

SoberPoint – An Android based Platform for Drug Addicts

BY

Rakib Ahsan

ID: 153-15-6621

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

Supervised By

Senior Lecturer

Department of CSE

Daffodil International University

Co-Supervised By

Mr. Gazi Zahirul Islam

Assistant Professor

Department of CSE

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

SEPTEMBER 2021

APPROVAL

This Project/internship titled **SoberPoint – An Android based Platform for Drug Addicts** submitted by **Rakib Ahsan**, ID No: 153-15-6621, 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 11-09-2021.

BOARD OF EXAMINERS



Chairman

Dr. Touhid Bhuiyan
Professor and Head

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



Internal Examiner

Abdus Sattar
Assistant Professor

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



Internal Examiner

Md. Riazur Rahman
Assistant Professor

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



External Examiner

Dr. Dewan Md. Farid
Associate Professor

Department of Computer Science and Engineering
United International University

DECLARATION

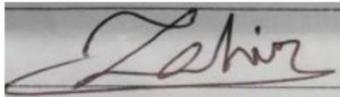
I hereby declare that, this project has been done by me under the supervision of **Md. Raja Tariqul Hasan Tusher, Senior Lecturer, Department of CSE** Daffodil International University and Co-Supervisor **Mr. Gazi Zahirul Islam, Assistant Professor, Department of CSE** Daffodil International University. I 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:



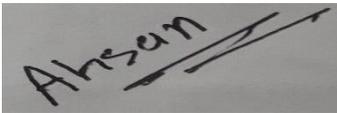
Md. Tariqul Hasan Tusher
Sr. Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:



Mr. Gazi Zahirul Islam
Assistant Professor
Department of CSE
Daffodil International University

Submitted by:



Rakib Ahsan
ID: 153-15-6621
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

Firstly, I would like to express my heartiest thanks and gratefulness to almighty God for His divine blessing made me possible to complete the final year project/internship successfully.

I am also very grateful and wish my profound indebtedness to Md. Tariqul Hasan Tusher, Senior Lecturer, Department of CSE Daffodil International University and Co-Supervisor Mr. Gazi Zahirul Islam, Assistant Professor, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of my supervisor in the field of “Android Development” to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

I would like to express my heartiest gratitude to Prof. Dr. Touhid Bhuiyan, Head, Department of CSE, for his kind help to finish our project and also to the other faculty members and the staffs of CSE department of Daffodil International University.

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

Finally, I must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

SoberPoint is an android based application for drug addicts. It has been created to aid the addicts in their rehabilitation process. It is a platform where they can express themselves freely without thinking about the skepticism of society. SoberPoint enables its users to create an online profile and let them interact and engage with other users of SoberPoint. It is a social community solely developed to help the drug addicts. Users of SoberPoint can share their thought and what is going on their life in this platform. Sharing their feelings and thoughts with others in the recovery community helps them to remain clean and sober. They can also find other people like them who are also going through the similar path and make small groups where they can engage in group chatting. They will also be able to look at their progress by counting the time and money they have saved on the journey of being sober. There is also a feature called daily inspiration, which motivates them and help them to get through the hard day by improving their mood and reducing negative thoughts in their mind. No matter how they feel or wherever they are if they are in need of a professional, they can also access the life-saving support through this application.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	i
Declaration	ii
Acknowledgements	iii
Abstract	iv
CHAPTER	
CHAPTER 1: INTRODUCTION	1-3
1.1 Introduction	1
1.2 Motivation	1-2
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	4-6
2.3 Comparative Studies	5
2.4 Scope of the Problems	7
2.5 Challenges	7

CHAPTER 3: REQUIREMENT SPECIFICATION	8-15
3.1 Android Studio	8-10
3.1.1 System Requirement	11-13
3.2 Firebase	14
3.2.1 Usages	14
3.3 Visual Studio Code	15
3.3.1 Features	15
CHAPTER 4: PROPOSED MODEL AND DESIGN	16-23
4.1 Block Diagram	16
4.2 Description of Application	17-18
4.3 Use Case Modeling	18
4.3 Use Case Analysis	19-22
4.4 System Architecture	23
CHAPTER 5: IMPELICATION AND TESTING	24-27
5.1 Implementation of Front-End Design	24-33
5.2 Implementation of Database	34
5.2.1 Data Table	34
5.3 Testing Implementation	35
5.3.1 Testing Methodology	36
5.3.2 Functional Testing	36
5.3.3 Unit Test	36
5.3.4 Compatibility Test	37

CHAPTER 6: IMPACT ON SOCIETY, ENVIROMENT & SUSTANITIBILITY	38
6.1 Impact on Society	38
6.2 Impact on Environment	38
6.3 Ethical Aspects	38
6.4 Sustainability plan	38
CHAPTER 7: DISCUSION AND CONCLUSION	39
7.1 Discussion and Conclusion	39
7.2 Scope for Further Development	39
APPENDICES	40
Appendix A: Project Reflection	40
Appendix B: Related Diagrams	40
REFERENCES	41

LIST OF FIGURES

FIGURES	PAGE NO
Figure 3.1: Interface of the android studio	9
Figure 3.2: Android Studio SDK manager	10
Figure 4.1: Block Diagram	16
Figure 4.2: Use case Diagram	18
Figure 4.3.: System Architecture	23
Figure 5.1: Log in & Log in using google	24
Figure 5.2: Sign up & Sign up using google	25
Figure 5.3: Home activity and Create post	26
Figure 5.4: My profile and its various fields, My post and Notification	27
Figure 5.5: Nearby people and Profile	28
Figure 5.6: Doctor list, Doctor profile & Making appointment	29
Figure 5.7: Appointment and Appointment List	30
Figure 5.8: My friends and Realtime chatting	31
Figure 5.9: My group, Create Group, Group List, Chatting & Add friends	32
Figure 5.10: Counter, Editing the counter and Daily inspiration	22
Figure 5.11: Database table name	34

LIST OF TABLES

TABLES	PAGE NO
Table 3.1: System requirements for version 4.x for windows OS	11
Table 3.2: System requirements for version 4.x for mac OS	12
Table 3.3: System requirements for version 4.x for Linux OS	13
Table 4.4: Use case Analysis	19
Table 5.1: Compatibility test result	37

CHAPTER 1

INTRODUCTION

1.1 Introduction

Addiction is a complex physical or psychological desire to do, take, or use anything, to the point where it impaired the person's capacity to function in daily life. Addiction not only hampers the day to day life of a person, but it also has severe health consequences. Long term use of some addictive substances makes its consumer dependent on them such a point that, it is very difficult to get rid of the addiction and that is why the process of rehabilitation becomes very tough for them, moreover our society have negative attitudes toward the addicts and as a result of that they feel themselves as out-casted and isolated from the society. SoberPoint has been developed to aid these people by giving them a place where they can express themselves with many others like them which will eventually help them to achieve their goal of rehabilitation. SoberPoint allows its users to create an online profile and let them interact and engage with each other like online communities like Facebook. In the SoberPoint community the users are free to share their thoughts and can talk openly about what is going on in their life. Sharing their thoughts and feelings with each other in the recovery community lets them help to stay clean and sober. They can also find other sober people around them and make small chatting groups. They will also be able to look at their progress by counting the time and money they have saved on the journey of being sober. There is also a feature called daily inspiration, which will motivate them and help them to get through the day by improving their mood and reducing negative thoughts in their mind. No matter how they feel or wherever they are if they are in need of a professional, they can also access life-saving support through this application.

1.2 Motivation

Drug abuse is a common problem in our society and those who once become addicted are hardly able to return back to their productive functioning. They become rejected from everywhere. They cannot fit into the society, workplace, and community or not even in their own family. Our society often looks at them negatively and nobody tries to understand them and nor help them in their

difficulties. Young drug addicts are afraid of being labeled as addicts in the society, many of them even scared to discuss their problems with adults and they try to hide their problems and struggles as much as possible. Even though many try to take rehabilitation but unfortunately with lack of psychological support from the society and their family, they cannot go through the complete process of the rehabilitation and as a result they again get back to their addiction, many even join themselves in criminal offenses. At this point they can never be able to get back to normal life again.

To help those people who are trying to rehabilitate themselves from any drug use has motivated me to make an online android platform where they can express themselves freely without thinking about the skepticism of the society and also giving them a chance to get help from online professional psychologists as well. To ease the difficulties of these people has been my motivation to make this platform.

1.3 Objectives

- Design and implementing an android platform for drug addicts.
- Helping them to express themselves freely and share their experiences to others.
- Providing online guidance and motivation.
- Tracking out their progresses.
- Providing instant messaging between users.
- Making a small chatting community by groups.
- Online Counselling by psychologists.

1.4 Expected Outcome

SoberPoint helps the rehabilitation process of the addictive people. It aids them to complete their goal so that they do not lose in their journey of becoming sober and eventually get back to their previous life. I wanted to give them a platform where they can express themselves and share their experience and interact and discuss their problems and with the world and regaining their independence. This is the sole expected outcome of this application.

1.5 Report Layout

Chapter 1: In this segment we have describes the introduction of SoberPoint, Motivation, Objectives, Expected Outcome and the Report layout.

Chapter 2: Describes the background, the related works, Comparative Studies, Scope of problems and Challenges of the SoberPoint.

Chapter 3: Describes the Android Studio, System requirements, Firebase, Sublime Text.

Chapter 4: Describes the Block diagram, Description of application, Use case modeling and description, System architecture.

Chapter 5: Describes the Implementation of Front-end design, Back-end design, Data table name, Data type architecture, Testing Implication, Testing Methodology, Functional testing, Unit test, Compatibility test and result.

Chapter 6: Describes the Impact on Society, Impact on environment, Ethical aspects and sustainability plan.

Chapter 7: Describes the conclusion and Scope of further developments has been described.

CHAPTER 2

BACKGROUND

2.1 Introduction

Abuse of any drug or substance is a worldwide problem. Addiction to drugs and alcohol is becoming a global trend in lifestyle, affecting both rich and poor countries. In the South Asian countries like Bangladesh, India, Nepal, Pakistan, drug abuse has been one of the main problems of youths. In these countries, the drugs commonly abused are cannabis, alcohol, opium, heroin, cigarettes and pharmaceutical preparations. These substances are very highly addictive and the path of recovery is even harder. Continuous abuse of drugs not only poses a threat to their physical health but also it affects their mental health and our society sees the addicts negatively and as a result they get cut off from everywhere. Sometimes their own family does not give them any support as it also raises socio economic problems as well. When addicts try to rehabilitate themselves, they become very lonely and cannot share their difficulties to others. This is actually a devastating blow to them. As they cannot share their problems that they are facing, it makes them depressed psychologically and many develop bipolar disorder, anxiety disorder like PTSD and attention-deficit condition like ADHD which eventually hampers their rehabilitation process and many times they cannot complete their goal become more addicted. To help them to overcome physiological problem by giving them a completely different platform solely developed for them. Interaction and expressing their feeling with everyone will ease the pain that they are having and motivate them to complete the process of rehabilitation and getting their lives back to the track.

