"SWEETCHAT"

– An Android Based Mobile Application

PROJECT BY

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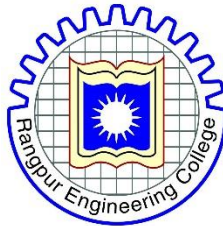
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ABSTRACT

This project provides the online chatting service named SWEETCHAT. This chat service provides the best option to users according to their flexibility. SWEETCHAT is a user friendly application which is easily accessible from any android based smartphone or Tab. SWEETCHAT gives the user flexibility to send text messages or other files according to their needs. It will be time efficiency because of instant messaging. Where one can see the received message from another user. There is no static cost service.

REPORT LAYOUT

Chapter 1: Introduction

In this chapter we have discussed about the introduction, motivation, projects objective, scope of the project and the expected outcome of the project. Later followed by the report layout.

Chapter 2: Background

We discuss about the background circumstances of our project. We also talk about the related works, comparative studies and challenges of the project.

Chapter 3: Requirement Specification

The chapter is all about the requirements like business process modeling and use case model of the project and their description, the logical data model and the design requirements.

Chapter 4: Design Specification

In this chapter, all the designs of the project are described. Front-end design for example-login page, sign up page and back-end design.

Chapter 5: Implementation and Testing

This chapter contains the implementation of database, Implementation of front-end design, Implementation of Java and XML code, Test Implementation and the test results of the projects.

Chapter 6: Conclusion and Future Scope

In the conclusion part we discussed about limitation of our application and the scope for further developments which pretty much derive about the project.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

SWEETCHAT is an online-based android mobile application. This is an online chatting app by which one user can messages to another. Here user can send text messages as well as images files and other files. Other messaging options like online audio calling or online video calling system ca be implemented in future.

Users must have to create an account firstly. Users can be able to send friend request or receive friend request. If two user are online friend, then they will be able to send message or files.

1.2 Project Objective

- People can easily register/login using their email or phone number.

- People can easily send message or other files instantly.

- With this mobile application, people will be able to use this app with internet connection.

- It is a user-friendly Android application for users.

- Saving the valuable time and easily getting the messages.

- Users can save money.

- People will easily understand all the features of this android application.

CHAPTER 2
BACKGROUND

2.1 Introduction

We designed interactive app which can be operated in many devices based on Android OS through internet. In our application users connectivity will enriched. They can collaborate with each other. For the people, Our application represents as a new medium to collaborate.

2.2 Related work

Now a day, there are many Application those are working on the field of online messaging. The aim is helps to the peoples in an efficient messaging service. Here we have listed a few high indexed smart phone Application those we have found after searching https://play.google.com/store/apps.

Top 4 online messaging service related to our application in Bangladesh are:

1. WHATSAPP Application
2. VIBER Application
3. WECHAT Application
4. TELEGRAM Application

There are many more also.

There are many mobile applications also in Google Play Store which are helpful for messaging service with users.

2.2.1 WHATSAPP Application

WhatsApp is a freeware, cross-platform messaging and Voice over IP (VoIP) service owned by Facebook. It allows users to send text messages and voice messages, make voice and video calls, and share images, documents, user locations, and other media.

WhatsApp was founded in 2009 by **Brian Acton** and **Jan Koum**, former employees of Yahoo!.. Koum named the app WhatsApp to sound like "what's up". On February 19, 2014, months after a venture capital financing round at a $1.5 billion valuation. Facebook announced it was acquiring WhatsApp for US$19 billion, its largest acquisition to date. Figure 2.1 shows the WHATSAPP application home page.

Figure 2.1: A Screenshot of WHATSAPP Application [2]

2.2.2 VIBER Application

Viber is a cross-platform voice over IP (VoIP) and instant messaging (IM) software application operated by Japanese multinational company Rakuten, provided as a freeware for the Android, iOS, Microsoft Windows, macOS and Linux platforms. In addition to instant messaging it allows users to exchange media such as images and video records. Viber Media might have been founded in **Tel Aviv**, Israel, in 2010 by **Talmon Marco** and **Igor Magazinnik**, who are friends from the Israel Defense Forces where they were chief information officers. On February 13, 2014, Rakuten announced they had acquired Viber Media for $900 million.

