

# Bangladesh University of Business and Technology (BUBT)



## Project Report Software Development IV

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Topic: Food App

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## **ABSTRACT**

The purpose of this study was to develop an "Online Food Ordering and Delivery App" as part of the course "Software Development Project IV." The main aim of this project was to create a user-friendly and efficient application that allows customers to order food from restaurants using their smartphones or computers. The app is designed to automate the process of ordering and delivery, providing convenience and speed compared to manual systems. By developing the "Online Food Ordering and Delivery App," the team aimed to improve the overall food ordering experience, offering users a seamless interface to browse menus, place orders, make payments, and track deliveries in real-time. The technology platform in implementing this system uses Android Studio, programming environment with JAVA and Firebase database.

## **DEDICATION**

*Dedicated to our parents for all their love and inspiration...*

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# **Chapter one**

## **1 Introduction**

### **1.1 Introduction**

Online food ordering and delivery system provides a user-friendly platform for seamless browsing, ordering, and tracking of deliveries from various restaurants. With secure payment integration, customers can conveniently enjoy their favorite cuisines with just a few taps. Restaurants benefit from efficient menu management and order processing through a dedicated dashboard. Delivery personnel can reliably manage deliveries via their app, revolutionizing the way people experience foo

### **1.2 Problem Statement**

As online food ordering became a trend nowadays ,the regular shops are losing their customers to online restaurants. Customers have effortless ordering experience and saving time through online food ordering system. For competing with those online restaurants, if we are providing an online portal where their customers can order food through internet and get the food at their doors it will increase the number of customers. It's very necessary to provide an auto calculation process according to needs.

### **1.3 Motivation**

online food ordering and delivery app has transformed into one of the most popular app, both for consumers and owner. It provides a broad range of benefits such as 24/7 opportunity to purchase, online catalogues, comparative pricing, cost efficiency, less time consuming and a lot more. customer can order food in the Mid Night also when maximum restaurants goes to closed. These are the reasons why we believe that this app is likely to grow in greater popularity in the future. In this aspect we focus on recognizing the motivational factors of online food ordering and delivery app. We believe that in the development of the future characteristics of e-commerce, future patterns of buying behavior would play a significant role.

## **1.4 Objectives**

- To provide an android application for online food ordering and delivery app in an existing shop.
- To provide user friendly system
- To provide error free system.
- To handle all the products as an admin/owner.
- Different interface for admin and consumers
- Adding food or changing information facility about food for at any time for admin
- Changing information process for consumers.

## **1.5 Contributions**

As this app is for an existing restaurant, this app will be useful for the owner of the restaurant and probable customer of those restaurant in together.

## **1.6 Conclusion**

In this technology-based era, we need to move forward with technology in every aspect of our life. As food ordering is a key part of our life, an android food ordering application can be profitable and beneficial for both customers and consumers.

# **Chapter two**

## **2 EXISTING SYSTEM**

### **2.1 Introduction**

Online food ordering and delivery system provides a user-friendly platform for seamless browsing, ordering, and tracking of deliveries from various restaurants. With secure payment integration, customers can conveniently enjoy their favorite cuisines with just a few taps. Restaurants benefit from efficient menu management and order processing through a dedicated dashboard. Delivery personnel can reliably manage deliveries via their app, revolutionizing the way people experience food.

### **2.2 Existing System**

Online food ordering and delivery system includes a simple and user-friendly mobile app, allowing customers to easily explore menus, place orders, and track deliveries from different restaurants. Restaurants can efficiently manage their menus and process orders through a dedicated dashboard, which also provides valuable sales data. Secure payment integration ensures smooth transactions for customers. Delivery personnel use a separate app to handle and optimize delivery routes, ensuring timely and dependable service. Overall, this system simplifies the way people enjoy food, providing convenience and satisfaction.

