DESIGN AND DEVELOPMENT OF AN ANDROID APPLICATIONS FOR BD ONLINE LAUNDRY SERVICE SYSTEM

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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 **"Bd Online Laundry Service System**", submitted by M. Jahi Hannan, ID No: 161-15-7402 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 will be held on 8th October 2020.

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We hereby declare that, this project has been done by us under the supervisor of **Md. Jueal Mia, Lecturer,** Department of CSE at Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere forward of any degree or diploma.

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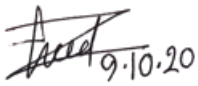

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ABSTRACT

In Bangladesh, most of the people are not know about online laundry service system. In city areas laundry service is available but it's not online service system. The online laundry service is the way to reduce our valuable time. Urban areas have this facilities but that facilities are quite lengthy process with some hassle and also have some practical issues such as traffic jam, insufficient laundry shop and many people did not about online laundry system. Many people haven't enough knowledge where online laundry is available or not. In considering this problems we proposed an android application "BD Online Laundry Service System" which can be reduced the hassle of the people and resolve this problem. In this application contains the online laundry service system providers information such as shop or laundry service provider name, contact information, address, location and also available in online from different service of laundry such as Wash clothes, Dry clothes etc. Using this application user search the nearest laundry service provider address, contact information so that people can easily get service from home.

TABLE OF CONTENTS

CONTENTS PAGE

Board of Examiners I

Declaration ii

Acknowledgements iii

Abstract iv

Table of Content v-vi

List of Figure vii

CHAPTER 1: INTRODUCTION 1-2

1.1 Introduction 1

1.2 Motivation 1

1.3 Objective 2

1.4 Expected Outcome 2

1.5 Report Layout 2

CHAPTER 2: BACKGROUND 3-4

2.1 Introduction 3

2.2 Relative Work 3

2.3 Comparative Studies 3

2.4 Scope of the Problem 4

2.5 Challenges 4

CHAPTER 3: REQUIREMENT SPEICIFICATION 5-9

3.1 Business Process Modeling 5

3.2 Requirement Collection and Analysis 7

3.2.1 Software Requirements 7

3.2.2 Hardware Requirements 7

3.2.3 User Requirements 7

3.3 Use Case Modeling and Design 8

3.4 Design Requirements 9

CHAPTER 4: DESIGN SPECITION **10-19**

4.1 Front-end Design 10

4.1.1 Home Page 10

4.1.2 Login as a Customer 11-13

4.1.3 Login as a Service Provider 14-17

4.2 Back-end Design 18

4.3 Implementation Requirements 19

CHAPTER 5: IMPLEMENTATION **20-27**

5.1 Implementation of Database 20

5.2.1 Order Procedure (Service Provider end) 21-22

5.2.2 Order Procedure (customer end) 23-25

5.3 Testing Implementation 26-27

CHAPTER 6: CONCLUSION AND FUTURE SCOPE **28**

6.1 Summary 28

6.2 Limitations 28

6.3 Scope of Further development 28

References 29

Plagiarism Report 30

LIST OF FIGURES

FIGURES	Page No
Figure 3.1 Business Process Model Life Cycle	5
Figure 3.2 Business Process Model	6
Figure 3.3 Use Case Diagram	8
Figure 4.1 Front end Design (Home page)	10
Figure 4.2 Customer Phone Verification	11
Figure 4.3 Customer Registration	12
Figure 4.4 Customer Information	13
Figure 4.5 Login as a Distributor	14
Figure 4.6 Laundry Provider phone verification	15
Figure 4.7 Service Provider Registration	16
Figure 4.8 Service Provider Information	17
Figure 4.9 Logical Data Model	18
Figure 5.1 Implementation of Database	20
Figure 5.2 Add products	21
Figure 5.3 Service Provider Shop Details	22
Figure 5.4 Order Procedure (customer details)	23
Figure 5.5 Order Procedure (Service Provider)	24
Figure 5.6 Order Procedure	25
Figure 5.7 Unit Testing Life Cycle	26
Figure 5.7 Unit Testing Life Cycle	27
Figure 6 Plagiarism Testing	30

CHAPTER 1

INTRODUCTION

1.1 Introduction

Bd online laundry service system is an android based mobile application. This application provides interactive user interface to find laundry service provider information and people get service from home. The system will help the customers by providing a simple user interactive interface for servicing the laundry through online which will save their time and money. It also gives the laundry service provider or laundry shop by helping them to make the system process faster and easier to maintain. In this application we try to commitment with customer to provider or supplier directly through online. If any user or customer needs emergency laundry service, system will provides the nearest laundry shop. User or customer can choose the laundry service which services they want to get and directly communicate with laundry shop or laundry service provider via phone or online communication. We also solve the complaints of customer that can pay online laundry service payment such as Bkash or Rocket (DBBL), so that people didn't go to laundry shop because it takes too much time.

1.2 Motivation

To build an application where user can be satisfied their basic need of laundry service problem. The number of population in Bangladesh increased day by day. At this moment of population of Dhaka city according the report of World country meters population report in 2020, the population is 190 million [1]. Now Bangladesh has facing pandemic situation like covid-19. In this situation people are fully depend on online services. But the online laundry service is not available. In this pandemic situation online laundry service is the useful way to reduce the problem of go outside and social distance maintain. But Laundry service is available in every area, but online laundry service is not available. If we become an intermediate medium to communicate between customer and laundry shop, it will reduce that hassle and save time and money. Although smart phone users in Bangladesh has increased by 3.1 million to 12.2 million in 2019, according to a recent report published by Counterpoint Technology Market Research [2].Basically we target that amount of people who are connected to smartphone through internet. If we able to engage that people, it will be huge achievement for us.

1.3 Objectives: This is the objective for my laundry service App.

- To provide most interactive user interface
- To reduce hassle of laundry service problem
- To make easier to find laundry shop or laundry service provider.
- To make easier to order or booking laundry service via online
- To keep all users or customer and laundry provider records and maintains
- To provides simple payment method system

1.4 Expected Outcomes

- Provides the nearest laundry service provider information
- Gives different services in laundry shop that user can choose which one need
- User can directly communicate the laundry shop through mobile call and Laundry service provider can keep customer record and maintain.

1.5 Report Layout

Firstly, In Introduction chapter, we have to discuss about the objective of the project, motivation of work with expected outcome. Secondly, we discuss about the background circumstances of our project. And also discuss the related work, comparison to other candidate system, the scope and challenges of this system in Background parts. Thirdly, kinds of requirements like business process model, the requirement collection and analysis, use case model, relational database and design requirements define in Requirement Specification chapter. Fourthly, Design chapter describes the design of our project visual view. It can be front-end-design or back-end design. In fifth, Implementation and testing parts we discuss about the implementation of database, interaction and test result of this project. Finally in sixth, the conclusion and future scope will discuss in Conclusion chapter.

CHAPTER 2

BACKGROUND

2.1 Introduction

We designed interactive, attractive and well organized application which can be operated all over through internet. In our application user interact with username, phone number, current location and address which is required to registration user as a customer and as a laundry service provider registration required to provides name, phone number, institute name and address. For this purpose we design some specific user interface and user friendly. In our application we also used feedback system for provides better services that user can be satisfied.

2.2 Relative Works

Some of the applications are available in Google play store related to Laundry Service System. Most of the applications are mainly developed for concern for India on other country and few of our country but it overall web based application in Bangladesh. But for Bangladeshi purpose not quite efficient that application like as android application. For example Washout, bdwash etc. [4]

2.3 Comparative Studies

Our implemented application is quite different from existing applications. Some of applications are available in Google play store but we want to develop an application where every kinds of

Information such as user details and laundry provider detail with their location [3]. And also we will provides the nearest available laundry shop. Using this application customer can get service from home from nearest areas laundry shop with simple payment method. So we think, our application will be more user friendly, popular and also more effective in city life.

2.3 Scope of the Matter

- It is an open platform where all user can access easily.
- We provide android apps so we will cover the maximum amount as people we are able to.
- Laundry shop address with their details help user to seek out required laundry service.
- Heavy traffic area it'll be buy to induce to get but it's be helpful for this purpose.
- Friendly software and Updated information.

2.4 Challenges

- Collection of accurate data laundry service provider with their locations.
- Payment method form banking service.
- Checking or describing the condition of laundry service.
- Enrolled the all laundry shop with Information Technology.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business process modeling (BPM) in business process management and systems engineering is that the activity of showing process of an matter, in order that the current process is also analyzed, improved and automatic [5]. BPM is essentially performed by business analysts system, who provide expertise within the modeling requirement; by subject materials exported, who have special knowledge of the processes being model.

3.1.1 Business Process Model (Agile Method)

We are using agile method as a business process model of our project [5]. Below the causes-

working application is delivered frequently.