2.2 Related Works

Pear reSET: Pear reSET is a therapeutic application created by Pear Therapeutics. It's the first Addiction Recovery app to be approved by FDA which is the US Food and Drug Administration for use in the treatment of substance abuse disorders. This application provides a 12 week program plan with weekly check-ins. It is presently only available for download to those above the age of 17 who have a doctor's prescription. The reSET app guides users through a series of entertaining

lessons to help them reclaim their lives. By taking a quiz after each class, users can complete the activities at their own pace and earn virtual incentives.

RecoveryBox: RecoveryBox is addiction rehabilitation application that helps people becoming more accountable for their addiction and convince them to go on an addiction recovery path. Its users may create a list of all the actions they wish to track and then the software assess their success rate using green, yellow, and red light system which is similar to traffic lights and then this application evaluates their success based on their frequency, which helps them understand what factors most influence the rating.

rTribe: rTribe is an addiction rehabilitation program that helps people overcome their drug, porn, and food addictions. It creates personal profiles and allows users to communicate via individual or group chat. Apart from that, it allows individuals to track their rehabilitation progress and get help whenever they feel the temptation to drink or participate in another addiction. The software also tracks user check-ins and sobriety days. The ability to identify when the user feels like consuming drugs is what makes the program one of the finest in terms of functionality. It may be able to create a preventative plan and select when and how to prepare for the triggers, which will be to create a preventative strategy. It is also possible to use the program to administer a test to assess the sort of addiction a person has. Through the use of rTribe, it is also feasible to develop a rehabilitation plan.

WEconnect Recovery: WEconnect Recovery is another addiction recovery application that gives its users daily reminders to stay on track to completely stay on the path of recovery. Using this application its user can create reminders to call the physiologist, meditate on anything that needs to provide that extra push, go to a group meeting, or also this application is capable of tracking their meetings, outpatient treatment, church attendance, group therapy, and one-on-one sessions with a coach. This application comes with a list of "clarity routines" that helps its users check off as they go throughout the day. Doing something creative, exercising, going to the doctor, journaling their recovery path, spending time in nature, listening to music and more are all examples of clarity routines. If any of the users are having a bad day, they can also utilize the

"SOS" function to seek additional help when they need it the most. It also allows users to choose whether they wish to manage their own recovery or help the recovery of others.

I Am Sober: I Am Sober is a sobriety tracking app that helps stay motivated by keeping track of the time even down to the second its users have been sober. This application's sobriety tracker is user-friendly and easy to use sobriety tracking feature. The tracker also tells how much money saved in the time users have been sober. I Am Sober comes with features that help build new habits and connect with a wide recovery community. It even comes with a withdrawal timeline, which lets you know what withdrawal symptoms one can expect in each stage. In the process of early recovery, it's important to know what withdrawal symptoms to expect so that the user can better cope with them.

SoberTool: This application manages cravings and prevents relapse. This application was created by a Harvard-educated chemical dependency counselor. It helps its user at the moment they hit craving. By just opening the application, it allows the user to choose the question or issue they are facing at that time. SoberTool will use that information and give its user the tool that they need to manage their cravings. It can either answer a few prompts to tell the app how they feel or use its search function. Other features include a sobriety tracker and a community forum so users can share their recovery journey with others.

Quitzilla: Quitzilla shares many features including a sobriety tracker and a motivation reminder, which helps with relapse prevention. It can use the app for any bad habit, not just substance use which makes this app especially unique is its habit-building feature. Quitzilla asks its users about addictions and bad habits that they want to change, and it supports them in changing them. It helps its user to stay motivated about their "why" of recovery, and it rewards them for progress made toward new habits.

2.3 Introduction Comparative Studies

Even though there are many similar android applications like SoberPoint but they are not as consolidated to help solely drug addicts like our application. SoberPoint do comprises with the similar Sign In and Sign Out, Chatting and Updatable user profile but nevertheless if we investigate deeply between the current options that are available and SoberPoint then we can surely say that there are contrasts and interesting highlights for taking care of the issues of drug addiction in SoberPoint. It has many unique features those other applications lack. SoberPoint gives its user a unique feeling of socialization. They are capable of chatting in a group and furthermore they can talk to professional doctors for counselling by taking up an appointment at any time, which will tremendously help them in their recovery process and give them a hope at their bottom low. I believe SoberPoint has the ability to successfully reduce the numbers of drug addicts and aid them.

2.4 Scope of the Problems

I used the Android environment for building this application, as Android is leading the mobile operating system share market with close to 73 percent but the problem will arise for the iOS and windows users. They will be deprived of accessing this application. Moreover, as internet connection is required for operating this application, those who are with no internet connection and living in rural areas with weak internet connection, will face issues using this application. Furthermore, it is being an online based application, all its operations are done over the internet that is why it is most likely vulnerable to security attacks, even though proper security measures have been taken to tackle these but we have to take into consideration that modern technologies are continuously evolving.

2.5 Challenges

With every new modern technology, changing roles and evolving user's demands, maintaining an effective application for drug addicts across the internet was not easy. There are numerous complications I have faced while developing this application, with each new feature there were some issues that I had to deal with.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Android Studio

Android Studio is Google's official IDE or Integrated Development Environment (IDE) for the Android operating system. It is based on the JetBrains IntelliJ IDEA software which was basically developed solely for the development of Android Applications. Android Studio is capable of running on Windows, macOS and Linux-based operating systems. After the release of Android Studio it became a replacement for the popular existing Eclipse Android Development Tools (ADT) and Android studio established itself as the primary IDE for developing local Android applications.

Android Studio was first announced by Google during the Google I/O conference on May 16, 2013. It was in an early preview stage in May 2013 which started from the version 0.1, then it entered beta version 0.8 in June 2014. The first stable Android Studio version 1.0 was released in December 2014. At that time Java was the preferred programming language for Android development and then on May 7, 2019 Kotlin became Google's preferred programming language for Android application development but still Java and C++ are still supported by Android Studio. The most recent stable version of Android Studio is 3.2 and which was released in July 2021.

Android software development is the process which enable us the ability to create new Android applications for the Android operating system. The Android Software Development Kit is generally used to build applications in the Java programming language. The product used to develop Android applications is ADT (Android Development Tools). It basically incorporates Eclipse IDE, which is a multi-language integrated advancement condition (IDE) with a base workspace and an extensible module arrangement for customizing. The most recent version of Android studio comes with the ADT module preconfigured and bundled within the IDE. This is how the IDE appears when all of the necessary components are verified.

The application programming interface (API) specifies how certain product segments should connect with one another. In most situations, an API is a library that includes specifics for scheduling, information structures, question classes, and factors. An API detail can have a variety of structures, such as an International Standard such as POSIX, seller documentation, the Microsoft Windows API, a programming language's libraries, Standard Template Library in C++, or Java API.

Google APIs and other specialized materials can be found at Google Code, which is the website for the developer tools and from there we can download them. Using the Google Data APIs, software developers can create such applications that are capable of reading and writing from the Google administrations. Current APIs for Google Apps, Google Analytics, Blogger, Google Base, Google Book Search, Google Calendar, Search, Google Code, Google Notebook, Google Earth, Google Spreadsheets, and Picasa Web Albums are now included in the bundle.

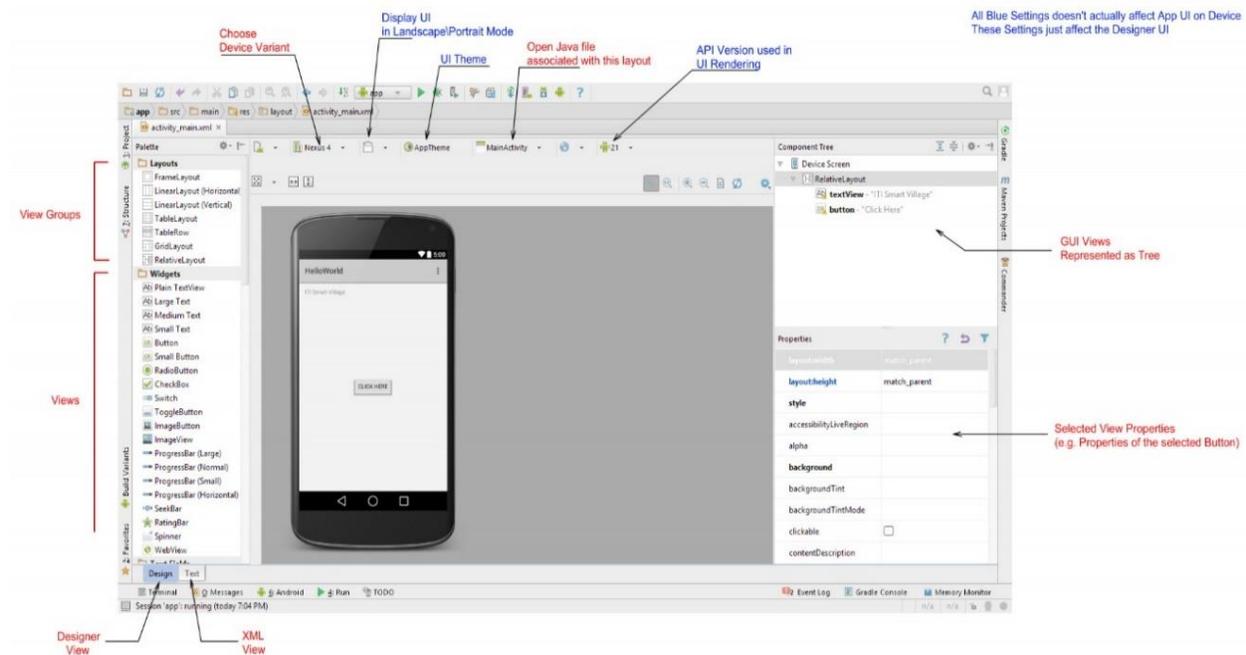


Figure 3.1: Interface of Android Studio

SDK is an abbreviation for software development kit which is also known as Devkit. It is a collection of software tools and programs that developers use to create applications for specific platforms. SDK tools will include libraries, documentation, code samples, processes, and guides for developers to use and integrate into their own apps. SDKs are software development kits that are intended to be used with specific platforms or programming languages.

It might be as simple as an application programming interface (API) as a few files to interface to a certain programming dialect or include contemporary hardware to communicate with a specific embedded framework. Basic instruments include investigating aids and various utilities that are often presented in a coordinated advancement state (IDE).

In the most recent variant of ADT, the android SDK includes to the IDE consequently when we unfasten and stack the IDE. SDK Manager allows us to obtain and use Google APIs in our programs.

