

# Technical Dimension

## Forms:

| To whom     | Form                    | Description  |
|-------------|-------------------------|--|
| Interviewer | Guiding question        | Questions in plain language questions, with examples and with check boxes not to forget anything                                   |
| Interviewer | Key points of interview | To help with notes taking and to guide final questions. <b>Print from the PPT file in this folder.</b>                             |
| Interviewee | Interview questions     | To help to visualize and go back to previous points. <b>Print "KEY POINTS OF INTERVIEW" from the PPT file in this same folder.</b> |

## Instructions:

1. Explain the purpose of the interview and ask the interviewee to sign then consent form
2. Hand out to the interviewee the "Interview questions" form
3. Ask questions in "Guiding questions" form
4. During the interview, make notes on "Key points of interview" form. Make sure it is readable, as interviewee will see it
5. Thank the interviewee and make yourself available to answer any further questions

**Please print the forms for the respective dimension and take them with you to the interview.**

**Print "KEY POINTS OF INTERVIEW" same folder.**

**TECHNICAL DIMENSION** (Interviewer copy. Tick questions as you advance in the interview.)

For the technical dimensions, two scenarios exist:

- (a) conceptual idea. I.e. no technical solution has been designed or implemented
- (b) a software system exists (system evolution) or at least a technical design exists

**Specific Questions**

**No reminders in this dimension.**

**MAINTAINABILITY**

- [ ] (a) (b) How long is the **system expected to be used for**?
- [ ] (b) In ten years time, how difficult would it be for a developer to **fix bugs** in the system?
- [ ] (a) (b) Are the **operating system** and **runtime environment** expect to change?
- [ ] (b) If so, what would be required from maintainers of this system?
- [ ] (a) (b) Can the correctness of the system be **affected by other systems**?
- [ ] (a) (b) Can this system **affect the correctness of others**?

**USABILITY**

- [ ] (a) (b) **Who is expected to use** the system?
- [ ] (a) (b) How **used are they** to interact with systems like this?
- [ ] (a) (b) What can **ease / make more difficult the use** of the system?
- [ ] (b) Can **first-time users intuitively use** the system?
- [ ] (b) What are first-time, non-technical users likely to respond when asked if they **would like to use this system again**?
- [ ] (b) Can experienced users get their **job done efficiently**? Are they likely to bypass the system for any reason?

**EXTENSIBILITY AND ADAPTABILITY**

- [ ] (a) (b) How easy would it be to add substantial **new features easier/more difficult**?
- [ ] (a) (b) How likely it is that someone will want to **use the system in another context**?
- [ ] (a) (b) What can make that easier/more difficult?
- [ ] (a) (b) Is the system required to adapt **itself** to fit new usage scenarios?
- [ ] (a) (b) What can make that easier/more difficult?

**SECURITY**

- [ ] (a) (b) Which **assets controlled by this system would be desirable** to an attacker?
- [ ] (a) (b) What are the **risks** associated with these assets? E.g. financial information, people's or preferences, purchase history, personal data, etc.
- [ ] (a) (b) What are the likely **vulnerabilities** of the system?

**SCALABILITY**

- [ ] (a) (b) How likely is the system required to support **changes in workload**?
- [ ] (a) (b) What can make that easier/more difficult?

**Turn sheet**

### Finishing Questions

- [ ] During the interview, use template to take notes of TOPICS and KEY POINTS raised.                    whereabouts  
*Sample key points.* “MAINTAINABILITY:ease to maintain”, “USABILITY:intuitive use”, “EXTENSIBILITY AND ADAPTABILITY:difficult to extend”, “SECURITY:risk of personal data disclosure”, “SCALABILITY:picks in workload”.
- [ ] Then say:  
*Let’s take this scenario to the extreme: imagine that many people worldwide are using this or similar system for many years or decades. Think about how one thing may lead to another. We call this a chain of effects. For example, the greater the user base, the more complaints might be generated in the social media if there is a security breach, which can affect the image of the business and potentially the whole market.*
- [ ] Show the list of key points captured, and ask:  
*Looking at these key points you mentioned during the interview. Can you think of chains of effects for **some of these key points** in the extreme scenario above?*
- [ ] Encourage the interviewee to think about as many chains of effects as he or she can.

