BFA AMT / PARSONS PARIS THE NEW SCHOOL

Core Lab 2: Spatial **PSAM 2411 / Spring 2015**
Parsons Paris, 45 rue Saint-Roch, 75001. Paris.

Monday 12:00 – 2:40 pm **Room 301**

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Course website: http://portfolio.newschool.edu/amtlabspatial
Course github: https://github.com/amtParis/Core-Lab-2-Spatial
Office Hours: by appointment
Co-requisite: Core Studio: Spatial

Course Description

"Now we are aiming our technologies inward where they will start to merge with our minds, our memories, our metabolisms, our personalities, our progeny, and perhaps our souls."
-Joel Garreau

The goal of the Spatial Lab is to explore space perception and interaction through digital technologies. This course provides production skills and processes for projects in Core Studio: Space. How can we read and write to our known environment? What new spaces can we create? What tools can we use to extend our senses?

Students will learn to fabricate and prototype physical installations and objects, as well as expand their knowledge and application of programming and physical computing for interactive environments, objects and processes. Students evolve their understanding of production and trouble shooting and develop their own skills and perspectives. Students will experiment with sensors to track the human body, its movements and gestures; learn to collect and visualize large data sets; and consider new types of digital spaces such as virtual reality and simulations.

Learning Outcomes

1. Understand technical approaches to sensing spaces and the body evidenced through class participation and completion of course assignments
2. Advance skills in programming and electronics by extending and experimenting with code examples from class and by researching and developing algorithms and/or electronic circuits
3. Effectively communicate project ideas evidenced through project presentations
4. Effectively communicate project outcomes evidenced by online documentation
5. Further develop a point of view on technology's role in art and design evidenced through creative approaches to assignments and projects

6. Demonstrate the ability to conceive and develop original work that integrates technical approaches with theoretical development evidenced by successful completion of individual/group projects
7. Organize and manage project development by setting realistic project goals and developing a work schedule
8. Collaborate and organize shared work through group work and assignments

Course Schedule

Week 1: Course Introduction Monday 26th of January

Course Introduction
FaceOsc Exercise, OSC review

Due Monday 2nd February: Short Assignment 1 - FaceOsc
Create visuals or audio that respond to data from the faceOsc application using Open Sound Control. You can modify the examples we looked at in class or create new work. Record a short video or make screenshots and post your results on the class blog.

Watch: "Articulating Form in Physical Space", Elliot Woods:
http://vimeo.com/101468741

Week 2: Read / Write Space Monday 2nd of February

Distance sensing with Ultrasonic sensors and Arduino
Simple Projection Mapping Tools

Due Monday 9th February: Short Assignment 2 - Projection Mapping
Create a projection mapping that creatively uses a physical space. The visuals can be created as video, animation or through code. Focus on the relationship to the projected environment. Record video of your results and post to the class blog.

Week 3: Body Space I Monday 9th of February

Introduction to Tools for Sensing the Body

Project I : Sensing the Body, Due Monday 9th of March
Summary: Create an interactive work using tracking data from either the Kinect or Leap Motion. The project may explore relationships between parts of the body, between individuals, or in relation to the surrounding

space. The project may be produced individually or in groups. All work must be presented and documented on the class blog.

Due Monday 16th of February: Short Assignment 3 - Body Sensing Tool
Research a technology that can be used to extend, augment or sense the human body (must be something we did not discuss in class). Post your research on the class blog. Be sure to include links and try to assess how accessible using the tool or sensor is.

Week 4: Body Space II Monday 16th of February

Skeleton tracking with Kinect
Hand tracking with Leap Motion

Read: The Nature of Code, Chapter 9 by Daniel Shiffman:
http://natureofcode.com/book/chapter-9-the-evolution-of-code/

Week 5: Micro Space I Monday 23rd of February

Exploring micro scale through simulation: genetic algorithms

Due Monday 2nd March: Short Assignment 4 - Genetic Algorithms
Modify one of the examples from class (or posted on github) to create unique results. Post screenshots and your code on the blog.

Week 6: Micro Space II Monday 2nd of March

Programming genetic algorithms
TBA: DIY Microscopy

Week 7: Project I Presentations Monday 9th of March

Presentations of Project I

Watch: “Culture Visualization”, Fernanda Viegas:
http://vimeo.com/58754756

Week 8: Macro Space I Monday 16th of March

Working with web, data sets and visualizations.
Introduction to web tools / javascript

Due Monday 30th March: Short Assignment - TBA

Watch: “Photographing Secret Satellites”, Trevor Paglen:
http://vimeo.com/81027585

Week 9: Monday 23rd of March
NO CLASS - VACATION

Week 10: Macro Space II Monday 30th of March

Working with data sets and visualizations continued.