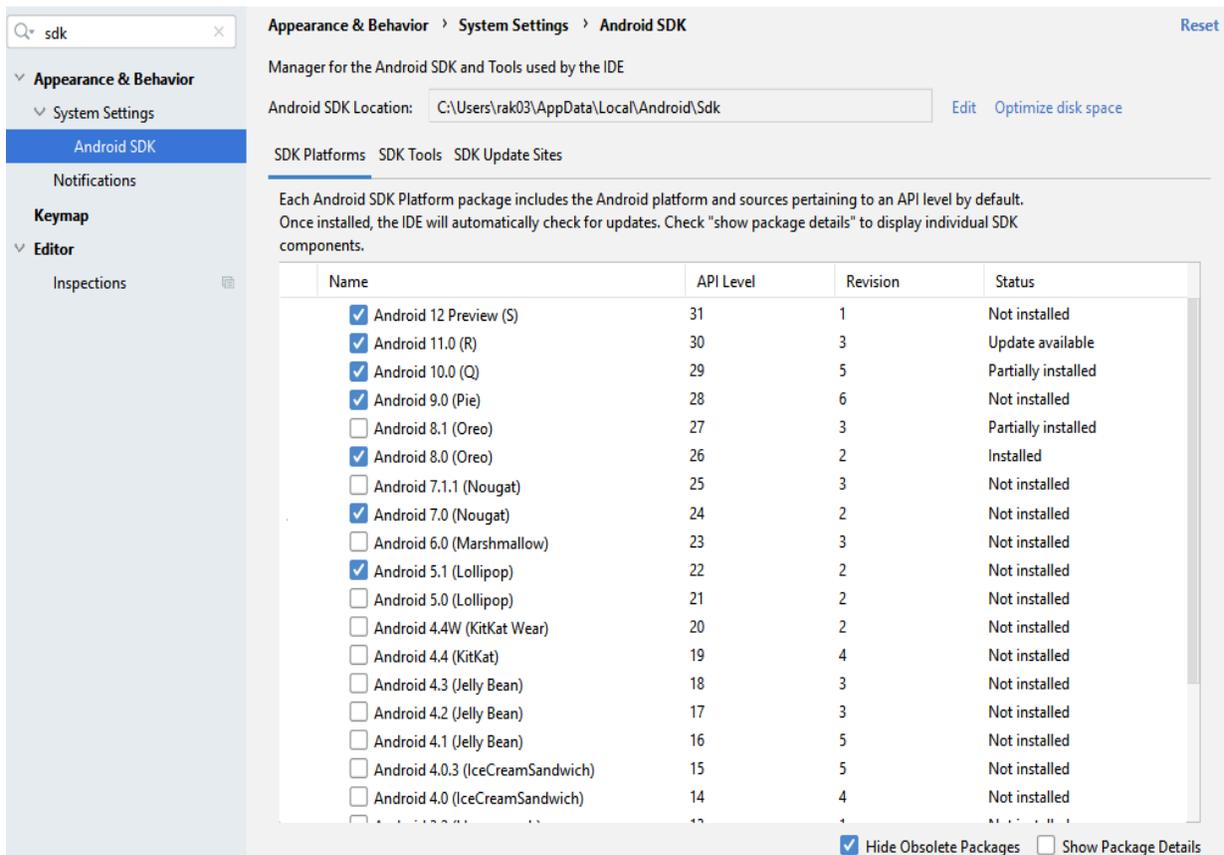


Figure 3.2: Android Studio SDK Manager

3.1.1 System Requirements

System requirements for running the Android Studio for different operating system is given below:

Table 3.1: System requirements for version 4.x for Windows operating system

Windows	
OS Version	Microsoft® Windows® 8/10
CPU Architecture	64 or x86 based CPU architecture; 2nd generation Intel Core or newer, or AMD CPU with support for a Windows Hypervisor
RAM	8 GB RAM or more
Disk Space	8 GB of available disk space minimum (IDE + Android SDK + Android Emulator)
Screen Resolution	1280 x 800 minimum screen resolution

Table 3.2: System requirements for version 4.x for Mac operating system

MacOS	
OS Version	MacOS® 10.14 (Mojave) or higher
CPU Architecture	ARM-based chips, or 2nd generation Intel Core or newer with support for Hypervisor Framework
RAM	8 GB RAM or more
Disk Space	8 GB of available disk space minimum (IDE + Android SDK + Android Emulator)
Screen Resolution	1280 x 800 minimum screen resolution

Table 3.3: System requirements for version 4.x for Linux based operating system

Linux	
OS Version	Any 64-bit Linux distribution that supports Gnome, KDE, or Unity DE; GNU C Library (glibc) 2.31 or later.
CPU Architecture	64 or x86 based CPU architecture; 2nd generation Intel Core or newer, or AMD processor with support for AMD Virtualization (AMD-V) and SSSE3
RAM	8 GB RAM or more
Disk Space	8 GB of available disk space minimum (IDE + Android SDK + Android Emulator)
Screen Resolution	1280 x 800 minimum screen resolution

3.2 Firebase

Google Firebase is a mobile application development platform that includes sophisticated capabilities for creating, managing, and improving application. Firebase is basically a set of technologies on which developers may trust and work on very easily. Firebase is capable of developing apps and extending them in response to developer demand. Firebase promises to tackle three major challenges for developers: creating an application, releasing it quickly, monitoring it confidently, and engaging users. It assists developers by providing access to services that they would otherwise have to create themselves, which allowing the developers to focus more on developing rich application experiences rather than worrying about developing everything from scratch. There are many features like databases, authentication, push messaging, analytics, file storage, and many more capabilities distinguish the Google Firebase platform from other services. Because these services are hosted in the cloud, developers may easily execute on-demand scalability. Firebase is presently one of the most popular application development platforms used by developers all around the world.

3.2.1 Usage

Firebase is a Backend-as-a-Service provider (Baas). It offers a number of tools and services to developers to help them create high-quality apps, expand their user base, and profit. It is based on the infrastructure of Google. Firebase is a NoSQL database application that saves data in JSON-like documents. It accepts passwords, phone numbers, Google, Facebook, Twitter, and other methods of authentication. The Firebase Authentication (SDK) can be used to integrate one or more sign-in methods into a project manually. Data is synced in real-time across all clients and stays accessible even when an app goes offline. Firebase Hosting is a quick way to host a web app. Its contents are cached in content delivery networks all across the world. Firebase is tested on both virtual and physical devices in Google's data centers. Many functions, such as Authentication, Realtime database, Hosting, Test lab, and Notifications, have been integrated into the Firebase program and are ready to use for developers, saving time and causing less headache.

3.3 Visual Studio Code

Visual Studio Code is an open source, free, cross-platform text editor created by Microsoft. It supports a wide range of programming languages such as Java, JavaScript, Go, Node.js, Python, and C++. It is built on the Electron framework, which is used to create Node.js Web applications using the Blink layout engine. Visual Studio Code used the same editor component which was used in Azure DevOps, formerly known as Visual Studio Online and Visual Studio Team Services. It is incredibly simple to use and also supports a wide range of third-party plugins, which greatly benefits developers.

3.3.1 Features:

The following is a list of features of Visual Studio Code:

- It is a very smooth text editor which can run on multiple operating system without any hassle
- It is very easy to use and faster than other available technologies. It can route to thousands of lines with ease. It has one of the unique features called IntelliSense, which provides its user smart completions.
- It has built in terminal for to use and furthermore Git commands are built-in in the sidebar.
- Extensive adaptability through JSON settings documents, including venture and stage specific settings.
- It is supported by all the major operating system like Windows, macOS, and Linux. It also supports many plugins to aid the developers with cross platform compatibility
- It is capable auto save, macros and repeat the last action which helps the developers to more focus on the programming.
- Users can also customize the UI with many available colorful themes.

CHAPTER 4

PROPOSED MODEL AND DESIGN

4.1 Block Diagram

The block diagram provides a top level listing of and basic interaction of applications. Below is the block diagram of SoberPoint. The figure is given below:

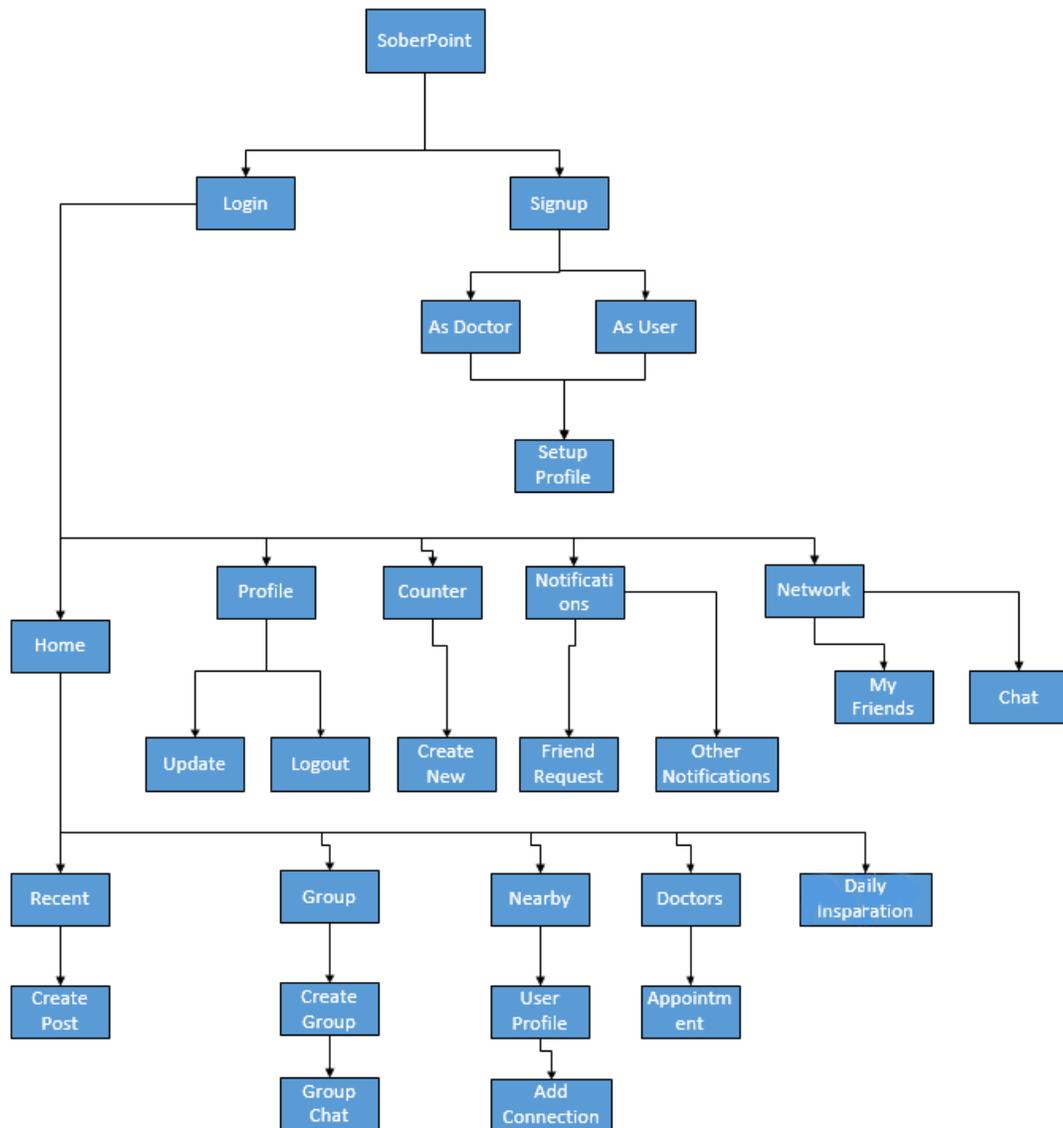


Figure 4.1: Block Diagram.

