

DOCTOR'S APPOINTMENT SYSTEM



MD FAISAL

University of Liberal Arts Bangladesh

Dhaka, Bangladesh

June 2021

DECLARATION

I hereby declare that this project entitled ‘Doctor’s Appointment System’ neither any part of this project nor this project has been submitted elsewhere for award of any degree or diploma.

Submitted by:

Md Faisal

Id: 123014025

Department of CSE

University of Liberal Arts Bangladesh

APPROVAL

This project entitled ‘Doctor’s Appointment System’ has been submitted to the Department of Computer Science and Engineering, University of Liberal Arts of Bangladesh for the partial fulfillment of the requirements for the degree of Computer Science and Engineering.

Date: 12 June 2021

Dr. Abul Kalam Al Azad

Associate Professor

Department of Computer Science and Engineering

University of Liberal Arts Bangladesh (ULAB)



15/06/21

Signature and Date

Dr. Syed Akhter Hossain

Professor and Head

Department of Computer Science and Engineering

University of Liberal Arts Bangladesh (ULAB)

Signature and Date

ACKNOWLEDGEMENT

I would like to be grateful to the Almighty who give me the effort to work on this project.

Special thanks goes to my honorable supervisor Dr. Abul Kalam Al Azad, for his immense support, inspiration and helpful criticism during the execution of this project. His excellent supervision and constant support make this project possible.

At last I would I like to thank my respectful parents for their unconditional support, encouragement and love.

ABSTRACT

The main goal of the project is to make an information system with which a functioning government could monitor and provide policies for health care which can be for the betterment of society. The current system has a centralized database where both Android application and java/windows program can access it. The Android application is for booking appointment, make emergency calls to hospitals and look at documents of old/previous cases. The Windows program is only for hospital use where they will save it o the database. The doctors can keep track of patients' data. This system was developed as private hospitals have policies to refuse data sharing. This information system is essential because in the future or a developed country adopts this system for public funded medical system, or developing country where an epidemic occurs this system's Android application can be used to track infected people for contact tracing, provide safety notes authorized by medical board to combat fake news and provide treatment vaccine. This system could be used to train an AI doctor. This information system is essential to provide information gathering to be used in future projects.

TABLE OF CONTENT

CONTENT	PAGES
Declaration	i
Approval	ii
Acknowledgement	iii
Abstract	iv
Table of Content	Error! Bookmark not defined.
CHAPTER	
1. Introduction	Error!
Bookmark not defined.	
2. Objectives	Error!
Bookmark not defined.	
3. Implementation	1
4. Why we used Java	Error!
Bookmark not defined.	
5. Feasibility Study	3
6. SRS Report	4-7
7. Design and Development	7-9
8. Challenges and Future Work	10
9. Conclusion	10
References	1

1. Introduction:

The purpose of the project is having centralized database to provide access to patients and hospitals in real time. This would remove the hassles of carrying and keeping up-to-date data records from both parties.

2. Objectives:

- To create online Government Doctors' Appointment System
- Emergency call to hospital for ambulance
- To keep records of patient files
- To provide only view access to patients

3. Implementation:

In our project we used the Java programming language and Android Studio. MySQL for database creation.

4. Why We Used Java

Java is one of the best programming languages that is based on the concept of Objects. And thus, it is also known as the Object-Oriented Programming Language. Also, there are some of the striking features that Java provides and hence, it makes programmers to use it as one of the most effective and the efficient programming language. Java is easily compiled and runnable on multiple platforms, e.g. PC, Mac, Linux, super computers, and a limited Java set for Android. It is one of the most portable high performance languages (yes, the fad these days is to say that a language is not what performs, but it's well understood that when one talks about Java programming, that the runtime performs like what you get with the Oracle/Open JDK JVM, or Android JVM, which is good).

Android studio gives us a proper environment for developing and for coding of android apps. With Android Studio we can write better code, work fast, and be more productive with an intelligent code editor that helps us each step of the way. Android Studio is built on IntelliJ and is capable of advanced code completion, refactoring, and code analysis. It also has a very useful Gradle plug-in using which we can create application files with different configurations. Moreover, it makes exporting and uploading apk on play store easy with a single click. It also has ANT build if you prefer that.

