Remote Health Monitoring Using IOT

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Abstract: The existing healthcare system in India seems to have some loopholes in between it is possible to organize our healthcare system differently so that every person in the country can use it for their benefits. Our idea is to create a portable device that can measure the patient heartbeat, body temperature, blood pressure. This will assure everyone a decent healthcare. This paper proposes a method for better implementation of health monitoring using Internet of Things (IoT).

Keywords: Internet of Things, Healthcare system, Sensors, Data Centres, Portable Devices.

I.INTRODUCTION

More than 1.8 million patients in India die due to heart diseases out of which 42.7% die on their way to the hospital. The reason behind this is a lack of proper monitoring in the ambulance/the vehicle carrying the patient. The development of patient monitoring system is of great importance in today's fast-paced life. The current scenario in India, according to the government statistics 2016 there is only one paramedic available for 3200 Indians. It's indeed an alarming situation. As per WHO statistics reveal that every minute a human is losing his/her life across the globe due to unavailability of basic health amenities. Some other developing countries have made efforts and built a universal access to decent healthcare for their people. So in order to improve the current paramedic scenario in India, this project is a great boon. We will design and develop a health monitoring system using Raspberry Pi and Internet of Things (IoT) which is reliable, energy efficient patient monitoring system. It is able to send parameters of a patient in real time to doctor using these parameters like (temperature, heartbeat, blood pressure) doctor can easily recognize the person health conditions and can prescribe the necessary medicines.

II.ROLE OF REMOTE HEALTH MONITORING SYSTEM

In this busy life, people don't have enough time to visit a doctor for the routine check-up so the health issues go on increasing and people suffer from it. The Same scenario is faced by senior citizen's they cannot visit the hospitals regularly. People are also not ready to wait in the queue and appointments for the check-up. Sometimes if the person is suffering from a major health condition and the treatment is not available in the nearby locality so he has to travel all the way to the place where the treatment is available. With the help of the remote health monitoring system, you can check your health parameters by sitting at your home and you can also share these parameters with your doctor who is not in the nearby locality. If the patient is suffering from a major health issue and the present doctor is unable to help him, he can also show the parameters to the doctor who can help him in any condition. If the treatment is not available in your country you can also go for doctors in abroad, and take suggestions from them. With the use of remote health monitoring system using Internet of Things (IoT) the death rate due to simple health issues can be reduced and lifestyle of people can be improved. The remote health monitoring system is small and portable, the patient can take the device with himself wherever he wants to. This device is a kind of one-time investment the servicing is very low and is very durable. If any major changes are identified then it is notified.

III.PROPOSED ARCHITECTURE

The remote monitoring system will be carried by the patient himself. The sensors installed in this device continuously monitor the health parameters of the patient. The device will send these parameters to the prescribed doctor through a wireless network. The sensors will continuously check the patient's health parameters like temperature, blood pressure, heartbeat. If the person is suffering from a mild chest pain in the office, he just has to place his finger on the device which will sense the necessary parameters and will notify the doctor through the wireless network, the doctor then can prescribe the patient with the appropriate medicines. If the condition of the person is severe the device will notify the doctor and the doctor can take necessary measures to help him out with the problem. If the patient's body temperature is high the sensor will sense the difference in the body temperature and will notify the doctor. If you compare the current system of the hospital you can make out that you have to waste

a lot of time and money, by using this device you can do the routine check-up without going to the hospital and can save a lot of time and money.
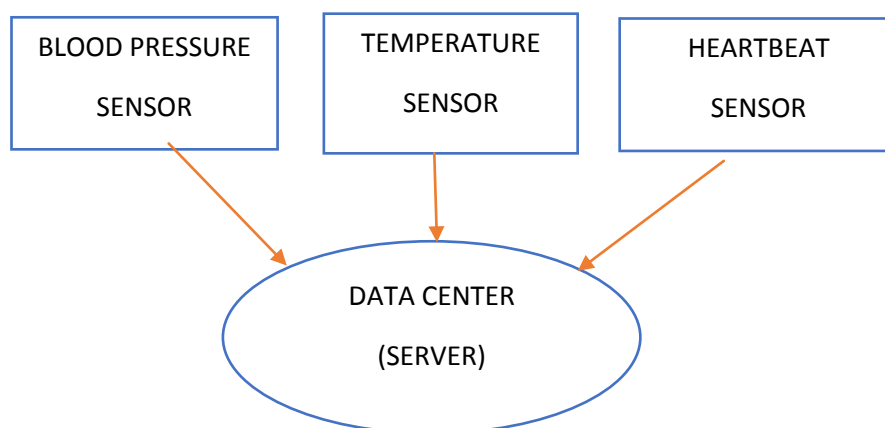

Fig 1: Proposed Architecture

IV. DESIGN COMPONENTS OF HEALTH MONITORING SYSTEM

The proposed architecture gives design view of Health Monitoring System which includes the following components:
1) Temperature Sensor.
2) Blood Pressure Sensor.
3) Heartbeat Sensor.
4) Intelligent Monitoring System.
5) Server or Data Centre.

V. ADVANTAGES OF HEALTH MONITORING SYSTEM

1) Continuously monitor patients health from anywhere in the world.
2) A great boon to elderly people who cannot often visit to doctor for a routine check-up.
3) Can achieve improved disease management.
4) Can save a lot of time and money.
5) Improved outcomes of treatment.
6) Human errors are reduced.

CONCLUSION

The present health care system is inefficient and on which we cannot rely. While the new technology has surpassed the present technology while the health care system has not been changed for decades. So there is an immediate need for change in the present health care system. The proposed design would help us to solve the problem faced by the current health care system. Bringing this application into use would completely transform and improve the current health care system.

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