Software Requirements Specification Template

CS 258 Software Engineering

January 2018

The following annotated template shall be used to complete the Software Requirements Specification (SRS) assignment of CS 258.

**Template Usage:**

Text contained within angle brackets (‘<’, ‘>’) shall be replaced by your project-specific information and/or details. For example, <Project Name> will be replaced with either ‘Smart Home’ or ‘Sensor Network’.

Italicized text is included to briefly annotate the purpose of each section within this template. This text should not appear in the final version of your submitted SRS.

This cover page is not a part of the final template and should be removed before your SRS is submitted.

**Acknowledgements:**

Sections of this document are based on the IEEE Guide to Software Requirements Specification (ANSI/IEEE Std. 830-1984). The SRS templates of Dr. Orest Pilskalns (WSU, Vancover) and Jack Hagemeister (WSU, Pullman) have also been used as guides in developing this.

Leave management system

Software Requirements Specification

1.0

2018-01-23

Group B

Prepared for

CS 258 Software Engineering

Spring 2018

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Description** | **Author** | **Comments** |
| 2018-01-23 | Version 1 | Arjun | Initial proposal |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Document Approval

The following Software Requirements Specification has been accepted and approved by the following:

|  |  |  |  |
| --- | --- | --- | --- |
| **Signature** | **Printed Name** | **Title** | **Date** |
|  | <Your Name> |  |  |
|  |  |  |  |
|  |  |  |  |

**Table of Contents**

Revision History ii

Document Approval ii

1. Introduction i

1.1 Purpose i

1.2 Scope i

1.3 Definitions, Acronyms, and Abbreviations i

1.4 References i

1.5 Overview i

2. General Description ii

2.1 Product Perspective ii

2.2 Product Functions ii

2.3 User Characteristics ii

2.4 General Constraints ii

2.5 Assumptions and Dependencies ii

3. Specific Requirements ii

3.1 External Interface Requirements iii

3.1.1 User Interfaces iii

3.1.2 Hardware Interfaces iii

3.1.3 Software Interfaces iii

3.1.4 Communications Interfaces iii

3.2 Functional Requirements iii

3.2.1 <Functional Requirement or Feature #1> iii

3.2.2 <Functional Requirement or Feature #2> iii

3.3 Classes / Objects iii

3.3.1 <Class / Object #1> iii

3.3.2 <Class / Object #2> iii

3.4 Non-Functional Requirements iii

3.4.1 Performance iv

3.4.2 Reliability iv

3.4.3 Availability iv

3.4.4 Security iv

3.4.5 Maintainability iv

3.4.6 Portability iv

3.5 Inverse Requirements iv

3.6 Design Constraints iv

3.7 Logical Database Requirements iv

3.8 Other Requirements iv

A. Appendices iv

A.1 Appendix 1 iv

A.2 Appendix 2 iv

# 1. Introduction

“leave management system” aims to be a web-based leave application and viewing system. It is aimed to be used in the intranet with no access to the outside web. It provides the facility of having recommending authorities and sanctioning authorities, it also provides regular backup and recovery capabilities.

## 1.1 Purpose

This document aims to provide all relevant details to implement “leave management system”. It has primarily been aimed at a software engineer looking to implement the same.

## 1.2 Scope

The “leave management system” contains X parts

1. Authentication screen

This will be the first page that opens when visiting the website.

2. Administration Console

This is the page allows the administrator to

i. backup, recover the database

ii. add, remove and modify Employee.

3. Employee Creation/Modification Page.

This page allows the administrator to create employees with details

i. Name

ii. Designation

and assign them privileges like.

i. Viewing authority

ii. Applying on behalf of someone else

iii. Sanctioning (tentative)

iv. Recommending (tentative)

4. Employee page

This page lists allows the employee to

i. View employee details

ii. Current leave status

iii. Recommend leaves (if applicable)

iv. Sanction leaves (if applicable)

3. Leave Calendar

This page provides

4. Leave list

5. Leave form

*This subsection should:*

*(1) Identify the software product(s) to be produced by name; for example, Host DBMS, Report Generator, etc*

*(2) Explain what the software product(s) will, and, if necessary, will not do*

*(3) Describe the application of the software being specified. As a portion of this, it should:*

*(a) Describe all relevant benefits, objectives, and goals as precisely as possible. For example, to say that one goal is to provide effective reporting capabilities is not as good as saying parameter-driven, user-definable reports with a 2 h turnaround and on-line entry of user parameters.*

*(b) Be consistent with similar statements in higher-level specifications (for example, the System Requirement Specification), if they exist. What is the scope of this software product.*