Is there any **other issue** that is relevant to the **system itself** that may be affected?

#### Evaluation Questions:

- Background of the interviewee
  - a. Age
  - b. Gender
  - c. Profession
  - d. Expertise
  - e. Education
- Were the questions easy to understand?
- Have the questions been useful for triggering **relevant** discussions on the possible effects of software system in the society / the individual / the environment / the economy / its own ability to endure ?
  - a. Why or why not?

**TECHNICAL DIMENSION** (Interviewee copy )

|  |   |
|--|---|
| <p>For the technical dimensions, two scenarios exist:</p> <ul style="list-style-type: none"> <li>- (a) conceptual idea. I.e. no technical solution has been designed or implemented</li> <li>- (b) a software system exists (system evolution) or at least a technical design exists</li> </ul>  |   |
| <b>Specific Questions</b>  | <b>Final Questions</b>  |
| <p><b>MAINTAINABILITY</b></p> <p>[ ] (a) (b) How long is the <b>system expected to be used for</b>?</p> <p>[ ] (b) In ten years time, how difficult would it be for a developer to <b>fix bugs</b> in the system?</p> <p>[ ] (a) (b) Are the <b>operating system</b> and <b>runtime environment</b> expect to change?</p> <p>[ ] (b) If so, what would be required from maintainers of this system?</p> <p>[ ] (a) (b) Can the correctness of the system be <b>affected by other systems</b>?</p> <p>[ ] (a) (b) Can this system <b>affect the correctness of others</b>?</p>                              | <p>[ ] Extreme scenario:</p> <ul style="list-style-type: none"> <li>● Imagine that many people worldwide are using this or similar system for many years or decades.</li> <li>● Think about how one thing may lead to another.</li> <li>● For example, the greater the user base, the more complaints might be generated in the social media if there is a security breach, which can affect the image of the business and potentially the whole market.</li> </ul> <p>[ ] Looking at this list of key points you mentioned during the interview, can you think of a chain of effects for some of these key points in the extreme scenario above?</p> |
| <p><b>USABILITY</b></p> <p>[ ] (a) (b) <b>Who is expected to use</b> the system?</p> <p>[ ] (a) (b) How <b>used are they</b> to interact with systems like this?</p> <p>[ ] (a) (b) What can <b>ease / make more difficult the use</b> of the system?</p> <p>[ ] (b) Can <b>first-time users intuitively use</b> the system?</p> <p>[ ] (b) What are first-time, non-technical users likely to respond when asked if they <b>would like to use this system again</b>?</p> <p>[ ] (b) Can experienced users get their <b>job done efficiently</b>? Are they likely to bypass the system for any reason?</p> |   |
| <p><b>EXTENSIBILITY AND ADAPTABILITY</b></p> <p>[ ] (a) (b) How easy would it be to add substantial <b>new features easier/more difficult</b>?</p> <p>[ ] (a) (b) How likely it is that someone will want to <b>use the system in another context</b>?</p> <p>[ ] (a) (b) What can make that easier/more difficult?</p> <p>[ ] (a) (b) Is the system required to adapt <b>itself</b> to fit new usage scenarios?</p> <p>[ ] (a) (b) What can make that easier/more difficult?</p>  |   |
| <p><b>SECURITY</b></p> <p>[ ] (a) (b) Which <b>assets controlled by this system would be desirable</b> to an attacker?</p> <p>[ ] (a) (b) What are the <b>risks</b> associated with these assets? E.g. financial information, people’s whereabouts or preferences, purchase history, personal data, etc.</p> <p>[ ] (a) (b) What are the likely <b>vulnerabilities</b> of the system?</p>  |   |
| <p><b>SCALABILITY</b></p> <p>[ ] (a) (b) How likely is the system required to support <b>changes in workload</b>?</p> <p>[ ] (a) (b) What can make that easier/more difficult?</p>   |   |
| <p>Is there any <b>other issue</b> that is relevant to the <b>system itself</b> that may be affected?</p>  |   |

