

APARTMENT GUIDE

BY

MD IMRANUL KABIR BHUIYAN

ID: 151-15-4794

MD SARWAR HOSSAIN

ID: 151-15-4692

AND

RESHMA KHATUN

ID: 151-15-4785

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

Supervised By

Saiful Islam

Lecturer

Department of CSE

Daffodil International University

Co-Supervised By

Moushumi Zaman Bonny

Senior Lecturer

Department of CSE

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

DEC 2018

APPROVAL

This Project titled “**Apartment Guide**”, submitted by Md Imranul Kabir Bhuiyan and Md Sarwar Hossain and Reshma Khatun 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 09 December, 2018.

BOARD OF EXAMINERS

Dr. Syed Akhter Hossain
Professor and Head

Department of Computer Science & Engineering
Faculty of Science & Information Technology
Daffodil International University

Chairman

Narayan Ranjan Chakraborty
Assistant Professor

Department of Computer Science & Engineering
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner

Md. Tarek Habib
Assistant Professor

Department of CSE
Department of Computer Science & Engineering
Daffodil International University

Internal Examiner

Dr. Mohammad Shorif Uddin
Professor

Department of Computer Science & Engineering
Jahangirnagar University

External Examiner

DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Saiful Islam**, Lecturer, Department of CSE, 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.

Supervised by:

Saiful Islam

Lecturer

Department of CSE

Daffodil International University

Co-Supervised by:

Moushumi Zaman Bonny

Senior Lecturer

Department of CSE

Daffodil International University

Submitted by:

Md Imranul Kabir Bhuiyan

ID: 151-15-4794

Department of CSE

Daffodil International University

Sarwar Hossain

ID: 151-15-4692

Department of CSE

Daffodil International University

Reshma Khatun

ID: 151-15-4785

Department of CSE

Daffodil International University

ACKNOWLEDGEMENT

First, we express our heartiest thanks and gratefulness to almighty Allah for His divine blessing makes us possible to complete the final year project/internship successfully.

We are grateful and wish our profound our indebtedness to our honorable Supervisor **Saiful Islam**, Lecturer, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of Development to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism , valuable advice, reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to **Dr. Syed Akhter Hossain**, and Head, Department of CSE, for his kind help to finish our project and to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Urban civilization in Bangladesh is getting more and more populated every second with this growing population one of the major basic need in the cities are getting difficult to manage. To live in the city every person needs a house. But the problem is to get a good house with affordable price in an excellent area. Most of times people does not know where to look for a house for rent. May be it's only a walking distance from them. At the same time it has been monitored that same owners of an apartment is not getting any customer for his houses. Again, some owners are in luxury to reject clients they get them on a daily basis. To solve these problem people need a system which will be able to tell where to look for a house and where not. It such a system exists it will decrease both owners and clients hassles for looking each other. Because owners will be able to declare when apartment is available for rent. On the other hand clients will be able to find a reasonable apartment and then go for a visit physically. It will save both time and money of all. On this very thought "Apartment Guide" has been developed. Where owner can circulate if an apartment is free on not and the client can apply for rating that apartment.

TABLE OF CONTENTS

CONTENTS	PAGE
Approval	i
Declaration	ii
Acknowledgements	iii
Abstract	iv
CHAPTER 1: INTRODUCTION	1-3
1.1 Introduction	1
1.2 Motivation	1
1.3 Objectives	2
1.4 Expected Outcome	2
1.5 Report Layout	3
CHAPTER 2 : BACKGROUND	4-7
2.1 Introduction	4
2.2 Related Works	4
2.3 Comparative Studies	6
2.4 Scope of the Problem	6
2.5 Challenges	7
CHAPTER 3 : REQUIREMENT SPECIFICATION	8-12
3.1 Business Process Modeling	8
3.2 Requirement Collection and Analysis	9
3.3 Use Case Modeling and Description	9
3.4 Logical Data Model	10
3.5 Design Requirement	11
CHAPTER 4 : DESIGN SPECIFICATION	13-26
4.1 Front-end Design	13
4.2 Back-end Design	17
4.3 Interaction Design and UX	21
4.4 Implementation Requirement	25

CHAPTER 5 : IMPLEMENTATION AND TESTING	27-33
5.1 Implementation of Database	27
5.2 Implementation of Front-end design	27
5.3 Implementation of Interactions	29
5.4 Testing Implementation	30
5.5 Test results and Report	32
CHAPTER 6 : CONCLUSION AND FUTURE SCOPE	34-35
6.1 Discussion and Conclusion	34
6.2 Goal	34
6.3 Limitations	35
6.4 Scope for Further Developments	35
REFERENCES	36
APPENDIX	37

LIST OF FIGURES

FIGURE	PAGE
Figure 2.2.1 Home Page	4
Figure 2.2.2 Tools Instruction	5
Figure 2.2.3 Option Tools	5
Figure 2.2.4 Property Tools	6
Figure 3.1.1 Business Processing Modeling	8
Figure 3.3.1 Use Case Diagram	10
Figure 3.4.1 Logical Data Model	11
Figure 4.1.1 Start Page	13
Figure 4.1.2 Option Select	14
Figure 4.1.3 Advertisements	14
Figure 4.1.4 Login Panel	15
Figure 4.1.5 Sign Up/ Register Panel	15
Figure 4.1.6 Post Advertisements	16
Figure 4.1.7 Create Apartment	16
Figure 4.1.8 Update User Information	17
Figure 4.3.1 Start Page	21
Figure 4.3.2 Option Page	22
Figure 4.3.3 Advertisement Page	22
Figure 4.3.4 Register Page	23
Figure 4.3.5 Post Advertisement Page	23
Figure 4.3.6 Create Apartment Page	24
Figure 4.3.7 User Update Information Page	24
Figure 4.4.1 Apartment Logo Design	26
Figure 5.2.1 User Profile	28
Figure 5.2.2 Google Map	28
Figure 5.2.3 Choose Apartment	29
Figure 5.5.1 Login Fail	32
Figure 5.5.2 Login Successful	33

LIST OF TABLES

TABLE	PAGE
Table 4.2.1 User Table	18
Table 4.2.2 Advertisements Table	18
Table 4.2.3 Apartment Table	19
Table 4.2.4 Apartment Details	19
Table 4.2.5 Location Details	20
Table 4.2.6 Price Table	20
Table 4.2.7 Rating Table	21
Table 5.4.1 Compatibility Table	32

CHAPTER 1

INTRODUCTION

1.1 Introduction

The use of the applications are increasing within the last few years in entire Country. As the number of applications, users increasing it is so important to develop an Android app based System using which will be providing users the opportunity to make the ads for their houses as well as finding a proper apartment, which could be a very hard, and time consuming. This system will be saving the users time and expenses of posting the ads on walls and roaming around for a proper apartment.

1.2 Motivation

There has no common virtual platform for owner and renter yet. From this concern of view we are going to make such kind of system that will make common platform both owner and renter.

Often we asked in our mind with some common short of question about owner and renter that is following:

- This that owners and renter good communication service?
- This types or category of the apartment?
- How do I make booking the apartment?
- How much fee of the appointment?
- When and where the location of apartment?
- Is there ensure to apartment with in short time?
- Is there show behaves and qualifications both owner and renter?

All the questions can be solved by using our applications easily. Besides using this applications communications between owner and renter. There are the easily service in our system.

1.3 Objectives

Then the owner all the information get buyers then informed all things of apartment show the buyers. Buyers are consulting all the things of owners make sure that apartment. Owners are agree to communication buyers get to the apartment. Using this system good relationship and bonding apartment owner and buyer.

Services at a glance:

- To solve analog apartment problem.
- To consuming timing for the renter.
- To suggest/search emergency rent house.
To know about owners and renter rating.
- To cancel the appointment.
- To generate all the information of house.
- Finding suitable place in this system.

1.3 Expected Outcome

- Make online appointment.
- Suggest house location.
- Provide direction to reach house.
- Generate between owner and renter.
- Taking review or rating.
- Know about house owners and renter.
- Reduce time
- Harassment free
- Can buy without a broker
- Trust worthy

1.4 Report Layout

We all know that, practical knowledge is more important than theory. In our graduation degree we learn a lot of things. This project gives us scope to share our knowledge and utilize our thought. By doing this project we can implement our skill more effectively.

Chapter 1: Introduction

First Chapter contains the Introduction, Objectives, Motivation, Expected Outcome and Report layout of our project.

Chapter 2: Background

Then second chapter contains Project Introduction, Related works, Comparative Studies, Scope of the problem and Challenges of our project.

Chapter 3: Requirement Specification

Our third chapter contain all about Requirement Specification, which are business process modeling, requirement collection and analysis, Use Case Modeling and Description, Logical Data Model, Design Requirements.

Chapter 4: Design Specification

Fourth Chapter describes our full web site description, which is related to Design Specification like Front-end Design, Back-end Design, Interaction Design and UX, Implementation Requirements.

Chapter 5: Implementation and Testing

Our fifth chapter is all about Implementation and Testing. This contains Implementation of Database, Implementation of Front-end Design, Implementation of Interactions, Testing Implementation and Test Results and Reports.

Chapter 6: Conclusion and Future Scope

Our last chapter Conclusion and Future Scope this contain Discussion and Conclusion, Scope for Further Development of the full project. This report contains all about our web system, its problem, solution and use of the system.

