

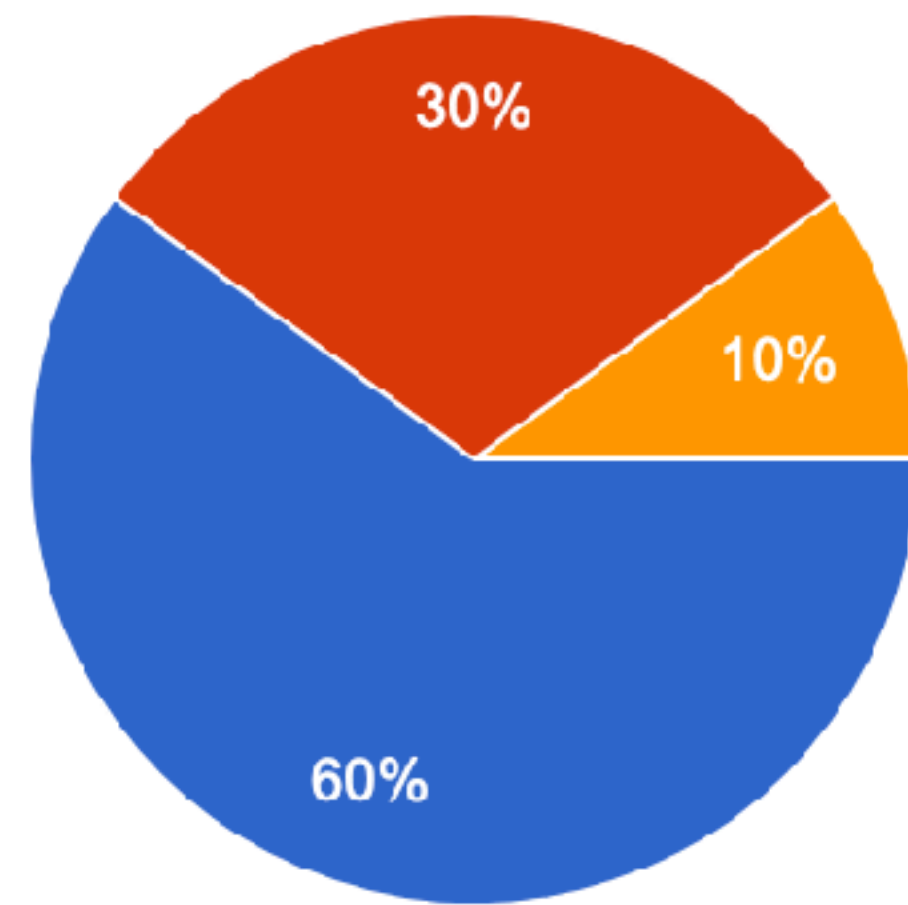
CS181DT Class 13: Needfinding & forming groups



Class 11 agenda

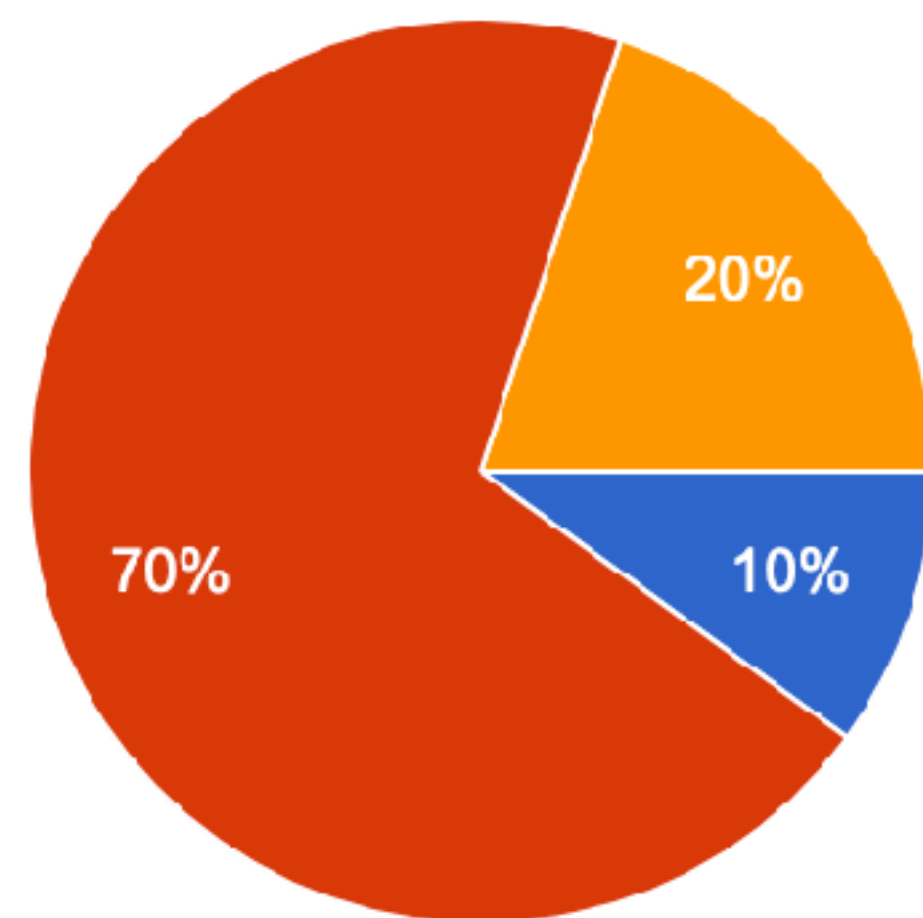
- Studio: forming P2 groups!
- Break
- Lecture: Needfinding methods

