Texture Studio by Rizot Documentation

Overview:
1. Stamp Packer
2. Displacement
3. Rotation
4. Scale
5. Output

<u>**Important Notes :**</u>
- **Use the Stamp Radius value carefully as it can create a lot of computation and lead to computer crash if not used right.**
- **The Preview Result button is the one responsible for doing the calculations. The Save Result as File only does the saving part. Make sure to click on Preview Result before Save Result as File !**

1. Stamp Packer

● Channels Setup

The first part of the stamp packer is the destination channels set up. Each texture will be sent to the corresponding channel of the output texture. You can select underneath which channel of each texture will be used for the output channel. You also have the option to invert the texture, meaning that for each channel a 1-value will be applied, turning 0 into 1 and 1 into 0.
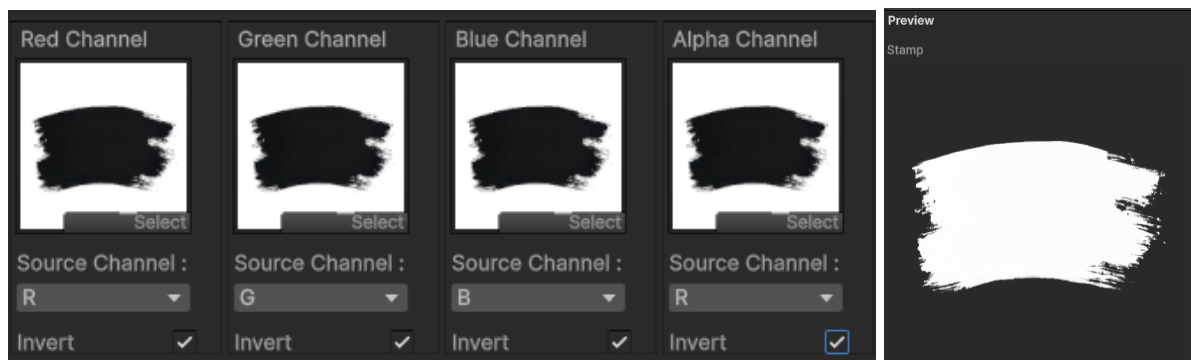

In this example, The first texture's red channel will be used for the red channel, the second texture's green channel will be used for the green channel, the third texture's green channel will be used for the blue channel, and the fourth texture's red channel will be used for the alpha channel of the output texture. Here, all textures have been inverted, making the brush white with transparent exterior; as shown above.

● Stamp Behavior Setup

This section controls how the stamp is sampled in the stamping (texture bombing) process.
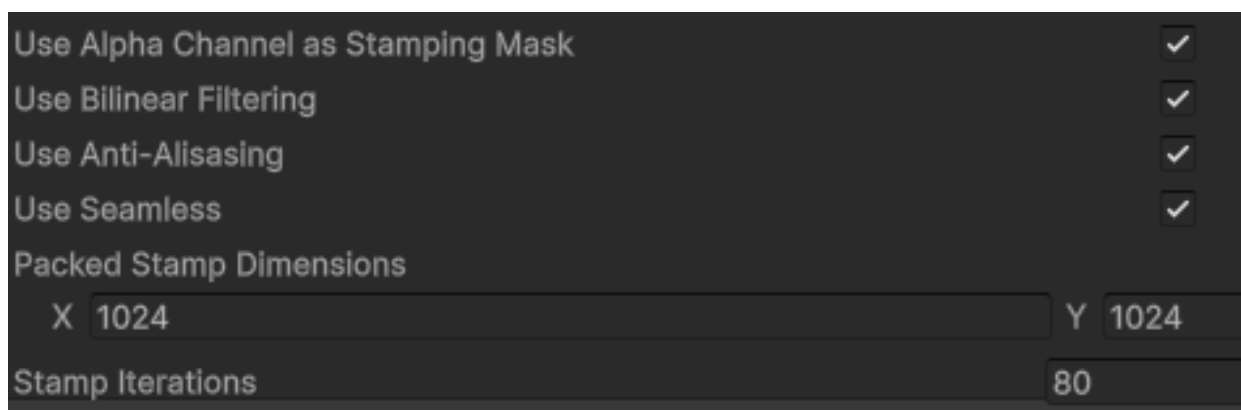
- **Use Alpha Channel as Stamping Mask** will tell the program if it should use the alpha channel as a visibility controller. This is useful if you are stamping a partially transparent image, like in our example. If it's set to **false**, the texture will override everything when sampled. In the example below, on the left we can see that stamps overlap without overriding previous stamps (except were it was supposed to) because **Alpha as Stamp Mask** was set to **true,** and on the right we can see the textures border overriding because it was set to **false.**
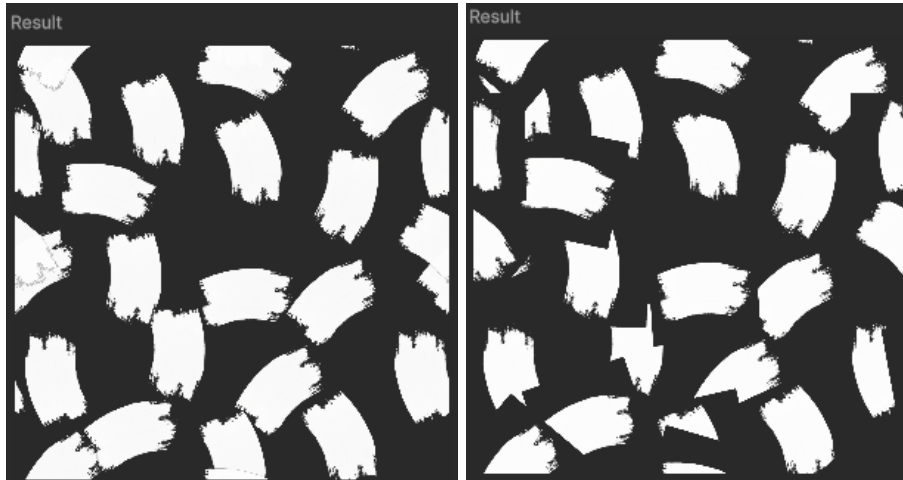
- **Use Bilinear Filtering** and **Use Anti-Aliasing** are here to improve the visual quality of the stamp, most notably when rotated and upscaled. **It is recommended to turn these off if you are working with very small stamps/output, like 32x32 and below, since they both rely on averaging values.**

