Light, Sound & Motion

(ARST 4420/6420 Sculpture in Spatial Context. Spring 2008, MWF 8:00-9:55am, Tanner 101)

Instructor: Dr. Éric Marty (email: marty@ericmarty.com) Office hours by appointment only.

Course website: http://www.ericmarty.com/courses/4420-6420/

This studio course is an introduction to computer-based interactivity, automation, and media in installation.

Critical component: The course examines the concept of interactivity in art, as well as how elements of automation and time-based media influence the design and perception of an artwork. The course also presents basic principles of sound, light, and mechanics, and 4D design. Through lectures, projects, critiques and discussion of selected historical and contemporary works of interactive and media art, students learn to engage in critical discourse about interactive and time-based art.

Technical component: The course presents methods for incorporating computer-based interactivity and automation into works of art. The software used is Max/MSP/Jitter, an authoring environment for interactivity and media that facilitates computer control of sound, video, kinetic elements, sensors, lighting, etc. Students will work hands-on with a range of sensors, audio/video equipment and kinetic elements, and learn the basic techniques needed to control them. Prior experience in computer-based art is not a requirement. Students will also have an opportunity to explore areas of their choice in more depth as their experience allows.

Creative component: Students create original works incorporating light, video, sound, sensors, and/or kinetic elements, and involving interactivity and/or automation.

Class time will be shared between 1) demonstrations and training on software and hardware, to take place mostly in 101 Tanner, 2) lecture and discussion sessions in 101 Tanner, and 3) individual work time and meetings with the instructor to develop student projects.

Grading Policy

Project 1	15%
Project 2	15%
Project 3	15%
Project 4	25%
Presentation	10%
Project Documentation	10%
Participation	10%

A	4.0	93% and up	Excellent, fully developed, challenging work
A-	3.7	90% and up	
B+	3.3	87% and up	Solid, effective work; needs refinement or development
B	3.0	83% and up	
B-	2.7	80% and up	
C+	2.3	77% and up	Work meets minimum requirements
C	2.0	73% and up	
C-	1.7	70% and up	
D	1.0	60% and up	Incomplete; work does not meet requirements
F	0.0	Less than 60%	Work not turned in or significantly below minimum requirements

Evaluation of Projects. Projects will be evaluated primarily on effectiveness, quality of execution, and on a demonstrated understanding of the artistic issues to be addressed in the project. No restrictions are placed on aesthetic choices. Students must be able to articulate their artistic intent in order to provide a basis to judge the effectiveness of the artwork. Attendance at critiques is required in order to receive a project grade.

Documentation. Project documentation is evaluated on clarity, thoroughness, and professional appearance. Documentation must be appropriate to the medium, and may include still images, video, audio, explanatory text, etc. A final portfolio of all projects must be submitted at the end of the semester.

Presentation. In the latter part of the semester, each student will make one short presentation to the class on topic related to his/her final project. Valid topics include artists, individual works of art, or processes with some bearing on the final project. Students should choose their topics in consultation with the instructor.

Participation. Students will be evaluated on their participation in classroom discussion and critiques. Failure to do the required reading and listening, or failure to contribute during critique and class discussions will negatively affect the participation grade.

Attendance. Attendance is required. Attendance is taken at the beginning of class. Three late arrivals are equivalent to one unexcused absence. Unexcused absence or lateness negatively affect the grade. Absences may be excused in case of documented illness or other reasons at the discretion of the instructor only. Students must e-mail instructor when absent (with reasons) and must still complete work on time.

Late Work. All work is due at the beginning of class on the date due. Projects must be installed and ready to present at the beginning of class on the day of critique. Late projects will receive a numerical grade of 0, unless accompanied by an official medical excuse.

Readings

Marty, Éric. *Primer on Sound, Sound Design and Sound Composition for Artists*. Unpublished. 2004. Download from http://ericmarty.com/soundart/Sound&SoundDesign.pdf (selected portions will be assigned)

Other assigned readings will be available online at http://www.ericmarty.com/courses/4420-6420/

Reference / Recommended Reading

Ars Electronica: facing the future: a survey of two decades. Edited by Timothy Druckrey with Ars Electronica. Cambridge, Mass. MIT Press, c1999. NX260.A77 1999. Also available as an e-book from any computer on campus. History, theory and practice. Documentation of significant historical works for the first 25 years of Ars Electronica.

Leonardo: Journal of the International Society for the Arts, Sciences and Technology. (MIT Press). N1.A12.L46 Main Library, 7th Floor. Current editions in Basement of Main Library. Also available as an electronic journal from any computer on campus. Good source for articles on and documentation of interactive art and art involving technological or scientific elements.

Parachute: Art Contemporain / Contemporary Art. Bilingual French/English. Montreal, Canada. (www.parachute.ca) FOLIO NX456.P37 7th Floor. Current editions in Basement of Main Library. A very well done art magazine with full color feature articles on contemporary artists. The magazine features a lot of interactive and multi-media art.

Workspaces

Time outside of class will be required in order to complete projects. All workspaces must be left clean. The following spaces are available:

101 Tanner: Unless otherwise posted, class meets in 101 Tanner. During class time, students may use 101 Tanner to work on projects that do not involve fabrication. 101 Tanner is a clean working space, and can be used for sound and video. 101 Tanner is not open outside of class hours.

