

Full Stack Development with MERN

OrderOnTheGo: Your On-Demand Food Ordering Solution

1. Introduction

This document outlines the development of DHK FOODIES, a MERN Stack food ordering and delivery application. The system provides users with a platform to browse restaurants, add items to a cart, and place orders seamlessly.

- **1.1 Purpose** The primary purpose of this project is to replace traditional, inefficient food ordering methods (like phone calls) with a centralized, real-time, and user-friendly web application. It aims to connect customers with local restaurants effectively.

2. Ideation Phase

- **2.1 Problem Statement** Customers face challenges such as busy phone lines, miscommunication of orders, and the inconvenience of having to look up different menus individually. Restaurants struggle with managing high volumes of phone orders and reaching a wider customer base.
- **2.2 Empathy Map Canvas**
 - **Customers:** Feel frustrated with limited restaurant choices and lack of a simple, unified ordering process. Need a reliable way to view menus and place accurate orders.
 - **Restaurants:** Need a streamlined way to present their menu to a larger audience and manage incoming orders efficiently, especially during peak hours.
- **2.3 Brainstorming** Key ideas included real-time menu display, a secure user login/registration system, a functional shopping cart, and a persistent database for products and users.

3. Requirement Analysis

- **3.1 Customer Journey Map** User Registers/Logs In → Browses Restaurant/Food List → Selects Items and Adds to Cart → Enters delivery details → Places Order → Views Order in Profile.
- **3.2 Solution Requirements**
 - User management (registration, login).
 - Product (food item) display and management.
 - A functional shopping cart.
- **3.3 Technology Stack**
 - **Frontend:** React.js
 - **Backend:** Node.js / Express.js
 - **Database:** MongoDB

4. Project Design

- **4.1 Problem Solution Fit** The application directly solves the stated problem by providing a single, digital platform where users can easily view and order from multiple restaurants.
- **4.2 Proposed Solution** A role-based web application initially focused on the customer role, allowing them to register, log in, browse products, and place orders.
- **4.3 Solution Architecture** Frontend (React.js) → Backend API (Node.js/Express.js) → MongoDB Database

5. Project Planning & Scheduling

Week	Task
1	Requirements Gathering & Planning
2	UI/UX Design & Frontend Setup
3	Backend API & Database Schema Dev
4	Frontend Component Dev & API Link
5	Testing (API and UI) & Debugging
6	Final Submission & Documentation

Export to Sheets

6. Functional and Performance Testing

- **Performance Testing Tools:** Postman (for API load/response time), Browser Dev Tools (for frontend rendering performance).
- **API Response Time:** Maintained below 500ms for core data fetching routes.
- **Database Query Time:** Optimized through proper Mongoose schema design.
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7.Results

1. User Sign Up & Login Page

[Login](#)
[Sign Up](#)

Join DHK FOODIES!

Username

Phone Number

Password

Confirm Password

[Sign Up](#)

2.Restaurant & Filter Page

[Home](#)
[Restaurants](#)
[Profile](#)
[Orders](#)
[Contact](#)

All Restaurants

Andhra Ruchulu

📍 South Indian

📍 Hyderabad

★ 4.5 / 5

[View Menu](#)

Rayalaseema Ruchulu

📍 Rayalaseema

📍 Vijayawada

★ 4.3 / 5

[View Menu](#)

Coastal Kitchen

📍 Seafood

📍 Visakhapatnam

★ 4.6 / 5

[View Menu](#)

Hyderabad House

📍 Hyderabad

📍 Guntur

★ 4.7 / 5

[View Menu](#)

Guntur Spicy

📍 Spicy Andhra

📍 Guntur

★ 4.7 / 5

[View Menu](#)

Biryani Point

📍 Biryani

📍 Vijayawada

★ 4.8 / 5

[View Menu](#)

Veggie Delight

📍 Vegetarian

📍 Tirupati

★ 4.1 / 5

[View Menu](#)

