CS 315 – Intro to Human Computer Interaction (HCI)

Data Gathering

Data Gathering

- Five Key Issues:
  - Setting goals
  - Identifying participants
  - Relationship with participants
  - Triangulation
  - Pilot Studies

Setting Goals

- Example:
  - Want to understand how technology fits into normal family life
  - Identify which of two icons is easier to use

Identifying Participants

- Population: the kind of people you want to gather data from
- Sampling: the particular participants that you choose
- Saturated Sampling: when you have access to all of the members of your target population
- Sampling:
  - Random sampling (probability)
  - Stratified sampling (non-probability)
  - Convenience sampling

Relationships with Participants

- Relationship needs to be clear and professional
- Participants should sign informed consent forms
- Incentives might be necessary

Informed Consent

Participant Consent:

This interview is part of a Pacific University class project for CS 315 taught by Dr. Shereen Khoja. Your participation in this interview is entirely voluntary; there will be no remuneration for the time you spend. All data gathered from the interview will be treated in a confidential fashion: it will be archived in a secure location and will be interpreted only for purposes of this project. When your data are reported or described, all identifying information will be removed. There are no known risks to participation in this study, and you may withdraw at any point. Please feel free to ask the interviewers if you have any other questions; otherwise, if you are willing to participate, please sign and date this form:

_____   _____

Name   Date

If there are any questions, please contact Dr. Shereen Khoja, 503-352-2008, shereen@pacificu.edu

Triangulation

- Triangulation: investigating a phenomenon from two or more perspectives
    - Data: drawn from different sources, places, or people
    - Investigator: different researchers are used to collect the data
    - Method: different data gathering techniques are used

Pilot Studies

- Small trial before the main study
- Distributing 500 questionnaires and then realizing that a question is confusing is an expensive error

Data, Information, Conclusions

- Raw Data
- Information
- Conclusions

Interviews

Data gathering for requirements

- Interviews:
  - Forum for talking to people
  - Structured, unstructured, semi-structured, groups
  - Props, e.g. sample scenarios of use, prototypes, can be used in interviews
  - Good for exploring issues
  - But are time consuming and may be infeasible to visit everyone

Interviews

- Unstructured - are not directed by a script. Rich but not replicable.
- Structured - are tightly scripted, often like a questionnaire. Replicable but may lack richness.
- Semi-structured - guided by a script but interesting issues can be explored in more depth. Can provide a good balance between richness and replicability.

Interview questions

- Two types:
  - ▫ 'closed questions' have a predetermined answer format, e.g., 'yes' or 'no'
  - ▫ 'open questions' do not have a predetermined format
- Closed questions are easier to analyze
- Avoid:
  - ▫ Long questions
  - ▫ Compound sentences - split them into two
  - ▫ Jargon and language that the interviewee may not understand
  - ▫ Leading questions that make assumptions e.g., why do you like …?
  - ▫ Unconscious biases e.g., gender stereotypes

Running the interview

- Introduction – introduce yourself, explain the goals of the interview, reassure about the ethical issues, ask to record, present any informed consent form.
- Warm-up – make first questions easy and non-threatening.
- Main body – present questions in a logical order
- A cool-off period – include a few easy questions to defuse tension at the end
- Closure – thank interviewee, signal the end, e.g, switch recorder off.

Examples

- Descriptive questions
  - Describe a typical workday.
  - Describe what you do as you prepare company materials for distribution.
  - Describe your experience as a participant in the FrontPage seminar.

Examples

- Follow-up questions
  - You said that preparing the spreadsheet was particularly frustrating. What makes it frustrating?
  - You said that you liked a more structured approach to learning a new application.
  - Describe how you like to learn a new application.
- You said that you found communication among members of your team to be very strained. What do you think is the cause of this difficulty?

Examples

- Experience/Example/Behavior questions
  - You said that you found learning new skills frustrating. Can you give me an example of a skill that you found frustrating to learn and describe how you attempted to learn the skill.
  - If I followed you through a typical day, what would I see you doing?
  - You said that you don't like an applications program to surprise you. Can you describe an example of an experience you had when an applications program surprised you?

Examples

- Compare/Contrast questions
  - You said that there was a big difference between the way you currently enter data and the way you did it in the previous application. Describe some of these differences.
- Clarification questions
  - You said that you preferred practical learning. What do you mean by practical learning?
  - Can you give me an example of practical learning activity that you have experienced?

Examples

- Knowledge questions
  - How many people use this application?
  - What kind of training is offered on this application?
  - Who provides the training? · Background/Demographic questions
  - How long have you worked in this department?
  - What is your highest level of education?
  - What is your age?

Examples

- Opinion/Values questions
    - What would you like to see happen when you click this button?
    - What changes do you think should be made in this application?
- Role-playing/Simulation questions
    - Suppose I am a new member of your team and I ask you what I should do to be a successful team member. What would you tell me?

Role Playing

15 Minute Interviews

- A local garden shop has hired your consulting firm to design a system to help make sure customers choose plants for the appropriate yard conditions, to help them design their garden area, and instruct both customers and employees in the care of the plants.
- The system should:
  - Identify plants for specific yard conditions
  - Instruct on proper care
  - Help customers and employees in choosing plants
  - Suggest yard design ideas
  - Keep track of customer information regarding their yards, purchases, and design likes/dislikes so they store can do direct advertising.

Interviewees

- Two will be interviewed
- Who knows the most about plants?
- Who wants to volunteer?
- You will have 15 minutes to prepare

Interviewers

- The rest of you will be split up into two groups
- Each group will have 15 minutes to interview each person
- You must select one or two members of the group to do the interviewing
- The interviews will be recorded
- Everyone else will be taking notes

Field Notes

- Type up your field notes
- Turn them in at the start of class on Wednesday