Shahnewaz A. Jolly

Contextual Interview

1 Overview

Contextual interview is normally known as a one-to-one interview method which takes place at the users' workplace [1]. For one interviewee, this method can have one interviewer as well as multiple interviewers. It focuses on the observation of their ongoing work to know about their work flow and their environment. It is used in the early stages of a system. It can be used after the production is accomplished.

This process is conducted by the following four ideas - (i) context; (ii) partnership; (iii) interpretation; and (iv) focus. The next four sections will explain these ideas.

1.1 Context

To understand the usability of a system, it is required to understand the work flow of the organization first where the system is being used. The best way to do this is talking to users of the system at the workplace. We can get design ideas most when we talk to the users while they are performing their real tasks using this system.

In general, people cannot give detail information when they are asked about their work. However, when they are investigated while they are doing the real tasks, then they can remember more detail information and tell us about the positive and negative characteristics of that system. Touchstones like crib sheets taped on wall or computer monitor, documents used for their tasks and in the meeting help them to remember their work experience [2].

1.2 Partnership

We should think the users as our partners in the method. When we observe their actual works, they lead the whole process through the actual activities. With the users, it is possible to determine the explicit and implicit portions of their work [1].

In this process, the users act as the experts. We will ask them questions to understand their work and working experience and will imagine the solution of their problem. In this way, we can clarify our ideas with them as well by asking questions. Then they will share their ideas and experience. This helps us to know whether our idea was valid or not. The users are not asked a fixed set of questions, rather, a number of questions arise during the interview based on the users' answers of previously asked question [2].

1.3 Interpretation

We should not have any misunderstanding about user's behavior, their problems and ideas. So, we should clarify our understanding with the users that we have got so far before wrapping up the interview.

1.4 Focus

We should know about our interview focus before the interview starts. We must try to get more information which is related to our concern to our project.

2 Planning

To perform the contextual interview, we need to plan for the interview properly. This planning process includes the following steps – (i) identifying customer; (ii) arranging the visit; (iii) selecting initial users; (iv) deciding about interviewers; and (v) setting the focus. The next five sections will describe these ideas.

2.1 Identifying Customers

At first, we have to know about the customers of the system. There can be two types of customers of the system. One is the business or industry which we expect to use the system. Another is the individuals who will interact with the system or get value of the system. Once the possible customers are identified, we will have to contact the representatives [2].

2.2 Arranging the Visit

We need to develop the framework of the visit which includes the purpose and structure of the visit, any specific request regarding the users' role who we want to interview, interview time, and intention for video and audio recording if it's required. We should include all the above information to the authority of the organization for written permission for the visit [2].

2.3 Selecting Initial Users

If we know what kind of users we need for our interview, we can go for individual selection. We can use different criteria to select the initial users – who use the system directly, who manage the users, who receive products from the system, who perform testing on the system and send purchasing recommendation to management, who make the decision of purchasing and who use the competitive products [2].

2.4 Deciding about Interviewers

We can use multiple interviewers for each interview in this method. For this reason, before starting the interview, we should decide how many interviewers will be available for each interview. We also should decide what their roles will be during the interview if we want to for the option of multiple interviewers [2].

2.5 Setting the Focus

Before starting the interview, the team meets to discuss about the focus of the interview. They also discuss what kind of information will be investigated if they have to talk to the users who do different kind of work. They also take notes on their entering assumption and focus. It helps them to discuss with the users to clarify the important issues. It's also useful to regain the focus during the interview when the conversation is going to another way [2].

Table 1. Benefits and Problems of Arranging Contextual Interview

Benefits	Problems
1. Using multiple interviewers helps to get different perspectives of the interview. 2. It also helpful when the management of the organization doesn't give recording permission. 3. Because of setting the focus before the interview, we can have the idea which information to include and which information to exclude during the interview.	1. It's tough to get real environment sometimes for interview. 2. The participants may not give that much time that we need. 3. After starting the interview, sometimes, we may realize that the participant is wrong person for interview. 4. In spite of confirming the interview, we may find no participant is available for the interview at the eleventh hour. 5. The management may not permit for recording because of confidential information of the organization. 6. Using multiple interviewers decreases the number of interview during per visit.

3 Structure

We can divide the structure of contextual interview into three parts – (i) introduction; (ii) field interview; and (iii) wrap-up. The next three sections will explain these ideas.