### **2.3 Problem of Existing System**

1. Environmental impact from packaging and delivery.
2. High delivery charges.
3. Technical glitches and connectivity problems.
4. Limited restaurant options.
5. Potential food quality issues.
6. Inefficient customer support.

### **2.4 Conclusion**

By removing back draws of existing system, an android based online food application can be very useful for both customer and manager of food shop. Customer can save time and energy and do a relax eating whereas for food shop owner can earn more profit.

# Chapter Three

## 3 PROPOSED MODEL

### 3.1 Introduction

In this section, we present our proposed model for an online food ordering and delivery app. Our model aims to overcome the limitations of the existing system and provide a convenient, efficient and user-friendly service for both customers and restaurants.

### 3.2 ER Diagram

ER Diagram An ER diagram is a graphical representation of the entities and relationships in a database. Figure 1 shows the ER diagram of our proposed model, which consists of four main entities: Customer, Restaurant, Order and Delivery. The attributes and cardinalities of each entity and relationship are also shown in the figure.

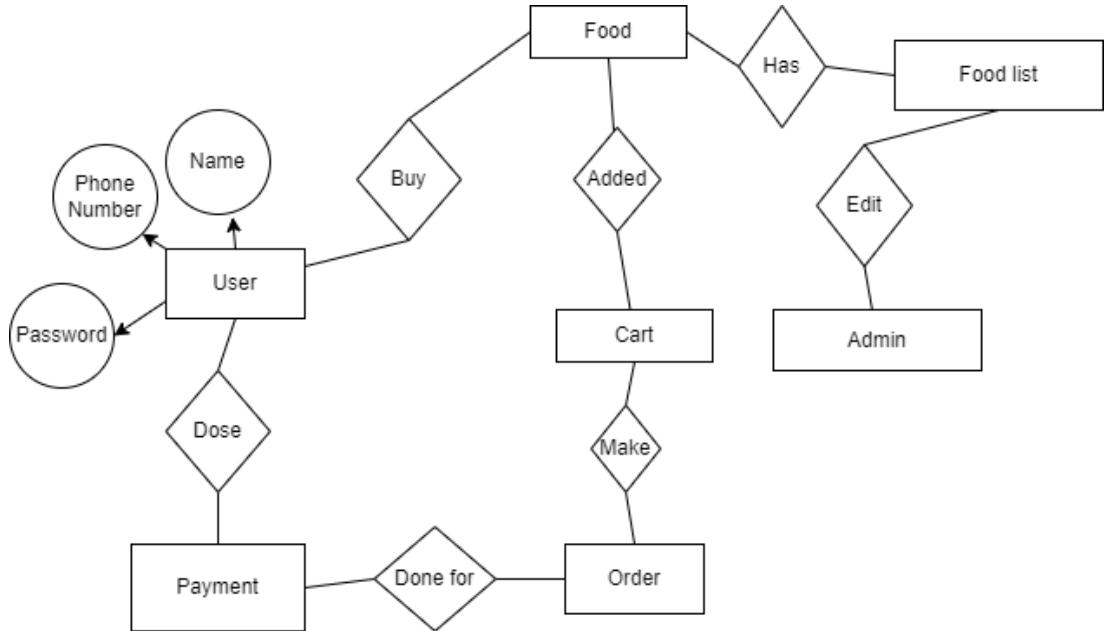


Figure 1: ER diagram

### 3.3 Usecase Diagram

A use case diagram visually represents the interactions between actors (users or external systems) and the system (Android food app) by showing the various use cases that the system provides. In the context of an Android food app, the use case diagram would illustrate how different users interact with the app and what functionalities are available to them. figure 2.

