Software Requirement Specification

SHOPPING MALL MANAGEMENT SYSTEM

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1.Abstract

In today's fast-paced business environment, efficient Mall management system is crucial for optimizing operations and attaining organizational success.The main Purpose of making this system is to provide more facilities to shop owners to add the available products and then manage order which was made by customer .In turn Customers can view the product add the product in the cart and then place order. This system is more helpful for the shop owners and the customers to add the availability only and place order whatever needed for both respectively.

2. Scope and Objective

The scope of the developed system encompasses the creation of a user-friendly and efficient platform for both shop administrators and users within a retail environment. The system allows shop administrators to log in, add products to the inventory, and monitor the status of orders placed by customers. On the user side, individuals can log in, view available stock, add products to a virtual shopping cart, place orders, and subsequently log out.

The primary objective of the system is to enhance the overall efficiency and effectiveness of retail operations by providing a centralized platform for inventory management and order processing. Specific objectives include:

1. Simplifying inventory management: Enable shop administrators to easily add, update, and monitor product listings, thereby ensuring accurate stock levels.
2. Streamlining order processing: Allow users to conveniently browse available products, add items to their cart, and seamlessly place orders, enhancing the shopping experience.
3. Enhancing user experience: Provide a user-friendly interface for both shop administrators and users, promoting ease of navigation and interaction with the system.
4. Improving communication: Facilitate communication between shop administrators and users by providing real-time updates on order status and product availability.
5. Increasing efficiency: Automate routine tasks such as order processing and inventory tracking, freeing up time for shop administrators to focus on other aspects of their roles.
6. Enhancing customer satisfaction: Ultimately, the system aims to improve customer satisfaction by providing a smooth and convenient shopping experience for users and ensuring timely and accurate order fulfillment..

3.Functional Requirements

3.1 Login to the System

The administrator login system provides authorized access to administrative functionalities within the Shopping mall management system. Administrators can securely log in using unique credentials to perform tasks such as add or edit or delete the items available in the shop and also manage the order made by the customer for various items at the mall by customer.This ensures that only authorized personnel can access sensitive administrative functions, enhancing security and accountability within the system.

3.2 Add /update /delete Stock(Admin)

Add Items: Admin can add the items which are available to sell in the system by login with his credential.

Update Items:Admin can also update that product details like increasing price,increasing quantity.

Delete Items:Admin can delete the particular item if it is not available .

3.3 Add /update /delete stock in cart (Customer)

Add Items: Customers can add the items which are available to them in the system by login with his credential to the cart .

Update Items:Customer can also update that product details by reducing quantity or buy more quantity according to the need in the cart .

Delete Items:Customer can delete the particular item if it is not needed to them .

3.4 Place order:

One of the key functionalities of the system is to enable customers to seamlessly place orders after adding items to their shopping cart. Upon browsing through available products and selecting desired items, customers can add them to their virtual shopping cart. The

shopping cart provides a convenient overview of selected items, allowing customers to review their choices before proceeding to checkout.

3.5 Manage Order

The system empowers administrators with comprehensive tools to efficiently manage orders made by customers. Upon logging in to the administrative dashboard, administrators gain access to a centralized platform where they can view, track, and process orders seamlessly. Administrators can review incoming orders, verify payment statuses, and allocate resources for order fulfillment as needed.

3.6 View Stock

Both users and administrators benefit from the system's capability to manage and view available stock levels seamlessly. Users, upon logging in, can browse through the product catalog and view realtime stock availability for each item. They can add desired products to their shopping cart, ensuring an intuitive and hassle-free shopping experience. On the other hand, administrators have access to a comprehensive inventory management interface where they can view current stock levels, update product quantities, and adjust availability status as necessary..

4. Non Functional Requirements

The system is equipped with robust security protocols to safeguard sensitive data, ensuring that only authorized users can access it through individual login credentials. This enhances data protection and prevents unauthorized access. Furthermore, the system is optimized for efficient performance, enabling seamless record tracking and smooth updating processes. Its intuitive interface fosters user engagement, facilitating a seamless and enjoyable user experience. Additionally, the system prioritizes maintainability by implementing regular database backups, safeguarding data integrity and reliability in the event of unexpected system issues or failures. A stable internet connection is recommended to minimize latency and optimize response times. Moreover, the software is designed to accommodate multiple users simultaneously, supporting efficient collaboration and enhancing overall system usability.

