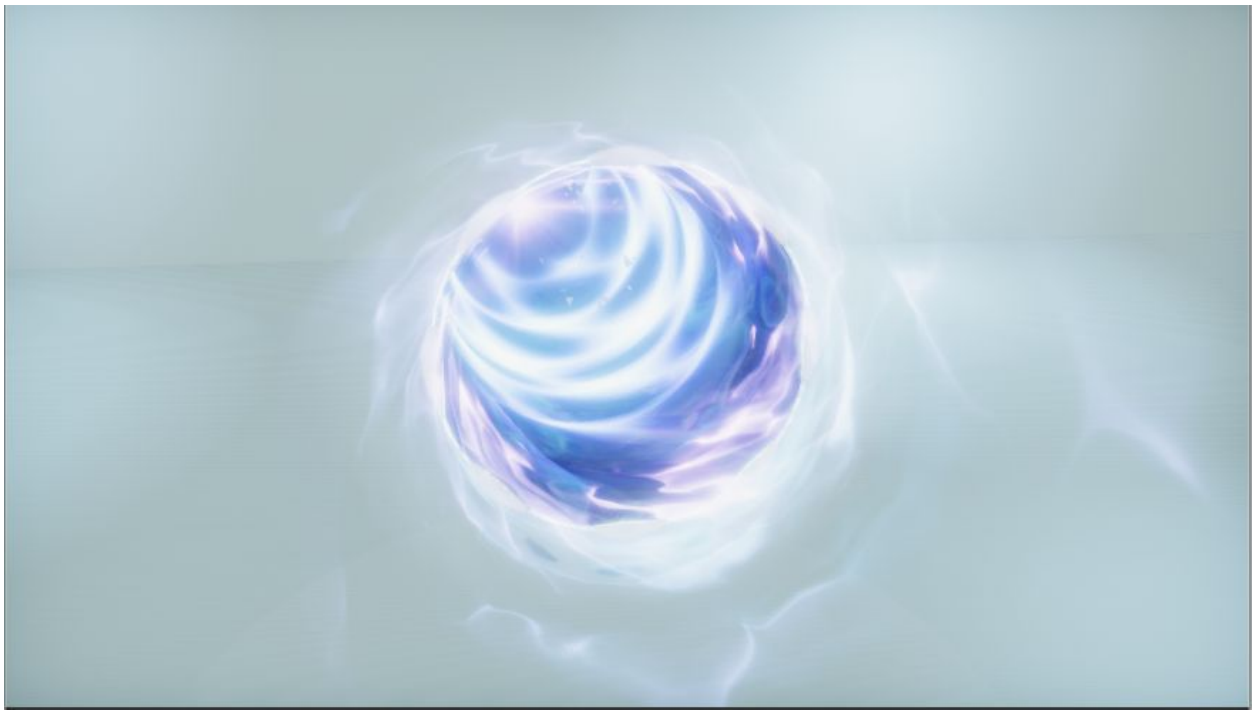


Stargate Portal - Documentation

Introduction:

Thanks for purchasing the Stargate Portal. This asset is a vfx package that comes with custom particle effects, shaders and animation to create a portal effect.

This documentation will guide you through the use and possible customization of the look of the effect.

Let's get started!

How to use:

This asset includes a single Prefab that can be drag and dropped into the scene and comes setup with an animator. The animator contains a single bool parameter "isOpen" that toggles the on/off states of the portal effect.

Shaders:

This pack comes with a couple of different shaders to create the full look of the portal. It also makes good use of the stencil buffer to discard unwanted parts of the rendering process early-on.

GateGlow.shader:

Used for creating a glowing ring to connect the individual segments of the gate.

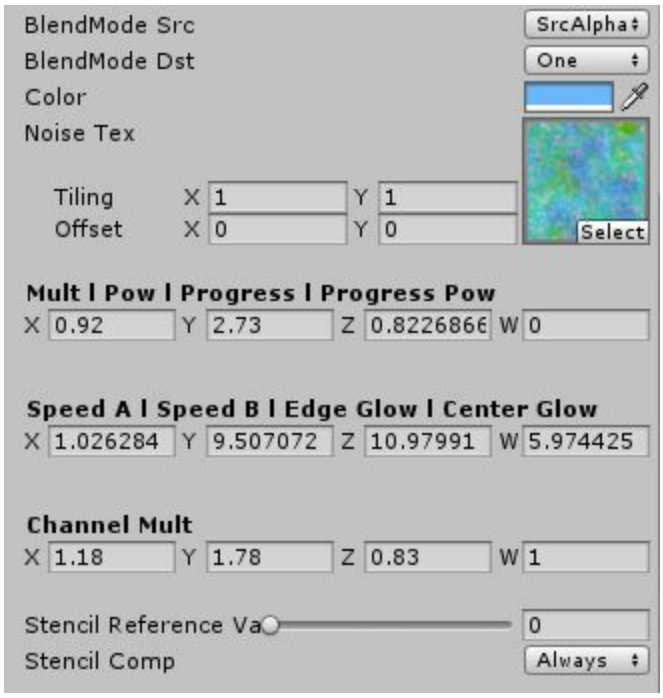
The shader uses a single noise texture that gets look-uped twice and scrolls over the surface to generate the flow. It has 3 vector4 parameters that have some functionality encoded into them.

