

DIGITAL MICRO BANKING 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 “**Digital Micro Banking System,**” submitted by Amit Sarkar and Mst. Rukaia Ferdaus 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 Bachelor of Science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 6th November 2018.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md. Sadekur Rahman, Assistant Professor, 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.

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ABSTRACT

Normally we know there is a joint account made of some members in the association in a bank who work to collect and withdraw money and keep all the information. The ordinary members do not know whether the money is deposited or not. They also can know about their current amount and loan facilities. To solve this problem, we developed a project which name is **Digital Micro Banking System** provides a platform which enables the person finding proper facilities of banking system at home. It helps the people to ensure them about the security of their savings. Digital Micro Banking system is a software developed for money deposit or loan taking organization or association. It can be used for the safety or security of every member's money in the association. All the members can be able to know the update of their current amount.

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CHAPTER 01

Introduction

1.1 Introduction

In Bangladesh, there is a huge communication gap between banker and general people (client). For that reason, it is so suffering because general members do not know if their money is actually deposited or not and they don't get proper facilities of getting loan immediately. So there happens many problems among user, association and bank. To reduce this suffering, we developed an android application, “**Digital Micro Banking System**”. In this system, people will be ensure about their deposition. By using this system, people will get their emergency loan easily. This document presents a details story behind the planning “Digital Micro Banking System” android application. Alongside, it will reveal the requirements, feasibility study, design, and development process of this application. Additionally, the motivation of this app and how it would facilitate users will be illustrated.

1.2 Motivation

- General members do not know if their money is actually deposited or not.
- Increasing fraud of the member or admin.
- Problem among user, association and bank.
- Money security.
- Emergency loan.

1.3 Objectives

The objectives of our project are point out below.

- To enable every member to check their deposits and their descriptions
- To avoid fraudulence
- To provide an online platform for cooperative members
- To ensure a secured system and thus encourage people to save their money
- To provide an option from where people cooperative members can get emergency loan

1.4 Expected Outcome

- An android app that can help cooperative users for processing and monitoring loan collection.
- A system that can help users to check their current balance.

1.5 Report Layout

The report is divided into five chapters. Each chapter deals with the different aspects of "Digital Micro Banking System". Each chapter has various parts explaining in detail.

- **Chapter 1: Introduction**

This chapter discusses the important theoretical concepts behind our project. Here also discusses our project motivation, objectives and expected outcomes.

- **Chapter 2: Background**

This chapter discusses our project related works, comparative studies and scope of the problem.

- **Chapter 3: Requirement Specification**

This chapter discusses our project Business Process Modeling, requirement collection and analysis, use case modeling and description, logical data model and design requirements.

- **Chapter 4: Design Specification**

This chapter discusses our project front-end design, back-end design, interaction design and UX and implementation requirements.

- **Chapter 5: Implementation and Testing**

This chapter discusses about the Implementation of database, front-end design, interactions, testing. Also discuss about test results and reports.

- **Chapter 6: Conclusion and Future Scope**

This chapter discusses about the conclusion and future scope of our project.

CHAPTER 02

Background

2.1 Introduction

Digital Micro Banking System is an online-based Android Application. This chapter is having details work present, comparative analysis with our android application. Details about Scope of the application is explained. Our target and challenges that we faced are described here.

2.2 Related Works

There are many web applications for banking system by using online but none of them are freelance market place type. The other web applications based on specific bank. Our web application fully focuses on client's problem to update their money transaction.

2.3 Comparative Studies

We went to the Sonali and Agroni Bank and discuss and understand the software and facilities by the it officers. They inform us how they work. After that we research these things and decide what can be helpful for them and the normal people. There are several web applications on this type of management. The available web application is not work for Bangladeshi people.

2.3.1 Comparison with related applications

A comparative analysis of some related applications is shown in table 2.1.

Table 2.1: Comparative analysis Table

	Registration	Edit Profile	Check balance	See notification	Check Updates	Online Loan apply
Sonali Bank	Yes	No	Yes	Yes	No	No
Agroni Bank	Yes	No	No	No	No	No
Dutch Bangla Bank	Yes	No	Yes	Yes	No	No
Islami Bank	Yes	No	Yes	Yes	No	No
A School Sameeti	Yes	No	No	No	No	No

2.4 Scope of the Problem

We worked on the web application following the software development process. We went through each part completion the previous one. The web application was planned for a month long to collect requirements and gathered information extensively. Digital Micro Banking Planning and time management schedule is given below.

2.4.1 Time Scheduling

The time scheduling of our project is shown in table 2.2.

Table 2.2: Time Scheduling

Planning	1 Month
Design and Analysis	1 Weeks
Coding	5 Month and 2 Weeks
Testing and Implementation	1 Month
Total	8 Month and 2 Weeks

The Scope is Application Module. Our system has 3 Modules. One is Admin. The second one is Executive member. The last one is a Member.

2.4.2 Target of our Project

The target of our project is to solve such problems to make smoother scheme for all both employees and users so that employees can easily update amount and members can get easily the updates form here.

2.5 Challenges

The most challenging part was building order system in both employees and member's parts. Data synchronization was also taking time to plan. Additionally, a designing database for the whole system was challenging. Working with real time chat was also challenging.

CHAPTER 03

Requirement Specification

3.1 Business Process Modeling

Business process modeling in business process management and systems engineering is the activity of representing processes of an enterprise, so that the current process may be analyzed, improved, and automated [2]. BPM of Digital micro banking system shown in figure 3.1.

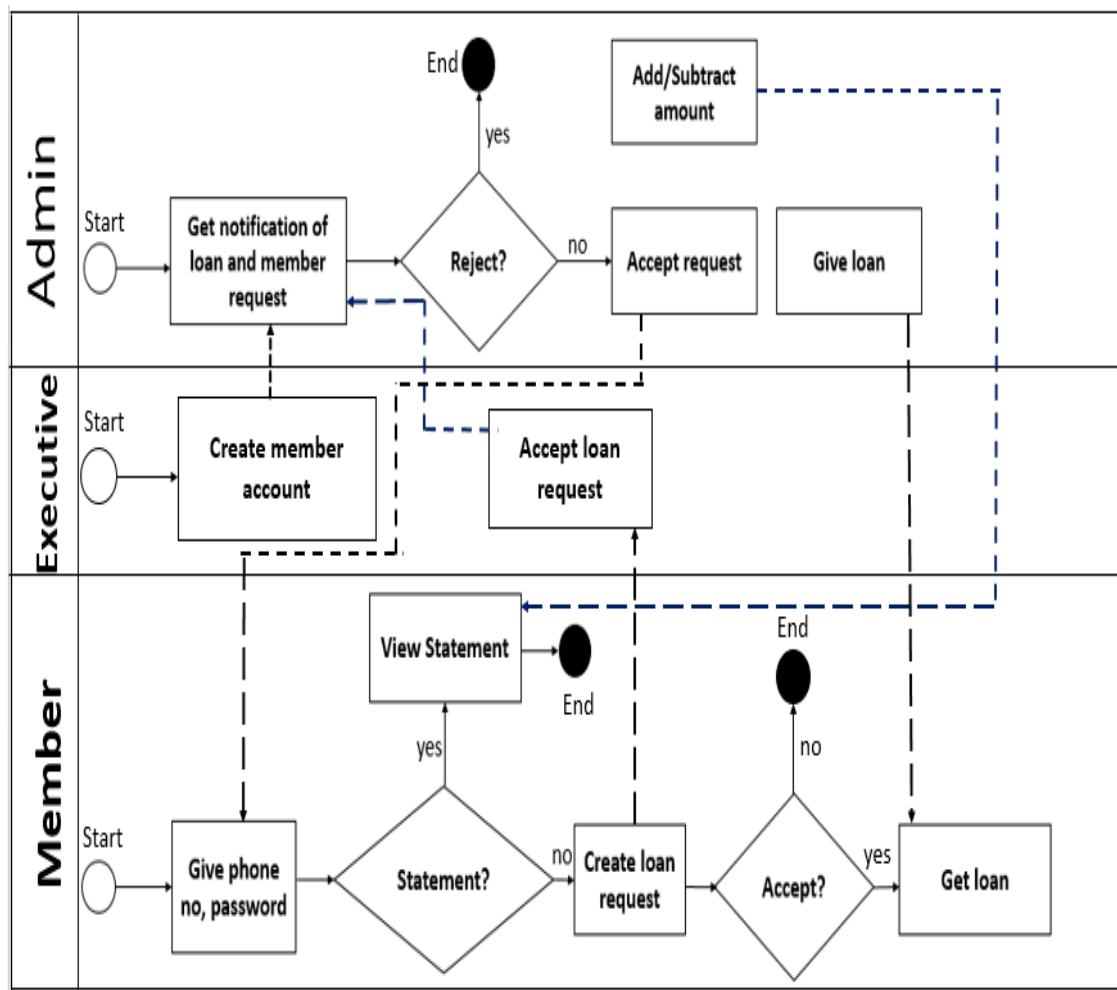


Figure 3.1: Business Process Model of this system.

3.2 Requirement Collection and Analysis

3.2.1 Software Requirements

To develop this application, we used following Software Requirements:

- Operating System: Android, Windows 8.1, Windows 10.
- Language: Java
- Database: MySQL
- Host: Google Cloud
- Tools: Android Studio
- Internet Browsers: Microsoft Edge, Firefox, Chrome.

Software Requirements, for running the application:

- Operating System: Android
- Network: Wi-Fi or Cellular Network

3.2.2 Hardware Requirements

To develop this application, we need the following Hardware Requirements:

- Android Version: 4.1 (Jelly Bean)
- Processor: 1 GHz
- RAM: 512 MB
- Rom: 4GB

3.2.3 Functional Requirements

- Graphical User interface which the application user.
- Give ease of understanding to the application through Wi-Fi or cellular network
MySQL that stores the data or information to be displayed to the user.

3.3 Use Case Modeling and Description

3.3.1 System Model

- Member Module
- Executive Module

- Admin Module

Member Module

Members can perform the below operation in this android application.

- i. Login**
By using phone number and password members can login into the system.
- ii. View Profile**
After login to the system member view his/her own profile details.
- iii. View Statement**
After login to the system member view his/her account statement.
- iv. Loan Request**
Member can submit loan request.
- v. Feedback**
After completing admin acceptations and rejection member can get feedback.
- vi. Deposit Money**
Member deposit his/her money to admin.
- vii. Get Loan**
After completing 50% executives' acceptations member can get loan from admin.

Executive Module

Executives can perform the below operation in this android application.

- i. Login**
By using Phone number and password executives can login into the system.
- ii. Registration**
After login, executives can create member's account by using his/her phone number.
- iii. Add Information**
Executives add member's name, phone number, occupation, national id number, address.
- iv. Edit Profile**
Executives can edit member's profile.

v. Get Notification

When Admin accept member's request then executives get notification.

When members submit a loan request with amount and reason then every executive get the notification.

vi. Acceptation

When executives get notification for loan request then he/she can accept or reject the request.

Admin Module

Admin can perform the below operation in this android application.

i. Login

Admin can login into the system by using phone number and password.

ii. Get Notification

When executives create member then admin get notification.

