A Project report submitted in partial fulfilment of the requirement for the degree of

Bachelor of
Technology in
Computer Science Engineering on

# IMPROVING HEALTHCARE USING SMART PILL BOX FOR MEDICINE REMINDER


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# Certificate

This is to certify that the work contained in the project report titled IMPROVING HEALTHCARE USING SMART PILL BOX FOR MEDICINE REMINDER by Bhargav H S (18BCS018), Palshini B(18BCS062), Raghu Prasad J N(18BCS073), Vivek S(18BCS111) was completed during the VII semester - IV Year as a Minor Project II under the guidance and Dr. Uma S.

Signature of Supervisor

**Dr.UMA S,**
HOD
CSE

## Declaration

We declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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# Approval Sheet

This project report entitled IMPROVING HEALTHCARE USING SMART PILL BOX FOR MEDICINE REMINDER by Bhargav H S (18BCS018), Palshini B(18BCS062), Raghu Prasad J N(18BCS073), Vivek S(18BCS111) of Indian Institute of Information Technology, Dharwad is approved for the degree of Bachelor of Technology in Computer Science and Engineering.

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## Table of Contents

## List of Figures

# Chapter 1: Introduction

There are a lot of individuals who constantly have to take medicine, they may be our elders or family members. So, we need to take care of patients.
Sometimes our elders will forget to take the medicine at right time. This will lead to illness or dysfunction.

So, this is our duty to provide the correct dose of medicine at the correct time. we have to look after them and need to observe them which they have missed.

We have to make use of a smart pillbox that is easily integrated and has smart technologies.

## Chapter 2: Abstract

There are many errors in the medical field like due to the in-charge of patients or Elder with the shortage or a huge amount of medicine.

Our pillbox is designed to solve such issues which they are facing. This pillbox will help caretakers or patients to take or Provide medicine at right time, with the correct amount of dose.

This Pillbox will help the Patients or Caretakers to take the pills with help of Sound.

## Chapter 3: Literature Review

As the era is altering most of the work is done using automated techniques. Automatic pillboxes are developed for old age people so that they can consume the medicines on time. Pillbox has an alarm technique that reminds people to take medicines in time. However, medicines do sometimes cause severe damage if taken mistakenly. Both Doctors and patients can make mistakes by prescribing, preparing, dispensing, or taking the wrong medicine or the incorrect amount at the incorrect time, It could result in extreme harm, disability, and even causes death.

According to World Health Organization, medicine errors cause at least one death every day and injure approximately around 80% of the people above the age of 60 years are specified medicines that are to be dispensed 2 - 4 times a day. With the growth in Cardiovascular illnesses and Diabetes among the old age group people, regular medicine administration has become essential. But among this another 40-60% is having issues related to failing to take the pills at right time.

But all medicine errors are potentially avoidable. Preventing mistakes and the damage that results from needs putting systems and processes in place to assure the correct patient consumes the right medicine at the right dose via right way at right time. Medicine errors can be caused by hospital staff fatigue, overcrowding, poor training of staff, absence of a caretaker, and the wrong details given to the patients, among many more other reasons. The current common methods used in the market for the reminder contains the usual alarm with a pillbox. It Works with a clock which will warn or remains the people to take the medicine at the right time.

In the future, we expect that the application can be connected to medical karts if the pills are gotten over. It instantly sends a prescription message to the medical kart in which they will help to deliver the prescribed tablets to the doorstep.

## Chapter 4: Problem Statement

Pills play a major role in our daily life, many incidents have taken place in past years. Due to neglect or confusion, incorrect medicines are provided or taken by the patients. Which leads to several problems or the Death of the patients.

Navodays several problems regarding a large number of pills are given to patients by hospitals. The caretaker must provide correct medicine to the patients. Sorting, managing pills sometimes have a chance of error while giving to the patients.

Ultimately, there are conditions where taking an incorrect amount of pills is a matter of the patient's inexperience and/or ignorance. No matter what will be the reason, it has been proven that there is a high risk of people ending up swallowing or providing the incorrect medicine or dose.