5. Feasibility Study:

a. Technical Feasibility:

The system has been found to be quite flexible and straightforward as far as features and implementation are concerned. It was well implemented and the project was built in such a way that if required, it will be possible to develop a new system given the currently available technical resources. Furthermore, it can be said that the system can be upgraded to incorporate new features and specifications according to customer's needs or other situational requirements. So, it can be said that the project is technically feasible.

b. Economic Feasibility:

It took the analyst and other developers about two and a half months to develop the system. Development was done through online collaboration. The chief costs incurred in creating the project are the costs to arrange developers' meetings, the cost to acquire the development tools from online sources and the cost of online communication and the transfer of the project files. The main source of income from the information system will be advertisements shown within the android application and the price of the java application. It has been estimated that once the system is in operation, it will take about 3 months for the project to be profitable. So, the project is economically feasible

c. Operational Feasibility:

The system has been tested on several devices by several different potential users and testers. It has been found that the software functions properly and in general, the users have expressed that they are satisfied with the features and they also mentioned that the system is convenient to use and that the user interface is appealing. It is highly probable that users will be using this system. So, it is operationally feasible.

Based on the results of the above studies, it is very much apparent that this project is feasible and has a lot of potential. It is likely to be well-accepted by its future users.

6. SRS Report:

a. Purpose:

The purpose of this report is to state the functionalities and requirements of the project titled 'Doctor's Appointment System', which allows patients to conveniently make appointments to doctors.

b. Scope:

The users of this applications will be patients and hospitals. The actions which the users can perform in the application are given below:

Patients:

- Sign up
- Book Appointment
- View Appointment
- Update Appointment
- Cancel Appointment
- View Records

Hospital:

- Book Appointment
- View Appointment
- Update Appointment
- Cancel Appointment
- Create Records
- Update Records
- View Records

The application stores its database in the SQL format.

c. Product Perspective:

i. System Interfaces:

The java application runs on any operating system which has the latest Java Runtime Environment (JRE) installed. The Android application would run on any device which is running on Android version 4.0 and later versions.

ii. User Interfaces:

The software's graphical user interface consists of buttons, menus, toolbars, forms and other elements which allow quick and easy user interaction.

iii. Software Interfaces:

The software can read and write to an SQL database which contains patients' information. Communication Interfaces: The Android applications allows a patient to make emergency calls through one of Android's built-in functions.

d. Overall Description:

This is a Doctor Appointment System Application. With this app you can book a doctor's appointment online and offline. This is a phone-based application. Anyone can use this app easily. Firstly, when you open the app there is a home page and it has three options Doctor, Receptionist, Online registration.

Doctor: Doctors can login with their username and password. The username cannot be same. He/she must store their username and password. Doctors can see the respective appointments taken and can view patients details and records. Then when doctors create a case file for the patient which is stored in the database. Later it can be updated only by doctors and use as a reference.

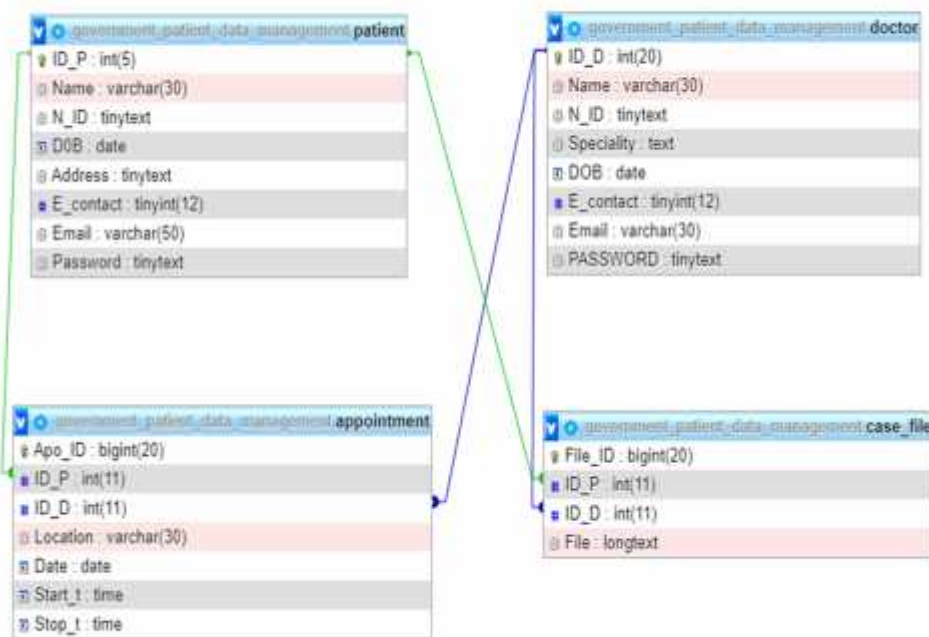
Receptionist: Receptionist can also login with their username and password. The username cannot be same. Receptionist can add or delete patient's details like Name, Id, Address, Disease, Phone number. Receptionist can Add, View, Update and Cancel Appointment.

Online Registration: Patient can register online. They must give their Name, ID, Address, Disease, Phone number, Gender.

Database: We have used MySQL database in our project. Doctor and receptionist signup information are stored in database.

