CS125: Introduction to 3D Computer Animation
Fall 2009

2D Animation Project

Date	What should be done	Handin name	Files to handin
Sept 14	Bring reference object to class		
Sept 14	After Effects tutorial	2d_tut	o <login>_2dtut.aep o <login>_2dtut.avi or .mov
Sept 21	Progress for first critique: do as much of the animation as you can	2d_progress	o <login>_2dprogress.aep o <login>_2dprogress.avi or .mov o PS or illustrator files, but not huge amounts of footage o REPORT.txt: this should contain an evaluation of your work in progress
Sept 28	Final animation	2d_final	o <login>_2dfinal.aep o <login>_2dfinal.avi or .mov o PS or illustrator files, but not huge amounts of footage o REPORT.txt: this should contain an evaluation of your work

Goals and introduction

The goal of this assignment is to learn how to create 2D animation by combining still imagery, 2d elements, running footage, and effects into a finished piece. All 3d computer animation results in rendered images which can be manipulated in 2d during the compositing phase; therefore it is important to learn how to layer and combine 2d imagery. This piece will get you to start thinking creatively and give you some experience working with elements of design, movement, and timing in a holistic way before we break the 3d animation pipeline down into its component processes.

The assignment has three parts. The first part is a tutorial in AfterEffects in which you will become familiar with the interface of the program and the concepts of layers and operations on layers. The second part is to find a visual reference that you will use when creating your animation. The third part is to create the animation in AfterEffects. You will hand in your animation twice: once while it is in progress, and once when it is finished.

Reading and Tutorial

1. Read *After Effects Apprentice,* pp 1-11.

2. Watch the movie on the CD, "Guided Tour." This has sound so bring headphones to the lab if you watch it there.
3. Do Lesson 1, "Basic Animation," pp. 12-33. Don't wait until the last minute and rush through the tutorial because you will be using the skills learned there again. After doing the steps in the book, you may put your own stamp on the project by modifying some piece of the animation as suggested on p. 33.
4. Browse through the next few lessons to learn about other things you can do with After Effects. You are not required to do any more tutorials, but as you plan your own animation, you will probably want to come back to the book to learn more techniques. In particular, check out Lesson 2 to learn how to fine tune your animation curves.

For your convenience, the tutorial files are in Y:\course\cs125\asgn\After Effects\Lesson 01-Basic Animation. Due to copyright issues these files are to be used for class work only and may only be used by students who have purchased the book.

Visual reference

A work of art which did not begin in emotion is not art. – Paul Cezanne

For this part of the assignment, you will find a visual reference that will inspire your 2D animation. It can be a sketch, a photograph, an object, anything you can bring in and share with the class, but it must be something we can look at, not just a verbal or written explanation. The reference piece does not have to appear in your animation. It could show a look that you are trying to achieve. Try to find something meaningful to you that will hold your interest for a couple weeks and that will make an interesting animation. This is one of the most creative assignments of this course, so follow your passion! Be sure to consider the strengths and limitations of After Effects when choosing an idea. The point of this is to get you thinking about your piece before you start working with the computer. It will give you a jumping off point instead of staring at the blank screen or waiting for some accidental animation to occur. Be prepared to explain what you want to do with the visual reference – a one minute explanation is sufficient.

The Animation

You will create a 2D animation using AfterEffects. Your piece should combine several layers that are animated independently with effects or movement. Imagery and footage can be your own or "borrowed" but consider copyright issues if you ever want to show your piece publicly. *Make sure you alter any borrowed imagery significantly.* Do **not** use characters or backgrounds from movies, cartoons, video games, etc. You may use other software such as Photoshop or Illustrator to create elements. After Effects maintains image structure from other Adobe software. You may **not** use another animation system such as Flash.

There is no strict length minimum or maximum but past assignments have ranged from about 30 seconds to 2 minutes. The pace and complexity should help determine the

length. Please note that the longer your piece, the longer it will take to render in After Effects. We will be concentrating on the visual aspects of the piece; sound may be added, but not at the expense of a polished animation. These pieces will be archived on the final class DVD, but you will have the opportunity to add sound on your own later if you don't want to work on it now. Be careful to keep your project within your time budget. Think TV commercial-length, not short film!