- Face-to-face show up is that the most effective variety variety of meet.
- Close, daily relationship between business people and developers.
- Continues attention to technical circumstances.
- Regular adaption to changed policy rules.

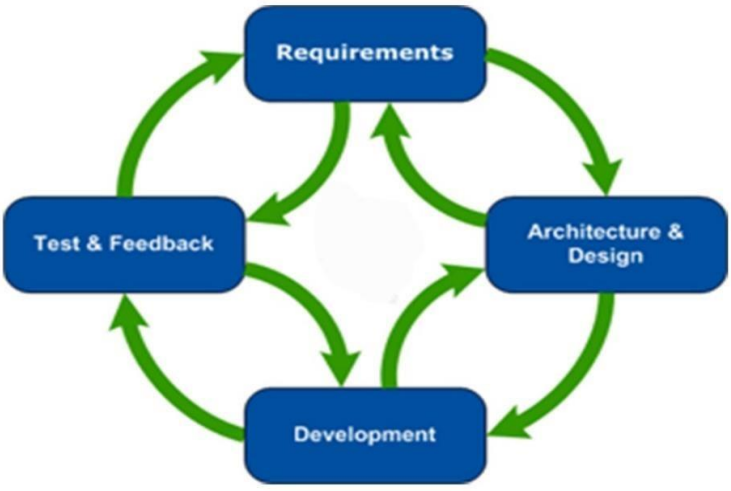


Figure 3.1 Business Process Model Life Cycle

Business Process Model:

At first, when user enter the system, system will provides some option as interface. User have to make decision to get service form this application. In this system two parts as a user or service provider. Then system check the required information then have to select the current location then system will able to provides services.

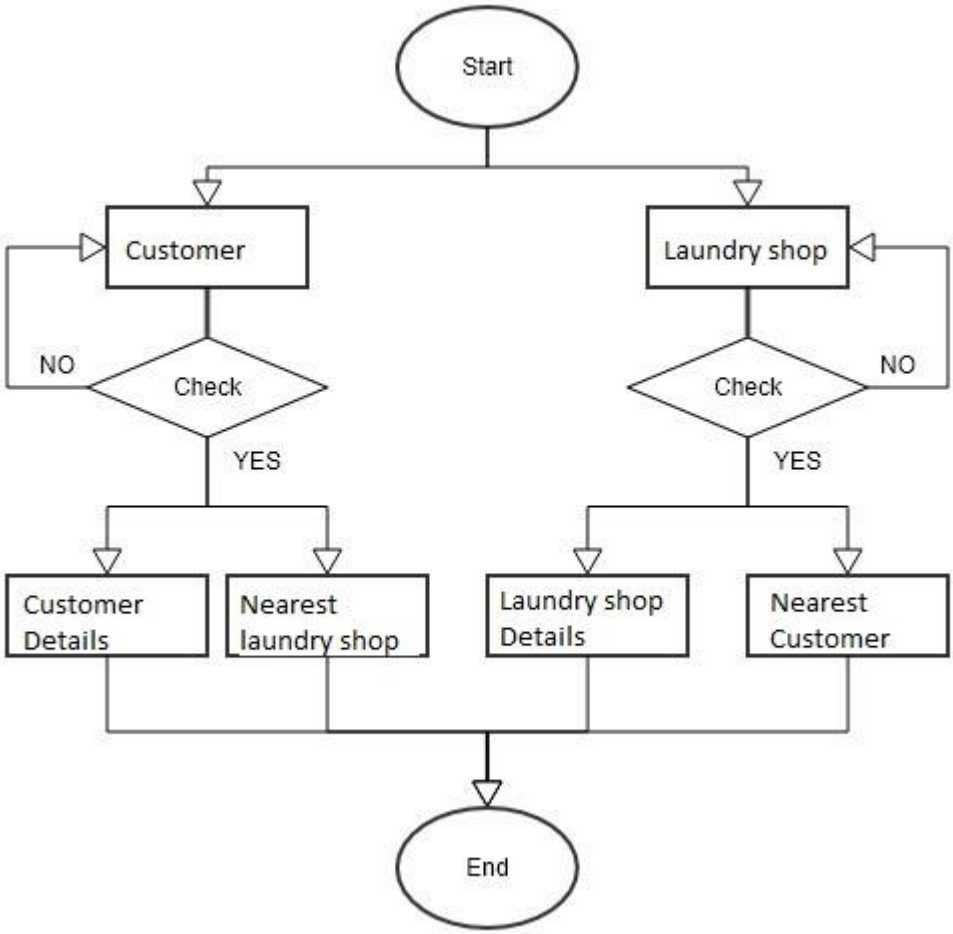


Figure 3.2 Business Process Model

3.2 Requirement Collection and Analysis

3.2.1 Software Requirements:

- Android Studio IDE
- Android Virtual Device
- Database – MySQL
- Adobe Photoshop

3.2.2 Hardware Requirements:

- Operating System Windows
- Android Supported Device

  Computer Configuration:

  - RAM – 4GB (min)
  - Hard Disk – 100GB (min)
  - Processor 1.5 GHz (min)

3.2.3 Requirements for User:

- Android Supported Device
- Internet Connection
- Install this Application
- Active sim to allow call service

3.3 Use Case Modeling and Design

Use case is a methodology which used in system analysis to identify, clarify and organize system requirements. The use case is invented up of a set of possible sequences of communication between systems and users in a particular environment and related to a particular goal. It rest of a group of elements that can be used together in a way that will have an effect larger than the sum of the separate elements combined. The usage case should involve all system activities that have signification to the users. A use case can be thought of as a collection of possible scenarios related to a particular ambition indeed, the use case and goal are sometimes considered to be synonymous.

A use case diagram contains four segment.

a) The boundary, which defines the system of interest in relation to the world around it.
b) The actors, usually individuals involved with the system defined according to their roles.

c) The boundary, which defines the system of interest in relation to the world around it.

d) The actors, usually individuals involved with the system defined according to their roles.

e) The use cases, which the specific roles are played by the actors within and around the system.

f) The relationships between and among the actors and the use cases [7].

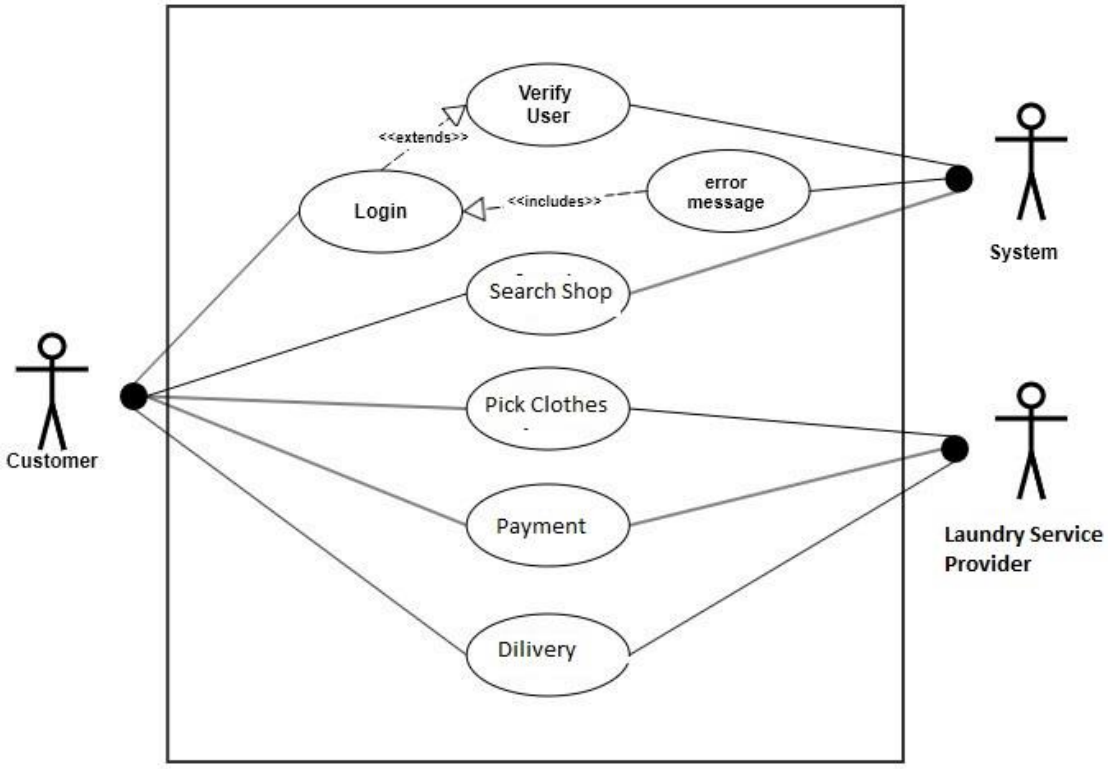


Figure 3.3 Use-Case Model

3.4 Design Requirements

To develop this application we have to use some tools to design and implements it. At first we use Android Studio IDE to design basic UI and build project. We use OOP (Java Programming language) to develop application. For tracking or keeping customers and distributor location, we use Google map service and make calls we use Google API for phone calls. For database implementation we bought a domain and hosting to publish database. For database we use My SQL database and XAMP server to host data. We implemented our basic logo and icon using Adobe Photoshop, which is necessary to provides better, attractive and user friendly interface. The business process model, use case diagram and others diagram are designed using Gliffy (extension of Google chrome) which is more user friendly and reduced time to design a complex diagram.

