Human-Computer Interaction Design

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Good Design
Bad Design costs lives, money, & time
300,000,000 Americans
\times 10 \text{ minutes per day per American}\n\overline{\mathstrut} \\
3,000,000,000,000 \text{ minutes per day}\n\overline{\mathstrut} \\
= 40,000,000 \text{ Intro to HCI lectures}
Avoiding local optima
Quarter-long design project
Teams of three
Shared weekly in studio

FINAL PRESENTATIONS
FRIDAY OF WEEK 10
This class

Tuesdays
Design Concepts

Thursdays
Lab
bring a laptop!

Fridays
Studio
Weekly Studio Ritual

- Projects due Thursdays, 11.59pm
- Participate in studio & check out your peers’ work
- Reflect on & self-assess your work
Prereqs

- CSE8a/11 required, CSE8b/11 strongly recommended
- Cogs1, Dsgn1, Cogs187a
Take this class if you seek...
Consider dropping the course

- If you don’t have time to invest in a projects-based course.
  - It’s not like other courses that you can do in spurts. Projects are time consuming.
    You have to work consistently throughout the quarter.

- If you don’t want to participate in teams.
  - Working in a team and coordinating team activities is challenging. Teams can be frustrating; some don’t contribute their fair share. Joint presentations and papers are challenging.

- If it worries you that your final grade will be significantly influenced by what others on your teams do or don’t do.
5 Units
Letter Grade only
Visit office hours!
Mine are...
Tuesdays 11.00-12.00
Be mindful during class time (aka no Facebook during class)
Studio Leaders
Piazza, not email
The Web Site has all the information it’s where to send questions

http://ixd.ucsd.edu
Questions
First project: Needfinding
Needs for...
Follow up

- Adjust your questions to their previous answers
- Ask questions in language they use / understand
- Pick up on and ask for examples
- Be flexible
Scheduled Interviews
Facilitate Depth
Plans are useless
Planning is invaluable
Create a “Field Guide” (Steve Portigal’s insights)

- Introduction and participant background
- Main body
- Projection/dream questions
- Wrap Up
Do a Trial Run first
(gives you practice, catches bugs)
where to interview?
should you record audio or video?
Audio/Video: Drawbacks

- Time-consuming to review / edit
- Can change participants’ responses
- Requires permission
Audio/video: Benefits

- A robust record
- Highlights are GREAT for communication
- Helps you focus on interviewing
Photos Are Powerful Reminders
What are the gems?

- You’ve uncovered a surprise or found what is missing
- You can explain why people do unusual things
- You want to tell others about what you have learned
Share with your team

· Stories
· Photos
· Sketches
· Quotes
Save Records - It’ll help later

• Keep photos, notes, and artifacts
• Helps tie all design to use, rather than debating things on an abstract plane
DISTILLING YOUR INSIGHTS
Your goal: a point of view
Flare, then focus.
Observation alone does not guarantee a great design.
THIS PRINTER DOES NOT ACCEPT US LEGAL SIZE DOCS
NEED HELP?
CORPORATE PORTAL
PRINTER HELP
Were the users just “dumb”?
Try & do

Ask & listen

Watch & Observe

Picture courtesy of SAP
Need finding through Facebook

· Scenario: How might we help people get to and around campus without driving solo?

· In Facebook, use key terms to search for groups to fit your community (2 mins)

· Turn to your partner to discuss the groups you found (4 mins)
Collecting Needfinding Data on Facebook

- From the previous scenario, think of some Facebook status updates you might post to gather information about user needs.

- Share your status ideas with your partner. What questions did you ask? How did they differ? (4 mins)

- BONUS: If you’re curious, choose a time you think will get the best responses to post the status and see what you get.
The outcome of activity analysis

- What are the steps?
- What are the artifacts?
- What are the goals? (how you’ll measure success)
- What are the pain points?
Example: steps

• Unlock driver's door
• Take a seat behind the wheel
• Insert key in ignition switch
• Turn key fully clockwise
• When engine starts, release the key

Example: artifacts

- key
- car
  - door-lock
  - ignition switch
Example: goals

• (your point of view comes in here)
• Turn on the car?
• Pick up bread?
• Make a meal?
• Have a satisfying evening?
Example: pain points

• In the narrow version: necessary to put the key in? It’s already in the car. Why not just drive off?
• In the slightly broader framing, the pain point could be needing a car to get bread. (Alternatively, bread could be delivered, or you could walk/bike/...
Activity Analysis is easiest for...

- Workflows like doing taxes or travel planning
- Repeated activities, like scheduling (why does it take 17 emails?)
Challenge: we don’t design tasks

• Activities and objects don’t map 1:1 (a smartphone is not just one “activity”)

• We design artifacts. So a forum has multiple tasks.
Have multiple related activities

- The same person uses the same design to achieve slightly different things
- Also, different people may do things slightly differently
- Because they have slightly different goals, expertise, ...
- For empathy, keep ‘em human