# Chapter 5: Working Model

## 5.1 Block Diagram

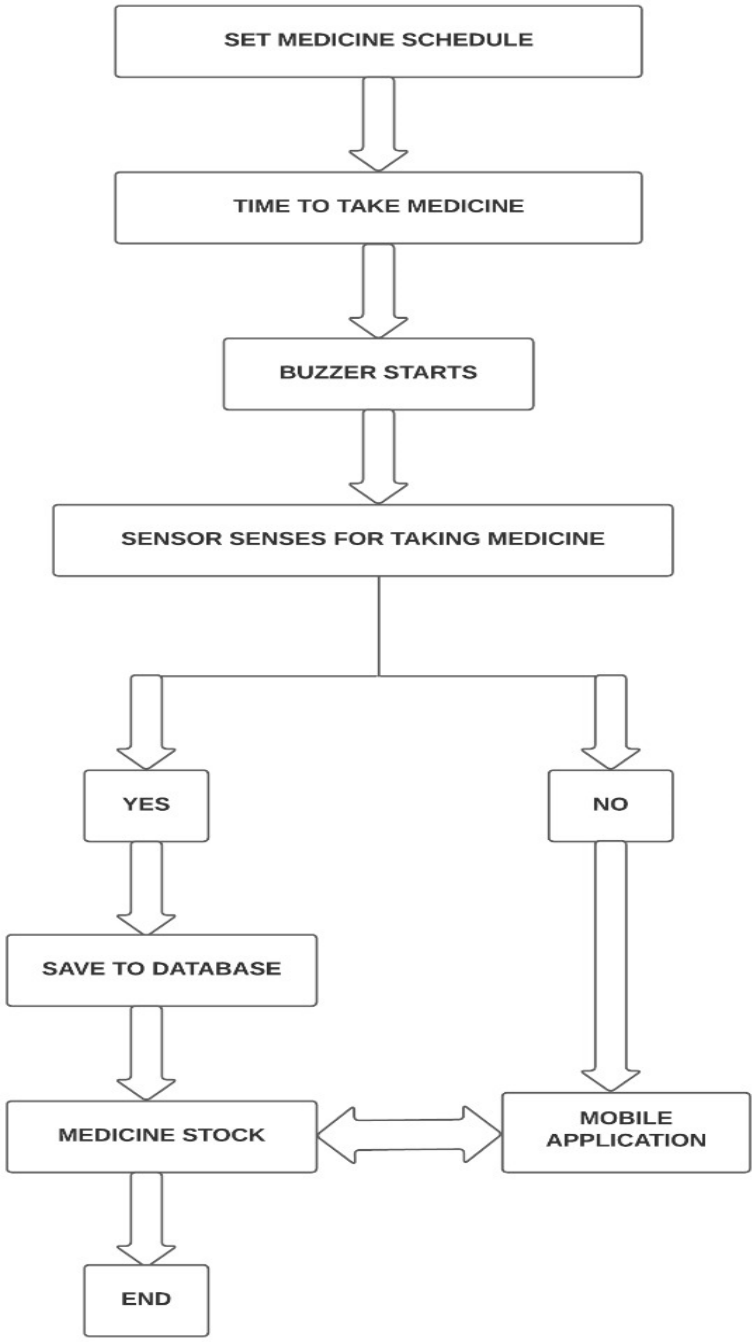


**Figure 5.1**

## 5.2 Requirements

**Software:** Android Studio, Java, Eclipse

**Hardware:** Arduino Uno, Sensors, Bluetooth HC-05, Buzzers, LED, Pill box.

## 5.3 Working

**Step 1**: In this Application first we need to enter the name of the medicine along with the number of doses and type of medicine. Then set the timer for alarm.

**Step 2**: After setting the alarms for medicines, the application shows a list of the medicines to be taken along with their respective types, timings and amount to be taken.

**Step 3**: The date on which the medicine has to be taken is marked on the calendar application on the mobile.

**Step 4**: The application shows the record of medicines taken and medicines ignored. Initially, since we haven't fed any data to the application.

