Colorize
(Color Palette Modifier)

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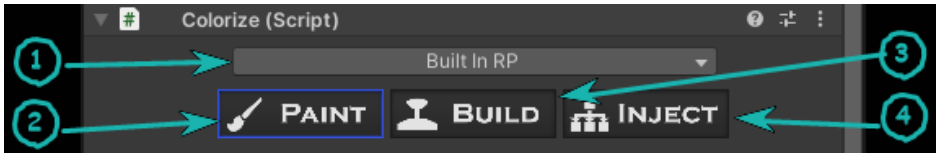
Introduction

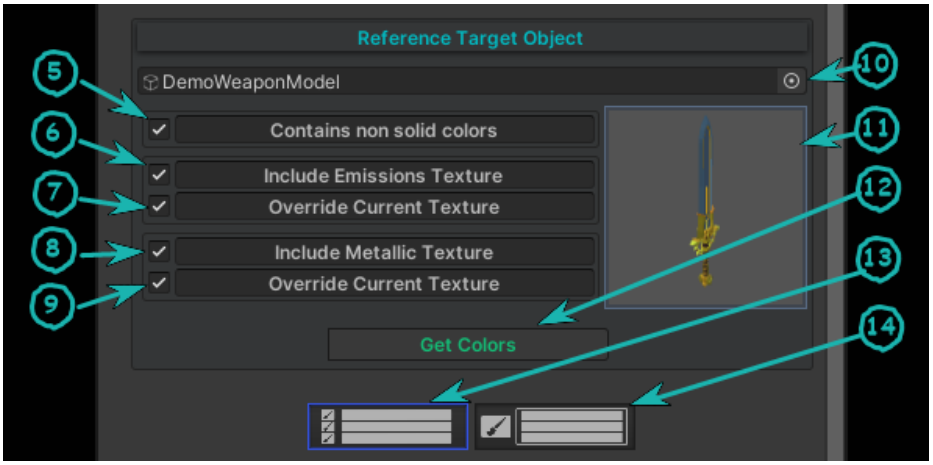
Colorize tool works by creating a new texture palette for any given model that uses a mesh. However, this tool only works with models that use a solid color palette (non-gradient texture). Usually these models are Low-Poly models or those that follow the PolyStyle used in Low-Poly models. The created texture can be used to override the original, or you can fork out of the original texture and create a brand new texture and material (optional).

Quick Overview

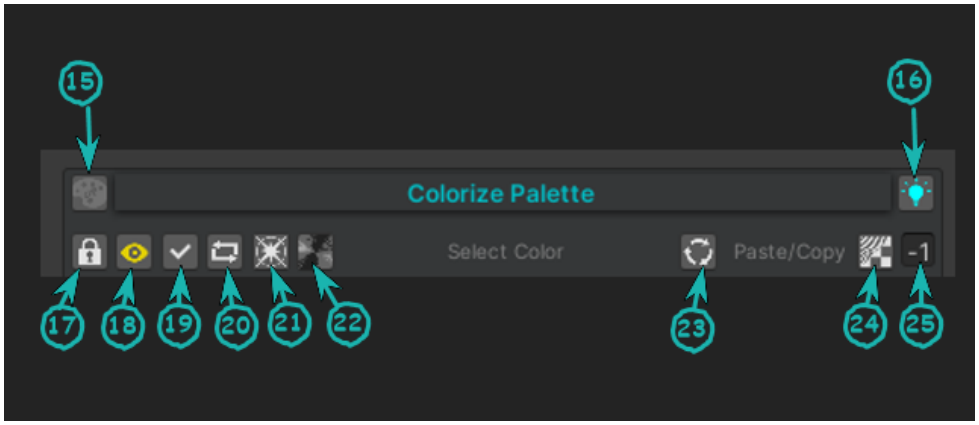
Items #:



1- Render-Pipeline Selection tab (very important not to miss this step before you start)
2- Paint Tab: this is the mode where you edit the color palette, emissions texture, reflections & metallic texture.
3- Build Textures and material tab
4- Mass inject material in to object array of interest

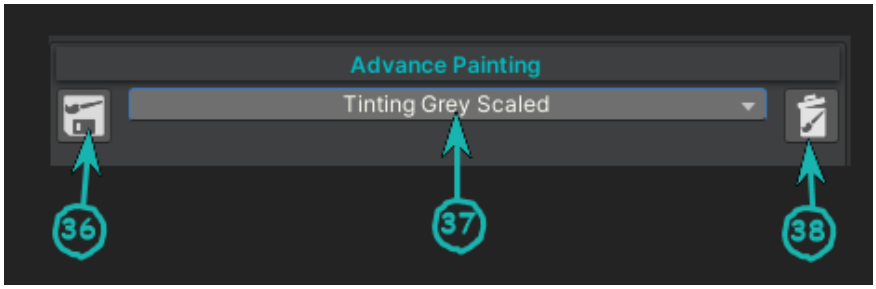


5- If a model contains non-solid colors (patterned colors), enable this mode, else; leave it disabled.
6- If you wish to include emissions textures. Note: if you have this deselected, any original emissions texture that the model already contained will be removed.
7- If enabled, the original emission texture will be overridden.
8- If you wish to include metallic-reflection texture. Note: if you have this deselected, any original metallic/reflection textures that the model already contained will be removed.
9- If enabled, the original metallic/reflection texture will be overridden.
10- Referencing field for target object (must contain a mesh in the referenced object)
11- Referenced object preview picture
12- “Get colors” will run an algorithm to return all UV-Mapped colors based on your settings. It will also set up a temporary Main-Texture and emissions/reflections texture based on your preferences.
13- Switch to Detailed Editing Window (Advance only)
14- Switch to Group Editing Window (Advance only)



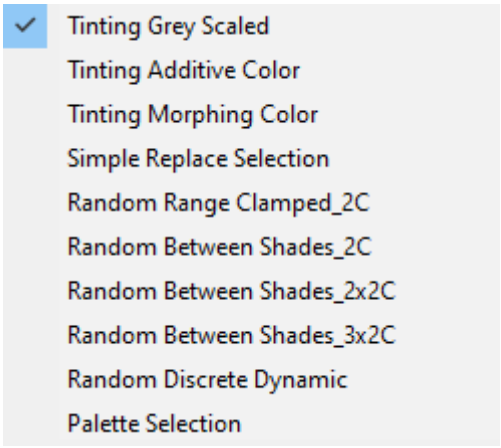
15- Enable/Disable Advance mode
16- Toggle highlight color and/or switch on/off
17- Lock all colors: Locked colors cannot be edited in anyway. Even if they are selected for advance painting. Even if they are included in group painting.
18- Hide/Show all locked colors.
19- Enable Advance Editing & painting for all colors (toggle). Note: Locked colours will be excluded.
20- Reverse advance selection for all colors. Note: Locked colours will be excluded.
21- Toggle Emissions settings and preferences
22- Toggle Metallic/reflection settings and preferences
23- Reset back to last save. Note: saves are temporary and are only saved on memory. This feature only resets colors that are selected for advance editing (see item #27)
24- Toggle Groups. Toggle locks all groups and leaves one group unlocked. Also toggles Item #13 (meaning locked items will not be visible). To see all items, toggle item 12 and 13. (Advance mode)
25- Set ID of all colors that are selected for advance editing to this value when value is changed.

26- Lock color
27- Include color in advance painting and editing
28- Apply Emissions to this color region
29- Apply Metallic and reflections to this color region
30- Manually change region color
31- Paste copied color value (compatible with other Smitesoft color tools)
32- Copy color value (compatible with other Smitesoft color tools)
33- Copy color Hex-Value
34- Color type, there are three types: solid color, patterned color and merged color. (see “color type icons”)
35- Group ID: in this diagram all colours are grouped together with the ID = 0.

