MES COLLEGE OF ENGINEERING, KUTTIPPURAM
DEPARTMENT OF COMPUTER APPLICATIONS
20MCA246 – MAIN PROJECT

PRO FORMA FOR THE APPROVAL OF THE FOURTH SEMESTER MAIN PROJECT

(Note: All entries of the pro forma for approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)

Main Project Proposal No : _____ *(Filled by the Department)*	Academic Year : 2021- 22 Year of Admission : 2020

1. Title of the Project : Intelligent and Safe Medication Box In Health IoT Platform for Medication Monitoring System with Timely Reminders
2. Name of the Guide : Prof. HYDERALI K
3. Student Details (in BLOCK LETTERS)

Name	Register Number	Signature
THASREEFA P M	MES20MCA-2056	

Date:

Approval Status : Approved / Not Approved

Signature of Committee Members

Comments of the Guide Dated Signature

Initial Submission :

First Review :

Second Review :

Comments of the Project Coordinator Dated Signature

Initial Submission:

First Review

Second Review

Final Comments:

Dated Signature of HOD

Introduction:

The progress in IoT health care is considered to be a massive contribution to the elderly people. The elderly people and people who are suffering from chronic diseases need to intake tablets regularly on timely basis. Care takers with their busy daily routine may forget the instructions and time about pills which are prescribed for patient. Also care takers who are dealing increased number of patients may feel hectic to sort the medicine list for corresponding patients at proper time. Earlier many researches have been carried in this area and different pill boxes have been proposed already. The intelligent medication box proposed in this work have specialized features including six sub boxes which helps to organize six different pills, provides timely remainders for the patient or caretaker in an android application like hand-held devices like smartphone. This intelligent medication box contains bio-sensor for monitoring of temperature and heartbeat. Over dosage and improper intake of medicines may lead to serious issues in health of elderly people to avoid misuse of medicines a simple authentication process either by the care taker or the patient himself is performed. The proposed medication is much safer as it clearly intimates about time, dosage, stock of medicine and sorts out different pills in correct sub boxes during the next fill by caretaker

Objectives:

Our intelligent medication box is specifically aimed to help the old age people and people with forgetful nature in taking their pills at prescribed time and dosage. Patients who are undergoing a particular therapy needs to consume pills on time which is the most important factor for successful completion of the therapy and recovering from the illness. Dosage is another important factor which has to be considered to avoid unwanted health implications. Change in the dosage may lead the illness to spread further which necessitates to undergo additional treatments. Moreover, elderly people usually find it difficult to remember the time and dosage of medicines. Sometimes due to aging and downgrading of memory aged people consume same pill more than two or three times which complicate the problem of illness. In such situations our proposed intelligent medication box collects the information from patients such as name of the medicines, quantity and dosage of each medicine, number of days each medicine to be consumed. Once data are gathered, they are fed into the medication box which in turn will remind patients by alerts or notifications to intake medicine. The patient can feel ease about medicine intake since entire scenario is handled by the medication box itself only during notifications the user or patient will have attention about their medicines.

Problem Definition:

IoT enabled medication box framework is composed of various compartments. The overall view in architecture is described below. The system collects the patient's information and its consist of a medication box contains of sensors for collecting and reporting state of the patient through its related software control which continuously checks whether the medicine is taken on time or not. Usually supporting database hold the information about the capsules when they are initially loaded into the kit.

Basic functionalities:

a) Timer: The internal timer of the Arduino is controlled by the Timer One. The smallest scale of time in seconds is counted to set periodical timing for each dose by the timer. Initialize function is called to initiate the timer and Interrupt service routine is provided by controller.

b) Pill Chamber: A cylinder with a circular hole at the centre is present in pill chamber which holds the medicines vertically. Only one pill can be hold in the cylindrical passage, the pill from the storage area will move out to the tray based on the timer notifications through this passage.

c) Android Application: Medicine schedule is set and updated in the android application. This android application is developed using the Firebase google platform.

e) LED: The Light emitting diode display will be a simple red light is nothing but the Light emitting diode. Power on and flashing with the beeps for alerting the patient during emergency situations.

Tools / Platform, Hardware and Software Requirements:

Hardware Specification

The selection of hardware is very important in the existence and proper working of any of the software. When selecting hardware, the size and capacity requirements are also important. The hardware must suit all application developments**.**

- Processor : i3 or above.
- System Bus : 32Bit or 64Bit
- RAM : 4 GB or Above
- HDD : 500 GB or Above
- Monitor : 14" LCD or Above
- Key Board : 108 Keys
- Mouse : Any Type of mouse

Software specification

One of the most difficult tasks is selecting software, once the system requirement is find out then we have to determine whether a particular software package fits for those system requirements. This section summarizes the application requirement.

- Operating System : Windows 10 Any 32 bit or 64 bit platform
- Front End : Python ,Android
- Back End : MySQL Sever
- IDE : Python 3.6 or above, PyCharm
  : Eclipse or Android Studio