S16-Installation

From stenner:teaching

Spring 2016 - Installation Using Digital Processes

Reactive Environments

Course Description

Credits: 3; Prereq: DIG 4527C and ART 3959C

[from the university course listing]

Students explore site specificity and intervention in 3D space through installation, using digital media to understand concepts such as sequence, narration, scoring, interactivity, motion, and recursion.

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art4848c - Undergrad
art6849c - Graduate
Class: FAC 306
Time: T/Th 8:30-11:30
Website: http://art-tech.arts.ufl.edu/~jack/wiki/S16-Installation
Listserv: spring-3068-l@lists.ufl.edu (mailto:spring-3068-l@lists.ufl.edu)
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Introduction

The goal of this course is to develop the students understanding of installation as a medium. We will contextualize installation with respect to other forms of aesthetic experience and identify distinct categories of behavior that define various approaches to the medium. Not only will we learn about historic and contemporary installation, but we will look at ways in which installation relates to technology. As far back as the Surrealist Exhibition of 1938, installation involved the use of technology to create reactive/responsive environments. We will investigate ways that digital processes can be used to enhance practice as well as means with which digital processes might become a core component of the work. Finally, we will survey various tools and methodologies that might be used in the production of installation art. **Course content is adapted to the skills of the artist/s, so your primary task is to challenge your own abilities and push the boundaries of your current knowledge.**

Things you might learn/explore:

1. Site-specific intervention
2. Create environments that respond, dynamically to the participant
3. Tactical media works
4. Multi-channel, synchronized video installation
5. Telematic works that combine physical and virtual media
6. Tangible media installations
7. Generative experiences
8. Participatory works that collect data
9. Surveillance
10. and more....

Tools you might use to enable the list above:

1. Cycling '74s Max/MSP/Jitter [or PD = open source variant]
2. Game Engines: Unreal, Unity3d, Torque
3. Programming: Processing, Java, C#, etc.
4. Streaming: Wowza Media Server, QuickTime Streaming Server
5. Multi-player game server: Smart Fox Server
6. Form [static and dynamically driven]: Maya, Rhino, Blender
7. Rapid Prototyping/manufacturing, Industrial Design: The FabLab
8. Microcontrollers and Sensors: Arduino, Kinect, webcams, touch, RFID, etc.
9. Network/Database: Apache, php, MySQL, etc.

Objectives

1. Become aware of the history and foundation of installation.
2. Develop an ability to analyze and evaluate works from an informed point-of-view.
3. Gain an awareness of related work in the field.
4. Learn to engage in meaningful discussion and develop a sense of criticality.
5. Develop a level of comfort with the integration of digital processes were appropriate.
6. Learn to propose and present ideas in a way that clearly demonstrates intent.
7. Have FUN!

Grading

Grades will be based 90% on class assignments and 10% on class participation. You are expected to constructively criticize your peers. Constructive criticism is considered a part of your class participation.

Specific info on grades and grading can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Notwithstanding the description of grades above, generally, grades are conceived in this way:

A(Excellent) Student's work is of exceptional quality and the solutions to problems show a depth of understanding of the program requirements. Project is fully developed and presented well both orally and graphically. Student has developed a strong and appropriate concept that clearly enhances the overall solution. The full potential of the problem has been realized and demonstrated.

B(Good) Student's work shows above average understanding and clear potential. All program requirements are fulfilled and clearly and concisely presented.

C(Fair) Student's work meets minimum objectives of course and solves major problem requirements. Work shows normal understanding and effort. Quality of project as well as the development of knowledge and skills is average.

D(Poor) Student's work shows limited understanding and/or effort. Minimum problem requirements have not been met. Quality of project or performance as well as development of knowledge and skills is below average.

F(Failure) Student's work is unresolved, incomplete and/or unclear. Minimum course objectives or project requirements are not met, and student's work shows lack of understanding and/or effort. Quality of project or performance is not acceptable.

Instructor's evaluation of student's interest, motivation, attendance, proficiency and overall development or improvement during the semester will be taken into consideration in determining the final course grade. This syllabus is subject to refinement and development throughout the semester based on feedback and class interaction. Policies and grading criteria are absolute and will not change. Any substantial changes will be discussed with the class prior to implementation.