You can globally fade this effect on and of by using the Progress parameter.

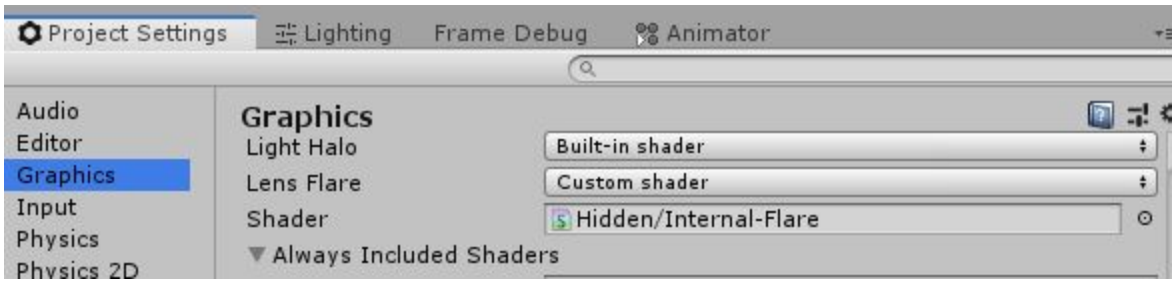
The first parameter offers Color multiplicator and Color Power to tweak the overall opacity and edge hardness of the effect. You can also control the blend-in progress of the effect and the edge hardness.

To control the Flow Speed use the Speed 1 and Speed 2 in the second vector4 parameter. You can also tweak the center and edge parts of the glow using this Parameters.

The third Vector4 blends individual channel influence of the texture into the final result (XYZW controls RGBA respectively).



Internal-Flare.shader: This is just a customization of the internal Unity flare shader and creates a stencil-masked flare inside the portal once it's open. It can be assigned in the project settings window of your project. The stencil for some reason doesn't work in the editor scene view (probably due to some rendering differences on Unity's side in the editor) but it works fine in the game view.



Particle Standard Unlit.shader:

This shader is a customized version of the Unity particle standard shader to support stencil buffering. It's parameters are entirely similar to the built-in one.

SpaceTunnel.shader:

This shader is the most complex in the project. It uses a cubemap for the deeper inside of the portal, and two noise textures to scroll and displace over the course of the evolution. It also has a lot of parameters to tweak the look apart from the colors:

Scroll Speed 1 XY and Scroll Speed 2 XY control two different scrolling speeds of the input textures.

Fresnel Mult Pow controls interior fresnel strength and power.

Flow Speed is the FlowDisplace texture's speed. Influence is it's distortion strength.

UV Distort XY and FlowDistort XY control the distortion of the grabpass, in either UV space and respective to the FlowDisplace texture.

Distort / Emission and Global Opacity can be tweaked to adjust individual contributions of the respective parts to the final effect. .z component is empty and could be implemented to drive another opacity control if needed.

Emission Mult Pow controls the hardness and strength of the emission pattern while Dissolve Progress and Dissolve Softness control the look of the closing effect.

Event Horizon Mult Pow controls a gradient between the start of the portal to the interior that gets blended with the rest of the effect. .zw are empty and can be implemented for additional control if needed.

Phase Stabilization Pattern Pow Mult, Progress and Alpha control the look of the glowy pattern that gets blown from the portal's center once after the portal established a stable open state.

