



POLYPAINT

Set up PolyPaint in Unity

Once you've purchased PolyPaint from the Unity Asset Store (thank you!), you're just three easy steps away from starting your vertex painting adventures!

1

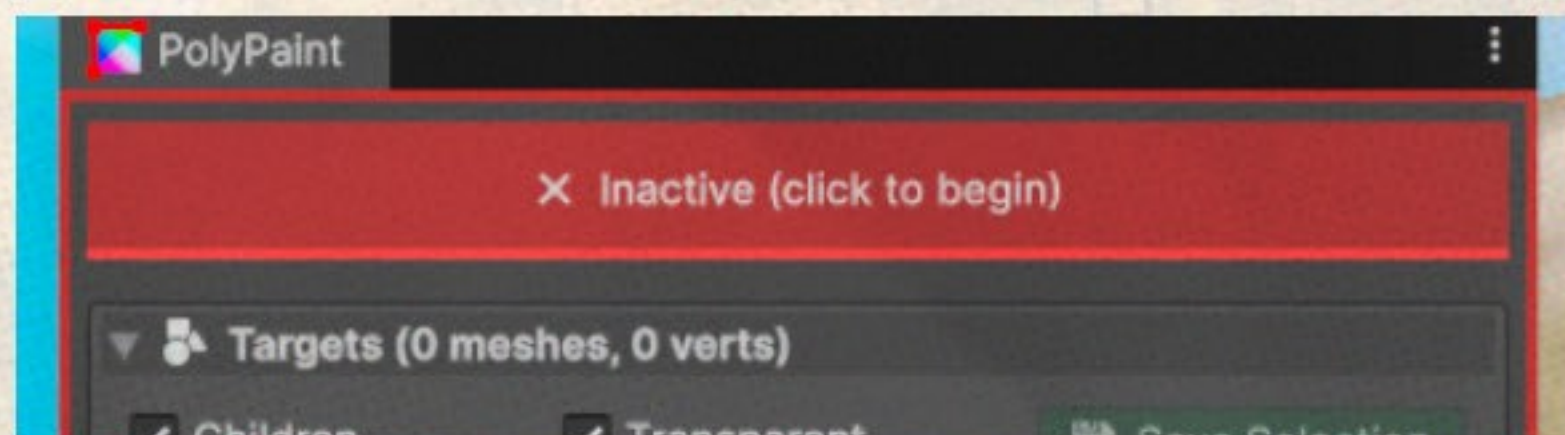
Download and import the PolyPaint package from the Package Manager (Window > Package Management > Package Manager)

2

Open a scene of your own or the included demo scene located in the PolyPaint package folder (PolyPaint/Scenes/DemoScene.unity)

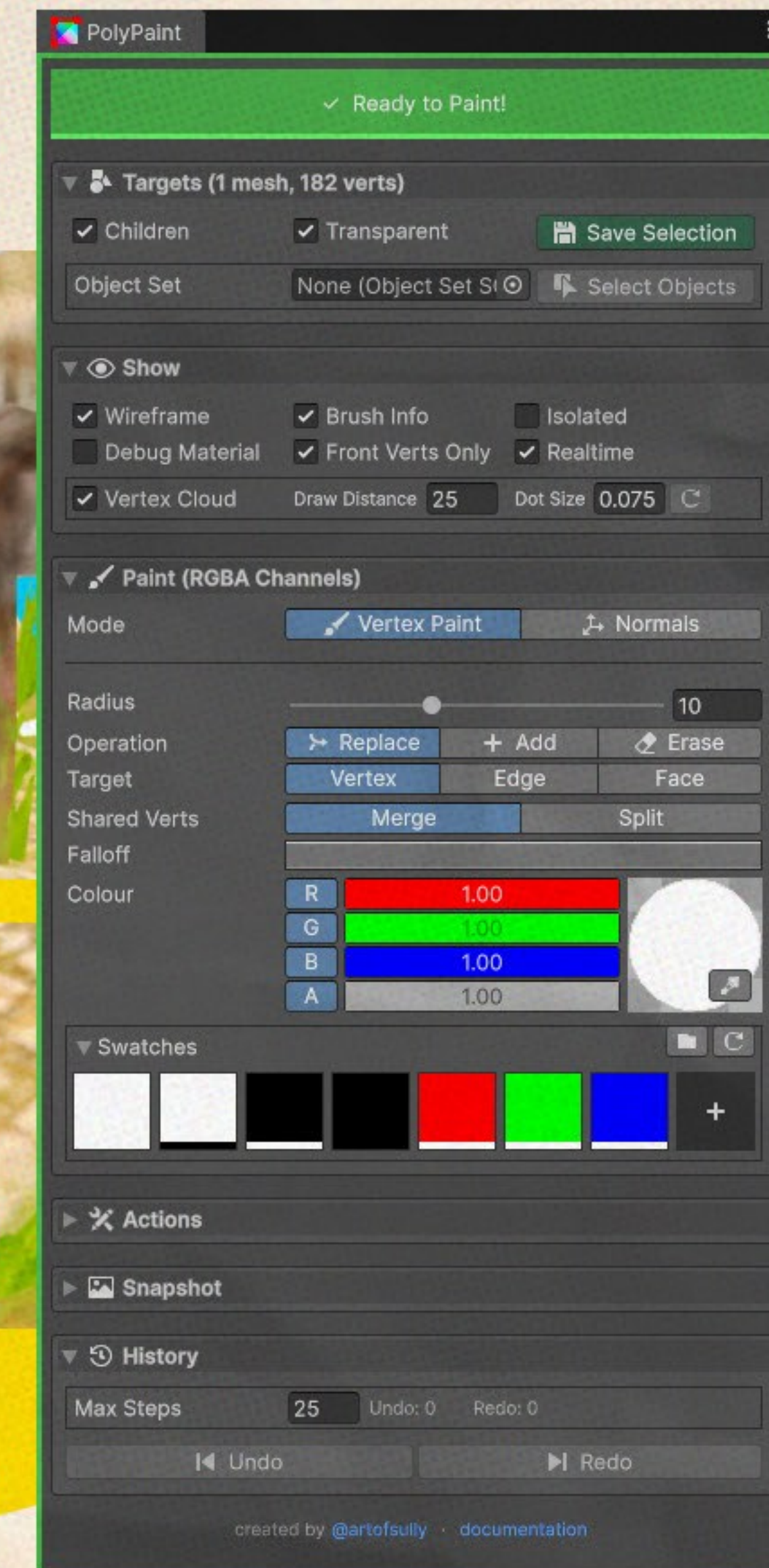
3

Open PolyPaint via Tools > PolyPaint or with the Overlay HUD (see page 5 on how to add the overlay if it doesn't show up automatically)



