# Automated Drug Dispenser System

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***Abstract:*** **- An automatic system in equipment can be recognized as a systematic control system to minimize human tasks or automatically complete repetitive tasks without human involvement. This paper focused on the dispensing System in the medical field particularly the design development of the automated dispensing System which can be considered as one of the important technologies in pharmacy. This system is similar to the ATM Systems in Banks, but it dispenses drugs instead of money. Moreover, this system will enhance pharmacy operations and increase productivity. Also, it could reduce working hours in pharmacies. To design a system that will provide drugs and medicines for patients automatically 24 hours a day, 7 days a week. This will make the access to drugs easier for all people in all the time. The ADDS was designed to be friendly to use. The user is just needed to scan QR Code in scanner and to wait a little, while his medication is ready to take. The existence of the ADDS is very important to improve the healthcare section in all societies. So that all people could get their medications easily at any time and wherever they live.**

***Index Terms*— ADDS, ATM, QR Code.**

## I. INTRODUCTION

Healthcare is one of the top priorities of societies around the world. Governments strive to develop this area using all new methods and technologies. One of the most important aspects of the healthcare is to get medications and drugs after diagnosis and prescriptions. This is the reason for the presence, expansion and development of the pharmacies worldwide. However, many people still have many difficulties in obtaining their medications and drugs. Especially for those who live in rural places where the number of pharmacies is limited. And also, many people can't find open pharmacy at late night times. Because of this, there was a need to create the Automated Drugs Dispenser System (ADDS) which allows patients to get their urgent care and emergency prescriptions filled after clinic hours and in all places. This system is similar to the ATM Systems in Banks, but it dispenses drugs instead of money. Moreover, this System will enhance pharmacy operations and increase productivity. Also, it could reduce working hours in pharmacies.

There are some Systems similar to the ADDS idea, but the ADDS was designed to differ from other systems in many properties. For example, it works in a new different mechanism. And also, the ADDS is compatible with all types, shapes and sizes of drugs. However, the building cost of the ADDS is much less than the other similar machines. The design of the ADDS is consist of the frame layout, Mechanical parts, electrical parts and an user interface combined to each other in order to achieve the main objectives of the system. In addition, the ADDS is very accurate in choosing the required medicine using the QR Code to verify the medicine code and if it matches the required medicine or not. The ADDS was designed to be friendly to use. The user is just needed to scan the QR code and wait a little while his medication is ready to take. The existence of the ADDS is very important to improve the healthcare section in all societies. So that all people could get their medications easily at any time and wherever they live.

## II. NEED OF PROJECT

There are many problems with the present prescription drug providing system in pharmacies. Because of this, there was a need to this System to solve some of these problems.

- About 66% of the study sample people do not find opened and nearby pharmacy at late night. The ADD System will solve this problem by providing drugs for patient 24 hour a day and 7 days a week.
- It allows patients to get their urgent care and emergency prescriptions filled after clinic hours, when local pharmacies are closed. They can have those prescriptions filled at the medical center or the close street.

- Moreover, about 20% of the study sample has difficulties in obtaining the medicine after doctor prescription. ADD System will make it easy for all people to access their medications in rural places.
- In the other hand, about 87% of the pharmacists study sample need in many times to leave the pharmacy but they can't. And about 63% works alone in the same shift.

## III. LITERATURE SURVEY

A]. Design and implementation of automatic medicine dispensing machine. M. Penna, D. V. Gowda, J. J. Jijesh and Shivashankar, It is a microcontroller and motor based system to dispense the medicines when accessed by the user through an input event, the data pertaining to the medicine storage can be ascertained from the remote area and based on that information refilling the machine can be easily done. Basic human parameters like Blood pressure (BP), Temperature can also be tested through this machine and the specified medicine will be dispensed based on the patient condition.

[B]. Real Time use of Automatic Voice Command Drug Dispenser (VCMD) V. Akshaya Reddy, P. Chinni and S. Singh, "Real Time use of Automatic Voice Command Drug Dispenser (VCMD). Which is an automatic voice command medicine dispenser that is being suggested is technical and pharmaceutical equipment that is intended to dispense medications when voice commands are supplied and the medications are collected by patients.

[C]. Design and Implementation of a Low-Cost Automated Medicine Dispenser M. M. Rahman, R. Aktar and S. K. Dey. This system provides a voice alarm. Three different colors LEDs, which mention three times period and notified by E-mail in every 15 minutes until patient take medication. The Patient can also check pulse rate and oxygen level using this device. Biometric security is installed so that only authorized persons can access.

