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|  | **Stock Management System**  **Technical Design Document** |
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# Introduction

## 1.1 Purpose of this document

This document defines the stock management system that efficiently manages inventory, optimizes stock levels, control costs, prevents stockouts, tracks goods movement, and minimizes product wastage. It contributes to overall business efficiency.

## Project overview

The stock management system is a web-based application that allows- users to add, show, update, and delete stocks. Stock class has all the getters and setters for stock name, quantity, price, and availability. It also has a method for removing stock with condition of quantity to remove is less than available quantity.

The system is developed using Java as the programming language and MySQL as the database management system. The system uses JDBC to connect to the database and execute queries.

The system has the feature of adding, updating, deleting, and viewing product details in the database.

The system is designed to improve the efficiency and effectiveness of store, as well as to enhance the user experience and satisfaction of the customer and administrator. The system also aims to reduce manual errors, paper-work, and operational costs. The system is scalable, secure, and user-friendly.

# Solution Summary

## Scope

Following are the key features that needs to be implemented for Admin:

**Admin**

1. Add Stock Products
2. Update Stock Products
3. View Stock Products
4. Delete Stock Products

## Risks

* **Technical Risks**: These include risks related to software development such as potential bugs, system crashes, or data corruption. There could also be risks associated with integrating the new system with existing systems.
* **Data Integrity and Accuracy**: Inaccurate or corrupted data can lead to incorrect stock levels, order fulfillment issues, and financial losses.
* **Integration Challenges**: Integrating the stock management system with existing systems (e.g., accounting, sales, and e-commerce platforms) can be complex.
* **Security Vulnerabilities**: Unauthorized access, data breaches, or cyberattacks can compromise sensitive stock information.
* **Performance Bottlenecks**: Slow database queries or inefficient indexing can impact overall system performance.
* **User Acceptance Risks**: There is a risk that end users (admin and users) may not accept or adapt to the new system.
* **Training Risks**: There could be risks associated with training staff to use the new system effectively.
* **Maintenance Risks**: Over time, the system will require updates and maintenance. There is a risk that these could be more costly or time-consuming than anticipated.

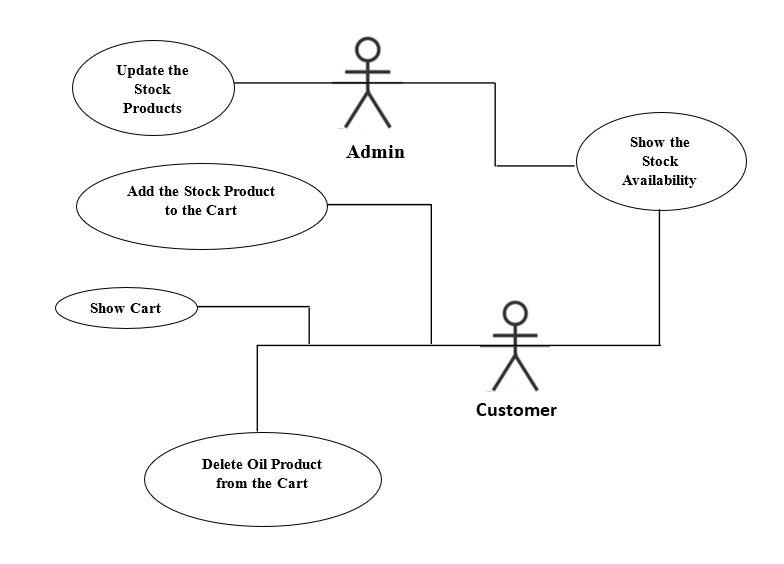
# Use Case

Who will be using this application:

* Admin

Admin – Responsible for managing the stock products available in store. Find stock products available in the store and add them to the cart. There is an option to delete and update the products which were already added to the my stocks.

Find below the list of use case diagram that represents the list of Use Cases that needs to be incorporated.

