

IN4MATX 231:

User Interface Design & Evaluation

Class 3:

Other needfinding methods

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Announcements

- Reminder: project proposals
 - Document: ~1 page
 - Presentation: ~5 minutes
 - Both should list team members, problem, and expected components
- Due Monday night (e.g., Tuesday before class)
 - I'll download the slides around noon on Tuesday

Today's goals

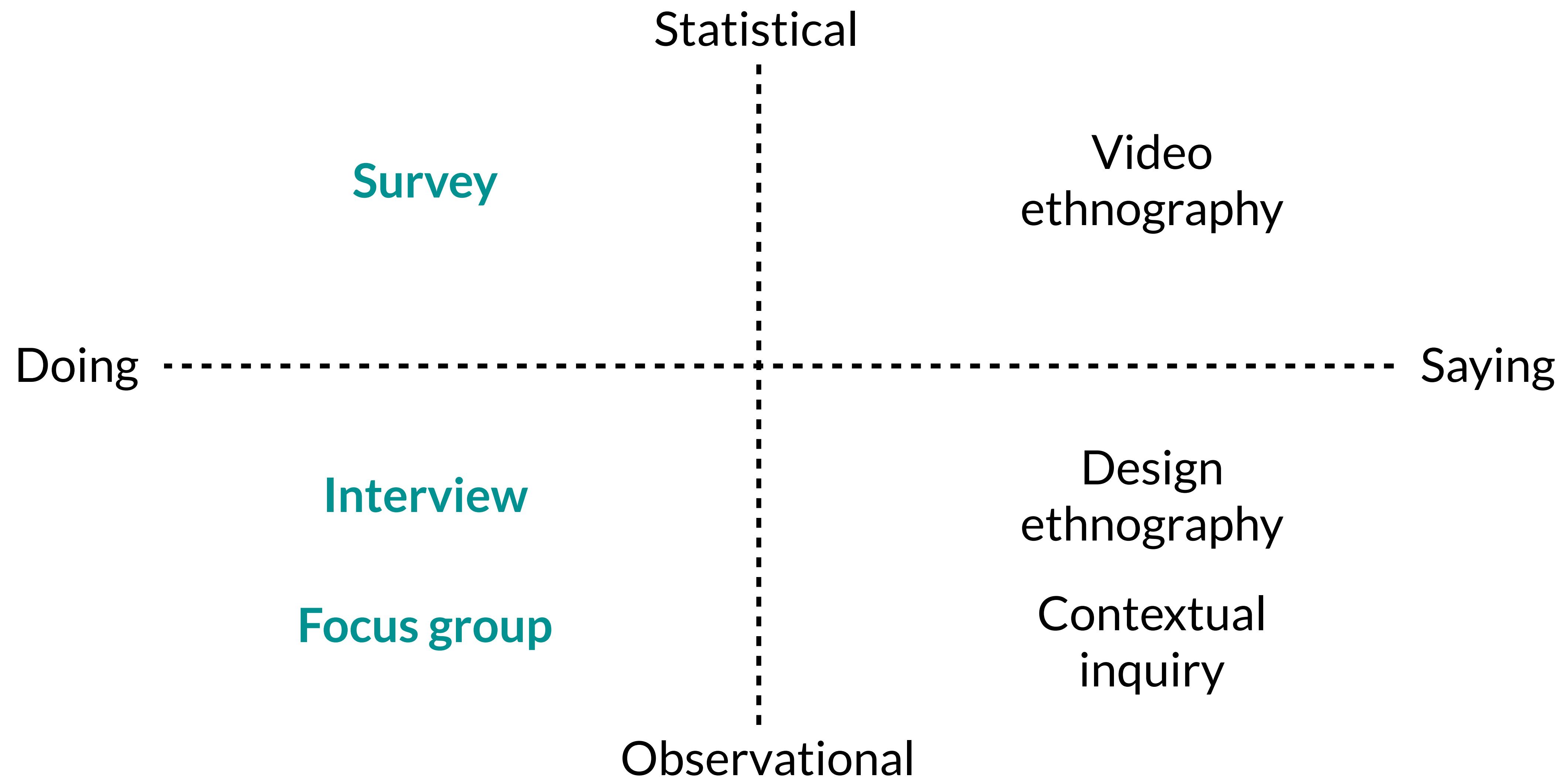
By the end of today, you should be able to...

