Final Project Report

Project Title: ShopSmart - Your Digital Grocery Store Experience

1. INTRODUCTION

1.1 Project Overview

ShopSmart is a web-based digital grocery store designed to deliver a seamless and secure shopping experience. Customers can browse products by category, view details, add to cart, and checkout securely. Sellers and administrators are provided with backend access to manage listings, inventory, and app performance.

1.2 Purpose

The project aims to digitize the grocery shopping experience for both customers and sellers. It simplifies purchasing, inventory handling, and enhances overall management through a scalable MERN stack application.

2. IDEATION PHASE

2.1 Problem Statement

Traditional grocery shopping is time-consuming and lacks real-time inventory updates. Customers face queues, and sellers struggle with manual inventory and order management.

2.2 Empathy Map Canvas

Customers want a faster, safer way to buy essentials. Sellers want better tools to manage their online presence and orders.

2.3 Brainstorming

Various solutions like mobile apps, delivery integration, and smart recommendations were discussed. The most feasible was a full-stack web application using the MERN stack.

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

Login → Browse Products → Add to Cart → Checkout → Order Tracking

3.2 Solution Requirement

Functional and non-functional requirements including login, cart, payment, admin controls, and data security.

3.3 Data Flow Diagram

User → UI → Backend API → MongoDB → Response to UI

3.4 Technology Stack

• Frontend: React
• Backend: Node.js, Express.js
• Database: MongoDB
• Authentication: JWT
• Deployment: Render/Netlify/MongoDB Atlas

4. PROJECT DESIGN

4.1 Problem Solution Fit

ShopSmart fits the need of modern users who prefer online convenience and efficient backend control for sellers/admins.

4.2 Proposed Solution

A responsive web app built with MERN stack featuring role-based access and seamless cart-to-checkout flow.

4.3 Solution Architecture

React (Client) → Node.js + Express (Server) → MongoDB (Database)

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Week 1-2: Ideation and Requirement Gathering
Week 3-4: UI/UX and Frontend Development
Week 5-6: Backend API and Integration
Week 7: Testing and Debugging
Week 8: Deployment and Documentation

