

Online Grocery Shopping System - Documentation

1. Introduction

The Online Grocery Shopping System is a web-based application that enables customers to purchase groceries online. The system allows users to browse items, add them to a cart, and place Order. The admin manage products and categories through a separate dashboard.

Objectives:

- To simplify grocery shopping for users by enabling online ordering.
- To reduce manual billing and inventory management.
- To provide a secure, scalable, and user-friendly interface.

2. System Architecture

Architecture:

Frontend (React / HTML, CSS/TailwindCSS, JS)

Backend (Node.js / Express) → Database (MongoDB)

Modules include:

- 1.Admin Module
- 2.User Module
3. Product Module
4. Cart Module
5. Order Module

3. Functional Requirements

- User Registration/Login
- Product Browsing
- Cart Management
- Checkout
- Admin Dashboard

4. Non-Functional Requirements

- Performance: Should load within short time.
- Security: Passwords hashed, JsonWebToken used.
- Usability: Simple UI for all users.
- Availability: -

5. Technologies Used

Frontend: React.js, HTML, CSS, Tailwind, JavaScript

Backend: Node.js, Express.js

Database: MongoDB or MySQL

Authentication: JWT / Cookies

Deployment: Docker

6. Database Design

Example MongoDB Schemas:

User Schema:

{name, username, password, user-role}

Product Schema:

{name, category, price, stock, description, image}

Order Schema:

{userId, items[], totalAmount, status, createdAt}

7. Authentication & Authorization

Users register and login using email/password.

JsonWebToken is used for authentication.

Admin and Customer roles are defined.

8. System Workflow

Customer Flow: Register → Login → Browse → Cart → Checkout → PaymentMode

Admin Flow: Login → Manage Products

10. Future Enhancements

- Delivery tracking system
- Multi-language support

11. Conclusion

The Online Grocery Shopping System automates the grocery shopping process, making it faster, more convenient, and more efficient for both customers and administrators.

Work Flow Diagram of Usecases

Use Case Diagram

Flow diagram that shows how the Online Grocery Shopping Website functions

