

My Prescription – an android based mobile application

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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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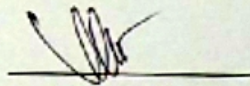
DHAKA, BANGLADESH

MAY 2019

APPROVAL

This Project titled **"My Prescription – an android based mobile application"**, submitted by Joy Saha Chowdhury, ID No: 162-15-7997 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 4th May 2019.

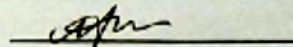
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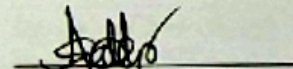
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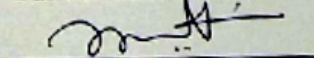
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DECLARATION

I hereby declare that, this project has been done by us under the supervision of Mr. **Masud Rabbani, Lecturer, 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.

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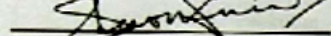
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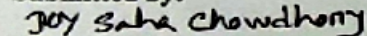
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Finally, i must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

My Prescription is an android application which aims to help the patient. There is no any authentication in my app. My Prescription applications is now play store. My application is needed for patient. If any user enters my app, first see there are no any login page. Then he/she see the homepage and 4 modules in home page. Medicine, Appointment, Set Alarm and Find Hospital. So these the extra point for a user. I use java and xml for developing the app, Google also help me by providing APIs. The application won't work in the android emulator because emulator doesn't have GPS but it was tested in various real android devices with version equal or greater than 5.1 and found working successfully.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Today's world is going ahead, every technology is going ahead and diseases also going ahead. Today's world Diseases is available in everywhere. The Diseases problems of greatest significance today are the chronic diseases. The extent of chronic diseases, various disabling conditions, and the economic burden that they impose have been thoroughly documented. Health education and health educators will be expected to contribute to the reduction of the negative impact of such major health problems as heart diseases, cancer, kidney, diabetic diseases and so more. In this world life is nothing .Diseases is damn think. Most of the people carrying some diseases. Obviously have to take medicine .It can organized your medicine and treatment on time. In emergency situation user can find the nearest hospital and medicine shop.

1.2 Motivation

After a lot of research, Time is very important .On-time you have to take your medicine is most important. My mother forgot about to take medicines. She doesn't recognize what medicines she takes. This is very awkward. So many people faces this problem. I have motivated to create this app so that people can take fixed medicine on specific time that Dr. prescribed.

There is a Quota "If you're happy, if you're feeling good, then nothing else matters."
"Health is the greatest possession. Contentment is the greatest treasure. Confidence is the greatest friend."

This is an android based application which requires an android device to run and helps the patients to take medicine.

1.3 Objectives

We belong to the era of technology Smartphone technology is rising beyond expectation websites are converted into app computer applications are developed as mobile app. Human body is miracle. How brain is work. If you have fresh mind your health is good. Motivated health related quote is relax your mind. Everyone should take their medicine on time but they forgot for this reason they can't take their medicine. Those people do not forget to take medicine. If forget their medicine it will remind them. At morning, noon, night what medicine you want will remind you. Using this application anyone can make an appointment with their Doctor. Where is hospitals ,where is medicine shop !!Here user can find out very easily nearby hospitals and medicine shops.

1.4 About my App

This is basically a Medical Assistance app. By using this many people can manage their medicine list. This application basically for mom, dad or nearest one just because of take medicine on specific time that Dr. prescribe .In App store just few “Medical Assistance” Application and that's not easy .Every one want to small device for reading quote, it's also portable and easy to carry. I will try my level best to improve this and this application is beneficial for all. This application is easy and that's the main point.

1.5 Scope of the Project

Basically this app based on smart prescription . So I think user will be happy for this because of easily touch the all concept. In my app UI is very easy and Anyone can use that educated person or non educated person. Here you can manage the medicine list. You can see prefix of any diseases. Make an appointment with Dr. User can send message to Doctor.

CHAPTER 2

BACKGROUND

Generally by “Project Background” we mean the formal documentation of the project. In this part we expect to study about the related works done by others and also analysis their work to find new scopes.

2.1 Introduction

Prescription is a form of Computerized Physician Order Entry. Contrary to the traditional method of prescribing with the use of paper, Prescription is consultation of medication information by medical specialists and other health care providers. The main goal of the project is to reduce the hassle and to ensure the medicine information recording system. I have to go through with some specific course of action to achieve this goal. First of all i need to define all requirements to develop the new system in replace of the conventional system.

2.2 Related Work

When I decided to build this app and website as my final year project, i looked through Play-store and found no such app that is like me, but found some similar app. However, there are apps which has one or two features like mine but not like this, that’s the main different concept of this app.

Here we listed some high index app that we have found in Google play store

- 1 DIMS
- 2 Pill Reminder and Medicine Tracker
- 3 Digital Prescription

But I try my best to improve something which really look like different. I try to bring the core concept in here. This basic concept improves the weak user for understanding. There is database in my app.

2.3 My Project Work

I wanted to build an android application related to maintain the medicine list. With some extra useful features, of course which will benefit the patients. I wanted my application as a complete package. In my project i try to focused simplified to use. In my project basically it's an android application that's why i use Java and XML programming language and SQLite. My fully front page made by XML. In my project there are database part. In my project i use English font. This application is not only for Bangladesh. My project that means my application has some lacking. I try my level best to improve this as well as possible.

2.4 Comparative Studies

As i shown earlier there are some applications available in the play store which are not completely developed. Some applications are completely static and some has only front end design. I can give a nice user interface to contact to a doctor for a serial. That's why i took such step to go ahead so that i can be a part of human goodwill. These android applications have some limitations. My app just only 2 descriptive part that's why its static and also dynamic. User cannot contact others because there is no community feature available in the applications. They cannot share their experience and feedback. They will not be able to help others and receive first hand help from others too. My application is just only for mobile device not for others. I hope that the user interface is user friendly enough so the users will enjoy using it. I hope they will enjoy using it because it is easy to handle and it will be helpful for the critical situation.

2.5 Challenges

When any developer wants to make anything different types of thinking, then the developer has always to face some different types of challenges, contest, competition and obstacles. No work can completely be smooth. As like this situation, to develop my project i have to face some challenges here. If i face any types of problem like scrolling, button then I am trying to sort out the problem very fast. Since there are many applications in this platform so it will be very difficult to attract user towards me. Thus designing user friendly interface, designing database and performing everything in a sequence is quite difficult. In future i have to put some new content that will make my app more acceptable to user. All those things might be challenging for me.

CHAPTER 3

REQUIREMENT SPECIFICATIONS

In requirements specification section I try to create those documents those capture the complete description about how my system will perform. What to do with my app. REQUIREMENT SPECIFICATIONS is most important part in project.

3.1 Business Process Model

Business process modeling software allow you to represent your process in a digital way that can then be transferred to a live automated process. The term 'business model' is thus used in very familiar way and for a broad range of informal descriptions to represent core aspects of including purpose, structures, operational process and policies. The main characteristics of the methodology is based on diagram as 'Flow diagram'. Here I am trying to describe my projects business model using Data Flow Diagram. Normally, Data Flow Diagram [1] describes form google and how data flow is processed though a system or project. A Data Flow Diagram shows what kind of information will be input to and output from the system, how the data will advance through the system, and where the data will be stored. It does not show information about process timing or whether processes will operate in sequence or in parallel, unlike a traditional structure flowchart which focused on control flow, it's like as diagram. Which stay in all application. Because this is the main structure for an application and for understanding.

By business model a user can realize how can it works and that's the main point. Where it uses and where its use-case. A developer always tries to invent his/her business model by his/her own way. Because every application is unique that's means dissimilar with each other. Everyone want that,their relative like as mom, dad nearest one take their medicine on time.

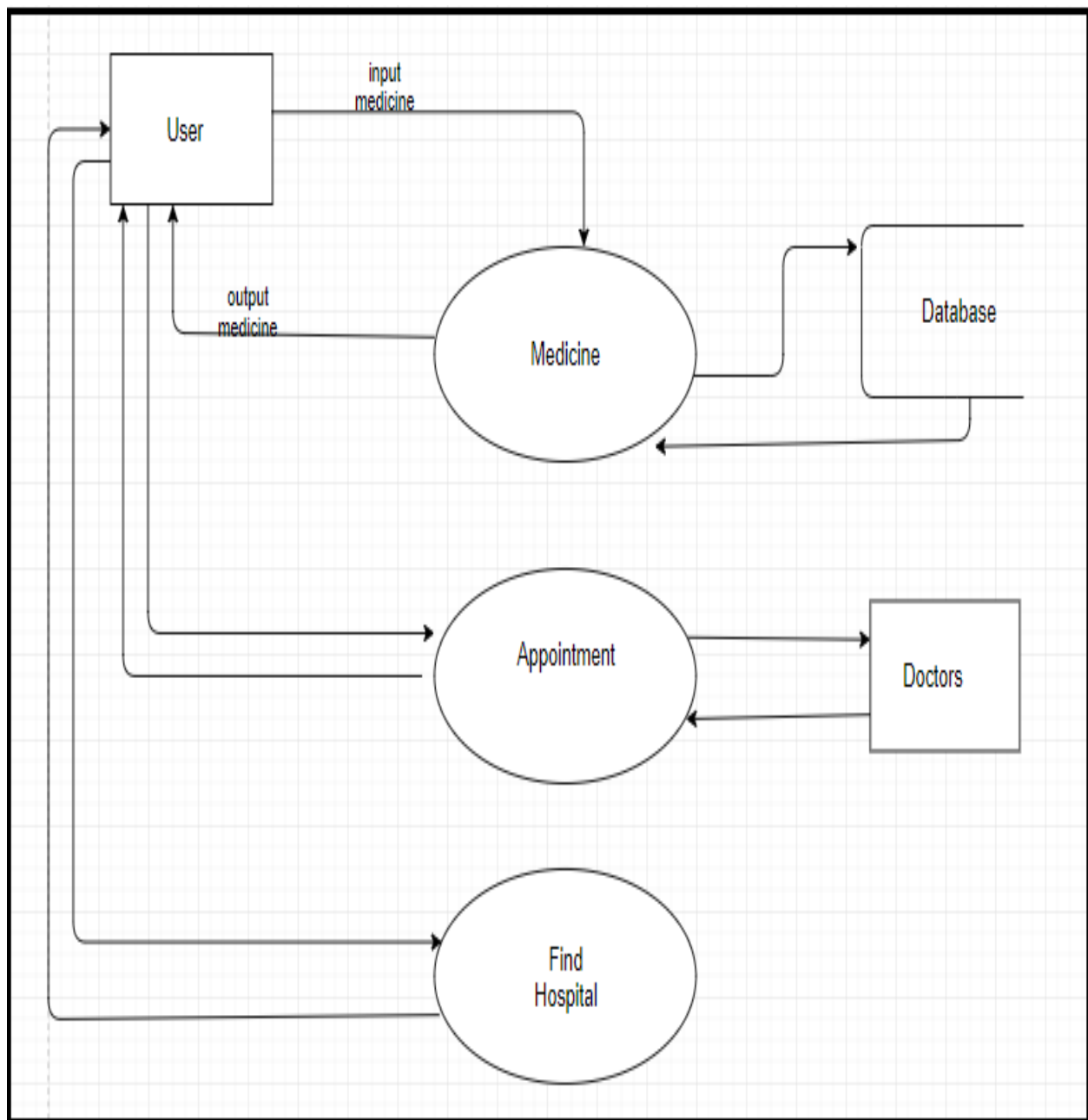


Figure 3.1 shows the Data Flow Diagram of My Prescription

User input user or Patient's drug list in different time. That drug list save in database. User can see that drug list which user input in database. Here user can find hospital and medicine store.

