

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

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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

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Introduction

There are a lot of individuals who constantly have to take medicine, they may be our elders or family members. So, we have to take care of them.

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.

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.

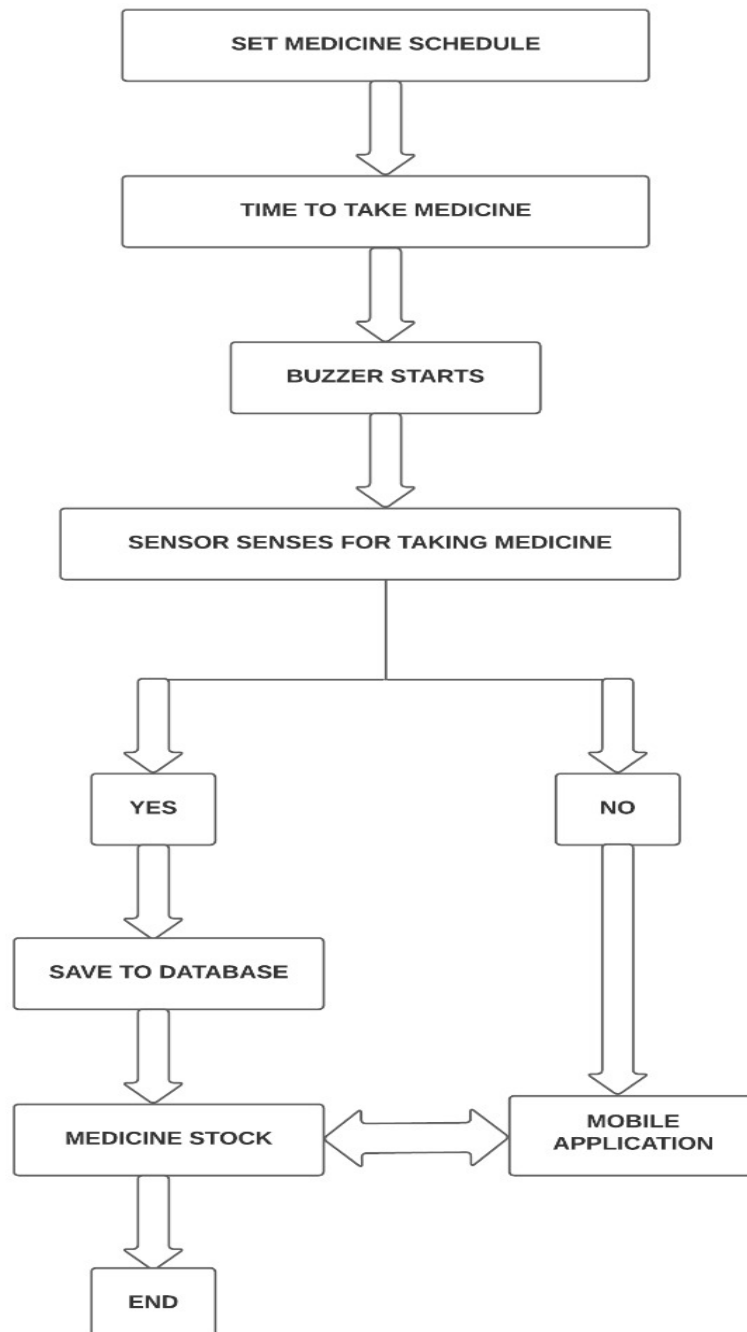
Problem Statement

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.