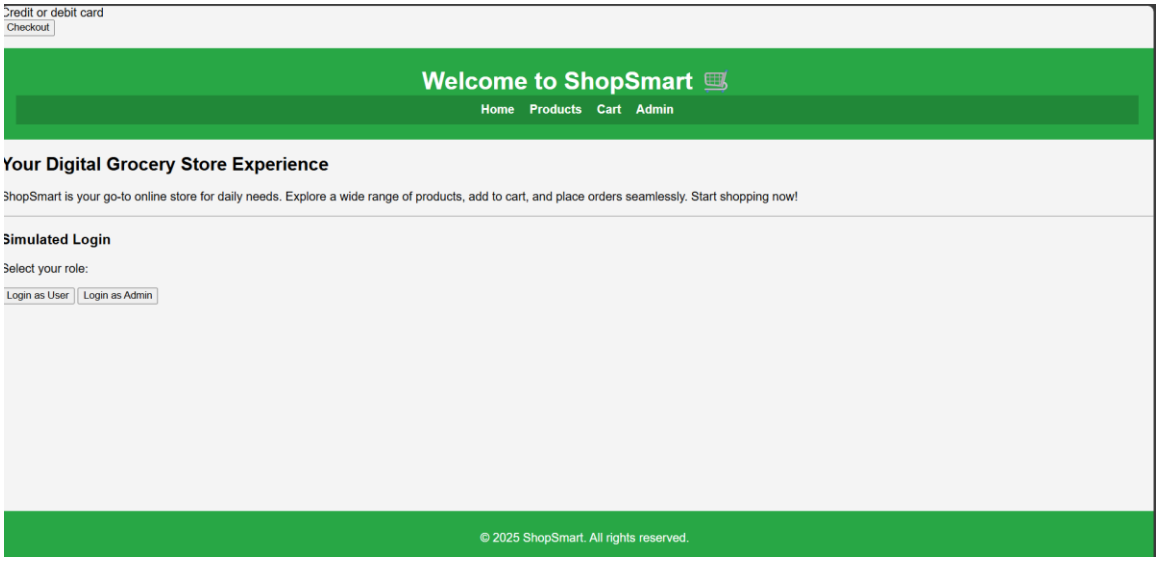
6. FUNCTIONAL AND PERFORMANCE TESTING

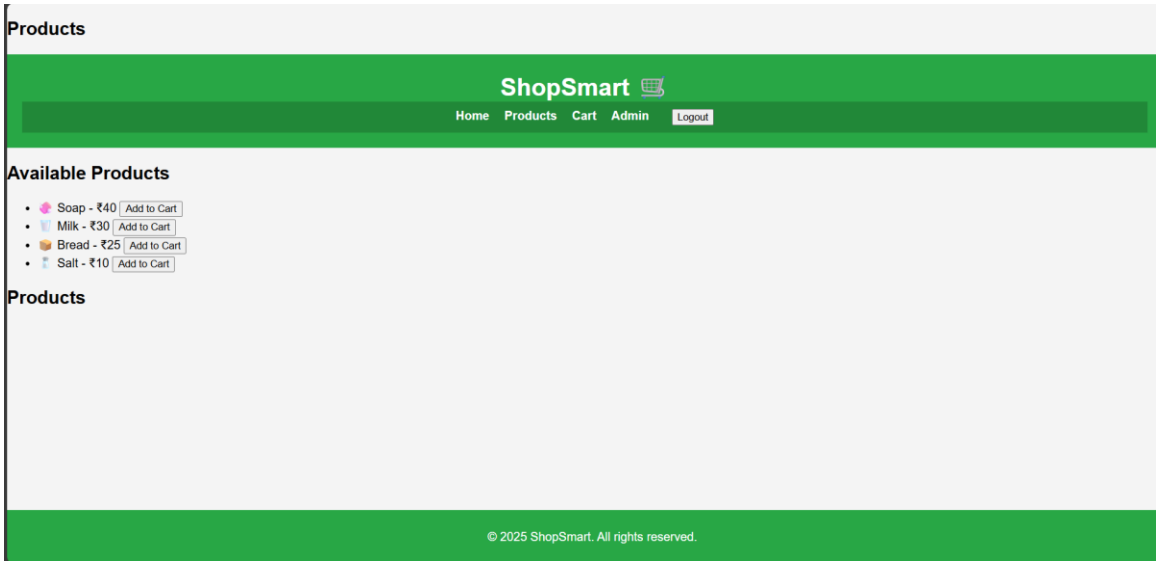
6.1 Performance Testing

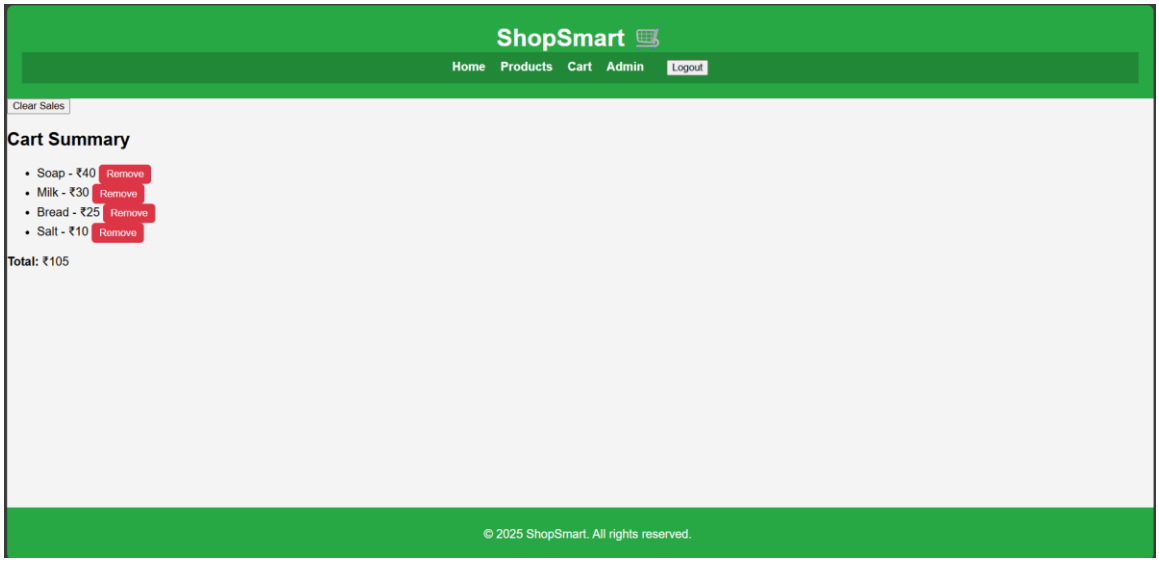
Tested using Lighthouse and Postman for response time, performance scores, and load handling.