3.2 Requirement Analysis

Requirement analysis is also called as requirement engineering which is the process of determining user expectation for a new system. These features, called requirements, must be quantifiable, relevant and detailed. Requirements analysis involves frequent communication with system users to determine specific feature expectations. Requirement collection and analysis is one of the primary conditions of application development., There are two types of requirements, one is the functional requirement and the other is non-functional requirement for deployment. Functional requirements are those activities that the application software can perform. On the other hand, Non-functional requirements define the personality of an application, as like the application is how much efficient, performance issue of the application and many more.

3.3 Functional Requirement

Functional requirement is those which are related to the technical functional of the system as like application software can perform. From the point of view of our system, it should have many functional requirements like maintaining database, a location search option and hospital and medicine shop button where user can find out near by hospital, medicine shop. By user can add alarm to take medicine and one touch appointment to doctor also see the prefix of any diseases.

3.4 Non-functional Requirement

Non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system in particular conditions, rather than specific behaviors as like the application is how much efficient, user friendly, performance issue of the application etc. From the point of view of my system, the application has many functional requirements as more efficient, relevant, optimize performance, memory consumer and smoother operation, loading on quickly. Applications user interface is also so user friendly and gorgeous for excellent user experience. Non-functional many build in function also use in here. This application can be used only on android OS. Only user can modify the information of the application. An android OS based device with internet connection and GPS support.

3.5 Use Case

Use case is a description of how a user will use the system to accomplish his business goals. It represents a functional or an action within the system. The two main components of a use case diagram are use cases and actors. Actor in a use case diagram is any entity that performs a role in one given system. Use-case always use for user understanding and i try my level best for efficiency.

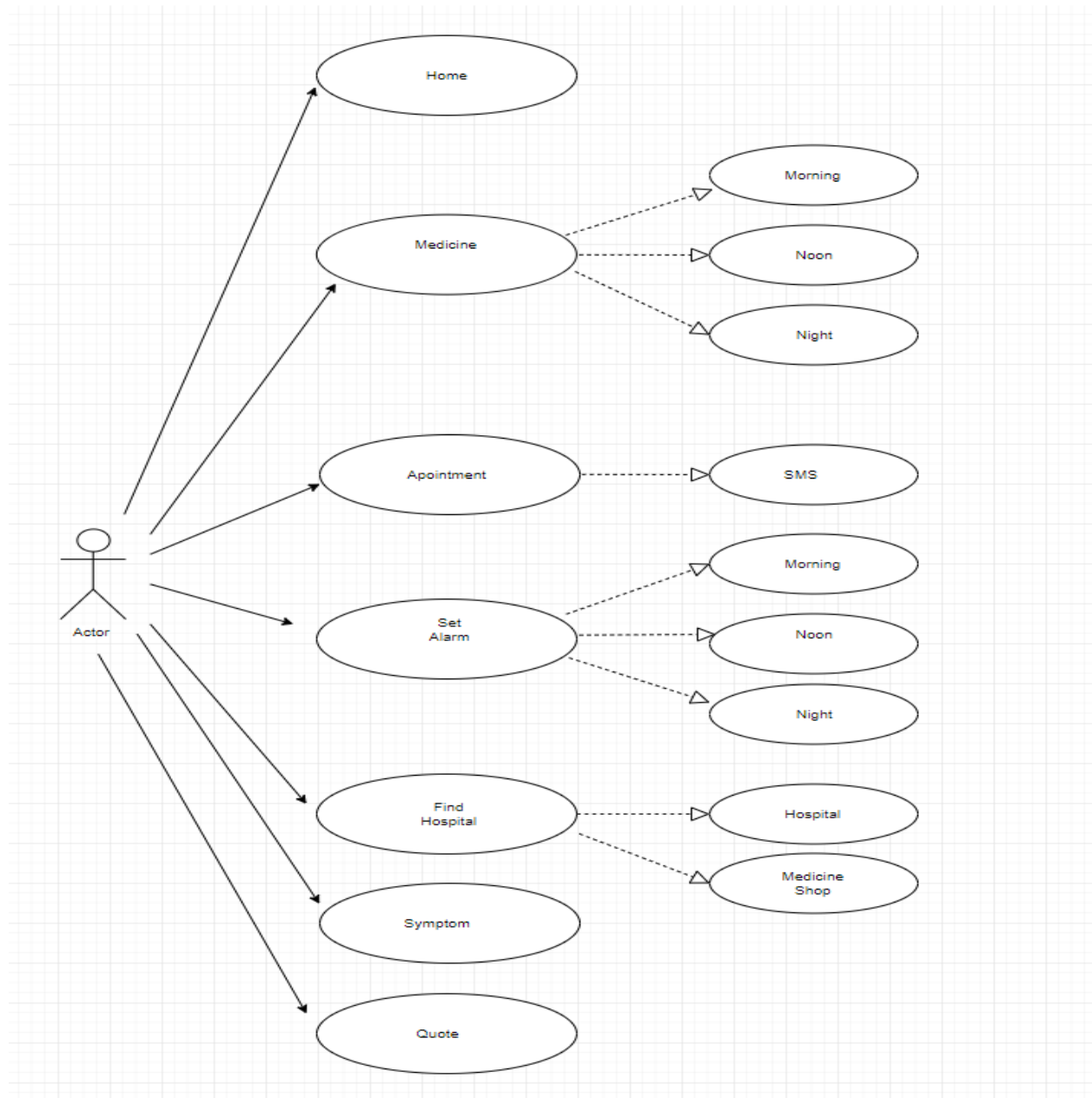


Figure 3.2: Use-case modeling of My Prescription

Here in figure 3.2[2] i show how to use this application and first homepage and then all. Option is the main part and all button include in there. If any user tries to enter in this, then press any button which he like most. Use case main show how to use the project or something. This use case indicates the same thing in here. In here everything is including, a user wants like this.

3.6 Logical Data Model

A logical information demonstrate is an information model of a particular issue space communicated freely of a specific database item or capacity innovation yet as far as information structures, for example, medicine list. As a Back-end i use core object oriented and Front-end XML. In my application there are database section and SQLite as database server. Our application is a medical purpose application so that's why there is database part.

3.7 Design Requirements

The design requirements for my project will differs me from the other projects, because my project will working on my specific problem statement and the product, system, or experience that my are designing. My designed my project for some specific segment that is providing nearby hospital and medicine shop and search on specific place and set alarm on specific time. I try to provide the all things to my application that are necessary for a user to operate my application easily.

Here some requirement :

1. In my system, i haven't use any authentication for my user because of this app is a public app. So i haven't design any registration, login section [].
2. I haven't design profile system that means display new name and password.
3. In my application I should provide a simple user interface for simplify the uses in that case i can use navigation drawer which provide many operation in one simple place.
4. I design whole description as a English font and all important code design in the app.
5. I can also link up my application with Google map built in app for more operation like nearby hospital and medicine shop and search on specific place
6. Anyone who knows Bengali or English can use this application.
- 7.Only user can modify the information of the application.
8. User can see symptom if diseases and read health related quote.
- 9.The interface of the application is suitable even for the color-blind people.

10. An android OS based device with internet connection and GPS support.

I am trying to build my app as a complex free. I think about user when i design my application. Because of this reason, my 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 i try to show the design of my mobile apps. I also discussed about many tools, which i use to develop my application.

4.1 Front-end Design

The front-end design is everything involved with including design and some languages, what the user sees he/she open the app. The most important part of a project is front-end designing to keep the users interested in the application. Generally most of the users expect a simple user interface or graphical user interface from the creator. The application fails to attract of the user, if the front-end design is so intricate.

The front-end design of my project is as follows



Figure 4.1: A Screenshot of Front-end Design of My Prescription

Figure 4.1 shows the front page of the user interface. Users will see it every time when they open the application. I tried to design my application front-end so simple.

Hope the users will find it easily accessible and get benefited from it.

