

Smart Health Monitoring System

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Abstract: As we know that health is more important for human's to maintain good health essential is health care system and also to overcome from the disease. The health care is more importance in now a day in the occurrence of the corona virus. As view of now for corona virus, an IOT based health monitoring system is better solution for pandemic. The new revolution of internet is IOT is which is the expanding research area especially in the health care system. This is remote health care monitoring system where we can monitor from desire location.

Keywords: IOT, GSM Module, Arduino Uno

I. INTRODUCTION

Health is a one of the most important factor for human beings to maintain a good health condition then good health care system needed. Now a day's Health care system more important present situation's like covid pandemic. And also, Health care System is needed for the aged peoples and also for physical challenged people. To overcome from this scenario Remote health Monitoring system is better solution. In rapid growth of technologies IOT is best platform for the remote based health monitoring system. IOT based health monitoring service helps in preventing the rapid spread of disease like covid-19 and also as well as to get know a proper diagnosis for that disease, even in the situation where physician is unavailable.

IOT monitoring of health helps in preventing the spread of disease as well as to get a proper diagnosis of the state of health, even if the doctor is at far distance. A portable physiological checking framework is displayed, which can constantly screen the patient's heartbeat, temperature and other basic parameters of the room. We proposed a nonstop checking and control instrument to screen the patient condition and store the patient information's in server. A remote health monitoring system using IOT is proposed where the authorized personal can access these data stored using any IOT platform and based on these values received, the diseases are diagnosed by the doctors from a far distance.

The main objective of this project is the designing and implementation of a Smart health monitoring system. It using sensors to track the patient health condition and uses internet to information to the person or patient. And we developing the health monitoring system is to reduce health care cost of the person by reduce in Meeting the doctors in the hospitals. Smart healthcare is important for people who need continuous monitoring which cannot be provided outside hospitals. It is also important at rural areas or villages where nearby clinics can be in touch with city hospitals about their patient's health condition. this work presents a smart health monitoring system that uses biomedical sensors to check patient's condition and uses internet to inform the concerned.

The biomedical sensors here are connected to Arduino Uno controller to read the data which is in turn interfaced to a web site and android application to developed to see the output. Data is uploaded to the server to store and for See visualizing it on a smartphone. An android application has been designed in order to easily see the patient's information by their doctors and family members.

The core objective of this project is the design and implementation of a smart patient health tracking system that uses sensors to track patient health and uses internet to inform their loved ones in case of any issues. The objective of developing monitoring system is to reduce health care costs by reducing physician office visits, hospitalization.

II. PROBLEM STATEMENT

Health is a one of the most important factors for human beings to maintain a good health condition then good health care system needed. Now a day's Health care system more important present situation's like covid pandemic. In the covid pandemic lots of peoples lost their life by not getting treatment the and also not getting the bed in the hospital's. Good

and flexible Health Care System is needed for the aged peoples and for physical challenged people. The Continues health monitoring system is very much need for the Bed-ridden patients who are partially or fully paralyzed as a result of a stroke. For the finical backward peoples and also ruler area peoples it's too difficult to visiting hospital. There some exiting health monitoring system they will not continue monitor the health. And also, doctor should present in near the patient to view the patient health data. To overcome from this scenario Remote Health Monitoring system is better solution.

III. EXISTING SYSTEM

The number of researchers has proposed in IOT Based Health monitoring system and the prediction of various types of diseases using various technique. In the exiting systems quit more different the comparing with proposed system. In the existing health monitoring system in IOT based Health Monitoring system pulse sensor, temperature sensor and Bluetooth module they have used the data is viewed in the location of patient only. In some exiting system Wi-Fi Module along with the sensor and view the data cloud. And the existing IOT based health monitoring system are run on AC power supply.

IV. PROPOSED SYSTEM

In rapid growth of technologies IOT is best platform for the remote based Smart Health Monitoring System. Arduino Uno micro controller is used for Smart Health Monitoring System. We proposed the health monitoring with the basic parameter of patient and room condition along with nonstop health monitoring system. The basic parameter human health is pulse rate and body temperature are main parameter to know the health condition of the human. We proposed the system with the use of Pulse sensor for pulse rate, LM 35 sensor for body temperature, DHT 11 sensor for to know humidity and room temperature. The surrounding condition also important for the health of the patient health also dependent on humidity and room temperature.

The GSM module is used to connect the internet to send the data in cloud where the doctor can access the patient health condition from for distance. We made the health monitoring system run on the battery power the battery is charge with the solar power and also the battery is charge with the AC power. By these two methods we proposed continues health monitoring system. The patient health can be monitored in LCD display near patient and IOT cloud used if the doctor is not available on the location. We proposed the health monitoring system not depending on the other technologies is should work Remote areas with in the Room condition.

