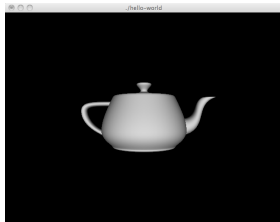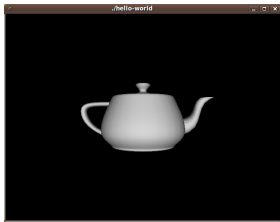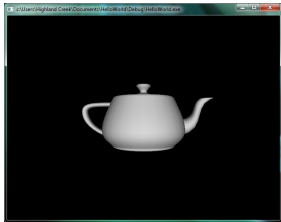CSC 4356 / ME 4573 Interactive Computer Graphics

Hello, World

A Simple Example

Here we take a close look at a simple, but complete, example of an OpenGL program. Next we'll discuss how to compile and run it under Windows, Linux, and Mac OS X.

Portability

- *Portable* applications run without change on any OS.
- Portability gives us *each* the freedom to choose our favorite platform.
- A portable application is easily achieved when written using portable *tools*.
- Portability is one of the objectives of this course.

GNU compiler & tools

The GNU compiler, gcc, and its related tools are a widespread cross-platform C/C++ development environment.

- Linux systems have gcc by default, or make it easy to install.
- Mac OS X includes gcc as part of Xcode.
- Windows has MinGW or Cygwin.

GLUT / freeglut

GLUT, the OPENGL Utility Toolkit, provides a portable API for creating an OPENGL window and receiving notification of user input events.

- GLUT is a *de facto* standard, but is sorely outdated. Freeglut is a modern implementation.

- GLUT or freeglut is included by default in most Linux and Mac OS X installations.

- Windows installation depends upon development environment.

GLEW

GLEW, the OpenGL Extension Wrangler, provides a consistent cross-platform API for *extended* OpenGL.

- Not all graphics hardware is created equal.
- Access to advanced hardware features is provided by extensions to the OpenGL, which are negotiated at *run-time*.
- Windows, Linux, and Mac OS X *all* handle extensions differently.
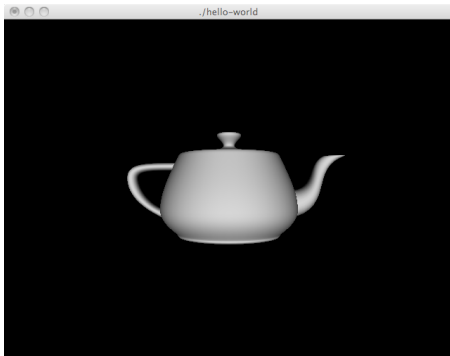
hello-world.c

Coming up...

How to install these tools and compile this code.