Final Project

In this final project, you are going to create a nice-looking scene which includes multiple 3D objects.

I encourage you to move your design or code from your Howmework 3 and 4, and properly integrate into your final project. Do not waste your effort in the past.

Required User Interaction: (30%)

- One of the 3D objects is the "player". Users can move the player and rotate the player by the mouse and keyboard.
- By default, your camera should move/rotate along with the "player". This is so called the first person view angle.
- Allow users to switch between the first person view angle and the third person view angle (by pressing the mouse button or a key). The third person view angle can be just a fixed camera position which can cover most of the region of your scene.

Technical Requirements: (35%)

- 1 point light and implement the local illumination (ambient+difusse+specular and phong shading)
- At least, 1 of the 3D objects with nice texture mapping
- Use an environment cube map to have the environment background
- Make some of your objects keep moving or rotating. This is an example, http://math.hws.edu/graphicsbook/source/webgl/cube-camera.html
- At the bottom of your webpage, write some texts to shortly introduce your work and tell users how to play your work

Options: (You should implement at least 2 of them) (35%)

If you implement 1 more function, you will receive 5% extra bonus. If you implement 2 more functions, you will receive 10% extra bonus.

- shadow
- cube map reflection/refraction
- dynamic reflection
- bump mapping

Bonus:

All works will be voted by all students, the instructor and TA. Each student can vote to three other students' works (cannot vote to yourself)

- 1st place: 15% bonus
- 2nd place: 12% bonus
- 3rd place: 9% bonus
- 4th place: 6% bonus
- 5th place: 3% bonus

Demonstration:

- **Demonstration time: 2:20PM, 1/14 (Thu.)**
- Each one has 4 -5 minutes to introduce your work
- Your program will be collected from moodle in advanced and we will run it on instructor's computer
- You do not have to prepare slides (powerpoint)
- Play your work and introduce your work
- Emphasize what you have done about the technical options
- Your goal of this demonstration is to attract people to vote you

Submission:

- You have to submit your program to moodle before the deadline - **3:00PM, 1/13 (Wed.)** .
- Find a best view angle and take screen shot. Submit this screen shot image, too.
- You have to put all files (index.html, js) and the screen shot in a folder, zip the folder, rename the zip file to your student ID (e.g., 407470888s.zip), and submit this zip file to moodle. Ensure that TA can unzip your zip file and drag index.html to the browser to run without any extra work.
- **Book the order for the demonstration**: `https://tinyurl.com/ydhkrveu`
- **Late submission will not be accepted**