When 50% of executives except loan requests then the admin will get a notification of that particular member.

iii. Acceptation/Rejection

When admin get notification against member request then he/she accepts/rejects requests.

iv. Add/Subtract Amount

When member get or give money then admin add or subtract his/her amount.

v. Manage Users

Admin can see all users of this system also can add, delete users.

And manage the amount of each member in system database.

vi. Viewing

Admin can view all information, members list, executives list, loan list.

Also see member's statement, total balance etc.

vii. Registration

Admin can create executives by using phone number and others information.

3.3.2 Use Case Diagram and Description

A use case diagram is a graphic depiction of the interactions among the elements of a system [3]. Figure 3.2, 3.3, 3.4 shown member, executive, admin use case diagram and figure 3.5 shown Digital Micro Banking System' use case diagram.

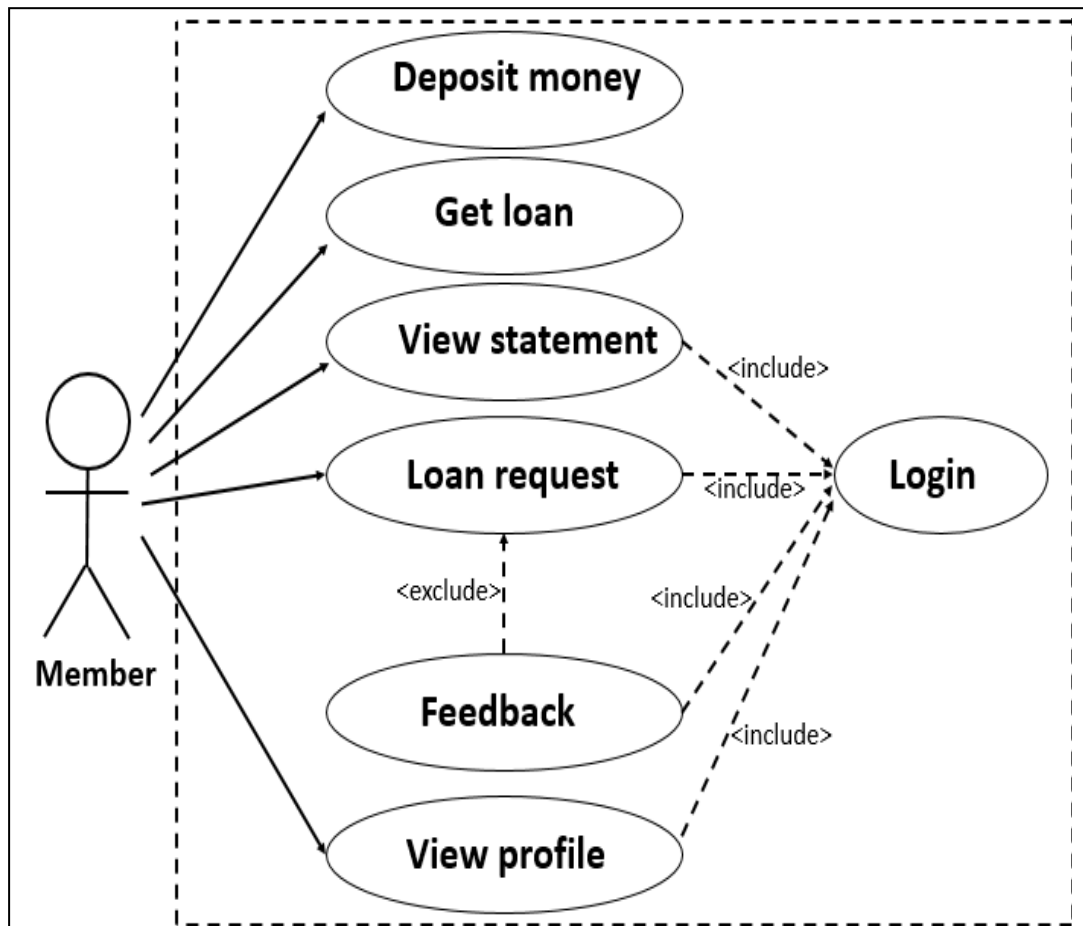
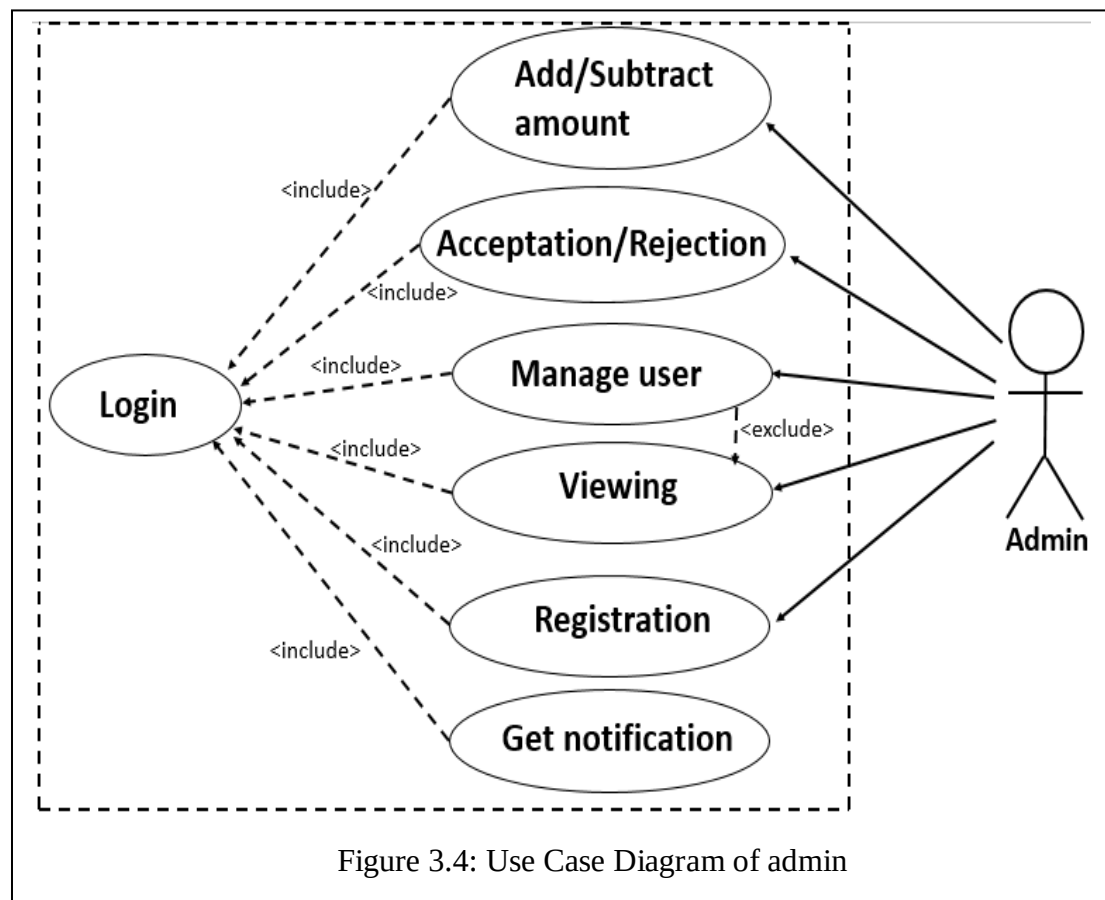
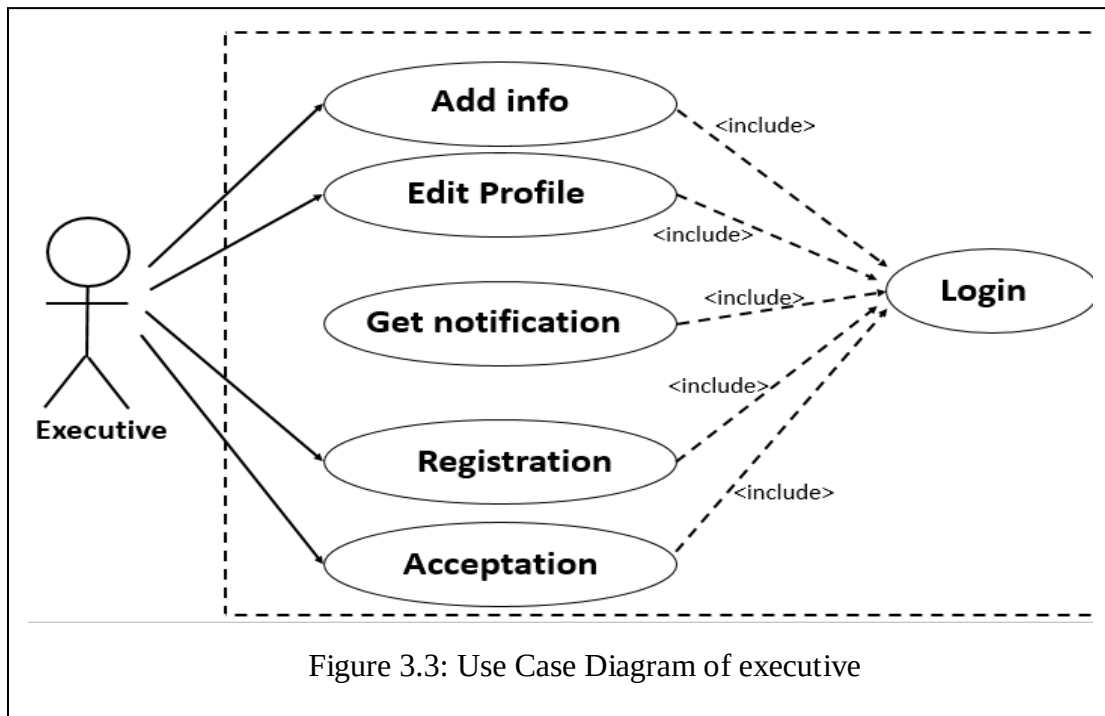
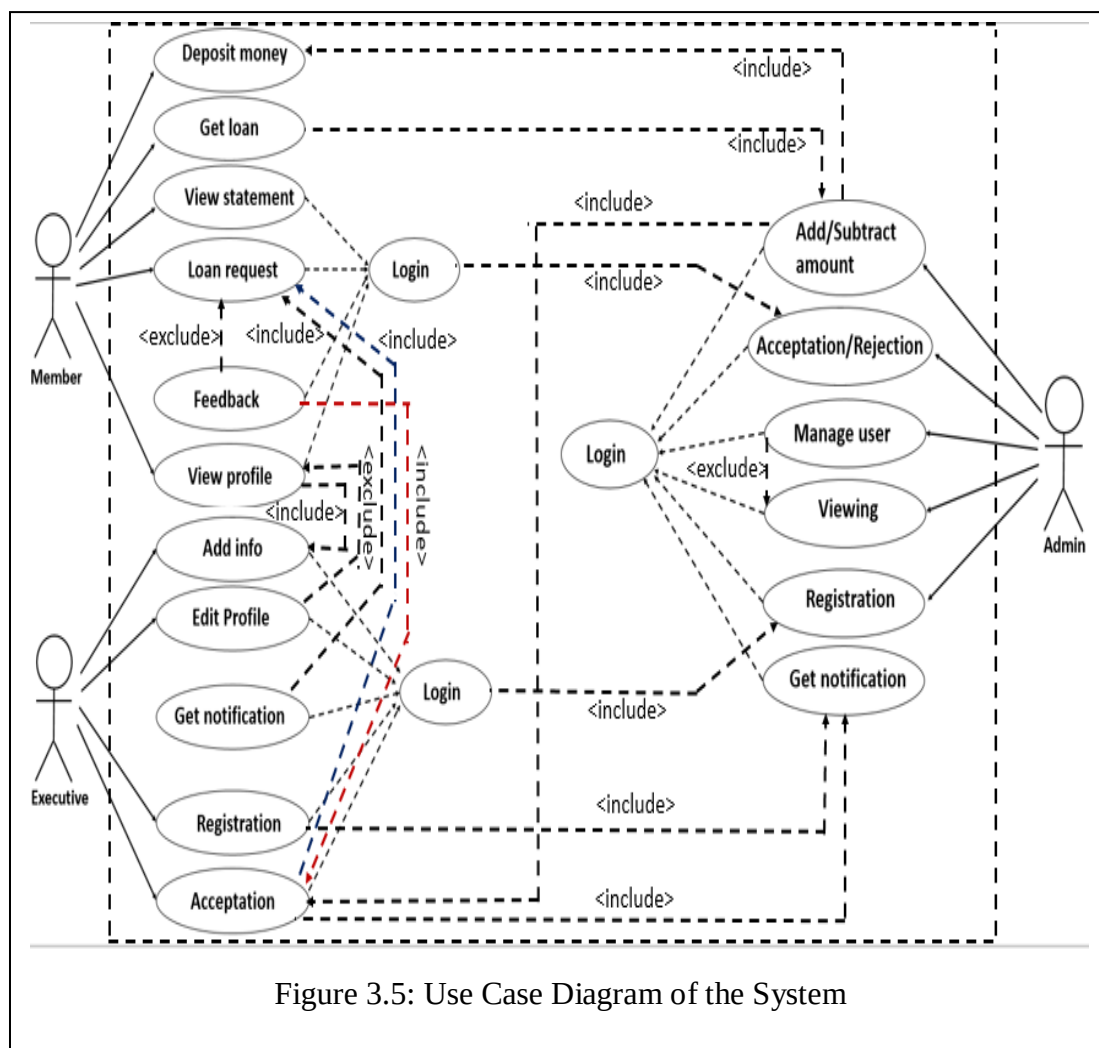