**Step 5**: At The Particular time the alarm will blown and the data will get recorded in medicinal record.

# Chapter 6: Application Output

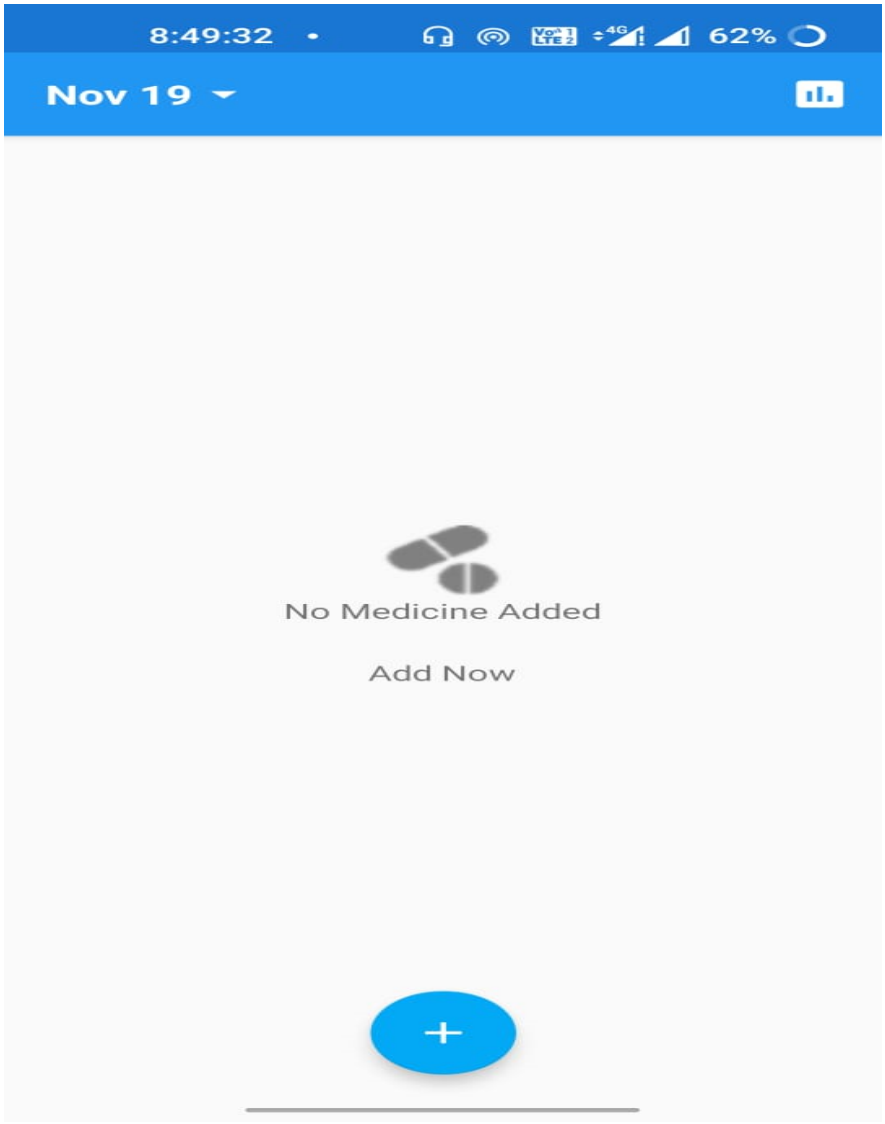


Figure 6.1: Front Screen

**Step 1:**

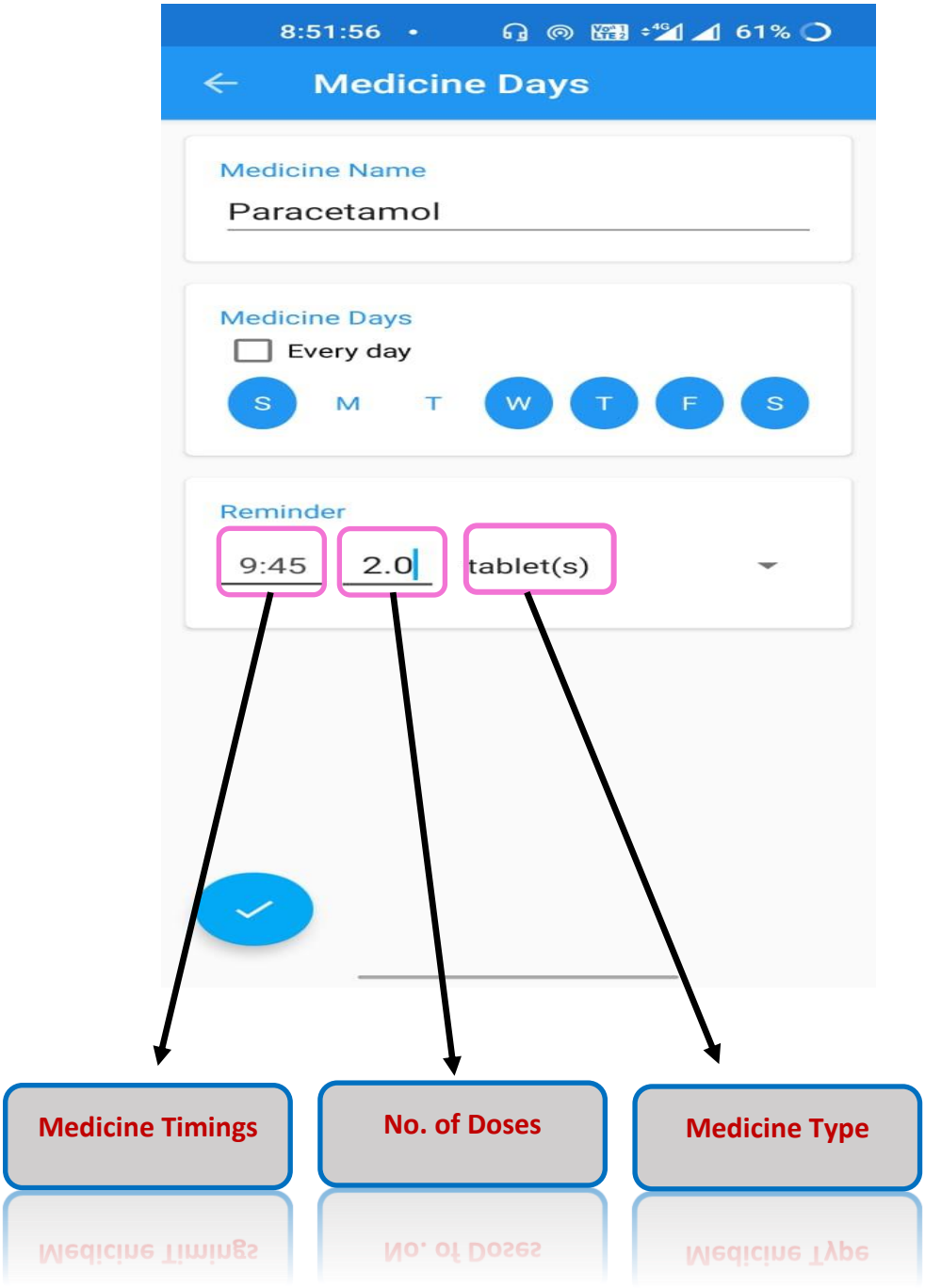


Figure 6.2: Adding Medicines

**Step 2:**

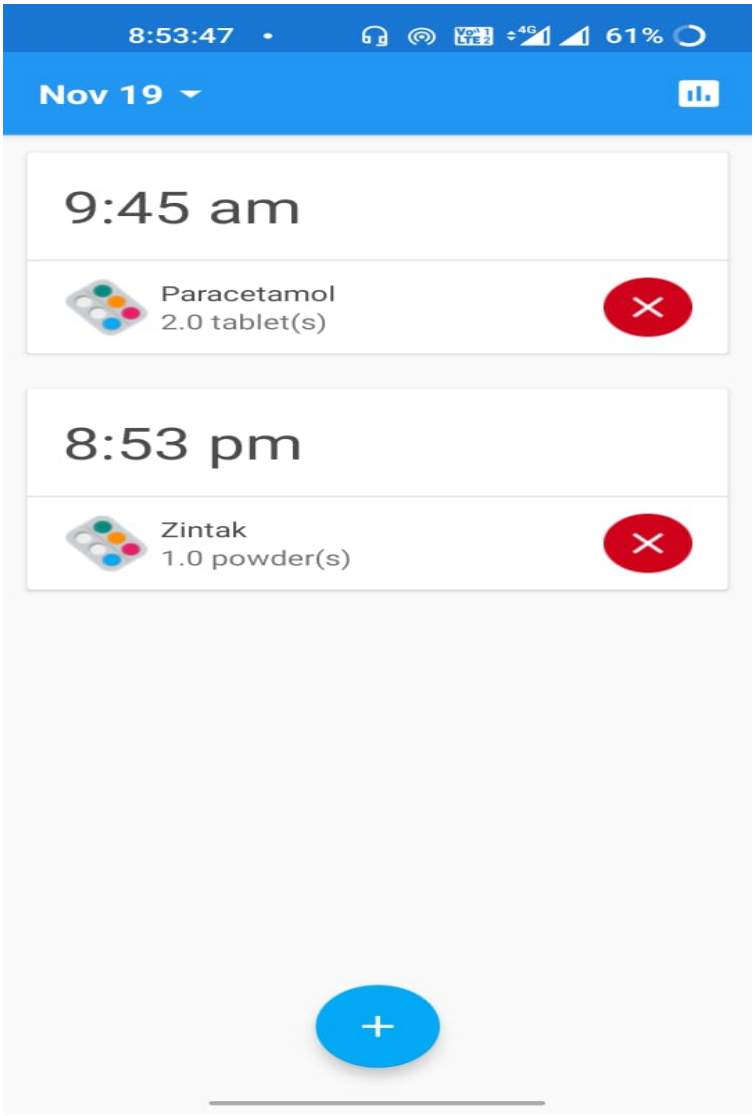


Figure 6.3: List of Medicines

**Step 3:**

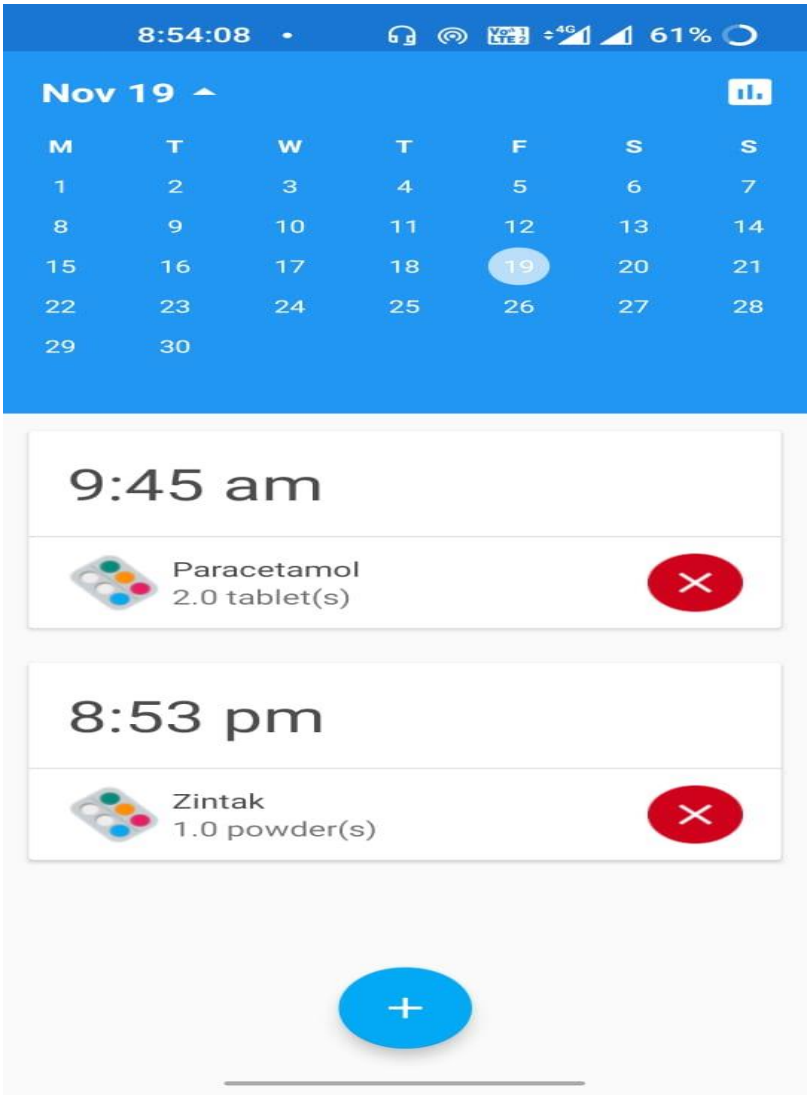


Figure 6.4: Scheduling Medicines

**Step 4:**

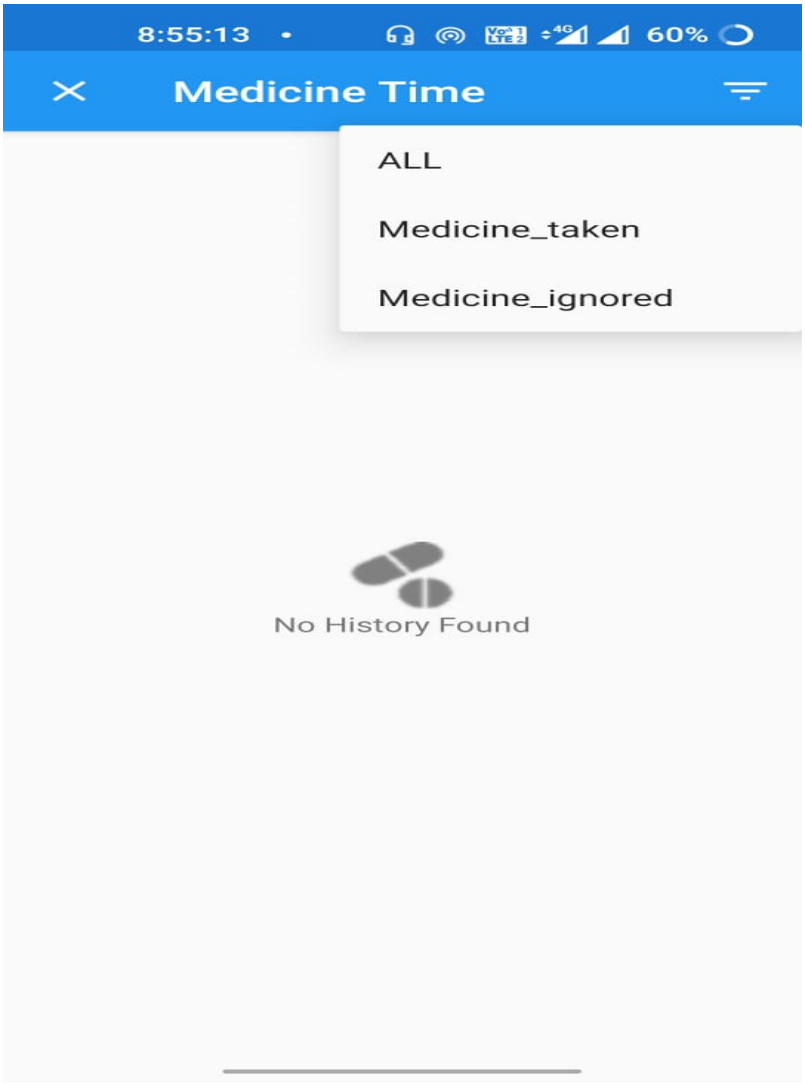


Figure 6.5: Medical Record

**Step 5:**

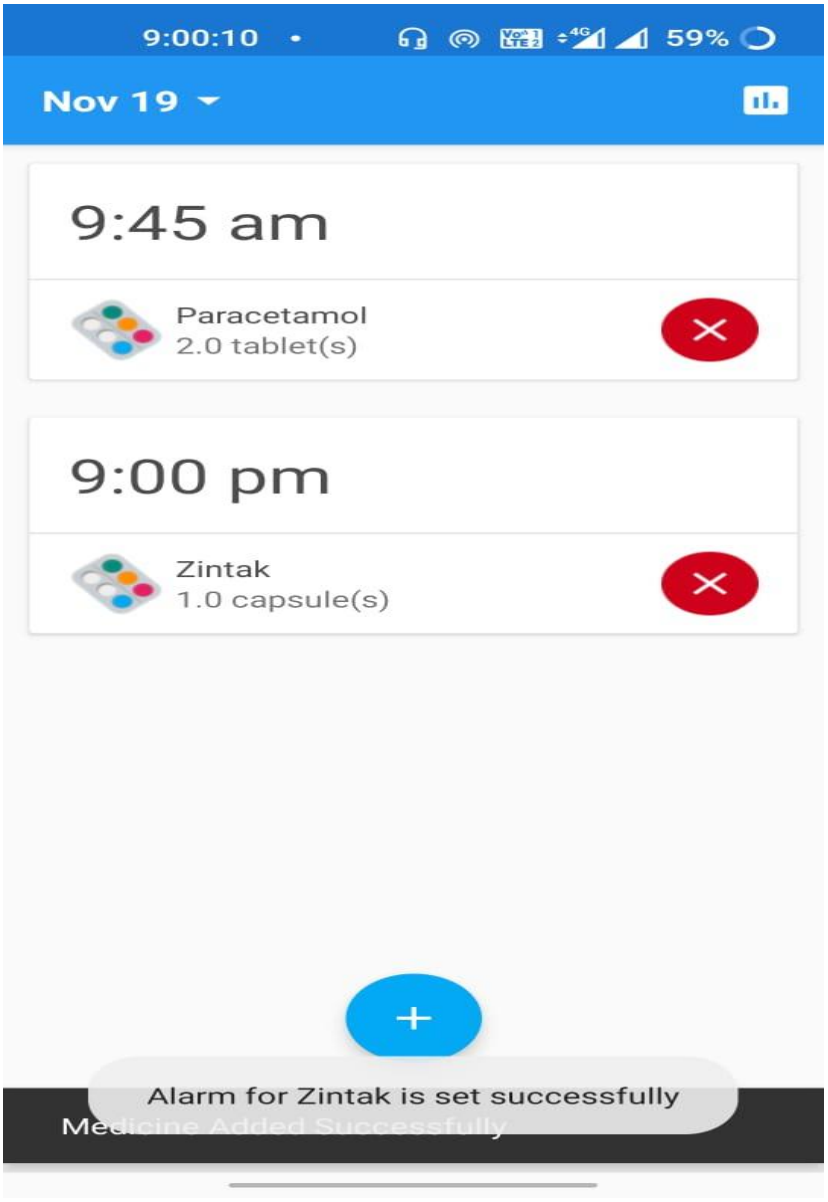


Figure 6.6: Setting Alarm

