

ShopSmart: Your Digital Grocery Store Experience

Team Details

Team ID: LTVIP2025TMID54891

Team Leader: Gogireddy Dhatruni Reddy

Team Members:

- Ganapathi Jahnvi Durga (UI Development, React Components, Backend Integration)
- Gandra Manosh Reddy (API Integration, Deployment)
- Gangadhar Dakarmi (Testing, Documentation, Support Modules)

1. Project Introduction

"ShopSmart" is a full-stack MERN (MongoDB, Express.js, React.js, Node.js) web application designed to bring the grocery shopping experience online. It provides a user-friendly interface and seamless functionality to make ordering groceries fast, reliable, and convenient.

2. Key Features

- Product Catalog with Filters
- Secure User Authentication & Authorization
- Shopping Cart & Checkout Flow
- Secure Payment Gateway Integration
- Real-time Order Tracking
- Product Ratings and Reviews
- Admin Dashboard for Product & Order Management

3. Scenario-Based Case Study

User: Priya, a working professional

Needs:

- Fresh groceries
- Scheduled delivery
- Secure and fast checkout

How ShopSmart Helps:

- User registration & login
- Personalized product recommendations
- Multiple delivery options
- Real-time order tracking
- Online payment integration

4. Technical Architecture

The application uses a Client-Server Architecture:

- Frontend: React.js + Axios + Bootstrap
- Backend: Node.js + Express.js
- Database: MongoDB (with Mongoose ODM)
- API Communication: RESTful APIs using JSON

5. Entity Relationship (ER) Diagram

Schemas:

- User
- Category
- Product
- AddToCart
- Order

6. Tech Stack & Prerequisites

Frontend:

- React.js (Vite/CRA)
- Axios
- React Router DOM
- Bootstrap / React-Bootstrap
- React Icons

Backend:

- Node.js
- Express.js
- Mongoose
- CORS

Setup Tools:

- VS Code / WebStorm / Sublime

- Git & GitHub
- MongoDB (local or Atlas)

7. MongoDB Schemas

Included User, Product, and Order schemas using Mongoose in Node.js

8. Project Milestones

- Milestone 1: Setup & Config
- Milestone 2: Backend APIs
- Milestone 3: Database Integration
- Milestone 4: Frontend Development
- Milestone 5: Testing & Demo

