# <Project Name>

Version <x.x>

Supervised By

*Dr. ……………*

Teacher Assistant

*Eng. ……………*

Prepared By

|  |  |
| --- | --- |
| <student name> | <student mail> |
| <student name> | <student mail> |
| <student name> | <student mail> |
| <student name> | <student mail> |
| <student name> | <student mail> |
| <student name> | <student mail> |
| <student name> | <student mail> |

Date

*dd - mm - yyyy*

# Table of Contents

***Page Number***

***Topic***

WRITTEN DOCUMENT ASSESSMENT RUBRIC 4

[1 Introduction 1](#_Toc230064293)

1-1 Document purpose [1](#_Toc230064293)

1-2 product scope [1](#_Toc230064293)

1-3 definitions, acronyms, and abbreviations [1](#_Toc230064293)

1-4 references to supporting documents [1](#_Toc230064293)

1-5 overview of the rest of SRS [1](#_Toc230064293)

[2 general description 2](#_Toc230064296)

2-1 product perspective [2](#_Toc230064293)

2-2 product functionality [2](#_Toc230064293)

2-3 users characteristics [2](#_Toc230064293)

2-4 operating environment [2](#_Toc230064293)

2-5 user documentation [2](#_Toc230064293)

2-6 assumptions and dependencies [2](#_Toc230064293)

[3 specific requirments 3](#_Toc230064298)

3-1 external interface requirments [3](#_Toc230064293)

3-2 functional requirments [3](#_Toc230064293)

3-3 non-functional requirments [3](#_Toc230064293)

[4 analysis model 4](#_Toc230064299)

4-1 use case diagrams [4](#_Toc230064293)

4-1 system sequence diagrams [4](#_Toc230064293)

4-2 domain model [4](#_Toc230064293)

4-1 operation contacts [4](#_Toc230064293)

4-3 object diagrams [4](#_Toc230064293)

4-4 package diagrams [4](#_Toc230064293)

4-5 sequence diagrams [4](#_Toc230064293)

4-6 communication diagrams [4](#_Toc230064293)

4-7 state machine diagrams [4](#_Toc230064293)

4-8 activity diagrams [4](#_Toc230064293)

4-9 component diagrams [4](#_Toc230064293)

4-10 deployment diagrams [4](#_Toc230064293)

4-11 composite structure diagrams [4](#_Toc230064293)

4-12 interaction overview diagrams [4](#_Toc230064293)

4-13 timing diagraams [4](#_Toc230064293)

[5 other non-functional requirments 5](#_Toc230064300)

5-1 performance requirments [5](#_Toc230064293)

5-2 safety and security requirments [5](#_Toc230064293)

5-3 software quailty attributes [5](#_Toc230064293)

[6 other requirments 6](#_Toc230064301)

# Written Document Assessment Rubric

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics of a Quality SRS** | **Does Not Meet Expectations** | **Meets**  **Expectations** | **Exceeds Expectations** |
| Complete | * 0 | * 1 | * 2 |
| Consistent | * 0 | * 1 | * 2 |
| Accurate | * 0 | * 1 | * 2 |
| Modifiable | * 0 | * 1 | * 2 |
| Ranked | * 0 | * 1 | * 2 |
| Testable | * 0 | * 1 | * 2 |
| Unambiguous | * 0 | * 1 | * 2 |
| Valid | * 0 | * 1 | * 2 |
| Verifiable |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **CONTENT/RESEARCH** | **Does Not Meet Expectations** | **Meets**  **Expectations** | **Exceeds Expectations** |
| Breadth/Scope |  |  |  |
| Student use of domain specific information. | * 0 | * 1 | * 2 |
| Student uses complete and specific requirements. | * 0 | * 1 | * 2 |
| Quality |  |  |  |
| Student uses legitimate requirement descriptions. | * 0 | * 1 | * 2 |
| Student uses well-formed requirement descriptions. | * 0 | * 1 | * 2 |
| Documentation |  |  |  |
| All sources cited (if needed). | * 0 | * 1 | * 2 |
| All documentation included. | * 0 | * 1 | * 2 |
| **ANALYSIS** |  |  |  |
| Analyzes quality/relevance of data/sources. | * 0 | * 1 | * 2 |
| Is able to identify key information/data from sources to include in document. | * 0 | * 1 | * 2 |
| Builds an adequate description (evidence of inductive thinking). | * 0 | * 1 | * 2 |
| Student identifies audience/groups. | * 0 | * 1 | * 2 |
| Student appropriately targets level and needs of audience. | * 0 | * 1 | * 2 |
| **ORGANIZATION** |  |  |  |
| Introduction |  |  |  |
| Introduces structure of document to reader via appropriate mechanism (e.g., abstract, table of contents, outline). | * 0 | * 1 | * 2 |
| Introduces topic of document. | * 0 | * 1 | * 2 |
| Addresses/explains significance of topic. | * 0 | * 1 | * 2 |
| Introduces content/structure of document. | * 0 | * 1 | * 2 |
| Body/Content |  |  |  |
| Relevance – inclusion of key information/data. | * 0 | * 1 | * 2 |
| Correctness – adequate presentation of current and correct information/data. | * 0 | * 1 | * 2 |
| Appropriate use of graphical information/data (e.g., charts). | * 0 | * 1 | * 2 |
| Succinct presentation of information. | * 0 | * 1 | * 2 |
| Synthesis |  |  |  |
| Makes connections between ideas/facts/data to definition of requirements. | * 0 | * 1 | * 2 |
| Develops theme of requirements specification. | * 0 | * 1 | * 2 |
| Demonstrates appropriate/logical sequence of ideas/facts/data. | * 0 | * 1 | * 2 |
| Clarity of requirements ideas/arguments. | * 0 | * 1 | * 2 |
| Derives logical conclusions based on information/data gathered (evidence of deductive thinking). | * 0 | * 1 | * 2 |
| **Conclusion** |  |  |  |
| Summarizes key points/facts/data. | * 0 | * 1 | * 2 |