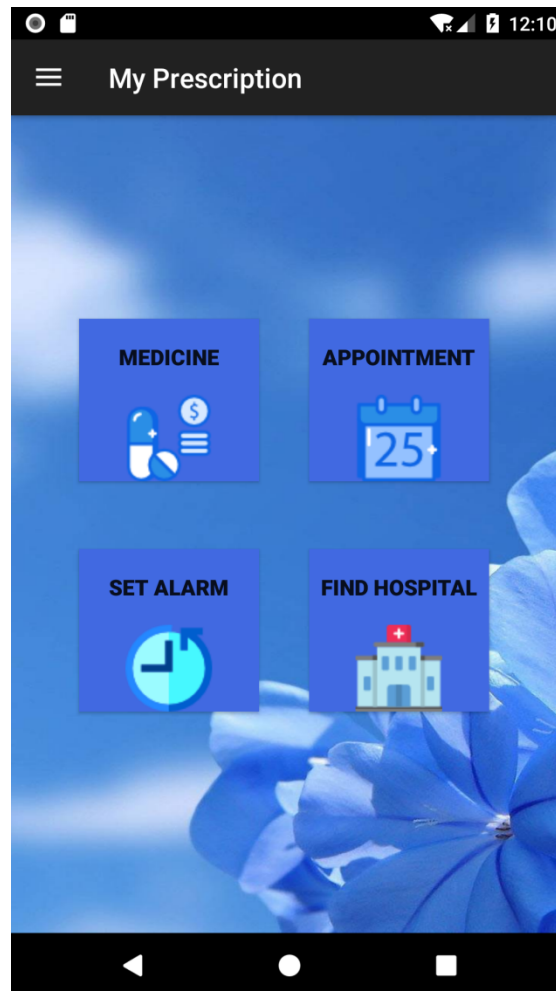


Figure 4.2: A Screenshot of Home Page of My Prescription

Figure 4.2 show us, this is the homepage and all button in here which button user like most. Press any button and enter this. In home page their four button Medicine, Appointment, Set Alarm and Find Hospital, also a Navigation drawer. User can click button and open this which button is best for user.

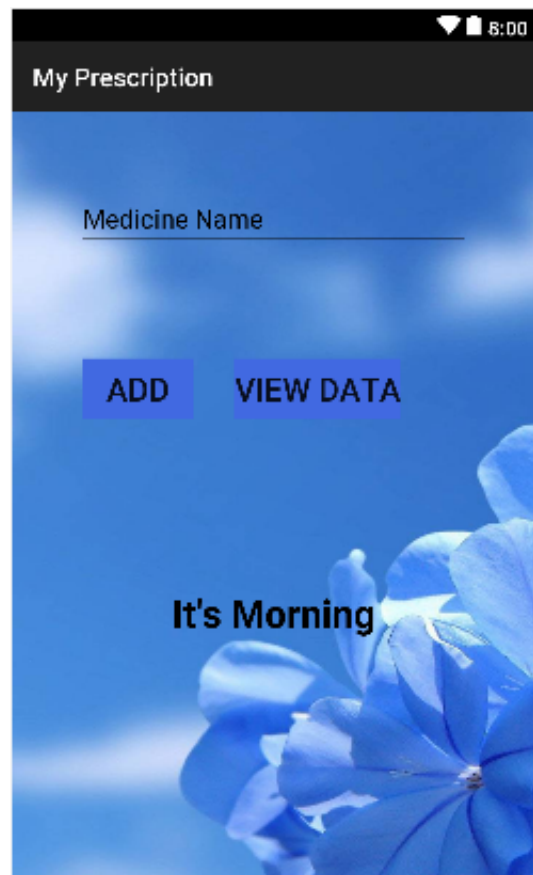
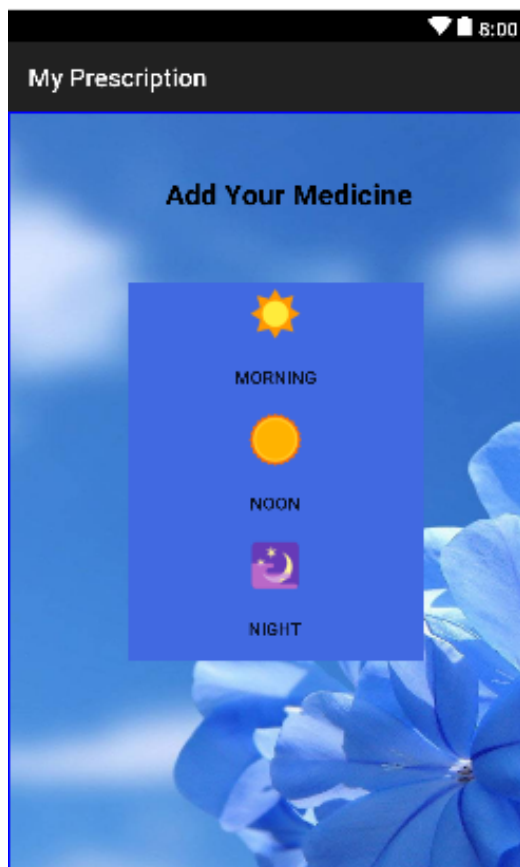


Figure 4.3: A Screenshot of Add Medicine Figure 4.4: A Screenshot of Morning Add Medicine

Figure 4.3 and 4.4 show us, Here user can press morning button then add medicine to the list. Maintain the medicine list. Here user click add button to input medicine' name in database and click view data button to see the medicine list that Dr. prescribed. Make sure the dr. knows all the other drug you are taking, if a doctor prescribes a drug for you.

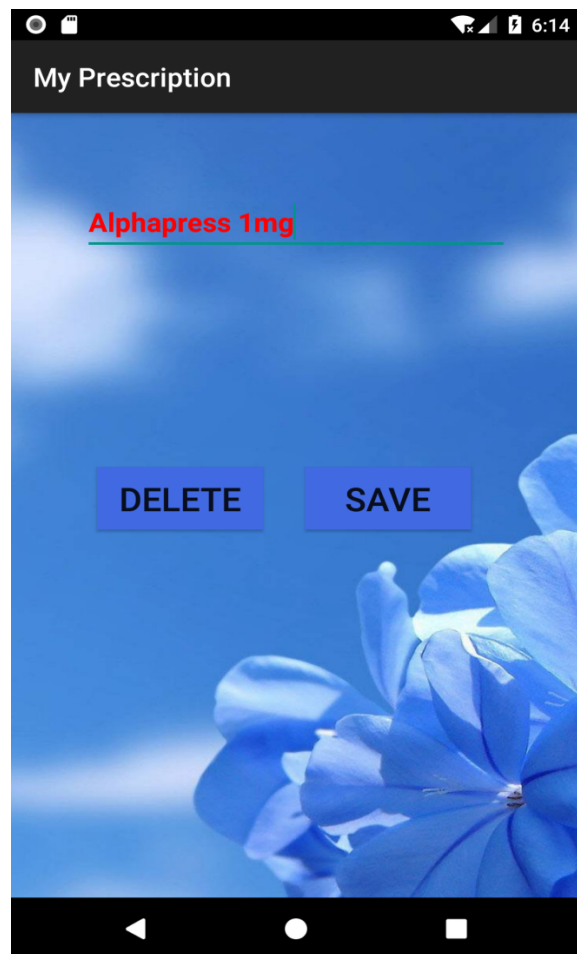
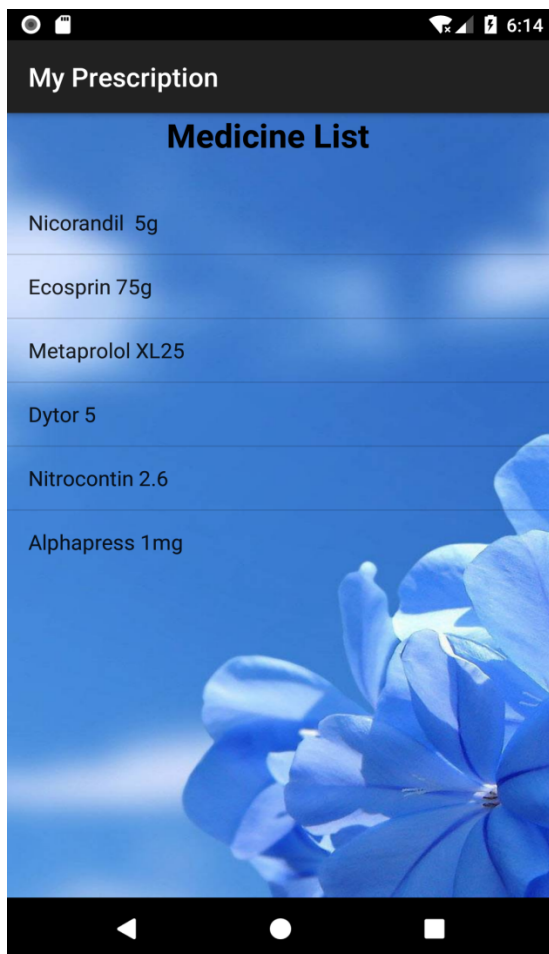


Figure 4.5: A Screenshot of Morning Medicine Figure 4.6: A Screenshot of Delete Medicine

Figure 4.5 and 4.6 show us, At morning this is the medicine list that user input in database. After some time some medicine is not need for Patient's. Then those medicine have to delete from the list. That why user can select medicine name from the list to delete and back to the Morning medicine list.

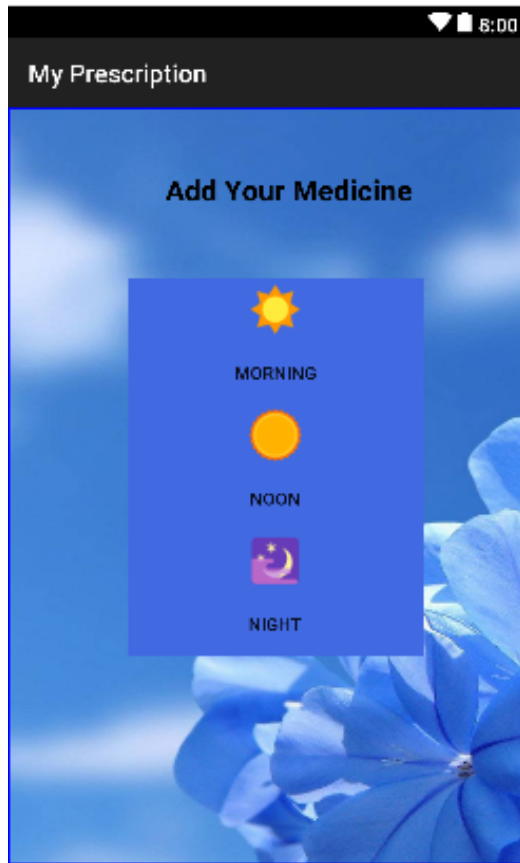


Figure 4.7: A Screenshot of Add Medicine

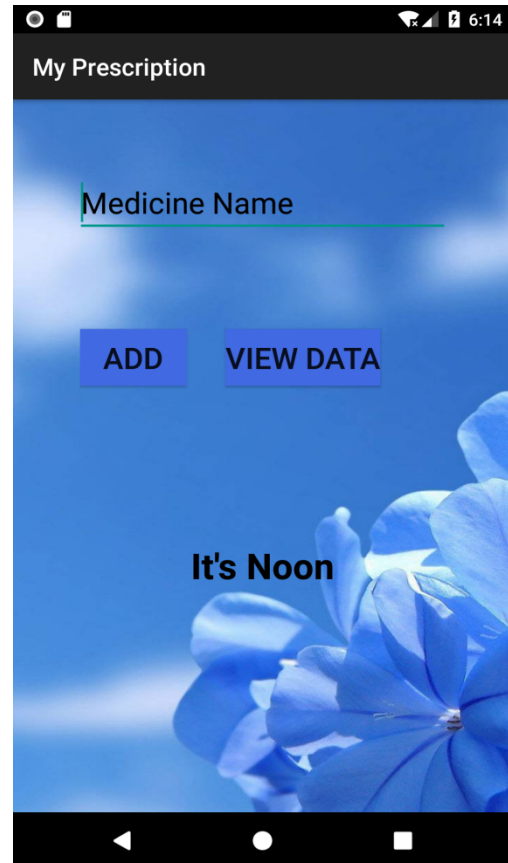


Figure 4.8: A Screenshot of Noon Add Medicine

Figure 4.7 and 4.8 show us, Here user can press noon button then add medicine to the list.