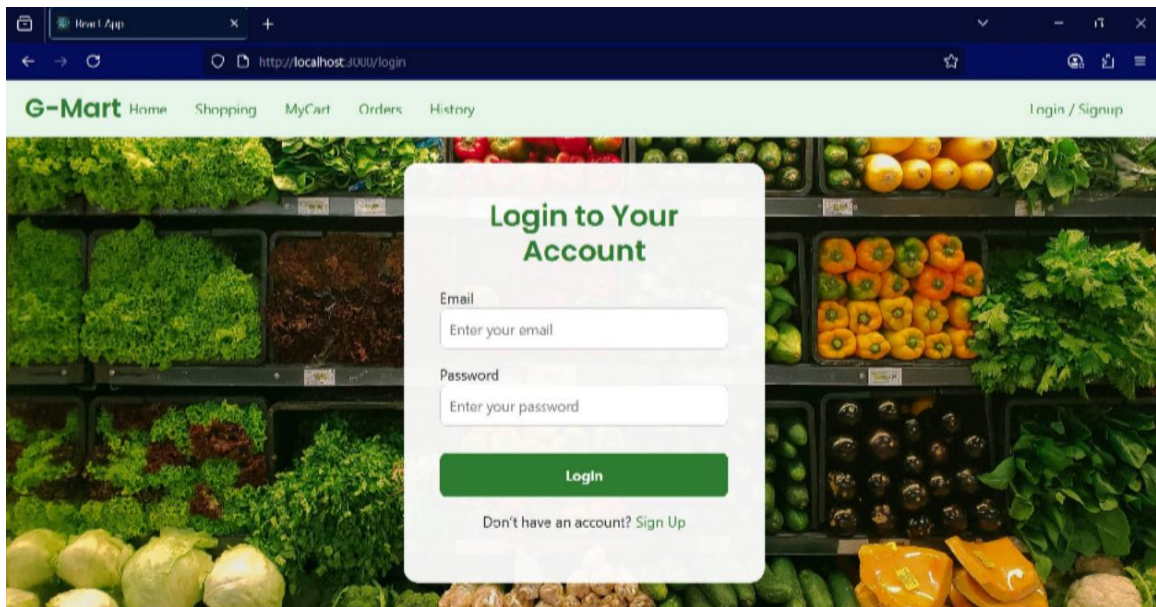
9. User Roles

