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IoT Health Watch

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Abstract: *The Internet of Things has provided opportunities and applications for medical patients. The IoT app is the key technology to allow for medical performance. This paper highlights the practical use, low power consumption, real-time remote monitoring system based on the Internet of Things technology. This initiative provides an advanced step in the field of remote health monitoring. Population numbers, which require health care, are growing every year and standard signal monitoring systems require the presence of patients in person within hospitals. This can create an unhealthy environment for caring for patients with the disease, especially those with serious and unstable health conditions. Therefore, internet technology and modern electronic devices can provide promising solutions in this field. Based on that, the paper proposed a mobile system such as IoT platforms to remotely monitor heart rate a body temperature in patients. Symptoms are measured and processed using a high-speed microcontroller. The main contribution of this paper is to send an electrocardiogram (ECG signal) to a mobile phone for medical examination. This helps to diagnose heart disease before a serious case occurs. Finally, the results obtained for this review page are displayed in the Smart mobile App*

Keywords: IoT (Internet of Things),Temperature sensor, ECG sensor, Blynk Mobile application.

I. INTRODUCTION

In this day and age, it is now difficult for one to be conscious about their health. Healthcare is the maintenance and monitoring of health through prevention, diagnosis and treatment. This is delivered by health and medical professionals such as doctors and nurses. However, in many sectors of the world, such healthcare is still unavailable despite improvement in both technology and healthcare. The other problem is the added expenditure of post-operative and post-hospitalization care. After the patient is discharged, follow-up at home is equally important and necessary to ensure the well- being of the patient. At home, continuous monitoring of health conditions provides caretakers visibility into the patients' path to recovery. Therefore, careful consideration must be taken for complete recovery. It is also important to administer medicine to the patient at the scheduled time.

However, the possibility of providing the wrong pill or forgetting to administer medicine is high. IoT is a system of interconnected devices and sensors that is capable of exchanging data. With the growth and advancements made in the area of Internet of Things, better and improved healthcare is now possible and easily accessible. The integration of IoT in healthcare can drastically reduce fatalities, and ensure a focused attention towards patients. With the integration of IoT in healthcare, it is possible to make quicker and accurate diagnosis regarding diseases and finding the best cure for it. The idea of the proposed work is to construct a real-time health monitoring system using Internet of Things (IoT) along with an app. The app is designed to record the medical information of the user such as the medicine to be taken, dosage, frequency etc. It has the added functionality of notifying the contacts (the patient's caretakers) regarding the same. The application also presents the information from the sensors at regular intervals in a simplified manner that is understandable by all.

Key Components and Objectives

- The monitoring system for patients was limited to the care of family or home nursed in case the patient is healing at home.
- It is clear that the implementation of such a program will help in early detection of rare cases of cardiovascular disease and prevention of its adverse effects.

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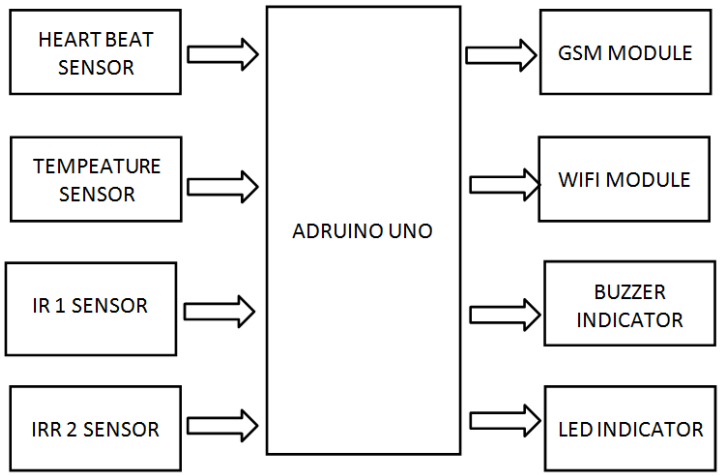
- On the Other Hand, if patient decided to be in hospital then regular monitoring isoblivious task but the passage of time and the introduction of Iot health monitoring tools the choice of healing at home becomes easy.
- The need For monitoring and sending the alert to the concerned person along withthe doctor ,IOT home health monitoring device are increased level of independenthealth monitoring.
- Integration of real time monitoring and other definite modules, patient do notnecessary require to be under the hospital roof.

II. BLOCK DIAGRAM



III. RESULT AND DISCUSSION

- IOT health watch, bearing low cost, portable, energy efficient has given satisfactory results.
- The system makes the use of sensors along with ESP32 microcontroller and Blynk App.
- The body parameters of a person sensed by the sensors are sent to thecloud with the help of Wi-Fi shield and the sensor details are displayed on the Blynk mobile application preinstalled on the android phone or ios.
- The proposed system is veryuseful and valuable to the society especially the senior citizens since they can have a regular check at their health sitting at their homes.

Research paper and their Reviews:

"Smart Mobile App for Remote Health Monitoring System using IOT"

Remote health monitoring system based on IoT, bearing low cost, portable, energy efficient has given satisfactory results. The system makes the use of sensors along with ESP32 microcontroller and Blynk App. The body parameters of a person sensed by the sensors are sent to the cloud with the help of Wi-Fi shield and the sensor details are displayed on the Blynk mobile application preinstalled on the android phone or ios. The proposed system is very useful and valuable to the society especially the senior citizens since they can have a regular check at their health sitting at their homes.

"Real-Time Health Monitoring System using IoT and Mobile Applications"

This paper elaborated on the design of a real-time health monitoring system using Internet of Things (IoT). In the proposed work, the system is integrated with sensors that records the medical condition of the patient in real-time. The parameters that are measured are blood pressure, electrocardiogram (ECG), pulse rate and oxygen saturation (SpO2). A mobile application is designed to store the medical information of the user. This includes details regarding the user's medication such as dosage, frequency etc. The user can also add contacts as caretakers. These contacts will be notified of the medication to be taken at the respective time as well as the event of any health parameter being over the threshold value. The primary objective of the paper was to introduce a simplified version of medical report details to the user,

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which would otherwise only be understood by doctors and medical staff. The priority was to develop a system that can be made available to the community for post-operative and post-surgery recuperation. This thereby reduces the expenses of repeated follow-up visits and post-operative expenses

IV. CONCLUSION

This paper elaborated on the design of a real-time health monitoring system using Internet of Things (IoT). In the proposed work, the system is integrated with sensors that records the medical condition of the patient in real-time. The parameters that are measured are blood pressure, electrocardiogram (ECG), pulse rate and oxygen saturation (SpO2). A mobile application is designed to store the medical information of the user. This includes details regarding the user's medication such as dosage, frequency etc. The user can also add contacts as caretakers. These contacts will be notified of the medication to be taken at the respective time as well as the event of any health parameter being over the threshold value. The primary objective of the paper was to introduce a simplified version of medical report details to the user, which would otherwise only be understood by doctors and medical staff. The priority was to develop a system that can be made available to the community for post-operative and post- surgery recuperation. This thereby reduces the expenses of repeated follow-up visits and post-operative expenses.

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