CIS 636 Interactive Computer Graphics
CIS 736 Computer Graphics

Spring 2011

Lab 0 of 7
OpenGL Setup and Basics

Wed 26 Jan 2011
Due: Fri 28 Jan 2011 (before midnight)

The purpose of this lab exercise is to help you get up and running with Mesa (Linux OpenGL) in the CIS Department's Linux environment and over XWindows, and to show you some basic rendering.

This lab assignment is worth a total of 10 points (1%).
The highest 7 of 8 lab assignment scores will be counted in this course.

Upload a .zip or .tgz archive of the specified files to <u>your K-State Online (KSOL) drop box</u> before the due date and time.

References

NeonHelium tutorials: <u>http://nehe.gamedev.net</u>
Mesa home page: <u>http://www.mesa3d.org</u>
OpenGL installation: <u>http://en.wikibooks.org/wiki/OpenGL_Programming/Installation/Linux</u>

1. **(40%) Mesa setup.**   Log into your Gentoo Linux account from Nichols 128, the Linux Lab, or any of the CIS PCs in N122 or N126. Go to the NeHe site and follow the "Setting up OpenGL in MacOS" to create a GL window. As in MacOS X, Gentoo keeps its GL include files in `/usr/include/GL`. Name your program `lab1_1.c` and include it in your lab assignment submission. Take a screen shot of the window and save it as `lab1_1.jpg` in a picture editing program such as GIMP.

    You may use XDeep or any other XWindows client if you are not at a Linux system, and save it in Paint or some similar program. You are also encouraged to set up your own instance of Mesa if you have Linux on your own desktop or notebook computer.

2. **(60%) Polygon rasterization (scan conversion).** Follow Lesson 02 to draw a 2-D polygon and shade it using smooth (Gouraud) and constant (flat) shading. Turn in `lab1_2.c` and `lab1_2.jpg`. **Note:** You may need to modify the source code in order to get it to compile under your particular Linux distribution, in which case you should turn in the modified source file.

A look ahead to MP2: Look at Lesson 26, "Clipping & Reflections Using The Stencil Buffer" by Banu Octavian.

Class Participation (required):

By Mon 31 Jan 2011, post a brief discussion of any term project topics you are considering in the "Discussions" message board in K-State Online (KSOL) under the "Term project topics" thread before you finalize your choice, and ask any questions you like.