Maintain the medicine list. Here user click add button to input medicine' name in database and click view data button to see the medicine list that Dr. prescribed. Make sure the dr. knows all the other drug you are taking, if a doctor prescribes a drug for you.

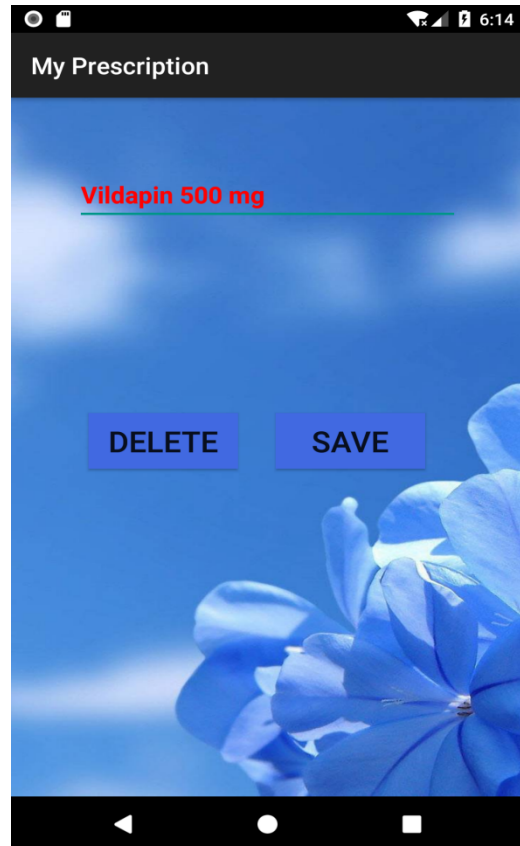
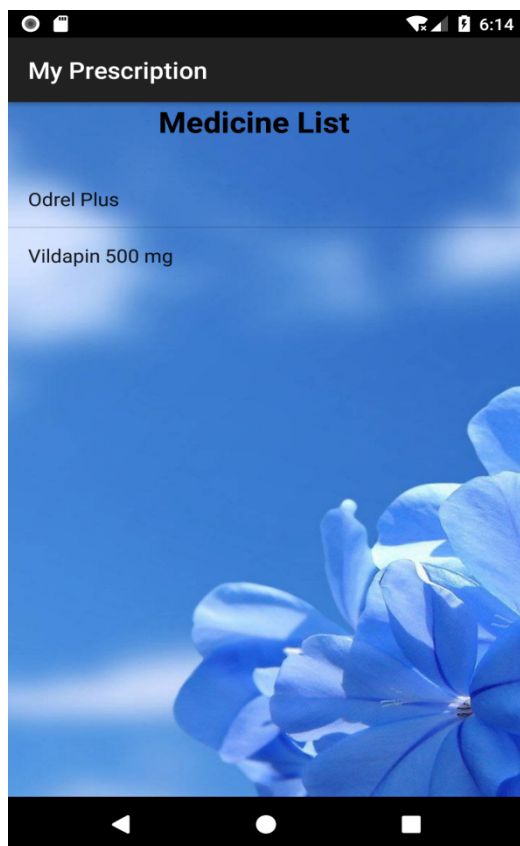


Figure 4.9: A Screenshot of Noon Medicine Figure 4.10: A Screenshot of Delete Medicine

Figure 4.9 and 4.10, show us At Noon this is the medicine list that user input in database. After some time some medicine is not need for Patient's. Then those medicine have to delete from the list. That why user can select medicine name from the list to delete and back to the Noon medicine list.

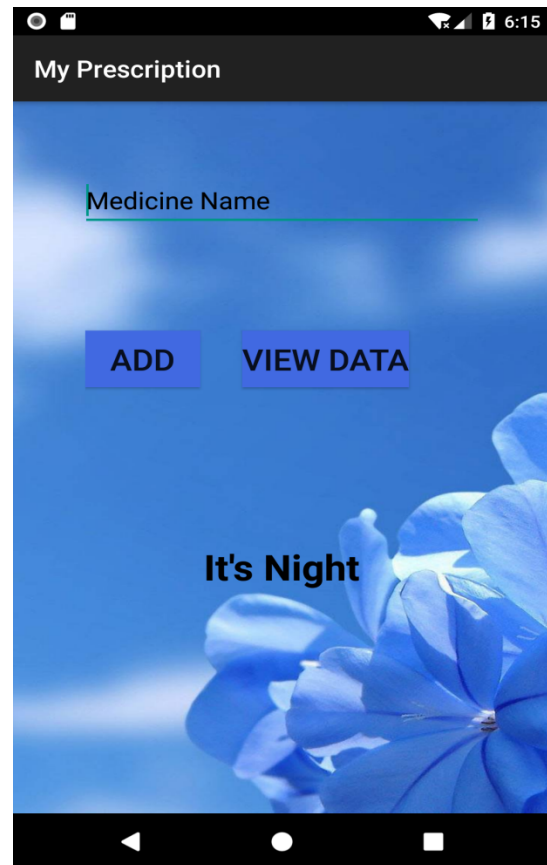
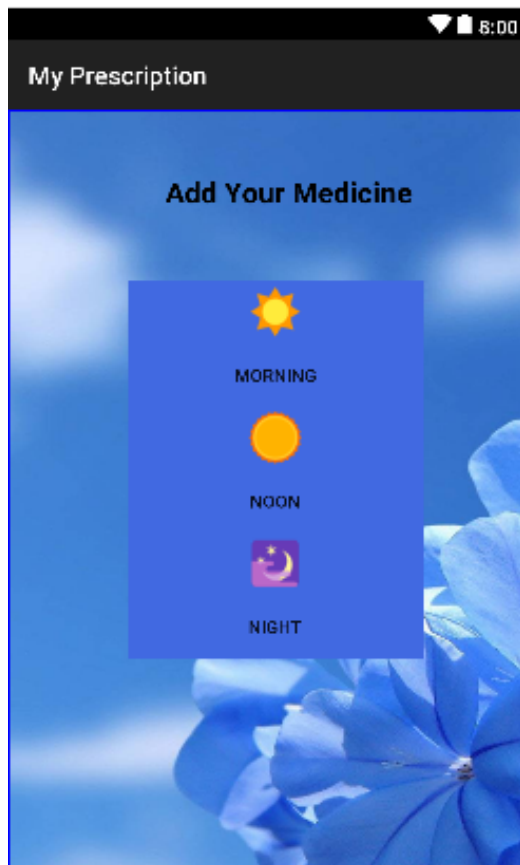


Figure 4.11: A Screenshot of Add Medicine Figure 4.12: A Screenshot of Night Add Medicine

Figure 4.11 and 4.12 show us, Here user can press morning button then add medicine to the list. Maintain the medicine list. Here user click add button to input medicine' name in database and click view data button to see the medicine list that Dr. prescribed. Make sure the dr. knows all the other drug you are taking, if a doctor prescribes a drug for you.

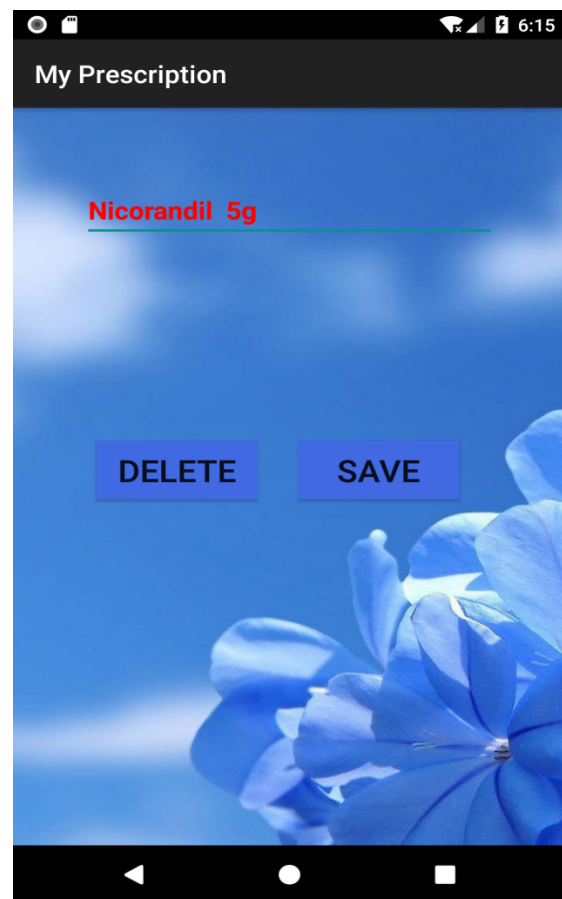
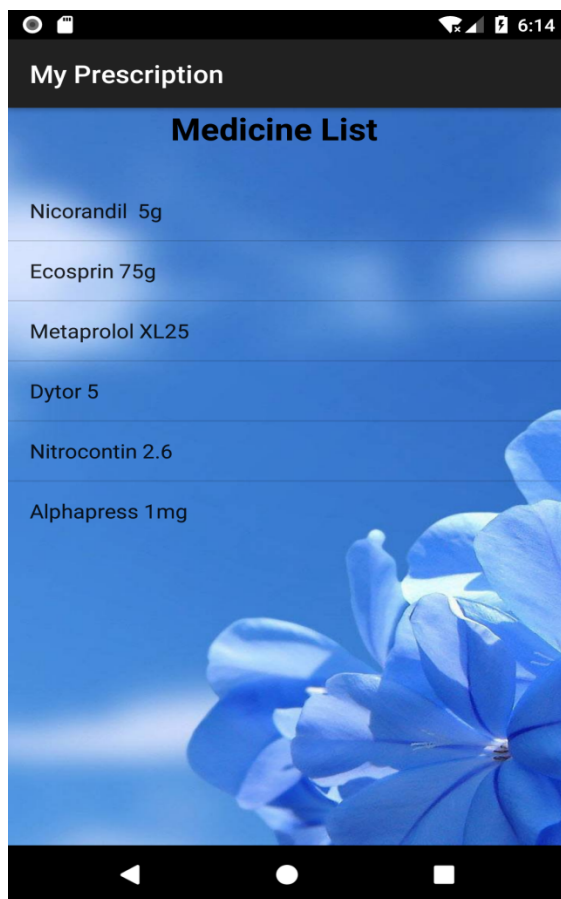


