# MEDICINES ANY TIME

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**Abstract -** *Medicines are used to cure, halt, or prevent disease; ease symptoms; or help in the diagnosis of illnesses. Medicine Any Time (MAT) is a machine which provides the medication in crisis cases and guarantee accessibility of medications 24x7. MAT will be extremely valuable in sparing life. It can be used on parkways, remote ranges, provincial territories and spots where therapeutic stores are not near the event of crisis. In any emergency first help can be made effectively with this framework. Sub frameworks like Global System for Mobile correspondence (GSM), RFID Reader, pharmaceutical allocator, and stock control are controlled by ARM processor. RFID tag identifies the specific client and GSM sends the message to the stock control when the medicines should be refilled. Pharmaceutical allocator of the machine stores the prescription and medicines are provided to patients on regular basis.*

***Key Words***: **Global Positioning System and Global System for Mobile (GSM); Radio Frequency Identification (RFID) tags**

## 1. INTRODUCTION

Degrees of social status are closely linked to health inequalities. Those with poor health tend to fall into poverty and the poor tend to have poor health. According to the World Health Organization, within countries those of lower socioeconomic strata have the worst health outcomes[6]. Health also appears to have a strong social component linking it to education and access to information. Intelligent pillbox is an automatic medicine vending machine[1].

The project is basically wireless data transfer tool which uses national care card to store the data. In the application we are using RFID tag for person identification instead of cash payment. RFID tagging is an ID system that uses small radio frequency identification devices for identification and tracking purposes[3]. An RFID tagging system includes the tag itself, a read/write device, and a host system application for data collection, processing, and transmission[7]. RFID belongs to a group of technologies referred to as Automatic Identification and Data Capture (AIDC). AIDC methods automatically identify objects, collect data about them, and enter those data directly into computer systems with little or no human intervention[5].
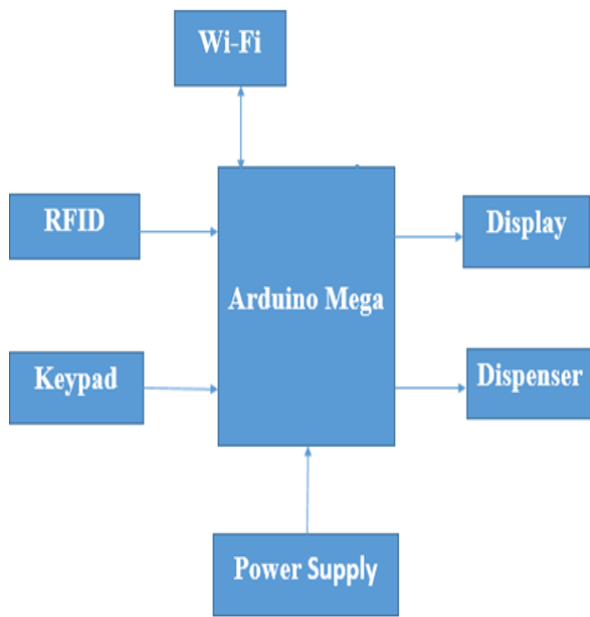
RFID methods utilize radio waves to accomplish this. At a simple level, RFID systems consist of three components: an RFID tag or smart label, an RFID reader, and an antenna[4]. RFID tags contain an integrated circuit and an antenna, which is used to transmit data to the RFID reader (also called an interrogator). The reader then converts the radio waves to a more usable form of data[9]. Information collected from the tags is then transferred through a communications interface to a host computer system, where the data can be stored in a database and analyzed at a later time[2]. The users will first insert the national health care card into the system. Then the system will read the card data and display the prescription and will ask for user's input[8]. Then the users have to specify the medicine's name and the number of tablets. Once the input has been taken, the system will check if the required medicine is available or not. If it does, system will check the users balance and will dispense the medicine and if the user does not have required amount it will display a message stating insufficient balance and ask the user to recharge the card[10].

