CS 450/550 -- Fall Quarter 2020
Final Project

100 Points

Due: Tuesday, December 8, 23:59:59 PM -- no Bonus Days

Your one-page proposal is due to me on *Tuesday, November 10, 23:59:59*

This page was last updated: August 17, 2020

Requirements:

The goal of this assignment is to give you a chance to apply all that you have learned to a project of your own choosing:

1. It must involve some serious **3D** computer graphics.
2. It must be worth 100 points.
3. It must be do-able in 1 week.
4. It can involve textures, but doesn't have to.
5. It can involve lighting, but doesn't have to.
6. It can involve shaders, but doesn't have to.
7. It can be based on other work that you have seen, but it must be your own implementation.
8. It must be adequately explained in your write-up.

Your Proposal

- Before your project becomes "official", I need to approve a one-page **PDF** proposal from you, due to me by 23:59:59 on the date listed above, turned in via Teach. What you propose must be worth 100 points. Compare what you are proposing versus one of the 100-point projects, for example.

- Give me enough detail that I can figure out if it is worth 100 points and if it is doable in a week. I will get back to you by the end of the following week to tell you if your proposal has been accepted.

- On the proposal cover, be sure to put **"CS 450/550 Fall 2020", your project title, your name, and your email address**.

Possible Helps

- If you want to bring in another 3D object to work with (and there are a lot of them on the web), look for something in a **.obj** format. If you want to load an .obj file, incorporate the file **loadobjfile.cpp** into your own code. Warning! Not all obj files have normals and textures. Take a look at the obj file (it is ascii-editable). If you see lines of text beginning with **vn**, it has normals. If you see lines beginning with **vt**, it has texture coordinates.

- If you liked the Bézier curves from the Geometric Modeling notes, there is a Bézier surface form as well. It has 16 control points instead of 4 and produces a smooth, slightly-bumpy, surface instead of a smooth, slightly-bumpy, curve. I'd be happy to show this to you if you want to design a project around it.

The Turn-In Process:

1. Your electronic turnin will be done at http://engr.oregonstate.edu/teach and will consist of:
    1. All source files (.cpp, .obj, .bmp, .vert, .frag)
    2. Your executable.
    3. All texture images
    4. Your PDF report.
    5. **Do not .zip the PDF file in with the other files!** I will use a script to collect all the PDFs into a single PDF, which I can't do easily if your PDF is hidden in a .zip file.

    Your electronic submissions are due at the date and time listed above.
    Note: Bonus Days cannot be used on this project.
    This time, Teach will be setup not to accept late submissions.

Your Report

In addition to doing the project, you also need to write a final report about it:

- Turn the PDF of your report into Teach with your other files
- You PDF report needs to include:
    1. The text from your proposal
    2. What you actually did for your project, with images
    3. How your project differs from what you proposed, and why
    4. (optional) Any impressive cleverness you want us to know about
    5. What you learned from doing this project (i.e., what you know now that you didn't know when you started)
    6. Any images that are especially representative of what you did
    7. A link to the video showing off your project – be sure it is **Unlisted**

Some Comments on Popular Project Ideas

I have noticed some patterns in popular project ideas and have made comments on them. Click here to see those comments. Don't propose any astronomy-related project without reading this first!

Grading

Getting the project proposal in on time and in the right format is worth the first 10 points!