

SI 612 Syllabus

Course Description

This advanced interaction design course focuses on designing interactive applications for emerging mobile and context-aware technologies. It follows a similar format to 582 (Interaction Design) in that course is studio-based, consists largely of a seminar-long group project with multiple milestones, and is supplemented by readings and discussion relevant to the topic. Class meetings consist of brief lectures to introduce and frame course concepts, design methods, and technical tools; discussion of readings; in-class design exercises; and group work/lab time. Some programming will be required in order to complete prototyping activities, though students have flexibility in choosing the platforms and languages used. Programming will not be taught in the course. Credit Hours: 3

Advisory prerequisites: SI 622, Required prerequisites: SI 582

Contact Information and Office Hours



Stephanie Brenton
Intermittent Lecturer

School of Information
105 State St.
Ann Arbor, MI 48109

slbrento@umich.edu

Office Hours

Mondays 4:30 - 5:30

1243 North Quad

Or by appointment

(Skype: slbrenton)

Lectures

Mondays 5:30 - 8:30 pm

2245 North Quad



Puhe Liang
Graduate Student Instructor

School of Information
105 State St.
Ann Arbor, MI 48109

puhe@umich.edu

Office Hours

Wednesdays 4:00-5:00

1270 NQ

Canvas Online Syllabus

<https://umich.instructure.com/courses/250441/assignments/syllabus>

Course Learning Goals

After taking this course, students will:

- be able to identify methods and techniques to convey 'Design Future' concepts as they relate to Pervasive Computing
- be skilled at applying several methods and techniques to develop these 'Design Future' concepts
- be able to extend existing Pervasive Design (Ubiquitous Computing) contributions and use this literature alongside research from CHI and CSCW to support their work

Course Learning Objectives

Knowledge	<ul style="list-style-type: none"> • What is Pervasive Computing (UbiComp)? • What is Pervasive Interaction Design? • Understand the role of sensors and machine learning in designing novel pervasive applications
Comprehension and Application	<ul style="list-style-type: none"> • Pervasive design techniques and processes such as: <ul style="list-style-type: none"> • Cultural Probes • Wizard of Oz • Experience Prototyping • Speed Dating and User Enactments • An understanding of the tools used for physical and digital prototyping synthesis
Synthesis	<ul style="list-style-type: none"> • Understand how to think critically about and critique design decisions for pervasive applications. • Reflect on and discuss pervasive design methods used and solutions.
Evaluation	<ul style="list-style-type: none"> • Justify and defend design decisions for pervasive applications grounded in the HCI, CSCW, and UbiComp and Pervasive Computing literature.

Assignments and Grading

You should do good work in this class because you care about your group project and because you want to learn how to design future pervasive concepts and systems. That said, we must adhere to university policy and use grades, so here is how grades will work in this class:

1. Group project (80 points)

- 10 points: Concept Proposal
- 20 points: Formative Study Results & Design Proposal
- 10 points: Experience Prototyping Results & Design Refinement
- 15 points: Final Demo and Prototype
- 25 points: Final Proposal & Video

2. Food for thought questions, sketches, and activities (10 points)

3. Participation (10 points)

You will submit homework to the class forums on Canvas.

<https://umich.instructure.com/courses/250441>

Final Grades will be assigned according to the following scale:

A+ 98-100%	C+ 77-79%
A 94-97%	C 73-76%
A- 90-93%	C- 70-72%
B+ 88-89%	D 60-69%
B 84-87%	F below 60%
B- 80-83%	

Assignment and Grading Details

The primary activity in this course will be a design project, which will be carried out in groups of 4 or 5 students. This will be worth 80% of the final grade.

There will be 5 milestones associated with the project, namely:

- 1. Concept Proposal (10%)**
Based on initial ideation, each group will produce three high level concepts, along with a sketch of a plan describing how each would be researched using formative methods and what the key design questions would be.
- 2. Formative Study Results & Design Proposal (20%)**
Based on the findings from a formative study to understand users' needs, and to develop empathy for the context of use, a more detailed design proposal for one of the initial concepts will be presented, along with a justification for the proposed direction and a detailed plan for carrying out the project.
- 3. Experience Prototyping Results & Design Refinement (10%)**
As an early step in the development of the selected design concept, user feedback will be sought using low-fidelity experience prototyping methods. Based on the findings from these studies, refinements to the initial design proposal will be presented.
- 4. Prototype and Final Demo (15%)**
The final design will be presented as a live experiential demo, which will seek to document and "sell" the design to an imagined set of stakeholders. Students will demonstrate knowledge of the sensing technologies required for their demo to function correctly and prototype their demo accordingly (e.g., using Arduino, Raspberry Pi, foam core).
- 5. Final Proposal & Video (25%)**
The final milestone will be a proposal for a "real" system based on your prototype and demo. To make your proposal persuasive, you must synthesize the insights obtained from each phase of the project, including ideation, design refinements, needs finding results, evaluations, and final concept. The proposal will be accompanied by a short video showing the imagined interaction with the designed system.