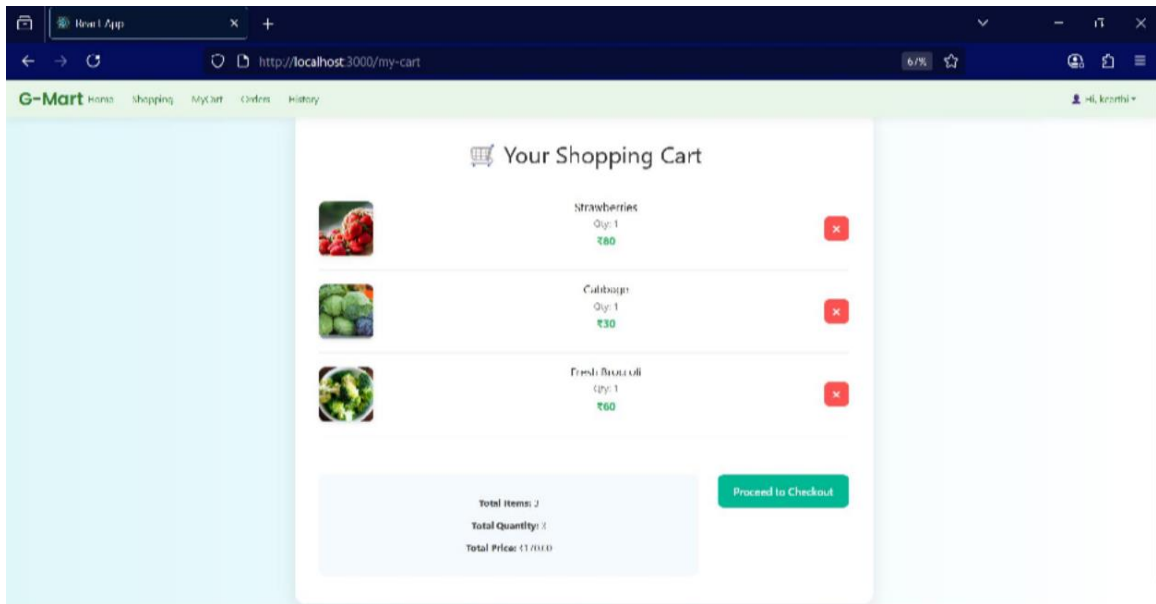
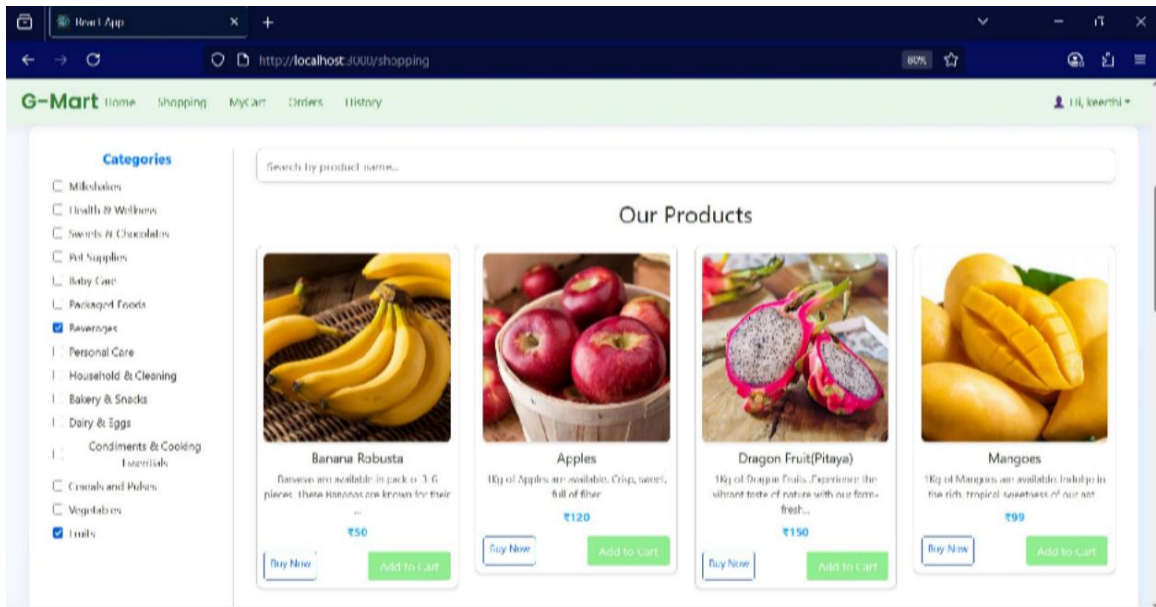
User:

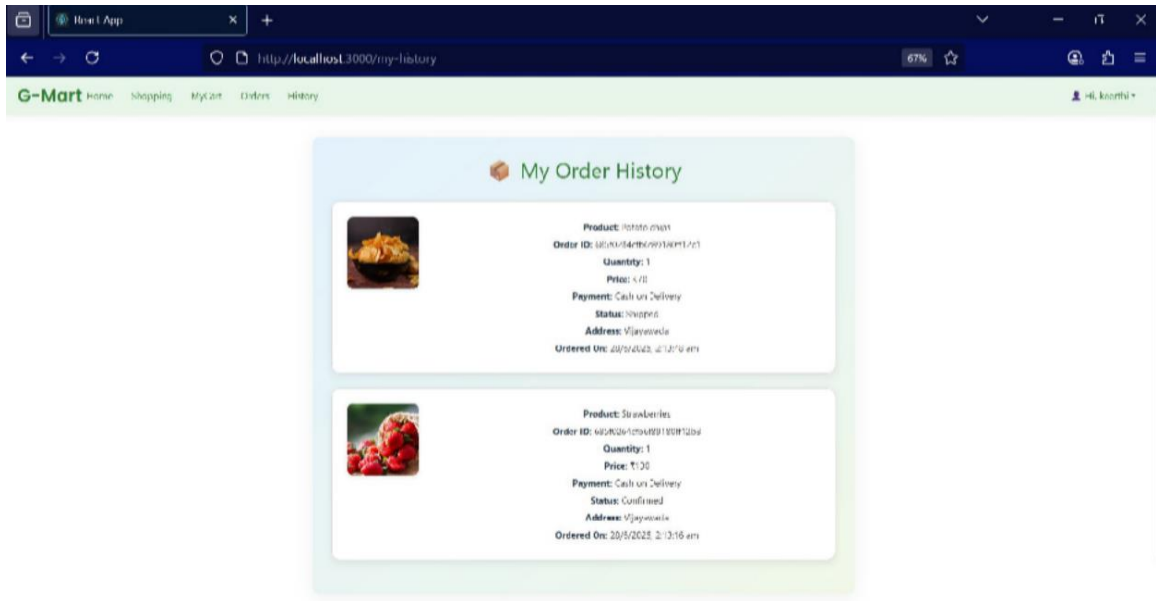
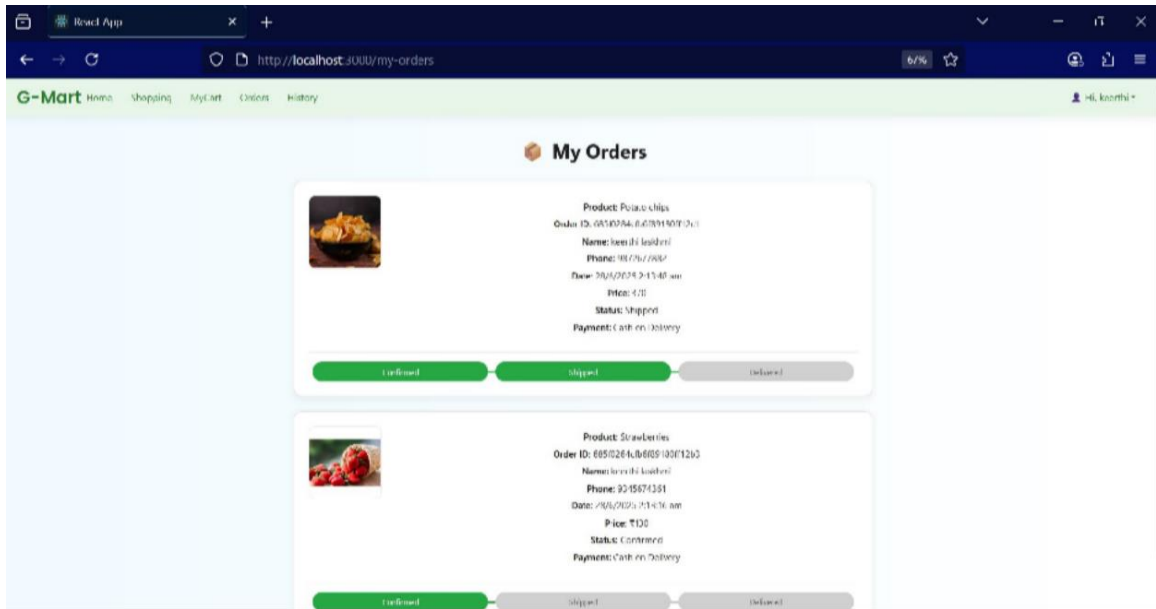
- Register/Login
- Browse & filter products
- Add to cart & checkout
- Track orders
- Submit reviews