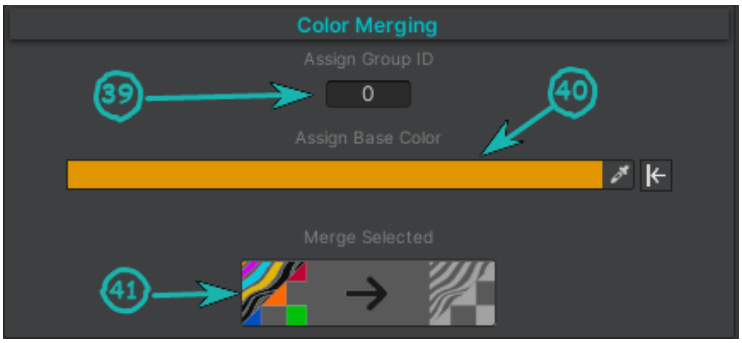


36- Cumulative save, generally, all changes made will be applied to the current save, and any changes will first revert all color regions back to the last cumulative save and continue from there. If you wish to keep the changes you have made and apply new paint on top of your previous edits, use cumulative save. (Note: clearing your data using item: #23 will only revert back to last cumulative save. If you wish to clear all changes including your cumulative saves then use item #38) – This tab is only available when advance mode is enabled (see item #15)

37- Advance painting options: – This tab is only available when advance mode is enabled (see item #15)



38- Revert all changes and discard all cumulative saves back to the original texture. This is not to be confused with item #23 which only reverts recent changes back to the last cumulative save (see item # 36)



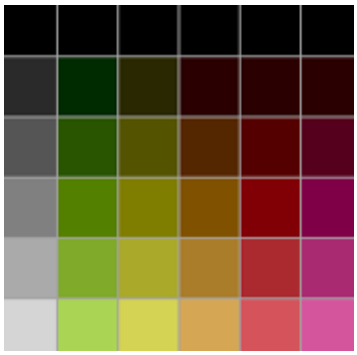
39- Assign group ID to add the merged colors to it. This could be a completely new group ID
40- Select the base color of this new merged color
41- Merge the selected colors. Note: all colours that are selected for advance editing will be merged unless they are locked. This merge is not reversible. If you wish to reverse it, you must use item #12 again and start over.

Setup

There is no setup process. All you have to do is drag compatible object into Item #10 followed by using item #12 to get colors. However what is important to know, is which types of color palette are compatible!

Compatibility:

- Must use a color palette that uses solid colors, example:



Note: solid colours does not mean that the individual cells have to be square shaped, but that the UVs are using a single color per region.

- Color pallet must be power of twos (Pots, 2,4,8,16,32 etc.) meaning the above example is not a POT and would not work if it was the entire dimension of the color palette.
- Color Palette must have a square dimension
- Must not contain gradient colors. Example:

Note: gradient colors can contain millions of different colors per region, and that would be unmanageable and cause Unity to crash due to the heavy cost.

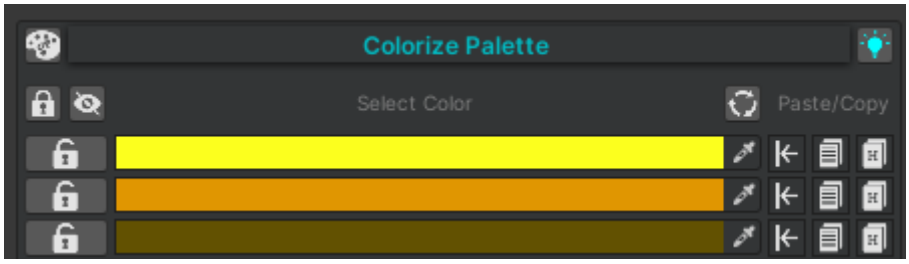
- Can contain patterned colors (not gradient). Pattern colors are a hybrid between solid colors and gradient colors. The difference is, the amount of colours per region is much smaller and more manageable. Generally you don't want to have more than 10 distinct colors. That said, patterned colours will almost always produce a small amount of gradient between the different shades. That can easily increase the number of colors. However, these extra gradients can be merged into a single color using the merge tool (see item #39-41)

Example of Patterned colours (contains 7 solid colours)

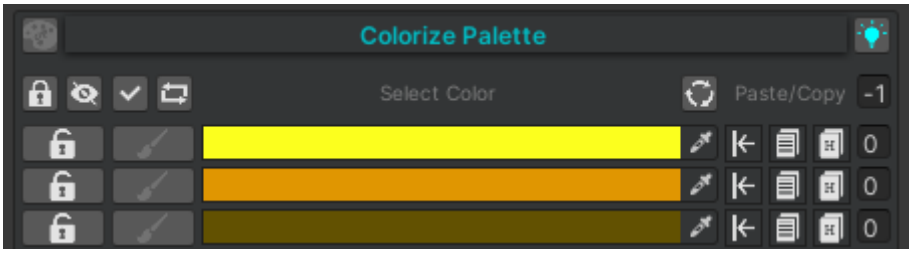
Paint Mode

Paint mode will look different depending on your preferences.

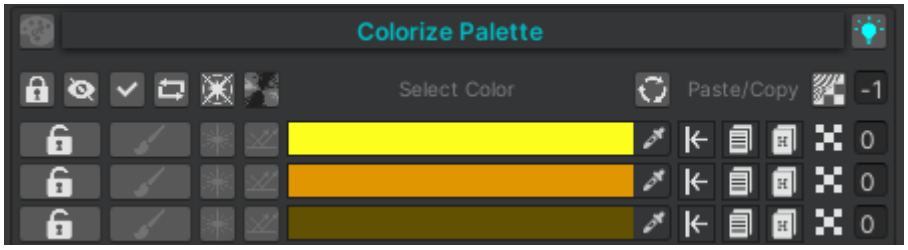
Simple Mode:



Advance Mode:



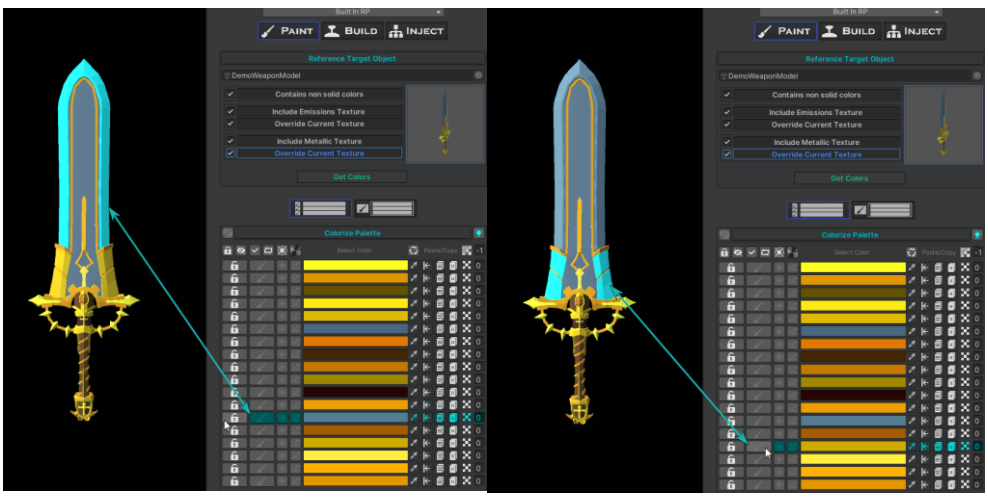
Advance Mode with Metallic and Reflections:



For beginners, it would be best to start with simple mode. This can be achieved by toggling item #15 and disabling items #6 and #8 during the setup process.

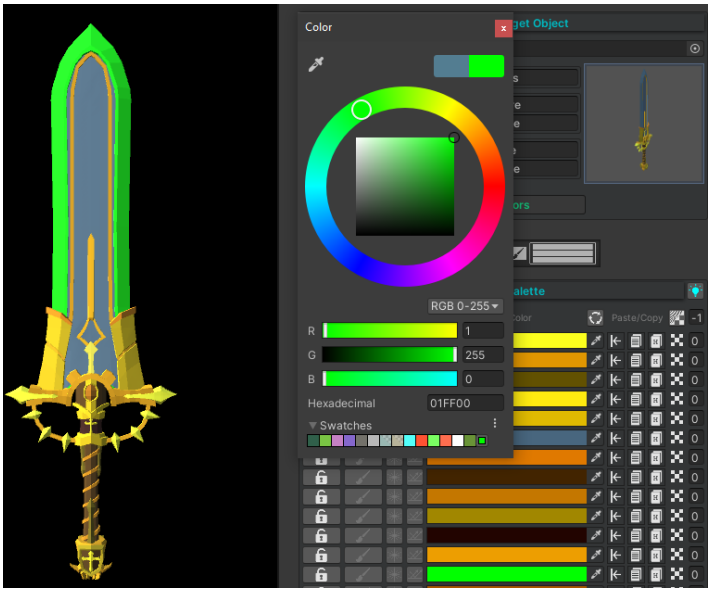
Basics: Each color represents a region of your model, this can be easily identified by mouse-hovering over any aspect of each color tab which would highlight the tab and the region on your model with the same color of your choosing (see item #16)

Example:



Re-Paint

You can change the color of any region by clicking on the color directly



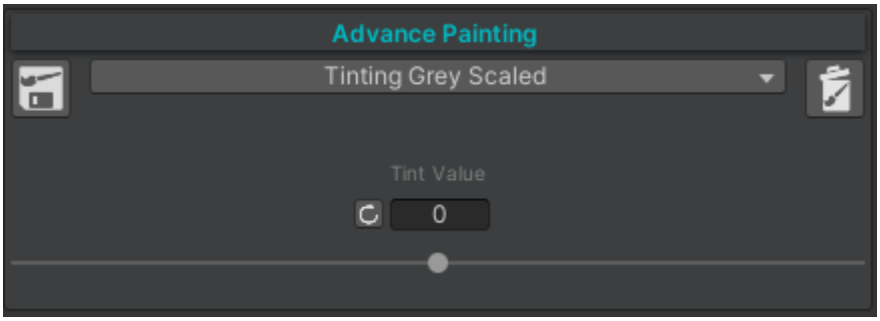
This however, is quite a manual process, and is usually done at the end when your fine tuning. A better method would be to use “advance paint” mode to quickly generate colors based on your preferences, and then use this method to fine tune your final outcome.

