SMART HEALTHCARE MONITORING AND PREDICTING SYSTEM

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ABSTRACT

Ongoing patient health checking framework with remote sensor system using delicate registering is an innovative concept that has been already introduced in developed country in recent years. Body Area network is implemented by using compact sensors that gather and assess body parameter and development. The device gives few assistant capacities that satisfy the living request of patients. What's more it uses different sort of sensors to obtain ceaseless key signs of patients counting heart rate and body temperature. Transmission of these patients' records over web is done by GSM module to web server where database is stored. Moreover, it will produce a prediction on patient's wellbeing condition based on summation of all records of patient. Generated report will be shown on web application. With the assistance of web application both doctor and patient can have real time communication. The prototype has been effectively implemented where data has been obtained and shown. The purpose to build the prototype is to help people in developing countries as they still lack access to medical technology and proper diagnosis and treatment in proper time.

Keywords:- Sensors,ESP8266,Load cell.

1. INTRODUCTION

It might have happen so many times that you or someone of your need doctors help immediately, but they are not available due to some reason. This situation may be very serious sometimes. So to avoid this situation we make the project " SMART HEALTHCARE MONITORING AND PREDICTION SYSTEM".

This healthcare prediction system introduce new technologies with various sensors. It provides that

flexibility in terms of recording patients monitoring data via data mining.

This will acts useful when during road accidents where the patients can be monitored all the way to hospital.

The patients who have to monitored for the long period of time and they don't afford the full time nurses then they can adopt this healthcare prediction system .

We made this project and combined most of the technology which is data mining and various sensors to read the basic parameters of human body I.e. Heartbeats, body temp. & B.P.

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2. BODY OF PAPER

I. METHODOLOGY

a) Existing System

The Smart healthcare monitoring and predicting system is a manual and file based one, we realize that system. We are going to build must give the solutions for wastage of time and space which affect the efficiency of the daily activities performed at the hospital. In previous system there is no location tracker for patient and doctors. There is no any feedback system in existing system for taking a feedback from patient. If the patient requires an instant diagnosis on their disease then they have to go doctor but it is not possible to everyone to identify disease at home instantly. Today's health prediction system is so much time consuming

b) Advantages

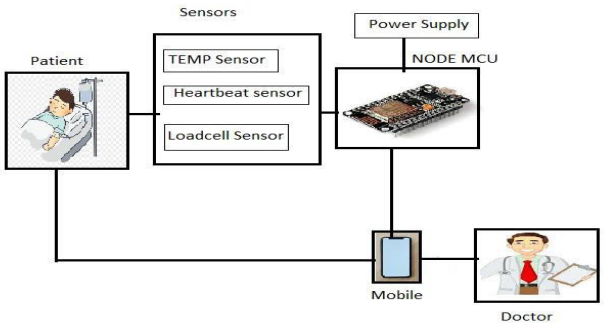
1. User can search for doctor's help at any point of time.
2. User can talk about their illness and get instant diagnosis.
3. Doctors get more clients online.
4. This system can be used by all patients or their family members who need help in emergency.

c) Proposed System

To beat the downside of existing framework we have created smart health prediction System. We have built up a specialist framework called Smart Health Prediction framework, which is utilized for improving the task of specialists. A framework checks a patient at initial level and proposes the possible diseases. It begins with getting some information about manifestations to the patient, in the event that the framework can distinguish the fitting sickness, at that point it proposes a specialist accessible to the patient in the closest conceivable territory. On the off chance that the framework isn't sufficiently sure, it asks few questions to the patients, still on the off chance that the framework isn't sure; at that point it will show a few tests to the patient. In light of accessible total data, the framework will demonstrate the result. Here we utilize some intelligent minin methods to figure the most precise disorder that could be associated with patient's appearances and dependent on the database of a couple of patients restorative record, calculation (Naïve Bayes) is connected for mapping the side effects with conceivable diseases.This framework improves undertaking of the specialists as well as helps the patients by

giving vital help at a soonest organize conceivable.

d) Block Diagram



II. COMPONENTS AND SOFTWARE

Components:

- ESP-32 Board
- Temperature Sensor (LM35)
- Heart Beat Sensor
- Load Cell

Software:

- Arduino IDE
- Blynk App

Hand tools and fabrication machines:

- Soldering iron (generic)
- Solder Wire, Lead Free

III. RESULTS AND DISCUSSION

Fig: Hardware implementation

The objective of our smart healthcare monitoring system is to make our medical facilities smarter and more reliable, by wireless monitoring health related data can save lives of many patients by providing treatment at the right time.

In our smart healthcare monitoring system we connect temperature sensor, heartbeat sensor and load sensor to the patients. All the reading of different sensors like temperature, heartbeat can be transformed by esp8266 module using wi-fi technology. These system fetched data continuously. By using mobile app we can fetch all the real time parameters of patient like temperature, heartbeat and glucose level can be monitored in our mobile screen.

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3. CONCLUSIONS

The system that was proposed was a prototype system model. Our main objective was to focus on health monitoring with wireless body area network. However we have successfully implemented the prototype and came up with an accurate result analysis. Basically wireless body area network is a vast area to expand. Implementing computer science on medical science has become a new era to develop. Introducing a health monitoring system with an application will really be helpful to people of developing country. One of the main motive of our project was to create a real time communication between doctor and patient in an easier way. Though our model has implemented and tested but to introduce it in real life a lot more improvements and also equipment are needed. Actual goal of our system will be fulfilled when we can use the health monitoring system and "health pal" application in real life and people will be benefited.

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