

YSA TOON

By Youssef Af

It's a Toon Shader/Cel Shading Shader for Unity URP

The aim of this shader is to make your characters or objects shading to look as close to real anime or as possible in real-time and fast.

You can use it for games, renders, illustrations ...

- **Asset Contents :**

Two Shaders (Shader Graph) simple to edit so you could add your own changes:

Toon Lit and **Perfect Outline**

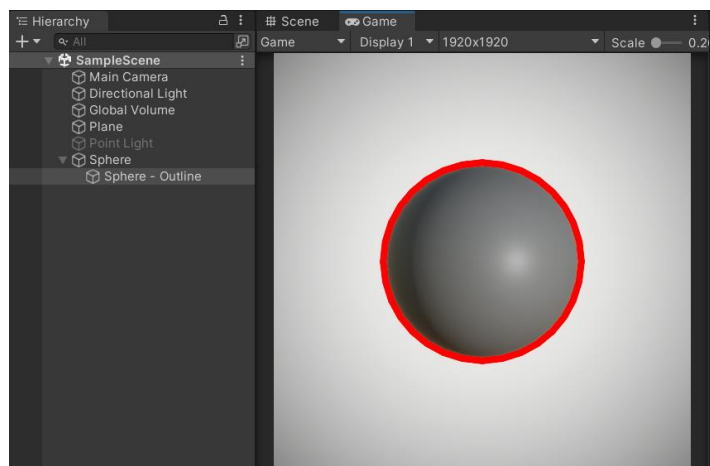
Also two examples, one using a Vroid character and the other using UnityChan

- **Outlines :**

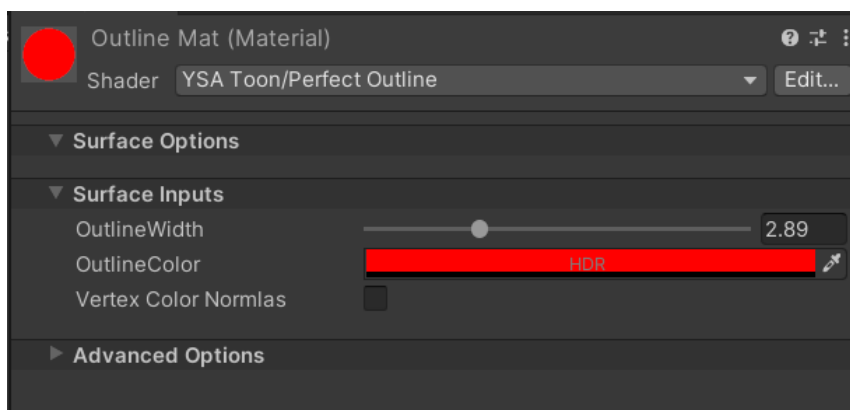
To create an outline for your object you just need to create a new material with the shader “YSA Toon/Perfect Outline” then duplicate your object and apply this material to it.

It would be something like this :

(Your object and the outline as a child)