CHAPTER 2

BACKGROUND

2.1 Introduction

Background is the unique portal such as house views, visit buy the rental, showing all details of house and the buyer decide how to buy and rent in this apartment. There are more unique features such as buying/ renting apartment. Using this app such as Web API, and JAVA, Google location API, Android Studio and MySQL, PHP storm etc. At present, this app is almost complete. After completing this project, the app will be the published in the play store.

2.2 Related Works

The app we are making is a unique to others. However, there is some app similar to our app but that has much limitations. However, the app what we are going to publish is less limitation. The efficiency of our app is high than any other app similar to our app. We visit similar to our app which compare others app and our app. We show that most important point this app not access in Bangladesh, others reason there app has no rating point, proper location, and no comment or reply approach, no video clipping and pictures ,no ads system, no notification system, no call and email option. On the other hand, this all element exist in our app.

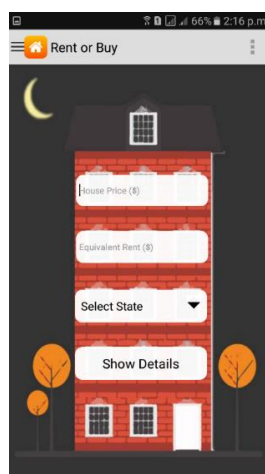


Figure 2.2.1Home Page [1]

Now, here some of limitation of our app such as there are no real time picture in our app, New android version is supported, there is no supported offline.

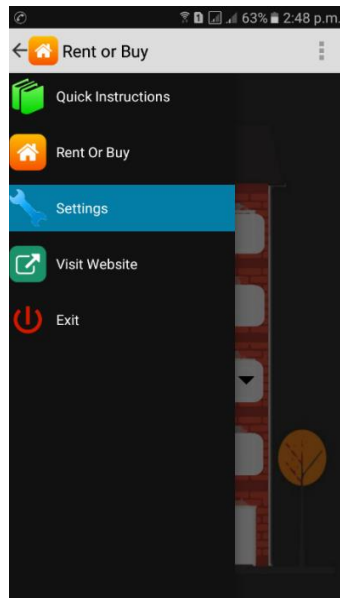


Figure 2.2.2 Tools Instructions [1]

Let us consider the comparison between the bikroy.com app and Apartment Guide app. Bikroy.com had been launched in 2012 and has categories dedicated to different business and private advertisements for cars, property, electronics products, personal items and home appliances, sports and hobby items, job advertisements etc.

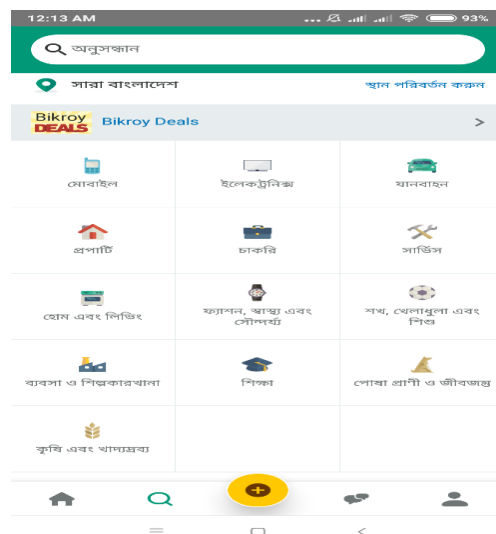


Figure 2.2.3 Option Tools

Currently classified advertisements are published on Bikroy.com containing free of charge and kept on the site for 60 days [2].

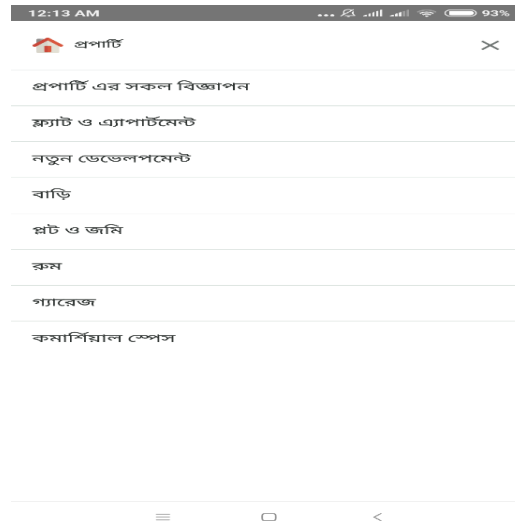


Figure 2.2.4 Property Tools

2.3 Comparative Studies

By analyzing the other applications, it can be concluded has more limitation, on other hand our application overcomes most of the limitation such as, other applications have no comment or reply, no notification system, no posting option, no call and email option, no proper location, no rating option. Our app has fulfilled all of these requirements. Apartment Guide is similar with others websites and Android applications (bikroy.com& Rent or Buy) our application is similar to log in and log off, sign in and sign of, showing profiles, updating profiles. Apartment Guide has some unique features like video. We believe that our system will be helpful for buyers and sellers in this modern life.

2.4 Scope Of The Problem

- Real time picture.
- New android version is supported.
- There is no supported offline.

2.5 Challenges

When we are making this app there, are more challenging face in our app?

- Designing UX
- The some location tracking is difficult.
- Choosing UI design and color
- Making WEB API and run it smoothly
- Requirement management
- Dealing with different screen sizes
- Make it interactive

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business process modeling (BPM) in system engineering as well as software engineering is the activity of representing processes of an enterprise, so that the current process may be analyzed or improved. It is typically performed with business analysts, who provide expertise in the modeling discipline; by subject matter experts. Alternatively, the process model can be derived directly from events' logs using mining tools to describe processes. Redesigning a process and implementing it is not a rapid enterprise. It can take monthly and occasionally years, depending on the spread of the process and sub-process, how many people and system are attached and how much of it need to be designed. We used Use Case Model as a business process Model [3].

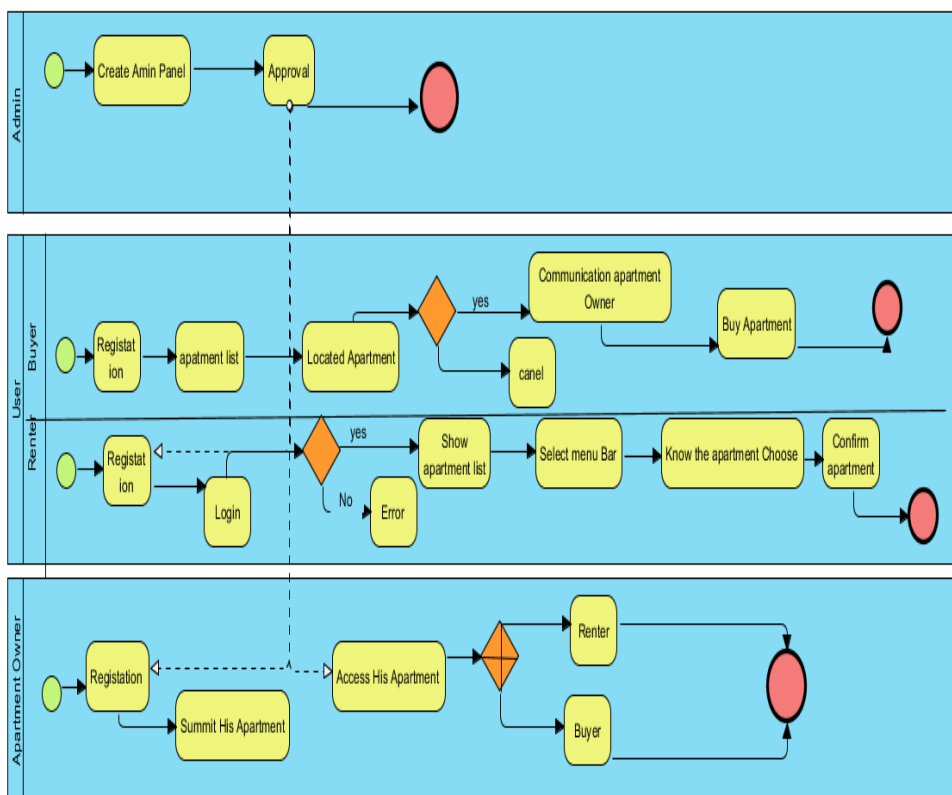


Figure 3.1.1 Business process modeling

3.2 Requirement Collection And Analysis

There are some basic requirements collected during implementation of the software and in the data collection

Client Responsibilities

- The client will send a GET request to the Web API with the question as a URL parameter.
- The client will specify the header Content-Type: application/JSON in their requests as usage.
- A valid API is a single URL parameter mixed with one sentence that is a question in Standard English.
- The server will reply with either data or an error, see R4.1.3.5. The client will be able to parse the JSON and ordain if there was an error [4].

Response Document Structure

API responses defined in JSON are specified by. A JSON object will be the root of every API response. The response document will comprise at least one of the following top-level members:

Data: The document's "primary data," in this case, response to the client's query.

Errors: An array of error objects stating what went wrong with the client's request, should any issues arise. Priority 1 R4.1.3.5 the top-level members specified in R4.1.3.3 will not coexist the same JSON document. If data is present, errors will be absent and vice versa [5].

3.3 Use Case Modeling And Description

A use-case model consists with a number of model elements. Most important model elements are use cases, actors and the relationships between them. A use-case diagram is used to graphically depict a subset of the model to facilitate communications. There will be typically several use-case diagrams associated with a given model, each showing a subset of the model elements material for particular intention. The same

model element may be shown on the several use-case diagrams, but each instance must be compatible. If tools used to maintain the use-case model this constancy constraint will be automated so that any changes to the model element will be automatically reflex on every use-case diagram that shows that element [6].

