Created by Subhashish Ghosh

Course Title: ITMD 534 Human/Computer Interaction

Term: Spring 2022

Instructor: Subhashish Ghosh

Email: sghosh3@iit.edu

Time and Location: TBD

Office Hours: Please e-mail me directly for scheduling office time. I can meet after class or in the evenings over Google Hangout.

Course Description

This course provides an introduction to and overview of the field of human-computer interaction (HCI). HCI is an interdisciplinary field that integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. Lectures will cover current theory and practice in interface specification, design and evaluation. Students will work on both individual and team projects to design, implement and evaluate computer interfaces. The course is open to students from all disciplines, providing them with experience working in interdisciplinary design teams.

Upon successful completion of this course, students should be able to:

* Design, implement and evaluate effective and usable graphical computer interfaces.

* Describe and apply core theories, models and methodologies from the field of HCI.

* Describe and discuss current research in the field of HCI.

Prerequisites

None. Assignments will involve user testing, paper prototyping, and implementing a prototype of a working design, using some computational medium. However, you can select how to implement your solutions, and you can choose whether to use HTML or PowerPoint. Thus, everyone from non-programmers to expert programmers are welcome. No background in HCI is expected.

Course Structure

Students will work in project groups (group size determined by total enrollment) to create and develop a new product concept. Each team will work on one semester-long project to produce a high-fidelity prototype. Students will produce a final report for the project where each individual member of the project team will describe an aspect of the project.

Each group will take their concept through a process from discovery to ideation, iteration, refinement and user testing before presenting their final deliverable at semester's end.

Concepts can be either physical or digital but must include a digital component that incorporates HCI concepts. Product ideas must be clear and easy to understand by an average person with no background in the product category and must be approved by the professor.

Students will be paired with teammates whose skills complement their own (e.g. an engineering student teamed with a design student). The goal of diverse team members is to increase creative idea flow and allow students from different backgrounds to learn from one another.

Each student is expected to participate and discuss weekly project updates in class.

Each student will also keep a project journal showing their approach and methodology to their project. The journal can be in any format that allows the student to best communicate their thought process. For example, more visual students might include sketches, drawings and white boarding images whereas another student might prefer shorthand notes and bullet points. The final submission needs to be in pdf format.

Journals will be submitted at semester's end and will count toward the final grade.

Students should not be concerned with delivering a "professional" looking product. Instead, the focus should be on the thought process that allowed them to reach their final project goal. A successful student in this class will not necessarily be someone with a great idea, but rather someone who can take a great idea and make it better over time. This includes understanding the business need and competitive landscape.

Each team will give a short Power-Point presentation covering the following:

- Who is your team
- What is your product
- How did you come up with this idea
- What is the business need
- How is your product different from competitors
- How will you get to your final concept

The final submission should include product details, material covering investigations, storyboard or other illustrations showing how the product functions. Each team member must present and demonstrate their contribution to the project.

Course Focus

This course will focus on basic concepts and research methods in human computer interaction. Topics covered will include:

- User interface (UI) design (web, mobile, tablet)

- Interaction Design & User Experience
- Usability testing
- Usability research
- Wireframing & Prototyping (Rapid, Paper, Interactive)
- Storyboarding, Ideation
- User-centered Design (UCD)

There is no programming work expected in this course.

Course Details

Objectives

- Learn basic concepts and principles of Human Computer Interaction (HCI)
- Create and develop a product concept following User-Centered Design (UCD)
- Introduce a typical product lifecycle to increase understanding of HCI
- Improve identifying and articulating key HCI concepts Class Structure
- Classes cover HCI topics via lecture
- Students will work on one semester long project as part of a team
- Incorporate learning from each class
- Be prepared to discuss weekly status in class
- Stay current on HCI trends and participate in class discussions Project Details
- Projects prepared in teams (size varies depending on student enrollment)
- Each project will be either:
    - New product concept based on need encountered in daily life; OR
    - Variation on existing product (must show significant variation)
    - Project concepts can be either physical, digital or a combination

      but MUST include a digital component

Product Focus: Projects should be designed and presented so that an average person with no prior knowledge can understand the concept and use it to accomplish the problem it was designed to solve.