Advance Paint Mode

Advance Paint introduction

To enable enable/disable advance mode, click Item #15.

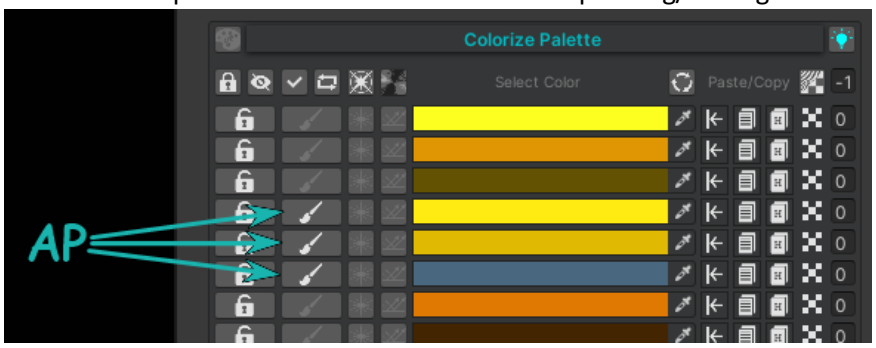
This will provide you with a few new options, including this window



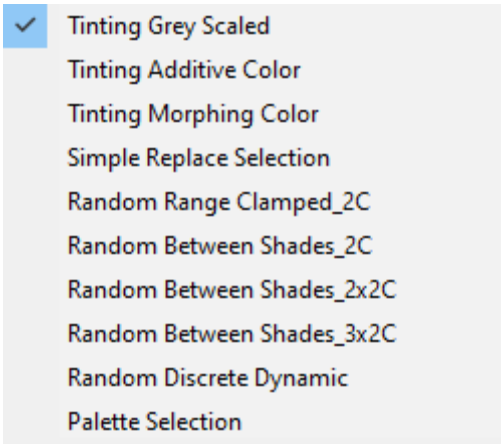
Any color that is unlocked and selected for advance painting will be effected by the changes made in this window.

This can be done by clicking item #27.

Example of colors selected for advance painting/editing

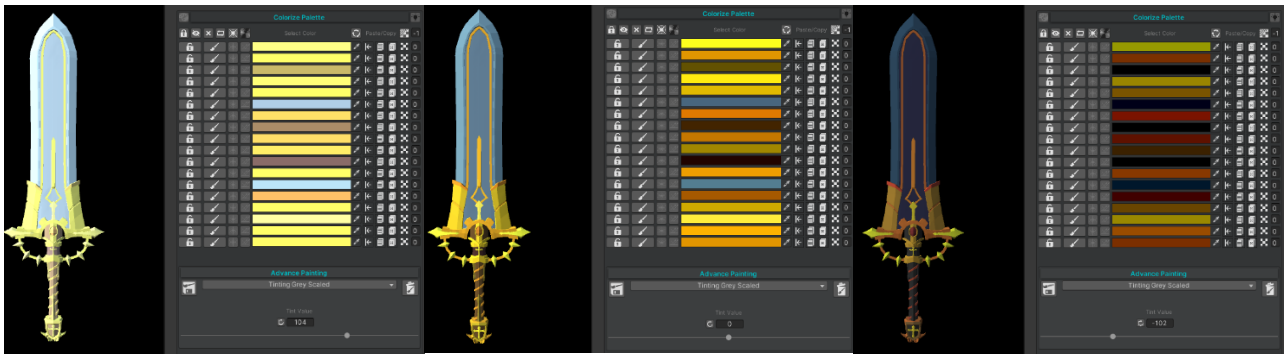


Advance Modes



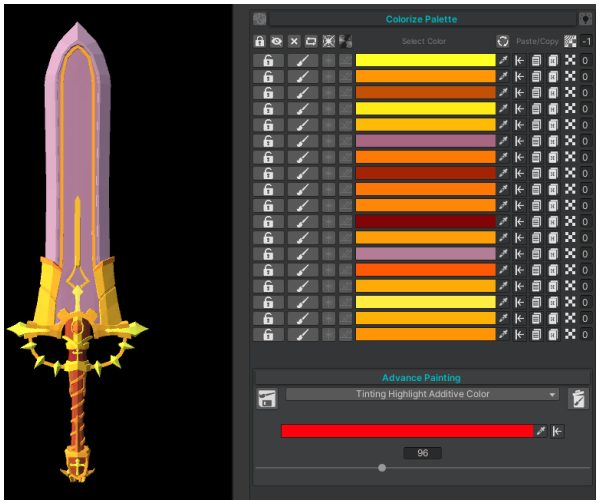
Tinting Grey Scaled

This feature simply adds and removes light from the mode, examples:



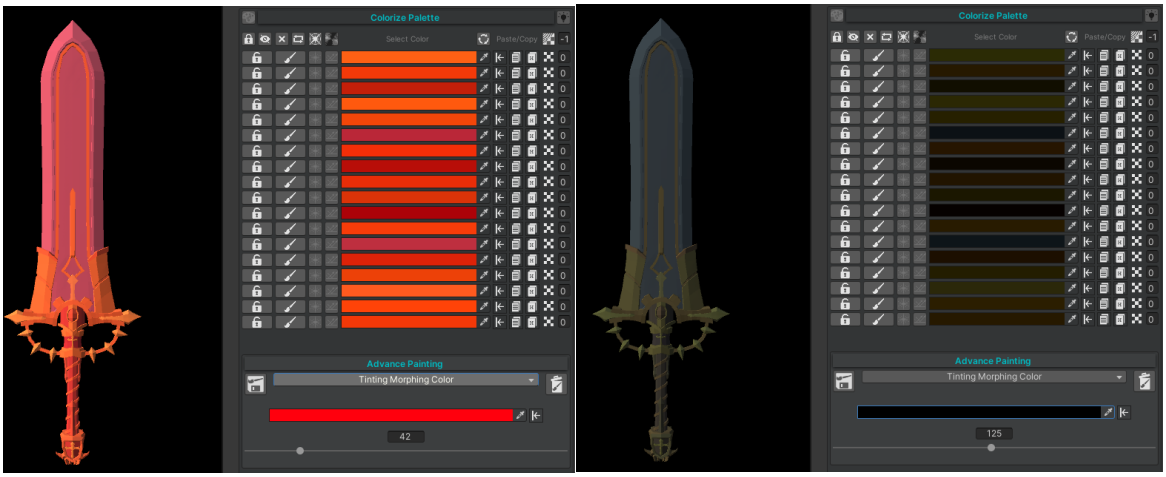
Tinting Highlight Additive Color

This features adds a Highlight based on the chosen color multiplied by the intensity. As this is just an additive highlight, you cannot highlight by black color, and the effect of dim colors will be negligible.



Tinting Morphing Color

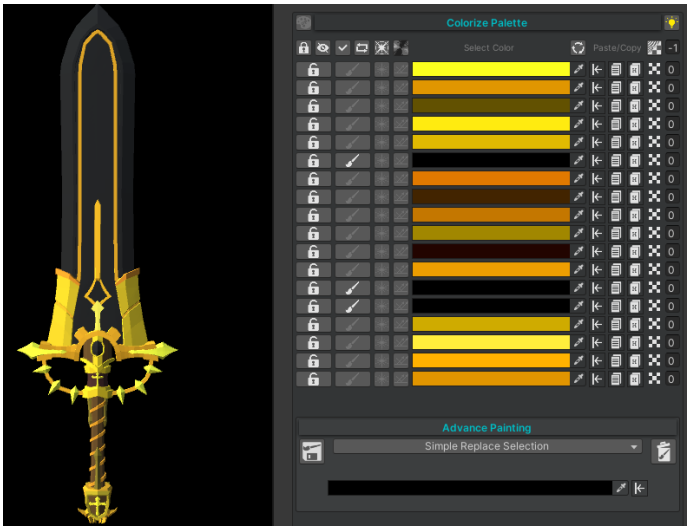
Unlike Highlight Additive, morphing converts the original color to the selected morphing color by a degree determined by the multiplier. This also means you can tint in black color.



