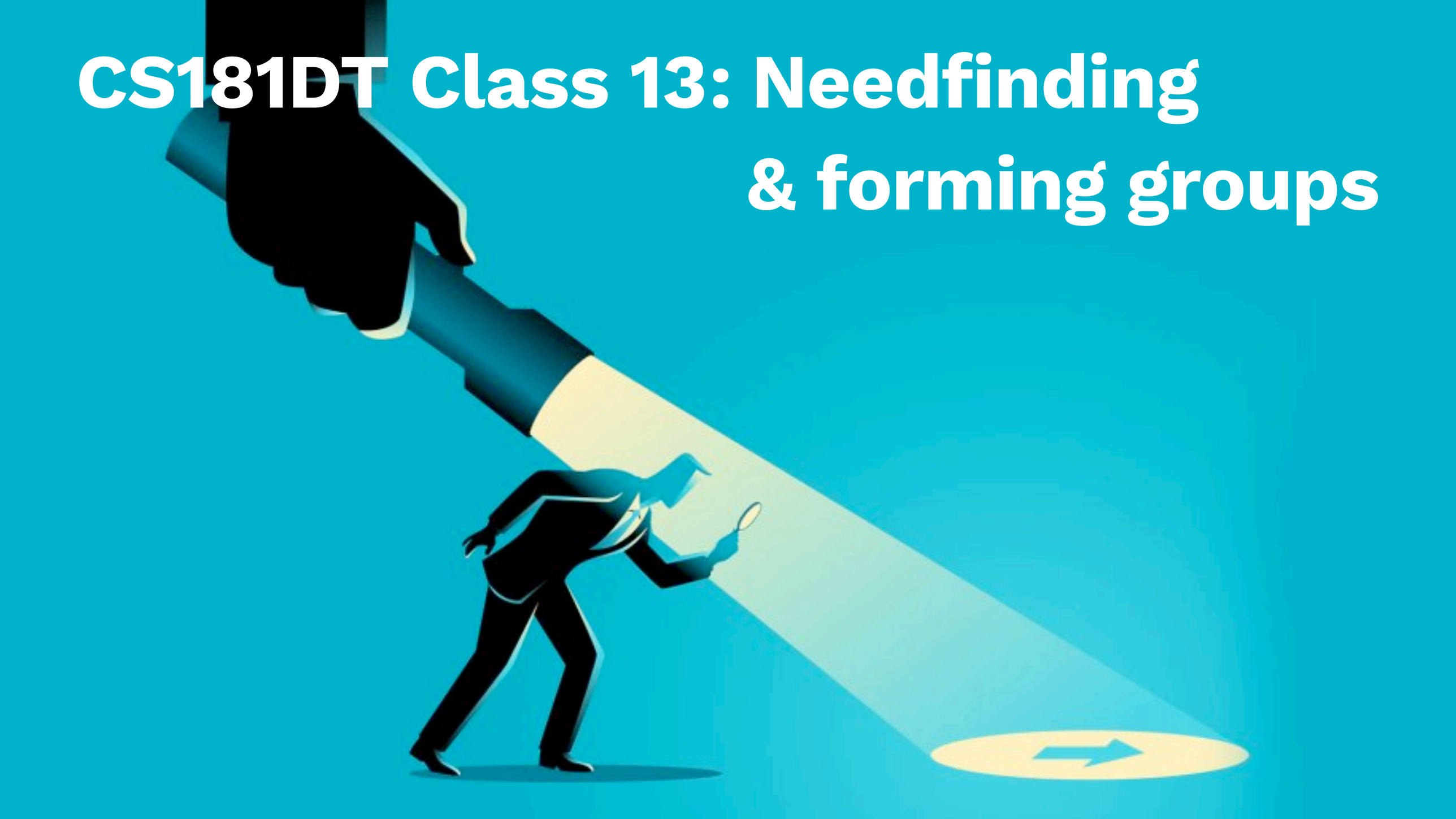
CS181DT Class 13: Needfinding & forming groups

