

Functional Requirements

RevShop (Console-Based Application)

Introduction

The Online Shopping Management System is a console-based application designed to facilitate buying and selling of products through a structured and secure platform. The system supports two main user roles: Buyers and Sellers. It provides functionalities such as user authentication, product management, cart handling, order processing, reviews, favorites, and notifications.

Purpose of the System

The purpose of this system is to:

- Provide a platform for sellers to manage and sell products.
- Allow buyers to browse products, place orders, and provide reviews.
- Maintain secure user authentication and role-based access.
- Track orders, inventory, and user interactions efficiently.

Scope of the System

The system covers the following functionalities:

- User registration and authentication
- Buyer and seller role management
- Product listing and inventory tracking
- Cart and order management
- Review and rating system
- Notification handling

Functional Requirements

1. User Management

- The system shall allow users to register using email and password.
- The system shall allow users to log in with valid credentials.
- The system shall support role-based access for Buyers and Sellers.
- The system shall store security questions and answers for password recovery.
- The system shall allow users to reset passwords securely.

2. Buyer Functional Requirements

- The system shall allow buyers to view available products.
- The system shall allow buyers to add products to the cart.
- The system shall allow buyers to update or remove cart items.
- The system shall allow buyers to place orders from the cart.
- The system shall store shipping address and total amount for each order.
- The system shall allow buyers to view their order history.
- The system shall allow buyers to add or remove products from favorites.

- The system shall allow buyers to submit product reviews and ratings.

3. Seller Functional Requirements

- The system shall allow sellers to register business details.
- The system shall allow sellers to add new products.
- The system shall allow sellers to update product price, discount, and stock.
- The system shall track stock quantity for each product.
- The system shall notify sellers when stock falls below a predefined threshold.

4. Product Management

- The system shall store product details such as name, category, MRP, and discounted price.
- Each product shall be associated with a seller.
- The system shall update stock quantity automatically after order placement.
- The system shall prevent purchase of products that are out of stock.

5 .Cart and Cart Item Management

- The system shall create a cart for each buyer.
- The system shall support multiple cart items per cart.
- The system shall store product quantity for each cart item.
- The system shall convert cart items into order items during checkout.

6. Order Management

- The system shall generate an order when checkout is completed.
- Each order shall consist of one or more order items.
- The system shall store the price of products at the time of purchase.
- The system shall store order date and shipping address.
- The system shall allow buyers to view detailed order information.

7.Review and Rating Management

- The system shall allow buyers to submit reviews only for purchased products.
- Each review shall include rating and comment.
- Reviews shall be associated with both buyer and product.
- The system shall display reviews for products.

8. Notification Management

- The system shall generate notifications for important events.
- Buyers shall receive notifications for order confirmation.
- Sellers shall receive notifications for low stock alerts.
- The system shall allow users to mark notifications as read.

Non-Functional Requirements

- The system shall be implemented as a console-based application.
- The system shall use a relational database for data storage.
- The system shall ensure data integrity using primary and foreign keys.
- The system shall provide secure handling of user credentials.
- The system shall be scalable to support multiple users.

Conclusion

RevShop provides a structured and secure platform for managing online buying and selling activities. The defined functional requirements ensure smooth interaction between buyers, sellers, and the system while maintaining data consistency and security.