

PERSONAL ASSISTANCE FOR SENIORS WHO ARE SELF-RELIANT

ABSTRACT

Sometimes elderly people forget to take their medicine at the correct time. They also forget which medicine He / She should take at that particular time. And it is difficult for doctors/caretakers to monitor the patients around the clock. To avoid this problem, this medicine reminder system is developed. An app is built for the user (caretaker) which enables him to set the desired time and medicine. These details will be stored in the IBM Cloudant DB. If the medicine time arrives the web application will send the medicine name to the IoT Device through the IBM IoT platform. The device will receive the medicine name and notify the user with voice commands.

INTRODUCTION

Most of the time due to number of work for the people as well as regarding age and some disease which leads to forget the basic things among daily routine. If the patient sufferings from the disease where it is compulsory to take medicine at proper time, in this paper we have review the technology of home health care system among them a medicine reminder system and some improvement regarding authentication have well focused.

Generally for home based health care the arrangement include communications, imaging, sensing and human computer interaction technologies embattled at diagnosis, treatment and monitoring patients without disturbing the quality of lifestyle. It can be possible the development of a low cost medical sensing, communication and analytics device that is real-time monitoring internet allowed patients physical conditions. Internet of Things (IoT) network will provide active and real-time appointment of patient, hospitals, caretaker and doctors apart from this the secured data transmission from source point to destination for the purpose of remote monitoring there is need of the architecture of a low cost embedded platform for Web-based monitoring[1].

As a Consequence of healthcare reforms, digital medical records have facilitated the widespread availability of publicly available, statistical data. Feeding the pool of mounting data is the patient doctor interaction Physicians assess the patient's complaint and prescribe a course of action.[2]

The data collected provides the basis for a decision support tool for Patients to compare Prescription Drug Plans based on a patient's individual situation and preferences. Utilizing historic data, comparisons on Prescription spending will be made to past patients who have a similar health profile as identified by the current patient.[3]

LITERATURE SURVERY

Some People will obliterate to have proper medicine correctly on time. To help these community an application is built which sends notification to IOT device, the device will receive medicine name and notify user with voice command. Additionally, alerting with an alarm and light indications. To confirm whether the person has taken the medicines or not can be identified by putting a button at the opening end of the pillbox. When the person/patient is feeling uneasy the different buttons fixed on the box he/she can press one of those fixed buttons to notify family members about the situation.[4] An IOT device for the people who take medicine frequently and also remembering the prescription of the patient's medicine for a long time is very hard to remember by the patient and also the caretaker. Present time and notification time could be saved in RTC and EEPROM. So, at the time of taking medicine, the system will be sending a notification and beep sound and display the bright light in IOT device from which the patient has to consume medicine. This system has an advantage of sensing whether the patient has consumed medicine or not and also senses when the patient tries to postpone the medication by opening and closing the box in to stop the notification and lighting.[5] An intelligent pillbox system is designed whether the patients have taken the correct dosage or not which has to be monitored by the caretaker. The caretaker will be notified by using the audio instructions when the medicines are taken or refilled. Different functions that are present in this device are which pill has to be taken, the remainder of medicine timings to patient/caretaker and notifying using LED, buzzer, voice alarms, and the Android applications.[6] A Pillbox with remind and consumption function that gives alert and box will be in open position at the time of taking medicines.

A device which has advanced futures like ability of sorting out the pills inside the box by itself and other advanced technologies are used here.

used here. A Pillbox which reduces the family members responsibility and gets the feedback of the pills from the user and send the purchasing order to the medical shops.

