

COMPUTER SCIENCE 3710

Computer Graphics

Assignment #1

Spring 2012

Due: Saturday Feb. 11, 2012 at midnight.

Late Penalty: -15% per day late

Butterfly Events

Write an OpenGL program that is a simple model of a *butterfly* that can flap its wings. The butterfly will consist of the following pieces: a body – use a fat line segment and 2 thin line segments for the antennae, and 2 pairs of wings: forewings and hindwings – each are triangles. All the objects are to be created using `glBegin()/glEnd()` (no glut objects allowed). Add some color.

The user will be able to manipulate the butterfly as follows. The following keys should be implemented:

- *f* – toggle flapping of the wings.
- *esc* – to exit the program (27 is the `int` value)
- A left mouse click will display the butterfly in wireframe; a right mouse click will display it as a solid object.

A simple outline of the program is: `/home/lib3710/lect/ass1.txt` which you will modify by adding the necessary routines. In this program, the projection matrix (perspective) is set up for you and the eye is positioned at (6, 8, 7.5) looking at the origin. You should design your object centred roughly at the origin and about 1 or 2 units large.

Comments/hints/advice:

- `/home/lib3710/lect/butterfly` is an executable that shows the basic functionality required.
- See `/home/lib3710/lect/glmake` for a make file for linux.
- There is no `submit` script – mail your submission directly to the marker: (`mark3710@cs.uleth.ca`) including info on which system you used. Windows/linux users should zip all required files. (rename the file to avoid the blocking of .zip files)
- Include comments and use *reasonable* style.