Figure 2.2 shows the VIBER application home page.
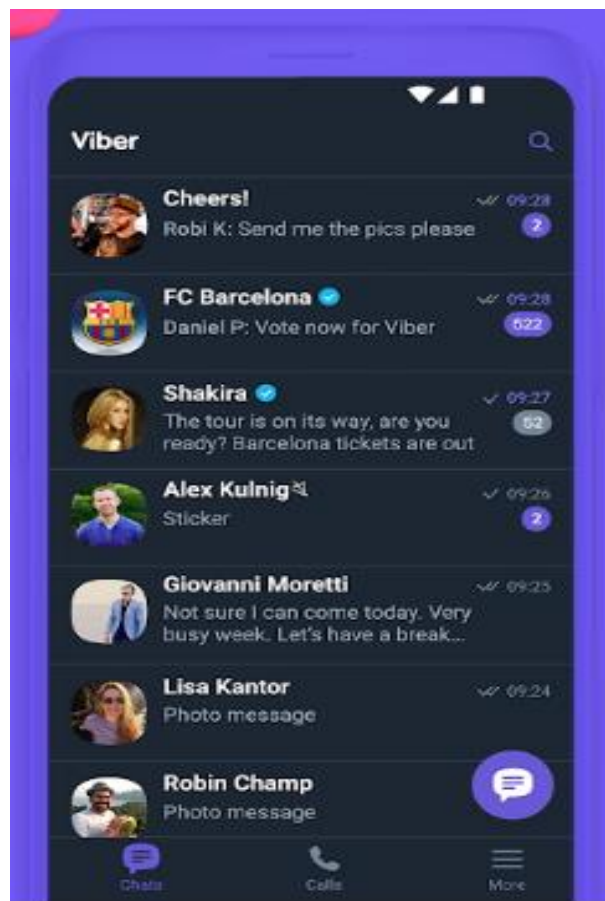
Figure 2.2: A Screenshot of VIBER Application [3].

2.2.3 WECHAT Application

WeChat is a Chinese multi-purpose messaging social media and mobile payment app developed by Tencent. It was first released in 2011, and become one of the world's largest standalone mobile apps in 2018, with over 1 billion monthly active users. WeChat has been described as China's "app for everything" and a "super app" because of its wide range of functions. **WeChat** began as a project at Tencent Guangzhou Research and Project center in October 2010. The original version of the app was created by **Zhang Xiaolong** and named "Weixin" by Ma Huateng, CEO of Tencent and launched in 2011.

Figure 2.2 shows the WECHAT application home page.
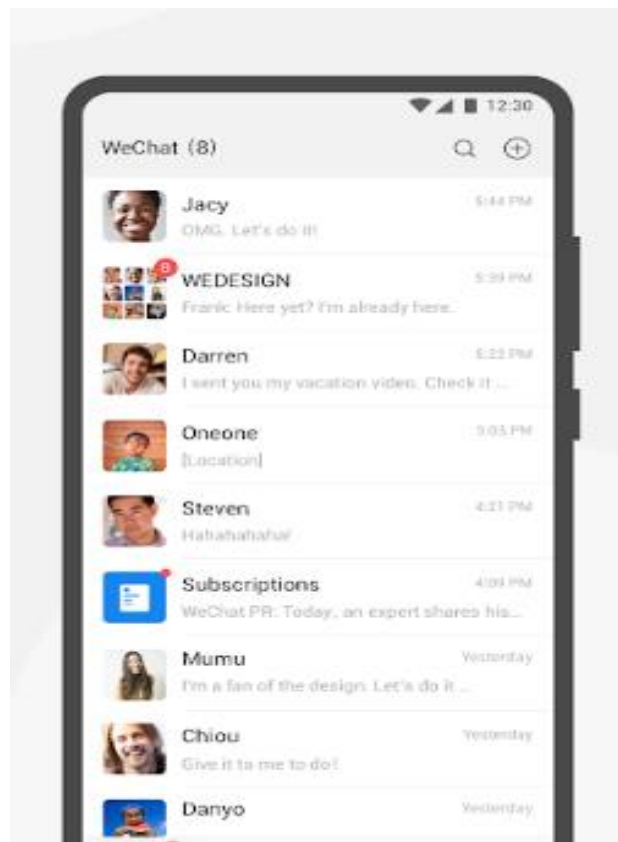
Figure 2.3: A Screenshot of WECHAT Application [4].