Simple Replace Selection

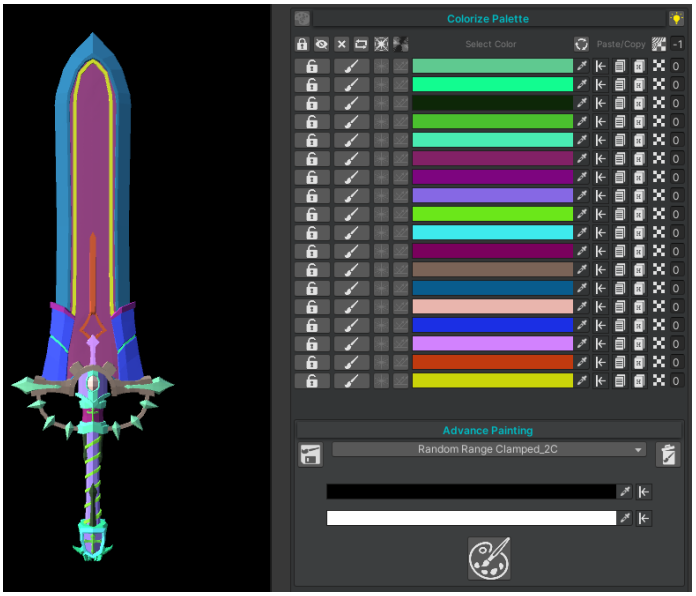
Replaces all colors selected for advanced editing by a color of your choice.

The three selected colors have been changed to black



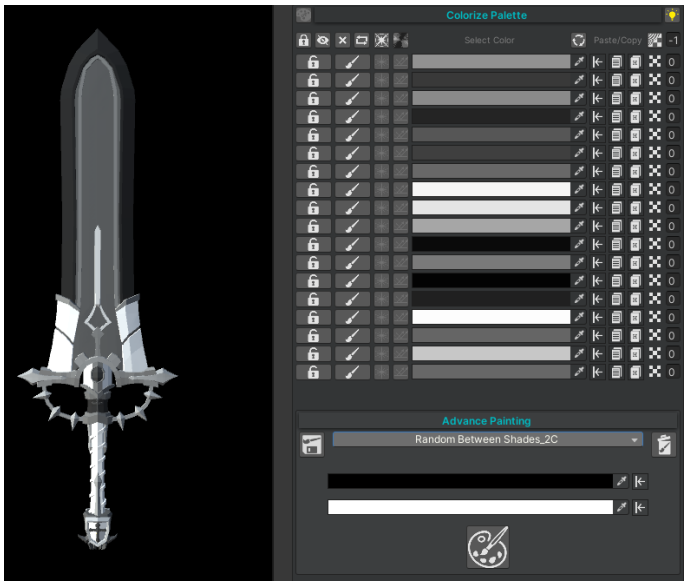
Random Range Clamped_2C

Randomises the RGB values between the two colors (the ratio is independent from each R to G to B), this means if you chose white for one color, and black for the other color, all colors of the spectrum can be achieved!



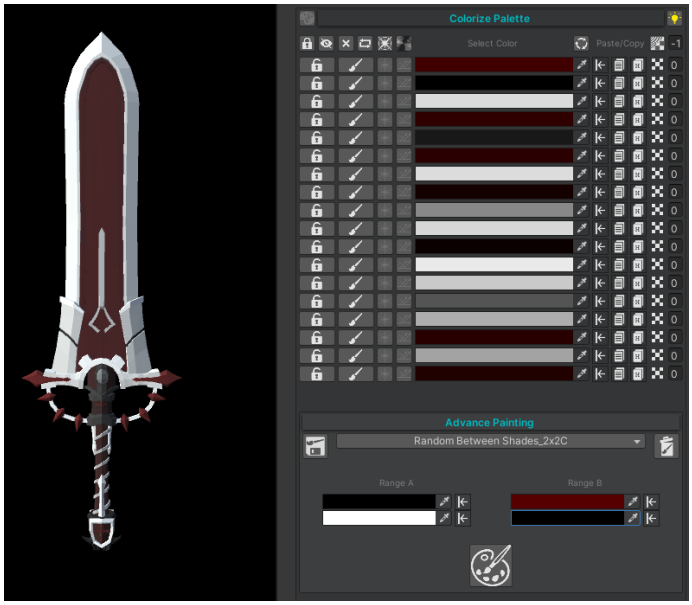
Random Between Shades_2C

Randomizes the RBG values but with the same ratio unlike the above example.



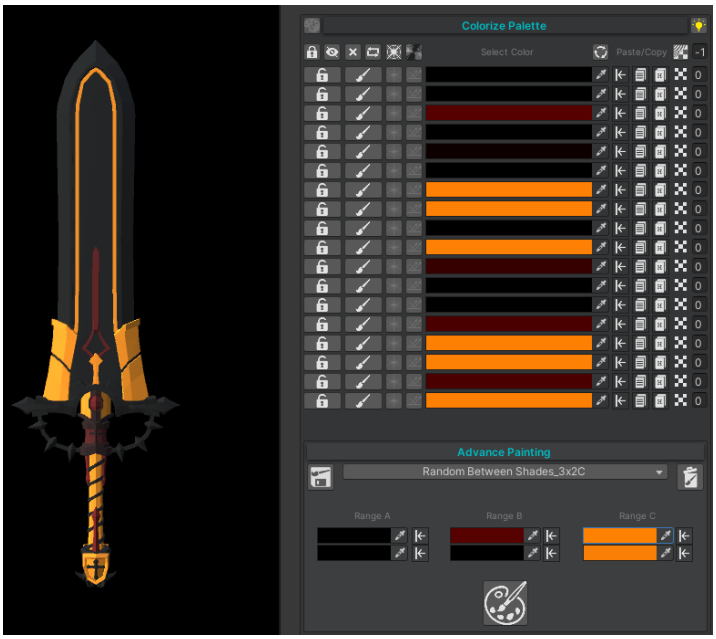
Random between Shades_2x2X

Same as the above example, however you get to choose between two set of rangers.



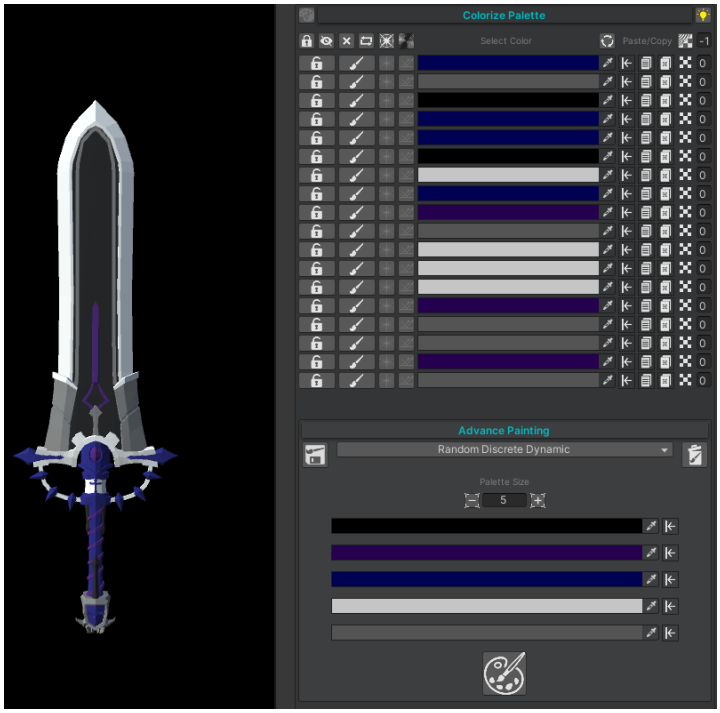
Random between Shades_3x2X

Same as the above example, however you get to choose between three set of rangers.



Random Discrete Dynamic

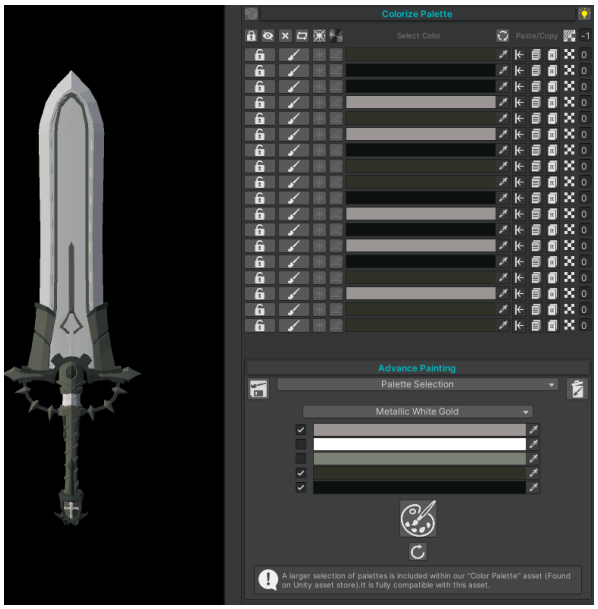
Assign colors randomly from a set of colors, there are no shades of colors formed from this list, but the exact colors would be used at random. The amount of colors you can use is completely up to you, starting at minimum two colors.



