

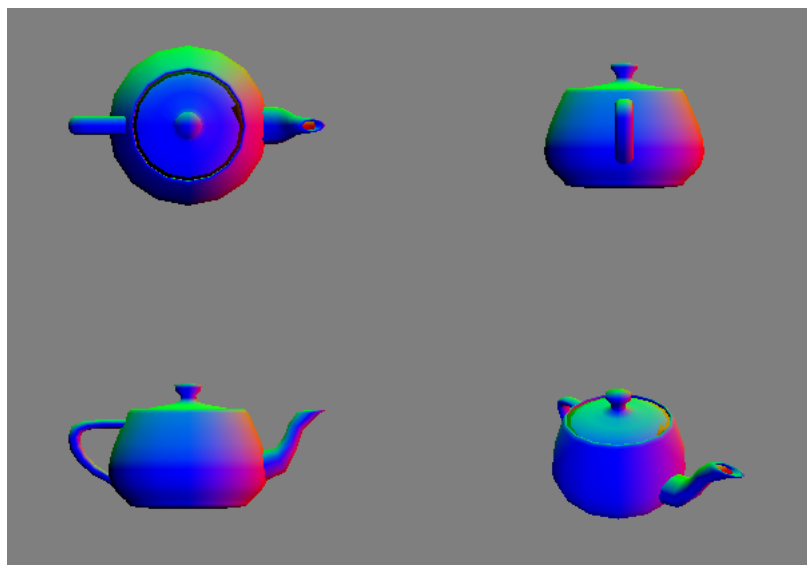
# CS4052 Computer Graphics

## Assignment 2

A. Gerdelan, Trinity College Dublin

Due date: Tue 21 Oct 2014  
Course Work %: 20%

### 1 Outline



- You are required to create a multi-viewport application, split in 4, which looks similar to the example, above. Maximum marks for different components are given below.
- This assignment is strictly individual (no group work).
- Show your working programme to the demonstrators on the due date, and they will grade you.
- Set up a working project, get it running, and complete the exercises.
- 20% of the grade is for getting the project to run, 80% is for the exercises.
- Submit a report on Blackboard by the due date. The report should include a written description and screen captures.
- If you fail to attend the lab or to submit the report on time, you will receive 0%.
- Demonstrating a project that was not created by you is considered cheating and must be reported as such. Demonstrators will check if you have an understanding of the code that you have written.

## 2 Required Features

Your programme should have the following features:

- Each viewport should have a different view of the teapot
- The teapot should be **moving** in at least one viewport (5%)
- The teapot should be **static** in at least one viewport (5%)
- At least one viewport should depict an orthographic projection, using an **orthographic projection matrix** (40%)
- At least two viewports should depict a **perspective projection**, each with different properties. (40%)
- At least one viewport should use a `lookAt()` type function for creating a view matrix (10%)

## 3 Notes

If you finish ahead of time, it would be worthwhile finding out how to control one of the viewport cameras from the keyboard. Is the speed of movement consistent?

You may prefer to load a different mesh from a file, replacing the teapot. If you have time it would be a good idea to find a simple way to do this. Tim has made a suggestion for exporting a simple XYZ file from Blender. I will also upload a Wavefront .obj (see Wikipedia) loader to experiment with, or you can think about making one (it's not too difficult). <http://www.martinreddy.net/gfx/3d/OBJ.spec>