DOCUMENTATİON

Setup

- Create a New Project 2D (URP)
  Or
- Simply create a 2D project and follow the steps below:
- Download Universal Render Pipeline from the Package Manager.
- Create a Settings folder.
- Right-click in the Project window, navigate to Create -> Rendering -> URP Asset (with 2D Renderer) inside the Settings folder.
- Drag the created URP Asset to Edit -> Project Settings -> Graphics -> Pipeline Settings
  And drag it to the bottom one too
- Edit -> Project Settings -> Quality -> Render Pipeline Asset.
- Right-click in the Hierarchy window, select Volume -> Global Volume.
- Within the Global Volume, create a new profile, click Add Override, and search for Bloom to select it.
- Within Bloom, enable Threshold and Intensity, and adjust the values according to your preferences. This feature will make bloom effects visible.

Note 1: To ensure shaders work correctly, slightly increase the outer borders of visuals and set the Mesh Type of visuals to Full Rect. For example, if you don't use a visual with a wide border for the Outline Shader, the outline won't appear. If the Mesh Type is set to Tight, the outline won't appear correctly.

Note 2: If you don't want to use a shared material, for instance, if you want multiple outlines in different colors and thicknesses for multiple characters, you need to add the Separate Materials script. The Separate Materials script roughly creates material instances for sprite renderer, trail renderer, line renderer, mesh renderer, image, and particle system, and it does this in the background.

Note 3: If you want to use shaders compatible with UI, make sure the Canvas Render Mode is set to World Space or Screen Space - Camera. It is not compatible with Screen Space - Overlay.

Compatibility:

Most materials can be used with Sprite, Image, Particle System, Trail Renderer, and Line Renderer. Ensure that the texture has a slightly wide border and is set to FullRect Mesh Type. You can use the Texture named MyLine for Line Renderer and Trail Renderer, or you can use your own texture.

Outline Shaders

Usage:

Drag and drop.

- Normal Outline Shader
- Only Outline Shader
- Always Visible Outline Shader

Usage:

If you want the outline of a sprite to always be visible, add a copy of this sprite as a child. Then drag and drop the OnlyOutlineMaterial onto the copied child object. Afterward, add the AlwaysVisibleOutline script to the child object. This script will assign the child object to a layer just below the top SortingLayer. (This can be modified within the code)

- Unified Outline Shader

Usage:

If you want a group of sprites' outlines to appear unified, add copies of these sprites as children. Then drag and drop the OnlyOutlineMaterial onto the copied child object. Next, add the UnifiedOutline script to the child object. This script will assign the child object to the layer below the bottom SortingLayer, offset by parent object order in layer - 1.order in layer. (This can be modified within the code)

Glow Shaders

Usage:

Drag and drop.

- Glow Shader
- Animated Glow Shader

Deformation Shaders

Usage:

Drag and drop.

- Blur Shader
- Pixelation Shader

Damage Shaders And Effects

Usage:

Drag and drop.

- Burning Shader
- Freezing Shader
- Poisoning Shader
- Electricity Shader
- Blooding Effect

Usage:

You can use the BloodingParticleSystem by dragging and dropping it. By changing properties like Emission, Life Time, Size, you can create various effects. Two prefabs are provided: in the first one, blood drops flow downwards in a cone shape, while in the second one, they spread in a circular shape.

- Freezing Effect

Usage:

You can use the FreezingParticleSystem by dragging and dropping it. You can create different effects using seven different snowflake textures.

- Fire Effect

Usage:

You can use the FireParticleSystem by dragging and dropping it. You can use the textures from the Flames folder with FireParticleSystem to create differently shaped flames.

- Bubble Pop Effect

Usage:

You can use the BubblePopParticleSystem by dragging and dropping it. You can assign a different shader to BubblePopMaterial if you wish. For example, you can use GlowShader to create glowing and bursting bubbles. BubblePopParticle is an animation effect using a sprite sheet. It consists of six sprites, so TextureSheetAnimation should be enabled for BubblePopParticle, with Tiles set to match your sprite sheet (default is x=3, y=2). FrameOverLifeTime should be 6 because our sprite sheet consists of six sprites. The BubblePopParticle prefab, by default, adjusts to the provided sprite sheet. If you use a different sprite sheet, adjust the values accordingly.

Transparency Shaders

Usage:

Dissolve and Hologram Shaders can be used by drag and drop. To use Teleport Shader, you also need to add a script named HeightAndPivot.

