



## **SMART MEDICINE REMINDER BOX**

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### **ABSTRACT**

As the population on the earth is growing, the long-ranging planning of health and medical facilities are affected. Especially with old-aged people, health issues are more compared with other aged people. The medication given by the doctors to old age people to those health issues is not remember able. People need to take the pills with a specified dose at a recommended time and frequency especially in case of diabetes and high blood pressure. To overcome the problem a device is designed to remember about their medication time to the old people and their caretakers. The IR sensor present in the system will be continuously monitoring whether medicines has been taken properly by the patient or not. By using the GSM, the caretakers have been notified to their smart phones and watches. So, we design a pillbox which acts as a safety net for patients.

**Keywords:** *Arduino Mega 2560, IR Sensor, GSM*

### **INTRODUCTION**

Medicines are a greedy need for many people nowadays. It may be due to the hereditary diseases, or disease attained from different people or blood-borne disease. Diseases do not have constraints of age it may occur in old or young age people. The rate of disease is getting higher and the consumption of antibiotics is escalating. Comparatively, the technology is impressing with agile gadgets. So, in this project introduction of a smart pillbox which can help people in hospital or in-home who are affected with different diseases, by intimating the family members, medical shop or it may give an alarm at a particular time which has been laid into the gadget. So, the patient can get their dosage regularly in a proper manner and time.

### **LITERATURE REVIEW**

A Smart Pill Box with Reminder and Consumption Confirmation Functions Author: Huai-Kuei Wu, Member, Chi-Ming Wong, Pang-Hsing Liu, Sheng-Po Peng, Xun-Cong Wang

Population aging could be an international issue that affects several developing countries like India, Taiwan. The natural decline in physical operate with aging results in a rise in incidences of assorted chronic diseases in older individuals, most patients with chronic diseases ought to take medications over a chronic amount of your time so as to stabilize their conditions. Making certain that the patients consume the proper medication at the acceptable time becomes crucial.

ArduMed - smart medicine Reminder for old people Author: Mayuresh Waykole, Vatsalya Prakash, Himanshu Singh, Nalini N VIT University, Vellore.

Usually they forget to require their medications or take drug of it, leading to any health deterioration. Our system aims to reduce this downside by reminding patients regarding their medications and showing them the proper quantity of medication to require. It's a combination of physical and digital reminder that may be useful for individuals of any age, however is especially useful to previous people that forget taking their medications.

Medication reminder and healthcare – an android application Deepti Ameta, Kalpana Mudaliar and Palak Patel Gandhinagar Institute of Technology, Gandhinagar, Gujarat, India.

Patients need not keep in mind their medication dose timings as they'll set an alarm on their dose timings. The alarm are often set for multiple medicines and timings together with date, time and medication description. A notification are sent to them through email or message within the system ideally chosen by the patients.

**EXISTING METHOD**

Nowadays, 40-60% of patients is having the issues related to forgetting the taking of medicines at right time. The current common techniques used in market for the reminder includes the normal alarm (Buzzer) with a pill box. But this does not check or inform the guardian about whether the patient has taken the medicine or not and it does not reduce the work of the guardian also.

