

# HealthMate - All In One Health App

**Team name:** KookieJar

**Team members:**

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## 1. **Motivation and Pitch**

In the hustle and bustle of today's life, people don't have enough time to look after their health. They tend to forget to intake prescribed medicine at the proper time or miss their doctor's appointment or sometimes aren't even aware of the medical history of their near and dear ones and are completely clueless in case of emergency situations. Some apps are available that provide few of the facilities but no integrated app like a one-stop solution exists as of now. We, team "**KookieJar**" propose to build "**HealthMate**" - an app that will incorporate all the medical requirements along with an activity tracker in order to keep a check on fitness levels, especially during this pandemic time which has drastically reduced physical activity. This App will also provide an eco-friendly alternative to the hassle of maintaining hard copies of the prescriptions and reports.

## 2. **Problem Statement**

All-in-one health care app with features like an emergency SOS tracker, activity tracker, doctor appointment reminders, and medications and reports to assist users keep track of their health information.

## 3. **Related Work**

In the past years, healthcare has become a crucial part of everyone's lives. As people are becoming more conscious of their health, there have emerged many applications that offer us the convenience of having our health in check. From having appointments booked to creating a healthcare management system, healthcare has become one click away.

The most recent business that emerged from this is Practo. It is a SaaS software that creates a network between doctors and the patients. It is a platform where the user can easily book an appointment with the doctors and the doctors can track the patients reports. Although it is a connecting bridge between the healthcare services and the local community, for patients/users, it is only a way that would help him/her to book appointments and order medicines. He/she could not track their records or their activities. Other than this, there are several other applications /Services that connect users to the healthcare services.

When talking about personal fitness or personal healthcare, there are applications (like Google Fit, HealthifyMe) that help us track everything with our sleep schedule to step count or to water intake. This is a feature that is available in most of the devices now, but applications like these have so many irrelevant features that can distract the user.

Among research papers, Deng et al. have proposed the architecture of a cloud-based home healthcare system and addressed its security and privacy challenges.

Our aim is to build an application that combines the best of both worlds and create a hassle-free interaction with the user, where the user can get all his/her medical records or his/her family's health records in one place as well as track his essential habits with the same application.

#### **4. Features Proposed**

We had planned to develop an app that will incorporate the following features:

##### **1. Patient's Login & Registration Portal:**

Patients have a separate login and registration activity for authentication and authorization purposes. Patients have options to access all the proposed features.

##### **2. Doctor's Login & Registration Portal:**

Doctors have a separate login and registration activity for showing their availability, location and specialization for appointments .

##### **3. Manage multiple profiles with single login:**

For every family there will be a common profile, which can be accessed by all of its members. General information and health parameters like age, gender, height, weight will be maintained.

##### **4. Scheduling doctor appointments:**

The users will be able to see availability of doctors and schedule checkups. Assigning a token number and showing expected time of checkup to patients will save time. The database will be maintained by the admin

##### **5. Digitalization of prescriptions & Scan Reports:**

Transcription of uploaded images of prescriptions will generate comprehensive documents to store in the database. This will help in follow-ups and patient history.

##### **6. Reminder alarms for medicine intake:**

This feature will allow users to set alarms in order to remind them of their scheduled medicine intake.

### **7. Emergency-SOS:**

In case of an emergency, the app can be used to quickly call an ambulance/ any emergency contact saved, and automatically it will send an emergency notification containing the location of the patient to the loved ones.

### **8. Activity tracker:**

An integration of activity tracker to the app will help users to keep a track of regular fitness.

## **5. Features Implemented**

1. Patient's Login & Registration Portal
2. Scheduling doctor appointments
3. Digitalization of prescriptions & Scan Reports without transcription
4. Reminder alarms for medicine intake
5. Emergency-SOS
6. Activity tracker

## **6. Challenges Faced**

- Developing an interactive User Interface.
- Developed in debug mode, therefore we had to assign only SHA fingerprint of single computer for google fit api.
- Dynamically updating the recyclerviews

## **7. Tools/Technology/Skills used**

1. Android Studio (IDE) : For providing compile time and runtime environment
2. Java : The code base is built using java.
3. Sql & Firebase : Used as a database
4. Google Fit Api : Publicly available Api for activity tracker.
5. Sensors : For tracking activities
6. Messaging feature : To send SOS.
7. Calendar feature : To mark doctors appointments.

## 8. **Future Work**

- Using the Google Vision Api, extracting text from reports and prescriptions uploaded. The retrieved information is then used to set the medicine reminder, track the patient's activity, and book the next doctor's visit automatically.
- Create an interface that allows the user to book an appointment with a doctor based on the doctors' availability.
- Separate Login Portal of doctors to let the patients know doctors availability for booking slots.
- Users will have the feature to book medical products online from nearby stores.

## 9. **The Project Outcome**

1. This application has a positive impact on patient's health & healthcare services, such as activity tracker, medicine on time, scheduling appointments, emergency sos etc.
2. This will be user friendly i.e. easy to use, intuitive and simple.
3. This application is for patients (of all age groups) and admins.
4. Patients will be able to access all the features that are mentioned above in the "Your Approach" section.
5. Admin manages the doctor's profiles. Admin can add doctors with their weekly available slots for appointments.
6. Admin has all the rights to perform any CRUD operations on doctors as well as on patients

## 10. **References**

1. Practo: <https://www.practo.com/>
2. Google Fit API: <https://developers.google.com/fit>
3. HealthifyMe: <https://www.healthifyme.com/in/>
4. M. Deng, M. Petkovic, M. Nalin and I. Baroni, "A Home Health Care System in the Cloud--Addressing Security and Privacy Challenges," 2011 IEEE 4th International Conference on Cloud Computing, 2011, pp. 549-556, doi: 10.1109/CLOUD.2011.108.