BlendMode Src: SrcAlpha

BlendMode Dst: OneMinu

Cloud Color A: HDR

Cloud Color B: HDR

Emission Color: HDR

Texture

Tiling X 1 Y 1

Offset X 0 Y 0

Texture

Tiling X 3 Y 1

Offset X 0 Y 0

Flow Displace

Tiling X 1 Y 1

Offset X 0 Y 0

ScrollSpeed1 XY | ScrollSpeed2 XY

X -15 Y 10 Z 10 W 20

Fresnel Mult Pow | Flow Speed | Influence

X 1 Y 1 Z 3.88 W 1

UV Distort XY | Flow Distort XY

X -1.31 Y -1.5 Z 1 W 1

Distort Opacity | Emission Opacity | EMPTY | Global Opacity

X 1 Y 1 Z 1 W 1

Emission Mult Pow | Dissolve Progress | Dissolve Softness

X 1.6 Y 2.67 Z -0.5931396 W 0.33

Event Horizon Mult Pow | EMPTY | EMPTY

X 0.8740581 Y 0.2597353 Z 1 W 1

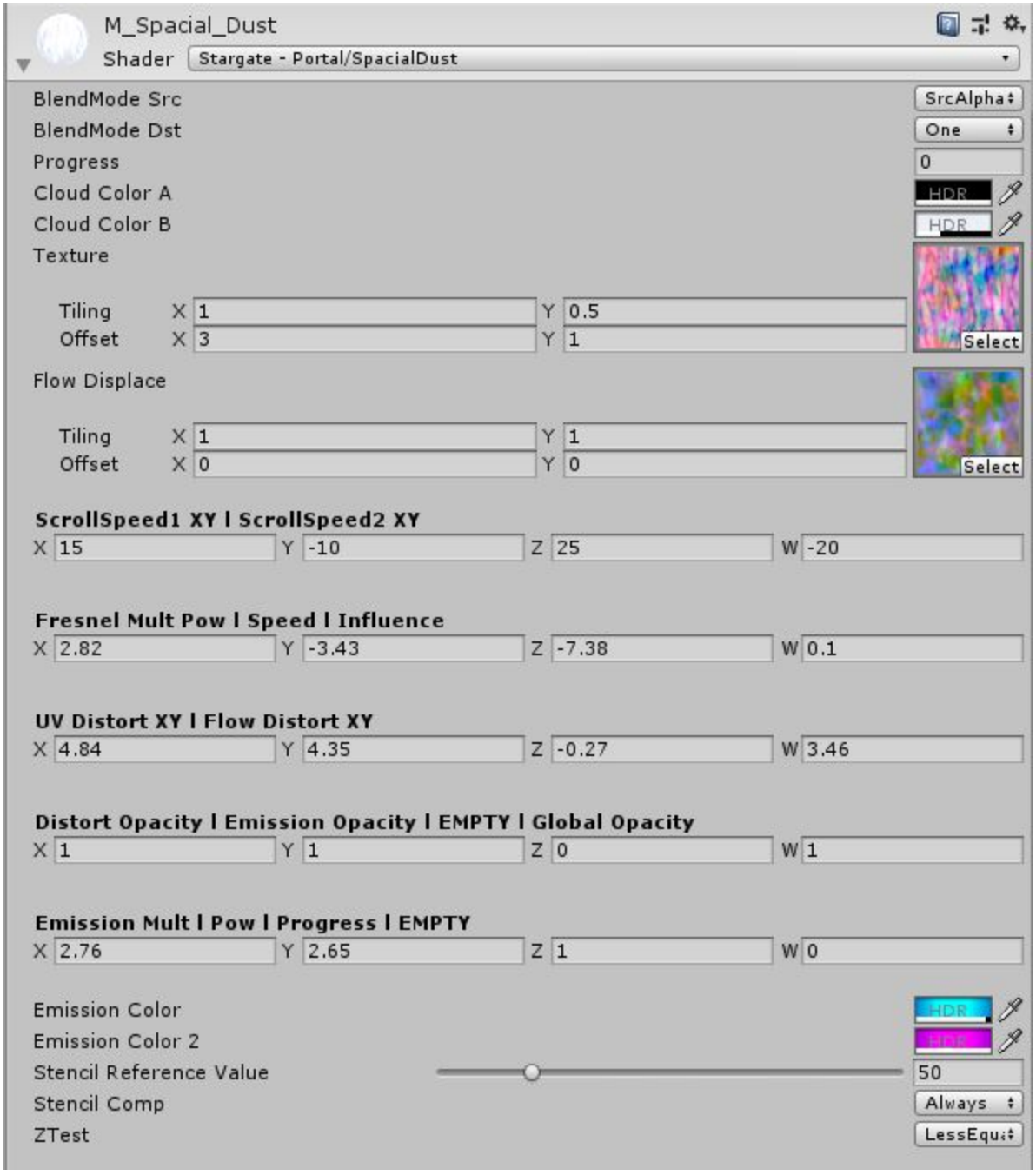
Phase Stabilization Pattern Pow Mult | Progress | Alpha

X 0.3419144 Y 5.106266 Z -0.8891557 W 186.0399

Stencil Reference Value 10

SpacialDust.shader:

Spacial Dust is a modified version of the Space Tunnel. It includes almost the same parameters but an additional two Emission colors and a global _Progress slider that can toggle the effect on and off by sliding it from 1 to 0.



Stencil_Only.shader: This shader sets up stencil masks.- You can set a stencil value that will be tested against.

Finally, StargateCG.cginc includes a couple of functions that are used by the other shaders. You can add more here if you wish to modify the package further.

Scripts:

This package includes a single script: RotateOverTime.cs, which is used to rotate and accelerate the portal over runtime. It can be used to rotate it in any axis, but in our case only Y-axis makes sense.

Closing words:

Once again thank you a lot for purchasing the Stargate Portal project. Your purchase helps me developing more asset packs and keep a high quality standard. Hope you enjoy using the assets to the fullest and will have an easy time using them. If there is anything I can help you out with, feel free to let me know. I'll also be happy to give your projects that use this pack a shout-out on social media if you tell me about them.

All the best from the creator of this pack,

Simon Kratz