

IS 214 Needs Assessment and Evaluation of Information Systems

Inquiry Methods

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Inquiry Methods

- Field studies
- Contextual inquiry
- Focus groups
- Surveys
- Interviews

Inquiry Methods

- Observation
(Watching people at work)
- Interview
(Talking to people at work or about work)
- Interpretation
(Inference from and modeling of work)

What to do first?

- Inductive –
data first, then interpret and interview to
confirm or refute interpretation
- Deductive –
interview and hypothesize first, then look
for data to confirm or refute

Observation

- Field studies
 - Watching people at work
 - Asking questions to clarify observations
- Recording in context
 - Videotaping
 - Journals
 - Automated logging

Interview

- Contextual interviews
 - Asking questions while people work
 - Confirming your interpretations
- Other interviews
 - Focus groups
 - Surveys
 - Cueing recall with videotapes
 - Critical incident stories, retrospection

Interpretation

- Inferring user goals, intentions, priorities
- Hypotheses that must be tested with user
- Modeling how users complete tasks, work with others, use artifacts
- Consolidating models across users

Setting Up Field Studies

- Write down issues and objectives
- Identify participants to represent each user group, market, geography
- Plan 2-4 hour visits with time between users
- Recruit from existing users through marketing or use an agency
- Screen users with a questionnaire

Preparing for Field Studies

- Form team – 1-2 observers for each user, include marketing and development
- Train team to observe and interview and to avoid being experts or defensive
- Demographic questionnaire, release forms
- Audio taping equipment, camera
- Notebook for taking notes, sketch environment

Observing on Field Studies

- Take pictures, sketch the environment
- Note everything the user does, what triggers it
- Who does the user interact with
- What paper or information is passed
- Get copies of artifacts, preferably used
- Where does task end, does the user know what happens next

Interviewing on Field Studies

- Ask about goals, don't just focus on tasks, listen for goals for the benefit of others
- Probe goals, tasks presented as goals
- Neutral vs. leading or blaming questions
- Don't be shy, ask for more information, provide active feedback that you are listening
- Ask user if your interpretation is correct, listen for "no" in pauses, maybes

Focus Groups

- Group gathered to give attitudes, opinions, and reactions to new or existing products
- Facilitator to keep discussion focused on issues and prevent domination by one person
- Usually take place outside of the work site

Focus Group Limitations

- Often include gatekeepers, not real users
- Don't show what people actually do, but what they say they do
- Misses many details of work that are automatic
- Outspoken participants can influence the opinions and reactions of others in the group

Focus Group Software

- GroupSystems
- Enable all participants to be heard
- Enable you to gather feedback before participants are influenced by others
- Enables validation and refinement of data gathered

Surveys

- Enable you to gather demographic, opinion, and environment data from large groups
- Not tied to a single time and place
- Inexpensive to create and administer

Survey Limitations

- The phrasing of questions can lead to misunderstanding, bias and invalid data
- Self-selecting responses can lead to bias
- Completed outside of the context of work, answers may not reflect true work practice
- Closed set of answers limits responses
- Open-ended questions can produce answers that are hard to analyze

Survey Tools

- Zoomerang (www.zoomerang.com)
- WebSurveyor (www.WebSurveyor.com)
- IBM UCD Satisfaction Survey
(www-3.ibm.com/ibm/easy/eou_ext.nsf/Publish/408)

Web Surveys - Class Exercise

- Divide into groups and evaluate web surveys using the guidelines in the class readings
- Look for surveys that are
 - Too long, wordy, or have confusing questions
 - Too many demographic questions at the top
 - Double-barreled, biased, halo-effect, or loaded
 - Neutral or agreement bias, overlapping responses

What's Important

- Field studies provide the best data for design
- Focus groups provide attitudes and opinions
- Surveys provide demographic, attitudes, and factual data about users and environments
- Focus groups and surveys provide very limited data for design