

# Hybrid App for Health Record System

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**Abstract** - Electronic health has become important to enable easy access to health records. As we know before electronic health record (EHR) system the patient's records were maintained manually in a physical file format where the access to medical charts required a fair amount of physical labor. Our application is a hybrid app which runs on all the operating systems (Windows, Android, iOS). Unlike Android and iOS where we have to write the code separately, here in hybrid application we will be writing the code once and will execute on all platforms. To increase the reusability of code and increase number of users to increase the awareness of digital health record system.

**Key Words:** Hybrid App, Reusability of code, Awareness of Digital Health Record.

## 1. INTRODUCTION

Electronic Health record system will empower common man with Personal Health Records (PHR) and lay the foundation of a Public Electronic Medical Records. Mobile health (mHealth) will play an increasing role: mHealth is defined as the use of wireless devices to collect, retrieve, and send health data.[2]

This app will enable us to take control of our precious asset-Health. This app will keep complete information of your Doctors, varied Health conditions, investigation results, medicines and follow-ups.

Quality that makes this app different from others is the increased availability of health records and medicines using digital means. Most important feature of this app is portability. This app can run on all platforms namely Android, IOS and Windows mobile.

Our Aim is to provide a cross platform application for health record system. Also, to assist the user as per their need and to coordinate with them so as to maintain optimum health status of the user.

Shifting of health care providers to paperless environments using EHRs improved the accuracy and quality of data recorded, decreased the hassle caused in locating, updating and sharing records, reduced loss and damage of records, and lesser errors in diagnosis due to misinterpretations of handwritings. [1]

Objectives can be given as:

- To increase usability of digital health record system.

- To make code platform independent so that it can be reused i.e. windows, mac or android etc.
- To support sufficient health care output.
- It Improves quality, safety and efficiency & reduces costs.

## 2. Methodology and Implementation:

The mechanism of the system is divided into 5 modules:

### 1) User Login/Registration:

The system will have two types of user, which are Patient and Doctor. If the user is using the application for the first time i.e. new user he/she will have to first register into the system by entering the details that are asked. User can then login into the system using the registered username and password. We have to verify the users by providing unique information of the user.

### 2) Taking Appointments:

After the patient successfully logs in, an appointment page will appear where the patient has to fix his appointment by entering symptoms from the given list of symptoms with the date when he wants the appointment and accordingly the doctor will be allotted to him/her. Also there is an option to provide the doctor's name in case the patient wants to meet the particular doctor.

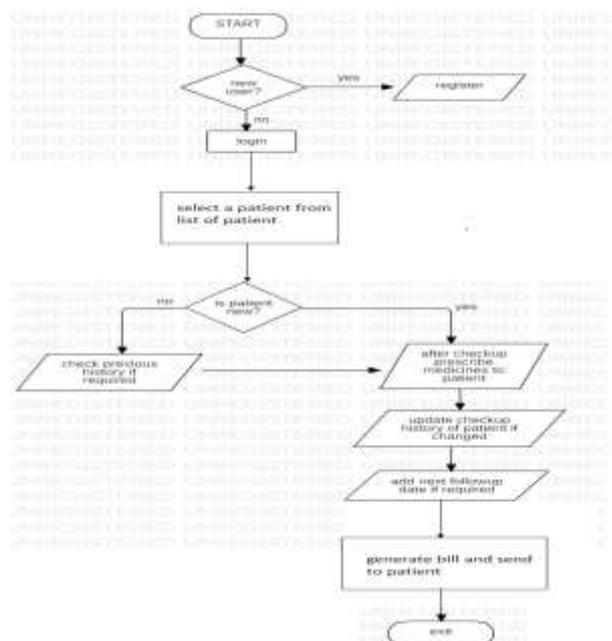


Fig1: Patient work flow diagram

3) Token Generation and Notifications:

Tokens will be generated by the system according to the appointments taken by the patient and the patient would be put into different slots and given a specific time. The patient can view this information from the 'notifications' tab where all his appointments can be viewed.

