Due Oct. 3, 2006

This project will focus on building 3D interactive viewers in OpenGL. The goal is to get a thorough understanding of the OpenGL API relating to geometric transformations, projections and camera model. You will build 2 viewers:

1. **Object Viewer**: In this viewer, the three mouse buttons will rotate, pan and zoom into the environment. The look at point will be fixed in this mode.

2. **Navigator**: In this mode, adjust your camera parameters to permit walkthroughs of the environment. Permit automated navigation (with speed controls) within an environment in conjunction with changes in direction with additional input (keyboard or mouse).

3. **Implementation Requirements**: C++ implementation. You may use FLTK or GLUT (or any equivalent toolkit) to facilitate needed user interface widgets, mouse/keyboard callbacks.

4. **Input dataset**: Use objects in OBJ format to test your viewer, for instance, a small city with replicated buildings. You will write a loader to load in the input objects (which will be useful in subsequent projects).

**Evaluation:**

Projects will be evaluated by interactive demos. Properly documented source code (C++) should be turned in by the deadline.