# Introduction

## Document 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.

TO DO: Write 1-2 paragraphs describing the purpose of this document as explained above.>

## Product Scope

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

TO DO: 1-2 paragraphs describing the scope of the product. Make sure to describe the benefits associated with the product.>

## Definitions, Acronyms, and Abbreviations

<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.

TO DO: Provide a list of all abbreviations and acronyms (glossary) used in this document sorted in alphabetical order.>

## References to Supporting Document

<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.

TO DO: Use the standard IEEE citation guide for this section. An example citation guide is posted for you on the website.>

## Overview of The Rest of SRS

TO DO: describe the rest of the SRS and how it is organized.

# General Description

## 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. In this part, make sure to include a simple diagram that shows the major components of the overall system, subsystem interconnections, and external interface. In this section it is crucial that you will be creative and provide as much information as possible.

TO DO: Provide at least one paragraph describing product perspective. Provide a general diagram that will illustrate how your product interacts with the environment and in what context it is being used.>

## Product Functionality

<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 3, so only a high level summary is needed here. Organize the functions to make them understandable to any reader of the SRS. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, will be effective.

TO DO:

1. Provide a bulleted list of all the major functions of the system

2. **(Optional)** Provide a Data Flow Diagram of the system to show how these functions relate to each other.>

## Users Characteristics

<Identify the various users that you anticipate will use this product. Users may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience.

TO DO:

1. Describe the pertinent characteristics of each user. Certain requirements may pertain only to certain users.

2. Distinguish the most important users for this product from those who are less important to satisfy.>

## 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. In this part, make sure to include a simple diagram that shows the major components of the overall system, subsystem interconnections, and external interface

TO DO: As stated above, in at least one paragraph, describe the environment your system will have to operate in. Make sure to include the minimum platform requirements for your system. >

## User Documentation

<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.

TO DO: You will not actually develop any user-manuals, but you need to describe what kind of manuals and what kind of help is needed for the software you will be developing. One paragraph should be sufficient for this section.>

## Assumptions and Dependencies

<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, 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.

TO DO: Provide a short list of some major assumptions that might significantly affect your design. For example, you can assume that your client will have 1, 2 or at most 50 Automated Banking Machines. Every number has a significant effect on the design of your system. >

# Specific Requirements

## External Interface Requirements

### User Interfaces

<Describe the logical characteristics of each interface between the software product and the users. This 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., Cancel) that will appear on every screen, error message display standards, and so on. Define the software components for which a user interface is needed.

TO DO: The least you can do for this section is to describe in words the different User Interfaces and the different screens that will be available to the user. Those who will be able to provide optional Graphical User Interface screenshots, will be rewarded by extra marks.>

### Hardware Interfaces

<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware. You are not required to specify what protocols you will be using to communicate with the hardware, but it will be usually included in this part as well.

TO DO: Please provide a short description of the different hardware interfaces. If you will be using some special libraries to communicate with your software mention them here. In case you have more than one hardware interface, divide this section into subsections.>

### Software Interfaces

<Describe the connections between this product and other specific software components (name and version), including databases, operating systems (Windows? Linux? Etc…), 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. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.

