CSE440: Introduction to HCI
Methods for Design, Prototyping and Evaluating User Interaction

Lecture 01: Introduction
Nigini Oliveira
Abhinav Yadav
Liang He
Angel Vuong
Jeremy Viny
Who we are

Nigini Oliveira

Study and practice CS in Brazil since 2000
PhD in CS in 2017
Postdoc in Social Computing here at UW
Work in cross-cultural collaboration and online experimentation
Likes literature and long distance bike rides
Who we are

Abhinav Yadav

CS Graduate
Designing since 2014:
   have worked on the Wall Street to villages in India
Currently in the HCDE Masters Program
Loves designing for complex systems, going to concerts and PS4
Who we are

Liang He

CSE PhD student studying HCI
MS from CMU
Work in novel fabrication techniques for social good
Likes painting, making, tinkering, and cyberpunk stuff
Who we are

Angel Vuong

BFA Studio Art (Printmaking)
1st year MS HCDE student
3 years of industry experience as a UX Designer
Always experimenting with plant-based cooking
Has a dog named Snack
Who we are

Jeremy Viny

Studied Neuro Economics and Art
Pursuing a Masters of Design in the School of Art + Art History + Design.

Research Focus: Design Research. In particular domestic IoT

Hobbies: Woodworking and furniture restoration.
What is this course about?
Once upon a time...

Test your reading speed!
Find out how your reading speed and comprehension compares to others by taking this test! The test takes around 12 minutes.

What is your privacy profile?
Find out how your data sharing behavior compares to others and learn about the Internet of Things. This study takes around 10 minutes.

What is your problem solving score?
How well do you solve new problems? Test your problem solving abilities! This study will take around 10 minutes.

232 participating countries
We use personalized results...

Have a look at your results!
How good are you at data analysis?

Professional: You're ready to mentor others.
You are so close to the top! You accurately interpreted most of the tasks. With a little effort, you could surpass the rest of the field.

How do you compare?
You got a score of 90%. You did better than 100% of test takers.
How can we help researchers?

What is a common experiment flow for LabintheWild experiments?

LabintheWild experiments can be accessed via the LabintheWild homepage (see left image below) or directly through a link to a specific experiment. All of our experiments start with an informed consent page and end with personalized results. The order of the remaining parts largely depends on the type of experiment. The image below shows a very common order.

![Diagram of experiment flow]

Lab in the Wild - CORE Team / LITW-CORE

**litw-template-package**

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, add a description to your repository.

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<tr>
<th>Name</th>
<th>Size</th>
<th>Last commit</th>
<th>Message</th>
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**README.md**

LabintheWild Study Templates

This repository bundles together the LabintheWild template study and instructions to guide new developers to create their own online studies.
We then created Digestif...
We created Digestif...
Learn about the problem.
Inventing (many, many) solutions...
Prototyping and testing...
Not easy to get here!
What is this course about?

It is about reading, discussing, examining, and practicing techniques that build this design process.
Activity (10 minutes)

In groups of 2…

Redesign bulky headphones:
- What problems do you want to solve?
- How does your design solve them?

Make sure you are either addressing a **novel problem** (something nobody has tackled before) or you are contributing a **novel solution**!

Sketch out your design on a piece of paper and be prepared to show it off to the class!
What problems did you choose to solve?
What problems did you choose not to solve?
What’s your solution to those problems?
How many sketches you used?

What steps did you use to get to the solution?

What was hard and what was easy?

Anything you would do differently if you were to do this again?
“[Design is] a plan for arranging elements in such a way as to best accomplish a particular purpose.” — Charles Eames
Core design skills

To *synthesize* a solution from all the relevant constraints
To *frame*, or reframe, the problem and objective
To create and *envision* alternatives
To *select* from those alternatives
To visualize and *prototype* the intended solution

Bill Moggridge
Learning Objectives

Understand what **HCI** and **interaction design** are

Develop skills on using design **methods**

Learn how to create design **artifacts**: scenarios, storyboards, prototypes

**Think critically** about design solutions

Learn how to do user **testing**

**Communicate** effective design critiques and defense
Iterative Human-Centered Design

This is a course about this PROCESS!

This is not an implementation course!
This is also not a course about “good” interfaces nor hard rules that you should follow in design

This is a course about rapid iteration and exploration!
Course structure

(All details: courses.cs.washington.edu/courses/cse440/19sp/)

Much more than **theory**
- But still some lectures and readings

Many in-class **exercises**
- Participation is a critical component of the course

**Friday Section** is primarily studio time with the TAs
- You will work on your project within section
- Participation is a critical component of the course

This course is designed around **rapid feedback!**
Project Overview

The core of this course is a group project

Propose and do an intense end-to-end design

First step: Getting the Right Design
Second step: Getting the Design Right
Third step: Communicating the Design
Project Overview

Talk to people, investigate problems

Sketching and Storyboarding

Low-fidelity Prototyping

Digital Mockup

Presentation & Communication
Projects from two previous quarters

https://.../courses/cse440/17au/projects.html

https://.../courses/cse440/18au/projects.html
Project Theme:
Improve something out there!
What to improve?

What are the problems people face when:
- Traveling
- Shopping
- Gaming
- Health care
- Working

Can be any aspect of daily life!

Design to support one particular kind of activity or relationship that is **important to you** but which is not sufficiently well supported by current tools.
Example
Example
Example
Characteristics of a good project

You are passionate about it

The problem itself is clear: your prototype will fulfill a clear goal

It is novel

It needs to be well scoped

It is not another app! :)}
Characteristics of a good team

1. Psychological Safety
   Team members feel safe to take risks and be vulnerable in front of each other.

2. Dependability
   Team members get things done on time and meet Google’s high bar for excellence.

3. Structure & Clarity
   Team members have clear roles, plans, and goals.

4. Meaning
   Work is personally important to team members.

5. Impact
   Team members think their work matters and creates change.
Design is subjective, and so is this course.
- We can't really run a unit test and grade your design =)
- Wow us with your work, not with complaining

The entire process is designed around feedback
- Milestone grades mean you did the milestone
- You must act on feedback (does not mean saying yes!)

Focus on putting effort on assignments and searching for feedback!
Staying in Touch

https://courses.cs.washington.edu/courses/cse440/19sp/

Calendar: You are responsible to keep track of the calendar

Canvas: To upload assignments etc.

Email us: cse440-staff [at] cs.washington.edu

News: Canvas announcements! Are you been notified?
Adding and Dropping

This is going to be a challenging course.
But rewarding.

Attempting to Add
Say something to me after class

Considering Dropping
Do it ASAP! Please, communicate it
Be considerate, and do not drop after we assign groups next week
(But don't drop, it will be fun! ;)

Section switch availability
We may need to move people to balance sections
Expectations

We are all learners here, let's make this a fruitful experience

Be professional
- Respect above all
- Helpful criticism (we'll learn more about this)
- Peer learning & support
- Show up on time, don't plagiarize, and all that!

Gadgets
- In general no, maybe for note taking (not recommended)
- (Gadget use lowers grades of all around you)
- Prefer paper here… It will be your friend in design
Ask me something!