Computer Animation I

Assignment 1: The camera

This assignment is intended to give you experience with:
> running Lightwave and loading an existing scene file,
> setting the camera position, orientation, and focal length to achieve a particular composition.
> rendering the camera view using ray tracing, and
> handing in homework.

You will probably find reading certain parts of the Lightwave 7 pdf manual helpful. It is located in the course storage "hand-outs" folder, which you will be able to find after completing step 1, below. The potentially useful parts of the manual are chapter 2, some of chapter 3, chapter 6 on the content directory and changing the point of view, chapter 7 on moving and rotating an item, chapter 13 on camera lenses, chapter 16 on rendering. Use the table of contents to guide you to the right page(s).

Step 0: find a classroom machine that runs Lightwave and insert your zip disk
> most of the machines around the center of the room do, and perhaps some others.
> the "dock" shows you what applications are currently running. If the dock isn't visible, go to the Apple menu and turn it on.
> Lightwave works best when little else is running, so quit the other applications

Step 1: get the networked course storage disk onto your desktop, and copy the homework files to your zip disk
> Under the "Go" menu in the Finder, find "Connect to server…" Select AppleTalk then Hampnet2 then wait until it shows you a list of machines. Scroll down until you find "ash e-class". Select it.
> use cs174 as both the name and password.
> After a few moments the "course storage" disk should appear on the desktop.
> Follow the **perry** folder to **cs174**. This is our course folder.
> In the "hand-outs" folder you should see the Lightwave 7 pdf manual, the 7.5 update manual, and a folder named "assignment 01 content".
> Copy all three files onto your zip disk by dragging them to the zip disk icon.

Step 2: run Lightwave and set the content folder
> In the dock you should find the yellow Lightwave logo. If you don't, you should ask the TA or try another machine. Click on it to run it. Be patient – it takes a moment to start.
> Hit "o" to pop-up the **general options** menu. The first button on the general options menu should allow you to set the content directory. Set it to the copy of the assignment 01 content folder you just made on your zip disk. For this, you select the **folder** itself.

Step 3: load the assignment scene file
> under File->Load select Load Scene. This will pop up a dialog box. Select the file named **assignment01.lws** from the **Scenes** folder within **your copy** of the assignment 01 content folder.
> If it loads correctly, you should see a green floor, some brown pillars, and the back of a funny looking guy holding a cherry ("Roper").

Step 4: select and move the camera to where you want it
> Look at Kerlow, page 189. You need to hand in a **close-up** shot, a **medium shot**, and one other shot of your choice from his list of 12.

On the bottom of the interface you can click on the **Cameras** button, or hit **capital "C"** to make cameras the current object type. If you don't do this, you might move the light and/or the objects in the scene. For this assignment, **only move the camera**.

Since there is only one perspective camera in the scene, that will be the currently selected camera. This means that when you move or rotate the current object, the object you will be moving will be this camera.

Select the **move** (t) or **rotate** (y) tool (under the **Items** tab if they're not visible down the left side of the interface), and experiment with clicking and dragging in the viewport. Clicking and dragging up and down will change two of the available parameters (x, y but not z, etc.), clicking and command-dragging will change the third parameter. Please read the LW manual on moving objects (chapter 7) if this is confusing!

You may get lost. Looking through the camera while you are moving it can be difficult. It may help to switch to a perspective or top view (see the pulldown menu at the upper left of the view window), find your camera icon, then move or rotate it. Be sure to **switch back** to the camera view to see what your rendered image will look like.

When you have a view of the scene that you like, make sure you hit return (enter) **two times** with the camera as the current object. We'll come back to this, but for now think of it as locking the camera into that position and orientation. IF YOU DON'T DO THIS, YOUR CAMERA WILL POP BACK TO ITS STARTING LOCATION WHEN YOU RENDER!

When you have the camera selected, you can change its focal length in one of two ways. The first is to select the **Camera** tab at the top of the interface and look for **camera zoom** on the left side. Select this tool, and drag around in the interface.

The other way is to press p to pop-up the **camera properties** panel. If you don't have the camera selected, a different panel will pop-up (so make sure you have the camera selected). In this panel is a box where you can type in the **lens focal length (or zoom factor)**. In this scene, it is currently set to 50mm.

Step 5: render your image(s)

When you have a view you like through the camera, press F9 to **ray trace** an image of that view. You will see the render taking place.

After a few seconds, an **image viewer** window should pop up. Close the render status window by hitting **continue**.

If you still like the view you see in the image viewer, go to the **File** menu on the image viewer and **save** the image to your zip disk using the Save RGBA menu. Use the format **LW_TIFF24**. Name the file using your name, like: **ChrisPerryCloseUp.tif**.

Repeat this process until you have three different images, one close-up, one medium shot, and one shot of your choice from Kerlow's 12 (page 189).

Step 6: hand in your images

Drop your three images into the hand-in folder on the course storage disk. If you are in danger of writing over someone else's images then you haven't named your images uniquely. Rename them and try again.

PLEASE NOTE: I recognize that this could be difficult for a number of you. Use Cristin's open hours if you would like a little extra help and read through sections of the Lightwave manual if you're having problems getting used to the Lightwave interface. You can also email the class list, Cristin, or myself with questions. Good luck!