- **Use Seamless** is here to make a stamp appear on the opposite side of the texture when it is sampled outside of the texture. This feature allows for seamless tiling, as shown below.
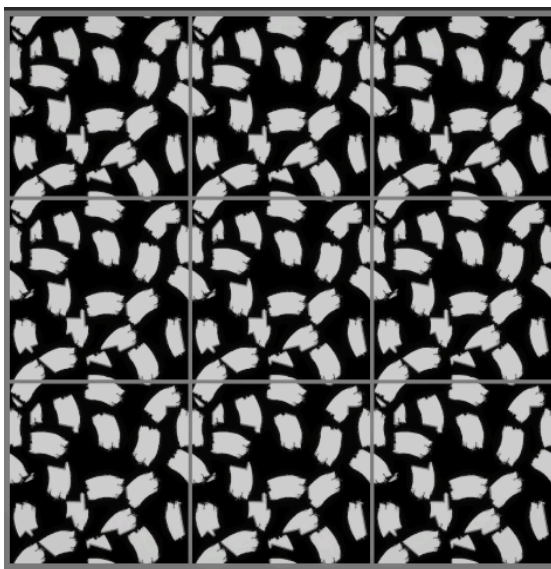
- **Packed Stamp Dimensions** controls the size of the stamp. All the textures used in the Channel Setup will be automatically resized to these dimensions when needed.

- **Stamp Iterations** controls how many stamps you want to be applied on the output texture. This value can be overridden by the program when using **Randomized Displacement**, in the case that the Poisson Disc Sampling method couldn't reach the **Stamp Iterations**'s amount, it is then limited to the number of results of the Poisson Disc Sampling. You can then try to reduce the **Stamp Radius** to allow for more results to be found. If the number of results found is superior to the value of **Stamp Iterations**, it will be bound by it.

