



# E-Health Consulting

Bankar Pranita<sup>1</sup>, Kamble Shashank<sup>2</sup>, Gangurde Mayur<sup>3</sup>

MCA (*Masters of Computer Application*), Genba Sopanrao Moze College Of Engineering, Balewadi, Pune

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## ABSTRACT

Consulting a doctor is a common part of life, but finding one available when you need them can be difficult. This Android application proposes a solution. It's a smart health app that allows users to get instant reports on their health concerns through an intelligent online healthcare system. Users can express their symptoms and issues within the app. The application then processes these symptoms to check for potential health problems that might be linked to them. If the app can't provide a specific solution, it will recommend undergoing tests like blood tests or CT scans.

**Keywords:** Mobile health (mHealth), Telemedicine, Self-diagnosis tool (use with caution), Health and wellness

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## INTRODUCTION

The smartphone era is improving day by day because of the easy usage options and efficiency of the applications. Medical science and technology are no exception. But they are almost beginning to overlap upon each other and in certain situations even combining with each other to help the end user. This paper presented here is the one that will be very useful and effective in helping users find appropriate doctors for their diseases/symptoms.

The purpose of this paper is to enable the user or the patient to get all the required details like availability and contact information about the doctors who are specialized in the issues given by the patient.

This application allows users to get instant supervision on their health issues through a smart healthcare application online. The application is fed with various symptoms and the diseases associated with those systems.

Patients can check their medical records. Hence, this system provides quality healthcare to everyone and error-free and smooth communication to patients. Mobile technology is also used in hospital management by serving with search hospitals; it improves health outcomes and medical scheme efficiency measures.

In further sections of this paper, we will discuss the existing system and a betterment of the existing system considering the convenience of the doctors and patients (users).

With the increasing reliance on smartphones and the growing trend of telemedicine, there's a rising demand for convenient and efficient healthcare solutions. Currently, many patients struggle with long wait times for appointments and difficulty finding specialists. This paper proposes a novel mobile health application that leverages AI-powered symptomchecking and a comprehensive doctor database to help users find appropriate doctors quickly and easily.

## LITERATURE REVIEW

This section provides Literature review for e-health Consulting:

- 1] Distributed Electronic Health Record Systems and Associated Network Services. These solutions (Garrido 2005 ) create an on-line clinical profile for each patient, where all health care related data and documents of a certain person maybe stored and managed on a de-localized basis. In the context of an integrated health clinical information web-based network (Leonard 2004 ) , health record systems may allow a dramatic simplification of many procedures (such as referrals, prescriptions, bookings, reimbursements, and the exchange of examination reports, lab results and discharge letters between the patient, the general practitioner and specialist physicians,) related to the complex networkednature of health care systems.

2] Telemedicine Systems . (Dixon et al. 2008 ; Conley et al. 2008 ; Nir 2004 ) .Personalized disease management services such as tele-radiology, tele-diagnosis, tele-consultation, remote monitoring.

3] Mazaherinezhad, A., Ahmed, A.M., Ghafour, M.Y., Ahmed, O.H., Ali, S. and Hosseinzadeh, M. (2021), "A new model for investigating the role of knowledge management system on the mental health of employees", Kybernetes, Vol. 50 No.12, pp. 3269-3285. <https://doi.org/10.1108/K-02-2020-0103>

4] Muhammad Wasim Munir et al. (2015): Developed An Android-based Application to Determine a Specialized Hospital Nearest to Patient's Location

This research describes an Android application that helps patients find nearby hospitals with specialists relevant to their needs. It focuses on location-based services for improved accessibility.

5] Yuanqing Liu et al. (2014): Design and Implementation of Mobile Health Management Software Based on the Android Platform

This paper details the design and implementation of a mobile health management software built on the Android platform. It explores functionalities for managing health data and potentially aiding communication between patients and healthcare providers.

