Interviews

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1.0 Introduction

Interviews are a good way of measuring the subjective qualities of a system and are well suited to exploratory studies since they are adjustable. They can provide an indication of a user's subjective opinion about a system. Results from interviews are important for the influence they can have on the design and development process. Taking the time early on to evaluate the user's view can save time and energy later.

Interviews are essentially conversation between people. They are conducted one-on-one and may be conducted over the phone, over the internet, or via audio or video conferencing, but usually they are conducted face to face. They tend to be more costly than questionnaires due to the labour involved; however, the response rate is much higher. Unlike questionnaires, an interview allows an interviewer to rephrase questions that are not understood and an interview can generate immediate results. Unfortunately for sensitive issues some respondents may prefer to answer anonymously, which some questionnaires can provide.

Interviews are obtrusive and do contain several pitfalls, such as response bias. An interviewer may also have to acquire a certain level of domain knowledge in order to plan an interview. Of course, the one advantage of subjectivity can also be a disadvantage.

There are three main types of interviews: structured, unstructured, and semi-structured. The approach that you use depends on the stage of application development, the evaluation goals, and the questions to be addressed. In HCI, unstructured interviews have been used mainly to determine a user's understanding of an interface (Preece, 1994).

Contextual interviews are interviews that are held as part of a contextual inquiry. These take place in a user's normal work environment, and are held while the user interacts with the system under evaluation. Although contextual interviews seemed to evolve from different interviewing strategies, the Contextual Inquiry method was developed in 1986 and continues to be refined at Digital Equipment Corporation (Raven & Flanders, 1996). Karen Holtzblatt, Hugh Beyer and Sandra Jones are a few of the main contributors to establishing it as a functioning method.
2.0 Interview Preparation

Before any interview, it is important that the interviewer prepare accordingly. Some important things to consider in advance:

- Try to familiarize yourself with your end users and their work environment. Attempt to understand as much background information as possible. Pay particular attention to the language that is familiar to the end users.
- Establish the interview objectives. Know what the overall goal is, the information that you hope to collect, and recognize whether you have any particular expectations.
- Understand that you will have to attempt to stay neutral to ensure unbiased responses
- Choose your interviewees with care. Make sure they represent a balance of users of the system.
- Make plans with the interviewee well in advance. Arrange a time that is convenient for the interviewee. Never “spring” an interview on someone. Declare the time needed to conduct the interview so the person is prepared to set that time aside. Interviews should last no more than an hour. Remember that respondents are doing you a favour, so be conscious of those who are reserved or are in a hurry.
- Decide on question types and interview structure. Prepare a list of questions and areas that cover key topics ahead of time. This will insure that important questions are not forgotten, and will aide the flow of the interview.
- Each interview should contain an introduction, a warm up set of questions, the main questions, a cooling off period and a closing (Preece, 2002)
- Test any recording equipment in advance, and prepare any consent forms.
- Know that the interview is expected to be conducted in a professional manner, and with respect, even if the setting is casual.
3.0 Questions

When preparing an interview, there are several types of questions that can comprise the session. Many of these are listed, with an example, in the table on the next page. The first two, Closed and Open questions, are the primary types. Closed questions are specific questions in which the response is limited to a finite number of choices, such as yes or no. Open-Ended questions are flexible questions that allow the interviewee to answer as they please.

3.1 Probes

Probes are used to obtain more detail on questions that have been asked. They are used in conjunction with open-ended questions. They are useful for clarifying answers and obtaining more detailed information on an important topic.

An example of a probe would be: “Could you give me an example of when that happened?”