3.1 Introduction

In this process, we need to develop a relationship with the users. At first, we have to introduce ourselves with them and inform them the purpose of our visit. We need to tell them about the interview procedures and schedule. We should take their permission for audio and video recording if we have any plan to use any kind of recorder and explain the necessity of recording in observation and interview to them. We have to assure them that their information will remain confidential. We are interested to know about their work procedure and work place. So, we should encourage them to do what they normally do during their work like receiving phone calls, moving around the office and so on. We should ask for their opinion about the system.

3.2 Field Interview

This procedure starts with observation and discussion. We will have to observe the users doing their regular work using the system. When we will see the users doing a task that is related to our focus, we should ask them question on that task and try to get detail information about that through the discussion.

We will have to interrupt the users during their work and conversation now-and-then. When we will get something important, we will ask questions to get detail information.

We need to take notes on our observation, discussion and interview. We should use spiral-bound notebook for this purpose. We should try to write down as much information as possible without caring about good, neat and clean handwriting. However, the handwriting should be clear enough so that later it can be understood from the notes what happened during the interview.

We should know what kind of information we need to look for during the interview. In general, we have to look for information like – the role of the user in the organization, the responsibilities that the user has to handle within the organization, the types of communication the user connects in, evidence of official culture and how it is manifest informally, how the user manages his/her physical place, any artifact the user uses and gives a reference to, the user's major tasks, strategy of doing those tasks and intentions, which tasks can be done using the tool and which cannot be done [1].

We may notice different artifacts like piece of paper, online forms or any reference sheet during the interview. Then, we should ask for one copy or printout. If it's not possible to get, then we should draw the sketch of the artifact on the notebook. Also, we should know where the information of the artifact has come from, how it was created, how it is used and next who will get it [1].

We should share the design idea that we have got during the interview with the users. Then the users provide us with feedback on our idea. It helps us to know how well we have understood the users and their work.

To interpret the users' workplace, it's good to draw the physical workplace. It is more required when workplace is important for the design. Different physical models can be used for this purpose like flow model, sequence model, physical model and so on.

Digital photos help us to get the key features of the physical environment. If it is not possible to collect artifacts, then we can at least take some photographs of the workplace.

It is possible that the user's current work is not helping us to get that much information. Then we can tell the user to redo some activity that is not old more than two weeks and which will be able to give us some important information. The user can do this being at the same place and using the same software as he did for that activity. This helps us to find out some information. Again, the user can use some artifacts that help him/her to tell about some important experience [1].

3.3 Wrap-up

This is best time when we can summarize our idea about the users' role and work, and can share the idea with them. In this way, we can validate our understandings.

If the user had some questions regarding the system at the middle of the interview, we can answer those now. Also, we can give some tips to the users which can be helpful for them to use the system [2].

We should ask them whether we can contact them if it is required. Also, we should tell them that they can contact us if they feel there's something left that we should know about.

We can end the interview by thanking them or presenting something as the token of our appreciation.

Table 2. Benefits and Problems of Conducting Contextual Interview

Benefits	Problems
1. We can get idea about the real use of the system. 2. We can get more information from observation and interview. 3. As the questions arise from the participants' response, so different questions can be asked to gather more information. 4. Interruptions help to gain the focus of the interview. 5. Sharing ideas validates our understandings.	1. Sometimes, it is tough to keep the participants focused on their activities as they seem to be interested in conversation about the system. 2. We can reach an overload point if we keep on getting information in a row for a long time. 3. There is a possibility that users' current work is not helpful enough to get required information.

4 Analyzing Contextual Interview Information

After collecting information from the observation and interview, we need to analyze those properly. This process can be divided into a number of steps – (i) preparing a team room; (ii) transcribing the interview; (iii) fixing and evolving the focus of analysis; (iv) interpreting the information; (v) recording understandings; (vi) structuring the understanding; and (vii) sharing session. The next seven sections will provide us with details of these ideas.

4.1 Preparing a Team Room

It is really required to have a room where the team can do their work for analysis. The room should have a number of equipments like a computer with required software and hardware, a projector or large monitor for a big display, a flipchart for drawing the aspects of the users' work for clarification and finally a number of Sharpie Fine tip pens of different color like red, blue, green, black so that they can be used to identify different parts of work models [1].

4.2 Transcribing the Interview

It is really important to transcribe the notes and tapes when the interview is fresh in memory. It really helps us to refocus for the next set of interviews when we review the interview. We can include comments, insights, and questions in the transcript that arise in our mind [2].