Figure 3.2: Use Case Diagram of member





Actor Member

Login with executive given id and password

Flow of steps

- This Use case starts when a member enters the system.
- Member can view profile, statement and make a loan request.

i. Login

Brief Description: Member can login to the system

Actor: Member

Flow of steps

- a) This use case start when a member open the system and input phone number and password.

ii. View Profile

Brief Description: Member can view profile and statement the system

Actor: Member

Flow of steps

- a) This use case start when a member login the system.

iii. View Statement

Brief Description: Member can view his/her accounts statement.

Actor: Member

Flow of steps

- a) This use case start when a client login to the system.
- b) Client sees account statement.

iv. Loan Request

Brief Description: Member can make loan request.

Actor: Member

Flow of steps

- a) This use case start when a member login to the system.
- b) Client can make loan request but to loan request need to executive approval also.

Actor Executive

Login with admin given id and password

Flow of steps

- a) This Use case starts when an executive enters the system.
- b) Executive can create member, approve/disapprove loan.

i. Login

Brief Description: Executive can login to the system

Actor: Executive

Flow of steps

- b) This use case start when an executive open the system and input phone number and password.

ii. Create Member

Brief Description: Executive can create member.

Actor: Executive

Flow of steps

- c) This use case start when an executive login to the system.
- d) Executive create member.

ii. Get Notification

Brief Description: Executive get notification.

Actor: Executive

Flow of steps

- a) This use case start when an executive login to the system.
- b) When member make a loan request then executive get a notification.

iii. Approve Loan Request

Brief Description: Executive can approve loan.

Actor: Executive

Flow of steps

- a) This use case start when an admin login to the system.
- b) Executive can approve loan when member make a loan request.
- c) Executive also can disapprove loan.

Actor Admin

Login with given id and password

Flow of steps

- a) Admin can control the system by login to the system.
- b) Admin can manage users, add/reject loan and member request, add/subtract amount and see the full system statistic.

i. Login

Brief Description: Admin can login to the system

Actor: Admin

Flow of steps

- a) This use case start when an admin open the system and input phone number and password.

ii. Get Notification

Brief Description: Admin get notification.

Actor: Admin

Flow of steps

- c) This use case start when an admin login to the system.
- d) When 50% executives accept members loan request then admin get a notification.

ii. Viewing

Brief Description: Admin can view all.

Actor: Admin

Flow of steps

- a) This use case start when an admin login to the system.
- b) Admin can view all information, members list, executives list, loan list. Also see member's statement, total balance etc.

iii. Approve Member

Brief Description: Admin can approve member.

Actor: Admin

Flow of steps

- a) This use case start when an admin login to the system.
- b) Admin can approve member when a executive create a member to this system.
- c) Admin can disapprove member also.

iv. Delete User

Brief Description: Admin can delete user.

Actor: Admin

Flow of steps

- a) This use case start when an admin login to the system.
- b) Admin can delete existing user.

v. Create Executive

Brief Description: Admin can create executive.

Actor: Admin

Flow of steps

- a) This use case start when an admin login to the system.
- b) Admin can create executive and give him user and password.

v. Give Loan

Brief Description: Admin give loan.

Actor: Admin

Flow of steps

- a) This use case start when an admin login to the system.
- b) When admin get the 50% executive's acceptance notification then admin give the loan.

vi. Update Amount

Brief Description: Admin can update amount.

Actor: Admin

Flow of steps

- a) This use case start when an admin login to the system.
- b) Admin can update existing amount when a member get loan and give money.

3.4 Logical Data Model

The logical data model represents the data processing modules. It used for data analysis and processing easily. The Entity-Relationship Diagram/Model represents the logical data model, shown in figure 3.6.

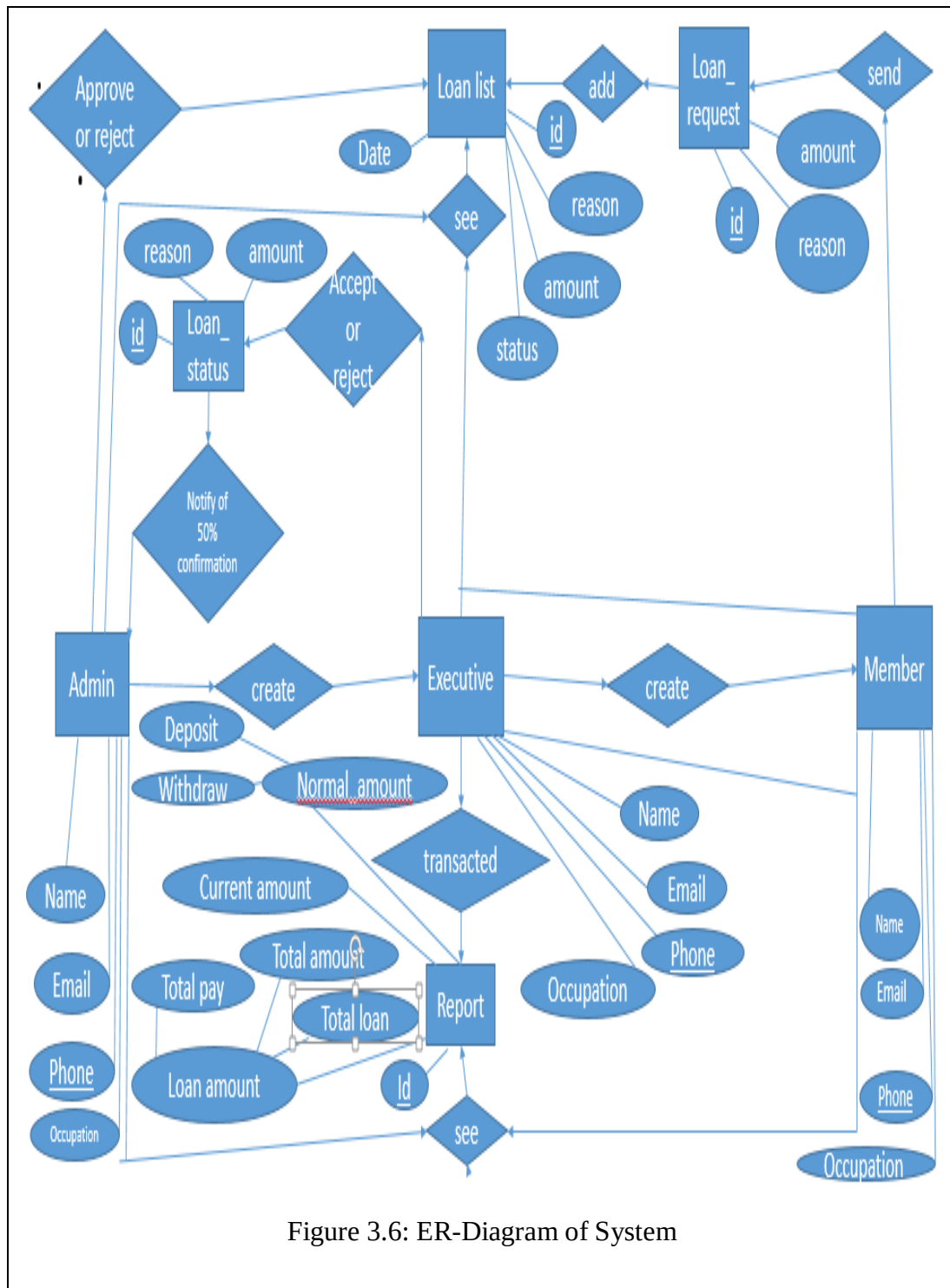


Figure 3.6: ER-Diagram of System

3.5 Design Requirements

When designing systems or software, following issues must be considered that reproduce the overall design of the goals that the system expected to achieve. The following goals were kept in mind while designing the system:

Make system simple and flexible for users: The system users are able to have a great amount of control over their purpose in achieving objectives. Make the system compatible: It should be fit in the total system, future maintenance and enhancement must less. The following figure 3.7 is the flow chart of how Digital Micro Banking System run.