4) History:

The patient would be able to view his checkup details i.e. the doctor he visited, diagnosis given and the medicines prescribed on clicking the history tab, where he could keep track of his appointments and checkup details.

5) Bill Generation and Reminder for follow-ups:

The Doctor after doing checkup of patient has to click on 'Generate Bill' for bill generation and it will be sent to patient. Also the doctor can give the patient reminder of follow-ups by clicking on the reminder.

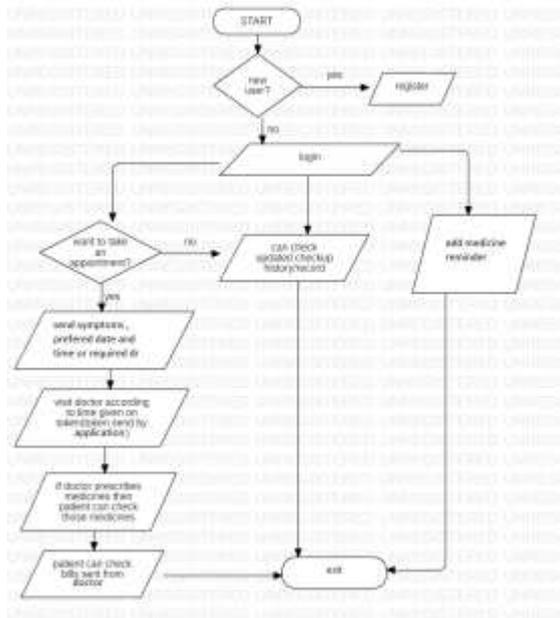


Fig 2: Doctor work flow diagram

**3. Advantages and disadvantages of cross platform applications**

Advantages:

1. Reusability of code

Instead of writing the code again and again we can use the same code for all platforms. This will also reduce the amount of time given and prove to be more beneficial as compared to native platforms.

2. Cost Efficient

In cross platform applications you have to invest only once for the code so that it saves the cost of code and also for native apps many resources were required, due to cross platform only few resources would be required.

3. Uniformity

For a user it is always easier to use an app of similar look on every platform rather than a app with different look on each platform. Therefore, uniformity is the great advantage in cross platform app development which provides sameness and makes it easy for the user.

4. Quick Implementation :

As the single script is deployed everywhere it will reach the market sooner and will be beneficial for all concerned-the developers, marketers and the consumers. As in native apps time has to be spent on thinking different codes for different platforms thus making the whole process slower.

Disadvantages:

1. Lower platform functionality

A cross-platform app does not allow to enjoy all of the unique features and tools of every platform it is used on.

2. Platform Integration

Since each platform has its specific storage options, notification apps, preferences and local settings, integrating an app with all the requirements of each platform can be troublesome.

3. Trying to satisfy everyone

You sacrifice the uniqueness and functionality of each platform to try to meet the needs of various platform users, and adapting one app to the requirements of multiple platforms.

**4. Scope of the project:**

1. Medical apps are beneficial for both patients and doctors as they both have their different requirements on the app which they are using.
2. Information related to health department can be available whenever and wherever it is needed. This will leave a great impact such as:

- Increase patient participation.
- Improved Diagnosis & patient outcomes.
- Provide better ways of communication for patients and doctors.
- Getting the best consultancy from the doctors on your problem.

3. A person can decrease the complex steps that are involved in the healthcare industry by using the best healthcare and medical apps.
4. From the year 2013, medical apps got more attention from people in the market and their scope started increasing.

## 5. Conclusion

Computerized decision support for clinicians will be taken to a new level. While physicians will still be ultimately responsible for making a final diagnosis, the EHR will suggest possible diagnoses for the physician to consider, along with tests and treatments based on guidelines and literature that are a click or a voice command away. Ultimately, this will lead to innovation and improvements in Health record solutions. EHR systems are complex. To reinforce learning, users should be given on-going access to learning aids, refresher courses, and technical assistance. [2]

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