

Texturing Outline

What is a Shader?

- Shading tells Maya what type of surface an object has and how it reacts with light
- Shader
- Determines how the material reacts to light.
- Includes color, shininess, transparency, and more

What is a Texture?

- A 2d image mapped to a 3D object
- Can change things like color and pattern, but also things like depth and roughness

Assignment

- You'll be texturing a baby dragon

Adding a texture to the dragon/any object unwrapped?

- The Texture looks like a mess and very distorted.
- Maya doesn't know how to place the 2d image on the 3d model.
- Needs coordinates to tell it where to place the image.

What are UVs / UV shells / UV map? (Simple demo with dragon)

- Vertex vs UV (Vertex = Change Geo, UV= Texture Coordinate)
- UV Shell: A section of UVs that are flat and not overlapping, and act as a map for where the texture should be placed on the model.
- UV Map: Where a texture image is map and where UV shells are arranged for the software to know what parts of the texture go where on the model.

Dragon Needs UV Shells in the UV Map

- Dragon needs UV shells to know where to place the texture.

Look at sample character already UV mapped and it's UV shells.

- Parts of the character are flattened and made into UV Shells so the texture can properly be placed and wrapped along the 3d model.
- Hardest part is figuring out how to segment off the character and flatten the pieces.
- Like carefully peeling an orange, painting it and wrapping the painted peels back on the orange.

-Dragon is complex. Break it down into small parts. It's easier.

Think about texture seams!

- Think of UV shells like pieces of fabric that are sewn into a shirt.
- Avoid seams as much as possible.

How to make the UV shell?

- Need to group selected UV's into a shell using projection.
- Projection looks at a selected group of UVs and connects them together into a shell.
- Maybe types of projections. Each one doesn't give the final arrangement of UV coordinates, but is a good starting point:

- Planar Mapping
- Cylindrical Mapping
- Spherical Mapping
- Automatic Mapping
- Create UV's Based on Camera

You'll make shells for different parts of the dragon!

- Looks at dragon decide what parts to turn into shells. Think about where you want your seams to be as well.

Unwrap upper thigh

- Select faces, use cylindrical projection.
- Assign checker shader to see texture distortion.

Unwrapping Thigh UV shell

- Increment save
- Lots of tools to use! Use tutorial tools selection for list of tools.
- Set up a good layout before going over UI.
- Wiremode, Shading mode, Distortion Mode
- Selecting
- Pinning
- Cut/Sewing
- Unfolding

You should know

- Unfold
- Smooth
- UV Shading mode

Unwrap lower leg:

- Use cylindrical mapping
- Make sure seam is inside the leg.
- Do a demo if the seam needs to be moved.
- Do a demo if there are pieces that need to be moved and sewn elsewhere.

Unwrap the Head for detail:

- Some parts of the model need higher detail, like the face. The shells should be larger for more resolution. Or certain parts of the UV shell needs to be larger.
- The nose and horn need more UV space for higher res textures, since the geo is larger.
- Unfolding may undo all your work!

Unwrap Wings:

- Select entire selection of wings.
- Camera view projection
- select the seams all the way around and cut. Then unfold.

Unwrap upper arm

- Middle select arm, carrot select entire arm, camera projection, unfold.

Step to sew all uv pieces together

- Think about what you're sewing. The more pieces you sew together may reduce resolution/amount of detail. Strike a balance.
- Sew hands and arm together, sew leg together, feet

Mirror UVs

- Mirror the other half of the model so that it will have exact same UVs as the other side. The UV shells of the new half will overlap perfectly on top of the layout for the first half.
- Group the duplicated mesh, group.
- Change its "Scale X" input from 1 to -1 in the attribute editor.
- Then, Combine and Merge Vertices down the center. Then delete all history.
- Now there's duplicated UVs. Good for symmetry!

Asymmetrical pieces

- Flip head, tail and body. Want to paint asymmetrically.
- Sew pieces together. Head shouldn't be sewn all the way along to the end of the nose.
- Easier for unwrapping.

Lay out UV shells in UV Editor

- Use all space necessary. UVs with more detail need to be larger in size. UV shells with little detail can be very small.
- Save our a snapshot of UV map for Photoshop

Photoshop

- Import UV map.
- Double-click the Background layer to convert it to a normal layer. A window will pop up with new layer settings. Name the layer whatever you'd like and press 'OK'.
- The simplest is to paint on a layer on top of the UV map. Another way is to place the UV map above your texture layer and set it to "Screen" so that the UVs overlay the paint.
- Save texture

Assign texture to dragon

- Choose image in the color node for the dragon shader. (break transparency for PNG)

Open dragon in dragon cove and make a render