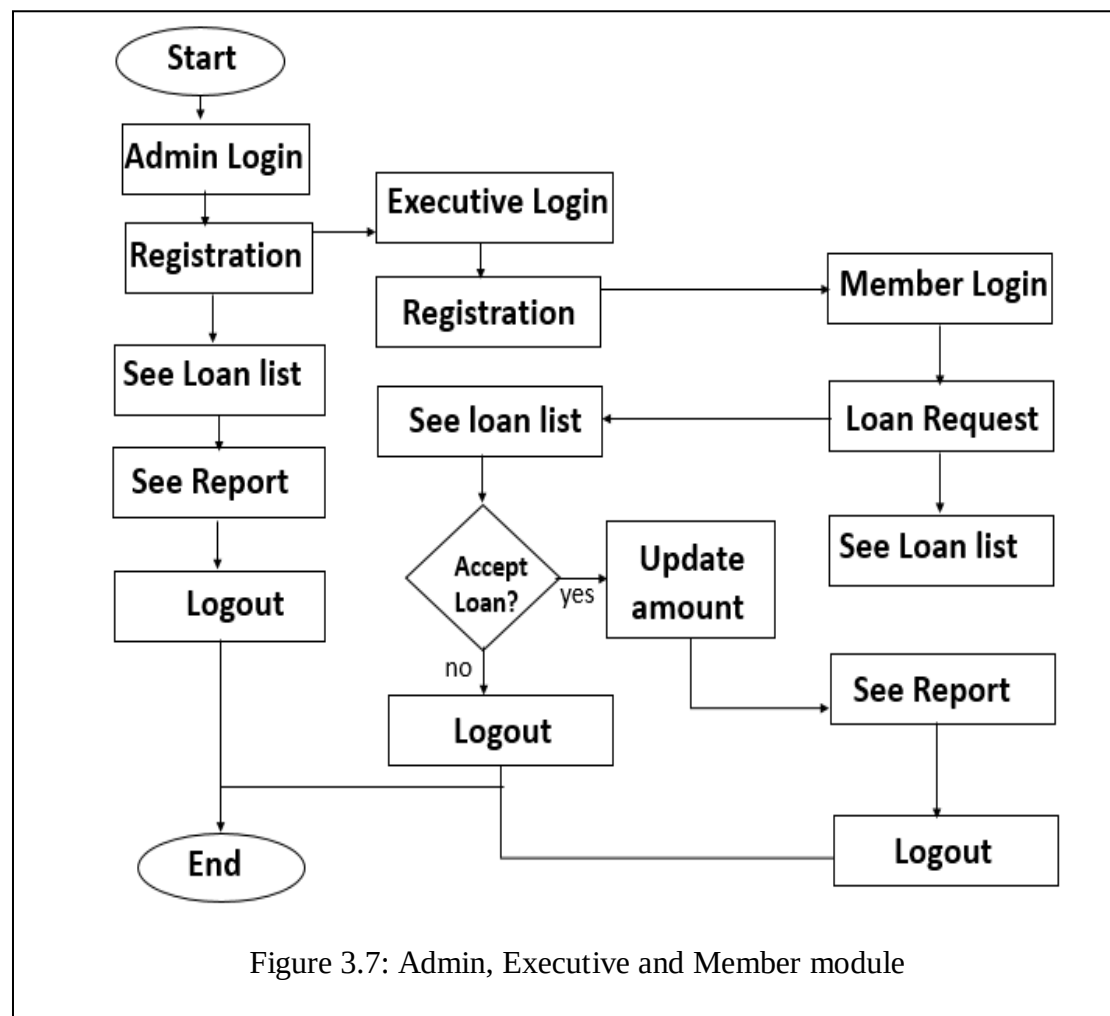


Figure 3.7: Admin, Executive and Member module

The following figure 3.7 is the flow chart of how Digital Micro Banking System run.

CHAPTER 04

Design Specification

4.1 Front-end Design

Front-end Design is the main attraction of an application. It also should be user-friendly. Our application we designed a beautiful front-end Design. We also try to design user-friendly. In front-end design, our Application has following screen shown in Table 4.1.

Table 4.1: Activity list of the system

1. Login Screen
2. Member Home Screen
3. Member Loan List Screen
4. Member Loan Request Screen
5. Member Report Screen
6. Executive Home Screen
7. Member Registration Screen
8. Executive Loan Accept/Reject Screen
9. Transection List Screen
10. Transection Screen
11. Report List Screen
12. Report Screen
13. Admin Home Screen
14. Executive Registration Screen
15. Loan List Screen
16. Report Screen
17. Admin Dashboard
18. Executive Dashboard
19. Member Dashboard

4.2 Back-end Design

Our Android Application is Dynamic this function works by using the internet. In back-end, design used database. The internet is a most important role in our application. The user has none access to Back-End Design.

The following figure 4.1 [4], 4.2[4], 4.3 shows how user get output form back-end database.

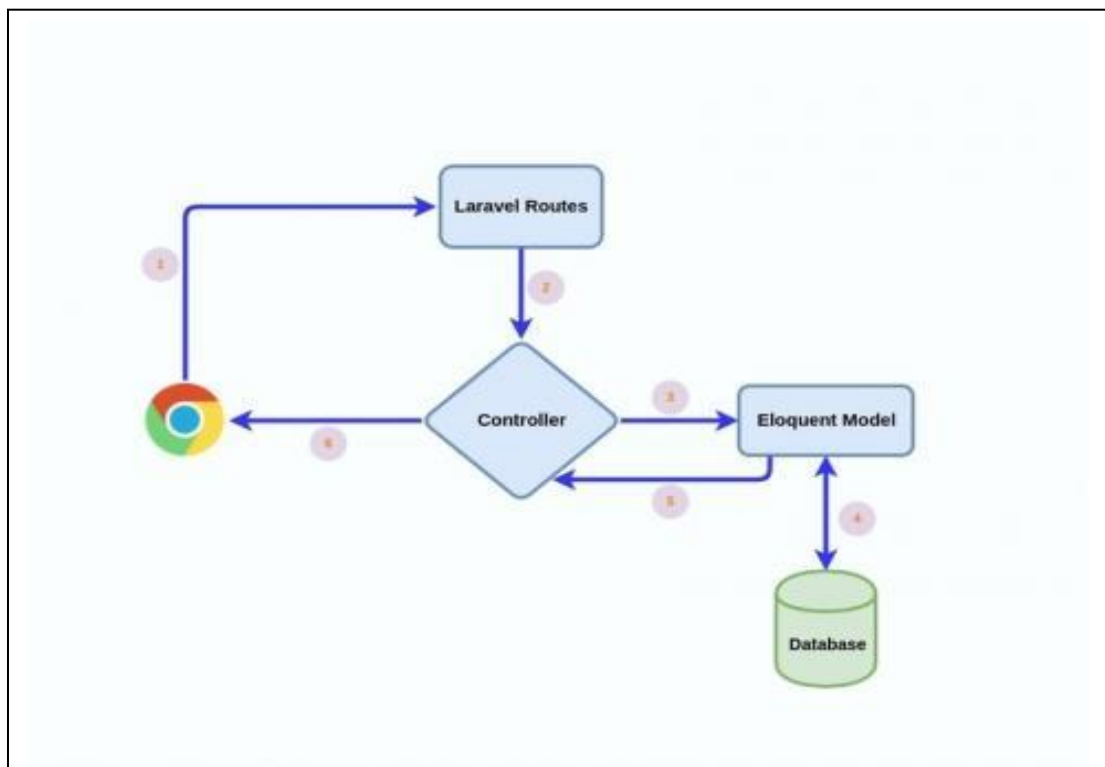


Figure 4.1: Laravel MVC-Architecture [4].

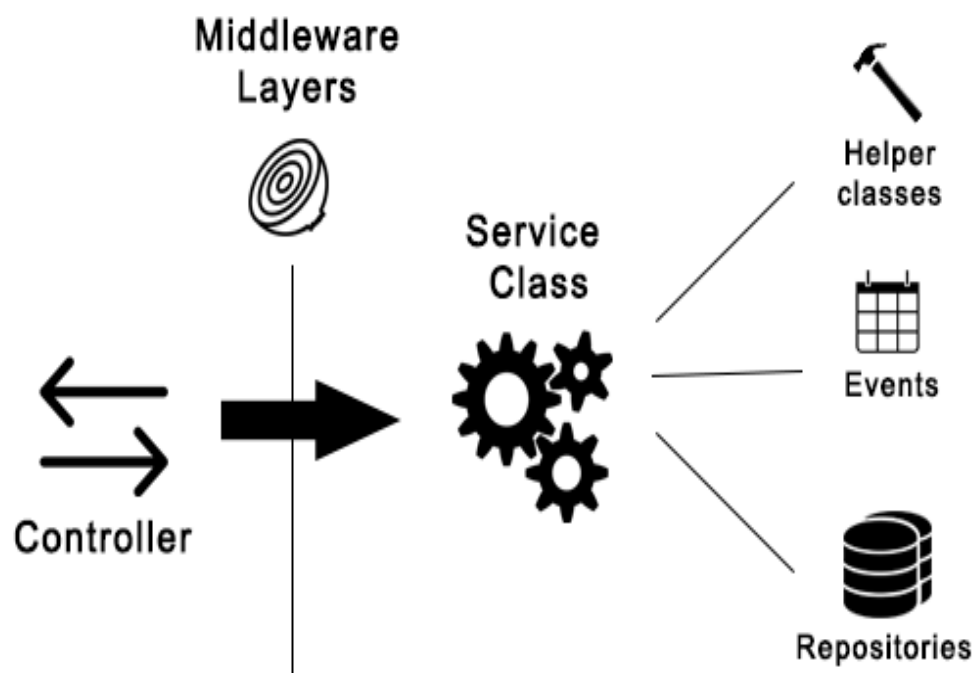
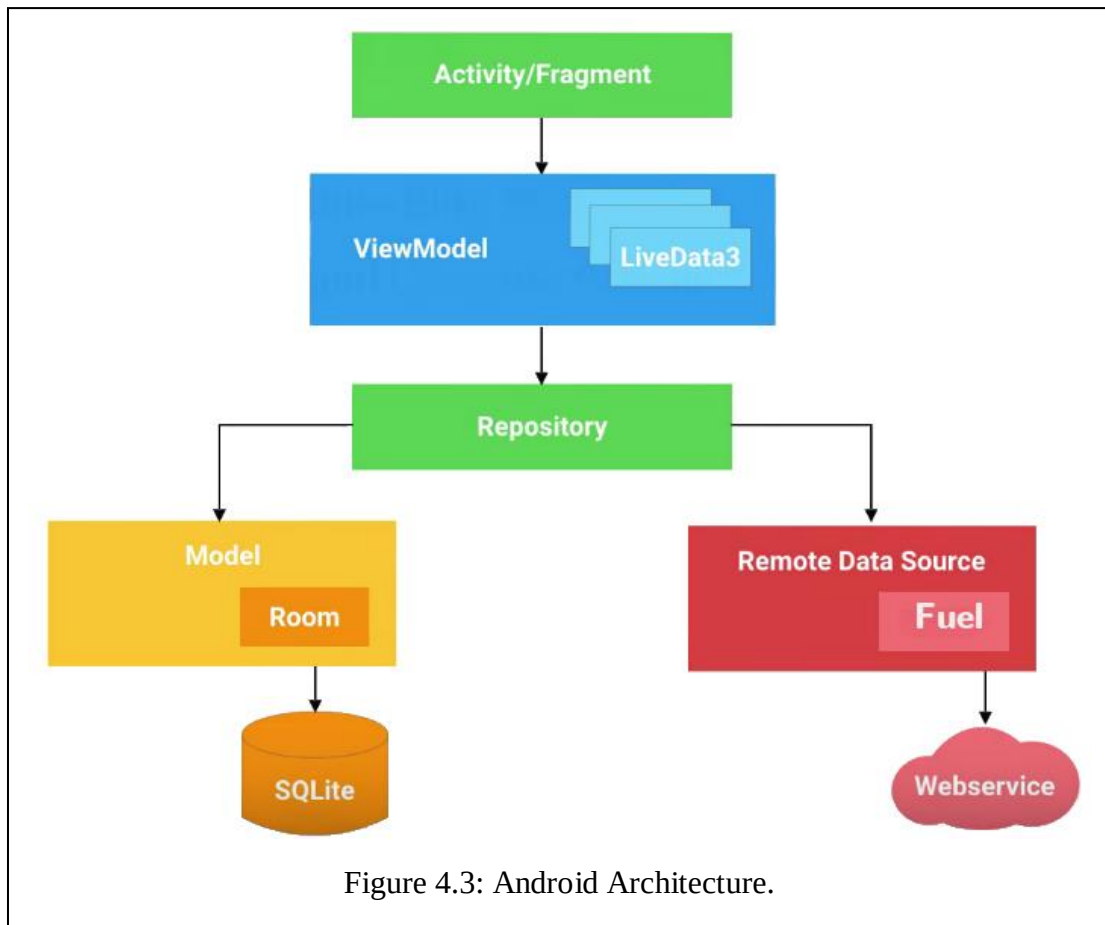


Figure 4.2: Laravel API-Architecture [4].