Exit ticket results



- I prefer option A: in class WoZ testing on Tues 3/26 (proj OH on Thu 3/28)
- I prefer option B: in class WoZ testing on Thu 3/28 (proj OH on Tues 3/26)
- no preference

WoZ prototype evaluations
Tuesday after spring break



- I enjoy doing them and learn more from this form of note taking
- I'm a little burnt out but see the value in them and am happy to do another 4 total
- I'm burnt out and would prefer more traditional reading responses
- I feel like I never got much out of them compared to traditional notes

Sketchnotes are staying

P2 group making

Round 1: Idea walk

Name _____ Enthusiasm 1-5

Tool idea in 1-2 sentences:

Sketch of tool

(bottom post-it area)

- For each idea you want to do (at least 1), fill out the sheet and then tape it around the room in the appropriate domain category
- Write your name on **blue** post-its
- Walk around the room and read people's ideas and place post-its
- Pink post-it for general "yes and" or "what if" feedback/ideas (∞ amount, 0 required)
- Blue post-it for "I would join your team" (3 maximum)

Round 2: Form teams

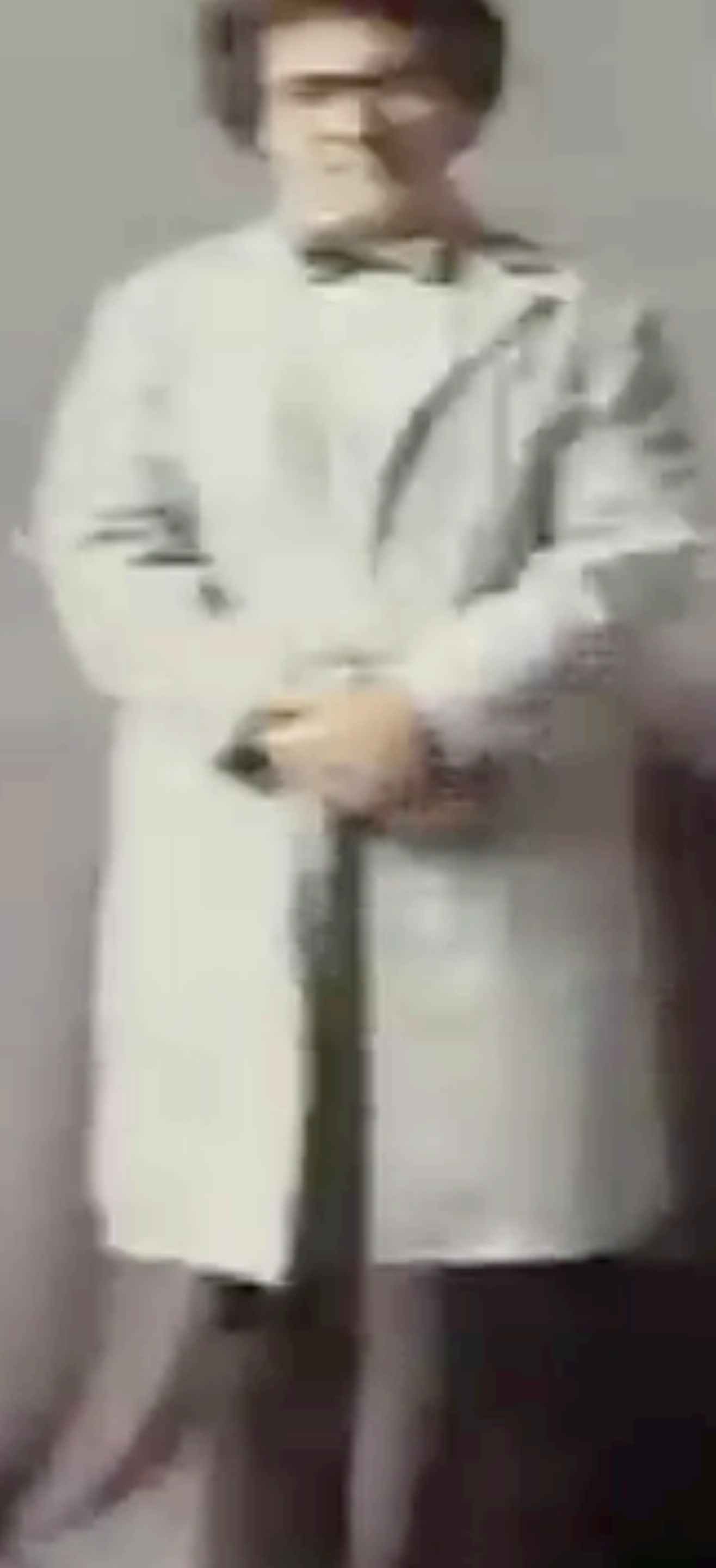
- Walk to your top choice idea (can be your own)
- If there are too many people: can you split this into two ideas?
- If there are not enough people: can you find common ground with others (e.g., same domain neighbors)?
- Can move around and scope out other potential groups too
- After you have a team of 3-4, find a weekly 1 hour meeting time and fill out the Google Form to record your group. Then take your break
- I am here to help settle groups! Call me over!
- We move on at 3:30 latest



