Meal HOUSE: An Android Application for Home Made Food Ordering

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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APPROVAL

This Project titled "Meal House: The Taste of Home", submitted by Ishraq Rahman to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 4th & 5th October, 2021.

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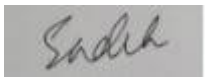

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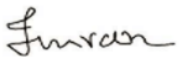

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of Nishat Sultana, Lecturer, Department of Computer Science & Engineering, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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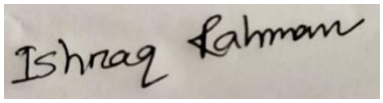

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ABSTRACT

The recent advent of the internet has aided the expansion of on-line food services by enabling facultative folks to go exploring, compare prices, and conveniently obtain these services by using the internet to their advantage. The use of online ordering is becoming more popular as a must-have feature in the restaurant industry. People who suggest appropriate information about restaurants have become more popular as a result of the rise of the mobile app marketplaces. The food industry has been completely transformed by the advent of online ordering. Technology has a significant influence on the business sector; technology has altered the whole framework of the restaurant industry, and it will continue to perform a fantastic job in the future as well. In this paper, a food ordering app was built and the features and the security were described. The application will be the first application of a restaurant owner in Bangladesh with some unique features. The whole interface and the designs were described in this paper. The performance and the business process model, user flow diagram and Logical Case Diagram were described for the app. In this paper the interface of the application was also shown for better understanding.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Technology has made our life easier and mostly saved our valuable time. Now a days different android apps has given us the freedom to handle businesses too. So, combining the idea of an android app and the restaurant one can make a better use of time and money. The restaurant app can carry a great value to any restaurant and to the customers. It can be a building block for a restaurant owner, as the customers can get their order in time and can see the restaurant menu. In Bangladesh the restaurants have a great value as the people of Bangladesh are food lovers. But the designs and the services aren't well organized. Using a restaurant application, the service can be furnished and the customers can get their order in time.

1.2 Motivation

Being as entrepreneur has its plus point. One can find new ways to improve his business. And technologies are another way to improve this. The motivation of building this application came from the idea of having a restaurant and its food ordering system. Most of the time the customers have to wait for their food in the restaurant but using this app one can easily find order and get their order in time.

1.3 Objectives

The objective of this paper is to build an application for a smartphone that can be used by the customers of a restaurant and the owner. This app will help the customers to view the food menus and search for foods. People can install the application on their phones. New customers can be register using this app. This app will also allow customers to view or check their delivery status. There will be the Google map included for that anyone can easily see their rider's location. The ordering food has a new feature that contains a countdown system where the customers can get their order in time.

1.4 Expected Outcome

This will be the first restaurant-based application of a restaurant owner in Bangladesh. This application can be in game changer for same some restaurant as people can easily order their food through this app. The security and the privacy for a restaurant will increase dramatically. The trust issue will be very much applicable as only and only just the owner can handle this application. The registration is full free here. This app also saves time. The customer can get their food with a very short time.

1.5 Report Layout

In this report, six individual chapters are discussed to make this research report more compact and efficient for any readers or researchers.

Chapter 1 gives an important introduction about this research work.

Chapter 2 gives the detailed report about background of this study.

Chapter 3 gives the descriptive information about

Chapter 4 gives the complete result analysis for each steps result.

Chapter 5 describes this research's

Chapter 6 shows the future scope of this research work where it is briefly described as the extension of this research study. This chapter concludes the entire research report with useful conclusion where core findings of this research is briefly discussed.

CHAPTER 2
BACKGROUND

2.1 Introduction

Related works about food order delivery will be discussed in this section that is slightly as well as directly related to this work. In the first section, we will discuss previous related work. Then in the second section, we will discuss comparative studies and then serially we will be knowing about the Scope of the problems and Challenges.

2.2 Related Works

Tandon et al [1] discussed in their paper, Meal delivery apps (FDAs) are becoming more popular among consumers since they make food delivery more convenient and speedier. However, current research only provides a partial picture of how consumers react to FDA visibility and values. The theory of consumption values (TCV) was used in our research to look at the links between FDA visibility, consumption values, and purchase intent. The function of consumption values as a mediating factor and attitude as a moderating factor were both investigated. To establish context-specific consumption values, a qualitative investigation was performed with 15 FDA customers. Prolific collected responses from 355 FDA users in the United States of America (USA) and evaluated them using structural equation modeling. Visibility was a strong effect on purchase intentions and operated as an antecedent of all consumption values. Attitude affects purchasing intentions in a good and substantial way. The connection between visibility and purchase intention was somewhat mediated by consumption ideals, whereas the relationship between buy intention and visibility was adversely regulated by attitude. Theoretical and practical ramifications of these discoveries are significant.

Wang et al [2] discussed, In Chinese cities, on-demand food delivery (ODFD) services currently generate a large number of motorized journeys, raising environmental issues. As a result, it's critical to understand how and where individuals utilize ODFD, as well as what variables impact their choices. The geographical patterns and drivers of ODFD consumption in Shenzhen, China, are investigated in this research, with an

emphasis on the effects of food accessibility and the built environment. The findings reveal that ODFD use is concentrated in more densely populated locations, particularly city centers and sub-centers. Furthermore, areas with higher population density, lower point of interest (POI) density, lower intersection density, higher street density, higher land use mix, a higher percentage of land used for urban residences and commerce, and a lower percentage of land used for rural residences, industries, and green space generate more ODFD orders than areas with lower population density, lower POI density, lower intersection density, higher street density, higher land use mix, higher percentage of land used for urban residences and commerce, and lower percentage of land used for rural residences, These findings have implications for ODFD regulation that are based on evidence.

Chan et al [3] discussed, How do food delivery platform companies like Meituan (owned by Tencent) and Ele.me (owned by Alibaba) handle couriers instead of employing them? What level of authority and autonomy do couriers have at work? The author discovers that a mix of data-driven surveillance systems and consumer feedback mechanisms incentivize workers' efforts through observation and interviews. Profits are dependent on a company's use of both manual and emotional labor. Individual liberty is defined in such a manner that crowd sourced couriers are not obligated to labor for a set length of time. The flexibility provided by algorithmic management, on the other hand, is reciprocal. Platform firms naturally minimize their need on labor when demand is down. Workers' minimum wages are not guaranteed due to changing meal orders and piece rates. Informal laborers are desperate for a living in China since there are no legal protections for the fast-growing food delivery industry.

Kaur et al [4] discussed, Although the theory of consumption values (TCV) has been successful in explaining most consumer choice behavior, few research has looked at the values that drive FDA usage. This study intends to close the gap by adapting the TCV to the FDA environment by expanding it to investigate food consumption-related variables and interpreting and renaming generic consumption metrics.

Niu et al [5] discussed, Fast-food establishments may use online food-delivery services to reach a wider audience. However, who should be in control of logistics, especially when the usage of plastic containers, cutlery, and other single-use products is

on the rise? In practice, either platform logistics or self-logistics by the restaurant are options. Customers pay individually for food and logistics services in the first case, whereas "food & logistics" is marketed as a package in the second. We investigate a fast-food business that sells food both online and in physical locations, works with an online food-delivery platform on a commission basis, and chooses whether to employ platform logistics or self-logistics to serve online orders, using a game-theoretical method.

Ali et al [6] discussed in their paper, Consumer lifestyles have changed as internet technology has progressed, and online buying has expanded. This study, which is based on the theory of technological readiness (TR), attempts to look at how elements like optimism, innovativeness, insecurity, and discomfort may influence customers' adoption intentions for online food delivery ordering (OFDO) services. In addition, the moderating function of situational factors (COVID-19) in influencing such online behavior is being investigated in this study. Through the use of survey methodologies, an online survey yielded a total of 439 valid replies. The data were analyzed using partial least square (PLS) and multi group analysis (MGA) methods. The results showed that optimism and innovativeness had positive effects on adoption intentions, but insecurity and discomfort have negative effects. The data also backed up the theory that situational factors, such as the COVID-19 outbreak, might act as a moderator. Furthermore, the PLS-MGA data reveal that the effects of optimism and creativity are stronger in those who are young, masculine, have a lot of money, have a lot of education, and so on. Insecurity and discomfort, on the other hand, affect those who are elderly, female, have a low income, or have low education. Finally, researchers, practitioners, service providers, and marketers will benefit from this paper.

Hong et al [7] described, Consumer preferences have changed as internet technology has progressed and online buying has become more popular. The goal of this study, which is based on the concept of technological readiness (TR), is to explore how elements like optimism, innovativeness, insecurity, and discomfort may influence customers' intentions to use online food delivery ordering (OFDO) services. Furthermore, the moderating influence of situational factors (COVID-19) in influencing such online behavior is investigated in this study. Using survey methods, an online poll received a total of 439 valid replies. The data was examined using partial least square (PLS) and

multi group analysis (MGA) methods. The findings revealed that optimism and creativity had favorable effects on adoption intentions, but insecurity and discomfort had negative consequences. The findings also supported the idea that situational circumstances, such as the COVID-19 epidemic, might operate as a moderator. Furthermore, according to the PLS-MGA data, the impacts of optimism and creativity are larger in individuals who are youthful, masculine, have a lot of money, and have a lot of education, and so on. Insecurity and discomfort, on the other hand, impact the elderly, women, people with poor incomes, and those with less education. Finally, this study will be useful to scholars, practitioners, service providers, and marketers.