Palette Selection

This provides you with a list of premade color palettes to choose from. The results will be randomized based on your selection

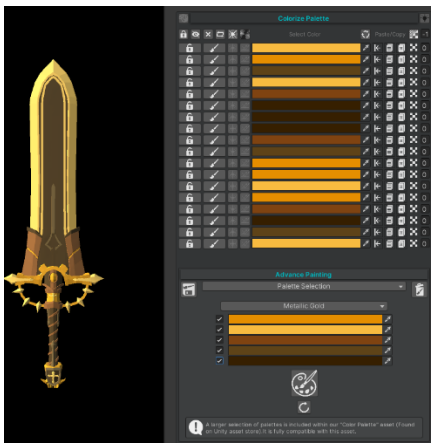
Example



Furthermore, you can temporarily change the color from the color palette, this way you can use the color palette to give you a good estimate of where you would want the color picker to start.

Cumulative save

Any edit you make will be done either on the base color, or on your last cumulative save (assuming you have made one). Say you want to change the color of your weapon to golden but then you want to tint the gold black. Tinting the color will remove the gold paint you have applied first and then apply a dark tint on top of the base texture. Instead what you should do in this case is to save, and then apply a black tint like so:



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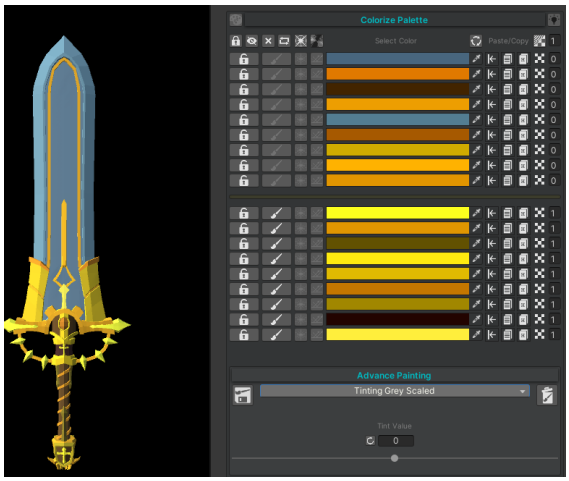
Grouping

You can divide colors into separate group distinguished by their group ID. This is done in two different ways (mass grouping and individual grouping). Furthermore, colors that are part of a pattern are automatically placed in a separate group.

Mass grouping:

First selecting the colors of interest for advance painting/editing (see item #27), then selecting a group number in this item field #25.

Example:



As you can see from the example, the colors that are selected for advance painting now have their own group with the ID value = 1.

Individual Grouping:

You can also change individual color groups without the need to enable advance painting/editing, but this will only change the individual color regions group. This is done by directly changing item #35

Group Cycling

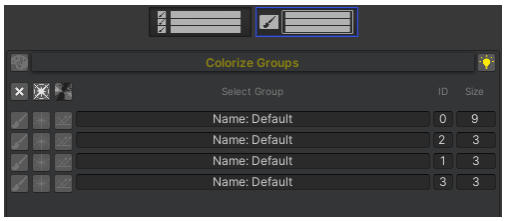
Group cycling can be achieved by pressing item #24. Item cycling works by turning vision of locked item to offline, and toggling locks. This is done automatically when using item #24. However, to show all groups, either toggle the lock all button (item #17) or toggle the vision button (item #18).

Group Painting

Another advantage of grouping your colors is the ability to group paint. This can be done by clicking on item #14. This will change your painting panel to a group painting panel.

Example:

The Above example will form this:



This also allows you to change the name of each region to any custom name. So that you could remember which each region represents. However, highlighting also works in group mode allowing you to highlight every member of the group simultaneously while hovering.

This feature is especially helpful when you want to divide a large object with many colors into smaller sub groups. For example: A warrior could be divided into skin regions, armour plate regions, weapon regions and more.

Color type Icon

Color types are represented by icons (see item #34). There are 3 types that are registered within this tool. Color types are auto detected on setup and you don't have to do any work to distinguish between them.

1-Solid Colors. All triangles for this specific color are placed on the same UV texture co-ordinates.

2-Pattern Colors. These are colors which together effect a single triangle made by 3 vertices on the UV texture co-ordinates.

3-Merged Colors. These are colors you have manually merged together for convenience

Metallic & Reflection Painting (Advance)

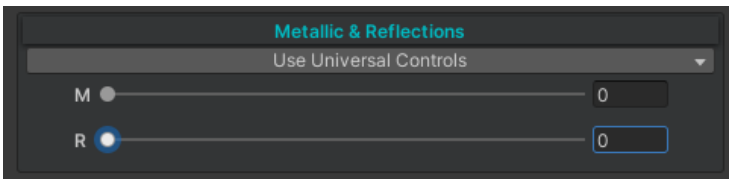
To enable metallic and reflection painting, you must have enable their use on initial setup. (See item #8).

Once you have done so, you can toggle the use of metallic and reflection for any specific color region. (See item #29)

Once you have done that, you may not notice any effect because by default, the setting intensity is set to zero.

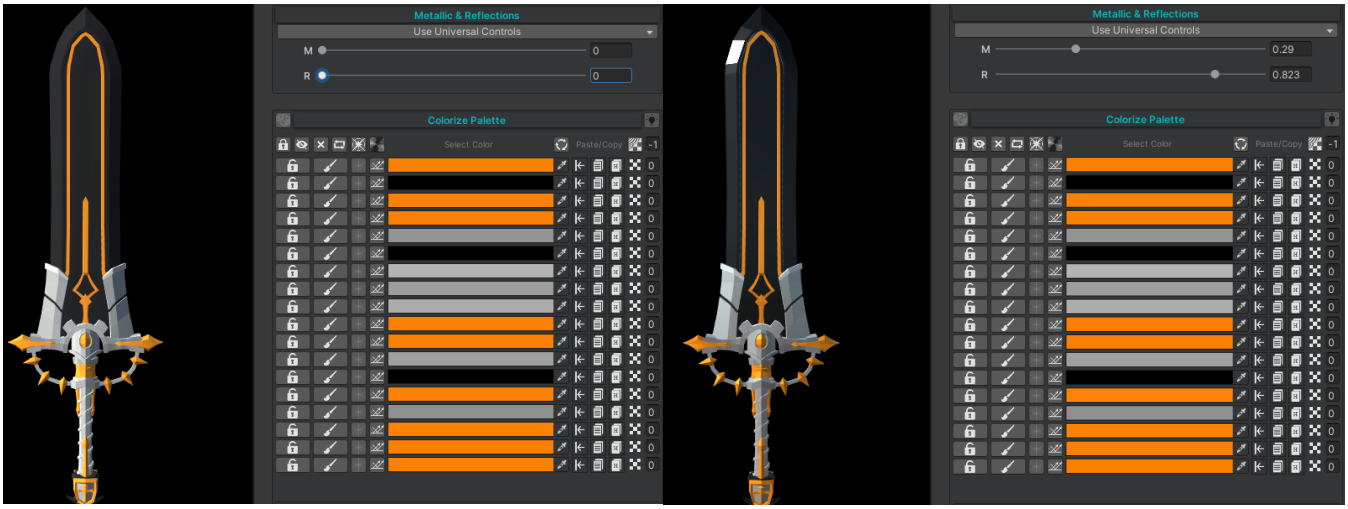
Thus you must open metallic and reflection settings, and adjust the setting to your preference. (See item #22)

Clicking on item #22 opens this window:

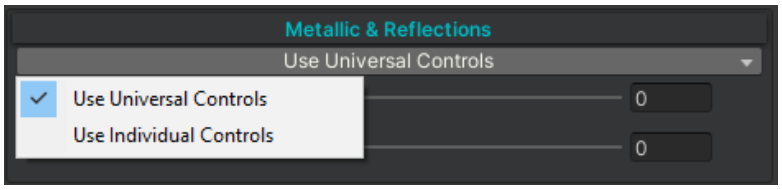


Example Comparing with and without effect:

Note: the effect is being applied to every section of the sword due to our toggle selection