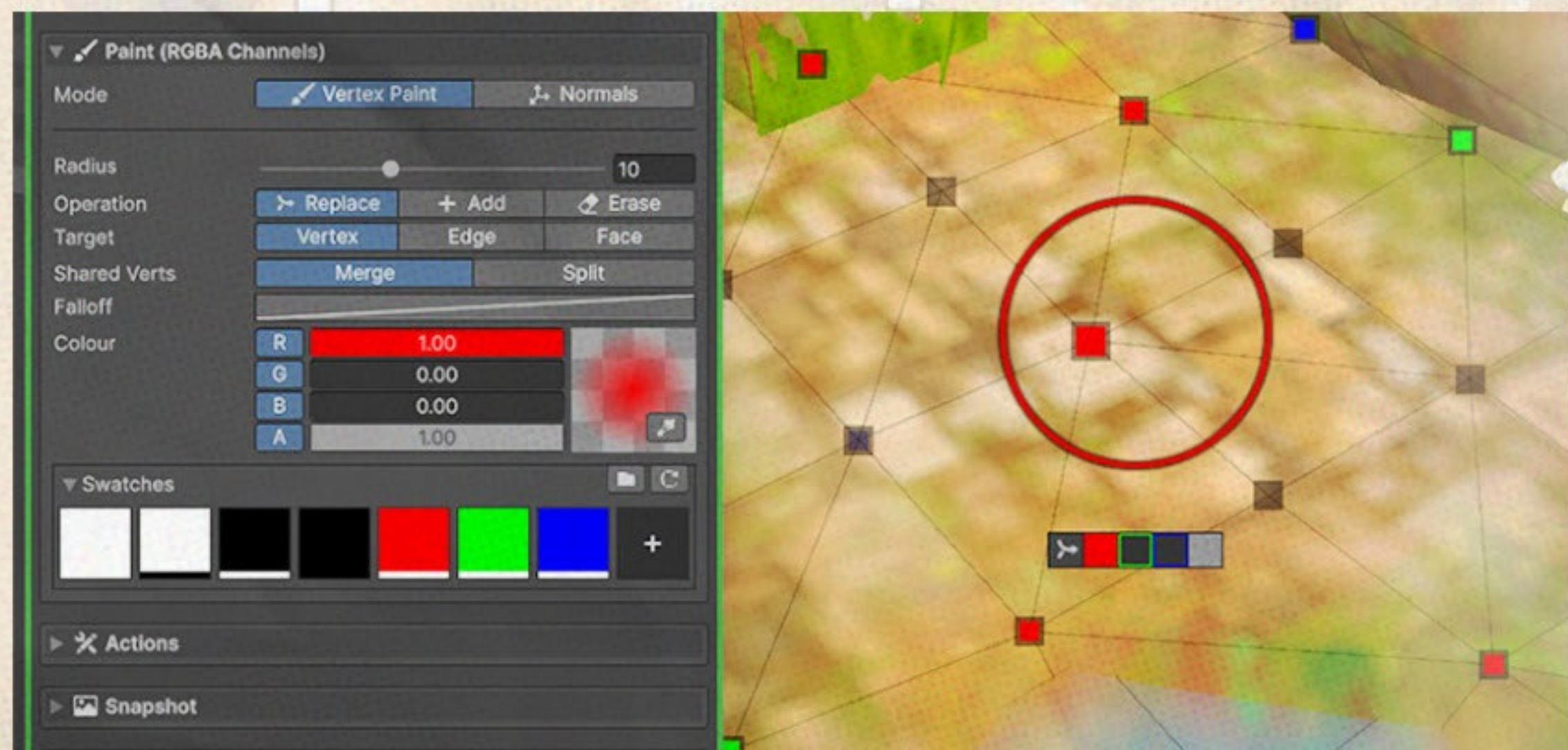
You're in! Click the big red button at the top of the tool to activate it, then select a mesh, and you're ready to start painting! Check out the rest of the manual for more info, hover your mouse over the options for helpful tooltips, or click the link at the bottom of the window for the Online Documentation.

GETTING STARTED





POLYPAIN



Paint directly on meshes!

Set your brush size, falloff, blend mode, colour, and away you go! Any mesh* can be painted on straight from the Editor, no special setup required outside of having a material that utilises vertex colours!

*PolyPaint doesn't work on skinned mesh renderers

Brush modes and options

- **Replace:** overwrites existing vertex colour with your brush colour
- **Add:** accumulates brush colour on top of existing vertex colours
- **Erase:** transition vertex colours back to zero (black)
- **Falloff:** reduce the opacity of the colour applied at the edges of the brush radius
- **Target:** paint single verts, or the combined verts that make up edges or faces
- **Merge / split:** how to handle triangles that share the same verts

VERTEX PAINTING

Convenient time-saving tools

Channel Isolation:

Click the RGBA buttons in the Colour section to toggle what channels your brush will affect when painting



Eyedropper:

Inspect and sample vertex colours right from the viewport

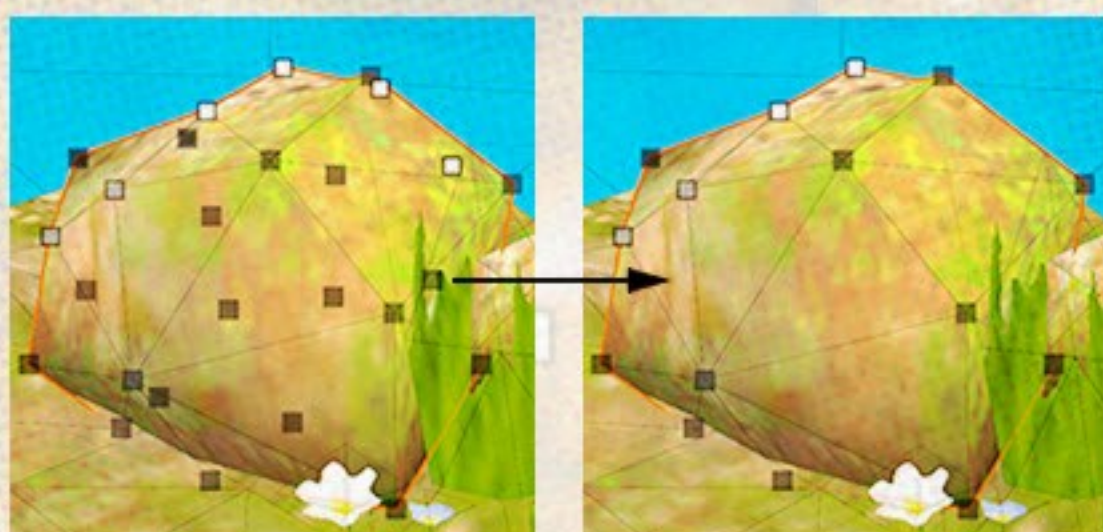
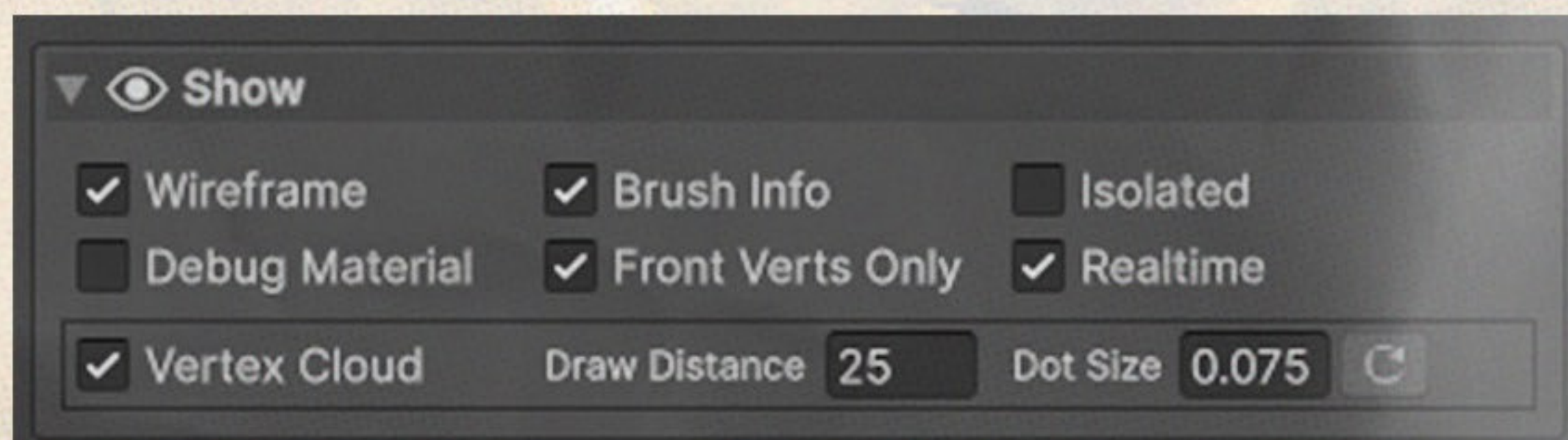
Swatches:

Save frequent colours to Swatches or import them from an image file



Choose what you want to see

PolyPaint quickly toggles on some useful visualisations when you activate it: mesh wireframe, a floating dot cloud to represent verts, and your current brush settings!



Front Verts Only

Toggling this option will change what verts are available to paint on based on if they are obscured or not