4.2 Description of Application

Log in: Logging is the process by which an individual user and doctor can access to our application by identifying and authenticating themselves.

Sign up: Sign up is used for creating an account in our application and in order to register, a user has to give some basic information about themselves and what kind of user they would like to be and there information will be stored in database.

Home: It is the main page where all navigation menus are located. Users can see everyone's post from here. They can also engage in discussion with other users by commenting and liking in the post.

Profile: It is the short description of a particular user. From here an end user can add other members to their friend list and from doctors' profile they can make an appointment for counselling.

Counter: This is where user will be able to count the time and money saved by using the application.

Notification: In notification process users will be able to see notifications about friend request and group invitation

Network: It is used for to initiate personal chatting with users' friends

Group: Group is for creating a small chatting community, users can create new group add members and join other groups. By joining in the group users will be able chat to multiple users of this application.

4.4 Use Case Analysis

Table 4.1: Use Case Analysis

<p>Use Case: Sign Up</p> <p>Actors: Doctors and Users</p> <p>Type: Primary</p> <p>Description: If teachers or students want to access this application. They must provide pertinent information to sign up</p> <p>Uses: Logging in</p> <p>Extended by: None</p> <p>Extends: None</p>
<p>Use Case: Log In</p> <p>Actors: Doctors and Users</p> <p>Type: Primary</p> <p>Description: To access the application, doctors and user must provide valid email and password to access the application.</p> <p>Uses: Doctor, User</p> <p>Extended by: None</p> <p>Extends: None</p>
<p>Use Case: Home</p> <p>Actors: Users and Doctor</p> <p>Type: Primary</p> <p>Description: Home is the navigation for all the menus further.</p> <p>Uses: Doctor, User</p> <p>Extended by: None</p> <p>Extends: Profile, Counter, Notification, Network, Group, Nearby, Doctors, Daily Inspiration</p>

Use Case: Profile

Actors: Doctor and User

Type: Primary

Description: Every doctor and user have individual profiles, user can book an appointment from doctor's profile and user can add another user in their friend list by going into user's profile and doctors will be able to see their appointment request.

Uses: Doctor, User

Extended by: Accept appointment

Extends: Update, Logout, Appointment, Connection request, Appointment request

Use Case: Counter

Actors: User

Type: Primary

Description: It is for counting out how much money and time they saved

Uses: User

Extended by: None

Extends: None

Use Case: Notification

Actors: Doctor and User

Type: Primary

Description: User and doctors will be able to see notifications

Uses: Doctors, Users

Extended by: None

Extends: None

Use Case: Network

Actors: Doctor and User

Type: Primary

Description: They will be able to see their friend list

Uses: Doctors, Users

Extended by: None

Extends: None

Use Case: Group

Actors: Doctor and User

Type: Primary

Description: Users will be able to get all the group related features from here

Uses: Users

Extended by: None

Extends: Group list, Create Group, Send member request, Group chat, Edit Group options

Use Case: Nearby

Actors: Users and Doctors

Type: Primary

Description: Users will be able to see who is online and access their profile and

Uses: Doctors, Users

Extended by: Add connection

Extends: Profile

Use Case: Doctors

Actors: Users

Type: Primary

Description: Users will be able to see all the doctors that are available for consulting and send an appointment request.

Uses: Users

Extended by: None

Extends: None

Use Case: Daily Inspiration

Actors: **Type:** Users and Doctors

Description: Section for motivational quotes

Uses: Users, Doctor

Extended by: None

Extends: None

4.5 System Architecture

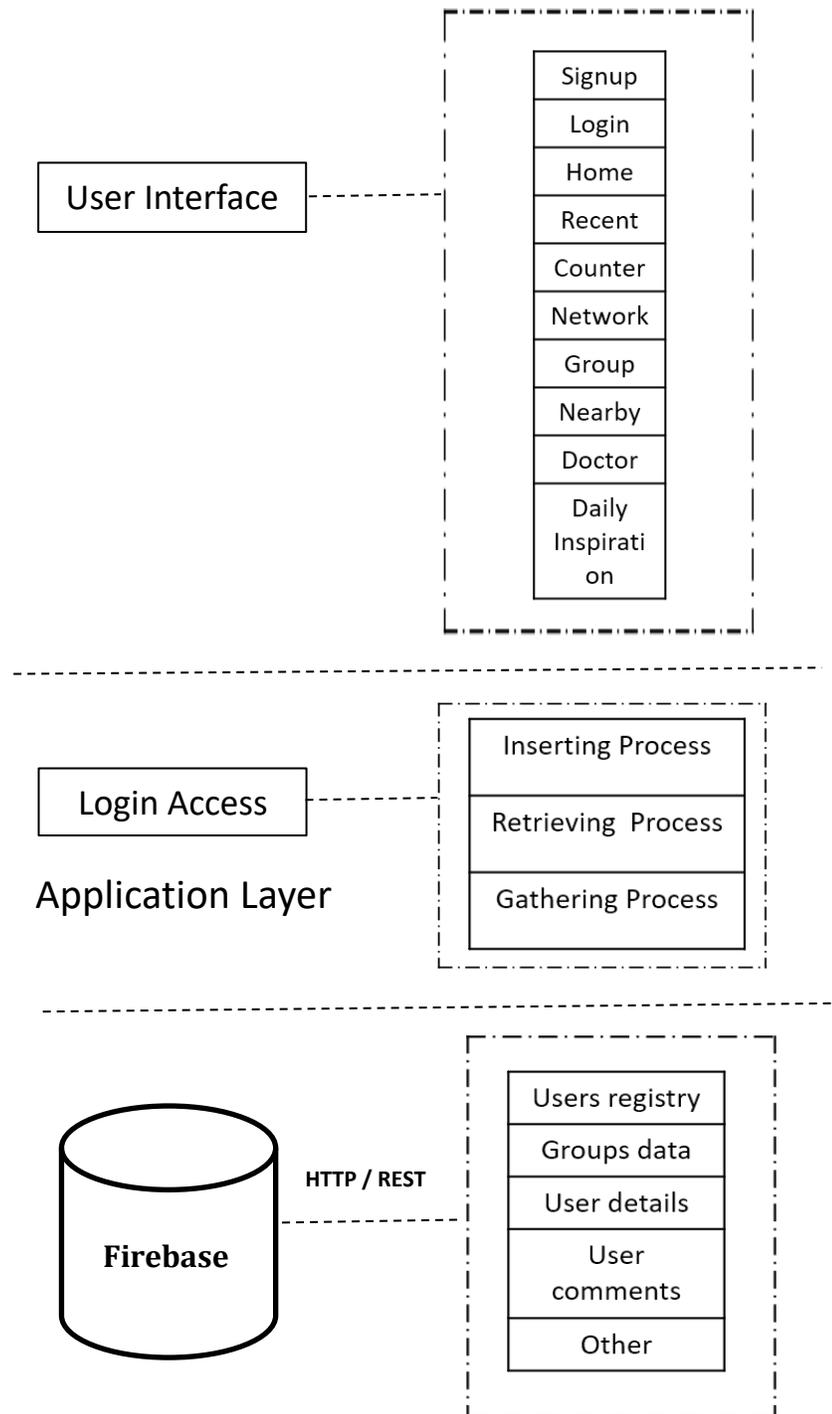


Figure 4.3: System Architecture

CHAPTER 5

IMPLEMENTATION AND TESTING

It is important to note that this project was built and developed fully on the basis of information gathered from existing systems, concepts, and fictitious scenarios. To remind readers of this study, many developers are still disputing about the fundamental concept of various components of Android-based applications. According to their assessment, we attempted to install the new system.

5.1 Implementation of Front-End Design

The screenshots below exhibit the project's main view. These screenshots has been captured on the compatible mobile phone and for to demonstrate the front end design of the application and how the application can be used.

Login: In the Login activity, the users can Login themselves into the application by giving their password or by signing into their google account.

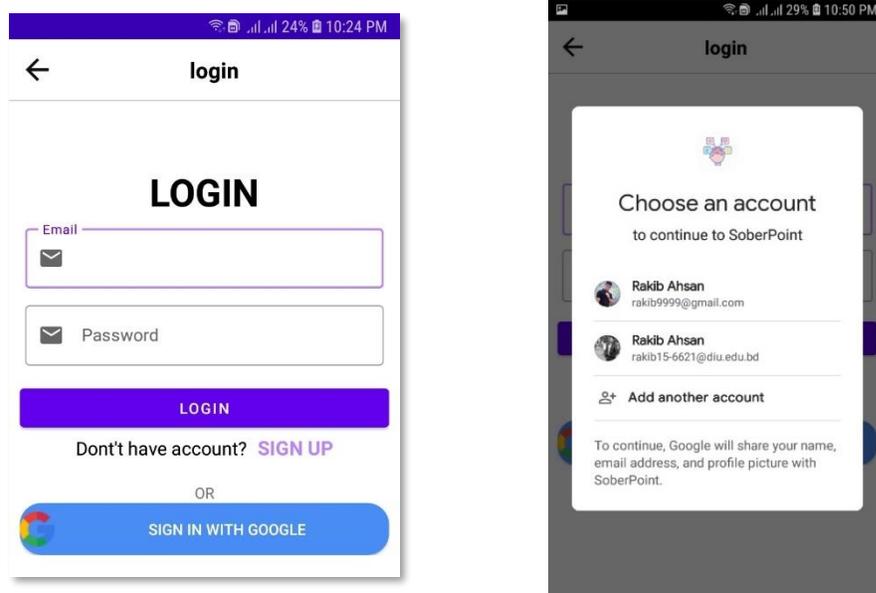


Figure 5.1: Log in and Log in using google account

Sign Up: In order to use the SoberPoint application users' needs to complete their registration. Users can do this by two ways, one by completing the validation form and second is to using their google account.