Project II, Due Monday May 18th
TBA

Week 11: Monday 6th of April
NO CLASS - HOLIDAY

Week 12: Macro Spaces Monday 13th of April

Geolocation, map libraries, gps.

Read: “Virtual Space” by Char Davies:
http://www.immersence.com/publications/char/2004-CD-Space.html

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Week 13: New Spaces Monday 20th of April

Introduction to 3d spaces, VR and stereoscopy.
Demo of three.js library.

Due Monday 27th April: Short Assignment - TBA

Week 14: New Spaces Monday 27th of April

3d spaces, VR and stereoscopy

Week 15: New Spaces Monday 4th of May

In-class work session.

Week 16: Work Session Monday 11th of May

In-class work session.

Week 17: Final Project Presentation Monday 18th of May

Assessable Tasks

You will receive feedback on the following areas:

- Creativity: How creatively were your assignments approached?
- Effort and Independent Research: To what extent does your work show independent research? Does the work extend beyond the requirements?
- Communication/Documentation: Were ideas and results communicated clearly and effectively? Was the work well-documented?
- Technical Development: Does the work show an understanding of the underlying technology used?

Assignments & Grading

Assignment sheets will be posted for review for all assignments. Below is a breakdown of the overall composition of your final grade. All grades will be given as
letter grades per the New School grading system.

Class Participation	10%
Short Assignments	20%
Project I	30%
Project II	40%

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Undergraduates Grading Standards

A [4.0; 96–100%]
Work of exceptional quality, which often goes beyond the stated goals of the course

A- [3.7; 91 –95%]
Work of very high quality

B+ [3.3; 86–90%]
Work of high quality that indicates substantially higher than average abilities

B [3.0; 81–85%]
Very good work that satisfies the goals of the course

B- [2.7; 76–80%]
Good work

C+ [2.3; 71–75%]
Above-average work

C [2.0; 66–70%]
Average work that indicates an understanding of the course material; passable
Satisfactory completion of a course is considered to be a grade of C or higher.

C- [1.7; 61–65%]
Passing work but below good academic standing

D [1.0; 46–60%]
Below-average work that indicates a student does not fully understand the assignments; Probation level though passing for credit

F [0.0; 0–45%]
Failure, no credit

Grade of W
The grade of W may be issued by the Office of the Registrar to a student who officially withdraws from a course within the applicable deadline. There is no academic penalty, but the grade will appear on the student transcript. A grade of W may also be issued by an instructor to a graduate student (except at Parsons and Mannes) who has not completed course requirements nor arranged for an Incomplete.

Grade of WF
The grade of WF is issued by an instructor to a student (all undergraduates and all graduate students) who has not attended or not completed all required work in a course but did not officially withdraw before the withdrawal deadline. It differs from an “F,” which would indicate that the student technically completed requirements but that the level of work did not qualify

for a passing grade. The WF is equivalent to an F in calculating the grade point average (zero grade points), and no credit is awarded.

Grades of Incomplete
The grade of I, or temporary incomplete, may be granted to a student under unusual and extenuating circumstances, such as when the student's academic life is interrupted by a medical or personal emergency. This mark is not given automatically but only upon the student's request and at the discretion of the instructor. A Request for Incomplete form must be completed and signed by student and instructor. The time allowed for completion of the work and removal of the "I" mark will be set by the instructor with the following limitations:

Undergraduate students: Work must be completed no later than the seventh week of the following fall semester for spring or summer term incompletes and no later than the seventh week of the following spring semester for fall term incompletes. Grades of "I" not revised in the prescribed time will be recorded as a final grade of "WF" by the Office of the Registrar.

Responsibility
Students are responsible for all assignments, even if they are absent. Late work, failure to complete the assignments, and lack of preparedness for presentations will jeopardize your successful completion of this course.

Participation
Class participation is an important part of class and includes: active participation in in-class assignments, and coming to class regularly and on time.

Class Blog and Assignments
All class assignments and projects should be posted on the course blog. Work that includes additional files or documentation (ie. Projects I and II) should be compressed as .zip file (labeled appropriately) and shared via Google Drive.

