

Interview Protocol

Relevant Factors of Requirements Quality

Participant Information

Q0	Name	
Q1	Position	
Q2	Experience	
Q2a	- In the position	
Q2b	- In the organization	
Q2c	- In general (SE/RE)	

Introduction

Prompt: This interview is part of a family of studies aimed at analyzing the quality of requirements specifications. The current interview study is one approach towards analyzing the impact of quality defects. By identifying and understanding these defects we aim to be able to effectively detect and mitigate them early in the development process. The goal is to support the way of working surrounding requirements specifications.

All information is confidential: none of the data generated in this interview will be disclosed without approval of a company-internal responsible.

Requirements Quality

Prompt: The purpose of the main part of the interview is to elicit specific quality defects which you experience when working with requirements specifications. To structure this part, I have classified the overarching term “quality” into different aspects, like “ambiguity” or completeness”.

For every aspect we will talk about I will give you a brief definition to establish a common understanding of the aspect. Then, I would like you to iteratively name all defects you are aware of in the following structure:

1. The quality defect itself (e.g., “passive voice in requirements”)
2. The impact of the defect (e.g., “the primary actor is unknown”, “stakeholders need to be contacted again”) on an activity depending on the requirement.
3. Optionally, the context in which the defect has an effect (e.g., “only happens when the domain is unknown/new”)

This will enable to understand, which quality defects are relevant for the subsequent work and therefore must be investigated further.

Ambiguity

Definition: Ambiguity is the degree to which the text in the requirements specification can be interpreted uniquely. The quality aspect of ambiguity is violated if text can be interpreted in more than one way.

Completeness

Definition: Completeness is the degree to which all relevant information is contained in the requirements specification. The quality aspect of completeness is violated if important information is missing.

Complexity

Definition: Complexity is the degree to which requirements are adequately complex. The quality aspect of complexity is violated if the granularity or extent of a requirement is insufficient.

Consistency

Definition: Consistency is the degree to which the requirements specification is consistent – both in terminology, but also in prescribed functionality – with other artifacts. The quality aspect of consistency is violated if a requirements specification contains information that contradicts information of other documents.

Correctness

Definition: Correctness is the degree to which the requirements specification truthfully reflects the requirements that were intended to be described. The quality aspect of correctness is violated if the requirements specification contains wrong information.

Redundancy

Definition: Redundancy is the degree to which information is unnecessarily repeated. The quality aspect of redundancy is violated if similar information appears more often than necessary.

Relevancy

Definition: Relevancy is the degree to which the requirements specification contains only necessary information. The quality aspect of completeness is violated if the requirements specification contains information not relevant to the requirements.

Reusability

Definition: Reusability is the degree to which reusing the requirements specification is supported. The quality aspect of reusability is violated if considering the requirements specification in a subsequent process hinders the process.

Traceability

Definition: Traceability is the degree to which information is linked between artifacts, e.g., by giving explicit references. The quality aspect of traceability is violated if explicit trace links are missing and not obvious.

Understandability

Definition: Understandability is the degree to which the requirements specification can be comprehended in an adequate amount of time. The quality aspect of understandability is violated if the requirements specification takes significant time and effort to be fully comprehended.

Verifiability

Definition: Verifiability is the degree to which the requirements of a requirements specification can be translated into verifiable statements. The quality aspect of verifiability is violated if it is unclear, under which conditions a requirement is met or not.