Data Collection Strategies
Goals of today’s lecture

1. Introduce range of data collection strategies
2. Recap – user-report vs. observation-based methods
3. Ethnography
4. Getting creative
   - Digital ethnography
   - Virtual ethnography
5. Long-term observation + user involvement: living labs
### Recap: User-report based methods

<table>
<thead>
<tr>
<th>PAPER-BASED</th>
<th>FACE-TO-FACE</th>
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<tbody>
<tr>
<td>1. Survey</td>
<td>1. Interview</td>
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<tr>
<td>2. Questionnaire</td>
<td>2. Focus group</td>
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<tr>
<td>3. User diaries</td>
<td>• How can users know about</td>
</tr>
<tr>
<td>• Can be disruptive for</td>
<td>possibilities of new tech?</td>
</tr>
<tr>
<td>users</td>
<td>• Scenarios</td>
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<tr>
<td>• Audio recorder</td>
<td></td>
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<td>• Video diary</td>
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Of course – both surveys and interviews/focus groups can be done on-line!
# Observation-based methods

<table>
<thead>
<tr>
<th>DETACHED OBSERVER</th>
<th>INVOLVED OBSERVER</th>
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<tbody>
<tr>
<td>1. Time-and-motion studies</td>
<td>1. Contextual design (researcher apprenticed to user)</td>
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<tr>
<td>2. Shadowing</td>
<td>2. Action research</td>
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<td>3. Ethnography</td>
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Pure observation with no involvement is rare – We usually need some degree of explanation
What is ethnography?

- From the Greek: *Ethnos* “foreigner:” *graphos* “writing.” *Ethnography*, “writing about others.”
- refers to the qualitative description of human social phenomena, based on observation in the field
- holistic research method founded in the idea that a system's properties cannot necessarily be accurately understood independently of each other.
- regarded as a valid research method in many social science disciplines (e.g. anthropology, social psychology)
- output is usually a report/book

BTW – one of the most famous ethnographers today is UCL Anthropology professor Danny Miller
Ethnography in practice

- Retail anthropology
  - maps “arcane patterns of consumer behaviour”
    - which aisle number in a store seems the most alluring?
    - what kind of overhead lighting and piped-in music is conducive to purchasing?
    - what lures shoppers into the most lucrative parts of the store?

- Examples discoveries
  - “transition zones” to slow shoppers down
  - 9/10 people tend to turn right when entering a store
  - Women will never buy if their bum is “bumped” (touched by furniture or other shoppers)
  - Smell is an important attractor/mood enhancer
Ethnography in usability

- Suchman (1987): Study of office work and how technology fits in (or, more often, not)
  - importance of interaction between people when using technology
  - “distributed cognition”
  - impact on how people interact with each other

  - SMS as “gifts” in relationships and keepsakes
Stages of ethnographic study

1. Preparation

2. Field study
   • can be carried out in organisations (→ contextual enquiry), homes, or public spaces
   • Researchers observing or participating? (→ action research)

3. Analysis

4. Reporting
Preparation

1. Understand organization policies and work culture.
2. Familiarize yourself with the system and its history.
3. Set initial goals and prepare questions.
4. Gain access and permission to observe/interview.
Field Study

1. Establish rapport with managers and users.
2. Observe/interview users in their workplace and collect subjective/objective quantitative/qualitative data.
3. Follow any leads that emerge from the visits.
Analysis

1. Compile the collected data in numerical, textual, and multimedia databases.
2. Quantify data and compile statistics.
3. Reduce and interpret the data.
4. Refine the goals and the process used.
Reporting

1. Consider multiple audiences and goals.
2. Prepare a report and present the findings.
3. In Interaction Design:
   - Personas
   - Usage scenarios \(\rightarrow\) iterative evaluation
   - Recommendations for interaction
   - Further investigations needed
Digital Ethnography

- Using pictures or video/audio to document observation
- Giving people cameras or camcorders to document their lives (picture/videodiaries)
Example – Jan Chipchase

• http://www.janchipchase.com/ 

Glimpses of studies for mobile technologies

Insurance vending machines for travelers at Haneda Airport – making it possible to sign up for snow-sports insurance late on in the prepare-for-travel process.

obtaining just-in-time insurance for small pockets of time using pre-paid mobile phones.
A variation: Coolhunting

Who decides what's cool? Certain kids in certain places-- and only the coolhunters know who they are.

By Malcom Gladwell (appeared in the New Yorker, 1997)

Baysie Wightman met DeeDee Gordon, appropriately enough, on a coolhunt. It was 1992. Baysie was a big shot for Converse, and DeeDee, who was barely twenty-one, was running a very cool boutique called Placid Planet, on Newbury Street in Boston. Baysie came in with a camera crew—one she often used when she was coolhunting—and said, "I've been watching your store, I've seen you, I've heard you know what's up," because it was Baysie's job at Converse to find people who knew what was up and she thought DeeDee was one of those people. This was about the time the cool kids had decided they didn't want the hundred-and-twenty-five-dollar basketball sneaker with seventeen different kinds of high-technology materials and colors and air-cushioned heels anymore. They wanted simplicity and authenticity, and Baysie picked up on that. She brought back the Converse One Star, which was a vulcanized, suède, low-top classic old-school sneaker from the nineteen-seventies, and, sure enough, the One Star quickly became the signature shoe of the retro era. Remember what Kurt Cobain was wearing in the famous picture of him lying dead on the ground after committing suicide? Black Converse One Stars.
Virtual Ethnography

• extends the traditional notions of “field” and ethnographic study from the observation of co-located, face-to-face interactions, to physically distributed, technologically mediated interactions in virtual networks and virtual communities.

• attempts to maintain the values of traditional ethnography through providing a "thick" description through the "immersion" of the researcher in the lives of their subjects.

• focus on the subject makes virtual ethnography quite distinct from web usage datamining or social network analysis, although it may use similar techniques to identify or map networks.

• Examples: studies of chat rooms, distributed gaming communities
Living Labs

- First proposed by Jarmo Surinen, a Finnish architect
- Innovation platform
  - implement complex new technologies or platforms in a community
  - observe usage and user responses over period of time
  - debrief users and let them suggest new functionality, ways of using technology
- Living lab at Helsinki University of Technology
  www.helsinkilivinglab.fi
- Network of European Living Labs as innovation infrastructure
  http://www.livinglabs-europe.com/

Living labs follow the same philosophy as the development methodology proposed by Sasse et al. 1994 for CSCW systems – provide basic platform, let users experience it, and propose further functionality.
Data Collection Strategies

Summary

1. Ethnography is about using observation to understand a system (consisting of people, technology or both).

2. Has been successfully applied to usability and other areas of design, to
   - Identify user needs
   - Described complex work environments and social systems
   - To understand how and why people use technology in a certain way.

3. New forms of capturing and analysis are evolving – e.g. digital & virtual ethnography.

4. So - get creative with your data collection strategy!