Grading breakdown:

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Artist/Installation Presentation  = 20%
Proposal = 20%
Preliminary Reviews = 20%
Installation =   20%
Essays:     Total = 10%
Class Participation  = 10%
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Attendance

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Evaluations

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

Reading

Readings will consist of .pdfs and URLs available on the class website. The book is out of print, currently, but we will be reading: "Installation Art: A Critical History", Claire Bishop, 2005, Routledge, NY ISBN 0-415-97412-7

Also, recommended reading if you plan to create interactive installations that require electronic media: "Making Things Talk", Tom Igoe, 2007, O'Reilly, Cambridge ISBN 978-0596510510

Materials and Fees

Required materials will depend on the proposed projects submitted by students. Students will design projects and set budgets based on the goals of the work. See the Schedule of Courses for any attendant fees related to this course.

Additional Policies and Disclaimers

Be sure to read the University Policies (http://art-tech.arts.ufl.edu/~jack/wiki/UF_Policies) and other disclaimers linked at the bottom of each and every page ----- see below

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S16-Installation/projects

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Project Descriptions

Essays

For every reading assignment you will write an essay that addresses the fundamental components of the article and demonstrates a basic knowledge of the key points. Include critical analysis of the content where appropriate. The essay should be posted on the class wiki prior to the beginning of class on the day the reading is due. You may refer to this written text during class discussion.

Artist/Installation Presentation

Choose a significant artist involved with installation work. Research the artists work and life. Prepare an **in-depth** presentation of their work from a conceptual and technical point of view. Discuss the historical context of the work, illustrating influences and/or similarities with other work. Discuss the ideas behind the work and compare/contrast these with the work of others. Identify where you think the work fits within the categories of installation we've identified in class. If it fits none, describe how you propose the work functions from the viewers perspective. Discuss the theoretical foundation of the work. Multimedia samples of work are encouraged. This is not a PowerPoint "quickie" book report! It should be a well researched, thoughtfully considered, and provoking investigation into the life and work of someone whose work matters to you. Tell us why this artist is significant and how you are influenced. By the same token, this is not a cheerleading or promotional activity either. Critically analyze the work for conceptual, experiential, cultural, and other deficiencies. How would you improve the work? This is not intended as a survey of an artist's entire catalog. Focus on a single project, perhaps mentioning a few others if they were significant in the development of the primary work. The presentation should last a **minimum** of 30 minutes. There is no upper limit as long as the length is appropriate to the content. Turn in the presentation and a complete bibliography on CD or DVD. Link your presentation to the class website so your classmates, and future students can benefit from your work. You will be evaluated based on the content, the incisive nature of your analysis, and the quality of your presentation.

Proposal

Prepare and present a complete proposal for the creation of an installation. The proposal should discuss the **form**, **content**, and **methods** associated with the work. It should include a complete budget and timeline. If the proposal is for a group project, team member responsibilities must be fully described. Include a section with all preliminary research that has been completed. Provide sketches, models and animatics (if required) of the work and the environment. Outline all required hardware and software and how you plan to acquire the needed resources. Identify the location of the installation. Prepare the proposal as if it is to be submitted to someone who knows nothing of the project or your qualifications as an artist. The proposal may take the form of a

website. It may also include a video "trailer" or some other form that communicates your intention. You will be evaluated based on the complete disclosure of your intent as well as the strength of your concept. I expect that over the course of the semester the project will develop in such a way that the proposal may need to be updated to reflect significant changes. It is your (or your teams) responsibility to keep this current. While we will be discussing microcontrollers, sensors, computer vision, and other technologies during the course of the semester, you are not required to use these in your work. You should use digital processes where they support and enhance the concept. There are many ways that digital processes can impact work without complex interfaces, etc.

Preliminary Review

Following your proposal, and at a significant intermediate point in project development, you will undergo a preliminary review. Your progress will be measured against your stated intentions and a more rigorous analysis of your concept and its likely implementation will result. This review will allow you to make improvements in the work as a result of viewer feedback, thereby strengthening the final work. Depending on the structure of your work, you will install or simulate the final product so we can experience it as intended. You will also present your research to date and provide an updated wiki documenting work to date.

Installation

Your primary goal this semester is to create an installation. The success of this work is a major portion of your grade. You will be working towards this the entire semester. You or your team are responsible for all aspects of its conception, construction, implementation and exhibition. If you choose to work as a team, choose carefully! I am sensitive to group projects with "uneven" contributions by members. Grades will be given on an individual basis. If you do not "pull your weight" you will be penalized! As is always the case, the end result will be evaluated based on its merits as a work of art. Technical difficulty does not supercede a weak concept or expression of that concept. I **do** expect you to experiment and push the boundaries of your knowledge/experience. You are free to build upon existing work as long as it is appropriate to this form and is a significant advance of the work. Beyond local exhibition of the work, submission and inclusion of the installation in a juried exhibition will be rewarded.