- Describe strengths of surveys over interviews or observations
- Provide examples of needfinding design activities and apply them

Participatory design (or co-design)

- An approach to design attempting to actively involve all stakeholders
- The goal is to give stakeholders the same tools, training, etc. as the experts
- Not really a process; can use any methods
- Often times, stakeholders will make final decisions about what features to include, how they should be designed, etc.
 - In HCD, the researchers/designers typically incorporate stakeholder feedback while making the final call

Needfinding



More on interviewing

- Preamble
- The Grand tour
- Questions vs. Prompts
- Analysis

More on interviewing

Preamble

- Before an interview starts:
 - Introduce yourself
 - Introduce the project
 - Remind them of any confidentiality or anonymity commitments
 - Explain why you have asked them to participate

More on interviewing

The Grand Tour

- First question should lead into the rest of the interview
 - How might you structure it?

More on interviewing

Questions vs. Prompts

- Avoid leading questions
 - “*What do you think about X?*” Is better than “*What do you like about X?*”
- Prompts are good ways to get participants to say more
 - Silent, echo, agreeing, tell me more, clarifying

More on interviewing

Questions vs. Prompts

- Your goal is to get the participant on a topic and then **get out of the way**
- To do this, you must listen
 - It's hard to listen and take notes
 - Recording can make you get lazy about listening
 - Listening well may mean ignoring parts of your interview guide

More on interviewing

Analysis

- Deference effect
 - People telling you what they think you want to hear
 - This can be subtle; remember your role, employer, demographics, etc.
- Expectancy effect
 - Experimenters/interviewers tend to get the answers we're expecting
 - Usually not due to correct intuition, but rather shaping the response

More on interviewing

- Interviews are typically have some structure, but give a lot of flexibility for the researcher to prompt or probe
- Prompts and probes generally lead to greater depth
- Back and forth conversation makes it easier to build rapport
- Downsides?

Surveys and questionnaires

Surveys and questionnaires

- Structured set of questions a person responds to
- Much more structured than most qualitative techniques
- But... does not have to be strictly quantitative

Surveys and questionnaires

- It is very easy to design a bad questionnaire
- How many terrible surveys have you taken?

Surveys and questionnaires

- Ideally, should address:
 - Coverage
 - Sampling
 - Nonresponse
 - Measurement error

Surveys and questionnaires

Getting people to respond

- Increase perceived rewards
 - Provide information about the survey and its goals
 - Ask for help or advice
 - Say thank you
 - Give tangible rewards
 - Support a group's values
 - Make the questionnaire interesting

Surveys and questionnaires

Getting people to respond

- Establish trust
 - Lean on your role/organization
 - If payment is provided, give it in advance
 - Make the task feel important (possibly more important than it is)
 - Ensure confidentiality and security (and anonymity when necessary)

Surveys and questionnaires

Getting people to respond

- Decrease perceived costs
 - Make it convenient to complete
 - Make it as short as possible
 - Minimize requests for identifiable or sensitive information

Surveys and questionnaires

Tailor everything

- Survey mode
- Sample
- Contacts (outreach)
- Incentives
- The overall questionnaire
- Each specific question

How might you tailor:



- A questionnaire about technology needs of new parents?
- A survey targeted at online game streamers?
- A questionnaire of visually impaired people's device ownership and use?
- Survey mode
- Sample
- Contacts (outreach)
- Incentives
- The overall questionnaire
- Each specific question

Surveys and questionnaires

- Answers can lead to question forks
 - “*If you have used Snapchat in the last week...*”
 - Make yourself a flowchart so you don’t get lost
 - Online tools make this easier than paper
 - Be aware of length issues resulting from these forks

Surveys and questionnaires

- For each question, ask:
 - Do I need to know that?
 - Do I need to know it at that level of detail?
- How you word the question will impact results
 - Pilot with your friends
 - Then, with people who are not your friends

Surveys and questionnaires

- Open-ended
- Close-ended (scalar)
 - Nominal: compare a set of categories (e.g., colors)
 - Ordinal: ordered set of categories (e.g., strongly disagree, agree)
- Partially closed
 - Has an other

