Palette Modifier Lite - Guide

Contents

1. Introduction

Thank you for downloading **Palette Modifier L**. I hope this editor extension will help you make your game world more colourful and unique.

If you have any issues or feature requests, please contact me using the one of the links at the end of this guide.

2. Texture Grid Scriptable Object

To be able to correctly modify the colors of a texture atlas, like the one in *Figure 1*, Palette Modifier needs to know which parts of a texture atlas are a single flat color and which are texture patterns. It also needs to know where they are located on the texture atlas. The ***Texture Grid*** scriptable object is used to store this information.

Figure 1

2.1. Create a Texture Grid

To create a new ***Texture Grid***, right click inside the ***Project*** window and in the context menu select *Create->Palette Modifier->Texture Grid,* Figure 2.

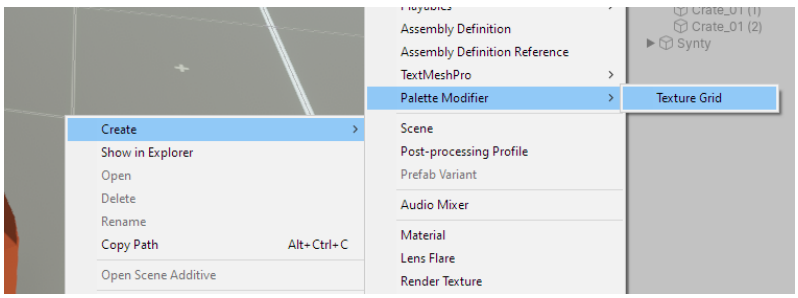

Figure 2

Select the **Texture Grid** in the Project window, and in the Inspector window, place the texture atlas used by the object you want to modify the colors of, in the ***Texture Atlas*** field, Figure 3.

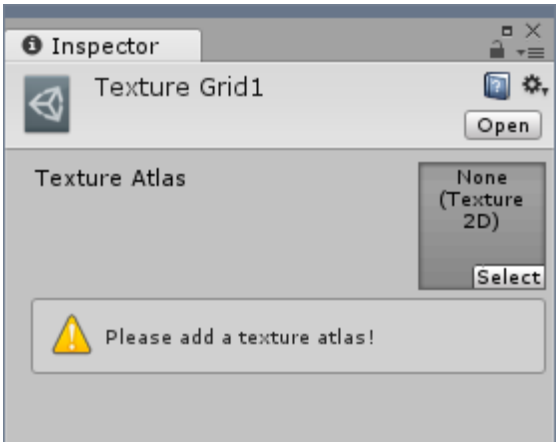

Figure 3

You can also select the texture atlas you want to modify, right click it and create a **Texture Grid.** By doing so, the new **Texture Grid** will have the texture atlas already assigned to it as well as have the same name as the texture atlas plus the prefix TG_.

Depending on the settings of your texture atlas, you may see 2 warning messages after you place the texture atlas in the ***Texture Atlas*** field, Figure 4.

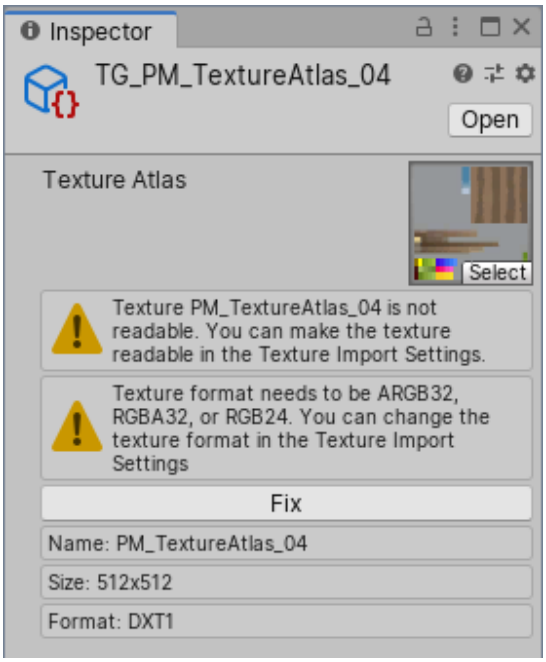

Figure 4

Since PM modifies the data of a texture, we have to enable ***Read/Write*** toggle and set the texture format to ***RGBA32***, ***ARBA32*** or ***RGB24***. This can be done in the texture atlas **Import Settings** Figure 5, or you can press the **Fix** button, Figure 4.