In Database four tables were created for storing data of patient, doctor, appointment and case file.

The Entity-Relationship diagram (E-R diagram) shows the features of the database system.



e. Technical Process:

We have used these tools and development tools in the creation of this system:

Java Application: Java programming language on Eclipse IDE

Android Application: Java programming language on Android Studio

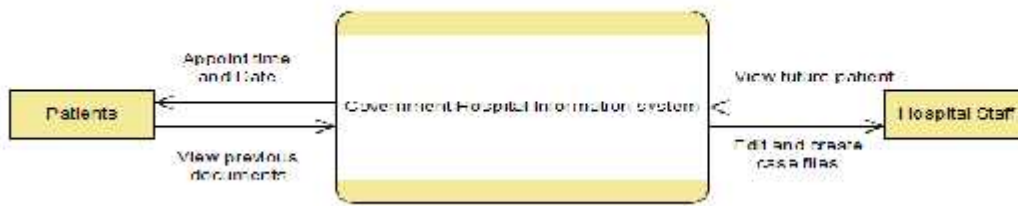
Database Creation/Management: XAMPP

7. Design and Development:

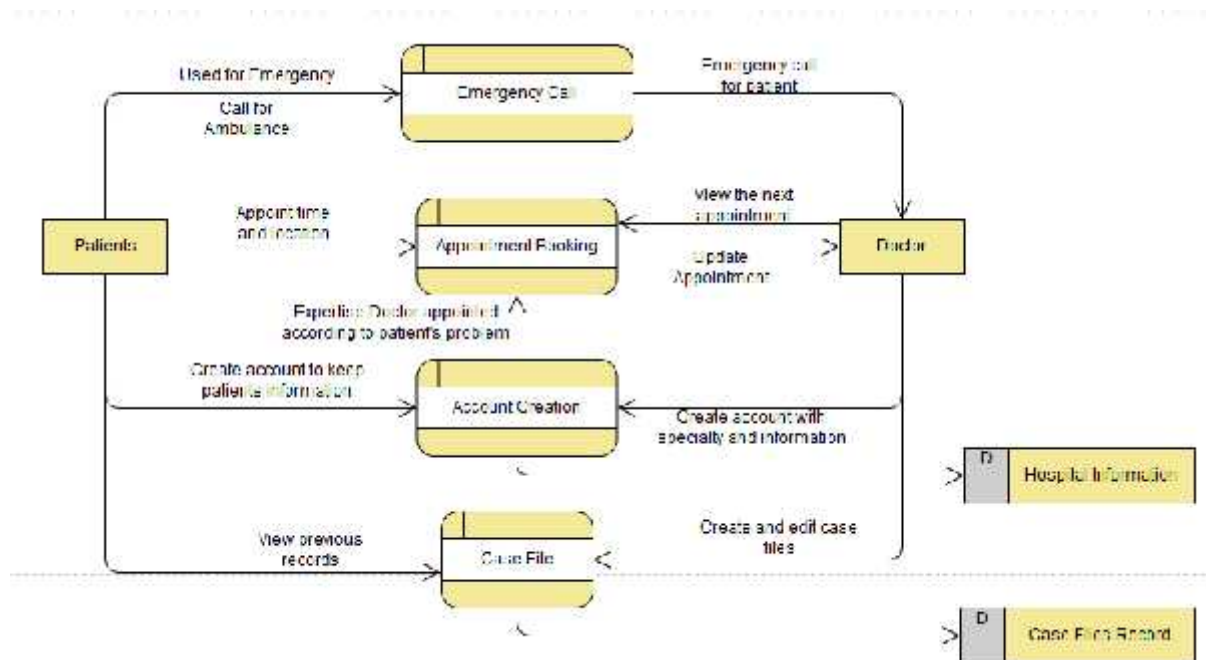
7.1 Step by Step Implementation Details:

At first we designed three buttons. The three buttons are Doctor button, Receptionist button and last button for online registration. Next, we designed doctor layout where doctor can signin and signup. After that was designed the receptionist layout where receptionist can signin and signup. Then we designed other layouts view appointment for doctor, registration layout for receptionist. Then we connected the database to doctor, receptionist and online registration page to store the information. Finally we installed the android application on our phones and exported the java application (for PCs) to a Java archive (JAR) file.

