# SOFTWARE REQUIREMENTS SPECIFICATION

## For

# Stock Inventory Application System

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# 1.Introduction

## 1.1 Purpose

The purpose of this Software Requirement Specification (SRS) document is to provide a comprehensive overview of the requirements for the Stock Inventory Application System (SIAS). This document outlines the system's functionality, constraints, interfaces, and other essential details necessary for the development and maintenance of the SIAS.

## 1.2 Document conventions

- ➢ Entire document should be justified.
- ➢ Convention for Main title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 14
- ➢ Convention for Sub title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 12
- ➢ Convention for body
  - Font face: Times New Roman
  - Font Size: 12

## 1.3 Scope of Development project

This project aims to develop a Stock Inventory Application System that enables businesses to efficiently manage their inventory, track stock levels, and streamline inventory-related operations.

## 1.4 Definitions, Acronyms, and Abbreviations

SIAS: Stock Inventory Application System

SRS: Software Requirement Specification
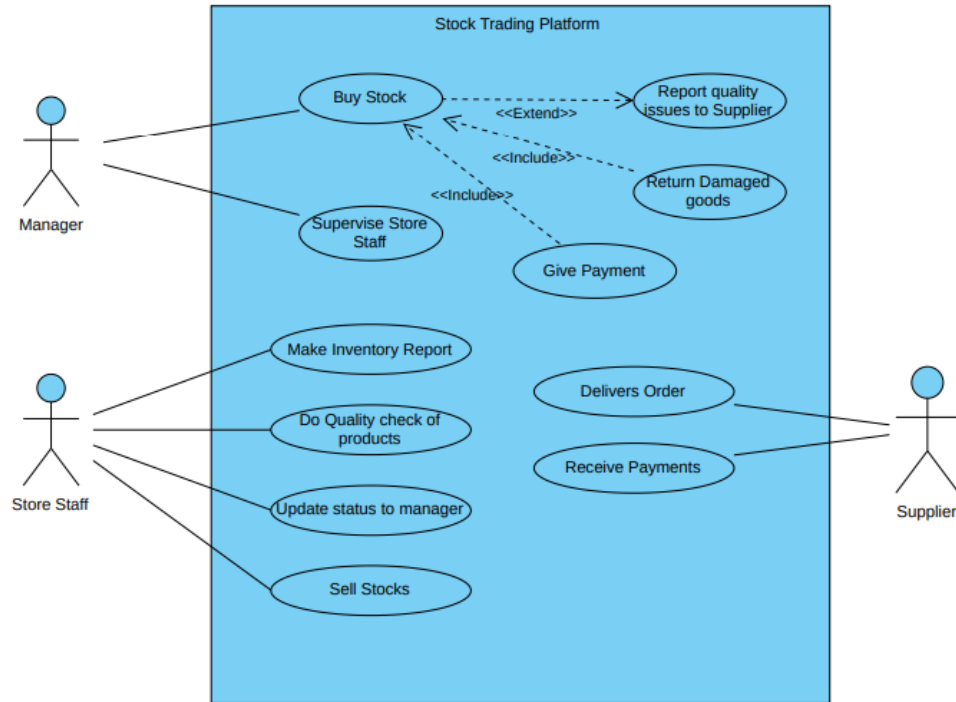
GUI: Graphical User Interface