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- This page was last modified on 3 January 2016, at 09:35.
- This page has been accessed 25 times.

S16-Installation/outline

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Course Outline

- **Unless otherwise specified, all readings are due on Tuesdays**

Wk 1 : Jan 5, 7 Installation?

1. Intro - Syllabus
2. History - The "situatedness" of art
3. Forms of Installation
4. Watch **The Cool School** (2008) documentary
5. Assignment: (Due next week.)
    1. Reading:
        1. Chapter 1, The Dream Scene - Installation: A Critical History
           (https://digitalmedia.arts.ufl.edu/webdav/papers/installation/InstallationArtCH1.pdf) , Claire Bishop
        2. Chapter 2, Heightened Perception - Installation: A Critical History
           (https://digitalmedia.arts.ufl.edu/webdav/papers/installation/InstallationArtCH2.pdf) , Claire Bishop
    2. Get/install student version of Max/MSP/Jitter
    3. Prepare a list of 5 Installation Artists
    4. Brainstorm ideas for installation project.
    5. Start taking a look through the Max tutorials (via Help->Max Tutorials) -- you can skip MIDI parts

Wk 2 : Jan 12, 14 The Dream Scene, Heightened Perception

1. Discuss readings.
2. Discuss installation ideas.
3. Select Artist/Installation Presentations
4. Watch **Bruce Nauman: Make Me Think** (1997) documentary
5. Visualization Techniques
6. Max Exercises
7. Assignment: (Due next week.)
    1. Reading:
        1. Chapter 3, Mimetic Engulfment - Installation: A Critical History
           (https://digitalmedia.arts.ufl.edu/webdav/papers/installation/InstallationArtCH3.pdf) , Claire Bishop
        2. Chapter 4, Activated Spectatorship - Installation: A Critical History
           (https://digitalmedia.arts.ufl.edu/webdav/papers/installation/InstallationArtCH4.pdf) ,Claire Bishop
    2. Work through Jitter Tutorials
    3. Develop Installation Proposal

Wk 3 : Jan 19, 21 Mimetic Engulfment, Activated Spectatorship

1. Discuss readings.
2. View documentary: Gary Hill **I Believe It Is An Image**
3. View Jennifer and Kevin McCoy work.

4. Refine/discuss installation ideas.
5. Jitter Exercises (For the 26th and 28th, bring interesting video and audio)
6. Assignment:
    1. Reading: One Place After Another: Notes on Site Specificity by Miwon Kwon
       (https://digitalmedia.arts.ufl.edu/webdav/papers/theory/kwon/Kwon_SiteSpecificityB.pdf)

Week 4 : Jan 26, 28 Installation Proposals

Ivette's Artist Presentation Jan 26

1. Discuss Readings
2. Brainstorming
3. Max/MSP/Jitter PLAY
4. Assignment: (Due next week.)
    1. Reading:
        1. O'Sullivan, D. and T. Igoe (2004). Introduction.
           (https://digitalmedia.arts.ufl.edu/webdav/papers/physical_computing/igoe-intro.pdf) Physical
           Computing : Sensing and Controlling the Physical World with Computers. Boston, Thomson: pp. xvii-
           xvix.
        2. Seven Ways of Misunderstanding Interactive Art (http://art-tech.arts.ufl.edu/~jack/courses/s08-
           art4848/essay.html) - Erkki Huhtamo
    2. Finalize Installation Proposal

Week 5 : Feb 2, 4 Survey of Digital Techniques

[Sensors and Microcontrollers]

1. **Critique Installation Proposals - (Tuesday).**
2. Discuss readings (Thursday).
3. ADC and DAC
4. Arduino (http://arduino.cc/) + Sensors + Max/MSP Demo
5. Assignment:
    1. Installation Development
    2. Reading: Delusions of Dialogue: Control and Choice in Interactive Art
       (http://adaweb.walkerart.org/context/events/moma/bbs4/transcript/campbell01.html) - Jim Campbell

Week 6 : Feb 9, 11 Survey of Digital Techniques

[Sensors and Microcontrollers]

1. Discuss readings.
2. Sensor Demo
    1. Basic Arduino setup.
    2. Interfacing Arduino to Max/MSP.
    3. Controlling a video with a sensor.
3. Assignment:
    1. Installation Development
    2. Reading: Weibel, P. (1996).The World As Interface
       (https://digitalmedia.arts.ufl.edu/webdav/papers/time/weibel-interface.pdf) Electronic Culture: Technology and
       Visual Representation. T. Druckrey. New York, Aperture Foundation: pp. 338-343.