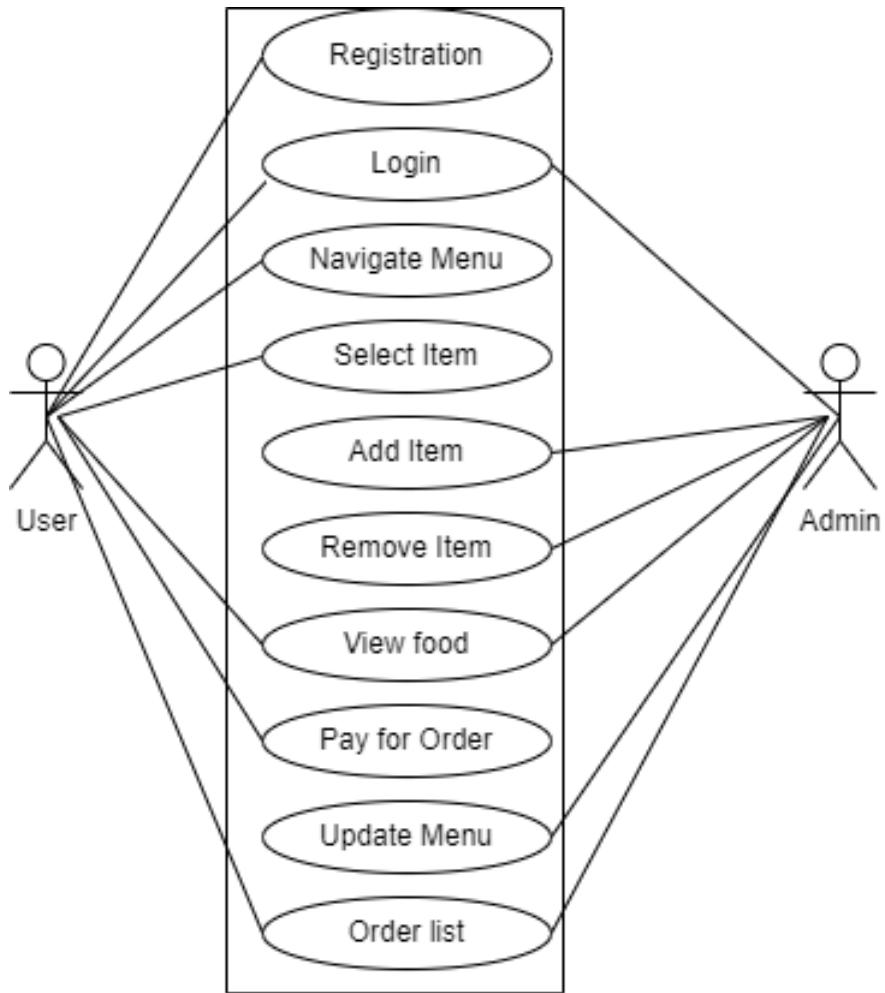


Figure 2: Usecase diagram

In this use case diagram, users interact with the Android food app through various actions like browsing the menu, adding items to the cart, and placing orders. The restaurant interacts with the app by managing the menu and receiving orders. The payment gateway handles payment processing, and the kitchen prepares the food. The concept of order tracking allows both users and the restaurant to monitor the progress of orders.

### 3.4 Data Flow Diagram

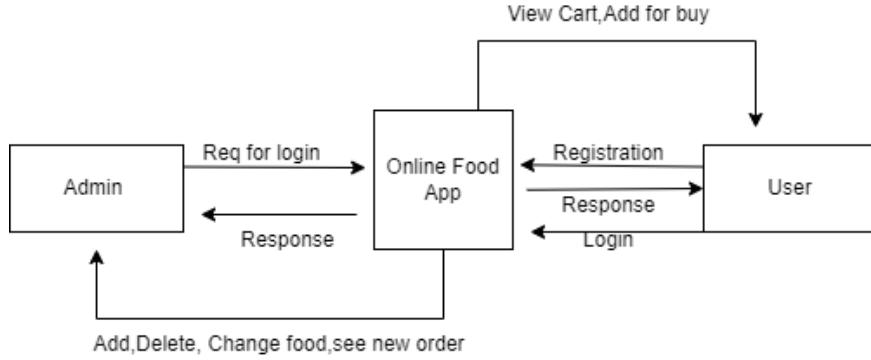


Figure 3: Dataflow diagram

### 3.5 Advantage

Advantage Our proposed model has several advantages over the existing system, such as:

- (i) It allows customers to browse and order food from a variety of restaurants in their area, with different cuisines, prices and ratings.
- (ii) It provides customers with real-time updates on their order status and delivery time, as well as the option to cancel or modify their order before it is confirmed by the restaurant.
- (iii) It enables restaurants to manage their orders, inventory and menu online, as well as to receive feedback and ratings from customers.
- (iv) It facilitates the delivery process by assigning orders to available delivery agents based on their location and availability, as well as providing them with navigation and contact details.

It ensures the security and privacy of the customer and restaurant data by using encryption, authentication and authorization techniques.

We present the experimental results of our proposed model. We evaluate the performance and usability of our app using various metrics and methods.

# **Chapter Four**

## **4 EXPERIMENTAL RESULTS**

### **4.1 Introduction**

In previous chapter we discussed about proposed model and implementation. In this chapter we are showing results of experiments of using the application.

### **4.2 Result Analysis**

**App Features:** Evaluate whether all intended features are functional and operate as expected, including user registration, login, menu browsing, ordering, payment processing, order tracking, and user profile management.

**Realtime Updates:** Check if Firebase's realtime database effectively updates and synchronizes data in real time, such as menu changes, order updates, and user information.

**UI Design:** Assess the app's user interface design for aesthetics, usability, and adherence to Android design guidelines. Ensure that the layout is intuitive and user-friendly.

**Speed and Responsiveness:** Measure the app's loading times and responsiveness to user interactions. Long loading times or delays can negatively impact the user experience.

**Firebase Integration:** Evaluate how well Firebase's backend services, such as authentication and realtime database, are integrated into the app.

**Backend Scalability:** Consider whether the app's architecture can handle increased user load and data without performance degradation.

**Code Maintainability:** Assess the codebase for readability, modularity, and adherence to coding standards, which impacts the app's future maintenance and updates.

### **4.3 Applications**

As this android application is for an existing food shop, this app can be very useful for both food shop and customers. Customers who live far away from the resturant or the customers who wants to save time and energy doing online food can use it easily. We implement the android application and this application allows admin to manage food such as add new food or edit food or delete food efficiently. User can list favorite food and add food to carts and order successfully.

### **4.4 Conclusion**

According to our goal building an online food app android application, we successfully implemented the application. It works as our expectations.

# **Chapter Five**

## **5 USER MANUAL**

### **5.1 Introduction**

Welcome to the User Manual for our Online Food Ordering and Delivery App! Explore the features for effortless browsing, ordering, and tracking of your favorite dishes.

### **5.2 Requirements**

#### **5.2.1 H/W Requirements**

Hard Disk: Minimum 10 GB

Ram: Minimum 4GB

Operating System supported: Windows XP, Windows 7,8,10

#### **5.2.2 S/W Requirements**

Operating System: Windows OS

Framework: Android Studio

Language: Java

Database: Firebase Real-time Database

Tool: Android studio, VScode, Chrome

Note: must be connected with internet/wifi

### 5.3 Snapshots of the app

This is the logo of the app."Khudha Lagse" is the app name. which means shopping



Figure 4: Logo of Food Apps

User can join/register from this page or login if anyone have an account by clicking on the button.

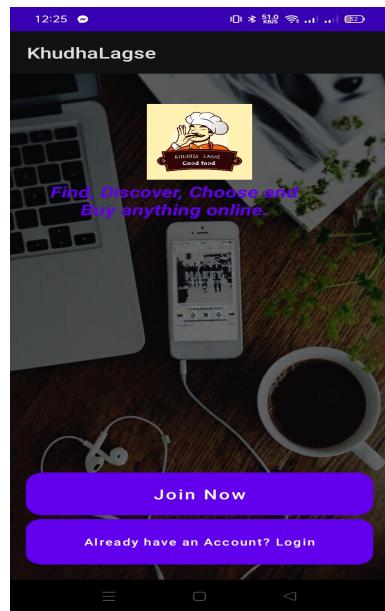


Figure 5: Login or join Page

A person can join the app by giving all the information.