Block Diagram



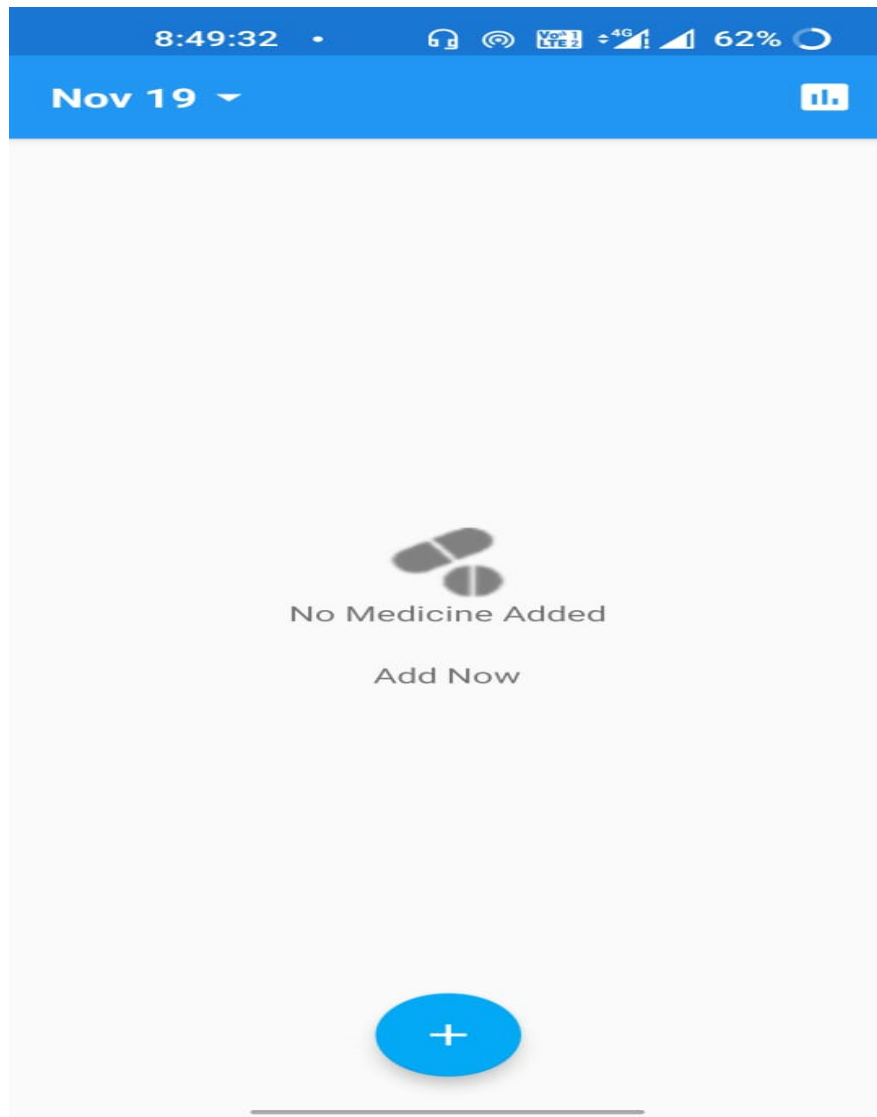
Requirements

Software: Android Studio, Java, Eclipse

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

Working Model

❖ Front Screen



❖ Adding Medicines

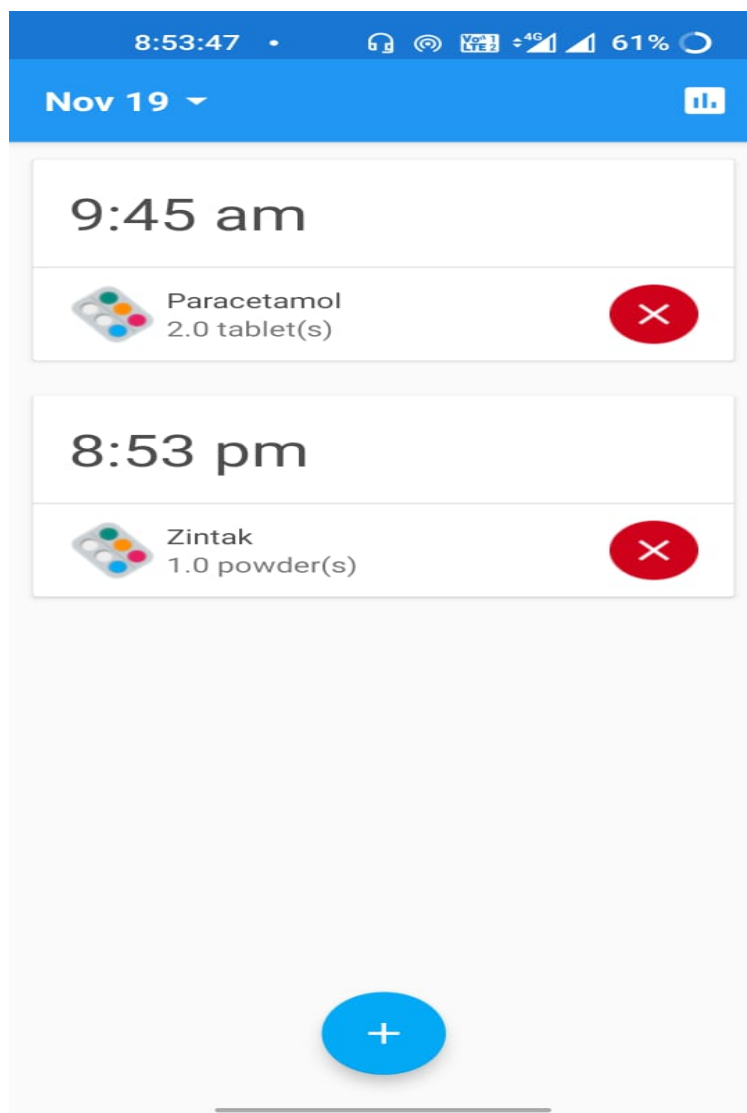
The screenshot shows the 'Medicine Days' app interface. The status bar at the top displays the time 8:51:56, various connectivity icons, and a 61% battery level. The app's title bar is blue with a back arrow and the text 'Medicine Days'. Below the title bar, there are three main input sections:

- Medicine Name:** A text input field containing 'Paracetamol'.
- Medicine Days:** A section with a checkbox labeled 'Every day' and seven circular buttons representing the days of the week: S, M, T, W, T, F, S. The 'S' button is highlighted.
- Reminder:** A section with three input fields: a time field containing '9:45', a dose field containing '2.0', and a unit field containing 'tablet(s)'. A dropdown arrow is visible to the right of the unit field.

Below the input fields, there is a blue circular button with a white checkmark. At the bottom of the screen, there are three grey boxes with blue borders, each containing a label in red text: 'Medicine Timings', 'No. of Doses', and 'Medicine Type'. Arrows point from the '9:45' field to 'Medicine Timings', from the '2.0' field to 'No. of Doses', and from the 'tablet(s)' field to 'Medicine Type'. Below each of these boxes is a faint, mirrored version of the same label.

