SRS Document

Online Shopping Management System Project

Contents

Chapter 1

Introduction

The Online Shopping System is a comprehensive web-based application designed to transform the conventional retail experience by enabling customers to browse, compare, and purchase products over the internet. Built using modern web technologies, the platform provides a responsive and user-friendly interface that facilitates convenient and secure shopping from anywhere at any time.

This system aims to streamline the buying process by incorporating real-time inventory tracking, personalized product recommendations, and a simplified checkout mechanism. It eliminates the limitations of traditional brick-and-mortar retail by offering customers the ability to explore a wide range of products, access detailed information, and perform transactions without physical interaction.

In addition to customer functionalities, the system includes a robust administrative backend that empowers store managers to manage product listings, update stock levels, monitor sales performance, and handle order processing efficiently. With integrated analytics and order tracking capabilities, the Online Shopping System enhances business decision-making and operational agility.

By digitizing the end-to-end retail experience, the Online Shopping System not only improves customer satisfaction and convenience but also enables retailers to expand their reach and optimize resource utilization in an increasingly competitive e-commerce landscape.

Chapter 2

Purpose

The purpose of the Online Shopping System is to deliver a comprehensive, user-centric, and efficient digital platform for purchasing products over the internet. This system is intended to address the challenges and limitations of traditional in-store shopping by offering a fully integrated e-commerce solution that is accessible anytime and from anywhere.

The platform is designed to serve both customers and store administrators. Customers benefit from the convenience of browsing a diverse catalog of products, viewing detailed item information, adding items to a virtual cart, and completing secure online transactions without the need to visit a physical store. Meanwhile, administrators are provided with a powerful backend interface to manage product listings, update inventory levels, track orders, and monitor sales performance in real time.

By automating the retail process, the Online Shopping System reduces human dependency, streamlines operations, and significantly enhances the overall shopping experience. The system aims to bridge the gap between traditional retail and digital commerce, contributing to the advancement of modern business practices in the retail industry.

Chapter 3

Project Objectives

The primary objective of the Online Shopping System is to deliver a reliable, scalable, and user-friendly platform that streamlines the process of online purchasing for both customers and store administrators. The system is designed to achieve the following specific objectives:

- To provide customers with an intuitive interface for browsing product categories, viewing detailed item information, and adding products to a virtual shopping cart.
- To enable secure, seamless, and flexible online payment integration for completing purchases efficiently.
- To automate the order placement and inventory management process, thereby reducing manual intervention and minimizing the risk of human error.
- To improve operational efficiency for store administrators by offering tools to manage product listings, monitor inventory levels, process orders, and track sales analytics.
- To deliver real-time updates on product availability, order status, and promotional offers to both customers and administrators.
- To enhance the overall shopping experience through a responsive, dependable, and accessible web-based application optimized for a wide range of devices.

Chapter 4 Scope

The Online Shopping System is designed to function as a comprehensive digital platform that facilitates seamless purchasing experiences for customers and efficient product and order management for store administrators. The system aims to modernize the traditional retail process by offering a centralized, web-based solution that supports product browsing, cart management, secure payment processing, and order fulfillment.

For customers, the system offers the ability to:

- Browse products by category, brand, or keyword search.
- View detailed product descriptions, pricing, specifications, and images.
- Add products to a shopping cart and manage quantities or selections.
- Place orders and complete secure transactions through integrated online payment gateways.
- Track order status and view order history within a user dashboard.

For store administrators, the system provides tools to:

- Manage product catalogs, including adding, editing, and removing items.
- Monitor inventory levels and receive low-stock alerts.
- Process customer orders and update shipping or delivery statuses.
- Access reports on sales performance, customer activity, and product trends.
- Handle user account management, including roles, permissions, and customer support.

The Online Shopping System is intended to be scalable and adaptable, capable of serving a wide range of product types and customer bases, while ensuring reliability, data

security, and ease of use across devices.

Chapter 5

Functional Requirements

The Online Shopping System will fulfill the following functional requirements to ensure a smooth, secure, and user-centric online shopping experience:

- The system will allow users to register, create an account, log in, and log out securely.
- The system will allow users to browse and search for products based on categories, keywords, price range, brand, and availability.
- The system will display detailed information about products, including images, specifications, pricing, stock status, and customer reviews.
- The system will allow users to add products to a shopping cart and modify quantities or remove items before checkout.
- The system will allow users to complete purchases using secure online payment gateways.
- The system will generate order confirmations and allow users to view, track, and manage their orders through the order history section.
- The system will allow administrators to manage product listings, including adding, editing, and removing products from the catalog.
- The system will allow administrators to manage inventory levels, receive low-stock alerts, and update product availability.
- The system will maintain detailed records of user activities, transactions, and order histories for administrative reporting and customer service support.