Chandrasekhar et al [8] discussed Consumer perception is important in understanding how consumers make decisions, according to this article. The study's goal was to see how consumers reacted to online meal delivery businesses such as Swiggy, Foodpanda, and Zomato. The study relied only on original sources of information. Preference, dependability, consistency, and preference choice were the four sections of a structured questionnaire. A total of 169 people were included in the sample. A whopping 84.5 percent of people responded. Grey analysis was utilized to analyze the results of the data obtained. In terms of pricing, quality, and delivery, the findings revealed that customers desire originality. Zomato, Swiggy, and Foodpanda, among other online meal delivery businesses, did not receive the top rating. This research has provided an overall picture of what consumers believe, what uncertainties they face, and whether or not the service is dependable. It has provided detailed information on the issues that customers face and how they might be addressed. The study helps to a wider knowledge of customers from a management perspective. It has aided in the examination of many elements associated with customers such as preference, reliability, liking, and so on, providing uniqueness to this research.

Saad et al [9] discussed the main goal of this study was to examine the elements that influence customer decisions while ordering meals online. The purpose was to investigate customer behavior in the rising market of internet meal delivery in Bangladesh, a developing country.

Ahmed [10] discussed, When it originally launched in 2013, HungryNaki, which loosely translates to 'not hungry anymore,' became Bangladesh's first online meal

delivery service. Despite the fact that it is still the largest Bangladeshi-owned and run online food delivery business, it has been unable to capitalize on either its first-mover advantage or local knowledge, and has fallen well behind its primary competitor, Foodpanda, which operates in 26 countries globally. As the company has developed, so has criticism of its delivery delays and billing transparency, leading to a loss of consumer confidence. Students will be challenged to examine HungryNaki's business model and procedures in order to devise a strategy for regaining consumer confidence, attracting new consumers, and improving market position in this case study.

Yeo et al [11] discussed, Companies have embraced the new notion of platform service supply chain as smartphone applications (apps) have grown at a breakneck pace (PSSC). Foodpanda, a prominent meal ordering app in Malaysia, has swiftly adapted this concept. As a result, in the context of Malaysia, this study looked at the correlations between characteristics that influence consumer repurchase intent in food delivery applications. Between October 2019 and January 2020, 250 people were polled for their opinions. A non-probability purposive sampling method will be used in this investigation. For data analysis and hypothesis testing, two statistical analytic approaches were employed in this study: Statistic Package for Social Science (SPSS) version 25 and Partial Least Square Structural Equation Modeling (PLS-SEM) version 3.2.9. As a consequence, perceived utility, social influence, and trust all had a favorable impact on consumer repurchase intentions for food applications. The results of the importance-performance matrix analysis (IPMA) demonstrated that perceived usefulness, both in terms of significance and performance, had a significant impact on consumer repurchase intent for food applications. This study has significant implications for Foodpanda's ability to constantly enhance its meal delivery software platform and increase consumer happiness, which leads to repurchase intent. Having said that, this research gives new information on the food industry's platform serviceability.

2.3 Comparative Studies

- It allows customers to order meals online, eliminating the need to adhere to the healthy and delicious food.
- There will be no misunderstandings between consumers and eateries.

- It will also aid in improving the service quality.
- Customers will benefit from nice meals, riders will gain from earning, and the restaurant will profit from the revenue.
- Is appropriate for small enterprises.
- Pilot project is now running at Rangpur, Bangladesh

2.4 Scope of the Problem

Mainly this project is more effective for quality food eaters. All people want to purchase or order quality products and hygiene maintaining. Our project is having that comfortable hygiene maintenance, quality, and faster & cooperative delivery services. The scope of the problem is shown in table 2.1.

Scope In	Scope Out
1. Android application for Customer, Rider and Restaurant. 2. Online Customer Management System. 3. Food ordering system in Online by android application. 4. It is also reducing manual work for restaurant.	1. It is an IoT based food ordering system. 2. It is an application for mobile.

Table 2.1: Scope of the problem

2.5 Challenges

In this project, the main attenuation is the internet connection. Without an internet connection, it will not operate. Because if a customer wants to order must need mobile data or Wi-Fi connection to send data in restaurant database. Next, the application can be developed for IOS and blackberry users. Therefore, the user of blackberry and IOS operating systems can use the application to take orders easily. And also the segmentation

of users will be wider. In the next development, this android application can be developed for payment methods. Added mobile banking, Visa card, Master card for easily purchase restaurant charge by customer. In the next development, the android application will implement with social media like Facebook, Twitter, Instagram, LinkedIn etc for getting restaurant and food information.

CHAPTER 3
REQUIREMENT SPECIFICATION

3.1 Business Process Modelling

In this figure, we can see the business process modelling for this application. Here a customer wants to order for a dishes. When customer check the menu and confirm order it will send in rider application. If rider get notification for customer confirming order, then he accept the order and send the order in restaurant. After finishing every process in restaurant like taking order, cooking order and packaging order then again rider take the food from restaurant. Then rider provides the food to customer and customer make his payment for food and delivery charge. Business process model is shown in Figure 3.1.

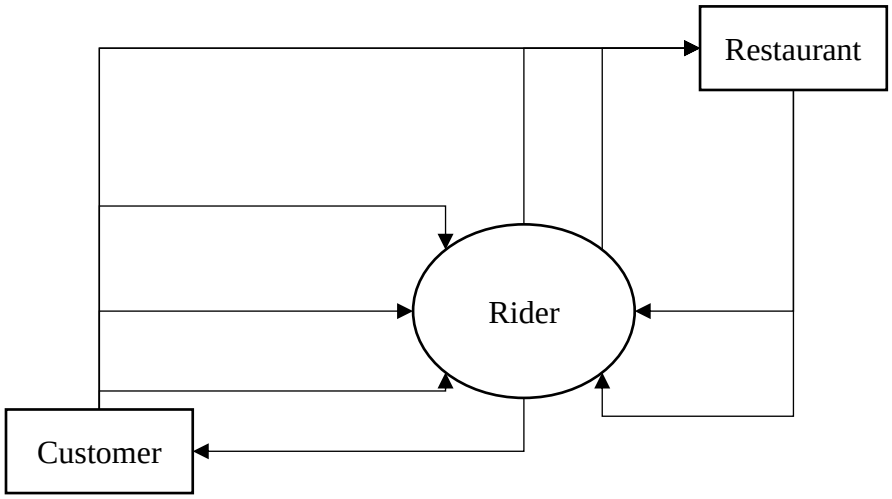


Figure 3.1: Business Process Model

3.2 Requirement Collection and Analysis

Requirement analysis is an important part for a project. We know there are two types of requirements such as Functional requirement and non-functional requirement. Functional Requirement is a process how the application perform and the non-functional requirement defines behavior and efficiency of the application.

Functional Requirement:

- The android application must have signup and login option for user.
- The application must have added menu and edit menu option.

- ❖ The application must have login and signup with Gmail address and password.
- ❖ The android application must have shopping cart for online food ordering system.

Non-functional Requirement:

- ❖ The android application must have user interface.
- ❖ The user interface must have mobile friendly.

Hardware and software requirement:

Hardware:

i. Intel Core i3 processor
ii. 4GB RAM
iii. 1TB Hard Disk Drive
iv. Monitor
v. USB Port 3.0
vi. Wireless Connection

In this project, a computer with sufficient power is needed. For mobile application, database creation and modification, the computer is requiring for the developer to have project development such as coding. The Hardware requirement for computer which is shown in Table3.1

Table 3.1: Hardware Requirement for Computer

Description	Minimum Requirement
Processor	1.1GHz or faster processor
RAM	8GB or more
Hard Disk	30GB of disk space available or more

Generally, we carry smart phone all time with us. For using the application in mobile phone some requirement is need which is shown in Table 3.2.

Table 3.2: Hardware Requirement for Mobile

Description	Minimum Requirement
Processor	500MHz of more
RAM	2GB or more
Storage	512MB or more
Internet Connection	Yes

Software:

- Front-End: Android Studio Development kit.
- Operating System: Android 7.0 or more
- Programing Language: Kotlin.

For using the application some requirements are need for software which is shown in Table 3.3.

Table 3.3: Software Requirement

Description	Minimum Requirements
Mobile Operating System	Android Version 7 or more
Windows Operating System	Windows 7 or more
Database	Firebase

3.3 Use Case Modelling and Description

In this use case model, we see that there were three actors in this application. Here the first actor is customer, one is rider and another is restaurant authority.

For Rider Module

- Login:

When Rider connects the background platform URL, a login interface will display. The rider uses correct email address and password to log into the main interface. One rider can pre- set email and password for when the application is initially start.

Properties:

- Email: The first condition of log into the application valid email address is needed. It is unique address; it is not same to one to another.
- Password: Also without valid password we cannot enter main interface. User flow diagram is shown below the Figure 3.2.

