



# INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

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## Modern Healthcare Management System- Arogya360

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**Abstract:** The hospital management system is a project to digitalize Hospitals to make them user-friendly, simple to use, and economical. In the healthcare industry health issues are increasing rapidly which indeed increases the need to book appointments with doctors due to this, there arises the necessity of developing a mobile application that can help patients as well as doctors easily communicate with each other. This system mainly functions to store patients' information and their reports. Usually, many hospitals do these functions manually. This system registers patients as well as doctors and stores their details and also alters these details whenever required for doctors' analysis. Patients can book appointments and check doctors' availability in the hospital, and get alerts for medicine and feeds from doctors. Users can interact with doctors easily and ask any doubts and suggestions using the chat functionality provided in the application.

**Index Terms -Appointment Scheduling, Tracking Records, Tracking Medicine.**

### I. INTRODUCTION

There are certain times when people face problems in directly communicating with doctors, keeping track of medicines, and maintaining their medical histories. This has led to the development of hospital management systems. These systems are organized and computerized well designed and programmed to handle daily operations and hospital activity administration. The main issue for patients nowadays is getting the report after the consultation. Many hospitals manage reports in their systems, but the patient cannot access them while they are outside. We will add the ability to store the report in a database and make it accessible from anywhere in the world as part of this project.

Project Arogya360 includes the registration of patients and doctors store their details in the system. Users need to register themselves either as certified doctors or patients fill in some details and they can begin accessing the features of the application. The user can log in to the system using email and password. This app mainly functions to reduce the communication gap between doctors and patients. User can store their reports and medicine so they can easily access the data whenever required. Alerts for medicine and water, Emergency Contact numbers health management tips, appointment booking, and feeds by doctors are the main features of this application.

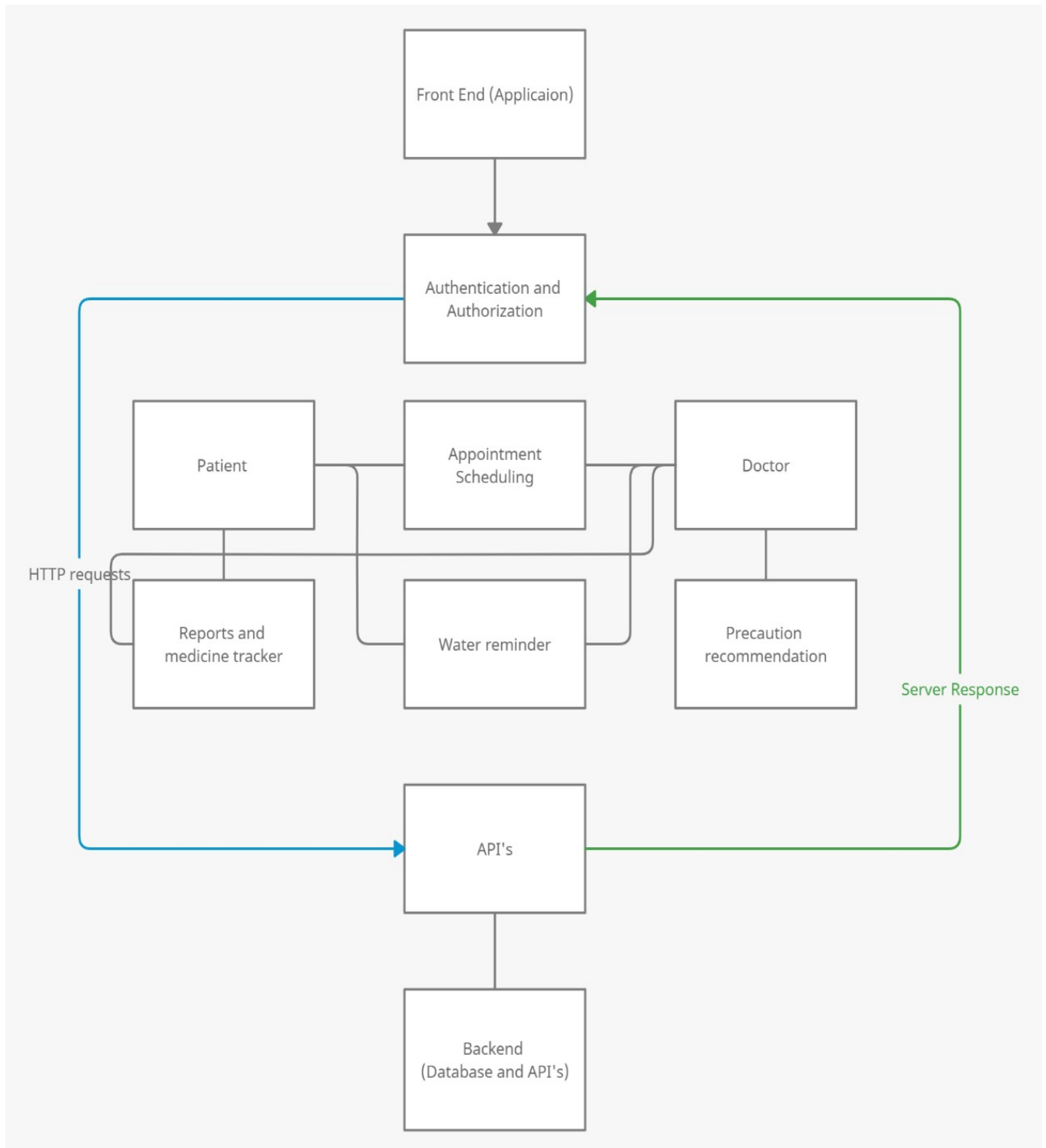
All the mentioned features are solutions to modern problems and is also an urge for people indeed. This app provides some traits to conquer miscommunication, delayed treatment, and lack of maintaining medicines of the patients. Reasons for dehydration and its consequences, not keeping track of prescribed medicines, and delayed communication between patients and doctors are some serious issues in society and hospitals. Thus the aim of overcoming it is being served through this application.

