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# IPM 10/11 – T1.8

## Interviews and Questionnaires

Licenciatura em Ciência de Computadores

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# Summary

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- Interviews
- Questionnaires

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# Interviews and questionnaires

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- 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

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# Querying users via interviews

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- “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

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- **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

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- Three main types:
  1. Open-ended / unstructured
  2. Semi-structured
  3. Structured
- Other categories (can include types above):
  4. Group
  5. Retrospective

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# Unstructured interviews

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- 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

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# Structured interviews

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- 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?*

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# Semi-structured interviews

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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*

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# Group interviews (focus group)

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- 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

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

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- **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

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- 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

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# Overview of an exploratory (semi-structured) interview

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## 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

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# Things you uncover during interviews

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- **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

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

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- 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

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- 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**



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# Administering questionnaires

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<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>

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# Styles of questions: open-ended

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- Asks for opinions
- Good for general subjective information
  - But difficult to analyze rigorously

For example,

“Can you suggest any improvements to the interface?”

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# Styles of questions: closed

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- 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

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

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- 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	

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

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- 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

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# Styles of questions (closed): multi-choice

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- 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

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- 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

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# Combining open-ended & closed questions

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- 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!



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# Be considerate of your respondents

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- 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.**

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# Summary: questionnaires

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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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# Interviews and questionnaires: summary

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

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# Resources

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1. Kellogg S. Booth, Introduction to HCI Methods, University of British Columbia, Canada  
<http://www.ugrad.cs.ubc.ca/~cs344/current-term/>