# SIM 18/19 – T3.2
# Interviews and Questionnaires

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# Summary

- Interviews
- Questionnaires

# Interviews and questionnaires

- Two highly useful HCI evaluation techniques
- Flexible: use anytime / anywhere
  - Adjust to suit design stage and circumstance
- Obtain **subjective** responses from users
  - Self-reports
  - Manner of conducting evaluation can impact accuracy of the response

# Querying users via interviews

- "Conversations with a purpose"
- Excellent for pursuing specific issues
  - More interaction than with observation:
    *Address specific questions of interest*
  - More flexible than questionnaires:
    *Probe more deeply on interesting issues as they arise*
- Problems
  - Accounts are subjective
  - Time consuming (to conduct and to analyze)
  - Evaluator can bias the interview
  - Prone to rationalization of events/thoughts by user
    - *User's reconstruction may be wrong*

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# Planning the interview

- **General**
  - What is purpose of interview?
  - List of interviewees (breadth vs. depth)
  - Length of interview & number of sessions
  - Scheduling interviews (location, times, people)
  - Will the interview be recorded? (affects the outcome)
    - Audio, video; transcription
- **Avoid:**
  - Asking long questions
  - Using compound sentences
  - Using jargon
  - Asking leading questions
    - … and generally be alert to unconscious biases.

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# Kinds of interviews

- **Three main types:**

  1. Open-ended / unstructured

  2. Semi-structured

  3. Structured

- **Other categories (can include types above):**

  4. Group

  5. Retrospective

# Unstructured interviews

- Most like a conversation, often go into depth
- *Open questions*
- Exploratory

> *Absolute key is to **listen** rather than talk:*
> ***Practice silence!***

Pros/cons:

- \+ rich data, things interviewer may not have considered
- Easy to go off the rails
- Time-consuming & difficult to analyze
- Impossible to replicate

# Structured interviews

- Predetermined questions
  (like questionnaire, often with a flowchart)
- *Closed questions*
- Short, clearly worded questions
- Confirmatory

Pros/cons:

- + *replicable*
- - potentially important detail can be lost

*better (cheaper) with a questionnaire?*

# Semi-structured interviews

In between structured & unstructured:

- Seek a mix of constrained and unconstrained responses
- Make sure to cover bases - e.g. list of items to definitely cover, responses to definitely get
- Flexibility for open-ended follow-up as situation evolves

*In HCI, un- and semi-structured are the most common*

# Group interviews (focus group)

- 3 – 10 people interviewed at one time
- Usually has agenda, but may be either structured or unstructured
- Skilled moderator critical!
- Usually recorded

Pros/cons:

+ can accommodate diverse and sensitive issues

+ opinions developed within a social context

+ good way to locate "proto-users": most articulate, imaginative participants can help later w/participatory design

- some interviewees may dominate

- expensive: usually pay participants + professional moderator

# Example of focus group: "soccer moms" (1997-98)

- Ethnographic research on an emerging market demographic
  - Women w/ kids + aging parents, primary role in family organization
- Hypothesis:
  - Need better ways of keeping in touch with kids, parents, spouses & coordinating schedules
- Study question:
  - What are their lives really like? what problems do they have? what do they want, & how much would they pay for it?
  - What do they think about some of our ideas?
- Method:
  - Series of moderated focus groups: get discussion going on topics of interest through careful questions
  - Let group take some tangents; follow up on exceptions
  - Team observes unobtrusively; video record, extensive post-analysis

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# Retrospective interview

- Post-test interview to clarify events that occurred during system use:
  - Record what happened, replay it, and ask about it

Pros/cons:

+ excellent for following up and grounding an evaluation

+ avoids erroneous reconstruction

+ users often offer concrete suggestions

- takes time; might require a second session

# Overview of an exploratory (semi-structured) interview

1. **Explain purpose of the interview**
   - Allow time to get acquainted with the interviewee
   - Provide understanding and background
2. **Enumerate activities**
   - Find out **what** the user does
3. **Explain work methods**
   - Find out **how** the user does things (skills and knowledge)
4. **Trace interconnections**
   - Determine other people and activities that are related
5. **Identify performance issues**
   - Explore current problems and impediments to success

# Things you uncover during interviews

- Exceptions
  - Lots of things people do are not "in the manual"
  - Many jobs evolve to fit changing circumstances
  - Much of this is not documented
  - Many times "management" does not know about this
- Domain knowledge
  - Most people know a lot about their jobs, and those they work with
- Terminology, common phrases, specific details
  - Audio recording helps capture this
  - Video recording helps provide body language
  - Written notes can provide context, but not always details