6] S. Sundhar & Vasanth (2017):Novel Framework for Smart Health Consulting Using Android Device

This paper introduces a framework for a smart health consulting application on Android devices. It explores features like symptom checking and disease prediction, which could be relevant to your app's functionalities

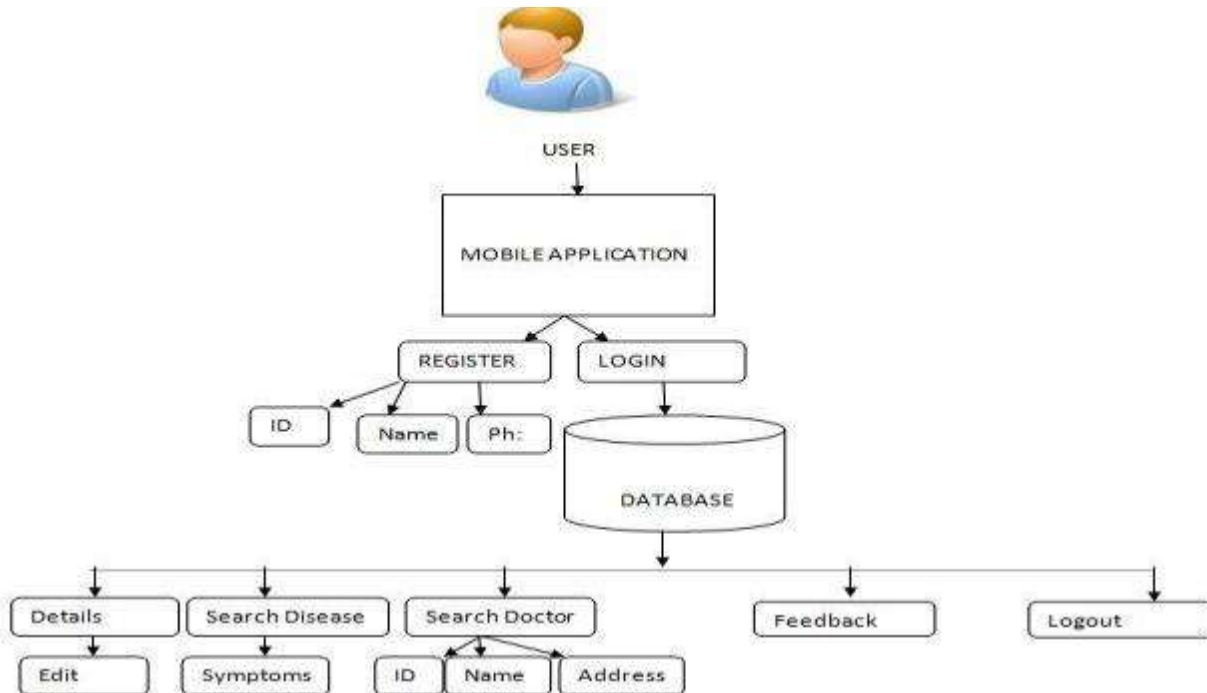
7] Zaid A. Habash et al. (2013):Android-based application to assist doctors with Alzheimer's patients

This paper describes an Android application designed to assist doctors in caring for patients with Alzheimer's disease. It explores functionalities that could be adapted for other patient management scenarios.

## METHODOLOGY

### I]Patient Perspective:

- **SEARCH DOCTOR:** This application enables users to search for available doctors based on their needs, such as symptoms or disease. Users can find various doctors with specializations related to different parts of the body (heart, kidney, brain, liver, etc.) along with doctor availability and contact details.
- **ONLINE APPOINTMENT:** After registering and logging in, users can find the doctor they need with their scheduled timings and contact details. The application allows users to easily book appointments with doctors.
- **GIVE FEEDBACK:** Every user of the application can provide feedback about doctors or the application itself after logging in. This feedback helps to continuously monitor and improve the app's efficiency and user satisfaction. The admin can check the feedback provided by users and take appropriate actions.



**Figure.1 Patient’s Perspective**

The user can access various features by visiting WebPages. The homepage of the application consists of register and login options. New users need to register by providing a few details like name, phone number, and email address.

#### ADMIN PERSPECTIVE

- The admin is responsible for coordinating between users and doctors. This is done by providing necessary details for both parties.
- The admin can add doctors to the application based on user needs and feedback. They are the only ones with the ability to add new doctors.
- When adding a doctor, the admin must enter details such as ID, name, phone number, and address.
- The admin has access to various modules within the application. These modules allow them to view:
  - Existing doctors
  - Registered patients
  - Diseases listed as symptoms by users
- The admin can also add new diseases to the application. This helps users find doctors specializing in specific treatments.
- The admin can check user feedback through a dedicated module within the application. This feedback helps them improve the overall user experience.

