Documentation: Sprite Mask Animation System

Developer: VOiD1 Gaming
Version: 1.0.0
Compatibility: Unity 2019 LTS or higher

1. Overview

The **Sprite Mask Animation** script is a lightweight, versatile tool designed to synchronize a *SpriteMask* component with a sprite animation sequence. This is particularly useful for UI effects, gameplay mechanics involving hidden reveals, or complex character masking where the mask needs to match the frame-by-frame movement of an animated character.

Key Features

- **Dual-Mode Operation:** Sync with an existing *SpriteRenderer* (Animator-driven) or use a custom sprite array.
- **Highly Tweakable:** Exposed variables allow for easy adjustment within the Unity Inspector.
- **Performance Optimized:** Uses Coroutines to handle frame updates efficiently.
- **Well Commented:** Clean C# code for easy modification by developers.

2. Setup Instructions

Method A: Deriving from an Animator

Use this method if you already have a *SpriteRenderer* being animated by an Animator Controller and you want the *SpriteMask* to mirror those frames exactly.

1. Attach the *spritemaskanimation.cs* script to your GameObject.
2. Enable the **Derive From Sprite Renderer** checkbox.
3. Drag your existing **Sprite Renderer** component into the "Sprite Renderer" field.
4. Drag the **Sprite Mask** component into the "Sprite Mask" field.

Method B: Custom Sprite Array

Use this method if you want to run a standalone mask animation without an Animator.

1. Attach the *spritemaskanimation.cs* script to your GameObject.
2. Ensure **Derive From Sprite Renderer** is unchecked.
3. Expand the **Sprite Array** and define the size (e.g., 5).
4. Drag your individual Sprite assets into the array slots.
5. Set the **Time Between Frames** (e.g., 0.1 for 10 FPS).
6. Assign the **Sprite Mask** component.

3. Component Properties

Property	**Type**	**Description**
Derive From Sprite Renderer	bool	If true, the mask follows the Sprite Renderer's current frame. If false, it uses the Sprite Array.
Sprite Renderer	Reference	The source Sprite Renderer (required if Derive is true).
Sprite Array	Sprite[]	A list of Sprites to cycle through manually.
Sprite Mask	Reference	The target Sprite Mask to be animated.
Time Between Frames	float	Delay (in seconds) between frames when using the Sprite Array.

4. Technical Details

The Logic Flow

The script runs on a while(true) loop inside a Coroutine (*AnimateSpriteMask*).

- **Manual Mode:** Iterates through the sprite[] array using a for loop and pauses for the specified *TimeBetweenFrames*.
- **Synced Mode:** Checks every frame if the *SpriteMask.sprite* matches the *SpriteRenderer.sprite*. If they differ, it updates the mask to ensure perfect synchronization.

Code Snippet (Core Loop)

C#:

```
if(spritemask.sprite != spriteRenderer.sprite)
{
    spritemask.sprite = spriteRenderer.sprite;
}
```

5. Support and Contact

If you encounter any issues or have questions regarding this asset, please feel free to reach out to us:

- **Website:** void1gaming.com
- **Support Email:** official@void1gaming.com

Note: A demo scene is included in the project files to help you get started quickly. Please refer to the "Scenes" folder to see the script in action.