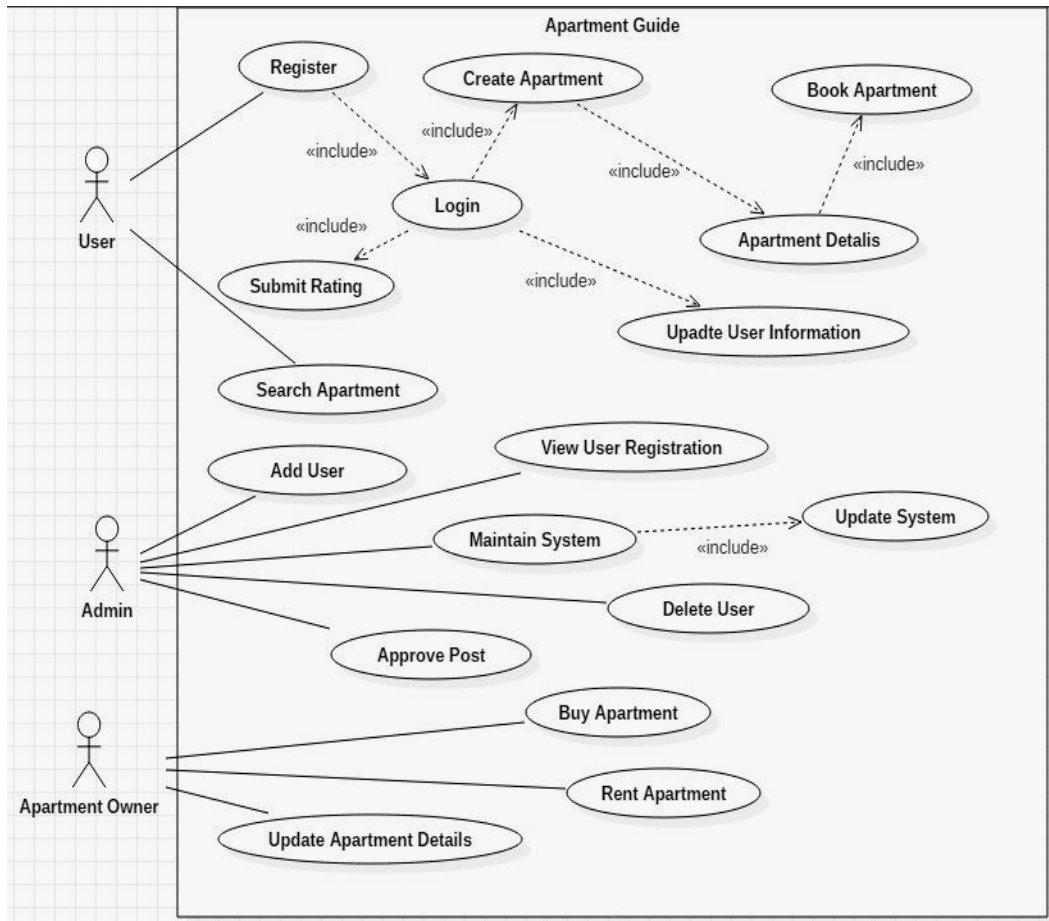


Figure 3.3.1 Use Case Diagram

3.4 Logical Data Model

Logical data model provides for all the information about the various entities and the relationships between the entities present in a database etc. The Logical Data Model or ER Diagram representing the relationship among the entities of this project. They are: user, approve, deal with, apartment owner, location. Each entity has its own attributes.

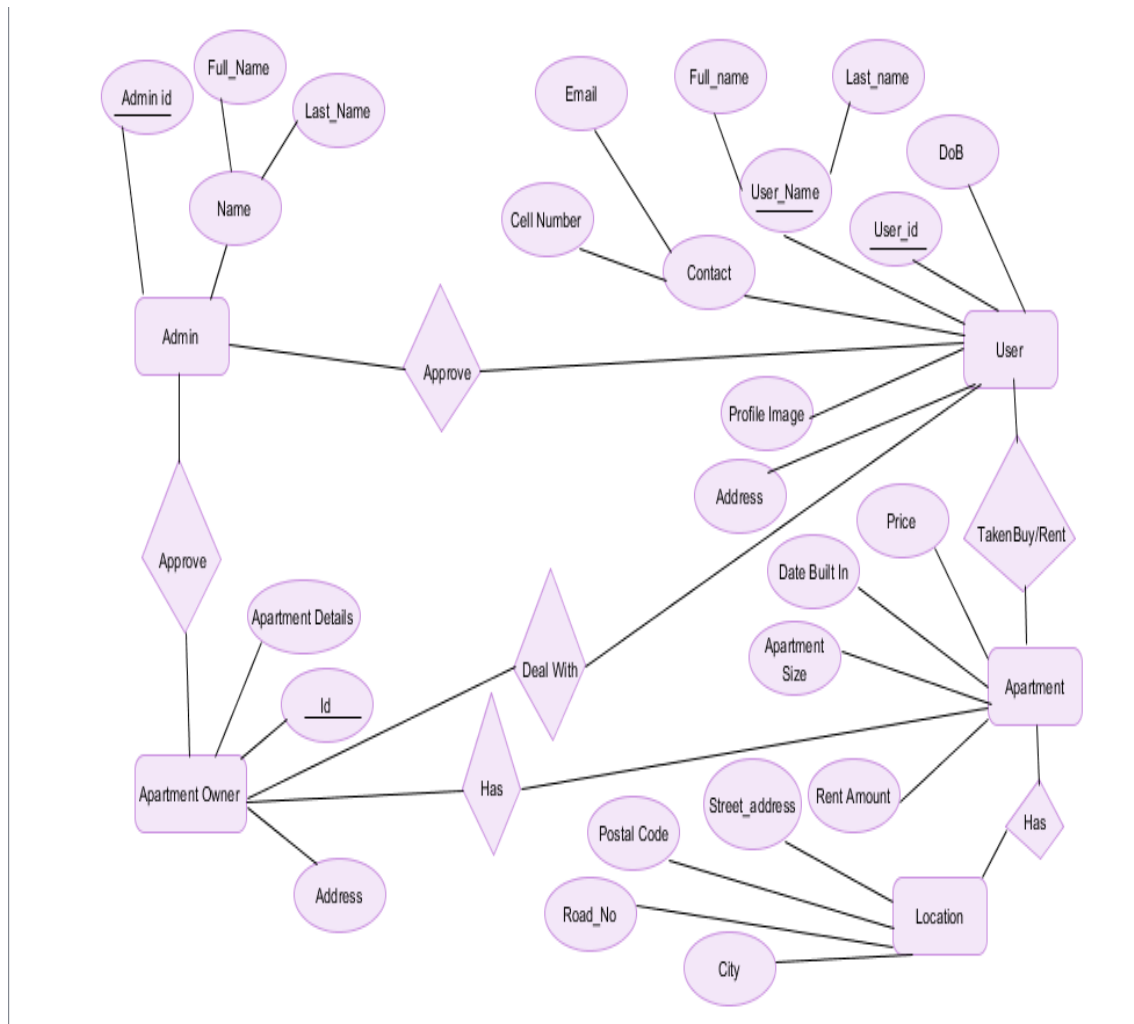


Figure 3.4.1 Logical Data Model

3.5 Design Requirement

- The App will have to contain three options: Buy, Post Advertisement, and Rent.
- Everyone can download the app from Google Play for free and access the app without registration.
- The registration will be required only when anyone wants to post an advertisement to rent or sell his or her apartments.
- Any user will be able to buy an apartment from the App, to advertise an apartment for selling/rent, and to rent an apartment.
- A customer can view details of the apartment including price, location, apartment type, size, and other facilities.

- A location based search option should be available, through which a user can look for an apartment in specified location.
- The registered users can write a post using a form. They can also publish, edit and delete the post at any moment if necessary.
- The App users can share any post in social media like facebook, messenger, email, and what's App.
- The validation and testing are necessary for ensuring better performance.
- The App should have the property of security, privacy, reliability and maintainability.
- The admin can access the system at any moment, can read the posts and delete the post if necessary.

CHAPTER 4

DESIGN SPECECATION

Design specification is a document prepared by the client is details with specific requirements of the project. Design specification a based on geotechnical information, piping requirements and permissible methods and means for the hanging of the work. Design Specification is a representation of how to a design is developed the project. In the section of Design Specification, we try to showing the front-end and back-end design of the apartment guide project.

4.1 Front-End Design

Start Page

This is a start page. When we click the start button then we enter the main function.

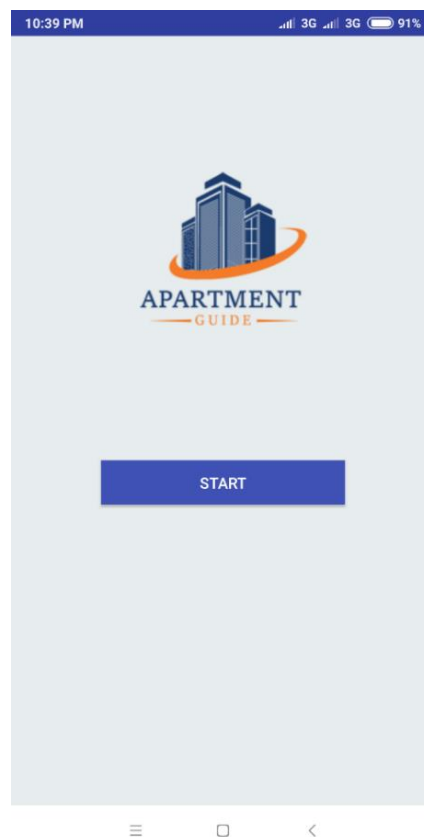


Figure 4.1.1 Start Page

Option Select

This is an option select page. We enter in function, the have many option such as buy or post advertisement and Rent. This page also show the login and sign up option.