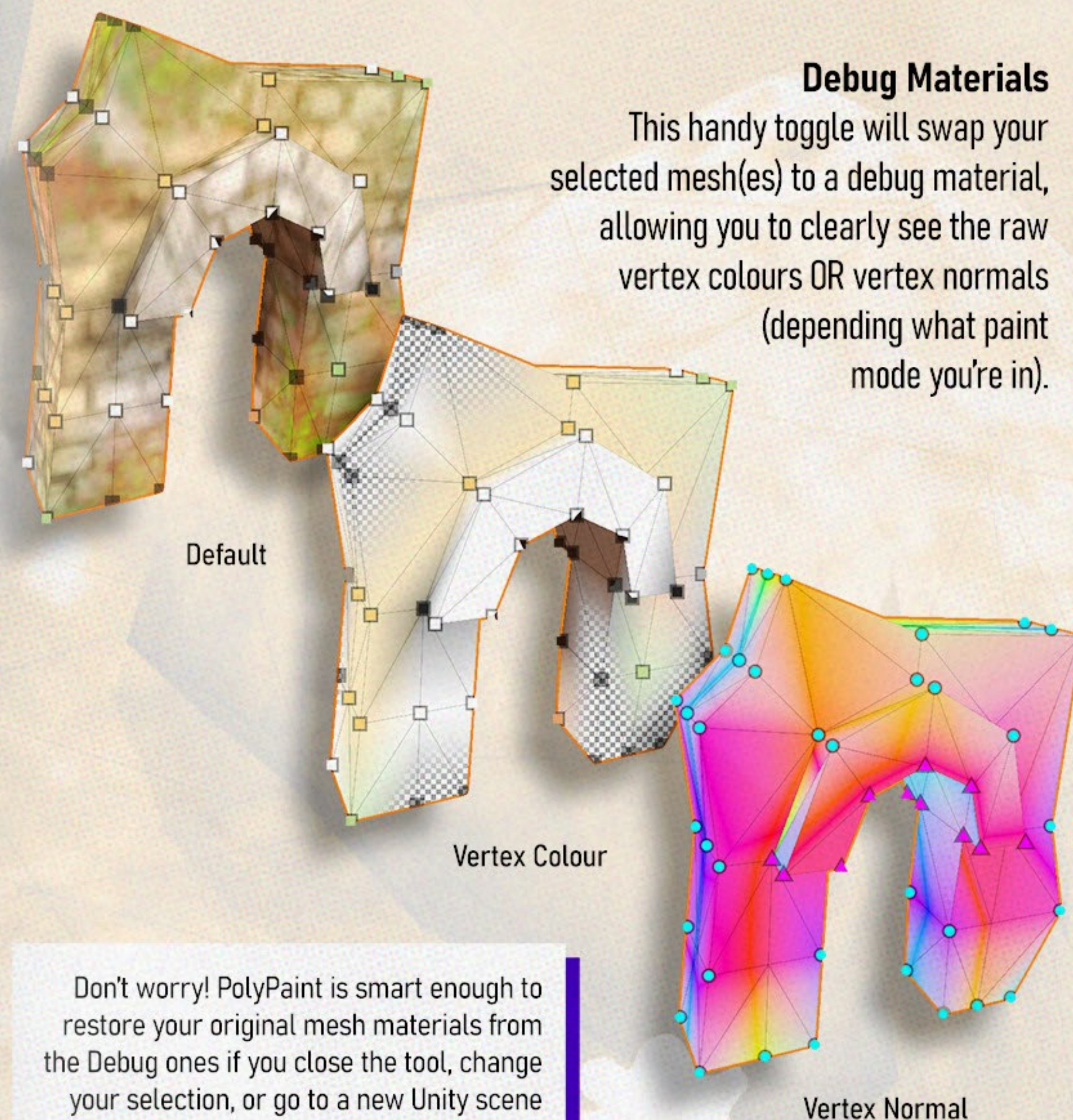
Overlay Menu

PolyPaint comes with a dockable overlay for the viewport for easy access to the tool, visual toggles, and undo / redo buttons. Ensure Scene viewport overlays are enabled and then find it in the Unity Overlay Menu under Custom > PolyPaint.



Debug Materials

This handy toggle will swap your selected mesh(es) to a debug material, allowing you to clearly see the raw vertex colours OR vertex normals (depending what paint mode you're in).



Don't worry! PolyPaint is smart enough to restore your original mesh materials from the Debug ones if you close the tool, change your selection, or go to a new Unity scene



Author custom Vertex Normals

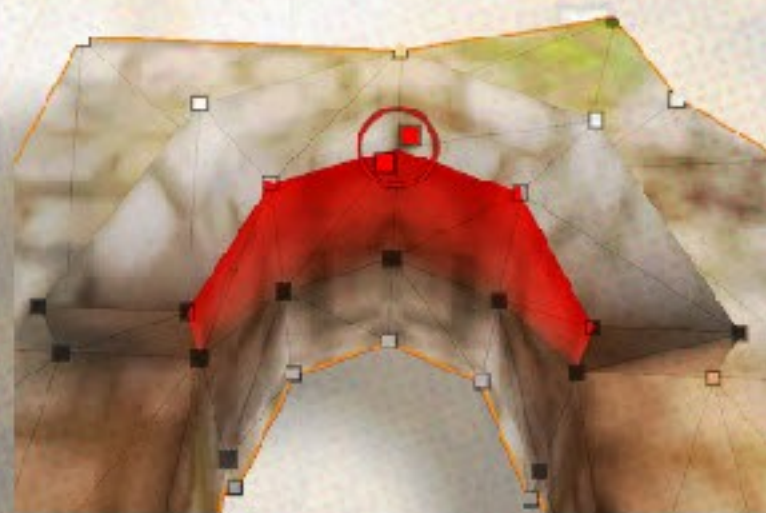
Hard vs Smooth vertex normals

Hard normals will make edges look sharp and flat and also create seams along edges that you can utilise for vertex painting. Smooth normals will soften mesh edges and merge verts that triangles share, leading to soft blended paint averaged across the surface.

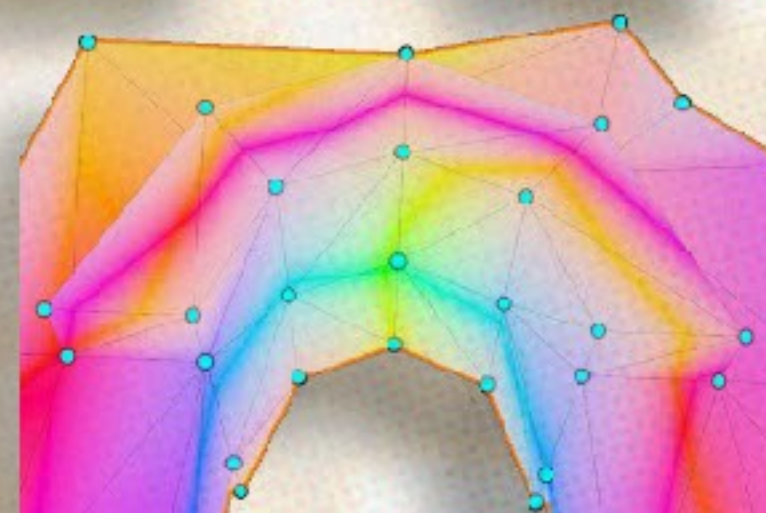
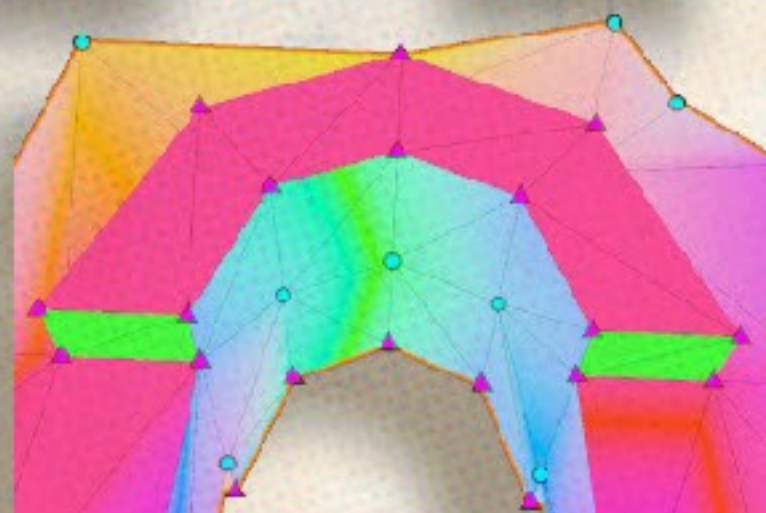
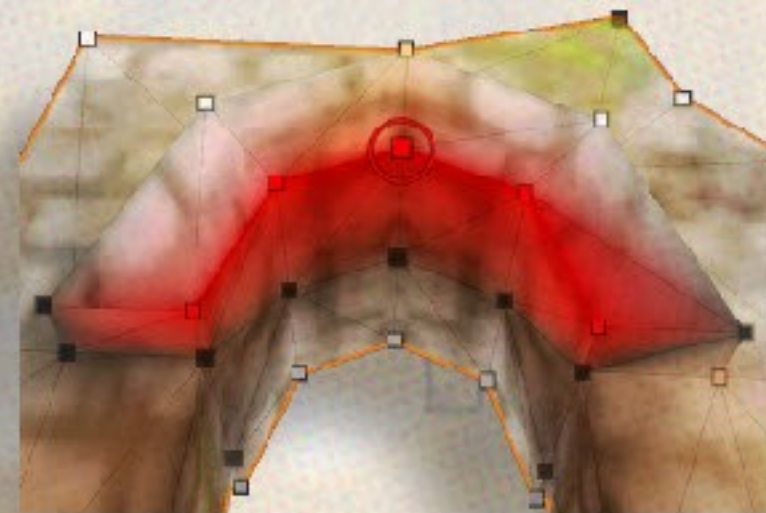