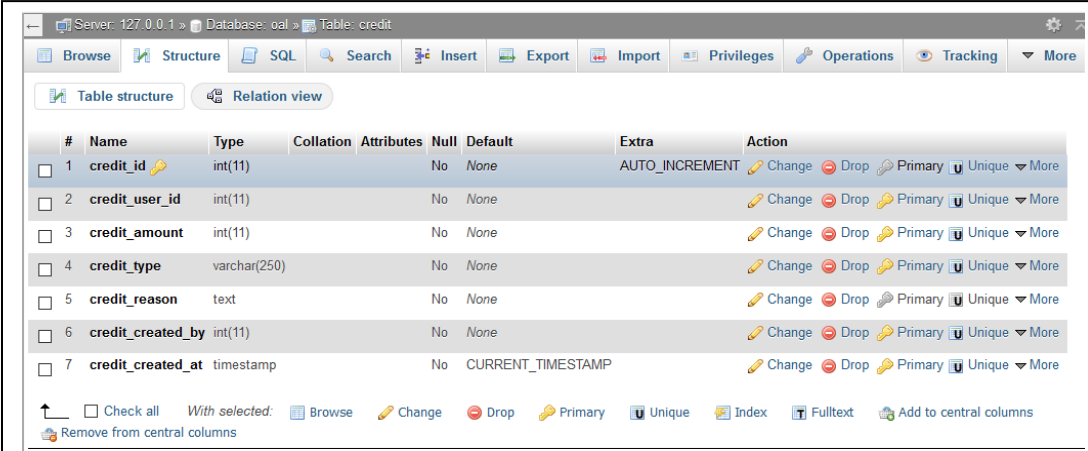


DBMS tables: The following figure 4.3, 4.4, 4.5 shown Digital Micro Banking Systems DBMS table.

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	loan_id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique More
2	user_id	int(11)			No	None		Change Drop Primary Unique More
3	loan_amount	varchar(250)			No	None		Change Drop Primary Unique More
4	loan_reason	text			No	None		Change Drop Primary Unique More
5	loan_created_at	datetime			No	CURRENT_TIMESTAMP		Change Drop Primary Unique More
6	loan_status	int(11)			No	None		Change Drop Primary Unique More

Figure 4.4: Loan table

There are some id like credit id, credit use id, credit amount, credit type etc.

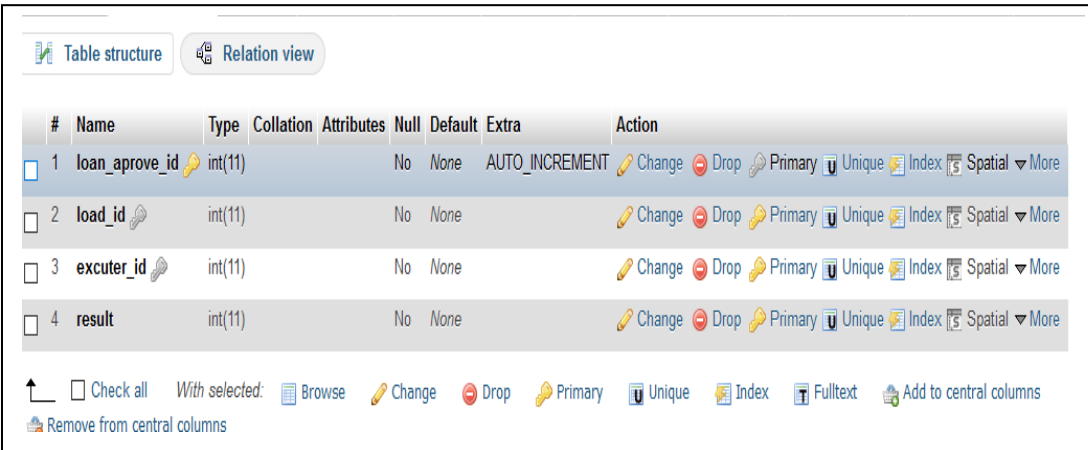


#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	credit_id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique More
2	credit_user_id	int(11)			No	None		Change Drop Primary Unique More
3	credit_amount	int(11)			No	None		Change Drop Primary Unique More
4	credit_type	varchar(250)			No	None		Change Drop Primary Unique More
5	credit_reason	text			No	None		Change Drop Primary Unique More
6	credit_created_by	int(11)			No	None		Change Drop Primary Unique More
7	credit_created_at	timestamp			No	CURRENT_TIMESTAMP		Change Drop Primary Unique More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext Add to central columns Remove from central columns

Figure 4.5: Credit table

Relate all table by this table-



#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	loan_approve_id	int(11)			No	None	AUTO_INCREMENT	Change Drop Primary Unique Index Spatial More
2	load_id	int(11)			No	None		Change Drop Primary Unique Index Spatial More
3	excuter_id	int(11)			No	None		Change Drop Primary Unique Index Spatial More
4	result	int(11)			No	None		Change Drop Primary Unique Index Spatial More

Check all With selected: Browse Change Drop Primary Unique Index Fulltext Add to central columns Remove from central columns

Figure 4.6: Relational view

4.3 Interaction Design and UX

User Experience (UX) is critical to the success or failure of a product in the market. Interaction Design is most important part of User Experience (UX) design. An application fruition depends on User satisfaction. How an application is more attractive to the user is depends on interaction and Design part. In our android application, we used the useful model of Interactive design.

The following figure 4.7 [5] shows There are 7 factors that describe user experience, according to Peter Morville.

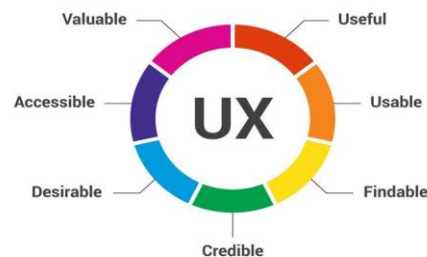


Figure 4.3: The 7 Factors that Influence User Experience [5].

Home Screen Interaction Design and UX:

We have designed our Home Screen which is linked with login page and registration page. When the application is open to the user they show home page. User are three types in our system member, executive and admin. If the user have phone number and password he/she can easily login into the system by click on the Login button. Is user don't have id or password they must registration in the system as an executive or member.

Dashboard Screen Interaction Design and UX:

We design dashboard screen for every user. In member dashboard, they can see their profile, loan list, loan request, report and logout.

In executive dashboard, they can see their profile, create user, loan list, transaction, report and logout.

In admin dashboard, admin can see the full system statistics, create executives, total loan list, logout and only admin can start this system by create executives.

Loan Request Interaction Design and UX:

In Member dashboard, member see a button which name is Loan Request. By clicking the button member need to add specific resign about his loan and submit the loan request by clicking on the submit button.

Loan Accept/reject Interaction Design and UX:

In Executive dashboard, executive see a button which name is Loan List. By clicking the button executive see the loan list. He/she also see the details by clicking on the single loan thumbnail. If he/she want to accept proposal then need to click on pending button then accept or reject the loan.

4.4 Implementation Requirements

Implementation Requirement is given below:

Apps Development:

1. Language: Java
2. Tools: Android Studio
3. UI: Default

API Development:

1. Language: PHP
2. Framework: Laravel
3. Input Format: Header by POST
4. Output Format: JSON
5. Tools : Postman and Visual Studio
6. Host: Google Cloud
7. Database: MySQL

CHAPTER 05

Implementation and Testing

5.1 Implementation of Database

To build this application one DBMS (MySQL) were used. MySQL for storing data to the server. Some screenshots of the system database are shown in figure 5.1, 5.2, 5.3, 5.4:

Sort by key: None

+ Options

		credit_id	credit_user_id	credit_amount	credit_type	credit_reason	credit_created_by	credit_created_at
☐	Edit Copy Delete	1	14	10	Loan Pay	loan	12	2018-10-24 00:40:08
☐	Edit Copy Delete	2	14	0	Deposit		12	2018-10-24 03:07:15
☐	Edit Copy Delete	3	14	20	Loan Pay	ready	12	2018-10-24 03:09:16
☐	Edit Copy Delete	4	14	5	Loan Pay	boo	12	2018-10-24 03:12:26
☐	Edit Copy Delete	5	16	10	Withdraw	too	12	2018-10-24 03:12:47
☐	Edit Copy Delete	6	16	100	Deposit	huuu	12	2018-10-24 03:14:18
☐	Edit Copy Delete	7	25	10	Loan Pay	test all	12	2018-10-24 22:46:18
☐	Edit Copy Delete	8	14	1200	Loan Pay	medical	19	2018-10-24 23:23:23
☐	Edit Copy Delete	9	16	500	Deposit	savings	19	2018-10-24 23:24:01
☐	Edit Copy Delete	10	21	8000	Withdraw	emergencies	19	2018-10-24 23:25:29
☐	Edit Copy Delete	11	14	500	Deposit	savings	19	2018-10-25 01:37:58

↑ ☐ Check all With selected: Edit Copy Delete Export

Figure 5.1: Implementation of Credit table

After implement loan table. When we run the app.

+ Options

		loan_id	user_id	loan_amount	loan_reason	loan_created_at	loan_status
☐	Edit Copy Delete	12	16	120	Nasta	2018-07-26 11:28:40	100
☐	Edit Copy Delete	11	1	1000	Personal	2018-07-26 11:14:01	100
☐	Edit Copy Delete	10	14	50	pp	2018-07-26 08:46:20	0
☐	Edit Copy Delete	13	17	5000	medical purpose	2018-07-31 06:22:53	2
☐	Edit Copy Delete	14	17	400	ty	2018-07-31 06:49:24	0
☐	Edit Copy Delete	15	18	50000	boo	2018-10-04 09:58:14	2
☐	Edit Copy Delete	16	21	15000	medical support	2018-10-07 02:04:03	0
☐	Edit Copy Delete	17	21	9000	social work	2018-10-07 02:07:33	0
☐	Edit Copy Delete	18	21	9000	social work	2018-10-07 02:07:37	0
☐	Edit Copy Delete	19	21	9000	social work	2018-10-07 02:07:39	0
☐	Edit Copy Delete	20	21	15000	medical support	2018-10-08 14:22:36	0
☐	Edit Copy Delete	21	27	10	Mango	2018-10-24 15:05:37	0

↑ ☐ Check all With selected: Edit Copy Delete Export

Figure 5.2: Implementation of Loan table

When executive accept the loan then automatic implement this table.

