

Glucose Rival: A Mobile Application for Diabetes Patients

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This Report Presented in Partial Fulfillment of the Requirements for the Degree
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DECEMBER 2019

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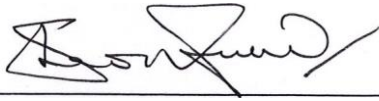
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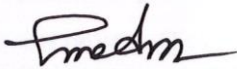
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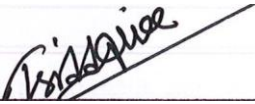
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ACKNOWLEDGEMENT

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

We really grateful and wish our profound our indebtedness to **Ahmed Al Marouf, Lecturer,** Department of Computer Science and Engineering, Daffodil International University, Dhaka. Deep knowledge and keen interest of our supervisor in the field of “Mobile Application” to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior draft and correcting them at all stage have made it possible to complete this project.

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

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

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

ABSTRACT

This project is on “*Glucose Rival*”. Now a days the daily life has gone a long way because of technology. Technology gave a huge advantage in our daily life and it makes the system easier for the people. The glucose rival is one of the application that we create. We hope that it will make an impact on its using field. We try to make an application that user will try to use it because of its user friendly advantage. We set our goa to take the market of South Asia. I am hopeful because the people of this area are ready to use the application for its easy using system. This application will promote us in this virtual world. Couple of application were developed recently but they don’t took the market as expected because of not be user friendly. It’s a different one. The diabetes patient and endocrinologist will start a new era using this application.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This Glucose Rival is an android based application which ensure a communication between doctor and patient. This is basically an application for diabetes patient and Endocrinologist. Both the patient and doctor have to register for login and use the application. The patient can get appointment, save information and get information using it. The doctor can conform or decline the appointment, brows the history of patient and suggest him medicine food and exercise. It will make a great change of habitation and beneficial to both patient and doctor.

1.2 Motivation

Now a days people don't like to use his/her human memory. On the other hand diabetes is a kind of diseases that reduce memorizing power of a human being. At the same time diabetes is a kind of diseases that a patient have to live on rules and regulation. A doctor can easily read the condition of a patient. So, Doctor can care his patient easily and can give appropriate suggestion. It will also save our time.

1.3 Objective

Objectives are given below:

- Can get appointment of doctor.
- Get notification before appointment.
- Show the recent glucose level of the patient.
- Show the previous level of glucose in Bar graph.
- Show the saved documents and information of patient.

1.4 Expected Outcome

Our application will make easier the daily life of a diabetes patient. A patient will get a highest level of help from this smart application. A patient do not need to remember his medicine and appointment. He do not need to carry his files and reports. Doctor can easily checkout his patient. A user will use this application very easily because of a user friendly UI.

1.5 Layout of Report

This report is finalized into six chapter. Total chapter are summarizing the full report. In chapter 1 we introduce the application. In chapter 2 discuss about previous and comparative works and the challenges of the application. Use case model/business process model are discuss on chapter 3. Chapter 4 is about front-end, back-end and the design of communication. Implementation and the output of the test are shown in chapter 5. Conclusion, limitation and future work completed the report with chapter 6.

CHAPTER 2

BACKGROUND

Glucose Rival application helps both the doctor and patient in their daily life. A patient can get appointment, suggestion, save documents and sugar level. At the same time doctor can approve or decline appointment, can easily handle the patient and can give proper guideline to the doctor.

2.1 Related Works

Few number of words done earlier related with glucose rival. But they cannot reach to the user and show their capability to take the market. Some earlier applications are Glucometer, Glucose Buddy, Glucose Tracker. But they cannot took the market as expected because they were not user friendly.

2.2 Comparative Studies

Couple of apps are exist in play store. We know that there is a hug demand of this kind of application. The previous applications cannot satisfied the user. Their thinking was good but not well enough to reach to the user. The UI of those application were built for highly educated people. They made it for western country but most of the diabetes patients are south Asia who are not highly educated. They like to use easy application. We think easy application means very user friendly UI.