- Dissolve Shader
- Hologram Shader
- Teleport Shader

Distortion Shaders

- Fisheye Shader

Usage:

Can be used by drag and drop. Make sure the Wrap Mode of the texture you're using is set to Repeat. Also, for ease of use, it's recommended that your texture be somewhat square-shaped.

- Heat Distortion Shader

Usage:

Can be used by drag and drop. Create a new sorting layer for it, for example, HeatDistortion, and make this layer the top layer. Then, in URP 2D Renderer -> Camera Sorting Layer Texture -> Foremost Sorting Layer, select the sorting layer just below the top layer (if HeatDistortion layer is at the top, select the layer just below it). Unlike other shaders, to apply the HeatDistortion material, you need to assign it to another object that will be affected by it. Now, create a new 2D Square (or any other visual) in the scene and set its sorting layer to the top layer (HeatDistortion).

- Portal Shader

Usage:

Can be used by drag and drop. Not suitable for sprite sheets.

- Shockwave Shader

Usage:

Can be used by drag and drop. Not suitable for sprite sheets. You can use it to achieve a shockwave effect on a sprite (preferably a sprite with different colors for visibility).

- Ripple Effect

Usage:

Can be used by drag and drop. Similar to the Shockwave shader but implemented using ParticleSystem. You can create shockwaves of different sizes and speeds using properties like Duration, Start Lifetime, and Scale. Additionally, by adjusting the 3D Start Rotation, you can create entirely new effects.

- Water Reflection Shader

Usage:

Can be used by drag and drop. Not suitable for sprite sheets. You can understand how it works by using the prefab or create it from scratch. To create it from scratch, create a square in the scene, assign WaterReflectionMaterial to it, add WaterController script, and optionally add SeperateMaterial script. WaterController will add a camera inside your object. Choose a RenderTexture from the material (you need a different RenderTexture for each water; otherwise, all water will reflect the same area). Assign the chosen RenderTexture to the camera's OutputTexture. If you don't want everything to be visible in reflections, you can select desired layers from the CullingMask of the camera (make sure the light in the scene is visible from your camera during the CullingMask operation). You can create a mask to make the water reflection visible only within that mask. If you turn off the Reflection property in the material, there will be no reflection of the water. In this state, you can turn it into a lava, acid, or a simple mirror if you prefer.

Nature Shaders

- Flag Shader

Usage:

Drag and drop the Flag prefab into the scene. Then, assign the desired flag texture from the FlagTextures folder or any other location to the Flag (Sprite) variable in the FlagController script attached to the Flag prefab. Your flag is now ready.

- Wind Shader

Usage:

Select a Grass Texture from the WindTextures folder or any other visual, and add it to the scene. Then, add the WindMaterial. Your wind effect is now ready.

- Raining Effect

Usage:

Drag and drop the RainingParticle prefab into the scene. You can customize its size or the sprites used as particles as per your preference.

Color Shaders

Usage:

Can be used by drag and drop.

- Grayscale Shader
- Sephia Shader

Abilities Shaders

- Inner Shield Shader

Usage:

Can be used by drag and drop.

- Outer Shield Shader

Usage:

You can use the OuterShield Prefab by drag and drop. You can add patterns consisting of black and white colors, only blacks, or only whites to the SpriteRenderer component. You can add masking textures to the Mask property in the material section. The OuterShield prefab comes with a ShieldController script that works with OnTriggerEnter2D and OnCollisionEnter2D. You can customize how it reacts upon contact within the code. The objects that can trigger this are tagged as Projectile, but you can change it if needed. There's also a CirclePrefab attached to the MainCamera using the SpawnObject script, allowing you to instantiate it by clicking on the screen. This way, you can observe the effects of OuterShield upon contact.

- Sword Slash Effect

Usage:

A modified version of a TrailRenderer. You can adjust the values as per your preference. Giving it a shiny appearance can be achieved by using the GlowMaterial.

- Electricity Effect

Usage:

Drag and drop the TeslaCoil prefab into the scene. If you set the Shoot expression to true in the ElectricityController script, you'll see an electricity animation at 30fps. You can add new electricity visuals or adjust the fps value through the script. You can place the StartPoint wherever you want the electricity to start from. The Target gameObject specifies the end point of the electricity; you can move it to any position you desire. You can even use the script to determine the position of the Target gameObject, making it follow your mouse's position. You can assign the Shoot expression to a mouse button or a keyboard key, allowing it to be fired based on the input.

- Laser Shader

Usage:

Drag and drop the Laser or MyWeapon prefab into the scene. If you set the Shoot expression to true in the LaserController script, your laser will start working. You can also use your own weapon by attaching a child object named "Gun" to it.