CHAPTER 4

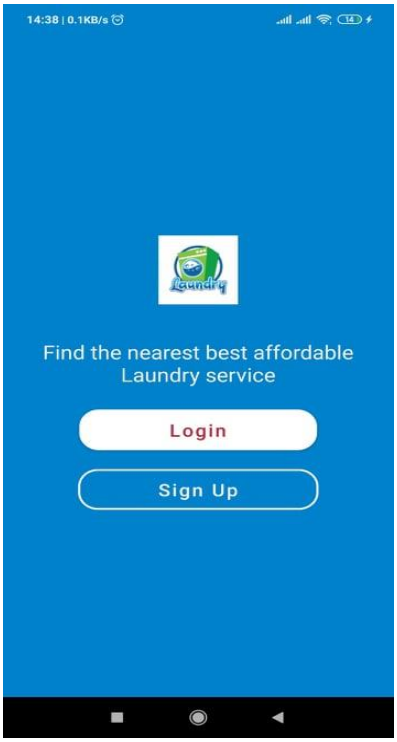
DESIGN SPECIFICATION

4.1 Front-end Design

In this section we are going to discuss about the user interface which is developed in front end design. And also the outlook of this features.

4.1.1 Home Page

Home page contains two options which is our main interface. In section user can login as a customer or Laundry Service Provider. If any user register as a customer, system will keep the data such as phone number, address and current location which are describe in latter section.



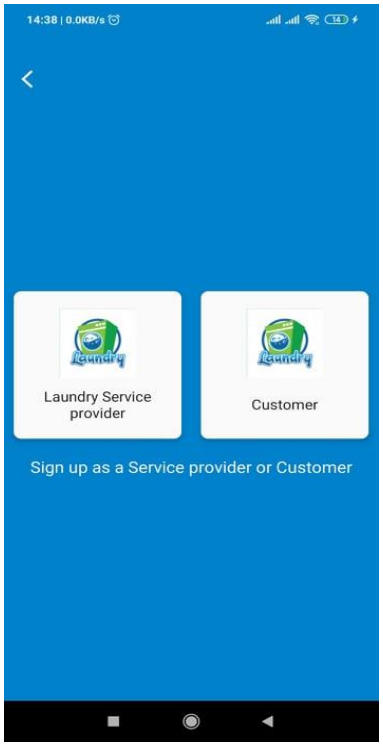


Figure 4.1 Home Page

4.1.2 Login as a Customer

In this figure, describes the login panel as customer or Laundry Service Provider. User can easily choose the category of application user. If user as a customer, system provides some required information such as user name, phone number, address with location. In this section system will take the valid phone number then it will be verified from a text message.

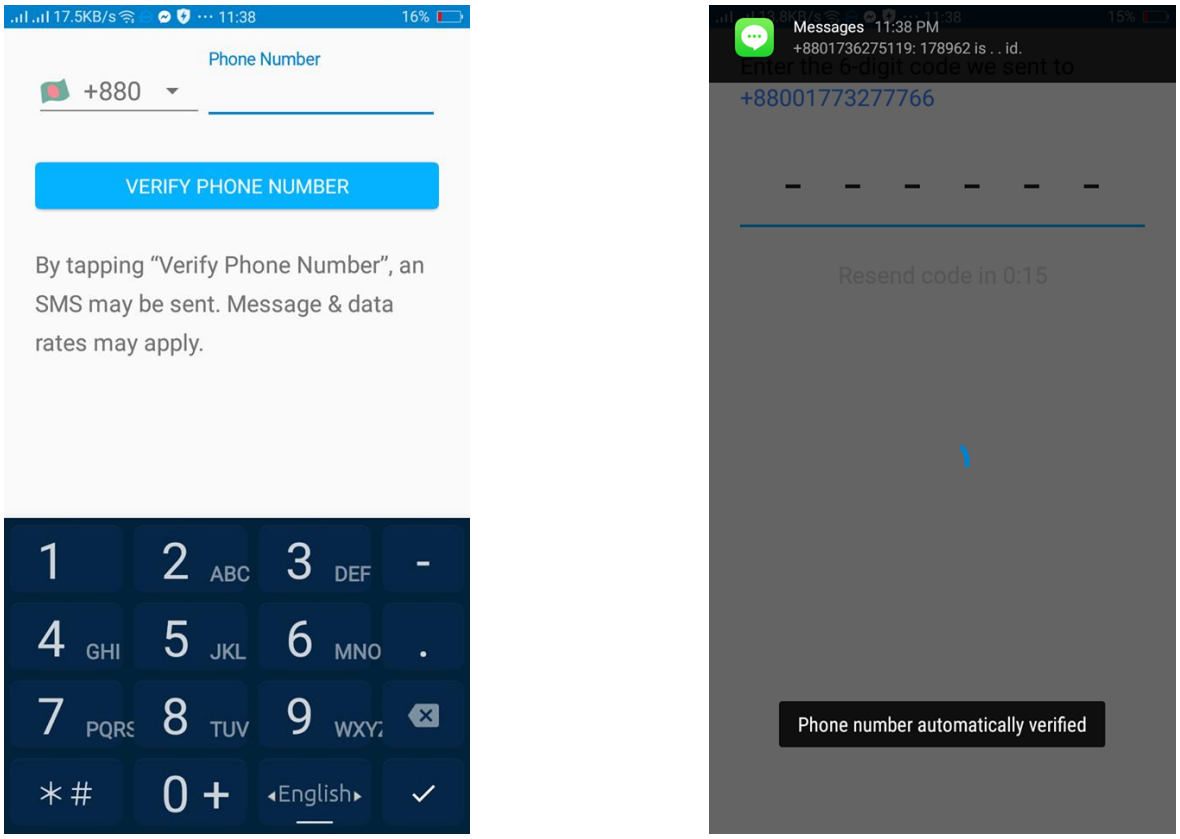


Figure 4.2 Customer Phone Verification

4.1.2 Login as a Customer (Continue)

After verify the user phone then system will provides some interface such as user name, address and map location where customer can easily set the current location using Google map feature which is shown in figure 4.3. In this section user have to access the current location.