Sign up Form Fields Validation: Users need to fill up sign up form with valid information which include Full Name, Valid email account, how to use this application as a doctor or as an end user and lastly, they have to input their gender.

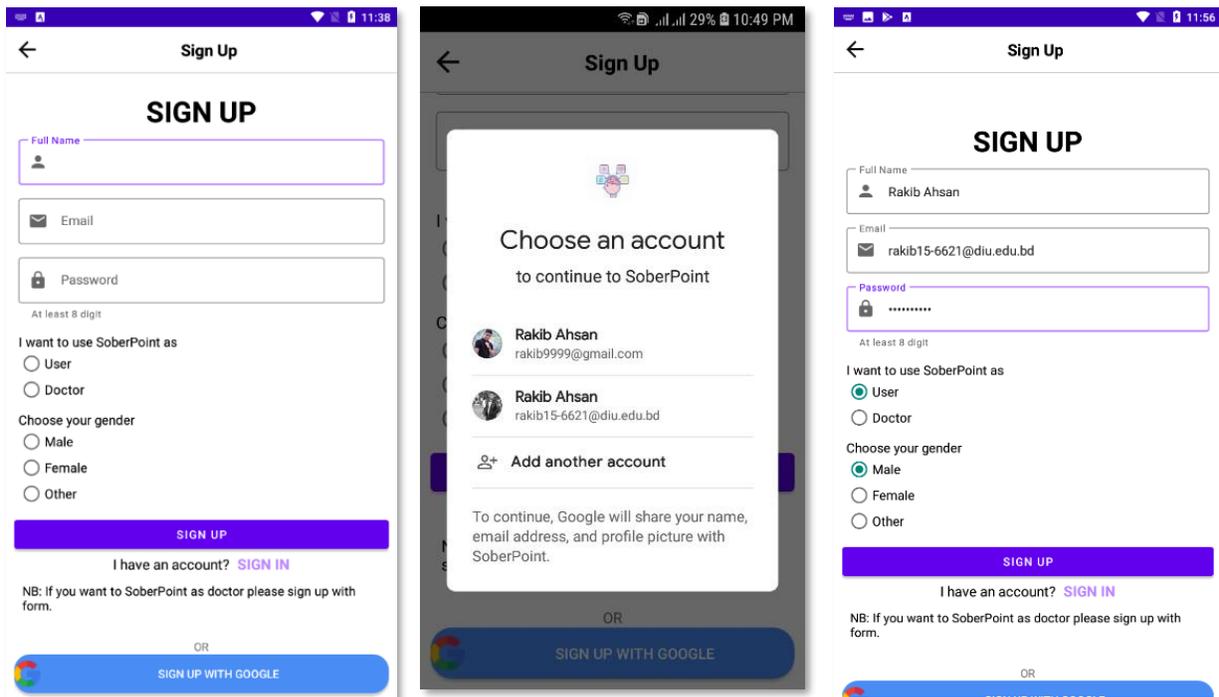


Figure 5.2: Sign Up, Sign Up using google account and Form Fields Validation

Home Activity: It is the main front activity of SoberPoint application. In this activity users can see the post of all the users of this application. They can like their post or comment to engage in a discussion. In the lower right side of the main interface there is a sticky plus button, by tapping this sticky button user can create their own post along with pictures with captions to other users of SoberPoint. There are four navigation menus Recent, Group, Nearby, Doctors and Daily Inspiration are located in the upper part of the application and five navigation menus Home, Profile Counter, Notification, Network are located lower part of the application.

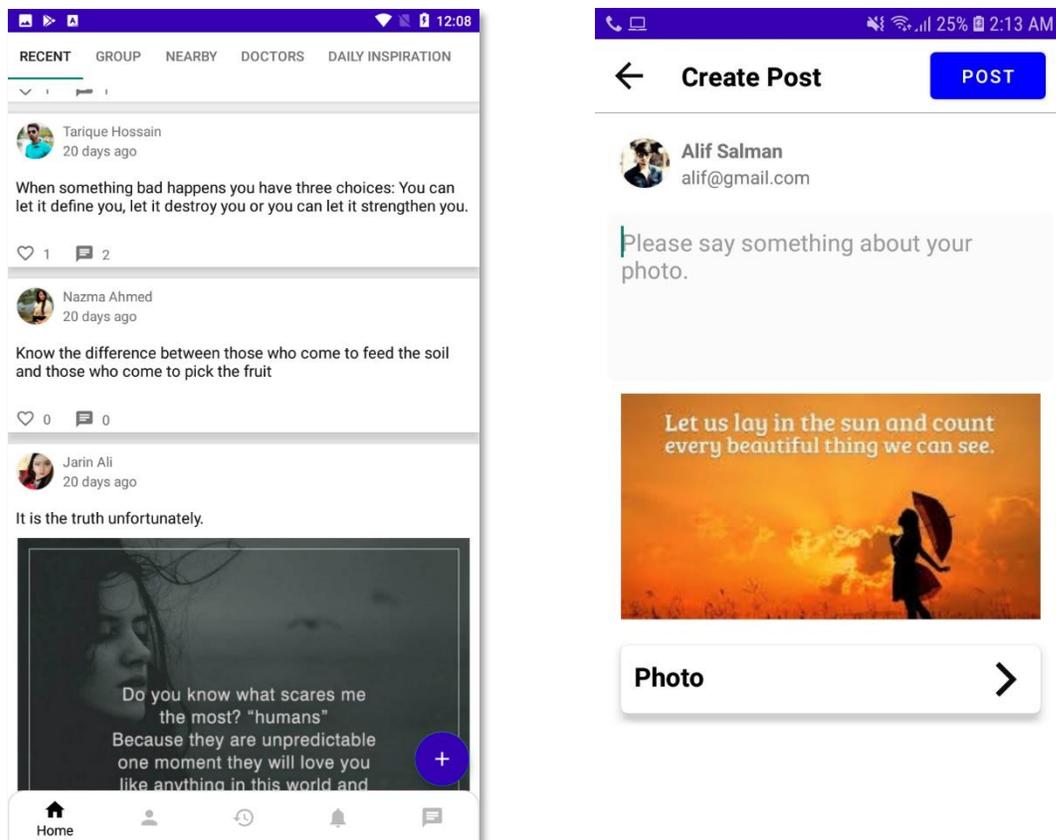


Figure 5.3: Home activity and Create post

My Profile: In this activity users will be able to see their personal profile. They can put various information about themselves which will be visible to other users of this application. Users can set their profile and cover photos from this activity. In the lower section of this activity users can see their previously created posts and they can also delete them. Users will be able to Logout from my profile

Notification: This activity is used for seeing the notifications. User will be able to see when other users of this application send them connection request.

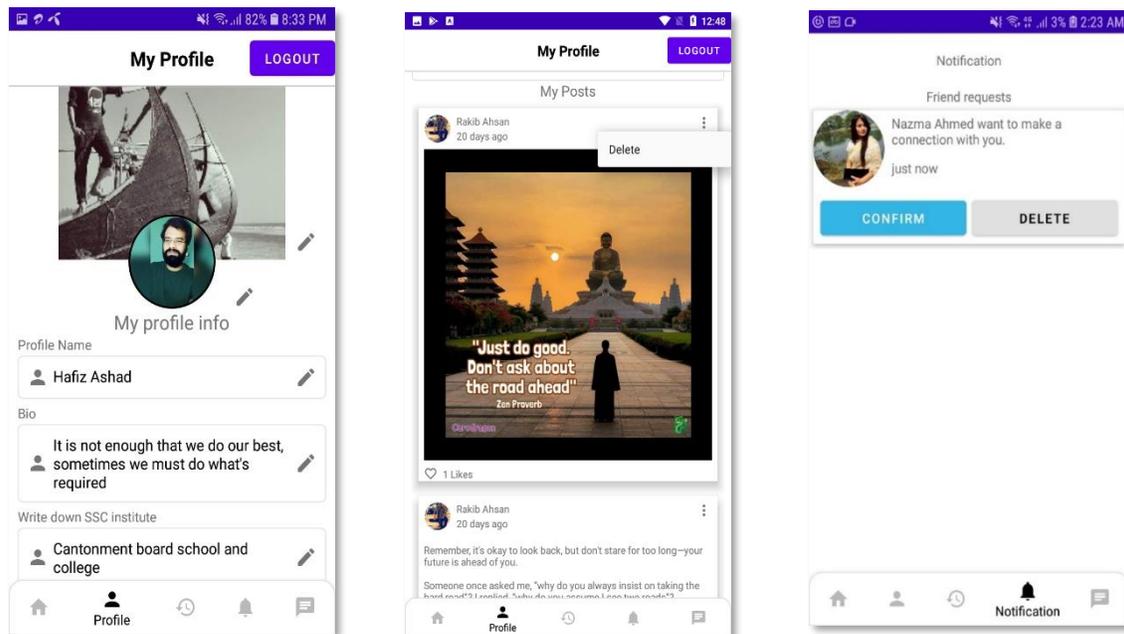


Figure 5.4: My Profile and its various information fields, my posts and notification

Nearby People: This activity shows the online users. From this activity users are able to access the profiles of other users

Profile: This activity is used for to see the various information of a particular user which is previously set by them. Profile picture and the cover photo is visible in this activity. If anyone become interested t, they can sent add connection request.

