SOFTWARE REQUIREMENTS SPECIFICATION

**For**

**Inventory Management System**

**Prepared by:-**

*Jayasrimeenachi .K*

*Keerthick Ragul.R*

*Kavin raj.T.J*

# Introduction

## Purpose

The main objective of this document is to illustrate the requirements of the project Library Management system. The document gives the detailed description of the both functional and non-functional requirements proposed by the client.The purpose of this project is to provide a friendly environment to maintain the details of books and library members.The main purpose of this project is to maintain easy circulation system using computers and to provide different reports. This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

## Document Conventions

* + - Entire document should be justified.
    - Convention for Main title

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* + - Convention for Sub title

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* + - Convention for body

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## Scope of Development Project

The scope of an Inventory Management System (IMS) encompasses a comprehensive set of features and functionalities designed to streamline the tracking, management, and optimization of a company's inventory. This system will primarily focus on several key aspects to enhance operational efficiency and decision-making processes. Firstly, the IMS will facilitate robust Product Management by providing a centralized repository for essential product information. This includes SKU details, comprehensive product descriptions, images, and specifications. The system will support categorization

## User Classes and Characteristics

User classes in an inventory management system can be categorized based on their roles and responsibilities. Here are some common user classes and their characteristics:

* + - Admin/Manager:
    - Characteristics: Has overall control and access to the system.
    - Responsibilities: Manages user roles, oversees inventory levels, generates reports, and sets system parameters.
    - Inventory Clerk/Operator:
    - Characteristics: Responsible for day-to-day inventory tasks.
    - Responsibilities: Updates inventory records, processes incoming and outgoing stock, and ensures accurate data entry.
    - Purchasing Manager:
    - Characteristics: Focuses on procurement and restocking.
    - Responsibilities: Places orders, tracks deliveries, and ensures optimal stock levels are maintain
    - Characteristics: Deals with customer orders and sales.
    - Responsibilities: Checks product availability, updates order status, and monitors sales trends
    - Characteristics: Handles financial aspects related to inventory.
    - Responsibilities: Manages cost accounting, tracks expenses, and reconciles financial data with inventory records
    - Characteristics: Ensures compliance and accuracy.
    - Responsibilities: Conducts regular audits, verifies inventory accuracy, and ensures adherence to procedures.
    - Characteristics: Manages technical aspects of the system.
    - Responsibilities: Addresses technical issues, updates software, and ensures system security.
    - Customer Service Representative:
    - Characteristics: Interacts with customers regarding orders and inquiries.
    - Responsibilities: Provides information on product availability, order status, and resolves customer issues.
    - Tailoring user classes to fit the specific needs and structure of your inventory management system is crucial for its effectiveness and efficiency.

## Data Requirement

Data requirements for an inventory management system encompass the essential information needed to effectively track, manage, and analyze inventory. The system should capture comprehensive product details, including item names, descriptions, stock-keeping unit (SKU) numbers, and associated suppliers. Quantitative data, such as current stock levels, stock-in and stock-out records, and reorder points, is critical for real-time inventory tracking and automated replenishment processes. Supplier data should include information on vendors, delivery schedules, and pricing agreements. The system must maintain a historical record of transactions, including purchase orders, sales orders, and returns, to provide a clear audit trail. Integration with financial systems ensures synchronization of inventory-related financial data, enhancing overall accuracy and coherence. Barcode scanning functionality should be supported to facilitate quick and error-free data entry.

# External Interface Requirement

## GUI

# 1.Designing an inventory management system requires careful consideration of various requirements to ensure it meets the needs of the organization. Here are some general requirements for an inventory management system:

# 2.User Authentication and Access Control:

# 3.Secure login and user authentication.

# 4.Different levels of access for various user roles.

# 5.Inventory Tracking:

# 6.Real-time tracking of inventory levels.

# 7.SKU (Stock Keeping Unit) management for accurate identification.

# 8.Order Management:

# 9.Order processing and tracking from placement to fulfillment.

# 10.Integration with sales and purchase processes.

# 11.Supplier Management:

# 12.Supplier information management.

# 13.Automated reordering and purchase order generation.

# 14.Reporting and Analytics:

# 15.Comprehensive reporting on inventory levels, sales, and purchases.

# 16.Data analytics for trends, forecasting, and decision-making.

# 17.Barcode and RFID Integration:

# 18.Support for barcode and RFID scanning for efficient inventory tracking.

# 19.Quick identification and entry of items.

# 20.These requirements can serve as a foundation for developing a robust and effective inventory management system tailored to your organization's needs.

The users of the system should be provided the surety that their account is secure. This is possible by providing:-

* User authentication and validation of members using their unique member ID
* Proper monitoring by the administrator which includes updating account status, showing a popup if the member attempts to issue number of books that exceed the limit provided by the library policy, assigning fine to members who skip the date of return
* Proper accountability which includes not allowing a member to see other member’s account. Only administrator will see and manage all member accounts

# 3.Other Non-functional Requirements

## Security Requirement

1.System requirements for an inventory management system define the technical specifications and

configurations necessary for the system's successful deployment and operation. The system must be

compatible with a reliable Database Management System (DBMS) like MySQL or PostgreSQL to store

manage inventory data efficiently.

2.The choice of a programming language, such as Python, Java, C#, or PHP, should align with the

development team's expertise and the project's specific needs.