Software Requirements Specification

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Introduction

- ## Purpose:

  Identify the product whose software requirements are specified in this document, including the revision or release number.

  Describe the scope of the product that is covered by this SRS, particularly if this SRS describes only part of the system or a single subsystem

- ## Document Conventions:

  Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance

- ## Intended Audience and Reading Suggestions:

  Describe the different types of reader that the document is intended for, such as developers, project managers, marketing staff, users, testers, and documentation writers.

  Describe what the rest of this SRS contains and how it is organized.

  Suggest a sequence for reading the document, beginning with the overview sections and proceeding through the sections that are most pertinent to each reader type.

Introduction

- ## Product Scope:

  Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals.

  Relate the software to corporate goals or business strategies.

  If a separate vision and scope document is available, refer to it rather than duplicating its contents here.

- ## References:

  List any other documents or Web addresses to which this SRS refers.

  These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document.

  Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.

Overall Description

2.1 Product Perspective

Describe the context and origin of the product being specified in this SRS. For example, state whether this product is a follow-on member of a product family, a replacement for certain existing systems, or a new, self-contained product.

If the SRS defines a component of a larger system, relate the requirements of the larger system to the functionality of this software and identify interfaces between the two.

2.2 Product Functions

*Summarize the **major functions the product must perform** or must let the user perform.*

2.3 User Classes and Characteristics

Identify the various user classes that you anticipate will use this product.

User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience.

Overall Description

2.4 Operating Environment

Describe the environment in which the software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.

2.5 Design and Implementation Constraints

Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards

2.6 User Documentation

List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software.

Overall Description

2.7 Assumptions and Dependencies

List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include :

o *Third-party or commercial components that you plan to use,*

o *Issues around the development or operating environment, or constraints.*

The project could be affected if these assumptions are incorrect, are not shared, or change.

Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere

External Interface Requirements

3.1 User Interfaces

Describe the logical characteristics of each interface between the software product and the users. May include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on.

Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.

3.2 Hardware Interfaces

Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. May include

- *the supported device types,*
- *the nature of the data and control interactions between the software and the hardware, and*
- *communication protocols to be used*

External Interface Requirements

3.3 Software Interfaces

Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols.

3.4 Communications Interfaces

Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms

System Features

This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product.

You may prefer to organize this section by:

- o use case,
- o mode of operation,
- o user class,
- o object class,
- o functional hierarchy, or combinations of these,

[whatever makes the most logical sense for your product].

Other Nonfunctional Requirements

- Performance Requirements:

  What is the response time required?

- Safety Requirements

- Security Requirements

  is data encryption required? User authentication?

- Software Quality Attributes.

- Business Rules.

- Scalability:

  How many users the system should support after two years of operation?

- Multi lingual Support.

Other Requirements

1. Appendix A: Glossary
2. Appendix B: Analysis Models
3. Appendix C: To Be Determined List