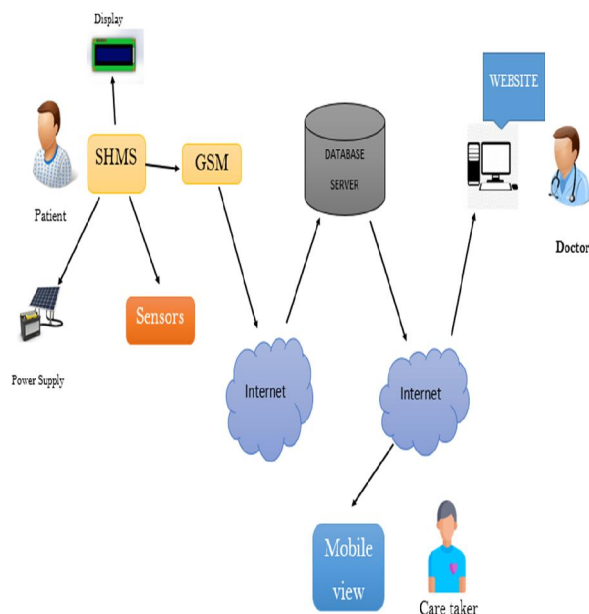


Figure: System Architecture

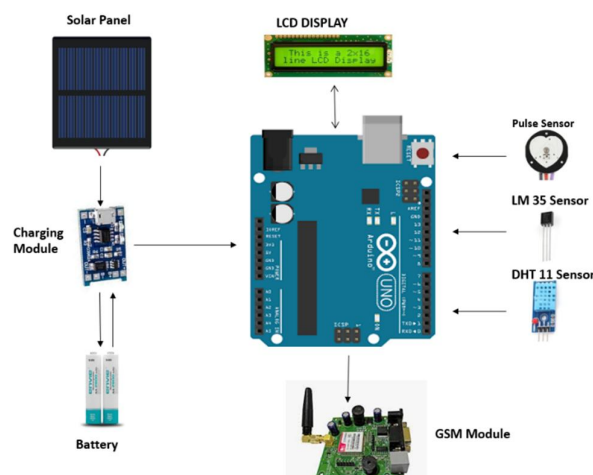


Figure: Sub System Architecture

V. IMPLEMENTATION

The our main is to develop the Smart Health Monitoring System to monitor the patient health condition in continues without any disturbance. We invited Smart health monitoring system is come up with many draw backs of existing system and its problems solution for in the field of health care system.

A smart health monitoring system we introduced a method which continuously monitors the patient health condition and automatically sends the data to server and also view in the website. So the doctor can access patient data continuously and we can intimate caretaker to advice patient health condition. In this project we came up with a proposal on nonstop health checking and control instrument to check the patient s condition and store the patient information in database server. A remote health care monitoring system uses IOT. Where the authorized person can gain access through these data stored using any IOT platform and based on these values received on patient information. The particular diseases are virtually diagnosed by the doctors from a far distance.

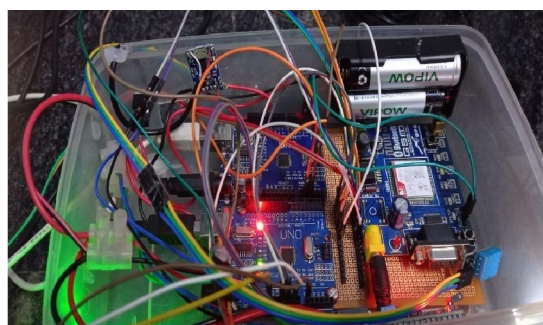


Figure: Implementation



Figure: SHMS System

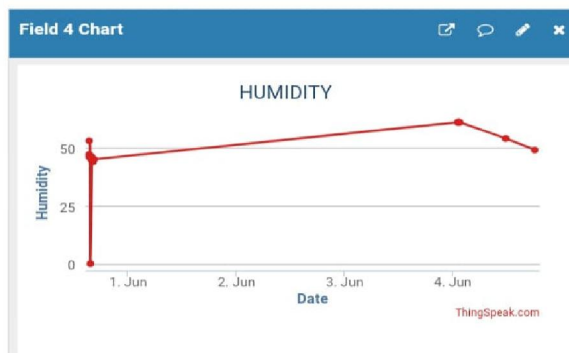
We proposed a nonstop patient health monitoring system and store the patient health information's in Thing Speak IOT Cloud. A remote health monitoring system using IOT is we proposed its work on solar power and battery it is cost efficient Smart health monitoring system



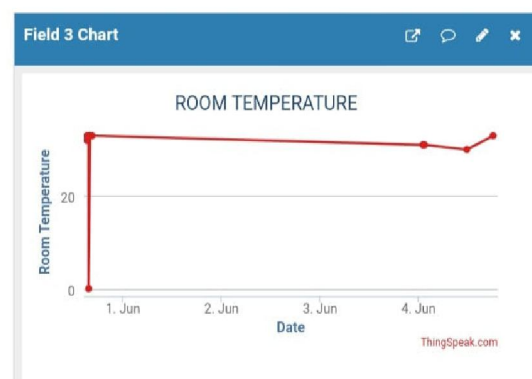
Figure: LCD Display Data



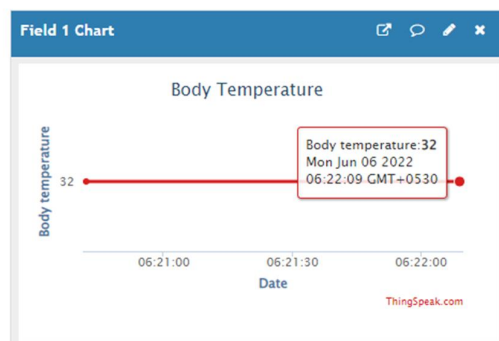
Where the authorized person can access these data stored using any IOT platform and based on these values received, the diseases are diagnosed by the doctors from a far distance.



Body Teamprature Data View in ThingSpeak



Room Teamprature Data View in ThingSpeak



Room Humidity Data View in ThingSpeak

VI. CONCLUSION

- An efficient SHMS is developed to monitor the up-to-date status of the patient irrespective of the presence of the doctor.
- The system collects information like temperature, blood pressure and pulse rate of the patient and updates the same to the doctor.
- The system is evaluated experimentally and collected the sample data of ten patients to verify the status of patients.

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