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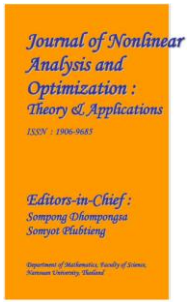


# MEDICINE DISPENSER

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## ABSTRACT
Medicines are used for a wide variety of reason, it may be due to headache, fever, stomach ache, cold and many more. Medicine dispensers serve several crucial purposes in healthcare and medication management. A medicine dispenser is a secure container that is designed for medicine distribution. This project aims to design and develop a medicine dispenser system with 4*3 matrix Keypad for easy and precise medication dispensing. The medicine dispenses uses Arduino MEGA and Arduino UNO as the main system controller to attach all the modules to perform their respective function. They come in a variety of models, most are split into compartments. Each compartment has the quantity of medications in it. Beyond convenience, safety is a paramount concern in medication management. With built-in features like RFID system, the medicine dispenser works for the authorized individuals only. Medicine dispensers promotes health literacy and empowers individuals to become more actively engaged in their own healthcare management.
**Key words:** Arduino UNO, Arduino MEGA, Relays, Medicine, RFID, Pill Dispenser, 4*3 Keypad interface, Motors

## INTRODUCTION
The Medicine Dispenser project aims to develop a user-friendly system that assists individuals in managing the medication intake effectively. It also aims to develop a keypad interface that enhances medication adherence, promotes better health outcomes, and improves the overall user experience for individuals managing complex medication regimens. Medicine dispensers help prevent medication waste. This is particularly important for expensive or controlled medications and contributes to cost savings in healthcare. The dispenser will utilize a microcontroller-based system to control the dispensing mechanism and interface with user input via 4*3keypadinterface. The project will focus on the hardware design of the dispenser mechanism, as well as the software implementation for control and user interaction. The goal is to create a reliable and efficient solution for the availability of medicine. The medicine dispenses uses Arduino MEGA and Arduino UNO as the main system controller to attach all the modules to perform their respective function. A medicine dispenser with 4*3 keypad interfaceprovides a user-friendly, reliable, and

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efficient solution for medication management.

## LITERATURESURVEY

There are a large variety of medication administration assistance devices for elderly peopleusers.These are designed not only to make the elderly as independent as possible, but also to give a caregiver the opportunity to remotely control the elderly's compliance with drug therapy.It includes buzzer system which reminds the patients to access their medicine on time.The paper presents a IoMT based platform for the overall monitoring and ambient assisted living by deploying a multilayer architecture. [1].A smart pill dispenser to support elderly people in medication adherence(2020, September). [2].IoMT Based Pill Dispensing System(2019). [3].Design and Implementation of Automatic Medicine Dispensing machine(May 2017). [4].The autonomous pill dispenser: Mechanizing the delivery of tablet medication(2016).

## EXISTINGSYSTEM

Automatic Medicine dispensers automate dosage release at predetermined times, integrating features like programmable timers and reminder alarms to enhance user adherence. The dispenser features programmable alarm settings that trigger at specified times to remind users to take their medication. Upon activation, the dispenser releases the appropriate dosage into a designated compartment, ensuring easy access. It helps ensure that medications are taken in the correct dosage and at the right time, thereby promoting medication adherence and improving health outcomes. However, this is not feasible to use in schools/colleges. This is due to the reason that it is difficult to remind each and every student with an alarm individually.

## PROPOSEDSYSTEM

On the basis of the existing system, a drop method is considered to be the most appropriate dispensing mechanism for the product.Thepill containers, each holding a different kind of pill, are arranged in a circular tray as part of the mechanism. A drop slot allows the selected pills to be dropped into the dispensing cup. Taking a pill out of the container is done using this technique. A motor turns the pill tray in a circular motion. When a user scans their RFID card into the system, an RFID reader is used by the system to scan the card. After the authentication process, the relay turns ON and then the system gets ON. The users should choose the prescribed medicine from the 3*4 keypad matrix .On clicking the number on the matrix for the required medicine, the motor rotates and the pill drops.

***User Authentication***:During this process the user authentication will be finished by scanning the RFID tag with the RFID reader of the system

