

ADA385

INTERACTIVE ART

Spring 2012
Section 01: M 12:30 PM - 04:20 PM in
AIMM 221
Professor Grady Gerbracht
E-Mail: gerbracg@tcnj.edu
Office: AIMM 312
Office Hours: Tuesdays 10-12,
Wednesdays 12-1 & by appointment

Course Description

This studio course is an introduction to computer programming and interaction design for visual artists. We will begin by interrogating the notion of interactivity - seeking a deeper understanding of this over used and under considered term through the combined use of aesthetics and psychology to solicit viewer participation, creative performance, and improvisation. Students will gain proficiency in MAX/MSP/Jitter which will be the primary tool we use this semester to program computers and interface with various input devices such as custom built objects, smart phones and various kinds of wired/wireless sensors.

You will be expected not only to produce interactive projects, but also to develop a vocabulary and critical skills with which to discuss them. For each assignment you will be asked to address formal, technical and conceptual issues. Everyone is expected to actively participate in critiques. You will be expected to explain your decisions as well as question and investigate the form and content of others works. Please keep in mind that this is a studio art class where you will be required to think creatively and critically about the making of artwork and not simply execute technical exercises using the computer. You will notice that work is divided into categories of Assignments which are more like home work to be done independently and Projects which are generally longer term and will be evaluated by in-class critiques. Grades for Projects will be posted after the critiques. Work can be resubmitted for improved grades within a reasonable time period and subject to the approval of the instructor.

Keywords: interactive, digital, art, media, performance, video, sound, signal processing, interface, programming, sampling, contemporary art, design, participation

Course Goals

- Basic proficiency in MAX/MSP/Jitter
- Develop critical skills, understand your own work within the context of contemporary artistic production
- Investigate the ways in which digital technologies have impacted the production of art
- Use these skills to make informed, challenging interactive art work.
- Articulate the aesthetic and conceptual aspects of your work in spoken and written form.

Materials

Recommended texts:

- Digital Interactive Installations: Programming Interactive Installations Using the Software Package Max/Msp/Jitter by Frank Blum
- Making Things Talk: Using Sensors, Networks, and Arduino to see, hear, and feel your world by Tom Igoe
- Getting Started with Arduino (Make: Projects) by Massimo Banzi
- Visual Explanations by Edward R. Tufte

Other Items:

It is recommended that you buy a USB flash drive to back up and transport your files. Dedicated server space will be provided for students in this class at tcnjart.com A "physical computing tool kit" is available from photo check out on the second floor

Milestones

Sculpture Studio Safety Lectures
Jan 25 and Feb 1 at noon.
Ian Curry, Director of Interaction Design for media design firm Local Projects Friday January 27, 2012 at 11:30 AM in Mayo Hall
Spring Break March 4-9
Project 1 due Week 10 March 26
Sound Workshop March 21
Music Mind Invention Workshop March 30-31
Field trip to Eyebeam April 14
Project 2 due May 3

Requirements

Students are expected to attend lectures, demonstrations and field trips, complete exercises and assignments, participate in class discussions, prepare individual research presentations, and create intriguing art for a final project that demonstrates the skills learned in the course. Much of the material in this course is technical, each week builds on the material covered in previous weeks; attendance is necessary to keep up.

Evaluation & Grading

Assignments and projects must be completed before class on the due date. Assignments and projects may be re-worked at any point in the semester to reflect the feedback expressed during critiques and in consultation with the professor. Grading is based on conceptual and aesthetic merit as well as technical execution and effort (as in any arts course). Late assignments will be significantly downgraded. Attendance and participation in discussions is required. Final grades will be based on class participation, assignments and projects. Class participation means more than simply speaking in class – it means preparing for class by carefully reading the assigned material, taking careful notes on the material presented in class, and asking thoughtful questions about the work we are discussing. Additionally, it means responding to the observations of your colleagues, in a serious, considered, yet open and creative manner which helps to forward a collective discussion. Home work assignments will be posted to the class server space hosted at tcnjart.com. These assignments will come in the form of Max patchers which students can download and complete independently. Each student must place his or her completed homework assignments in the homework assignment folder under his or her name on the class server so the instructor has access to the files for grading and commenting. Please exercise caution and respect as the class server space is accessible to all class participants. I trust that you will not copy each other's work from the server, delete each other's files etc. Just in case something like this should happen you should keep multiple back ups of all your work in at least two other locations; this way if data is lost, it can be fairly easily recovered. Work is divided into two categories Assignments, which are mostly home work exercises and simple short writing reports, and Projects, which are long term assignments which require more time, research and development. A Max competency/literacy test will be administered near the mid term.