## 1.5 References

- ➢ Websites
  - https://www.studocu.com/in/document/punjabi-university/post-graduation-diploma-in-computer-application/inventory-mgt-sys-srs-for-inventory-management-system/7770491
  - https://www.scribd.com/document/454580738/Software-Requirements-Specification-inventory-management-system-1-docx
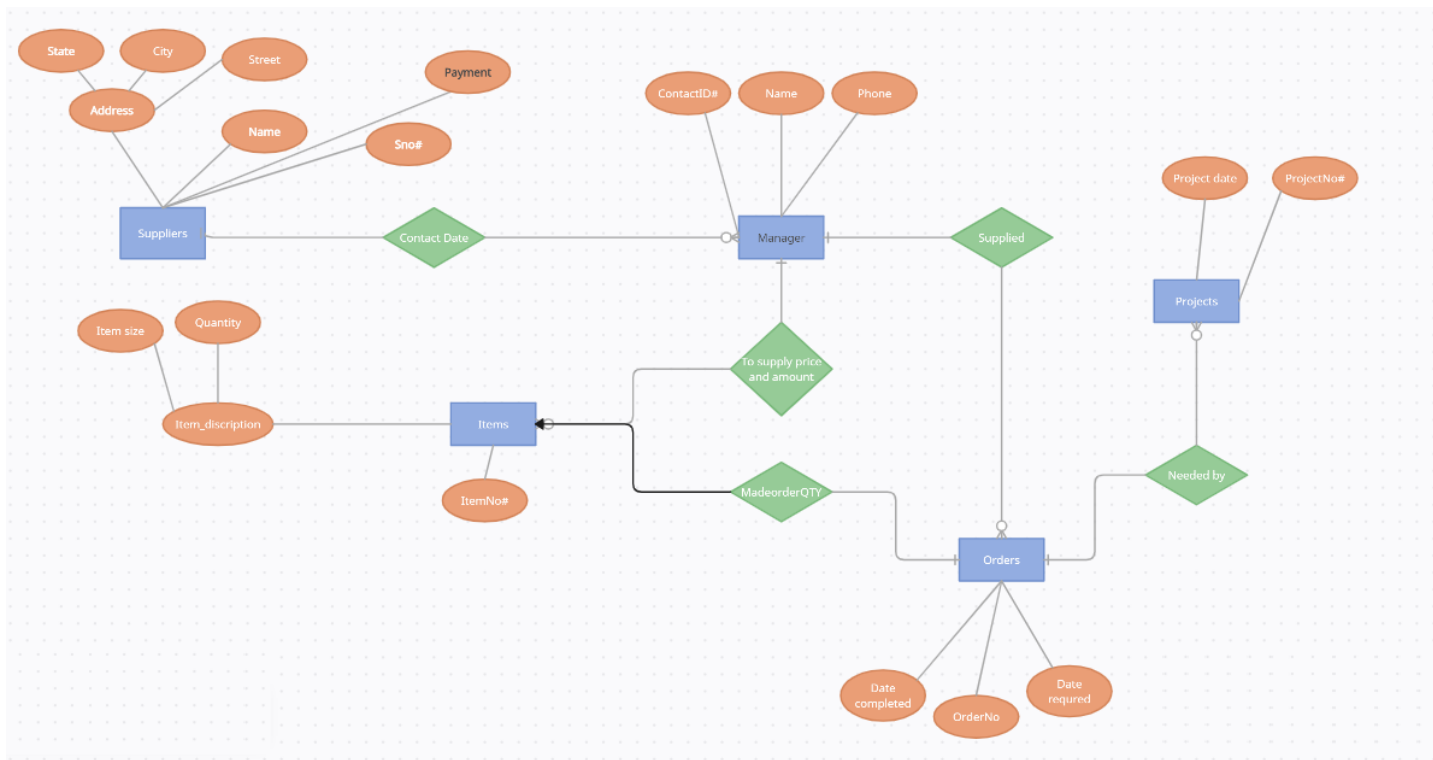
# 2. Overall description

## 2.1 Product description

➢ Use case diagram for SIAS



A use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. To build one, we use a set of specialized symbols and connectors.

**2.2 Product functions**

Entity Relationship diagram of SIAS



**2.3 User classes and characteristics**
- ➢ Patron:
  - ○ Supplier: Responsible for supplying stocks.
  - ○ Managers: Responsible for overall inventory management.
  - ○ Store Staff: Responsible for day-to-day inventory tasks.

These user classes encompass the primary roles and characteristics of individuals interacting with the Stock Inventory Management System, including patrons and staff members with administrative responsibilities.

**2.4 Operating Environment**

The SIAS will run on common web browsers (Chrome, Firefox, Safari) and is compatible with Windows, macOS, and Linux. An internet connection is required.

**2.5 Assumptions and dependencies**
- ➢ Users have basic computer skills.
- ➢ The development team has access to necessary tools.
- ➢ Data import/export formats conform to standards.

**2.6 Requirement**
- ➢ Software Requirements:
  - • Operating System (OS): Server: Linux (e.g., Ubuntu, CentOS) or Windows Server.
  - • Clients: Cross-platform support for web browsers (Chrome, Firefox, Safari) for patron access.
  - • Web Server: Tomcat, Jetty Server to host the SIAS application.
  - • Programming Languages:
    - ♦ Server-Side: Java Spring Boot or other back-end languages.
    - ♦ Front-End: HTML5, CSS3, JavaScript (for responsive user interfaces).
  - • Database Management System (DBMS):
    - ♦ MySQL for storing and retrieving stock inventory data.

