



# Android Based Patient Health Monitoring System

**Pranjali Deshpande, Dhanshri Gore, Rutuja Jujare, Prof.Mrs.Pallavi Ghatkamble**

Student, Electronics and Telecommunication, MKSSS Cummins College of Engineering for Women, Pune, India

Student, Electronics and Telecommunication, MKSSS Cummins College of Engineering for Women, Pune, India

Student, Electronics and Telecommunication, MKSSS Cummins College of Engineering for Women, Pune, India

Internal Guide, Electronics & Telecommunication, MKSSS Cummins College of Engineering for Women, Pune, India

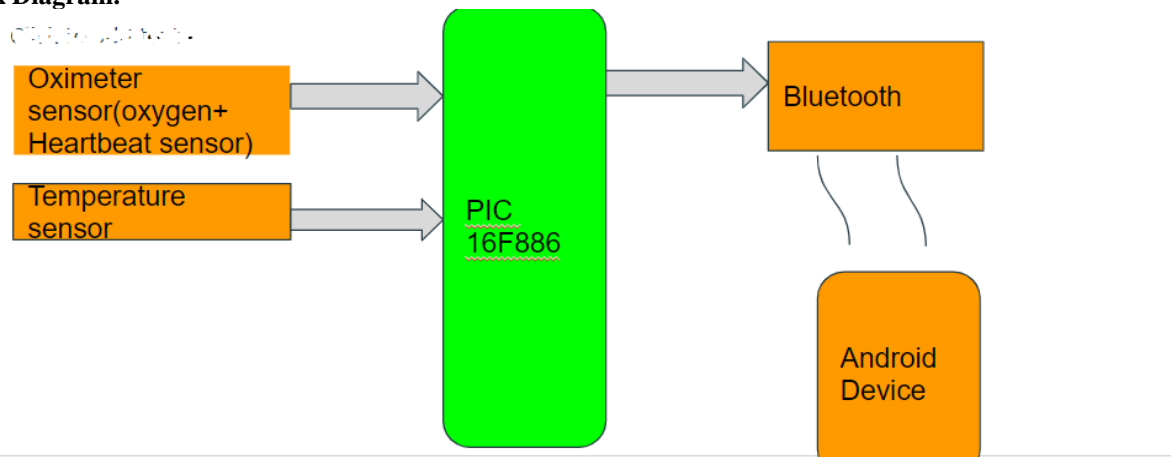
**Abstract:** In the earlier ways, the doctors need to be present physically or in several cases SMS will be sent using GSM. And the old data of the patient is displayed and also current data is displayed. In this project, we are using android application for monitoring of a patient's health conditions and displaying reports. The health care is focus on the measurement and Monitoring various biological parameters of patient's body like heart rate, oxygen saturation level in blood and temperature using a android application where patient monitor their own health condition on his smartphone using an Android application and also the patient history will be stored on the firebase authentication, that's why doctor and patient can access the information whenever needed from anywhere and need not physically present. Health monitoring system plays a role in the overall development of the physiological as well as social well being of the society. Observance of prevention in the area of health has a significant impact on economic productivity . This project will be advantageous to traditional file and paper work of report, by using this method this will be helpful to patients to collect reports by just sitting at home.