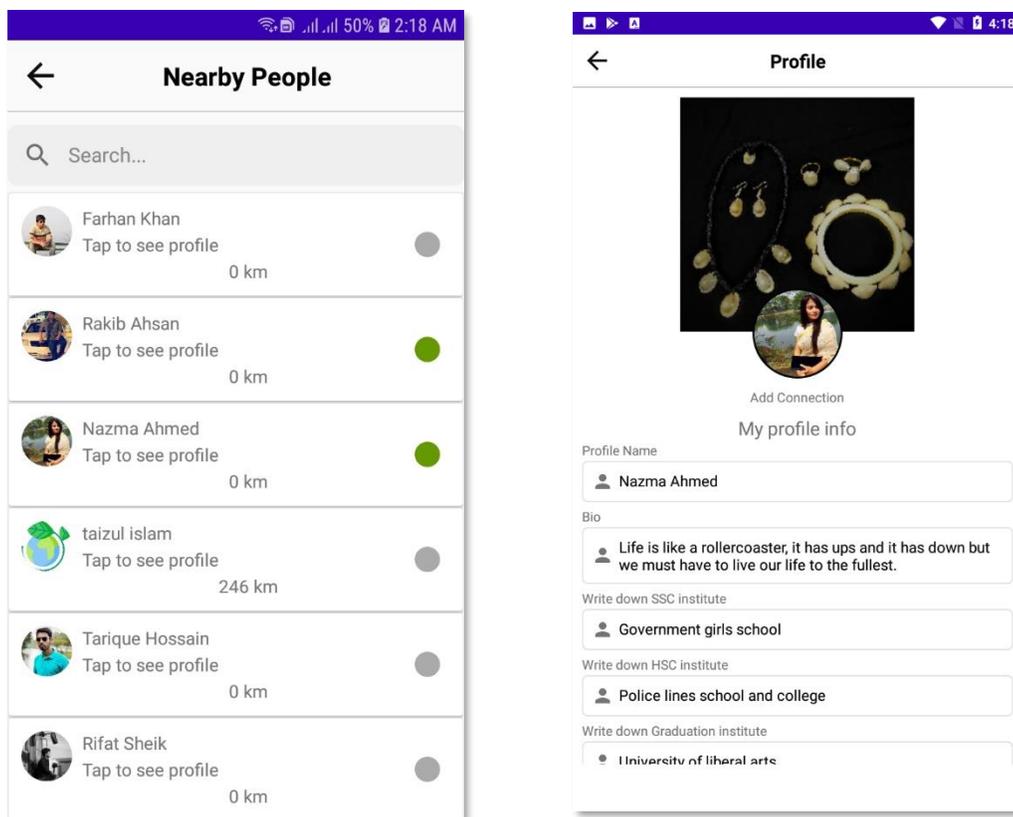


Figure 5.5: Nearby people and profile

Doctors: Doctor’s activity shows the available doctors for the consultation. End user will be able to see the information about the doctor and by clicking on the desired doctor profile, from there they will be able to make an appointment by sending them request with a date and phone number.

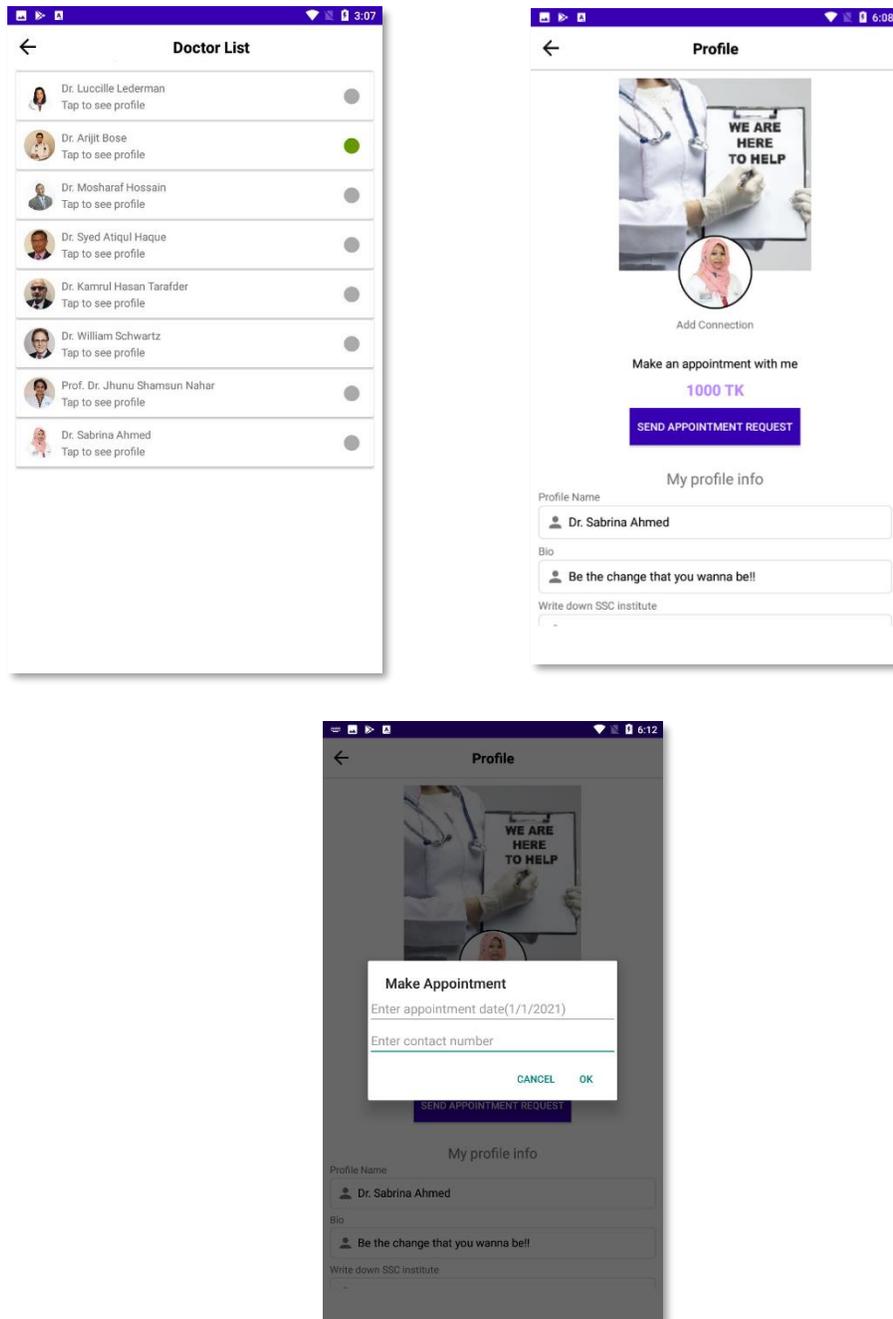


Figure 5.6: Doctor List, Doctor Profile and Making appointment

Appointments: Doctors will be able to see appointment requests from their profile activity. After clicking on the appointments, they will be able to see the appointment list. If the doctor wishes to accept the appointment, then they have to confirm it and after that phone call will be initiate to do the counselling over the phone.

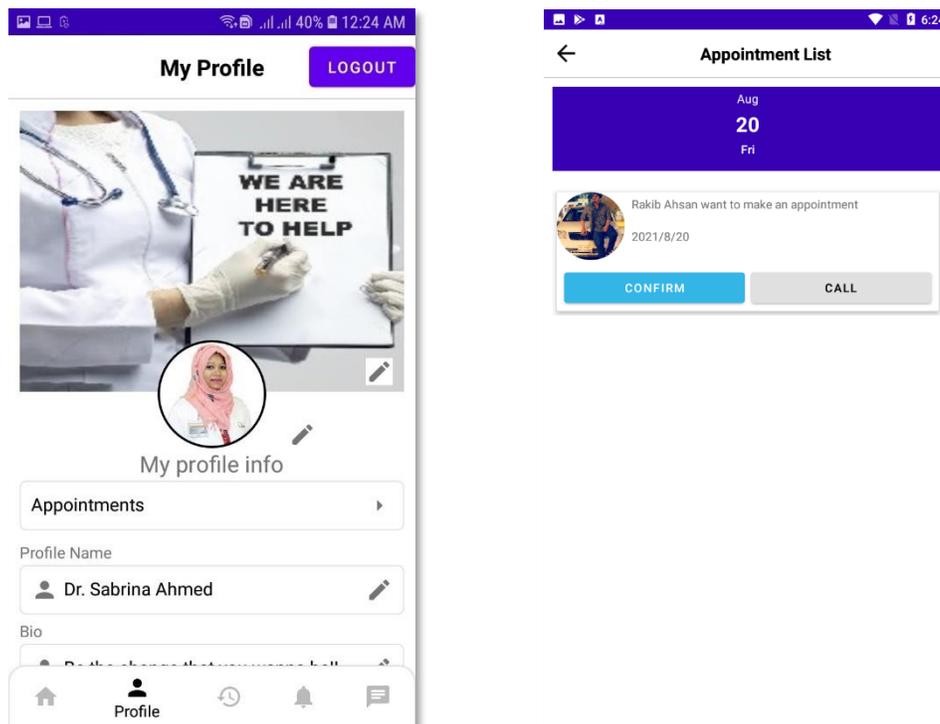


Figure 5.7: Appointment and appointment List

Network: In the network activity users will be able to see their friends list. There is a blue indicator that indicate if their friends are online or not and if they are online thy can initiate a real time communication by tapping on their profile. They will be able to communicate through text message, emoji's and also, they can send pictures.

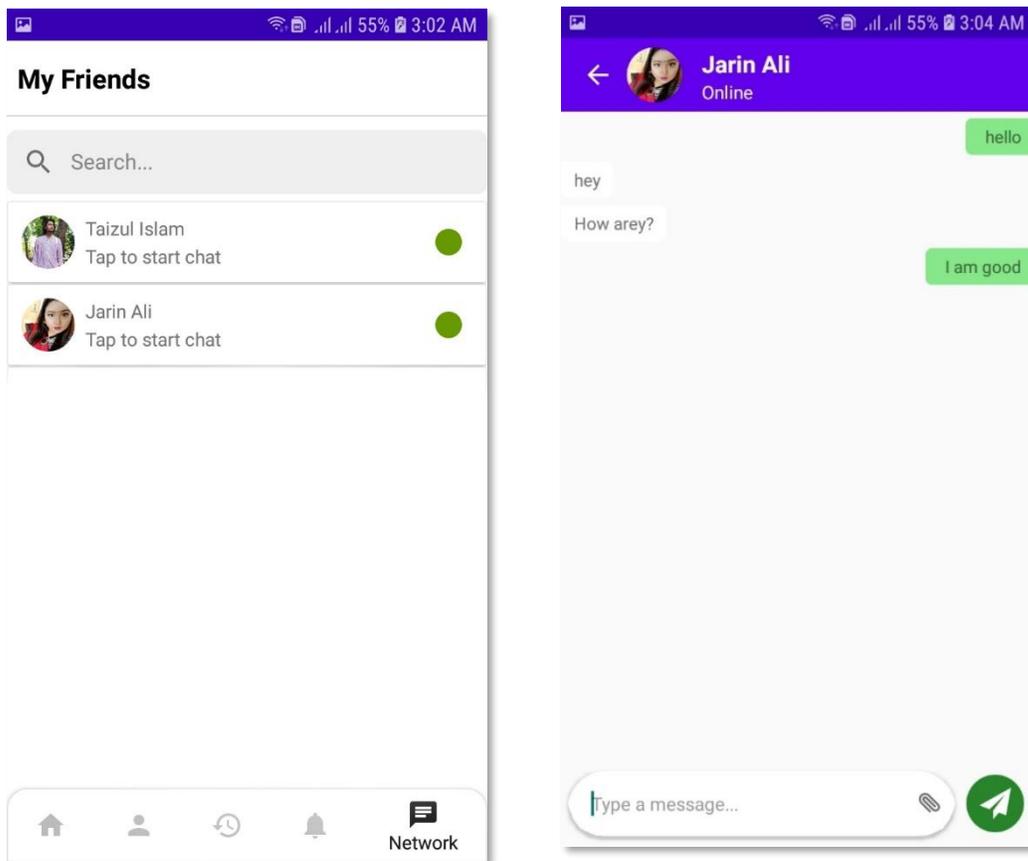


Figure 5.8: My friends and real time chatting

Group: In the group activity, users will be able to see the created groups. They can also create a new group by giving necessary title and group description. If they click on any group, they will be able to see the group information. If they want, they can send request to join a group and on the other hand creator of any group can edit, add participant and delete the group. Group members can initiate a chat by just clicking on their joined group. They can also see the participant of the group and also add their friends.

