User Interface Software Projects

Assoc. Professor Donald J. Patterson
INF 134 Winter 2012

Data Gathering

- 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

Questionnaire design

- 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

SurveyMonkey®

Home   Take a Tour ▾   Resources ▾   Plans & Pricing

Example Questions & Results:

How likely are you to cancel your Netflix subscription in the next 3-6 months?

		Response Percent	Response Count
Extremely likely		5.7%	15
Very likely		5.7%	15
Moderately likely		13.7%	36
Slightly likely		26.3%	69
Not at all likely		48.5%	127

Why do you think you might cancel your Netflix subscription in the next 3-6 months?

		Response Percent	Response Count
Price is too high		23.7%	32
May move to a competitor		5.2%	7
Don't use enough		20.0%	27
Content I want is not available		27.4%	37
Poor video or audio quality		5.2%	7
Poor customer service		0.0%	0
Poor technical support		0.7%	1
Other (please specify)		17.8%	24

Problems with online questionnaires

- Sampling is problematic if population size is unknown

- Preventing individuals from responding more than once

Observation

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

- The person. Who?
- The place. Where?
- The thing. What?

Structuring Frameworks to guide observation

- 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

- 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

Ethnography

- 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

Online Ethnography

- 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
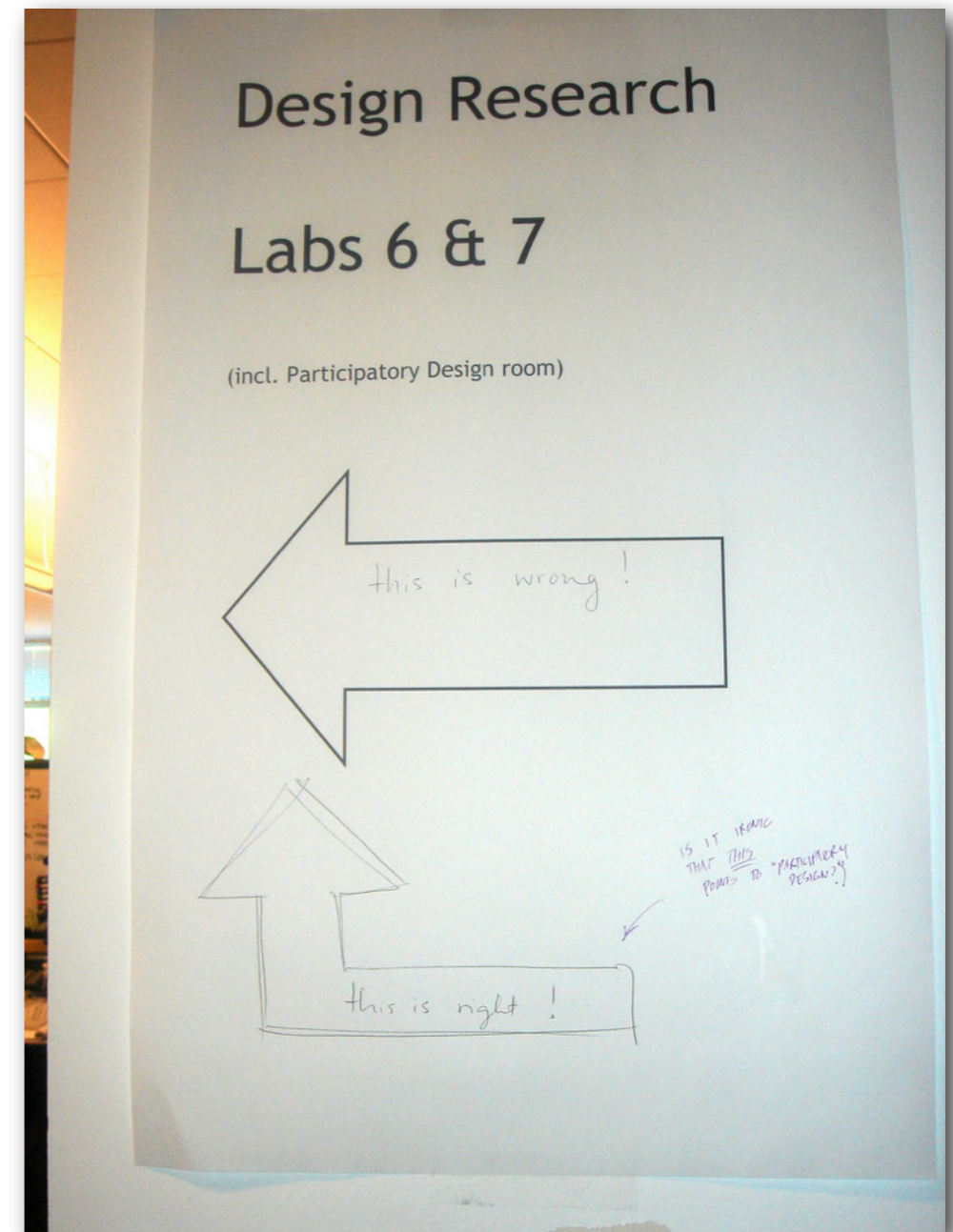
Indirect Observation

