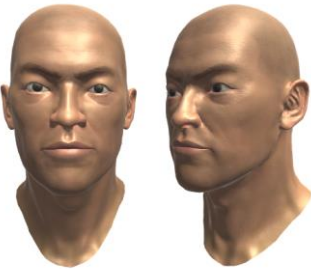
Eye_Left_Left	
	Description
	This morph target influence the muscle around left eye. It moves these muscle leftward.

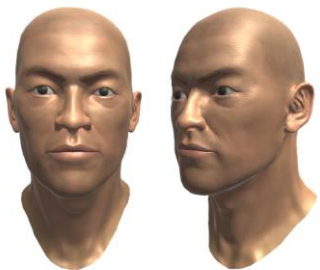
Eye_Left_Up	
	Description
	This morph target influence the muscle around left eye. It moves these muscle upward.


Eye_Left_Down	
	Description
	This morph target influence the muscle around left eye. It moves these muscle downward.

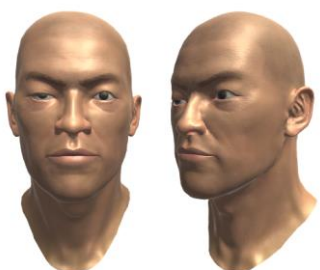
Eye_Right_Blink	
	Description
	This morph target influence the right eye's openness. With the higher value, the right eye will close more.

Eye_Right_Wide	
	Description
	This morph target will open avatar's right eye wide. With the higher value, the right eye will open more.

Eye_Right_Right	
	Description
	This morph target influence the muscle around right eye. It moves these muscle rightward.

Eye_Right_Left	
	<b>Description</b>
	This morph target influence the muscle around right eye. It moves these muscle leftward.

Eye_Right_Up	
	<b>Description</b>
	This morph target influence the muscle around right eye. It moves these muscle upward.

Eye_Right_Down	
	<b>Description</b>
	This morph target influence the muscle around right eye. It moves these muscle downward.