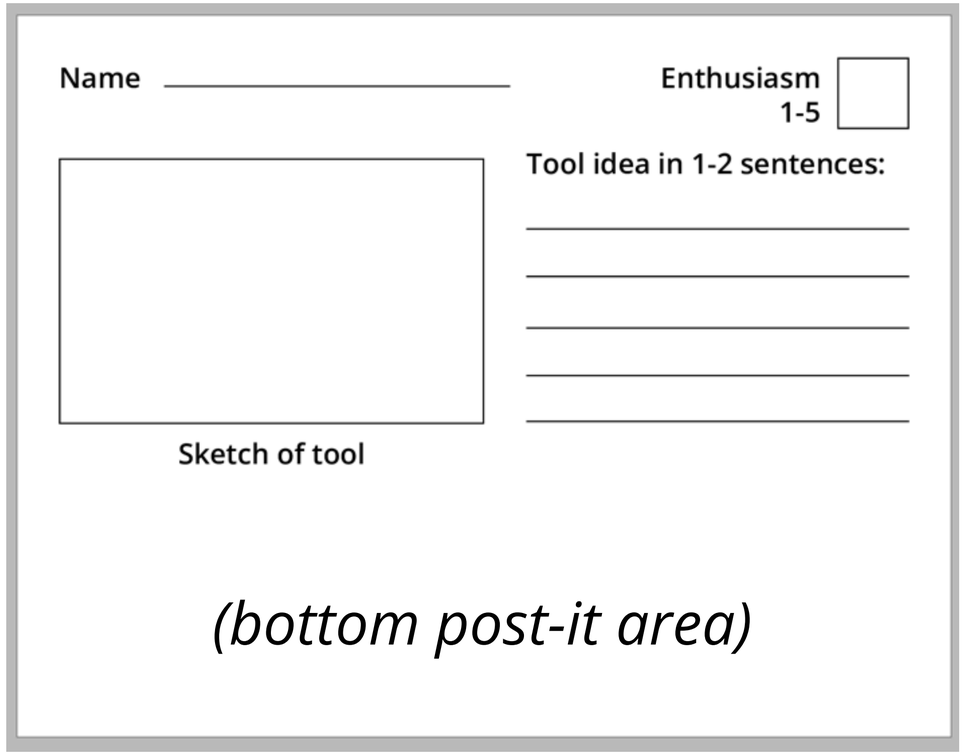


Class 12 agenda

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

Group making

Round 1: Idea walk



- 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

http://tiny.cc/181dt-groups

- 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 11:40 latest

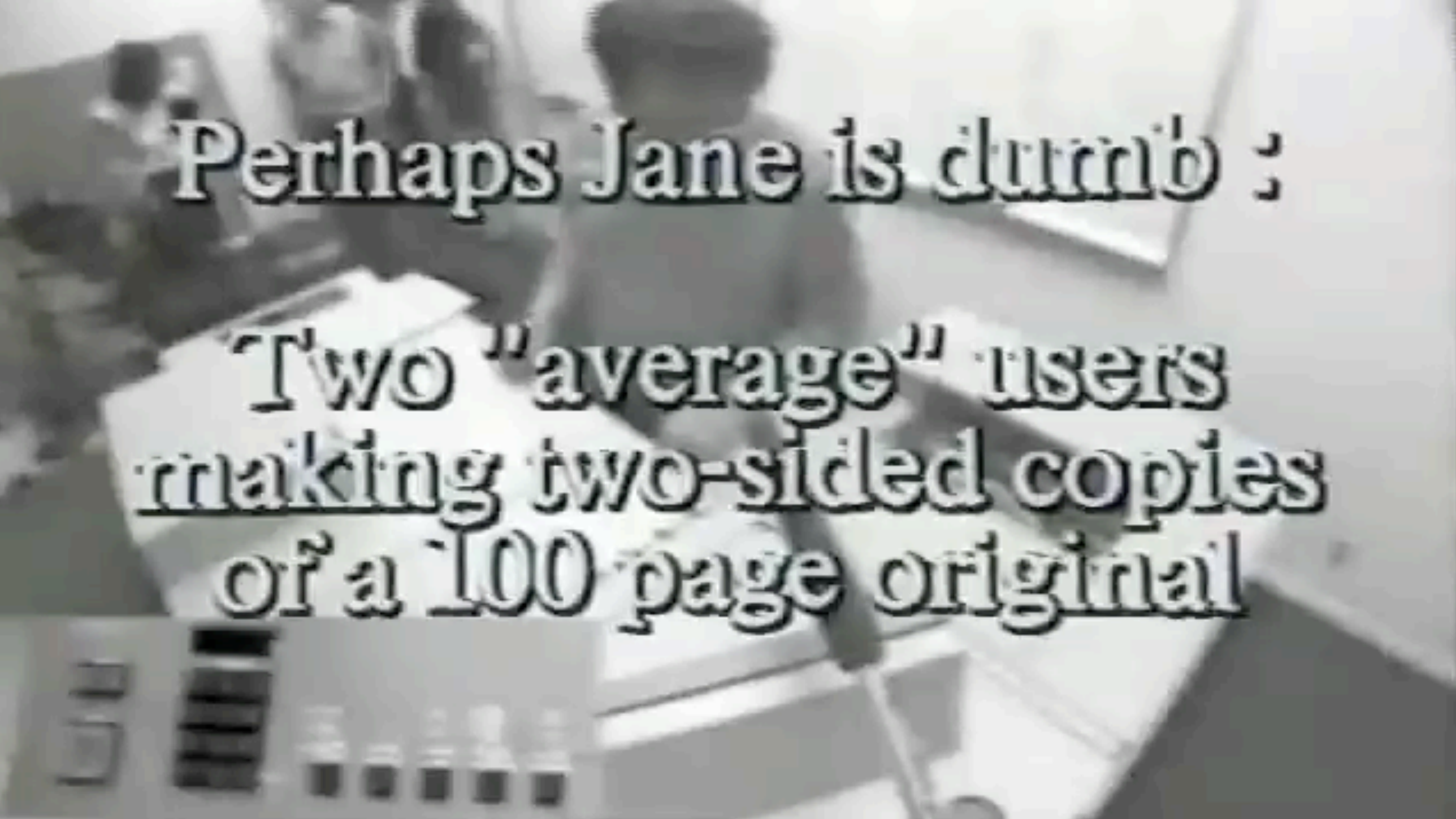
Needfinding

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 ≠ 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 ≠ 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?

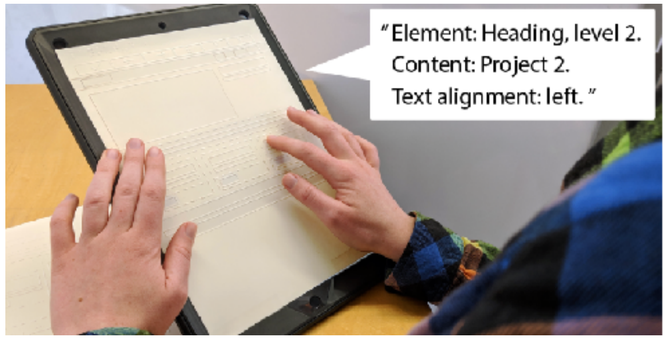
- **You can generate abstractions from detail, but you cannot generate detail from abstractions**
- Get participants to be as s**pecific as possible in identifying their pain points**
  - Ask a specific question (“**tell me about a time when you…**”) first to set the tone
- First talk about the problem 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

- 1. Create shared interview guide for a 30-60 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 10/21

Class 12 recap

- End of class: submit your groups!
- Midsemester feedback survey: http://tiny.cc/181dt-mid
- TODOs:
  - Needfinding assignment released, but not due until 10/21
  - Enjoy fall break!

Credit to Wendy Mackay's *Design of Interactive Things* textbook and CS160 @ UC Berkeley for some material