IIT BHILAI

COMPUTER SYSTEM DESIGN

Team Diagonals

Assignment 1 Final Report
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1   Problem Statement

Inefficient and inconvenient food delivery systems on campus are resulting in prolonged wait times, disorganized processes, and dissatisfaction among students and staff. Despite the increasing demand for food delivery services within the campus community, the current system fails to streamline the ordering, preparation, and delivery processes effectively. This inefficiency not only affects customer satisfaction but also impacts the revenue potential for campus dining establishments. There is a pressing need to develop a robust and user-friendly campus food delivery system that addresses these challenges, enhances operational efficiency, reduces wait times, and ultimately improves the overall dining experience for students and staff. This document presents an efficient end-to-end application for food delivery system running within campus

2   Functional Requirements

The following are the Functional Requirements of the system to be designed for Food in "Campus Delivery System"

1. User can register/login with a new/existing account

2. Users are separated by roles, Ex: Customer, Owner, Admin

3. User can search different restaurant based on his/her location

4. User can select a restaurant

5. User can see the menu of selected restaurant

6. Restaurant can change the menu any time

7. User selects restaurant and add different food items from the menu

8. User orders the food by placing the order

9. The restaurant process the orders

10. Admin monitors restaurants

11. Admin adds/removes restaurants as and when needed

3   Non-Functional Requirements

The following are the Functional Requirements of the system to be designed for Food in "Campus Delivery System"

1. System should be highly available

2. Security and User Privacy is essential

3. Order placement should happen with minimal latency

4 High Level Design

Food delivery system can be devided into four major components:

1. Customer's Application

2. Restaurant's Application

3. Admin Panel

4.1 Customer's Application

The customer application will include the following functionalities:

1. Selection of current location and restaurants from location

2. Searching menu: Allow users to search for different restaurants, cafes etc by location and cuisines. Users can go through the menus and choose an item from the menu.

3. Order placement: The user can place an order of selected dishes and food with just a few simple taps on the screen.

4. Ratings: Allow users to provide review for their experience of the restaurant

4.2 Restaurant's Application

The restaurant's application will have the following functionalities:

1. Order Tracking: Process incoming orders from customer's

2. User Rating Tracking: Check the user feedback and ratings given to the restaurant

4.3 Admin Panel

The Admin Panel will include the following:

1. Add/Remove Restaurants: Add/Remove restaurants as per verification from admin

2. Complaint Management: Dashboard to track all complaints and ratings given by users

5 Individual Contribution

As described above, entire modules are divided and implemented by each contributor whose responsibilities span across various parts of the project. Detailed module division is as shown below:

Contributor	Domains	Tasks
Moyank Giri	Backend Database Testing	API Development, MongoDB Database Management, Containerization, EC2 Deployment, API Testing
Harshit Kumar	Backend Database Frontend	Customer Android Application, Customer Android Backend, FireBase Authentication
Tanmoy Bhowmick	Frontend Testing	Restaurant and Admin Website Design and Development, Manual API Integration Testing
Manish Rai	Frontend Testing Database	Restaurant and Admin Website Design and Development, FireBase Authentication, Integration Testing