Conducting Usability Research through the Internet

- A methodology for testing users remotely and developing empirical support for design guidelines

Carolyn Wei
University of Washington, Seattle, USA

Key points

- Characteristics of remote studies
- Remote usability can:
  - Complement lab studies and traditional fieldwork
  - Facilitate naturalistic studies
- A methodology for conducting remote usability work
Overview

• About our research group
• Three usability approaches
  – Lab studies
  – Fieldwork
  – Remote usability
• Our method (and tools) for remote studies

Research group

• Jan Spyridakis*
• Jennifer Barrick*
• Alexandra Bartell
• Elisabeth Cuddihy*
• Brandon Maust
• Carolyn Wei*

*co-authors of this paper and presentation
Research interests

• Developing a methodology for remote experiments
• Supporting Web design guidelines (e.g.)
  – Hyperlink wording
  – Navigation menu design
  – Heading formats

Some usability approaches

• Lab studies
• In-person fieldwork
• Remote, Internet-based studies
Lab studies are good for...

- Identifying critical problems on specific Web sites
- Pilot-testing remote studies

Lab studies are not so good for...

- Understanding users “in the wild”

Fieldwork is good for...

- Seeing how users behave in their own computing context

Fieldwork is not so good for...

- Studying a large user sample
Remote studies are good for...

- Observing many users in their own environments

Remote studies are not so good for...

- Capturing rich ethnographic data

Some methods of remote studies

- Monitoring of user behavior through virtual means
  - Web cam and audio links
  - Surveys
  - Online focus groups
  - Logging
- Our focus: unobtrusive methods
Why remote studies?

- Ubiquitous computing makes natural studies imperative
- Need empirical support to generalize Web design guidelines

A methodology for remote work

1. Design a study
2. Instrument a test Web site
3. Run the study
4. Analyze data
1. Designing a study

• What do you want to know?
  – Define variables
  – Choose method
  – Determine recruitment method
  – Identify tools

The Hip and Knee Arthritis Service is a specialty service of UW Medical Center's Bone and Joint Surgery Center, which is ranked by U.S. News and World Report as the top orthopaedic program in the western half of the United States.

Our physicians and research programs lead the way in innovative care for hip and knee problems. We are actively developing new, more effective methods of evaluating and treating our patients.

Our team of specially-trained physicians, therapists, physicians' assistants, and nurses use a multidisciplinary approach in caring for patients, with easy access to other world-class experts at UWMC who can assist with diagnosis and treatment plans.

Our Approach
Our goal is maximum recovery of hip and knee joint function. The physical therapist in the Bone and Joint Surgery Center, also part of the Bone and Joint Surgery Center, offer non-surgical care and postsurgical rehabilitation programs.
2. Instrumenting the test Web site

- Generate multiple versions of the site
- Assign participants
- Design supporting materials
- Plan to record data

3. Running the study

- Monitor the study as it progresses
4. Analyzing data

- Import data into analysis software
- Consider aggregate and individual data

Guest version of Web site

- http://depts.washington.edu/tc596jan/misk/
Conclusions

• Internet-based methods can support large-scale, remote usability studies
  – With natural users
  – In users' own environments
  – With their own computing devices
• Further work is needed to refine remote methodologies

Discussion and Q & A

• What are your experiences with remote usability studies?
• What features would you like in a remote usability package?