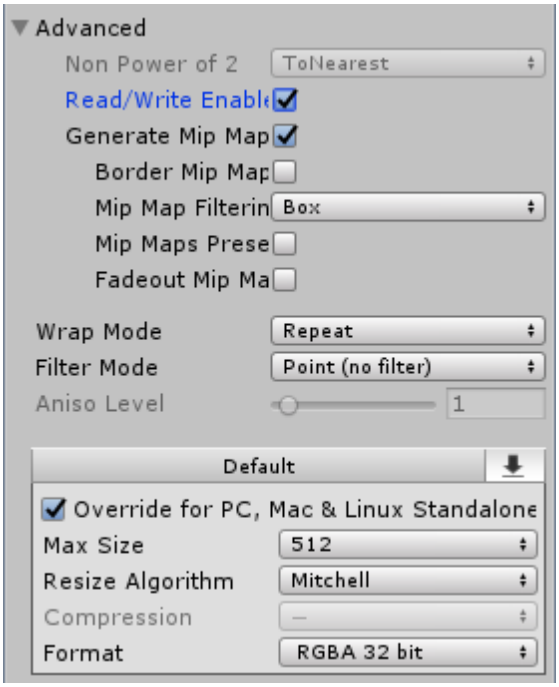

Figure 5

After you enable **Read/Write** and change the format, "**Open Grid Editor"** button will appear in the inspector. Press it to open the grid editor window, Figure 6.