## 1.3 Definitions, Acronyms, and Abbreviations

*This subsection should provide the definitions of all terms, acronyms, and abbreviations required to properly interpret the SRS. This information may be provided by reference to one or more appendixes in the SRS or by reference to other documents.*

## 1.4 References

*This subsection should:*

*(1) Provide a complete list of all documents referenced elsewhere in the SRS, or in a separate, specified document.*

*(2) Identify each document by title, report number - if applicable - date, and publishing organization.*

*(3) Specify the sources from which the references can be obtained.*

*This information may be provided by reference to an appendix or to another document.*

## 1.5 Overview

*This subsection should:*

*(1) Describe what the rest of the SRS contains*

*(2) Explain how the SRS is organized.*

# 2. General Description

*This section of the SRS should describe the general factors that affect 'the product and its requirements. It should be made clear that this section does not state specific requirements; it only makes those requirements easier to understand.*

## 2.1 Product Perspective

*This subsection of the SRS puts the product into perspective with other related products or*

*projects. (See the IEEE Guide to SRS for more details).*

## 2.2 Product Functions

This subsection of the SRS should provide a summary of the functions that the software will perform.

## 2.3 User Characteristics

This subsection of the SRS should describe those general characteristics of the eventual users of the product that will affect the specific requirements. (See the IEEE Guide to SRS for more details).

## 2.4 General Constraints

*This subsection of the SRS should provide a general description of any other items that will*

*limit the developer’s options for designing the system. (See the IEEE Guide to SRS for a partial list of possible general constraints).*

## 2.5 Assumptions and Dependencies

This subsection of the SRS should list each of the factors that affect the requirements stated in the SRS. These factors are not design constraints on the software but are, rather, any changes to them that can affect the requirements in the SRS. For example, an assumption might 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.

# 3. Specific Requirements

This will be the largest and most important section of the SRS. The customer requirements will be embodied within Section 2, but this section will give the D-requirements that are used to guide the project’s software design, implementation, and testing.

Each requirement in this section should be:

* Correct
* Traceable (both forward and backward to prior/future artifacts)
* Unambiguous
* Verifiable (i.e., testable)
* Prioritized (with respect to importance and/or stability)
* Complete
* Consistent
* Uniquely identifiable (usually via numbering like 3.4.5.6)

Attention should be paid to the carefully organize the requirements presented in this section so that they may easily accessed and understood. Furthermore, this SRS is not the software design document, therefore one should avoid the tendency to over-constrain (and therefore design) the software project within this SRS.

## 3.1 External Interface Requirements

### 3.1.1 User Interfaces

### 3.1.2 Hardware Interfaces

### 3.1.3 Software Interfaces

### 3.1.4 Communications Interfaces

## 3.2 Functional Requirements

This section describes specific features of the software project. If desired, some requirements may be specified in the use-case format and listed in the Use Cases Section.

### 3.2.1 <Functional Requirement or Feature #1>

3.2.1.1 Introduction

3.2.1.2 Inputs

3.2.1.3 Processing

3.2.1.4 Outputs

3.2.1.5 Error Handling

### 3.2.2 <Functional Requirement or Feature #2>

…

## 3.3 Classes / Objects

### 3.3.1 <Class / Object #1>

3.3.1.1 Attributes

3.3.1.2 Functions

<Reference to functional requirements and/or use cases>

### 3.3.2 <Class / Object #2>

…

## 3.4 Non-Functional Requirements

Non-functional requirements may exist for the following attributes. Often these requirements must be achieved at a system-wide level rather than at a unit level. State the requirements in the following sections in measurable terms (e.g., 95% of transaction shall be processed in less than a second, system downtime may not exceed 1 minute per day, > 30 day MTBF value, etc).

### 3.4.1 Performance

### 3.4.2 Reliability

### 3.4.3 Availability

### 3.4.4 Security

### 3.4.5 Maintainability

### 3.4.6 Portability

## 3.5 Inverse Requirements

State any \*useful\* inverse requirements.

## 3.6 Design Constraints

Specify design constrains imposed by other standards, company policies, hardware limitation, etc. that will impact this software project.

## 3.7 Logical Database Requirements

Will a database be used? If so, what logical requirements exist for data formats, storage capabilities, data retention, data integrity, etc.

## 3.8 Other Requirements

Catchall section for any additional requirements.

# A. Appendices

Appendices may be used to provide additional (and hopefully helpful) information. If present, the SRS should explicitly state whether the information contained within an appendix is to be considered as a part of the SRS’s overall set of requirements.

*Example Appendices could include (initial) conceptual documents for the software project, marketing materials, minutes of meetings with the customer(s), etc.*

## A.1 Appendix 1

## A.2 Appendix 2