Attendance Policy
The University has a strict Attendance policy that encourages faculty to fail students who do not attend a minimum number of class sessions. As this course addresses sometimes complex technical problems, being present is vital to learning. Four absences will be grounds for failure. Tardiness, especially chronic tardiness, will constitute absences at the discretion of the faculty. A letter grade may be deducted from your final grade based on frequent tardiness. The faculty will deliver a mid-term report to disclose the number of absences and late arrivals recorded. Absence at either the mid-term or final review is grounds for failure.

Canvas
Use of the Canvas online learning management system may be an important resource for this class. Students should check it for announcements before coming to class each week.

Delays
In rare instances, I may be delayed arriving to class. If I have not arrived by the time class is scheduled to start, you must wait a minimum of thirty minutes for my arrival. In the event that I will miss class entirely, a sign will be posted at the classroom indicating your assignment for the next class meeting.

Academic Honesty Policy
The university's student code of conduct covers academic honesty. Plagiarism is grounds for failure and punitive review per the Office of Student Rights and Responsibilities. In the Design and Technology program, plagiarism is not limited to text, but can include all forms of media and code. When in doubt, credit.
See http://www.newschool.edu/studentservices/rights/

Academic Integrity
This is The New School's Statement on Academic Integrity: "Plagiarism and cheating of any kind in the course of academic work will not be tolerated. Academic honesty includes accurate use of quotations, as well as appropriate and explicit citation of sources in instances of paraphrasing and describing ideas, or reporting on research findings or any aspect of the work of others (including that of instructors and other students). These standards of academic honesty and citation of sources apply to all forms of academic work (examinations, essays, theses, computer work, art and design work, oral presentations, and other projects)."

It is the responsibility of students to learn the procedures specific to their discipline for correctly and appropriately differentiating their own work from that of others. Compromising your academic integrity may lead to serious consequences, including (but not limited to) one or more of the following: failure of the assignment, failure of the course, academic warning, disciplinary probation, suspension from the university, or dismissal from the university.

Every student at Parsons signs an Academic Integrity Statement as a part of the registration process. Thus, you are held responsible for being familiar with, understanding, adhering to and upholding the spirit and standards of academic integrity as set forth by the Parsons Student Handbook.

Guidelines for Written Assignments
Plagiarism is the use of another person's words or ideas in any academic work using books, journals, internet postings, or other student papers without proper acknowledgment. For further information on proper acknowledgment and plagiarism, including expectations for paraphrasing source material and proper forms of citation in research and writing, students should consult the Chicago Manual of Style (cf. Turabian, 6th edition). The University Writing Center also provides useful on-line resources to help students understand and avoid plagiarism. See http://www.newschool.edu/admin/writingcenter/.

Students must receive prior permission from instructors to submit the same or substantially overlapping material for two different assignments. Submission of the same work for two assignments without the prior permission of instructors is plagiarism.

Guidelines for Studio Assignments
Work from other visual sources may be imitated or incorporated into studio work if the fact of imitation or incorporation and the identity of the original source are properly acknowledged. There must be no intent to deceive; the work must make clear that it emulates or comments on the source as a source. Referencing a style or concept in otherwise original work does not constitute plagiarism. The originality of studio work that presents itself as “in the manner of” or as playing with “variations on” a particular source should be evaluated by the individual faculty member in the context of a critique.

Incorporating ready-made materials into studio work as in a collage, synthesized photograph or paste-up is not plagiarism in the educational context. In the commercial world, however, such appropriation is prohibited by copyright laws and may result in legal consequences.

Student Disability Services
Students Disability Services (SDS) assists students with disabilities in need of academic and programmatic accommodations as required by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Federal Rehabilitation Act of 1973.

In keeping with the university's policy of providing equal access for students with disabilities, any student with a disability who needs academic accommodations must contact Edward Mills in the Office of Student Life and Advising (located in room 102 in the 45, rue St. Roch, Paris 75001 building), in order to start the process with Student Disability Services (SDS), based in New York. SDS will conduct an intake and, if appropriate, you will be provided an academic accommodation notice for you to bring to me. This letter is necessary in order for classroom accommodations to be provided. Once you provide me with this letter, we will have a private discussion about the accommodations in relation to this course. You may also access more information through the University’s web site at

http://www.newschool.edu/studentservices/disability/.

ARC: Academic Resource Center
Find the Laser cutter, 3D Printer and other useful resources at :
https://sites.google.com/a/newschool.edu/student-technical-resources/