

Airline Management System Using PHP

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Abstract

Healthcare is given the extreme importance now a- days by each country with the advent of the novel corona virus. So in this aspect, an IoT based health monitoring system is the best solution for such an epidemic. Internet of Things (IoT) is the new revolution of internet which is the growing research area especially in the health care. With the increase in use of wearable sensors and the smart phones, these remote health care monitoring has evolved in such a pace. 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. In this paper, 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 utilizing Wi-Fi Module based remote correspondence. 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 distance.

Keywords: — *Airline Management, PHP*

Introduction

Health is always a major concern in every growth the human race is advancing in terms of technology. Like the recent corona virus attack that has ruined the economy of China to an extent is an example how health care has become of major importance. In such areas where the epidemic is spread, it is always a better idea to monitor these patients using remote health monitoring technology. So Internet of Things (IoT) based health monitoring system is the current solution for it [1]. Remote Patient Monitoring arrangement empowers observation of patients outside of customary clinical settings (e.g. at home), which expands access to human services offices at bring down expenses [2]. 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 systems is to reduce health care costs by reducing SMS based patient flourishing viewing and IOT based patient checking

framework. In IOT based framework, subtle parts of the patient flourishing can be seen by different clients [4]. The explanation behind this is the information should be checked by passing by a site or URL. While, in GSM based patient viewing, the flourishing parameters are sent utilizing GSM by strategies for SMS. In most of the rural areas, the medical facility would not be in a hand reach distance for the natives [5]. So normally the people physician office visits, hospitalizations, and diagnostic testing procedure [3]. Each of our bodies utilizes temperature and also pulse acknowledging to peruse understanding wellbeing. The sensors are linked to a microcontroller to track the status which is thus interfaced to a LCD screen and additionally remote association with have the capacity to exchange alarms. If framework finds any sudden changes in understanding heart beat or body temperature, the framework consequently alarms the client about the patients status over IOT and furthermore indicates subtle elements of pulse and temperature of patient live in the web. In this manner IOT set up tolerant wellbeing following framework viably utilizes web to screen quiet wellbeing measurements and spare persists time. There is a significant capability between neglect any kind of minor health issues which is shown in early stages by variation of vital elements like body temperature, heartbeat rate etc. Once the health issue has been increased to a critical stage and the life of the person is endangered, then they take medical assistance, which can cause an unnecessary waste of their earnings. This also comes into account especially when certain epidemic is spread in an area where the reach of doctors is impossible. So to avoid the spread of disease, if a smart sensor is given to patients, who can be monitored from a distance would be a practical solution to save many lives .

Objectives Of the Project:-

Internet of Things (IoT) is the emerging technology, which contains huge amount of smart object and smart devices connected to the internet for communicating with each other. In this project to analyze and compute the patient health we are using Raspberry Pi, which is the heart of this project. These smart devices are used to collect temperature, blood pressure, sugar level, heartbeat, lung and respiration information etc., which are used to evaluate the health condition of the patient. The final results are displayed on the android device, on web server and also the results are sent to the user through SMS. These data results can be stored in data base centre which can be invoked from remote location at any time in an emergency case of patient without delaying the time. This project may play vital role in saving the patient life at emergency time since "Time is life"

Modules Of The Project:-

The system after careful analysis has been identified to be presents with the following the modules.

- ☐ Monitoring heart rate
- ☐ Monitoring temperature

☐ SMS alert

Monitoring heart rate

- An optical heart rate sensor measures pulse waves, which are changes in the volume of a blood vessel that occur when the heart pumps blood.
- Pulse waves are detected by measuring the change in volume using an optical sensor and green LED. Adopting an optical filter optimized for pulse wave detection in the sensor block minimizes the effects of ambient light such as red and infrared rays

Monitoring temperature

- LM35 is an integrated analog temperature sensor whose electrical output is proportional to Degree Centigrade. LM35 Sensor does not require any external calibration or trimming to provide typical accuracies .

SMS alert

When patient need something then he/she can use the push button then the sms alert generated. Then the msg will appear to the patients family member or the care taker who care the patient.

II.Proposed System:-

Our proposed system allows for Health Monitoring System over the internet. It allows the people to directly check their health status online without the need of a health clinic. ... The system constantly monitors temperature using temperature sensor, heart rate using heart rate sensor and alert SMS. The core objective of this project is the design and implementation of a smart patient health tracking system. Fig.1 shows the overview of the proposed system. The sensors are embedded on the patient body to sense the temperature and heartbeat of the patient. Two more sensors are place at home to sense the humidity and the temperature of the room where the patient is staying. These sensors are connected to a control unit, which calculates the values of all the four sensors. These calculated values are then transmitted through a IoT cloud to the base station. From the base station the values are then accessed by the doctor at any other location. Thus based on the temperature and heart beat values and the room sensor values, the doctor can decide the state of the patient and appropriate measures can be taken

III. LITERATURE SURVEY

- If the pulse rate and body temperature are (Low & Low) OR (Low & High) OR (High & Low) OR (High & High)
- Then the patient has to immediately go for a detailed Health Checkup.
- If the pulse rate and body temperature are (Low & normal) OR (High & Normal), then the patient is considered to be unwell.

