

WEARABLE IOT BASED EMPLOYEE HEALTH CHECKING SYSTEM

¹S.GOPINATH, IV YEAR EEE

²M.SUJITH, ASSOCIATE PROFESSOR/HOD-EEE

^{1,2}IFET COLLEGE OF ENGINEERING VILLUPURAM, TAMILNADU-605108

Abstract- This paper proposed to make a wearable gadget which will consistently checking the health condition. This wearable gadget will display all basic the health parameter and collecting the detailed database. Wearable gadget will send the gathered information via IOT. Then the health detail data are estimated and alerts the employee. This system will send the health details to the specialist doctor through email. At that point the signal will feed for the automated mechanized Medicine pill box at the worker place. To monitor the health condition a web application and mobile application was created. So we can manage the health monitoring system to produce daily medical report. The prototype is developed to test the performance of the above system and the experimental results are satisfactory.

Keywords- wearable gadget, health parameters, medical pill box, web and mobile app, daily medical report.

1. INTRODUCTION

Health condition of the employee is important and it can be monitor. The process of medical checkup required more time and employee should left their work for medical checkup. To over this we proposed to make a wearable gadget to diagnose the health condition of the employee. Giving care and health assistance to the employee at critical stages. Cost-effective and fast responding alert mechanism is inevitable. Provide a daily medical report of an employee. This system will alert the employee before critical stage. It provides a medicine to employee via medical pill box.

2.EXISTING SYSTEM

Difficult to monitor the employee continuously. The traditional medical test instrument is a large size and connected by wire often, and the employee is required to be left their work during the test. The real-time monitoring is expensive for most of the people. Most of existing system uses the ZigBee technology for transmitting module. The communication distance of ZigBee node can be over 200

meters and it suited for short distance communication only.

3.PROPOSED SYSTEM

The admin can know about the health condition of an each employee in the company. It accurately identifies the health condition level from the wearable device. As a real-time server has been used, hence there will be no connectivity issues in transmitting the data about health monitoring. Highly privacy secures system.

A web application and mobile application was created to monitor the health condition. Also, since report are just getting uploaded and recognizing a person's health condition hence there would not be an issue about privacy invasion.

The proposed system can further be improved by incorporating all medicine checking in it so that employee will get an idea about how their health condition. An application can also be developed so that employee will personally check their health condition and medical report.

4.BLOCK DIAGRAM

The following are block diagram for wearable gadget.

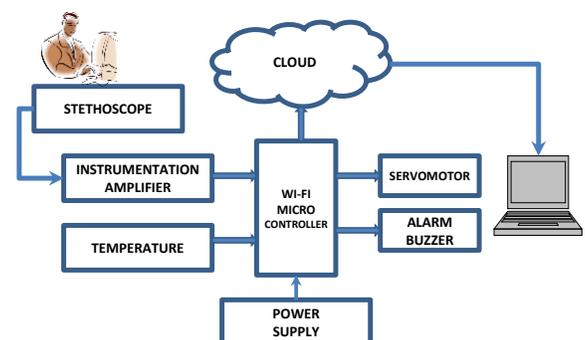


Fig -1: BLOCK DIAGRAM

5. PICTORIAL BLOCK DIAGRAM

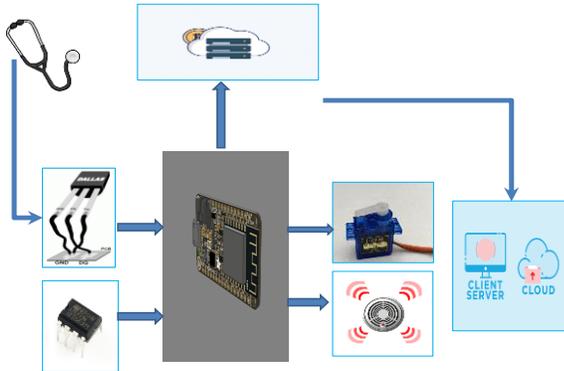


Fig -2: PICTORIAL BLOCK DIAGRAM

6.OVERALL WORK FLOW

- Measuring the health parameter
- Collecting Database
- Health condition estimation
- Alert the Employee
- Intimation to Doctor
- Dataset
- Recommends Medicine

