

# IPM 13/14 – T0.4

## Interviews and Questionnaires

Licenciatura em Ciência de Computadores

*Miguel Tavares Coimbra*

**Acknowledgements:** Most of this course is based on the excellent course offered by Prof. Kellogg Booth at the British Columbia University, Vancouver, Canada. Please acknowledge the original source when reusing these slides for academic purposes.

# 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

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

# 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)

# Interviews and questionnaires: summary

- 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

# Resources

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

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