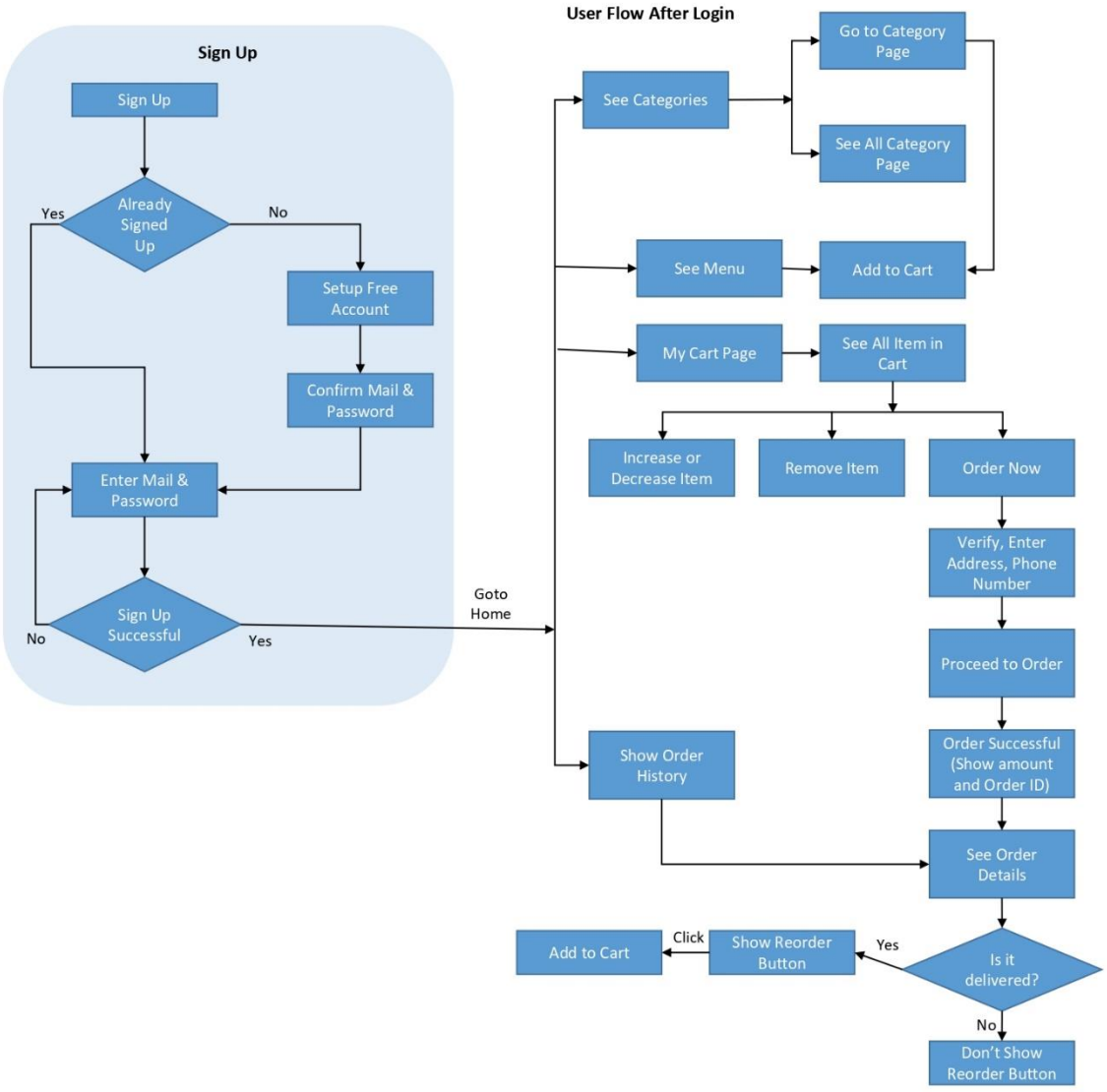


Figure 3.2: User Flow Diagram

❖ Sign Up:

When a riders want to sign up into the application, first he needs to register by clicking "sign up" button to enter sign up page. Then he filing in Name, sur name, mail address, phone, and password and confirm password. Then the rider registers it successful by clicking "Confirm" button. If the rider registers it successful, then a page will have displayed where he can inform customer. If sign up is not valid then a friendly

message is notifying from Sign up page. Such, the name already exist or the email already exist.

Properties:

- Name
- Surname
- Mail address
- Phone Number
- Password
- Confirm Password

For Customer Module

- Sign Up

When Customer wants to order dishes on the application, first he needs to sign up an account by clicking “Sign Up” button to permeate the sign up page, and then the customer filling in name, surname, mail address, phone number, and password, confirm password. If the customer signs up successful, a page will have displayed to in for customer, if there is a fault in register, such as user email is already existing or user name already exist then a friendly warning message will give from sign up page. In this sign up function there is every information filed valid, then the sign up successful.

- Log In

After Sign up, the customer can log in with the correct Email address and password to enter the application to create an order.

- View Dishes

To click in Restaurant, name the customer view the current dishes according to categories. Ever dish item have two button: Order and Review. The Customer tap into Order button and here he can add quantity means how much dishes his needs, then here customer can see the item price. After confirm order then customer will have added to shopping cart.

❖ Shopping cart

The dish items buy by the customer can be added to shopping cart. Then the actor can view the item which his buy, price, quantity and total price. Customer can update item and delete item.

For Restaurant Module

❖ Sign Up

When Customer wants to order dishes on the application, first he needs to sign up an account by clicking “Sign Up” button to permeate the sign up page, and then the customer filling in name, surname, mail address, phone number, and password, confirm password. If the customer signs up successful, a page will have displayed to in for customer, if there is a fault in register, such as user email is already existing or user name already exist then a friendly warning message will give from sign up page. In this sign up function there is every information filed valid, then the sign up successful.

❖ Login

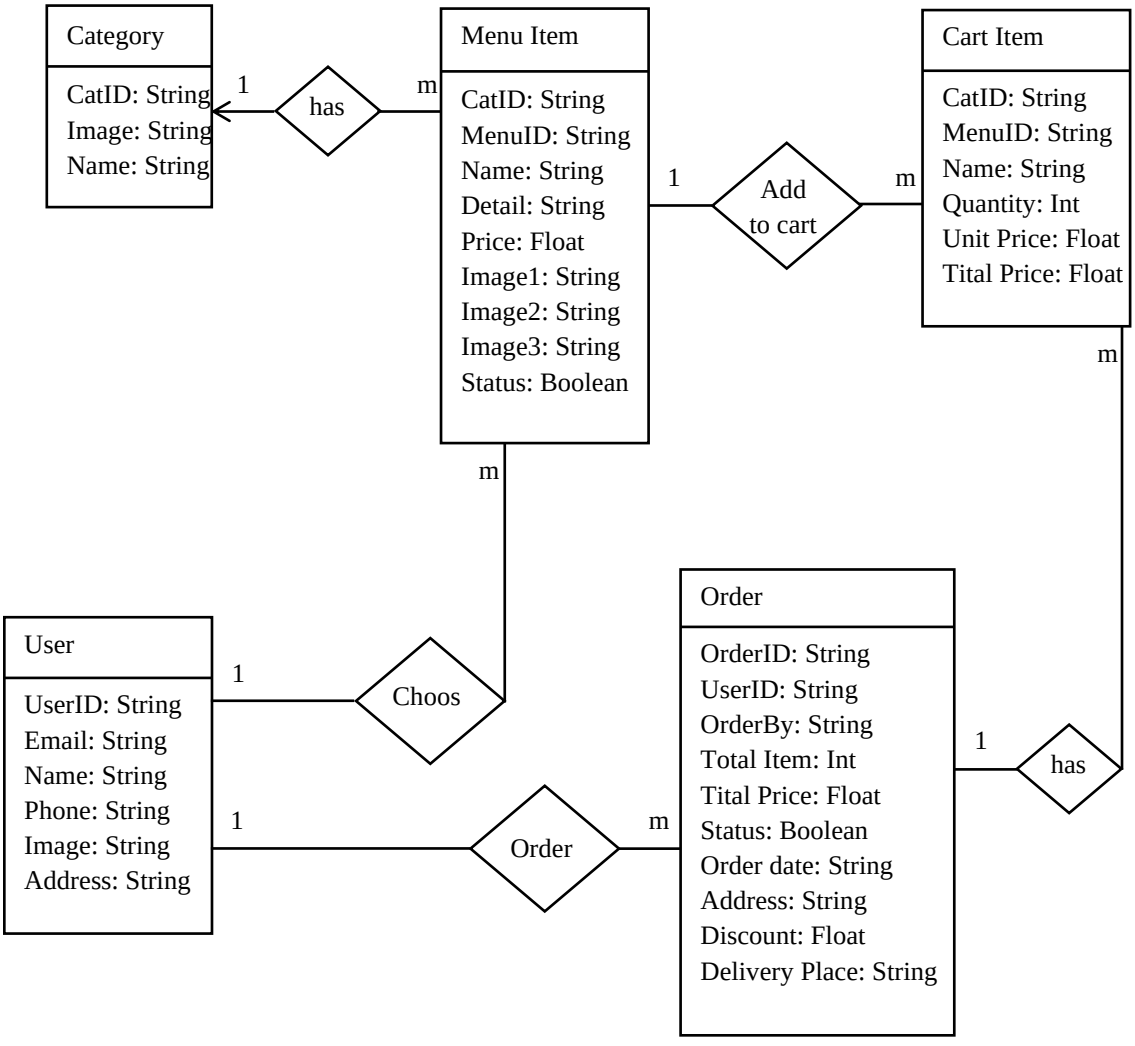
After Sign up, the customer can log in with the correct Email address and password to enter the application to create an order.

❖ Add Food list

When a restaurant owner Click in Add food list and then will show a page where restaurant authority can add food dishes name, price and quantity. After press confirm button the item name is listed in this application and customer will see the food name.

3.4 Logical Data Model

The logical data model is one kind of relational table. That is table with different entities. Here we have some relational table like Customer, restaurant, rider, order, menu, food item. The table has some attributes like customer id, name, number, password, food name, food id, menu name, menu id etc. The whole logical model is shown in the Figure



3.3.

Figure 3.3: Logical Case Diagram

3.5 Design Requirements

Design Requirements is the functional characteristic which qualify to convert idea into design feature. In this part, I will describe the design requirement for of this application which is software requirements and hardware requirements. For implementation main body of the application software requirements are most important. Also hardware is important for design an application. The software requirement list is given below:

Software:

- Front-End: Android Studio.
- Operating System: Windows 8/ windows 10/ Android 7.0 or more
- Programing Language: JAVA, XML.

