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SMART PILL REMINDER BOX REVIEWS

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Abstract - This article summarizes the research that has been done on intelligent medicine reminder boxes along with various features. The system reminds the patient and caregiver of the medication's timing. Smart Pill Reminder Box will allow doctors to monitor patients' health status. The Smart Medicine Reminder Box can reduce the responsibility of an elderly family member to administer the appropriate doses of medication at the right time without the human intelligence required to recall the exact date or time.

Key Words: Smart Medicine Reminder Box, Node MCU, IoT, Pillbox, Stepper Motor.

1. INTRODUCTION

In today's hectic life, the elderly face problems remembering and taking their medicines on time. They often cannot recognize which pills to take at that particular time. Because of this, a dose of medication may be missed.
One of the most common reasons for unsuccessful progress in a patient's health is not taking the correct medication at the prescribed time. Over 50 people may face diseases such as high blood pressure, diabetes, and Alzheimer's. This type of person must be constantly monitored for medication. These people would be significantly harmed if they missed a dose of medicine.
Patients and their caregivers, or even people who often forget to take their medication, will find this system helpful. This system will provide information on whether the patient has taken their medication. If the patient has not taken his medicine, the system will alert him to do the same by sending alerts or messages or through calls. It also stores this information in the cloud or the developed application.

2. RELATED WORK

[1] This article proposed a Smart and Secure Medical Box using IoT in which they have used Fingerprint Sensor, Arduino UNO, and Global System for Mobile Communication (GSM) Module, Wi-Fi Module, LCD, Power Bank, Real Time Clock, Servo Motors, Weight Sensor, Switches, etc. The system kept track of patients by notifying them of their medication timings through notifications such as messages or phone calls. A fingerprint Sensor was used to identify the user for Security purposes. The weight Sensor was used to calculate the proper medicine dosage the patient would take. Real-Time Clock sets the time and date the user is notified of medication. Notifications are generated with the help of the GSM Module. All the process is uploaded to the cloud so that the user and the doctors can have detailed information about the patient. But there might be some difficulties in handling such a complex hardware structure.

[2] This Android application system allows users to set their medicine time. In this application, some features will help the user have more details about their medicine. It will keep track of the medication, that is, how much medicine the user has to take, and that can be fixed in the Android application. The device setup consists of an IoT-enabled pill box with multiple compartments, and an IR sensor will be attached. The IR sensors are used for observations and reporting the state of medications. The Arduino device fetches real-time data and sends it to the application.

[3] According to this Paper, The proposed system is targeted at Online Health Communities (OHC). It is based on a Medical Dispenser, modeled using various components such as BeagleBone, Servomotors, and Pill Containers. A Dispenser can dispense the medicines to the patients according to the prescribed time by the doctors. Here they have used the Barcodes for security purposes. The Pharmacies own these dispensers.

[4] This system is based on reminding people about their dosage so that no one misses their dose and faces the consequences, which may sometimes be fatal. To do that, they have created a smart pill box that will pop their container out containing medicines inside when the patient has set. This will eventually overcome the problem of the patient forgetting to take medication. The only problem with the system is that they don't have a user-friendly interface which may be problematic for some users.

[5] This article shows the concept of a smart pill box at its best. They have created a portable Smart pill box that can be used without any headache to the user as they have used adequate hardware, which enables the intelligent box to be used offline without the actual power supply because they have used a LIPO battery.

Also, they have created a mobile application to make changes to the smart box depending on the patient's need. They have used NodeMCU to enable the connection between the microcontroller and the WI-FI. The only problem with this system is that the box could have been better designed. The other facts about this system are pretty good as they monitor data through their app and have made the box portable.

[6] According to this paper, the proposed system is used to alert the user about the intake of their dosage on time. They used an ultrasonic sensor that dispenses the medicines to the patient. This smart box is mounted at a decent height from the ground so that no toddler can access the contents inside the box and do something that may injure their health. The problem with this intelligent box is that they need a proper design for the package, which can be problematic if someone is looking for a good plan with appropriate functionalities. The good thing about this system is that it creates an alert if the dose inside the box is about to be empty.