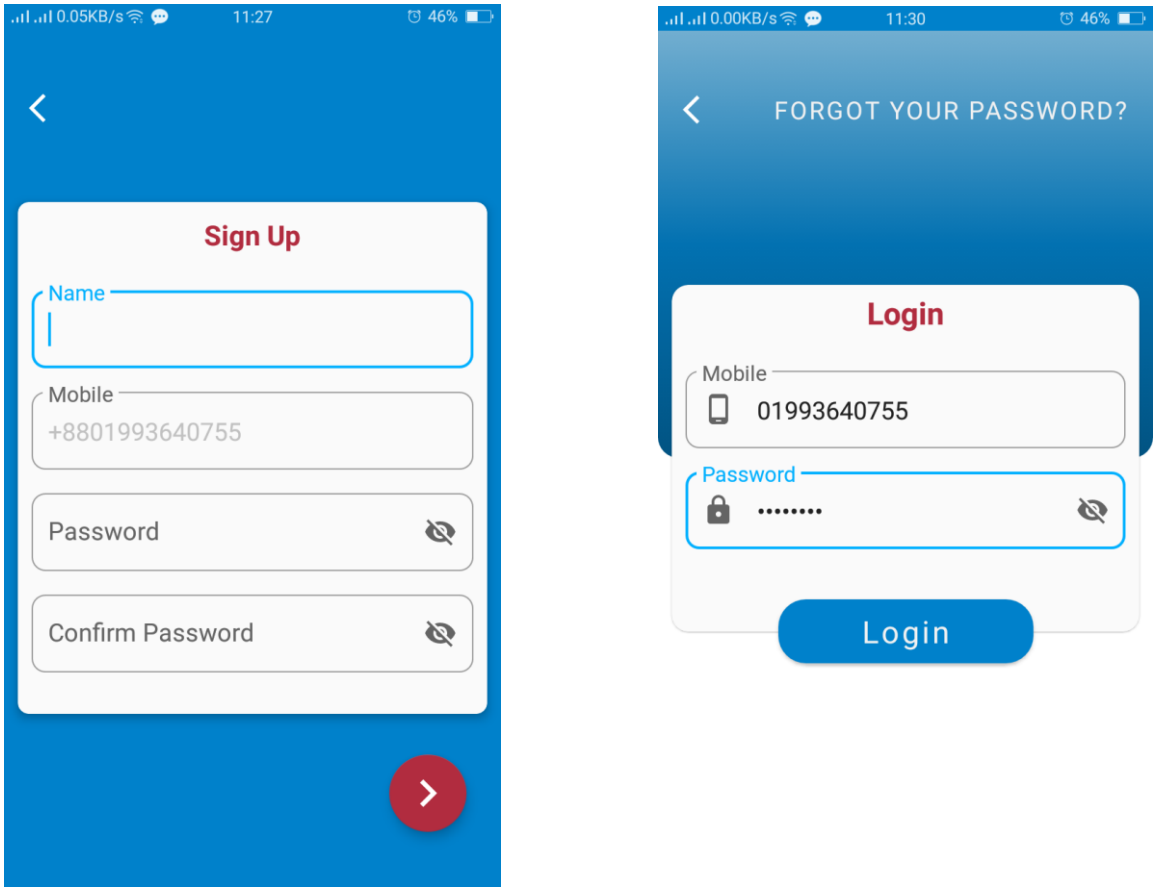


Figure 4.3 Customer registration

4.1.2 Login as a Customer (Continue)

After successfully complete the registration of a customer this data will be saved in online database. Customer can see the profile details and also modify the data if any of the data has been changed.

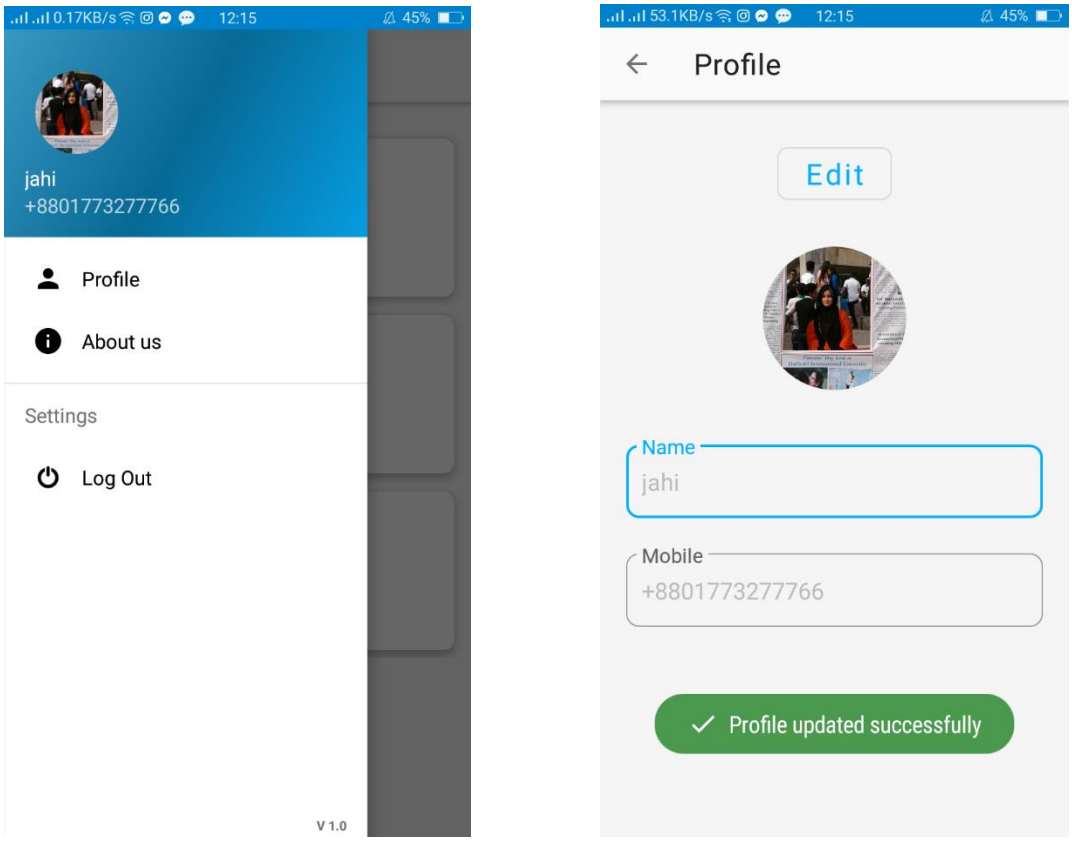


Figure 4.4: Customer Information

4.1.3 Login as a Distributor

In this section user will find the available specialist doctors of Hematology and Psychology with their designation and contact information which is shown in figure 4.5.User have to provide some basic information which is store the database and further needs, this data will help to find this user.

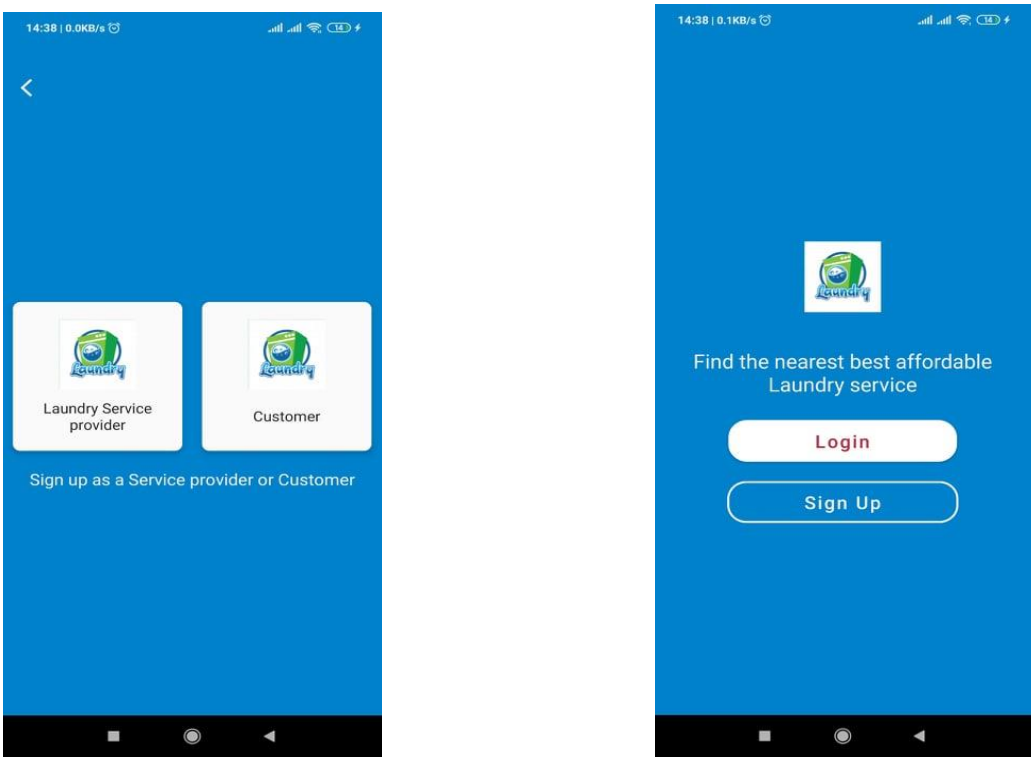


Figure 4.5 Login as a Laundry Service Provider

4.1.3 Login as a Laundry Service Provider (Continue)

In this section, describes the login panel as a Laundry Service Provider. User can easily choose the category of application user. If user as a customer, system provides some required information such as user name, phone number, institute name and address with location. In this section system will take the valid phone number then it will be verified from a text message which is shown in figure 4.6.