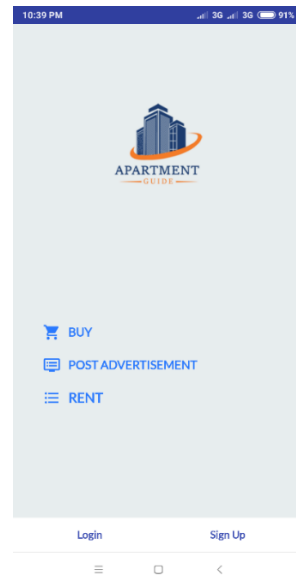


Figure 4.1.2 Option select

Advertisements

This is an advertisements page. By having this we can advertise our apartment. Every people will looking in this page. They search within buy and rent. If anybody choose any apartment, they can entire to the page and looking all information.

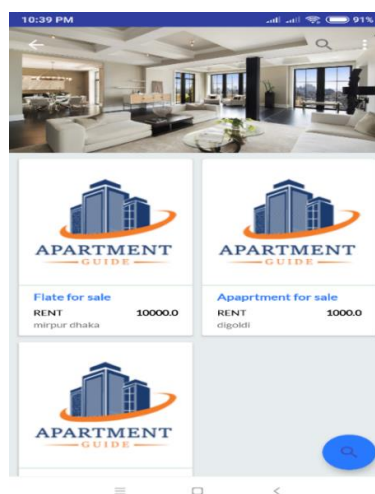


Figure 4.1.3 Advertisements

Login Panel

From Registration, complete any user they can entire the login page. Show the login page, user can going to the any menu bar.

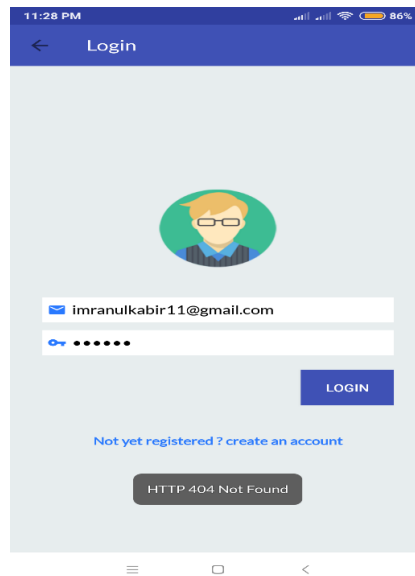


Figure 4.1.4 Login Panel

Sign Up/Register Panel

Any buyer and renter entire in the sign up page. Then they are fill up all the information and submit that complete registration.

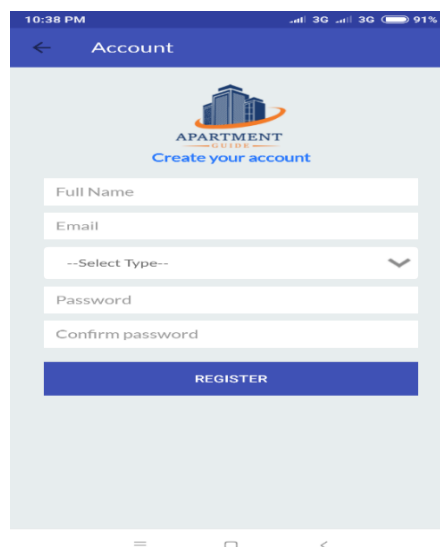
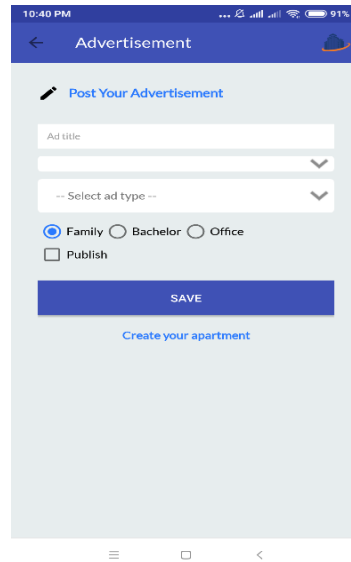


Figure 4.1.5 Sign Up/Register Panel

Post Advertisements

At first user login in this page, then show to the post advertisements page. When user want to any post then fill up all option panel and submit that.

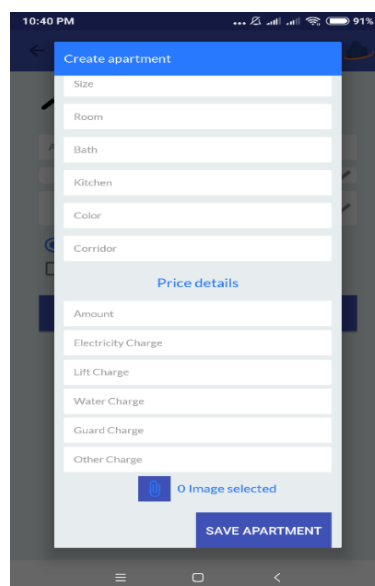


The screenshot shows a mobile application interface for posting an advertisement. At the top, there is a blue header with a back arrow, the text 'Advertisement', and a profile icon. Below the header, the main content area is titled 'Post Your Advertisement' with a pencil icon. The form includes an 'Ad title' text input field, a dropdown menu for selecting an ad type (currently showing '-- Select ad type --'), and three radio button options: 'Family' (selected), 'Bachelor', and 'Office'. There is also a 'Publish' checkbox. A blue 'SAVE' button is positioned below the form, and a link 'Create your apartment' is located at the bottom of the form area. The status bar at the top indicates the time is 10:40 PM and the battery is at 91%.

Figure 4.1.6 Post Advertisements

Create Apartment

Looking create apartment page lots of information to submit, such as location of apartment, room details, price details, image of apartment etc.



The screenshot displays the 'Create apartment' form in a mobile application. The form is titled 'Create apartment' and contains several input fields: 'Size', 'Room', 'Bath', 'Kitchen', 'Color', and 'Corridor'. Below these fields is a section titled 'Price details' which includes input fields for 'Amount', 'Electricity Charge', 'Lift Charge', 'Water Charge', 'Guard Charge', and 'Other Charge'. At the bottom of the form, there is an image selection area showing '0 Image selected' and a blue 'SAVE APARTMENT' button. The status bar at the top shows the time as 10:40 PM and a battery level of 91%.

Figure 4.1.7 Create apartment

Update User Information

If user want to change their profile, they can change any info in this page.

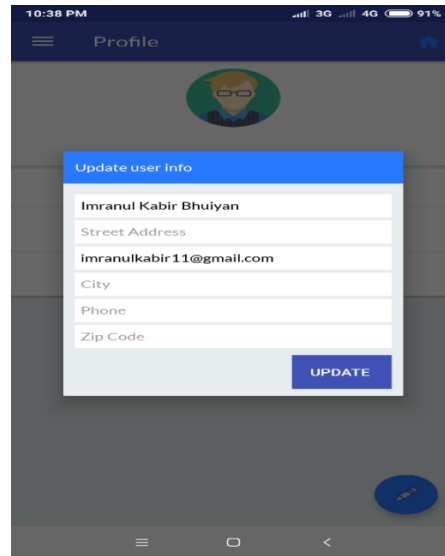


Figure 4.1.8 Update User Information

4.2 Back-End Design

A data architecture should neutrality set data standards for all its data systems as a vision or a model of the eventual interactions between those data system. The following data types for its column and parameter declarations.

- ❖ CHARACTER[CHAR [(length)]
- ❖ VARCHAR (length)
- ❖ BOOLEAN
- ❖ SMALLINT
- ❖ INTEGER or INT
- ❖ DECIMAL
- ❖ NUMERIC
- ❖ REAL
- ❖ DOUBLE PRECISION

- ❖ DATE
- ❖ TIME
- ❖ TIMESTAMP etc.

User Table

Table 4.2.1 shows the user table of the system containing all the necessary information including user ID, full name, address (i.e. District, Upozilla, Zip Code, City etc.), Email address and Password.

