Introduction to Human-Centered Design
Computer Science and Engineering CSE 256A
M/W 10-11:30
Spring 2023

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Teaching Assistants:
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(preferred email?)

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Class Meetings:
We will meet on Mondays and Wednesdays from 10-11:30 in Eads 116.

If you are not feeling well, feel free to join into class via zoom. I'll do my best to ensure that zoom folks get to participate in all class activities.

https://wustl.zoom.us/j/96108771039?pwd=MzJpUHJBTnZUSUFJMnZkdDFmRVpzUT09

Reaching Us:
Please post all questions to Piazza, so that we both have an opportunity to answer. We'll be checking frequently. We also encourage you to answer questions that other students ask when you can.

Professor Kelleher will host office hours on Thursdays at 8pm:
https://wustl.zoom.us/j/92797050198?pwd=YmhFZHcySlNGRDNaTEJpbGxMZjdFUT09

Other TA office hours?

Course Description:
This course provides an introduction to human-centered design through a series of small user interface development projects covering usability topics such as: information foraging, problem solving behaviors, and learnability. Projects will begin with reviewing a relevant model of human behavior. Each project will then provide an opportunity to explore how to apply that model in the design of a new user interface. Prerequisite: CSE131

Course Website: access through canvas

Course Goals

Students who complete this course successfully will be able to:

- Use models of human behavior to make predictions about user behavior in a user interface
- Use predicted behavior to identify areas to improve within an interface
- Consider a variety of different designs to address identified problems
- Evaluate the success of design changes using online testing

Required Texts:

We will use a variety of readings to introduce different topics. I have chosen all of these from various online sources including publically accessible web pages, academic papers available through the ACM or IEEE databases (you have free access to these through the campus network), and excerpts from books that can be checked out electronically from our library. However, it is important to be aware that the library has limitations on the number of simultaneous viewers who can access some book excerpts.

As a student, you should have free access to all of these resources. The readings page contains instructions on how to get any that are not just html links.

Readings and Prep Activities:

I have tried to structure the course so that we spend less time on lecture during class and more time exploring how to use the techniques we cover. To make this possible, you will have readings to complete ahead of time for some classes. For most classes, you'll complete a short prep activity that will ask you to start engaging with the topic for the next class. The readings and prep activities will be due by midnight the night before class. This will allow us to get started working together on each day's topic quickly.

Mastering Models of Human Behavior:

The primary goal of this course is to introduce you to some models of human behavior and enable you to use those models to improve interfaces (we'll give you baseline code to start with). For each model, you'll need to demonstrate mastery of it. We'll do two larger projects and one small one.

Larger Projects: Over the course of the semester, everyone will complete two individual projects, each focusing on a different model of human behavior that impacts user interface design. For each project, you'll develop a new version of the interface that enables real users to perform better. You will be able to submit a version for user testing up to 3 times. During each round, you will user test tasks from other teams with friends and colleagues around campus.

93: 3 tasks that perform >20% over the baseline, spread across any iteration.
88: 2 tasks that perform >20% over the baseline, spread across any iteration.
83: 1 task that performs >20% over the baseline, in any iteration.

Then you can earn bonus points as follows:

+7: all three tasks in a single iteration
+3: two tasks in a single iteration
+2: one of the top 3 performing tasks in the class (Note: you can earn this bonus multiple times)

Small Project: The small project will ask you to sketch out an interface using the ideas of Cognitive Load Theory. These will be demoed the last week of class, with the demoes focusing on specific examples of how the ideas of Cognitive Load are applied. There are 3 types of cognitive load. Grades will be computed as follows:

User Testing

For each submission your group does, your group will also be responsible for user testing interfaces created by other groups in the class. Conducting these user tests will provide you with insight into how and why users behave the way they do, while also giving valuable feedback to the groups that created the interfaces you test. In each round, you will be responsible for testing 9 tasks with 3 users. Tasks will get full credit if they are correctly submitted, 85% credit if we can make small textual fixes to recover the data, 50% credit if we have to recreate your data from a video, and 0% if we have to run user tests for you.

Class Participation and Group Assignments

We will do a lot of in-class work to understand and begin to apply the different models of human behavior. The in class activities will be important in helping you figure out how to improve the baseline interface. Your best chance of doing well on the projects is to fully participate in the in-class activities. We will ask you to complete some of these in-class activities as group assignments. Group assignments will be worth 15%.

Course Grading

The goal of this course is to introduce everyone to human-centered design. As such, the grading system is not set up to put you in competition with each other. I will not curve grades.

Explanation of Grading System

Grades will be computed as a weighted average of the following:
- Large Projects - 2 (15% each)
- User Testing – 15% (averaged over all required user tests for rounds you submit)
- Exams -2 (10% each)
- Small Project – 1 (10%)
- Group Assignments (15%)
- Prep Activities (10%)

I will use the following scale to convert numerical grades into letter grades:

>98	A+
93-98	A

90-93	A-
87-90	B+
83-87	B
80-83	B-
77-80	C+
73-77	C
70-73	C-
60-70	D
0-60	F

Course Policies and Information for Students

1. LATE AND MISSED WORK

   Readings and Prep Activities are due by midnight the night **before** class. Readings submitted after midnight but within three days of the deadline will get a maximum of 6/10 points. Submissions received after that will get no credit.

   Large Projects can be submitted for testing up to three times. There are specific deadlines for both. Missed deadlines cannot be made up. However, you are only required to submit each project one time.

   Small Projects cannot be submitted late.

2. REGRADING POLICY

   Once a grade has been posted to canvas, you have one week to ask for a review of that grade. When regrading, I will reconsider all aspects of the work associated with that grade. In some cases, this may result in your grade going down, so please consider regrade requests carefully. To submit a regrade request, please hand in the original (unmodified) work along with a letter that describes your concerns with the original grade. I will not regrade work after the appeal period has ended.

3. COLLABORATION POLICY

   Readings, and prep activities in this course should be completed individually. In-class exercises, projects, and user testing will be done in groups.

4. ETHICS/VIOLATIONS OF ACADEMIC INTEGRITY: Ethical behavior is an essential component of learning and scholarship. Students are expected to understand, and adhere to, the University's academic integrity policy: wustl.edu/policies/undergraduate-academic-integrity.html. Students who violate this policy will be referred to the Academic Integrity Policy Committee. Penalties for violations will be determined by the Academic Integrity Policy committee, and can include failure of the assignment, failure of the course, suspension or expulsion from the University. If you have any doubts about what constitutes a violation of the Academic Integrity policy, or any other issue related to academic integrity, please ask your instructor.