

21 Questions - Requirements Specification

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1 Introduction

This section of the SRS should provide an overview of the entire SRS.

1.1 Purpose

- a) Delineate the purpose of the SRS
- b) Specify the intended audience for the SRS

1.2 Scope

- a) Identify the software product(s) to be produced by name (e.g., Host DBMS, Report Generator, etc.)
- b) Explain what the software product(s) will, and, if necessary, will not do
- c) Describe the application of the software being specified, including relevant benefits, objectives, and goals
- d) Be consistent with similar statements in higher-level specifications (e.g., the system requirements specification), if they exist

1.3 Definitions, Acronyms, and Abbreviations

Area of Interest The phenomenon initially unknown to the system but known to the user. Throughout this document it will be referred to as the **AOE**.

1.4 References

- a) Provide a complete list of all documents referenced elsewhere in the SRS
- b) Identify each document by title, report number (if applicable), date, and publishing organization
- c) Specify the sources from which the references can be obtained

1.5 Overview

- a) Describe what the rest of the SRS contains
- b) Explain how the SRS is organized

2 Overall Description

This section of the SRS should describe the general factors that affect the product and its requirements. It does not state specific requirements; it provides a background for those requirements and makes them easier to understand.

2.1 Product Perspective

- a) Put the product into perspective with other related products, i.e., context
- b) If the product is independent and totally self-contained, it should be stated here
- c) If the SRS defines a product that is a component of a larger system, as frequently occurs, then this subsection should relate the requirements of that larger system to functionality of the software and should identify interfaces between that system and the software
- d) A block diagram showing the major components of the larger system, interconnections, and external interfaces can be helpful

2.2 Product Functions

- a) Provide a summary of the major functions that the software will perform.
 - **Example:** An SRS for an accounting program may use this part to address customer account maintenance, customer statement, and invoice preparation without mentioning the vast amount of detail that each of those functions requires.
- b) Functions should be organized in a way that makes the list of functions understandable to the customer or to anyone else reading the document for the first time
- c) Textual or graphical methods can be used to show the different functions and their relationships
 - Such a diagram is not intended to show a design of a product, but simply shows the logical relationships among variables

2.3 User Characteristics

- a) Describe those general characteristics of the intended users of the product including educational level, experience, and technical expertise
- b) Do not state specific requirements, but rather provide the reasons why certain specific requirements are later specified

2.4 Constraints

- a) Provide a general description of any other items that will limit the developer's options

2.5 Assumptions and Dependencies

- a) List each of the factors that affect the requirements stated in the SRS
- b) These factors are not design constraints on the software but are, rather, any changes to them that can affect the requirements in the SRS
 - **Example:** An assumption may be that a specific operating system will be available on the hardware designated for the software product. If, in fact, the operating system is not available, the SRS would then have to change accordingly.

2.6 Apportioning of Requirements

- a) Identify requirements that may be delayed until future versions of the system

3 Functional Requirements

This section of the SRS should contain all of the software requirements to a level of detail sufficient to enable designers to design a system to satisfy those requirements, and testers to test that the system satisfies those requirements. Throughout this section, every stated requirement should be externally perceivable by users, operators, or other external systems. These requirements should include at a minimum a description of every input (stimulus) into the system, every output (response) from the system, and all functions performed by the system in response to an input or in support of an output.

You normally have two options for organizing your functional requirements:

1. Organize first by *business events*, then by *viewpoints*
2. Organize first by *viewpoints*, then by *business events*

Choose the one which makes the most sense.

For example, if you wish to organization by business events:

BE1. Business Event

VP1.1 Viewpoint

- i. Requirement
- ii. Requirement
- iii. ...

VP1.2 Viewpoint

- i. Requirement
- ii. Requirement
- iii. ...

VP1.3 ...

BE2. Business Event

VP2.1 Viewpoint

- i. Requirement
- ii. Requirement
- iii. ...

VP2.2 Viewpoint

- i. Requirement
- ii. Requirement
- iii. ...

VP2.3 ...

OR, if you wish to organization by viewpoints:

VP1. Viewpoint

BE1.1 Business Event

- i. Requirement
- ii. Requirement
- iii. ...

- BE1.2 Business Event
 - i. Requirement
 - ii. Requirement
 - iii. ...