Options													
	userid	fullName	dob	userRoleId	upozilaid	cellNumber	address	zipCode	city	profileimage	createDate	email	password
<input type="checkbox"/>	12	arif10	2018-05-31	2	0	0	NULL	0	NULL	NULL	2018-05-14 21:21:51	arif@gmail.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	13	A	NULL	2	0	0	NULL	0	NULL	NULL	2018-05-23 18:58:10	a@a.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	15	Mr Arif	NULL	2	0	0	NULL	0	NULL	NULL	2018-05-28 19:55:07	arif10@gmail.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	16	b	NULL	2	0	0	NULL	0	NULL	NULL	2018-05-30 19:30:34	b@b.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	18	b	NULL	2	0	0	NULL	0	NULL	NULL	2018-05-30 19:31:15	bb@b.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	19	Rashed khan	NULL	2	NULL	NULL	NULL	NULL	NULL	NULL	2018-06-03 02:00:38	arif@gmail.com	123456
<input type="checkbox"/>	20	Rashed khan	NULL	2	NULL	NULL	NULL	NULL	NULL	NULL	2018-06-03 02:00:46	arif0712@gmail.com	123456
<input type="checkbox"/>	21	arid	NULL	2	NULL	NULL	NULL	NULL	NULL	NULL	2018-06-03 02:26:16	arif@gmail.cok	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	22	Rashed	NULL	2	NULL	NULL	NULL	NULL	NULL	NULL	2018-06-03 02:32:15	arif@gmail.cob	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	23	Mid pavel	NULL	3	NULL	NULL	NULL	NULL	NULL	NULL	2018-07-22 02:36:27	hmp@gmail.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	24	Shr	NULL	3	2	1852540565	Shewrapara	2334	Dhaka	NULL	2018-07-22 02:39:00	shr@gmail.com	e10adc3949ba59abbe56e05720f883e
<input type="checkbox"/>	25	saon	NULL	3	NULL	NULL	NULL	NULL	NULL	NULL	2018-07-22 02:40:33	saon@gmail.com	e10adc3949ba59abbe56e05720f883e

Check all
 With selected
 Edit
 Copy
 Delete
 Export

Advertisements Table

Table 4.2.2 shows the advertisement table of the system containing all the necessary information including advertisement ID, title, apartment ID, ad type and published.

Options										
	advertisementId	title	apartmentId	isPublished	upozilaid	adType	availableFor	createdDate	publishedDate	
<input type="checkbox"/>	2	Flat for sale within this month. From dhaka bangla...	1	1	1	2	1	2018-04-17 20:21:16	2018-04-17 20:19:10	
<input type="checkbox"/>	3	Flate for sale	5	1	0	1	2	2018-06-02 02:47:21	0000-00-00 00:00:00	
<input type="checkbox"/>	4	Apaprmt for sale	8	1	0	2	2	2018-06-02 02:56:30	0000-00-00 00:00:00	
<input type="checkbox"/>	5	Flate for sale	9	1	0	1	2	2018-06-02 20:58:22	0000-00-00 00:00:00	
<input type="checkbox"/>	6	Test sale	19	1	0	1	1	2018-06-03 01:23:24	0000-00-00 00:00:00	
<input type="checkbox"/>	7	Flate for sale	20	1	0	2	2	2018-06-03 01:59:56	0000-00-00 00:00:00	
<input type="checkbox"/>	8	Urgent sell	17	1	0	1	1	2018-07-22 02:41:17	0000-00-00 00:00:00	
<input type="checkbox"/>	9	Test ad for adabor	21	1	0	1	0	2018-07-23 20:02:49	0000-00-00 00:00:00	

Check all
 With selected
 Edit
 Copy
 Delete
 Export

Apartment Table

Table 4.2.3 shows the apartment table of the system containing all the necessary information including user ID, title, apartment ID, location ID and description.

Options		apartmentId	title	locationId	userId	description	createDate
<input type="checkbox"/>	Edit Copy Delete	1	a	1	12	4rty	2018-04-04 18:24:47
<input type="checkbox"/>	Edit Copy Delete	3	b	3	13	test	2018-06-01 03:05:09
<input type="checkbox"/>	Edit Copy Delete	4	c	4	13	ttt	2018-06-01 15:37:03
<input type="checkbox"/>	Edit Copy Delete	5	d	5	13	tft	2018-06-01 16:18:04
<input type="checkbox"/>	Edit Copy Delete	6	e	6	13	tft	2018-06-01 16:28:14
<input type="checkbox"/>	Edit Copy Delete	7	f	7	13	test	2018-06-01 20:18:11
<input type="checkbox"/>	Edit Copy Delete	8	g	8	13	test	2018-06-01 20:32:52
<input type="checkbox"/>	Edit Copy Delete	9	h	9	13	test	2018-06-01 20:34:21
<input type="checkbox"/>	Edit Copy Delete	10	i	10	13	ggg	2018-06-01 20:44:03
<input type="checkbox"/>	Edit Copy Delete	11	j	11	13	test	2018-06-01 20:53:16
<input type="checkbox"/>	Edit Copy Delete	12	k	12	13	yyy	2018-06-01 20:59:48
<input type="checkbox"/>	Edit Copy Delete	13	l	13	13	t	2018-06-01 21:01:12
<input type="checkbox"/>	Edit Copy Delete	14	m	14	13	y n	2018-06-01 21:02:38
<input type="checkbox"/>	Edit Copy Delete	15	n	15	13	t	2018-06-01 21:05:44
<input type="checkbox"/>	Edit Copy Delete	16	pppp	16	13	yy	2018-06-03 00:03:57
<input type="checkbox"/>	Edit Copy Delete	17	gv	17	13	gg	2018-06-03 00:17:47
<input type="checkbox"/>	Edit Copy Delete	18	ty	18	13	gg	2018-06-03 00:21:12
<input type="checkbox"/>	Edit Copy Delete	19	Test	19	13	gg	2018-06-03 00:45:09

Apartment Details Table

Table 4.2.4 shows the apartment details table of the system containing all the necessary information including size, apartment details ID, room, bath, color etc.

Options		apartmentDetailsId	size	room	kitchen	bath	corridor	color	apartmentId
<input type="checkbox"/>	Edit Copy Delete	1	33sdf	4	2	3	44	dgg	1
<input type="checkbox"/>	Edit Copy Delete	3	4040	4	5	5	5	Red	3
<input type="checkbox"/>	Edit Copy Delete	4	5	3	6	3	4	red	4
<input type="checkbox"/>	Edit Copy Delete	5	55	5	3	2	0		5
<input type="checkbox"/>	Edit Copy Delete	6	55	5	3	2	0		6
<input type="checkbox"/>	Edit Copy Delete	7	4040	4	5	5	5	Red	7
<input type="checkbox"/>	Edit Copy Delete	8	40000	4	5	5	5	red	8
<input type="checkbox"/>	Edit Copy Delete	9	40000	4	5	5	5	red	9
<input type="checkbox"/>	Edit Copy Delete	10	4000	45	5	5	0	red	10
<input type="checkbox"/>	Edit Copy Delete	11	40000	45	5	45	6	red	11
<input type="checkbox"/>	Edit Copy Delete	12	4000	45	5	5	5	red	12
<input type="checkbox"/>	Edit Copy Delete	13	50000	2	0	0	0		13
<input type="checkbox"/>	Edit Copy Delete	14	5000	55	0	66	0		14
<input type="checkbox"/>	Edit Copy Delete	15	50000	0	0	0	0		15
<input type="checkbox"/>	Edit Copy Delete	16	400	404	4	5	7	red	16
<input type="checkbox"/>	Edit Copy Delete	17	4444	0	0	0	0		17
<input type="checkbox"/>	Edit Copy Delete	18	55	0	0	0	0		18
<input type="checkbox"/>	Edit Copy Delete	19	400	4	0	0	0		19
<input type="checkbox"/>	Edit Copy Delete	20	40000	4	1	2	3	Red and Blue	20

Location Table

Table 4.2.5 shows the location table of the system containing all the necessary information including location ID, upozilla ID, street address, details address, location name etc.

+ Options		locationId	upozilaId	streetAddress	detailsAddress	lat	locationName	lng
<input type="checkbox"/>	Edit Copy Delete	1	1	Senpara	Anchor firoza garden , Mirpur - 10	3333.33	Senpara Mosque	0.3
<input type="checkbox"/>	Edit Copy Delete	3	1			0	Banglabazar bhola	0
<input type="checkbox"/>	Edit Copy Delete	4	1		ty	0	t	0
<input type="checkbox"/>	Edit Copy Delete	5	1			0	ff	0
<input type="checkbox"/>	Edit Copy Delete	6	1			0	ff	0
<input type="checkbox"/>	Edit Copy Delete	7	1			0	Banglabazar bhola	0
<input type="checkbox"/>	Edit Copy Delete	8	1	Banglabazar	digoldi	0	Senpara	0
<input type="checkbox"/>	Edit Copy Delete	9	1	Banglabazar	digoldi	0	Senpara	0
<input type="checkbox"/>	Edit Copy Delete	10	1	banglabazar	bhola	0	Digoldi	0
<input type="checkbox"/>	Edit Copy Delete	11	8	bhola	digoldi	0	Banglabazar	0
<input type="checkbox"/>	Edit Copy Delete	12	2	digoldi	doulatkhan	0	Bd	0
<input type="checkbox"/>	Edit Copy Delete	13	153			0	ggg	0
<input type="checkbox"/>	Edit Copy Delete	14	25			0	hggh	0
<input type="checkbox"/>	Edit Copy Delete	15	165			0	ggg	0
<input type="checkbox"/>	Edit Copy Delete	16	1	bb		0	bd	0
<input type="checkbox"/>	Edit Copy Delete	17	3	yy		0	ggg	0
<input type="checkbox"/>	Edit Copy Delete	18	89	vg	hh	0	dd	0
<input type="checkbox"/>	Edit Copy Delete	19	1	ds		0	dndjd	0

Price Table

Table 4.2.6 shows the price table of the system containing all the necessary information including price ID, title, apartment ID, amount.