+ Options						loan_aprove_id	load_id	excuter_id	result	
← T →										
☐		Edit		Copy		Delete	1	12	15	1
☐		Edit		Copy		Delete	2	12	12	1
☐		Edit		Copy		Delete	3	11	12	0
☐		Edit		Copy		Delete	4	15	12	1
☐		Edit		Copy		Delete	5	15	15	1
☐		Edit		Copy		Delete	6	15	12	1
☐		Edit		Copy		Delete	7	15	15	1
☐		Edit		Copy		Delete	8	12	15	1
☐		Edit		Copy		Delete	9	11	15	1
☐		Edit		Copy		Delete	10	12	1	1
☐		Edit		Copy		Delete	11	11	15	1
☐		Edit		Copy		Delete	12	11	13	1
☐		Edit		Copy		Delete	13	13	14	1

Figure 5.3: Implementation of approval table

When create user by admin and executive then automatic implement this table.

Options

	user_id	mobile	password	email	Full_name	occupation	address	us
☐  Edit  Copy  Delete	1	01796126727	202cb962ac59075b964b07152d234b70	admin@gmail.com	Admin	Student		
☐  Edit  Copy  Delete	12	01716449347	900150983cd24fb0d6963f7d28e17f72	rukaia15-5277@diu.edu.bd	tumpa	student		
☐  Edit  Copy  Delete	13	01716449348	4ed9407630eb1000c0f6b63842defa7d	rukaia15-4277@diu.edu.bd	rumpa	student		
☐  Edit  Copy  Delete	14	01796126729	77b76d4d18bfd4743988f8f56eb4e674	ruu@gmail.com	ruu	teacher		
☐  Edit  Copy  Delete	15	01842476437	202cb962ac59075b964b07152d234b70	amitsarkar120495@gmail.com	Amit Sarkar	Student		
☐  Edit  Copy  Delete	16	01770464693	202cb962ac59075b964b07152d234b70	tumpa@gmail.com	Tumpa	Student		
☐  Edit  Copy  Delete	17	01796126726	78168ac6e8d5a4b31a2f838c6af7e718	rumpa@gmail.com	rumpa	student		
☐  Edit  Copy  Delete	19	01716449347	202cb962ac59075b964b07152d234b70	rukaia15-5277@diu.edu.bd	tumpa	student		
☐  Edit  Copy  Delete	20	01716449347	202cb962ac59075b964b07152d234b70	rukaia15-5277@diu.edu.bd	tumpa	student		
☐  Edit  Copy  Delete	21	01716449348	202cb962ac59075b964b07152d234b70	amit4460@diu.edu.bd	amit	student		

Figure 5.4: Implementation of user table

5.2 Implementation of Front-end Design

For implementing front-end design of the system used Android Studio (xml design). The challenge was more when we just implement the screen and there the perfection was the matters for us. There are some front-end screen given below.

5.2.1 Login Page

Login page, shown in figure 5.5, by using phone number and password login to the system. Here Login and Dropdown menu for three types of user.

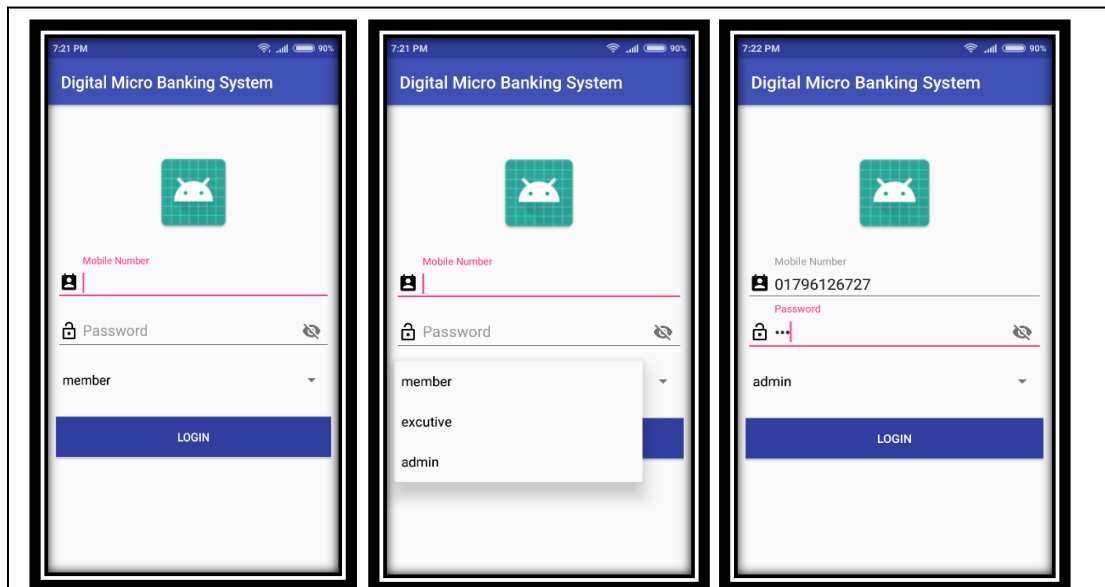


Figure 5.5: Login page

5.2.2 Admin Home Page After login the main system. From this page admin can see his profile name, phone number, email, occupation. And also see his dashboard. This feature shown in figure 5.6.

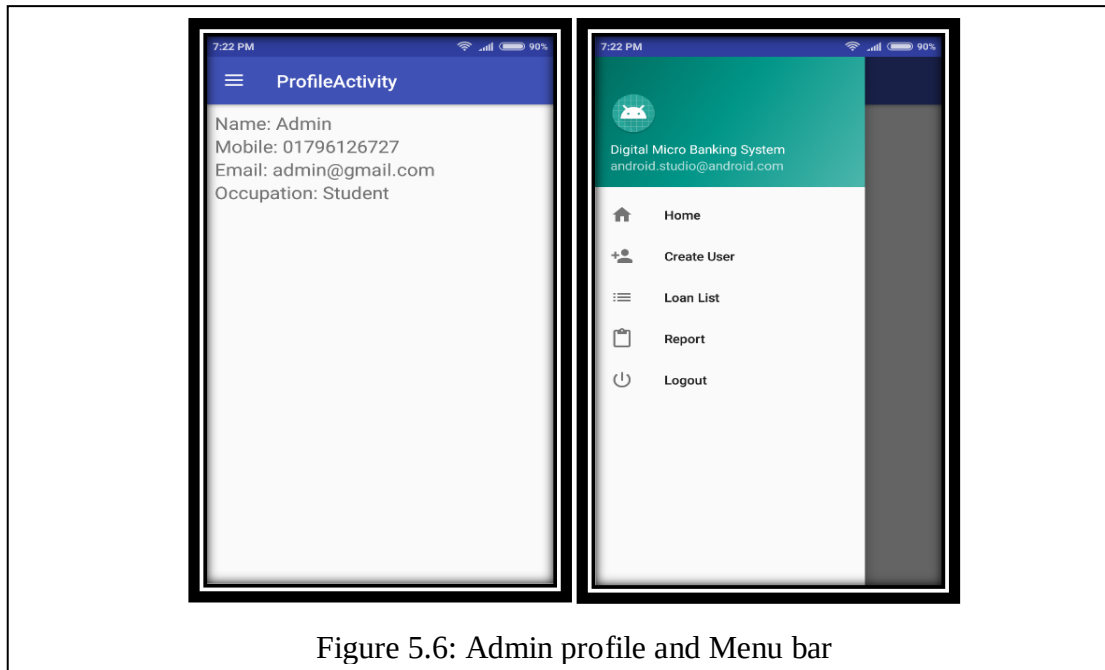
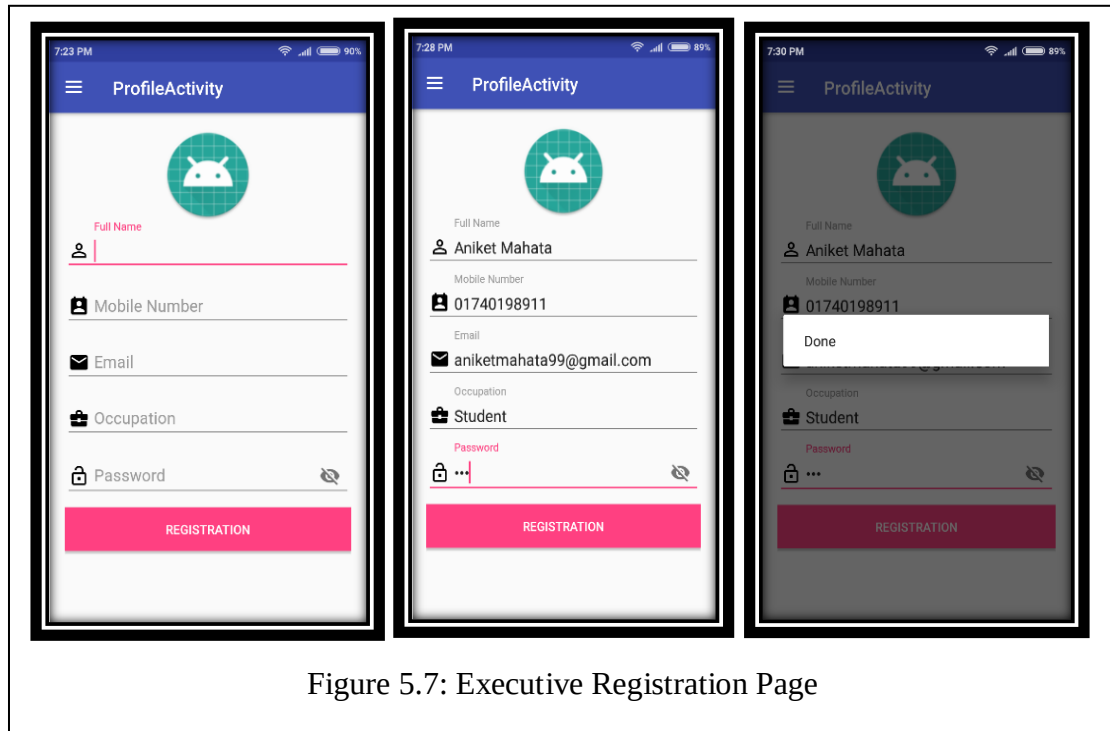