Student Expectations

- Basic understanding of HCI concepts
- Ability to develop basic product concept with a low-fidelity prototype incorporating HCI principles
- Ability to clearly state your idea, the business need and how you got there
- Thorough understanding of user-centered design (UCD) process
- Create more advanced product concept with higher-fidelity prototype
- Articulate thoughtful use-case for your product with real-world applications Online
- Demonstrate thorough understanding of class material in presentations and discussions
- Detailed journal showing thought process and incorporating class concepts
- In lieu of presentation, a detailed report (7 page max) showing how your idea can succeed and how it developed throughout semester

Attendance

- Attend each class on syllabus
- If you will not be in class, let Professor know
- IIT policy requires attendance be taken for each class

Homework

Homework assignments will be given out throughout the semester. These assignments will be due the next week after they have been assigned.

Midterm

A closed book and closed notes 2 hour exam will be administered. This exam will include all the material taught in the classes prior to it.

Final Exam

There will be no final exam for this course. However, there will be a formal presentation of the final project work which will include two parts:

1. Team presentation in class – using visual interactive medium of the final project design.
2. Individual team member research work for the final project

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Grading

Homework – 45%

Midterm – 15%

Final Presentation – 40% - (20% peer + 50% prof. + 30% individual work)

Final Presentation Evaluation

- Presentation skills
- Concept development (how has your idea and knowledge developed)
- Peer evaluation (how did you work and participate within group)
- Does final prototype function properly?
- Did you take feedback from earlier classes and incorporate it into the final?
- Is your idea original and practical?
- How did each team member contribute to its success?

Late submission up to two days will have 10% grade deducted from the total. No submission allowed later than two days from due date.

Grading standards for graduate students

A Outstanding work reflecting substantial effort: 90-100%
B Adequate work fully meeting that expected of a graduate student: 80-89.99%
C Weak but marginally satisfactory work not meeting expectations: 65-79.99%
E Unsatisfactory work: 0-64.99%
(There is no grade of D for graduate students.)

Required Reading

None. All reading will be posted included in lecture slides.

A list of books will be provided later for reference.

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Collaboration and Academic Honesty

This course will involve homework, midterm exam and a final project. The focus will be on working in teams for the final project. While the team will present the final project, each student must contribute to the final deliverable. It is important that each student be able to articulate his or her own contributions as well as explain how the project has developed within the team.

While it is nearly impossible to create a completely original concept, I expect each student to create a well thought out concept that differs from the original idea. Do not use other people's work and do not use materials from other classes. There will be a zero tolerance policy for cheating or plagiarizing work from others.

Will there be any coding in this class?

No. You are welcome to try and incorporate some coding where appropriate if you have prior knowledge, but coding will not be required and will not factor into the grading process.

Statement on Sexual Harassment

"Illinois Tech's Sexual Harassment and Discrimination Information:
Illinois Tech prohibits all sexual harassment, sexual misconduct, and gender discrimination by any member of our community. This includes harassment among students, staff, or faculty. Sexual harassment of a student by a faculty member or sexual harassment of an employee by a supervisor is particularly serious. Such conduct may easily create an intimidating, hostile, or offensive environment.

Illinois Tech encourages anyone experiencing sexual harassment or sexual misconduct to speak with the Office of Title IX Compliance for information on support options and the resolution process.

You can report sexual harassment electronically at iit.edu/incidentreport, which may be completed anonymously. You may additionally report by contacting the Title IX Coordinator, Virginia Foster at foster@iit.edu or the Deputy Title IX Coordinator, Esther Espeland at eespeland@iit.edu.

For confidential support, you may reach Illinois Tech's Confidential Advisor at (773) 907-1062. You can also contact a licensed practitioner in Illinois Tech's Student Health and Wellness Center at student.health@iit.edu or (312)567-7550

For a comprehensive list of resources regarding counseling services, medical assistance, legal assistance and visa and immigration services, you can visit the Office of Title IX Compliance website at https://www.iit.edu/title-ix/resources. "