**INTELLIGENT MEDICINE BOX FOR MEDICATION**

**MANAGEMENT USING IOT**

**ABSTRACT**

Now a day’s trend in healthcare is to move routine medical checks and other health care services from hospital to the home environment. A modern healthcare IoT platform with an intelligent medicine box along with sensors for health monitoring and diagnosis is proposed here. An intelligent home based medicine box with wireless connectivity along with an android application helps patients and doctors to be in more close communication. The proposed model has an intelligent medicine box that gives alerts to patients for their medication at right time. It is connected to internet to make timely updates about medicine to patient’s Smartphone through notices in android application. The system automatically gives alarm to the patient to take the medicine at right time. Sms alerts are given to predefined guardian if there are any vital signs noticed.

**INTRODUCTION**

Now a day’s healthcare is a burden factor for systems are struggling with aging population, prevalence of chronic diseases, and the accompanying rising costs. Aging populations and the rising incidence of chronic disease consume a disproportionate amount of healthcare resources. In the World, about 75% of healthcare dollars go to chronic disease care and two out of every three Medicare recipients suffer from at least two chronic diseases. More than 40% of world population suffers from chronic conditions, often with no cure in sight, which can get hugely expensive. Once a patient falls prey to a chronic disease, the need for continuous health monitoring becomes more important than in prevention and wellness. A number of device makers and other players are aiming to tackle this challenge through integrating the relevant streams of data needed to accurately monitor the health of a patient with a given condition.

**EXISTING 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.

**EXISTING SYSTEM DISADVANTGE**

* It cannot alter the person to take medicine.
* It cannot suggest the medicine.
* It require to visit more often the doctor.
* It increases the cost.

**PROPOSED SYTEM**

Our system includes a featured medicine box which is wirelessly connected to the hospital administration. Hospital administration monitors the routine details through a webpage which is managed at the hospital side. An android application is installed on the patient’s smart phone. Through this application patients could view their prescriptions and get notifications regarding medicine intake. Medicine box is provided with different compartments. An LED on top of each compartment denotes the correct box. Whenever patient opens a wrong compartment, a buzzer will get activated with the help of Arduino. A Wi-Fi shield is attached to the Arduino board and this Arduino microcontroller picks up the data and sends it through ESP8266 Wi-Fi module which automatically updates these details to the hospital webpage is shown in Figure. The proposed Magnetic Reed switches are rugged in operation which is operated by means of stepper motors. The stepper motors are having controlled signal from Arduino microcontroller. Earlier nobody has used this sensor in patient monitoring systems. The schematic view of magnetic reed switches is shown below. In this proposed work, the three compartments are opened/ closed by these switches by means of electrical signal from the Ardunio controller.

PROPOSED SYSTEM ADVANTAGE

* Intelligent medicine box along with sensors for health monitoring and diagnosis is implemented here.
* An intelligent home-based medicine box with wireless connectivity along with an android application (Health-IoT) that helps patients and doctors to be in a more close communication.
* An intelligent medicine box that gives alerts for patients to take their medication at the right time.
* The box is wirelessly connected to internet to make timely updates about medicines which will be notified in the android application with inpatient’s smart phone

BLOCK DIAGRAM



HARDWARE REQUIREMENT

* ARDUINO
* Magnetic reed switch.
* Esp8266 IoT module
* LED
* Buzzer.
* Buttons.

SOFTWARE REQUIREMENT

* Arduino