Figure 4.13: A Screenshot of Night Medicine Figure 4.14: A Screenshot of Delete Medicine

Figure 4.13 and 4.14 show us, At Night this is the medicine list that user input in database. After some time some medicine is not need for Patient's. Then those medicine have to delete from the list. That why user can select medicine name from the list to delete and back to the Night medicine list.

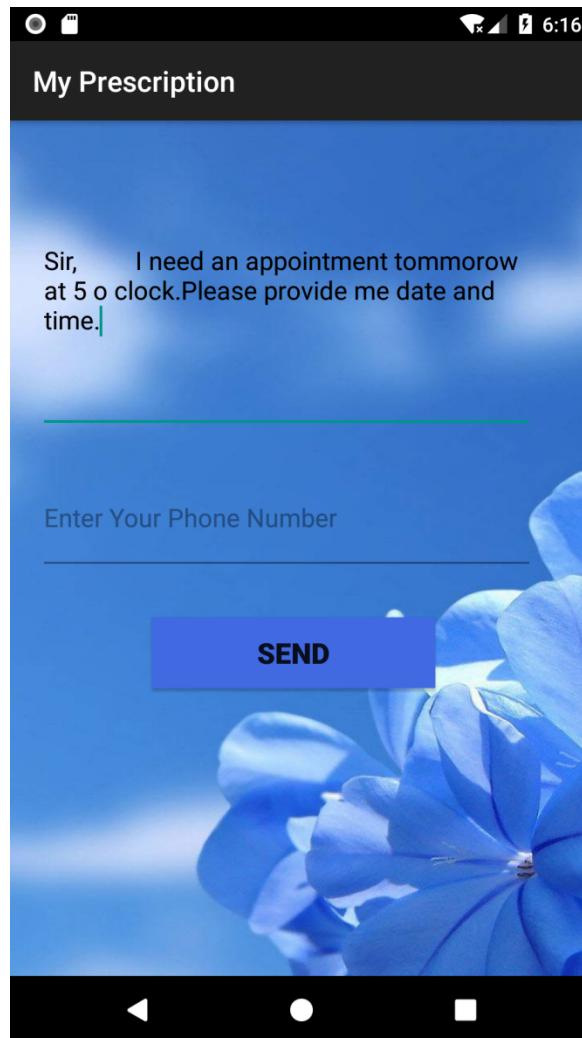


Figure 4.15: A Screenshot of Appointment to Dr.

Figure 4.15 show us, User can send text to Dr. for appointment. Alternative text already in here or user can write in here something new about user symptom and so much more. Then user just write down contact number and press the send button.

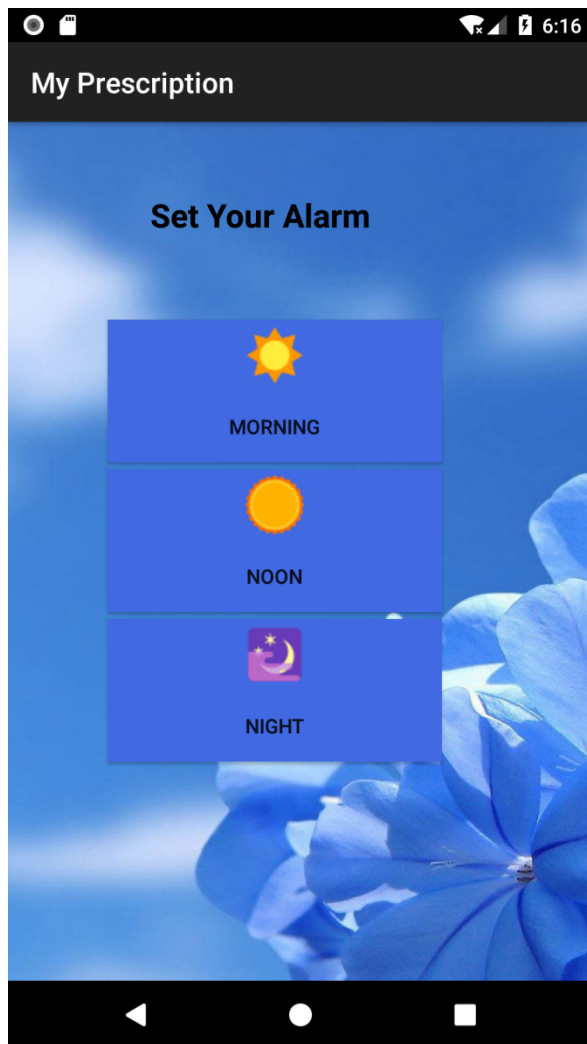


Figure 4.16: A Screenshot of Set Alarm.

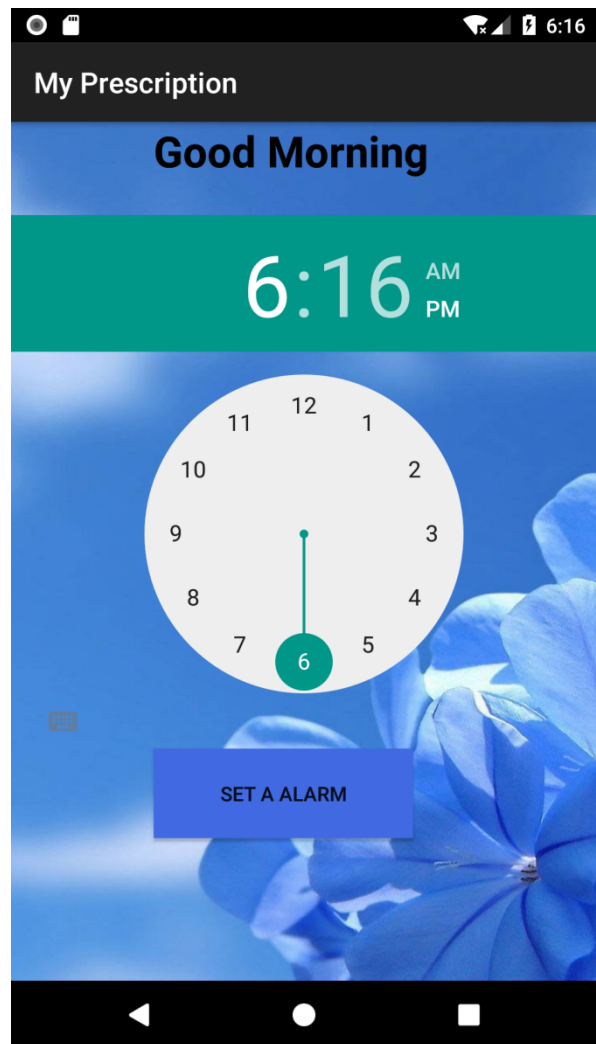


Figure 4.17: A Screenshot of Morning Alarm.

Figure 4.16 and 4.17 show us, User can press morning button and see the time picker and set the alarm which time he/she want to take medicine finally click set a alarm. Everyday that alarm will ringing continue on specific time. Patient hear that sound and take the medicine on time[10].

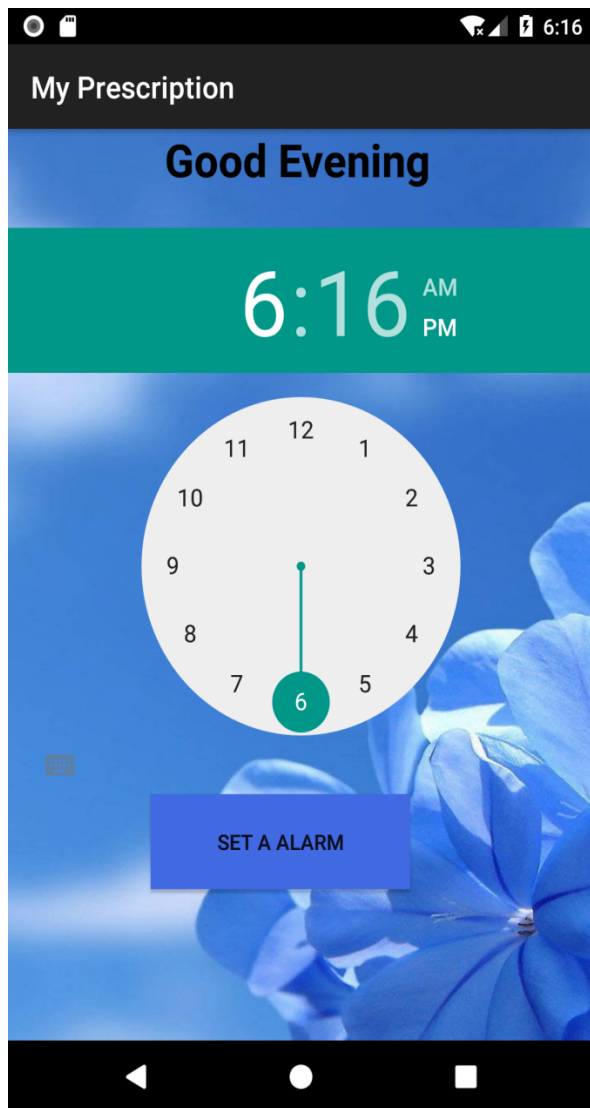


Figure 4.18: A Screenshot of Noon Alarm.