TO DO: The previous part illustrates some of the information you would usually include in this part of the SRS document. To make things simpler, you are only required to describe the specific interface with the operating system.>

### Communication 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.

TO DO: Do not go into too much detail, but provide 1-2 paragraphs were you will outline the major communication standards. For example, if you decide to use encryption there is no need to specify the exact encryption standards, but rather, specify the fact that the data will be encrypted and name what standards you consider using. >

## Functional Requirements

*< Functional requirements capture the intended behaviour of the system. This behaviour may be expressed as services, tasks or functions the system is required to perform. This section is the direct continuation of section 2.2 where you have specified the general functional requirements. Here, you should list in detail the different product functions with specific explanations regarding every function.*

*TO DO: Brake the functional requirements to several functional areas and divide this section into subsections accordingly. Provide first a table for all your actors and there goals, then a detailed list of all product operations related to these functional areas.*

*Example.*

|  |  |
| --- | --- |
| *Actor(s)* | *Goal(s)* |
|  |  |

|  |  |
| --- | --- |
| **Use Case Name** | Name of the use case for the function |
| **Trigger** | The main use of this function |
| **Precondition** | what are the conditions required to act this function |
| **Basic Path** | Provide a bulleted list describe the steps for this function |
| **Alternative Paths** | If there is a different steps for this function in special cases |
| **Postcondition** | What are the outputs for this function |
| **Other** | Any detail about the function |

## Non-Functional Requirements

<Provide the logical structure of the data to be stored; who will modify the database, and the name of the tables and fields and its type >

# Analysis Model

## Use Case Diagrams

*<Write a description for each subsystem (if exists) in your project and provide its use case diagram>*

## Use Case Scenarios

## System Sequence Diagrams

*<For each of your important use cases write a description for these use cases and provide its system sequence diagram>*

## Domain Models

*<For each of your important use cases show a table includes the conceptual classes extracted as the following table, then draw a UML diagram for the associations between the conceptual classes>*

|  |  |  |
| --- | --- | --- |
| *Conceptual Class Name* | *Included in your system or not* | *Why?* |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| *Conceptual Class Name* | *Attributes* | *Association Name to* | *Conceptual Class Name* |
|  | 1. *A* 2. *B* |  |  |
|  |  |  |  |
|  |  |  |  |

## Operation Contracts

*<Write for your important sequential use cases the operation contract as following>*

|  |  |
| --- | --- |
| ***Contact Name and Identifier*** |  |
| *Operation* | *Name of operation and parameters* |
| *Cross Reference* | *(optional) use cases name this operation can occur within* |
| *Precondition* | *Noteworthy assumptions about the state of the system or objects in the domain model before execution of the operation. These will not be tested within the logic of this operation, are assumed to be true and non-trivial* |
| *Postcondition* | *The state of objects in the domain model after completion of the operation* |

## Interaction Diagrams

*<For each of your selected important use cases show there collaboration and sequence diagrams along with the steps carried out it each use case as following>*

*4-5-1 use case1*

*Steps*

*a-*

*b-*

***4.5.1. Collaboration diagram***

***……***

***4.5.2. Sequence Diagram***

***……***

## Design Class Diagrams

**<>**

## Activity Diagrams

*< >*

## Object Diagrams

*<>*

*///////////////////*

## Communication Diagrams

*< >*

## State Machine Diagrams

*< >*

## Package Diagrams

*< >*

## Component Diagrams

*< >*

## Deployment Diagrams

*< >*

## Composite Structure Diagrams

*< >*

*< >*

## Timing Diagrams

*< >*

# Other Non-Functional Requirements

## Performance Requirements

<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.

TODO: Provide at least 5 different performance requirements based on the information you collected from the client. For example you can say “1. Any transaction will not take more than 10 seconds, etc…>

## Safety and Security Requirements

<Specify those requirements that are concerned with possible loss, damage, or harm that could result from the use of the product. Define any safeguards or actions that must be taken, as well as actions that must be prevented. Refer to any external policies or regulations that state safety issues that affect the product’s design or use. Define any safety certifications that must be satisfied. Specify any requirements regarding security or privacy issues surrounding use of the product or protection of the data used or created by the product. Define any user identity authentication requirements.

TODO:

Provide at least 3 different safety requirements based on your interview with the client or, on your ABM related research, and again you need to be creative here.

Describe briefly what level of security is expected from this product by your client and provide a bulleted (or numbered) list of the major security requirements.>

## Software Quality Attributes

<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.

TODO: Use subsections (e.g., 4.3.1 Reliability, 4.3.2 Portability, etc…) provide requirements related to the different software quality attributes. Base the information you include in these subsections on the material you have learned in the class. Make sure, that you do not just write “This software shall be maintainable…” Indicate how you plan to achieve it, & etc…Do not forget to include such attributes as the design for change. Please note that you need to include at least 2 quality attributes, but it is the mere minimum and it will not receive the full marks.>

# Other Requirements

<This section is **Optional.** Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>