'JiggleSystem' - Documentation

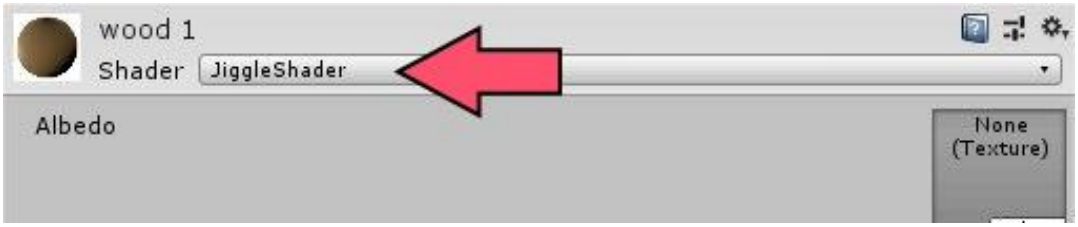
##

QUICK START:

- This documentation form is made for both the LITE version as well as the PRO version of 'JiggleSystem' / 'JiggleShader'.
LITE version users please note that only the 'JiggleShader' is available to you in the LITE version, you can skip ahead to the 'JiggleShader' section.
PRO version users please note that ALL the features mentioned here are available to you!

- The 'JiggleShader' and 'JiggleSystem' support both LWRP and HDRP, you might need to import the 'ShaderGraph' package to your project. To do so, go to Window > Package Manager > select 'ShaderGraph Preview' from the list and click the download / install button on the top right corner of the window.

- To start jiggling materials in a battle royal style, first set the shader of your materials to 'JiggleShader'



Then when you want to jiggle the material, just call the method 'JiggleSystem.JiggleMaterial' from your script and give it the necessary parameters, it's that easy!

```
JiggleSystem.
    JiggleMaterial(
    ren,         //renderer that holds the material/s you wish to jiggle
    hit.point);  //center jiggle position
```

You can customize almost anything, from 'JiggleSpeed' to 'JiggleDirection', but you don't have to, you can pass to the 'JiggleSystem' the renderer on which the material is sitting on, as well as the position of the center of the jiggle (pickaxe collision position, or raycast hit point, depending on your game) and that's it all the materials on the provided renderer will jiggle.

- Keep in mind that you can call the method 'JiggleSystem.JiggleMaterial**s**' in order to jiggle all the materials in all the renderers in a spherical radius around a certain world position. Please note that in order to use this method, all the renderers must have colliders on their game objects, otherwise the 'JiggleSystem' won't be able to detect them. (The colliders can be set to IsTrigger = true).

```
JiggleSystem.
    JiggleMaterials(
    1f,             //radius in which all materials will jiggle
    hit.point);     //center jiggle position
```

- The 'LeftClickToJiggleSampleScript' script demonstrate the use of the 'JiggleSystem', to better understand how to correctly implement the jiggle effect in your game please read this documentation all the way through! :)
- You can safely delete the 'LeftClickToJiggleSampleScript' script, it is not needed for the 'JiggleSystem', though it is recommended to go through the code if you don't feel comfortable with raycasts in Unity.

##

JiggleSystem's METHODS/ARGUMENTS/OVERLOADS:

'renderer': The renderer on which the material/s are sitting on.

'GameObjectOfTheMaterial', and 'material': Instead of passing a renderer you can pass an active game object and a single material you wish to jiggle, the game object doesn't have to be the same game object that contains the material, it can be your game manager, or any other active game object in your scene.

'CenterPointOfJiggle': The position in world space from which the material will jiggle.

'JiggleSpeed': The speed in which the material will jiggle back and forth.

'InitialJiggleStrength': The strength at which the material will start jiggling.

'DecreaseRateOfJiggleStrength': The rate at which the jiggle strength will be decreased by, over time. (The higher this value, the faster the jiggle will stop and the object will go back to its natural form).

'DirectionOfJiggle': The direction in which the material will jiggle towards, for example: Vector3.right, or Vector3(.5f,.5f,0f), etc...

'RadiusOfInfluence': The radius of the influence of the jiggle in object space.