101 Sculpture: During class time, this space may be used to work on projects. Students may also store work in progress there, on the shelf labeled 4420/6420.

Shops: Students will receive an orientation to the woodshop. Students may use the woodshop during class time or open shop hours (to be announced). Steve Arnold coordinates activities in the shops. Students are free to use any sculpture shops during open shop hours if they have been oriented.

Computer Labs: Students may use the computer lab in the Sculpture Building. Students may also use the Digital Media lab in Visual Arts 129 during posted lab hours, typically evenings. There are also labs running Max/MSP/Jitter in the Department of Theatre and Film Studies and in the School of Music. Students with permission to use those labs may use them. These are the only labs on campus running Max/MSP/Jitter.

Digital Media Lab Door Code: _____ Login: _____ PW: _____
Sculpture Lab Login: _____ PW: _____

Computer lab printers may be used for class work only. Do not use special media in any printer anywhere without prior approval.

All student work must be backed up daily to a personal drive, as the contents of the lab computers may be erased without warning at any time. Students may store class-related files temporarily in designated folders only. It is the responsibility of the student to backup their work.

Tools and equipment

Tools may be checked out from Steve Arnold during office hours (9-5). Sensors and other a/v equipment may also be checked out from Digital Media lab monitors with prior permission from Éric Marty.

Required Materials

External FireWire or USB hard drive or jump drive (100MB+). A LaCie bus-powered FireWire Drive is recommended, especially for those working with sound or video. Those working with video extensively should consider a much larger FireWire drive. Laptops, cameras and iPods can also be used as external drives.

Headphones (with a stereo mini jack and 1/4" phone jack adaptor).

Blank CD's and DVD's for handing in documentation.

Recommended Materials (software duplicates that used in the lab)

Laptop. A laptop and $60 Max/MSP/Jitter license will make your work much easier to accomplish.

Software: *Max/MSP/Jitter*. Purchase from http://www.cycling74.com/ for MAC or PC (Mac recommended) Free 30 day trial. 9-month student license $60. Permanent student license $450. Max/MSP only (without Jitter) $250. The $60 9-month license can be applied to the cost of the permanent license.

Depending on interests, students may eventually wish to purchase their own interfaces or hardware devices, such as a DV Camera, audio interface, or sensor interface. An excellent general purpose interface for sensors and kinetic elements is the Make Controller Kit, available from makingthings.com at the student price of $127. Anyone considering buying audio devices or cameras should ask for advice first.

Lab Fees:

Lab fees cover the cost of electronics and some other materials used in the class. Students may need to purchase additional materials as required by their projects.

Course Outline and Projects:

Part 1: Sound and Automation

Designing in the 4th dimension
Principles of Sound and Sound Design
Contemporary artists working in sound
Max/MSP/Jitter topics: Introduction, basic automation. Sound playback, recording and spatialization.

Project #1 Make a work incorporating recorded sound.
Critiques Feb 11 & 13

Part 2: Light, video, and interactivity

Light and color models, anatomy of a digital image
The role of interactivity in art (history, theory, practice)
Contemporary artists working in interactive video
Max/MSP/Jitter topics: Basic interactivity, basic principles of sensing. Control of video and images.

Project #2 Make a simple interactive work involving video, images or light.
Critiques March 5 & 7

Part 3: Motion

Motion as the 4th dimension; design and interpretation of 2D+Time or 3D+Time art.
Basic mechanics of motion.
Selected artists working with interactive kinetic objects
Max/MSP/Jitter topics: Basic interactivity, basic principles of sensing. Control of video and images.

Project #3 Motion Study. Make a hand-operated maquette illustrating motion. Make a virtual maquette in Max illustrating the same motion.
Critiques April 7 & 9

Part 4: Presentations, Advanced Topics and Final Projects

Max/MSP/Jitter topics: Advanced topics determined by student interest.
Student Presentations.

Project #4 = A fully developed work based on one of the first three projects.
Critiques May 2 (12:00 – 3:00)

Schedule (subject to revision)

7-Jan		10-March	SPRING BREAK
9-Jan		12-March	SPRING BREAK
11-Jan		14-March	SPRING BREAK
14-Jan	MLK Day. No Class.	17-March	
16-Jan		19-March	
18-Jan		21-March	
21-Jan		24-March	
23-Jan		26-March	
25-Jan		28-April	
28-Jan		31-March	
330-Jan		2-April	
1-Feb		4-April	
4-Feb	Woodshop Orientation	7-April	Project #3 Critique
6-Feb	Sheet Metal Shop Orientation	9-April	Project #3 Critique, Continued
8-Feb		11-Aril	
11-Feb	Project #1 Critique	14-April	
13-Feb	Project #1 Critique, Continued	16-April	
15-Feb		18-April	
18-Feb		21-April	
20-Feb		23-April	
22-Feb		25-April	
25-Feb		28-April	
27-Feb			
29-Feb		2-May	12:00 - 3:00 Project #4 Critiques
3-March			
5-March	Project #2 Critiques		
7-March	Project #2 Critiques	9-May	Documentation Due