CSE 4451: HUMAN-COMPUTER INTERACTION
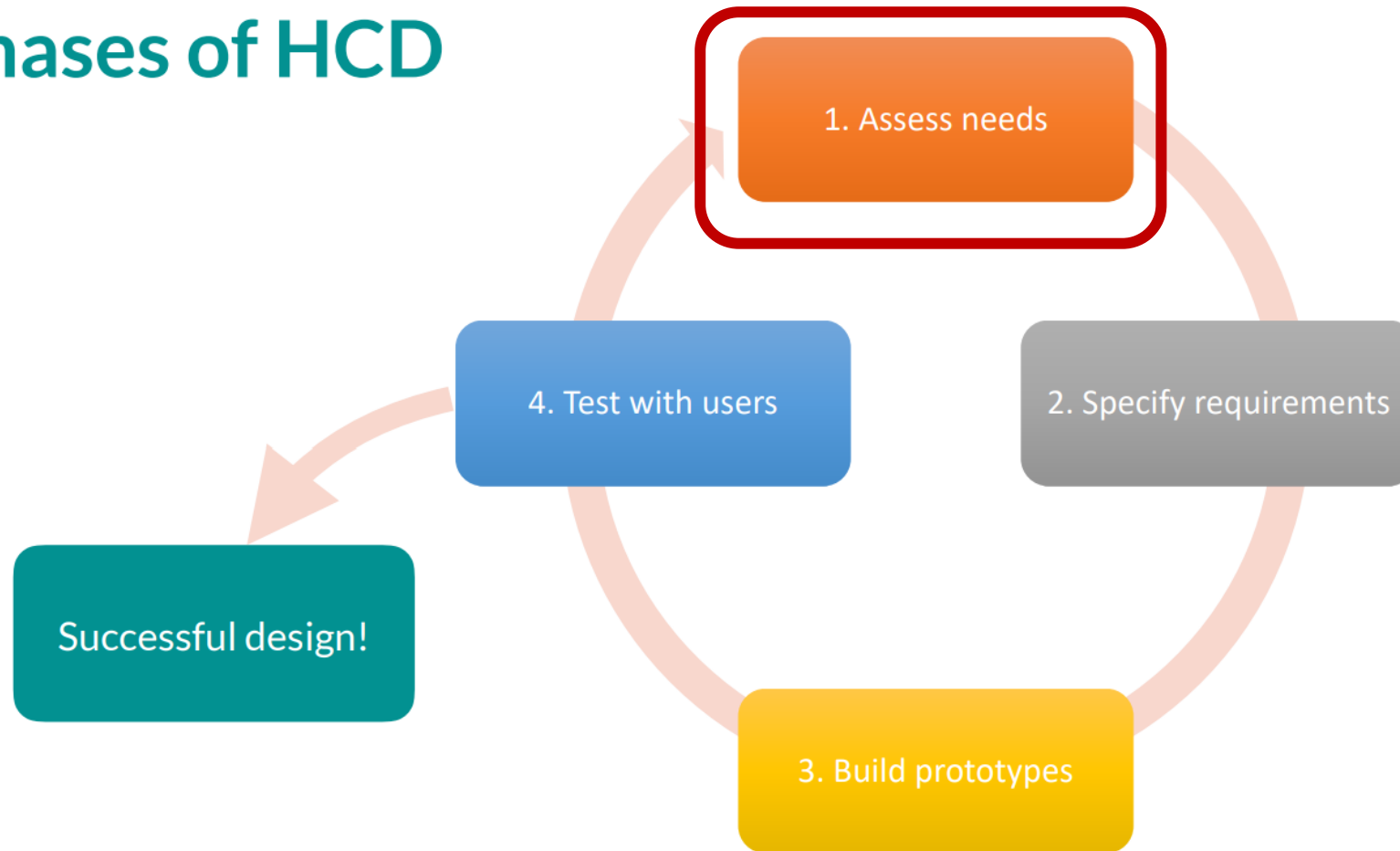
Class 4: Surveys and Questionnaires

Phases of HCD

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

- It is very easy to design a bad questionnaire

- How many terrible surveys have you taken?

