EYE ADVANCED

REALISTIC EYE SHADER FOR UNITY

OFFICIAL DOCUMENTATION

latest update: 1/12/2016

version 1.0.3

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WHAT IS EYE ADVANCED?

Eye Advanced is a realistic eye model and shader that brings advanced hyper realistic eye rendering to Unity. It includes 12 detailed eye textures, multiple LOD levels, Physically-based rendering, and advanced eye effects such as view-dependent parallex shift, pupil dilation, limbal ring shading, and adjustable specular.

Realistic Eye Rendering
12 texture options with advanced specular, parallax effects, dilation, and physically-based shading algorithms.

Multiple LODs
Automatically changes geometry and shader complexity as distance from eyes increases.

Advanced FX
View-dependant iris parallax, advanced GGX specular, pupil dilation, and more.

Customization
You have control over many aspects of eye rendering, such as eye color, pupil dilation, iris size and iris tint color.

GETTING HELP & CONTACT INFO

This documentation has been written with the goal of giving EyeAdvanced users an in-depth overview of the various components of the system. There are various other resources online in which you can find more information about EyeAdvanced. if you have specific questions, please head over to the Tanuki Digital users forum and browse the posts, or make your own:

http://tanukidigital.com/forum/

and of course if for any reason you would like to ask a question directly, please feel free to email us here:
konnichiwa@tanukidigital.com

EyeAdvanced Homepage:
http://tanukidigital.com/eyeadvanced/

EyeAdvanced Demo Scene:
http://tanukidigital.com/eyeadvanced/demo

This Documentation file:
http://tanukidigital.com/eyeadvanced/documentation

INSTALLATION and QUICK START

STEP 1. IMPORT BASE FILES INTO YOUR PROJECT

Go to: "Assets -> Import Package -> Custom Package..." in the Unity Menu and select the EyeAdvanced ".unitypackage" file. This will open an import dialog box. Click the import button and all the Tenkoku files will be imported into your project list.

STEP 2. ADD A EYE PREFAB TO YOUR SCENE

1) Drag the **EyeAdvanced** Eye prefabs located in the "/PREFABS" folder into your scene list.

EyeAdvanced_0 - High Resolution Eye prefab with advanced shader effects.
EyeAdvanced_1 - Medium Resolution Eye prefab with simplified shader effects.
EyeAdvanced_2 - Low Resolution Eye prefab with simplified shader effects.
EyeAdvanced_LOD - Automatically changes LOD from high to low based on camera distance.

SETTING UP ON A CHARACTER

For static characters you should be able to scale and position the EyeAdvanced prefab of your choice into the correct facial position. It's recommended to also make the eye prefabs child objects of your character object as well.

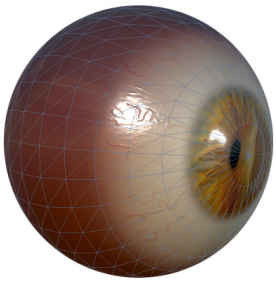
for animated characters it's usually recommended to scale and attach the EyeAdvanced prefab of your choice to the "eye" bones of your character model skeleton. (One eye prefab for the right eye and another eye prefab for the left eye). This is to ensure that the eyes move as expected with the rest of the character.

PREFAB DIFFERENCES

EyeAdvanced includes 3 different LOD levels for you to use in your projects. This includes 3 LOD levels for the eye mesh, but also includes 3 different shaders of increasing complexity. For ease of use EyeAdvanced has 4 prefabs that you can just drag directly into your project scenes.

EYEADVANCED_LOD

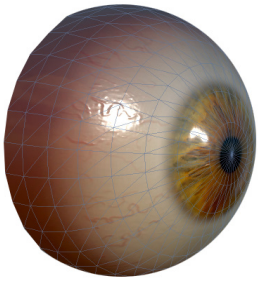
This prefab includes all the below prefabs in a predetermined Level-Of-Detail setup. It will automatically switch the higher/simpler LOD for the lower/complex version as you move closer to the camera.



EYEADVANCED_0

This the highest detailed prefab. It is a complete sphere and mimics an entire eyeball. The shader it uses is the highest complexity shader, with multiple Normal calculations, Advanced Specular and View-dependent Parallax.

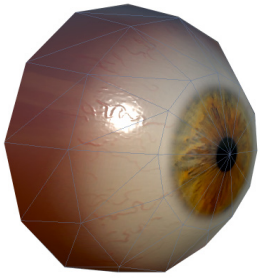
Triangles: 960
Advanced Shader



EYEADVANCED_1

This the medium detailed prefab. It is a half- sphere. The shader it uses is similar tot he lod0 shader, however it doesn't include the extra parallax calculations.