2. Displacement

This section controls the placement of the stamp(s) on the output texture.
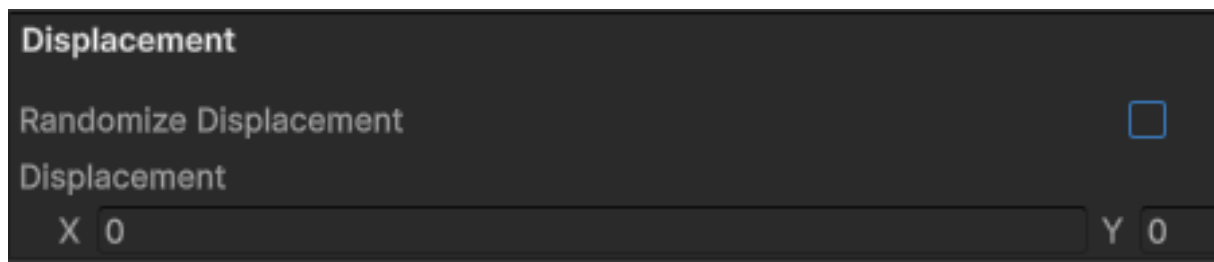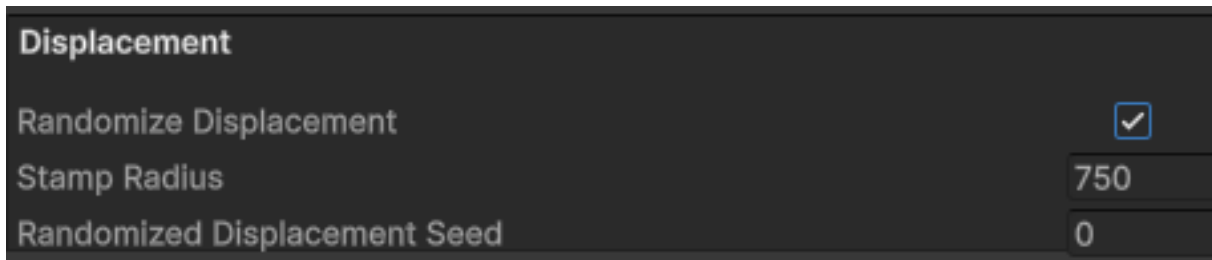
● Not Randomized

If **Randomize Displacement** is set to false, you will be presented with a **Displacement** Vector2 value.
This is useful if you want to use Texture Studio as a Channel Packer : simply set the **Displacement** to half the size of your output texture to make it centered.
Since the stamp position is centered, leaving **Displacement** to 0,0 will place the stamp on the down left and will be out of bounds
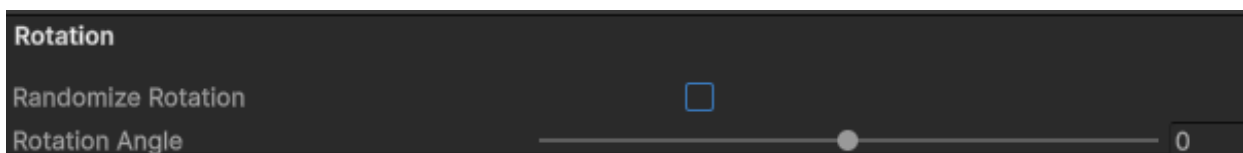
● <u>Randomized</u>

If **Randomize Displacement** is set to true, you will be presented with a **Stamp Radius** value and a **Seed** value.

- **Stamp Radius** is used by the program to scatter stamps on the output texture using a Poisson Disc Sampling method. This value is in "pixel" size, we advise that you set this value to something lower than your stamp's dimensions to allow overlapping. **Setting this value really low will lead to wait time since the program will have much more room to place stamps and will thus try to place more. Values inferior to 5% of your stamp dimensions are complete overkill and can even make your computer crash. Set it to 50% of your stamp's dimensions and slowly decrease if you think you need to. Remember that Stamp Iterations value will bound the number of stamp placement**
- **Randomized Displacement Seed** controls the pseudo-randomness of the program : the same seed will always produce the same result. Simply change the seed to change the result.

3. <u>Rotation</u>

This section controls the rotation of the stamp(s) on the output texture.
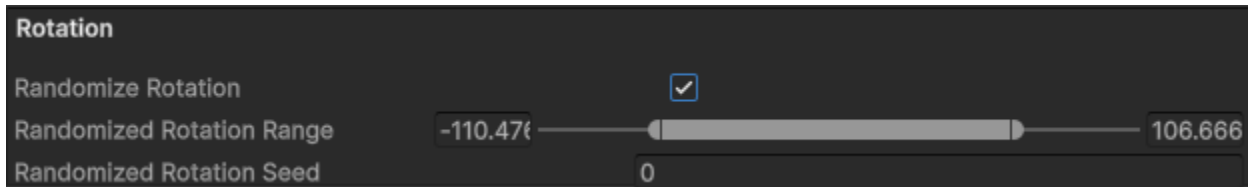
● <u>Not Randomized</u>

