

JEPPIAAR ENGINEERING COLLEGE

DEPARTMENT OF COMPUTER SCIENCE
AND ENGINEERING

GROCERY WEB APP USING MERN

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INTRODUCTION

CONTENT:-

It is a platform that allows users to browse, search and purchase groceries online with ease.

OBJECTIVE:-

To develop a user-friendly application for convenient and efficient grocery shopping.

PURPOSE:-

Minimize manual shopping time, provide digital access to groceries and streamline the shopping process.

PROBLEM STATEMENT

- Traditional grocery shopping is time-consuming and inconvenient.
- Difficulty in comparing prices and finding specified items.
- Lack of digital systems to track availability and offers.
- Users face challenges in managing budgets and lists manually.
- Concerns about the safety of online transactions.

PROPOSED SOLUTION

An online platform to:

- **Browse and search groceries by category or keyword.**
- **Compare prices and view real-time availability.**
- **Add products to a cart and proceed with secure payment.**
- **Track orders and provide recommendations based on user preferences.**
- **Ensures the transparency and better planning.**
- **Designed with clean and intuitive interface that makes navigation easily.**

KEY FEATURES

- 1. User Registration/Login:-Secure account creation and access/**
- 2. Product Categories:-Organized display of groceries.**
- 3. Search and Filter:-Simplifies finding specific products.**
- 4. Add to Cart:-Enables users to save items for checkout**
- 5. Checkout and Payment Integration:-Easy,secure online payments.**
- 6. Order Tracking:-View status of orders in real time.**

TECHNOLOGY STACK

FRONTEND TECHNOLOGIES:-

HTML,CSS AND JavaScript(for designing the user interface)