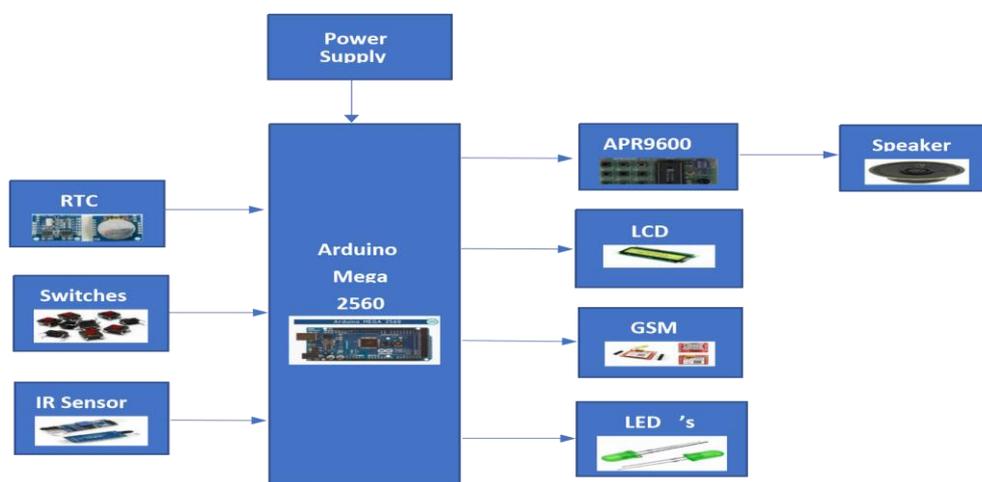
**DISADVANTAGES**

- 1. It does not check or inform the guardian about medicine intake by patient.
- 2. It does not reduces the work of guardian also.

**PROPOSED METHOD**

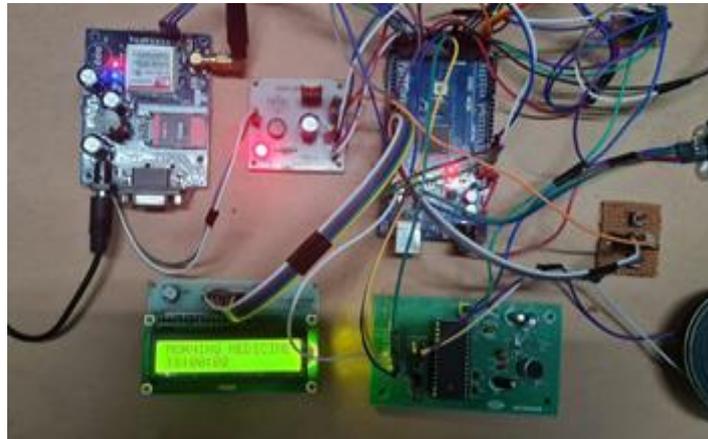
Smart medicine reminder box which solve these problems by placing an IR Sensor to check and inform the guardian through the SMS about the status of medicine intake by the patient. At the time of taking medicine, system generate voice output through speaker and display the message in LCD display and the respective slot LED's will be on to recheck of taking the medicine by patient.