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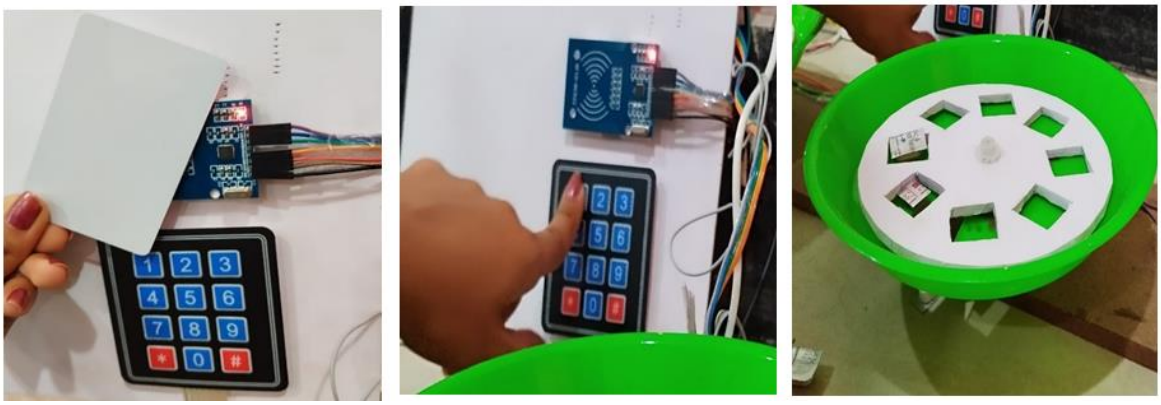
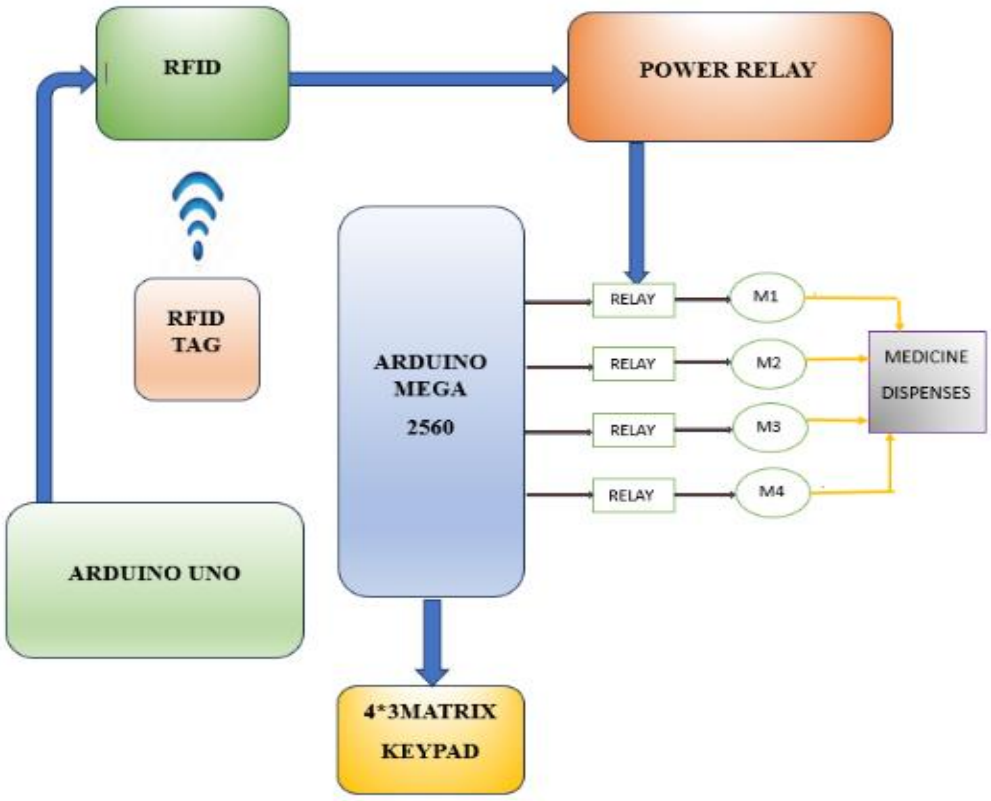


a)Scanning RFID b) Selection of medicine through keypad interface c) Medicine dispenses

***Medicine Dispensing:*** After the authentication process, user will get the access to take the required medicine. On pressing the button through the keypad interface the medicine dispenses

## 6.BLOCK DIAGRAM




## RESULT

Medicine dispenser project is designed to provide users with a simple and efficient way to access their medications by pressing a keypad matrix. The proposal medicine dispensing machine

designed and implemented to improve the health care in the schools and colleges by serving the patients for their basic ailments like fever, headache, Stomach ache and so on. The design of this system using Arduino UNO and Arduino Mega accomplished fruitful results in the improvement of the healthcare by dispensing the required medicine for the patients upon their request through keypad interface. This can help individuals manage their health conditions more effectively, leading to better health outcomes.

**Fig d: Implementation Of Medicine Dispenser**

## CONCLUSION

Medicine dispenser project designed to provide users with a simple and efficient way to access themedications by pressing the keypad. This project aims to streamline medication management without the need for complex interfaces or alarms, ensuring ease of use for individuals with varying levels of technological familiarity. Medicine dispenser uses Arduino MEGA, and Arduino UNO,which connects with various system components to create complete circuit. The implemented design of the Medicine dispenser has the integration of the motors, relays ,keypad ,and RFID reader. The Medicine Dispenser is designed and it is found that it is able to successfully dispense pills. The medical dispenser is technically feasible . The system also provides the required user authentication for the user by using RFID card and the RFID reader.

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