Chapter 6

Non-Functional Requirements

The Online Shopping System will adhere to the following non-functional requirements to ensure high quality, reliability, and user satisfaction:

- **Performance**: The system will deliver fast response times. Product searches, cart updates, and order processing will be completed within 3 seconds under normal operating conditions.

- **Scalability**: The system will be designed to support a growing number of users, products, and transactions without degradation in performance, ensuring smooth operation during peak traffic.

- **Security**: The system will implement secure authentication and authorization mechanisms. Sensitive data such as user passwords, payment details, and personal information will be encrypted and securely transmitted.

- **Availability**: The system will ensure 99.9% uptime to provide continuous access for both customers and administrators, minimizing disruptions in service.

- **Usability**: The platform will feature an intuitive, user-friendly interface that is easy to navigate and fully responsive across various devices, including desktops, tablets, and smartphones.

- **Maintainability**: The system will be built using modular and well-documented code structures, allowing for efficient maintenance, future enhancements, and bug fixes.

- **Data Integrity**: All transaction records, customer details, and inventory data will be stored accurately and protected against unauthorized access or unintended modifications, ensuring consistency and reliability of data.

Chapter 7

Entity Relationship Diagram

Figure 7.1: E-R Diagram

Chapter 8

Database Design

8.1 Customer Table

Users / Customers Table

Column	Data Type	Constraints
UserID	INT	PRIMARY KEY (PK)
Name	VARCHAR	NOT NULL
Email	VARCHAR	UNIQUE, NOT NULL
Password	VARCHAR	NOT NULL (Hashed)
Address	VARCHAR	OPTIONAL

8.2 Admin Table

Admin Table

Column	Data Type	Constraints
AdminID	INT	PRIMARY KEY
Username	VARCHAR	UNIQUE, NOT NULL
Password	VARCHAR	NOT NULL (Hashed)
Email	VARCHAR	NOT NULL

8.3 Products Table

products

Column	Data Type	Constraints
product_id	INT	PRIMARY KEY
product_name	VARCHAR	NOT NULL
product_desc	TEXT	
product_desc	DECIMAL	No
product_price	DECIMAL	NOT NULL
category_id	INT	FOREIGN KEY

8.4 Category Table

category

Column	Data Type	Constraints
category_id	INT	PRIMARY KEY
category_name	VARCHAR	NOT NULL, UNIQUE

8.5 Cart-Item Table

cart_item

Column	Data Type	Constraints
cart_id	INT	PRIMARY KEY
user_id	INT	FOREIGN KEY
product_id	INT	FOREIGN KEY
quantity	INT	NOT NULL, CHECK > 0

8.6 Orders Table

orders

Column	Data Type	Constraints
order_id	INT	PRIMARY KEY
user_id	INT	FOREIGN KEY
created_at	TIMESTAMP	CURRENT_TIMESTAMP
total_amount	DECIMAL	NOT NULL
Delivery_status	VARCHAR	DEFAULT "Pending"

8.7 Seat Table

Column	Data Type	Constraints
Cart_id	INT	User_id
Product_id	INT	Product_id
Category_name	VARCHAR	NOT NULL, UNIQUE