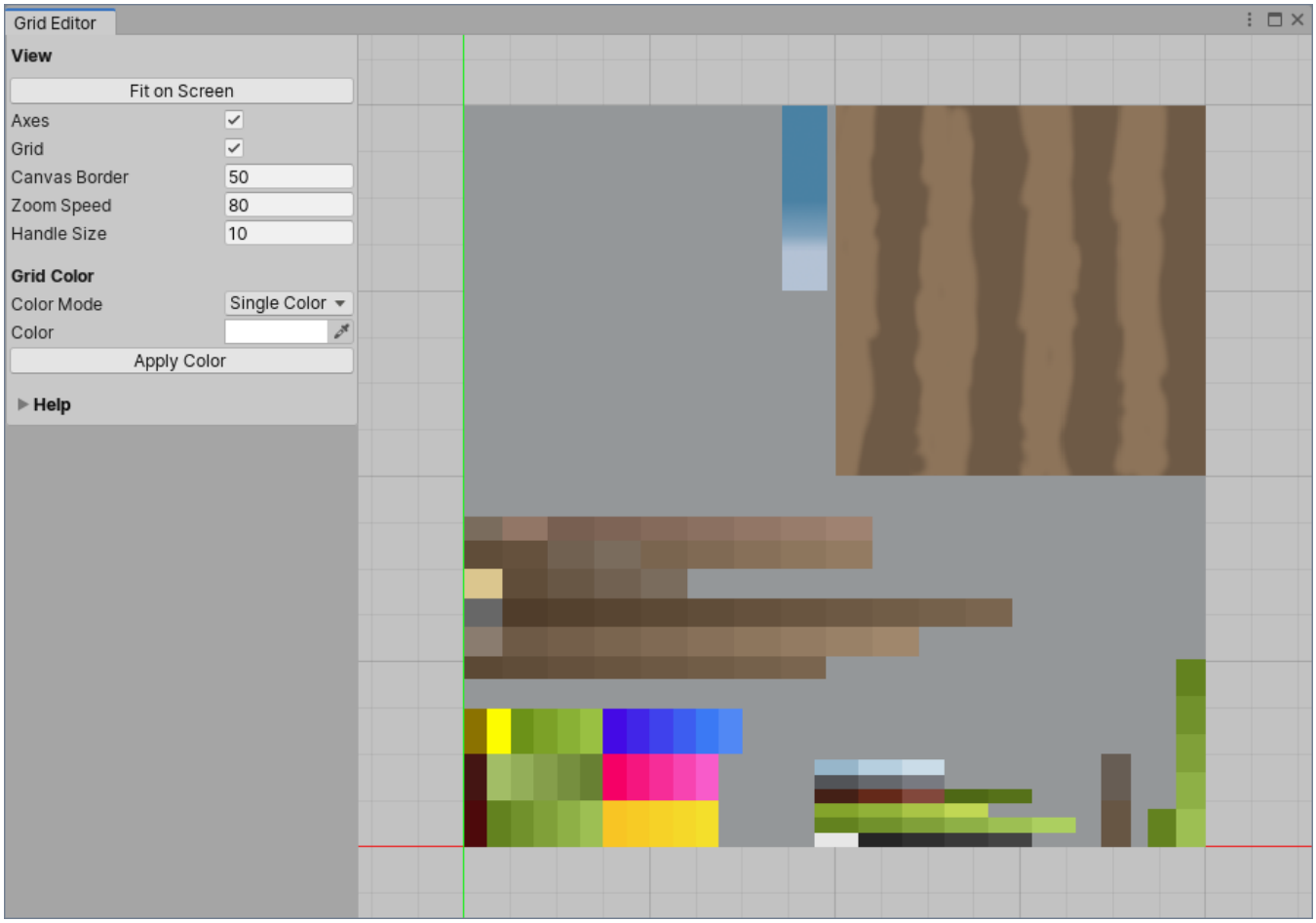

Figure 6

2.2. Grid Editor Window

The Grid Editor Window can be opened by selecting a **Texture Grid** scriptable object and pressing the button "**Open Grid Editor"**. The **Grid Editor** has several distinct sections: the *side panel*, the *viewport* and the *active canvas*.

2.2.1. The Side Panel

This section is divided in two parts. The top part contains the viewport settings, Figure 7.

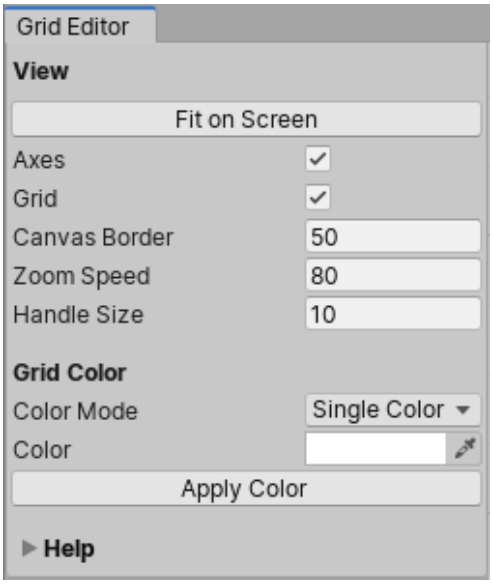

Figure 7

- **Fit on Screen** - Resizes the active canvas based on the current size of the viewport and the value of **Canvas Border**.
- **Axes** - Shows/Hides the viewport axes.
- **Grid** - Shows/Hides the viewport grid.
- **Canvas Border** – The minimum distance between the active canvas and viewport edges, when *Fit on Screen* option is used.
- **Zoom Speed** – The speed of the zoom in/out.
- **Handle Size** - The size of a Flat Color Grid/Texture Rec handles.
- **Color Mode** - Controls how the *Flat Color Grids/Texture Recs* that exist on the active canvas, should be colored. When set to ***Single Color***, all the *Flat Color Grids/Texture Recs* will be colored based on the value of **Color** field. When set to ***Random Color***, a random color will be applied to the *Flat Color Grids/Texture Recs.*
- **Color** – The color that is be applied to all *Flat Color Grids/Texture Recs.*

- **Apply Color** – Changes the colors of the *Flat Color Grids/Texture Recs,* based on the settings of the **Color Mode**.

The bottom part is a scroll area and contains the settings of all the *Flat Color Grids and Texture Rectangles* that exist on the active canvas, Figure 8.