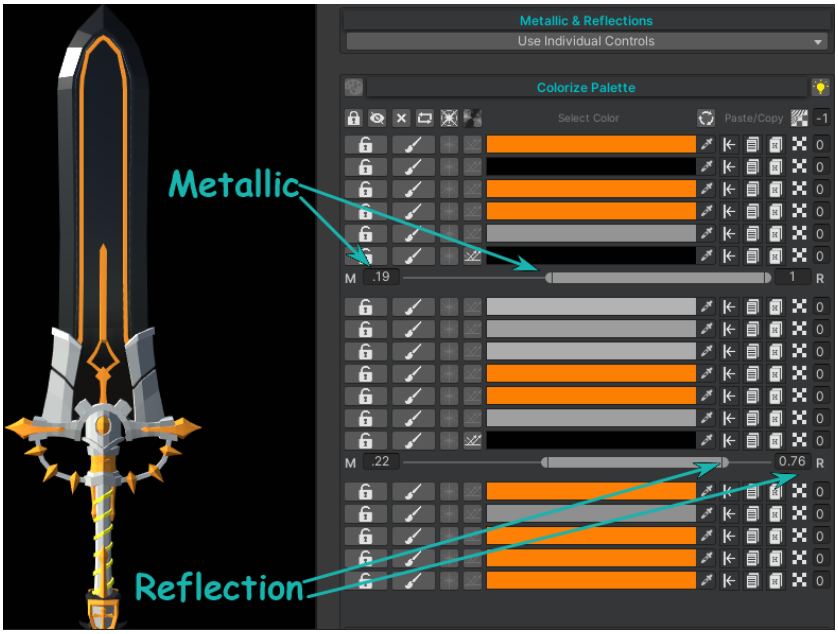
There are two modes:



1- Use Universal Controls :
This mode, allows you to apply the same metallic/reflective paint to all color regions that have enabled this options. The two example above are using this mode.

2- Use Individual Controls
This mode, allows you to apply a specific metallic/reflection paint to each region.

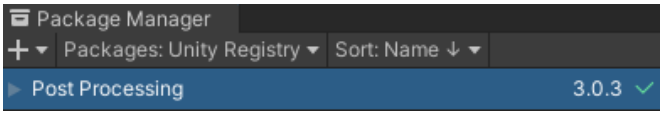
Example of Individual Controls



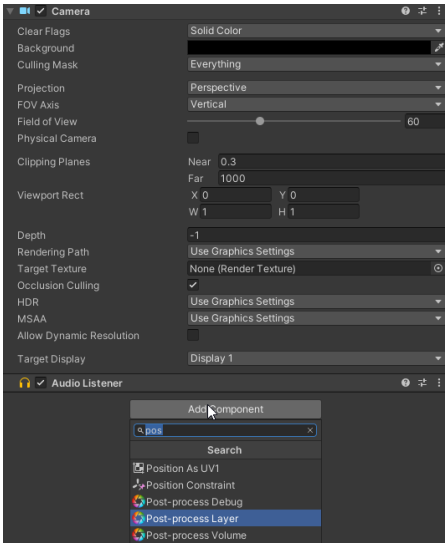
Post Processing Setup (Required for Emissions)

Importing Post processing stack

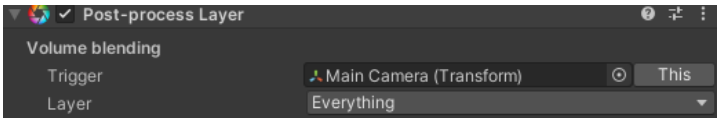
1- First, go to your package manager and install the latest version of the post processing stack.



2- Add to your main camera, a “Post-process Layer”.

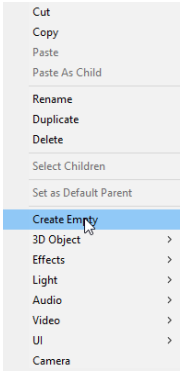


3- Select layer: you can either select a detected layer that you have created, or select everything. The layers in question swill be targeting “Post-processing Volume” layers.

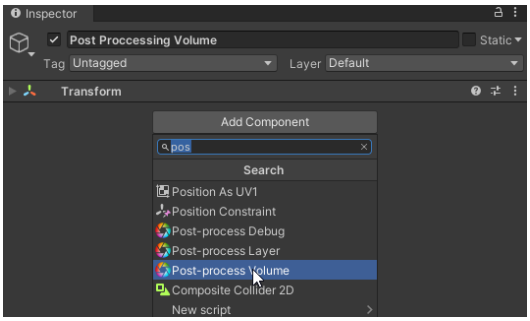


Creating Post processing Volume

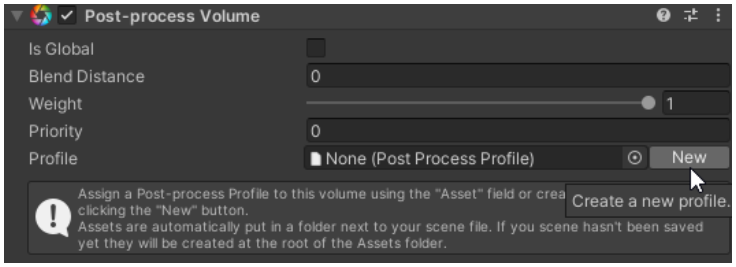
1- Right Click on your hierarchy and “Create Empty”:



2- Add Post-processing Volume:

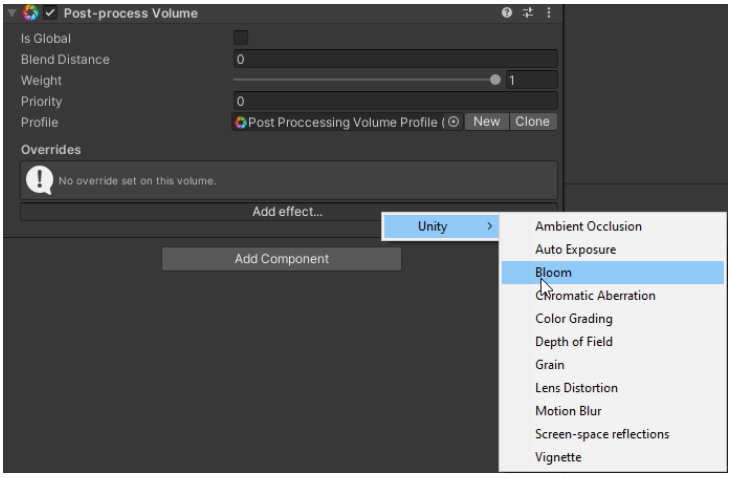


3- Click on “New” button:



Adding Bloom processing effect

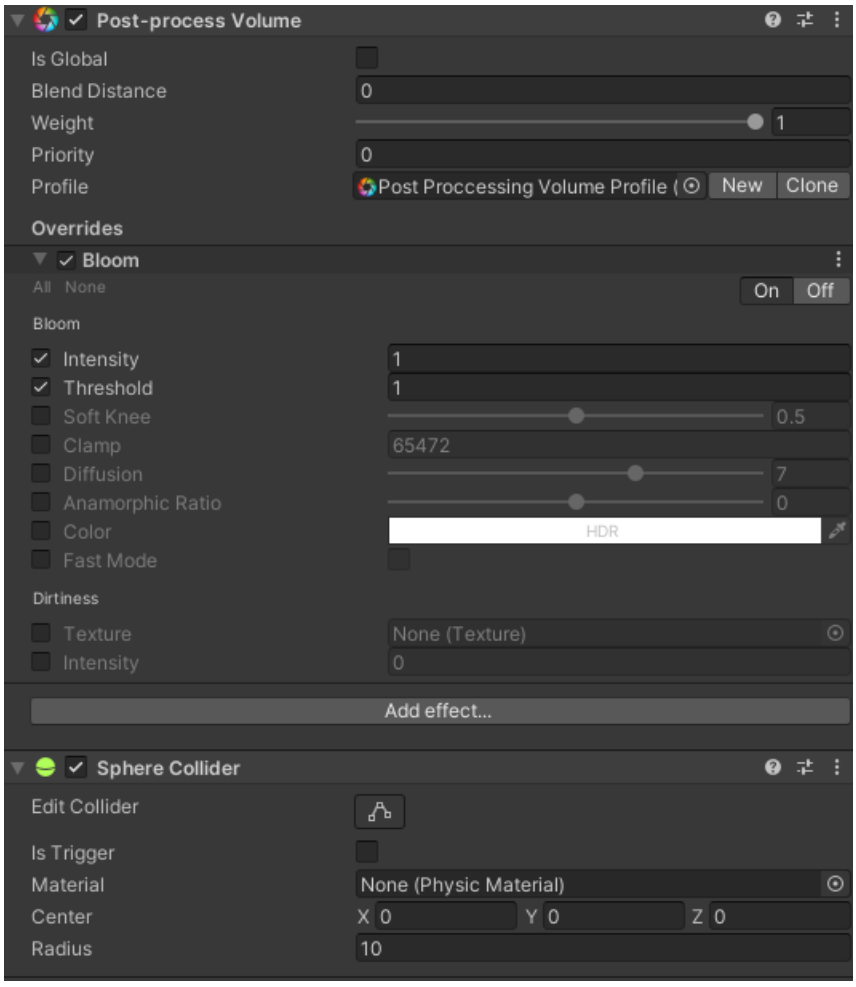
1- Add bloom effect:



2- Set intensity and threshold to 1.