## 2. METHODOLOGY

User Authentication: User authentication is a process that allows a device to verify the identity of someone who connects to a network resource. The user has to insert their card and enter password. If the password is correct the system will accept the transaction or else, it will display the appropriate error message. Medicine Dispensing: Once the authentication process has been carried out, user will select the medicine and pillbox will dispense it.
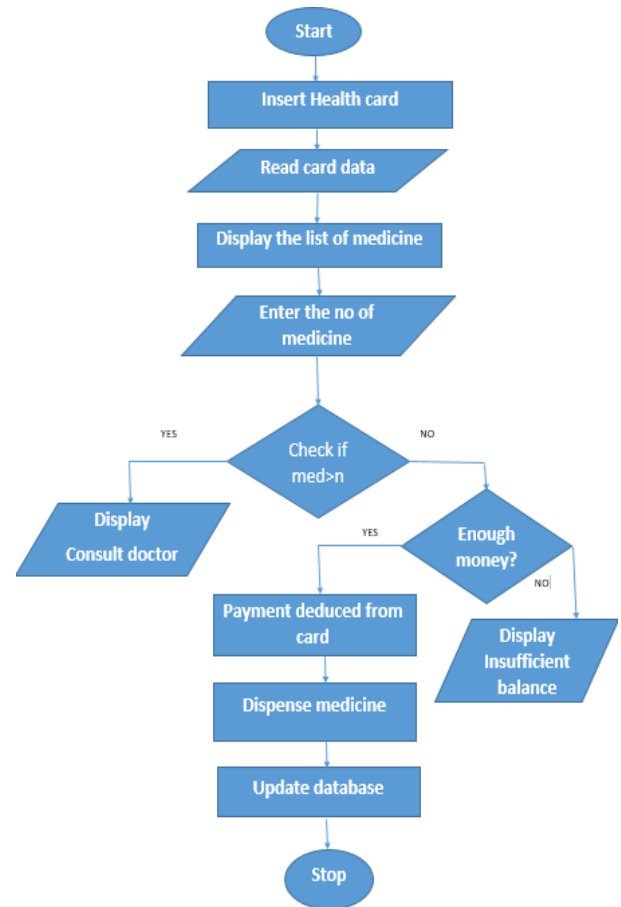
Database Updating: Once the medicine has been dispensed the balance and database will be updated. User's database will be updated with current balance and number of pills dispensed. Stock database will be updated with current stock value.

Inventory Control: Controlling the inventory of drugs is critical to functioning of machine. If the medicine gets over, the system will send notification to refill it.
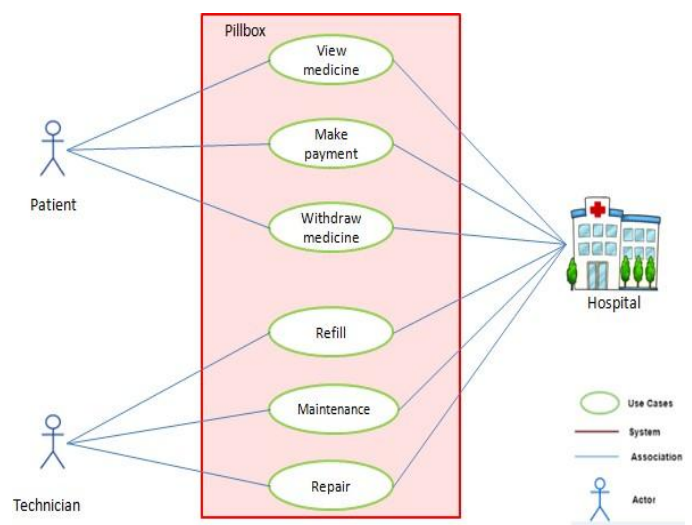
**Fig -2.1**: Medicines Any time Block Diagram

- At first the national health card needs to be scanned.

- Then it will ask the user to enter the password.

- If the user is authorised then the system will display the prescription of that user i.e. the list of medicines.

