CPSC 360
Assignment 6
The Solar System
Due: 1-21 at 6:00 p.m.

Overview: For assignment 6, you will continue to explore 3-dimensional graphics programming, with special emphasis on rotations and animation. Your job is to build a 3D model of our solar system. You will be responsible for each of the 9 planets, as well as the sun. The planets should orbit the sun at speeds that are approximately (and relatively) correct. The sizes of your planets should also be relatively correct. You should strive to make the model as realistic as possible. Extra credit will be given for elliptical orbits, texture mapping planet surfaces, or introducing any interesting lighting/shading techniques. Note that these are not required for the assignment, but with the final project coming up, you may want to start exploring early.

In addition to the model, your program should allow the user to change their viewing angle. The user should be given a menu that allows them to look at the planets at eye level, from above, and below. Also feel free to include additional perspectives, such as the sun looking out, Pluto looking in, etc.

This assignment is very open ended, and you will be expected to research whatever information is needed (either factual or OpenGL related). Think of this as your opportunity to work with some advanced OpenGL as a class before being cut loose for the final.

Hints: The first thing you should do is research the solar system. It's better to make your model accurate from the beginning than to do heavy alterations at the last minute.

Chapters 4, 5, and 9 of the "Red Book" may also be helpful for implementing advanced features.

To get you started, I have provided a very rough example solution on the course site. I expect yours to be a bit more refined, but at least you can get an idea of what I'm looking for.

Grading: At this point you should know what I'm looking for. However, because this project will involve some research and advanced programming, you should make sure to pay extra attention to commenting your code, and citing your references.