CS 147 Project Expo

Design Thinking for User Experience Design, Prototyping & Evaluation

Prof. James A. Landay
Computer Science Department
Stanford University

Autumn 2023

December 8, 2023
## Outline

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course overview</td>
<td>6:00-6:25</td>
</tr>
<tr>
<td>Team pitches</td>
<td>6:25-6:55</td>
</tr>
<tr>
<td>Posters/demos/judging</td>
<td>6:55-8:45</td>
</tr>
<tr>
<td>Awards</td>
<td>8:45-9:00</td>
</tr>
</tbody>
</table>
Balance
Design Thinking Process

- Empathize
- Define
- Ideate
- Prototype
- Test
Goal of CS 147

*Learn to design, prototype, & evaluate UIs*

- Tasks, activities & practices of prospective users
- Cognitive/perceptual constraints affecting design
- Techniques for brainstorming, ideation & prototyping
- Methods for evaluating UI designs
- Importance of iterative design for usability
- Technology used to prototype UIs

- *How to work together as a team*
- *Communicating results to a group*
Project Based Course

- Iterative design of a real UI
- Theme: mobile
- Quarter long projects
- Students
  - ~160 across CS, Symbolic Systems ...
- 40 Teams
  - 3-4 members
- 10 major group assignments
  - group work is ~60% of course grade
- Four presentations
  - every team member presents
Design Studios

Teams attend small weekly studio (9-16 students)
- critique/feedback in more intimate environment
Project Process Timeline

- **Week 2:** Needfinding
- **Week 3:** Experience Prototypes & Testing
- **Week 4:** Concept Video
- **Week 5:** Low-fi Prototype
- **Week 6:** Medium-fi Prototype
- **Week 7:** Heuristic Evaluation
- **Week 8:** High-fi Prototype
- **Midterm**
- **Week 9:** ...
- **Week 10:** Project Fair
User-centered Design: Needfinding

- Observe existing practices for inspiration
- Make sure key questions answered
- Ethical questions in design w/ underserved communities
Unpacking the Needfinding

"I don't really watch film or drama series."

"You should read more books instead. It's way healthier."

"Sometimes I want to clear my mind not thinking of anything intensely."

contradiction: thinks media can be harmful both physically and mentally BUT her daughter watches YouTube everyday!

 Say  

Think

reading news on social media platform help her clear her mind

some entity is controlling the public opinions through posts on social media

some social media is being consumed locally

the content and interactions on social media can be harmful

unfair, misleading information that is before

sharing info about events

to person-rather than online

 Meet  

Feel

frustrating to read things that are too entertainment focused or social news that just sound horrible

frustrated to read many hopeful news

lack of hope on the possibility of some filter system

unfair that some people cannot comment their ideas freely (unfairness)

reduced that bad information on social media may negatively impact her daughter's growth

boredom that spending time on social media is leading her astray from her religious commitment

RendezViewz

December 8, 2023

dt+UX: Design Thinking for User Experience Design, Prototyping & Evaluation
Develop Point of Views (Person + Insight + Challenge)

Brainstorm on How Might We Solve

WE WERE AMAZED TO REALIZE...
(what did you learn that’s new?)

THAT THANKS TO THE BOAT OWNER’S MEMBERSHIP, TRUST, AND COMING UP WITH THE FISHING LIFESTYLE AND CONNECTION TO NATURE, HE TOOK UP
A ROUND FROM DRUG ADDICT INTO A JOB TO INCREASE WIFE SKILLS AND COMPANY
IT WOULD BE GAME-CHANGING TO...
(frame up an inspired challenge for yourself)

don’t dictate the solution

ALL OF US COULD TAKE A RISK TO SEE A SPARK IN OTHERS AND
NURTURE IT INTO A PURPOSEFUL TRANSFORMATION.

HMW bring routine (and discipline)
Experience Prototype to Test Assumptions

User Experiences

Critical assumption tested
People feel comfortable gardening in public.

Participant
4 strangers at the park.
Diversity in sex, age (25 – 96!), and experience with gardening.