Figure 5.6: Admin profile and Menu bar

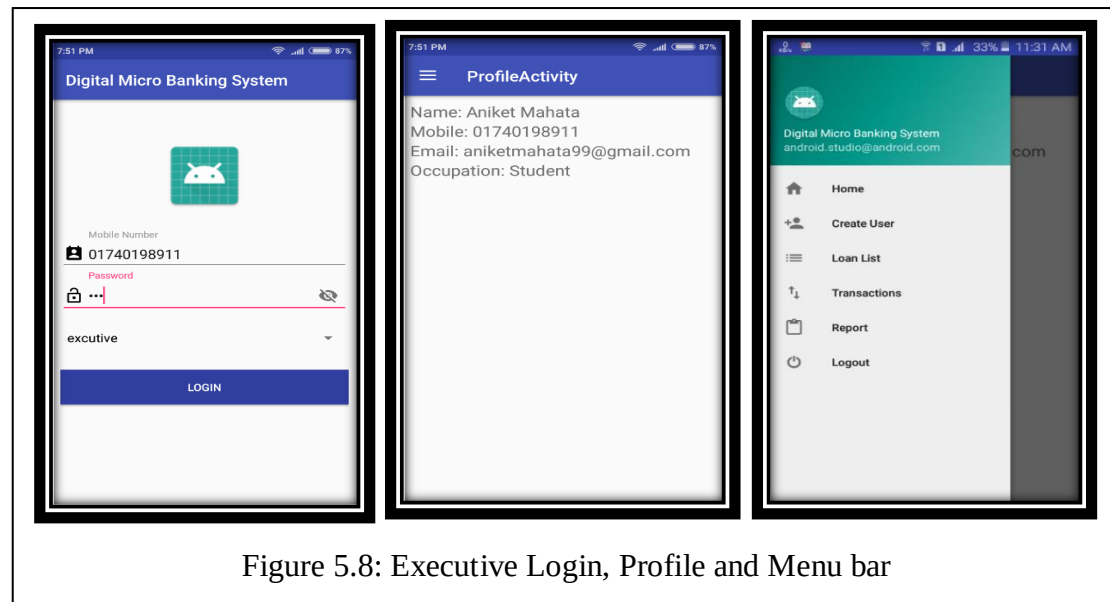
5.2.3 Executive Registration Page

Registration is needed to click the create user menu from menu bar. Input name, phone, email, occupation and password for creating an executive user .This is shown in figure 5.7



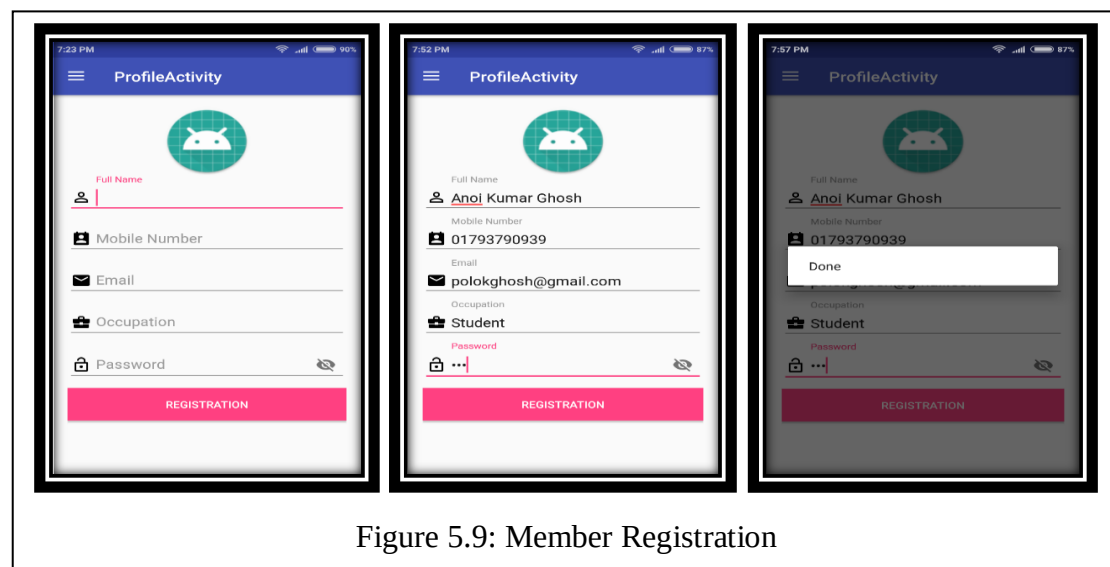
5.2.4 Admin Home Page

After login the system. From this page executive can see his profile name, phone number, email, occupation. And also see his menu bar. This feature shown in figure 5.8.



5.2.5 Member Registration Page

After login executive can create a member by clicking create user from Menu bar. Input name, phone, email, occupation and password for creating a member user. This is shown in figure 5.9.



5.2.6 Loan List and Accept/Reject Page

After clicking loan list from menu bar open a loan list with pending button. When executive click on the pending then he sees two option accept and reject. If he accept that means he want to give him loan. Now member get a vote to get the loan. When 50% executive accept then member get the loan. This is shown in figure 5.10.

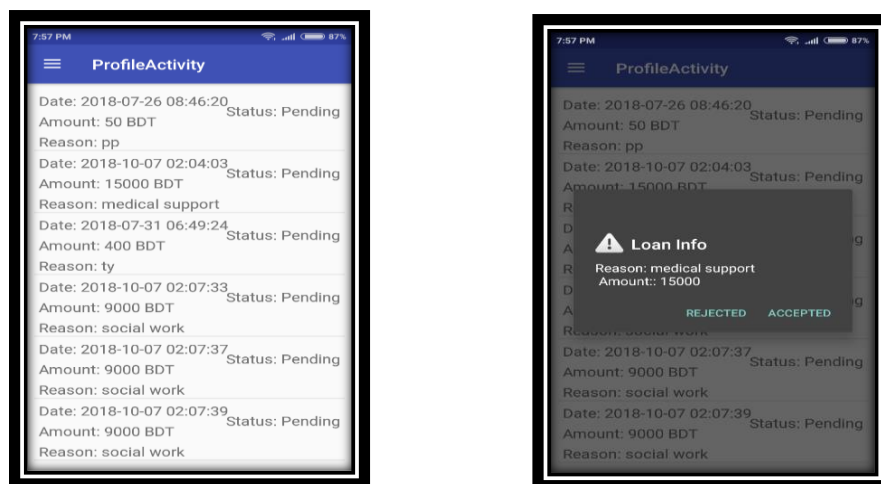


Figure 5.10: Loan List and Accept/Reject

5.2.7 Transection Page

After clicking transection option from menu bar executive see the transect ion list. Then click a single transection and go to transection page, shown in figure 5.11.

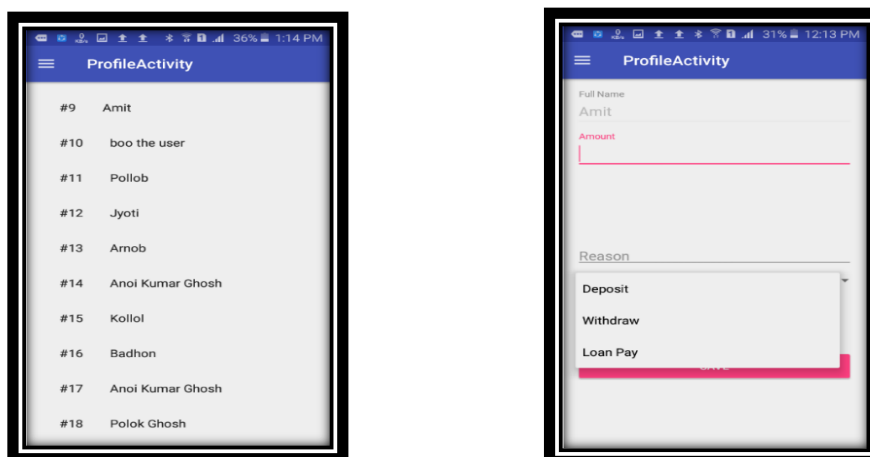


Figure 5.11: Transection list and Transection

5.2.8 Transection Report Page

When transection complete executive views report page, shown in figure 5.12.

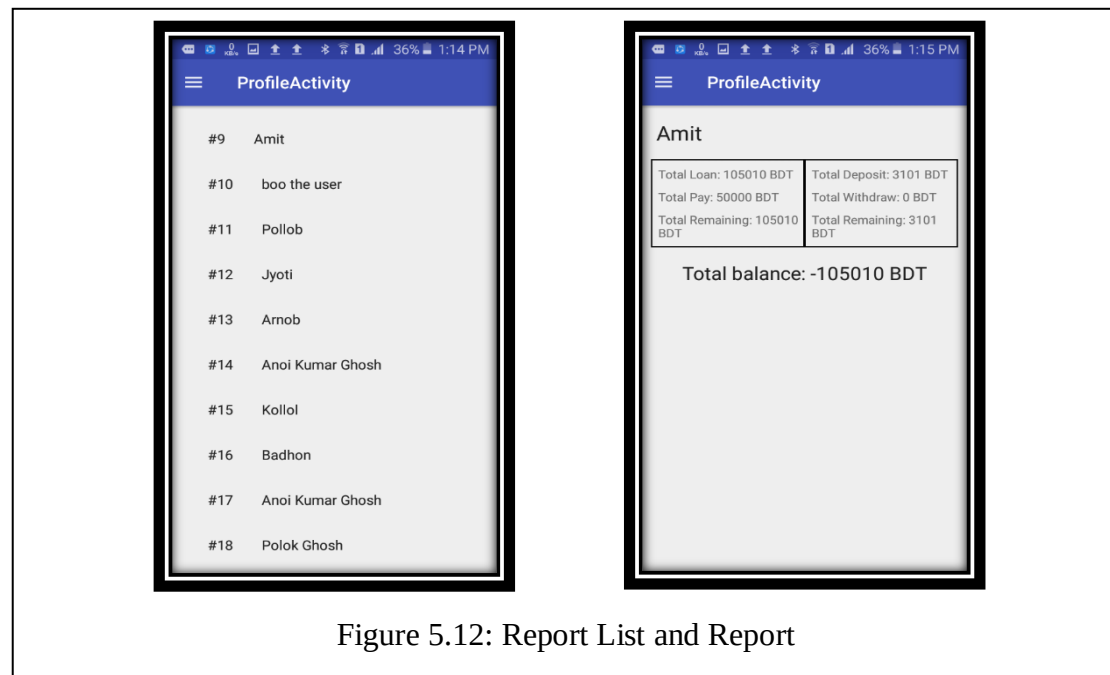


Figure 5.12: Report List and Report

5.2.9 Member Home Page

After login the system. From this page member can see his profile name, phone number, email, occupation. And also see his menu bar. This feature shown in figure 5.8

