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IOT Based Smart Medicine Box

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ABSTRACT

Most of the people, from young age to the old age forget to take medicines on time. The elder people also forget which medicine to take at particular time. There should be a means to always remind such people to take medicines on time. This paper presents a Smart Medicine box to users who regularly take drugs or vitamin supplements, or nurses who take care of the older or patients. Our medicine box is programmable that reminds the nurses and users which specific pill to take at particular times of day and serves at those times each day. It contains three separate boxes. Therefore, nurses or users can set information for three different pills. When the pill quantity and time have been set by making use of the keys provided, the medicine box will remind users or patients to take pills using sound and light. The specific box from which the pill needs to be taken will be displayed by an led placed on the corresponding box.

Keywords : Arduino Mega 2560, Node MCU,Sensor, Buzzer, Touch Sensor.

I. INTRODUCTION

Our final project is to build a microcontroller based smart medicine box. Our medicine box is targeted on users who regularly take drugs or vitamin supplements or nurses who take care of the older or patients The smart medicine box contains seven separate sub-boxes. Therefore, nurses or users can set information for seven different pills. When the pill quantity and serve time has been set, the medicine box will remind users or patients to take pills using sound and light. The specific number of pills needs to be taken will be displayed by a seven segment led display placed on the corresponding box. Compared with the traditional pillbox that requires users or nurses to load the box every day or every week. Our smart medicine box would significantly release nurses or users' burden on frequently preloading pills for patients or users.

Nowadays, the nurses still used the manual method to give the medicine to the patients. They will go to the patient's bed for three times per day and give the medicine to the patients. By using this method, the nurses will waste the time because they should go to the patients' ward one by one. Besides, they also cannot monitor the patients properly because they do not have enough time because they will busy to monitor the other patients. So, the patients will skip the medicine by throwing them in the dustbin.For this problem, there is no specific solution that can help the nurse to solve this problem. This project is developed to help the problem occur with introvert patients. The smart medicine box is to solve and help the nurse to handle the introvert patients specifically.

II. LITERATURE REVIEW

Ekbal Rosli1 , Yusnira Husaini1,2 (2017) "Design and Development of Smart Medicine Box" In This paper The Smart Medicine Box is successfully designed in helping the introvert patients taking their medicine without help of others. This project is to develop a robotic device that can assist patient to take medicine alone by implementing an IOT apps system for controlling the Smart Medicine Box where it will overcome an emotional disturbance experience by the introvert patients. There are four sensors such as PIR, IR, temperature and ultrasonic sensors use for the project [1].

Naga Udayini Nyapathi1, Bhargavi Pendlimarri2, Karishma Sk3 , Kavya Ch4 (May 2016) "Smart Medicine Box using ARM 7 Micro controller" In this paper Our Smart Medicine Box helps to remind us to take medicines regularly and also which medicine to take. Thus this implementation, though small and simple, will be a very great and useful step in the field of medicine [2].

Naga Swetha R1, Mahendar2, Roopsingh3, Chinna4 (2015) "SMART PILL BOX USING IOT" In this paper CONCLUSION Integrating of Hardware modules Node MCU, ,OLED display, Buzzer, push Button and Mobile application to PILL Box and every module has been placed carefully to give reasonable output, thus contributing to the best working of the unit. This system assures the safety of the people and also prevents the wrong dosages. It reduces the effort in remembering medicine and people will get the schedule of the medicine containing medicine name timing and give the information if person is emergency[3].

III. PROPOSED WORK

This is the block diagram of IOT Based Smart Medicine Box consisting of Touch sensor are used (TS1,TS1,TS1) these are three Sensors are used. Nodemcu are used in the IOT Smart Medicine Box.