5. Design

5.1 High Level Design

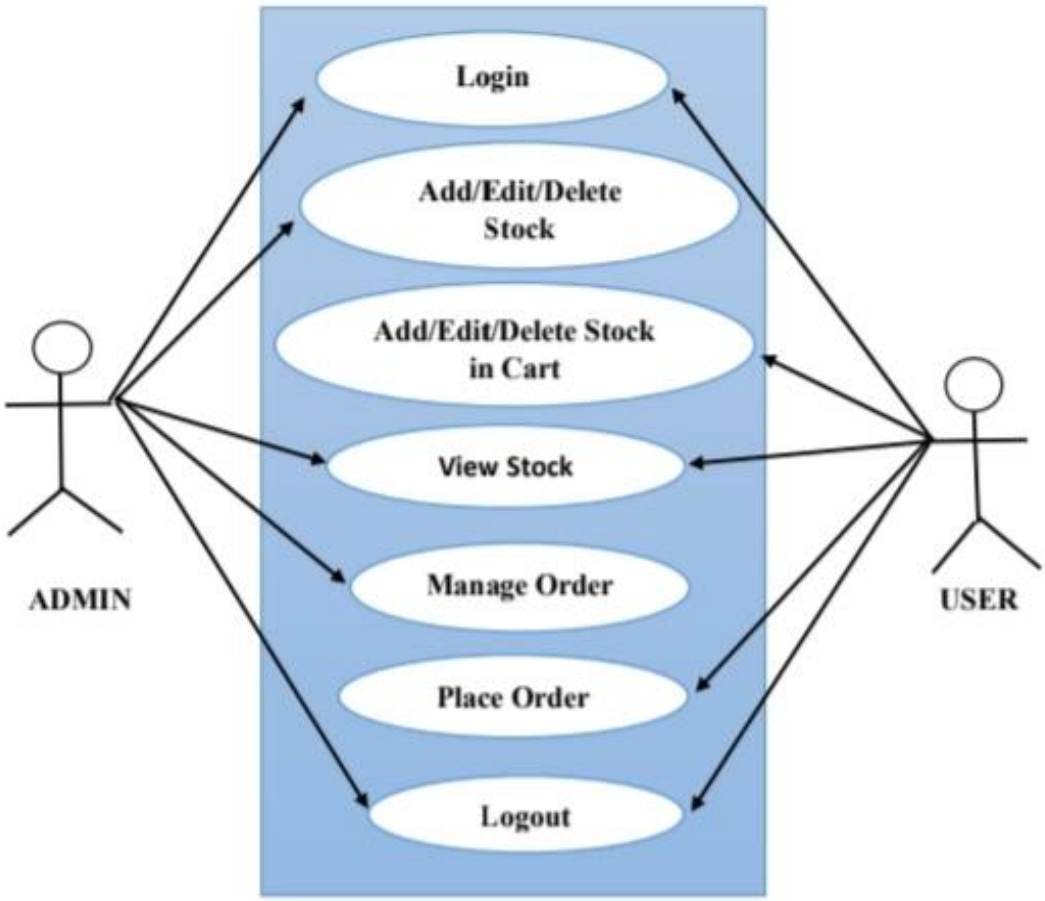
The higher-level design of the Shopping Mall Management System (SMMS) is structured on a client-server architecture, leveraging modern web technologies for the front-end and a scalable backend server. The frontend is built using frameworks like HTML, CSS, and JavaScript providing a dynamic user interface for intuitive interaction. On the backend, a robust technology stack such as Node.js is employed to create RESTful APIs for seamless communication with the frontend. Data is stored in a relational database management system (RDBMS) like PostgreSQL or MySQL, featuring a well-defined schema with tables for customers, orders, Admin, and transactions. User authentication is ensured using industrystandard mechanisms for effective permission management. Modules for add/edit/delete products, order processing, transaction controls are integrated, utilizing algorithms for efficient tracking and order fulfillment. Scalability, performance optimization, and security measures such as encryption and regular audits are implemented to maintain a robust and reliable SMMS architecture..

