

A HEALTH COMPANION APPLICATION

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Abstract: To maintain and track medical history of an individual patient is very tedious job. One has to carry all hardcopy of old medical files, prescription and reports such as blood reports or x-ray, etc. For every check-up patient must carry all these for doctor to analyses the type of disorder he or she is suffering from and give appropriate medicines. However, this amounts to lot of paper work on both sides. A various Health care problem is solved by phones. The System we are developing contains the features that are storing the prescription, reports etc. This system will not only make it convenient for patient to carry all old records as soft copy but also remove drawbacks of conventional paper system, thus benefitting the entire society.

Index Terms - eHealth, Android, Health Care

I. INTRODUCTION

Health is a dynamic phenomenon, due to its changing nature. Hence it is one of the most important concern today. Nowadays there is an advancement in the technology better type of mobile is coming in the markets. The cell phones now-a-days are outfitted with varieties of sensors like location sensor, temperature sensor, Heart-rate sensor, gyroscope, Step-counter, etc[1]. In view of such highlights the quantity of clients utilizing smart phones has appeared uncommon development. It is evaluated that in India alone there are more than 530M smart phone users. The Google's Android Operating system has become one of the most popular operating systems in the world[2]. In India it is estimated that Among all smart phone users 97% percent of users own Android phones[3].

II. RELATED WORKS

A. EXISTING SYSTEM

A large number of application is developed in the field of Mobile-Health. We have studied various development in the field of the mobile Health.

According to Ran Wei and Zhimin Yang (2012) they develop a Android Application which enables interaction between doctor-patient both of them. What they have proposed is whenever the patient feel some symptoms related to particular diseases they directly go to the hospital database with the help of application and started recommending some kinds of solution which already different patients have faced in the past. They also get some solutions online through by leaving a message for the doctor and doctor will reply the message later through application.

A. Imteaj and M. K. Hossain analyzed that basic concept of the application is to provide efficiency in day to day life for carrying out health related tasks easily. The key point of this application is simplicity by being a helping hand to the people who are new to all these processes. This application provides features from finding a nearby hospital, information about doctor, help in emergency situations and finding out their BMI (Body Mass Index) Calculator.

Fletcher Lu and Manon Lemonde (2014) have presented their special thought of an android application which inspires individuals to do exercise. This application has utilized social networking sites to empower fitness among individual and to reduce obesity. The use of social networking sites to creates a competitive among people to Fit.

B. PROPOSED SYSTEM

We are creating the android application in which they can keep a track of all the records, reports, prescriptions and medicines for the patient. So that everything is stored under single location so that we can access it very easily and shared to doctor or chemists.

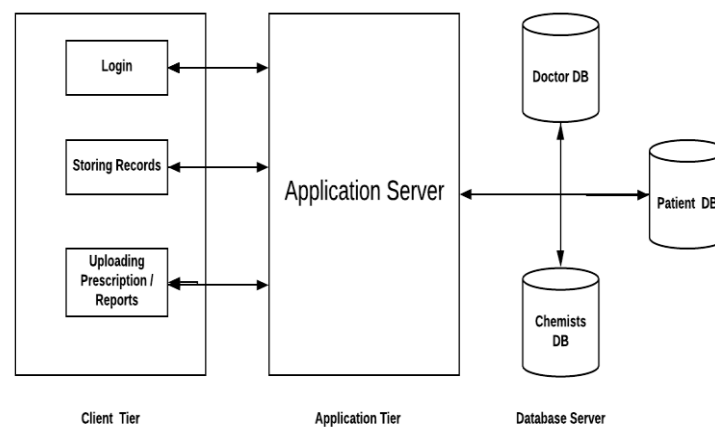


Fig 1- Architecture Diagram

Store record - The patients will store the x-rays, files prescription and their old blood reports to access it anytime and an

2. Application Tier

This will include the Application Server and business logic

3. Database Server

Patient Information DB - It contains the patient records like login details, appointments, vital records.

Chemists Information DB - It contains the Chemists records and the medicine database.