Experience prototype
Gave participants a free plant and a spade and told them that they could plant it wherever they wanted.
Experience Prototype to Test Assumptions

**ASSUMPTION**

Our experienced users, people who are very familiar or native in a specific language & culture, would be willing and enthusiastic to host someone for a specific period of time.

**EXPERIENCE PROTOTYPE**

**Props:** The Musalla (prayer room) at Old Union, pre & post-survey asking both host & user about their experience

**Actors:** Find someone who is interested in learning about Middle Eastern & Islamic Culture + is learning Arabic. Find another person who is a native Arabic speaker and passionate about speaking about culture & Islam. Have the person interested in learning shadow an Islamic prayer and halaqa discussion with their host.

**Data:** Have participants complete a questionnaire before and after asking them how they felt, their overall relationship and understanding with the specific language and culture, and how engaging the experience was.
Sketching & Storyboarding

house
Concept Videos: Planning Storyboards

December 8, 2023
Concept Videos

Todo:
- CS147 A3, A4, A5, A6
- Scroll through TikTok
Low-fi Prototyping & Testing

Grapevine

Noted
Low-fi Prototyping & Testing

playdate
Low-fi Prototyping & Testing

Keynotes
Interactive Prototypes
Medium Fidelity
Interactive Prototypes
Medium Fidelity

MindCompass
Evaluation

• Test with real customers (participants)
  - w/ interactive prototype
  - low-fi with paper “computer”

• Low-cost techniques
  - expert evaluation (Heuristic Evaluation)
  - online testing
Interactive Prototypes

**Hi-Fidelity**

**Art2**

**record**

**RendezViewz**

---

[Image of a phone screen showing a canvas with a flower design, a journal entry asking about the user's mood, and a movie listing for "Barbie"]
http://cs147.stanford.edu

• Project web sites w/ all materials
http://cs147.stanford.edu

- Project web sites w/ all materials
- Lecture topics, slides, & video
- Homework assignments
The Projects

• 13 Judges will be picking the best projects (announced 8:45-9 PM)
• Students will have a say by voting for The Students’ Choice Award

Thanks! Get Involved!

• Mentor teams in CS 194H (next quarter)

• Hire students and interns

• Support this project fair financially & HCI+Design research at Stanford
The Judges

• Siamak (Ash) Ashrafi
• Guadalupe Babio
• Jane E
• Paul Harrison
• Katya Lavrenova
• Kevin Liang
• Millie Lin
• Edmund Macaluso
• Shrinivas Mohan
• Joy Mountford
• Jack Russo
• Ted Selker
• Leigh Soutter
• Chengchao Zhu
THANK YOU!
THANK YOU!

FOUNDATION FOR CREATIVITY IN DISPUTE RESOLUTION
The Projects

The Students’ Choice Award

We are checking your attendance based on this and on Bingo!
The Judges

- Siamak (Ash) Ashrafi
- Guadalupe Babio
- Jane E
- Paul Harrison
- Katya Lavrenova
- Kevin Liang
- Millie Lin
- Edmund Macaluso
- Shrinivas Mohan
- Joy Mountford
- Jack Russo
- Ted Selker
- Leigh Soutter
- Chengchao Zhu
THANK YOU!

FLORENCE
VENTURE PARTNERS

Computerlaw Group LLP
THANK YOU!

FOUNDATION FOR CREATIVITY IN DISPUTE RESOLUTION
Students’ Choice / Best Pitch

DiarWe

kin

F*this
Best Poster

MemReprise

FitBud

Arbor
Greatest Societal Impact

Thyme
TrainGone
QueerX
Greatest Personal Impact

DiarWe

Thyme

F*This
Most Novel Product

Arbor & Mersiv

MindCompass
Best Website

Sage

Playdate

FitBud
Best Concept (3)

Bottle

FitCast

DiarWe
Best Demo (3)

FitBud

enosi

MemReprise
Best Visual Design (3)

kandi

Sage

Thyme
Best Overall Project

DiarWe

Sage

MindCompass