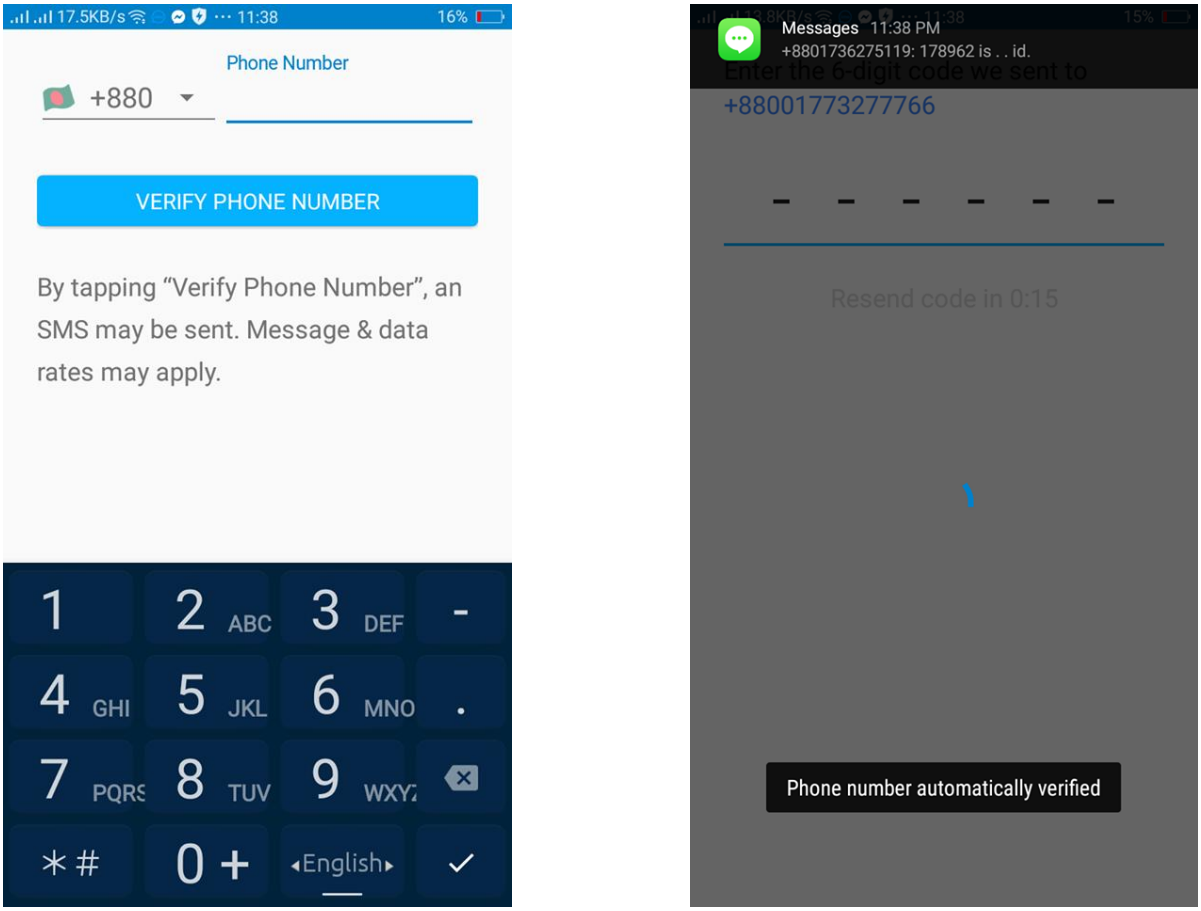
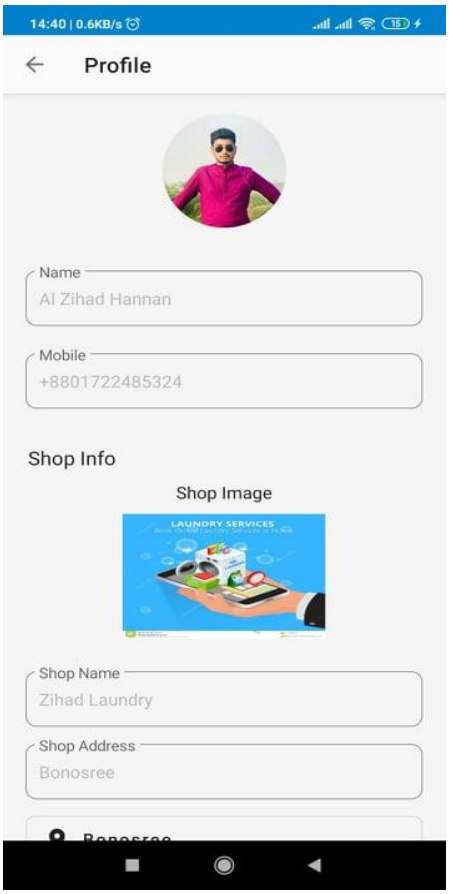


Figure 4.6 Laundry Service Provider phone verification

4.1.3 Login as a Laundry Service Provider (Continue)

In this section user also find the request to access the location. User have to access the location then provides user name, contact number, institute name and address information which is shown in figure 4.7



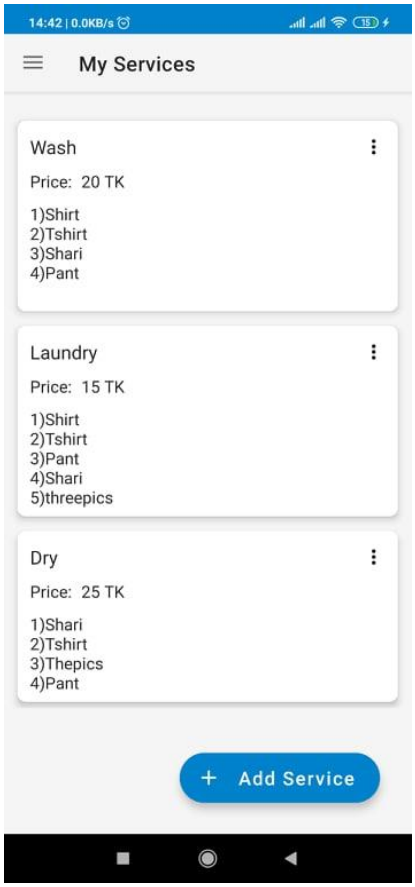
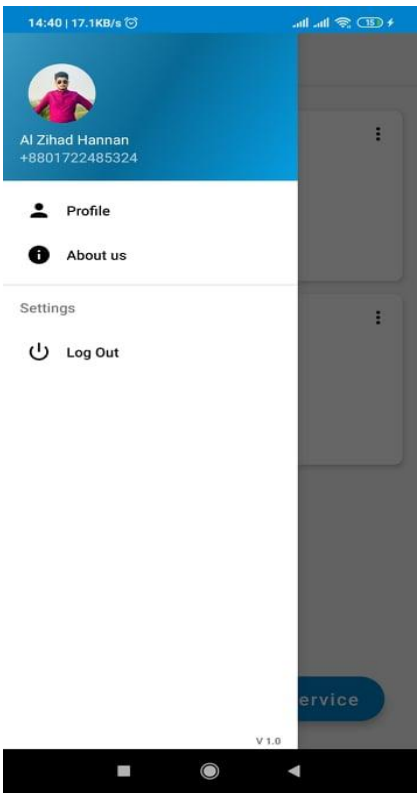


Figure 4.7 Laundry Service Provider Details

4.1.3 Login as a Laundry Service Provider (Continue)

If user gives the valid information system will connect the online database and store the information and successfully complete the registration of Laundry Service Provider. Laundry Service Provider can see the profile details and also modify the data if any of the data has been changed. User details is shown in figure 4.8.



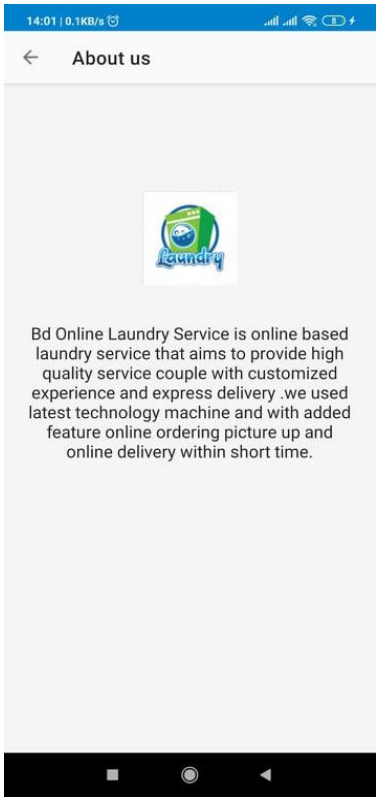


Figure 4.8 Laundry Service Provider Information

4.2 Back-end Design

We are using logical data model for back-end design. It describes the data in as much detail as possible, without care to how they will be physical implemented in the database [6]. Features of a logical data models

- Includes all entities and relationships among them.
- All virtue for each entity are specified.
- The primary key for each article is specified.
- Foreign keys are specified.
- Realization appear at this level.

The figure below is a logical data model of our project.

