

Alternative Techniques for Experimental Animation (DT1003)

Syllabus

Summer 2011 June 8 to August 10
Wednesdays, 6:30 p.m. to 9:30 p.m.
DMS2

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Course description

While the focus of this class will be on various digital methods of generating, capturing, editing, and presenting moving pictures, this will be done with a constant eye on the historical and critical context of experimental animation.

For our purposes, a negative definition of animation will suffice: animation is any moving picture **not** created by capturing live action in real time¹. Any other means of creation qualifies.

To start we will explore the principals of animation through manual techniques such as simple flip-books, zoetropes, and mutoscopes. Next we will review photographic methods and see how digital media can augment traditional methods or replace them. Our final exploration will be how to create purely digital animations.

Objectives

Learn how to make pictures move.
Discover the history of experimental animation.
See how digital media fit into the discourse of experimental animation.
Create several (very) short animations experimenting with the techniques demonstrated.
Create a short animation as a final project.

Requirements

Technically, the student should have:

- some familiarity with imaging software like Photoshop or Illustrator
- some familiarity with Final Cut Pro

Depending on the project, in order to work outside of class the student should have access to:

- a computer with a printer (much of the requisite software is open source)
- a space to use as a simple studio/workshop (need not be more than the kitchen table)
- some simple tools and materials, e.g. sharp knife, straight edge, glues, etc. (see last page)
- Photoshop
- QuickTime Pro
- Final Cut Pro
- digital video camera
- tripod
- external storage device (FireWire drive, Flash drive)
- scanner
- lightbox

¹ Obviously, this is a fluid distinction and merely for convenience. What I mean here is that the recording of the live action is captured photographically and is continuous and consecutive, i.e. there is no delay between frames and the frame rate is fast enough to give the impression of 'real' movement, at least within conventional expectations.

Expectations and policies

These policies will ensure the student gets the best results from the class:

- Come to all classes, and come on time.
- Bring your toolbox and other materials to each class.
- Join in the class discussions and critiques.
- Present your final project, no matter what state it's in.
- Most importantly, tell me right away if you have any issues or problems so we can solve it before it gets out of hand.

Course outline

Camera-less techniques

Week One

Animation pre-dates film—the first moving pictures were hand-drawn animations presented as visual toys. The first three weeks of class will cover camera-less, mechanical animation.

Capture type: direct to media
Technique: graphic—drawing, painting, and scratching
Image medium: paper
Presentation: physical / mechanical

Examples: zoetrope (w/ strips of blank frames) Steve Hollinger
praxinoscope (w/ blank discs) Stephen Mottram
plan for zoetrope Eadweard Muybridge

Demonstration: making images for the praxinoscope
making images for the zoetrope

Class project: make a disc of images for the praxinoscope
make a strip of frames for the zoetrope

Bring to class: pens, markers, pencils, charcoal, pastels, etc. paper for sketching (sketch book ok)
paper for printing (from the computer) scissors, knife, straight edge
cutting mat

Equipment: light box

Week Two

For the next two classes, we will expand on what we learned in the first class and make devices which have more frames: flip books and mutoscopes.

Capture type: direct to media
Technique: graphic—drawing, painting, and scratching
digital graphic—using the computer to draw or paint and print an image
Image medium: paper
Presentation: physical / mechanical

Examples: flip books Norman McLaren demo film on animation
mutoscope (w/ sheets of blank frames) "Belgrade mix"
19th century patents as a source for ideas
mutoscope kits

Demonstration: making flip book frames from a story board
about the mutoscope kits
using the computer to create the frames

Class project: make a flip book or mutoscope

Bring to class: small spiral sketch book (2 x 3 to 4 x 6 inches)
your toolbox and materials

Equipment: computer
printer

Photoshop or Illustrator

Week Three

Making a flipbook or mutoscope continued.

Examples: more about early moving pictures
Norman McLaren demo film on animation

Class project: continued from last week.

Bring to class: your toolbox and materials

Single-frame and stop-motion animation

Even after the introduction of photography for creating moving pictures, animation has remained an important tool for experimental film. The next four classes will introduce simple, single-frame techniques a digital video camera and single-frame capture software. Classes Four and Five will cover images created graphically. Six and Seven will cover collage, live-action, and sculptural techniques.

Week Four

The next two classes cover using graphic images as the source for single-frame animation.