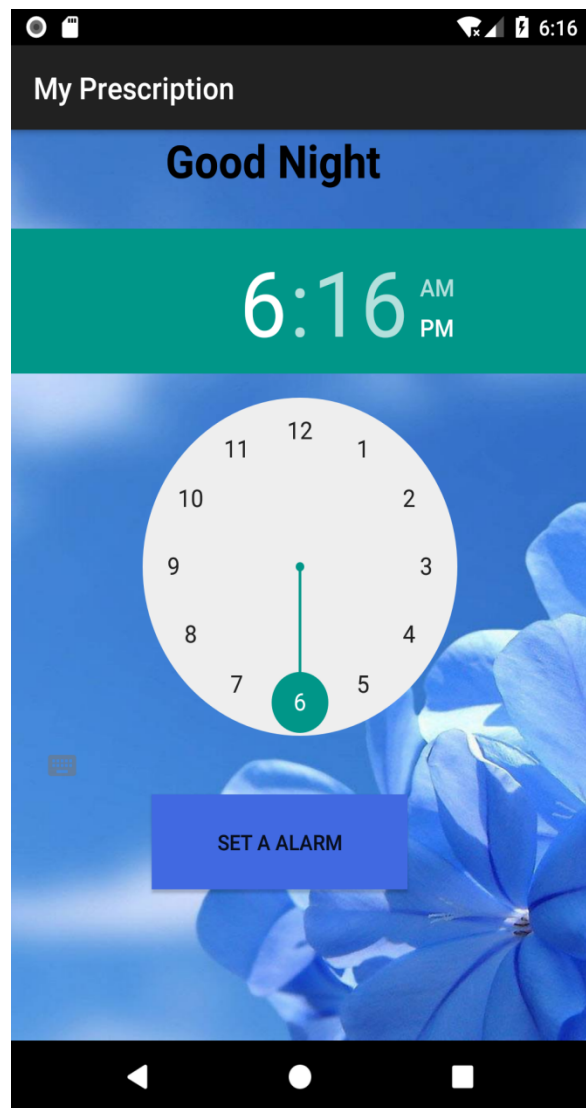


Figure 4.19: A Screenshot of Night Alarm.

Figure 4.18 and 4.19 show us, User can press noon and night button and see the time picker and set the alarm which time he/she want to take medicine finally click set a alarm. Everyday that alarm will ringing continue on specific time. Patient hear that sound and take the medicine on time.

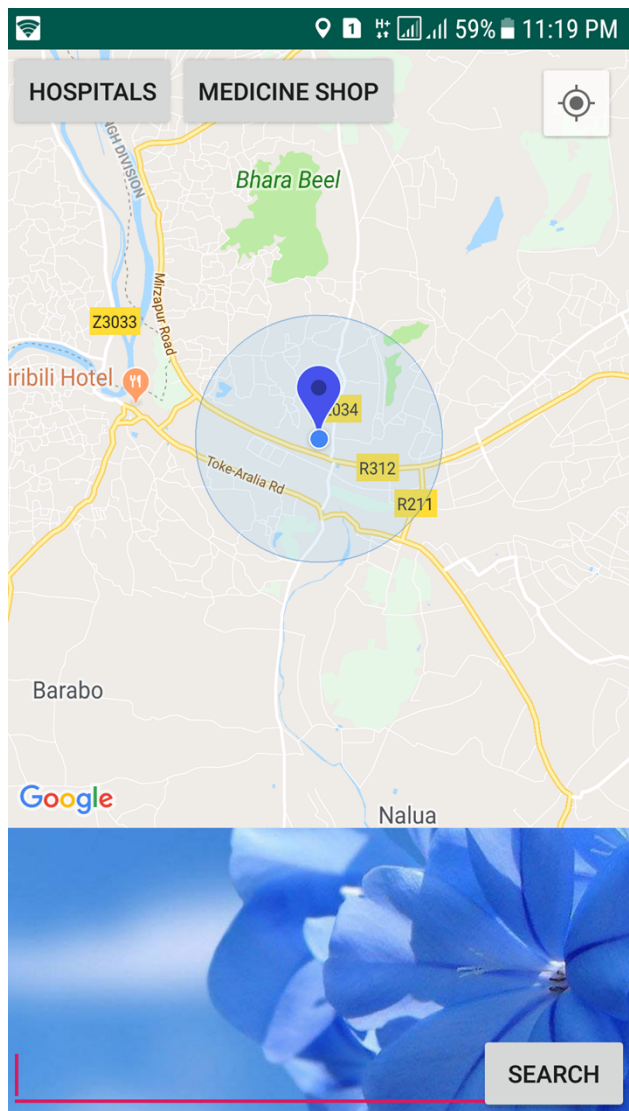


Figure 4.20: A Screenshot of Current Location. Figure 4.21: A Screenshot of Near by hospital

Figure 4.20 and 4.21 show us, This layout contains a search bar and search and hospital and medicine shop button where user put place to search and user open the Find Hospital and click on current location button map get current location via GPS and point the marker to that location. In that moment both GPS service and Internet must be turn on[12].

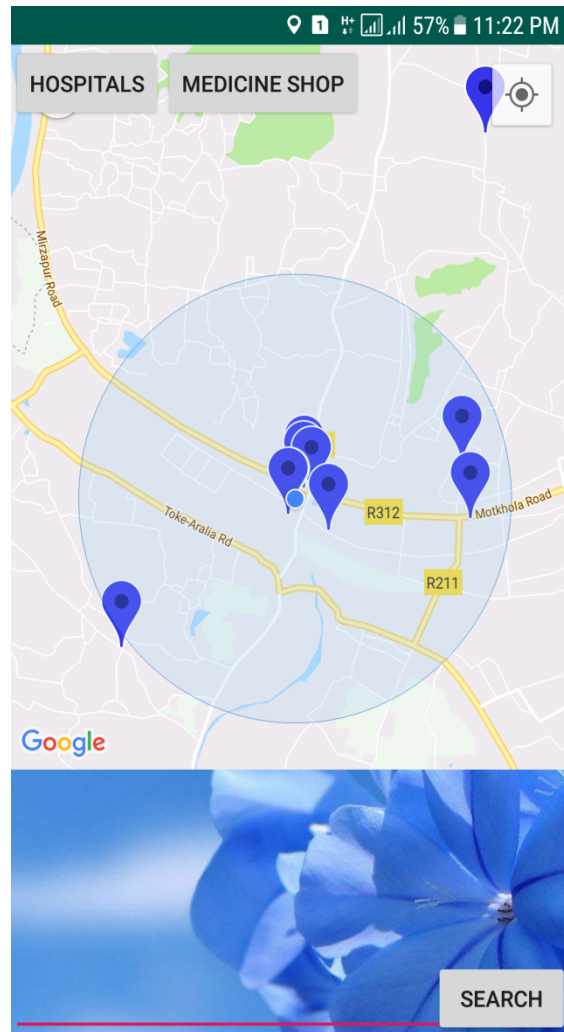
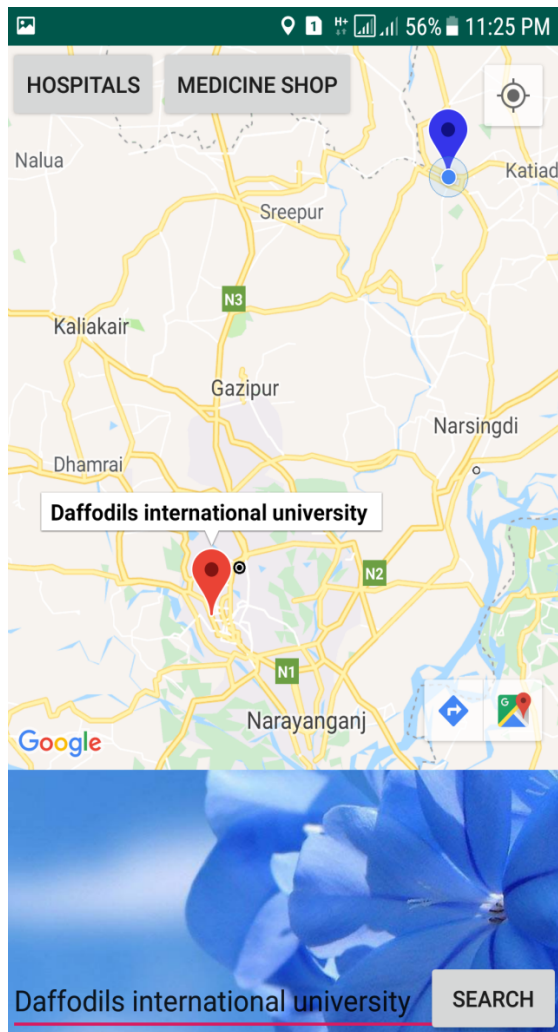


Figure 4.22: A Screenshot of Current Location and specific location. Figure 4.23: A Screenshot of Medicine shop.

Figure 4.22 and 4.23 show us, This layout contains a search bar and medicine shop button click where user put place to search. User can see user location and search place. GPS is needed for getting current location and Internet is needed for loading map. Press medicine shop button, user to see the near by medicine shop[12].