The second most important part is hardware requirements. The hardware requirements list is given below:

i. Intel core i3
ii. 4GB RAM
iii. 1TB hard disk drive
iv. Monitor
v. Internet Connectivity
vi. Android Smart Phone.

CHAPTER 4
DESIGN SPECIFICATION

4.1 Front-End Design

In Our previous discussion we have discussed a list about the requirement of the application. Now, in this section we will discuss about the all requirements for our projects.

Software Requirement:

Android Studio: Whereas our project is an android based application so we choose android studio for building the main structure code. By using android studio, we make an android application for collection data from user.

Operating System: An operating system is most important software for run a computer. Computer memory manage done by operating system. An operating system manage central processing unit for a computer.

Programming Language: Programming language is used for automate, assemble, and maintain data and information. It is most useful and essential for building a software. By programing language an application or system will run and work.

Hardware Requirement:

Monitor: When user signup for the application those data will store in firebase database. For writing and run our code of a project we need a computer. So, a monitor is need for our project.

Internet Connectivity: When User sign up and login the application internet connection must need. Because the information of the user store in firebase. Without internet connection customer cannot order food from this application.

Android Smart Phone: For installing the application an android smart phone is need. After installing the user can see a sign up page. After successfully complete the sign up user can use the application easily.

4.2 Back-End Design

In this discussion we are going to discuss about the back-end development for the project. Entire Backend formation given in Figure 4.1, 4.2, 4.3.