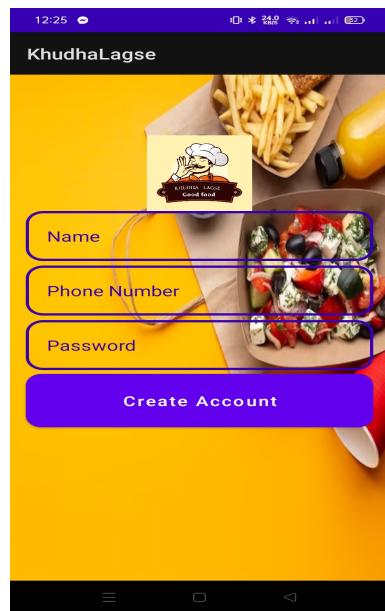


Figure 6: Registration Page

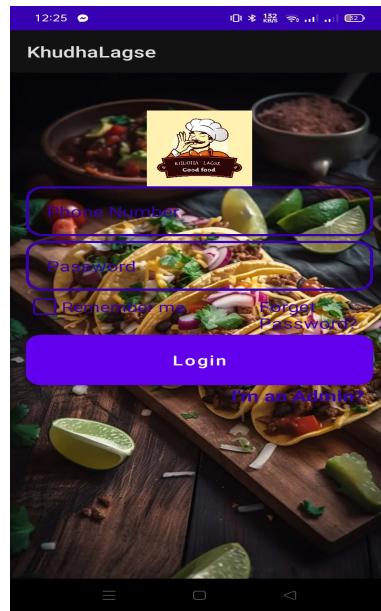


Figure 7: Login Page

If already have an account login through phone number and password.  
This is the home page. All the food have been here serially according to adding time.



Figure 8: HOME Page

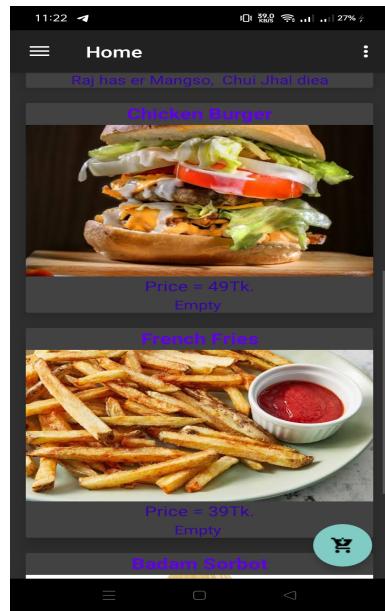


Figure 9: HOME Page 2

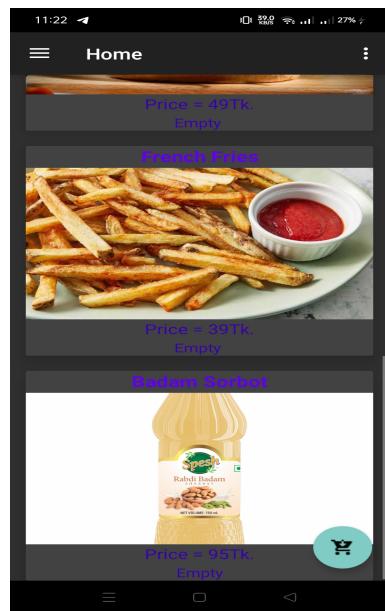


Figure 10: HOME Page 3

This is the cart view of the user where user can easily observe all the product and prize money of all the products.