Setting Bloom effect range

Now you can either set post processing volume to “is global” or better yet, add a collider of your preference, and set a radius which within its encapsulations, the effect of post processing would take place.

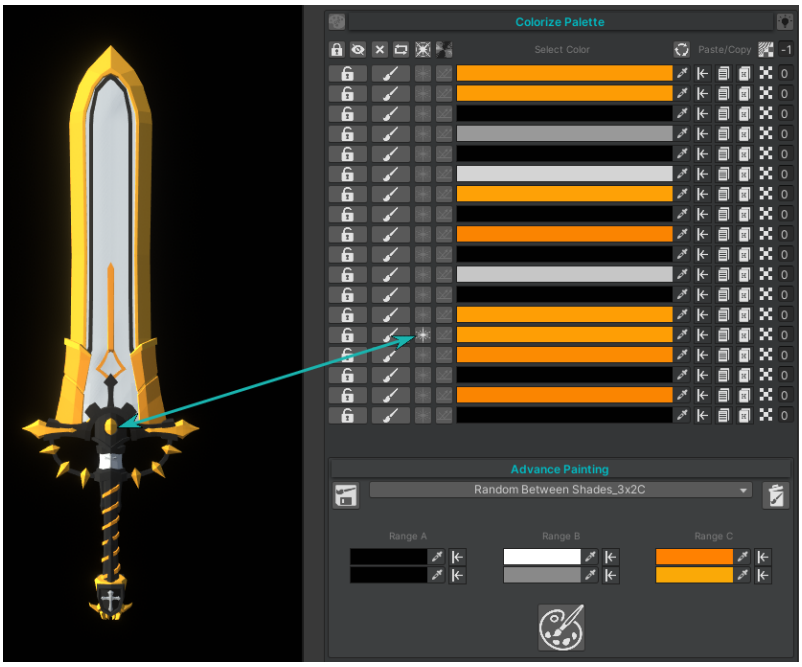


Now that our weapon is encapsulated within the sphere collider, emissions would also apply a glow effect. (See: “Emissions Painting” in the next section)

Emissions Painting (Advance)

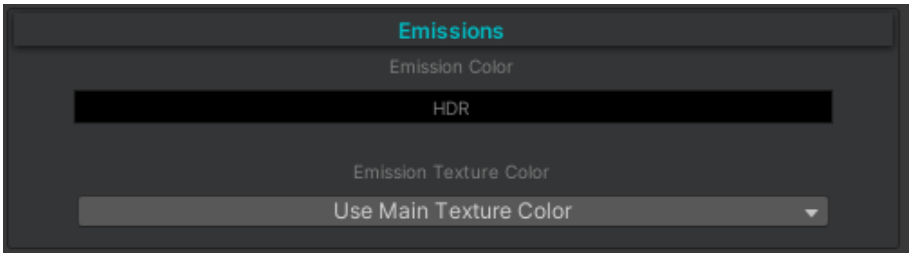
First activate emissions for the color regions of interest (See item #28)

Example:



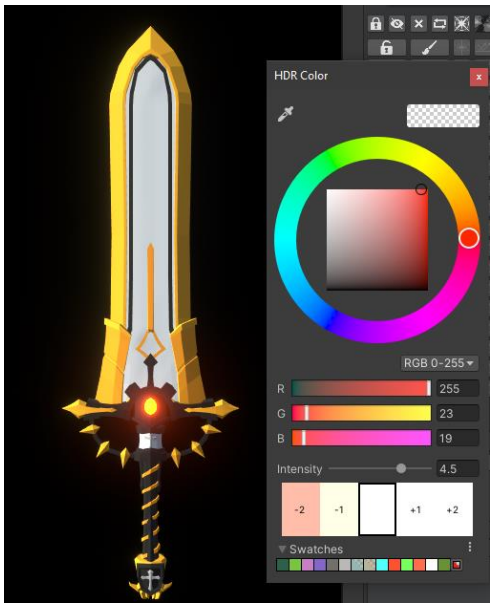
Open the emissions tab (See item #21)

Emissions Tab:



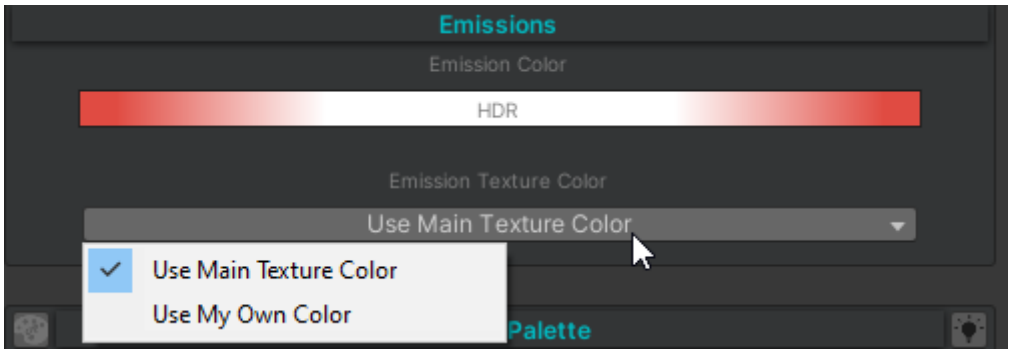
By default the emissions are set to black with 0 intensity (no emissions).

Set the color and intensity of the glow:



Emissions texture:

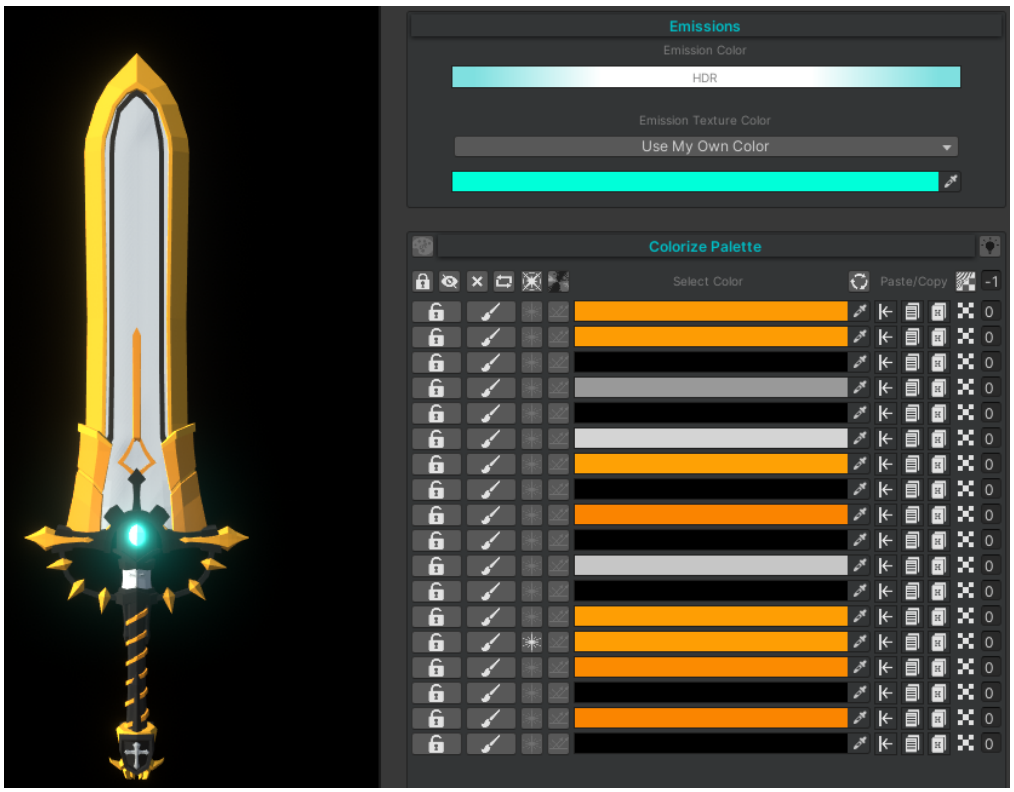
By default the emission texture is set to be the same color as the color of region you are applying emissions to which means its dynamic (recommend to leave it on this setting).



However you can set your own color, but this would apply to all emission regions and thus it is not dynamic and if you are applying emissions to multiple regions with different colors, then you may achieve unpredictable results.