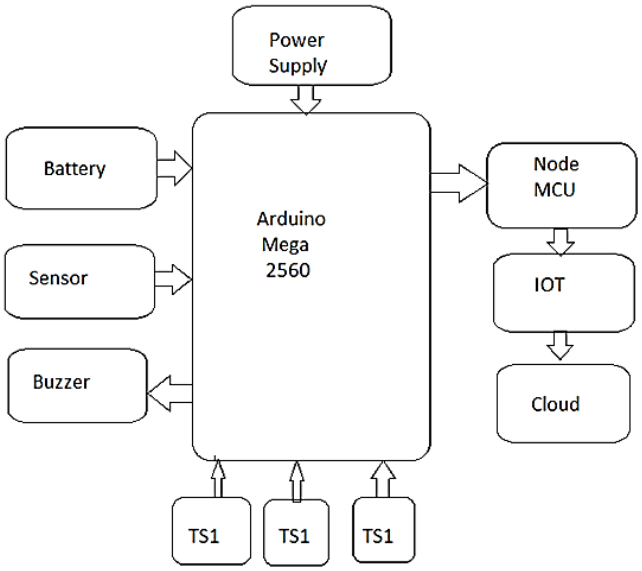

Fig 1. IOT Based Smart Medicine Box

As we switch on our device, the current time and date that is stored in the RTC is displayed on LCD. The device initially asks the user to set the alarm timings using the keys. A speaker module is connected to the ARM7 microcontroller .The playback voice should be initially recorded in it through the microphone in it. The alarm time is compared to the current time by the microcontroller and when they match, an interrupt is generated. Then the LED on the pillbox glows and a voice play back is also generated indicating which pill should be taken.

IV.RESULTS

The result of IOT Based Smart medicine box

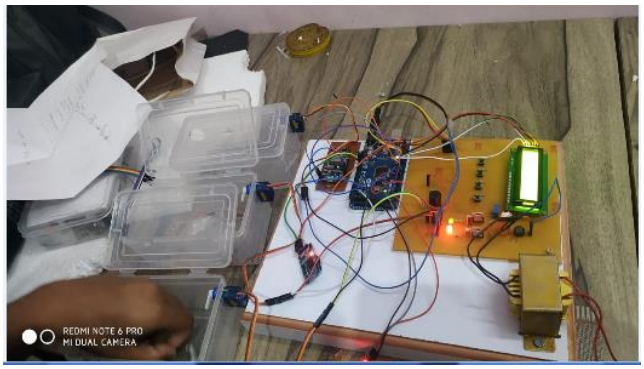

Fig 2. Hardware implementation of IOT Based Smart Medicine Box

ADVANTAGES

- Monitoring of health statistics Medicine, alarms and medication non-compliance control.
- Emergency and medical management services.
- Wireless identifiable Embedded healthcare systems.

V. FUTURE SCOPE

There are several aspects we need to work on our device in the future to meet the user needs. Firstly, we should develop strategies and modify the device based on the user's evaluation results. This includes creating a user manual, choosing a large LCD display, using the metal or plastic box cover the entire circuitry placing switch and LCD display on the surface of the box and using the pill boxes. We can also use this sort of implementation, not only in medical applications, but also in industrial and automotive applications where time management is critical.

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VI.CONCLUSION

There is a great need for timely intake of medicines which is often skipped by many people. Our Smart Medicine Box helps to remind us to take medicines regularly and also which medicine to take. Thus this implementation, though small and simple, will be a very great and useful step in the field of medicine. In conclusion, this device can help and give advantage to the nurses. The main objective for this innovation is to monitor the consumption of medicine intake for intrinsic patients. It is practical in the morning and evening but also can be used at night. This device is controlled by using Bluetooth system, so the nurse does not need go to the personal ward to give the medicine. This system is a very good to apply in the hospital because it can make the nurse job easier besides making the patients more comfortable to stay at the hospital.

The goal of our project is to provide healthy and tension free life to those users who are taking regularly pills and to provide this product at affordable cost also. Our project is also reusable by exchanging those other medicine box that has only alerting system and are nonusable or unaffordable compare to our product.

VII. REFERENCES

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