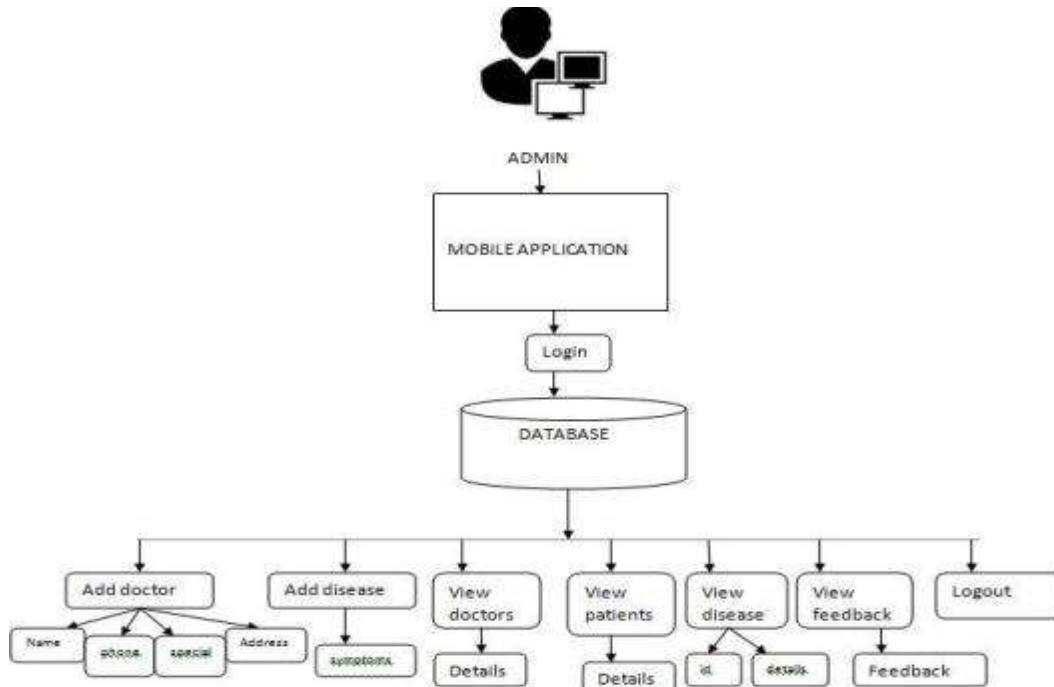


Figure.2 Admin Perspective

**DOCTOR'S PERSPECTIVE**

Doctors are also users within the application.

A dedicated doctor module exists within the app. This module allows doctors to update their contact information and address if needed.

Doctors receive notifications about patients seeking their help.

The "View Disease" module allows doctors to see patient IDs and the symptoms they reported.

Through the "View Patient" module, doctors can access details of patients who have used the application. These details include patient ID, name, and contact information.

