

Lab 7 –csc 471: normals and lighting

This lab will focus on starting to use opengl lighting. This lab will help you prepare for program 3. Please start with the code from MeshParser_release3.cpp as the base for your project. Download the code from:

http://www.csc.calpoly.edu/~zwood/teaching/csc471/material/MeshParser_release3.cpp

- 1) Compute and store normals per face in the mesh. Use the keyboard event ‘n’ to toggle drawing the normals per face. Please draw the normals starting at the center of each face. **Note that you will need to normalize each normal and only draw a small portion of it (as our world is small).** These will be the normals you send to glNormal3f() to enable lighting to work. It is important to draw your normals as a sanity check that your normal computations are correct for the lighting in your next program.
- 2) Augment the drawing routine to no longer just draw wireframe, but to also draw filled in polygons. Use the keyboard event ‘e’ to toggle between wireframe and solid polygons. Note the appearance of the model (it should look 2D).
- 3) Add a light to the program – Use the example program simple_light.cpp at:

http://www.csc.calpoly.edu/~zwood/teaching/csc471/material/simple_light.cpp

to get an idea of the data and routines you will need to enable (i.e. see the examples of defining materials and lighting and for initializing lighting).