- If the pulse rate and body temperature are (Normal & Low) then the patient is considered to be in a hypothermia state.
- If the pulse rate and body temperature are (Normal & High) then the patient is considered to be having fever.
- If the pulse rate and body temperature are (Normal & Normal) then the patient is considered to be healthy.

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We proposed a nonstop checking and control instrument to screen the patient condition and store the patient information's in server utilizing Wi-Fi Module based remote correspondence. 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 distance.

IV System Specification:

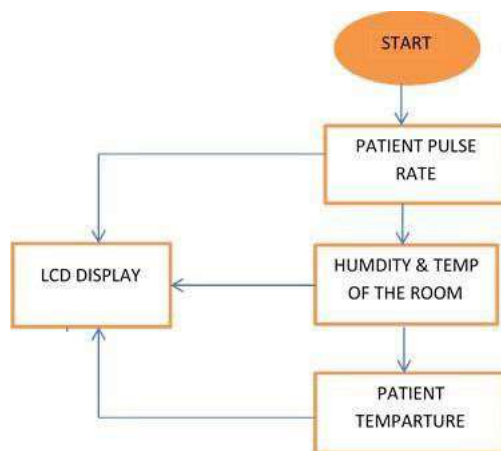
Hardware and Software Specification:

- Arduino IDE
- ESP32 WiFi Module
- Heart rate monitoring sensor
- LCD Display
- Crystal Oscillator
- Resistors
- Capacitors
- Transistors
- Cables and Connectors
- Diodes
- PCB and Breadboards
- LED Transformer/Adapter
- Push Buttons

VI. Experimental Setup

The body temperature, humidity and pulse rate sensors are monitored and initially displayed on LCD as explained in the flowchart in Fig. 3 [10 – 29]. The values from the sensors especially the

body temperature sensor and the pulse rate sensor is stored in the database. For body temperature, the range is defined as in Table II. The membership function of the temperature range as in Fig. 4 can be explained as:

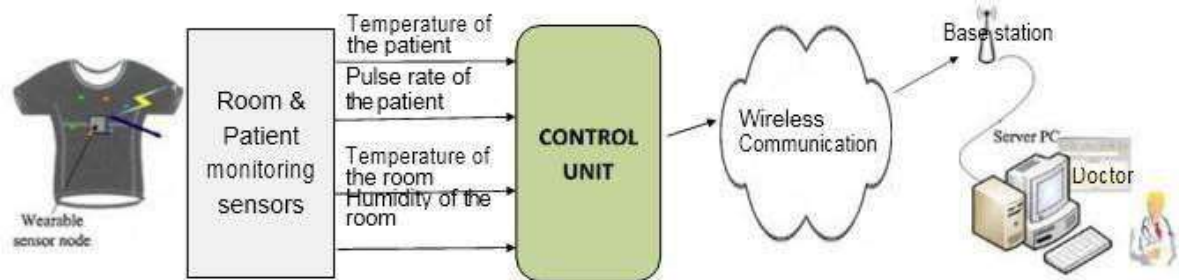


Similarly, to determine the health state of the patient, different range of pulse rate reading is also considered as in Table III. The membership function of the pulse rate in Fig. 5 is as given below: Based on these different range values, the rules for diagnosing the disease of the patient is performed. The output health state is diagnosed with the following membership function: Healthy, Unwell, Hypothermia, Fever and Needs a detailed health checkup as shown in Fig.6. The membership function of the output health state is defined as given below: These rules for diagnosis can be summarized by considering all the combinations of membership functions of the body temperature and the pulse rate as given below.

- If the pulse rate and body temperature are (Low & Low) OR (Low & High) OR (High & Low) OR (High & High)
- Then the patient has to immediately go for a detailed Health Checkup.
- If the pulse rate and body temperature are (Low & normal) OR (High & Normal), then the patient is considered to be unwell.
- If the pulse rate and body temperature are (Normal & Low) then the patient is considered to be in a hypothermia state.
- If the pulse rate and body temperature are (Normal & High) then the patient is considered to be having fever.
- If the pulse rate and body temperature are (Normal & Normal) then the patient is considered to be healthy.

VII. Experimental Results

The body temperature sensor, pulse rate sensor, room temperature and humidity sensor values are calibrated using the microcontroller. The complete prototype of the health monitoring system with the sensors are shown in Fig. 5 and Fig.6, where it shows the output values of the sensors calculated and displayed in a LCD display, so that these values are visible even to the patient.



VIII. CONCLUSION

The Internet of Things is considered now as one of the feasible solutions for any remote value tracking especially in the field of health monitoring. It facilitates that the individual prosperity parameter data is secured inside the cloud, stays in the hospital are reduced for conventional routine examinations and most important that the health can be monitored and disease diagnosed by any doctor at any distance. In this paper, an IoT based health monitoring system was developed. The system monitored body temperature, pulse rate and room humidity and temperature using sensors, which are also displayed on a LCD. These sensor values are then sent to a medical server using wireless communication. These data are then received in an authorized personals smart phone with IoT platform. With the values received the doctor then diagnose the disease and the state of health of the patient.

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