4.3 Fixing and Evolving the Focus

It is required to clarify the focus before the analysis. It helps to decide which information to include and which information to exclude. During the interpretation session, different questions arise in our mind and we try to find the answers from the transcript. It may need to validate the interpretation which is generated from post-interview session. Our understanding and questions help to set the entering focus for the next interviews [2].

4.4 Interpreting the Information

We interpret information according to the focus we have set. When we change the focus, we get different aspects of the same information. We need to read the transcript and share our ideas, questions and technical issues. By moving back and forth between the specific instances and the whole session, we can develop an integrated idea about the users' work. Then we can record our design and user interface ideas as well as system work models. The knowledge we get from the interpretation session, we can reuse that throughout the next interviews. It provides us with a framework which includes – work flow, problems to complete the work and use the system, disruptions caused by the system, workarounds that are used to avoid those disruptions, transparency of the system, aspects of work process and system use that support work [2].

4.5 Recording Understanding

It is required to record our understandings. This can be done in two ways – one is using code scheme and another is using note cards or post-its. Both methods are used to group information.

The person, who has taken the interview, gives the overview of the interview. The whole team reads the transcript. One person writes down the understanding on the post-its and another person elaborates the words on the post-its by taking online notes. The collected notes represent the meeting summary. Then we have to read and record our understandings.

We need to record description of users' work, structure of the work, problem descriptions of the users' work and with the computer tools, design ideas from our understanding regarding their work and questions for the following interviews [2].

4.6 Structuring the Understanding

Structuring interview information is a bottom-up process. Affinity diagram can be used to support the process.

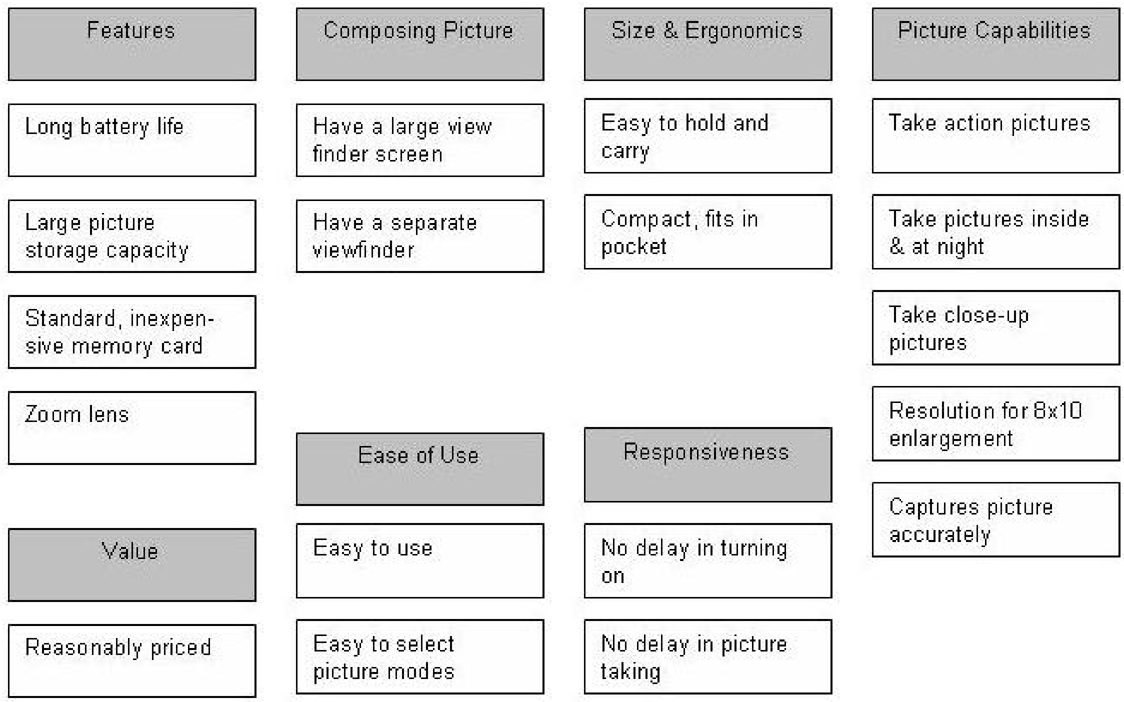

Figure 1. An example of Affinity Diagram for a next generation digital camera (Source: www.baran-systems.com)

At first, the post-its are divided among the team members. The predetermined categories are avoided here to group the post-its. One person starts the process selecting arbitrary information and placing it on white board. Then, another person selects a related piece of information and places it on the white board. The discussion begins with whether the team members get the relationship between them or not. The individual information moves among the groups until the groups seem to be fairly stable. After that, the team reviews the groups and assigns a name to those groups. We can further group the first level of grouping into second and third level of grouping. When the affinity diagram is recorded, then it shows a clear idea of the system. It can be used in requirement documents, decision-making process and focusing design meetings [2].