<http://tiny.cc/P2-groups>

Needfinding

**We shouldn't rely solely on our intuition
to design things.**

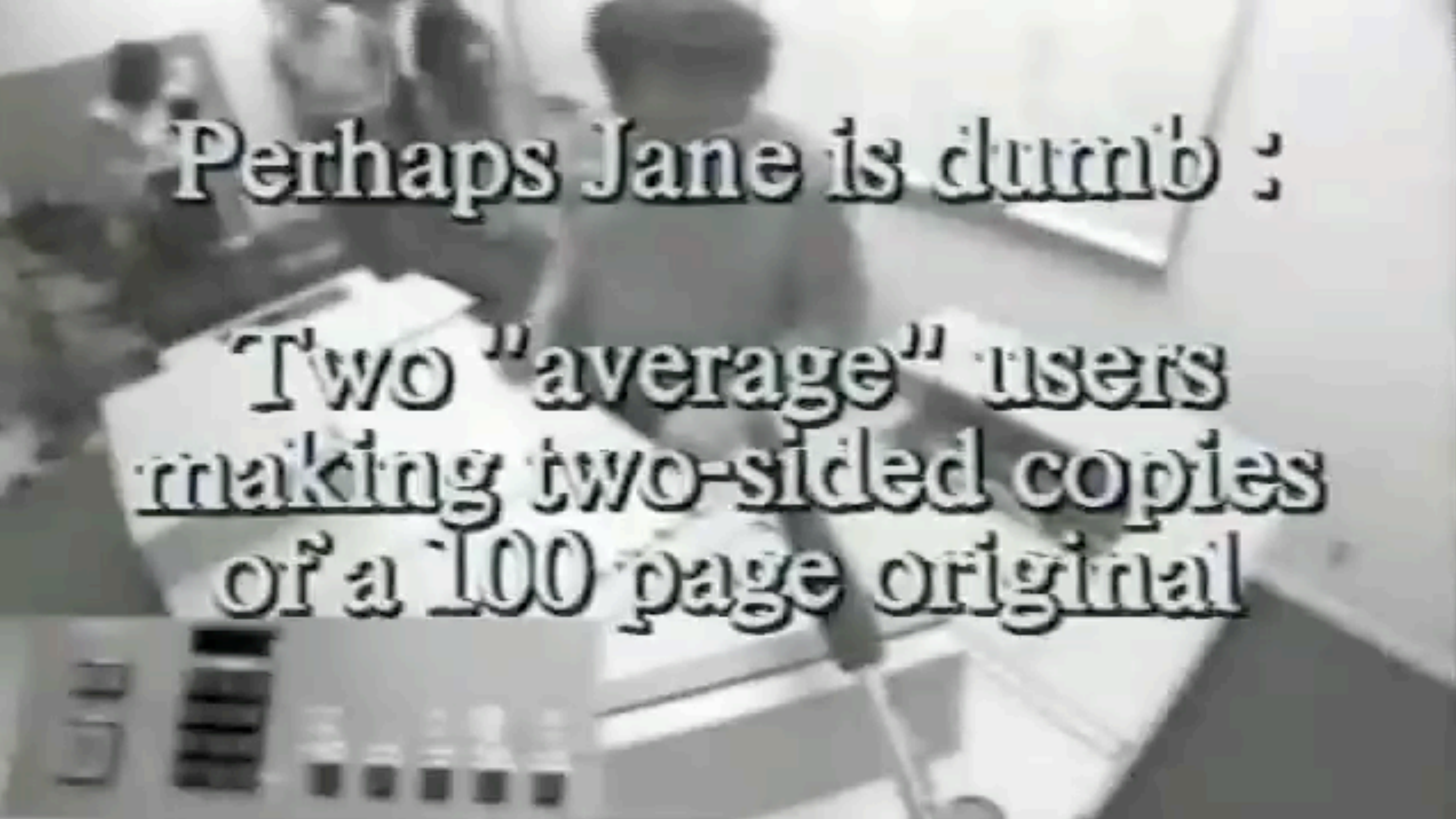


Xerox copier ad

- Xerox PARC (1983)
 - Complains that existing copiers were “too complicated”
- But why?
 - Lucy Suchman (influential HCI researcher, comes from anthropology) suggests *videotaping interactions*



Pushing the Green Button
(advertisement for the
8200 copier, c. 1983)



Perhaps Jane is dumb :

Two "average" users
making two-sided copies
of a 100 page original

Who were these “average” users?

- Alan Newell

ACM Turing Award Winner (basically created AI subfield)

Unified Theory of Cognition



- Ron Kaplan

ACM Fellow

VP of Amazon

Consulting Professor at Stanford



So did the big green button work?

- No
 - Opposite problem: too few buttons instead of too many buttons
 - Stripping away complexity \neq removing a learning curve
- AI approach is to “know” what users want based off of sensors and a predefined user model
- HCI approach is to observe how people are shaping their action based on the design of a machine, as opposed to a machine responding to and predicting user actions
- Situated actions $>$ plans: so design your machines to allow for the flexibility of human behavior

Why is user research important?

- Helps designers empathize with users
 - Before you develop an interactive system, you need to understand its users: who are they? What do they need? How does context change their activities and goals?
 - Behaviors, needs, wants, motivations, pain points
- Pinpoint problems
 - In order to create a useful tool/product/solution, you need to understand the problem - not generate new ones!
 - Identify **pain points** - problems users face when experiences \neq expectations

Pain point example

- “Sorry, I couldn’t finish lecture today because my internet went out”
- Pain point: unable to finish lecture without internet
- Unmet needs:
 - Better internet provider
 - Access to a space with reliable internet
 - Way to make lecture without internet

Activity: pain points

- In pairs, identify a shared pain point in your daily routines.
 - Think of things that bother you – inconveniences, tedious things, stuff that you don't want to think about...
- Convert this pain point into **3 possible unmet needs**
 - Choose 1 of those, and brainstorm **a possible solution**
 - Sky's the limit for this exercise! It can be as 'realistic' or not as you like.

Methods to identify pain points

- HCI & UX researchers borrow from social science methods to find out user needs
 - Academic social scientists are interested in developing general theories of human behavior
 - HCI researchers are interested in meeting interaction specific goals, e.g., creating guidelines that inform the design of their systems
 - Also known as **design goals**
- UX researchers in industry are interested in meeting customer needs

Needfinding methods

- Questionnaires (e.g., Qualtrics)
- **Observational studies** provide more depth
 - Semi-structured interviews (what you'll be doing for milestone 2)
 - Contextual inquiry: go into the site of the activity and observe and ask questions
 - Master & apprentice model (your participant is the master, you, the designer, are the apprentice)

Types of semi-structured interviews

- Semi-structured means you have a set of questions to ask, but don't have to 100% stick to the script and can ask follow ups if participants say interesting things
- **Story interview:** results in real examples of interaction in context, captured through stories
- Tutorial interview: results in a description of how a system works (usually, story interviews gone wrong)
- Opinion interview: results in user opinions of a system

Story interviews: why? how?