2.3 Scope of the Problem

All the application and system has own set of implementation. Comparing with another application or system you can find some good idea and information but cannot reach to the proper solution. In the comparative studies point this is already discussed properly.

2.4 Challenges

Glucose Rival ensures a communication between doctor and patient. If doctor do not use this application properly then patient will not get a proper service as expected. At the same time patient also has to use this application to help the doctor and get a good service. Patient has to update his information regularly. It will help him to get better service.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

For staying in the market successfully we have to update our application in regular interval. It means the existence of this application in the market. So, we should have an easy developing system or structure for update this application.

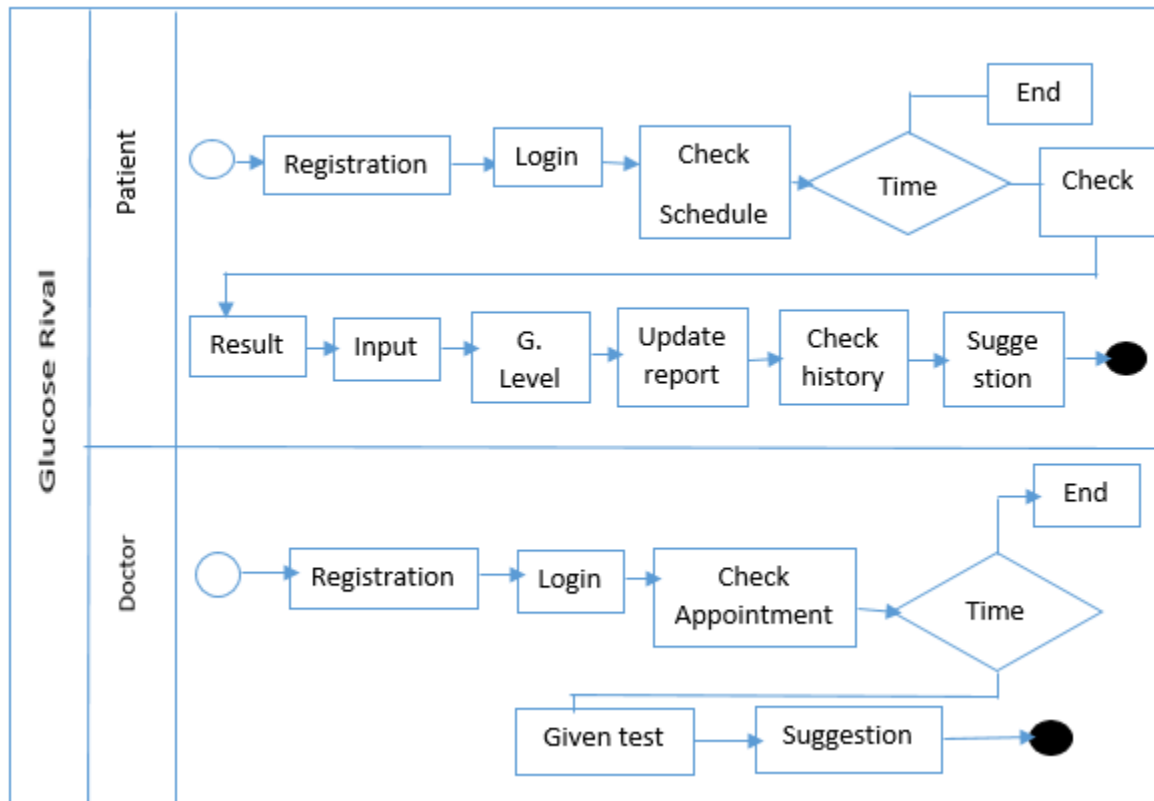


Fig 3.1: Business process model

3.2 Requirement Collection and Analysis

In earlier couple of points we told our application is user friendly. This is totally depends on know much requirements we have collected and after analysis the percentage we implemented. We try our level best to reach to the user of this application and understood their demand. During developing the application we also think about the global situation.