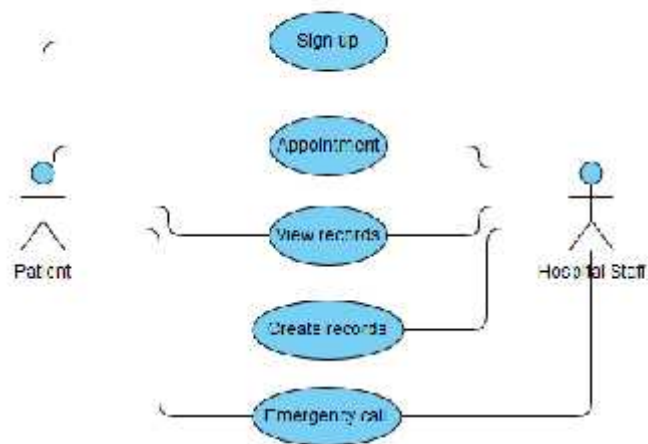
7.2 Context-level Data Flow Diagram:



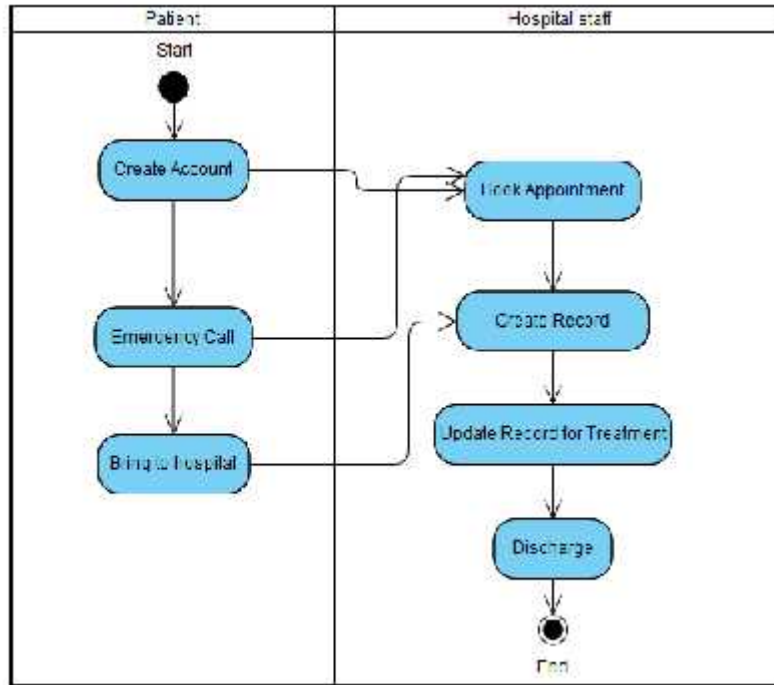
7.3 Level 0 Data Flow Diagram:



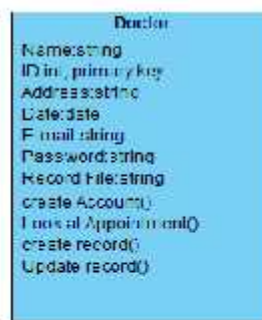
7.4 Use Case Diagram:



7.5 Activity Diagram:



7.6 Class Diagram:



8. Challenges and Future work:

Challenges: When we try to connect SQL database it was very challenging. At first, we couldn't do it. It took 15 days to build the connection with database. We had to watch tutorials of SQL. We tried to run wrong code and it showed Error on emulator then we correct the code but still it was showing error. We checked the code again but couldn't find any bug, so we try the same code on a new project, and it was working. Then we understand the problem was in the emulator, so we delete the old one and installed new emulator. Now the project was working nicely. We faced another challenge when we tried to install the app on phone. We on the builder option but still it wasn't working. Then we watch YouTube video and on the security option then it worked properly.

Future work: In future we want to add check list on Receptionist page. If Doctor has checked the patient this will be in the checklist. If old patient comes again, we will take less visiting money it will be in checklist. In Doctor Registration page we will add specialist option to identify which doctor is specialist in what specific field of medicine. In Patient Registration page we want to add doctors list there will be doctors name, their MD, PHD, in which field they are specialized.

9. Conclusion: The outcome of this project is a smart android application and a java application. As discussed in the previous chapters the main problem that we addressed was dealing with patient and doctor. It is the above situation that above us to techniques of developing this Doctor Appointment System to be used the Patient and Doctor to enable them to handle details on policies efficiently and effectively. The Project has implemented most of the objectives stipulated in earlier chapter. The Doctor Appointment System offers several benefits to the user and can capture data, store, view, add and delete the records entered the data call also be posted information to the database. Therefore, the making of such an application will prove to be very helpful to those who are very busy in their life.

References:

- 1) https://www.researchgate.net/publication/312946008_Mr_Doc_A_Doctor_Appointment_Application_System
- 2) <https://www.freeprojectz.com/project-report/2363>
- 3) <http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/123456789/3674/P13394%20%283%25%29.pdf?sequence=1&isAllowed=y>
- 4) https://www.academia.edu/26066176/Design_and_Development_of_Online_Doctor_Appointment_System