If **Randomize Rotation** is set to false, you will be presented with a **Rotation Angle** value.
This is useful if you want to use Texture Studio as a Channel Packer : if you want to rotate your stamp, you can do it here.
You can also use it if you want the same rotation to be applied to all the stamps that are placed, creating a sense of flow direction.
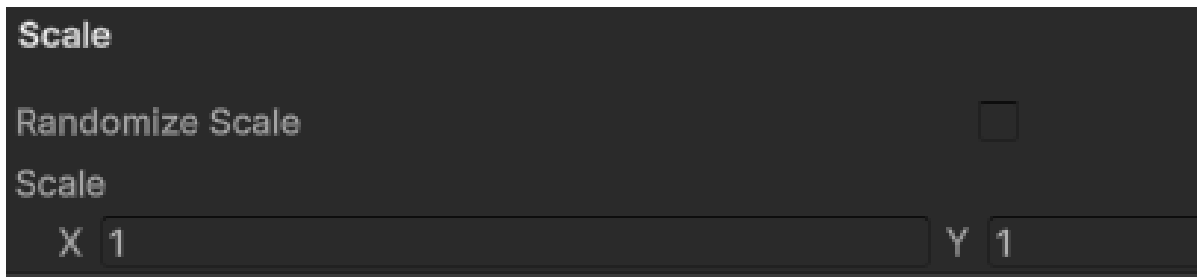
- ## **Randomized**

If **Randomize Rotation** is set to true, you will be presented with a Randomized **Rotation Range** value and a Seed value.
- **Randomized Rotation Range** lets you control precisely the range of how each stamp will be randomly rotated. The max range is -180,180.
- **Randomized Rotation Seed** controls the pseudo-randomness of the program : the same seed will always produce the same result. Simply change the seed to change the result.

4. Scale

This section controls the scale of the stamp(s) on the output texture.
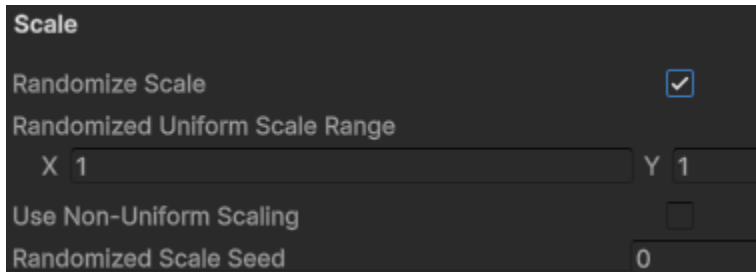
- ## **Not Randomized**

If **RandomizeScale** is set to false, you will be presented with a **Scale** Vector2 value.
This is useful if you want to output a texture that doesn't have the same X and Y dimensions : you can use the Scale to to resize the stamp so that it fits the output texture ratio.

● Randomized

If **RandomizeScale** is set to true, you will have the opportunity to define a **Scale Range** in a Uniform or Non-Uniform way.
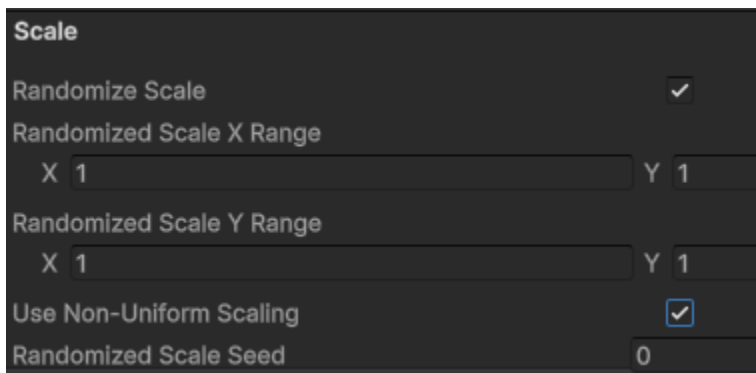
○ Uniform

If **Use Non-Uniform Scaling** is set to false, you will be presented with a **Randomized Uniform Scale Range** value and a **Seed** value.

- **Randomized Uniform Scale Range :** **Contrary to what is shown the X field represents the MIN bound of the range and the Y field represents the MAX bound of the range.** The scale of each stamp will be selected inside this range and will be applied to both its X and Y axes.
- **Randomized Scale Seed** controls the pseudo-randomness of the program : the same seed will always produce the same result. Simply change the seed to change the result.

○ Non-Uniform

If **Use Non-Uniform Scaling** is set to true, you will be presented with two **Randomized Scale Range** values, one for the X axis and one for the Y axis, and a **Seed** value.

