

Houdini First Steps

M08 - uv Setup

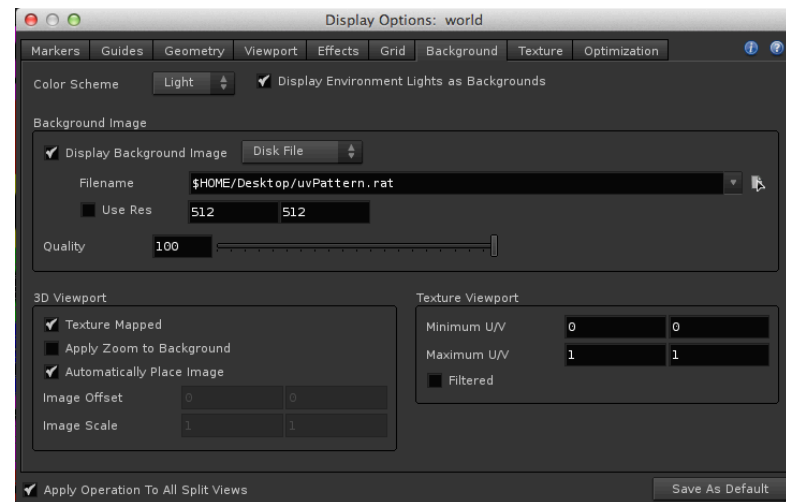


Agenda

- Background Display Setup
- What is a .rat file?
- Toggling active view in Split View Setup
- Applying a material to an entire object
- UV Texture nodes
- Relaxing and Orienting uvs
- Selecting vertices
- Initializing Projections
- UV Editing Tips
- Massaging UVs
- Exporting Image to PS/Gimp/Pixelmator

Background Display

- **Setup Background Display**
 - In 3D viewport either hit the letter “d” for display or click the “eye” icon to the right of the Scene view
 - Click on the “Display Background Image”
 - Turn on show background
 - Select file
- **Background does not render!**



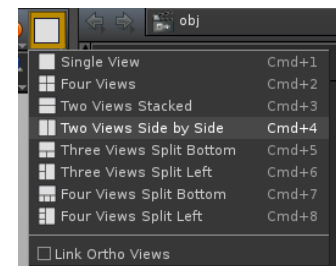


.rat Files

- Random Access Texture maps (RAT) are tuned for texture mapping. The format allows the renderer to access portions of the texture without having to load the whole image into memory at once.
- We recommend using .rat files for texture maps before any other format because the quality tends to be much better than using stochastic sampling.
- If you create texture maps in Photoshop or Gimp save your files in the native format and then use a .png file
 - Once you lock down the texture use “icp” to Convert to .rat format
- Example: `icp ../myimages/smiley.png ../myimages/smiley.rat`
- Pic files?

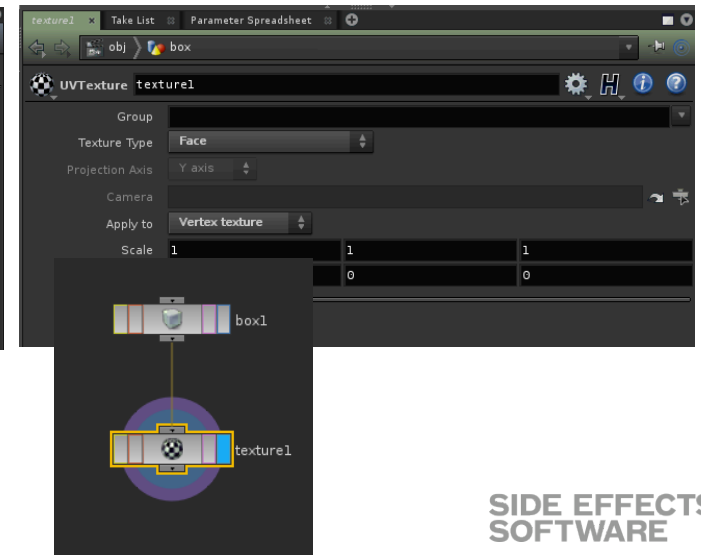
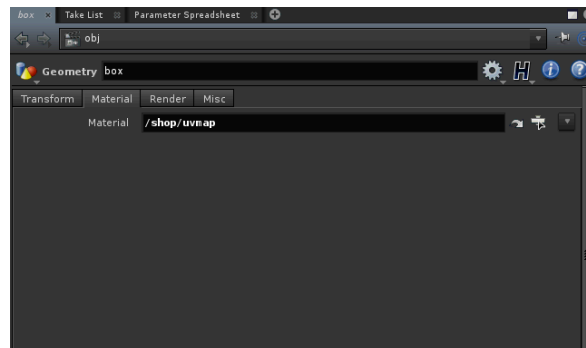
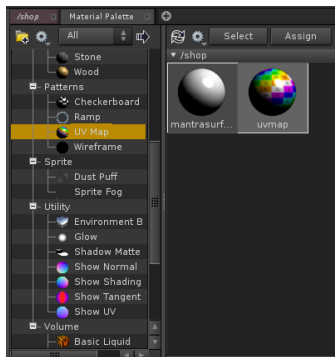
Split View Setup