- ➢ Hardware Requirements:
  - • Server Hardware: CPU, RAM, and storage capacity based on expected concurrent users and data storage requirements.
  - • Network Infrastructure: High-speed internet connection for server hosting.
  - • Client Hardware: Patron devices (e.g., laptops, desktops, smartphones, tablets) capable of running modern web browsers.
  - • Storage: Sufficient storage capacity for database and file storage.

**2.7 Data Requirement**

The data requirements for a Library Management System (LMS) include information about books, patrons, and transactions. For books, the system needs data such as book title, author, ISBN, genre, availability status, and location within the library. Patron data includes patron ID or username, full name, contact information, and possibly a library card number. Transaction data involves records of book check-outs, returns, reservations, and renewals, including dates and associated patrons. Additionally, the system may store staff data, including staff ID, names, and roles, for administrative purposes. Ensuring the integrity and security of this data is crucial for the system's functionality and user experience.

# 3. External Interface Requirement

### 3.1 GUI

This is a simplified textual representation of the SIAS GUI. We have used a web development framework or tools like HTML, CSS, and JavaScript to create the actual graphical elements and layout. The design should prioritize user-friendliness, responsiveness for various devices, and accessibility for all users.

# 4. System features

Key features of the Stock Inventory Application System include:

- Add, edit, and delete products
- Track stock levels and item movements
- Generate inventory reports
- Optimize stock ordering based on historical data
- User management with role-based access control

## 5. Other Non-Functional Requirement

### 5.1. Performance Requirement

The proposed system that we are going to develop will be used as the Chief performance system within the different campuses of the university which interacts with the university staff and students. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the university.

- ➢ The performance of the system should be fast and accurate
- ➢ Stock Inventory Application System shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period. Thus, it should have inbuilt error testing to identify invalid username/password
- ➢ The system should be able to handle large amount of data. Thus, it should accommodate high number of books and users without any fault

### 5.2. Safety Requirement

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

### 5.3. Security Requirement

- ➢ System will use secured database
- ➢ Normal users can just read information but they cannot edit or modify anything except
- ➢ their personal and some other information.
- ➢ System will have different types of users and every user has access constraints
- ➢ Proper user authentication should be provided
- ➢ No one should be able to hack users' password
- ➢ There should be separate accounts for admin and members such that no member can access the database and only admin has the rights to update the database.

### 5.4. Requirement attributes

- ➢ There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes
- ➢ The project should be open source

- ➢ The Quality of the database is maintained in such a way so that it can be very user
- ➢ friendly to all the users of the database
- ➢ The user be able to easily download and install the system

## 5.5 Business Rules

A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data. This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither manager nor supplier should cross the rules and regulations.

## 5.6 User Requirement

The users of the system are suppliers and managers who act as administrator to maintain the system. The members are assumed to have basic knowledge of the computers and internet browsing. The administrators of the system should have more knowledge of the internals of the system and is able to rectify the small problems that may arise due to disk crashes, power failures and other catastrophes to maintain the system. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems. The manager provides certain facilities to the users in the form of:-

- ➢ Backup and Recovery
- ➢ Forgot Password
- ➢ Data migration i.e. whenever user registers for the first time then the data is stored in the server
- ➢ Data replication i.e. if the data is lost in one branch, it is still stored with the server
- ➢ Auto Recovery i.e. frequently auto saving the information
- ➢ Maintaining files i.e. File Organization
- ➢ The server must be maintained regularly and it has to be updated from time to time

# 6.Class Diagram

**Manager**

-Id: Char
-Name: Char
-PhNo: Integer
-Address: Char

+MaintainLedger()
+DoQualityCheck()
ReportToOwner()

Has

**Store Staff**

-Id: Char
-Name: Char

+OrderStock()
+SellStock()
+MakePayment()
+ReturnStock()
+ReportQualityIssues()
TrackOrders()

Tracks

**OrderDetails**

-Id: Char
-ProductId: Char
-NoOfProducts: Integer
-Amount: Float

+ShowOrderDetails()

Tracks

**Supplier**

-Id: Char
-Name: Char
-PhNo: Integer
-Address:Char

+ReceivePayment()
+SupplyStock()
+TrackOrders()

**Product**

-Id: Char
-Name: Char
-Price: Float
-Mfg Date: Date
-Expiry Date: Date

+AddPrducts()
+DeleteProducts()
+ModifyProducts
+ShoProducts()

Supplies

Orders