BE1.3 ...

VP2. Viewpoint

- BE2.1 Business Event
 - i. Requirement
 - ii. Requirement
 - iii. ...

- BE2.2 Business Event
 - i. Requirement
 - ii. Requirement
 - iii. ...

BE2.3 ...

4 Non-Functional Requirements

4.1 Look and Feel Requirements

1. The system shall be easy to use for any user over the age of 10 use.
2. The system shall display any information in a visual way.
3. The system shall show locations in a graphical way.
4. The system shall include screen prompts when a user first uses the application, to explain the functionality.

4.1.1 Appearance Requirements

LF1.

4.1.2 Style Requirements

LF1.

4.2 Usability and Humanity Requirements

1. The system shall provide question that are easy to understand.
2. The system shall be easy to navigate and understand the layout.

4.2.1 Ease of Use Requirements

UH1.

4.2.2 Personalization and Internationalization Requirements

UH1.

4.2.3 Learning Requirements

UH1.

4.2.4 Understandability and Politeness Requirements

UH1.

4.2.5 Accessibility Requirements

UH1.

4.3 Performance Requirements

4.3.1 Speed and Latency Requirements

1. Any operation that does not require use of the internet will respond in 2 seconds.
2. Any operation that does require use of the internet will respond within 30 seconds.

4.3.2 Safety-Critical Requirements

PR1.

4.3.3 Precision or Accuracy Requirements

1. The system shall predict the correct location with 75% accuracy.
2. The system shall predict the user's environment 90% of the time.
3. The system shall predict landmarks 80% of the time.

4.3.4 Reliability and Availability Requirements

PR1.

4.3.5 Robustness or Fault-Tolerance Requirements

PR1.

4.3.6 Capacity Requirements

PR1.

4.3.7 Scalability or Extensibility Requirements

1. The system should be able to add new AOE's easily.

4.3.8 Longevity Requirements

PR1.

4.4 Operational and Environmental Requirements

1. The system shall check to ensure that there is sufficient internet connectivity.
2. The system shall ensure that any servers are up for 80% of the time.

4.4.1 Expected Physical Environment

OE1.

4.4.2 Requirements for Interfacing with Adjacent Systems

OE1.

4.4.3 Productization Requirements

OE1.

4.4.4 Release Requirements

OE1.

4.5 Maintainability and Support Requirements

4.5.1 Maintenance Requirements

1. The system shall be easy to update.
2. The system shall

4.5.2 Supportability Requirements

1. The system shall be able to run on 90% of Android devices.

4.5.3 Adaptability Requirements

1. The system shall be

4.6 Security Requirements

1. Any information that enters or exits the system shall be encrypted.
2. The system will not store or transmit information related to user location.
3. The system will not store usernames or passwords.

4.6.1 Access Requirements

SR1. The system should be able to run anywhere that a data or wifi connection is available.

4.6.2 Integrity Requirements

SR1.

4.6.3 Privacy Requirements

SR1.

4.6.4 Audit Requirements

SR1.

4.6.5 Immunity Requirements

SR1.

4.7 Cultural and Political Requirements

4.7.1 Cultural Requirements

1. The system shall ensure that culturally significant AOE's are presented in a respectful manner.

4.7.2 Political Requirements

1. The system shall show no bias towards any political party or related organization.
2. The system will not endorse or associate with any political group or government.

4.8 Legal Requirements

1. The system shall operate within the laws of Canada and the United States of America.

4.8.1 Compliance Requirements

LR1.

4.8.2 Standards Requirements

LR1.

A Division of Labour

Include a Division of Labour sheet which indicates the contributions of each team member. This sheet must be signed by all team members.

IMPORTANT NOTES

- Be sure to include all sections of the template in your document regardless whether you have something to write for each or not
 - If you do not have anything to write in a section, indicate this by the *N/A*, *void*, *none*, etc.
- Uniquely number each of your requirements for easy identification and cross-referencing
- Highlight terms that are defined in Section 1.3 (**Definitions, Acronyms, and Abbreviations**) with **bold**, *italic* or underline
- For Deliverable 1, please highlight, in some fashion, all (you may have more than one) creative and innovative features. Your creative and innovative features will generally be described in Section 2.2 (**Product Functions**), but it will depend on the type of creative or innovative features you are including.