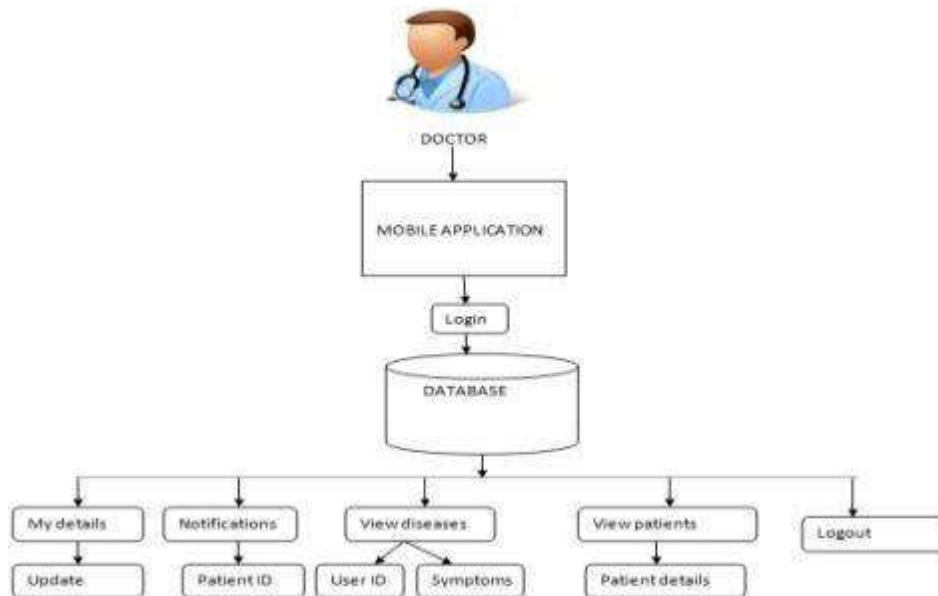
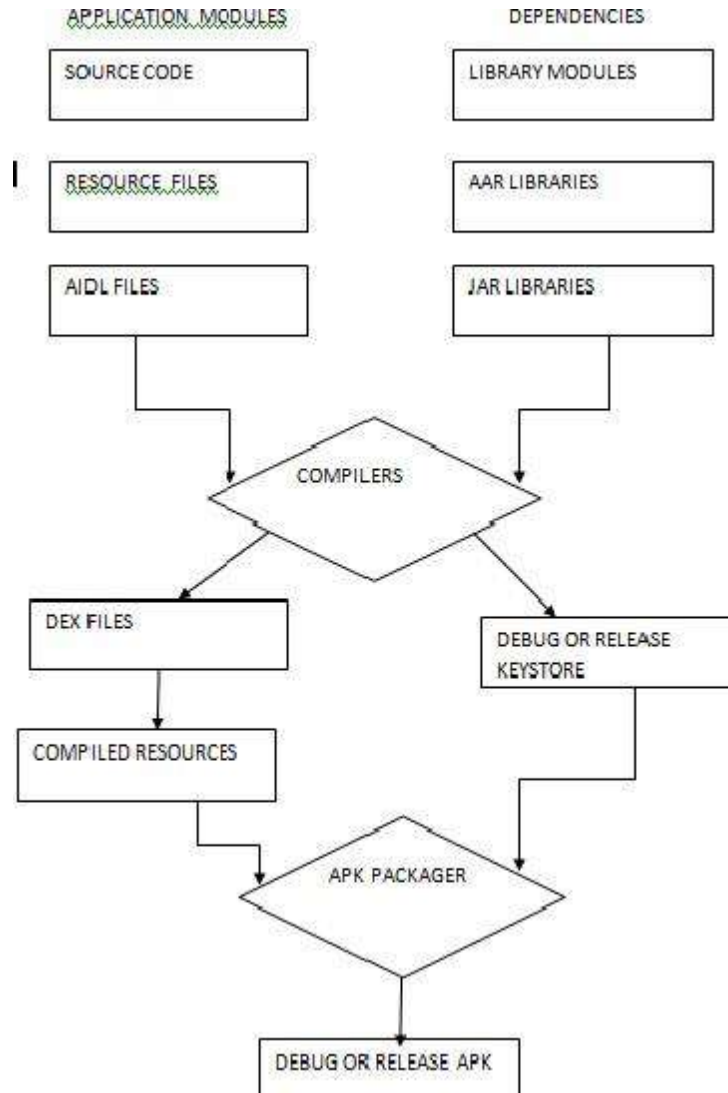


Figure.3 Doctor's Perspective

### RESULT

The Android application is made with the installation of the application file generated from Android Studio (a software used to create APK files). These APK files, which are the end installation files, are created in the following way.

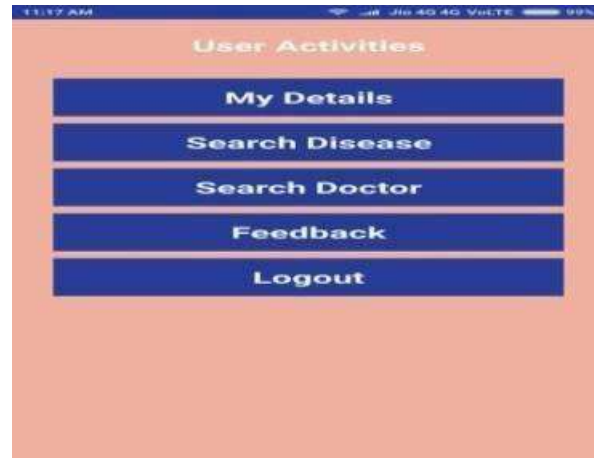


**Figure.4 Generation Of APK**

The application stores data for both users and doctors. This data is retrieved from the database whenever required. The application uses the SD card as its database to store and retrieve information provided by users and doctors.

