

IS-B Assignments

(Winter Term 2014/2015)

Assignment I — Information Gathering

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Introduction

This is the first assignment of our series to design and evaluate the user interaction with a **subscription** based **Video-on-Demand Service**.

The first step is to conduct qualitative interviews with potential users of the application to **identify requirements and necessary features** and to **establish an idea of the general structure of the application**

Agenda

Introduction to qualitative interviews

- Interview characteristics
- Design of interview studies
- Carrying out interviews
- Analyzing interview data

Assignment

- Assignment I
- Submission
- Credits
- Comments & questions

Qualitative Interviews—Characteristics

Core questions in requirements gathering

- What are the user's goals?
- How are these goals met by current tools (if any available)?
- What are the user's needs?
- What are features that users desire?
- What do users want to do that they are currently unable to do?
- How could the interface be structured?

Qualitative Interviews—Characteristics

Style of questioning

- Open-ended, non-leading questions
- Focus on personal experience

Relationship between interviewer and interviewee

- Rapport with interviewee
- Interviewee has the right to withdraw from the interview at any time

Visibility

- Confidentiality
- Anonymity

Qualitative Interviews—Study Design

Step I: Definition of **research questions**

- Do **NOT** try to answer questions on **causality** and **generality** with qualitative interviews! Focus on participants **opinions** and **experiences**
- Explicate a research question that is **neither too broad** (danger of scattered, unrelated findings) **nor too narrow** (findings that lack generalisability)
- Avoid **leading questions** (already on this level)
- Allow your research question to **shift** (as a reaction to interviewees' answers)

Step II: Selection of **interview type**

- Face-to-face interview, group interview, remote interview,...

Qualitative Interviews—Study Design (cont'd)

Step III: Sample **selection** and **participant recruitment**

- Sample needs to **relate** in a systematic manner to the **phenomena** under investigation
 - Sample does **not** need to be **statistically representative** (as in quantitative studies)
 - However, mere **ad hoc sampling** is **inadequate**
- Recruiting via '**gatekeepers**' (e.g. retirement homes)
- Snowball sampling: introduces **systematic** bias
- Recruiting via **advertising**: self-selective samples

Qualitative Interviews—Study Design (cont'd)

Step IV: Development of an **interview guide**

- Outlines **major** predefined **topics** of interest but is **flexible** regarding **order** and **phrasing** of the questions
- **Relevant** topics are identified over:
 - **Personal experience** in the research area
 - Research **literature**
 - Informal **preliminary work**
- **Types of questions** include:
 - Background/**demographic** information
 - **Experience**/behaviour questions
 - **Opinion**/attitude questions
 - **Knowledge** questions
 - **Feeling** questions

Qualitative Interviews—Study Design (cont'd)

Step IV: Development of an **interview guide** (cont'd)

- Question **format** – opposing approaches
 - Questions written in **full sentence** format - recommended
 - Questions written as **bullet points**
- **Open questions for qualitative information**
 - What, how, why, when, which, who, where...
- **Probes** and **prompts** are usually necessary and should be **formulated carefully**
 - Probes: **follow-up questions**
 - Prompts: information from the interviewer to **clarify questions** if necessary.

Qualitative Interviews—Conduct

Things to keep in mind for good interviews

- **Interview setting**
 - Should be **comfortable**
 - Should **ensure privacy**
 - Should be relatively **quiet** (recording equipment)
 - Select **location** according to **study requirements**
- **Recording the Interview**
 - **Full records** are essential for qualitative research
 - **Audio** or **video** recording recommended
 - **Note taking** should parallel digital recording (backup)
 - Interviewees' **informed consent** in written form is mandatory (according to the CML-Code of Conduct)

Qualitative Interviews—Conduct (cont'd)

Things to keep in mind for good interviews (cont'd)

- **Building rapport**
 - Establish **trust** to foster open communication
 - **Introduce** your **project**
 - **Appropriate self-presentation** towards the interviewee
- **How to ask** or not to ask questions
 - Avoid **leading** questions
 - Avoid **multiple** questions
 - Avoid **too complex** questions
 - Avoid **judgments** about interviewees' **statements**
 - Always **listen to** your interviewee (include breaks, ...)