Week 7 : Feb 16, 18 Survey of Digital Techniques

[Computer Vision]

1. Discuss readings.
2. Video Tracking Demo
3. Artist/Installation Presentation 1
4. Artist/Installation Presentation 2
5. Assignment:
    1. Installation Development
    2. Reading: O'Doherty, B. (1976). Inside the White Cube: Notes on the Gallery Space (http://www.societyofcontrol.com/whitecube/insidewc.htm)

Week 8 : Feb 23, 25 Survey of Digital Techniques

[Game Engines]

Tyra King: Artist Presentation

Kayla Evans Artist Presentation: Tara Donovan

1. Discuss readings.
2. Ernie Williams - Thomas Hirschorn
3. Artist/Installation Presentation 4
4. Assignment:
    1. Installation Development
    2. Reading: Sculpture in the Expanded Field by Rosalind Krauss, October v8 pp. 30-44 (https://digitalmedia.arts.ufl.edu/webdav/papers/theory/krauss/Krauss_Sculpture_In_The_Expanded_Field.pdf) .

Week 9 : Mar 2, 4

Spring PRODUCTIVITY - NO CLASS!

- You have an entire week to work with no class interruptions!

Week 10 : Mar 9, 11 Develop Projects

1. Discuss readings.
2. Artist/Installation Presentation 5 George Banks -Shai LaBeouf
3. Artist/Installation Presentation 6 Jen Herrera - Soo Sunny Park
4. Review Project Development
5. Assignment:
    1. Installation Development
    2. Reading: Walter Benjamin: The Work of Art in the Age of Mechanical Reproduction (https://digitalmedia.arts.ufl.edu/webdav/papers/theory/benjamin/WalterBenjaminTheWorkofArt.pdf)

Week 11 : Mar 16, 18 Project Development

1. Discuss readings.
2. Artist/Installation Presentation 7 Shimul - Sheela Gowda
3. Artist/Installation Presentation 8 Kris - Pinaree Sanpitak
4. Review Development
5. Assignment:

1. Installation Development

Week 12 : Mar 23, 25 Critique - Preliminary REVIEW

1. DEVELOPMENT
2. Assignment:
      1. Installation Development

Week 13 : Mar 30, Apr 1 Work/Development

1. **EXHIBITION ANNOUNCEMENT EVERYWHERE**
2. Artist/Installation Presentation 9
3. Assignment:
      1. Installation Development

Week 14 : Apr 6, 8 Work/Development

1. WORK (T)
2. Assignment:
      1. Integrate/Finalize Project

Week 15 : Apr 13, 15 Final Testing

1. Finalize and test installation on Thursday at Innovation Square

Week 16 : TBD FINAL EXHIBITION

1. Exhibit TBD

Week 16 : TBD Final Critiques

- This is the UF prescribed final exam period. If everyone successfully scheduled a day prior to this, YEAH, we don't need to show up. If not, then this is exam day!

DROP DEAD DATE: Friday the TBD at 5PM

COMPLETE WIKI UPDATES AND ALL DOCUMENTATION
I will grade based on what I see on the wiki at this day and time!
If it's not there, you didn't do it!
I will LOCK the wiki at this point (ie, no more edits allowed)!

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S16-Installation/links

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Links

Installation

- Ilya Kabakov
- Perry Hoberman
- Jake and Dinos Chapman
- Anne Hamilton
- Helio Oiticica
- Barbara Kruger
- Paul Vanouse
- HC Gilje
- Richard Long (http://www.richardlong.org/)
- Gary Hill (http://www.donaldyoung.com/hill/gary_hill_index.html)
- Bill Viola (http://www.billviola.com/)
- Mike Kelley (http://www.mikekelley.com/)
- Ben Rubin, Mark Hansen (http://www.earstudio.com/)
- Jeffrey Shaw (http://www.jeffrey-shaw.net/)
- David Rokeby (http://homepage.mac.com/davidrokeby/home.html)
- Camille Utterback (http://www.camilleutterback.com/)
- Jim Campbell (http://www.jimcampbell.tv/)
- Carolee Schneemann (http://www.caroleeschneemann.com/)
- Ken Feingold (http://www.kenfeingold.com/)
- Knowbotic Research (http://www.krcf.org/krcfhome/)
- Michael Naimark (http://www.naimark.net/)
- Simon Penny (http://www.ace.uci.edu/penny/works/workscode.html)
- Tamàs Waliczky (http://www.waliczky.com/)
- Ólafur Elíasson (http://www.olafureliasson.net/)
- Janet Cardiff (http://www.luhringaugustine.com/index.php?mode=artists&object_id=73)
- James Turrell
- Robert Irwin
- Robert Smithson
- Mariko Mori
- Jennifer Pastor
- Vito Acconci
- Alan Kaprow
- Stelarc
- Lynn Hershman
- Peter Weibel
- Vallie Export
- Chris Burden
- Marina Abramovic
- Hermann Nitsch
- Robert Gober
- Jean Tinguely
- Dan Graham
- Pierre Huyghe
- Andrea Zittel
- Char Davies
- CLUI