2.2.4 TELEGRAM Application

Telegram is a cloud-based instant messaging and voice over IP service. Telegram client apps are available for Android, iOS, Windows Phone, Windows NT, macOS and Linux. Users can send messages and exchange photos, videos, stickers, audio and files of any type.

Telegram's client-side code is open-source software but the source code for recent versions is not always immediately published, whereas its server-side code is closed-source and proprietary.The service also provides APIs to independent developers. In March 2018, Telegram stated that it had 200 million monthly active users.

Figure 2.4 shows the TELEGRAM application home page.
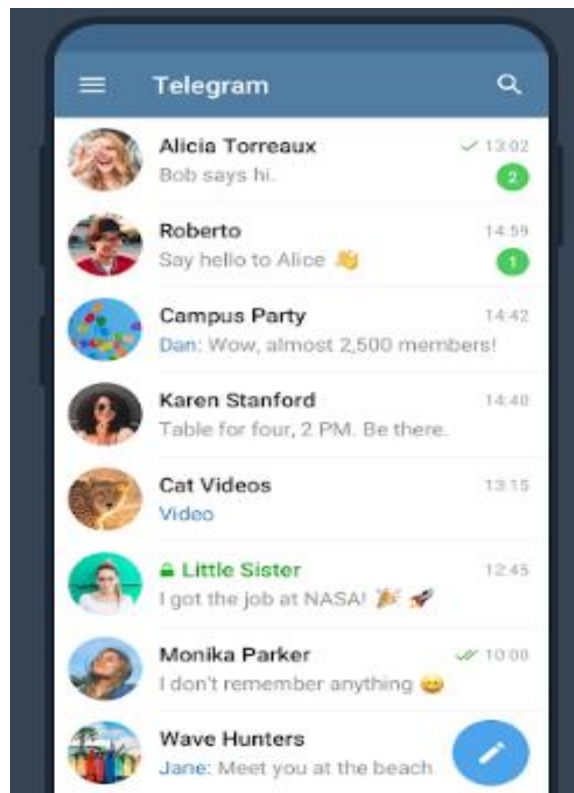
Figure 2.4: A Screenshot of SHOHOZ Rides Application [5].

2.4 Challenges

When any developer wants to make anything different type of thinking, then the developer has face to some challenges. As like this situation, our project has some different types of challenges.

There are some challenges are-

- Connecting Google Firebase API

- Handling the Data.

We believe that one day it will be place as favorite application of the user because of user friendly and helpful work in the society. Now this is our main goal. Now for completing our mission, all those things might be challenging for us.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business process modeling (BPM) is a modern process and methodology. Which the represented the activity of an enterprise of a system engineering to improve or analysis the current process. In this process one can easily represent their workflow of a system. The main characteristic of the methodology is based on diagram as 'Flow Diagram'. Here we are trying to describe our project's business model using data flow diagram. Data flow diagram describes how data is processed through a system or project [8].