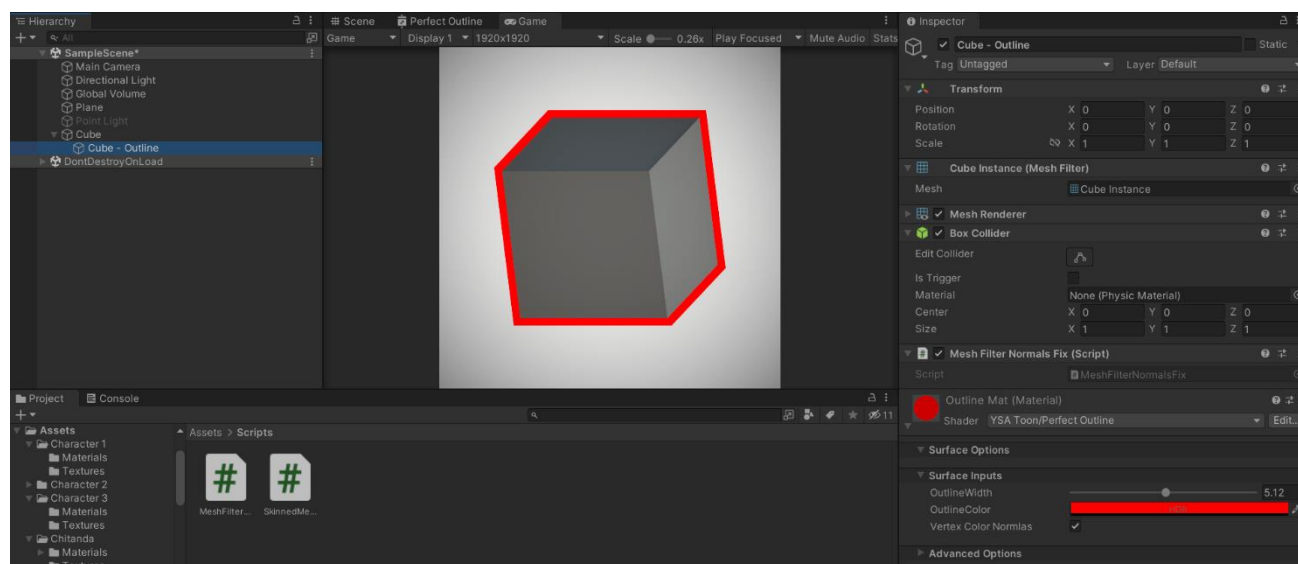
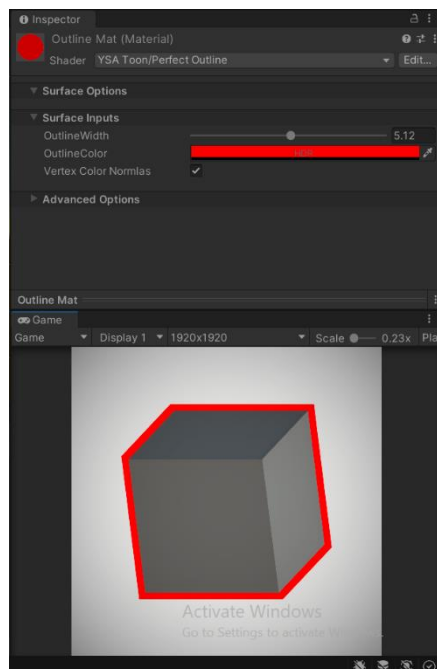
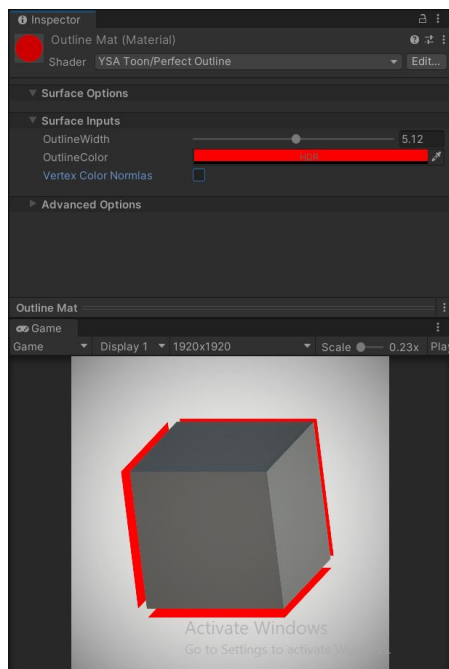


The properties are simple, one for the size the other for the color, and the last one is for what we are going to explain now.



Now for the most of the object that have sharp edges, you will have a problem with the outline cause it will be like a separated faces. For this, we made two simple scripts that could help you (**MeshFilterNormalsFix** and **SkinnedMeshNormalsFix**), they generate a new normals and store them in the Vertex Colors so the shader will use them to extrude the outline (by enabling the property “Vertex Color Normals”).

Add one of them to the outline object based on the type of your object then enter the Playmode to see the results.



Note: This script may not be good for some other objects and it can also delay the run of your game for highpoly meshes, so we advise you to not use it on games or you could use the same method to bake your own outline mesh and use it.

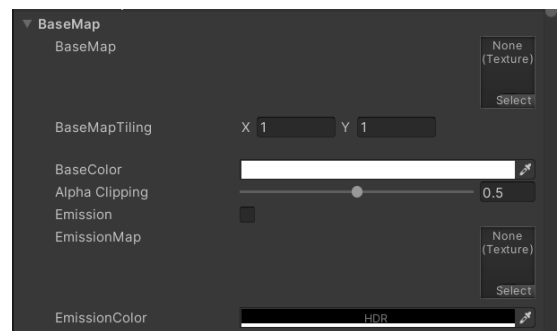
- **Shading :**

To start toon shading create a new material with the shader : “YSA Toon/Toon Lit” and let’s explain each part separately:

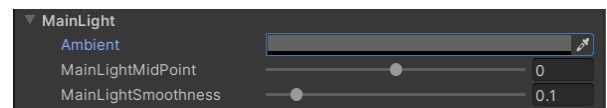
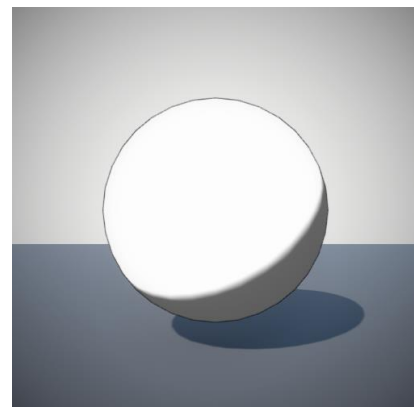
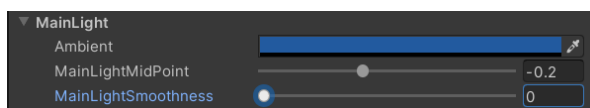
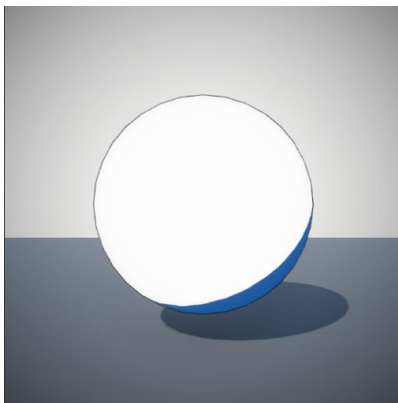
- ❖ Base Map:

I think it’s simple like the default lit material nothing to explain

Just a simple note, when you set the surface type to Transparent, the alpha channel of the BaseMap and the alpha of the BaseColor will affect the transparency of the object



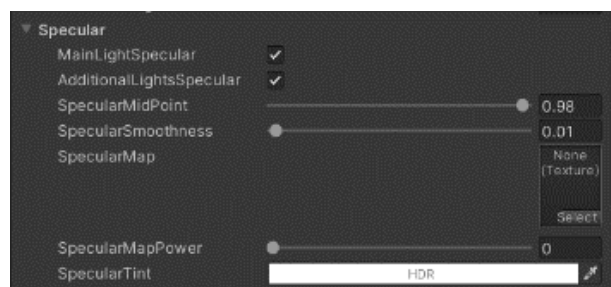
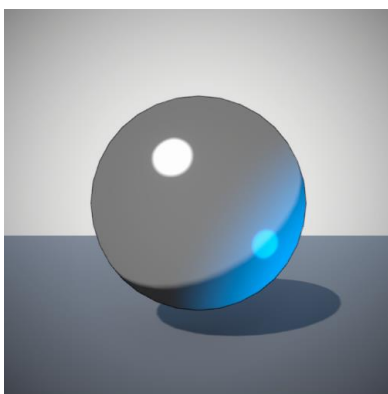
- ❖ Main Light :

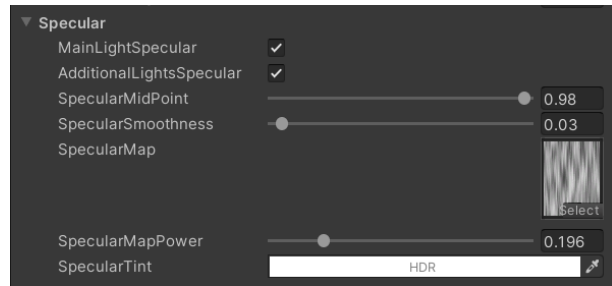
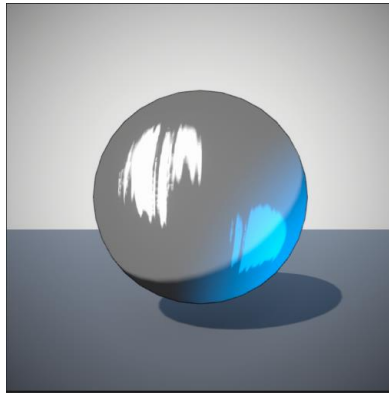


- ❖ Additional Lights:

The same concept as before just with a Boolean to enable and disable them if you don’t need them.

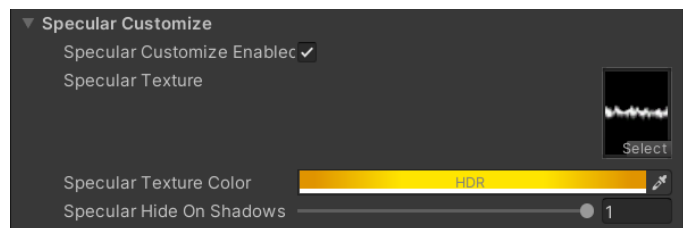
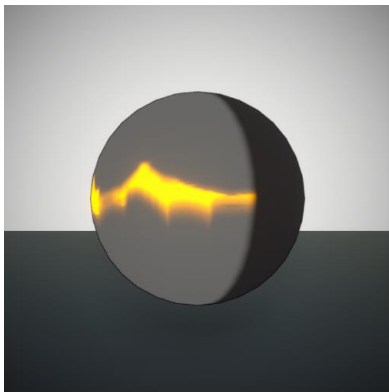
- ❖ Specular :