- Options		pricedId	amount	apartmentId
<input type="checkbox"/>	Edit Copy Delete	1	500000	1
<input type="checkbox"/>	Edit Copy Delete	3	100000	3
<input type="checkbox"/>	Edit Copy Delete	4	1222	4
<input type="checkbox"/>	Edit Copy Delete	5	6266	5
<input type="checkbox"/>	Edit Copy Delete	6	6266	6
<input type="checkbox"/>	Edit Copy Delete	7	100000	7
<input type="checkbox"/>	Edit Copy Delete	8	1000	8
<input type="checkbox"/>	Edit Copy Delete	9	1000	9
<input type="checkbox"/>	Edit Copy Delete	10	10000	10
<input type="checkbox"/>	Edit Copy Delete	11	10000	11
<input type="checkbox"/>	Edit Copy Delete	12	199999	12
<input type="checkbox"/>	Edit Copy Delete	13	6000	13
<input type="checkbox"/>	Edit Copy Delete	14	9000	14
<input type="checkbox"/>	Edit Copy Delete	15	1222	15
<input type="checkbox"/>	Edit Copy Delete	16	2727	16
<input type="checkbox"/>	Edit Copy Delete	17	777	17
<input type="checkbox"/>	Edit Copy Delete	18	7	18
<input type="checkbox"/>	Edit Copy Delete	19	1000	19
<input type="checkbox"/>	Console Edit Copy Delete	20	10000	20

Rating Table

Table 4.2.7 shows the rating table of the system containing all the necessary information including rating ID, rating, apartment ID, rated user ID, rating date.



ratingId	apartmentId	rating	ratedUserId	ratingDate
1	1	3	1	2018-04-18 19:58:52
2	1	3	3	2018-04-18 19:58:52
3	1	4	4	2018-04-18 19:58:52

Options: Edit Copy Delete

Check all With selected: Edit Copy Delete Export

4.3 Interaction Design And Ux

Interaction design is an important material of the giant umbrella of user experience (UX) design. We will interpret what interaction design is, some necessary models of interaction design, as well as shortly describe what an interaction designer usually does.

User experience (UX) design process of creating products that provide significant and material experiences to users. This is involves the design of the entire process of gain and integrating product, including aspects of branding, design, usability, and function.

Start page: Figure 4.3.1 shows the start page of the system



Figure 4.3.1 start page

Option page: Figure 4.3.2 shows the Option page of the system

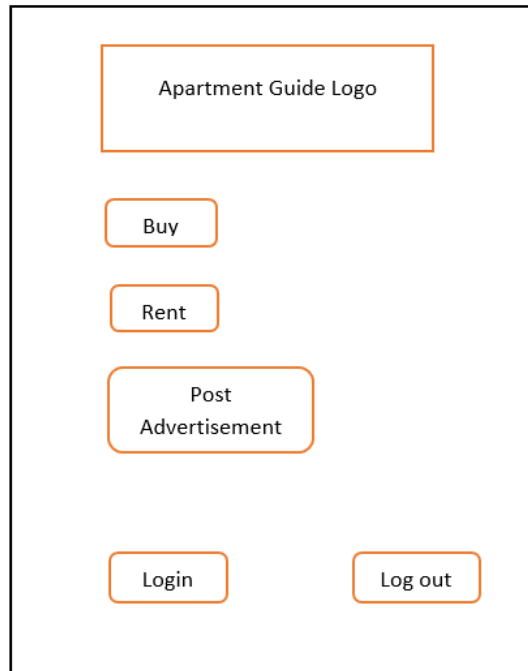


Figure 4.3.2 Option Page

Advertisement page: Figure 4.3.3 shows the Advertisement page of the system

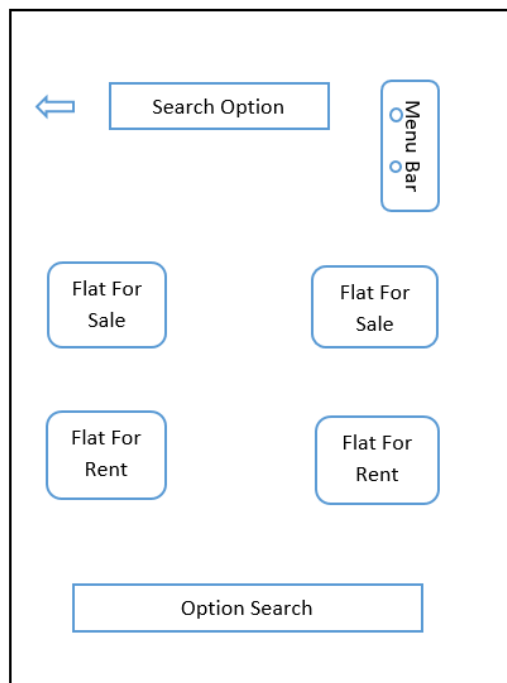
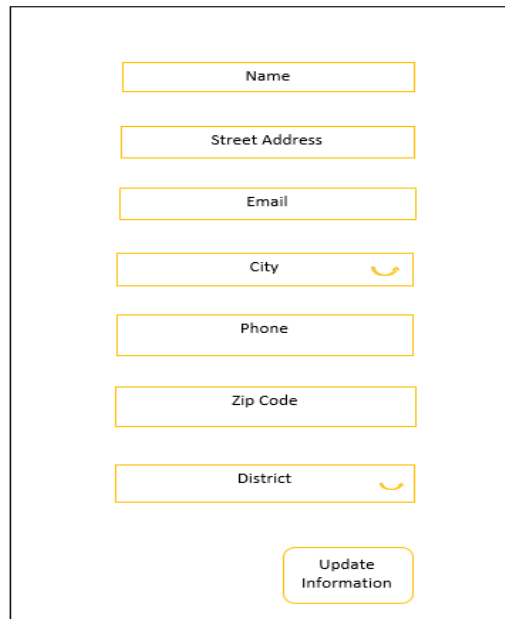


Figure 4.3.3 Advertisement page

Register page: Figure 4.3.4 shows the Register page of the system

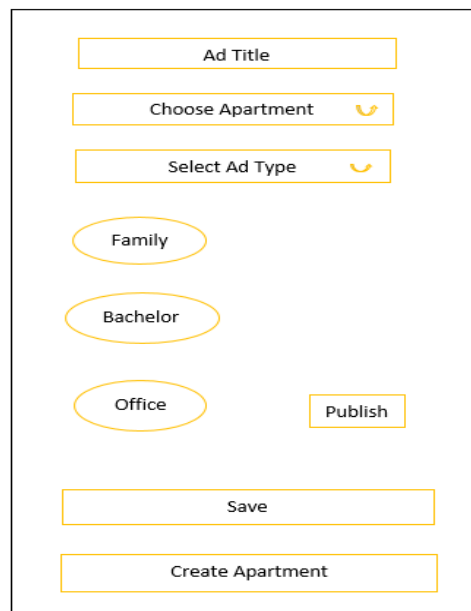


The Register page form consists of the following elements:

- Name
- Street Address
- Email
- City (with a dropdown arrow)
- Phone
- Zip Code
- District (with a dropdown arrow)
- Update Information button

Figure 4.3.4 Register page

Post Advertisement page: Figure 4.3.5 shows the Post Advertisement page of the system



The Post Advertisement page form consists of the following elements:

- Ad Title
- Choose Apartment (with a dropdown arrow)
- Select Ad Type (with a dropdown arrow)
- Family (radio button)
- Bachelor (radio button)
- Office (radio button)
- Publish button
- Save button
- Create Apartment button

Figure 4.3.5 Post Advertisement page

Create Apartment Page: Figure 4.3.6 shows the Create Apartment page of the system

The screenshot displays a form for creating an apartment. The fields are arranged as follows:

- Title
- Select Division (dropdown)
- Select District (dropdown)
- Select Thana (dropdown)
- Description
- Location Name
- Street Address
- Details Address
- Size
- Bath
- Room
- Kitchen
- Amount
- Electricity Charge
- Lift Charge
- Water Charge
- Guard Charge
- Other Charge
- Image Selected (dropdown)
- Save Apartment

Figure 4.3.6 Create Apartment page

User Update Information page: Figure 4.3.7 shows the User Update Information page of the system

The screenshot displays a form for updating user information. The fields are arranged as follows:

- Name
- Street Address
- Email
- City (dropdown)
- Phone
- Zip Code
- District (dropdown)
- Update Information

Figure 4.3.7 User Update Information page

4.4 Implementation Requirement

Different types of hardware and software have been used to develop this project. We also use various platforms for the implementation of the application. In this section, we discuss about the overview of all of the requirements for implementing the project successfully.

Resource Requirements

Resources including various hardware and software are required for the execution of this project. These include the following:

❖ Software requirements:

- Android Studio
- PHP Storm
- Xampp Server
- Adobe illustrator CS6

❖ System Requirement:

- Microsoft Windows 7/8/10
- 4 GB RAM or higher
- 2 GB available disk space
- Android Phone or Tab (minimum Lollypop version)
- Internet Connection

❖ Human

Android Studio

Android Studio is an Integrated Development Environment (IDE) for Android App development. This official tool includes everything one needs to develop an Android application. These are SDK Tools, SDK Build Tools, SDK Tools Platform, Android Gradle Plugin, Android Emulator etc[7].

PhpStorm

PhpStorm is perfect for working with Symfony, Word Press, Laravel, Joomla, CakePHP, and other frame works. The editor actually 'gets' your code and deeply understands its structure, supporting the PHP language features for modern and legacy projects. It provides the best code completion, refactoring, on-the-fly error prevention, and more. The most of the cutting edge front-end technologies, such as HTML5, CSS, Sass, Less, Stylus, Coffee Script, and JavaScript, with refactoring, debugging, and unit testing available. Perform many routine tasks right from the IDE, Version Control Systems integration, and support for remote deployment, databases/SQL, command-line tools, REST Client, and many other tools [8].