**Keywords:** Monitoring System, Hospitals, Android Mobile Application, Bluetooth.

## I. INTRODUCTION

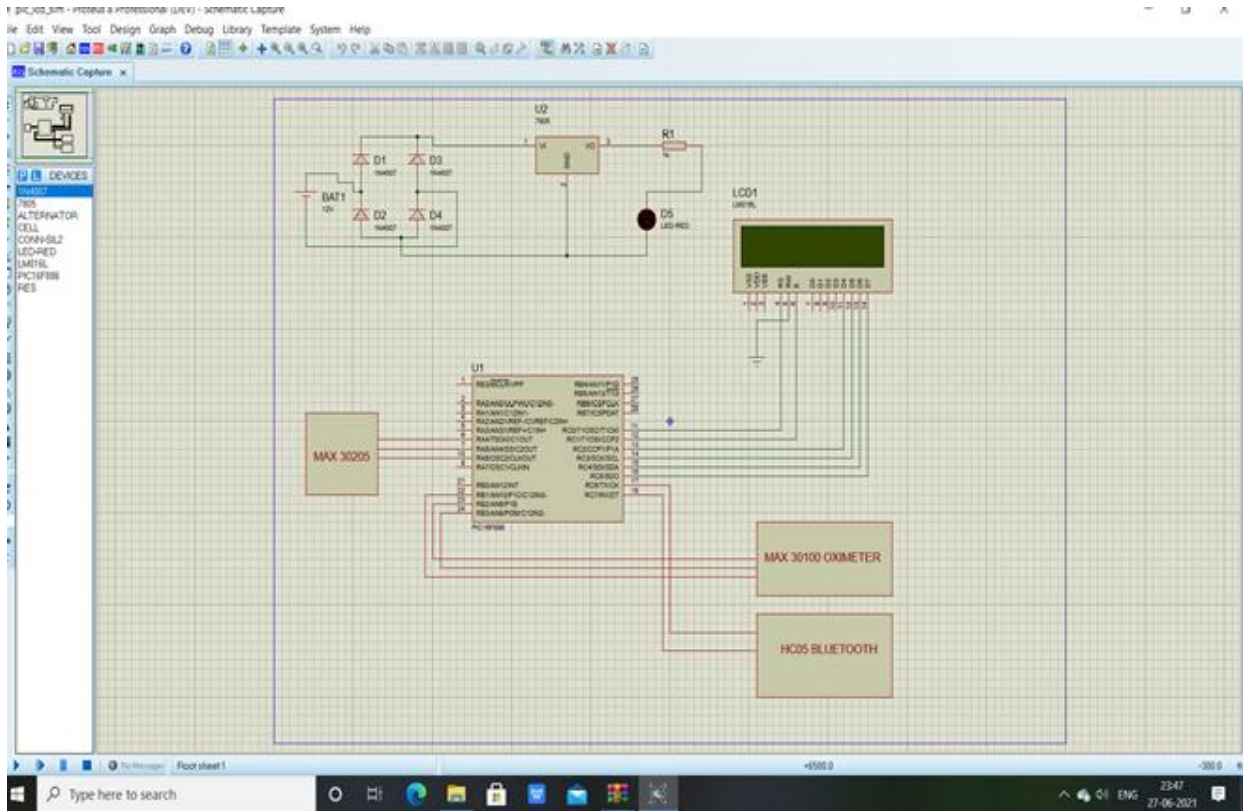
Health monitoring systems are gaining their significance as the Fast-growing universal elderly population increases demands for caretaking. In ICU there is a need to continuously monitor their health conditions. In so many cases patients released from the hospital still are strongly advised to be under rest and observation some period time then in these cases the system is very much helpful. Monitoring and recording of different physiological parameters of patients in the outside clinical environment is becoming increasingly. Patient monitoring system is a process where a surgeon can continuously monitor more than one patient, for more than one parameter at a time in a remote place. With the development of Smartphone, it has performed a Smartphone based body monitoring system with a combination of the advantages of network technology and multiple sensor fusion technology. There has been a growing concern with technology of medical care which has developed rapidly and plays an increasingly important role in our life. Patient monitoring refers to the continuous observation of repeating events of physiologic function to guide therapy or to monitor the effectiveness of interventions and is used primarily in the intensive care unit and operating room. This project focuses on how the android application is used to send the patient's parameters to the server. Also helps the patient in case of emergency by generating an alert when the threshold values are crossed.

### Block Diagram:





**Hardware Circuit Diagram:**



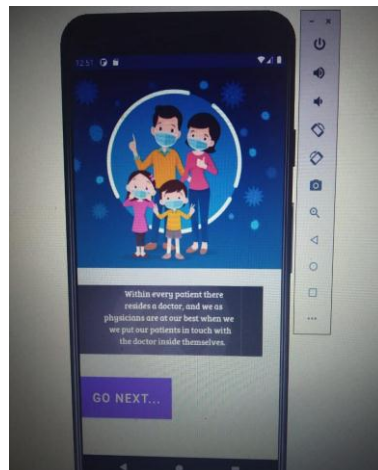
**Working:**

This work presents a monitoring system that has the capability to monitor physiological parameters like human body temperature, heartbeat and the oxygen level from multiple patient bodies. In this proposed system, a coordinator node in the patient site has attached to the patient's body to collect all the signals from sensors and sends them to the central base station at the doctor site. Both the units comprise of 8051 series of (PIC16F886) microcontroller. The different sensors attached to the patient's body observe the required physiological parameters and are displayed in the LCD on the patient unit. Then the acquired data is transmitted to the central node on the doctor site. Also, the monitoring signals are finally obtained in an Android mobile device. Finally, an android app is developed to display the recorded information graphically to both the doctor and patient in real time.