# Querying users via questionnaires (also called 'surveys')

- Closed or open questions
- Evidence of wide general opinion
- Only as good as the questions asked

Pros/cons:

+ preparation "expensive," but administration cheap

- Can reach a wide subject group (e.g. mail or email)

+ does not require presence of evaluator

+ results can be quantified

- can have low response rate and/or low *quality* response

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# Questionnaires: designing questions

- Establish the **purpose** of the questionnaire:
  - What information is sought?
  - How would you analyze the results?
  - What would you do with your analysis?
- Determine the **audience** you want to reach
  - Typical: random sample of between 50 and 1000 users of the product **-- why a random sample?**
- **Test everything** before sending it out:
  - Test the **wording**
  - Test the **timing**
  - Test the **validity**
  - Test the **analysis**

# Administering questionnaires

| | |
|---|---|
| **in-person administration** | • requires time to administer, but highest completion rate |
| **"take home" (conventional)** | • often subjects don't complete / return the questionnaire |
| **email** | • permits subjects to answer on their own time<br>• responses may tend to be more free-form<br>• attachments may be a problem<br>• response rates depend on trust in source |
| **web-based forms** | • standardize formats and responses<br>• Java/Javascript to ensure correct / complete |
| **general issues** | • payment or incentives<br>• anonymity<br>• self-selection |

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# Styles of questions: open-ended

- Asks for opinions

- Good for general subjective information

  – But difficult to analyze rigorously

For example,

"Can you suggest any improvements to the interface?"

# Styles of questions: closed

- Restricts responses by supplying the choices for answers
- Can be easily analyzed …
- But can still be hard to interpret, if questions / responses not well designed!
  - Alternative answers should be very specific

Do you use computers at work:
   O often            ✓ sometimes      O rarely

*vs*

In your typical work day, do you use computers:
  ✓ over 4 hrs a day
  O between 2 and 4 hrs daily
  O between 1 and 2 hrs daily
  O less than 1 hr a day

# Styles of questions (closed): scalar --- Likert scale

- Measure opinions, attitudes, and beliefs
- Ask user to judge a specific statement on a numeric scale
- Scale usually corresponds to agreement or disagreement with a statement

Characters on the computer screen are hard to read:

| strongly | | | strongly | |
| agree | | | disagree | |
| 1 | 2 | 3 | ④ | 5 |

# Styles of questions (closed): scalar --- semantic differential scale

- Explore a range of bipolar attitudes about a particular item
- Each pair of attitudes is represented as a pair of adjectives

Vista/WebCT is:

| | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| poorly | 1 | 2 | 3 | ④ | 5 | well designed |
| clear | 1 | 2 | ③ | 4 | 5 | confusing |
| attractive | 1 | ② | 3 | 4 | 5 | ugly |

# Styles of questions (closed): multi-choice

- Respondent offered a choice of explicit responses

How do you most often get help with the system? (tick one)
✓ on-line manual
○ paper manual
○ ask a colleague

Which types of software have you used? (tick all that apply)
✓ word processor
○ data base
○ spreadsheet
✓ compiler

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# Styles of questions (closed): ranked

- Respondent places an ordering on items in a list

- Useful to indicate a user's preferences

- Forced choice

Rank the usefulness of these methods of issuing a command
(1 most useful, 2 next most useful..., 0 if not used)

__2__ command line

__1__ menu selection

__3__ control key accelerator

# Combining open-ended & closed questions

- Gets specific response, but allows room for user's opinion

It is easy to recover from mistakes:

disagree         agree      comment:

1    2    3    ④    5

the undo facility is great!

# Be considerate of your respondents

- Not just because it's nice, but it works better.
- Questionnaire length (short is good):
  - Think in terms of reasonable completion times
  - Do not ask questions whose answers you will not use!
- Privacy invasions: be careful how / what you ask
- Motivation
  - Why should the respondent bother?
  - Usually need to offer something in return
    - **… but be careful about introducing bias.**

# Summary: questionnaires

1. Establish purpose
2. Determine audience
3. Variety of administration methods
   (for different audiences)
4. Design questions:
   – Many kinds, depend on what you want to learn
   – Most important distinction: open/closed (like structured/unstructured interview questions)
5. Be considerate of your respondents
6. Motivate your respondents (without biasing them)

# Interviews and questionnaires: summary

- Two highly useful HCI evaluation techniques

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  - Self-reports
  - Manner of conducting evaluation can impact accuracy of the response

# Resources

1. Kellogg S. Booth, Introduction to HCI Methods, University of British Columbia, Canada http://www.ugrad.cs.ubc.ca/~current-term/