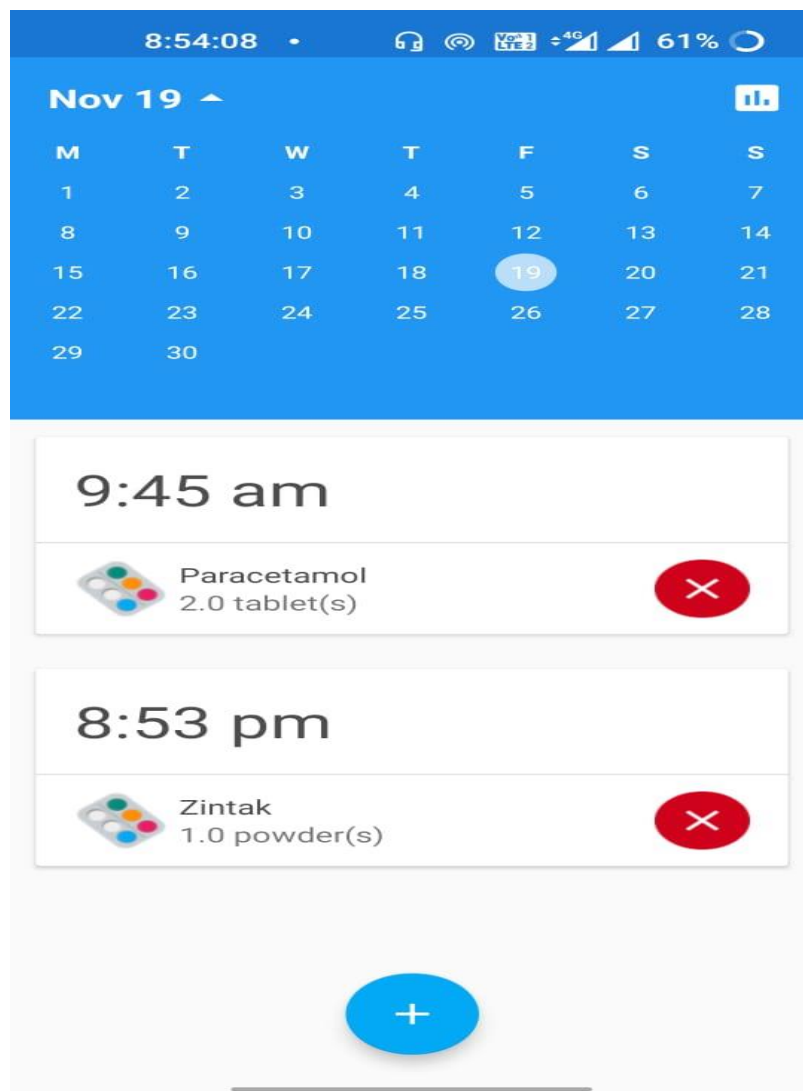
❖ List of Medicines

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.