Chapter 9

Use Case Diagram

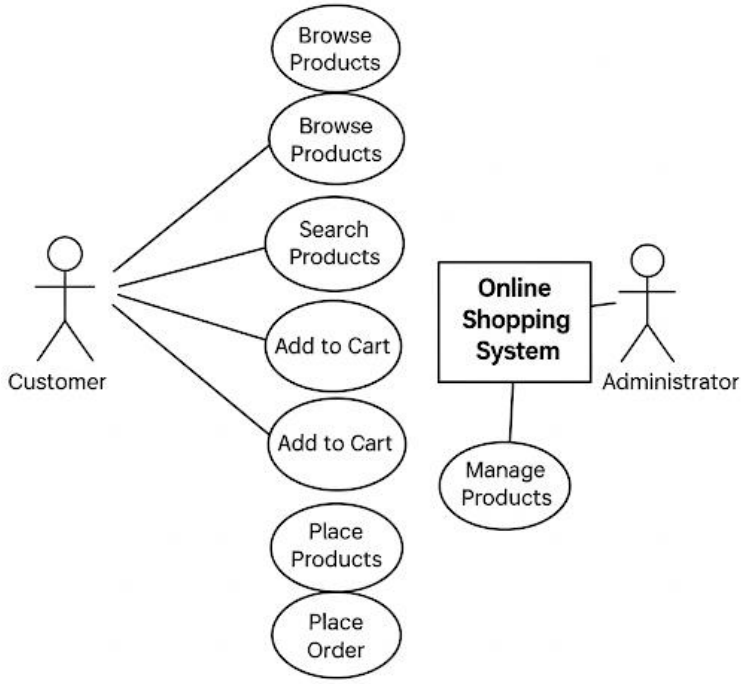

Figure 9.1: Use Case Diagram

Chapter 10

Sequence Diagram

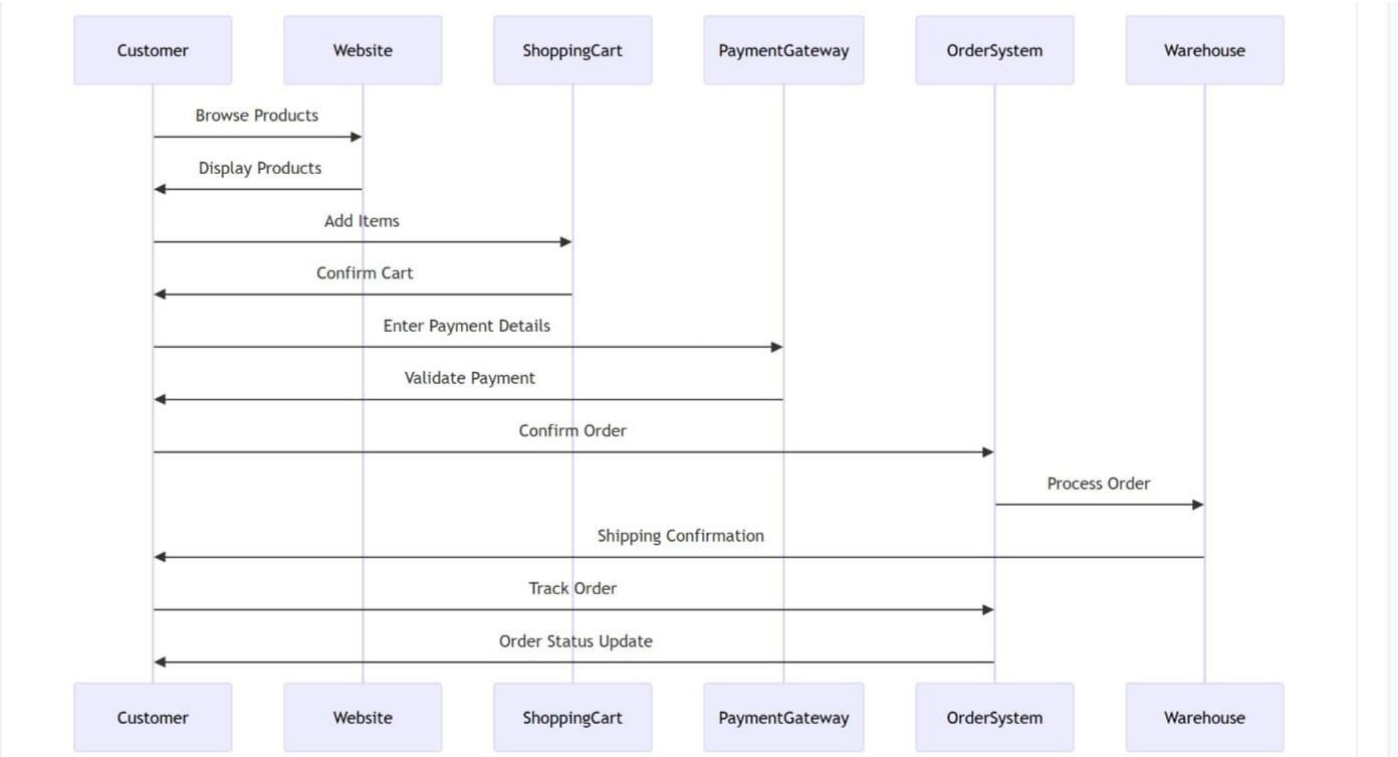

Figure 10.1: Sequence Diagram