Data flow diagram is one of the most useable Diagram to show the work flow of a system. It's easy and understand to any workflow. We used level 1data flow diagram for our work. Figure 3.1 shows the data flow diagram of the propose system.
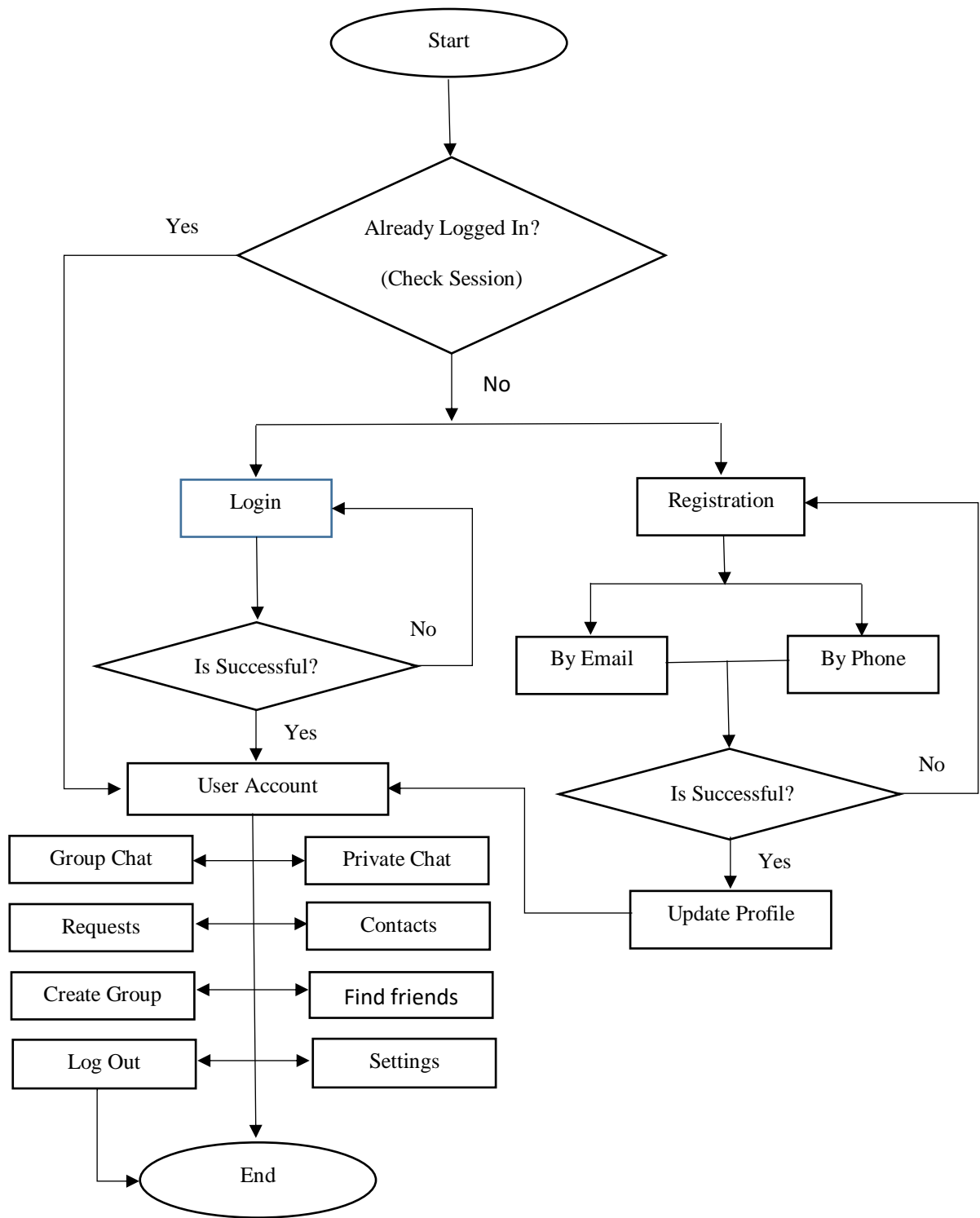
Figure 3.1: Data Flow Diagram of the Propose System