**III. RESULTS**

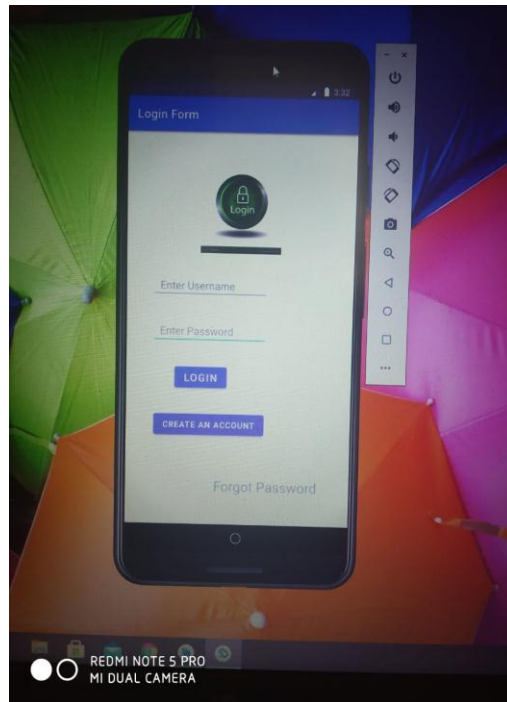
**Software Implementation:**

**1.Home Page:**



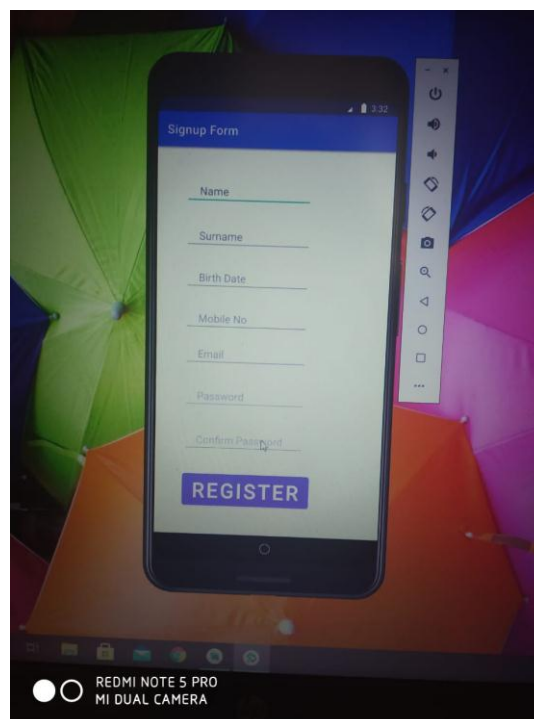


## 2.Login Page:



2) **LOGIN Page:-** On the front end two text views: Username and Password 3 buttons: LOGIN, CREATE AN ACCOUNT, FORGOT PASSWORD At the backend before login we created an account for the user. After creating an account, if we put a mail ID and password and click on LOGIN then according to information entered in the database that will redirect to the doctor's page(Report Page) or patient's page.

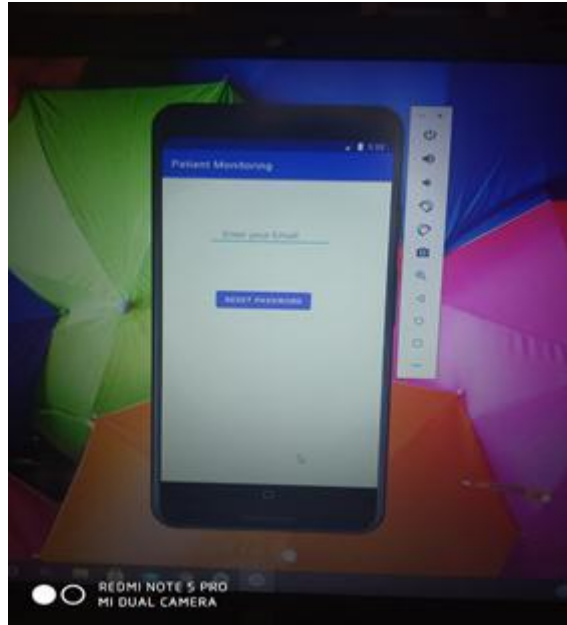
## 3.SignUp page:





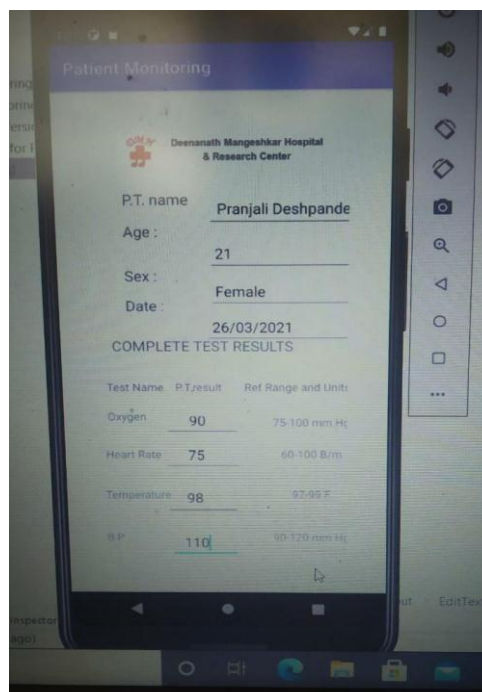
3) **SIGNUP Page:** Firstly the user opens the app as home page our login page opens and if you don't have an account then click on CREATE AN ACCOUNT button, so this will redirect the page onto sign up form. Then we need to fill the details. If we don't fill the details and still click on the REGISTER button then it will show an error. So it is mandatory to fill all the details before clicking on the REGISTER button. At the backend we were given conditions such as Doctor's mail ID's and Patient's mail ID's in the database. For this we created a project in firebase and according to this we have a registered account.