BACKEND TECHNOLOGIES:-

React,Node.js,angular,express.js

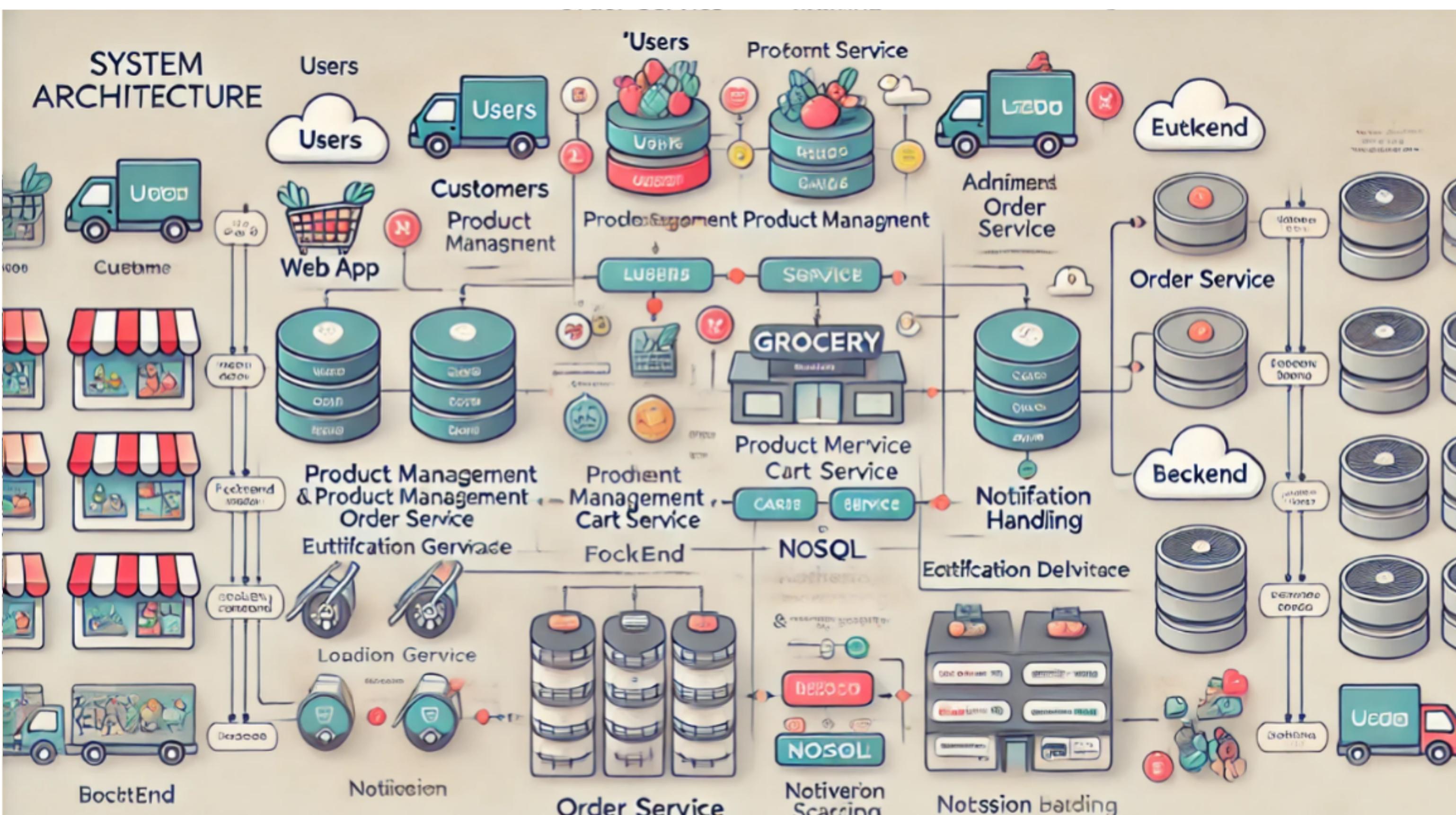
DATABASE:-

MONGODB(to store user,product and order data).

ADDITIONAL TOOLS:-

IDE(e,g,Visual Studio Code),GitHub(Version Control),API's for payment gateway integration .

SYSTEM ARCHITECTURE



Wireframes/Designs

Home Page: Logo, Search, Menu, Featured Products, Categories, Offers, Footer Links.

Product Page: Filters, Product Grid (Image, Name, Price, Add to Cart), Pagination.

Cart Page: Items, Quantity, Price Summary, Checkout Button.

Checkout Page: Address Fields, Payment Options (Card, UPI, COD), Order Summary.

IMPLEMENTATION

Environment Setup: Install IDE, frameworks, and dependencies.

Frontend: Build responsive pages, use APIs for data.

Backend: Create RESTful APIs for auth, products, orders.

Database: Design tables for users, products, orders.

Testing: Conduct unit, integration, and user tests. Debug issues.

DATABASE DESIGN

Tables:

Users: user_id (PK), name, email, password, address.

Products: product_id (PK), name, price, category, stock, image_url.

Orders: order_id (PK), user_id (FK), total_price, order_date.

Order_Items: order_item_id (PK), order_id (FK), product_id (FK), quantity, price.

Relations:

Users → Orders (user_id).

Products → Order_Items (product_id).

Orders → Order_Items (order_id).

CHALLENGES

1. UI/UX: Aligning elements, responsive design, fast navigation.

Backend: Managing cart updates, stock, orders, API efficiency, secure authentication.

Payment: Secure gateways, handling failures/refunds, verifying user data.

Debugging: Fixing UI/browser issues, server errors, optimizing database queries.

Tackled with testing, research, and collaboration

TESTING AND DEBUGGING

Testing Types:

Unit Testing: Checked login, product addition, cart updates.

Integration Testing: Verified frontend-backend and API-database interactions.

User Testing: Ensured usability and user-friendliness.

Tools Used:

Browser Developer Tools for UI and network debugging.

Debugging Console for resolving code errors.

SECURITY FEATURES

Data Protection: Password encryption (e.g., bcrypt).

Secure Communication: Enforced HTTPS.

Payment Security: Tokenization via APIs (e.g., Razor pay, Stripe).

Role-Based Access: Restricted access by roles (admin/customer).

BENEFITS OF THE APPLICATION

- **Saves time by enabling online shopping.**
- **Convenient access from anywhere, anytime.**
- **Improves shopping experience through personalised recommendations**
- **supports budget management with price tracking**

HOME PAGE

 Online Grocery Shop

Need Grocery Items ? Call here +91 9572181024

Fresh Vegetables

SHOP NOW



You will get delivery within 12 hour. Facing difficulty while placing order ? call +91 9572181024

SIGN UP PAGE

ONLINE GROCERY APP

[HOME](#)[GROCERYLIST](#)[LOGIN](#)[CART](#)[FEEDBACK](#)

Sign Up

Full Name:

Email:

Password:

[Create New Account](#)

LOGIN PAGE

ONLINE GROCERY APP

[HOME](#) [GROCERYLIST](#) [LOGIN](#)
[CART](#) [FEEDBACK](#)

Login

Email:

Password:

Login

New user? [Sign Up](#)

GROCERYLIST PAGE

ONLINE GROCERY APP

[HOME](#)[GROCERYLIST](#)[LOGIN](#)[CART](#)[FEEDBACK](#)

Grocery List

Items: 

[Add Item](#)

CART PAGE

[HOME](#)[GROCERYLIST](#)[LOGIN](#)[SIGNUP](#)[FEEDBACK](#)

Your Cart



Apple (x2)

₹415.00

[Remove](#)

Banana (x3)

₹298.80

[Remove](#)

Total: ₹713.80

[Proceed to Checkout](#)

the
thank
you