ZBrush Vector Displacement

Export OBJ and OpenEXR from ZBrush

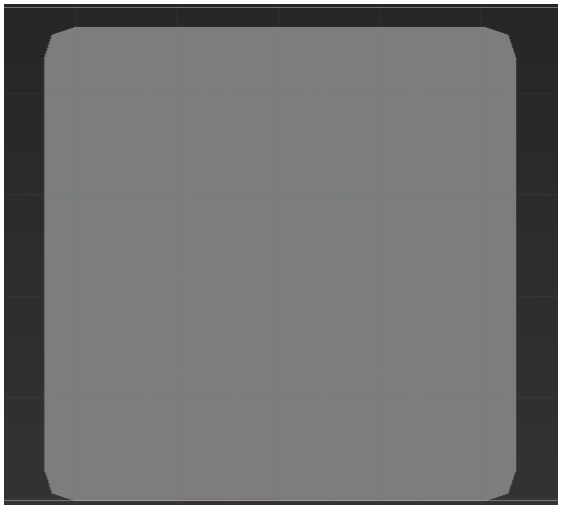
- Shift+d to step down to the **lowest subdivision.**

Lion Sculpted by Olivier Drion (highest subdiv)
Lion Sculpted by Olivier Drion (lowest subdiv)

- Hit the Switch button in **Morph Target to switch to the original model**. If you don't have a Morph Target setup, please consult ZBrush documentation on how to set up a Morph Target.

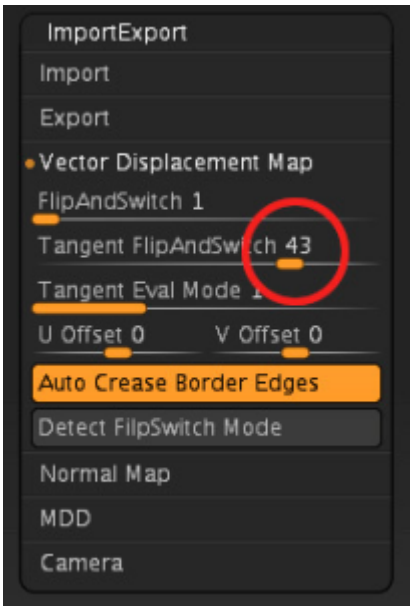


The original model is a plane for this example:



- In Preferences, Import/Export, Vector Displacement Map, set the **Tangent FlipAndSwitch to 43.** There are 48 different vector displacement because a red channel for a renderer may be up while down for the another renderer. RenderMan is 43.

⚠ Recent changes meant a change from Tangent FlipAndSwitch 41, if your displacement is not correct, you may need this setting rather than 43.



- On the Tools, Vector Displacement Map, set *vd Tangent* on, set *vd 32 Bit* to export a 32-bit map otherwise it is 16-bit, set *vd SUV* for smooth UV to on, *vd Normals* to on.

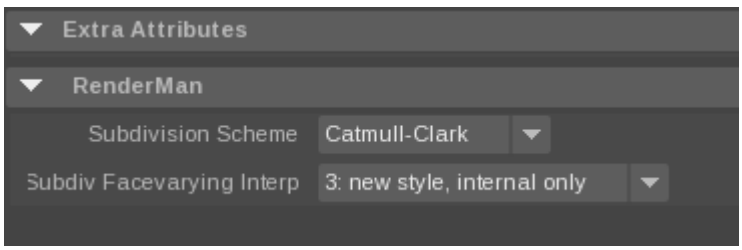


- Click on CreateAndExport VDMap to export the maps and OBJ. The maps will be exported as OpenEXR.

Import OBJ and Add Subdiv Scheme

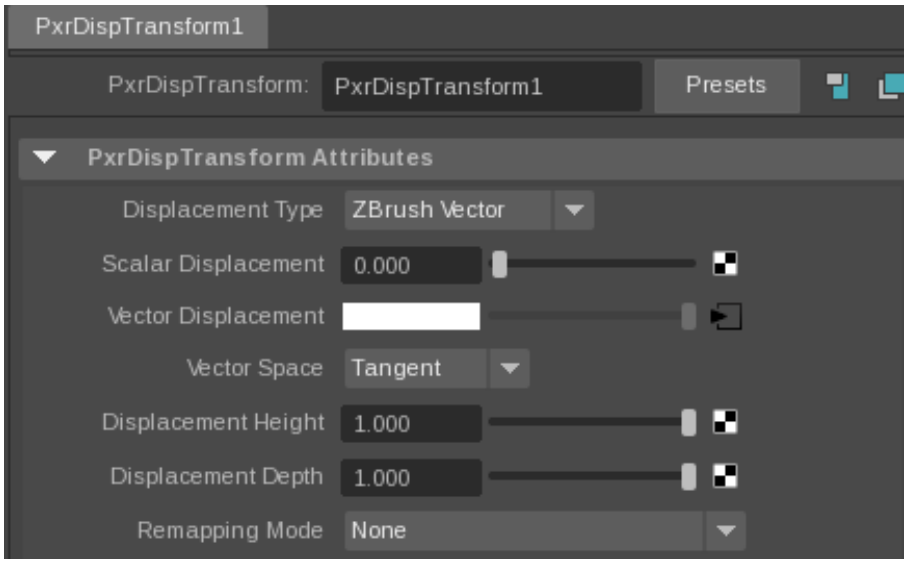
> ⚠ For some subdivision surfaces, it may be helpful to add the attribute "Dice Watertight" to resolve seam issues. This may incur a memory overhead so it is not on by default.

- Import the OBJ you just exported from ZBrush. For its shape node, add **Attributes|RenderMan|Subdiv Scheme:**

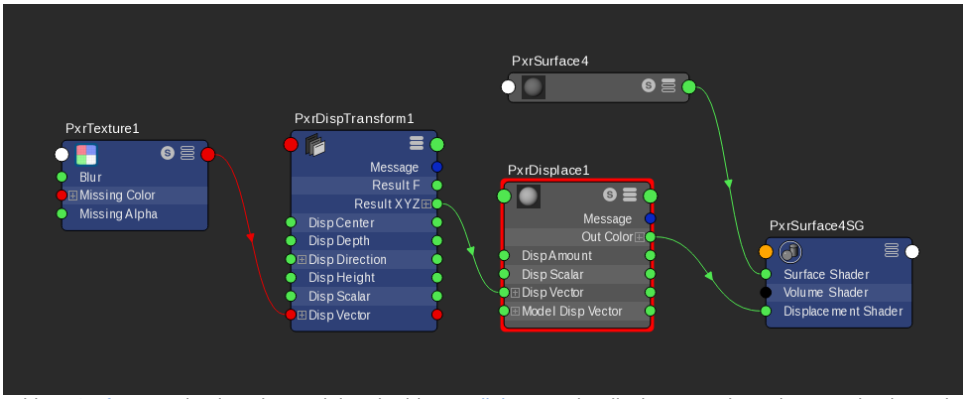


Assign Displacement Shader

- Create a **PxrTexture** node. Set the Filename to your exported ZBrush EXR map. Keep all parameters at their defaults.
- Create a **PxrDispTransform** node. Set Displacement Type to **ZBrush Vector** and Vector Space to **Tangent**.



- Create a **PxrDisplace** node (this is the displacement shader that actually displaces your surface).
- Connect PxrTexture's output Result RGB to PxrDispTransform's Disp Vector.
- Connect PxrDispTransform's Result XYZ to PxrDisplace's Disp Vector. Your graph should look like this:



- Add PxrSurface, assign it to the model and add some lights, set the displacement bound appropriately, and render!