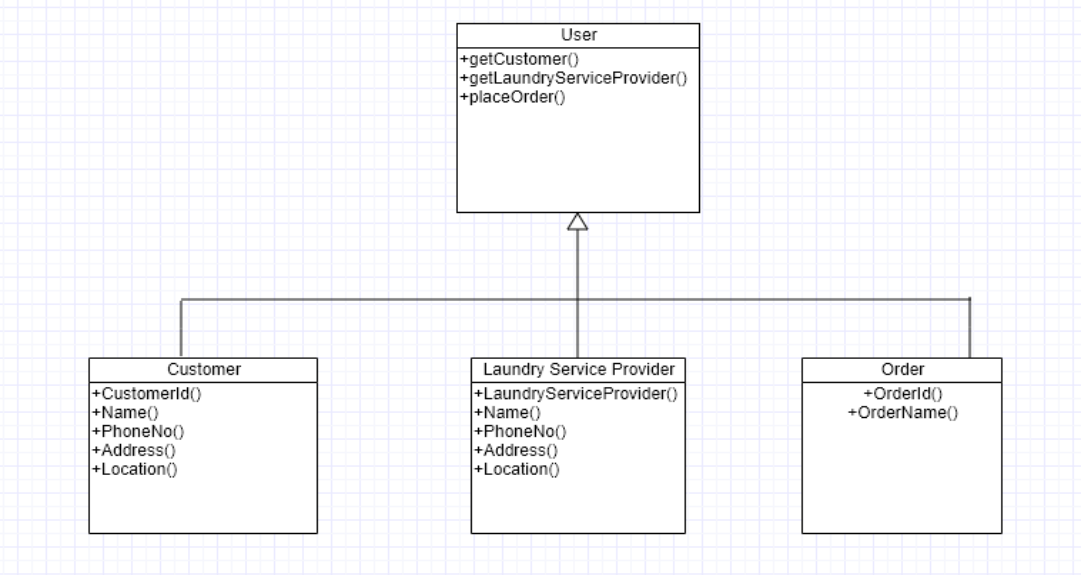


Figure 4.17 Logical Data Model

4.3 Implementation Requirements

- Php
- Online MySQL Database
- Google API
- XAMPP or Wamp server
- C panel username and password

CHAPTER 5

IMPLEMENTATION AND TESING

5.1 Implementation of Database

We are using online MySQL database server for data storage. In this section describes the database architecture which three tables such as available products, customers and users.

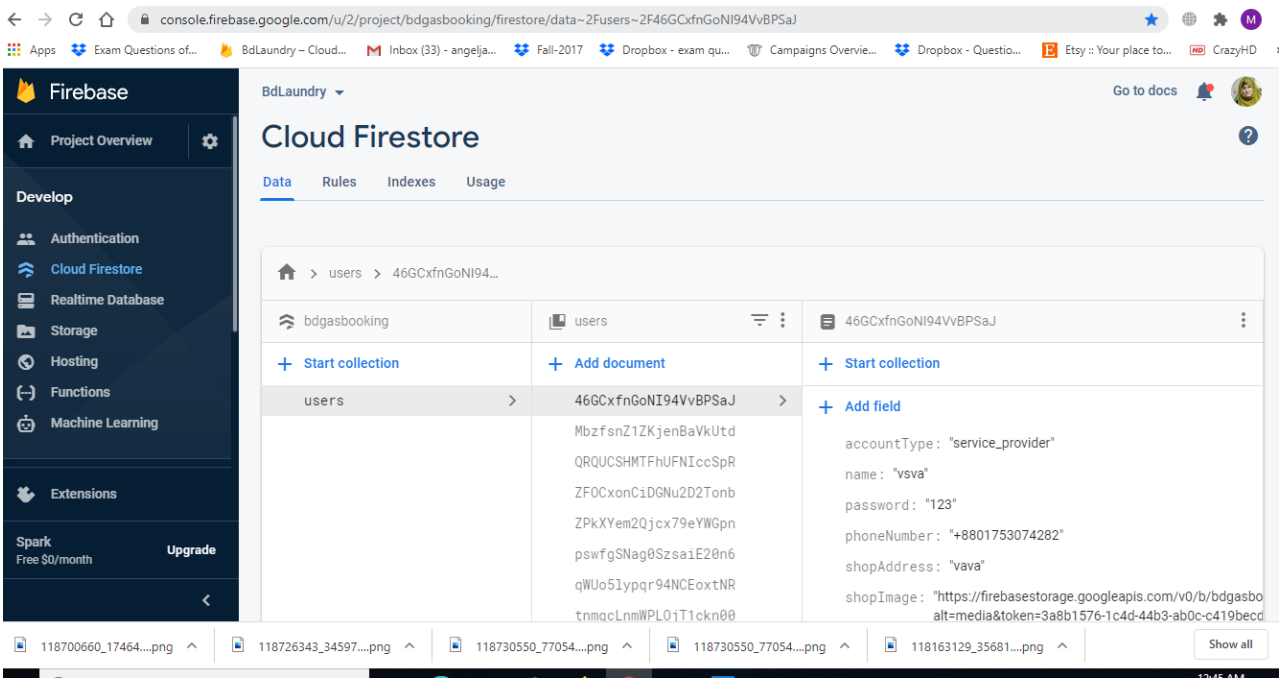


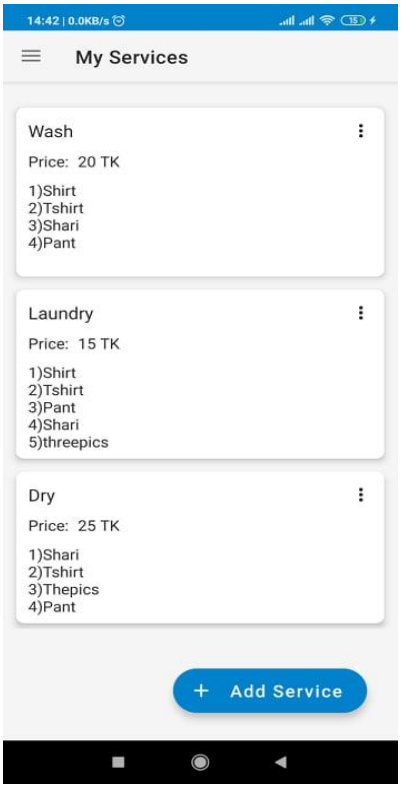
Figure 5.1: Implementation of Database

5.2 Implementation of Interactions

After successful registration system search the nearest areas which laundry service is available and also which facilities is available. Then customer can choose the available laundry shop from nearest areas laundry service provider or shop.

5.2.1 Laundry Service Order Procedure (Provider end)

In this section describes for the purpose of Provider. If any Provider already complete the registration, distributor doesn't required to registration. After completing this section data will be saved on database that will show on the client side application (customer).Then customer able to order from nearest areas distributors institutes.



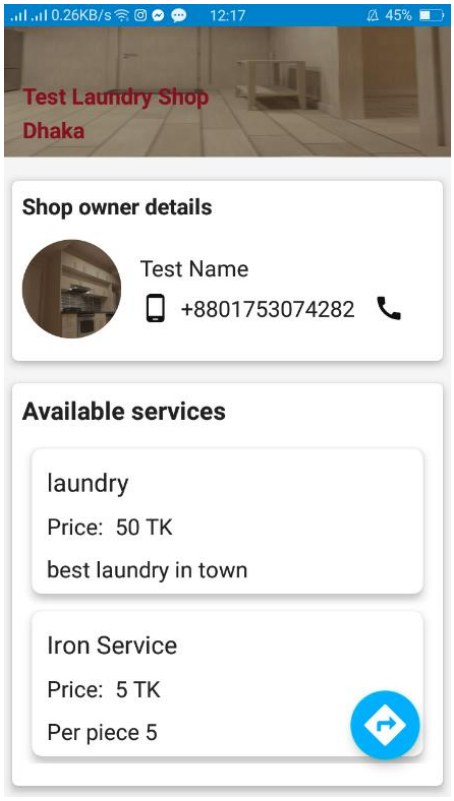


Figure 5.2 : Add products

5.2.1 Order Procedure (Continue)

In this section shows the products which is available in stores. Also shows the name of institute owner, phone number, shop name and address which is available in online.