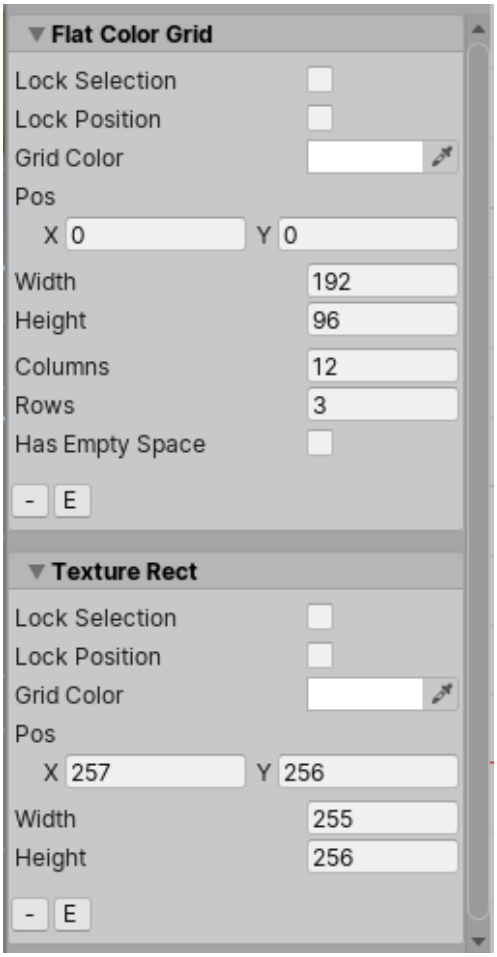

Figure 8

- **Lock Selection** – When this toggle is enabled, a *Flat Color Grid/Texture Rec* can't be selected with just left mouse click. You have to hold **LEFT SHIFT** to be able to select or modify a *Flat Color Grid/Texture Rec.*
- **Lock Position** – When this toggle is enabled, a selected *Flat Color Grid/Texture Rec* can't be dragged. This feature is useful when you change the position of a vertical/horizontal line of a *Flat Color Grid* as it will make sure you don't accidentally move the grid instead of the line.
- **Grid Color** – The color of a *Flat Color Grid/Texture Rec* on the active canvas.
- **Pos** – The position of a *Flat Color Grid/Texture Rec* in the texture pixel space. The origin of a *Flat Color Grid/Texture Rec* is at the bottom left corner of the *Flat Color Grid/Texture Rec.*

- **Width** – The width of a *Flat Color Grid/Texture Rec* in the texture pixel space.
- **Height** - The height of a *Flat Color Grid/Texture Rec* in the texture pixel space.
- **Columns** – The number of columns a *Flat Color Grid* has.
- **Rows** - The number of rows a *Flat Color Grid* has.
- **Has Empty Space** – This option should be enabled if the segment of the texture atlas that is covered by a *Flat Color Grid* has unused space. When *Break Color Sharing* is used PM will search for *Flat Color Grid* that have "**Has Empty Space"** toggle enabled.
- **The "-" button** – Deletes a *Flat Color Grid/Texture Rec.*
- **The "E" button** – Allows you to edit the title of a *Flat Color Grid/Texture Rec.*

2.2.2. Viewport Controls

Viewport drag – To drag the viewport, click and hold the *middle mouse* button. The viewport will follow the movement of the mouse arrow. If your mouse doesn't have a middle button, you can drag the viewport by holding *ALT + left mouse* button click and drag.

Viewport zoom – You can Zoom In/Out with the mouse scroll wheel. If your mouse doesn't have a scroll wheel, you can use the "**+", "-"** keys.

2.2.3. Viewport Context Menu

When you right click in the viewport, a context menu will be displayed, Figure 9.

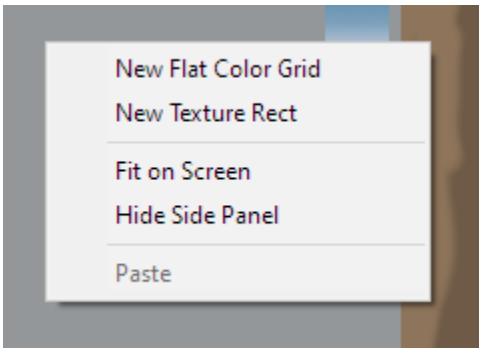

Figure 9

New Flat Color Grid – Creates a new ***Flat Color Grid*** with the origin at the current mouse position. If the mouse is outside the active canvas, its position is clamped so that the grid doesn't go outside of the active canvas. The ***Flat Color Grid*** is placed on those parts of the texture atlas that have flat colors, Figure 10.

