Handouts for Chapter - 4

Objective:
- Recognize the value of interactive methods for information gathering
- Construct interview questions to elicit human information requirements
- Structure interviews in a way that is meaningful to users
- Understand the concept of JAD and when to use it
- Write effective questions to survey users about their work
- Design and administer effective questionnaires

Interactive Methods to Elicit Human Information Requirements:
- Interviewing
- Joint Application Design (JAD)
- Questionnaires

Major Topics:
- Interviewing
  - Interview preparation
  - Question types
  - Arranging Questions
  - The interview report
- Joint Application Design (JAD)
  - Involvement
  - location
- Questionnaires
  - Writing questions
  - Using Scales
  - Design
  - Administering

Interviewing:
- Interviewing is an important method for collecting data on human and system information requirements
- Interviews reveal information about:
  - Interviewee opinions
  - Interviewee feelings
  - Goals
  - Key HCI concerns

Interview Preparation:
- Reading background material
- Establishing interview objectives
- Deciding whom to interview
- Preparing the interviewee
- Deciding on question types and structure

Question Types:
- Open-ended
- Closed
Open-Ended Questions:
- Open-ended interview questions allow interviewees to respond how they wish, and to what length they wish.
- Open-ended interview questions are appropriate when the analyst is interested in breadth and depth of reply.

Advantages:
- Puts the interviewee at ease
- Allows the interviewer to pick up on the interviewee's vocabulary
- Provides richness of detail
- Reveals avenues of further questioning that may have gone untapped
- Provides more interest for the interviewee
- Allows more spontaneity
- Makes phrasing easier for the interviewer
- Useful if the interviewer is unprepared

Disadvantages:
- May result in too much irrelevant detail
- Possibly losing control of the interview
- May take too much time for the amount of useful information gained
- Potentially seeming that the interviewer is unprepared
- Possibly giving the impression that the interviewer is on a "fishing expedition"

Closed Interview Questions:
- Closed interview questions limit the number of possible responses
- Closed interview questions are appropriate for generating precise, reliable data that is easy to analyze
- The methodology is efficient, and it requires little skill for interviewers to administer

Advantages:
- Saving interview time
- Easily comparing interviews
- Getting to the point
- Keeping control of the interview
- Covering a large area quickly
- Getting to relevant data

Disadvantages:
- Boring for the interviewee
- Failure to obtain rich detailing
- Missing main ideas
- Failing to build rapport between interviewer and interviewee

Bipolar Questions:
- Bipolar questions are those that may be answered with a ‘yes’ or ‘no’ or ‘agree’ or ‘disagree’
- Bipolar questions should be used sparingly
- A special kind of closed question
Probes:
- Probing questions elicit more detail about previous questions
- The purpose of probing questions is:
  - To get more meaning
  - To clarify
  - To draw out and expand on the interviewee's point
- May be either open-ended or closed-ended

Arranging Questions:
- Pyramid
  - Starting with closed questions and working toward open-ended questions
- Funnel
  - Starting with open-ended questions and working toward closed questions
- Diamond
  - Starting with closed, moving toward open-ended, and ending with closed questions

Pyramid Structure:
- Begins with very detailed, often closed questions
- Expands by allowing open-ended questions and more generalized responses
- Is useful if interviewees need to be warmed up to the topic or seem reluctant to address the topic

Funnel Structure:
- Begins with generalized, open-ended questions
- Concludes by narrowing the possible responses using closed questions
- Provides an easy, non-threatening way to begin an interview
- Is useful when the interviewee feels emotionally about the topic

Figure: 4.1 - Pyramid structure for interviewing goes from specific to general questions.
Figure: 4.2 - Funnel structure for interviewing begins with broad questions then funnels to specific questions

Diamond Structure:
- A diamond-shaped structure begins in a very specific way
- Then more general issues are examined
- Concludes with specific questions
- Combines the strength of both the pyramid and funnel structures
- Takes longer than the other structures

Figure: 4.3 - Diamond-shaped structure for interviewing combines the pyramid and funnel structures.