3.2 Use Case Modeling and Description

A use case is a list of actions or event steps typically defining the interactions between a role and a system to achieve a goal. Figure 3.2 shows the use case modeling of SWEETCHAT application.
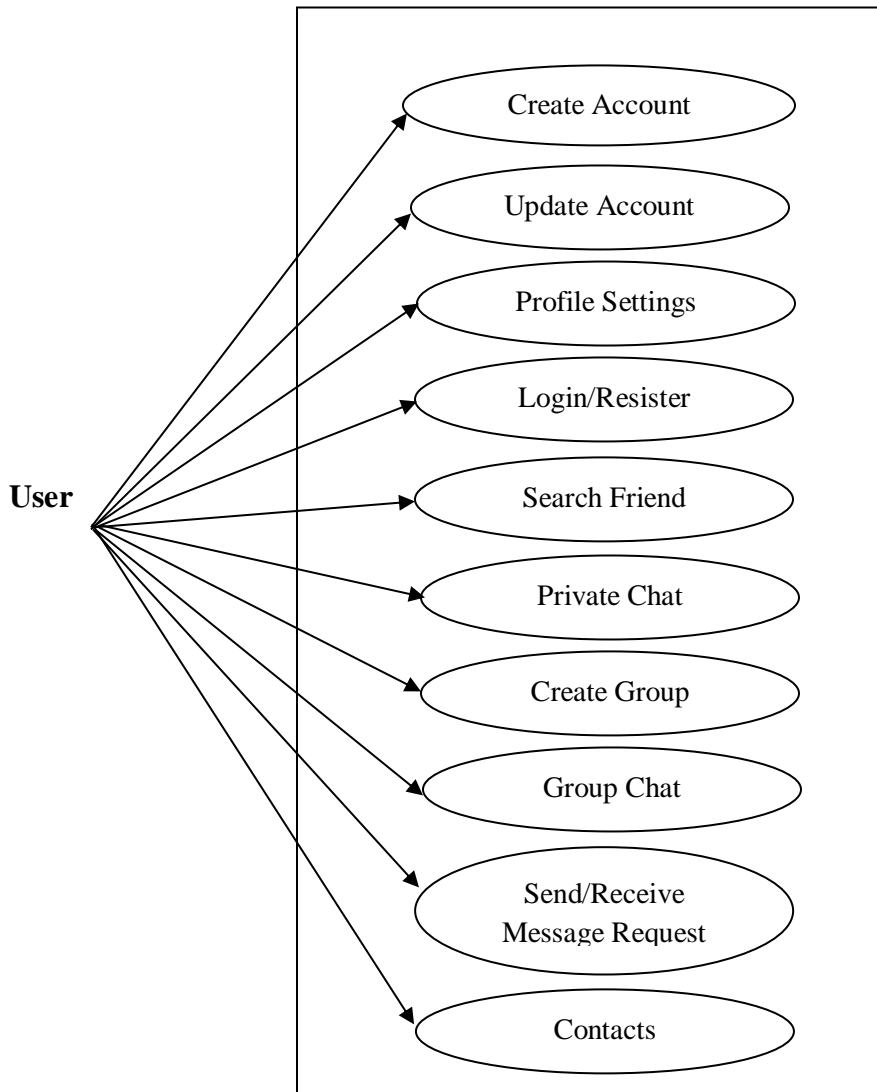

Figure 3.2: Use Case Modeling of SWEETCHAT

3.2.1 Use case Description

Table 3.1: Use case description of registration

Use Case	Registration
Primary Actor	User
Secondary Actor	Null
Pre-condition	Null
Scenario	Enter Email address
	Enter password minimum of 8 character
	Enter valid phone number (+880174*******)
	Enter Valid Confirmation Code
Post-condition	Registration successfully or failed
	Edit profile
	Update profile(user-name and user-status)

Table 3.2: Use case description of login

Use Case	Login
Primary Actor	User,
Secondary Actor	Null
Pre-condition	Registration
Scenario	Enter valid Email address/ Phone Number
	Enter password / Phone confirmation code
Post-condition	Login successfully or failed
	Edit profile
	Update profile

