Interactive Computer Graphics

CS 418 – Spring 2011

MP3 Teapot Contest

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Office Hours

Location: 1322 Siebel Center

Time: Monday 4pm-5pm

MP3 Requirement Explained

- 10% Load Triangles
- 10% rendering using perspective correct
- 20% realistic lighting
- 20% texture mapping
- 10% environment reflection (environment mapping)
- 10% documentation
- 10% impressiveness

Loading Triangles

- C++ fstream simplifies the reading process
- Read in a list of vertices and faces
- For each vertex calculate its texture coordinates using the cylindrical coordinate formula given on the MP description
- For each face update per vertex normal
  - Need to check if the addition of normals increases magnitude.
- Use glutSolidTeapot to check for correctness

Texture Mapping-Basic Flow

- PPM online converter
  - http://www.sciweavers.org/free-online-image-converter
- glGenTexture(…) //generate texture names
- glBindTexture(…)//bind texture name to target
- glTexParameteri(…)//for given texture (ex. GL_TEXTURE_2D) specify parameters
- glTexImage2D(…)//for the initialized texture object specify texture data
- Refer to the demo code
- Previous demo also showed how to use use the build2dMipmap option

Initialize texture object

Reference on texture functions

- http://www.opengl.org/sdk/docs/man/xhtml/glGenTextures.xml
- http://www.opengl.org/sdk/docs/man/xhtml/glBindTexture.xml
- http://www.opengl.org/sdk/docs/man/xhtml/glTexParameter.xml

Lighting

- Covered in previous discussion
- Demo in MP2
  - If you haven't try to understand the code for lighting in MP2

Environment Mapping

- Check this out
  - http://www.nvidia.com/object/cube_map_ogl_tutorial.html
- It is similar to texture mapping in that you use similar functions to set up your texture object.