3.3 Use Case Modeling

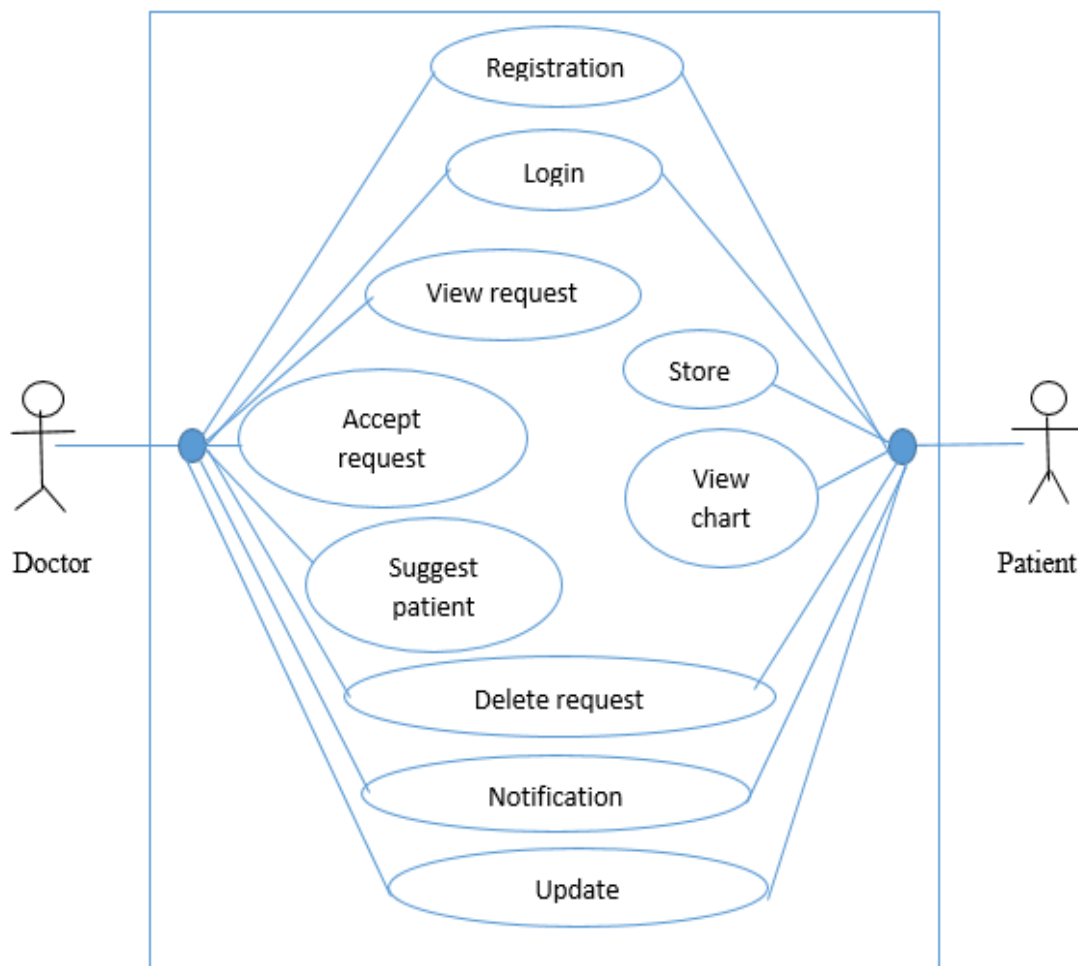


Fig 3.2: Use Case

3.4 Design and UI

- Registration/Login with verification code.
- Home page
- Update Document
- History
- Appointment
- Input information
- Notification

CHAPTER 4

DESIGN SPECIFICATIO

4.1 Front-End Design

- **Liner Layout**

For showing all the child in a single location a view group need to be used in called Liner layout. Generally it shows itself vertically or horizontally. It creates scroll bar to show the length of screen.