7. WORKING

The working of the project, from the wearable gadget (the wireless stethoscope is used to detect pulse rate and the temperature sensor calculates the body temperature) of employee .Then these medical data of employee are integrated as a digital data and transmitted to the think speak cloud storage using Wi-Fi controller. Thing speak is a cloud storage space where data can be stored securely. Now medical data of employee are fetched from cloud and fed as input to our web application. Coming to web application, it is mainly designed for admin for screening purpose; we also developed a mobile application for employee to check their medical condition .Employee can access their data by logging in using employee id and password of their own. Then the status of the employee is updating for each time period of 20 seconds .In case any changes in temperature and pulse rate, immediately alert message is send to the doctor through email .At the same time signal was given to the medical pill box at the employee end .when the alert signal arrived pill box will automatically fetch and provide the medicine to the employee .As the medicine data of person is so important

we manage it safety and securely using cloud storage .We can download the daily medical report by accessing the web application as well as mobile application.

8.ADVANTAGE

- To reduce the cost of wireless health system and continuously monitoring system.
- It will be easy to access and handle.
- To produce the daily report to the server and quickly update the medical data and downloaded for the further medical purpose.
- It will comfort to alert the employee when reach the abnormal health condition.

9.HARDWARE MODEL

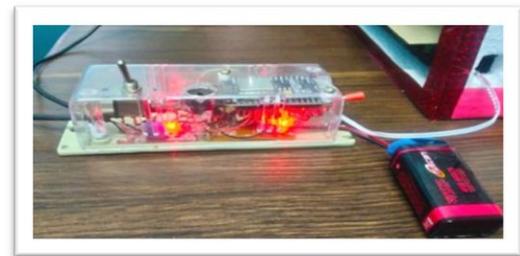


Fig -3: WEARABLE GADGET



Fig -3: PROJECT MODEL WITH PILL BOX

10. SOFTWARE MODEL

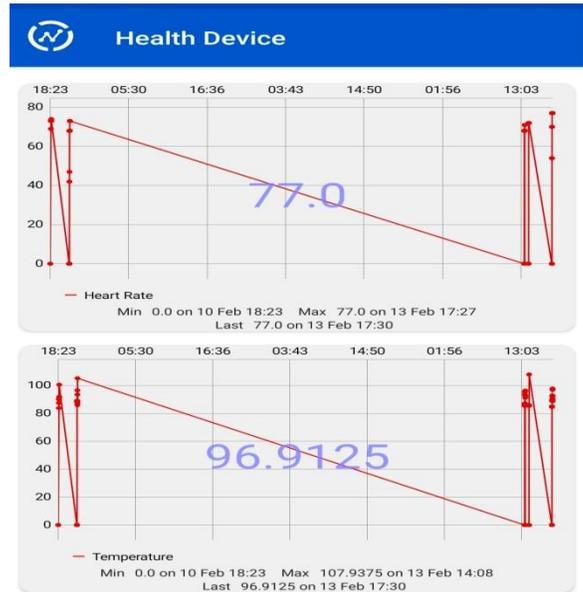


Fig -4: MOBILE APP

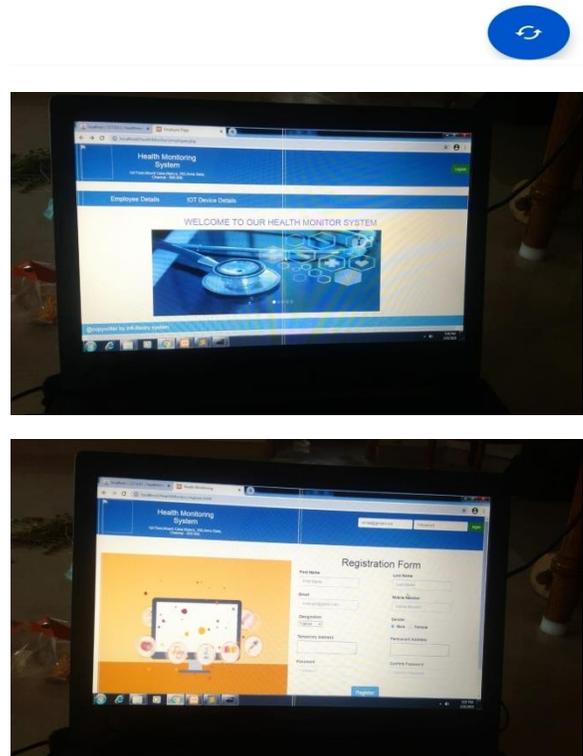
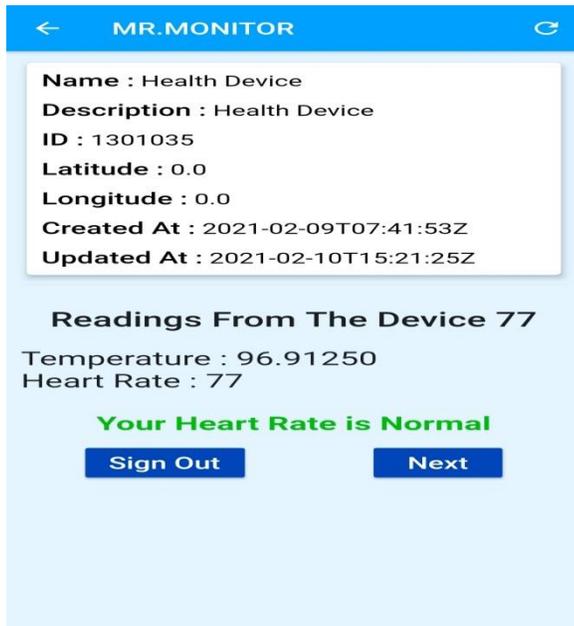


Fig -5: WEB APP

11.DATA SET

To classify the medical parameters details and calculate the disease measuring level. Then the data