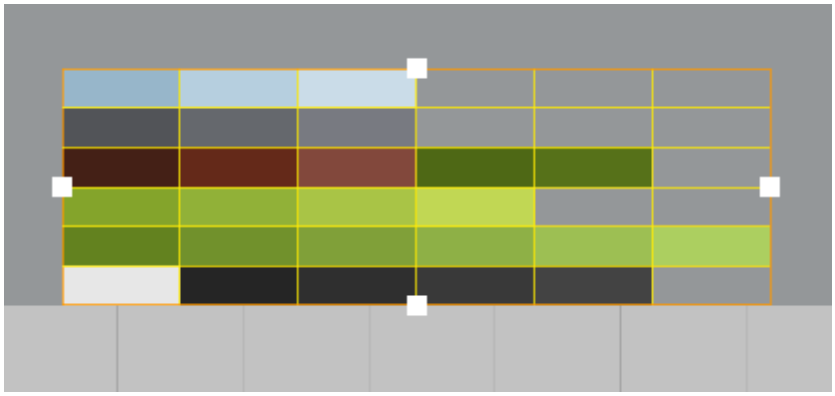

Figure 10

New Texture Rect – Creates a new *Texture Rect* with the origin at the current mouse position. If the mouse is outside the active canvas, its position is clamped so that the Rect doesn't go outside of the active canvas. The *Texture Rect* is placed on top of those parts of the texture atlas that have texture patterns, Figure 11.

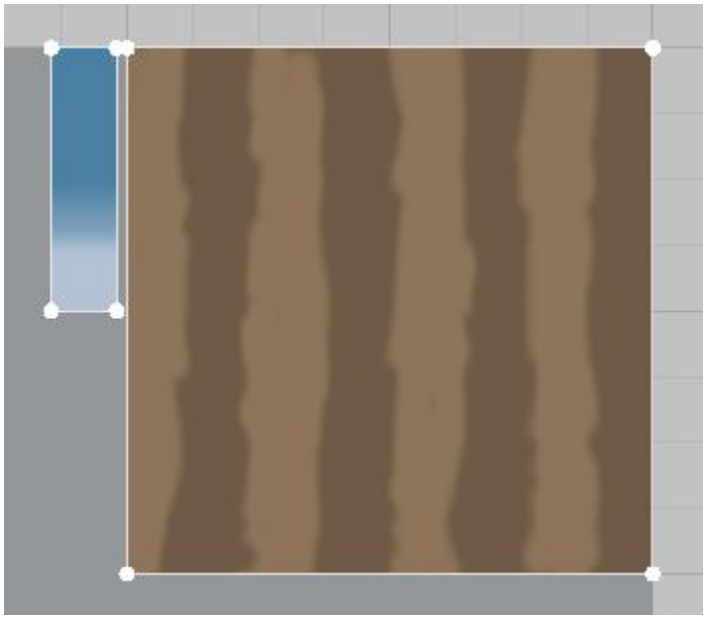

Figure 11

Fit on Screen - Resizes the active canvas based on the current size of the viewport and the value of **Canvas Border.**

Hide/Show Side Panel – Hides/shows the side panel.

Paste – Pastes a *Flat Color Grid/Texture Rect* if one was copied.

2.2.4. Flat Color Grid/Texture Rect Properties

The *position, width* and *height* of a *Flat Color Grid/Texture Rect* can be changed from the side panel, or you can click and drag one of the 4 handles, Figure 12.

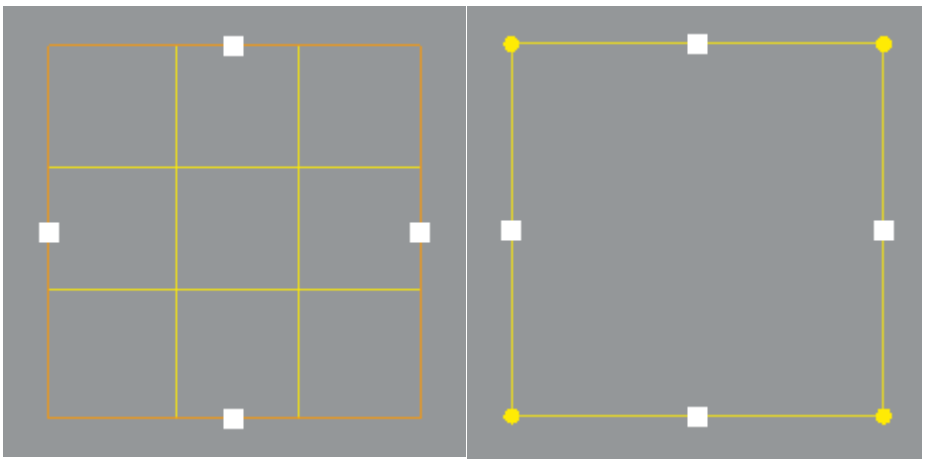

Figure 12

2.2.5. Flat Color Grid Context Menu

When you right click a selected *Flat Color Grid,* the following context menu will be displayed, Figure 13.

