Final Project

Description

For the final project you should use html and three.js to demonstrate the skills that we have covered this semester. Your project should demonstrate your ability to 1) build 3d objects from 2d and 3d primitives, 2) apply appropriate lighting, and 3) implement interactive transformations or changes in viewing. You will also include a document thoroughly describing all facets of your project.

You are free to choose the specifics of your project as long as the above requirements are met. You are not required to choose one of the following projects but some ideas include

1. Interior office scene
2. Exterior city-block scene
3. Interactive 3d maze
4. A 3d version of a 2d game
5. A single object of your choice
6. Visualization of a data set
7. Something similar to the perpetual motion machine on my website

If you have questions about whether your project idea is appropriate, see your instructor. *When designing your project, make sure that it is something that can be accomplished before the due date. You should meet the below criteria and then work on increasing the quality of your project.* You will be graded according to the quality application or implementation of the following:

Project Document (15%): This document should be a well-written, one- or two-page summary of your project and include a thorough description of

1. What you were attempting to display
2. The interaction or viewing change that you implemented and how/when it is initiated
3. The parts of your project that were the most difficult and how you handled them
4. The parts of your project that surprised you and why
5. What you liked most/least about the visual display of your project and why
6. What you would do next if you had more time (What object, interaction, lighting, etc. would you work on next?)

2d/3d Objects (20%)

You should demonstrate quality construction of 3d objects from both 2d and 3d primitives. These objects should be appropriately placed in the display.

Interaction (20%)

An interactive transformation and an interactive change in viewing (i.e. camera position) that makes sense for your scene should be included. You must include one example of transforming a parent-child object.

Lighting/Materials (20%)

Your project should include lighting and materials that produce effects appropriate for your scene and are aesthetically pleasing. Unfortunately we will not get to spend a lot of time on texture mapping. If you wish to apply texture mapping, you are free to do so but you may need to do a little research on your own. If you use a texture that you did not create, you must list the source in the project document and describe where it was used. Furthermore, you may only use pre-fab textures in a limited manner (not for the majority of your project surfaces) and you may not use any textures that have been copyrighted.

Overall Quality (25%)

Each of the above requirements (project document, object construction, interaction, and lighting/materials) is subject to having quality points deducted. In addition to individual component quality, your project will be subjected to an overall quality grade including (but limited to) how the visual display fits together as a whole.

Submission

Compiling and Executing: Your program should execute with Google Chrome. Place all of your files in the same directory level. To grade your project, I will simply open the file called **finalProject.html** with Chrome and set the resolution to 1024 x 768.

Format: Your code must adhere to accepted program conventions regarding line length, documentation, spacing, etc.

Teams: You may work in teams of one or two students. If you work in teams of two, make sure that the team members are listed in the comment section of all javascript files. People in different groups may talk about the concepts in the assignment but may not share code.

Submission: Compress your files together and turn in the single file to the assignment link in Blackboard by midnight on **April 28**. No late projects will be accepted.