Getting people to respond

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

- **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)

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

Tailor everything

- Survey mode

- Sample

- Contacts (outreach)

- Incentives

- The overall questionnaire

- Each specific question

How will you tailor?

A questionnaire about the technology needs of new parents??

- Survey mode

- Sample

- Contacts (outreach)

- Incentives

- The overall questionnaire

- Each specific question

How will you tailor?

A questionnaire of visually impaired people's device ownership and use??

- Survey mode

- Sample

- Contacts (outreach)

- Incentives

- The overall questionnaire

- Each specific question

How will you tailor?

A survey targeted at online game streamers??

- 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

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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

- 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" option

Surveys and Questionnaires (Tips)

- 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
- 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
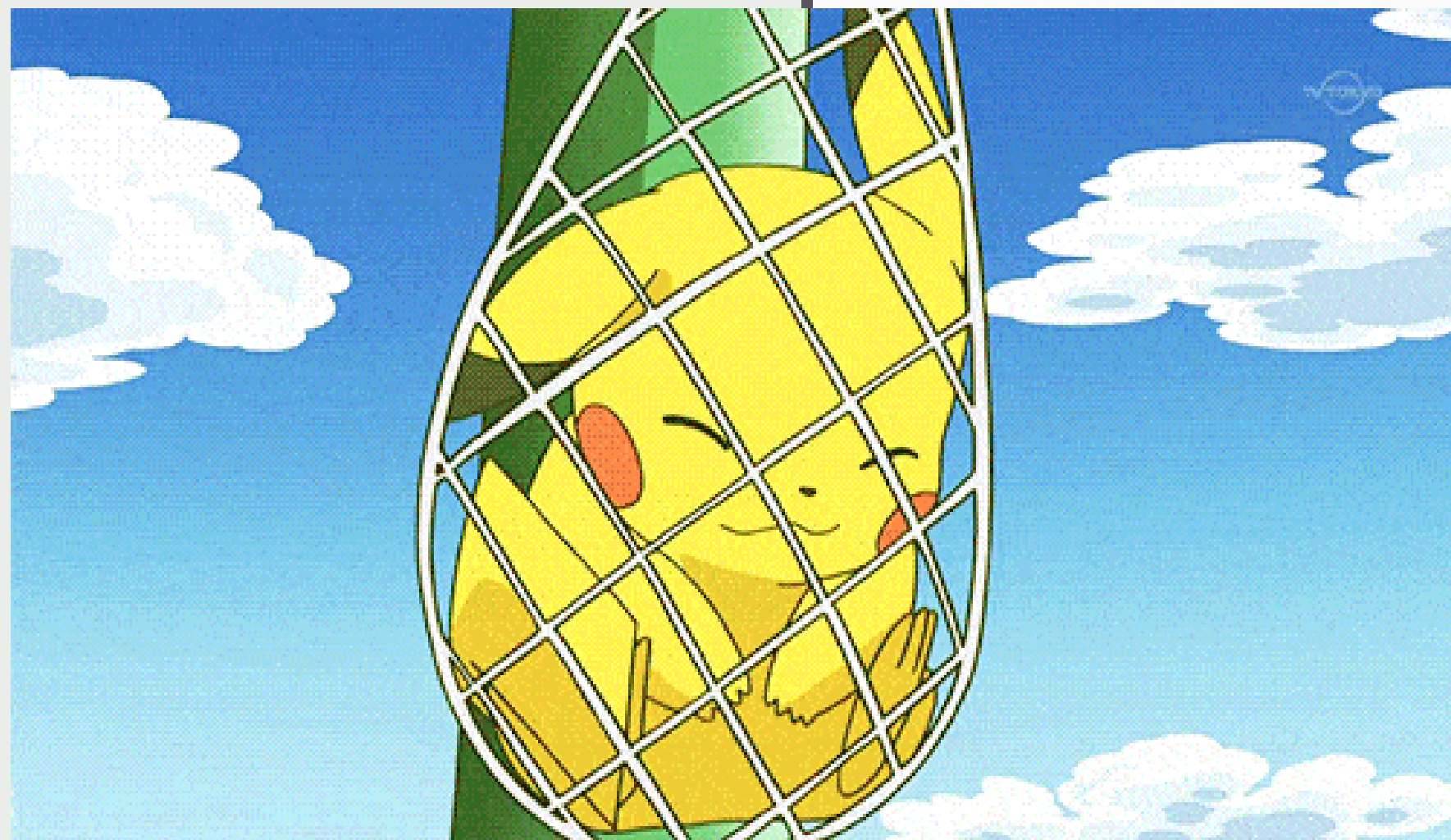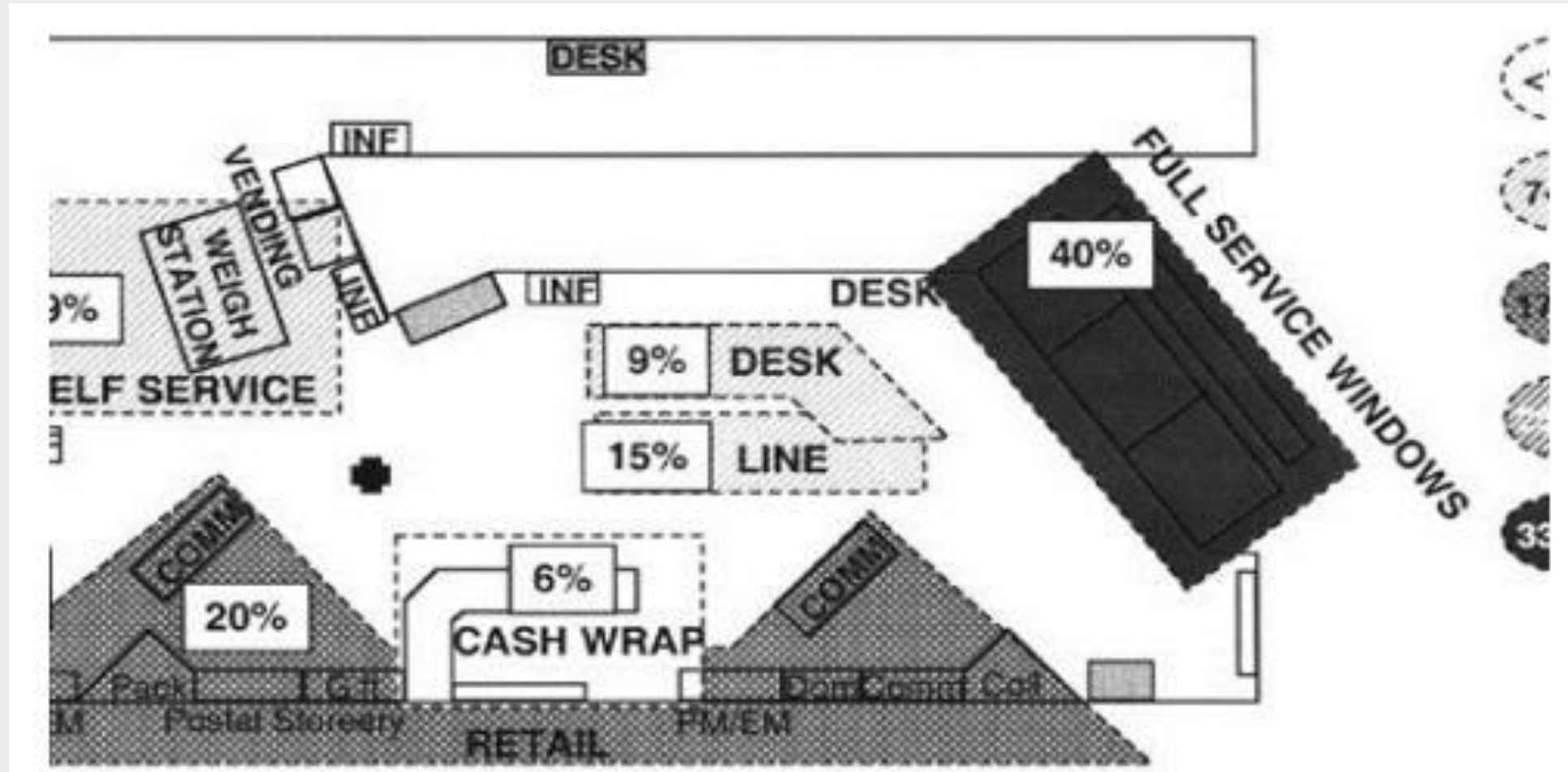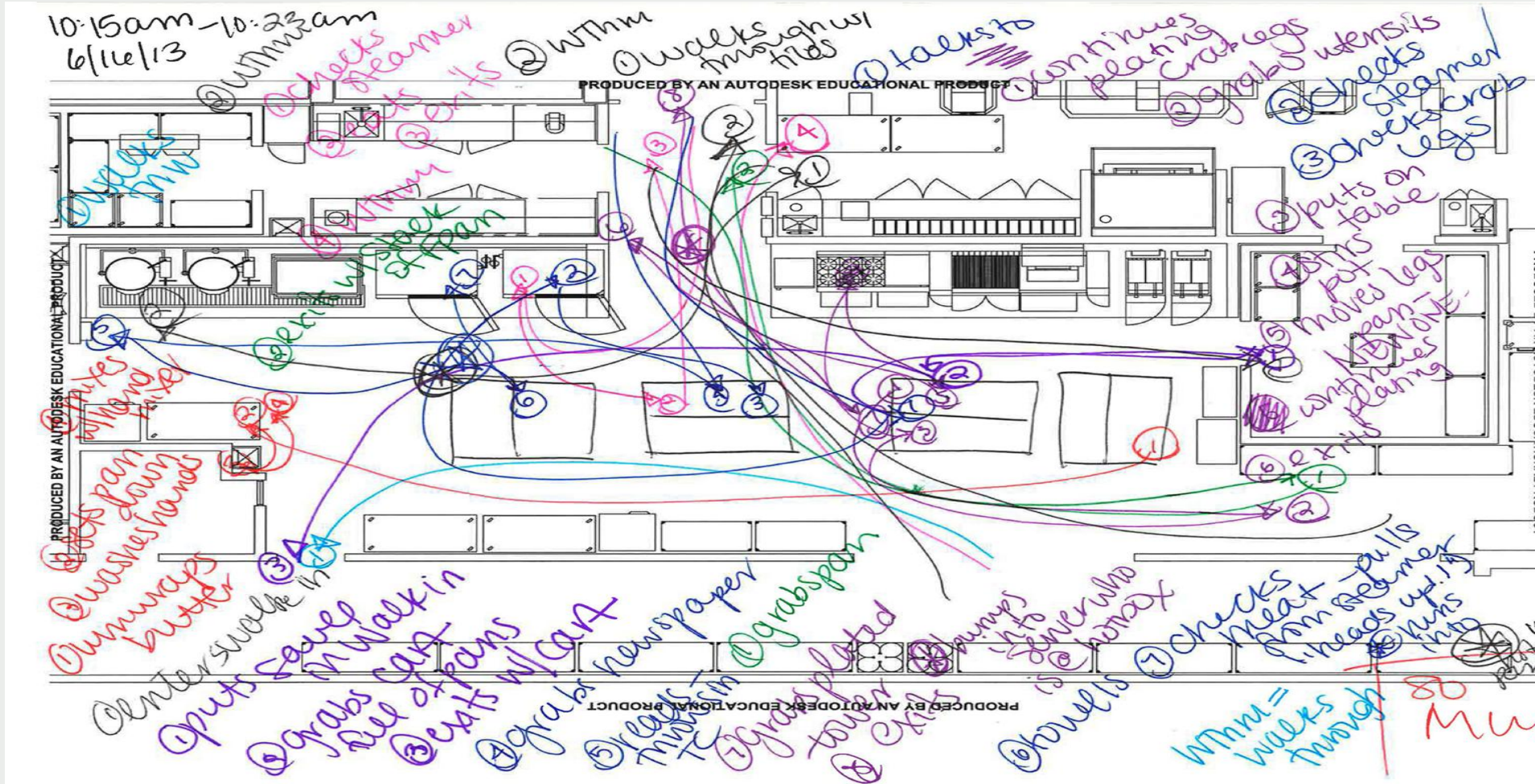
BREAK TIME