#### 4. Forgot Password:



4) **FORGOT PASSWORD Page:** On the LOGIN page if we click on the FORGOT PASSWORD button then it will redirect to the page where we need to put our mail ID and click on reset password button and then we get the link on registered mail ID, So that we can change our password.

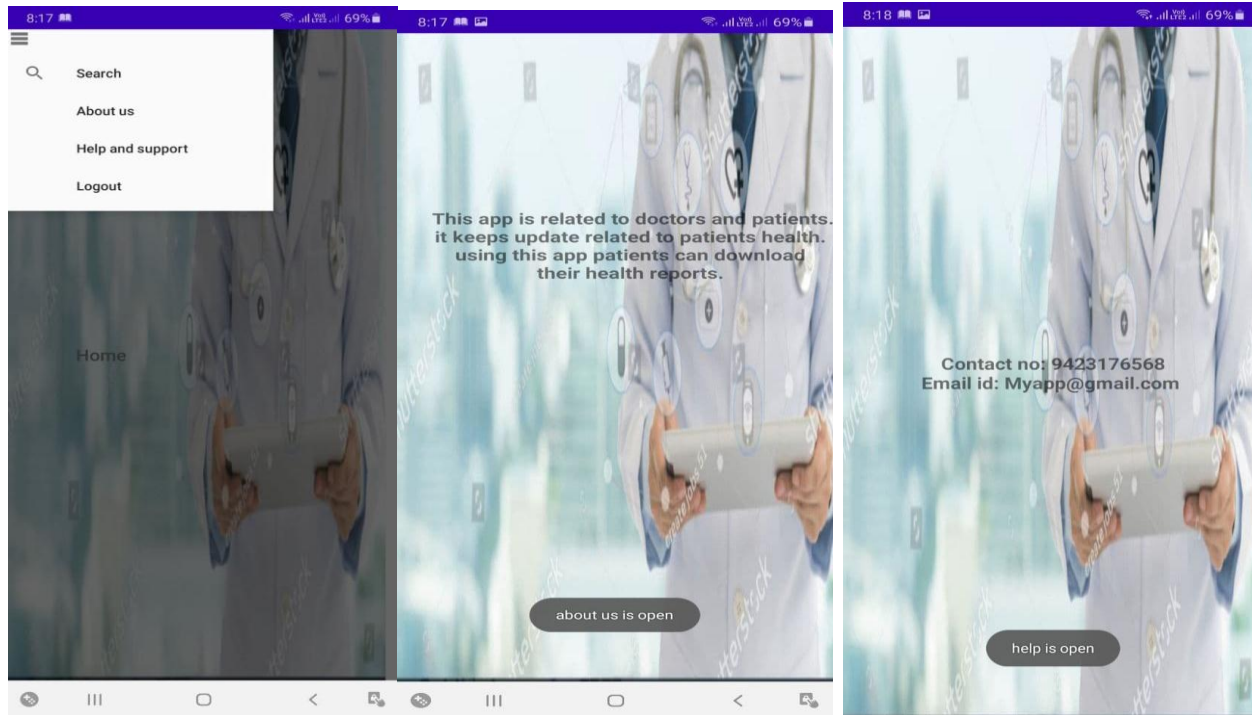
#### 5) Report Page:





**Report Page:** According to sensor and doctor's information this report will be developed. All the patient related reports created by the doctor are stored in the patient's account and whenever patient login into his account then he/she can find his report page.

#### 6) Menu Bar:



Menu Bar opens when a Patient will log in successfully and We are Working on this page.

#### IV. CONCLUSION

This current designed system provides low complexity, low power consumptions and highly portable for health care monitoring of patient's and it can eliminate the need of utilization of expensive facilities. The doctor can easily access the patient's information at anywhere with the help of android application. In future, we can develop a big database of all the patients of any hospital and these health parameters can be monitored continuously, and also the information is uploaded to the hospital server. These servers keep the information of the patients in the database, and doctors can have the access to the patient's history, when any further consultancy happens with the doctor.

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