3.2 Question Pitfalls

When in the process of developing questions there are several question pitfalls to avoid:

- Leading questions
- Double-barrelled questions
- Blaming questions
- Jargon and specialized language
- Bias
### Types of Questions for Interviews

<table>
<thead>
<tr>
<th>Type</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Closed</strong></td>
<td>Structured, limits responses</td>
<td>Do you use a PC?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How long have you worked here?</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td>Focuses on big picture</td>
<td>What do you do when a client asks for…</td>
</tr>
<tr>
<td><strong>Specific</strong></td>
<td>Focuses on details</td>
<td>After you type in the zip code, what do you do next?</td>
</tr>
<tr>
<td><strong>Factual</strong></td>
<td>Can be verified</td>
<td>What did you do just then?</td>
</tr>
<tr>
<td><strong>Hypothetical</strong></td>
<td>Speculative</td>
<td>Do you think you would…?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What would you do if …?</td>
</tr>
<tr>
<td><strong>Judgmental</strong></td>
<td>Asks for opinion</td>
<td>What do you think about…?</td>
</tr>
<tr>
<td><strong>Comparative</strong></td>
<td>Asks for judgment about two or more alternatives</td>
<td>Would you rather use the first product you worked with or the second?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How does this compare to …?</td>
</tr>
<tr>
<td><strong>Neutral</strong></td>
<td>Even-handed Includes no value words</td>
<td>What do you think of…?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How does this software work for you?</td>
</tr>
<tr>
<td><strong>Leading (Don’t do it!)</strong></td>
<td>Includes value words, suggests the right answer</td>
<td>Don’t you think that…?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is it easy to…?</td>
</tr>
<tr>
<td><strong>Blaming (Don’t do it!)</strong></td>
<td>Asks so directly that user appears at fault</td>
<td>Why didn’t you do…?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Note: Tone of voice matters here.)</td>
</tr>
<tr>
<td><strong>Request for suggestions</strong></td>
<td>Lets interviewee offer an opinion</td>
<td>How would you like this to work?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If you could tell the developers just one thing about this product, what would it be?</td>
</tr>
<tr>
<td><strong>Request for questions</strong></td>
<td>Lets interviewee shape questions, lets you capture what you didn’t think of</td>
<td>Is there anything you’d like to add?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is there something else that I should have asked?</td>
</tr>
</tbody>
</table>
4.0 Interviews

As stated previously, there are three main types of interviews: structured, unstructured, and semi-structured. Characteristics of the three types are listed below, as well as some advantages and disadvantages.

4.1 Structured Interviews

- Is goal oriented - has a preset agenda
- Very well planned and controlled interviews.
- Similar to questionnaire format, contains mainly closed questions and works best when questions are short and clearly worded. Tend to be standardized - the questions and their order are the same for all respondents.
- Questions are predetermined; possible responses are anticipated and subsequent questions are planned. Options can even be given for responses.
- There is no exploration of individual attitudes.
- These types of interviews are easier to evaluate than unstructured interviews. They also tend to take less time. The training required for the interviewer is less.
- Advantages:
  - Efficient, can save time and cover lots of ground quickly
  - Easy to compare interview results - data can be analyzed using quantitative methods.
  - Useful when the study’s goals are clearly understood.
- Disadvantages:
  - Can get boring for interviewee
  - May miss details
  - It may be difficult to build a rapport with the interviewee.

4.2 Unstructured Interviews

- Similar to conversations that focus on one topic. They can be very in depth.
- They are less formal and tend to be used early for requirements gathering.
- The interview still needs to be planned ahead of time, but instead of fixed questions, a set of questions are planned to cover important topics and there is flexibility in the manner that they are covered. Because of the flexibility it is important to be organized and have a plan of what needs to be covered.
Contains mainly open-ended questions, meaning that answers are not predetermined and the interviewee is free to answer briefly or at length.

Acquisition of unanticipated information is possible, and can generate rich data.

Requires a skilled interviewer. Needs to make sure that the responses are relevant to the questions asked.

Advantages:
- Allows the interviewer to adopt the vocabulary of the interviewee
- Provides more detailed answers. Things that may otherwise go unnoticed can be revealed. The interviewer is free to explore or expand on any point mentioned by the interviewee.
- Allows more spontaneity, and can result in a more relaxed and enjoyable interview.
- A skilled interviewer can more easily gain acceptance and build a rapport with the respondent.