Behavioral Mapping

- An observational techniques that tracks behavior over place and time

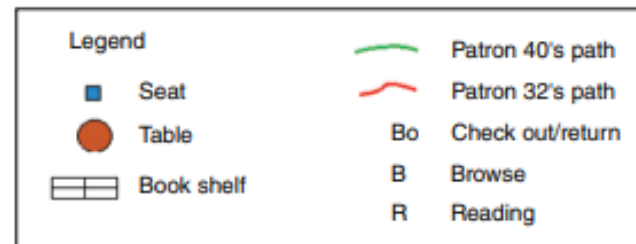- Produces graphical representation of behavior over place and time

Behavioral Mapping: Examples

Behavioral Mapping: Examples

Behavioral Mapping: Examples

Legend

Seat
Table
Book shelf

Patron 40's path
Patron 32's path

Bo   Check out/return
B   Browse
R   Reading

Behavioral Mapping

- **Place-centered**
  - document the behavior of all the individual within a specified space and time
  - the researcher is situated at one place
  - **example:** plotting location of people in a store/play area

- **People-centered**
  - document the behavior of an individual over space and time
  - the researcher is mobile, shadowing an individual
  - **example** : following an older adults to learn about his social interaction

How is it done?

- **Things to consider**
  - Actors
  - Activities: interactions, actions, practice, process
  - Space: environment, settings
  - Time: how action unfolds over time
  - Artifacts: props, tools

Cultural Probe

- Cultural probes can be designed objects or physical packets that engage the user through open-ended tasks.

- Users often have the tendency to say one thing but mean another, and often sometimes they may not be able to express themselves during interviews; the users might feel intimidated by the presence of the researchers. Hence, cultural probe provides a means to probe inside their minds and study user behavior, attitude, patterns, and motivation in a more natural context.

- Cultural probes allow the users to reflect on and express their own behavior, experience, feelings, and attitudes in a particular format provided by the researchers.

Cultural Probe: Example

Figure 1. Contents of the cultural probes package. Part A: capture your day exercise card. Part B1: dictionary exercise, notebook, exercise cards on: people, rituals, small things, and repetition. Part B2: a USB stick, a CD, a pedestal for a 'museum', an photo folder and exercise cards on missing media. Part B3: exercise cards on media creation. Part C: capture your day exercise card.

Cultural Probe: Example

Figure 4: The cultural probe consisted of a journal, coloured pens, glue sticks and other accessories. You and your environment.

Figure 5: Annie working on the first entry of her Journal. Workshop 2, November 2022.

In-class Activity (20 mins)

Designing a Better Shared Study Space for Students

Background:
Your university library is planning to redesign its shared study areas (quiet rooms, group tables, computer labs, and informal lounge spaces). They want to create an environment that supports both individual and collaborative study, reduces stress, and encourages healthy study habits. The library team has asked your research group to investigate students' current behaviors, needs, and preferences — and to provide design recommendations.

Research Goal:
To understand how students currently use library study spaces, what problems they face, and what features or tools would make these spaces more effective, inclusive, and enjoyable.

Tasks (in Pairs):
- For each method (surveys, behavioral mapping, card sorting, focus groups, diary study, cultural probes), write the following
    - Purpose
        e.g., for behavioral mapping, it could be: observe and record how people use different library areas over time

    - Tasks for the participants
        e.g., create a floor map to mark the locations where the students sit, what activities they are doing, etc.