- **Relative Layout**

For designing an android application relative layout is one of the most important and powerful layout. For maintaining the UI of the application it is used.

- **Image View**

It used to display the images of the application. In our application we can capture the prescription of the patient. For showing the captured image it is used.

- **Text View**

It shows the text for view. It makes the UI user Friendly to the user.

- **Button**

We used couple of button in our application for proceed or decline the order from the user.

- **Database**

We work in database for the doctor side. A patient can search for a doctor for application, during search user will find the doctor list to select the doctor.

- **Frame Layout**

Normally frame layout is used to show single child. It cannot show all the child at a same time.

- **Fragment**

During working in this application we also have to do some sub activity. It helps us to do more activity.

4.2 Back-End Design

- Login/ Logout validation
- Given input
- Showing output

4.3 Interaction Design

- **Patient login**
 - Input glucose level
 - Apply for appointment
 - Can see history map of glucose level
 - Can track glucose
 - Capture prescription
 - Show prescription
 - logout

- **Doctor login**
 - Fixed appointment
 - Patient information
 - Suggest patient
 - Logout

4.4 Application Requirement

We need android studio for implement our application. We also need to know java language to complete to full task. We have also discuss some other tools that we need to know.

Software requirement for our application

- Windows 7 or higher
- Android studio 3.0 or higher
- JDK 1.5 or higher
- Java runtime environment 1.5 or higher
- Android operating system