Disadvantages:
- More time consuming, possibility of losing control of the interview
- Generates a lot of information that is more difficult to sort through to find relevant details.
- More difficult to analyze and get quantifiable results.
- Impossible to replicate

4.3 Semi-Structured Interviews

Used when an interviewer has a better understanding of the system requirements, but respondents opinions are unknown.

A focused interview design that allows a certain degree of flexibility

Combines features of unstructured and structured interviews. Tries to maximize the advantages of both types of interviews.

Contains both closed and open-ended questions, providing both quantitative and qualitative data.

The interviewer uses a basic script to guide interviews and maintain consistency across all interviewees. (Increases replicability.)

Starts with predetermined questions and then probes and prompts for details.
4.4 Interview Pitfalls

- Do not extend the interview beyond the agreed upon time frame. A second interview can always be scheduled if necessary.
- Not touching upon all key points when using an unstructured format.
- Watch for:
  - Perceived threat to interviewee’s self or job image.
  - Emotional reactions
  - Lying/embellishments
- Do not try to explain why the system behaves the way that it does, even if the user is complaining about it.

4.5 Response Bias and Rapport

- People have a tendency to give replies they think they aught to give.
- Response bias in favour of socially acceptable answers is more pronounced for interviews conducted in person, and less for computer-administered questionnaires.
- Some people may feel that it is them and not the system they are using; others may think that their opinions are trivial and of no importance to the study.
- It is important to be vigilant about the meaning of words and statements – ambiguity can lead to misunderstandings and bias. Mike Kuniavsky (2003) provides some helpful guidelines on how to limit bias:
  - Define terms
  - Keep questions simple
  - Don’t force opinions
  - Restate answers
  - Follow up with examples
  - Clarify with specifics
  - Use artifacts
  - Understand your expectations
  - Listen
- It is important for an interviewer to establish a rapport with the respondent. This is especially true if they are trying to gain sensitive information that an interviewee may feel embarrassed or threatened about disclosing. In order to encourage frank answers an interviewer should confirm to the respondent that all their responses are confidential.
4.6 Recording the interview (audio or video)

Remember: You must always have consent from an interviewee BEFORE the interview.

Advantages:
- A complete record will be available, and can be replayed to review
- Interviewer can listen more attentively, make eye contact, and respond more rapidly

Disadvantages:
- Interviewee may be less apt to respond as candidly - they may be more guarded in their responses.
- Increased cost (i.e. equipment, transcribing)

4.7 Note Taking

Note taking is always a good idea – whether the interview is being recorded or not. It is important to record answers accurately and avoid embellishments

Advantages:
- Keeps interviewer alert – may help to recall important questions
- Shows that the interviewer is interested, and prepared

Disadvantages:
- Eye contact is lost in writing
- May lose train of thought (both by interviewer and interviewee)
- May make the interviewee hesitant.
5.0 Example 1: What not to do during an interview

The following, excerpted from Newman and Lamming (1995), is an example of a bad interview. It demonstrates several things NOT to do when running an interview.