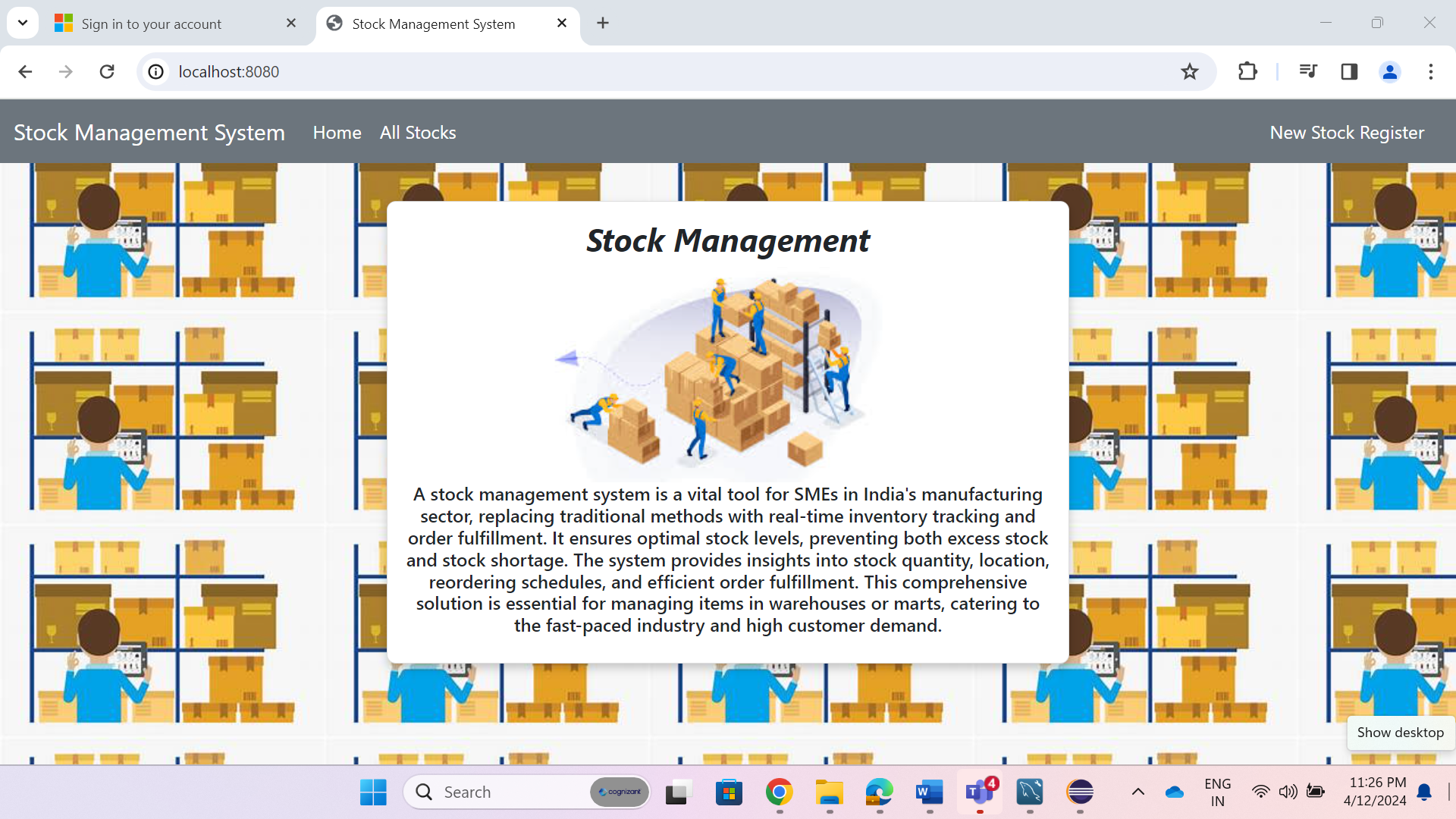


## Home Page

Header: Contains the website name, navigation menu, and admin login/register links.

Search Bar: Allows the admin to search for item by stock name, stock availability, stock quantity.

