A FOCUS ON MAKING OF SIMPLE MEDICINE REMINDER USING ARDUINO

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ABSTRACT:

Smart Medicine Reminder can be used by sick people at their homes, Doctors, i.e., in hospitals, etc. The system incorporatesa Real-Time Clock (RTC) module, an APR voice module, an LCD display, and user-friendly buttons to create a customizable and user-centric medication reminder solution.

The Real-Time Clock module ensures precise timekeeping, allowing users to program medication schedules with accuracy. Users can easily set the frequency, dosage, and timing of medication reminders through an intuitive interface. The inclusion of a buzzer provides audiblealerts, catering to users with visual impairments, and the LCDoffers visual feedback on upcoming

medication reminders.

INTRODUCTION

IoT(Internet of Things) contains a large number of interconnectivity between different systems, giving free access of selected data for development of technology. Implementation of an IoT project is a very difficult task mainly due to large number of devices, various technologies and services that are included in the system. In this paper, we focus on making of Simple Medicine Reminder using Arduino. This paper hence provides information about Components, Connections and Working of Automatic Medicine Reminder. Medication non-compliance isa prevalent issue affecting individuals of all ages, particularly those with complex medication regimens. This project introduces a versatile and user-friendly

system designed to assist individuals in managing theirmedication schedules effectively, promoting better healthcare outcomes.

In today's fast-paced world, where numerous commitments and distractionsabound, adhering to a prescribed medication regimen can be challenging. The consequences of missed doses or inconsistent medication adherence can have significant impacts on health and well- being. Recognizing the need for a reliable and accessible solution, this project leverages the capabilities of the Arduino microcontroller platform to create a Medicine Reminder System that integrates key features to enhance medication management.

IoT in healthcare refers to a combination of medical tools and software communicating with healthcare IT systems over internet computer networks.IoT enables machine-to-machine connection through Wi-Fi-enabled medicaldevices, establishing the groundwork for a seamlessdata-sharing and analysissystem.

Healthcare IoT launched its first appearance in the 1990s by introducing basictelehealth and remote patient monitoring technology. Wearable health devices and intelligent medical equipment result from early 2000s miniaturization and data analytics advancements. Personalized treatment, real-time data-driven decision-making, and remote patient monitoring are allrendered possible by IoT, which is currently revolutionizing the healthcare industry.

PROPOSEDSYSTEM
Existing system

In recent years, with the rapid advancements in Internet of Things (IoT) technology,there has been a surge of interest in utilizing IoT for healthcare applications. One such application is the development of automatic medicine reminder systems that utilize IoT to enhance medication adherence among patients. This literature review aims to explore existing research and developments in IoT-based automatic medicine reminder systems, focusing on their design, implementation, effectiveness, and potential challenges.

Proposed System:

In the proposed system we come across all the above disadvantages. The invention canstore different medicine in different compartment with separate open and closing lid therefore no need to include led in each compartment. The alarm also gets activated at particular time and no need to refill the pills daily. The Medication Reminder can help usersto take the correct medicine on time. But, initially doctors, nurses, or family members have to fill the box with right medicine user

LITERATURE SURVEY

In recent years, with the rapid advancements in Internet of Things (IoT)technology,there has been a surge of interest in utilizing IoT for healthcare applications. One such application is the development of automatic medicine reminder systems that utilize IoT to enhance medication adherence among patients. This literature review aims to explore existing research and developments in IoT-based automatic medicine reminder systems, focusing on their design, implementation, effectiveness, and potential challenges.

Several studies have proposed different designs and implementations for IoT-based automatic medicine reminder systems. These systems typically consist of smart pillboxes ordispensers equipped with IoT sensors and connectivity capabilities. The pillboxes are connected to a central server or a mobile application, allowing for remote monitoring and control.

Research indicates that IoT-based automatic medicine reminder systems have the potential to improve medication adherence among patients. Moreover, these systems havebeen shown to reduce medication errors and improve patient outcomes by ensuring timelymedication intake.

Despite the promising benefits, IoT-based automatic medicine reminder systems face several challenges. One major challenge is ensuring the security and privacy of patient data transmitted over IoT networks. Due to the sensitive nature of healthcare data, there is a risk of unauthorized access or data breaches. Additionally, the usability and acceptance of these systems among elderly or technologically inexperienced patients may be limited, requiring user-friendly interfaces and adequate training. Furthermore, issues related to interoperabilityand standardization between different IoT devices and platforms need to be addressed to enable seamless integration and scalability of these systems.

IoT-based automatic medicine reminder systems hold great promise for improving medication adherence and patient outcomes. However, addressing challenges such as security, usability, and interoperability is crucial for the successful deployment and widespread adoption of these systems in healthcare settings.

RELATED WORK

The primary purpose is to assist the patient in taking prescribed drugs and to prevent missed doses due to neglect or poor care. When the pills are not retrieved from thetray, the medicine reminder system illuminates an LCD, sounds an alarm, and sends a notification to anAndroid

application. The patient must take the specified dose from the medicine reminder boxon time, otherwise, our system will continue to generate the sound, which will be considerably louder than before, until the patienttakes the medicine out of the box. This kindof altering feature increases the life years of the person. This can be of massive contributionto the elderly people and also to the people who are detected with chronic diseases, which requires them to take medicines at regular intervals.

The medicine reminder architecture, which consists of a medicine box with a set of different columns for each. Each person can use it regularly for their medicine. The control structure of the medicine box has LEDs for notifying the patient in the form of alarms for theirproper medicine taking. There is a ringer in the architecture which notifies the patient by giving an alarm by ringing sound. The alarm will ring for a particular specified time, inside that time just the person needs to press the button by taking the tablet, normally the alarm will be notifiedin form of messages to track the patient by GSM that patient has not consumed the tablet at theprescribed time by the doctor. The ringer and LED's are giving the reminder at the particulartime set by the family. So the medicine reminder system will regularly analyze the patient's health by using the IoT (internet of things) and it can also record the

patient's daily dosage level of the tablets. Hence the medicine has its own timing which is compared to the real clock. Ifthe mentioned information matches, the voice module will go off, or else the voice module will give the medicine name, which reminds the patients to take the medicine. Data can be recorded the patient's health and person daily prescribed medicines to consume.

The primary objective of this project is to provide a practical and accessible solution tomedication management challenges. By combining the precision of an RTC module, the versatility of user-friendly buttons, the informativeness of an LCD display, and the accessibility of auditory alerts, the system aims to empower individuals to adhere to their medication schedules more effectively.

SAMPLE RESULTS
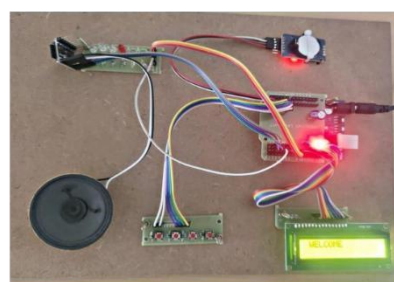
CONCLUSION

This medicine reminder aims to prevent an unhealthy and stress-free life for the patients or users who are taking medicines regularly and to dispense this system at a reasonable price andlow cost also. Our project is recyclable by changing those other medicinal boxes that have only alerting systems and are non-usable or expensive compared to our product . This pill dispensingsystem is also very easy to under- stand, user-friendly, and is sustainable so that the older generations also can use this product without the help of a tech-savvy person. This product has good scalability,is very reliable, and also sends regular notifications about the patient's well- being through the Android application to their loved ones, hence they can live a worry-free life.

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