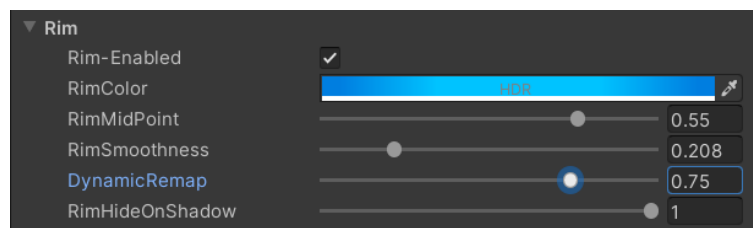
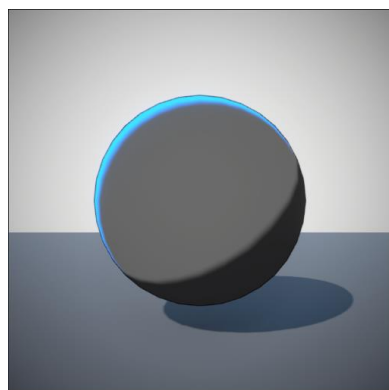
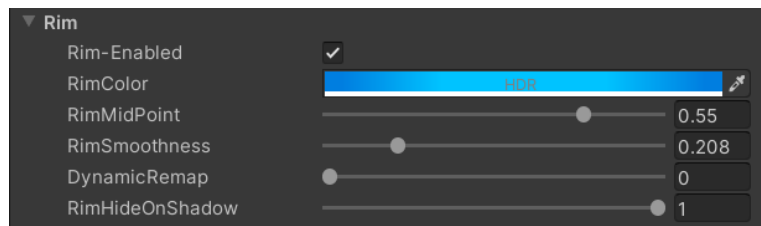
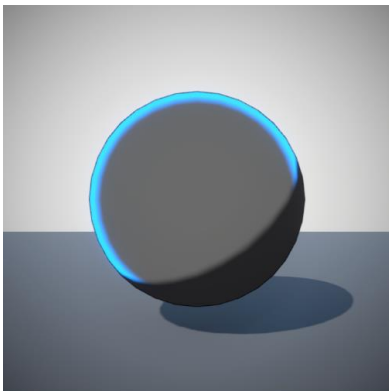


❖ Specular Customize:

It's just actually a simple texture that hides on shadow:

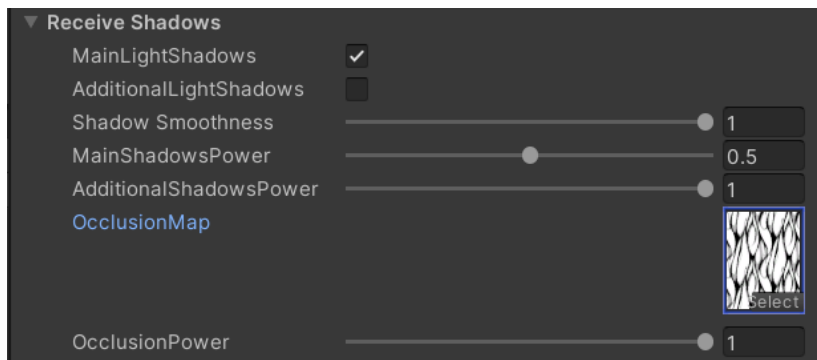
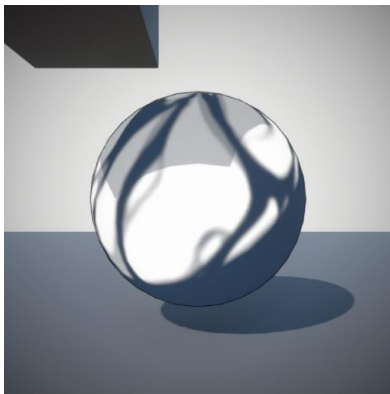
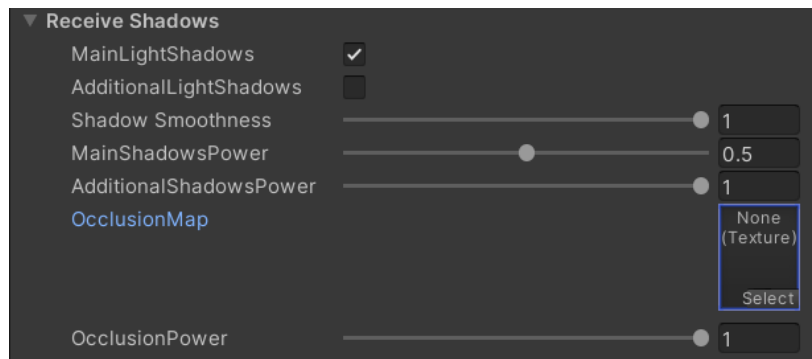
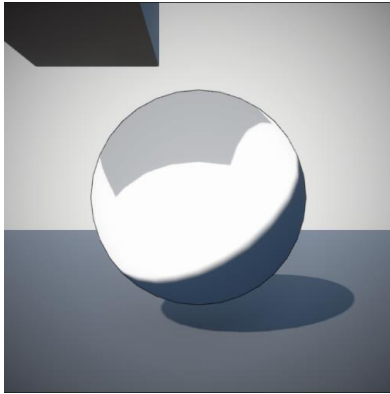