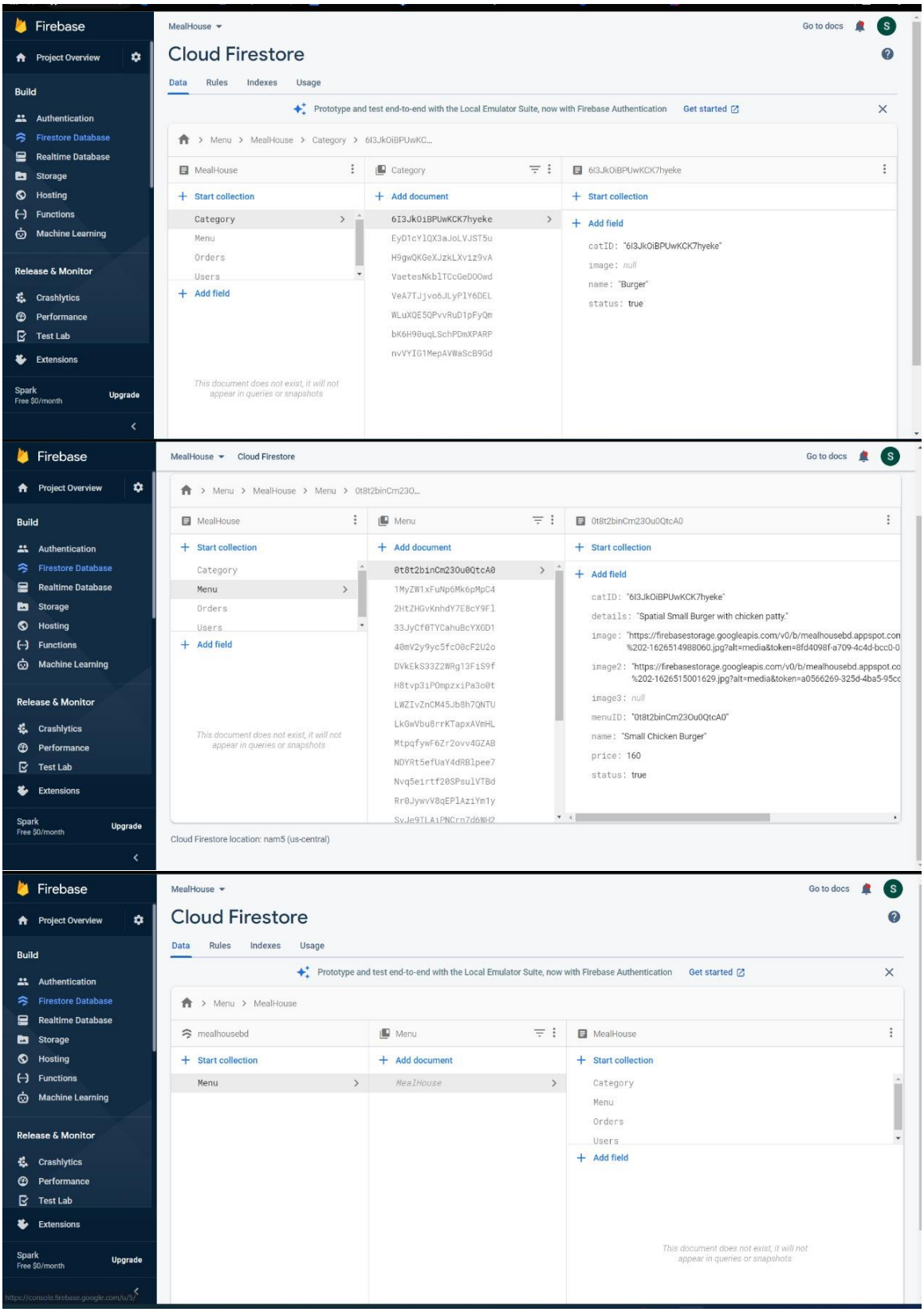


Figure 4.1: Back End Formation

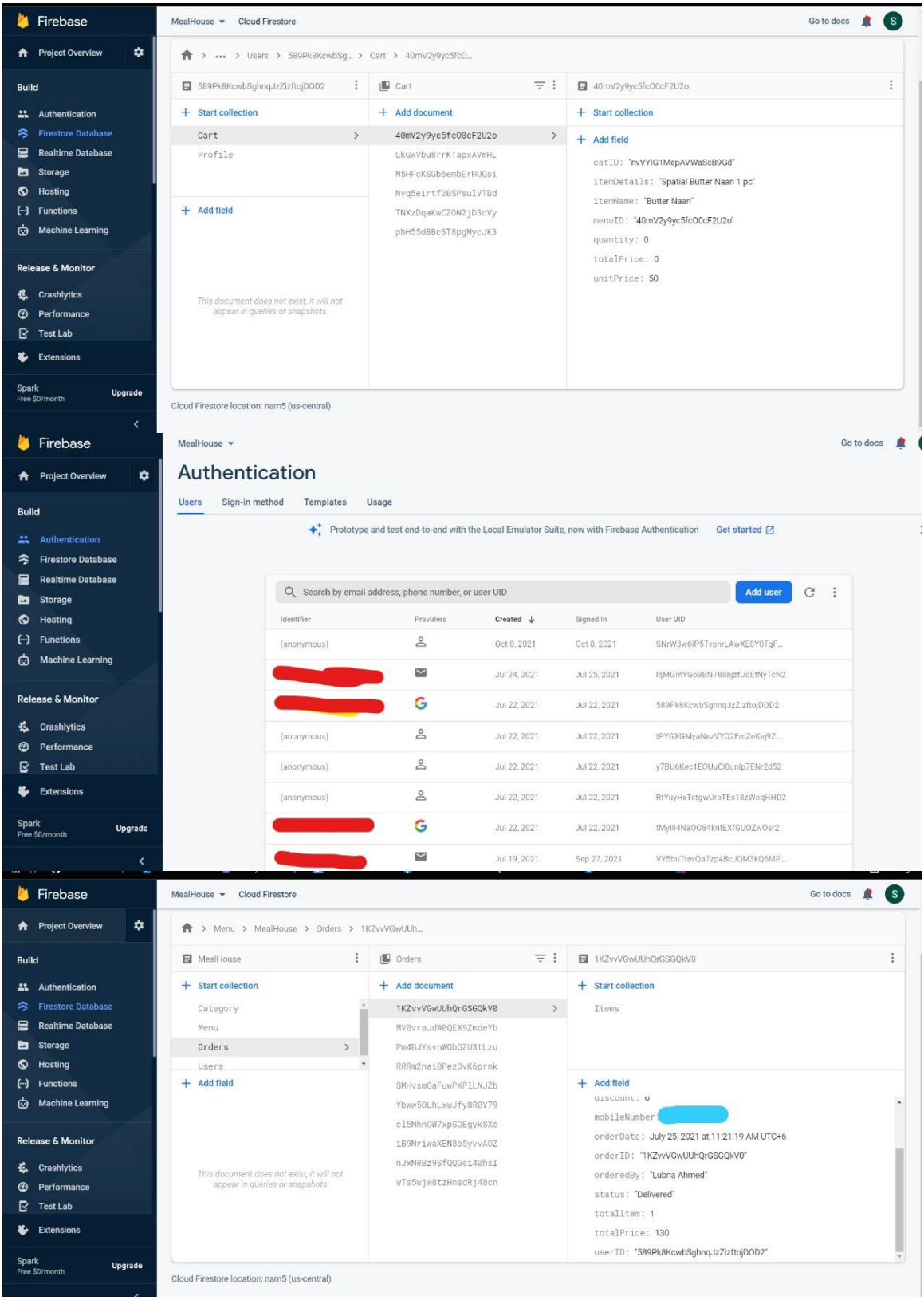


Figure 4.2: Back End Formation

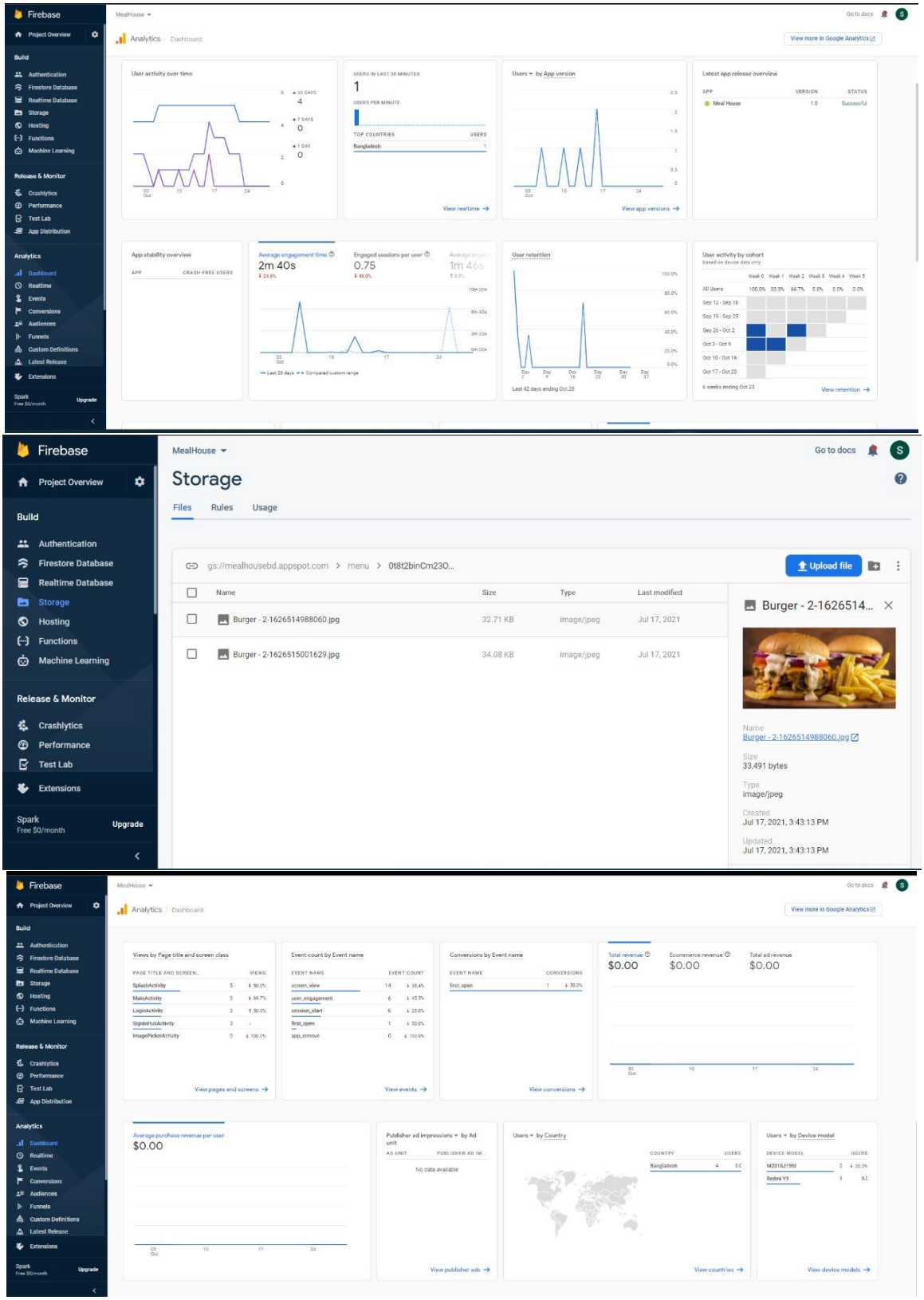


Figure 4.3: Back End Formation

4.3 Interaction Design and UX

Interaction Design is a technique by using that developer are model their application and also system interface more user friendly. Interaction design have many types like Visual portrayal, Words, time and conduct. I'm trying my best to build the application with above interaction. Visual presentation is an important part for any application. I can try to build the application more user friendly. Basically, I use here firebase for database and android native framework which can make interface smooth. I design the application interface is very simply for user. My application has three modules. Every module has Sign Up and login interface. By using sign up button every module user must save their information. After register in sign up then user can enter inside their module by using login option. Here also Logout button. By improve the application user can get better response from the application.

UX or User Experience, it is also more essential part for any application. I was check a survey in online and real life and get positive feedback from them whose are using these types of application which are made before. Then I run tests by some people. The application is faster and comfortable.

4.4 Implementation Requirements

In a previous discussion, I explained this project in an android based application. I need to use computer language, framework, database, and xml for design interface. I use here JAVA language for build the application architecture. I compose code by Android Studio. My full project is work by following this code. Here, I use android native framework for designing. Basically, for android application using firebase database. So, I also use firebase for smooth connectivity. For using this application must need internet connection. Although customer and delivery man can contact with their phone but customer create order by application so that internet connection is must. Hardware and software equipment combination and good arrangement will make the application smarter.

CHAPTER 5
IMPLEMENTATION AND TESTING

5.1 Implementation of Database

The application will need a database system to store huge amount of data for support in order system. Here, Firebase database is chosen is for proposed database because of firebase database is well known for android database management system. Otherwise firebase database system is provide easily understanding graphical interface for software developer with client program. Developer can interact with the firebase database system user friendliness with client program. Above I explained about the database system. We also explained connection between one modules to another module.

5.2 Implementation of Front-end Design

Here in this part I explain briefly about Front end design of this application. The user interface creating with xml code.

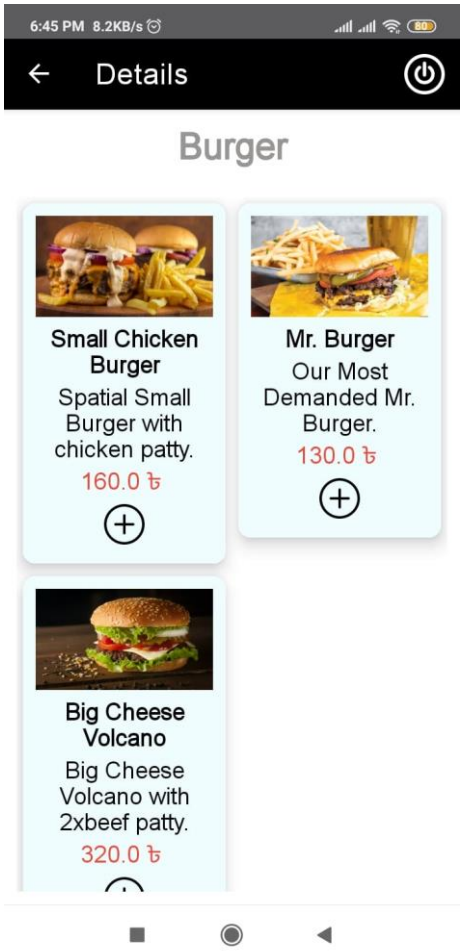
I'm using android application for demand of user. Because now a day most of people use android smart phone. For making my android application I use android studio and using JAVA language for as programming language to build our application.

In my application has three modules, one for customer, one for rider and another one for restaurant. Each module has sign up page. In the sign up page user must add their information such as Email address, Phone number, address, Name, Surname, Password and confirm password. After complete the sign up successfully then user can login with email address and password. For customer module customer can see restaurant name and then check dishes name, add dishes quantity, customer can review for their food in this application. When customer add an order it going on Rider application. Rider check the order and then he confirm restaurant for making this order. After processing the step then restaurant authority packaging the food for customer and handed in Rider. After taking rider this food he/she provides the food in customer. When customer get the ordered food then he/she make the payment of food and delivery to Rider.

5.3 Implementation of Interaction

Interaction design of a system also one the most important ingredient. Interaction design is associated with apps or web site. It is applicable to anything that user can touch. Generally, interaction means a communication between two or more things. This communication can be a human to human or human to application or any system.

For customer module, Customer must need to fulfil sign up and login for registration this application. Then Customer can view restaurant name and check menu. Then customer can add his/her favorite item in cart. Interaction Design of customer is shown



in Figure 5.1, 5.2, 5.3, 5.4.

