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| SOFTWARE REQUIREMENT SPECIFICATIONS |
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# Introduction

## Purpose

*This subsection should*

1. *Define the purpose of the SRS*
2. *Specify the intended audience for the SRS*

## Scope

*This subsection should*

1. *Identify the software product(s) to be produced by name (e.g. Call Recording, Report generator etc.)*
2. *Explain what the S/W products* ***will and****, if necessary,* ***will not do***
3. *Describe the application of the S/W being specified including relevant benefits, objectives and goals*
4. *Be consistent with similar statements in high-level specifications (e.g. User Needs, Technical Proposal etc.), if they exist*

## Product / System Overview

*An overview or summary of the functions that the software will perform. A block diagram showing the different functions/components and their relationships may be placed.*

## User Characteristics

*This subsection of the SRS should describe those general characteristics of the intended users of the product/system including educational level, experience, and technical expertise etc. that will affect the specific requirements. It should not be used to state specific requirements, but rather should provide the reasons why& how it affects certain specific requirements.*

## Definitions, Acronyms & 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*

## 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. These include:*

*a) Regulatory policies;*

*b) Hardware limitations (e.g., signal timing requirements);*

*c) Interfaces to other applications;*

*d) Parallel operation;*

*e) Audit functions;*

*f) Control functions;*

*g) Higher-order language requirements;*

*h) Signal handshake protocols (e.g., XON-XOFF, ACK-NACK);*

*i) Reliability requirements;*

*j) Criticality of the application;*

*k) Safety and security considerations.*

## 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 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.*

## References

*This subsection should*

1. *Provide a complete list of all documents referenced elsewhere in the SRS*
2. *Identify each document by title, report number (if applicable), and publishing organization*
3. *Specify the sources from which the reference can be obtained. This information may be provided by reference to an appendix or to another document*

# Functional Requirements

*This section of the SRS should contain all of the s/w 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 satisfy 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 the description of every input into the system, every output (responds) from the system and all functions performed by the system in respond to an input or in support of an output as this is often the largest and most important part of the SRS, the following principles apply:*

1. *Specific requirements should be stated in conformance with all the characteristics*
2. *Specific requirements should be cross referenced to earlier documents that relate*
3. *All requirements should be uniquely identifiable*

*UML use case diagram showing various actors and use cases (including included and extended use cases) can be included in this section. This section can be organized into subsections to elaborate/specify each and every specific requirement, use case, user story etc. Subsections can include the use case specification for each use case including flow of events, UML activity diagram and the wireframe or GUI mockup.*

# Non-Functional Requirements

*The subsections given below are optional and need to be specified only if relevant or applicable for the project. Please write as “Not Applicable” if certain subsections are not applicable or not relevant.*

## Performance Requirements

*This subsection should specify both the static and dynamic numerical requirements placed on the s/w or on human interaction with the s/w as a whole. Static numerical requirements may include:*

* *Number of terminals to be supported*
* *The number of simultaneous users to be supported*
* *Amount or type of information to be handled*

*Dynamic numerical requirements may include, for e.g. the number of transactions and tasks and the amount of data to be processed within certain time periods for both normal and peak workload conditions. All of the requirements should be stated in measurable terms. For e.g. 95% of the transaction shall be processed in less than 1second.*

## Security Requirements

*This subsection should specify the factors that protect the software from accidental or malicious access, use, modification, destruction, or disclosure. Specific requirements in this area could include the need to:*

*a) Utilize certain cryptographical techniques;*

*b) Keep specific log or history data sets;*

*c) Assign certain functions to different modules;*

*d) Restrict communications between some areas of the program;*

*e) Check data integrity for critical variables.*

## Software System Attributes

*There are a number of attributes of software that can serve as requirements. It is important that required attributes be specified so that their achievement can be objectively verified. This section can be organized into subsections to specify each attribute listed below. The following is a partial list of examples:*

1. *Usability*
2. *Scalability*
3. *Portability*
4. *Reliability*
5. *Availability*
6. *Maintainability*

*This section and subsections are optional and need to be specified only if relevant or applicable for the project. Please write as “Not Applicable” if this section is not applicable or not relevant.*

# External Interface Requirements

## User Interfaces

*This subsection should specify the following:*

1. *The logical characteristics of each interface between the S/W product and its users*
2. *All the aspects of optimizing the interface with the person who must use the system*
3. *Wireframes of GUIs could be provided here.*

*Note: If wireframes of GUIs are provided along with each use case under section 2 above, reference to those sections can be provided here instead of duplicating the wireframes of GUIs here.*

## Hardware Interfaces

*This subsection should specify the logical characteristics of each interface between the software product and the hardware components of the system. This includes configuration characteristics (number of ports, instruction sets, etc.). It also covers such matters as what devices are to be supported, how they are to be supported, and protocols. For example, terminal support may specify full-screen support as opposed to line-by-line support.*

## Software Interfaces

*This subsection should specify the use of other required s/w products (e.g. data management system, OS, mathematical package), and interface with other application systems (e.g. the linkage between an account receivable system and general ledger system). For each required s/w products, the following should be provided:*

* *Name*
* *Specification number*
* *Version number*
* *Source*

*For each interface, the following should be provided:*

* *Discussion of the purpose of the interfacing software as related to this software product.*
* *Definition of the interface in terms of message content and format. It is not necessary to detail any well-documented interface, but a reference to the document defining the interface is required.*

## Communication Interfaces

*This should specify the various interfaces to communications such as local network protocols etc.*

# Acceptance Criteria

*Provide the verification/validation approaches and methods planned to qualify the software and to get user/customer acceptance of the software.*

# Appendices

*Provide reference or links to the following related documents: (a) User Need Document (b) Requirement Traceability Matrix (c) Product Backlog (optional and relevant only for Agile/Scrum projects).*