Featured Books Section: Displays a selection of featured items with images and brief descriptions.



## Adding Stock

**Book Details:** Includes the items name, items price, availability quantity, and items loaded date.

**Save Button:** Click the save button the added stocks will be updated in my stocks.

**Back to Home Button:** This button directs the admin to the home page.

A screenshot of a computer

Description automatically generated

Admin can add the stock products into the stock products available in the platform. For Admin all the stock products will be listed.

|  |  |
| --- | --- |
| Stock Name | Adding the stocks |
| Actor(s) | Admin |
| Description | Add the stock products available in the system |
| Pre-condition | Admin should have privilege to add stock products List |
| Post-Condition | Stock products are listed in the screen. Each stock product will have option to edit the stock product. |
| Basic Path | 1. Opens the stock product list for admin in the browser. 2. Online stock store system fetches the stock product list from the database. 3. List of menu items shown to the admin with following details about each menu item:    1. Name    2. Quantity    3. Loaded Date    4. Price |

## 3.3 View Stocks

**Items Detail:** Admin can view the available stocks in my stock page.

**Back to Home Button:** This button directs the admin to the home page.

A screenshot of a computer

Description automatically generated

Admin uses this option to view the availability details of stock products.

|  |  |
| --- | --- |
| Stock Name | View the Stock Product |
| Actor(s) | Admin |
| Description | Admin is allowed to view the availability of the stock product details |
| Pre-condition | Admin can view the stock product privilege |
| Post-Condition | Availability stock product details are saved in the database |
| Basic Path | 1. Admin uses the view option on stock products from stock products List. 2. Fetched stock product details from database and populate a form with following fields:    1. Name    2. Quantity    3. Loaded Date    4. Price |
| Pre-condition | Customer should have added to my stocks |
| Post-Condition | A stock product is added to my stocks detail and added listed is viewed in my stocks. |
| Basic Path | 1. Admin uses this option to view the availability details of stock products. |

## 3.4Update Stocks

**Update Button:** This button helps the admin to update the items according to the availability.

A screenshot of a computer

Description automatically generated

Admin can update the list of stock products in the Cart.

|  |  |
| --- | --- |
| Stock Name | Update the Stock products |
| Actor(s) | Admin |
| Description | Admin can update the stock products from the Cart |
| Pre-condition | Admins have the privilege can change the name of the product. |
| Post-Condition | Admin can update into a system of the changed stock name. |
| Basic Path | 1. Admin uses the update option on stock products from stock products List. 2. Fetched stock product details from database and populate a form with following fields:    1. Name    2. Quantity    3. Loaded Date    4. Price |

## 3.5 Delete Stocks

**Delete Button:** This button helps the admin to delete the unavailable items from my stocks.

**Pop Up Button:** This button asks confirmation for deleting the items.

A screenshot of a computer

Description automatically generated

An admin can remove a stock product from my stocks.

|  |  |
| --- | --- |
| Stock Name | Remove stock product from Cart |
| Actor(s) | Admin |
| Description | Admin can remove cart product which is not available in my stocks |
| Pre-condition | The admin can Remove Cart privilege |
| Post-Condition | Unavailable stock products removed from the Cart |
| Basic Path | 1. Admin can remove the unavailable stocks from my stocks. 2. Online stock store removes the stock product from the stock store management database. |

# System Design

## Proposed design

The aim of the proposed system is to develop a system of improved facilities. The proposed system can overcome the overall limitations of the existing system. The system provides proper security and reduces manual work. This overall increase management productivity, eliminates paperwork, reduce manpower and prove to be very economical in the long run.

# Database Design

## Data Model

The data model consists of table for each class (Stock Name, Quantity, Price, and stock loaded date), each with fields relevant to that entity.

## Tables Structure

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Description automatically generated

# Appendices

## Glossary

|  |  |
| --- | --- |
| **Acronyms** | **Definitions** |
| SMS | Stock Management System |

## Other

# Terms & Conditions

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