❖ Rim :



The DynamicRemap is good but it may not looks good for some objects so it's up to you.

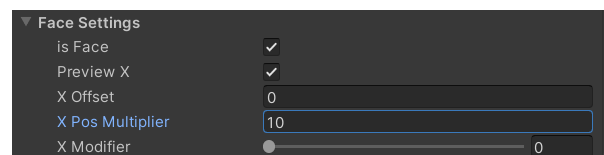
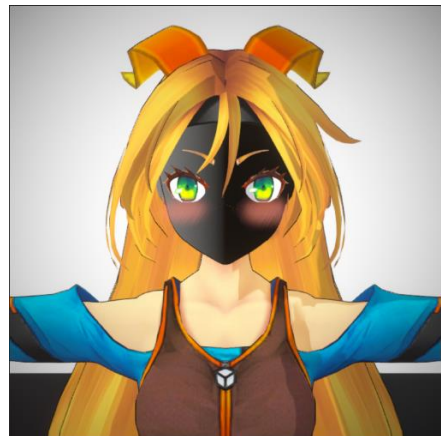
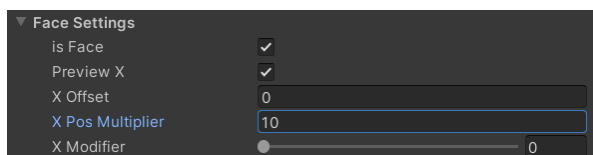
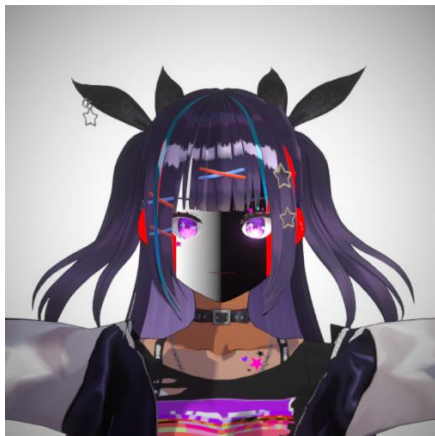
❖ Receive Shadows:



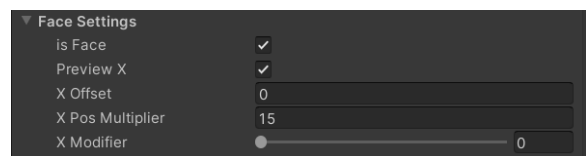
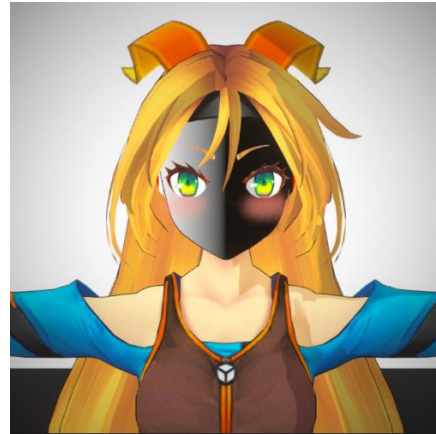
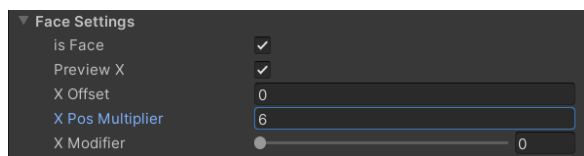
❖ Face Settings :

To fix the face normals using this technic you just need to follow these steps:

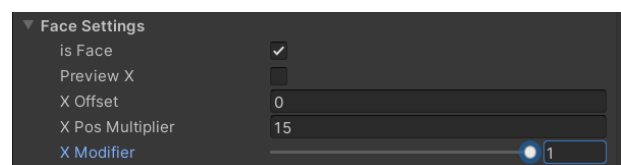
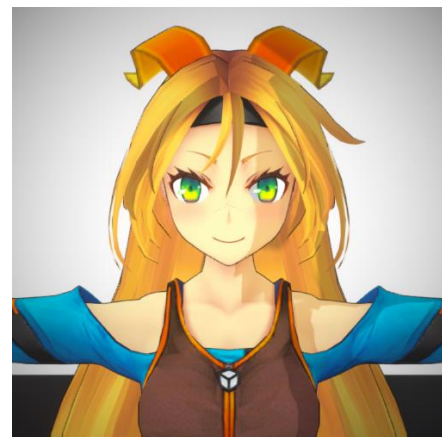
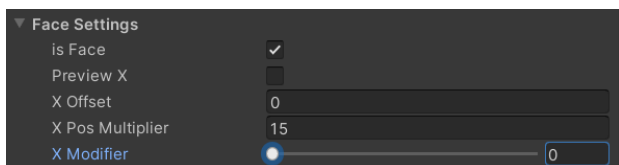
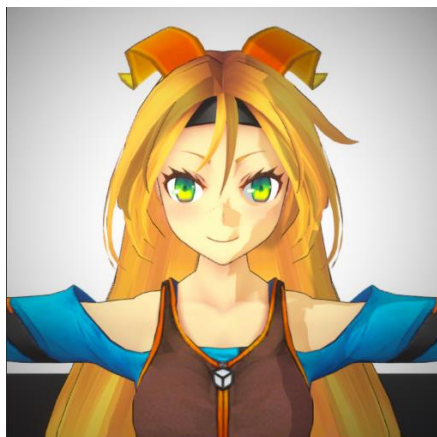
- First, after enabling “is Face” Boolean, you need to know which axe you are going to edit. For me, I suggest to edit one or two axes but you could do whatever you like. Enable “Preview X” Boolean then the model should looks something like this :



- Next step is to adjust the values to make the gradient fit the whole face (the red parts are just to show the limits of the gradient also it should not be perfectly fit) it should look something like this:



- Now turn off the “Preview X” Boolean, and adjust the “X Modifier” value to control the intensity of the smoothness (set it to 1 if you want full smoothing).

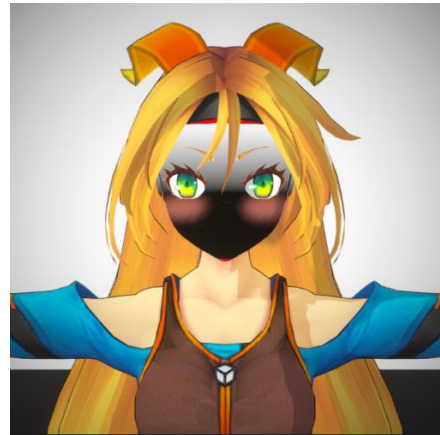


- And that's it ! You have smooth normals without editing the model, it's kind hard to use but it works perfectly

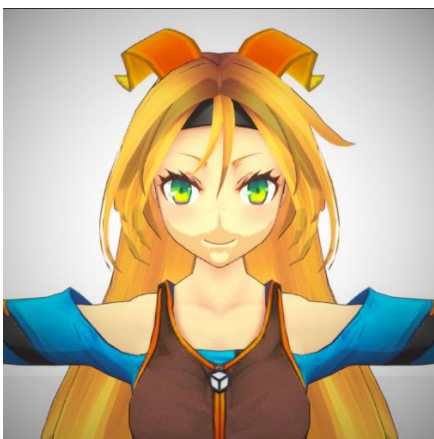
- You may need also to edit the offset value specially on the vertical axe :



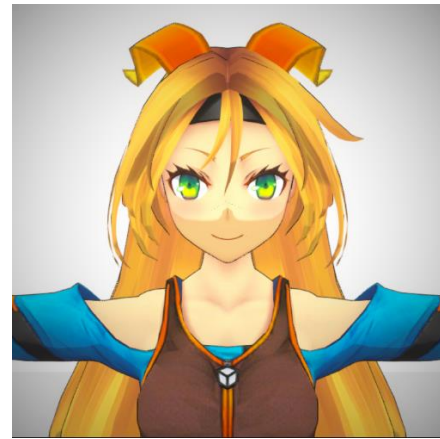
Preview Y	<input checked="" type="checkbox"/>
Y Offset	0
Y Pos Multiplier	10
Y Modifier	<input type="range"/> 0



Preview Y	<input checked="" type="checkbox"/>
Y Offset	-1.339
Y Pos Multiplier	13.6
Y Modifier	<input type="range"/> 0