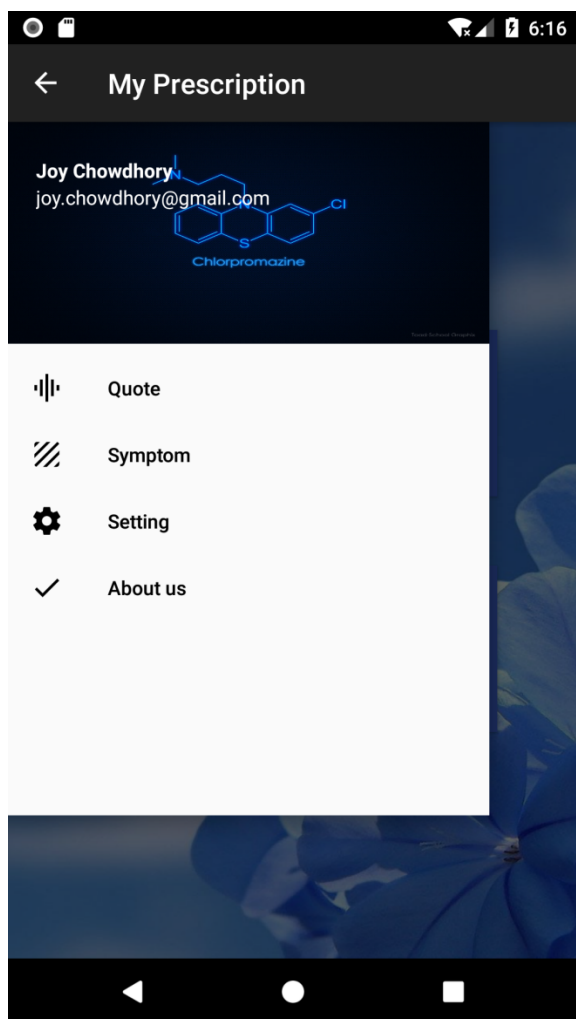


Figure 4.24: A Screenshot of Navigation Drawer Figure 4.25: A Screenshot of Health Related Quote

Fig 4.24 and 4.25 show the navigation drawer it will be open by clicking navigation button of sliding the window left to right navigation drawer show the services i provided in my application. Click the quote button to see some fantabulous health related quote and refresh your mind.

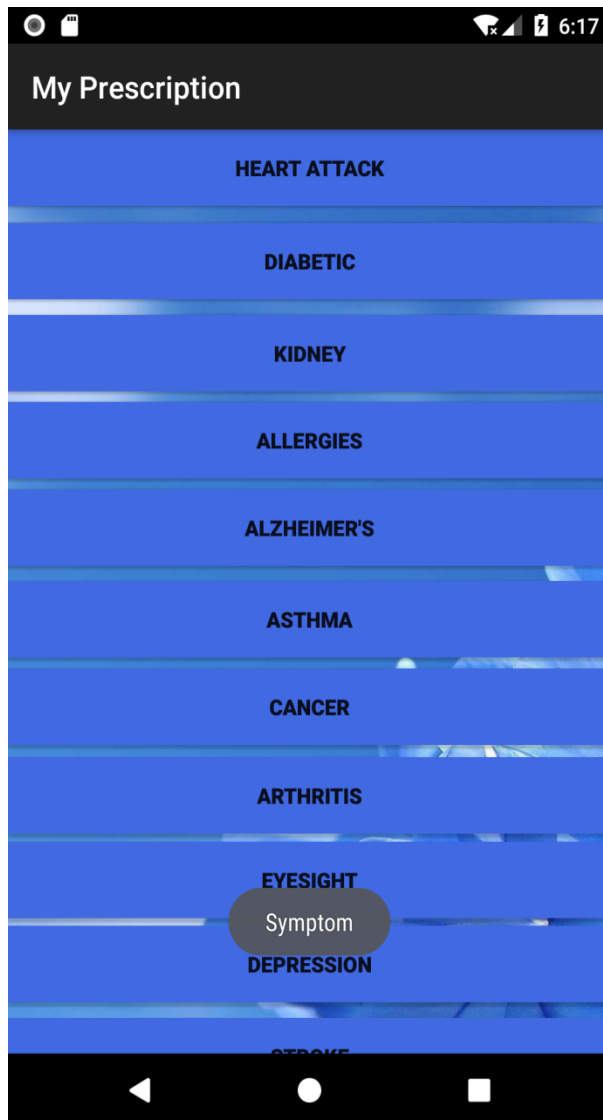


Figure 4.26: A Screenshot of List of diseases

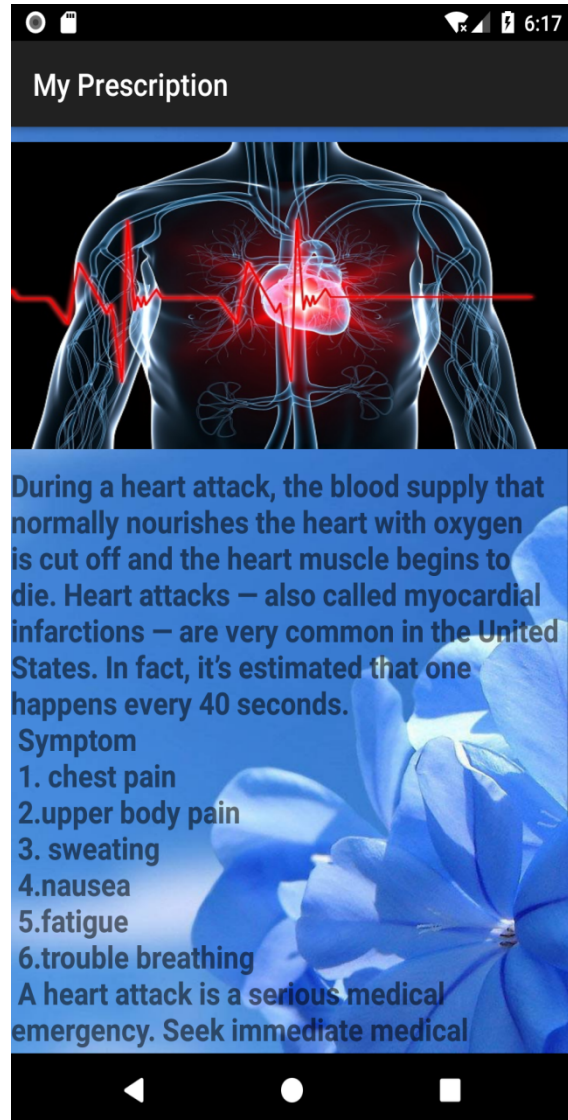


Figure 4.27: A Screenshot of Symptom.

Figure 4.26 and 4.27 show us, This layout contains some diseases name to read the prefix of any diseases. User can read this symptom and know how to prevent of this diseases. Here is most common diseases name and their symptoms. Those symptoms will be helpful for the patient and detect upcoming diseases.

4.2 Back-end Design

The back-end is the main portion of a app . The front-end is the visual representation of the back-end. Back-end is the most significant part. So the structure, security, content management of it is very much important. The back-end is also called the server side design. It controls the behavior of the site upon an action is taken. The back-end has generally three parts such as server, database and application. I use database part in here. Because of this app is a assistance type application. So I am connect database in our application. My application has no any authentication part so that's why there are no any registration part. In future i will improve my application. As the application might contain medicine information, details cannot be written here.

4.3 Implementation Requirement

I use different types of implementation components, attributes and tools to build our application,. Making this application easily accessible and useful to people has become possible with the help of these tools. I implement the core code that's means the Java and XML code in my project. The special thing is in my application it is written by English.Implementation of our project needs the followings:

4.3.1 Android Studio

Android Studio is the IDE(integrated development environment) to run android operating system. It is designed specifically for android application development. By android studio, I developed my application [6].

4.3.2 Android SDK

Android SDK provides the API libraries and developer tools necessary to test, build and debug android app. To develop Android application, Android SDK is a must. This SDK is very capable tool that includes not only the library for development, but also includes the simulator to run test application[7].

4.3.3 Java Development Kit (JDK)

JDK is an implementation of either one of the Java SE, Java EE or Java ME platforms [10].

4.3.4 Android Virtual Device (AVD)

The creator can use an android emulator as a target platform to run and test her Android applications on her PC. Emulator is the AVD manager provides a graphical interface which run the android application. Emulation tool that is used to debug and test applications. You need to install an Android system picture that your emulators can use, before you create an Android emulator. [8]

4.4 Interaction Design and UX

Interaction design is a discipline that observes the interaction between a process and its user. Actually interaction design is the system which understand the user problem, lacks or drawback and find out the results, perform actions by results and solve the problem. I keep my application too facile and also easily for better feelings, experience and performance for the user of using my application. For UX I tried to give some fantabulous experience by my application. I keep my system facile and easier for better performance and experience for the user.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

The “My prescription” is an app based on Google APIs i successfully add APIs to my app. First open the app and click the button then it will be open. The engineer can set up Sqlite and give the different clients that the designer has recognized access appropriate to their requirements. I have a database part just only for manage medicine.

5.2 TESTING

Testing is an significant part in any app or any software. Build the app and then developer can debug and after debugging a developer can find the bug. The “My prescription” app is work fine with android device which android version is equal or greater than 5.1. The interface is dynamic so it creates no error with several sizes of android devices all the features like all nearby hospital and alarm system and symptom work good in almost every android device.

5.3 Implementation of Front-end Design

It's a good challenge to develop a fantastic front-end design which will be attracted to user. It is very nice work to balance the design with android display size. It can't fix with the display for many causes. So, a creator needs to check many times of his/her android application by building or running within an android device. I always try to think as a simple and easier in user interface design for creating user attraction and interactive design to my android application. I also try some materials and tools design for making and creating attraction to the user. On the other hand, the user can enjoy to using a very simple and easier user interface. So it was really a good challenge to me when i was designed my android applications user interface. But most challenging part is to make my android application. There are many types of smart-phones that support android. But all of these are not same quality. Some of them have very weak hardware material, in a little bit pressure those device getting hang and behave like peculiar. These reasons occur for different types of version. So i design the application which will be support to all the devices as like older to newer version and i sure that my android application is secure and will

not create any extra pressure on devices. I attached my application front-end implemented design. This is the home page and clicking this any button enter the function.

5.4 Implementation of Java and XML Code

Using android studio for my application UI design with file and for java code to connect with the XML file, using SQLite database to save user's data .I use android studio for my application connection with internet and design. In android studio many kind of language are supported. Use object,class, and some method in Java code. That means work was done in java code. In xml code i take some text-view, edit text, button and image view for my application. I design my application by using in xml coding.

