

IOT BASED HOSPITAL TELEMETRY MONITORING SYSTEM

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ABSTRACT

In a infirmity health care monitoring system there is need of continuously inspect patient's physical parameters. For example if a patient is suffering from a serious decease and can't do a movement of body in such a condition their weight, temperature and movement of that patient can be monitor with help of iot based health monitoring system. This paper presents monitoring system that has ability to inspect physical parameter from multiple patient body. In a proposed system, a coordinator node has attached on patient's body to collect all the signal from wireless sensor and send them to the base station. The sensors which are attached to patients body form a wireless body sensor network(WBSN) and they are able to sense the temperature ,weight ,movement and so on This system can detect the abnormal situation , issue an alarm to the patient and send a SMS / E-mail to the doctor or to the relatives of the patient to all those who have acces of it. Also the proposed system consist of several wireless nodes by which we can transmit the data which is collected from the sensors and forward them to the base station. The main advantages of the system is to decrease the manpower in the hospital also time required to communicate with the doctor will be less.

Keyword : - IOT , HTMS, etc....

1. INTRODUCTION

In todays worlds hospital health care monitoring system it is continuously inspect the patients physical parameters. The sensors which are attached on the patients body will measure the weight, temperature, movement. And can also send all this data to the base station. Use of sensors in the medical field will provide the good healthcare services such as medical monitoring, memory enhancement, medical data access and communication with the doctor or the relative of the patient in the emergency situation with the help of the GPRS. Continuous health monitoring with wearable or clothing embedded transceiver and implantable body sensor network will decrease the risk of the patient. Not only the patient but there family's will also get advantages of such a system.

2. EXISTING SYSTEM

There are many system which are available in the medical field but there are many limitations and also drawbacks to the existing system. There are system in which there is a compulsion of manpower also because of compulsion of manpower the time and money cost increases and also there is a possibility of mistakes.

In existing system, doctor must have to be present near the patient for continues monitoring. All the data related to patient we have to maintain in paper (hard copy) and data can't be save on the server. In critical condition there is no facility of immediate alert system to the doctor.

3. DISADVANTAGES OF EXISTING SYSTEM

- Manual work.
- Doctors must have to be near the patient.
- No current condition of the patient is saved on server.
- No alert message.

4. PROPOSED SYSTEM

Proposed system is online system. So any person related to doctor, family or hospital staff can see the reports of patients if they have the username and password of the patient.

- Less time consuming.
- Highly secure in data storing.
- Helpful in critical condition. The authorized person can easily access the information about patient
- It is more user friendly:
- Messages about critical condition of patient will be send to doctor within a minute so doctor can communicate with the hospital management and provide a exact treatment to the patient.
- All the reports of patient will be store on server so in future if the patient face some problem about health doctor can easily get all the details about patients.

5. FUNCTIONAL DESCRIPTION

The functions of the various working components are given below:

5.1 Arduino board

Arduino is an open source, computer hardware and software company, project and user community that designs and manufactures microcontroller kits for building digital devices and interactive objects that can sense and control objects in the physical world. The project's products are distributed as open-source hardware and software, which are licensed under the GNU Lesser General Public License(LGPL) or the GNU General Public License(GPL), permitting the manufacture of Arduino boards and software distribution by anyone.

Arduino boards are available commercially in preassembled form or as do it yourself kits. Arduino board designs use a variety of microprocessors and controllers. The boards are equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards and other circuits.

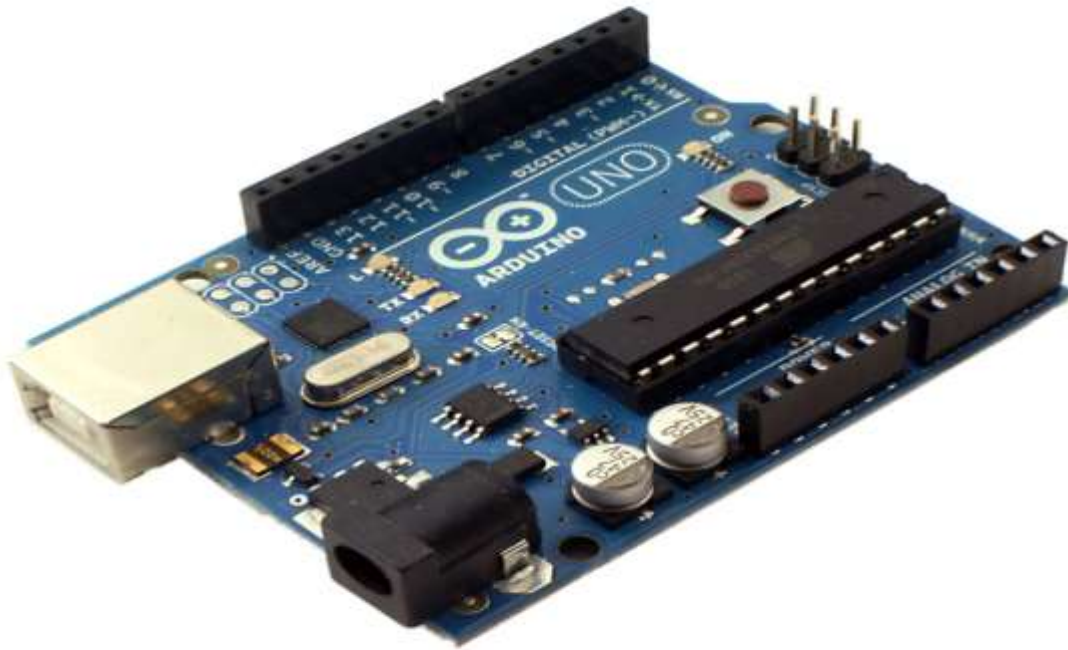


Fig 1. arduino board

5.2 CC 2500

The CC2500 is low cost 2.4 GHz transceiver designed for very low power wireless applications. The circuit is intended for the 2400-2483.5 MHz ISM(Industrial,Scientific And medical) and SRD short range device frequency band. The RF Transceiver is integrated with highly configurable baseband modem. The modem supports various modulation farmats and has a configurable data rate upto 500kBaud.

CC2500 provides extensive hardware support for packate handling, data buffering burst transmission, clear channel assessment, link quality indication and wake on radio. The main operating parameters and 64 byte transmit/receieve FIFOs of CC2500 can be control via an spi interface.



Fig.2. CC 2500

6. CONCLUSIONS

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