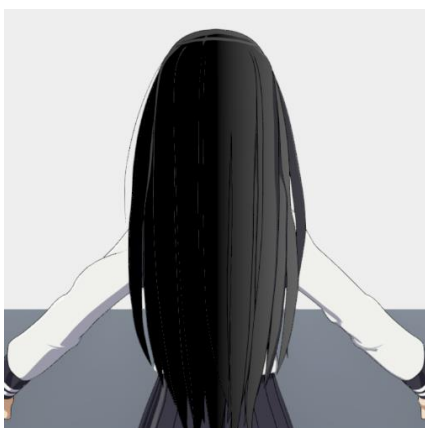
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Y Offset	-1.339
Y Pos Multiplier	13.6
Y Modifier	<input type="range"/> 0



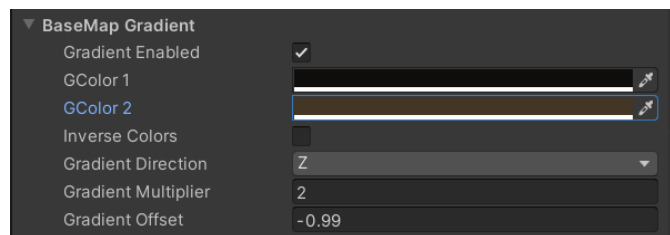
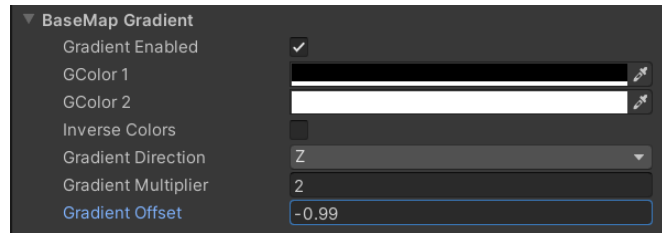
Preview Y	<input type="checkbox"/>
Y Offset	-1.339
Y Pos Multiplier	13.6
Y Modifier	<input checked="" type="checkbox"/> 1

❖ Base Map Gradient :

I leave it until now because it is like this one before, start with selecting two different colors (maybe black and white in the beginning) then adjust the values until you get what you are looking for then replace the start colors with the ones that you want:



▼ BaseMap Gradient	
Gradient Enabled	<input checked="" type="checkbox"/>
GColor 1	<input type="color"/>
GColor 2	<input type="color"/>
Inverse Colors	<input type="checkbox"/>
Gradient Direction	X
Gradient Multiplier	1
Gradient Offset	0



❖ Outline Fix :

It's just a value that shrinks the size of the model and in some cases it makes the outline looks better like this one here (look to the mouth):



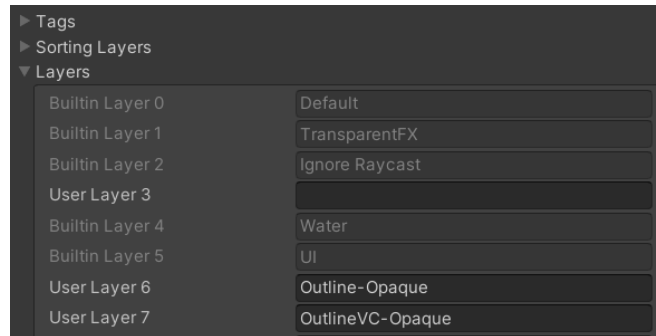
❖ Keywords :

They are keywords used by the URP, you don't need to edit on them.

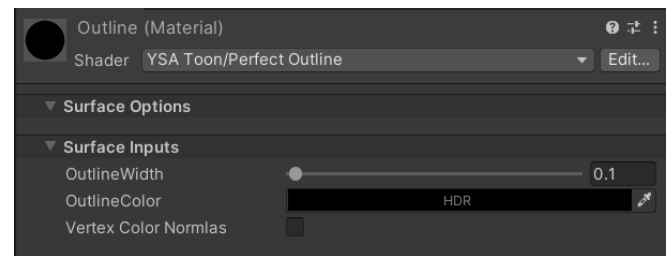
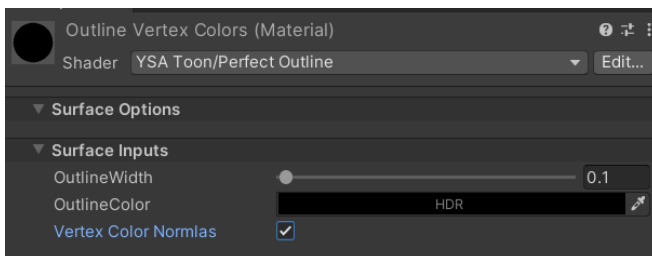
- **Important Tips :**