III. METHODOLOGY

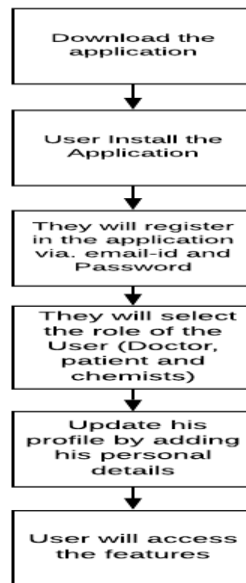


Fig. 2: Flow chart of the Application

Figure 2 shows the flowchart of the application. Once, the user downloads the application they have to install it in any android phone. In which they have to select the role of the user (Doctor, Patient, and Chemist). After selecting an appropriate role, they will further do their work. After that, they will ask to update his profile by adding the name, profile photo, and date of birth.

A. SOFTWARE

1) Android:

Android is an operating system which was introduced by Google. Android was founded in Palo Alto , California by Andy Rubin ,Rich Miner ,Nick Sears and Cris White in 2003[5]. In the year of 2005 android was acquired by Google. From that point onwards it has turned out to be famous and it controls the greater part of the cell phones. Android powers equipment which is generally founded on ARM Architecture. The android working framework depends on a changed form of the linux piece. Because of the immense prominence of the android working framework there are a great deal of designers which create application programs for android based gadgets which are famously called as applications. Android applications are written in JAVA programming language. Because of an immense engineer network various Libraries and API (Application Programming Interface) have been created. Android isn't just restricted to mobiles however it likewise controls different gadgets like Television set ,Home-security frameworks ,watches ,cameras ,Refrigerators, Car route frameworks ,Smart watches and so forth.

2) Firebase:

Firebase is an application platform which helps the developers to develop high quality Web and mobile applications. Firebase was founded in 2011 by Andrew Lee and James Tamplin[6]. It gives different highlights like Real-time database, Firebase cloud messaging(FCM) and Firebase storage. We have used Firebase Cloud Messaging(FCM) highlight in our application. Firebase cloud informing gives a cross stage answer for convey messages between two gadgets through the web. The messages are conveyed at no expense. Before utilizing the FCM Service a gadget must be enrolled with the Firebase server. After the gadget has enlisted, Firebase makes a token which exceptionally recognizes every gadget enrolling with firebase. A token is only a series of characters and numbers. The token created by firebase can be utilized by the engineer to distinguish every gadget and to speak with it.

3) MySQL:

MySQL is an open-source Relational Database Management System(RDBMS). It was founded by Michael Widenius[7]. It is a structured Query language. It is written in C and C++. It is broadly utilized for getting to and dealing with a database. It is planned with the end goal that it can without much of a stretch handle even substantial informational indexes. It is in all respects agreeable to PHP and is broadly utilized for advancement of Web Applications It is widely used in the world because it is free to use. It is cross platform in nature [8].

IV. IMPLEMENTATION

1) Doctor Module

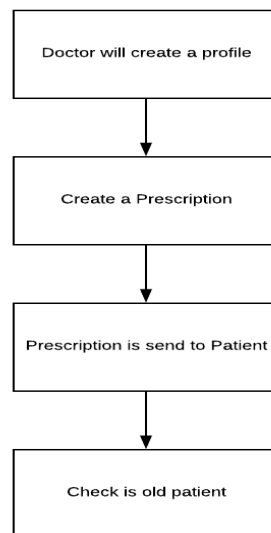


Fig 3: Work flow of Doctor how they add a prescription

Whenever Doctor login in the application they have create option in that create option they will create the prescription for the patient. The prescription contains the patient name, medicine name with doses and when they have to take that medicine. After Submitting the Data is send to the individual and QR-code is generated which is visible to the patient at their side. The Doctor also tracks the patient records which they have consulted. All the Data is going to store in the Firebase Database.

2) Chemists-Module

In this Chemists Module, the Chemists Will Directly scan the QR-code and get the prescription by the Doctor.

3) Patient-Module

Whenever the Patient login in the Application. They have all the reports and prescriptions images stored online in the firebase database and they will see it at any time and show them to a doctor.



Fig 4-Flowchart of Patient Module

V. CONCLUSION

The Health Companion App will be able to provide paperless prescription and storing the records online which reduces the work of patient to carry old files and reports. The simple and interactive design of the application will help the patient to keep track of their reports and prescription images. The application can be easily downloaded and used by individuals. Thus, the project strives to create an application for providing services to patients and maintaining their records of previous x-rays, prescription and report so that user can access it from anywhere.

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