Qualitative Interviews—Conduct (cont'd)

Things to keep in mind for good interviews (cont'd)

- **Active listening** [Madrigal & McClain, 2009]
 - Eye contact
 - Attentive body language
 - Vocal style
 - Paraphrasing
 - Reflecting
 - Silence
 - Minimal encouragers

Qualitative Interviews—Conduct (cont'd)

Things to keep in mind for good interviews (cont'd)

- **Probes**
 - Used to obtain **more depth** in interview data
 - Used for **three purposes** [Rubin & Rubin, 1995]:
 - **Completion** of interviewees' thoughts
 - **Clarification** of points that an interviewer does not understand
 - **Elaboration** to obtain more details on topic of interest
- **Prepared scripts** to begin and end an interview
 - **Start** with **simple questions** on a topic that does not involve self-disclosure
 - **End** with **open questions**, e.g., whether the interviewee wants to talk about any further topics.

Qualitative Interviews—Data Analysis

Data preparation

- **Transcription of interviews**
 - **Full transcripts** (verbatim/word for word) versus **partial transcripts** (only information of interest)
 - Include necessary **context information** (e.g. nonverbal expressions) from notes
 - Use **headphones** for easier understanding
 - Use **different font types** for interviewer and interviewee, and context information to clearly distinguish at first glance
- **Initial reading**
 - Read through complete dataset
 - Write down first insights and understandings as memos

Qualitative Interviews—Data Analysis

Thematic analysis – a basic three step model

- Step I: **Descriptive coding**
 - Read transcript and **highlight** relevant information
 - Define **descriptive codes** and refine them during analysis
- Step II: **Interpretive coding**
 - **Cluster** descriptive **codes** and interpret the meaning of these clusters
 - Apply **interpretive coding** to all data
- Step III: **Overarching themes**
 - Obtain **major themes** and **visualise** the relation between levels of coding

Qualitative Interviews—Data Analysis

Example SmartHome Control

Raw Text	Descriptive Codes	Interpretative Codes	Overarching Themes
<p>I: Was halten Sie von der Idee, mit einem oder mehreren Geräten verschiedene Aufgaben oder Bereiche in Ihrem Haushalt steuern zu können?</p> <p>P: Oh...also ich persönlich halte davon gar nicht viel, weil je mehr Geräte ich hab, desto schwieriger wird's. Aber die Idee ist vielleicht nicht schlecht, wenn man technisch etwas mehr drauf hat.</p> <p>I: Gut, stellen Sie sich mal vor, Sie haben so ein Gerät mit dem Sie alles im Haus steuern können. Wo sehen Sie Einsatzmöglichkeiten?</p> <p>B: Ja auf jeden Fall, dass es sich meldet, wenn irgendein Gerät eingeschaltet ist.</p> <p>I: Können Sie das bitte genauer erklären?</p> <p>B: Ha, der Herd oder irgendwas anderes, was man abschalten sollte. Das sollte das Gerät mir Auskunft erteilen. (Denkt nach) Oder den Herd gleich abschalten.</p>	<p>More devices, more difficult</p> <p>Notify about powered devices</p> <p>Some devices should be turned off.</p> <p>Control could turn off devices autonomously</p>	<p><i>Complexity</i></p> <p><i>Notifications</i></p> <p><i>Safety</i></p> <p><i>Proactivity</i></p>	<p>USER NEEDS</p> <p>DESIRED FEATURES</p> <p>USER NEEDS</p> <p>DESIRED FEATURES</p>

Qualitative Interviews—Data Analysis (cont'd)