XAMPP

XAMPP is an open-source cross-platform web server. It consists of Apache HTTP Server, and interpreters for PHP scripts and Perl programming languages. It is possible to make transition from a local test server to a live server. It is being used as a development tool to facilitate programmers and website designers to test their work on their PC without any access to the Internet. It is able to serve web pages on the World Wide Web (WWW) [9].

Adobe illustrator CS6

Adobe Illustrator is a vector graphics editor which is developed and marketed by Adobe Systems. It is used for creating logos, graphics, fonts and animation for the photo-realistic layouts [10].



Figure 4.4.1 Apartment Logo design

CHAPTER 5

IMPLEMENTATION AND TESTING

It is necessary to make it clear that this project was designed and developed entirely based on collecting information from existing systems, concepts and imaginary scenarios. To remind the readers of this report, many developers are still arguing about the core concept of different components of the android-based education system. Their opinion is that we are trying to implement the new system Implementation of Front-End Design the screenshots below show the main project view. Capture an image of what you see on your mobile screen and how to use it. Implementation is process of setting an action for the formulated plan. Before when we implement, that plan should have been accomplished and our purpose should be clear.

Testing is the process carry out on software to find the differences between its behavior and intended behavior as mortgaged by the requirements specifications.

5.1 Implementation Of Database

The database contains all the device models for recommend by the apartment. As mentioned previously, because we are still implementing a prototype, the database is not dynamic. The catalog and prices will not be fixed through all time. However, we try to make the codes to connect with database as an independent module. The database also holds the complaint and feedback from a user. The complaint is used for the customer service people to follow up. The feedback actually means the whether the customer likes the recommendation.

5.2 Implementation Of Front-End Design

Activities of system are managed as an activity stack. When a new activity is started, it is pleased on the top of the stack and became the running activity. Activity implementations can make use of the fragment class to better modularize of code, to build more interface for larger screens, and help working capability our application between larger and small screens. For implementation, we have to work on our test alignment on the layout. Because most of the time we use string to call the text view

on our app. In android app, size will increase if we build much activity so we have to convert our law details from activity to fragment. Button alignment has been done properly. Therefore, toolbar does not need implementation.

User Profile: Specific options for user and user profile. User see the total apartments, total advertisements, street address and etc.

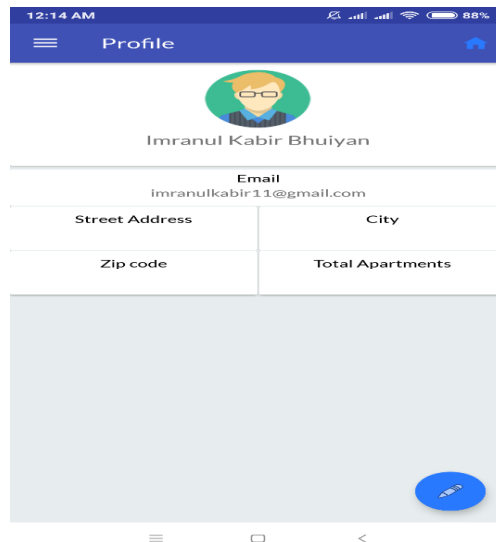


Figure 5.2.1 User Profile

Google Map: Search in Google map with distance. Buyer and renter see this apartment location anywhere in country.

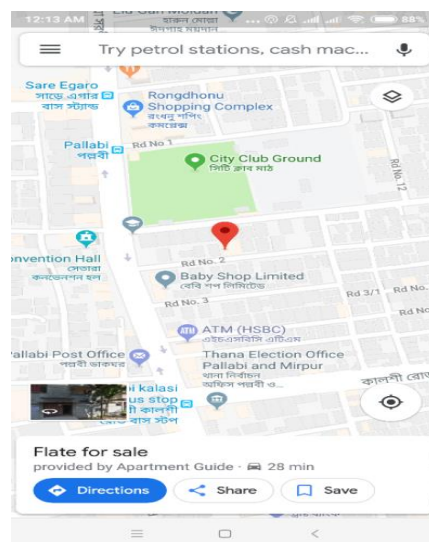


Figure 5.2.2 Google Map

After Login: After successfully login buyer and renter can access all features. Buyer and renter will be post here, comment and giving to rating about the apartment.

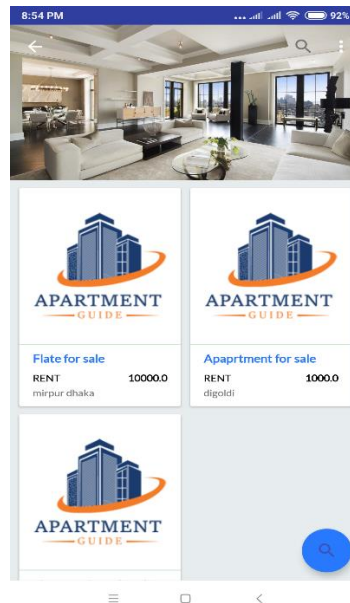


Figure 5.2.3 Choose Apartment

5.3 Implementation Of Interactions

Interaction is a kind of action that occur two or more objects have an effect upon one other. The idea of a two-way effect is necessary in the concept of interaction, as opponent to a one-way causal effect. A closely related term is interconnectivity, which deals with the interactions of interactions within systems: combinations of many simple interactions can lead to surprising emergent phenomena [11].

Before the development to our project we are drawing for the design in paper. First of all we are sketch on our own hand on the paper where we thinking user interface design (UI). That's we are sketch to the user interface (UI) design then some of design in here.

For the starting the page we are design up to logo then below start button. When we are click the start button then we are going to the interior of the apps.

When we go to the option then we can see three individual option then we click one option. Below to the we are two part such as login and sign up.

Then we design the advertisement page there in the page search option and menu bar, below to the some filter of sell and renter etc.

When any person sign in our apps they can resisted in there information, so we are design some material field the user interface (UI) design.

Any user registration in our apps then he/she post there in this page. There is some UI design we draw.

Then we implement create apartment UI design some of filter in this page like as location details, amount of different hidden charge such as electricity, lift charge, water charge and we see the internal and external apartment image.

Any user changing profile view then we design update information like as name, city, and street address. Email, phone number etc.

5.4 Testing Implementation

Implementation is process of setting an action for the formulated plan. Before when we implement, that plan should have been accomplished and our purpose should be clear. We are testing all pages and we can access the all pages no debug are here.

All the admin related controls are presented in this system. Only the admin to configure every aspect of the apps. He can also edit/delete/remove/update in this system. Admin also check the inventory system with the controls present in this system.

This system manages all the facilities featuring the apartment (post/buy/rent). It allows the admin to create a completely new category of apartment (post/rent/buy) with descriptions, keywords, images and videos. The prices of the apartment can also be narrated from here.

When he/she posting or post advertisements in this app then every user to be allowed to access the apps is given his own username or email and password.

This project was judged on the following set of Measure:-

Satisfying requirement specifications:

The project is said to be successful if it satisfies all the requirements such as functional and non-functional requirements. In order words, it should be capable of ensuring the requirement specifications.

Correctness:

It is one of the critical requirements of software development. Perfectness is the basic demand for service-oriented software. Every part of the application should work properly and accurately.

Compatibility and integrity:

These are two significant conditions to check whether the project is successful. It was also designed in such a way that it could persuade the virtualization that is considered an important factor. Additionally, the evaluation of the system depended on how the application was implemented to the whole system or not.

Reliability and security management:

The security is one of the important factors in any service-oriented system. For this reason, the evaluating criteria on the security features that had been taken into account when the system was developed.

Functional Testing:

In functional testing, tester has to validate the application to see all the specified requirements of the users whatever we have said in supplemental restraint system has been incorporated or not.

There are two categories of functional testing.

- Positive functional testing: testing the function of the application with valid input and verifying that the outputs are correct.
- Negative functional testing: IT involves exercising application functionality using a combination of invalid inputs some unexpected operating conditions and by some other “out-of-bounds” scenarios.

Unit Test:

Unit test is generally used in a detailed designing and implementing phase of this project. The rationale of unit test was to find out the defects in this project.

Compatibility Test:

Compatibility testing, part of software non-functional tests, is testing conducted on the application to evaluate the application with the computing environment. This project is tested on different types of android phone to ensure the below –

Table 5.4.1 Compatibility test

Android Device Name	Screen Size	Test	Result
Xiaomi MI A1	5.5 Inches	Yes	Done
Xiaomi Redmi Note 5 pro	5.9 Inches	Yes	Done
Samsung J5(2015)	5.0 Inches	Yes	Done
Nokia 6 (2018)	5.5 Inches	Yes	Done
Huawei y62	5.5 Inches		

5.5 Test Results And Report

While testing the login system of the application, an unregistered E-mail address and password have been used which cause an error called “HTTP 404 not found” as shown in Figure 5.5.1.