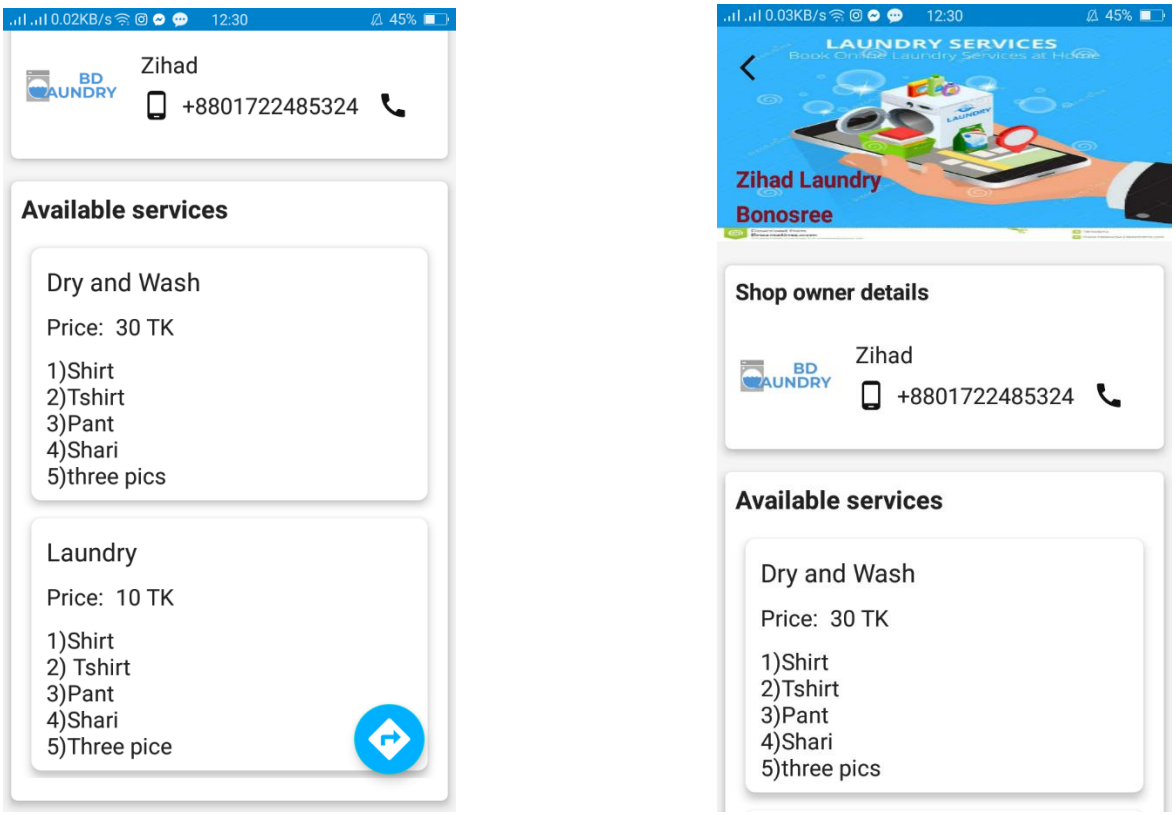


Fig 5.3 Service Provider shop details

5.2.2 Order Procedure (customer end)

In this section describes for the purpose of customers. If any customers already complete the registration, customers doesn't required to registration. Then customers will be able to search the nearest areas Service Provider shop.. Then customer able to order the cylinder from nearest areas service Provider institutes which is shown in figure in 5.4

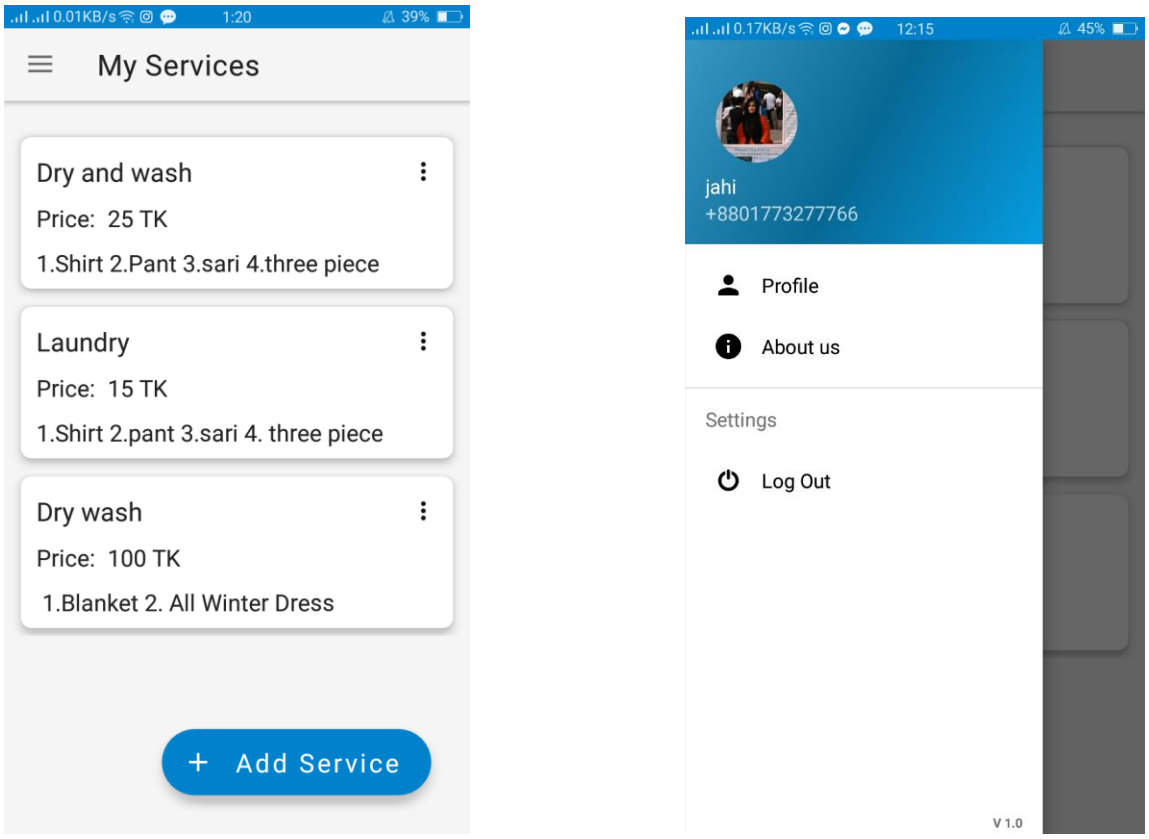


Fig 5.4 Order procedure (customer details)

5.2.2 Order Procedure (Continue)

In this section customer is able to search the nearest area which shop and product is available. Then user click the desire shop system will provides the shop address, location and phone number and also shows the calling option which is shown in figure 5.5.

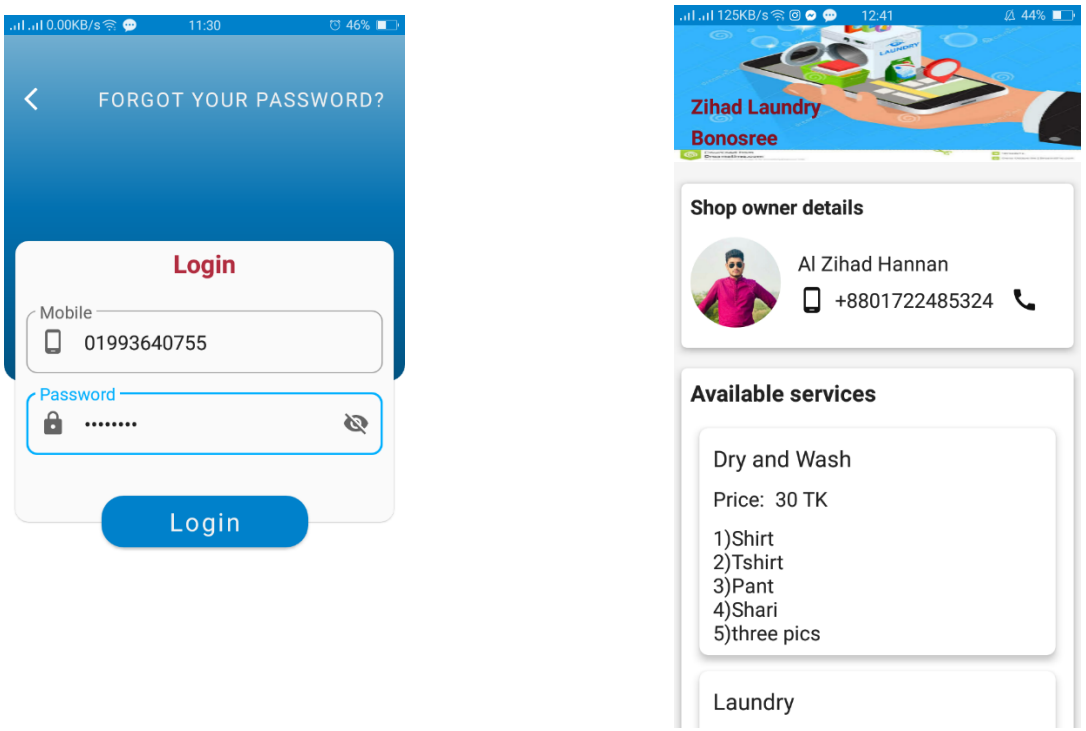


Figure 5.5 Order procedure (Provider details)

5.2.2 Order Procedure (Continue)

In this section system will request to permission to allow make call Service Provider? This is the directly communication medium between customer and Service Provider. Customer can make payment by hand cash after delivery or can pay via BKash or Rocket (DBBL).