For the first critique, you should have the skeleton of the entire animation finished, so we can evaluate the structure. You should be prepared to discuss technical and visual problems you are having. You will also turn in a written evaluation that describes your goals for the piece, technical and aesthetic problems you may be having difficulty solving, and what you plan to do to refine and improve your work.

Design criteria - What we are looking for

- Quality! Do your best work. The piece should be complete and polished.
- A piece that moves the viewer from the beginning to the end with purpose. Even an abstract piece must lead the viewer from a beginning to an end.
- Creative but appropriate use of effects. You don't need to push every button in the program. Less is more.
- A definable "look" or art direction. The elements in your piece should work together to create a unified image.
- Thought given to artistic principles such as composition including arrangement and kinds of shapes, depth, positive and negative space, balance; color; texture; timing.
- Aesthetic and personal expression. This assignment is less constrained than most other assignments in the course allowing for more personal expression. Use the opportunity.
- Interesting and natural or appropriate movement to animated elements. Make sure you are using the medium well and not making a slide show. Consider using depth, not just planar movements.

Tips

- Think about what you want to do before you start. This will save you lots of time. You can begin by creating a rough storyboard, either on paper or in AfterEffects to get a sense of timing of the overall piece.
- *Don't be overly ambitious*. If you are trying to create some effect, and just can't make it work, find another way to do it or forget it. If your whole piece relies on

a particular effect, make sure you test your ability to achieve this before committing to it.

- Refine the entire piece to each new level, before zeroing in on one detail. You want to be able to change things without throwing away pieces you have already polished. You may need to sacrifice some parts for the sake of the whole and it is best to do this before you've put too much time into the parts.

- From time to time, render sample frames at several points in your animation. Use these samples to calculate how long your piece will take to render. If you can't live with the render time, simplify your work. When you want to view rendered versions of your animation quickly, try using the Draft mode which renders at half resolution.

- *Save intermediate versions of your work often!* This is very important for two reasons. One is that you are less likely to accidentally ruin your project file. Second is that you will be able to experiment with new ideas without fear of wrecking previous work. You may also set up separate comps that use simple elements to gain experience with an effect.

- **Save your work, quit the program, and start it again every hour or so**. Many computer programs start behaving poorly when they have been used for many hours.

- Name your layers something sensible when you create them. It doesn't take long to become confused about what is what.

- Use the critique to your advantage. If you are unsure about anything, try it out before the first critique so you have the opportunity to get feedback on it.

- Later in the semester we will render these same animations at full video res to put on a class DVD. You may continue to work on them after this due date, including adding sound, but you will be assessed on what you turn in on the due date.

- You may work with live action footage that you borrow or create yourself, but consider how much disk space live action elements will take and how long it will take to import them and work with them because this adds a lot of complexity to the project.

Technical requirements

- Use 29.97 frames per second for frame rate.

- Use a resolution of approximately 320 by 240 with square pixels, **no larger, or we won't be able to play your movie smoothly in class**. A larger size may run smoothly on your personal computer, but we assure, it will bog down on the

classroom computer and look awful. You can change the aspect ratio if you want, but remember that the final format is a DVD. Do not skip frames or compress your final render.

- Your movie should be viewable with the QuickTime movie player. Test this to be sure it works. .avi movies are usually much smaller than .mov movies and the size of the movie usually determines how well it plays in QuickTime.

- Use the specified file names. Do not use any spaces in your file names because they are eventually handed in on Linux computers which do not allow spaces. Movie files are big and will take several minutes to copy to the Linux machines. Please allow for this when using the hand in procedure.

- When the project is finished, clean up your disk space, but don't trash your .aep or source material because you'll be rerendering the project at a higher resolution later. There are CD and DVD writers available for archiving files or you can copy them to your own hard drive.