Filter Coffee

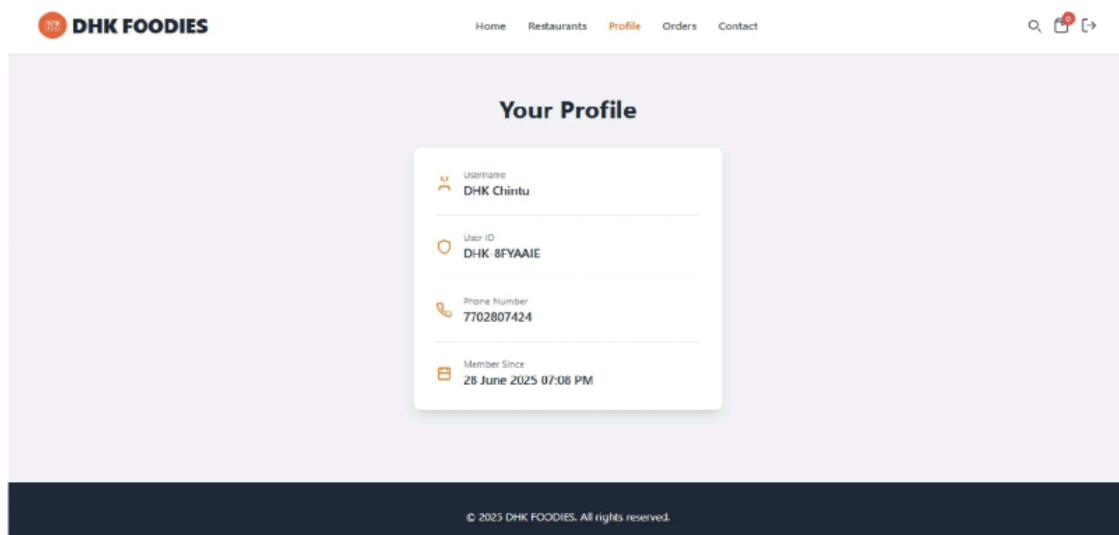
📍 Cafe

📍 Visakhapatnam

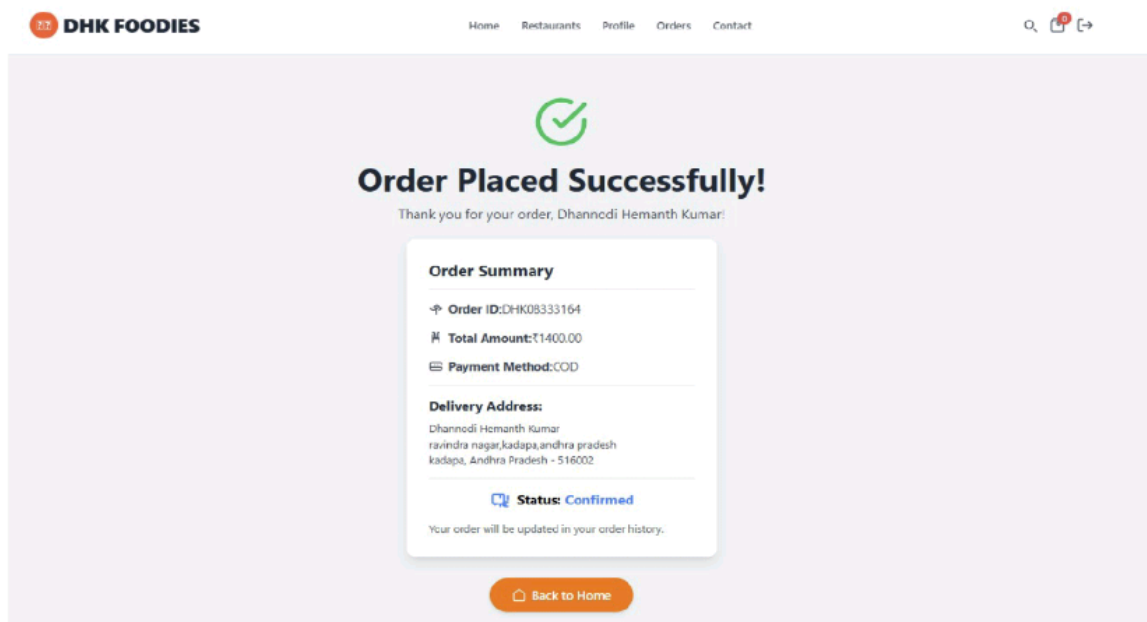
★ 4.5 / 5

[View Menu](#)

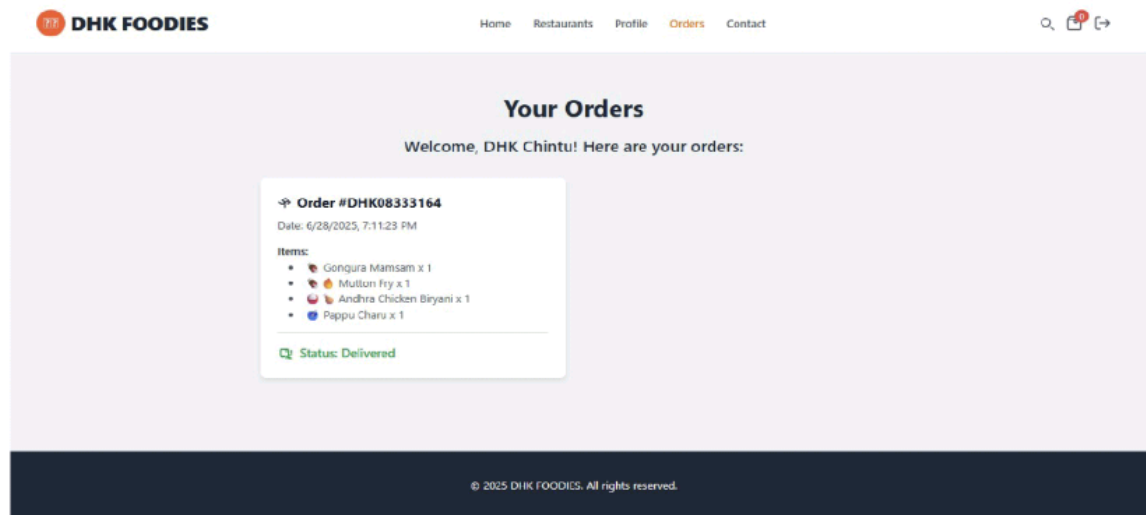
3.User Profile Page



4. Payments & Order Status



5. Order History



8. Advantages & Disadvantages

- **Advantages:**
 - A centralized and real-time platform for ordering.
 - Scalable MERN architecture allows for future expansion.
 - Simple and intuitive User Interface.
- **Disadvantages:**
 - No integrated payment gateway.
 - No real-time order tracking for the user.
 - Basic UI/UX design without advanced animations.

9. Conclusion

DHK FOODIES successfully demonstrates the core functionalities of a food delivery application. It effectively implements the MERN stack to create a seamless experience, from user registration to order placement, providing a solid foundation for a real-world product.

10. Future Scope

- **Payment Gateway Integration:** Adding services like Stripe or Razorpay.
- **Restaurant Admin Panel:** A dashboard for restaurants to manage their own menus and orders.
- **Real-time Order Tracking:** Using WebSockets to show live order status.

- **CloudDeployment:** Deploying the application on a cloud platform like AWS or Heroku.
- **MobileApp:** Developing a native mobile application for iOS and Android.