- **To display a uv Display next to a 3D View**
 - Change View to two panel side by side (CMD - 4)
 - In one of the panels change view to uv (Space - 5)
 - To toggle active views (Space - n)



Setting Up Material for an Entire Object

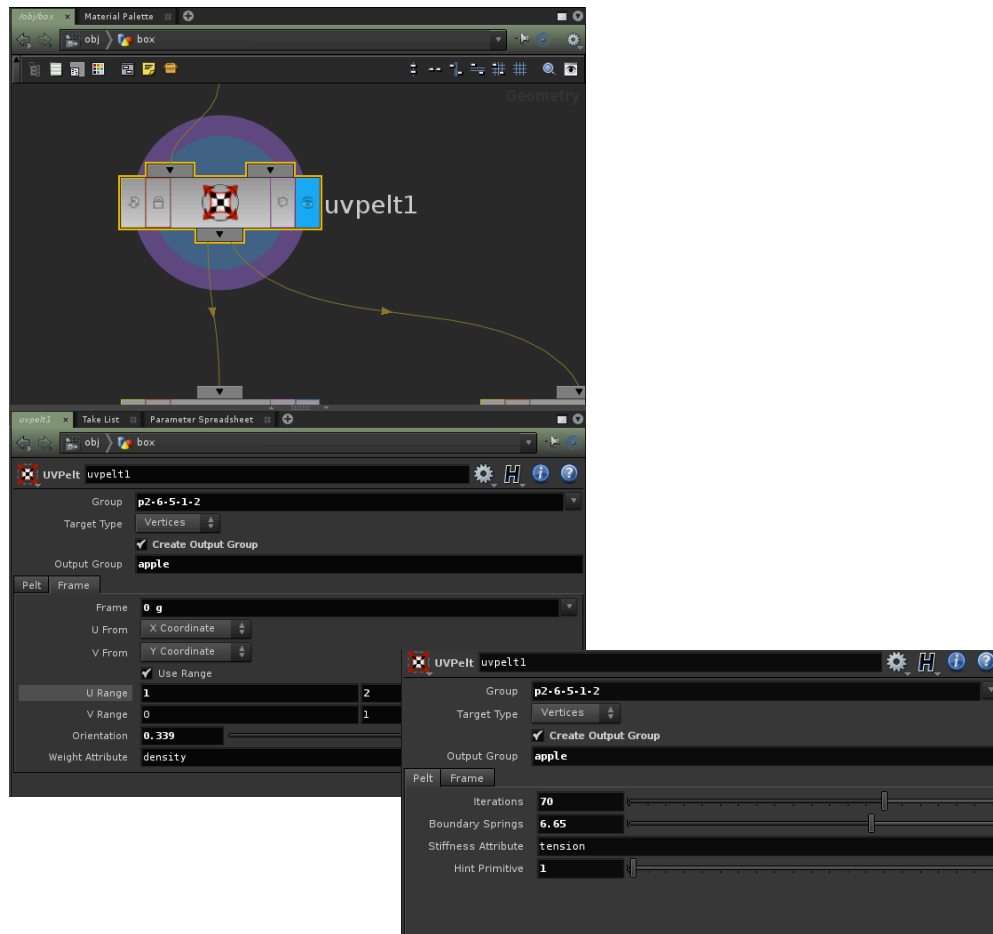
- Create material (in our case uvColor.rat)
- Apply to object
- Apply uvtexture SOP at geometry level
 - Set appropriate projection





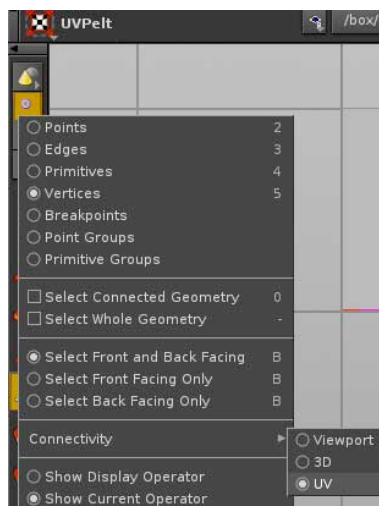
UV Project

- UV Project
 - What is the difference between point and vertex modes
- UV Pelt
 - Loop Selecting Edges
 - Forward selecting edges for cutting
 - Hint Primitive
 - Which part of the geometry do you want to pelt
 - Red edges indicate boundary edges



