INTELLIGENT MEDICINE BOX FOR MEDICATIONMANAGEMENT USING IOT

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Abstract – *In modernizing world the growing technologies and lifestyle aids health sectors. The people are busy-with their hectic day to day schedule which leads to improper intake of medicine. Most of the people do not use prescription for identifying the correct medicine which may lead to improperhealth condition and some mishaps. In this project, we put forward intelligent medicine box that can conveyance medicines to the patients on time without any other support and also ease with alarm to inmost the long suffering peoplesto take the right medicine at exact time.*

Key Words: **Arduino Microcontroller, Infrared sensor, Servo motor, LED, LCD** are some of the terms used in this paper.

1. INTRODUCTION

Technologies recovers updating with growing generations who adopts the modern lifestyle. In modern lifestyle, life span of personage has become less because of such diseases and to overcome we need to take medicines regularly and also in large amount. Even though many new developmentsin medicine had been invited to step down death rates people fail to follow their drugs schedule. In order to overcome the above mentioned problems, we have plotted a smart medicine box involving internet of things were the patient is intimated by an alarm when the scheduled time isup. The custodian can restock the drugs into the medicine box while they receive a notification from the system. This paper focuses in developing an intelligent medicine box for medication management using improvised technologies.

2. EXISTING SYSTEM

A person enact circadian venture at regular pause of times.This hinted that the person is inwardly and robust a leading a well organized life. This deduce that the general prosperity of the man is at a definite standard. If there is turn down in the daily activity, then the haleness of the person isnot in the usual state. Oldster impulse to lead a self sustaining way of life, but at old age, people become prone to discrete freak , so way of living uniquely has put at risk and is recurrent. A increasing amount of exploration isdescribed in recent times on occurrence of a system to detect

the venture of an oldster livelihood so that assist can be furnished in front any unforeseen situation appeared.

3. PROPOSED SYSTEM

Our proposed system includes android application which 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 section signify the right box. At any moment patient opens a mistaken section, a warning will get operated 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 WI-FI module.
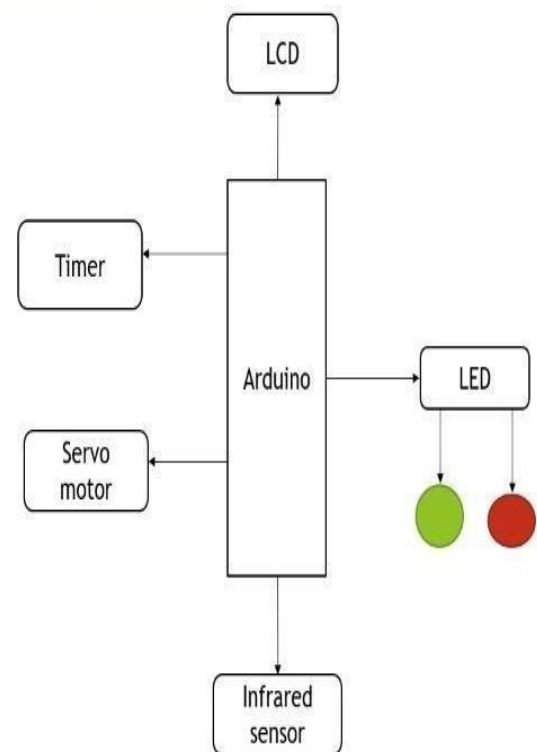

Fig: BLOCK DIAGRAM

In this block diagram, the required hardware modules are built in compartmented medicine box. According to medical adherence, box is splitted to store drugs to store drugs to be taken thrice times in a day [i.e. morning, afternoon, night]. On every occasion of a day, it is further carve up into double to stock drugs to be taken prior to and later meals. These compartments are opened or closed by servo motor by means of electrical signal arrived from Arduino microcontroller. The power supply is provided to distribute power to other modules in the device. The device is programmed with Arduino which is plugged with alarm andLED display.

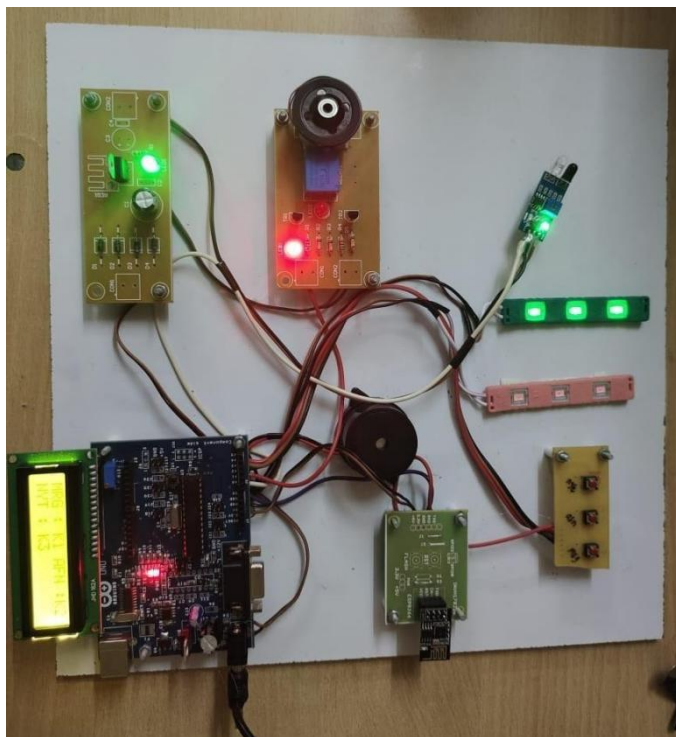## 4. EXPERIMENTAL SETUP FOR MEDICINE BOX

Fig: External Structure Model

The proposed methodology made up of the following sections:

1. **INFRARED SENSOR:** In this setup, the medicine is incorporated with an infrared sensor based on our requirements of number of different medicines.

2. **SERVO MOTOR:** It is imported into the medicine box to close and open the box automatically.

3. **RTC MODULE:** This module is connected with Arduino through its serial connection pins. When the user preset time matches the programmed remainder time, it triggers the alarm to alert patientsto take medicines at right time.

4. **ARDUINO UNO ATMEGA328:** It is used to bridge software and hardware modules of the devices.

5. RESULTS AND DISCUSSION

In this paper, a smart medicine box attached with vital parameter measuring sensors is implemented with IoT technology. This project doesn't recovers special training for handling medicine box. It is a user-friendly device even elder patients can operated easily that the instructions are displayed in LCD display. It remains patients by alarm to take medicine in prescribed schedule which will be programmed earlier. On taking drugs at right dose at right time, patient grasps the benefits of treatment. Hence the medicine box operated successfully as an assist device for elder patients and patients those busy with their career, notmindful of taking their tablets.

6. CONCLUSION

IoT systems suggest some trump card for our daily life, providing convenience, and better life quality the prototype has been acquired in various department, such as health maintenance. In such domain, a common problem is the complaints of user medicines consumption. The solution use IoT technologies to solve the problem. This work preferred the economical smart medicine box system vigorous architecture to hold up users and health professionals during medicines use. User can set the number of times the medicines need to be patients. The alarm will ring at proper time scheduled. It can be used in various places such as hospitals, old age homes and also for patients who are in home care with their family since it is user friendly. The product is easy to design and thus requires less maintenance.

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