Table 3.3: Use case description of profile setting

Use Case	Profile setting
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	Update profile photo Update basic information
Post-condition	Update successfully or failed View profile

Table 3.4: Use case description of find friends

Use Case	Find Friends
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	Search your friends Send message request
Post-condition	Show result successfully or failed View information Get Friends

Table 3.5: Use case description private message

Use Case	Private Message
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	Select Friend Type Message Send Message
Post-condition	Show Message successfully send or not View Message

Table 3.6: Use case description get message request

Use Case	Get Message request
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	View Message Request Request pending Select request
Post-condition	Accept or Reject

Table 3.7: Use case description accept request

Use Case	Accept request
Primary Actor	User
Secondary Actor	Null
Pre-condition	Login
Scenario	Show message request View profile Add Contact Accept request
Post-condition	Contact add Show contact successfully added or failed

3.3 Logical Data Model

Logical data model mainly consisted of few elements like, data entities, attributes and key and relationship between the entities. By which the organization data and business rule is defined and govern the relationship between them. Implementation of the conceptual data model is considered by logical data model. Figure 3.3 shows the logical data model [9].
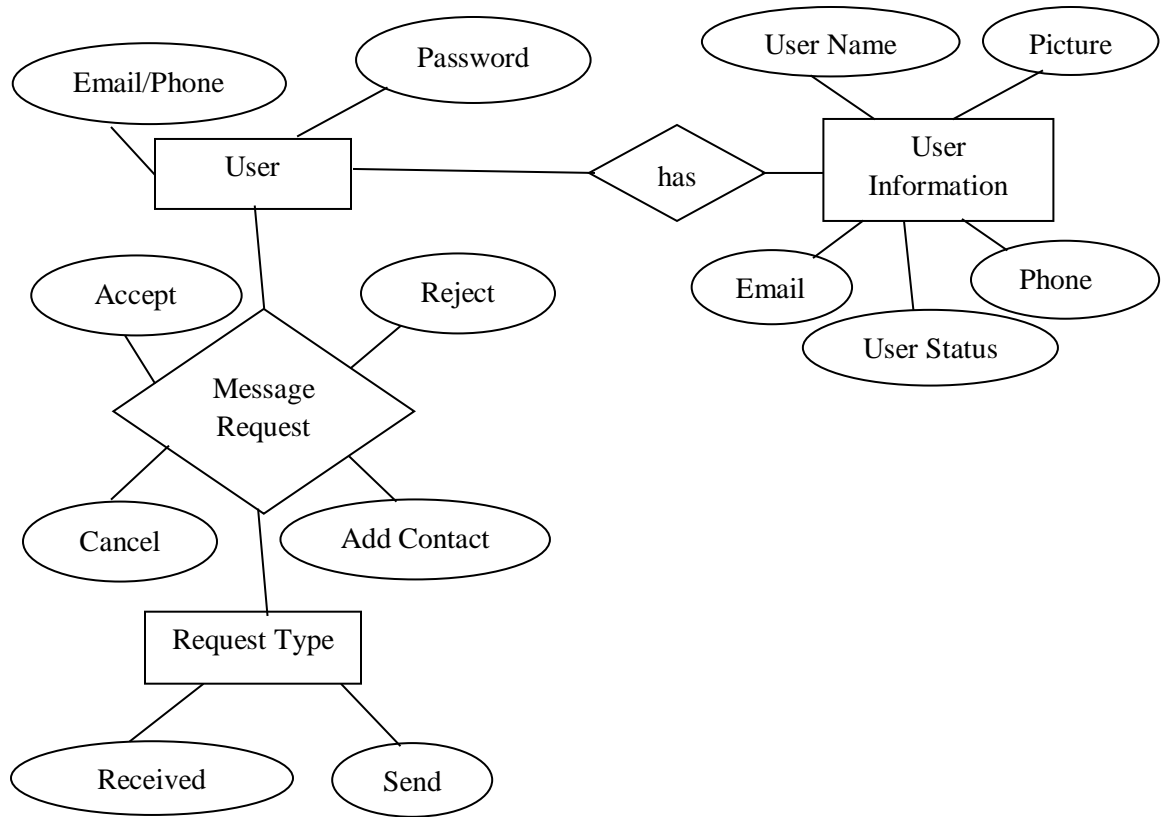
Figure 3.3: Logical Data Model

