CS 174A — Introduction to Computer Graphics: Assignment 2

Weight: 10 %

Maximum points: 25

Note: You can receive extra credit on this assignment. We will select the 10 best animations. We will screen these in class and all of you will vote for your favorites. The top 3 animations will be awarded extra points, as follows: 1 ˢᵗ place: 10 points; 2 ⁿᵈ place: 5 points; 3 ʳᵈ place: 3 points.

Collaboration: None. If you discuss this assignment with others you should submit their names along with the assignment material.

Start working on this assignment early. You will not have time to do a satisfactory job at the last minute.

Write a program that displays an animated scene. Your scene should include a combination of hierarchical objects that move around. Required elements:

- [4 points] At least one two-level hierarchical object (e.g., a human arm).
- [4 points] 360 degree camera fly-around using LookAt.
- [2 points] Make and submit a movie of your animation using the provided mpeg_encode utility. The movie frame size should be 500x500 pixels. Include a 100x100 pixel representative image from your animation.
- [5 points] Creativity (story, colors, etc).
- [5 points] Complexity.
- [5 points] Overall quality: Object and camera motion, scene construction, attention to detail.

Instructions for mpeg_encode: download link <https://www.dropbox.com/s/xs5yabi7b7vuefk/mpeg_encode.exe>

mpeg_encode.exe converts your screen captures into a movie. Default-parameters.txt is the default parameter file for the MPEG encoder mpeg_encode.exe: Edit the file (you may want to change the number of frames captured or the input file names, for example). Place mpeg_encode.exe and default-parameters.txt in the same folder where your screen captured .ppm files are saved. In Command Prompt, cd to the correct directory, and run the program by command "mpeg_encode.exe default-parameters.txt"

Special instructions:

Your program executable must recreate the animation in your video. The video should not be edited.

Note that creativity and quality amount to 10 points. You will not get a perfect score if your scene is complex, but not creative.

You must use the provided template code; however, you can modify it as you see fit.

You must do the assignment from scratch. Using any piece of code from any source (e.g., previous offerings of the course, the web, etc.) will be considered plagiarism.

You can see examples of animations made for previous offerings of this course at:
http://www.cs.ucla.edu/~dt/courses/CS174A/animations/

Submission guidelines:

- *Submit your movie and the representative image separately under the names <uid>.mpg and <uid>.jpg,* respectively, where <uid> denotes your 9 digit bruin ID.
- *Submit all the files required to build and run your project in one archive named <uid_os>.zip(for eg:* 802870392_windows.zip). Include the project files, but do not submit the executable or any intermediary files.
- If you use texture mapping in your project, submit all the images within <uid_os>.zip in the location required by your program. They should not have to be moved in order for your program to run correctly.
- Include in the top level of your <uid_os>.zip archive a README.TXT file that summarizes your animation, identifies the hierarchical objects, and explains anything else that might be helpful to know in grading.