In addition to the project, students will complete the following:

- **Food for thought questions, sketches, and activities (10%)**

Each week, the instructor will assign questions and/or other lightweight activities related to the week's readings that students will be required to address/complete. Students are required to post their responses as threaded discussions in [Canvas](#).

- **Participation (10%)**

You are expected to contribute meaningfully to in-class exercises and discussions. The results of peer feedback will also contribute to this portion of your grade.

Late assignments

Many of our classroom activities will involve getting feedback from your peers and the instructor on assignments and on your group project. For this reason, it is important that you finish your homework and group assignments on time and come to class prepared to discuss it.

- Late assignments will be penalized 1 point after the official deadline and additional points per 24-hour period.
- Unexcused reading responses, presentations, or other homework will not be accepted.
- Unexcused late assignments will only exist under very special circumstances and with prior arrangement with the instructor.

Attendance

This class does not have a formal attendance policy but your group activities and class participation grade both rely on you being in class. You are responsible for finding out what you missed in class by referring to the syllabus and to your classmates.

Communication

All course material (e.g., syllabus, schedule, lecture slides, assignment descriptions) will be made available via Canvas. You are responsible for keeping up-to-date with the materials on Canvas, as dates, assignment details, and lecture topics may change as the semester progresses. The instructors will broadcast announcements via Canvas announcements whenever significant changes are made to the materials.

Classroom Etiquette

To create and preserve a classroom atmosphere that optimizes teaching and learning, we all share a responsibility in creating a civil and non-disruptive forum. Students are expected to conduct themselves at all times in this classroom in a manner that does not disrupt teaching or learning. Classroom participation is a part of your grade in this course. Our in-class discussions should be respectful and courteous to everyone, and relevant to the topic we are discussing. Our discussions are meant to allow us to hear a variety of viewpoints and this will happen if we respect each other and our differences. **Our time is valuable and behavior which disrupts our learning process may lead to point reductions and/or removal from class.**

This course works best when:

- We are all respectful of each other and each other's time and ideas
- When we are active participants in class discussions and activities
- When we share our past experiences as it relates to the class

Do your best to be on time to class. Please be in your seat and ready to begin class promptly at 5:30 pm.

**The classroom etiquette clause is an updated and modified version of East Carolina University's Office of Student Affairs' disruptive behavior clause https://www.ecu.edu/csstudentaffairs/dos/customcf/classroom_disruption.pdf*

Academic Integrity

Collaboration

UMSI strongly encourages collaboration while working on some assignments, such as homework problems and interpreting reading assignments as a general practice. Active learning is effective. Collaboration with other students in the course will be especially valuable in summarizing the reading materials and picking out the key concepts. You must, however, write your homework submission on your own, in your own words, before turning it in. If you worked with someone on the homework before writing it, you must list any and all collaborators on your written submission. Each course and each instructor may place restrictions on collaboration for any or all assignments. Read the instructions carefully and request clarification about collaboration when in doubt. Collaboration is almost always forbidden for take-home and in class exams.

Plagiarism

All written submissions must be your own, original work. Original work for narrative questions is not mere paraphrasing of someone else's completed answer: you must not share written answers with each other at all. At most, you should be working from notes you took while participating in a study session. Largely duplicate copies of the same assignment will receive an equal division of the total point score from the one piece of work.

You may incorporate selected excerpts, statements or phrases from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own, or be explicitly attributed to another. See the (Doctoral, MSI, MHI, or BSI) student handbooks available on the UMSI intranet for the definition of plagiarism, resources to help you avoid it, and the consequences for intentional or unintentional plagiarism.

Accommodations for Students with Disabilities

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way the course is usually taught may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations. SSD (734-763-3000; <http://ssd.umich.edu>) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Any information you provide is private and confidential and will be treated as such.

Student Mental Health and Wellbeing

The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and <https://caps.umich.edu/> during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (734) 764-8320 and <https://www.uhs.umich.edu/mentalhealthsvcs>, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources. For a listing of other mental health resources available on and off campus, visit: <http://umich.edu/~mhealth/>.