Deliverable #1 Template

SE 3A04: Software Design II – Large System Design

1 Introduction

1.1 Purpose

The purpose of the software requirements specification for this project is to document the results of the analysis of the requirments pertaining to this project. This document will demonstrate the mutual understanding of the problem to be solved and what the eventual system will be tested against to ensure that the project fufilled its objectives. The document has an important role in laying down the foundation of what the rest of the project will be built off of. The intended audience of the software requirements specification is for the software developers, researchers, and advanced users who would be involved and interested in the basis of how the project's development was determined. It allows the specified groups of people to understand the reasoning behind the decisions made in regards to the project.

1.2 Scope

The application being developed, called INSERT NAME, is a simulation of a fictional spaceship that the user will interact with to ensure the spaceship reaches the objective of the simulation. An engaging and entertaining experience will be provided to the user in a real-time simulator that will provide various challegs to the user to overcome. It will not simulate realistic physics or be restricted to non-fictional material. INSERT NAME is a purely entertainment application that responds to the users stimuli in response to various events in the simulation to provide a satisfying experience to the user that will ensure the user's interest is held. It is not meant to fustrate the user into not utilizing the application anymore but to keep INSERT NAME engaging enough to ensure the user is not bored.

1.3 Definitions, Acronyms, and Abbreviations

a) Provide the definitions of all terms, acronyms, and abbreviations required to properly interpret the SRS

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

The rest of the SRS is seperated into three sections, the first being the overall description of the project. This section describes 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. Functional requirements is the next section which contains sufficient level of detail to enable designers to design a system to satisfy all the requirements stated. These requirments specify what the project must do and describe the action that the product must take to carry out the intended work. The last section of the SRS is the non-functional requirements which also assist in guiding developers in what the final state of the product is. An appendix is also included to the SRS that clearly states how the divisison of labour was between the software developers in the project.

2 Overall Description

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

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

4.1.1 Appearance Requirements

LF1.

4.1.2 Style Requirements

LF1.

4.2 Usability and Humanity Requirements

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

PR1.

4.3.2 Safety-Critical Requirements

PR1.

4.3.3 Precision or Accuracy Requirements

PR1.

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

PR1.

4.3.8 Longevity Requirements

PR1.

4.4 Operational and Environmental Requirements

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

MS1.

4.5.2 Supportability Requirements

MS1.

4.5.3 Adaptability Requirements

MS1.

4.6 Security Requirements

4.6.1 Access Requirements

SR1.

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

CP1.

4.7.2 Political Requirements

CP1.

4.8 Legal Requirements

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 <u>underline</u>

- 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.