Grading Breakdown

Assignments (various)	30%
Project 1	25%
Project 2 (final project)	35%
Participation	10%

Assignments

Assignment 0: no tech interactions due week 2

Think about and interrogate the very notion of interactivity. What is it? Really. How do we solicit interaction and or participation from others. What are the various areas of our lives where we encounter such solicitations? What makes them effective or not. Be prepared to present your no-tech interaction in class. Bring whatever you need to do this. There are no restrictions - as long as nobody gets hurt. Also be prepared to discuss and interrogate the term interactive with your colleagues.

Assignment .5: report on Ian Curry presentation due week 3

Write a one page report on the Brown Bag Lunch presentation of Ian Curry. Drop this in the course drop box on SOCS.

Assignment 1: Max Basics due week 5

Download the Max patch labelled HW_Assignment_1 from the class server space at www.tcnjart.com using the codes distributed in class. Open the patch and follow the instructions. Save your work by a save as and add your initials to the end of the existing file name. Upload the completed and renamed file to your homework assignments

folder on the class server space. Upload the file to the class drop box on SOCS and archive it in several places in case data should be lost.

Assignment 2: Tables due week 6

Download the Max patch labelled HW_Assignment_2 from the class server space at www.tcnjart.com using the codes distributed in class. Open the patch and follow the instructions. Save your work by a save as and add your initials to the end of the existing file name. Upload the completed and renamed file to your homework assignments folder on the class server space. Upload the file to the class drop box on SOCS and archive it in several places in case data should be lost.

Assignment 3: Video Objects due week 7

Download the Max patch labelled HW_Assignment_3 from the class server space at www.tcnjart.com using the codes distributed in class. Open the patch and follow the instructions. Save your work by a save as and add your initials to the end of the existing file name. Upload the completed and renamed file to your homework assignments folder on the class server space. Upload the file to the class drop box on SOCS and archive it in several places in case data should be lost.

Assignment 4: Mouse and Keyboard Interactions due week 8

Download the Max patch labelled HW_Assignment_4 from the class server space at www.tcnjart.com using the codes distributed in class. Open the patch and follow the instructions. Save your work by a save as and add your initials to the end of the existing file name. Upload the completed and renamed file to your homework assignments folder on the class server space. Upload the file to the class drop box on SOCS and archive it in several places in case data should be lost.

Assignment 5: LCD and Drawing due week 9

Download the Max patch labelled HW_Assignment_5 from the class server space at www.tcnjart.com using the codes distributed in class. Open the patch and follow the instructions. Save your work by a save as and add your initials to the end of the existing file name. Upload the completed and renamed file to your homework assignments folder on the class server space. Upload the file to the class drop box on SOCS and archive it in several places in case data should be lost.

Assignment 6: Proposal for final project due week 11

Write a one page proposal for what you intend to do for your final project (see description below of Project 2). In this proposal you should begin with the concept of your project. Explain what you want to do, why and for whom. Follow up with a brief explanation of the technical aspects of the project including what you already know how to do what you don't yet know how to do, what you may need to build, what materials you have and what you may need to acquire or build.

Projects

Project 1: Basic Interactive Project due week 9

Students will be partnered up based on equipment so that each team has access to one portable computer and one compatible wireless device. Using the programming skills we have been developing, develop a Max patcher which maps data from a wireless controller of your own design or a standard computer interface such as a mouse and keyboard to another set of data like sound or video files to expresses a concept that the user can easily grasp and interact with. This project does not have to be ground breaking, but it should illustrate your growing proficiency with the Max/MSP/Jitter programming language as well as an ability to link various devices and troubleshoot compatibility problems when they arise. You can use the Touch OSC app we learned about in class or other input devices such as the mouse and keyboard. The user should be able to experience each project in a manner that is intuitive - one should be able to understand how ones interactions with the system produce results.