- User can enter the number of medicines required.

- If the medicine is greater than mentioned in the prescription then the system will ask the user to consult the doctor.

- If not, it will check for the available balance for the required number of medicines.

- If balance is available then the payment will be deduced from the card.

- It will dispense the medicine

- If the balance is not their then it will display insufficient balance.
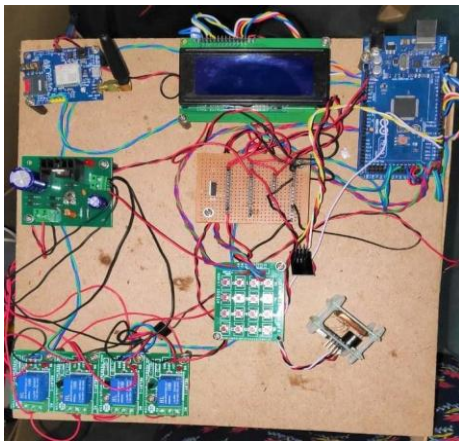
- Database will be updated.



**Fig -2.2**: Flow Chart

Use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases which the user is involved.



**Fig -2.3**: Use Case Diagram

## 3. EXPERIMENT AND RESULTS



**Fig.3.1:** Assembly of Hardware Components



**Fig.3.2:** Assembly of Motor



**Fig.3.3:** LCD Displaying Welcome Messges

## 4. CONCLUSIONS

The pillbox offers a flexible and simple solution for extending basic healthcare to all places, at a very moderate cost. The machine will dispense prescribed medicine. The machine adds an intelligent medicine unit, which sends a refill notification message to the nearest pharmacy when the number of medicine strips decrease below a certain level. The intelligent pillbox is technically feasible to all the peoples. It will be very helpful and it gives ease of access. It is sales person-less service which will be based on RFID. It

is important to consider how the technology may affect quality of medication delivery and use.

**Some enhancement in the system could be made in future like**

- Implementation of system using NFC card: Currently we are implementing the system RFID card and we could use NFC card instead.

- Delivery of OTC medicine and first aid along with prescribed medication.

- In current system only prescribed medicines are dispensed but in future user can dispense medicine which does not require prescription like medicines that relieve aches, pains, and itches and first aid.

- The pillbox will accept coin payment. Currently, the payment is being carried out using smart card and those who don't have it can't purchase medicine from the pillbox. But in future cash accepting module will be implemented which will use to concept of image processing from the reorganization of the coin.

## 5. REFERENCES

[1]ShrikantBhange. (2015). 'Automatic Medicine Vending Machine'.

[2] KahtanAziz. (2016). IEEE: 'Real-Time Healthcare Monitoring and Tracking System using GSM/GPS Technologies'.

[3]MahaveerPenna. (2017). IEEE: 'Design and Implementation of Automatic Medicine Dispensing machine'.

[4]Montaser N. Ramadan, Mohammad A. AI-Khedher and Sharaf A. Al-Kheder (2012). International Journal of Machine Learning and Computing: 'Intelligent Anti-Theft and Tracking system for Automobiles'.

[5]ChristophJechlitschek survey paper on 'Radio Frequency Identification (RFID)'Trends, (christoph.jechlitschek@gmx.de)

[6] Robert L Boylestad and Louis Nashelsky. (2006). Pearson Education: 'An Electronic Devices and Circuit Theory'.

[7] Shubham Banka**. (**2018). 'Smart Health care monitoring using IoT'.

[8] NXP Semiconductors LPC2148 Single-chip 16-bit/32-bit microcontrollers data sheet.

[9]Pruthvesh Desai. (2019). 'All Time Medicine and Health Device'.

[10] Bhagya Shree S R, Chandra Shekar P. (2015). IEEE: 'Automated Medication Dispensing System'.

[11] Vishl Tank, Sushmita Warrier. (2017). IEEE: 'Medicine Dispensing Machine Using Raspberry Pi and Arduino Controller'.