Surveys and questionnaires

- Make sure question applies to respondent and then requires an answer
- Ask one question at a time
- Use simple and familiar words, no acronyms
- Use well-defined words
- Use complete but simple sentences
- Avoid double negatives
- Match the question to the responses

Surveys and questionnaires

Visual design

- Ensure that you're not accidentally introducing biases through use of **color**, **bolding**, **fonts**, etc.
- Check spacing and alignment on various screen sizes/orientations
- Participants will see relationships, group questions, etc. based on how you have them laid out

Survey Design Activity



Survey Design Activity



- Your company's pillow sales dropped significantly over the last year. To help get a new and improved pillow out for the holiday season, you've been tasked with understanding:
 - (1) how people use pillows today, and
 - (2) and what they look for in a pillow's design.
- Write a few survey questions (~5) which can help answer these questions.
- Think about the demographics of who you might want to survey, how many people, and how you might analyze the data.

Other needfinding methods

Focus groups

- Moderated conversation among peers
- Benefits over interview:
 - Easier to build consensus or surface diverging opinions
 - Might increase sample size or voices you hear from
 - Collaborative design activities possible
- Drawbacks:
 - Social dynamics may interfere; may not hear from all stakeholders
 - Not as rich data

Diary studies

- Give participants a diary and ask them to record data about themselves
 - Usually structured: maybe with a form, maybe with description
 - Physical and visual design of that structure are crucial
- Provides bursts of information around the logging activity
 - Not as rich as observation ([why?](#))
 - Must be brief recordings ([why?](#))

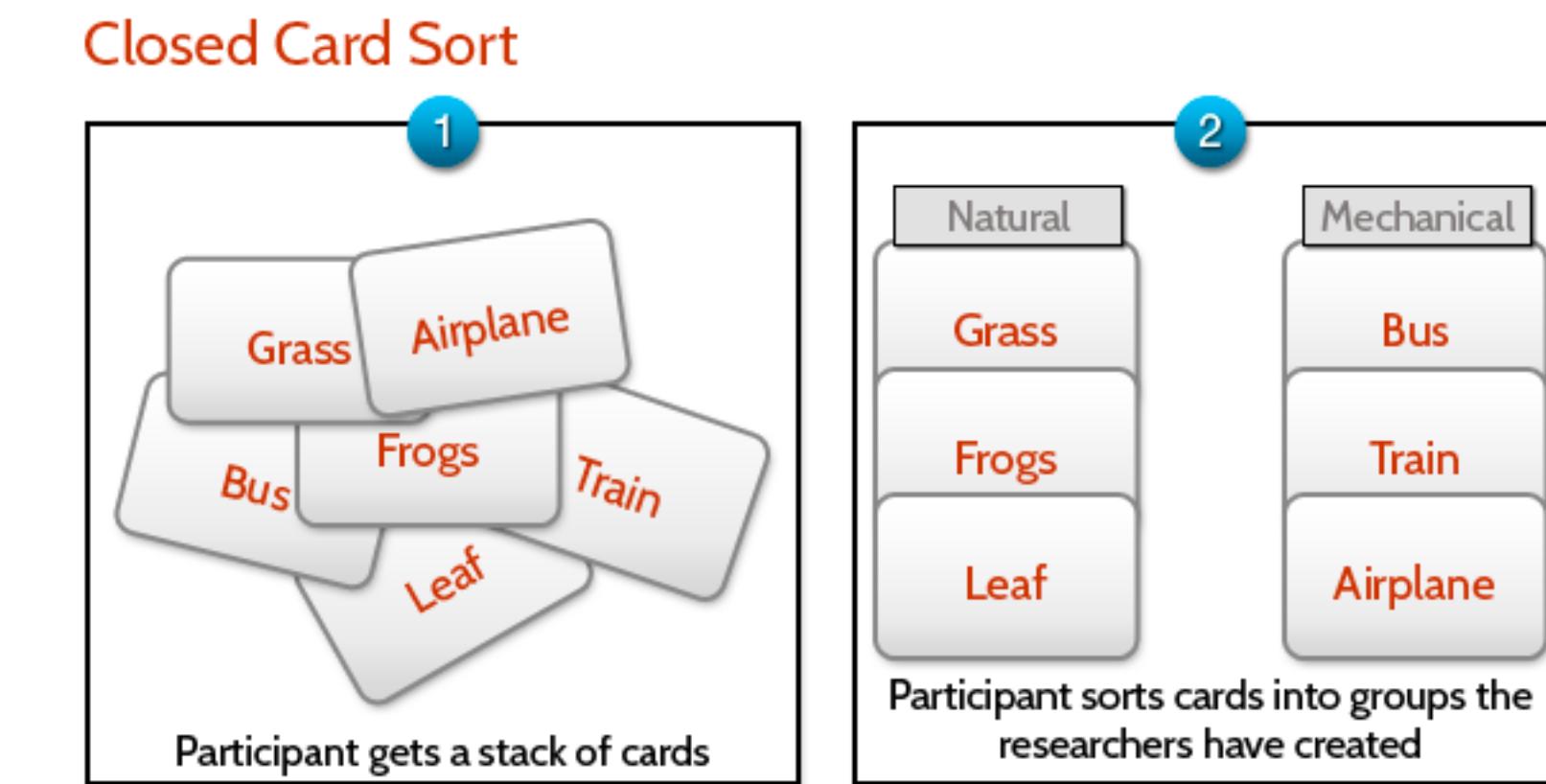
Cultural probes (design probe)