Example of using your own emission texture color:

It’s important to note, that emission texture is applied on top of the main texture color, and thus the final color is a combination of the two colors. This effect can be masked with high level of HDR Intensity value.



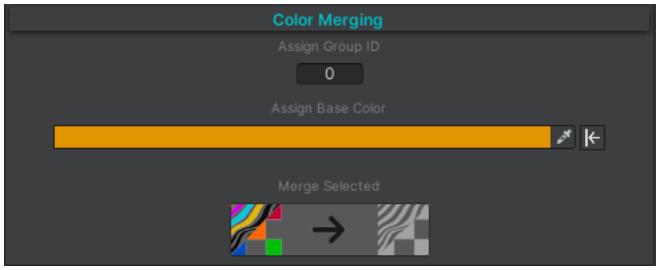
Color Merging (Advance)

Color merging allows you to merge several color regions into a single region, this reduces flexibility but it also has its advantages.

Good for:

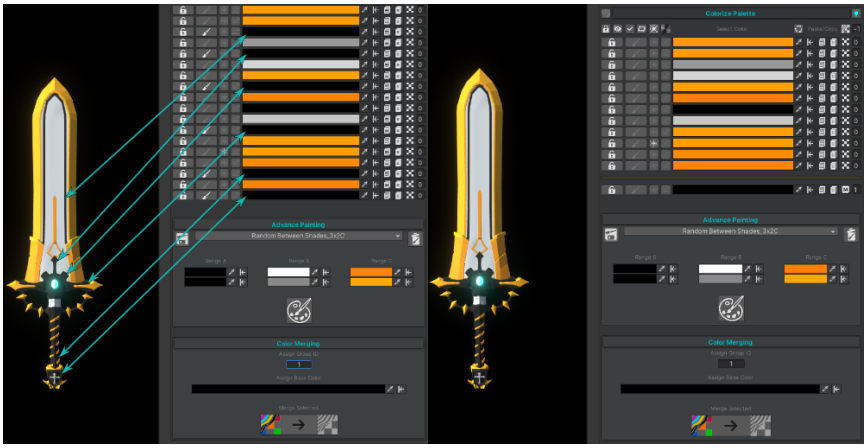
- Convenient to work with objects with hundreds of colors.
- Makes it easy to keep specific color regions the same (such as skin tone of hands, face and feet), instead of painting them individually every time.
- Color gradients that will occur in color patterns. (these could be hundreds of tiny regions that you could turn into a single color region)

Color Merging Window:



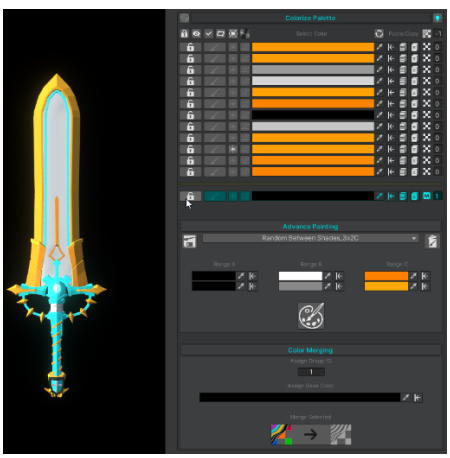
This action can only be reversed by re-setting up (via item #12).

Merging Example (Before and After)

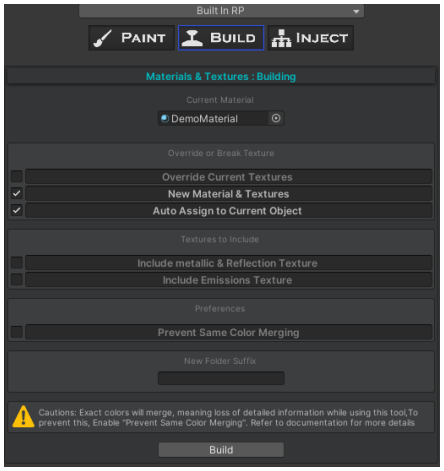


As you can see, all selected color regions are now merged into a single color region with the designated color and group ID (ID = 1)

Hovering over the new merged group now highlights all the parts it was merged from



Build Mode



Override current textures

This will override all colors on main-texture.

Caution: If this texture/material is being used by other objects which is often the case, those other objects who are sharing colors with this object will likely be effected, also depending on which colors you have edited. This might be a desirable effect. However, if you want to fork out a new texture so that you would not affect other objects that are using the same material/texture, then enable the “new material & textures” option.

New Material & Textures

This will fork out a new material and texture, and place them both in a new folder for you. The original texture will not be affected and any changes you had made to the original texture will be reverted when “Build” is clicked. All your changes will be saved on the new texture/material

Caution: Making many forks (textures), will increase the size of your project, and can also effect performance. You can however use the “Inject” feature (see item #4) to mass share the material with other object who you would want to use the same texture color palette.

Furthermore: using our “One Color Palette” tool (purchased separately and found on Unity asset store), can merge all your color palettes into a single palette and at the same time compress them to the smallest possible size. This is a unique asset and we highly recommend it. Keep in mind, it only works for objects that use purely solid colors, gradient and patterned colors will not be compatible.

Including metallic, reflection and emissions texture will also be included in the same folder. Unless you have chosen to override the original textures.

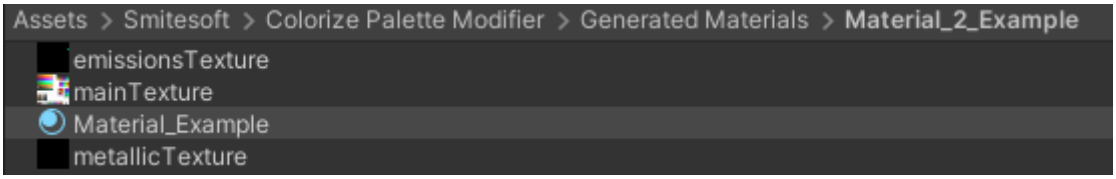
Prevent Same Color Merging (Experimental)

If you use the exact same color more than once for different color regions, when you create your new color palette, you would end up with the same color being placed in more than one location. This is fine, however this tool would batch them together the next time you decide to edit/paint. To avoid this, use the “Prevent Same Color Merging”.

Caution: This features can apply to a maximum 250x per unique color. Though it’s unlikely for you to reach this limit, it is indeed possible for very big projects. (We are currently not sure what happens if you exceed this limit because we have never reached it ourselves)

New folder suffix (Optional)

Adding a suffix to the name of the new folder that will hold the new material and textures. Created folder will be found under: “Assets/Smitesoft/Colorize Palette Modifier/Generated Materials/Material_Folder#*_Suffix*”

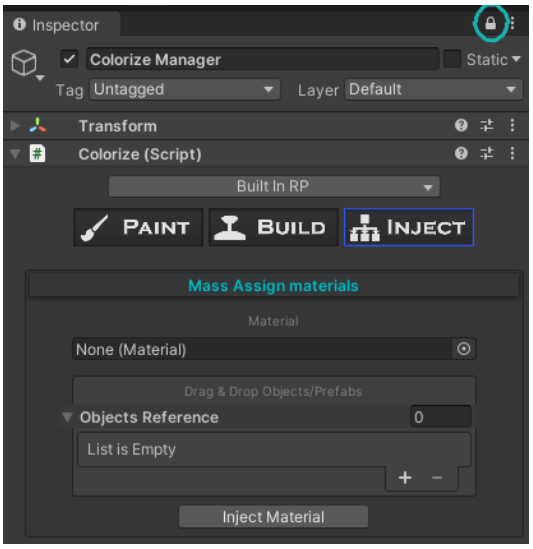


Inject Mode (Optional tool- standalone)

This tool can be used standalone, but it is also very useful in many situation while using colorize, so we decided to add it for free.

After you create a new material/color palette. You may want to assign this to an array of object. But this could be cumbersome if you are to do it manually. Thus you can use this tool to mass assign your material!

Note: you can lock your inspector window and mass drag objects or prefabs into the array field



Caution: The referenced parents object must be the ones that either have a meshRenderer, or skinnedMeshRenderer. This tool will not apply the material to any children of the referenced objects.

Limitations

- Only works on URP and BuiltIn-RP
- Only works on UniversalRenderPipline/Lit Shader and the Standard Shader
- Only works with solid color palettes and patterned color palettes
- Does not work with gradient color palettes

Planned features

- Optional feature: mass inject to also inject viable children of the referenced objects.
- Compatibility with other custom shaders and other shaders
- Compatibility with HDRP
- Occlusion editing
- Color group segregation (similar to color merge prevention but on instantiation)

Support

Video guides available on this asset store page (Unity asset store)

Please contact us on Discord for support!

Special thanks

My Mentors:

Steve Smith (Code Master)

Justin (Art Master)