Of course it's impossible to apply the outline for each object, it will takes forever so here is a simple way to do it:

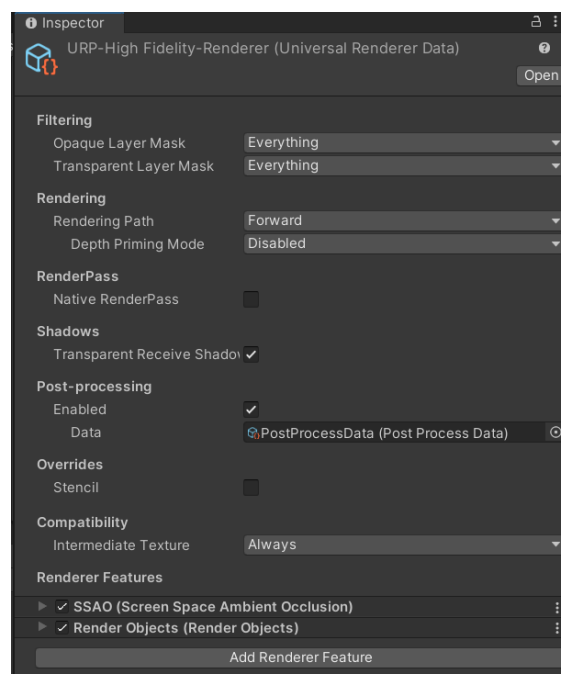
- Start with adding two layers (one for the simple outlines and the other for the outlines that use the vertex colors)



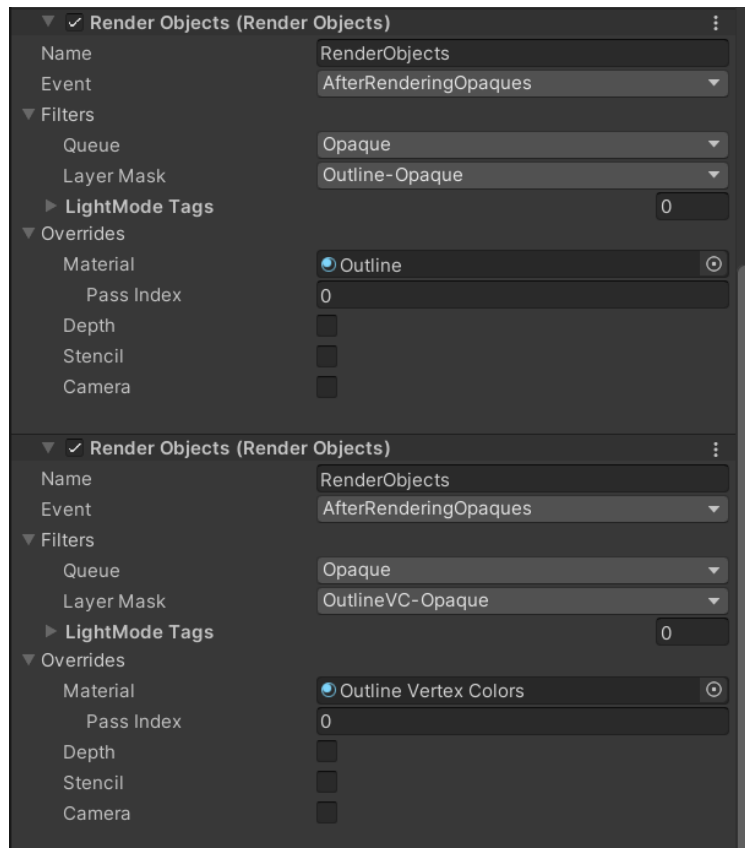
- Apply the layer on your objects.
- Create two outline materials using “Perfect Outline” shader, one use the vertex colors and the other don’t.



- Go to your Universal Render Data used by your project (you can find them in the “Settings” folder that you find when you create a URP Project)
- Click on “Add Renderer Feature” and select “Render Objects”



- Set the “Event” to “AfterRenderingOpaque”. Inside the Filters, set the “LayerMask” to your layer. Then inside Overrides, set the material to your outline material. Do the same to the other layer and you should have something like this :



- Now you could apply the outline to the objects without duplicating.

Hope this documentation helps you (I’m bad at writing so I used my one way of demonstrating the asset :)

If you still have any question or problem or you want to make or copy a specific Anime style just send me an email or dm me of my facebook and I will try my best to help you.

- Email: ysa.youssefaf2005@gmail.com

- Facebook: <https://www.facebook.com/youssef.af.ysa>

THANKS FOR BUYING !!