# Chapter 7: Advantages

This application will be very helpful for old people who find it very stressful to remember the timings of each and every medicine. At old age the human body becomes very delicate and thus even a slight wrong dosage of a medicine might even be fatal. This application removes the risk of wrong dosage.

Alzheimer is a disease which affects mostly old people due to which they are unable to memorize things and tend to forget things easily. For people suffering from this disease, it is almost impossible to remember the dosage and timing of each and every medicine to be taken.

In big hospitals, due to massive number of patients, the nurses might find it very difficult to manage the medicinal requirements of each and every patient without any error. To prevent any causalities, they can use this application to give the correct dosage of the correct medicine at the correct time. This will make their work much easier.

# Chapter 8: Future Scope

Along with the development of the world, there is also an increase in the variety of diseases that may occur. We often keep hearing about some new virus or bacteria or fungus being discovered that causes some disease. Scientists all over the world keep working every day to find new medicines to treat patients suffering from such ailments.

Thus, the type of medicine to be taken differs from patient to patient depending on the ailment they are suffering from. In today's world, however big a hospital may be, there is always a horde full of patients with different ailments. This can create a lot of confusion among the nurses as to which medicine and what dosage has to be given to which patient and that too at the correct time. This application will come handy in such situations as it makes their work much easier and the functioning of the hospital becomes more efficient.

Thus, this application has a lot of scope in today's time and also in the future.

## Chapter 9: References


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## Chapter 10: Conclusion

The main Aim of this Project is to build a Smart Pillbox as a medicinal remainder. This helps elder people, Alzheimer's and caretaker to take or to give Pills at right time. After Taking pills the data is stored in the application, so there is necessity of checking pills every day. Database of medicines in online, Alarm and pills these are the Great feature Are made in this Project. Adding, deleting of the medicines can be done through this application in Smartphones.

**Thank You**

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