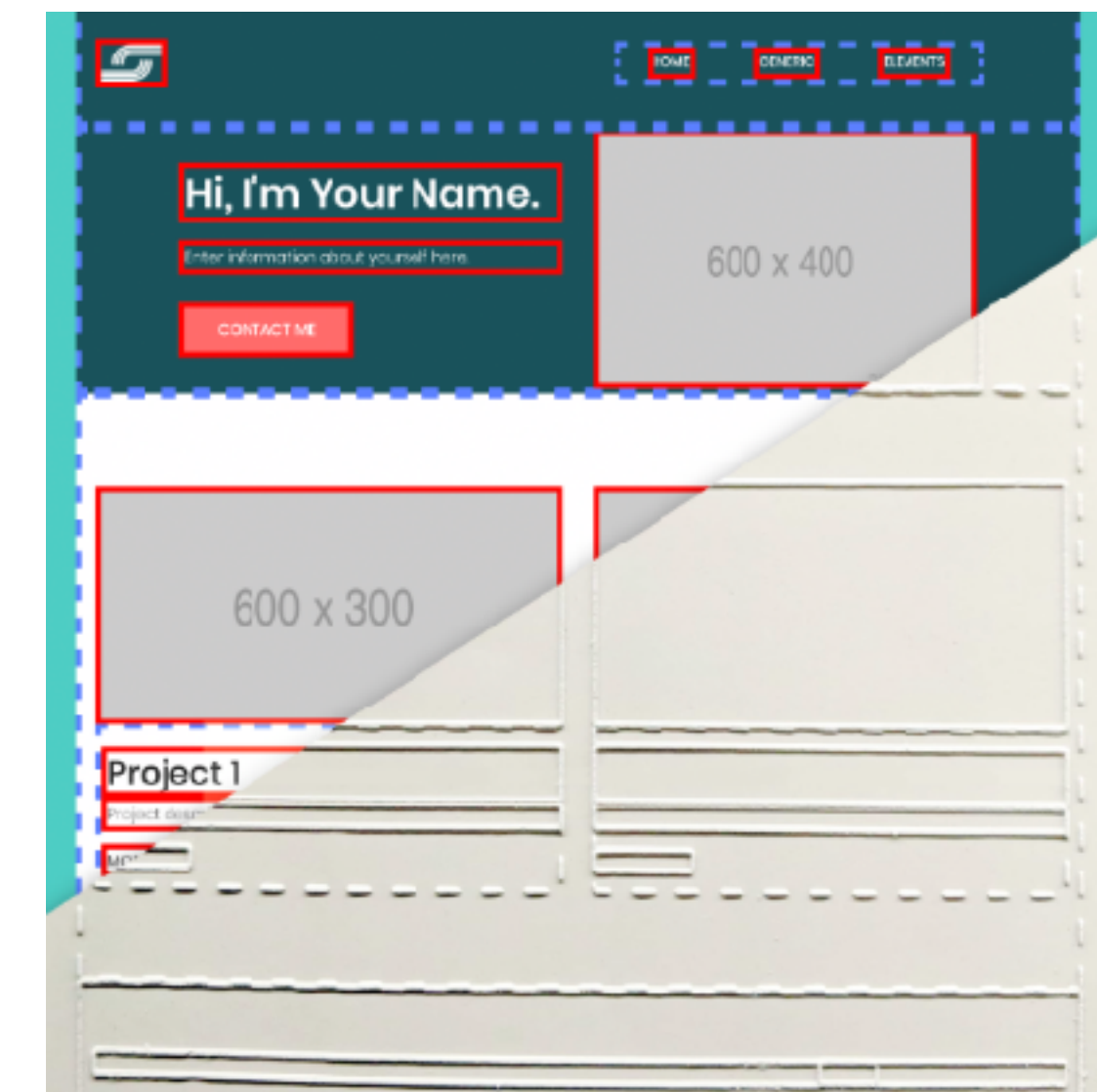
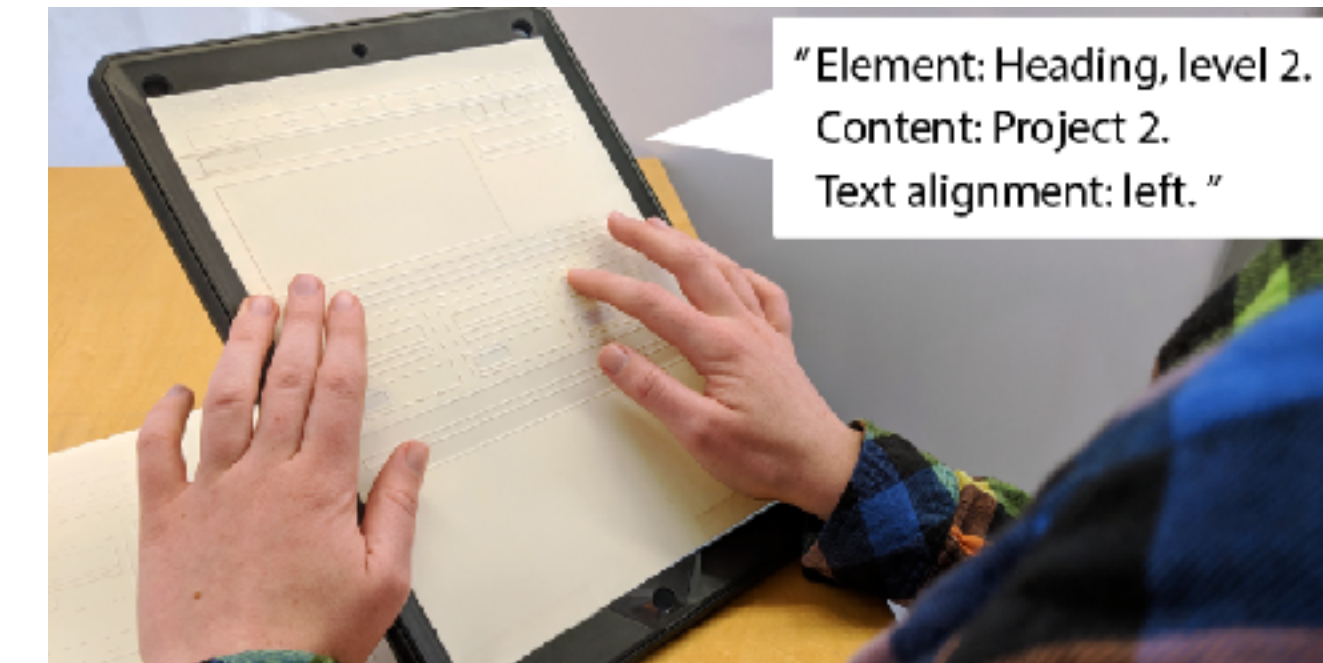
- You can generate abstractions from detail, but you cannot generate detail from abstractions
- Get participants to be as specific as possible in identifying their pain points
 - Ask a specific question (“tell me about a time when you...”) first to set the tone
- First talk about the problem in general you’re trying to address. Near the end of the interview it’s OK to get feedback on your tool idea
 - Don’t ask, “would you use it?”
 - Instead, ask for in what contexts or situations they could see this tool in their life, or if there are more salient needs in the domain