3.4 Design Requirement

- In our system, we have an authentication for our user. Every users have to complete registration process by using email or phone. As only registered users can send messages each other.

- We used Google Firebase authentication system for email and phone authentication.

- Every registered users must have a profile, after registration user must have to complete user profile info (username, user-status, etc.)

- We used Google Firebase Database to store the user's information as well as their messages.

- Users need to send message request or accept message request to contact each other using our system.

- Overall, the Google Firebase API makes our work easier.

We are trying to build our as complex free. We think about user when we design our application. Because of this reason, our android application is so user friendly.

CHAPTER 4

DESIGN SPECIFICATION

Design specification is a statement of how a design is developed. In the section of design specification, we try to show the front-end and back-end design of our smartphone application. We also discussed about many tools and platforms, which we use to develop our application.

4.1 Front-end Design

The front-end is everything involved with what the users sees, including design and some languages. The front-end design is the interface users see when he/she opens the application. That means to keep the users interested in the application, the most important part of a project is frond-end designing. Usually most of the users expect a simple user interface from the developer. If the front-end design is so complex, the application is fails to attract of the user. Figure 4.1 shows the front-end design of SWEERTCHAT application.
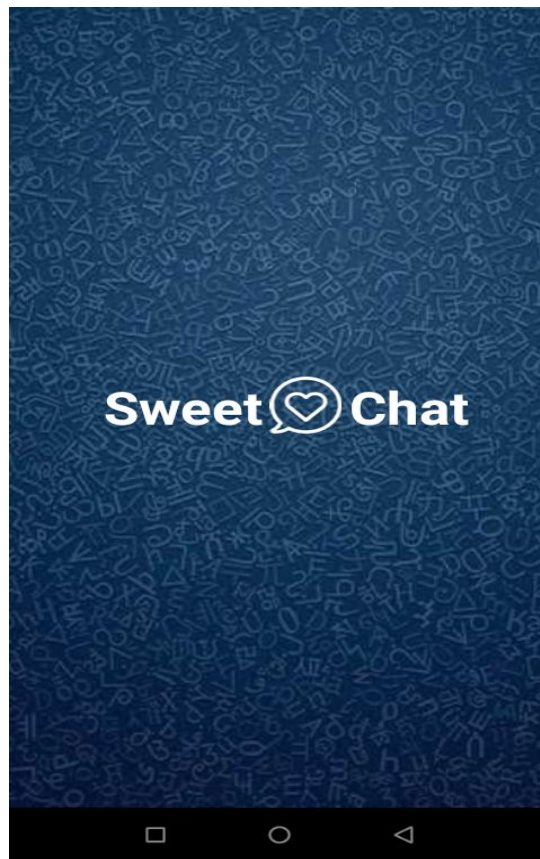

Figure 4.1: A Screenshot of Front-end Design of EMERGENCY RIDE

In this figure shows the front page of the user interface. Users will see it every time they open the application. We tried to design our application front-end as simple as possible. We also tried to make the graphical user interface easily accessible to the user. But it is really tough to keep the interface simple with this much of facilities. Yet we tried our best to give the users the best experience. Hope the users will find it easily assessable and get benefitted from this service. Figure 4.2 shows the Signup page of SWEETCHAT application. First time user can Sign up your account and update profile information. Now they can sign in using their email and password. Figure 4.3 is a snapshot of SWEETCHAT application Sign in page.