Evolution of the Desk

Data Gathering and Study Design

Lecture 8, Week 4
January 28, 2015
CSC318H1S
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Announcements

Assignment 2 is due <u>Friday</u> at 6 pm.

Phase 2 will be introduced in tutorial on Friday and is due Feb. 6.

Groups: Make sure your group rosters are accurate on Blackboard. If anyone still does not have a group, please raise your hand.

Data Gathering

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Evaluation Methods

Questionnaires

Many respondents, concise questions. Great for **generalizability**.

Interviews

Detailed, qualitative data. Great for **context and depth**.

Observation

Understand underlying user needs in the wild by observing them in their environment. Great for **realism**.

Laboratory Experiment

Perform fine measurements of user performance in tightly controlled laboratory conditions. Great for **precision**.

Common Questionnaire Issues

The graduate courses I have taken in this department failed to be helpful in my academic career.

1 2 3 4 5 6 7

Strongly disagree ○ ○ ○ ○ ○ ○ ○ Strongly agree

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Observation

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The Need For Observation

Both questionnaires and interviews can only elicit responses that participants are aware of.

They rely on participants assessing their own attitudes and being truthful.

E.g., *How often do you floss?*

Observations show you how participants are performing tasks and what issues they are encountering at the moment they occur.

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Direct Observation In The Field

Observing participants as they perform a task in their usual environment, taking context into account.

- fly on the wall

- asking questions

- immersive participation

Things to focus on:

- **Person**: Who is using the technology?

- **Place**: What are their surroundings like?

- **Thing**: What are they doing? Are they having issues?

Observation changes the data (Hawthorne effect)

D.O. In a Controlled Environment

Observing participants as they perform a task in an environment designed to focus on specific task details rather than context.

Makes participants apprehensive.

Gives more precision and control over confounding factors, minimizes interruption.

Think-aloud protocol: ask participant to vocalize their thoughts as they are performing a task.

Indirect Observation

Diaries:

Ask participant to fill out a daily form detailing their activities.

Logs:

Collect automatic usage data from devices.

Documentation or history:

Study artifacts of tasks performed before experienter was involved.

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Laboratory Experiment

Laboratory Experiments

Lab experiments are designed to gather simple, quantitative data that can be generalized across participants and through repeated trials.

Advantages: accurate measurement of performance metrics (response time, pointing accuracy), instrumentation, complete control over the environment, ability to isolate required task.

Disadvantages: no relation to how task is performed in the real world.

E.g. *one-hand iPhone 6 Plus use.*

Collecting Data

What's better: questionnaire, interview, or observation study?

How far do users drive to the commuter station?

What steps do they go through to plan a route?

Do they prefer to use a touch screen monitor or issue a voice command?

What do they carry in their briefcase?

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Must-Read

Participant Observation (Mack 2005)

Designing useful and usable questionnaires (Wilson 2007)

Semi-structured interviewing for user-centered design (Wood 1997)

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Questions?

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This lecture is based on slides and content by:
ILONA POSNER
Materials from:
Interaction Design: Beyond Human-Computer Interaction. Rogers, Sharp and Preece. 2011