Design goals from pain points

- Once you have a list of the most salient pain points / user needs, it's time to use them to inform the design of your tool through developing *design goals*
- No strict method: follow your intuition on how pain points or positive practices can map to tool requirements
- What kind of results do you wish to achieve? What things should you prioritize over others? Efficiency? Iteration? Expressiveness?

Example design goals

- A tool that enables blind and visually impaired designers to make spatial layouts (like websites or slides) should...
 - 1) Leverage existing workflows of starting from templates (*from positive existing practice of finding templates*)
 - 2) Provide feedback on and the ability to make edits (*from pain point of not being able to make edits with a screen reader*)
 - 3) Present content-layout relationships in multiple modalities to avoid high cognitive loads (*from pain point of overloading audio channel*)
 - 4) Support learning of unfamiliar layout designs and concepts (*from pain point of it's hard to learn UI trends and standards*)
- More examples on the assignment spec under resources



Milestone 2: Needfinding & Intro

- 1. Create shared interview guide for ~30 min semi-structured story interview
- 2. Everyone should conduct their own interview and take a page of notes. I recommend asking to audio record the interview
- 3. Come together as a group, synthesize and discuss results, and create design goals that address the pain points
- Due next Tuesday
- Second part of milestone, writing an introduction to your tool, is due next Friday

Class 13 recap

- End of class: submit your groups!
- TODOs:
 - Thurs: writing introductions & Project OH
 - Please, please, *please* read the P2: Needfinding & intro milestone assignment by class
 - Last assignment until spring break
 - I'll go around to each group and offer specific guidance on their interview guides during project OH



<http://tiny.cc/P2-groups>