Smart Pill Box

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Abstract : Most of the old age people have multiple medicines to take to overcome their illnesses. Many deaths occurs due to wrong medication on wrong timing, or not taking medicine at all. Thus, in this paper we are proposing a solution to overcome this problem. We are designing an intelligent pill box that can remind the elders to take medicine on time and can inform the families remotely when the elders take the medicine.
 The pill box is equipped with a mobile application which gives privilege to the caretaker of elders to check and program the pill box. If the elders don't take medicine, the caretakers will be informed on their mobile application to remind the elders manually.

KeyWords **- Intelligent Pillbox, Wemos, Internet of Things, Android Application, alarm system.**

I. INTRODUCTION

In our day to day life, due to busy schedule and workload, people often forget to take their medicines on time. Especially, old aged people having illnesses and who are illiterate have problem while taking the medicine, and sometimes it's not possible for the family members to give them medicine at prescribed time.

There might be chances of them taking wrong medicines because of poor eyesight. It is also possible that they might take extra dosage of same medicine, so this may lead to another medical condition which is not desirable. In order to stabilize their health condition they need to take right medicines at the right time

In the recent years IOT plays an important role in making devices which are very helpful in our day to day life. So to solve the above issue by using IOT, we propose an intelligent pillbox which has alarm system and LEDs for indicating the right compartment of pill box from which the person is supposed to take the pill at respective time.

Hence the objective of this paper is to design and develop the pill box having the alarm system, sub compartment for different dosage, automatic lock system for compartment and feedback to the mobile application use.

II. PROPOSED SYSTEM

In this work, we have proposed a model of smart pill box with alarm and android phone notification by combining the hardware part and software part. It consist of three layer mobile application, server, pill box. The pill box consists of electrical and mechanical components such as servo motors, wire etc. Below shown block diagram is a smart pill box prototype

Mobile application is user interface which is used to take information about pill time, date, schedule and then sends data to server which contains module or programing for functioning of smart pill box.