[D]. An Internet of Things (IOT) – based Smart Automatic Medication Dispenser with an Integrated Web Application for Patient Diagnosis R. T. Meghla, M. E. Deowan, A. K. Nuhel, M. M. Sazid, M. N. Ekbal and M. H. Mahamud, This system is designed in such a way that it provides an application which has been created to provide basic prescriptions for common illnesses and notifications for various patient activities.

## IV. BLOCK DIAGRAM

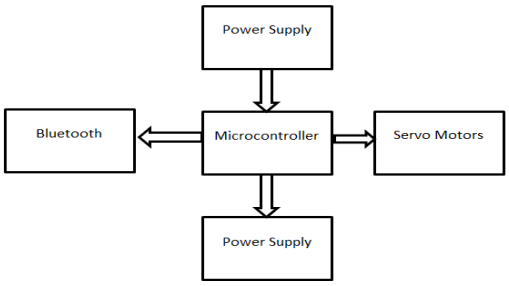


Fig. (a) Block Diagram Of ADDS

## V. WORKING

Initially the information of the patient is pre- loaded in the QR code and the Mobile App is used to read the information in the QR code tag. These data are being processed and the respective medicine tray gets opened. In Other words, This System will save the time of patient as well as efficiently to operate. The Dispenser consists of 2 blocks of medicines. With a Mobile to scan the QR code and to display the details of patients. And internal circuitry to perform automatic dispensing of medicine. We have designed this System in such a way that when a doctor prescribes a medicine to patient with prescription. The prescription will consist of QR code which shows the patient details as well as prescribed medicine. So Patient will scan this QR code to this system in order to get the medicine. The Mobile App will scan the QR code, and the details will be displayed on Mobile App. And then the ADDS will dispense the drugs with the help of dispenser. This system provides the authentication or security.

## VI. RESULT

Below images shows the Hardware of ADDS:

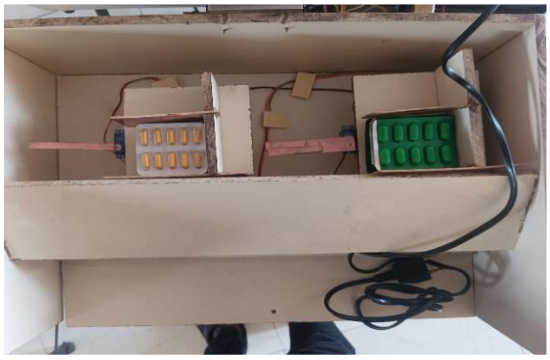

Fig. (b)(1)

Fig.(b)(2)

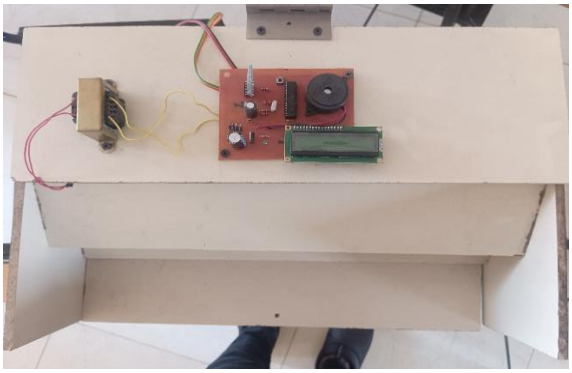

Fig. (b)(3)

Below Image shows the Software App:


Fig. (c)

## VII. CONCLUSION

A method was needed to ensure that the patients would take medicines as prescribed by the doctor, so that the working class can be relieved of the patient's medicating schedules. Also it was necessary to ensure that correct medicine was given. ADD system will make it easy for all people to access their medications in rural places. The existence of the ADDS is very important to improve the healthcare section in all societies. So that all people could get their medications easily at any time and wherever they live. These features have to be incorporated in a system at a very cheap price so that it is affordable by every common man. By the implementation of this project there is a strong potential of cost saving and an increase in efficiency of pharmacist. Using ADD system can enhance pharmacy operations. For examples, dropping of one full-time technician, reallocation of pharmacists' time and an increase in productivity and operational flexibility considering this project, by the government and other organization, there can be drastic improvements in the proper medications of the people in a society. Hence the overall health of the society can be improved.

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## ANNEXURE

- https://scholar.ppu.edu/bitstream/handle/123456789/6161/Automated%20Drugs%20Dispenser%20Machine.pdf?sequence=2&isAllowed=y

- https://www.researchgate.net/publication/268588469_Design_of_Automatic_Medicat ion Dispenser
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