

SIM 15/16 – 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*

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.

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

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

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	<ul style="list-style-type: none">• requires time to administer, but highest completion rate
“take home” (conventional)	<ul style="list-style-type: none">• often subjects don't complete / return the questionnaire
email	<ul style="list-style-type: none">• permits subjects to answer on their own time• responses may tend to be more free-form• attachments may be a problem• response rates depend on trust in source
web-based forms	<ul style="list-style-type: none">• standardize formats and responses• Java/Javascript to ensure correct / complete
general issues	<ul style="list-style-type: none">• payment or incentives• anonymity• self-selection

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:

often

sometimes

rarely

vs

In your typical work day, do you use computers:

over 4 hrs a day

between 2 and 4 hrs daily

between 1 and 2 hrs daily

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:

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

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

1

2

3

4

5

agree

comment:

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)

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Resources

1. Kellogg S. Booth, Introduction to HCI Methods, University of British Columbia, Canada

<http://www.ugrad.cs.ubc.ca/~cs344/current-term/>