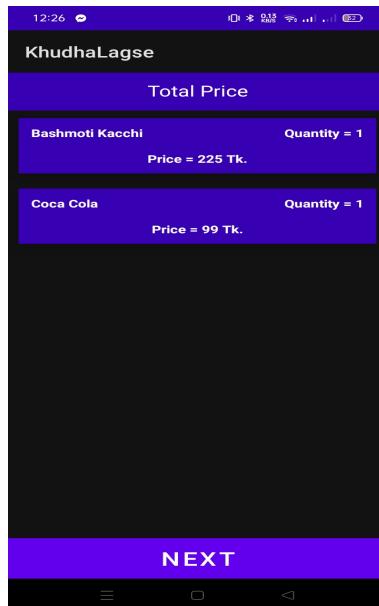


Figure 11: Add to cart

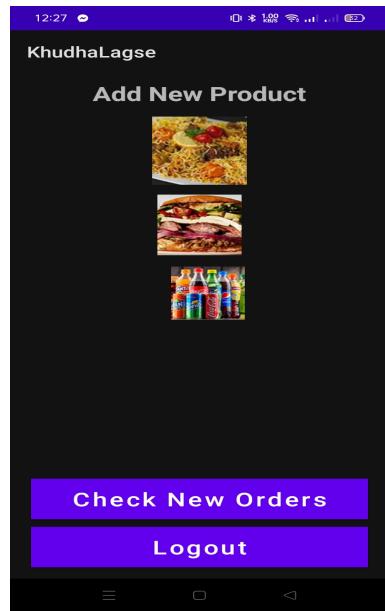


Figure 12: Admin Deshbord

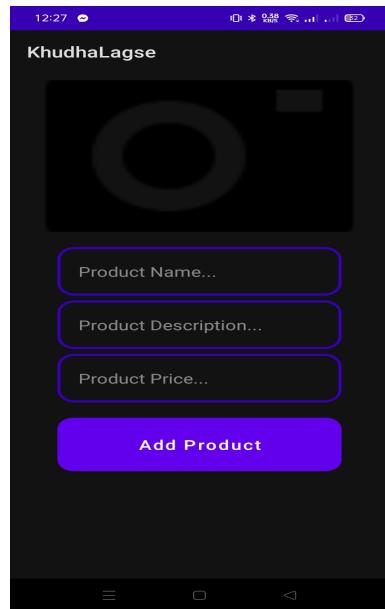


Figure 13: Admin add new product

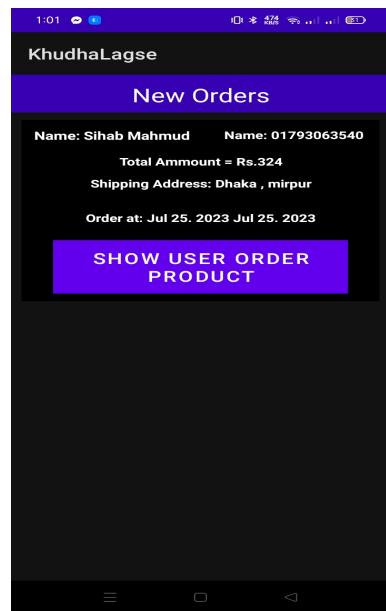


Figure 14: Food Order List

# **Chapter Six**

## **6 CONCLUSION**

### **6.1 Conclusion**

In conclusion, the food app presents a convenient, user-friendly, and innovative solution for food enthusiasts and individuals looking to enhance their dining experiences. By leveraging technology and culinary expertise, the app succeeds in revolutionizing the way people discover, order, and enjoy food. The app's integration of various services, such as online ordering, table reservations, and saving time and effort for users while supporting local businesses. the food app redefines the way we interact with food, elevating it from a basic necessity to an exciting and immersive adventure.

### **6.2 Future Developments**

There is scope for further development in our project. There are-

1. Security system can be upgraded.
2. Add more options.
3. Add Machine learning models.

sample kaur2021value lee2017factors tandon2021people moodley2013review  
kurniawan2019designing