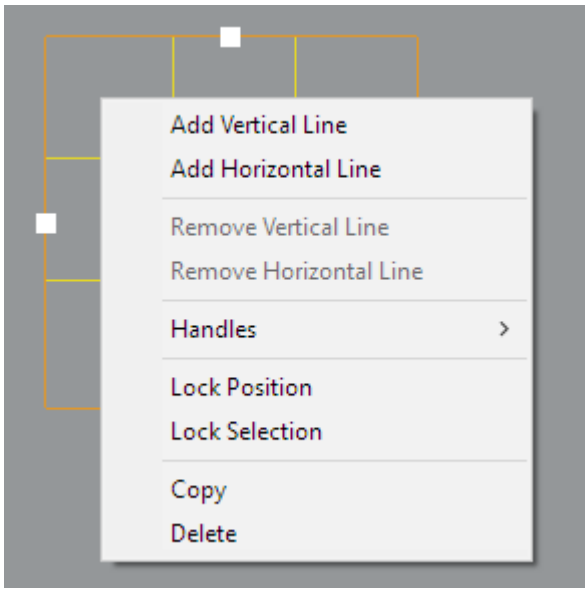

Figure 13

Add Vertical Line – Adds a vertical line in the column where the mouse arrow is currently located.

Add Horizontal Line – Adds a horizontal line in the row where the mouse arrow is currently located.

Remove Vertical Line - Removes a vertical line. This option becomes available only if the mouse arrow was over a vertical line when right click was performed.

Remove Horizontal Line - Removes a horizontal line. This option becomes available only if the mouse arrow was over a horizontal line when right click was performed.

Handles – Leads to a submenu with handle position options, Figure 14.

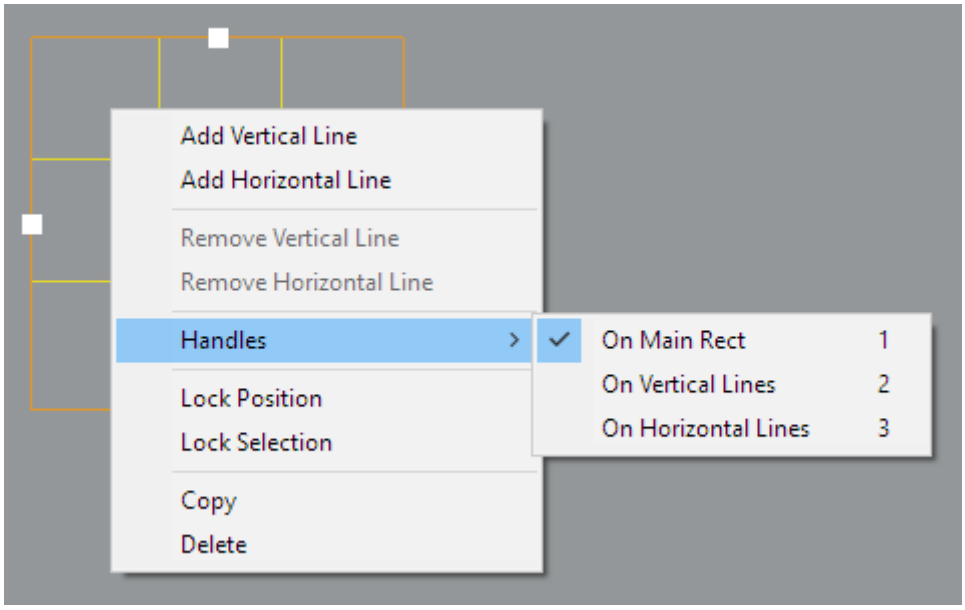

Figure 14

`**On Main Rect** – Positions the handles on the main rectangle of the grid. Dragging a handle changes the width/height of the grid, Figure 15.