[7] This article proposes brilliant medicine planner for visually impaired people the primary goal of this project is to develop the disciplinary system which is an automatic sealing device define the smart medicine box and by the system that runs on the voice command given by the user this enables the blind people to easy of arranging the whenever the good this project help blind people over dozing for taking incomplete M occasion in this first we need to follow some step for fluent working of the innovative medicine planner the accurate number of pills have to he dropped inside the box from container the communication is through voice over so this communication has to be very perfect to avoid any for the working of this project is that the blind people or character connect to fill the SMB with medicine then the first step to accurate the box to request At task using push button then menu recorded to the system is played to the user the user reply the instruction which is the help of the Google voice kids LDR detect the connector in empty or not the Servo Motor is the use for kill the pills in the compartment stepper motor controls the SMB moment apart from these the Bluetooth Wi-Fi and the voice at is also use the agent connect to the SMB to play instruction and Specter the record voice is shared by Google Cloud the SMB is also connected to the power supply open pose sensor input component the compartments tape hardware used as Raspberry Pi with Bluetooth connection to connect SMB voice hat and Arduino Uno used to connect device to SMB voice kit is used hc-06 Bluetooth used for linking to Raspberry Pi. The drawback of this system is that the voice used is always high for a command to start the system we the push button.

[8] In this paper, all the information about the smart pill box Healthcare system is given; the main ultimate goal of this system is to help people to take their medicine on time to maintain their health strong and help the patient to take the right amount of medicine at the right time without silver to make the daily dose of medication and effective and very simple. The smart pill box is a box that contains different kinds of fish containers in a single compartment with a built-in timer. It gives the security automatic and auto-dated section that organizes and remains the user time to take medicine in this container the use of three separate small pill boxes; the user can store three different types of pigs which doors on the three boxes the user hardware for designing the intelligent bulb of Healthcare systems are 12-volt battery pass filter regulator keypad 4*4 AT-Mega 16 LCD 2018 24, ultrasonic sensor, Buzzer, GSM module they also use of the Other software in the divided into four part user interface real time clock sound generator and LED controller input is started in a static variable then can be given by the user in that the comparison stage function would check the real-time which set time when they make the alarm will start buzzing and the SMS send to the user mobile for medicine time reminder. The drawback of this project is that the Limited stock is given or stored in a container. The battery is used in that box, so when the battery is drained, the package is not working.

[9] A pillbox called a MedTracker monitoring of medication Adherence continuously. It gives more detailed information about non-adherence, medication errors, and the familiar interface of a 7-day drug store pillbox.

[10] An intelligent pillbox equipped with a camera and based on the medicine bag concept. The matrix barcode printed on the medicine bags interacts with the pillbox to perform pill reminders and confirm functions.

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3. PROPOSED SYSTEM

In our surroundings, we often see old age people often forgetting to take their medicines on time or they can't read English. Also, these people can have trouble remembering the pills they must take from the medicine bag. Due to this, the medication timings of patients having diseases such as high blood pressure, diabetes, and Alzheimer's would be missed. To reduce the responsibility of the caretaker, the Smart Pill Box is of great help.

The Pill Box will be filled with the medicines according to the timings such as Morning, Afternoon, or Evening and the application is used where the users can log in after registering and setting the alarms of medications. According to the notices, the container of the box will get rotated, and automatically the medicines that the patient needs to take will come in front of him and also the buzzer will get buzzed. In addition, an IR sensor is placed to check whether the patient is born with medicine.

If the patient has done with the medicine intake, the buzzer will stop buzzing, and the whole process will repeat. And otherwise, the alarm will snooze after some time, and the patient's caretaker will be notified about the medication timing of the patient.

In the Android Application, Users can register with their Email IDs, the caretaker's name, and his Email ID. Users can also update their information, set the alarms, and even log out when alarms are set.

OBJECTIVES OF THE PROPOSED SYSTEM:

1) To create user-friendly wireless electronic apparatus.

2) To achieve automation where drawers and pills come out at appropriate timings.

3) To notify the patient and the caretaker of the patient about the timings of patient medicines.

4) To keep the records of each pill, whether it has been taken or not by the patient

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