We give power supply to the microcontroller, the microcontroller then controls all the sensors and motors. Real Time Clock (RTC) module to provide the time and date information .We use touch sensor to get feedback from elder when he close the lid of box manually. Next, the output part consists of a LED to indicate from which compartment medicine has to be taken, servo motor is used to open and close the lid of the respective medicine compartment.
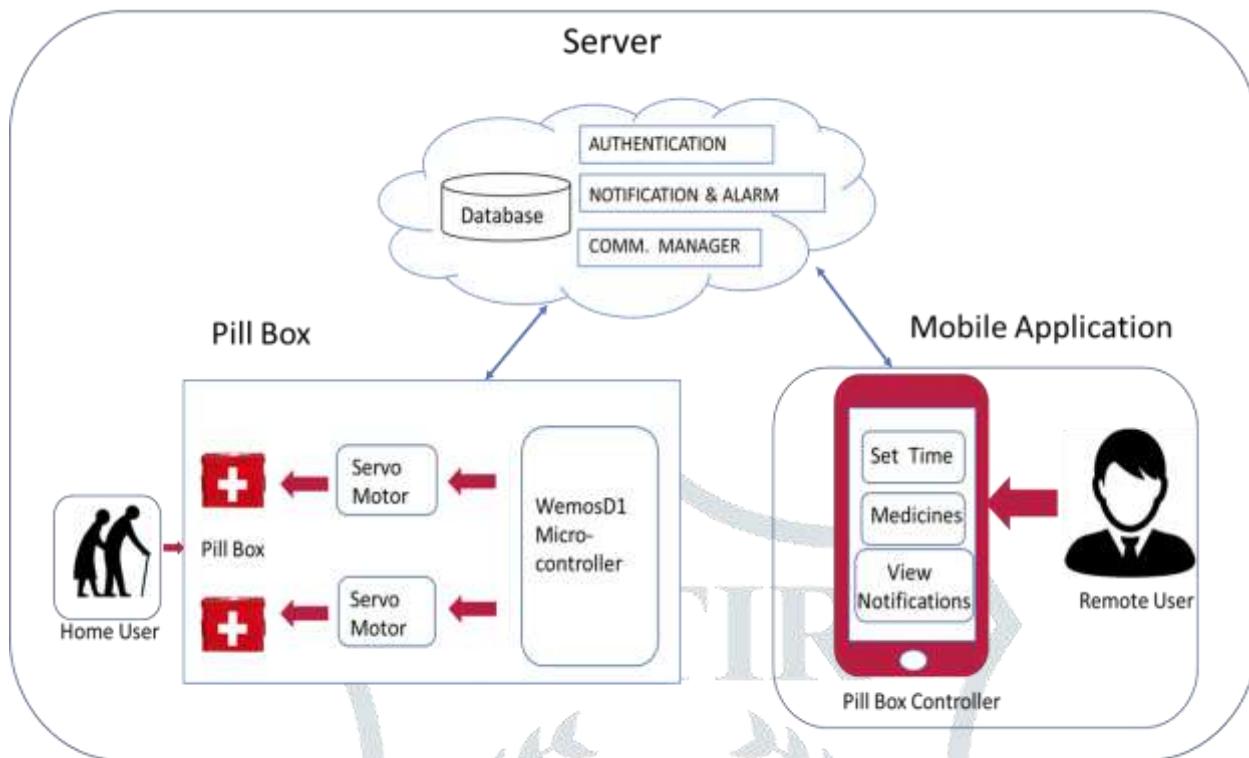
III. SYSTEM ARCHITECTURE
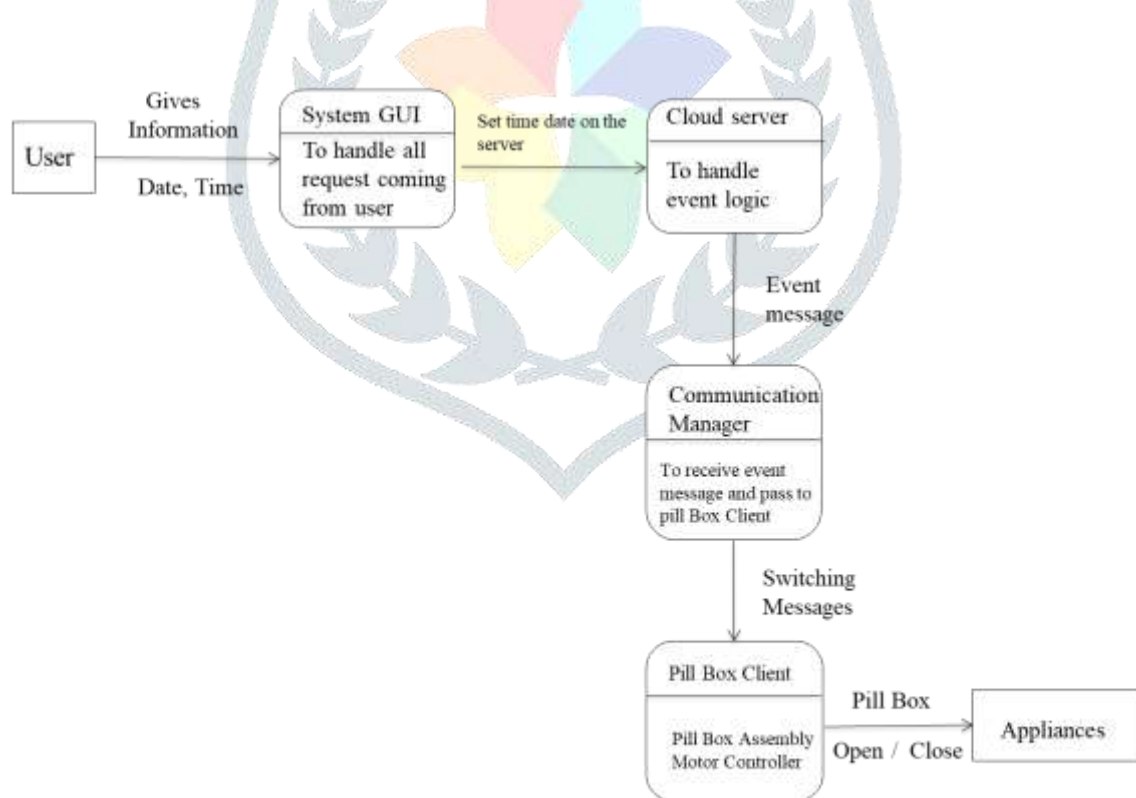

Fig.1 Proposed System Architecture

Fig : Data Flow

IV. LITERATURE SURVEY

As the era is changing most of work is done using automated systems. Automated pillbox are created especially for elder people so as they can take the medicines on time. Pillbox have alarm system which reminds people to take medicines on time. Many such automated pillbox are there in the market, different companies create them with different functionalities. For example, GMS MED-E-LERT automatic pill dispenser, electronic dispenser, E-Pill's tamper proof automatic medication dispenser, etc. The pillbox available in market includes alarm system but lack in much other functionality.

Recently, pillbox was modified by many researches and new features are added. For instance, a pill box called as "The Intelligent Pillbox" proposed in uses Assistive Technology to open and close the pillbox automatically. Then, a smart pill box proposed in uses infrared sensor and Arduino microcontroller, in this alarm notification is also sent on user's smartphone. Lastly, an intelligent pill box proposed in it is a single user platform and it connects the patient, doctors and pharmacies with each other. So far, there is no pillbox which gives proper feedback of weather the medicine is taken or not , to the user. Hence, we are designing a pillbox which will give proper feedback of confirmation to the smartphone user using mobile application. The data will be stored on cloud and further using communication manager it is passed on to the user as a notification.

V. CONCLUSION AND FUTURE WORK

The proposed system for Smart Pill Box has the alarm system, touch sensors and automatic lock system which ensures that the medicine is taken safely and on time. The main advantage of this system is feedback to the mobile application user by using the touch sensors. Data of the patient whether medicine is taken or not is also saved in the database. In future, it could be possible to connect the application with Medical stores and send list of the medicine to medical store which are about to get over.

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