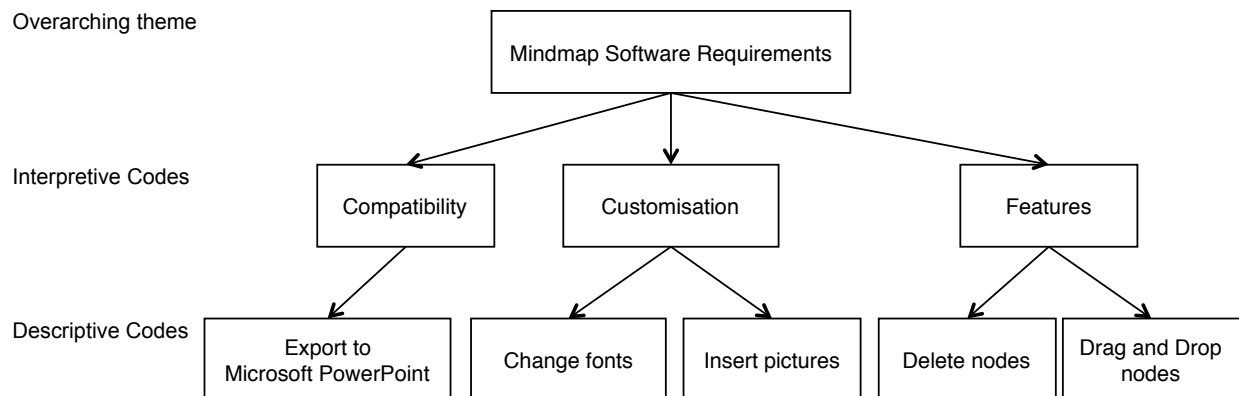


Figure 1. Visualisation of the three coding levels of a thematic analysis (adapted from King & Horrocks, 2010).

Note: Codes can relate to none, one or more higher order codes or themes.

Assignment I

Conduct interviews to **identify requirements and necessary features** and to **establish an idea of the general structure** for the user interaction with a **subscription based Video-on-Demand Service**.

For this purpose

- Develop an **interview guide** (>10 full sentence questions + probes if foreseeably necessary)
- **Conduct an interview** with at least one interviewee per student (i.e. a group of three students interviews a minimum of three interviewees). Use an audio recording device during interviews to facilitate later transcription
- **Transcribe** your interviews and perform a **thematic analysis** on all transcripts of your group (first individually, then discuss to come to a unified picture)

Assignment I

Submit one **PDF** file containing the

- **interview guide** of your group (including informed consent),
- the **full transcripts** of all interviews of your group (including the descriptive codes for the thematic analysis) and
- the **results** of the **thematic analysis** at the **three levels** of analysis (including coding procedure)

Concentrate on the **contents**, not on the exact layout

Submission

The assignment is due on **28 Oct 2014**

Please submit your results according to the submission guidelines as archives in .tar.gz or .zip file format.

Credits

Two (2) credits can be achieved in this assignment

- Interview guide 40%
- Transcripts of all interviews 40%
- Thematic analysis 20%

It is important that your work is comprehensible.

Comments & Questions

Feel free to send questions and comments about this assignments to:

sascha.herr@uni-bamberg.de

Due to SPAM-filters and to process your email quickly, please use the following subject line:

IS-B/<your concern>

Thank you!



References

King, N. & Horrocks, C. (2010). *Interviews in qualitative research*. Thousand Oaks, CA: Sage.

Nielsen, N. (1993). *Usability Engineering*. Mountain View, CA: Morgan Kaufmann.

Rubin, H. J. & Rubin, I. S. (1995). *Qualitative interviewing: The art of hearing data*. Thousand Oaks, CA: Sage.

Madrigal, D. & McClain, B. (2009). *How to Listen to the User and Hear the Experience*. <http://www.usabilitypost.com/2009/05/21/how-to-listen/>. (Last accessed: 30/9/2013)