

# Deliverable #1 Template

## SE 3A04: Software Design II – Large System Design

### 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

- 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

- 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. A teacher must be able to create a course or delete an existing course.

VP1.1 Viewpoint

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

VP1.2 Viewpoint

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

VP1.3 ...

BE2. A teacher must be able to add an assignment or delete an existing assignment.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE3. A teacher must be able view a submitted assignment. Then may choose to assign either a numerical or letter grade to the assignment.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE4. A teacher must be able to add a quiz or delete an existing quiz.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE5. The owner of a course, must be able to specify a time period for which a quiz or assignment is visible to all enrolled students.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE6. A student must be able to enroll within a course owned by a teacher.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE7. A student must be able to view all grades assigned to them for all assignments and quizzes for all courses in which the student is enrolled.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE8. A student must be able to view all assignments within a course in which they are enrolled provided that the owner of the course has marked them visible to be all students.

VP2.1 Viewpoint

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

VP2.2 Viewpoint

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

VP2.3 ...

BE9. A student may submit a file in response to a only if the assignment was made visible to all students and if a submission was allowed for that assignment.

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 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.