

Art 384: Introduction to 3D Animation

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Lecture 10

Schedule

- Roll
- Assignment C
- Polygonal Modeling

Assignment C

- A polygonal model of a 3D object
- Use source images

Polygonal Modeling

- Polygonal models are made of manifolds.
- Manifolds are collections of connected polygonals
 - connected polygons have an edge path connecting every vertex to every other
- Polygons are vertices connected by edges
- A vertex is infinitely small
 - no orientation, no size.
 - possibly many other characteristics

A Method for Modeling

- Document the shape
 - have the shape in hand
 - take lots of pictures
- Break the shape into simpler parts
 - if you can break off a primitive, better
 - Reduce by symmetry
 - you get a collection of simpler objects
- For each reduced shape...

Method, Slide 2

- For each reduced shape,
 - find important lines
 - silhouette
 - edges
 - creases
 - marks
 - duplicate those lines
 - connect lines with lofts
- Group components together; you're done.

Object vs. Vertex

- Object Mode-- all green when selected
- Vertex Mode-- magenta dots
- Notes on vertex mode!
 - START SIMPLE -- pulling 100's of vertices is a colossal time waster
 - Work on axes -- tools work better, alignment is easier,

Teacup Tutorial

- Make a sphere
 - invert the top half of the sphere
 - vertex mode, side view, grab box, scale by -y
 - fit invert into bottom half
- Make a torus, delete half
 - that means face mode, not vertex
 - rotate to align

Coke can tutorial

- Start with a cylinder
 - turn down the # vertices
- gather verts at top and bottom
 - scale in vertex mode, y only
- scale-sculpt top and bottom rings
- smooth? maybe