As there are various fields where keeping record is necessary in a database for which we are using MONGO DB, it is the best and easiest document database to keep information secured. The App is built using React Native a frontend JavaScript framework that can create complex apps with ease. Node Js a server-side platform for open-source development that runs JavaScript code and Expresses Js framework is used to create API's which build the backend of the project.

## II. LITERATURE SURVEY

- [1] Through this research paper, one can choose the appropriate hospital and first aid or can get information about any medicine required.
- [2] Through this research, he has discovered a method to use IMUS to continuously check the patient's health (Inertial measurement units). This allows for the proper building of sophisticated algorithms to be used in sensing.
- [3] This research paper, tells about how multi-agent systems will help to obtain the optimal compromise between patients waiting time and doctors' usage of time.
- [4] When transferring patients to emergencies due to unforeseen circumstances, a hospital's proposed method of planning doctors' actions is beneficial.

## III. ARCHITECTURE



#### IV. WORKING

The product is equipped with numerous features like booking appointments with doctors directly, a medicine tracker for maintaining medical doses, water reminders in case of frequent dehydration, precaution recommendation for patients, and report generation via a doctor. All these features help in sustaining the good health of patients and the good quality of the hospital. The traits of the app are explained in detail below:

##### 1) Patient (Stakeholder)

Each patient is provided with lots of attributes like name, age, phone number, email, password, medical history, reports and ongoing treatments, interactions, and activities performed inside the app. This collectively helps in gathering the data and proceed it for further analysis to generate useful information.

##### 2) Doctor (Stakeholder)

Doctors on the other hand have the accessibility to generate reports for patients which automatically get linked to the required patient based on the patient's id. Doctors also have the accessibility to share articles regarding health issues faced and ways to tackle them. All the doctors need to be verified, therefore additional fields like education, degree, etc. are taken into consideration while registering a doctor.

##### 3) Medicine tracker

The reports generated by the doctor become part of the patient's data and it automates the notifications for desired medicines prescribed by the doctor in the report. The native functionalities of the device are being used to remind the patient of his/her medicines. In case of missing a particular dose, the patient's history can be checked and validated when he/she missed the medicine, and thus it can be verified by the doctor for better treatment by maintaining complete transparency.

##### 4) Water reminder

Many times, dehydration plays a vital role in affecting our health in many ways thus keeping a reminder to drink water every few minutes or hours can prevent dehydration. The feature can be customized according to the need of the user. Intervals for the reminder can be altered as per the user's preference.