Tip: use the 'Edge' Target when painting Hard normals along seams to stop hard normals spreading onto verts you don't want

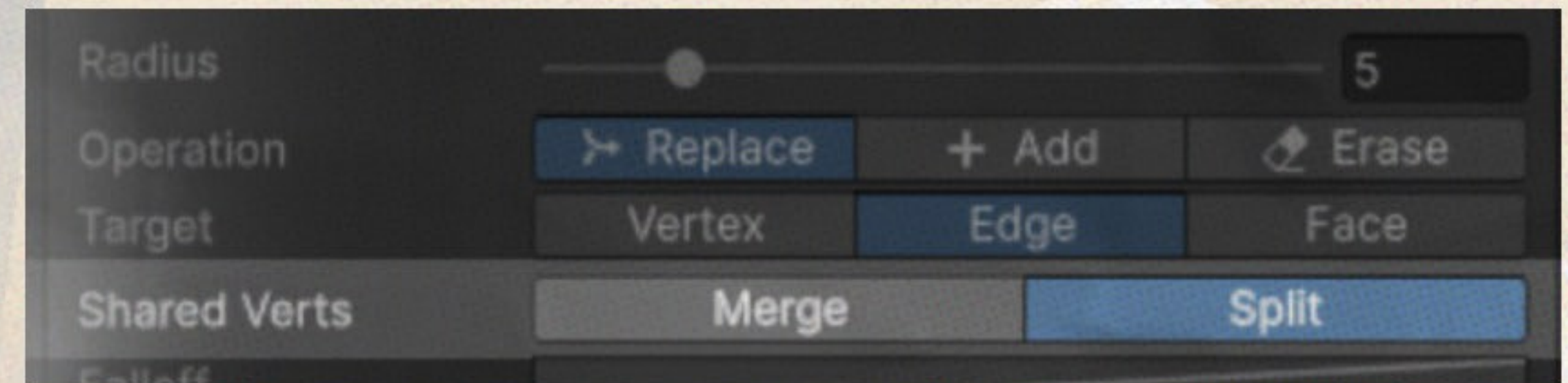
Hard
Vertex
Normals



Smooth
Vertex
Normals



Make the most of Vertex Normals for painting

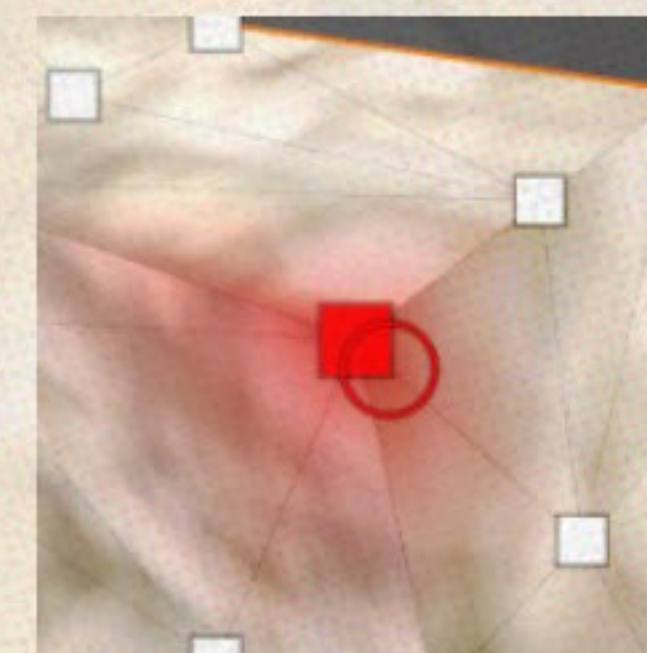


Merge and Split Shared Verts

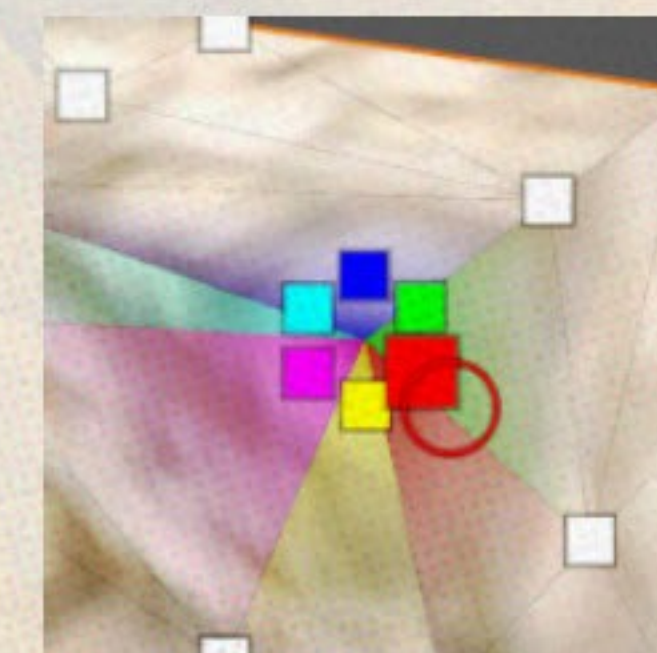
In the Paint section, you have the option to determine how triangles that share verts will be painted.

PolyPaint has logic built-in to maintain existing UV seams during the reconstruction the mesh goes through when you change vertex normals

Did you know? When you export a mesh from 3D software, any hard shaded triangles that share verts actually have those verts duplicated per triangle on export? They're invisible but they're there! If you toggle Smooth and Hard shading on a mesh you can actually see its vert count go up!



Merge



Split

Merge paints a soft combined colour across all triangles that share a vert.

Split breaks apart shared verts so you can paint each triangle individually.

