SMART PILL BOX

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Introduction:
Most of the elders have a couple of chronic illnesses, and they use capsules to stabilize their health status. Doctors urge the circle of relatives contributors have to be extra concerned on medicine protection of the patient. Now a day, most of the patients can also overlook to take their drug treatments as per the prescription due to mental stress. Sometimes, the aged patients are gulping tablets and their dosage stage incorrectly causing a severe hassle. Henceforth, it's far important to the patient to take right drugs at specific quantity and time. Technology has an important role to play on this area potentially, with digital gadgets prepared with reminder functionality. An android application is carried out to expose tablet’s every day agenda and pill taking notifications. It relieves the user of the mistake-prone obligations of administering wrong medication at incorrect time. Hence, this Smart Pill Box will provide statistics to the affected person to take proper dosage of proper medication on the proper time. An extra characteristic of the Smart Pill Box is that it has cold storage for capsules that needs to be saved under bloodless temperature. The Smart tablet container can never move missing because it has an alternative, “Find my Box” in its android software. The principal goal of the proposed system is to layout a device that gives efficient medicine management, getting rid of the dependency of the patient on care takers or family members as it has many unique capabilities which emphasis on “patients fitness monitoring”, for that reason defining the scope.

Objectives:
- Stress free remainder system to take tablets in time.
- It is easy to store medicines, especially those medicine which must be kept in cold compartment.
- The box will never go missing.
- Alert messages which help to take medicines in time.
- Box asks for refill when the pills in the box are empty by sending appropriate message.
- The box has display and announcement which helps all kinds of patient.

Methodology:
All the components and hardwares like GSM, PV89RD51(Contoller),IR Sensors, LCD,Buzzer, motor drivers,Peltier Sensors,RF Transmitter and Receiver,Voice APR kit are shown in fig. Keil software provides the ease of writing the code in either c or assembly micro-vision2, the new IDE from Keil software combines project management, source code
editing and program debugging in one powerful. In this method, an Android based application is used for the patients. The user gets a customised android application. The prescription from doctor is broken down into

1. Name of the patient
2. Tablets given by the doctor
3. Dosage Timings

All the above mentioned things are loaded in the application. If the dosage is nearing, the application uses the phones GSM and alerts the box's GSM module about a certain dosage coming up. This message from the GSM is decoded by the controller and it opens the necessary boxes on receiving the control signal from the RF transmitter which is given to the patient. This ensures that only the patient has the access to the box. The application will continuously monitor for the next dosage that has to be taken.

**Fig:** Block diagram

"Smart pill box" application along with the GSM module of the box makes the pill box to be accessible from a few distances apart as well. The application has login credentials that need to be entered if the dosage has to be altered which ensures that there can be no tampering with the tablets. The application can contain a variety of information ranging from the tablet name to the tablet dosage cycle. The application also gives the patient a pop up notification prior to the dosage alarm. This reminder will remind the patients to take medicine competently. In case the patient can't find the box in the room, the application has an option where the user can click on the button that says "Find My Box". When this button is clicked the controller in box is alerted to initiate the buzzer. When the buzzer is turned on the user can hear the sound and locate the box. Once the user sees the box the buzzer can be turned off using RF transmitter. This way the box never goes missing.

**Conclusion:**

The proposed system is suitable for all kinds of patients. It efficiently controls the time of patients to take medicine. It also reduces the ratio that patient misses and delays taking medicine. In addition, the box also has a cold storage for few precise medicine. If the tablets are empty in the box it sends an alert message to refill it. Find field helps in locating the box.
**Future scope:**

In the future, we hope that the application can be linked to med karts, if the tablets are empty it directly sends a prescription message to the med kart in which they can help us delivering the prescribed tablets to our doorstep. Scanning of prescription to load the app can be done using image processing technology.