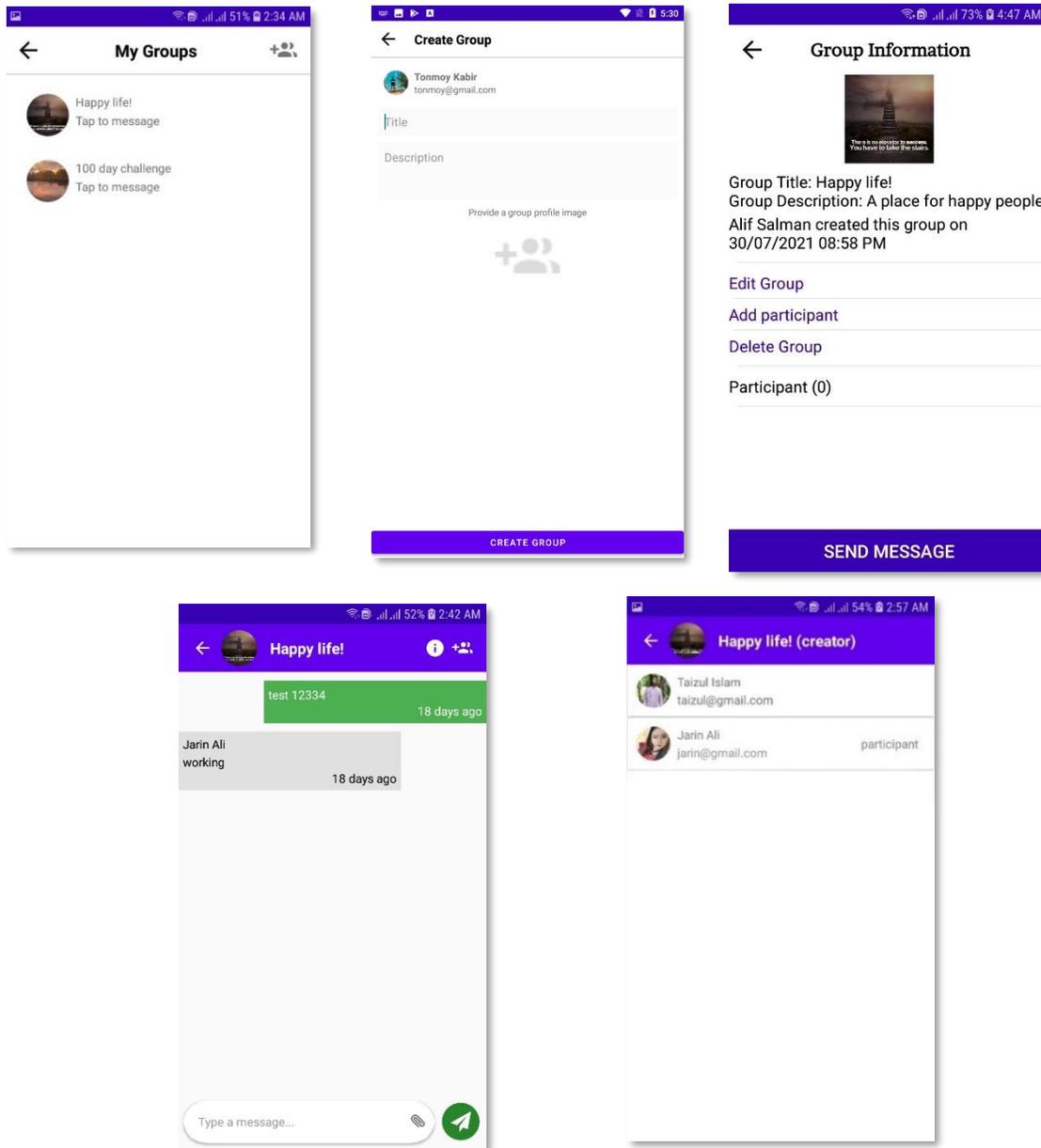


Figure 5.9: My Groups, Create group, Group information, Chatting and Adding friends

Counter: This activity is created to for the user to show them their progress. In this activity user will be able set how much money and time they wasted before being addicted and over the time counter activity will show them how much money and time, they saved by being sober.

Daily Inspiration: Daly inspiration activity motivate the user by giving them inspiration. This motivation will be their power to go through their hard days.

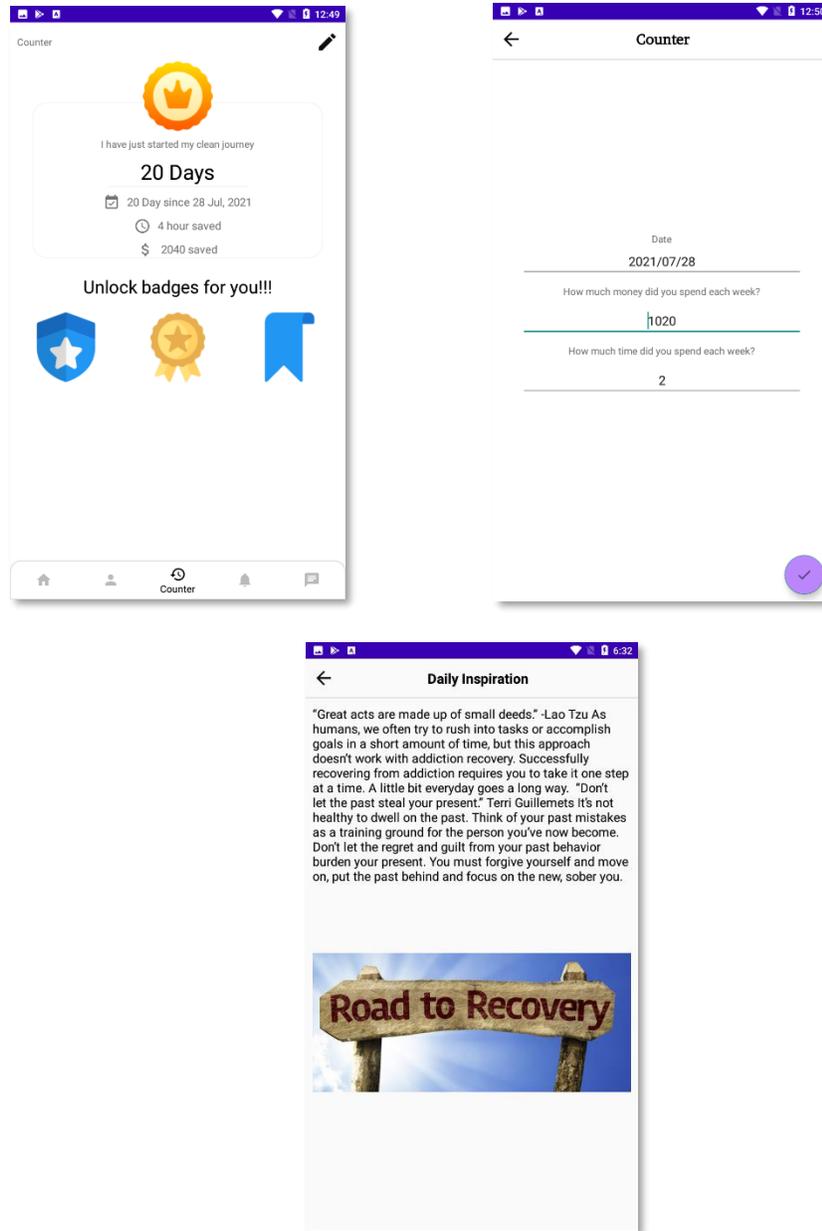


Figure 5.10: Counter, Editing the counter and Daily Inspiration

5.2 Implementation of Database

The process of creating a comprehensive data model of a database is known as database design. The logical data model includes all of the logical and physical design options, as well as physical storage characteristics, required to build a design in a data definition language, which may subsequently be used to establish a database. We utilized Google Firebase as our application's database. Firebase is a NoSQL cloud database in which information is synchronized over all the users in real-time, and stays accessible until the application goes disconnected. The Firebase Real-time Database is a cloud-facilitated database. Information is put away as JSON and synchronized in real-time to each associated user of the application.

5.2.1 Database Table

This is the main view of our Firebase database. In the database table there are eleven data tables. Firebase provides a real-time database and back-end as a serving. We can edit, delete and insert data in our database from here.

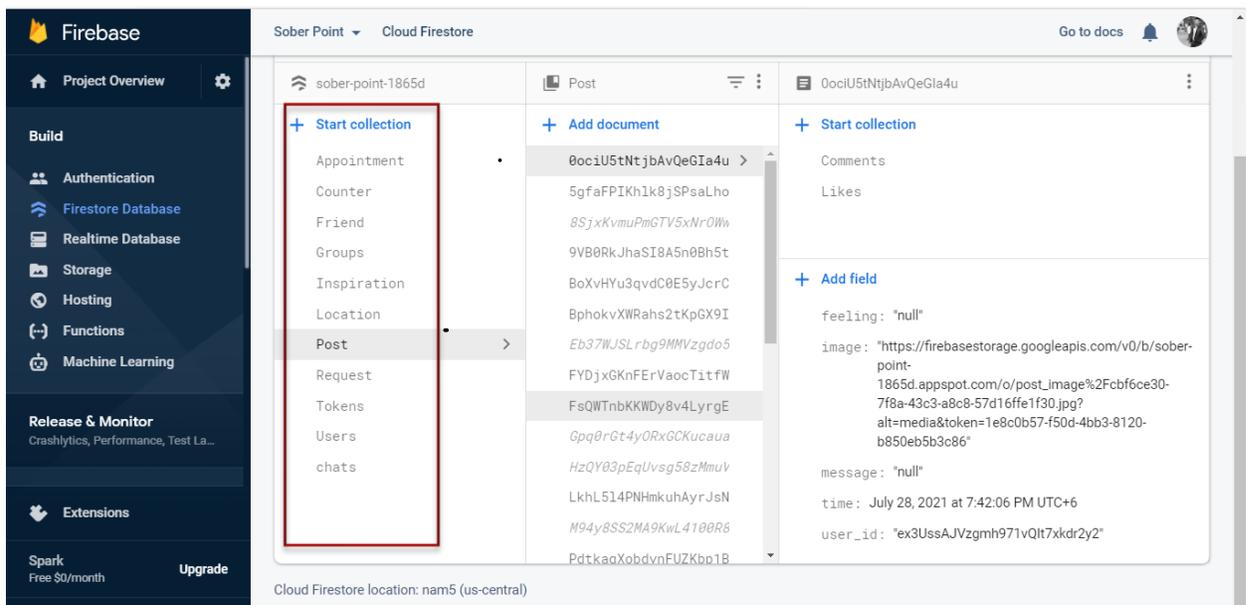


Figure 5.11: Database Table Name

5.3 Testing Implementation

This project was evaluated using the following set of criteria:

Satisfying requirement specifications: A project is said to be successful if it meets all of the requirements of both functional and non-functional requirements of the project.

