MEDICINE BOX WHICH SERVES PATIENT USING IOT

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1.Abstract –

In modern life, People just forget to take their own medication, food and health check-up's properly. Now we are proposing a modern healthcare IOT platform with the help of sensors along with medicine box to take their medication. With the help of medicine box along with sensors it helps to communicate between doctor and patient through android application. In the proposed system it alerts patient to take medication properly by sending notification through mobile. Information is passing through a Wi-Fi module that is connected to the internet. Through sensors if any vital signs occur it gives an emergence message to their guardian. So, He can be taken to hospital.

Keywords— Magnetic reed switches, Arduino Microcontroller, ESP8266 Wi-Fi module

1. INTRODUCTION

In the day to day life people are missing to take a good diet and nutrition food. If there are taking a stable diet, they are people got attacked by diseases somehow. By falling to diseases every one, forget to take their medication right on time. According to WHO they stated that 60% of 56.5millions are suffered from chronic diseases. It is clear that chronic diseases as asthma, Diabetes, Heart diseases, etc....is increasingly a misnomer in developed, developing, undeveloped countries**.**

It is projected that by 2020, around worldwide three-quarters of death occurs due to chronic diseases. Heart diseases occur around 75% deaths in developing countries. To prevent like this, situation we propose the medical box with sensors that is connected to the internet and there will be 24*7 surveillance of patient report though android application. once a patient fall to chronic diseases first aim is to monitor than prevention of diseases.

By using Internet of Things (IOT) which it helps to adopt the technologies on different basis like hardware components, mobile devices, Internet connectivity, wireless components. These things collect information and exchange data.

In health care the great purpose is cost efficient usage and care for patients. In this it is procced with a sensor that is attached to patient body and with help of sensors its scan's patient body and sends information through Wi-Fi module that is connected to internet to physician (Jr Doctor). He can see the patient report day to day whether the prescribed medication is taken correctly or not. If not, A message is sent to take the medication correctly.

We just describe it in diagrammatic format for simple study of the case in below figure.
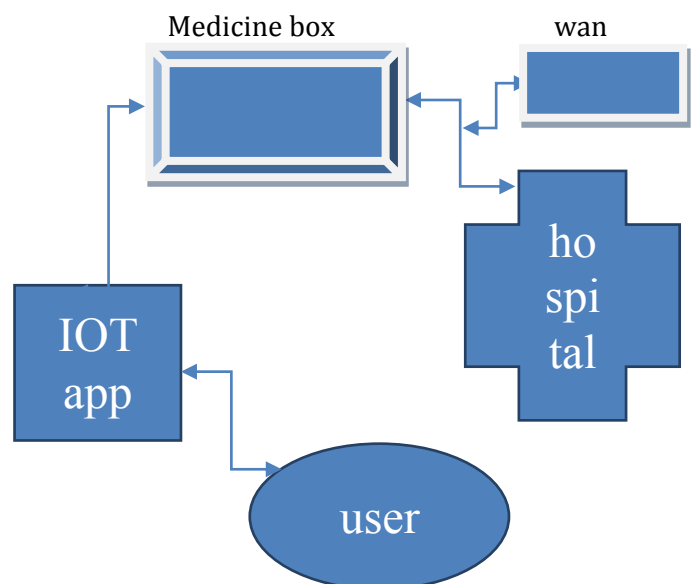
2.EXISITING SYSTEM—

In the existing system, most of IoT device monitor the person health by using pedometer with the help of mobile device. By using this type of device, we continuously monitor the person health and daily activities.

These are used for healthy person who want build the better future. But it is not a doctor and patient communication device. In now a day most of the people got blood pressure and diabetics. They have to take medicine for a while to control their blood pressure and diabetics level on better. For this existing system they have to visit doctor more often. They can't maintain the prescription given by doctor.

DISADVANTGE –

- It can't suggest to take medicine.
- It requires to visit doctor more often.
- It increases the cost.
- It can't suggest what medicine to take.

3.PROPOSED SYSTEM—

We are proposing a medicine box with sensors to monitor the patient record. We can get information about taking pills in time and monitor the health condition properly. Now, with the help of wi-fi module (ESP8266 model) that is connected to internet to exchange data from android application to hospital administration .so they have sensor attached to the patient so that they can be monitored each time. If any vital signs occurred during body temperature or any chronic diseases it alters or send message to the mobile.

We have different hardware components that is needed to identify chronic diseases. To check whether patient taking pills on time we kept magnetic reed switches to get the notification.

ADVANTAGES OF EXISTING SYSTEM-

- There will be a close communication between doctor and patient.
- We can monitor their body temperature or any attacks will occur to them.
- With help of android application, we can take prescription easily.

- Medicine box make updates to take medicine timely.