Triangles: 480
Simplified Shader

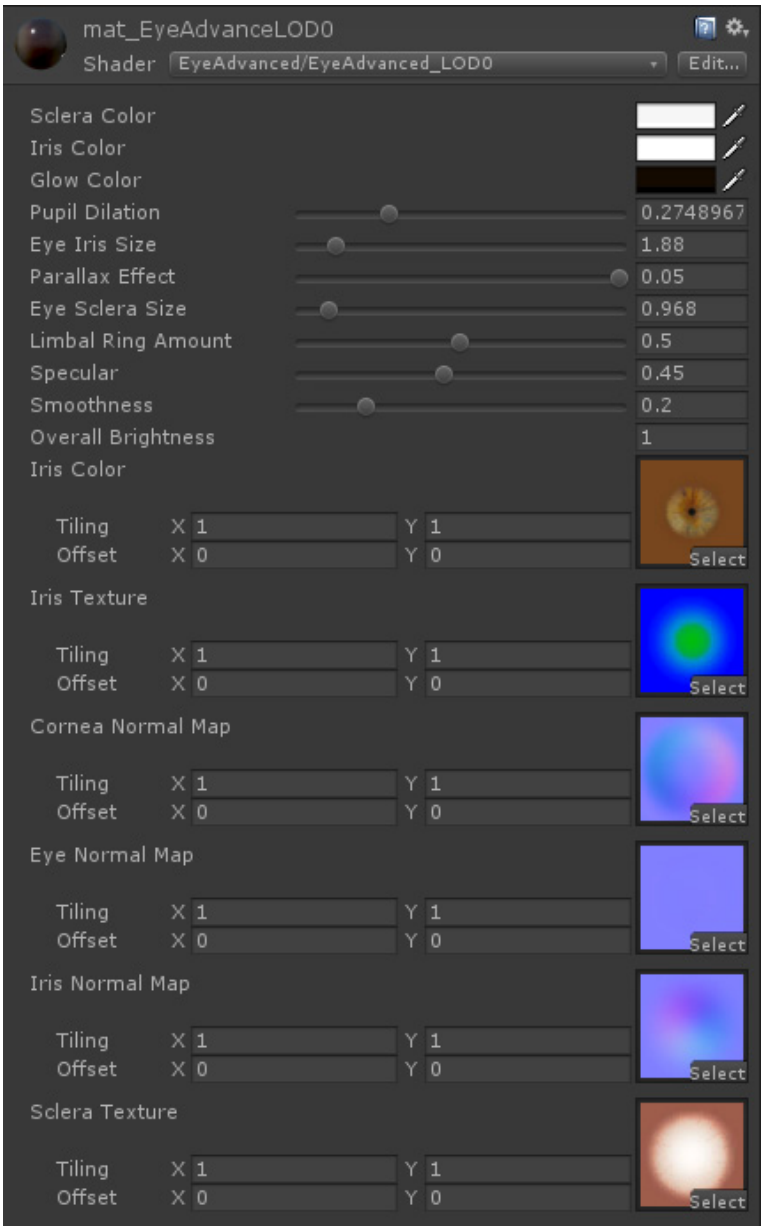


EYEADVANCED_2

This is the lowest detailed prefab. It is a half sphere and it's triangle detail level is much lower. This is a great alternative if your game characters are never viewed close-up. The shader it uses is simplified and doesn't include multiple Normals or Parallax calculation.

Triangles: 60
Basic Shader

SHADER SETTINGS



Color Settings

Sclera Color
Controls tint of the overall eyeball.

Iris Color
Controls tint of the iris.

Glow Color
Controls the Illumination color of the Iris.

Eye Attribute Settings

Pupil Dilation
The apparent dilation, or size, of the pupil.

Eye Iris Size
Controls the size relation of the Iris to the eyeball.

Parallax Effect
The offset effect of the iris when viewed at an angle.

Eye Sclera Size
Controls the overall size of the white of the eye.

Limbal Ring Amount
Controls the darkness of the outer corneal ring.

Specular
Controls size of specular reflection in iris area.

Smoothness
Controls overall rough/smooth of the eye surface.

Overall Brightness
Controls overall diffuse brightness of the eye.

Texture Maps

Iris Color
Controls pupil shape and iris texture.

Iris Texture
Mask texture used for special effect functions.

Cornea Normal Map
Normal texture for cornea. Scales with Iris Size.

Eye Normal Map
Normal texture for overall eyeball.

Iris Normal Map
Normal texture for Iris area.

Sclera Texture
Diffuse texture for the white/back of eyeball.