Figure 6.3 of appendix section i use the screenshot of the XML code.

Figure 6.2 of the appendix section, it shows screenshot of Java code.

5.5 Testing Implementation

Table 5.6: Test Case for Project on My Prescription

Test Case	Test Input	Expected Output	Actual Output	Result	Tested On
1.Install Application	Tested on Various – 1. Jelly Bean (4,1-4.3.1) 2. KitKat (4.4-4.4.4) 3. Lollipop (5.5-5.0.2) 4. Marshmallow (6.0) 5. Nougat (7.0-7.1)	Successfully install all those versions.	Install successful	Passed	12/1/2019

5.6 Test Results and Reports

I improve my app, based on feedback , until they're the best.I tested my apps our 3 friends. They gave advise to me that how i can make my system more user friendly and developed. My friend gives an opportunity to count the result of testing quickly. My app has not published in market yet. I have respect and welcome their convenient advise. Their review helped me to make my apps more attractive then before. I will be able to meet the public concern based on their expression, solicitation, views etc. I hope user can easily use and understand my application as a better UI. Test result are so important for any kind of application.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Conclusion

I tried so hard and got so far but in end of my project android based mobile application has been successfully implemented. I tested the application with many types of smart phones, for implementing our application. I saw that my app worked properly and it gave the required data form my app. Authentication is not needed for this application. I tried my best to complete all requirement for my application. The design is very user friendly. The user interface is not looking like complex view it is so simple. User can softly handle my application. I hope that people will use my application and get proper service

6.2 Limitations of our Application

My application has some limitation i will overcome this limitation in future

1. User cannot make choice for alarm tune and can not see alarm notification.
2. User don't have any profile.
3. User cannot make choice Doctor's phone number from user contact list.
4. Can only be used 1000 time a day as i use free APIs to make the app.

6.3 Scope for further development

Here user can't choose the tune for alarm i will try to fix that as soon as possible. I will try to purchase premium API's If people response good. If any user suggested to me some important i will try make change according to that suggestion. In future I will add some new feature like recording voice, store medical report as a picture and tablet images.

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APPENDIX

Java code

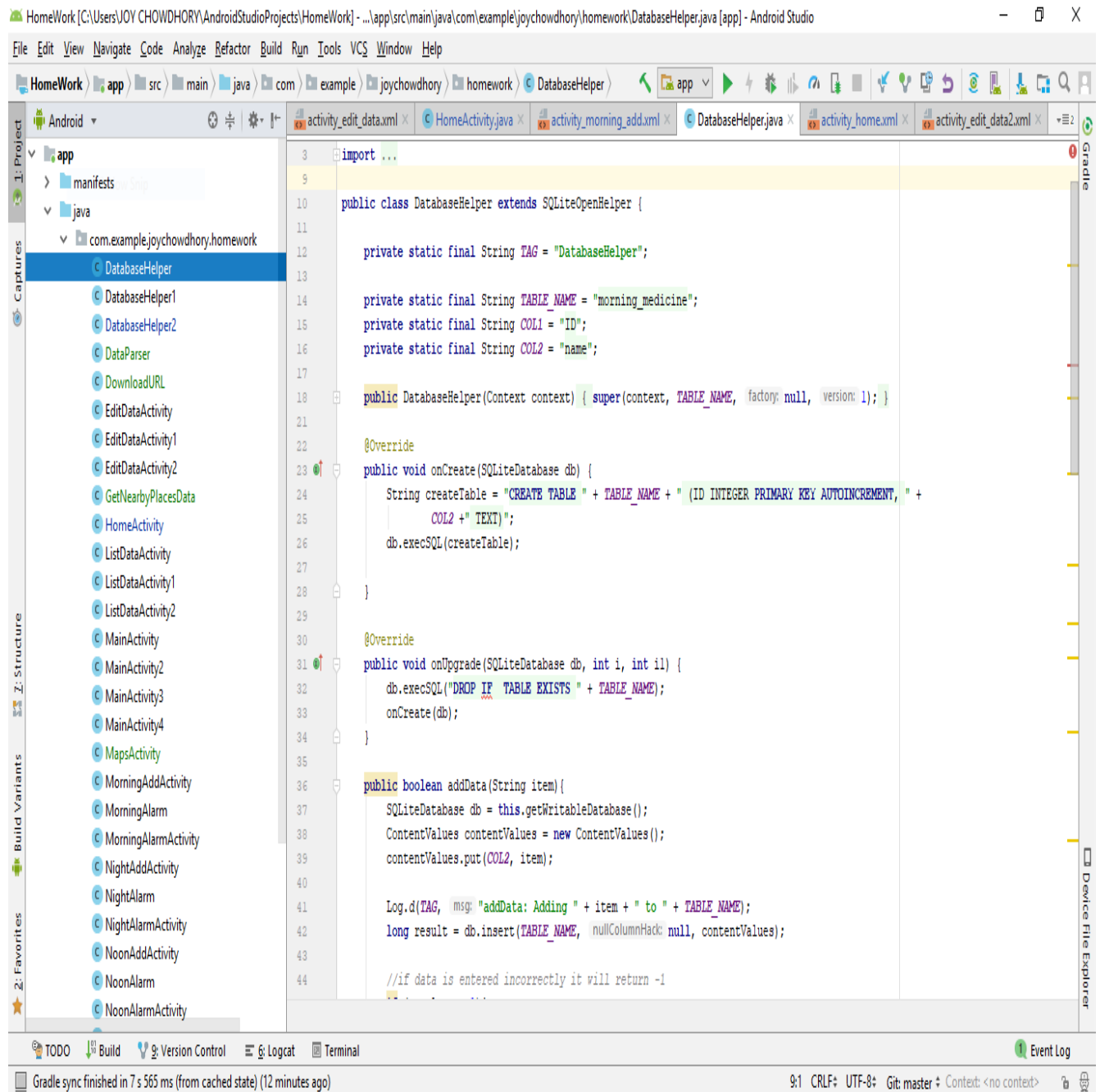
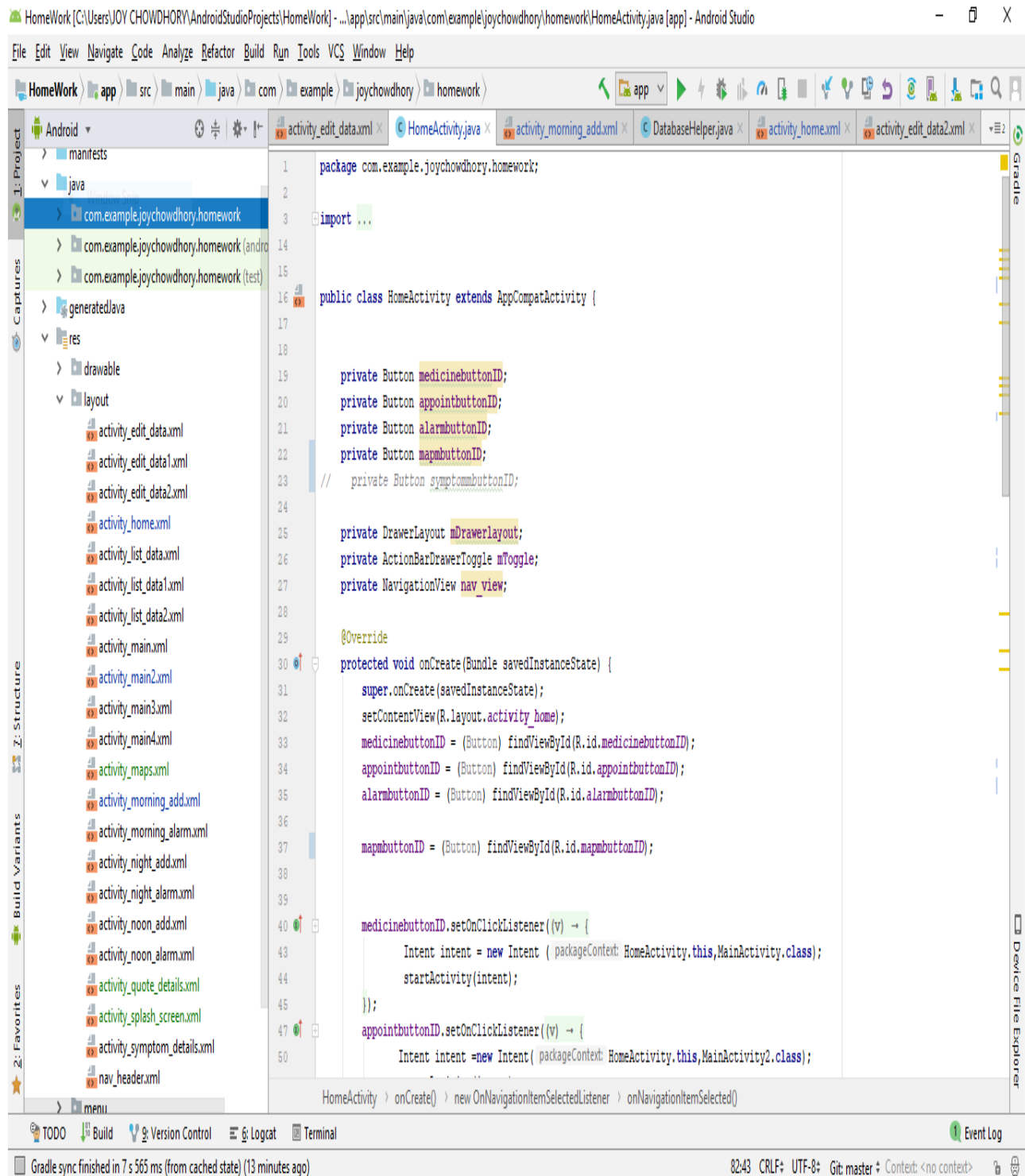


Figure 6.1: A Screenshot of Java Code of My Prescription

XMLcode



Plagiarism Report:

Medical Assistant

ORIGINALITY REPORT

21%

SIMILARITY INDEX

16%

INTERNET SOURCES

2%

PUBLICATIONS

20%

STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

14%

★ Submitted to Daffodil International University

Student Paper

Exclude quotes	Off
Exclude bibliography	Off

Exclude matches Off