5.2 Low Level Design

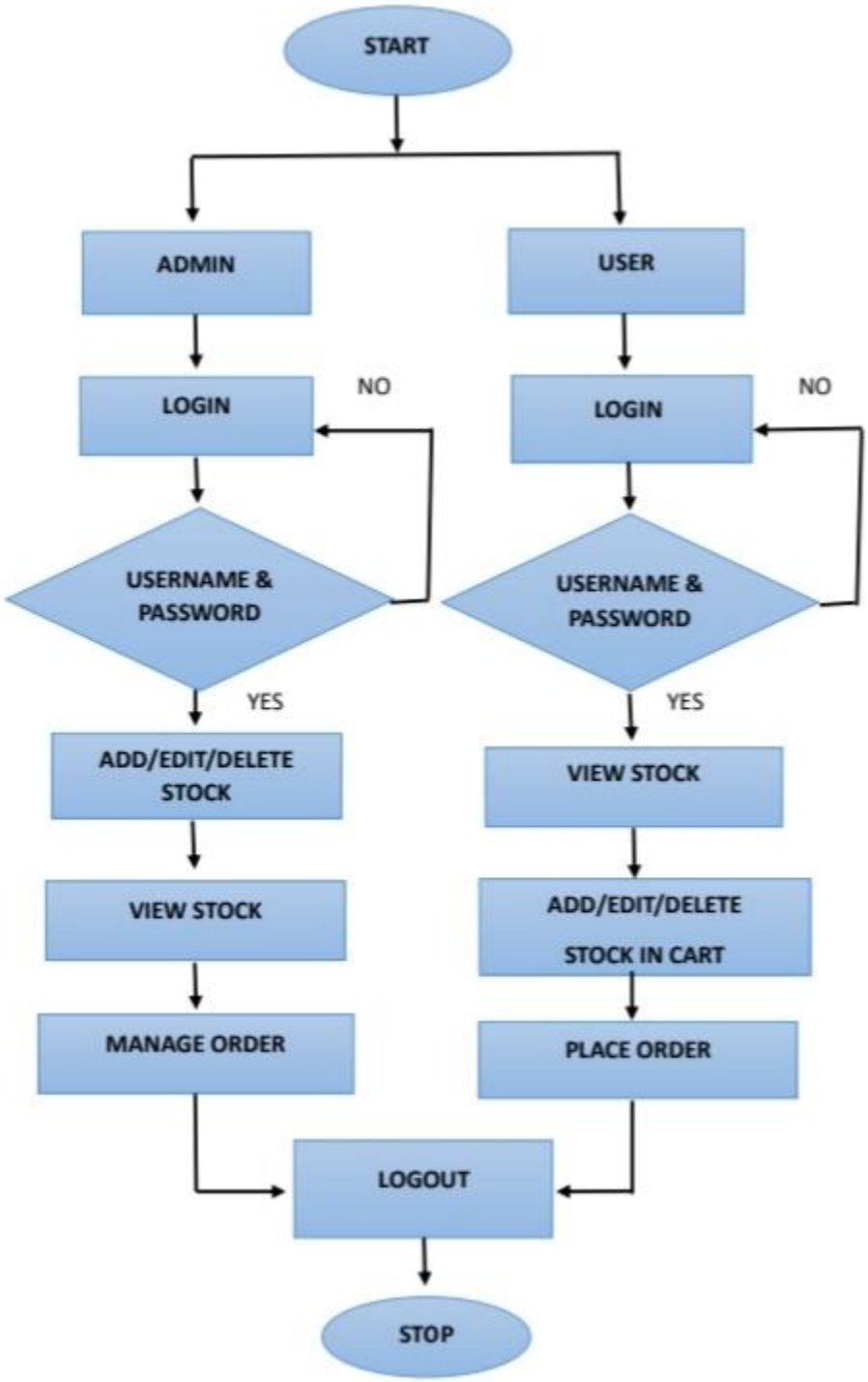
The low-level design of a Shopping Mall Management System (SMMS) comprises several key components meticulously planned for optimal functionality. Firstly, the database design includes tables like Customers, Orders, and Stock, with defined relationships and indexes for efficient data retrieval. Backend architecture follows a modular structure with modules such as Order Placement, Edit Product Availability, and Transaction Management, interconnected via middleware for seamless data processing and communication. Authentication methods like sessions or tokens are implemented alongside role-based access control (RBAC) for user permissions. Admin management functionalities include Adding, editing, updating, or deleting stock and tracking stock levels. Order Placement handles order processing and status tracking. Security Measures encompass data encryption ,backup procedures, and input validation.

