

ZBrush Vector Displacement

Export OBJ and OpenEXR from ZBrush

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

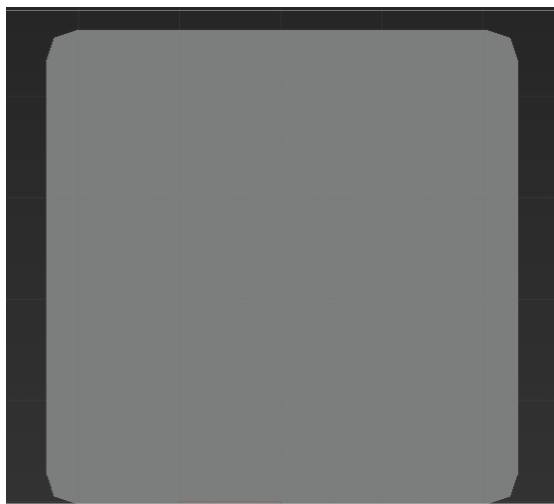
Lion Sculpted by Olivier Drion (highest subdiv)

Lion Sculpted by Olivier Drion (lowest subdiv)

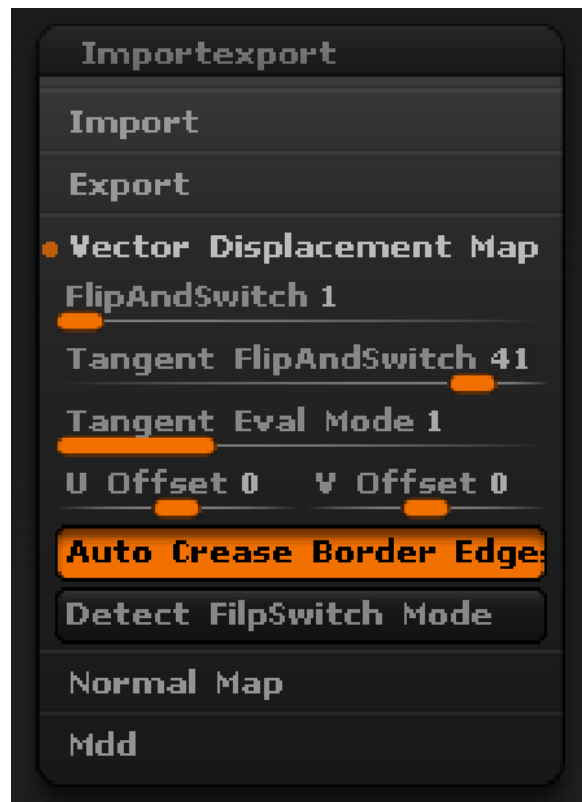
- Hit the Switch button in **Morph Target** to **switch to the original model**. If you don't have a Morph Target setup, please consult ZBrush documentation on how to set up a Morph Target.



The original model is a plane for this example:



- In Preferences, Import/Export, Vector Displacement Map, set the **Tangent FlipAndSwitch to 41**. There are 48 different vector displacement because a red channel for a renderer may be up while down for the another renderer. RenderMan is 41.



- 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.



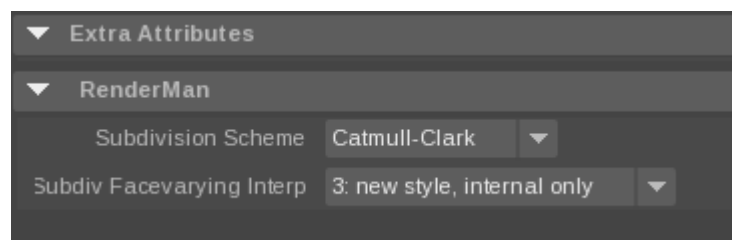
- Click on *CreateAndExport VMap* to export the maps and OBJ. The maps will be exported as OpenEXR.

Import OBJ and Add Subdiv Scheme



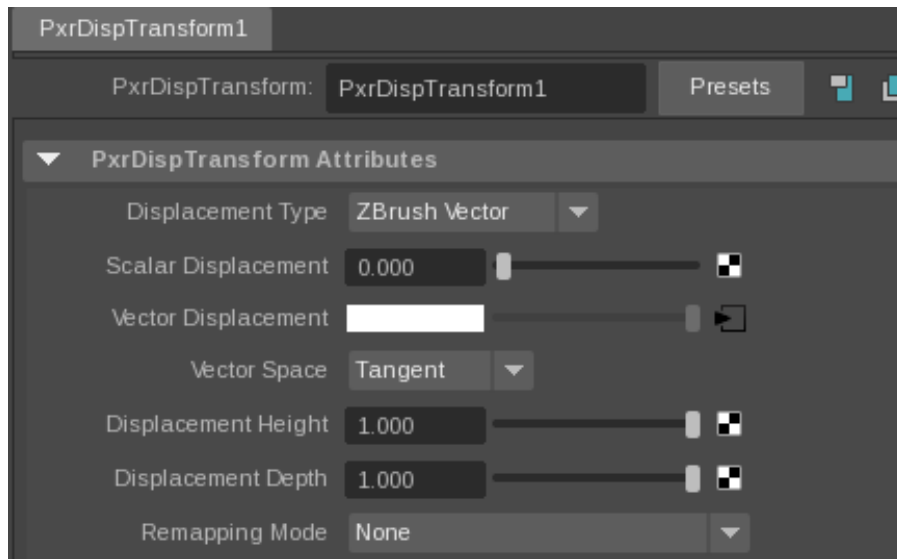
For some subdivision surfaces, it may be helpful to add the attribute "Dice Watertight" to resolve seam issues. This may incur a memory overhead so it is not on by default.

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

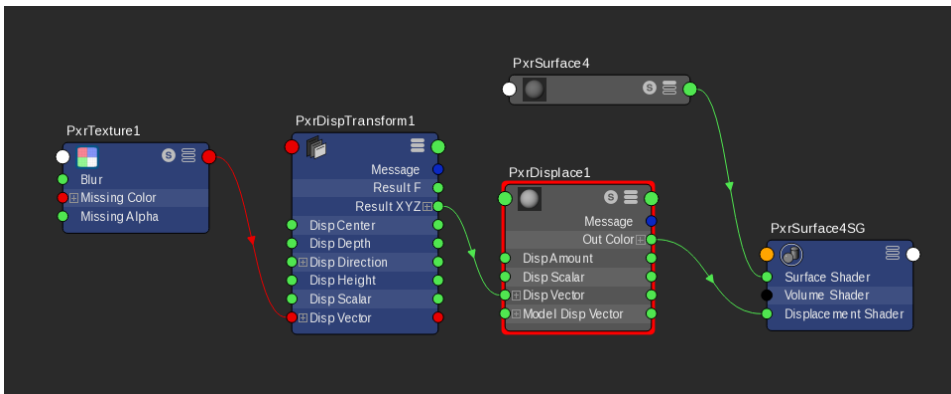


Assign Displacement Shader

- Create a **PxrTexture** node. Set the Filename to your exported ZBrush EXR map. Keep all parameters at their defaults.
- Create a **PxrDisplaceTransform** 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 PxrDisplaceTransform's Displacement Vector.
- Connect PxrDisplaceTransform's Result XYZ to PxrDisplace's Displacement 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!