4.BLOCK DIAGRAM—

Detailed view of connecting the hardware components in below figure.
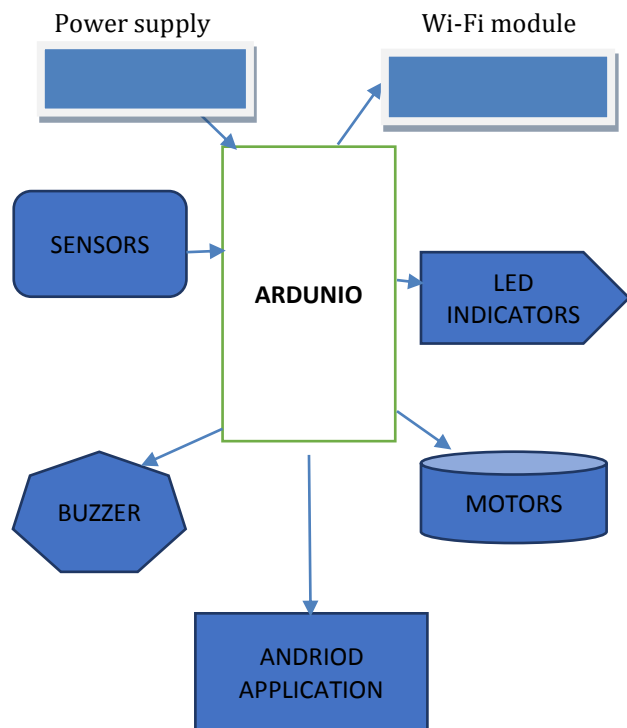
5.HARDWARE COMPONENTS—

> ### PIC16F877A

The 16F877A is a capable microcontroller that can do many tasks because it has a large enough programming memory 8k words and 368 Bytes of RAM. It has 40 pins which is used to peripherals as functions are over the pins.

> ### TEMPERATURE SENSORS—

LM35 is a precision IC temperature sensor with its output proportional to the temperature. It is rated to operate over a -55 degree Celsius to 150 degree Celsius.

> **GSM MODEM—**

GSM modem accepts any GSM network act as SIM card. It is used to communicate between the channels to exchange information.

> **HEART BEAT SENSOR—**

It works on an optoelectronics. All it takes to measure our heart rates.IR led emits infrared radiation and surface reflects the light. Due to the reflection it takes the sensor of heart rate.

> **GAS SENSOR MQ-2 –**

In current scenario monitoring gas is required. Gas sensors spontaneously react to the gas present, thus keeping the system updated about any alterations that occur in the concentration of molecules at gaseous state.

6.FLOWCHART—
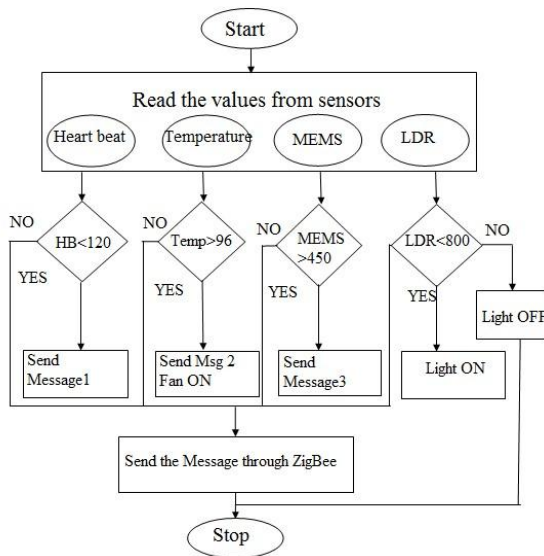
7. RESULT—

we developed a medicine box with help of sensor it indicates to tell patient report for day to day life. With the help of android application, we can identify the pills to be taken with the help of application. This box is connected wireless to internet and it is updated day to day. If any unusual cases of the patent's behavior. It sends the alert message to the guardian.

8.CONCLUSION—

By using IOT, Hospital administration need to monitor the patient and also time to take pills. With the help of android application, we can close communication to the doctor and patient.

9.REFERENCES—

Home Based Health Monitoring System Using Android Smart phone, International Journal of Electrical, Electronics and Data Communication, Vol-2, Issue-2, Feb2014, Sushama Pawar, P.W.Kulkar-ni

ZhiboPang, QiangChen, Lirong Zheng, Elena Dubrova. "An In-home Medication Management Solution Based on Intelligent Packaging and Ubiquitous Sensing". International Conference on Advanced Communications Technology (ICACT). Jan 2013.

Fei Hu, Yang Xiao, Qi Hao, "Congestion-aware, loss-resilient biomonitoring sensor networking for mobile health applications", IEEE Journal on Selected Areas in Communications, Vol27, Iss4, May 2009.