Hardware requirement for our application

- **Windows**
 - 8GB RAM recommended
 - Screen resolution 1280 x 800 minimum

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Front-end design

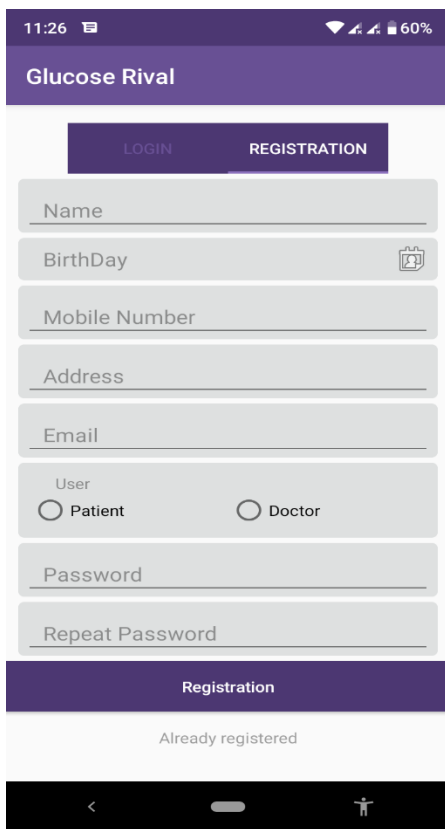


Fig 5.1: Registration Page

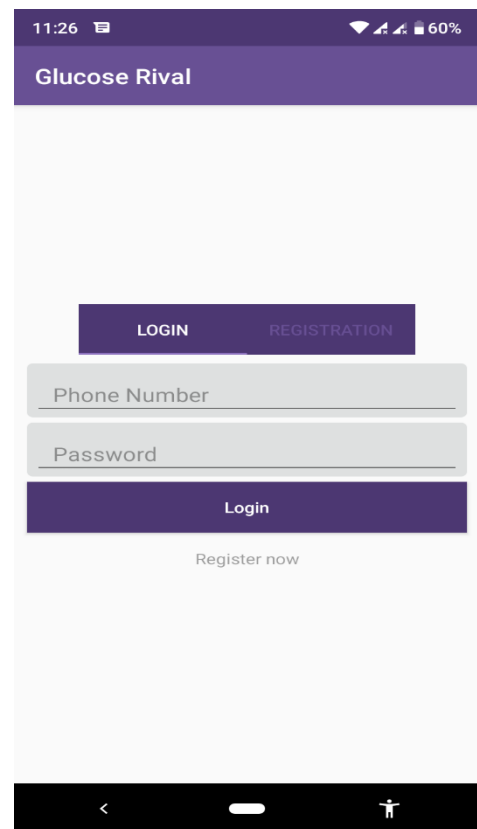


Fig 5.2: Login Page

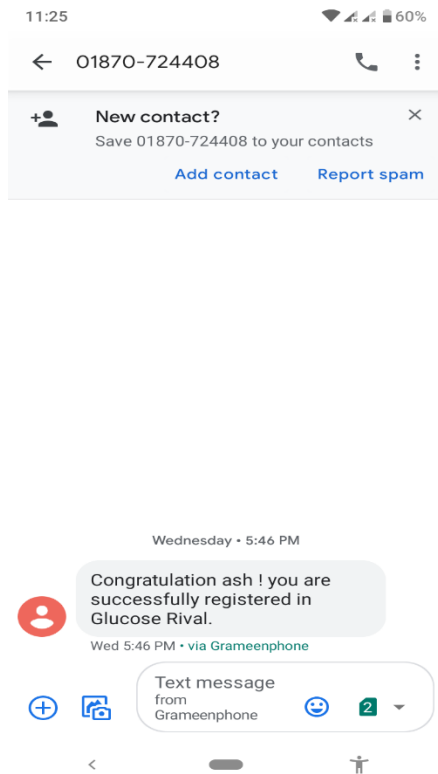


Fig 5.3: Sms integration

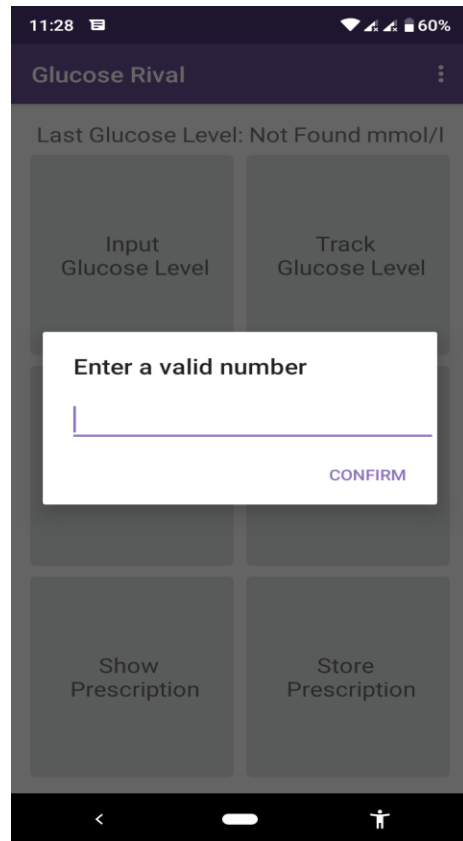


Fig 5.4: Validation check

5.2 Implementation and Interaction

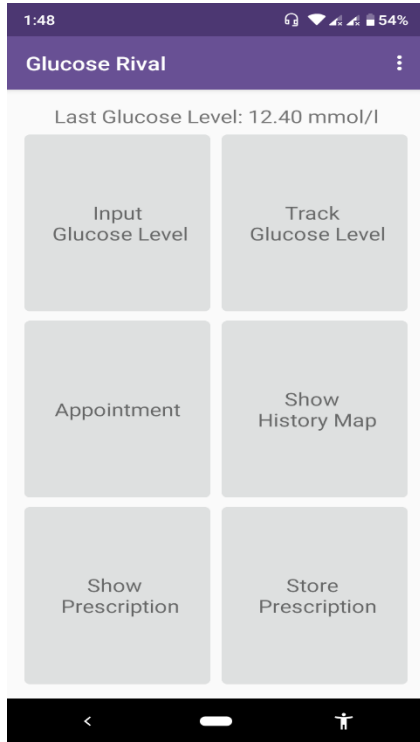


Fig 5.5: Home Page

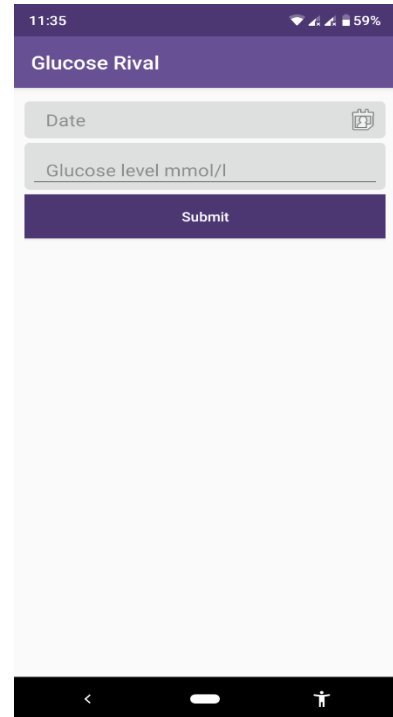