- SymbioticA
- The Yes Men
- Wim Delvoye
- Thomson & Craighead
- Bruce Nauman
- Bill Seaman
- Masaki Fujihata
- George Legrady
- Survival Research Lab (http://srl.org/)
- Gordon Matta-Clark (http://www.artnet.com/Magazine/features/smyth/smyth6-4-04.asp)
- Thomas Hirschorn (http://www.art21.org/artists/thomas-hirschhorn/)
- Ted Victoria (http://www.tedvictoria.com/)

.......I'm tired and have too many to list. Please add!

Tools

- Max/MSP/Jitter (http://www.cycling74.com)
- David Rokeby - softVNS (http://www.davidrokeby.com/softVNS.html)
- Cyclops (http://www.cycling74.com/products/cyclops)
- Miller Puckette (pd - alternative to Max) (http://crca.ucsd.edu/~msp/software.html)
- pure data (http://puredata.info/)
- Processing (http://www.processing.org/)
- Davy Jones Design (http://www.djdesign.com/artists/ghill1.html)

Max Resources

- Max Resource Guide (http://www.geocities.com/CapeCanaveral/Lab/7055/)
- Berkeley CNMAT (http://www.cnmat.berkeley.edu/MAX/downloads/)
- Max Objects Database (http://www.maxobjects.com/)
- Jasch (http://www.jasch.ch/)
- Jaffe Objects (http://www.opendragon.com/Pages/MaxObjects.shtml)
- Eric Singer Objects (http://www.ericsinger.com/cyclopsmax.html)
- Cycling74 Resource Guide (http://cycling74.com/twiki/bin/view/ResourceGuide)
- Tristan Jehan's Max Objects (http://web.media.mit.edu/~tristan/maxmsp.html)
- Perry Hoberman's Intro to Max/MSP (http://interactive.usc.edu/members/phoberman/archives/004955.html)
- Perry Hoberman's Kinectigrams (http://www.perryhoberman.com/page23/index.html)
- Some good YouTube Max Tutorials (http://www.youtube.com/user/BazTutorials#p/u/5/AqNPv4zp97g)

Example Proposals

- Rhizome Commissions (http://rhizome.org/commissions/)
- when no one is looking (proposal) (http://thesystemis.com/proposals/rhizome)
- videopedia (http://www.vidopedia.com/4.html)
- Torrent Raiders Proposal (http://www.torrentraiders.com/proposal)
- slowLab > SLOWmail > project overview (http://www.slowlab.net/slowmail.html)
- RHIZOME PROPOSAL (http://www.yhchang.com/RHIZOME_PROPOSAL.html)
- PulsePool < SmartSpaces < TWiki (http://www.cs.ou.edu/twiki/bin/view/SmartSpaces/PulsePool)
- mw2mw (http://mw2mw.com/paste)
- Oppera Internettikka - Protection et S√©curit√© (http://www.intima.org/oppera/oips/rhizome/)
- Michael Mandiberg - Real Costs (http://theredproject.com/rhizome/)
- MUTI-USER ONLINE VIDEO EDITOR (http://ni9e.com/beta/move)

Other Links

- Mold Making (http://www.reynoldsam.com/moldmaking.htm)
- Plaster Mixing (http://www.potters.org/subject06664.htm)
- More on Mold Making (http://www.lagunaclay.com/support/howto/artmold.htm)
- Cinema Screen Rental (http://www.funflicks.com/pro-outdoor-cinema.html)

