

Software Requirements Engineering (SE2001)



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Elicitation Techniques

Knowledge Structuring Techniques

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- ❖ There are various techniques of requirements elicitation which may be used including
 - *Interviewing*
 - *Scenarios*
 - *Prototyping*
 - *Participant observation*

Interviews - 1

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- ❖ The requirements engineer or analyst discusses the system with different stakeholders and builds up an understanding of their requirements.
- ❖ Interviews are less effective for understanding the application domain and the organizational issues due to **terminology** and **political factors**.

Interviews - Types

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Closed interviews:

- The requirements engineer looks for answers to a pre-defined set of questions.

Open interviews:

- There is no predefined agenda and the requirements engineer discusses, in an open-ended way, what stakeholders want from the system.

Interviewing Essentials -⁶1

- ❖ Interviewers must be open-minded and should not approach the interview with pre-conceived notions about what is required.
- ❖ Stakeholders must be given a starting point for discussion.
 - This can be a question, a requirements proposal or an existing system.

Interviewing Essentials -⁷2

❖ Interviewers must be aware of organizational politics.

➤ Many real requirements may not be discussed because of their political implications.

Interview Steps

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- ❖ Prepare
- ❖ Conduct
 - Opening
 - Body
 - Closing
- ❖ Follow through

Prepare for Interview - 1 ⁹

❖ Before developing questions:

- Define the purpose and objectives
- Determine whether the interview should be conducted by one person or a team (define roles for team members)
- Contact interviewee to **arrange time, place, and logistics** of the interview and outline the purpose and format.
- Obtain background information.

Prepare for Interview - 2¹⁰

❖ After contacting the interviewee:

❑ Develop the interview guide:

- List name and title of interviewee and date of the interview.
- List questions in the order you will ask them
- Move from general to specific.
- Include open questions to elicit essay type response (e.g., Describe..., Tell me..., How...)
- Include closed questions to obtain specific information (e.g., Who? How much? Where?)

Conducting Interview - 1¹¹

❖ Opening

- Establish rapport and build trust and credibility
 - Make eye contact
 - Shake hands
 - Introduce yourself (and your team); provide information about role(s) in the interview process
- Clarify purpose, time frame, and key objectives.
- Transition to the core of the interview by leading into the first question.

Conducting Interview - 2¹²

❖ Body

- Follow your interview guide as you ask questions; use probes to follow up on a response.
- Be flexible and open-minded.
- Listen actively.
- Monitor your voice and body language.
- Identify interviewee's main concerns.
- Maintain rapport.
- Take accurate notes.
- Use silence and pauses.
- Ask for and obtain relevant documentation.
- Ask “catch-all” question at the end.

Conducting Interview - 2¹³

❖ Closing

- Summarize findings and link to purpose.
- Answer any questions the interviewee has.
- Determine and agree on next steps.
- Set next meeting, if necessary.
- Thank the interviewee for his/her input and for taking the time to meet with you.

Follow Through - 1

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- Immediately after the interview, fill in your notes; be sure to jot down impressions and important ideas.
- Review any documentation received from the interviewee.
- Write an interview report, if necessary.

Follow Through - 2

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- ❖ Follow up on leads obtained during the interview.
 - Contact other potential interviewees.
 - Research other data sources.
- ❖ Follow up in agreed-upon next steps.
- ❖ Send a thank you note to the interviewee, if appropriate.

Listening

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- ❖ The art of listening is most important.
- ❖ You can best impress your client by:
 - ❖ listening and giving due attention to what the client or customer is saying.
- ❖ This requires effort on part of the interviewer.

Listening steps

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❖ Hear

❖ Interpret

❖ Respond

❖ Evaluate

Hear the Message - 1

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- ❖ Listen to learn as much as you can so that you will know how to respond.
- ❖ Give the speaker your undivided attention; don't just wait for your turn to speak.
- ❖ Concentrate on the message, not the person
- ❖ Don't interrupt.

Hear the Message - 2

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- ❖ Tune out distractions such as interfering noises, wandering thoughts, and emotional reactions to the speaker's message.
- ❖ Suspend judgment about the message until you have heard all the facts.
- ❖ Take notes on the speaker's key points, if appropriate.

Hear the Message - 3

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- ❖ Learn to manage your own emotional filters, personal blinders, and biases:
 - Which can keep you from hearing what is really being said.

Interpret the Message - 1₁

- ❖ Observe the speaker's nonverbal cues (gestures, facial expressions, and tone of voice) and factor them into your interpretation.
- ❖ Listen for the attitudes and motives behind the words.
- ❖ Listen for the speaker's needs and wants.



Interpret the Message - 2

- ❖ Put the message in a broader context.
- ❖ Integrate what you've just heard into what you already know about the speaker or subject.

Non-verbal Response to the Message

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- ❖ Make eye contact
- ❖ Nod affirmatively
- ❖ Use facial expressions and gestures to indicate that you are listening

Verbal Response to the Message

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- ❖ Ask questions and probe to get more specific information and ensure understanding.
- ❖ Rephrase the message using different words to check the meaning.
- ❖ Make empathetic remarks that acknowledge you understand the speaker's feelings, without offering opinions or judging him or her

Evaluate the message - 1²⁵

- ❖ Identify the main point of the message and its supporting evidence.
- ❖ Clarify facts, perceptions, and opinions.
- ❖ Distinguish between fact and opinion.
- ❖ Group facts in like categories and logical order (importance, chronology).

Evaluate the message - 2²⁶

- ❖ Base your opinion about the message on the facts.
- ❖ Use the total message – the needs, the context, and the content – to follow through on what you hear.

Brainstorming

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- ❖ Facilitated application specification technique (FAST)
- ❖ Group activity
- ❖ All members are equal
- ❖ Off-site meeting location is preferred



THANK YOU

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