COSC422 Advanced Computer Graphics
Assignment 2

(Due before 5pm, **30 Sep 2011**)

In this assignment, you will create non-photorealistic renderings (NPR) of 3D models.

Task description:

Implement two different methods for non-photorealistic rendering of 3D models, as outlined below.

Method-1: Choose any one of the following:

Three-tone shading using 1D textures

Three-tone shading using OpenGL shaders

Gooch shading

Method-2: Choose any of the following:

Pencil shading using 2D textures

Any other NPR algorithm (G-buffer, P-buffer, multi-texturing, hatching etc.)

For both the above methods, highlight the edges to enhance the rendering quality. It should be possible to change the light source direction and the view direction, showing the variation in tones/textures with respect to the orientation of the model relative to the light source and the viewer. Alternatively, you could fix the light source and the view position, and continuously rotate the model in 3D space.

Report:

Your report should contain a description of the NPR methods used, their implementation aspects, any important features of your program, methods used for extracting silhouettes and other types of edges, and any special artistic effects produced. Please include screen shots showing some of the displays generated by your program.

Assignment Submission

Submit your files using the assignment link on Learn (learn.canterbury.ac.nz) on or before 30 Sep 2011 (5pm). Your submission must contain:

1. The source code and any other supplementary files and textures needed to run the program. Do not include glu, glut, glew, or opengl library files.

2. Your report (in Word document or pdf format) containing a maximum of 6 pages. If your work is based on an idea found in a technical paper, please reference the paper or attach a copy of the paper with the report.

Miscellaneous

1. This is not a group project. Your assignment must represent your own individual work. In particular, students are not permitted to share program source code in any way.

2. Demo programs found on the Internet and other OpenGL resources should not be submitted as part of the assignment.

3. Standard departmental regulations regarding dishonest practices and late submissions (1 week "drop dead" with 15% penalty) apply.