User Interface
Software Projects

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Data Gathering

Enriching the interview process

- Props - devices for prompting interviewee, e.g., a prototype, scenario
Questionnaires

- Questions can be closed or open
- Closed questions are easier to analyze, and may be done by computer
- Can be administered to large populations
- Paper, email and the web used for dissemination
- Sampling can be a problem when the size of a population is unknown as is common online
The impact of a question can be influenced by question order.
Do you need different versions of the questionnaire for different populations?
Provide clear instructions on how to complete the questionnaire.
Strike a balance between using white space and keeping the questionnaire compact.
Decide on whether phrases will all be positive, all negative or mixed.
Question and Response Format

- ‘Yes’ and ‘No’ checkboxes
- Checkboxes that offer many options
- Rating scales
  - Likert scales
  - semantic scales
  - 3, 5, 7 or more points?
- Open-ended responses
Encouraging a good response

- Make sure purpose of study is clear
- Promise anonymity (if you can) and deliver it
- Ensure questionnaire is well designed
- Offer a short version for those who do not have time to complete a long questionnaire
- If mailed, include a stamped addressed envelope
- Follow-up with emails, phone calls, letters
- Provide an incentive
- 40% response rate is high, 20% is often acceptable
Advantages of online questionnaires

- Responses are usually received quickly
- No copying and postage costs
- Data can be collected in database for analysis
- Time required for data analysis is reduced
- Errors can be corrected easily
Problems with online questionnaires

- Sampling is problematic if population size is unknown
- Preventing individuals from responding more than once
Observation Overview

- Direct observation in the field
  - Structuring frameworks
  - Degree of participation (insider or outsider)
  - Ethnography
- Direct observation in controlled environments
- Indirect observation: tracking users’ activities
  - Diaries
  - Interaction logging
Structuring Frameworks to guide observation

- The person. Who?
- The place. Where?
- The thing. What?
The Goetz and LeCompte (1984) framework:
- Who is present?
- What is their role?
- What is happening?
- When does the activity occur?
- Where is it happening?
- Why is it happening?
- How is the activity organized?
Ethnography is a philosophy with a set of techniques that include participant observation and interviews.

Debate about differences between participant observation and ethnography.

Ethnographers immerse themselves in the culture that they study.

A researcher’s degree of participation can vary along a scale from ‘outside’ to ‘inside’.

Analyzing video and data logs can be time-consuming.

Collections of comments, incidents, and artifacts are made.
Co-operation of people being observed is required
Informants are useful
Data analysis is continuous
Interpretivist technique

Questions get refined as understanding grows
Reports usually contain examples
- Virtual, Online, Netnography
- Online and offline activity
- Interaction online differs from face-to-face
- Virtual worlds have a persistence that physical worlds do not have
- Ethical considerations and presentation issues are different
Direct observation in a controlled environment

- Think-aloud technique

http://www.flickr.com/photos/lantzilla/51360115/
• Diaries
• Interaction logs
  • userfly
• Web analytics

• Cultural Probes
  • “Cultural probes allow you to get inside the mind of a person. What are they thinking, what are they doing, what are they feeling”
  • postcards
  • disposable cameras
Choosing and combining techniques

- Depends on
  - The focus of the study
  - The participants involved
  - The nature of the technique
  - The resources available
Status on Display:  
a Field Trial of Nomatic*Viz

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Abstract  
The use of personal status messages is becoming a part of popular culture though  
wide-spread instant messaging (IM) adoption, the growth of social networking websites  
and the increased connectivity provided by mobile phones. However, the implications  
of status broadcasting and people’s behavior in the milieu of social life is still  
under-estimated. In this paper, we present the results of a field trial in which we  
examined how community members come to understand and appropriate a status  
broadcasting service into their daily use. We designed Nomatic*Viz, a situated large  
display showing people’s location and status messages to complement an existing  
status message distribution tool called Nomatic*IM. Through a five month field  
study of its use we uncovered not only how it supports lightweight awareness of  
the community, but also how it participates in creating new spatial experiences  
and how people perform and negotiate self-representations through multiple  
simultaneous displays of personal status.

Introduction

As early as 1971, networked Unix computer users were using utilities to see the  
status of other mainframe users. By combining commands such as “who”, “ps”,  
and “images” people had a way to describe their current workload, view other users’  
activities and account for the usage of shared computing resources. Gradually, a  
related idea was conceptualized, *presence*, to describe an indication that someone  
is in a digital or physical space (Fitzpatrick, 2003). This concept came about largely  
as the result of the increased availability of cameras, and other sensing peripherals.
Observation

- Peripheral Awareness through Glancing
- A Community Display
- Members’ Reflections
- New Spatial Experiences
- Performance

**Meeting Events**: Including talks, presentation, meetings. (e.g., “listening to XXX’s talk”, “attending a Ph.D. defense”, “in XXX’s advancement”)

**Work Activities**: Descriptions of tasks consistent with academic work. (e.g., “hacking”, “coding”, “working on dissertation”, “reviewing papers”, “storyboarding”)

**Non-work/Leisure activities**: Tasks not associated with the workplace (e.g., “cooking”, “making coffee”, “Watching TV”, “playing games with XXX”)

**Social Banter**: Information, jokes, invitations, and greetings (e.g., “not in an earthquake zone”, “Happy birthday XXX!”, “early lunch anyone?”)

**Expressions of Mood**: Emotions, frustrations and reactions (e.g., “WHY DOES EMAIL HATE ME????????”, “punching my computer in the face”, “probably sleeping”, “exploding”)

Status updates per day

4/1/2008 through 9/17/2008
Summary

- Three main data gathering methods:
  - interviews, questionnaires, observation
- Five key issues of data gathering:
  - goals, choosing participants, triangulation, participant relationship, pilot
- Interviews may be
  - structured, semi-structured or unstructured
- Questionnaires may be
  - on paper, online or telephone
- Observation may be direct or indirect, in the field or in controlled setting
- Techniques can be combined depending on study focus, participants, nature of technique and available resources