Figure 5.1: Interaction for Customer

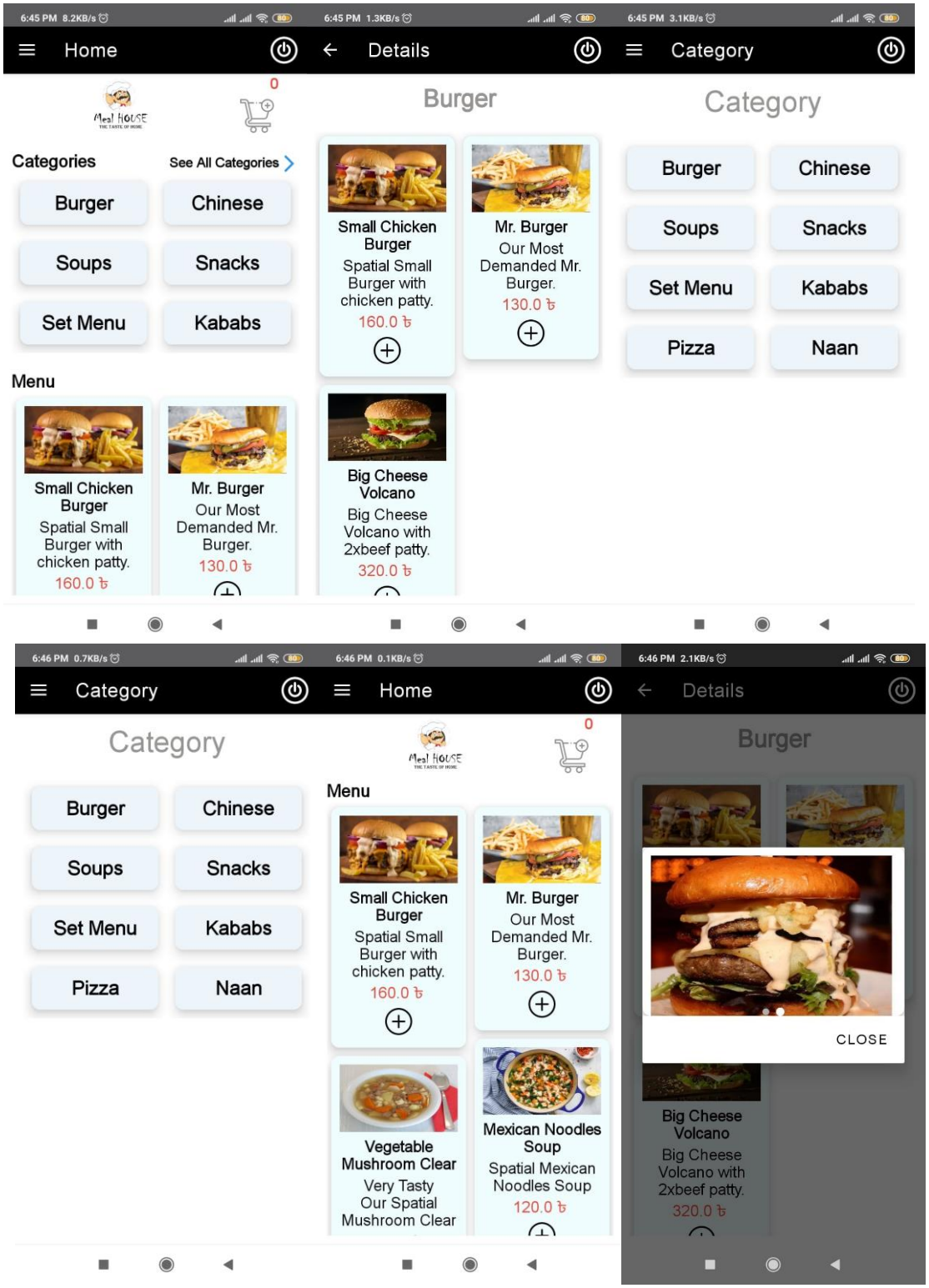
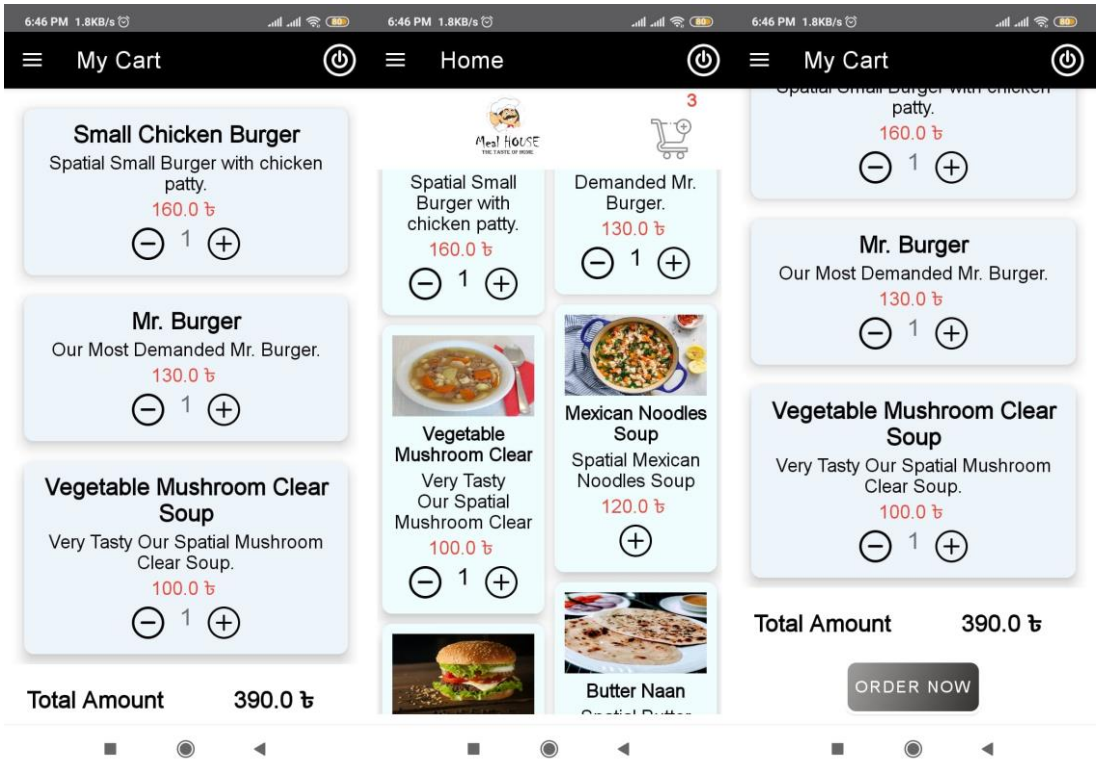


Figure 5.2: Interaction for Customer - 2


My Cart
Small Chicken Burger
Spatial Small Burger with chicken patty.
160.0 ৳
Mr. Burger
Our Most Demanded Mr. Burger.
130.0 ৳
Vegetable Mushroom Clear Soup
Very Tasty Our Spatial Mushroom Clear Soup.
100.0 ৳
Total Amount 390.0 ৳
Home
Spatial Small Burger with chicken patty.
160.0 ৳
Demanded Mr. Burger.
130.0 ৳
Vegetable Mushroom Clear
Very Tasty Our Spatial Mushroom Clear
100.0 ৳
Mexican Noodles Soup
Spatial Mexican Noodles Soup
120.0 ৳
Butter Naan
My Cart
Mr. Burger
Our Most Demanded Mr. Burger.
130.0 ৳
Vegetable Mushroom Clear Soup
Very Tasty Our Spatial Mushroom Clear Soup.
100.0 ৳
Total Amount 390.0 ৳
ORDER NOW

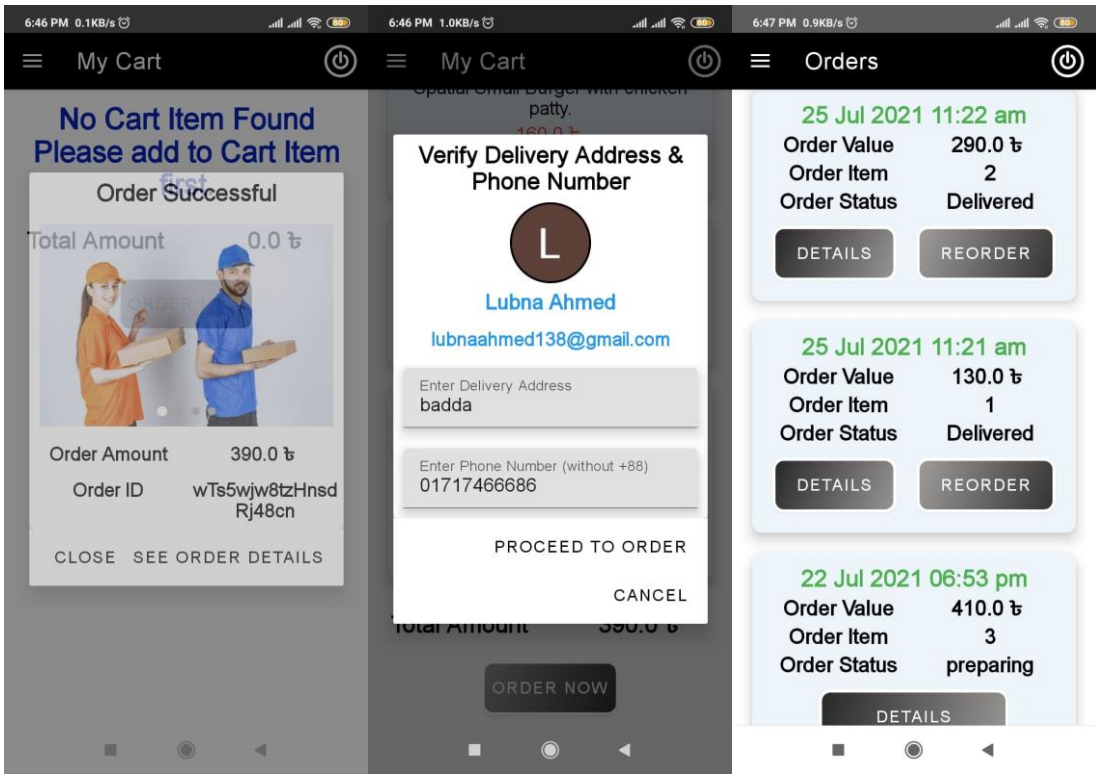

My Cart
No Cart Item Found
Please add to Cart Item first
Order Successful
Total Amount 0.0 ৳
Order Amount 390.0 ৳
Order ID wTs5wjw8tzHnsdRj48cn
CLOSE SEE ORDER DETAILS
My Cart
Verify Delivery Address & Phone Number
L
Lubna Ahmed
lubnaahmed138@gmail.com
Enter Delivery Address
badda
Enter Phone Number (without +88)
01717466686
PROCEED TO ORDER
CANCEL
ORDER NOW
Orders
25 Jul 2021 11:22 am
Order Value 290.0 ৳
Order Item 2
Order Status Delivered
DETAILS
REORDER
25 Jul 2021 11:21 am
Order Value 130.0 ৳
Order Item 1
Order Status Delivered
DETAILS
REORDER
22 Jul 2021 06:53 pm
Order Value 410.0 ৳
Order Item 3
Order Status preparing
DETAILS