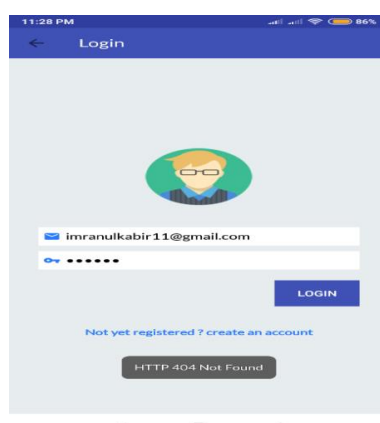


Figure 5.5.1 login fail

In Figure 5.2, a successful login has been depicted i.e. when one inputs a registered E-mail and password in the login system; the user can access the system without causing any error.

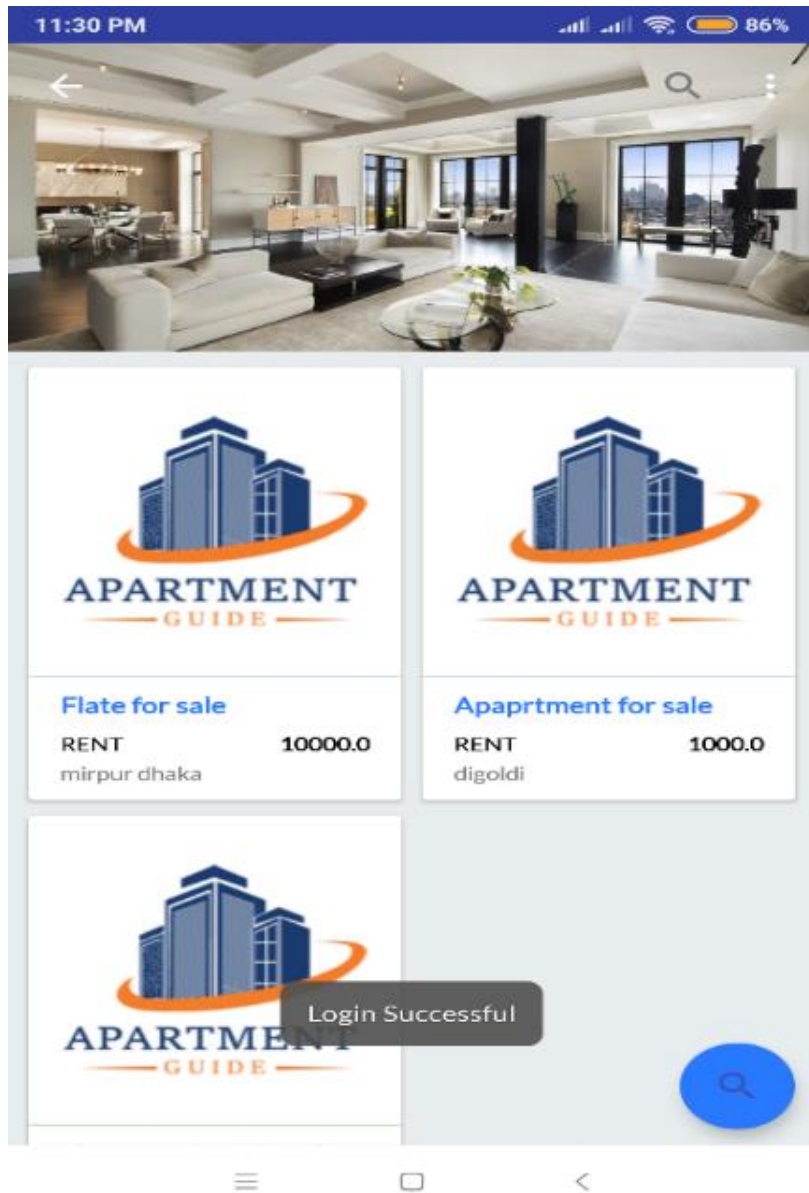


Figure 5.5.2 login successful

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion And Conclusion

Throughout the process, I enjoyed working with the organization and it was a great learning experience. I had the privilege of going through entire Software Development Life Cycle right from the necessity-gathering phase. Particularly, the software engineering concepts that I learned theoretically were actually complete practically.

While acknowledging all the help that my seniors observed to me and with due respect and sincere thanks to my teachers who were apparatus to shape me out, I submit my project report for your kind discretion. Though I have paid absolute attention to incorporate the maximum figures in my report, I take this opportunity to beg your grace for any inadvertent error in the data that has been gathered and incorporated in this report.

The Apartment guide Application we made ideal to sell/buy/rent the apartments online. With this App, user can now easily sell/buy/rent an apartment from online on the click of a button. This application will make the online selling/buying much easier than before. The GUI provided is so simple that any apprentice can also learn to use it.

This Apartment Guide will also make the sellers/buyers happy because they need not to advertise manually and make a cost of printing an advertisement. The users can easily manage the buy and rent. The entire estimate will be done automatically and all the records will be saved so the management of the customer choices is made easy[12].

6.2 Goal

Our main goal is to create an android application where both buyer and seller can buy and sell at the same time anywhere. To build a good community and good relationship between buyer and seller is one of the important goals of our application (Apartment Guide).

6.3 Limitation

- My SQL database storage 1GB
- Domain hosting bandwidth only 3GB
- For file sharing we can use Google API
- The part of the system can be implemented using the current technology although some modifications had to be done at various places

6.3Scope For Further Developments

- ❖ The project will more efficient and useful in the future. There are many attribute and information to add our project future time.
- ❖ Customers will be able to book the apartment advance. This way nobody entire in him/his choose apartment.
- ❖ Artificial intelligent can be used in future such as live chat. User and renter can communicate face to face with each other.
- ❖ This project can create 360-degree view in the future. This think is more gorgeous and efficient who want buy apartment.
- ❖ A website can be developed based on this android apartment guide.
- ❖ In future updated features can be added to the interface design.
- ❖ More features and functionalities will be added to keep the app up to date.
- ❖ Reliability of the application should be increased.

REFERENCES

- [1] “Rent Or Buy - Apps on Google Play.” [Online]. Available at: <<<https://play.google.com/store/apps/details?id=com.rent.or.buy>>> [Last an Accessed on date and time: 27-Jul-2018].
- [2] <<“Bikroy.com launched in BD,”>> *Bangla News* 24, Oct. 2012.
- [3] “Business process modeling.” [Online]. Available at: <<https://ipfs.io/ipfs/QmXoyvizjW3WknFiJnKLwHCnL72vedxjQkDDP1mXWo6uco/wiki/Business_process_modeling.html>> [last an Accessed on date and time: 03-Nov-2018].
- [4] “Drexel Chatbot Requirements Specification - PDF.” [Online]. Available at: <<https://technodocbox.com/Web_Design_and_HTML/70227648-Drexel-chatbot-requirements-specification.html>> [Last an Accessed on date and time: 29-Oct-2018].
- [5] “‘A JSON object will be the root of every API response.’ - Google Search.” [Online]. Available at: <<<https://www.google.com/search?q=%22A%20JSON%20object%20will%20be%20the%20root%20of%20every%20API%20response.%22>>> [Last an Accessed on date and time: 29-Oct-2018].
- [6] “Concept: Use-Case Model.” [Online]. Available at: <<http://www.utm.mx/~caff/doc/OpenUPWeb/openup/guidances/concepts/use_case_model_CD178AF9.html>> [Last an Accessed on date and time: 29-Oct-2018].
- [7] “Android Studio release notes,” *Android Developers*. [Online]. Available at: <<<https://developer.android.com/studio/releases/>>> [Last an Accessed on date and time: 13-Oct-2018].
- [8] “PhpStorm: The Lightning-Smart IDE for PHP Programming by JetBrains,” *JetBrains*. [Online]. Available at: <<<https://www.jetbrains.com/phpstorm/>>> [Last an Accessed on date and time: 03-Nov-2018].
- [9] “Blog post: XAMPP - Global Health Data Management.” [Online]. Available at: <<<https://globalhealthdatamanagement.tghn.org/community/blogs/post/5122/2013/07/xampp/>>> [Last an Accessed on date and time: 13-Oct-2018].
- [10] “How to Use Adobe Illustrator,” *wikiHow*. [Online]. Available at: <<<https://www.wikihow.com/Use-Adobe-Illustrator>>> [Last an Accessed on date and time: 13-Oct-2018].
- [11] “What does interaction mean?” [Online]. Available at: <<<https://www.definitions.net/definition/interaction>>> [Last an Accessed on date and time: 03-Nov-2018].
- [12] “10 Conclusion and Discussion.doc,” *Google Docs*. [Online]. Available at: <<https://drive.google.com/file/d/0B_35PUDUqOVxbTg2MmQxQzBYZ1k/view?usp=sharing&usp=embed_facebook>> [Last an Accessed on date and time: 15-Oct-2018].

APPENDIX

IDE - Integrated Development Environment

UI -user Interface

PHP Storm- PHPStorm is perfect for working with Symfony, WordPress, Laravel, Joomla, CakePHP, and other frameworks. The editor actually 'gets' your code and deeply understands its structure, supporting the PHP language features for modern and legacy projects.

SDK - Software Developer's Kit.

UX- User Experience.

BPM- Business Process Modeling.

R4.1.3.5- It is a Standard Rules.

JSON- JavaScript Object Nation.

API- Application Programming Interface.

Web API - A Web API is an application programming interface for either a web server or a web browser. A server-side web API is a programmatic interface consisting of one or more publicly exposed endpoints to a defined request–response message system, typically expressed in JSON or XML, which is exposed via the web—most commonly by means of an HTTP-based web server.

Location API - The Google Location Services API, part of Google Play Services, provides a more powerful, high-level framework that automates tasks such as location provider choice and power management. To learn more about the Location Services API, see Google Location Services for Android.