PLEASE NOTE:
- If you only want to customize some of the values when calling 'JiggleSystem.JiggleMaterial' / 'JiggleSystem.JiggleMaterials', just set the parameters you don't want to change, to 0, and they will be set to default values already set in the JiggleSystem, but be sure to check that these default values work good on your objects and game before trusting them.

##

'JiggleShader' SHADER PROPERTIES:

1. STANDARD PROPERTIES:

'Albedo': The texture you wish to apply to the material.

'Albedo Tint Color': The tint color you wish to apply to the material. (If you want solid color, set the Alpha channel to 255f and leave the 'Albedo' empty).

'Albedo Tiling': The tiling of your albedo texture.

'Normal': The normal map of your material.

'Normal Tiling': The tiling of your normal map.

'Emission': The emission color of you material. (Leave Hex at '000000' for no emission).

'Metallic': The metallicity of you material.

'Smoothness': The smoothness of your material.

'Occlusion': The occlusion of you material.

2. JIGGLE PROPERTIES:

This part is intended for LITE version users, but PRO version users can also make use of it. LITE version users have purchased only the 'JiggleShader' without the 'JiggleSystem', here's a list of the IDs and names of the exposed properties that control the jiggle effect in the JiggleShader, so that you can access these properties (from your script, or from your editor) without the 'JiggleSystem'.
Please note: PRO users can also access these jiggle properties via their IDs, although it is much easier to access these properties through the JiggleSystem's methods.

'_center_of_jiggle' / 'Center Of Jiggle': The position in world space from which the material will jiggle.
'_jiggle_speed' / 'Jiggle Speed': The speed in which the material will jiggle back and forth.

'_direction_of_jiggle' / 'Direction of Jiggle': The direction in which the material will jiggle towards, for example: Vector3(1f,0f,0f), or Vector3(.5f,.5f,0f), etc...

'_radius_of_influence' / 'Radius of Influence': The radius of influence of the jiggle.

'_current_jiggle_strength' / 'Current Jiggle Strength': The current strength of the jiggle, change this value to slow down or speed up the jiggle.

##

'LeftClickToJiggleSampleScript' SCRIPT:

This script is used only by the 'SampleScene', and can be deleted, it is NOT needed for the 'JiggleSystem'.

In this script the 'Update' method detects when the user clicks on the left mouse button, in which case a raycast will be sent from mouse position in screen space, to world position, and in case of a hit, a call to 'JiggleSystem.JiggleMaterials' will be made, and all the materials around the hit point will jiggle.
You can play the 'SampleScene' and see both the script above and the 'JiggleSystem' in action.

##

FAQ:

Q: Why are my materials pink?
A: Your project doesn't have the 'ShaderGraph' package installed, go to the package manager to download and install it in your project. To do so go to Window > Package Manager > select 'ShaderGraph Preview' from the list and click the download / install button on the top right corner of the window.

Q: Why aren't my objects jiggling? / They are moving on single axis / Not moving at all?
A: You changed one or more of the values of the 'JiggleShader' to a higher/lower than needed values, which caused this problem. Try changing some of the values, focus on the 'InitialJiggleStrength' / 'Current Jiggle Strength' and the 'RadiusOfInfluence' / 'Radius of Influence', and of course see that the position you provide to the 'JiggleSystem' / 'Center of Jiggle' / 'CenterPointOfJiggle' is close enough to the object to make it jiggle. Too big of a colliders can also cause the collision point (which is probably also your 'CenterPointOfJiggle') to be too far from the actual material which will not jiggle the material due to the jiggle point being far away.

Q: I have other question that's not mentioned here, how can I contact you?
A: You can contact us via our contact form via our website: StudiosGG.com , you can also contact us via e-mail: studiosgg@yahoo.com

##

Credits:

JiggleShader: GG Studios (StudiosGG.com)
JiggleSystem: GG Studios (StudiosGG.com)

FPS Simple Controller: GG Studios (StudiosGG.com)
Xmas Models: kenney.nl (No Copyrights / Public Domain / CC0)

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