- The inclusion of an artifact to think about or interact with
 - Using a diary to record thoughts and experiences
 - Perhaps as a precursor to an interview
- Sometimes a needfinding tool, sometimes an evaluative method



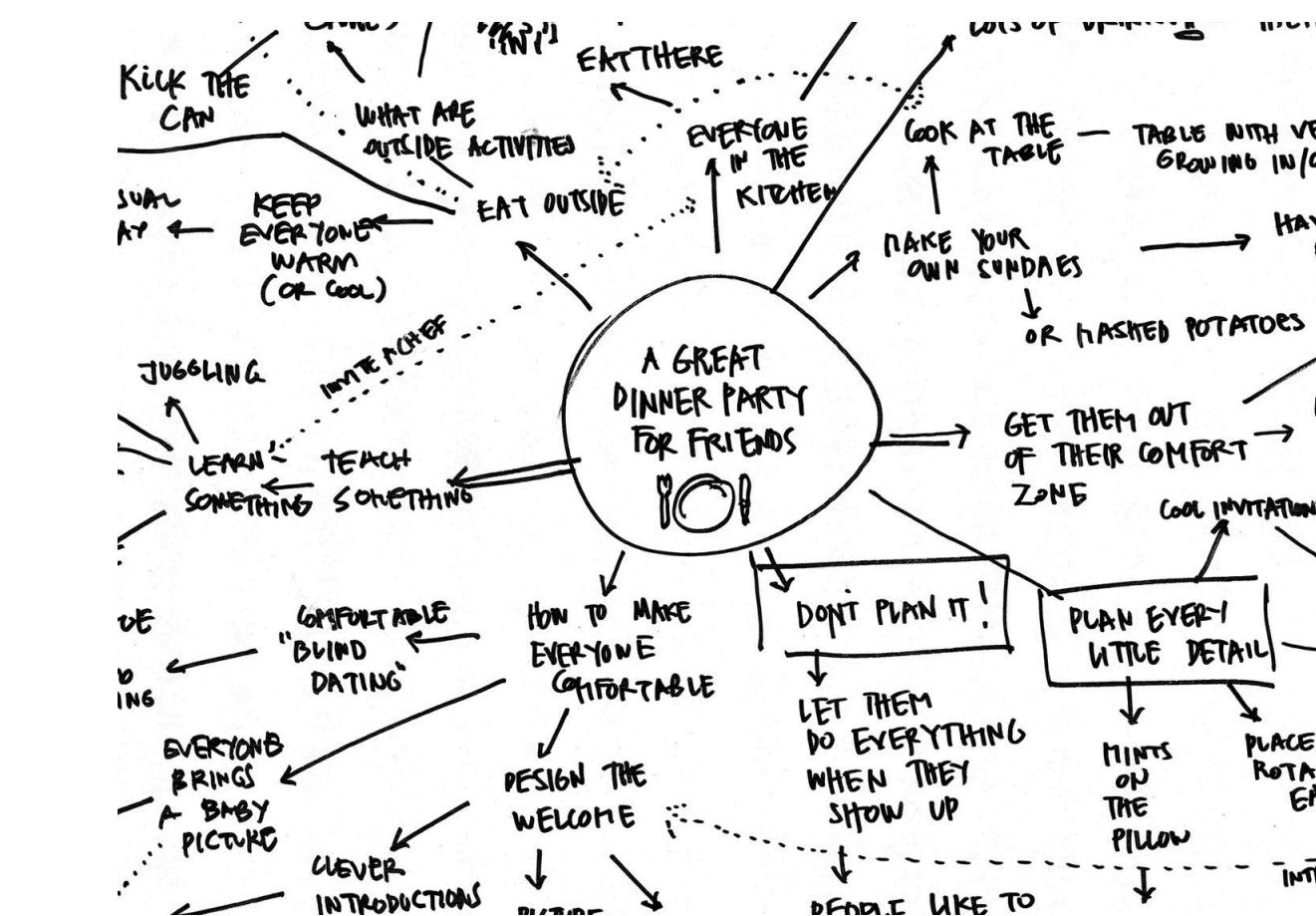
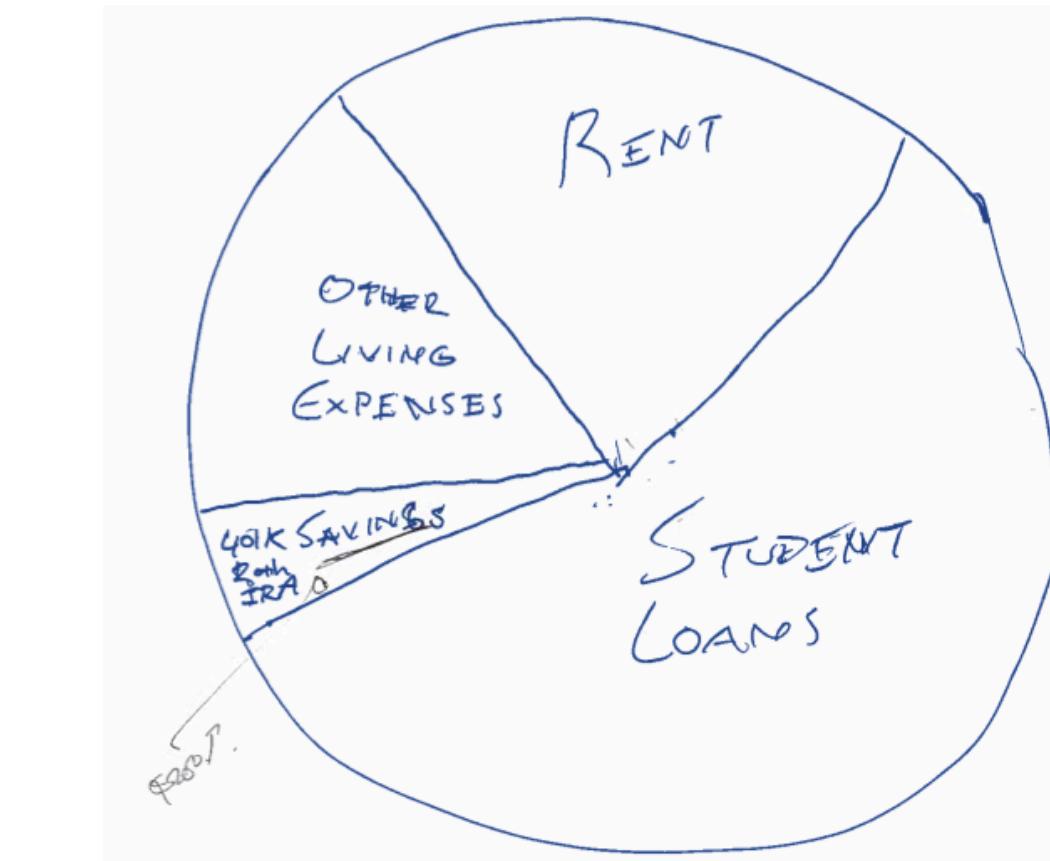
Card sorting and clustering

- Design activities used to cluster or organize thoughts
- Can be used in a variety of ways
 - To understand people's priorities or values
 - To form information hierarchies
 - To evaluate people's impressions of design ideas or prototypes