##### 5) Precaution recommendation

The big data generated by the users (patients and doctors) is analyzed at the backend and information retrieved is shared on the app in form of precaution recommendations. The information is analyzed based on reports generated, a common disease in the past few weeks, medicines prescribed and etc.

##### 6) Appointment scheduling

The doctors have the ability to interact and display their availability and appointments on the platform in form of a calendar. On the other hand, patients can check and schedule an appointment by verifying the available slots of a doctor. Once the appointment is confirmed by the doctor, the time and date get reserved for the same checkup and get linked to both entities (doctor and patient).

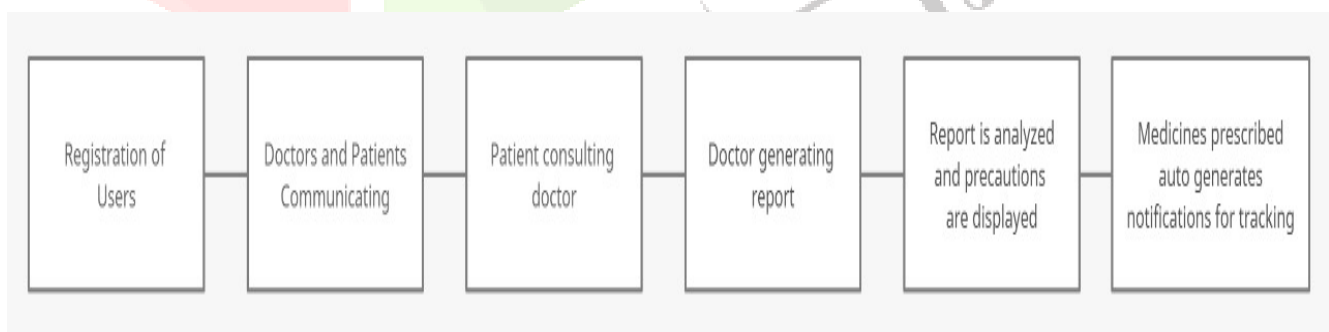


Fig 1.2 Process Flow Diagram

#### V. RESULT AND DISCUSSION

When the user installs the application, he/she is taken to a screen where the user has to log in or register. Once the registration is completed users can log in through their email Id and password. Once Logged In the user can see the home screen which displays the feeds posted by doctors. The next tab has an appointment booking system where users can book appointments according to their and doctors' availability. There is also a provision for a medicine tracker and water reminder if the user needs them. There is a tab that leads to a chat screen where the user can communicate with the doctors and take consultations. Doctors can provide reports to their patients in this chat window. A bot has also been placed in the application which will tell the first aid steps to be carried out according to the situation.

## VI. BENEFITS

Nowadays, hospitals are transforming from manual management to computerized management. This benefits both the patients and doctors by saving their time and money. It will reduce the paperwork as the reports will be shared through the application and analysis of reports by doctors will also be done through the application thus befitting both parties to have access to the reports whenever required as well as benefit the environment. Better communication and error-free administration in the hospital will be its greatest advantages. Also, feeds by doctors will help users to become aware of any diseases spreading in the world and take precautions accordingly.

## VII. FUTURE SCOPE

The project design could be upgraded in the future and we can enhance this system by adding more features to the application such as a pharmacy section, ambulance availability checker, and adding frequently asked questions.

## VIII. CONCLUSION

To conclude the health industry needs to digitalize its management system, which will make the management of patients much easier, more efficient, and less time-consuming. The Hospital Management System is important for maintaining details about the Patient and Doctor thus making it easy for doctors and patients to access the reports. Providing Health Care tips, checking doctors' availability and booking appointments prior, recording patients' reports, and alerting them for medicine and water, and easy communication with specialists through chat on a single platform will save the time of users and doctors. This application eliminates the time required to gather information over the internet. We hope this application leads to changes in the medical field which benefits both patients and doctors.

## IX. ACKNOWLEDGMENT

We would like to express our gratitude towards the faculty and colleagues of Dhole Patil College of Engineering who provided us with information and gave assistance which helped us in researching and building our project (hospital management system Arogya360).

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