Other Resources for thought

- Definition of Neoliberalism (http://en.wikipedia.org/wiki/Neoliberalism)
- History of meaning of Mimesis (http://csmt.uchicago.edu/glossary2004/mimesis.htm)
- Some insight into the world of Vanessa Beecroft (http://www.washingtonpost.com/wp-dyn/content/article/2008/01/23/AR2008012304123.html?wpisrc=_rssprint/style)
- Hyper and Deep Attention: The Generational Divide in Cognitive Modes by N. Katherine Hayles (http://www.google.com/url?sa=t&ct=res&cd=4&url=http%3A%2F%2Fwww.mlajournals.org%2Fdoi%2Fpdf%2F10.1632%2Fprof.2007.2007.1.187&ei=-1LNR-DSNITEeaiO7f8P&usg=AFQjCNHmC8_WO6Gij1yp5poXGQv1CUOVRQ&sig2=L1LvmxS-IBtUxVx5MEwT1g)
- Definition of Structuralism (http://en.wikipedia.org/wiki/Structuralism)
- Definition of Post Structuralism (http://en.wikipedia.org/wiki/Poststructuralism)
- Definition of the Spectacle (http://en.wikipedia.org/wiki/Spectacle_%28Situationism%29)
- Situationist International (http://en.wikipedia.org/wiki/Situationist_International)
- The Eye and The Gaze (http://humanities.uchicago.edu/faculty/mitchell/glossary2004/eyegaze.htm)
- Politics of Installation, Boris Groys (http://www.e-flux.com/journal/view/31)
- Is a Museum a Factory?, Hito Steyerl (http://www.e-flux.com/journal/view/71)
- (Untitled) - movie (http://www.imdb.com/title/tt1132193/)
- Microsoft Table (http://www.knowledgebase-script.com/demo/article-420.html)

S16-Installation/resources

From stenner:teaching

Resources

List of various resources to illustrate the diversity of what is available. This is by **NO** means exhaustive! Please add what you find interesting!

Films/Documentaries

- This is where you will find films I'll assign in class.
- My PLEX server with library of art films (http://plex.tv/web) - I'll provide you with a login and password.

Helpful Tutorials

Arduino Laser Tripwire Tutorial (http://www.instructables.com/id/Arduino_Laser_Tripwire/%7C)

Microcontrollers

- Make Controller (http://www.makingthings.com/)
- EZIO (http://www.ezio.com/)
- Arduino (http://www.arduino.cc)
- Phidgets (http://phidgets.com/)
- moteiv (http://www.moteiv.com/)
- jStamp (http://www.jstamp.com/)
- BlueSense (http://www.bluemelon.org/index.php/Main_page/BlueSense)
- BASIC Stamp (http://www.parallax.com/)
- Sun SPOT (http://www.sunspotworld.com/)
- Critter (video critter looks cool) (http://www.critterandguitari.com/)

Interface with Arduino

- Arduino Sensor to Max/Msp - The easiest way using the Graph Example (http://www.arduino.cc/en/Tutorial/Graph)

- Starting Point for Max/MSP Arduino interface (http://www.arduino.cc/playground/Interfacing/MaxMSP)

- Messenger - Arduino + Max/MSP, PD, etc. (http://www.arduino.cc/playground/Code/Messenger)

- Maxuino (http://www.maxuino.org/)

- Freeduino (http://www.freeduino.org/)

- XBee + Arduino Tutorial (http://ladyada.net/make/xbee/point2point.html)

Max/MSP/Jitter

- MaxURL to create realtime instagram collage (broken) (http://cycling74.com/2014/06/09/use-maxurl-to-create-a-realtime-instagram-collage/)
- Intro to Vizzie (http://cycling74.com/2015/09/29/a-brief-introduction-to-vizzie/)