Project 2: final project due finals week (5/3/2012)

Produce a final project using all of the skills you have acquired this semester to build an instrument that can be played by anyone. The parameters of this project are largely up to you. I suggest starting with observations you make about your environment and then translating them into data. This project should have a concept that is clear to the user and the interface should be more advanced than anything else we have done this semester. I expect that you will be able to articulate yourself very clearly about this project and its intended goals. You may have to fabricate certain parts of your project that will support, conceal, display or aestheticize electronic components such as computers, wireless devices, sensors, audio interfaces, arduino boards, etc. You will be exp

Calendar

Week one January 23	course introduction student introductions Lecture: Historical Context history of interactive art Demo: lab, facilities, accounts, access, codes etc	Assignment 0: no-tech interaction due week two
Week two January 30	Assignment 0 due presentations of no tech interactions interrogation of the concept of interactivity Demo: Max Basics	Assignment 0.5: report on brown bag lunch event due week 3
Week three February 06	Assignment 0.5 due Demo: more Max Basics lab time	Assignment 1: Max Basics due week 5
Week four February 13	Demo:	
Week five February 20	Assignment 1 due Review of Assignment 1 solutions Demo: Tables lab time	Assignment 2: Tables due week 6
Week six February 27	Assignment 2 due Review of Assignment 2 solutions Demo: Video lab time	Assignment 3: Video due week 8
Week seven March 5	Spring Break - no class meeting	
Week eight March 12	Assignment 3 due Review of Assignment 3 solutions Demo: Mouse/Keyboard Interactions lab time	Assignment 4: Mouse and Keyboard Interactions due week 9

Calendar (continued)

Week nine March 19	Assignment 4 due Review of Assignment 4 solutions Demo: Mouse/Keyboard Interactions lab time	Assignment 5: LCD and Drawing due week 10
Week ten March 26	Assignment 5 due Review of Assignment 5 solutions Demo: MSP the basics of working with sound	Project 1 group projects due week 10 Assignment 6: final project proposal due week 11
Week eleven April 2	groups present project 1 in class Lecture: interactive art ideas	Project 2: final project due week 15
Week twelve April 9	Lecture lab time	Project 2: final project due week 15
Week thirteen April 16	lab time to work independently on Project 2	Project 2: final project due week 15
Week fourteen April 23	course evaluation forms lab time to work independently on Project 2	Project 2: final project due week 15
Week fifteen April 30	lab time to work independently on Project 2	Project 2: final project due week 15
Week fifteen May 3	Project 2: final project due - class critique	

Additional Resources

<http://www.zonezero.com/zz/>

<http://www.bitforms.com/index.php>

<http://www.eyebam.org>

<http://www.creativemachines.com/index.html>

http://en.wikipedia.org/wiki/Relational_art

http://en.wikipedia.org/wiki/Interactive_art

http://en.wikipedia.org/wiki/Responsive_architecture

<http://contactmicrophones.com/>

<http://processing.org/>

<http://www.arduino.cc/>

<http://rhizome.org/>

The following list contains names of artists, scientists and researchers whose work(s) can be useful for research in the areas addressed by this course. It is by no means comprehensive, it is simply a guide to aid in your research, to get you started and or provide some inspiration.

Casey Alt	Ryoji Ikeda	Michael Rakowitz
Christopher Baker	Toshio Iwai	Ken Rinaldo
Artur Barrio	Christopher Janney	Don Ritter
Maurice Benayoun	Miranda July	David Rokeby
Tim Berners-Lee	Yves Klein	Daniel Rozin
Blast Theory	Knowbotic Research	Ben Rubin
Geoff Bunn	Meeli Kõiva	Paul Sermon
Thomas Charvériat	Myron Krueger	Zack Booth Simpson
Paul DeMarinis	Golan Levin	Stelarc
Mark Divo	Zachary Lieberman	Nathaniel Stern
Eteam	Pia Lindman	Scott Snibbe
Etoy	Liu Dao	Ashok Sukumaran
Ken Feingold	Marita Liulia	Rose Tang
Masaki Fujihata	Rafael Lozano-Hemmer	Jer Thorp
Félix González-Torres	Machfeld	Camille Utterback
Mark Hansen	Nathalie Miebach	Bill Vorn
Riley Harmon	Michael Naimark	Marius Watz
Desmond Paul Henry	Graham Nicholls	Krzysztof Wodiczko
Lynn Hershman	Carsten Nicolai (Alva Noto)	Janet Zweig
Hugo Heyrman	Julian Oliver	
Perry Hoberman	Simon Penny	
Pierre Huyghe	Tristan Perich	

The following topics are general themes which could serve you as ideas, themes or starting points for prints or research projects:

- image & text (address an issue, concept or idea, in an artful, engaging manor)
- movement & space
- urban / suburban living
- portrait / self-portrait
- ego / alter ego
- gender Issues - What does it mean to be male or female? How is M/F defined by you or projected onto you by others? Are these the only ways of being? If not, how are the alternatives to M/F expressed? Feminism / womens rights / mens rights / heteronormativity / gay and trans rights
- environment and ecological concerns - e.g. protection of, usage, depletion of, beauty of, utility of
- war -- what is it good for? How it serves us. The necessity of, the futility of, etc. . .
- power. Who has it, how they use it, What they use it for, or alternatively, who doesn't have it.
- freedom. define it, how do you take advantage of it, where to find it. . .
- race. what is it? Does it matter? Who cares about it? What/how does it affect your/others life?
- beauty what is it? Does it matter? Who cares about it? What/how does it affect your/others life? how is it understood as aesthetics?

- decay, decline and entropy
- culture. your specific culture? General social culture? School culture?
- politics --respond to current events ...
- consumerism
- community
- mortality
- technology (advancements), power of science
- the media and representations of truth and fact

Selected TCNJ Policies

TCNJ's final examination policy is available on the web: <http://www.tcnj.edu/~academic/policy/finaevaluations.htm>

Attendance

Every student is expected to participate in each of his/her courses through regular attendance at lecture and laboratory sessions. It is further expected that every student will be present, on time, and prepared to participate when scheduled class sessions begin. At the first class meeting of a semester, instructors are expected to distribute in writing the attendance policies which apply to their courses. While attendance itself is not used as a criterion for academic evaluations, grading is frequently based on participation in class discussion, laboratory work, performance, studio practice, field experience, or other activities which may take place during class sessions. If these areas for evaluation make class attendance essential, the student may be penalized for failure to perform satisfactorily in the required activities. Students who must miss classes due to participation in a field trip, athletic event, or other official college function should arrange with their instructors for such class absences well in advance. The Office of Academic Affairs will verify, upon request, the dates of and participation in such college functions. In every instance, however, the student has the responsibility to initiate arrangements for make-up work. Students are expected to attend class and complete assignments as scheduled, to avoid outside conflicts (if possible), and to enroll only in those classes that they can expect to attend on a regular basis. Absences from class are handled between students and instructors. The instructor may require documentation to substantiate the reason for the absence. The instructor should provide make-up opportunities for student absences caused by illness, injury, death in the family, observance of religious holidays, and similarly compelling personal reasons including physical disabilities. For lengthy absences, make-up opportunities might not be feasible and are at the discretion of the instructor. The Office of Academic Affairs will notify the faculty of the dates of religious holidays on which large numbers of students are likely to be absent and are, therefore, unsuitable for the scheduling of examinations. Students have the responsibility of notifying the instructors in advance of expected absences. In cases of absence for a week or more, students are to notify their instructors immediately. If they are unable to do so they may contact the Office of Records and Registration. The Office of Records and Registration will notify the instructor of the student's absence. The notification is not an excuse but simply a service provided by the Office of Records and Registration. Notifications cannot be acted upon if received after an absence. In every instance the student has the responsibility to initiate arrangements for make-up work. TCNJ's attendance policy is available on the web: <http://www.tcnj.edu/~recreg/policies/attendance.html>

Academic Integrity Policy

Academic dishonesty is any attempt by the student to gain academic advantage through dishonest means, to submit, as his or her own, work which has not been done by him/her or to give improper aid to another student in the completion of an assignment. Such dishonesty would include, but is not limited to: submitting as his/her own a project, paper, report, test, or speech copied from, partially copied, or paraphrased from the work of another (whether the source is printed, under copyright, or in manuscript form). Credit must be given for words quoted

or paraphrased. The rules apply to any academic dishonesty, whether the work is graded or ungraded, group or individual, written or oral. TCNJ's academic integrity policy is available on the web: <http://www.tcnj.edu/~academic/policy/integrity.html>

Americans with Disabilities Act (ADA) Policy

Any student who has a documented disability and is in need of academic accommodations should notify the professor of this course and contact the Office of Differing Abilities Services (609-771-2571). Accommodations are individualized and in accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1992. TCNJ's Americans with Disabilities Act (ADA) policy is available on the web: <http://www.tcnj.edu/~affirm/ada.html>