University of Otago

Computer Science - Paper 342 - Graphics - 2011 `Assessable Assignment 1 Weighting: 20%

DUE DATE: Friday 1 April 2011 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 screwdriver pictured above and on display in the laboratory, including two of its changeable heads. 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 screwdriver and its heads with reasonable accuracy (not surface scratches). You may measure the originals or estimate the dimensions from the picture.
- **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. Your heads should fit within the screwdriver, but we will look at them as separate objects too. We do not need you to model internal details that would be hidden during normal operation, e.g. you do not need to model the head attachment mechanism within the shaft.
- 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 six layers unless there is a good reason) and the material will look reasonably correct.

Crude Example worth about 5/20 = 25%

Report file: A. Student No: 123456789

The stem of the screwdriver is a blue cylinder. The head is a cylinder with two spheres subtracted from it. The handle is made from a hexagonal cylinder that is merged into a normal cylinder, and has a transformed sphere at the back.

The materials and the proportions don't look right. I only modeled one screwdriver head, and didn't get around to putting the "6" on it.

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