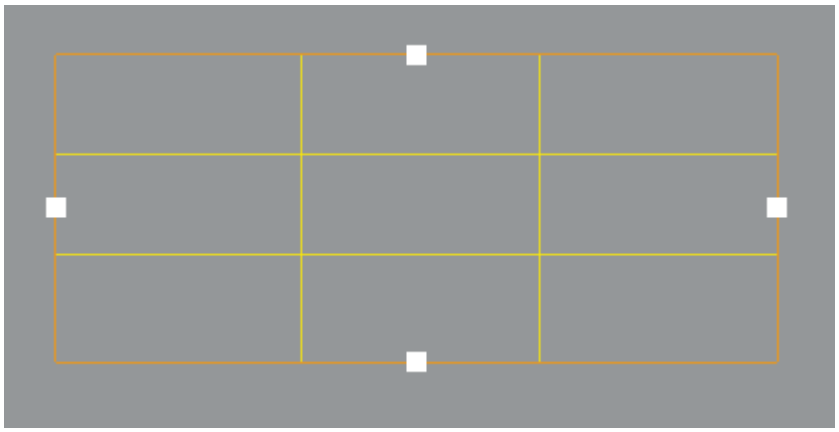

Figure 15

On Vertical Lines – Positions the handles at the center of the vertical lines. Dragging a handle changes the position on the X axis a vertical line has. A vertical line can only be moved between its neighbours and can't go past them, Figure 16.

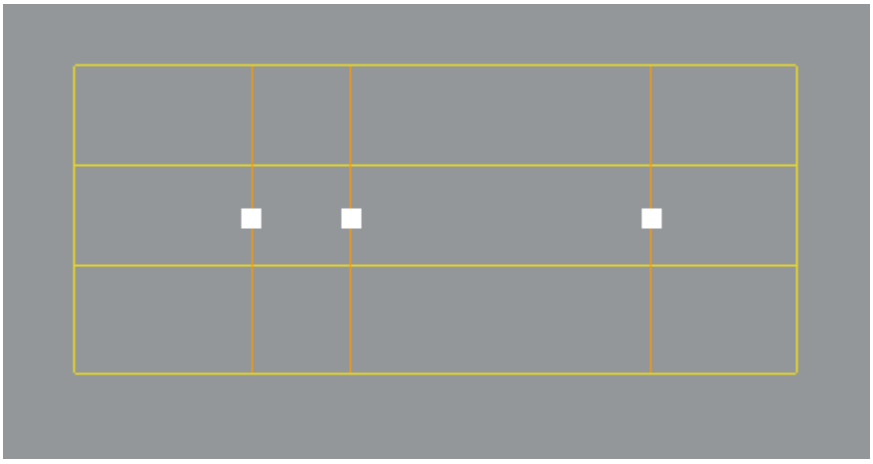

Figure 16

On Horizontal Lines - Positions the handles at the center of the horizontal lines. Dragging a handle changes the position on the Y axis a horizontal line has. A horizontal line can only be moved between its neighbours and can't go past them, Figure 17.

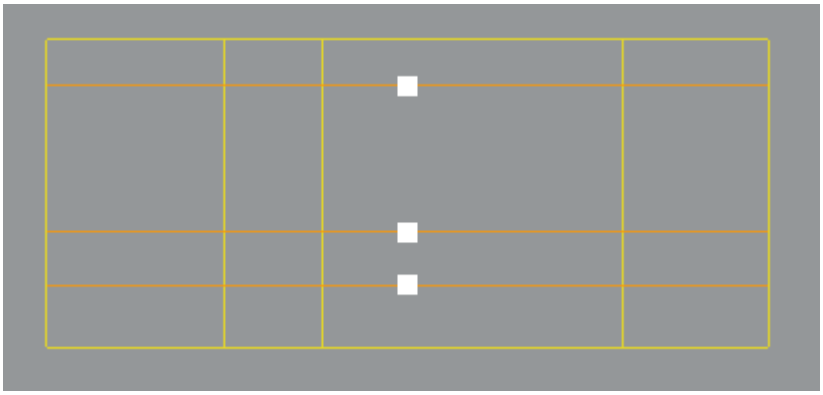

Figure 17

Lock Selection – When this toggle is enabled, the grid can't be selected with just left mouse click. You have to hold **LEFT SHIFT** to be able to select and move the grid handles.

Lock Position – When this toggle is enabled, the grid can't be dragged. This feature is useful when you change the position of a vertical/horizontal line, as it will prevent you from accidentally moving the grid instead of a line.

Copy – makes a copy of the currently selected grid.

Delete – Deletes the currently selected grid.

3. Palette Modifier Script

After the **Texture Grid** scriptable object is created, select the GameObject you want to change the colors of, click the ***Add Component*** button and search for "***Palette Modifier***", Figure 18.