The Bad Interview
A = Systems analyst
B = Accounts Manager being interviewed

A: Good morning. I'm from the Information Systems Department. We sent you a memo telling you I would be coming to see you.
B: Yes I did agree with Mr Poppit, manager of the Information Systems Department, that I would be free for a discussion with one of his staff.
A: Well I'm the one doing the job. You see we want to computerize a lot more of the work of your department. You have an awful lot of staff and we feel that we could do a lot of their work by computer.
B: What did you say? Take away some of my staff? My staff are badly overworked as it is.
A: No, you don't understand. Let me explain. We are going to set up a database of all customer accounts and keep them on disk. Of course, we'll do an updating run before we use the database to input to the invoicing run and monthly reports. Here, let me show you this database layout. (Shows complex diagram and immediately launches into a detailed description of the structure of the database using technical jargon. After some minutes, B starts looking at his watch - a gesture that becomes increasingly frequent and obvious as the meeting goes on.)
B: This is all very well, but you know my department is probably the most important one in the company. We control all financial matters very carefully, and we...
A: (interrupting) Oh, don't worry about that! The computer is much more accurate than humans. (Lights cigarette.) In fact, that's going to be a problem after the new system has been installed. Unfortunately we will still have to rely to some extent on human beings. I mean your people will still have to provide the input data to the system but they'll have to be a lot faster than they are at present.
B: I'd like you to know that my department won the group award last year for courtesy and efficiency. Furthermore we always...
A: (interrupting) Yes, but we're talking here about the new upgraded computer with 48 MIPS, which will certainly be a lot faster than any of your staff. Just you wait and see.
B: No, I will not wait and see (Looks at his watch again). I am going to speak to Mr Poppit personally...

A caricature of a poorly-conducted interview; from Bingham and Davies (1992).

Exercise:
1. Can you pick out all the things that are incorrect?
2. Let's take this example and turn it into an effective interview strategy...
6.0 Contextual Interviews

If tasks have become instinctive, a user may be less aware of the cognitive processes involved and cannot explain in sufficient detail their step by step reasoning. According to Larry Wood (1997), “interviews alone are not sufficient to meet all the needs of work/task analysis”, and it is very important to observe users in their normal work environment to generate an accurate assessment. A contextual interview is one step in the process of Contextual Inquiry. It is an interview conducted within a users’ natural work setting, and involves observing and questioning the user while they are engaged in using the system under investigation. It is a process of getting information on not what people want, but what they actually do. The idea is to gather objective usage data, rather than subjective. What users need might not be the same thing as what they say they want.

A contextual interview is similar to a usability test in that a user is observed while tasks are performed on a particular system. The difference is that the interviewer is in the user’s natural work environment and most of the tasks performed are normal work operations rather than just tasks set by the evaluator. It is one of the best methods to use when the user’s work context needs to be understood or in the early stages of development (Horn, 1996).

7.0 Example 2: Contextual Interview

An enacted example of a contextual interview can be found at: http://www-2.cs.cmu.edu/~bam/uicourse/EHCIcontextualinquiry.mpg
A portion of this interview will be shown in class.
Annotated Bibliography *

General Interviews


Excellent chapter on the important aspects of interviewing, from planning and setting expectations to the assortment of question types to handling questions from users.


A set of guidelines to help frame questions in a nondirected (unstructured) interview to help elicit honest and accurate responses. Important for removing bias in questioning.


More guidelines for removing bias, specifically ambiguity in meaning. Gives examples of good and bad questions.


Short discussion on the important issues of interviewing as a data collection method in Chapter 5. Contains a great example of a poorly-conducted interview.


Short overview comparing questionnaires and interviews in Chapter 7.


Short discussion on interviews and questionnaires to retrieve user opinion in Chapter 30.


A good starting point and introduction to interviews and other techniques of asking users for feedback in Chapter 13.
Provides a methodology for structuring interviews in order to develop a work model that will assist in application development. Emphasis on the role and organization of expert knowledge.

**Contextual Inquiry/Interviews**

Short introduction to what a Contextual Inquiry is and how and when it is used. Contains an excellent foundational reference list of publications by Karen Holtzblott, Hugh Beyer and Sandra Jones.

Simple, one page handout outlining the main properties of and guidelines to Contextual Enquiry

Gives a good overview of Contextual Inquiry while providing a working example of it in use.

A video demonstration of a contextual interview while using a e-business website. This demo was constructed specifically for a lecture at Carnegie Mellon on contextual inquiries. The lecture that this demo is from can also be seen at (you must use Internet Explorer to view):
http://ilservr.sp.cs.cmu.edu/videoMain.asp?target=VIDEO/00000484&type=Basic

*Top two references are numbers 1, 2, 3 and 11.*