**BLOCK DIAGRAM**



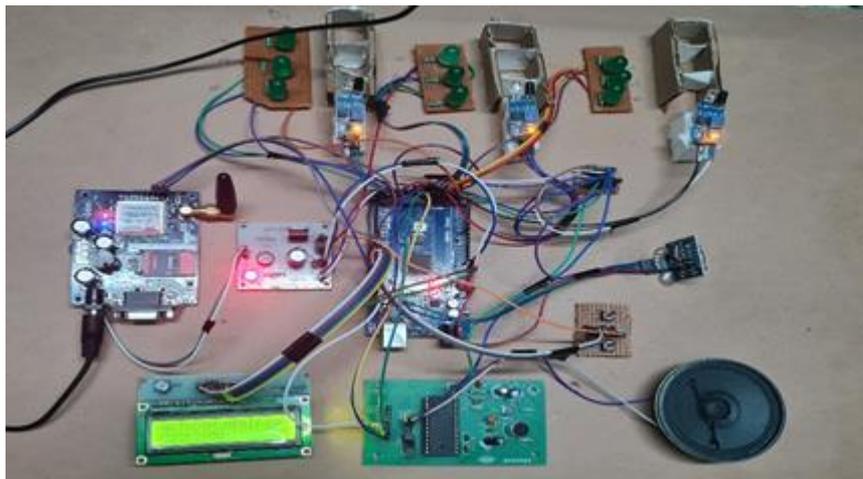
**Fig 1:** Block Diagram

### **SIMULATION RESULT**



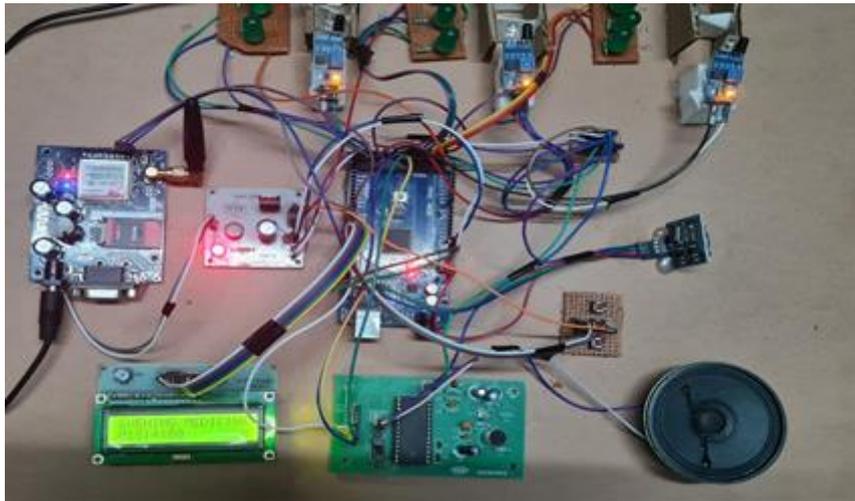
**Fig 2:** Output of Morning Medicine intake

In LCD, We can see the message as Morning Medicine and slot time also and can hear the voice from speaker and gets the SMS as shown in below fig 5 about morning medicine intake status.



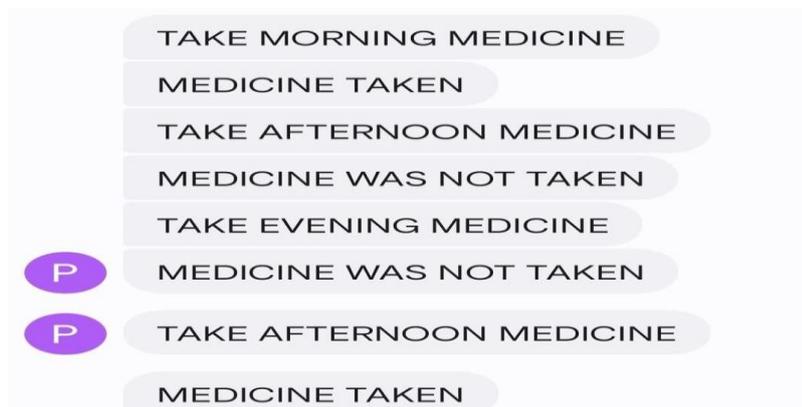
**Fig 3:** Output of Afternoon Medicine intake

In LCD, We can see the message as Afternoon Medicine and slot time also and can hear the voice from speaker and gets the SMS as shown in below fig 5 about afternoon medicine intake status.



**Fig 4:** Output of Evening Medicine intake

In LCD, We can see the message as Evening Medicine and slot time also and can hear the voice from speaker and gets the SMS as shown in below fig 5 about evening medicine intake status



**Fig 5:** SMS in mobile phone about medicine intake status

### ADVANTAGES

1. Easy to use as it uses LCD Interface
2. Sound reminder enables user to take medicines regular times
3. Easy to maintain
4. Needs no prior technical knowledge

### APPLICATIONS

1. Hospitals
2. Care Centres
3. Homes



## CONCLUSION

The solution of this complication is supplemented by the development of an advanced technology supported pill box called the Smart pill box. This technology is derived by combining the two vintage experiments from our technical education. These simple efficient techniques are supported by advancements like GSM technology to bridge the gap in communication between the supplier or the guardian and the customer or patient, thus aiding the patient.

## FUTURE SCOPE

In the future, we hope that the application can be linked to med karts, if the tablets are empty it directly sends a prescription message to the med kart in which they can help us delivering the prescribed tablets to our door step. Scanning of prescription to load the app can be done using image processing technology.

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