CSCI 4250/5250   Project 4: 3D Scene Project
Worth 200 pts

For this project, you may work in teams of two members. Teams will be given a team project grade and a team member grade obtained from a **team member evaluation** which will be post on the web site. These team member evaluations will be done by each member of the team. If you decide to work in teams, you must agree to evaluate each other using the 4250/5250 team evaluation sheet.

Part I – due midnight, November 12th – 50 points
For students working in teams, each member needs to create two complete objects. The objects created by the team members should be appropriate to be included in the final scene.

Turn in the program in D2L using Dropbox "Project 4 Part I" by midnight.

Write a program that
1. Use primitive 3D (sphere, cone, cylinder, cube, etc.) objects to build a 3D figure.   You may need to create your own primitive 3D objects needed in your figure.
2. Draw a second 3D object using polygonal mesh.
3. Use orthographic projection.
4. The complexity and attractiveness of the scene will determine the grade on this part of the project.

Part II (50 pts) – due November 19th – do class demonstration on that day
Turn in the program in D2L using Dropbox "Project 4 Part II" by midnight. (only need to turn in one copy of the project from each team)

Write a program that add to or change part I:
1. Combine all four objects (from the two team members) into the scene
2. Add at least two of the following shapes to the scene: extruded shape, surface of revolution, polygonal mesh, or others.
3. Animate one of the objects in some way. This animation should be started and stopped by clicking the key 'a'.
4. Material and lighting properties should be selected for various objects in the scene.
5. The complexity and attractiveness of the scene will determine the grade on this part of the project.

Part III (100 pts) – due Last Class day (Dec 1st) -- do class demonstration on that day

Turn in the program in D2L using Dropbox "Project 4 Part III" by midnight. (only need to turn in one copy of the project from each team)

Add to your program from Part II:
1. Add texture to the scene – at least three objects should contain texture.
2. Add sound effect, preferably with animation

3. Add animation so the viewer can "move" a camera about the scene. You must thoroughly document how to achieve this movement.
4. Allow the user to move back to the original scene by pressing the 'b' key.

Notes on in-class presentations:
1. Present the projects in class on November 19th and Dec 1st. (The presentations will count 10% each time).
2. During the first presentation (Nov 19th), describe the scene and what primitive 3D objects were used to build various parts of the objects drawn in the scene. Demonstrate the animation and indicate lighting and material properties. If there are features that you couldn't add, indicate these.)
3. During the second demonstration, you will be required to point out new shapes added, demonstrate movement, (rotation), point out textures used, demonstrate that the 'b' key works, etc. Describe any problems you encountered and if you were able to solve them and how.
4. Everyone in class will evaluate every one else's project on each of these days. The evaluation instrument will be posted on the course page.