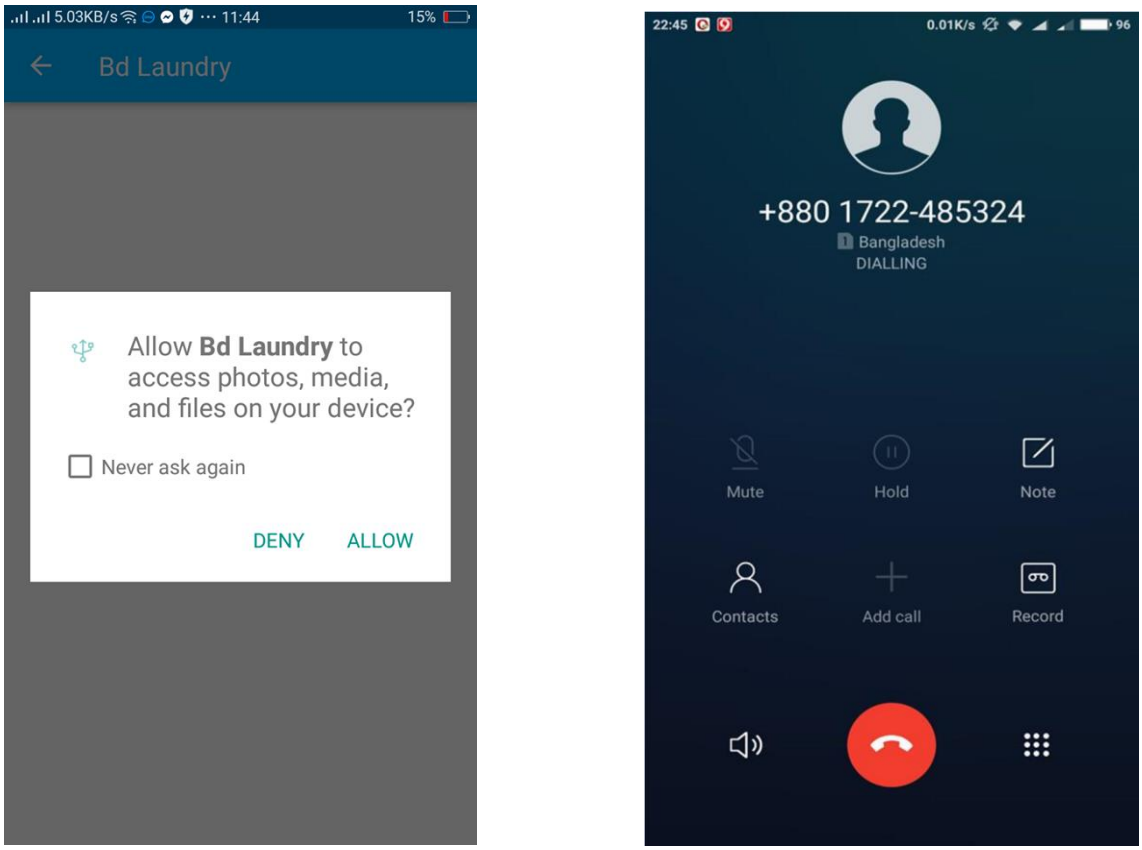


Figure 5.6 Order procedure

5.3 Testing Implementation

Testing each one of those actions formulated in the plan is said to be implementation testing.

We are using unit testing for our model purpose. Because of

- Reduces Defects in the newly developed features or reduces bugs when changing the existing functionality.
- Update design and allows better refectory of code.
- Unit Tests, when mixed with build gives the quality of the habit as well.

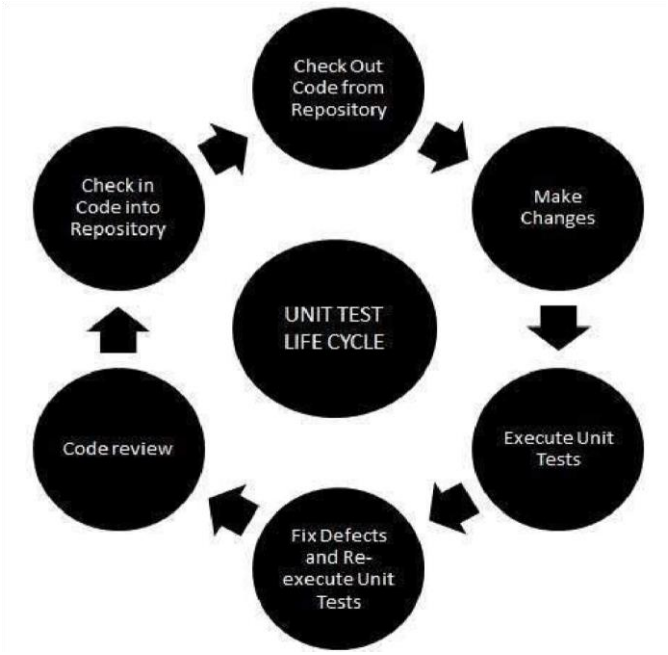


Figure 5.6 Unit Testing Life Cycle

5.3 Testing Implementation (Continue)

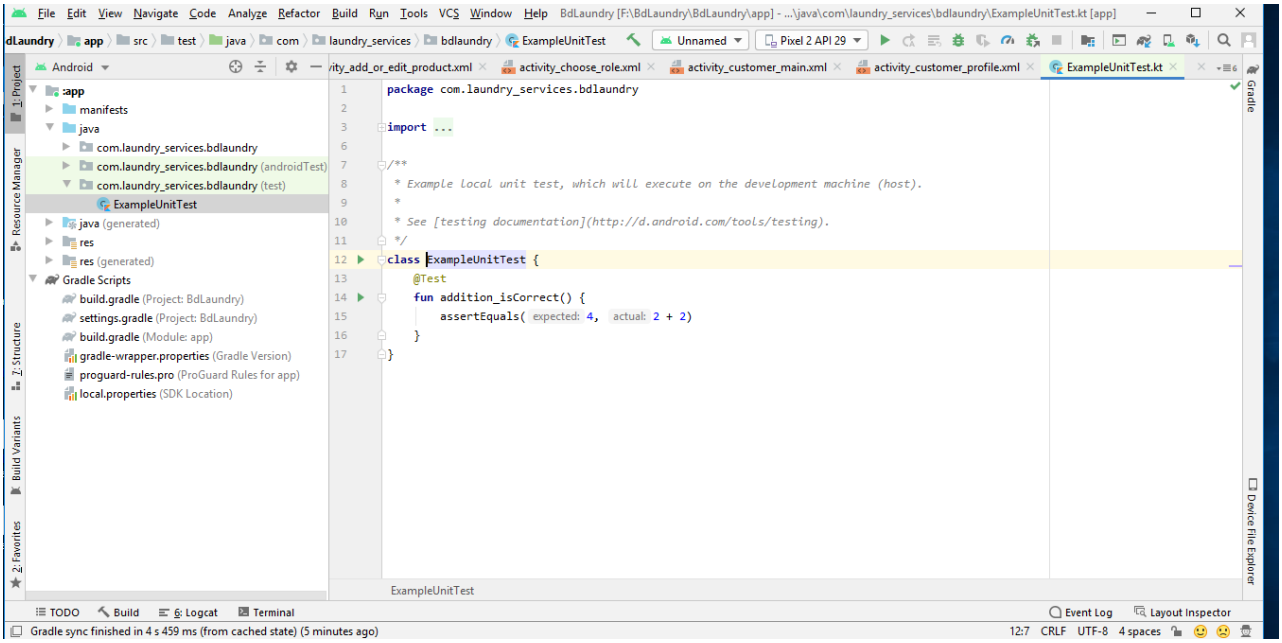


Figure 5.7 Unit Testing

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Summary

BD Online Gas Booking system is an android application which is successfully developed from a developer point of view. But we try to concern as possible as we can as a user. There is a chance of upgrading the system further more. In this chapter we will like to discuss about the goal of the

project development, project limitation and further improvement ideas of the project. Outcomes of this project which one we have achieve to,

- Learned, how to architect a project ➢ Team work
- Using Google API implementation

6.2 Limitations

- There might be some bugs and need more testing before implements in real life
- There might be some limitations to engage the distributer in Systematic way Enrolled banking system for payment in this application.

6.3 Scope for Further Developments

The applications has been developed with future development possibilities in consideration. We wish we could improve the application and reduce the limitations of the system. The developers of this project wishes to continue their involvement contribution to this system for further developments.

- Develop on IOS version
- Engage all distributer in online
- Update both English and Bangla version. Wish to develop for Industry purpose

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