- 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
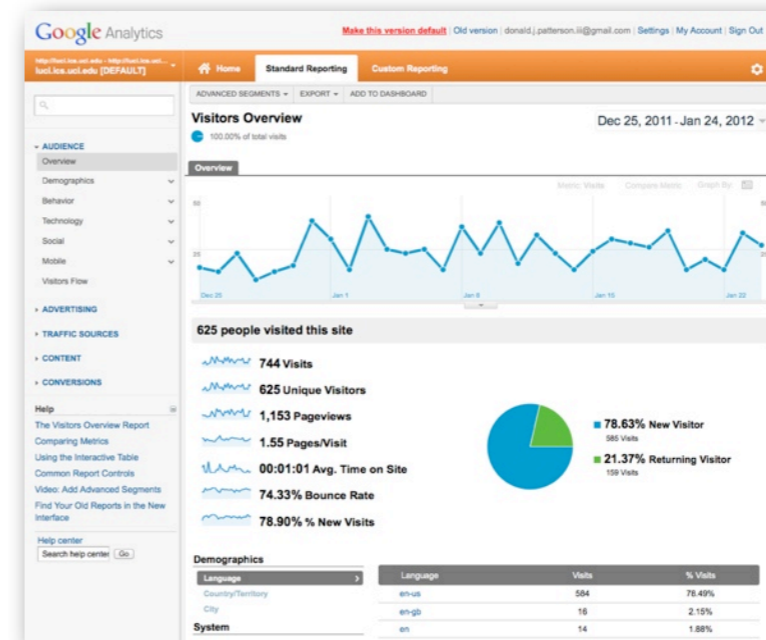
Choosing and combining techniques

- 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

Xianghua Ding, Donald J. Patterson
University of California, Irvine
[dingx,djp3]@ics.uci.edu

Abstract.

The use of personal status messages is becoming a part of popular culture through 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 poorly understood. 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 "finger" 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

Status updates per day

4/1/2008 through 9/17/2008
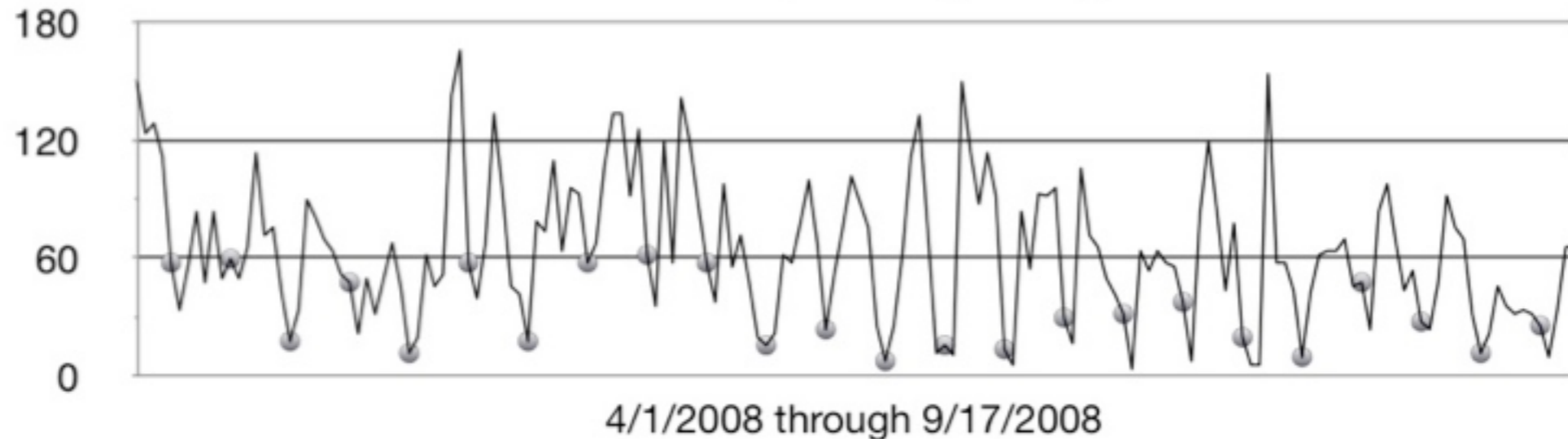
- **Meeting Events**: Including talks, presentation, meetings. (e.g., "listening to XXX' talk", "attending a Ph.D. defense", "in XXX's advancement")
- **Work Activities**: Descriptions of tasks consistent with academic work. (e.g. "hacking", "coding", "working on dissertation", "reviewing papers", "story-boarding")
- **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 earthquack 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")

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

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