Figure 5.3: Interaction for Customer – 3

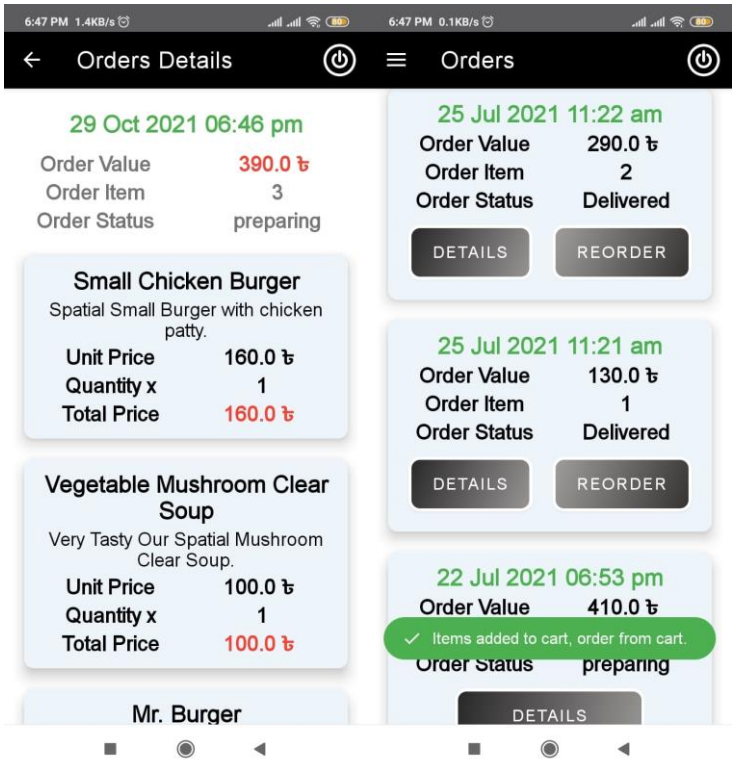


Figure 5.4: Interaction for Customer – 4

For Restaurant module, Meal House also fulfil sign up and login page for registration. Restaurant end can set here is distance or root. Then if customer send order request restaurant will confirm it. Then Meal House confirm the order in restaurant. For this restaurant end will be seen as Figure 5.5, 5.6, 5.7.