Sensors + Suppliers

- iBeacon proximity detection (http://makezine.com/2014/01/03/reverse-engineering-the-estimote/)
- Force, Pressure, Touch Sensors (http://www.trossenrobotics.com/store/c/2670-Force-Sensors-Pressure-Touch-Sensors.aspx)
- Conductive Foam (http://www.stat-tech.com/statfoam.htm%7Ctarget'_blank')
- Jameco (http://www.jameco.com/%7Ctarget'_blank')
- Digikey (http://www.digikey.com%7Ctarget'_blank')
- HTM Sensors (http://www.htm-sensors.com/%7Ctarget'_blank')
- Automation Direct (http://www.automationdirect.com%7Ctarget'_blank')
- Spark Fun Electronics (source for Arduino) (http://www.sparkfun.com%7Ctarget'_blank')
- Adafruit (source for Arduino) (http://www.adafruit.com/)
- HB Electronics (http://www.hebeiltd.com.cn/%7Ctarget'_blank')
- Naturalpoint (http://www.naturalpoint.com/%7Ctarget'_blank')
- LED Supply (http://www.ledsupply.com/%7Ctarget'_blank')
- Happ Controls (http://www.happcontrols.com/%7Ctarget'_blank')
- Ultimarc - Arcade Controls (http://www.ultimarc.com/controls.html%7Ctarget'_blank')
- Luminex - Light emitting fibers (http://www.luminex.it/%7Ctarget'_blank')
- Imagesco (http://www.imagesco.com/%7Ctarget'_blank')
- Infusion Systems - ICubeX + Sensors (http://infusionsystems.com/%7Ctarget'_blank')
- Allied Electronics (http://www.alliedelec.com/%7Ctarget'_blank')
- Acroname Robotics (http://www.acroname.com/%7Ctarget'_blank')
- Measurement Specialties (http://www.meas-spec.com/%7Ctarget'_blank')
- JL Cooper (http://www.jlcooper.com/%7Ctarget'_blank')
- All Electronics (http://www.allelectronics.com/index.html)
- Mouser Electronics (http://www.mouser.com/index.cfm?handler=home)
- MaxBotix Sonar rangefinders at SparkFun (http://www.sparkfun.com/commerce/advanced_search_result.php?keywords=maxsonar&x=0&y=0)
- Maxbotix Website (http://www.maxbotix.com)
- Piezo Systems (http://www.piezo.com/)
- Air Muscle Tutorial (http://www.instructables.com/id/How-to-make-air-muscles!/)
- Trossen Robotics Linear Actuators (http://www.trossenrobotics.com/linear-actuators.aspx) - you can get these elsewhere of course.
- Grainger 12vdc Linear Actuators (http://www.grainger.com/Grainger/electro-mechanical-actuators/linear-motion/power-transmission/ecatalog/N-ckyZ1z0nwcr)

Video + Computer Vision

- Security Spy (http://www.securityspy.com/)
- UniBrain (http://www.unibrain.com/)
- CMUcam (http://www.cs.cmu.edu/~cmucam/)
- The Imaging Source (http://www.theimagingsource.com/)
- Motion Tracking with Apple Motion (http://www.digitaljuice.com/djtv/detail.asp?sid=333)

Multi-touch FTIR and Laser

- Multitouch Zero Force Setup Based on IR Laser Light - NUI Group Community Forums (http://nuigroup.com/forums/viewthread/2029/)
- Touché (http://gkaindl.com/software/touche)
- arbi.trario.us » DIY Laser Multi-Touch Table (http://arbi.trario.us/2008/11/02/diy-laser-multi-touch-table/)
- Touchlib (http://www.nuigroup.com/touchlib/)
- How to Build a Multi-Touch FTIR Table (http://www.ehow.com/how_4559676_build-multitouch-ftir-table.html)
- Thorlabs.com - FB980-10 Bandpass Filter, CWL = 980 nm, FWHM = 10 nm (http://www.thorlabs.com/thorProduct.cfm?partNumber=FB980-10)
- Hasso-Plattner-Institut: Home (http://www.hpi.uni-potsdam.de/baudisch/home.html)
- Hasso-Plattner-Institut: Multitoe (http://www.hpi.uni-potsdam.de/baudisch/projects/multitoe.html)
- benbritten.com | BBTouch (http://benbritten.com/software/bbtouch-quick-start/)
- xtuio (http://xtuio.com/)
- Unity Community // View topic - Multitouch in Unity? (http://forum.unity3d.com/viewtopic.php?t=9755&start=0)
- reacTIVision (http://reactivision.sourceforge.net/)

Automatic Projector Calibration

- Automatic Projector Calibration at Hackaday.com (http://www.hackaday.com/2007/11/15/automatic-projector-calibration/%7Ctarget'_blank')

Reading

- "Practical Electronics for Inventors", Paul Sherz ISBN 0071452818
- "Total Art: Environments, Happenings and Performance", Andrian Henri ISBN 0195199340
- "Inside the White Cube: The Ideology of the Gallery Space", Brian O'Doherty, Thomas McEvilley ISBN 0520220404
- "Installation Art in the New Millennium: The Empire of the Senses", De Oliveira ISBN 0500284512
- "Formless: A User's Guide" Yve-Alain Bois, Rosalind Krauss ISBN 0942299434
- "The Design of Everyday Things", Donald Norman ISBN 0465067107
- "The User Illusion: Cutting Consciousness Down to Size", Tor Nørretranders ISBN 0670875791
- "Getting Started in Electronics", Forrest M. Mims III ISBN 0945053282