Most patients don't recollect their whole drug routine and they additionally sometimes neglect to take their prescription [7]. Outpatients with interminable sicknesses, especially the individuals who must oversee more than one prescription or take drug more than once per day, may not take their meds appropriately. The pace of drug adherence, characterized as "the degree to which the patient adheres to restorative guidelines", has been accounted for to be around 50–80% [8]. Quiet adherence to prescription is clinically critical in lessening mortality of genuine infection and complete medicinal services costs. By and by, the abovedepicted issues have opposed an answer for quite a while [10]. The most widely recognized patient-related factor coming about in non-adherence incorporate 'essentially overlooked', although prescription adherence is a multidimensional wonder [7]. The pace of 'just overlooked' was 66% in HIV/AIDS clinical preliminaries and 30% in other clinical preliminaries [8]. Ongoing examinations have recommended that forthcoming memory, which depicts one's capacity to make sure to accomplish something sometime in the not too distant future, is a significant segment in medicine adherence [9]. Thus, helping patients make sure to take their prescription is a basic and powerful approach to improve adherence.

Arduino open source

Arduino is open-source gadgets prototyping stage dependent on adaptable, simple to utilize equipment and programming. Today we will assist you with beginning by giving you a portion of the alternatives accessible and that it is so natural to begin. Arduino equipment is an open-source circuit board with a chip and info/yield (I/O) pins for correspondence and controlling physical articles (LED, servos, catches, and so on.). The board will regularly be fueled through USB

or an outer power supply which thus enables it to control other equipment and sensors. Arduino likewise has an open-source programming part which is like C++. The Arduino coordinated advancement condition (IDE) enables you to compose code, accumulate it, and afterward transfer it to your Arduino for independent use in prototyping and ventures.

Reminds Your Senior to Take Their Medicine

Once your senior gets up and begins their day, they may get distracted by the hustle and bustle of daily life. This means they may forget to take their meds. With the Medicine Reminder your loved one is reminded to take their pills. No more forgetting important dosages.[11]

Prevent Errors

It is easy for seniors to take the wrong meds or even skip doses. Medication reminders prevent this from happening. There is nothing your senior has to read or figure out. They simply need to take the pills in the compartment after the reminder beeps.

It comes with a 48-hour rechargeable battery backup. If the power ever fails, you will know that your loved one will still be able to take their meds. The back-up battery is also useful for travel, so your senior can safely take their meds on the go.

Easy to Use

Labels on pill bottles and other medication dispensers are often difficult to read for your senior's aging eyes. A medication dispenser eliminates the need for your loved one to read that small print.

The Medicine Remainder is designed with ease of use in mind. It has an extra-large LED display, and is as simple to set as a digital clock. When the reminder beeps, your senior takes the meds inside the compartment. It's as simple as that.

Customization

With the Medicine Remainder, you can customize how you use it to suit your needs. You can program up to 4 medicine reminders per day. There are 29 pill compartments, one for each dose. That means that each dose can be different. The pill compartments can put a large variety of pills in all shapes and sizes. You can get extra pill trays so that you can have one pre-filled. When it comes time to refill, just unlock the medication dispenser and snap on the pill tray. With all of their pills in one place, it will be easy for your loved one to take the correct medication.

Be Proactive

By giving your loved one a medication reminder, you are also giving them greater health and independence. Help them age in place with the right tools to help them stay safe a healthy.

Don't wait until after an accident happens. Be proactive and get your senior a medication reminder and organizer. This will save you and your loved one time, energy, and trips to the hospital. Help them maintain their independence and safety with the Medicine Remainder.[12]

METHODS

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.

Problem Statement

As pills have taken such an important role in everyday life, in past few years there has been an increase in the number of medical neglect cases. Hence there is a need of automation in pills disbursement. This work will solve above mentioned problem by design and implementing an automatic pill reminder and dispenser setup using IOT that can remind the medicine to consume at right time, which help the people to come up with their busy life as well as makes the people to stay fit and safe.

Procedure

The following the Objectives of the study:

1. To create a sophisticated pill box to load the pills on daily/weekly basis
2. To create an interface/webpage to record time and date when pills have to be taken/took. A documentation regarding how the SMR box will work. To implement the RTC mechanism in pill box this dispenses the pills automatically.
3. To develop a mechanism to deliver status messages/buzzer/reminder to registered mobile number.
4. Design a box to store the pills and dispense according to the time.

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