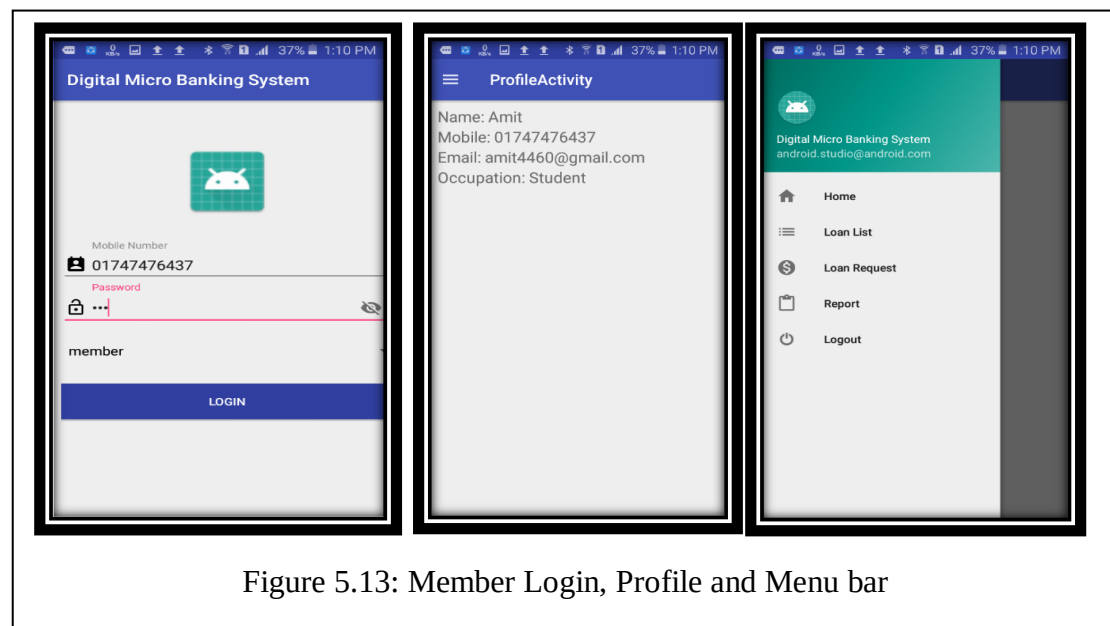
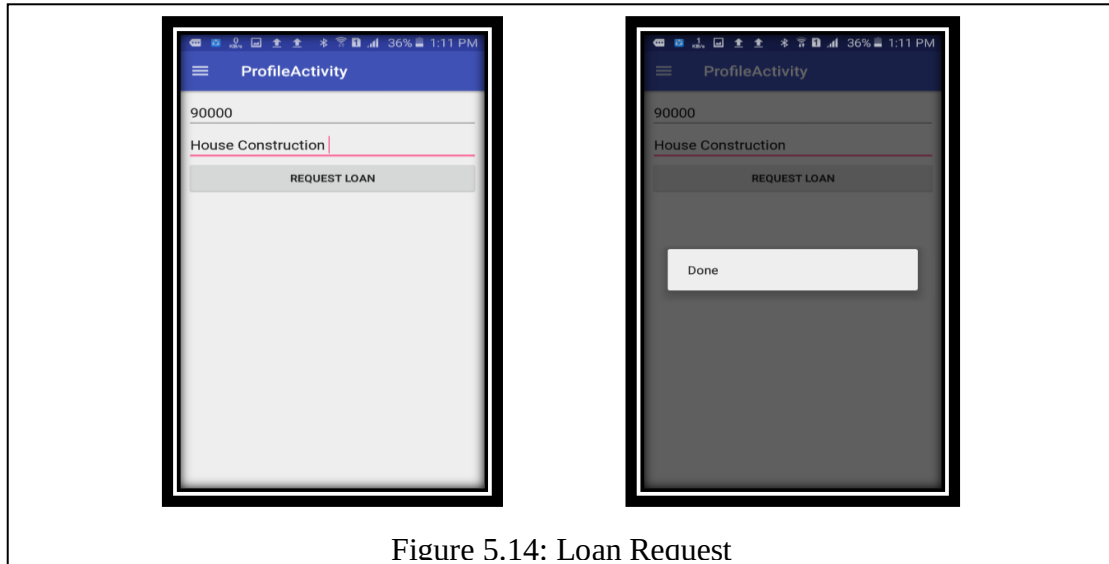


Figure 5.13: Member Login, Profile and Menu bar

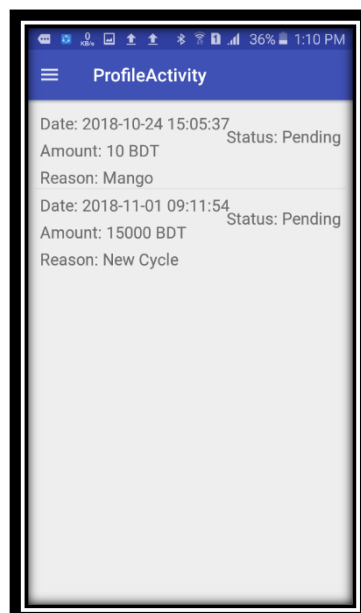
5.2.10 Loan Request Page

When member click Loan Request menu from menu bar then open the loan request page, shown in figure 5.14.



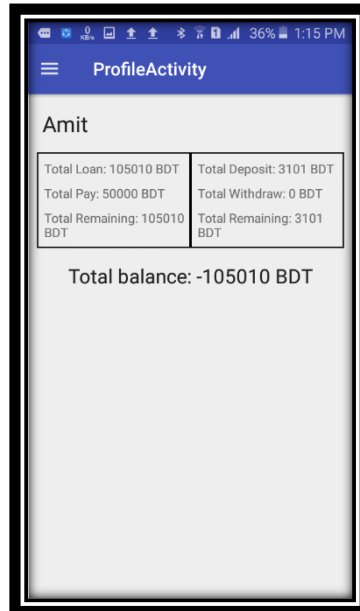
5.2.11 Loan List Page

After clicking loan list menu member see his/her loan list. That is pending. When 50% executive accept his/her loan then that loan accept and remove from this list, shown in figure 5.15.



5.2.12 Report Page

This is a mini account statement. Member know about loan, pay, deposit, withdraw, total remaining in this page figure 5.16 is member Report page.



The screenshot shows a mobile application interface with a blue header bar containing a hamburger menu icon and the text 'ProfileActivity'. Below the header, the name 'Amit' is displayed. A table with two columns and three rows provides account details. The first row shows 'Total Loan: 105010 BDT' and 'Total Deposit: 3101 BDT'. The second row shows 'Total Pay: 50000 BDT' and 'Total Withdraw: 0 BDT'. The third row shows 'Total Remaining: 105010 BDT' and 'Total Remaining: 3101 BDT'. Below the table, the text 'Total balance: -105010 BDT' is displayed. The status bar at the top shows various icons and a battery level of 36% at 1:15 PM.

Amit	
Total Loan: 105010 BDT	Total Deposit: 3101 BDT
Total Pay: 50000 BDT	Total Withdraw: 0 BDT
Total Remaining: 105010 BDT	Total Remaining: 3101 BDT

Total balance: -105010 BDT

Figure 5.16: Member Accounts Report

5.3 Implementation of Interactions

Implementation of interaction is most important part of a system. Interaction means when we are in a specific function and go to another function that we want those time. We separate the function for a variant of the user. We design every user part very politely that user what he wants is indeed here. We design very carefully that the design attractive to users. An application Successions where the user is satisfied using the application. The Satisfaction level of our system is high.

5.4 Testing Implementation

When a system is implemented and test some specific function is called test implementation [6]. We have tested our system several times. Login, Executive registration, Accept loan, Loan report, Transection, Member registration, Loan request, view report. Test by us at various time. We have tested the following factors:

1. Login System.
2. Executive Registration System.
3. Member Registration.
4. Loan Request.
5. Loan list.
6. Accounts Report.
7. Accept/Reject Loan.
8. Transection
9. See Report
10. Amount Deposit/Withdraw/Loan pay

5.5 Test Results and Reports

System Testing Table show below abridge the result of system testing:

Table 5.1: System Testing Table

Test Case Id	Date Tested	Tester	Pass/Fail	Severity of Defect	Summary Of Defect	Closed Prior to Release?	Comment
1	25.10.2018	Tumpa	Fail	System crushed	Crushed	<Yes>	
2.	28.10.2018	Tumpa	Pass	One bug	Bug	<Yes>	
3	31.10.2018	Amit	Pass	No Defect	No Defect	<Yes>	

5.5.1 User Acceptance Testing

The table below abridge the test cases for user acceptance testing and the test result obtained each other.

Table 5.2: User Acceptance Testing

Test Case Id	Date Tested	Tester	Pass or Fail	Severity of Defect	Summary Of Defect	Closed Prior to Release?	Comment
1	25.10.2018	Tumpa	Fail	Yes	Database Defect	<Yes>	
2	28.10.2018	Pollob	Pass	Yes	System Crushed	<Yes>	
3	28.10.2018	Jyoti	Pass	Yes	System Crushed	<Yes>	
4	28.10.2018	Kollol	Pass	Yes	System Crushed	<Yes>	
5	28.10.2018	Badhon	Pass	Yes	System Crushed	<Yes>	
6	31.10.2018	Aniket	Pass	No Defect	No Defect	<Yes>	
7	31.10.2018	Anoy	Pass	No Defect	No Defect	<Yes>	
8	31.10.2018	Polok	Pass	No Defect	No Defect	<Yes>	
9	03.11.2018	Amit	Pass	No Defect	No Defect	<Yes>	

CHAPTER 06

Conclusion and Future Scope

6.1 Discussion and Conclusion

For the grace of **Almighty God**, we have successfully completed our project and documentation. After the long-term of thinking, Discussion, implementation we are in the last session and happy of completion. Our system reduce the hassle of time.

Until now normally we know there is a Joint Accounts made of some members in the association in a bank who work to collect and withdraw money and keep all the information. The ordinary members do not know whether the money is deposited or not.

Well, now these problems have changed. Digital Micro Banking System has changed the process. By using our platform members can easily get the updates of their amount. Members can check their previous amount and employees can also. Members can also take emergency loan by the 50% approval of the executive members immediately.

Digital Micro Banking System – An Online Platform for Employees and Members. Give facility to update current amount, communicate with employees and it also give facility to employees submit amount and update current information on posted job, give emergency loan permission online within short time.

Digital Micro Banking System is very useful for both the Employees and Members. Their most valuable time saved by using this platform. We try to reduce some things by our web application.

6.2 Scope for Further Developments

We have a future plan for the application. Some of the plans are:

1. Develop the payment system.
2. Most advanced update amount system.
3. AI base legal help.
4. Advance sending and requesting options.
5. AI base recommendation for you (Best banking system for you Mr...)

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APPENDIX

Appendix A: Project Reflection

As what I have learnt during the work on Digital Micro Banking System, a high performance team would be one with high performance and high relationship.

When we first started off, I did not think that our team was not the high-task one. But I think our group is identical in a sense that another group member has her own identical character and we actually complement each other.

It's just like how important for the composition of a team is. You need to recruit the right members to form a high-performance team. Perhaps, we were quite lucky to be put in the same team.

Although many would think that the task component would be more important than the relationship component, I think both are as equally important and complement each other.

What makes our team eventually develops into a high-task team is actually the good relationship we establish along the way. As we grow closer together, we actually developed a sense of belonging to the team. It's a "we're all in this together" kind of feeling. We want everyone to do well because we are a team.

One thing that I loved about our team is that we work together as one team, and not as an individual. I remembered how we put in a lot of effort to ensure that every member of the team has good content. We gave each other idea to develop content.

All in all, after doing this Digital Micro Banking System project together, I have come to realize that high relationship is a very important component in a team. It may be the factor that exuberance the team to achieve a high-task performance.

Lastly, we faced many problems when we developed this project but we solved this problem together. There are some parts of our project was difficult for us to develop but this was possible to complete because of the spirit of our team.