Admin:

- Manage product listings
- View/manage orders
- Add/edit/delete categories
- View customer data & analytics







Home I App

http://localhost:3000/order-details

67%

G-Mart

HomeShoppingMy CartOrdersHistory

Hi, krunal

Complete Your Order

Items: 4

Total Price: ₹170

First Name

Last Name

Phone Number

Shipping Address

Payment Method

Cash on Delivery

Total: ₹170

Place Order

Home I App

http://localhost:3000/admin/dashboard

80%

G-Mart

HomeProductsOrdersUsers

Hi, vishal

Admin Dashboard

Total Products

66

View

Total Users

6

View

Total Orders

12

View

Add Product

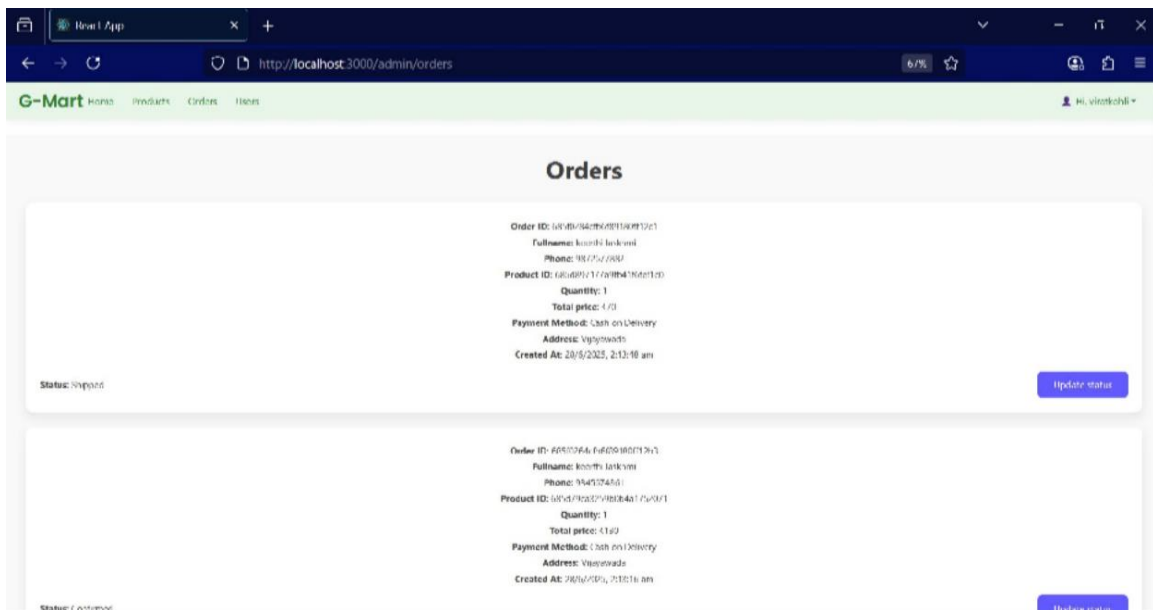
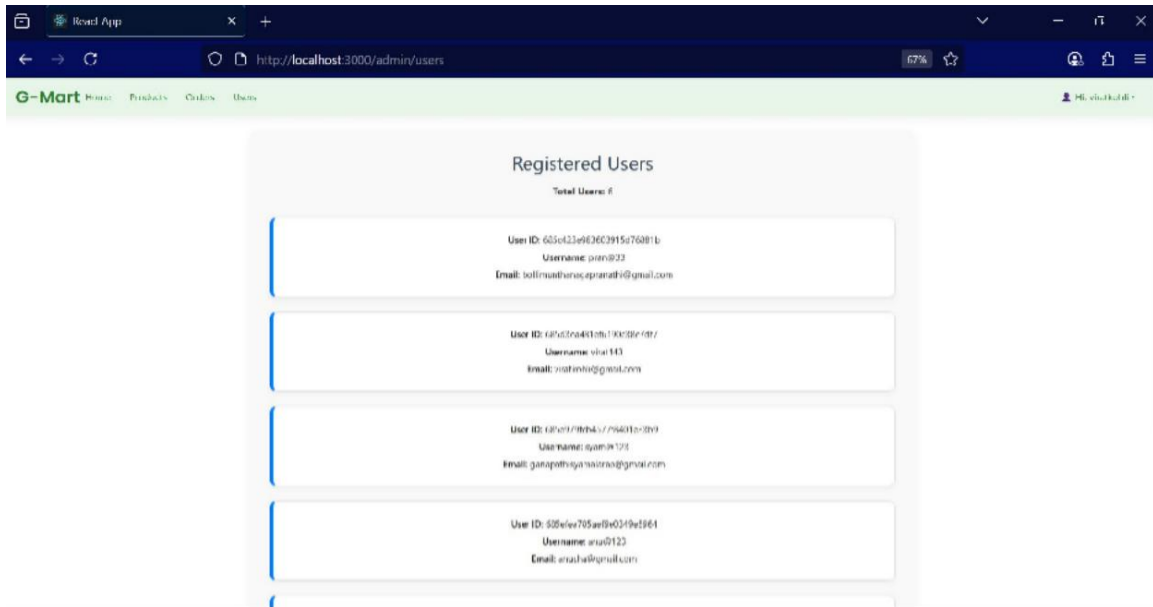
+

Add

Add Category

+

Add



10. Project Flow

User: Register/Login → Browse → Add to Cart → Checkout → Track Order

Admin: Login → Add Products/Categories → Manage Orders → View Reports

11. Demo & Code

Demo Video:

https://drive.google.com/file/d/1qYn32LyyFOldHh5VO00_k39AUDzuvVr2/view?usp=sharing

Google drive link:

https://drive.google.com/drive/folders/1i4QaSYXenJ_qG_EC5doGLzQpGGiuh?usp=sharing

Github project link:

<https://github.com/ganapathijahnavi/Grocery-web-app-using-mern-stack>

12. Future Enhancements

- Razorpay/Stripe Payment Integration
- Push Notifications
- PWA (Progressive Web App)
- AI-based Product Recommendation

13. Conclusion

ShopSmart is a complete e-commerce solution for grocery shopping that simplifies the process for both customers and administrators. Built with a robust MERN stack, it ensures scalability, security, and ease of use.