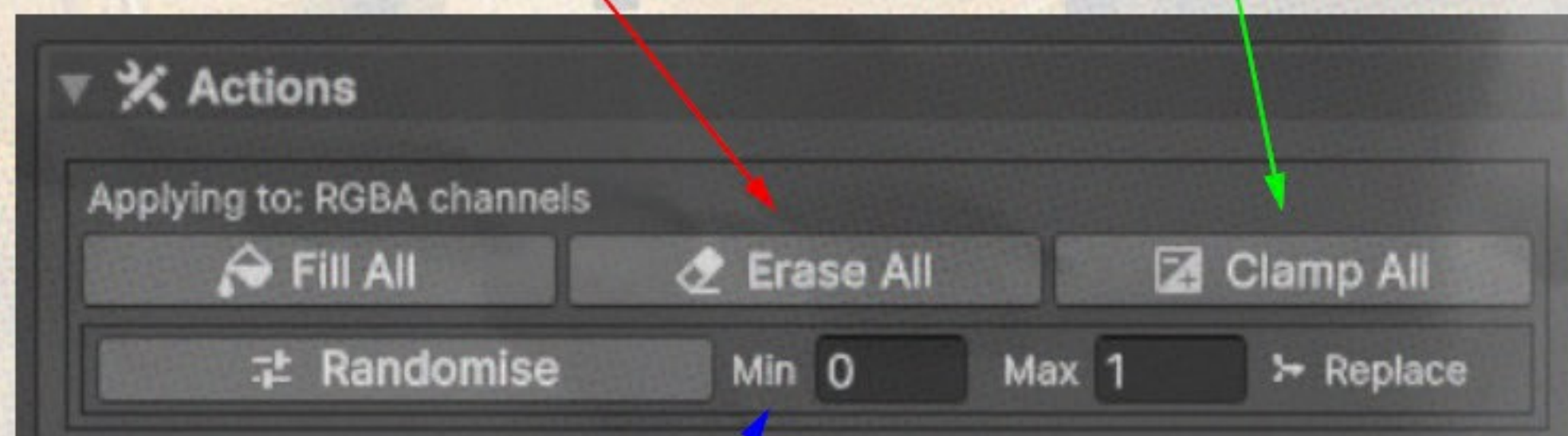


POLYPAINT

Fill All / Erase All:
Fill the selected mesh(es) with your current paint colour or erase the chosen channels to zero (black)



Clamp All:
Round any loose vertex colour values to 0 or 1



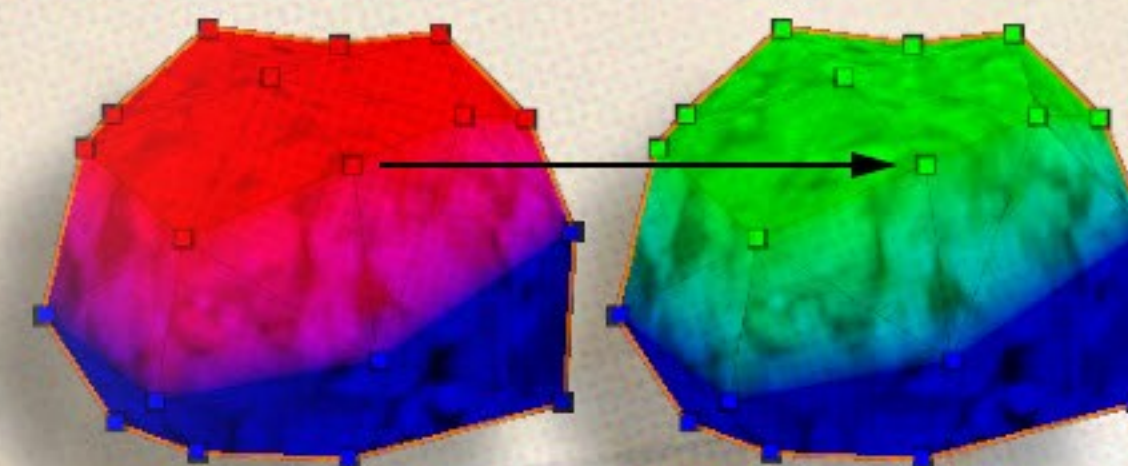
Randomise:
Replace, add, or erase a unique value from every vert



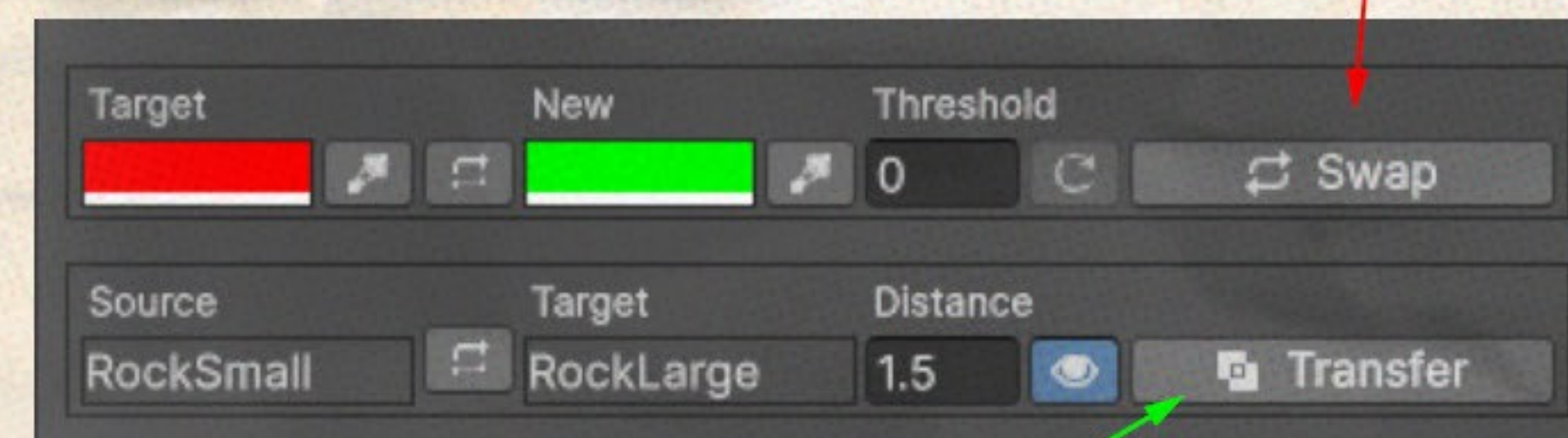
Channel-specific Actions

Actions take into consideration your current paint colour, as well as what channels you have active. This means you can apply a Fill just to the Red Channel, or Clamp just to the Alpha Channel.

