

# Smart Health Monitoring System For Elderly People Using IBM Cloud

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## Abstract

IoT in healthcare is the key player in providing better medical facilities to the patients and facilitates the doctors and hospitals as well. The proposed system here consists of various medical devices such as sensors and web based or mobile based applications which communicate via network connected devices and helps to monitor and record patients' health data and medical information. The proposed outcome of the paper is to build a system to provide world-class medical aid to the patients even in the remotest areas with no hospitals in their areas by connecting over the internet and grasping information through about their health status via the wearable devices provided in the kit which would be able to record the patient's heart rate, blood pressure. The system would be smart to intimate the patient's family members and their doctor about the patient's current health status and full medical information in case any medical emergency arises. The collected information can be used to analyze and predict chronic disorders or other diseases such as heart attacks in preliminary stage itself using the data mining techniques that will also provide the approach advantageous for decision making.

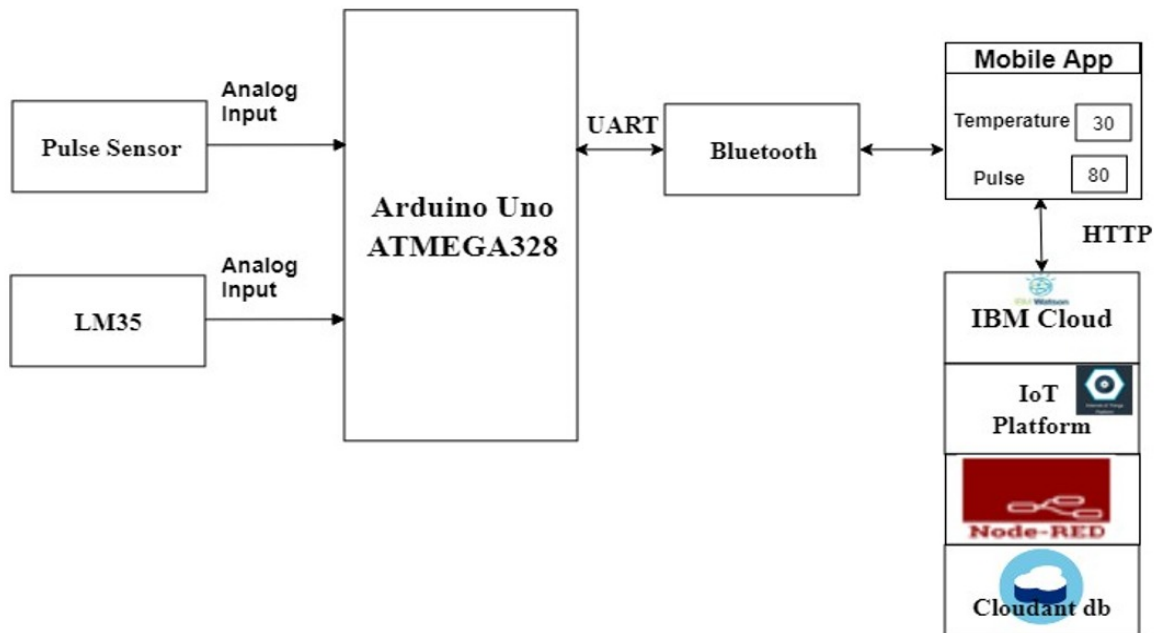
## INTRODUCTION

The Internet of things is the inter-connection of devices, apps, sensors and network connectivity that enhances these entities to gather and exchange data. The distinguishing characteristic of Internet of Things in the healthcare system is the constant monitoring a patient through checking various parameters and also infers a good result from the history of such constant monitoring. Many such devices equipped with medical sensors are present in the ICUs now-a-days. There could be instances where the doctor couldn't be alerted in time when there is an emergency, despite of 24 hours of monitoring. Also there might be hurdles in sharing the data and information with the specialist doctors and the concerned family members and relatives. The technology that enhances these features is already available but is not accessible and affordable by most of the people in developing countries such as India.

## LITERATURE SURVEY

In this age of high competitiveness and rat race, everyone is busy with their work or friends. The generation gap, unhealthy lifestyle and a swarm of adulterated food in the market, has compromised our health tremendously. Nowadays no one is taking care of their health and that of their family members, especially elders. It should monitor their health status, to obviate any health issues. So, we proposed this project by which they can monitor their health by equipping themselves with this wearable device and hence monitor their body temperature levels and pulse rate.

## THEORITICAL ANALYSIS



## EXPERIMENTAL INVESTIGATION

The prime concern of this project is to track the temperature and pulse rate of a person. Especially old age patients demands to be observed regularly. Their adored one's need to be updated about their health status from time to time while at work. So we come up with this project.

With the onset of the Internet and Computers, Information Technology has developed into a dominant tool to aid medical issues. IBM Watson is one such initiative by IBM, which presents integration with any application to build IoT device. The strength of IBM Watson is its data analytics and AI services.

The remote Health Care System uses these concepts to come up with a structure for enhanced quality of life for older people in our society.

## RESULT

As the title says, the result of Smart Health Monitoring system is of extreme use to patients and doctors as well. The patient can check their health status anytime from the comfort of their homes and visit hospitals only when they really need to. This can be done by using our system whose result are brought online and can be seen from anywhere around the world. Since it is a prototype model, our system shows the almost real time values of various health parameters and emulates how the same can be implemented in the real world. The doctors can also use the log of the patient body condition to study and determine the effect of medicine or other such things.

## **ADVANTAGES AND DISADVANTAGES**

The 'all-consuming' connection of health devices and data centralization brings many significant benefits to the table, such as:

- All-around technological enhancement.
- Cost savings.
- Accessibility.

Alternatively, some downsides that come along with the massive implementation of the IoT in healthcare include:

- Privacy can be potentially undermined.
- Unauthorized access to centralization.

## **CONCLUSION**

In this paper, we have presented and proved the prototype for an automatic system that guarantees a constant monitoring of various health parameters the patient from the pain of paying frequent visits to the hospitals. The proposed system can be set-up in the hospitals and massive amount of data can be obtained and stored in the online database. Even the results can be made to be accessed from mobile through an application.

## **FUTURE SCOPE**

The system can be further improved further by adding artificial intelligence system components to facilitate the doctors and the patients. The data, consisting medical history of many patients' parameters and corresponding results, can be explored using data mining, in search of consistent patterns and systematic relationships in the disease. For instance, if a patient's health parameters are changing in the same pattern as those of a previous patient in the database, the consequences can also be estimated. If the similar patterns are found repeatedly, it would be easier for the doctors and medical researchers to find a remedy for the problem.

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