Here are some of the results obtained by using the application: (follow with list of results):

**a) User Activities:**



**Figure.5 User Activity**

The user activity page is displayed immediately after the user logs in. On this page, users can get details about various diseases and doctors. Users can search for doctors based on ID, name, and address. This page also allows users to provide feedback about the application.

**b) Admin Activities:**

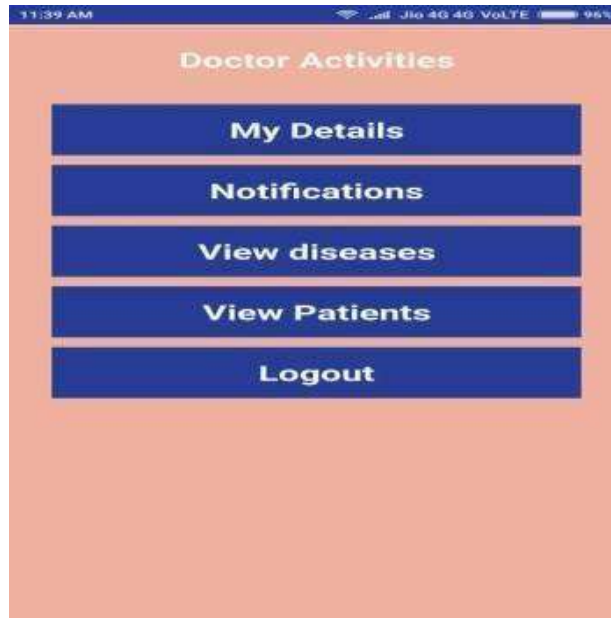


**Figure.6 Admin Activities**

- Admins can view a list of all patients who have used the application.
- Admins can also view a list of all doctors registered in the application.
- Admins have the ability to add new doctors to the application based on user needs and feedback. Admins can access detailed information about both patients and doctors within the system.

**c) Doctor Activities:**

- Doctors can view a list of patients who have used the application.
- Doctors can check notifications to receive information about patients seeking their help, including their reported symptoms.
- Doctors can update and edit their own profile information at any time to ensure patients have accurate contact details.



**Figure.7 Doctor Activities**

## CONCLUSION

The "Smart Health Consulting" Android application helps patients find hospitals based on the specialist they need. This application simplifies the process for both patients and doctors by streamlining communication and appointment scheduling. The application facilitates interaction between patients and doctors, ultimately improving healthcare efficiency.

Installing the app on a smartphone is a simple process, making it accessible to patients with even basic knowledge of Android mobile devices.

## FUTURE ENHANCEMENT

The E-Health Consulting application has a strong foundation for connecting patients with doctors and streamlining healthcare processes. Here are some ideas for future enhancements:

### Improved Diagnosis and Triage:

**Symptom Checker:** Implement a symptom checker powered by AI or machine learning to provide preliminary diagnoses and suggest relevant specialists.

**Virtual Assistant Integration:** Integrate a medical virtual assistant to answer basic health questions, guide users through the app, and schedule appointments.

### Advanced Communication Features:

**Secure Chat/Telemedicine:** Enable secure in-app chat or video conferencing for real-time consultations between patients and doctors.

**Prescription Management:** Allow doctors to send electronic prescriptions directly to pharmacies within the app.

**Appointment Reminders:** Integrate automated appointment reminders to reduce missed appointments.

### Data Integration and Analytics:

**Wearable Device Integration:** Allow patients to connect wearable devices to the app to track health vitals and share data with doctors.

**Electronic Health Records (EHR):** Explore secure integration with EHR systems to provide doctors with a more

comprehensive patient medical history.

Data Analytics: Utilize user data to identify trends and patterns, allowing for preventative healthcare recommendations and resource allocation optimization.

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