Correctness: Being accurate is one of the most important requirements for software development which means the fundamental requirement for service oriented software is to work perfectly. After completing the software, every aspect of the program should function properly and accurately.

Compatibility and Integrity: Compatibility and Integrity are two critical conditions for determining whether or not the project will be successful. The SoberPoint was designed in such a manner that it can work with any domain. It was also created in a way that it might persuade virtualization, which is seen as a critical component of any application. Furthermore, the system's evaluation was dependent on whether or not the application was integrated throughout the system.

Real time management: This application is completely based on the online platform. So in order to run the application, the real time scenario has to be maintained properly otherwise the system users will not be able to use the application.

Reliability and security management: The project is considered to be successful if it meets all of the functional and non-functional requirements. If we put it another way, it should be capable of establishing all the standards requirement specifications.

User friendliness: In any application, friendliness is a special criterion for judging the systems. Users of the application should be satisfied with the system when they utilize it. In essence, a system should exhibit quality-measurement qualities such as efficiency, reusability, portability, cohesiveness, flexibility, and loose coupling between different components of the intended software.

5.3.1 Testing Methodology

Testing In general, software testing is done to identify system flaws. A software test can be performed by reviewing the code, design, and execution of the entire system. Testing is required to increase the system's quality. Another fundamental of software engineering that is sometimes forgotten in project development is code review and testing. Testing is a necessary step in the system development process. The ANSI/IEEE standard 829/1983-Standard for Software Testing Documentation contains the main standard for software testing. CAST may also perform some software testing (Computer Aided Software Testing).

5.3.2 Functional Testing

Functional testing is a quality assurance process that bases its test cases on the software component under test's specifications. In functional testing, a tester must validate the application to ensure that all of the client's defined requirements, whether included in the Software requirements specification or the business requirement specification, have been incorporated or not. There are two categories of functional testing:

- **Positive testing:** It is a sort of software testing in which everything is assumed to occur as expected when testing the application. It is carried out with the expectation that only genuine and relevant events will occur and the data set and all other functions will perform as intended.
- **Negative functional testing:** Negative testing is a type of software testing that is used to detect unexpected conditions in the system. Negative testing is critical in high-performance software development because it examines whether the software's behavior will be altered by unanticipated circumstances encountered while testing the application.

5.3.3 Unit Test

Unit testing is a form of software testing in which individual units of source code are examined to assess whether or not the program is fit for usage. It is often utilized throughout the thorough design and implementation phases of a project. The rationale of unit testing was done to our application to find out the flaws in this project.

5.3.4 Compatibility Test

Compatibility testing is a form of non-functional software testing. It evaluates elements like usability, dependability, and performance, which are utilized to ensure reliable applications and customer satisfaction. Compatibility tests are critical to the success of an application. Software compatibility testing can be more appropriately referred to as a user experience environment of the application. This project has been tested on several sorts of Android phones to ensure the following outcomes:

Table 5.1: Compatibility Test Result

Android Device Name	Screen Size	Test	Result
Samsung Galaxy A42 5G	6.6 inches	Yes	Okay
Samsung Galaxy A21	6.5 inches	Yes	Okay
Samsung Galaxy J7(2016)	5.5 inches	Yes	Okay
Xiaomi Redmi Note 10 Pro	6.67 inches	Yes	Okay
Xiaomi Redmi 4x	5.0 inches	Yes	Okay
Realme C11 (2021)	6.52 inches	Yes	Okay

CHAPTER 7

IMPACT ON SOCIETY, ENVIRONMENT & SUSTAINABILITY

6.1 Impact on society

Drug abuse is one of the major problems of our society. It not only affects the individual but also affects all the aspects of our society. The way we have implemented our application SoberPoint, it will be able to reduce the bad impact of drug abuse on our society. We will have a clean society and furthermore rescue our young generation from the dark path of drug addiction.

6.2 Impact on Environment

We all know that a lot of data processing power is needed to store and process websites images and videos. All that data processing power means the need for a lot of data centers. Website carbon emissions are important for the environment. We have particular viewers. So expect that we can control our carbon emissions and protect the environment from being polluted.

6.3 Ethical Aspects:

We tried to give the highest possible privacy and other security for our application. We know that the most often stated ethical concerns were participant privacy, anonymity and confidentiality. We developed our application with these considerations in mind. We will provide our visitors with a high-quality solution. We will make certain that our visitors are happy with the answer we give.

6.4 Sustainability Plan:

We have our own sustainability plan. We designed our application carefully so it serves its purpose indefinitely without a significant negative impact on our users. We worked hard to ensure our three pillars of sustainability like- economic viability, environment protection and social equality.

CHAPTER 7

DSCUSSION AND CONCLUSION

7.1 Conclusion

SoberPoint is a mobile application built on the Android platform and it is entirely dedicated to help the recovery process of drug addicts. This application will help them to share their experience to the world. They will be able to express themselves without any fear of the society. Our application is very user friendly and easy to use and capable of running in all the modern android mobiles. I hope by this application I have done something for the young generation and also hope that one day there will be no darkness of drug abuse.

7.2 Scope for Further Developments

Our modern technology is ever changing and evolving. Everyday more and more new technology is emerging, and in order to cope with the new emerging technology we will have to add more development to the application. In the future we will try to port this application to other platforms like iOS, wearables and even to the web platform. We will try to add more features in the application for the users.

APPENDICES

Appendix A: Project Reflection

As the term conclusive, there were three choices available and they were thesis, project and intern. We have decided to take the project as my term conclusive since it would give me a chance for making a real live project experience which is gainful for my career. It is my assessment that each understudy ought to accomplish some information close by ability in real life and apply it well. Each android developer ought to use their experience for making some android projects for their career. Completing this project, it helped me a ton to learn the number of measures that take place while building an android application and furthermore giving me some real life experience which I didn't have before.

Appendix B: Related Diagrams

To carry out our presented work from the start, I have collected a model and base design of our application. We receive a couple of outlines and legitimate models to tell the best way to carry out my undertaking. From the utilization case outline, I think about my users and framework movement in our guide. I have executed our android application by utilizing Java and Firebase.

REFERENCES

- [1] Android Studio and SDK Tools, available at << <https://developer.android.com/studio/>>>, last accessed on 10-09-2021 at 04:00 PM.
- [2] Firebase Documentation, available at << <https://firebase.google.com/docs/>>>, last accessed on 10-09-2021 at 04:15 PM.
- [3] Smart Phone Market Share, available at <<<http://www.idc.com/prodserv/smartphone-os-market-share.jsp/>>>, last accessed on 10-09-2021 at 04:00 PM.
- [4] Android API, available at <<https://developer.android.com/reference>>>, last accessed on 10-09-2021 at 04:17 PM.
- [5] Learn to Code with Visual Studio Code, available at <<https://code.visualstudio.com/learn>>>, last accessed on 10-09-2021 at 04:19 PM.
- [6] Use-Case Model, available at << <https://www.javatpoint.com/use-case-model>>>, last accessed on 10-09-2021 at 04:25 PM.
- [7] Android Studio system requirements, available at <<https://www.kindacode.com/article/android-studio-system-requirements/>>, last accessed on 10-09-2021 at 04:35 PM.
- [8] Understanding Drug Use and Addiction DrugFacts, available at <<<https://www.drugabuse.gov/publications/drugfacts/understanding-drug-use-addiction>>>, last accessed on 10-09-2021 at 04:41 PM.
- [9] Dual Diagnosis: Substance Abuse and Mental Health, available at <<<https://www.helpguide.org/articles/addictions/substance-abuse-and-mental-health.htm>>>, last accessed on 10-09-2021 at 04:48 PM.
- [10] Addiction is an Emotional Disease With Far-Reaching Effects, available at <<<https://drugabuse.com/blog/addiction-is-an-emotional-disease-with-far-reaching-effects/>>>, last accessed on 10-09-2021 at 04:55 PM.

Plagiarism Check:

9/10/21, 7:45 PM

Turnitin

Turnitin Originality Report

Document Viewer

Processed on: 10-Sep-2021 19:43 +06
ID: 1645278874
Word Count: 8531
Submitted: 1

SoberPoint – An Android based Platform for Dr...
By Rakib Ahsan 153-15-6621

Similarity Index	Similarity by Source
20%	Internet Sources: 18% Publications: 5% Student Papers: 15%

[exclude quoted](#) [exclude bibliography](#) [exclude small matches](#) mode: [Change mode](#) [print](#)
[refresh](#) [download](#)

4% match (student papers from 22-May-2019) Submitted to Daffodil International University on 2019-05-22	✖
1% match (student papers from 02-Apr-2019) Submitted to Daffodil International University on 2019-04-02	✖
1% match (student papers from 12-Jan-2021) Submitted to Daffodil International University on 2021-01-12	✖
1% match (Internet from 07-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
1% match (Internet from 02-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
1% match (Internet from 02-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
1% match (Internet from 07-Jul-2021) https://developer.android.com/studio?gclid=ds&gclid=es-419	✖
1% match (student papers from 07-May-2021) Submitted to Birkbeck College on 2021-05-07	✖
1% match (student papers from 23-Apr-2021) Submitted to Liverpool John Moores University on 2021-04-23	✖
1% match (student papers from 21-Jul-2021) Submitted to Caleb University on 2021-07-21	✖
1% match (student papers from 14-May-2021) Submitted to NCC Education on 2021-05-14	✖
<1% match (student papers from 07-Apr-2018) Submitted to Daffodil International University on 2018-04-07	✖
<1% match (student papers from 04-Nov-2019) Submitted to Daffodil International University on 2019-11-04	✖
<1% match (student papers from 31-Mar-2019) Submitted to Daffodil International University on 2019-03-31	✖
<1% match (Internet from 07-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 14-Feb-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 07-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 02-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 08-Jun-2020) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 07-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 07-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 02-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖
<1% match (Internet from 07-Apr-2021) http://dspace.daffodilvarsity.edu.bd:8080	✖

https://www.turnitin.com/newreport_classic.asp?lang=en_us&oid=1645278874&ft=1&bypass_cv=1

1/7