7. RESULTS

7.1 Output Screenshots






ShopSmart
Home Products Cart Admin Logout
Clear Sales
Cart Summary
Soap - ₹40 Remove
Milk - ₹30 Remove
Bread - ₹25 Remove
Salt - ₹10 Remove
Total: ₹105
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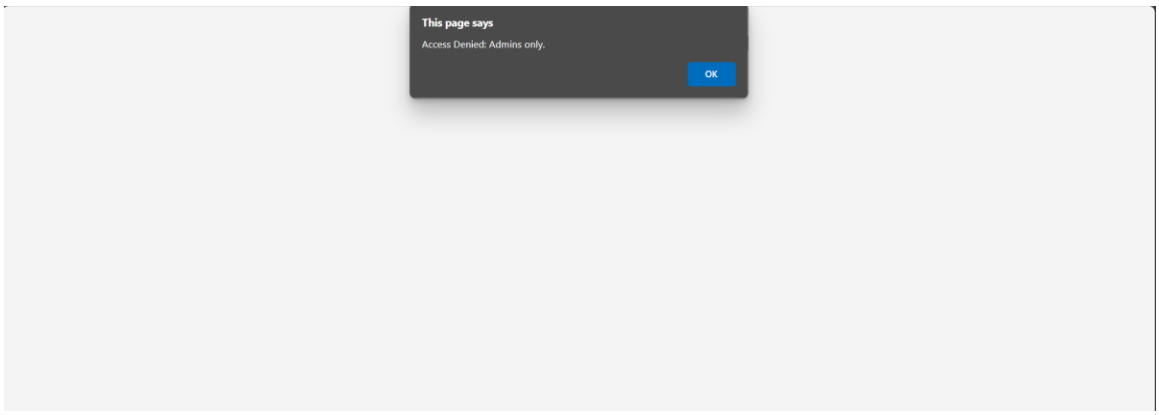
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Access Denied: Admins only.
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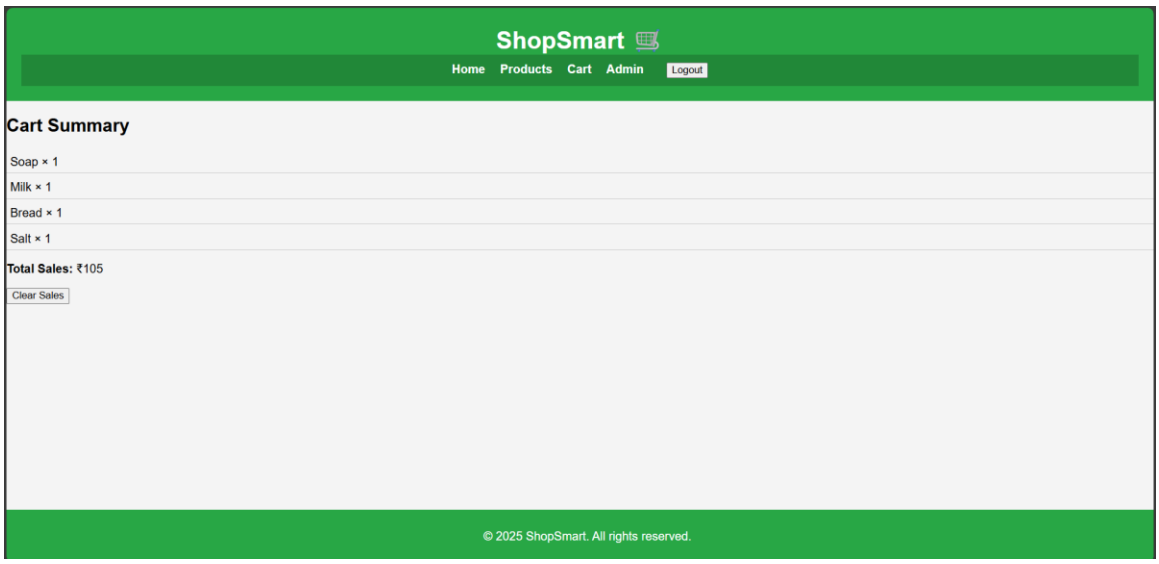
ShopSmart
Home Products Cart Admin Logout
Cart Summary
Soap × 1
Milk × 1
Bread × 1
Salt × 1
Total Sales: ₹105
Clear Sales
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8. ADVANTAGES & DISADVANTAGES

Advantages:
- Fast and responsive UI
- Role-based access
- Secure transactions

Disadvantages:
- Payment dependency on third-party API
- No offline functionality

9. CONCLUSION

ShopSmart is a full-stack grocery application built to address the modern needs of online shopping, seller product management, and admin control through an intuitive and secure web interface.

10. FUTURE SCOPE

• Mobile app version
• Voice-enabled shopping
• AI-based recommendation engine
• Multi-language support

11. APPENDIX

• Source Code: https://github.com/skafreen19/ShopSmart-your-digital-grocery-store-experience

• GitHub & Project Demo Link: https://github.com/skafreen19/ShopSmart-your-digital-grocery-store-experience