- **Randomized Scale X/Y Range :** **Contrary to what is shown the X field represents the MIN bound of the range and the Y field represents the MAX bound of the range.** The first pair controls the range of possible scales for the X axis of each stamp. The second pair controls the range of possible scales for the Y axis of each stamp.
- **Randomized Scale Seed** controls the pseudo-randomness of the program : the same seed will always produce the same result. Simply change the seed to change the result.
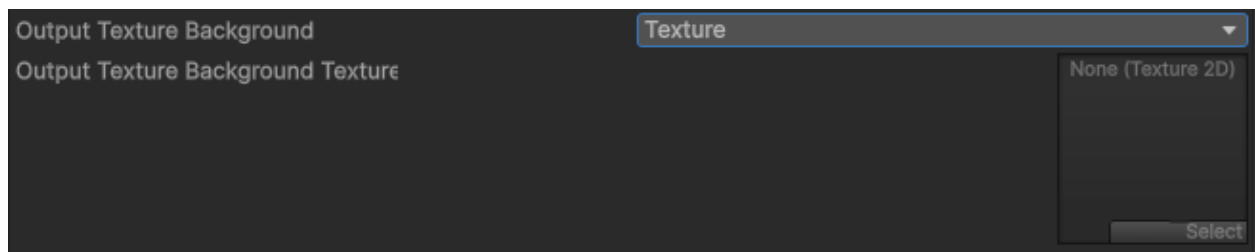
5. Output

This section controls the settings of the output texture.
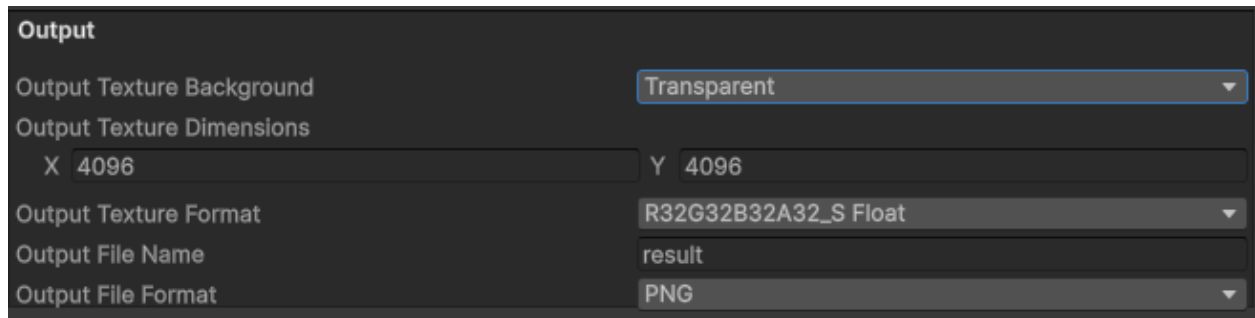
● Background

- Output Texture Background controls how the output texture will be initialized.
    - Transparent sets the entire texture's color to 0,0,0,0
    - Black sets the entire texture's color to 0,0,0,1
    - White sets the entire texture's color to 1,1,1,1
    - Normal sets the entire texture's color to 0.5 ,0.5 ,1,1
    - Color lets you choose which color to use

Output Texture Background	Color
Output Texture Background Color	

- Texture lets you choose a texture to use. Note that if the texture you select is not the same size as the output texture's dimensions, it will be resized to match those.

Output Texture Background	Texture
Output Texture Background Texture	None (Texture 2D)
	Select

● Texture & File Settings

Output

Output Texture Background	Transparent	
Output Texture Dimensions		
X 4096	Y 4096	
Output Texture Format	R32G32B32A32_S Float	
Output File Name	result	
Output File Format	PNG	

- **Output Texture Dimensions** lets you choose the dimensions of the output texture.
- **Output Texture Format** lets you choose the Graphics Format of the output texture. Please note that neither Unity nor your OS handles single or two channels format as is. You can still choose that type of format but they will still show up as RGB (3 channels) texture and the real work will have to be done in the Texture Importer Settings by selecting Single Channel in the Texture Type selector.

- **Output File Name** lets you choose the name/path of the saved file. Please note that the base path we set up is "Assets/" followed by your string followed by ".png" / ".jpg" etc depending on the **Output File Format** you selected. If you want to save it in another folder you can do it by typing "MyFolder/result" and this will save the file in the "Assets/MyFolder/result.png" for example.
- **Output File Format** lets you choose the extension/format of the saved file.

Thank you for using my tool !

If you have any question , you can reach me at rizot.inquiries@gmail.com