Figure 5.5: Restaurant End Interaction

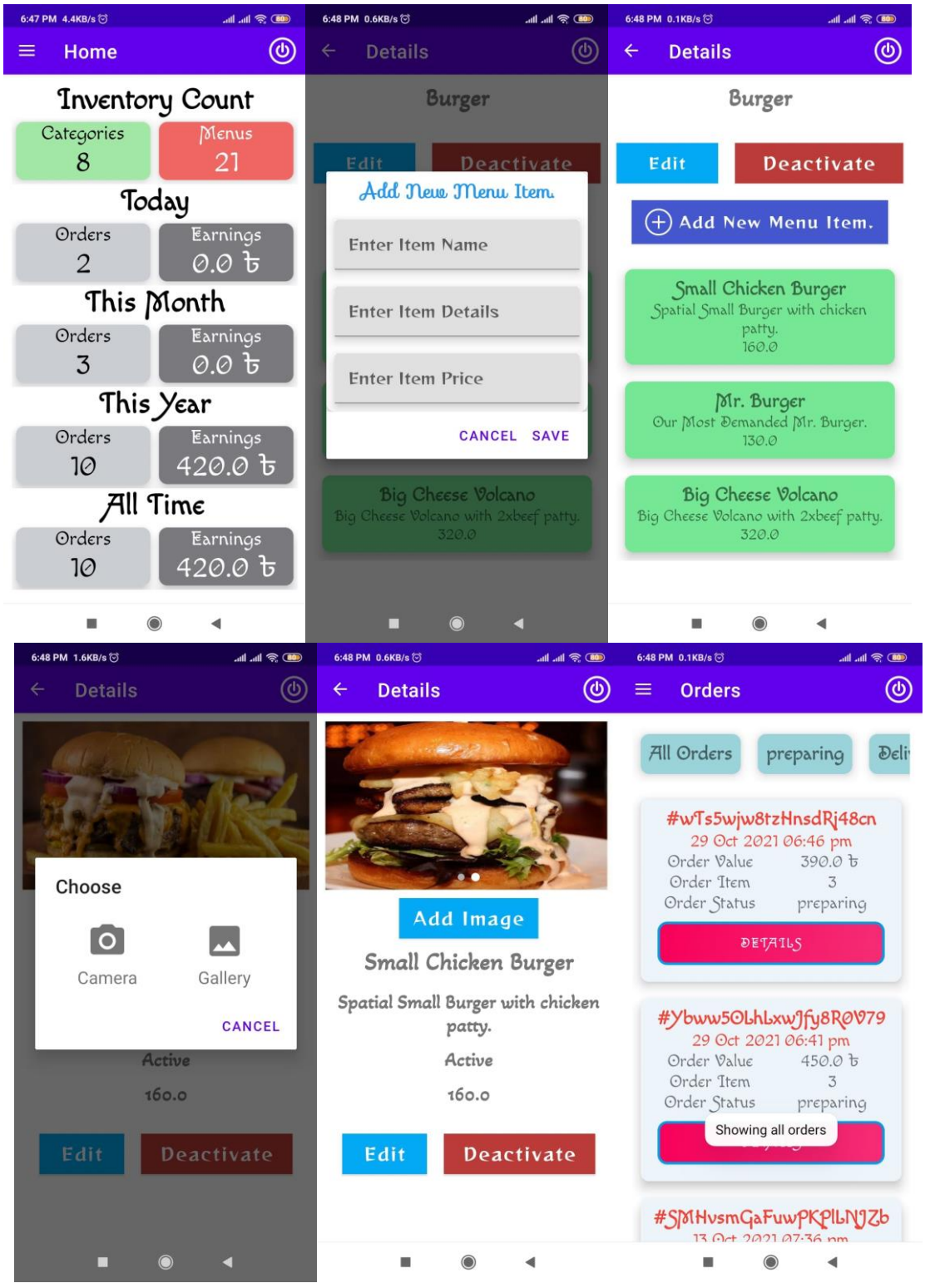


Figure 5.6: Restaurant End Interaction – 2

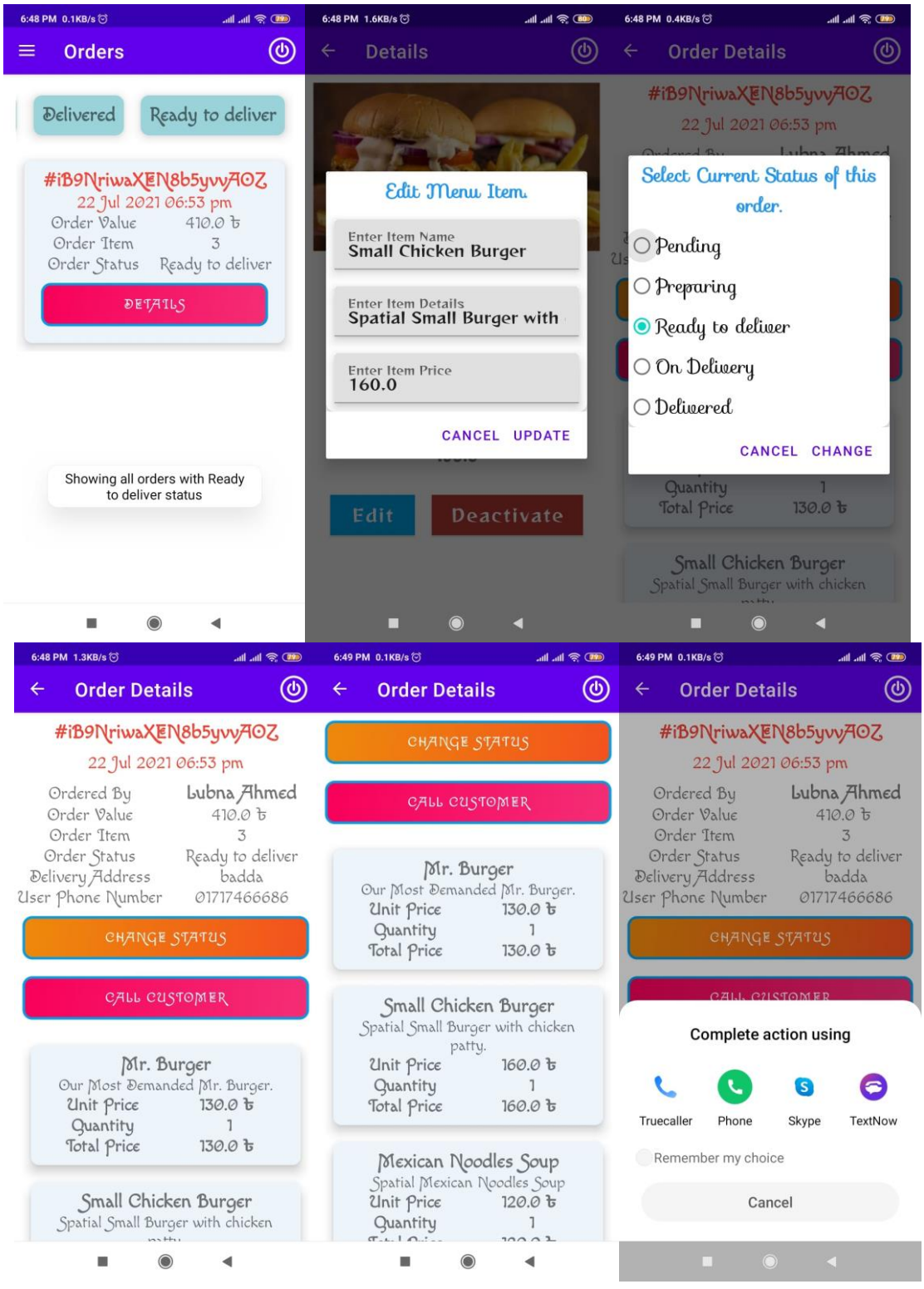

Orders
Delivered
Ready to deliver
#iB9NriwaXEN8b5yvvAOZ
22 Jul 2021 06:53 pm
Order Value 410.0 ৳
Order Item 3
Order Status Ready to deliver
DETAILS
Showing all orders with Ready to deliver status
Details
Edit Menu Item
Enter Item Name
Small Chicken Burger
Enter Item Details
Spatial Small Burger with
Enter Item Price
160.0
CANCEL UPDATE
Edit
Deactivate
Order Details
#iB9NriwaXEN8b5yvvAOZ
22 Jul 2021 06:53 pm
Select Current Status of this order.
Pending
Preparing
Ready to deliver
On Delivery
Delivered
CANCEL CHANGE
Quantity 1
Total Price 130.0 ৳
Small Chicken Burger
Spatial Small Burger with chicken
Order Details
#iB9NriwaXEN8b5yvvAOZ
22 Jul 2021 06:53 pm
Ordered By Lubna Ahmed
Order Value 410.0 ৳
Order Item 3
Order Status Ready to deliver
Delivery Address badda
User Phone Number 01717466686
CHANGE STATUS
CALL CUSTOMER
Mr. Burger
Our Most Demanded Mr. Burger.
Unit Price 130.0 ৳
Quantity 1
Total Price 130.0 ৳
Small Chicken Burger
Spatial Small Burger with chicken
Order Details
CHANGE STATUS
CALL CUSTOMER
Mr. Burger
Our Most Demanded Mr. Burger.
Unit Price 130.0 ৳
Quantity 1
Total Price 130.0 ৳
Small Chicken Burger
Spatial Small Burger with chicken patty.
Unit Price 160.0 ৳
Quantity 1
Total Price 160.0 ৳
Mexican Noodles Soup
Spatial Mexican Noodles Soup
Unit Price 120.0 ৳
Quantity 1
Order Details
#iB9NriwaXEN8b5yvvAOZ
22 Jul 2021 06:53 pm
Ordered By Lubna Ahmed
Order Value 410.0 ৳
Order Item 3
Order Status Ready to deliver
Delivery Address badda
User Phone Number 01717466686
CHANGE STATUS
Complete action using
Truecaller
Phone
Skype
TextNow
Remember my choice
Cancel

Figure 5.7: Restaurant End Interaction – 3

5.4 Testing Implementation

After the application is develop, it need to system testing. The required application is need to install in appropriate device for testing phase.

❖ Unit testing:

Unit testing is the first phase of testing any application or system. Developer are able to identify error and bug easily by doing unit testing. The system process and expected result needs to testing valid and invalid input. The unit testing for login system is shown in Table 5.1.

Table 5.1: Unit Testing for Login System

Event	Attribute and Value	Expected Result	Result
Verify that ID and password that enter by user and match the data in the database.	Login ID: valid ID Password: valid Pass	Login successfully.	Pass
Verify the invalid ID and password that enter by user and match with the data that store in database.	Login ID: valid ID Password: invalid Password OR Login ID: invalid ID Password: valid Password	Login failed and prompt out the error message to user.	Pass
Verify the situation that user does not enter any value	Login ID: null Password: null	Login failed and prompt out the error	Pass

❖ Functional Testing

After complete unit testing, Functional testing will begin for testing the develop application. The system application function will be testing in functional testing.

Functional testing is performed with whole perform task with expected results. The functional testing is shown in Table 5.2.

Table 5.2: Functional Testing for Different User Role

Event	Attribute and Value	Expected Result	Result
Login as “Customer”	Login with customer information	Successfully Login.	Pass
Login as “Restaurant”	Login with Restaurant information.	Successfully Login.	Pass

- System Testing

System testing is critical testing procedure. In system testing must be condiment by system developer before application released. System testing of software and hardware testing are condiment on a system which is complete. System testing is not only test the design of application but also it tests the behavior of application. It has expected result in order to solve error and bug.

5.5 Test Results and Report

In this section we will discuss about the test result and report for this application.

- Security of the system:

For an android application security is one of the most important part. As it is an android based online food ordering system here saves different types of personal information. Again here needs location system for ordering food. For ensuring the security of the application different method are used. Laravel has been used for hashing function for password. Laravel handles all password encrypting and decrypting by automatically.

- Responsive User interface:

Any kind of device screen is responsive for user interface to the application. Android native Framework has been used for develop the user interface system. Mobile, tables laptop or desktop any kind of screen are enable for the UI of the android application.

CHAPTER 6
CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

The android application “MEAL HOUSE: THE TASTE OF HOME” has been effectively planned. This Project contains several modules discussed in earlier sections. The platforms were implemented by firebase for database, xml for creating user interface design. The native android framework has been used in the android application. This project was a typical combination of every module of the application. By this project restaurant owners, riders, customers everyone can be benefitted. The main function of this project has been implemented. It helps to improve the efficiency of restaurant management. Customers can view the page of item names; customers can add quantity for their favorite dishes. It reduces the time consumed for each transaction.

6.2 Scope of Further Developments

Debugging:

Some problems are notice after run the application for long time. The errors are small. But it helps to developer for improving their ability to finding bug.

Internationalization:

In the future the application will improve different language for foreign tourist like Chinese, Arabic etc who will be visited at our area. After improve different language the foreign tourist can order their favorite dishes by their language.

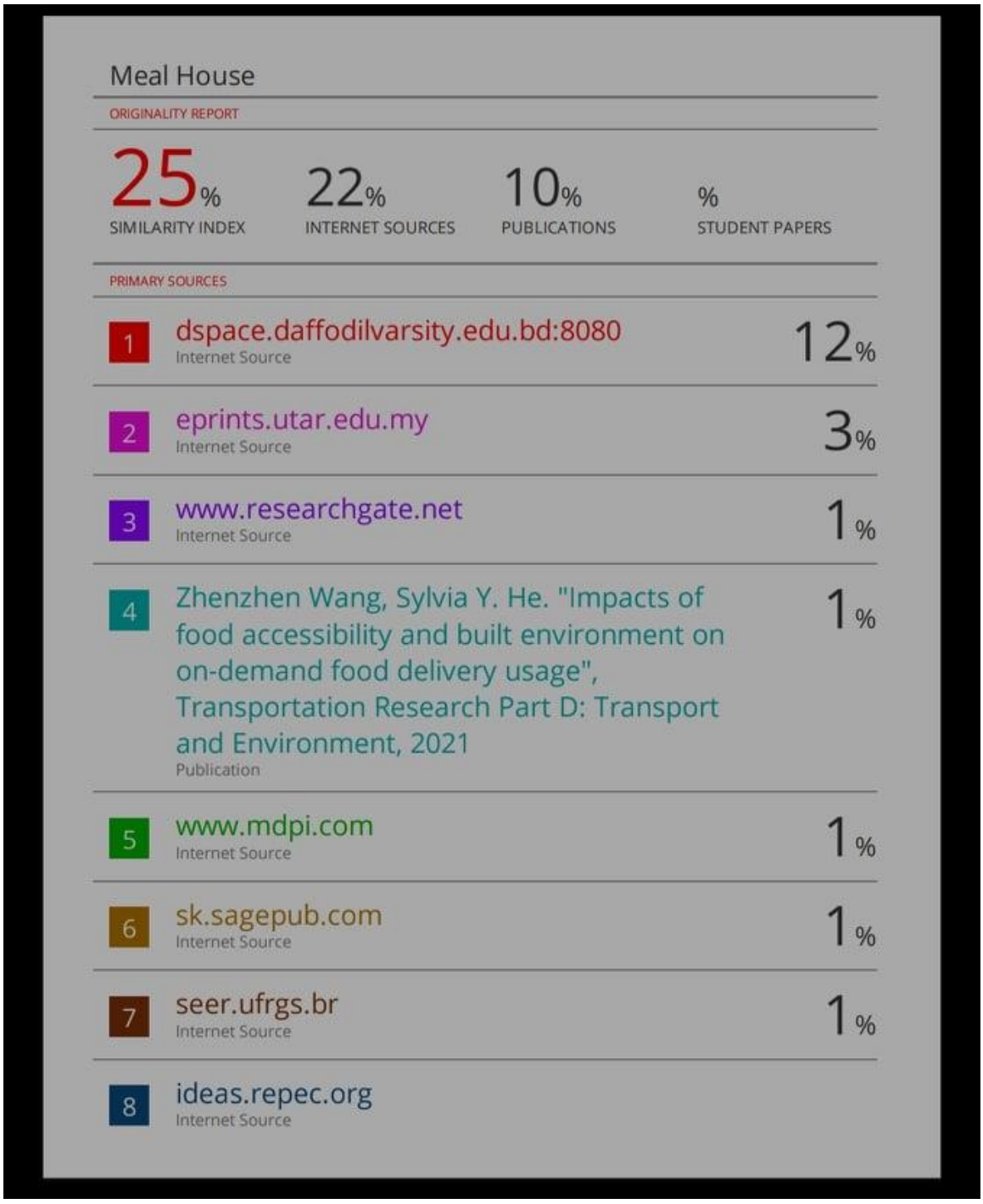
Payment method:

In the future the payment method for this online food ordering application is need to improve by developer. Here added Card system payment method and also Added mobile baking system payment method.

IOS user:

Whereas the application develops for android system, IOS user cannot use the application. In future Developer can develop for the application for IOS user.

Plagiarism Report



Meal House

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