Capture type:	digital video—single frame
Technique:	graphic—drawing, painting, and scratching digital graphic—printed out collage
Image medium	paper
Presentation:	display or projection

Examples: Bugs Bunny
William Kentridge
Hans Richter

Demonstration Using Max/MSP Jitter to capture single frames from a video camera

Class project: create a short single-frame animation using graphic images

Equipment:	computer video camera tripod QuickTime Pro	Max/MSP Jitter or other capture software Photoshop with ExtendScript Final Cut Pro
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Bring to class: your toolbox and materials

Week Five

This class continues using graphic images as the source for single-frame animation.

Examples: Marcel Duchamp
Norman McLaren pin-board animation

Demonstration capturing frames in Photoshop with ExtendScript
Class project: continued work on the graphic image animation started last week
Bring to class: your toolbox and materials

Week Six

In the next two classes we look at stop-motion animation involving cut-outs, sculpture, found objects, and live action.

Capture type: digital video—single frame
Technique: sculpture, found objects
live action
Image medium: paper, cardboard, Sculpey, etc.
Presentation: display or projection

Examples: Adam Elliott. “Harvie Krumpet
Terry Gilliam
Norman McLaren
PES
Jan Svankmajer

Demonstration: cut-out animation
Class project: create a simple, short stop-motion animation
Bring to class: your toolbox and materials
Equipment: same as week Four

Week Seven

Examples: Norman McLaren
Brothers Quay.
Future Sound of London video
Demonstration: pixilation and sculptural figure animation
Class project: continue with last week’s project ...
Bring to class: your toolbox and materials
Equipment: same as last week

Digital direct-to-media techniques

With the introduction of digital production, the possibilities for animation has expanded even more. During the next two classes, I will demonstrate some techniques for creating and capturing digital images all at once.

Week Eight

Capture type: QuickTime capture from scripted Photoshop
Technique: digital scanning found objects and digital graphics
Image medium: digital
Presentation: display or projection

Capture type: direct capture in Final Cut Pro or Max/MSP Jitter
Technique: scrubbing, camera capture, etc.

Image medium: digital
Presentation: display or projection

Examples: “Cube”
Anthony Discenza.

Class project: experiment with the techniques demonstrated
begin a final (very) short animation using one of the techniques previously covered

Bring to class: various objects to scan
[your toolbox and materials]

Equipment: computer
QuickTime Pro

Final Cut Pro
Max/MSP Jitter

Week Nine

This week we look at the work of artists who generate images directly from computer programs

Examples: Andrew Benson
Nate Boyce
Scott Snibbe

Class project: continue with the final animation started last class

Bring to class: [your toolbox and materials]

Putting it all together ...

The next two classes will be dedicated to working on the final animation. The lecture in week Ten will cover editing in Final Cut Pro as it pertains to animation. There will be a short lecture in class Eleven about relevant film techniques not previously covered.

Week Ten

Editing animations in Final Cut Pro.

Demonstration: some features of Final Cut Pro useful for animation

Class project: continue with final animation

Bring to class: [your toolbox and materials]

Week Eleven

This week the lecture will cover direct filmmaking.

Capture type: direct to media
Image medium: film
Technique: graphic
photographic
Presentation: display or projection

Examples: Stan Brakage
Eric Darnell
Norman McLaren
Man Ray
Peter Tscherkassky. “Outer Space”.

Demonstration: strategies for applying direct filmmaking to digital video

Class project: work on final project

Bring to class: [your toolbox and materials]

Week Twelve

Exhibition and critique of final project.

Materials and equipment list

Some items for the first class will be provided. Other items will be needed depending on projects chosen. Bring the toolbox and materials to each class.

Toolbox

bookbinders needle and thread
calipers
cutting mat
light box
ruler
scissors
straight edge
X-acto knife with various blades
pliers, long-nose and slip-joint
wire cutters

Materials

pens, markers, pencils, charcoal, pastels, etc.
paper for sketching (sketch book ok)
paper for printing (from the computer)
card-stock paper (110lb)
glue, glue stick
Sculpey
wire, light and medium weight
small spiral sketch book, 2 x 3 to 4 x 6 inches

Generally, these items will be available during class.

Software

Max/MSP Jitter
Photoshop with ExtendScript
Final Cut Pro
DVD creation software
QuickTime
Illustrator

Hardware

computer
scanner
video camera
tripod

Bibliography

Maureen Furniss. *The animation bible*. Abrams, New York.
Robert Russett, Cecile Starr. *Experimental animation*. @ SFAI: TR897.E96.
Richard Williams. *The animator's survival kit*. Faber & Faber, New York.

More resources: http://www.urchard.com/teaching/exp_anima/

Filmography

(supplied separately for each class)