4.7 Sharing Session

This process is arranged for the team members who could not attend any interpretation session. It can be arranged for sharing the interpreted information with the stakeholders as well [1].

Table 3. Benefits and Problems of Analyzing Contextual Interview Information

Benefits	Problems
1. Preparing transcript of the interview helps to analyze interview information. 2. Fixing and evolving focus helps to set our entering focus for the next interviews. 3. Interpreted information is reusable across the interviews. 4. This reusable information provides us with proper idea about work flow of the organization, problems in working with the system, troubles caused by the system, workarounds used to avoid the troubles and so on. 5. Recording understanding helps to recall the understanding of the interview later. 6. Sharing session helpful when some members have missed some interpretation session or management or stakeholders need to get the idea about the interpretation. 7. Missing information can be added to the models or Affinity diagrams during sharing session.	1. It may be difficult to get a room for analyzing information. 2. Transcribing is time consuming. Someone's help is required here.

5 Worked-through Example

System – Internet Explorer browser

Users – For this system, students can be the users who have to use browsers for searching information, for checking and sending emails, streaming videos and so on. We can select ten undergraduate students.

5.1 Arranging the Interview

Arranging visit – We can talk to a school management to get the permission for visit and conducting interview.

Setting focus – Our main focus can be to find out what kind of problem users face using this browser in doing their regular work, whether the performance is better compared to the other browsers like Mozilla Firefox, Opera, Safari.

Asking for required environment and recording permission – We can ask for permission for conducting the interview in the lab where the students do their academic tasks. We should ask for recording permission as well to capture the observation and interview information in detail.

5.2 Conducting the Interview

Establishing a relationship – Before starting the interview, we should introduce ourselves with the students. We should tell them about the interview schedule and procedures. We should set the recorders if we are allowed to use those. Then, we will ask their opinion about this browser.

Field interview – We will ask them to perform their regular work using the system. We should observe them doing the tasks. We should ask them different questions during doing the tasks like what they are doing, why they are doing so, if they are getting output or performance that they expected, if they have performed these tasks using other browsers or not, which browser is better to work with and why. When they will talk about their tasks and problems, sometimes they may tell something which is not relevant to our focus. Then we should bring the conversation on the track. After getting some idea about the browser from them, we should share our understandings with them to validate.

Wrap-up – In this session, we should clarify our ideas if we have not done it before. We should end the interview by thanking them for their time and co-operation.

5.3 Analyzing Information

Preparing room and transcribing the interview – We should have a room where the team can meet for analyzing the collected information. Before starting the analyzing, we should transcribe the interview information.

Analysis – We should set our focus before the analysis. Then we can use post-its method to organize the raw information. Interpreting information will help us to reset our focus for the next interviews. We should record our understanding. After that we can organize the interpreted information using different diagrams like Affinity diagram. We can arrange a sharing session as well.

6 Annotated bibliography

[1] Holtzblatt, K., Wendell, J. B., Wood, S. *Rapid Contextual Design: A How-to Guide to Key Techniques for User-Centered Design*. Morgan Kaufmann. 1st Edition. 2004

The processes of contextual interview are described here in detail. It also provides us with the instruction that what we should during performing the interview and what we should avoid.

[2] Baecker, R. M., Grudin, J., Buxton, W., Greenberg, S. *Readings in Human-Computer Interaction: Toward the Year 2000.* Morgan Kaufmann. 2nd Edition. 1995

It has explained the contextual interview processes very well, specially the processes of conducting contextual interview.

[3] Beyer, H., Holtzblatt, K. *Contextual Design: Defining Customer-Centered Systems*. Morgan Kaufmann. 1st Edition. 1997

The book has described the process of planning for contextual interview in a nice way.

[4] Larusdottir, M. K. *Using Rapid Contextual Design at Reykjavik University*. HCIEd.2006-1 inventivity: Teaching theory, design and innovation in HCI workshop. 2006

This paper has shown the analysis process of contextual interview in detail with useful image and diagrams.