Spatial Media

ITPG-GT.2756
Wednesday, 6:30-9:00pm
721 Broadway, 4th floor.
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Course Description

Spatial Media explores both the design and technical issues involved in the creation of interactive spaces. Students will examine several specific spaces as sets of interactions and reactions (inputs/output) that can be molded, enhanced, and subverted to create focused narratives. The class will be built around an iterative design process, with an emphasis on building and documenting technical and nontechnical prototypes. Technical topics include vision-based sensing systems, display integration techniques, and interactive graphics programming. Students work in groups to complete two large projects over the course of the semester. Projects are evaluated on both the quality of the design and the success of implementation. Additionally, there are weekly assignments that challenge students to consider a wide variety of spaces that are ripe for transformation through the integration of interactive media. Since this class involves programming on an intermediate level, a working knowledge of Processing or C is a prerequisite.

Learning Outcomes

• Students will learn to create site-specific, narrative-driven, spatially appropriate work
• Students will use an iterative, prototype-based process using both technical and nontechnical prototypes to create 2 polished, well-documented group projects
• Students will advance their knowledge of the field of interactive installations/spaces through research and positioning their own work in the context of past and current work in the field
• Advance students’ technical skill sets relating to
  1. Capturing user input and creating responsive output at the architectural scale
  2. Building architectural scale installations, including challenges such as: connecting and choreographing multiple inputs and outputs, projection mapping, ideal locations for user input
  3. Documenting their work and appropriately conveying their interaction design through images, video, and sound

Schedule

Week 1 - 1/30 - Introduction to Spatial Media
Introduce the core concepts of the class, including topics we will cover, the challenges inherent in this type of work, and the tools we will use. Introduce the first assignment, in which students document interactive scenarios in a real-world space.
Week 2 - 2/6 - Designing Spatial Interactions 1: Prototyping
Discuss the importance of technical and nontechnical prototypes in designing for the human/architectural scale. Introduce Spacebrew, a tool for prototyping spatial interactions. Assign the next section of Assignment 1, in which students will prototype one of the scenarios they have documented using Spacebrew.

Week 3 - 2/13 - Designing Spatial Interactions 2: Inputs + Outputs
Present different high-level categories for interaction and reaction in spaces. Discuss how inputs and outputs can be integrated into architectural sites. Cover case studies of existing projects, discussing both design and technical considerations highlighted in each piece. For Assignment 2, students build and document a single input or output.

Week 4 - 2/20 - Designing Spatial Interactions 3: Workshop + Technical Presentation
Students present their input or output, then participate in an in-class workshop where they work in a small group (each with at least 1 input/output pair), describing a new interaction created by building a new prototype with their projects. After the workshop, we will dive deeper into technical tools we use to create interactive spaces.

Week 5 - 2/27 - Project 1 Introduction
In-class presentation about the challenges and concerns of creating temporary interactive spaces, which leads to the introduction of Project 1. We will also discuss effective documentation and presentation techniques.

Week 6 - 3/6 - Project 1 Development
Working class, with individual critiques with each small group. Students must present their conceptual direction, plan for documentation, and in-progress prototypes.

Week 7 - 3/13 - Project 1 Presentations
Full class presentation and critique.

---- No Class - 3/20 ------

Week 8 - 3/27 - Long term installations
Presentation: goals and challenges of longer-term installations (conceptual & practical) and how they differ from short-term projects. Discussion of how inputs/outputs differ when timescale is increased. Present case studies of permanent installations. Assignment 4, in which students identify and analyze 2 locations that might support a “permanent” project.

Week 9 - 4/3 - Project 2 Introduction
Students present their research, which leads to introduction of Project 2. Presentation: crafting a pitch. Students start Assignment 5, in which they address the practical concerns of working in public or active spaces.

Week 10 - 4/10 - Project 2 Pitch & Technical Presentation
In-class technical presentation about tools for maintenance of long-term installations. Students present pitches for Project 2. In-class critique. Project 2 prototyping begins. Assignment 5: students document bodystorming with in-progress prototypes.
**Week 11** - 4/17 - Project 2 Development & “Call to Action”
Presentation: how to make an effective call to action. In Assignment 6, students body-storm 3 different calls to action for their project by recreating interaction space. Review effective documentation techniques.

**Week 12** - 4/24 - Project 2 Development
Working class with individual critiques for each group.

**Week 13** - 5/1 - Project 2 Presentation
Full class presentation and critique with guest critics: TBA. Plan site visits.

**Week 14** - 5/8 - Open Topic

### Grading

Weekly Assignments (including research presentation): 40%
Midterm and Final Projects: 50%
Course Participation: 10%

Failing grades will be given to students who do not complete 3 or more weekly assignments, who do not complete either the midterm or final projects, or who are absent from 3 or more classes. While any of the above will result in an automatic failing grade, poor performance may result in failing as well.

### Attendance

It is expected that students will come to all classes on time, unless the professor has been notified otherwise. Repeated tardiness will affect the participation grade. Three (3) absences will result in a failing grade.

### Assignments

Students should expect to spend at least 6 hours every week working on assignments outside of class. This includes both weekly assignments and longer term projects. Students are expected to complete assignments on time. Late assignments will not be accepted. Misunderstanding of an assignment is not an excuse for lateness.

### Office Hours

While there are no set office hours, tutoring is available for any student who requests it. In addition to tutoring, the professor(s) are available via email and will respond to student questions as quickly as possible. Asking for help is strongly encouraged. Brett will be available at 5 Union Square West, and Jeff will be available at 274 Morgan Ave, 4th floor in Brooklyn.

### Reading - Theory & Design

Note: We have access to all these books, can bring any in that people want to look at

Responsive Environments: Architecture, Art and Design Lucy Bullivant. Victoria & Albert Museum (September 1, 2006)


Reading - Technical


Getting Started with OpenFrameworks (hopefully out in time for class!). Zachary Lieberman. O'Reilly Media (May 7, 2013)


Research Sources

These sites will be good inspiration for your projects and assignments, and for finding precedents, which is required for both projects.

- http://www.interactivearchitecture.org
- http://www.inventinginteractive.com/
- http://www.psfk.org
- http://www.triangulationblog.com/
- http://creativeapplications.net
- http://rhizome.org/
- http://www.tigoe.net/blog/category/physicalcomputing/176/