

ShopSmart – Grocery Web App Final Report

INTRODUCTION

1.1 Project Overview

ShopSmart is a full-stack Grocery Web Application that offers a seamless and convenient online grocery shopping experience.

1.2 Purpose

The purpose is to simplify grocery shopping by offering a digital solution for both customers and admins. It ensures a user-friendly interface and efficient backend management.

IDEATION PHASE

2.1 Problem Statement

Traditional grocery shopping is time-consuming and lacks personalization. There is a growing need for a system that can streamline the process and offer tailored recommendations.

2.2 Empathy Map Canvas

User (Priya):

Thinks: "I need to save time while still getting fresh produce."

Feels: Frustrated with long queues.

Says: "I wish groceries could come to me."

Does: Uses a mobile/desktop to shop online.

2.3 Brainstorming

We explored features like user authentication, order tracking, personalized suggestions, secure payments, and admin dashboard.

REQUIREMENT ANALYSIS

3.1 Customer Journey Map

- Registration/Login
- Browse Products
- Add to Cart
- Checkout & Payment
- Track Orders
- Receive Delivery

3.2 Solution Requirement

Functional: Login, product catalog, cart, payment, admin control

Non-functional: Secure, scalable, responsive, real-time updates

3.3 Data Flow Diagram

[DFD Image Placeholder]

3.4 Technology Stack

Frontend: React.js, Bootstrap

Backend: Node.js, Express.js

Database: MongoDB + Mongoose

Tools: GitHub, Postman, VS Code

PROJECT DESIGN

4.1 Problem Solution Fit

The app solves the core problem of time-consuming shopping by offering home delivery, easy browsing, and c

4.2 Proposed Solution

A MERN stack solution with user/admin roles, real-time cart and order system, and dynamic inventory.

4.3 Solution Architecture

Frontend → React

Backend → Express.js API

Database → MongoDB

Middleware → Authentication, validation

[Architecture Diagram Placeholder]

PROJECT PLANNING & SCHEDULING

5.1 Project Planning

- Milestone 1: Setup & Config
- Milestone 2: Backend API + DB
- Milestone 3: Frontend UI
- Milestone 4: Integration & Testing
- Milestone 5: Deployment

FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

- API tested with Postman for latency
- App performance validated across browsers
- Load test: 20 concurrent users (handled via local test)

RESULTS

7.1 Output Screenshots

[Login Screenshot Placeholder]

[Product List Screenshot Placeholder]

[Cart Screenshot Placeholder]

[Order History Screenshot Placeholder]

[Admin Panel Screenshot Placeholder]

ADVANTAGES & DISADVANTAGES

Advantages

- User-friendly interface
- Secure payment integration
- Admin control panel

Disadvantages

- Depends on internet connectivity
- Initial data seeding/manual admin entry needed

CONCLUSION

ShopSmart is a robust grocery app that simplifies the daily task of shopping. With real-time delivery tracking, ac

FUTURE SCOPE

- Mobile App (React Native)
- Voice-based product search
- AI-driven recommendations
- Integration with real-time delivery services like Dunzo/Swiggy

APPENDIX

GitHub Repo: <https://github.com/sai2468-ramu/green-cart>

Demo Link: Available on localhost:5173

Dataset: Not applicable (data entered manually or via form)

Source Code: Available in GitHub repo