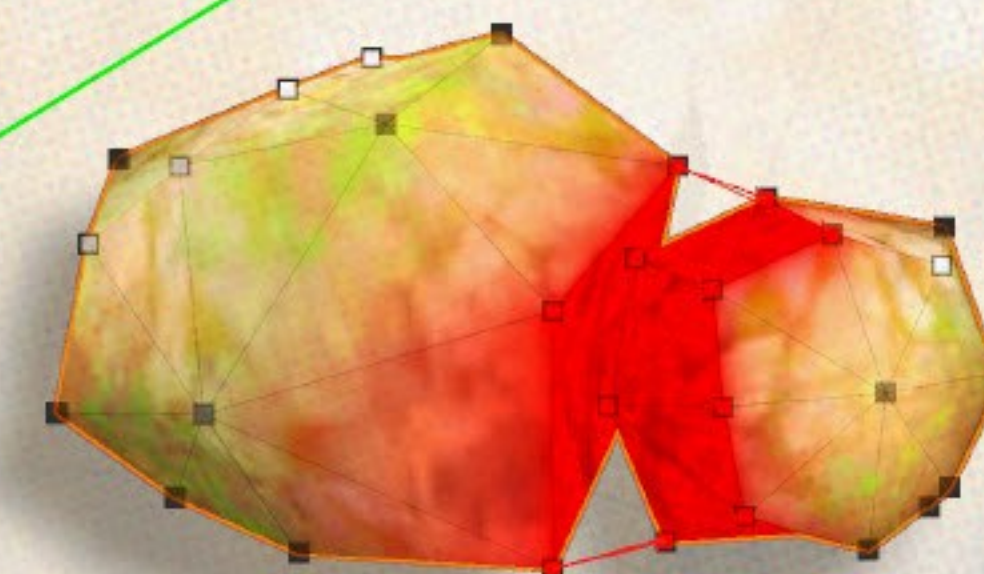
QUICK ACTIONS



Swap:
Take a target colour and replace it with a new one



Transfer:
Copy vertex colour / normals from one mesh to another by proximity. Useful for high>low mesh transfers, or spreading fake light sources



Robust mesh re-import solution

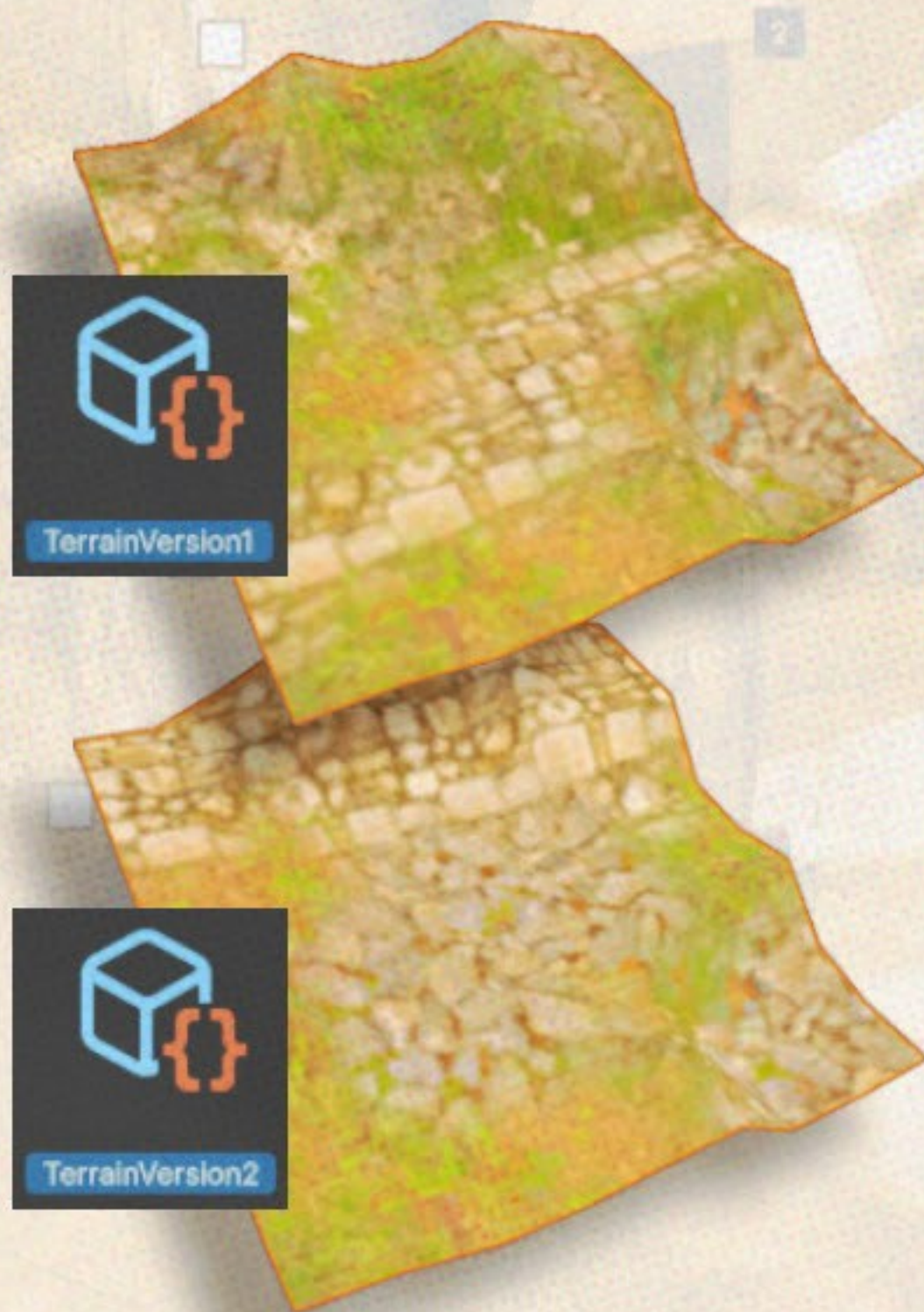
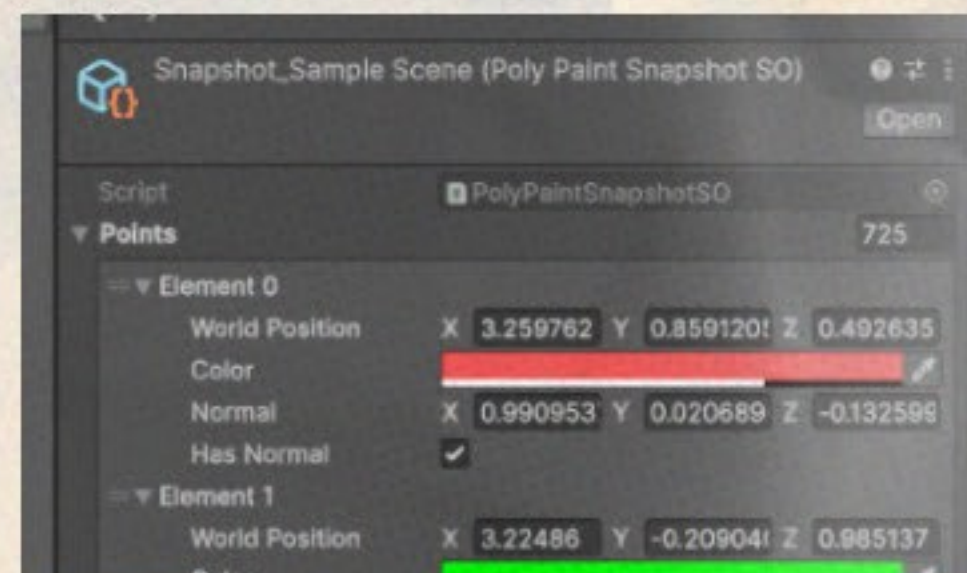
When you paint a mesh a 'Poly Paint Instance' suffix is added to the mesh filter. Because of this Unity loses its import reference to the source asset and can no longer auto update it. PolyPaint's manual Re-Import button takes over this function while keeping transform, material, vertex paint / vertex normal data intact.



