Online Food Delivery Application

Project Case Study

Project Overview

FoodNow is a full-stack online food delivery application designed to bridge the gap between restaurants and customers through a centralized digital platform. This system allows users to browse various restaurants, place orders, make payments, and track deliveries in real time. The system is aimed at digitizing and streamlining the food ordering process, improving customer experience, and helping restaurants manage their operations efficiently.

Modules to be implemented:

1. User Management
2. Restaurant Management
3. Menu & Ordering System
4. Payment Gateway Integration
5. Order Tracking & Delivery Management

Module 1: User Management

This module handles all user-related functionalities such as registration, login, profile management, and user roles (e.g., Customer, Delivery Personnel, Admin).

Key Functionalities:

- **User Registration and Authentication:**
  - Secure registration using email and phone number.
  - Login via password or OTP-based authentication.
  - Password encryption and reset mechanisms.

- **Profile Management:**
  - Users can view and edit profile details (name, address, phone, profile image).
  - Multiple delivery addresses can be saved for convenience.

- **Role-based Access:**
  - Customers, delivery agents, and admins have role-specific dashboards and permissions.

- **Session Management:**
  - JWT or session tokens to manage secure logins and session timeouts.

Module 2: Restaurant Management

This module allows restaurants to register, manage their profile, list food items, set prices, update availability, and handle orders.

Key Functionalities:

- **Restaurant Onboarding:**

  - Registration with business credentials, location pin, and documents verification.

- **Dashboard for Restaurant Owners:**

  - Add/edit/delete food items and categories.

  - Set preparation time, stock availability, and pricing.

  - Upload dish images and promotional banners.

- **Order Management:**

  - Receive and accept/reject incoming orders.

  - Update order status (e.g., "Preparing", "Ready for Pickup").

- **Analytics:**

  - Daily/weekly sales reports, customer feedback, and menu performance.

Module 3: Menu & Ordering System

This module facilitates browsing through restaurants and menus, selecting dishes, adding them to cart, and placing orders.

Key Functionalities:

- **Search & Filters:**

  - Search by restaurant name, cuisine, location, or dish name.

  - Filters based on rating, delivery time, vegetarian/non-vegetarian, price range.

- **Menu Browsing & Item Selection:**

  - Display of restaurant menus with images, prices, ingredients, and dietary labels.

  - "Add to Cart" and quantity selection functionality.

- **Cart & Checkout:**
  - Real-time cart updates.
  - Option to apply discount coupons or referral codes.
- **Order Confirmation:**
  - Final summary with price breakdown, taxes, delivery charges.
  - Estimated delivery time shown before placing order.

Module 4: Payment Gateway Integration

Handles secure and seamless payment processing using various payment methods.

Key Functionalities:

- **Multiple Payment Options:**
  - Credit/Debit Card, UPI, Net Banking, Wallets (Paytm, Google Pay, etc.).
  - Option for Cash on Delivery (COD).
- **Secure Payment Handling:**
  - Integration with payment gateways like Razorpay, Stripe, or PayPal.
  - PCI DSS compliance for card transactions.
- **Transaction Records:**
  - Receipt generation with unique transaction IDs.
  - Refund and cancellation handling.
- **Wallet System (Optional):**
  - In-app wallet for quicker transactions and loyalty points.

Module 5: Order Tracking & Delivery Management

This module manages the delivery of food orders, assigning delivery agents, and live tracking of order status.

Key Functionalities:

- **Order Status Updates:**

    o Real-time updates: Order Placed → Confirmed → Preparing → Out for Delivery → Delivered.

- **Delivery Agent App/Dashboard:**

    o Accept and manage delivery requests.

    o View customer location and route via map API integration (Google Maps API).

- **Customer Tracking Interface:**

    o Live map showing delivery progress.

    o Contact option for delivery agent.

- **Feedback System:**

    o Customers can rate restaurants and delivery experience.

    o Feedback is used for quality improvements.

Technology Stack

Frontend   :   HTML, CSS, JavaScript / Angular

Backend   :   Spring Boot

Database   :   MySQL

Tools   :   Git, Postman