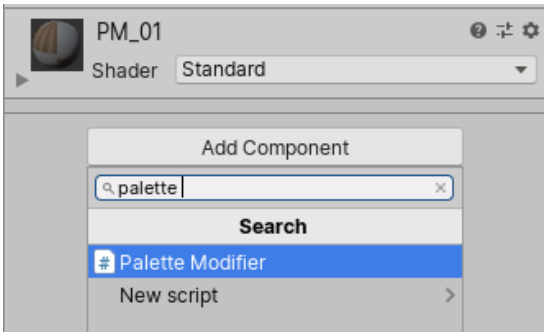

Figure 18

After the script is added, PM will search for a **Texture Grid** with a reference to the texture used by this object, then it will build a list of all the colors that are used by the current GameObject, Figure 19.

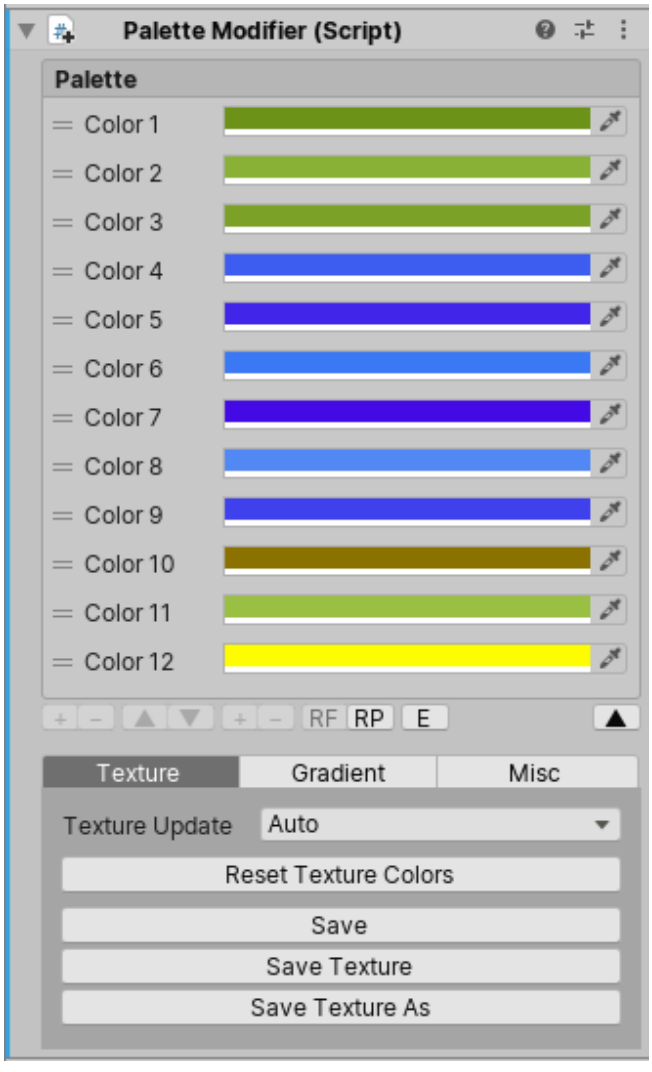

Figure 19

4. Rules and Tips

- A texture atlas should be referenced by only a single **Texture Grid** scriptable object.
- The changes you make to the texture are not automatically saved to HDD. This means that if you make some changes to the texture atlas, and do not save them, those changes will be lost when you close the Unity Project.
- If you have several texture atlases that are just color variations of one another, you don't need to create a Texture Grid (create Flat Color Grids and Texture Rects) scriptable object for all of them. You can create a Texture Grid for one texture atlas, duplicate it and replace the texture atlas it references.
- After you no longer need **Palette Modifier**, you can restore the original texture atlas format.
- If you add the ***Palette Modifier*** script to an object and notice that not all the object colors are in the inspector, most likely this is because in the **Texture Grid** not all flat colors are covered with a **Flat Color Grid.** Open the Grid Editor and make sure all the flat colors and texture patterns are covered with a **Flat Color Grid/Texture Pattern Rec.** After that go to **Misc** tab and press **Rebuild PM Data** button.

5. Social Links

Forum Thread: http://bit.ly/palettemodifier

Discord Channel: https://discordapp.com/invite/RCdETwg

Email: johnq002@gmail.com

Video Tutorial: https://youtu.be/fLf4WSjlBPI