Team Details:

Imadh Ajaz Banday - 1BM20CS059
Jayam Mouneash - 1BM20CS063
Kotturu Amarnath - 1BM20CS074
Mukesh Kumar N V - 1BM20CS088
Class - 6B
Batch - B1

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Online Shopping System

Problem Statement:

The traditional method of shopping involves physically visiting a store, selecting a product, and making a payment. However, with the advancement of technology, online shopping has become a popular way of purchasing products. Online shopping systems provide customers with the convenience of shopping from the comfort of their own homes and offer a wide range of products at competitive prices. The objective of this project is to design an online shopping system that provides customers with a user-friendly interface to browse and purchase products. The system should be able to handle a large volume of traffic, process transactions securely, and provide customers with reliable delivery of products.

Some of the main challenges that need to be addressed in the online shopping system are:

1. **User authentication and authorization:** The system should ensure that only authorized users are able to access and purchase products.
2. **Product catalog management:** The system should provide an efficient way for the administrator to manage the product catalog, which includes adding, updating, and deleting products.
3. **Shopping cart management:** The system should allow users to add products to their shopping cart and provide them with the ability to edit or remove items before making a payment.
4. **Payment processing:** The system should securely process payments made by customers and provide them with a payment confirmation.
5. **Order processing and delivery:** The system should efficiently process orders, track shipments, and provide customers with timely delivery of products.
6. **Customer support:** The system should provide customers with an efficient way to contact support in case of any issues or queries.

Software Requirement Specification(SRS)

1 Introduction

1.1 Purpose of this document

The purpose of this document is to provide a comprehensive Software Requirements Specification (SRS) for the development of a user-friendly online shopping system.

1.2 Scope of this document

This document outlines the functional and non-functional requirements, constraints, and specifications of the online shopping system.

1.3 Overview

The online shopping system is a web-based platform that allows customers to purchase products or services from the comfort of their own home. The system includes a catalog of products, a shopping cart feature for customers to add items to their order, a payment gateway for processing transactions, and an order tracking system for customers to monitor their purchases.

2 General Description

The online shopping system should be user-friendly and easy to navigate for customers of all ages and technical skill levels. The system should be able to handle a large volume of traffic and transactions, with a high level of security to protect customer information. The website should be responsive, meaning it should be easily accessible and functional on both desktop and mobile devices.

3 Functional Requirements

- Product Catalog: The online shopping system should have a comprehensive product catalog, including product descriptions, images, and pricing information. The catalog should be easily searchable and filterable, with options to sort by price, popularity, or category.

- Shopping Cart: The system should allow customers to add items to their cart and view their total order cost. The cart should be easily accessible and editable, allowing customers to add or remove items as needed.
- Payment Gateway: The system should have a secure payment gateway that supports multiple payment methods, including credit cards, debit cards, and digital wallets. The payment gateway should be easy to use, with clear instructions for customers to follow.
- Order Tracking: The system should provide customers with real-time updates on the status of their order, including shipping and delivery information. Customers should be able to track their order history and view their previous purchases.
- User Account: The system should allow customers to create and manage their own user accounts. This should include features such as order history, saved payment methods, and shipping addresses.
- Customer Service: The system should have a robust customer service system, including a FAQ section, a support ticket system, and live chat or phone support.
- Security: The system should be designed with strong security measures to protect customer data, including SSL encryption, secure logins, and regular data backups.
- Performance: The system should be optimized for fast load times and minimal downtime. This should include features such as caching, content delivery networks (CDNs), and scalable infrastructure to handle spikes in traffic.

4 Interface Requirements

- The system shall have a user-friendly interface that is easy to navigate.
- The system shall provide a search function that allows users to search for products by keywords or categories.
- The system shall display product information, including images, descriptions, prices, and availability.
- The system shall provide a shopping cart that allows users to add and remove items from their order before checkout.
- The system shall display shipping options and costs, and allow users to select their preferred shipping method.
- The system shall provide a secure payment gateway that accepts multiple payment methods, such as credit cards, debit cards, and online payment services.

- The system shall send confirmation emails to users after they place an order, including order details and shipping information.

5 Performance Requirements

- The system shall be available 24/7 with a minimum uptime of 99%.
- The system shall be able to handle a minimum of 1000 concurrent users without significant degradation in performance.
- The system shall be able to process orders within 10 seconds of user submission.
- The system shall be able to handle a minimum of 100,000 products in the database without significant degradation in performance.
- The system shall be able to handle a minimum of 100,000 registered users without significant degradation in performance.
- The system shall be able to handle a minimum of 10,000 transactions per day without significant degradation in performance.
- The system shall have a response time of no more than 3 seconds for all user interactions.

6 Design Constraints

- The system must be designed to be scalable, allowing for future growth and expansion.
- The system must be designed to be modular, allowing for easy updates and maintenance.
- The system must be designed to be platform-agnostic, supporting multiple operating systems and web browsers.
- The system must be designed to be secure, with proper measures in place to prevent data breaches and protect user privacy.
- The system must be designed to comply with applicable laws and regulations related to online shopping and e-commerce.

7 Non-Functional Attributes

- **Reliability:** The system must be reliable, with minimal downtime and data loss.
- Availability: The system must be available 24/7, with a high level of uptime and minimal maintenance windows.
- **Performance:** The system must be able to handle high traffic volumes and user requests without significant latency or slowdowns.

- **Usability:** The system must be user-friendly and easy to navigate, with clear and concise instructions for all user interactions.
- **Security:** The system must be secure, with proper authentication, encryption, and data protection measures in place to prevent unauthorized access and data breaches.
- **Maintainability:** The system must be designed to be easy to maintain and update, with clear and concise documentation and modular code architecture.
- **Portability:** The system must be designed to be portable, allowing for easy deployment to multiple environments and platforms.

8 Preliminary Schedule and Budget

The development of the Online Shopping System is estimated to take four months. The project will include design, development, testing, and deployment phases. The project will be managed using agile development methodologies.

SRS Document Preparation - 3 weeks , Rs.50,000

Requirement analysis - 3 weeks, Rs.30,000

Software Design - 1 week, Rs,20,000

FrontEnd Development - 2 weeks, Rs 70,000

BackEnd Development - 3 weeks, Rs,70,000

Testing - 2 weeks, Rs30,000