B. H. Gardi College of Engineering & Technology (MCA) Kapil Shukla (Asst. Prof.)
Closing the Interview:
- Always ask “Is there anything else that you would like to add?”
- Summarize and provide feedback on your impressions
- Ask whom you should talk with next
- Set up any future appointments
- Thank them for their time and shake hands

Interview Report:
- Write as soon as possible after the interview
- Provide an initial summary, then more detail
- Review the report with the respondent

Joint Application Design (JAD):
- JAD can replace a series of interviews with the user community
- JAD is a technique that allows the analyst to accomplish requirements analysis and design the user interface with the users in a group setting

Conditions that Support the Use of JAD:
- Users are restless and want something new
- The organizational culture supports joint problem-solving behaviors
- Analysts forecast an increase in the number of ideas using JAD
- Personnel may be absent from their jobs for the length of time required

Who Is Involved?
- Executive sponsor
- IS Analyst
- Users
- Session leader
- Observers
- Scribe

Where to Hold JAD Meetings:
- Offsite
  - Comfortable surroundings
  - Minimize distractions
- Attendance
  - Schedule when participants can attend
- Agenda
- Orientation meeting

Benefits of JAD:
- Time is saved, compared with traditional interviewing
- Rapid development of systems
- Improved user ownership of the system
- Creative idea production is improved

Drawbacks of Using JAD:
- JAD requires a large block of time to be available for all session participants
- If preparation or the follow-up report is incomplete, the session may not be successful
- The organizational skills and culture may not be conducive to a JAD session
Questionnaires:
- Questionnaires are useful in gathering information from key organization members about:
  - Attitudes
  - Beliefs
  - Behaviors
  - Characteristics

Planning for the Use of Questionnaires:
- Organization members are widely dispersed
- Many members are involved with the project
- Exploratory work is needed
- Problem solving prior to interviews is necessary

Question Types:
- Questions are designed as either:
  - Open-ended
    - Try to anticipate the response you will get
    - Well suited for getting opinions
  - Closed
    - Use when all the options may be listed
    - When the options are mutually exclusive

Questionnaire Language:
- Simple
- Specific
- Short
- Not patronizing
- Free of bias
- Addressed to those who are knowledgeable
- Technically accurate
- Appropriate for the reading level of the respondent

Measurement Scales:
- The two different forms of measurement scales are:
  - Nominal
  - Interval

Nominal Scales:
- Nominal scales are used to classify things
- It is the weakest form of measurement
- Data may be totaled

What type of software do you use the
1 = Word Processor
2 = Spreadsheet
3 = Database
4 = An Email Program
Interval Scales:
- An interval scale is used when the intervals are equal
- There is no absolute zero
- Examples of interval scales include the Fahrenheit or Centigrade scale

<table>
<thead>
<tr>
<th>How useful is the support given by the Technical Support Group?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOT USEFUL</td>
</tr>
<tr>
<td>AT ALL</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

Validity and Reliability:
- Reliability of scales refers to consistency in response—getting the same results if the same questionnaire was administered again under the same conditions
- Validity is the degree to which the question measures what the analyst intends to measure

Problems with Scales:
- Leniency
- Central tendency
- Halo effect

Leniency:
- Caused by easy raters
  - Solution is to move the “average” category to the left or right of center

Central Tendency:
- Central tendency occurs when respondents rate everything as average
  - Improve by making the differences smaller at the two ends
  - Adjust the strength of the descriptors
  - Create a scale with more points

Halo Effect:
- When the impression formed in one question carries into the next question
  - Solution is to place one trait and several items on each page

Designing the Questionnaire:
- Allow ample white space
- Allow ample space to write or type in responses
- Make it easy for respondents to clearly mark their answers
- Be consistent in style

Order of Questions:
- Place most important questions first
- Cluster items of similar content together
- Introduce less controversial questions first
When designing a Web survey, keep in mind that there are different ways to capture responses.

Methods of Administering the Questionnaire:
- Convening all concerned respondents together at one time
- Personally administering the questionnaire
- Allowing respondents to self-administer the questionnaire
- Mailing questionnaires
- Administering over the Web or via email

Electronically Submitting Questionnaires:
- Reduced costs
- Collecting and storing the results electronically

Summary:
- Interviewing
  - Interview preparation
  - Question types
  - Arranging Questions
  - The interview report
- Joint Application Design (JAD)
  - Involvement and location
- Questionnaires
  - Writing questions
  - Using Scales and overcoming problems
  - Design and order
  - Administering and submitting