The Assignments

CS24 Computer Animation

Winter 13 - Loeb

1. Gravity (drawn)
2. Bouncing Ball (Maya)
3. Lights, Camera, Action! Plus Rendering
4. Posing
5. Blocking
6. Talk, Talk, Talk!
7. Cartoon Physics: Walks and Jumps
8. Final Project (multiple parts)

Assignment 1:

Gravity (Drawn) DUE Wednesday January 9

The purpose of this assignment is to introduce you to some principles of animation: timing and spacing. This assignment will help you: (1) understand timing and spacing, (2) introduce you to the lightbox and hand-drawn animation, (3) introduce you to the physics of gravity, weight and external forces, and (4) help you understand the importance of how things come to a stop.

Assignment: Using animation paper and lightboxes, animate the falling motion of either a:

- Log
- Pencil
- Leaf
- String

You will use a simple line to represent each object. Animate the motion beginning with the object in motion and showing how it falls through the air and lands on the ground, coming to a complete stop. You will use the lightbox and film the animations on the Video Lunchbox. Turn in the work on a VHS tape for viewing in class. Be sure to record the animation onto tape several times so we can see it easily.

Assignment 2: Bouncing Ball

Part 1: Bouncing Ball: Timing and Spacing - DUE Monday, January 14

If you can make a bouncing ball look convincing, you can apply the same skills to more complex objects. In this assignment you will: (1) learn a bit about the Maya animation module, how to create projects, save work and set key frames, (2) work with the graph editor, (3) refine your understanding of the animation

principles, (4) learn how to create a playblast, and (5) learn how to save your work to the server and turn in homework.

Part 1 Assignment: I will assign you a type of ball; you will decide what the surface is that it bounces on. Using the ball model from the website's model page, animate the translation of the ball. Then use the graph editor to refine the timing and spacing so that the ball animates as it should. Turn in a playblast of your animation. Be sure to turn off the view of the controls.

Part 2: Add squash, stretch and rotation DUE Wednesday, January 16

Part 2 Assignment: Next add squash and stretch plus rotation to the animation. Be sure the ball comes to a complete stop before the end of the animation.

Assignment 3:

Lights, Camera, Action! DUE: Monday, January 28

Now let's put the ball in a world of your making and have some fun. Create a simple –AND WE MEAN SIMPLE –environment for your bouncing. You will assign materials, add color and simple texture, then place cameras and lights and render the scene to a Quicktime movie. In this project you will learn, (1) simple modeling techniques (2) materials and shaders basics, (3) how to add simple textures, (4) basic lighting concepts, (5) how to add shadows, (6) how to set up a camera, (7) rendering basics.

Assignment: Create an environment for your animation using simple modeling. Assign some materials to the surfaces. Refine the animation. Add lights and set up the camera. Turn in a .mov file from the rendered animation.

Assignment 4:

Posing DUE Wednesday, Jan 30

Poses are the basic building blocks for animation. If the key poses aren't strong, dynamic and balanced, the animation cannot work. For this assignment, we will concentrate on the principles of animation together with some understanding of human anatomy, balance, weight and forces.

Assignment:

1. Familiarize yourself with the controls of the Pozo model.
2. Complete the tutorial
3. Pose the rig into the following 4 still poses:
    a. Pushing or lifting something heavy
    b. Throwing a ball or Frisbee (either the position before throwing or just after release).

c. A ballet or marshal arts pose (look up some classic examples online and try to replicate them before posing the model)
d. Something of your choice as long as it shows off a key pose for an action, not sitting or sleeping.

4. Animate a simple wave.

In all of the above poses, be sure to take into account, balance, symmetry, weight, staging, silhouettes, line of action and camera staging. Turn in a rendered movie with stepped curves of your poses and wave.

Assignment 5:

Blocking - DUE Monday, February 4

Assignment 6:

Talk, Talk, Talk! - DUE Monday, Feb. 11

In this assignment you will: (1) learn about lip synch, (2) learn about deformers, (3) work with phrasing.

Assignment: Using a simple face model you will do a lip sych animation of the simple phrases provided (why? and what are we doin in here?). Do one of each. Then, using the model of your choice, you will import a sound clip from a movie and import it to Maya including at least the cheek, eye, mouth and chin motions.

Turn in the rendered movie with the sound file. You can add the sound in quicktime or in imovie or another editing software package.

Assignment 7:

Cartoon Physics: Walks and Jumps
Due Monday, Feb. 18

Now the fun begins. We begin to explore cartoon physics and the relationship between forces, masses in motion and animation. This is fun stuff, but it is also as hard as it gets in animation. If you can do this right, you can animate anything. So plan to work hard on this one. We will again divide up:

Group 1: Walking/Running/Skipping
Group 2: Jumping

We will videotape ourselves walking, jumping, skipping, etc. Use this as reference footage. We will also learn about kinematics (inverse and forward) and hierarchies.

Turn in a playblast that can be looped.

Assignment 7:

Final Project – Your choice!

This is the final project for the class. You can work with a partner or alone, using one of the models we have already used or find another to work with. Keep it short and simple. You will add lights, render the animation, edit it and add sound.

Assignment 7.1: Treatments, Character Studies. DUE Wed. Feb. 20

Write a short treatment for your animation (a paragraph or two).

1. Do a character study sheet (who are your characters?)
2. Write a short treatment of your story idea.

Assignment 7.2: Storyboards DUE Friday, February 22

1. Create a storyboard of your short film idea

Assignment 7.3: Animatics DUE Tuesday, Feb. 26

1. Record you storyboard and turn it into a movie, lasting the same length as your final movie.

Assignment 7.4: Layout, DUE Friday, March 1

1. In Maya, layout the cameras and the basic layout of the animation.

Assignment 7.5: Blocking, DUE Monday, March 4

1. Block out the key poses

Assignment 7.6: Rough Animation, DUE Wednesday, March 6

1. Rough out the animation curves.

Assignment 7.7: Revised Animation, DUE Friday, March 8

1. Revise the animations.
2. Add lights and shadows.
3. Prepare for final rendering.

Assignment 7.9: Refine animation, Render, Add Sound. DUE Monday, March 11th at midnight. FINAL SCREENING, March 12th at 9 AM.

1. Once you get the animation set, add lights and render each shot. Edit the shots using iMovie or Final Cut
2. Add sound.
3. Create a hi res dv version of your movie for the final screening**.**