was converted into frames. To classify the disease into different category (such as temperature, Blood Pressure, etc...,) The data are updated in the website and converted as medical report to access for the further medical purpose.

12.CONCLUSIONS

The system helps let the commuters know about the health condition of an employee. It accurately identifies the health condition level from the wearable device. Such a system will cater to the needs of company as well as employee who didn't go for regular health checkup for their day-to-day need .As a real-time server have been used, hence there will be no connectivity issues in transmitting the data about health monitoring. Also, since report are just getting uploaded and recognizing a person's health condition hence there would not be an issue about privacy invasion.

The proposed system can further be improved by incorporating all medicine checking in it so that employee will get an idea about how their health condition. An application can also be developed so that employee will personally check their health condition and medical report.

REFERENCES

- [1] S. M. Abubakar, W. Saadeh and M. A. B. Altaf, "A wearable long-term single-lead ECG processor for early detection of cardiac arrhythmia", Proc. Design Automat. Test Eur. Conf. Exhib., pp. 961-966, Mar. 2018.
- [2] Amin SU et al (2019) Cognitive smart healthcare for pathology detection and monitoring. IEEE Access 7:10745–10753
- [3] M. Hossain, S. Islam, F. Ali, K. Kwak and R. Hasan, "An Internet of Things-based health prescription assistant and its security system design", Future Generation Computer Systems, vol. 82, pp. 422-439, 2018.
- [4]Shashank Shinde, Tejas Kadaskar, Pushpak Patil, Rohit Barathe A smart pill box with remind and consumption using IOTInt Res J Eng Technol, 4 (12) (2017), pp. 152-154
- [5] Rahaman A, Islam M, Islam M, Sadi M, Nooruddin S. Developing IoT based smart health monitoring systems: a review. Rev Intell Artif. 2019;33:435–40.

- [6] Mois G, Folea S, Sanislav T. Analysis of three IoT-based wireless sensors for environmental monitoring. IEEE Trans Instrum Meas. 2017;66:2056–64.