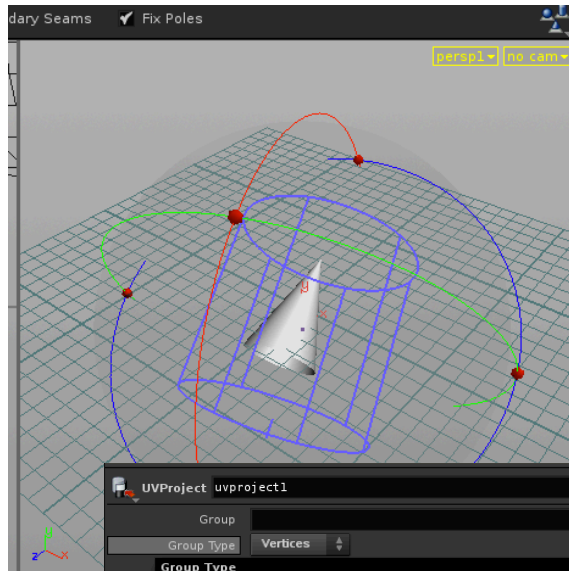
- ▶ UV Pelt
 - ▶ Loop Selecting Edges
 - ▶ Forward selecting edges for cutting
 - ▶ Hint Primitive
 - ▶ Which part of the geometry do you want to pelt
 - ▶ Red edges indicate boundary edges
 - ▶ Create output groups
 - ▶ Relax UV in Frame tab
 - ▶ Orient UV in Frame Tab
 - ▶ Offset position using u & v

Selecting Vertices for UV Mapping

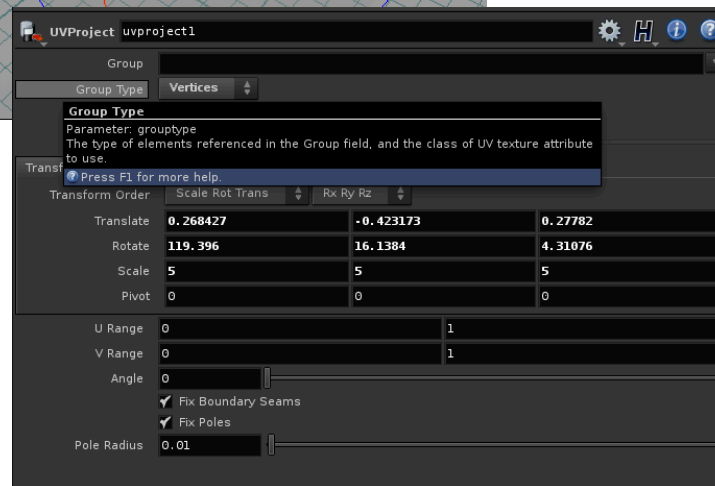


- To make it easy to select vertices
 - Change component mode to uv (5)
 - Change “connectivity” to uv
 - Select Connected Geometry (0)

Initializing projections



- ▶ Try initializing to best plane
- ▶ Make uniform scaling to start with
- ▶ Rotate UV projection into place
- ▶ Note: “Select Connected Geometry” overrides “Select Front Facing Only”





UV Editing Tips

- Make sure you are in uvEdit mode and not Edit mode
- When in UV edit mode you can use translate, rotate, and scale
- If you select the “Select tool” and then select translate, rotate, or scale
 - An Edit SOP will be dropped
 - You might think you are moving uvs but you will be moving geometry
- To fix this just delete the edit **SOP**, reselect uvEdit and continue



Massaging UVs

‣ **UV Brush**

- Works the same way as the Paint Tool brush, just for uvs
- Selecting Left Mouse Click and Right Mouse Click operations
- Will work in 3D Scene View to help even out UVs
- Try
 - left mouse - Contract / Dialate
 - right click - Smooth

‣ **UV Edit**

- Soft Selection - manipulate uvs with fall off

‣ **Stitching UVs Back Together**

- Select one edge loop
- Convert edge selection to vertex selection
- In shelf tool select “UV Fuse”
- In UV edit node turn on “Distance” to relax fused uvs
- Manipulate vertices individually to clean up



Massaging UVs (cont.)

- **Pelting individual Patches of primitives**
- **Selecting Individual Vertices**
 - Vertex Handles
- **Mirroring UVs**
 - Create Group for one side of the uv map using a Group Geometry SOP
 - Use Bounding Box to select source geometry of UVs for mirroring
 - Use the “Combine Geometry” tab of Group Geometry SOP to exclude areas
 - Use Attribute Mirror to mirror UVs
- **UV Transform Node**
 - Same as Transform node but for UVs



Exporting Image

- Right click on last node in network chain for geometry
- **Select “Save Texture UV to Image”**
 - Pick image format
 - Create Name
 - Select Image Size
 - Edit in Application of Choice