

# 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.