Miscellaneous

- Infrared Basics (http://dpfwiw.com/ir.htm#iirc%7Ctarget'_blank')
- Electronics Club (info) (http://www.kpsec.freeuk.com/index.htm%7Ctarget'_blank')
- Physical Computing at ITP (http://itp.nyu.edu/physcomp/Labs/Labs%7Ctarget'_blank')
- Arduino Workshops (http://www.arduino.ws/%7Ctarget'_blank')
- Cheap Head Tracking (http://www.geocities.com/mellott124/gamersHeadtracking.htm%7Ctarget'_blank')
- Bill Buxton (http://www.billbuxton.com/%7Ctarget'_blank')
- HCI I/O (http://ccrma.stanford.edu/CCRMA/Courses/252/sensors/sensors.html%7Ctarget'_blank')
- FaceMount Permanant Adhesive (http://www.lexjet.com/lexjet/product_disp.asp?pf_id=OCA&dept_id=12478&cp=1)
- ClearPolyester Film (http://www.lexjet.com/lexjet/product_disp.asp?dept%5Fid=13142&pf%5Fid=CP)
- Clement Greenberg, "Modernist Painting" (http://digitalmedia.arts.ufl.edu/~Dan/Greenberg.pdf)
- LED Calculator (http://ledcalculator.net/) - This LED calculator will help you design your LED array and choose the best current limiting resistors values.
- Resistor Calculator (http://www.the12volt.com/resistors/resistors.asp#calc) - Easily decode the color bands on a resister on this page.
- Electronics Beginning Tutorial - RESISTORS (http://www.ikalogic.com/beg_1_res_v_c.php)

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- This page was last modified on 14 January 2016, at 10:51.
- This page has been accessed 62 times.

UF Policies

University/College/School/Class Policies

Academic Honesty

(See UF Rule 6C1-4.017 (PDF) (http://regulations.ufl.edu/chapter4/4017.pdf) Students are required to be honest in all of their university class work. Faculty members have a duty to promote ethical behavior and avoid practices and environments that foster cheating. Faculty should encourage students to bring incidents of dishonesty to their attention. A faculty member, in certain circumstances, can resolve an academic dishonesty matter without a student disciplinary hearing. The procedures and guidelines are available from the Director of Student Judicial Affairs. In the fall of 1995, the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. (See UF Rule 6C1-4.0172 (PDF) (http://regulations.ufl.edu/chapter4/40172.pdf)

The Honor Code

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class. More on these policies can be found in the UF STUDENT GUIDE (http://www.dso.ufl.edu/studentguide/) .

Accommodations for Students with Disabilities

Support services for students with disabilities are coordinated by the DISABILITY RESOURCE CENTER (http://www.dso.ufl.edu/drc/) in the Dean of Students Office. All support services provided for University of Florida students are individualized to meet the needs of students with disabilities. To obtain individual support services, each student must meet with one of the support coordinators in the Disability Resources Program and collaboratively develop appropriate support strategies. Appropriate documentation regarding the student's disability is necessary to obtain any reasonable accommodation or support service.

Wellness

Contact information for the Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc/Default.aspx, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Computer Use and Acceptable Use Policy

All faculty staff, and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. HTTP://WWW.CIRCA.UFL.EDU/COMPUTERS (http://www.circa.ufl.edu/computers) and HTTP://WWW.CIO.UFL.EDU/AUPOLICY.HTM (http://www.cio.ufl.edu/policies/aupolicy.html)

Disruptive Behavior

Be advised that you can and will be dismissed from class for disruptive behavior. More detailed information on this can be found in the UF RULES AND POLICIES (http://regulations.ufl.edu/chapter1/1008.pdf) .

HEALTH AND SAFETY

Please familiarize yourself with the UF SA+AH Health and Safety Handbook, available online at: http://arts.ufl.edu/art/healthandsafety

- In particular download and familiarize yourself with the Art + Technology area specific guidelines linked here. (http://saahhealthandsafety.weebly.com/uploads/3/5/4/4/3544731/digital_media_area_rules.docx)

Email and Communications

All email correspondence will be through your UFL gatorlink email address. You are responsible to check your email on a daily basis. No excuses for not having read email will be accepted. It is recommended that you DO NOT forward your UFL email to other services. Often, other services will mark UFL email as junk/spam and you will not receive it. THIS IS NOT A VALID EXCUSE. I commit to responding to your email within 24 hours during the week, and within 48 hours on the weekend. In return, I expect you to respond to my emails with same provisions.

Late Work Policy

I do not accept late work without penalty unless you provide a doctors letter or some other approved excuse explaining why your work is late. Any assignment that has a deadline, in particular project critiques, must be submitted on time for full credit. You **may** submit the work late, and I **may** give partial credit, at my discretion. Missing a crit is like skipping a meeting with your bosses favorite client; it will get you fired!

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