University of Otago **Department of Computer Science**

Computer Science - Paper 342 - Graphics - 2012
Assessable Assignment 1 Weighting: 20%

DUE DATE: Friday 30 March 2012 at 5 pm

NO LATE ASSIGNMENTS ACCEPTED
We use a team of markers to assess the work that weekend—you should get feedback very quickly.

Using Computer Graphics

You are asked to build a 3D model of the pen pictured above and on display in the laboratory. You are to use Blender, the software provided in the laboratory.

1. Learn to use Blender sufficiently well to make the model. You have already had laboratory time set aside for this.
2. Build your model to represent the shape of the pen with reasonable accuracy (not surface scratches). You may measure the original or estimate the dimensions from pictures of it.
3. Make sure that each main component of your model is placed in a separate layer. This is to make it easier for us to see how it is built. The parts of your model must fit together (such as the nib within the pen) but we will look at them as separate objects too. You do not need to model any internal detail.
4. Give your model suitable material properties to approximate the look of the original.
5. Submit three files:
   a. A .blend file of your model
   b. A sample image file.
   c. A short report as a plain text file.

- Make sure that you submit from the laboratory Linux environment (not MacOS) and that the files open correctly in Blender as installed within the laboratory Linux environment.
- Put these three files into a directory whose name is the same as your usercode.
- Make sure that the report file contains your name and student ID.
- Submit using the 342 submit script: submit342 <directory name>
- Please note that all parts of this assignment are to be submitted electronically.
- High marks will be given for a model that has a good level of detail and has captured the shape and proportion of the parts. It will be represented in at least three layers (but probably fewer than ten layers unless there is a good reason) and the material will look reasonably correct.

Crude Example worth about 15/40 = 37.5%

Report file:
A. Student
No: 123456789

The top of the pen and the blue main part are just cylinders placed next to each other. The black grip part is a cylinder that I subdivided the edges of, and then scaled the subdivided vertices in and out from the central pen axis to give the curved outside. I subtracted distorted spheres from the black part to create the intended grip parts, although the proportions are not quite right. The grip and its connection to the pen are transformed cubes, but this is not really the right shape either. I created some materials for the parts of the pen. I gave the materials colours and changed the specular reflection to make the black part less "shiny" than the blue part.

I left out the silver ring around the pen between the black and blue parts, and the detail near the top of the pen. I ran out of time to add a texture image onto the blue part of the pen, and didn't get around to modeling the nib. The materials and the proportions don't look right.

Lots of details of the shape have been left out because I spent only an hour on this.