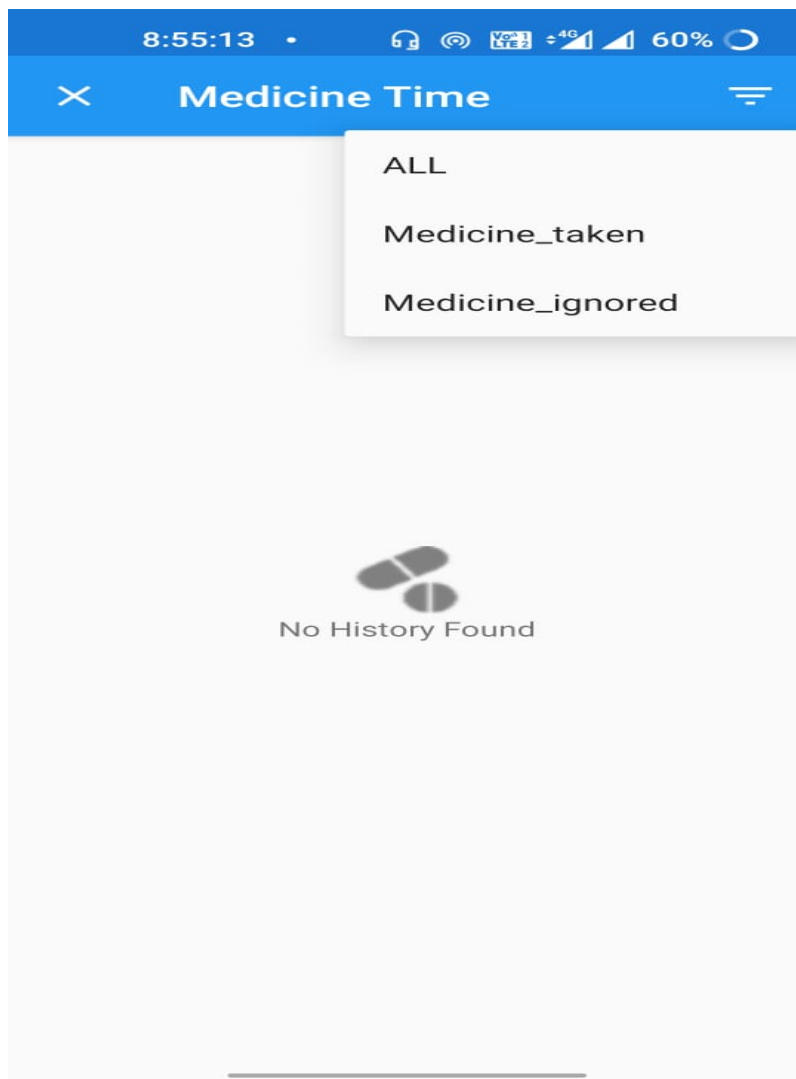
❖ Scheduling Medicines

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

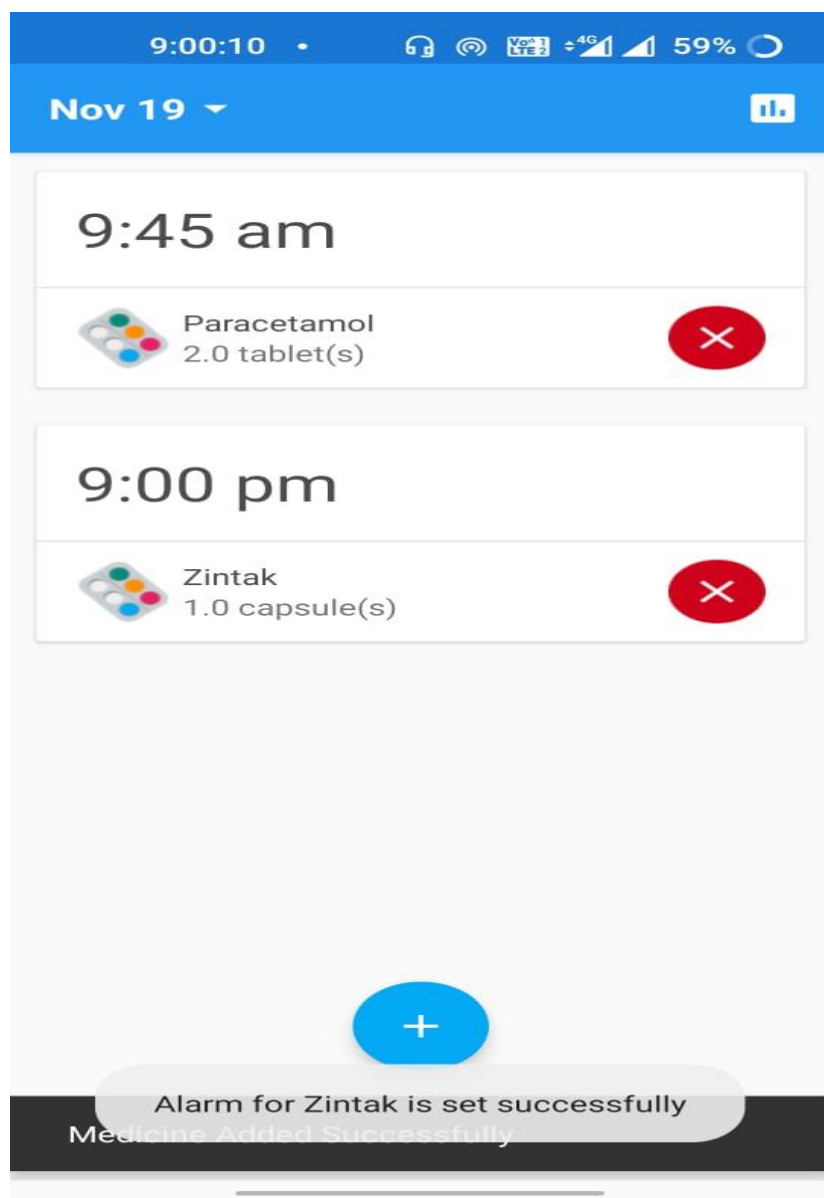


❖ Medical Record

The application shows the record of medicines taken and medicines ignored. Initially, since we haven't fed any data to the application, therefore it shows 'No History Found'.



❖ Setting Alarm



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.

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.

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Conclusion

The aim of this study is to build a Smart Pill Box for Medicine Reminder and Monitoring System. When the pill time has been set, the pillbox will remind clients or patients to take pills utilizing sound and light. The warning of pills should be taken will be shown by an android application which is held by the patient. Contrasted and the conventional pill box that requires clients or attendants to stack the crate each day or consistently. This model can aid in help elders to take their medication.

Thank You

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