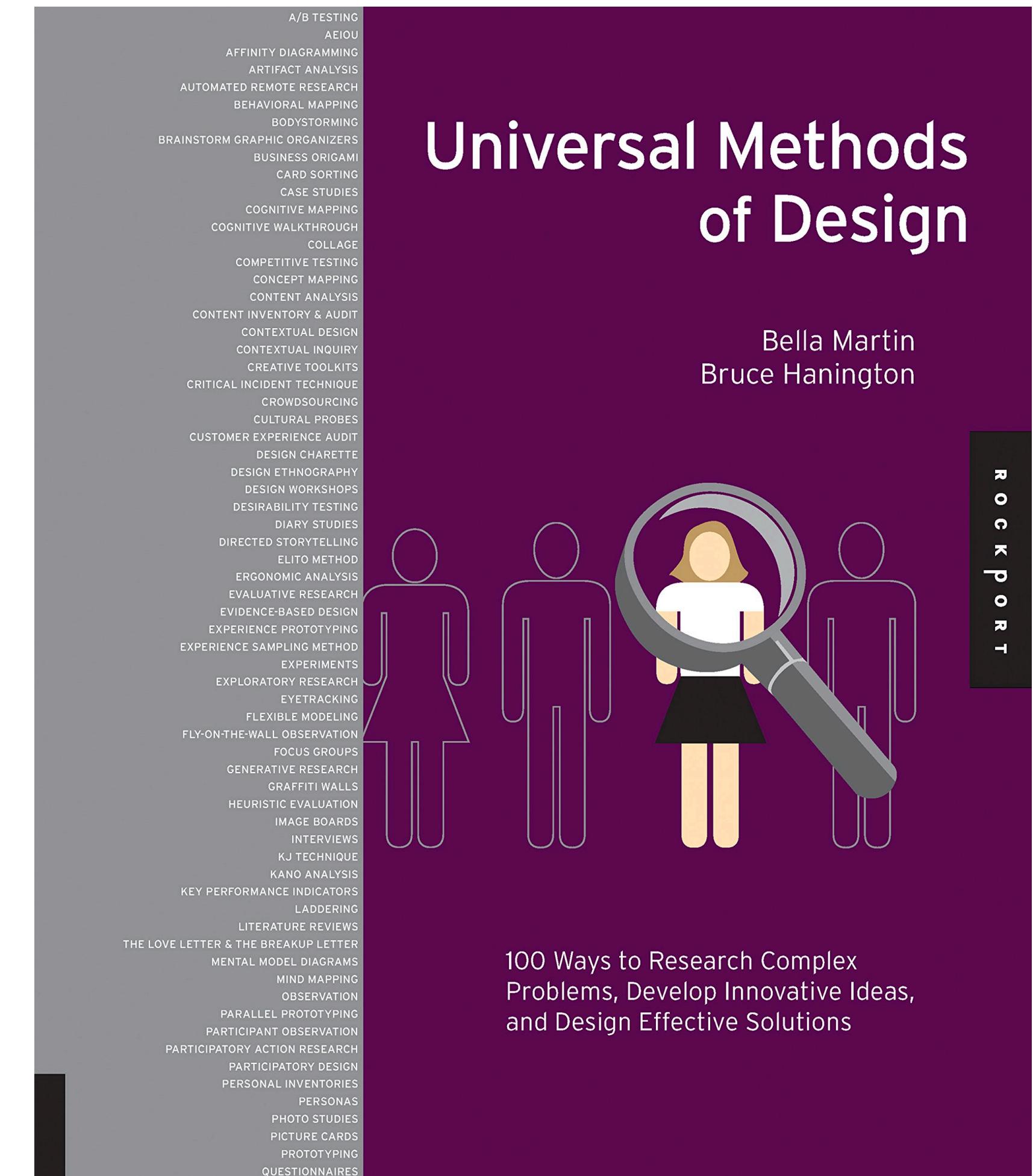
Sketching and mapping

- Design activity to understand participant's mental models, circumstances, or design ideas
- Can surface attitudes, motivations, and challenges
- Can debunk prior notions about people's priorities or interests



Other methods

- I really like Martin & Hanington, Universal Methods of Design
- There are infinite different ways of approaching needfinding
 - The tried and true ones are often sufficient, but different populations, environments, etc. may suggest new methods
 - Children do better with design activities than surveys, for example



100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions

Today's goals

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Lecture 2:
Contextual Inquiry

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