6. UML Diagrams

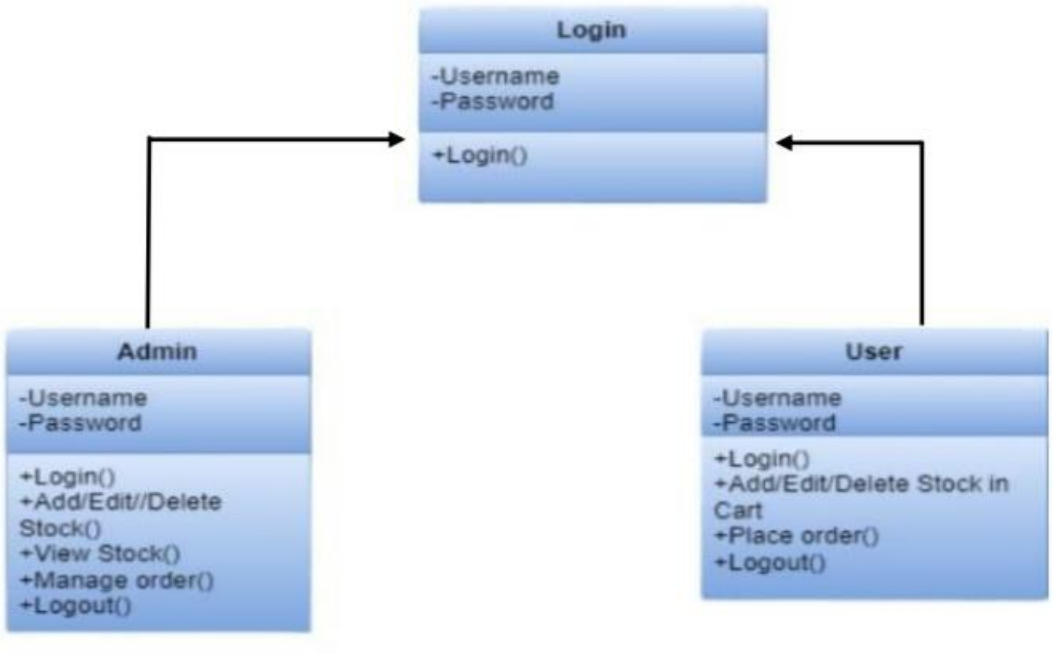
6.1 UseCase Diagram



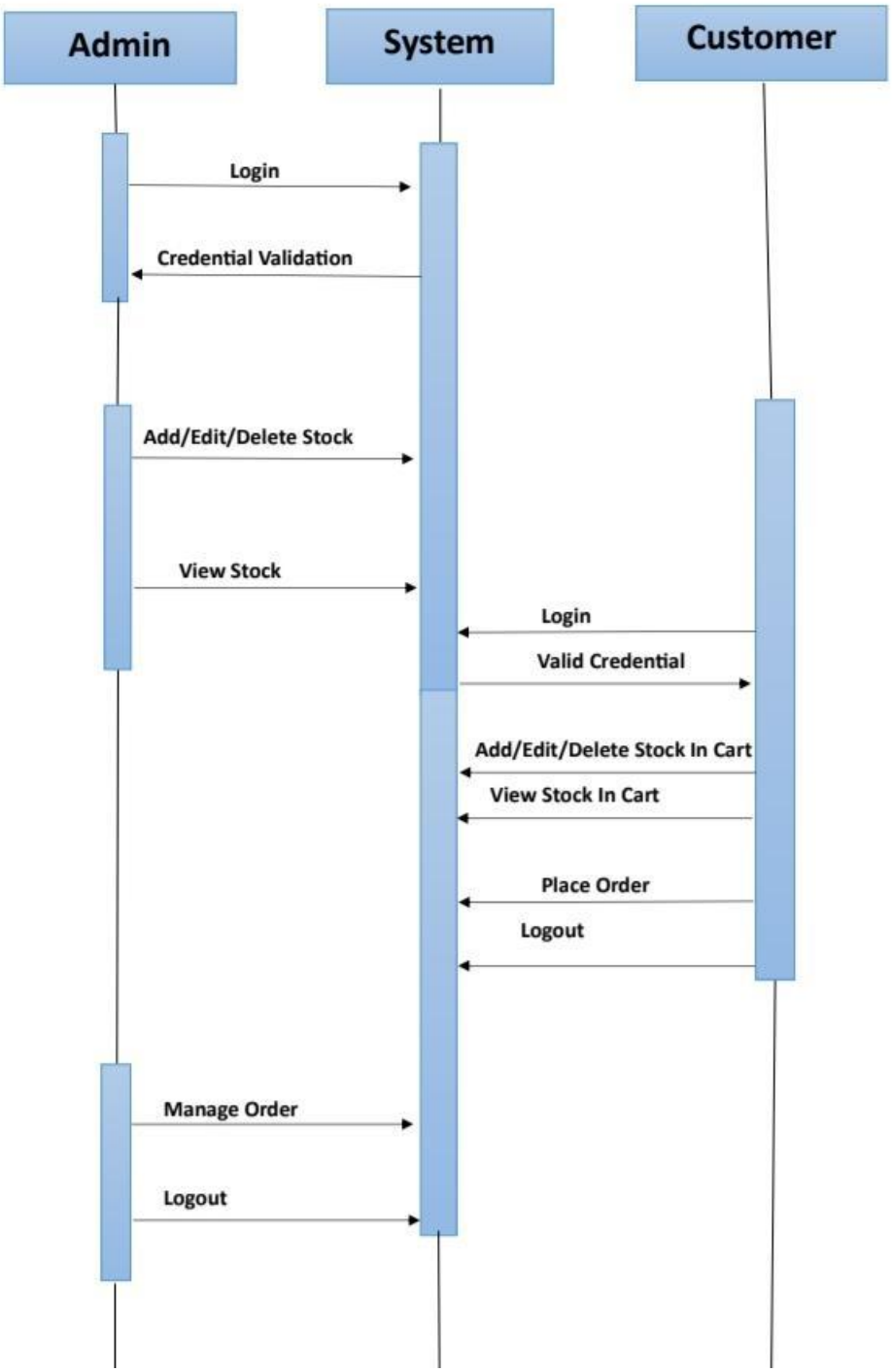
6.2 Flow Diagram



6.3 Class Diagram



6.4 Sequence Diagram



7. Test Cases

The Functional Specifications, Detailed Design Specification, and Requirements together drive the test plan.

TEST CASE	TEST PURPOSE	TEST CONDITION	EXPECTED OUTCOME
User Registration	To verify that a user can successfully register in the system.	To verify that a user can successfully register in the system.	To verify that a user can successfully register in the system.
User Login	To verify that a registered user can log in to the system.	User provides valid login credentials (username/email and password).	User is authenticated and redirected to the main dashboard
Manage Stock Details	To add, edit, update, or delete stocks details successfully.	Admin and user able to manage the stock details	Admin can successfully add, edit, update, or delete the stock details.
Place Order	To allow user to place their order successfully.	Allow user to place their order along with the order details.It should notify to the admin	Users can be able to place their order and it is submitted to the admin for acceptance.

Manage Order	To verify the incoming and outgoing stock(order managed by Admin)	Admin can able to monitor the incoming and outgoing stock	Admin can be able to manage the stack transaction successfully

8.Conclusion

In conclusion, the Shopping Mall Management System emerges as a pivotal solution catering to the needs of both shop owners and customers, facilitating seamless transactions and enhancing overall shopping experiences. By providing a centralized platform for buying and selling products, the system streamlines operations for shop owners, enabling efficient inventory management, order processing, and sales tracking. This, in turn, translates to increased productivity and profitability for businesses operating within the shopping mall environment. Simultaneously, the system serves as a convenient and user-friendly interface for customers, offering a wide array of products, hassle-free browsing, and secure payment options. By bridging the gap between supply and demand, the system contributes to the convenience and satisfaction of customers, making it an indispensable tool for modern-day living. Overall, the Shopping Mall Management System stands as a testament to technological advancement in the retail sector, revolutionizing the way businesses operate and customers shop, thereby enriching day-to-day life experiences for all stakeholders involved.