POLYPAIN

Save history, versions, and reusable paint assets

PolyPaint uses a system called Snapshots to record all the vertex paint and normal data on collections of meshes. They are used for undo / redo history and mesh re-importing behind the scenes, as well as allowing you to save work to version-controllable assets.



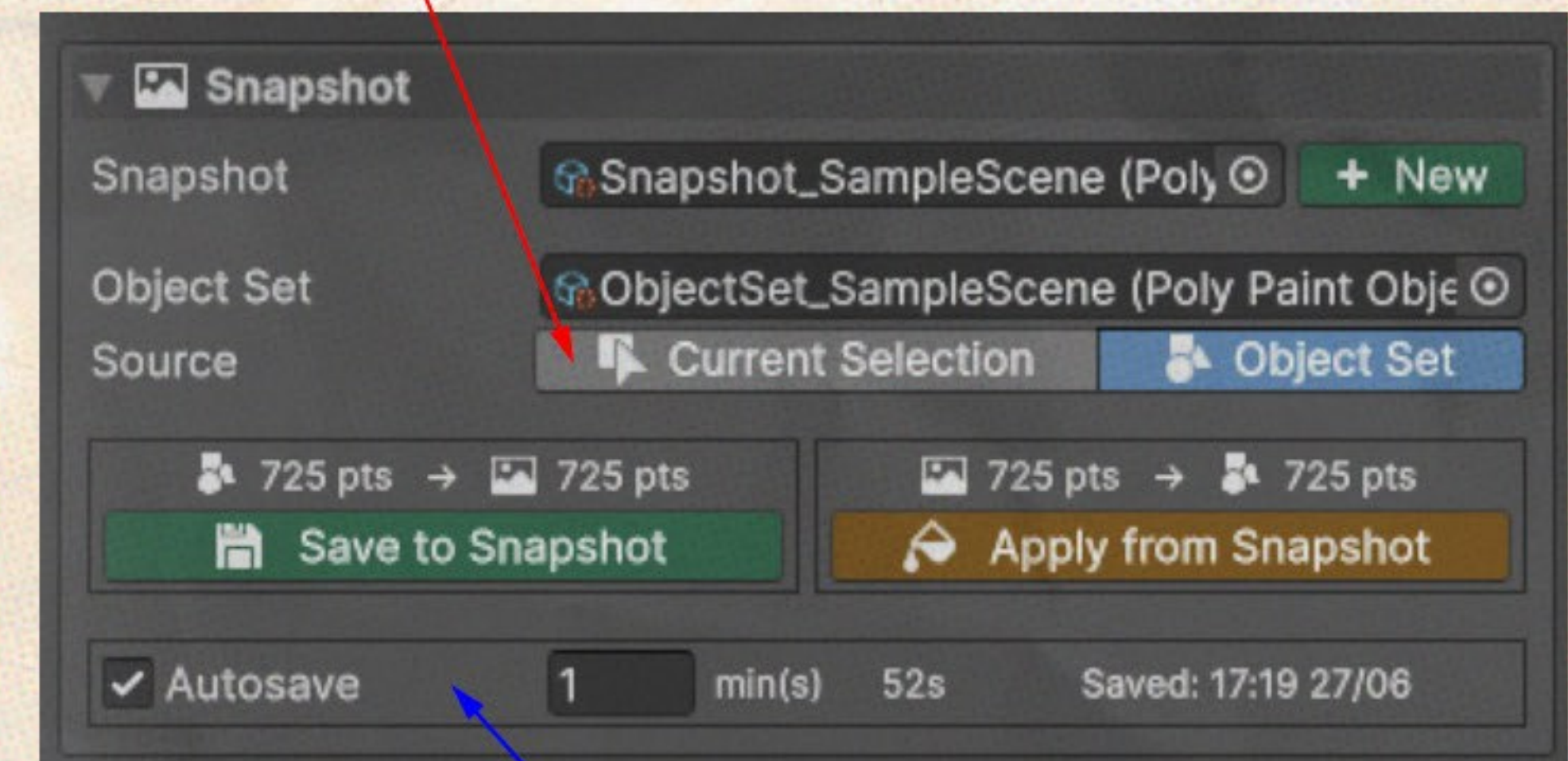
You could paint unique skyboxes and save them as Snapshots to reuse them across different scenes!

SNAPSHOTS

Source:

When saving or applying a Snapshot, you can choose whether PolyPaint should use your current selection or an Object Set you've created

Pay attention to what you have selected when saving / applying a Snapshot. You can undo an apply action and re-save if you accidentally overwrite your asset!



If you run out of undo / redo history, applying an old Snapshot asset could be a helpful recovery option!

Autosave:

You can enable autosaving to the loaded Snapshot asset at set increments. It will automatically overwrite the asset with whatever you have chosen as the Source