Fig 5.6: Input G. Level

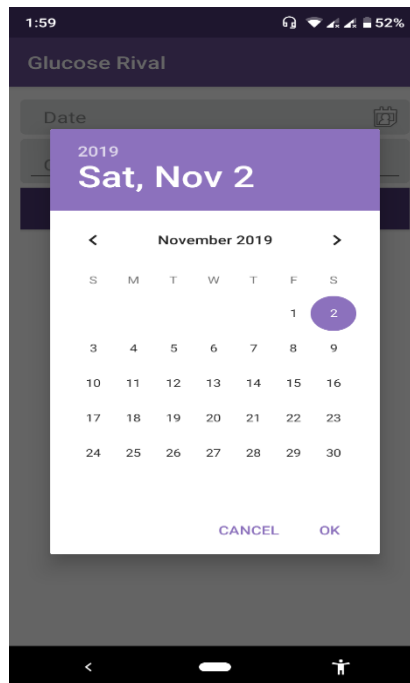


Fig 5.7: Select date

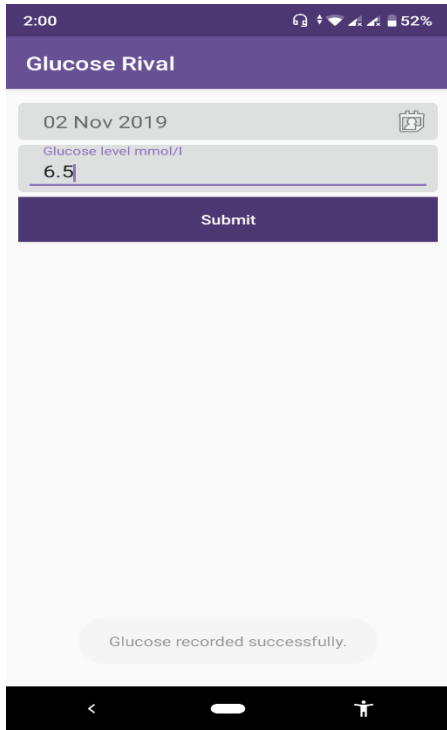


Fig 5.8: Input page

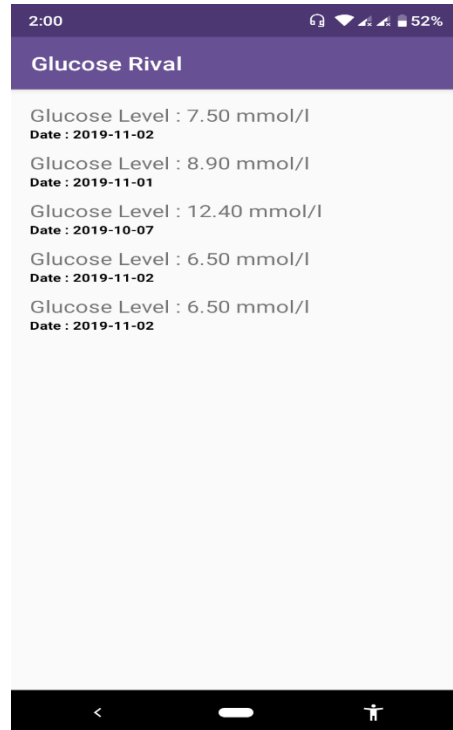


Fig 5.9: Track G. Level

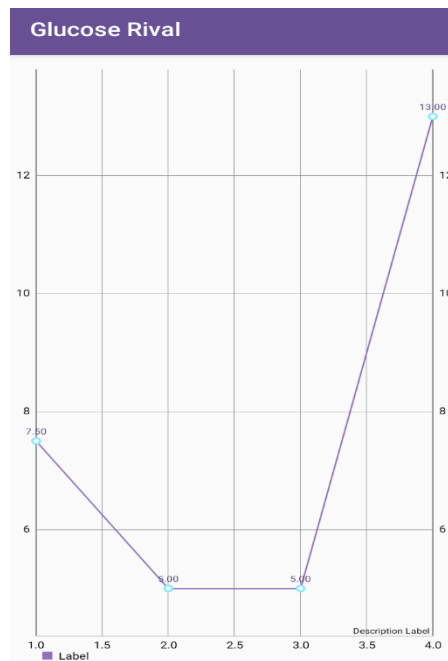


Fig 5.10: G.L Bar-Chart

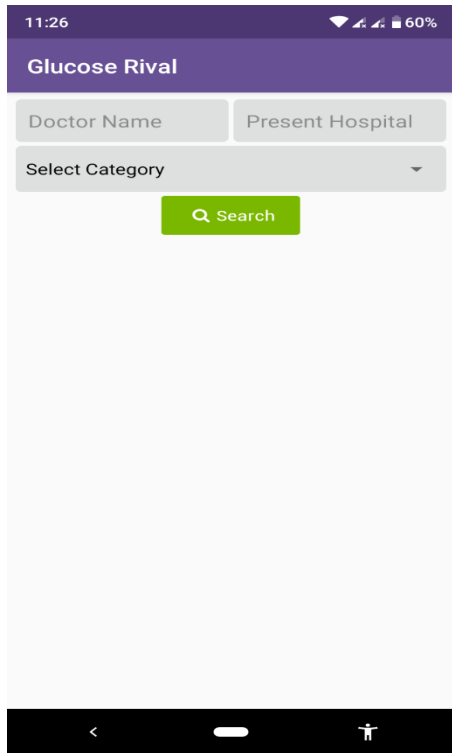


Fig 5.11: Doctor Search

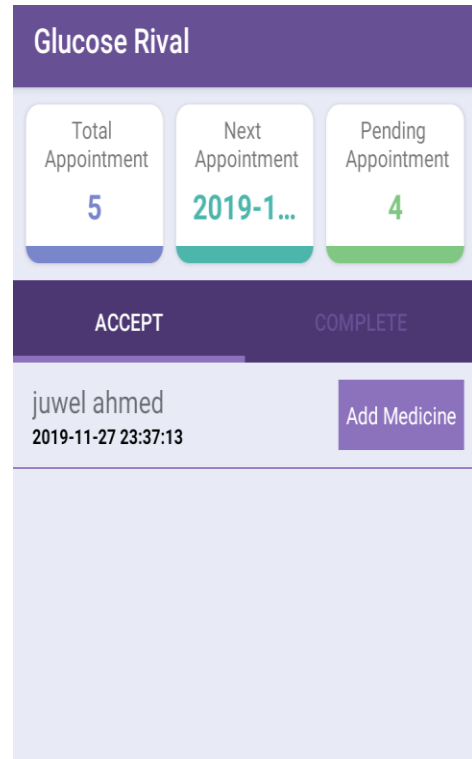


Fig 5.12: Acceptance Page

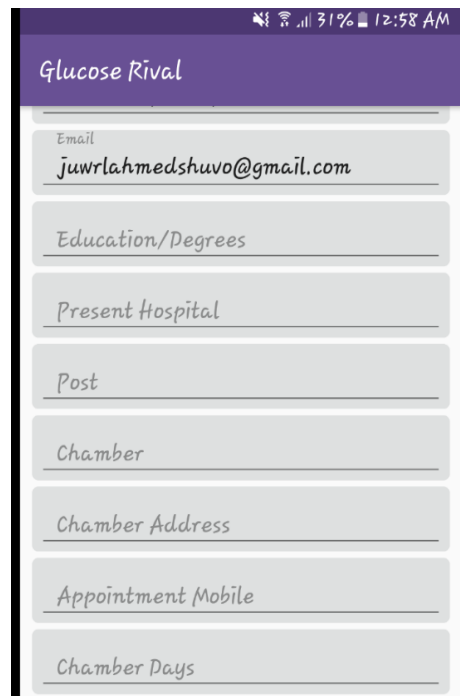


Fig 5.13: Doctor update page

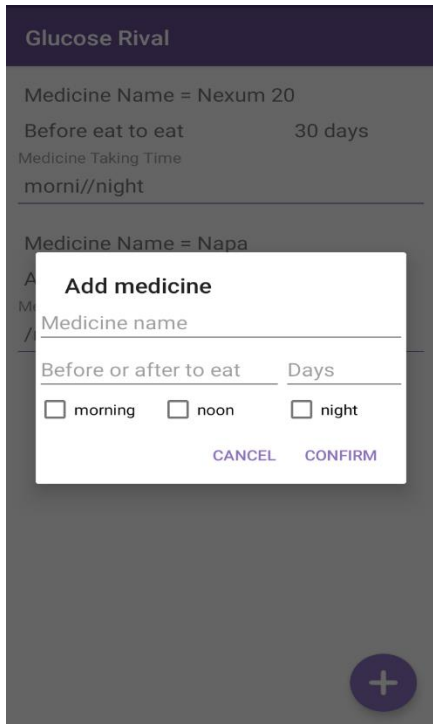


Fig 5.14: Add Medicine

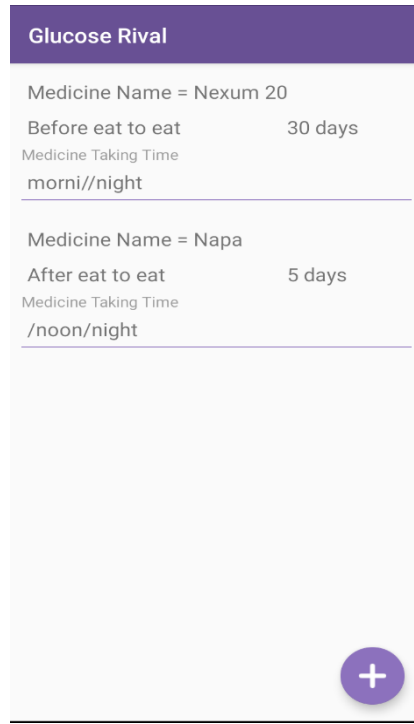


Fig 5.15: After Add Medicine

CHAPTER 6

CONCLUSION AND FUTURE THINKING

6.1 Discussion and Conclusion

Our project is an Android Application for diabetes patient. By using android studio we complete the work. The diabetes patient and Endocrinologist will use the application. This application will make a beautiful and healthy communication between a doctor and patient. We try to make the UI user friendly for both the user. Our business policy target is the people of South Asia. This Area is known as capital of the routine of a diabetes patient. We think it will care a patient better. A patient don't need to worry about his daily life.

6.2 Limitations

Like others there are some limitations of our project

- Cannot use without connection of internet
- Sms verification need balance in mobile
- Both has to connect to get the full service

6.3 Future Thinking

We are thinking to upload the application to the play store. We are trying to add more feature for both the doctor and patient for getting better service. Our thinking is about notification for patient and suggestion for patient from doctor. We will try to verify the login without any payment.

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