Mudbox Vector Displacement

Export FBX from Mudbox
Before you start sculpting, export your Fbx from Mudbox.

Export an OpenEXR from Mudbox
Extract Texture Maps

Name: My Extraction Operation 1

Maps to Generate:
- Transfer Paint Layers
- Ambient Occlusion Map
- **Vector Displacement Map**
- Displacement Map
- Normal Map

Vector Displacement Map Extraction
Compare detailed and simple surfaces and extract the detail

![Target Model & Source Model & Vector Disp. Map](image)

Extraction Options

**Target Models** (low resolution mesh)

- basicHead
  - level 0

![Add All, Add Selected, Remove](buttons)

- Smooth Target Models
- Smooth Target UVs
- Use Creases & Hard Edges

**Source Models** (high resolution mesh)

- basicHead
  - level 5

![Add All, Add Selected, Remove](buttons)

- Smooth Source Models

**Image properties**

- Generate one map for all targets
- Image Size: 1024x1024
- Aliasing: Off

**Vector Displacement Map Options**

- Vector Space: Absolute Tangent

**Output options**

- Map Type: Texture
Export a PTex from Mudbox
Extract Texture Maps

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Vector Displacement Map Extraction
Compare detailed and simple surfaces and extract the detail

Target Model | Source Model | Vector Disp. Map

Extraction Options

**Target Models** (low resolution mesh)
- basicHead level 0

- Smooth Target Models
- Smooth Target UVs
- Use Creases & Hard Edges

**Source Models** (high resolution mesh)
- basicHead level 5

- Smooth Source Models

Ptex resolution options
- Density: 0.50
- Number of texels: 100000
- Texel Distribution: Uniform

Vector Displacement Map Options
- Vector Space: World

Output options
- Map Type: Ptex
Import FBX and Add Subdiv Scheme

- Import the FBX you just exported from Mudbox. For its shape node, add Attributes\RenderMan\Subdiv Scheme:

![RenderMan Subdiv Scheme](image1.png)

Assign Displacement Shader (UV Texture)

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

![PxrDispTransform](image2.png)

- 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:
Assign Displacement Shader (PTex)

- Create a `PxrTexture` node. Set the Filename to your exported Mudbox ptx map. Keep all parameters at their defaults.
- Create a `PxrDispTransform` node. Set Displacement Type to Mudbox Vector and Vector Space to World.

- 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:
Render

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