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AUTOMATIC FOOD AND MEDICINE DISPENSER SYSTEM

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Abstract: The elderly must be given their medication and nourishment on schedule. Those who take their pills and eat food without careful professional supervision are the target audience for an automatic medication dispenser. As they are more likely to forget to take their medications on time, elderly persons must adhere to their medical regimens. Additionally, this technology keeps track of the patient's blood pressure and temperature while informing the nurse of their condition.

Keywords: Pill dispenser, Arduino-uno, buzzer, temperature sensor , BP sensor

I. INTRODUCTION

In developing nations, elderly care is a big challenge. The management and care of elderly individuals is the responsibility of family members. It is challenging for family members to be available round-the-clock to care for the elderly in the modern world. The majority of families in our society nowadays are nuclear. The elderly frequently forget to take their medications and meals on schedule. One method to assist them ineffectively and appropriately taking their medications is an automatic medication dispenser. Those who
must take daily prescriptions and dietary supplements will benefit from our product. This issue has previously been resolved. The alternative, which resembles an alarm box, nevertheless necessitates manual sorting by the user and requires some technical skill to utilize. With user interfaces that allow even those with limited computer and technical knowledge to fully utilize the system and a straightforward design that avoids using big motors, actuators, and containers, our solution will address both of these typical issues.
The finished product will be a cheap fix for common issues.

II. LITERATURE SURVEY

[1] The senior individuals have a considerable trouble remembering to take their medications on time, medication adherence among patients has long been a major source of concern among healthcare professionals and other stakeholders. Patients who do not take their drugs as prescribed may experience major consequences, such as a delay in their recovery, the onset of other illnesses, or even death. It
gives patients and caretakers a user-friendly touch interface that is accessible as a smartphone application that enables them to remotely monitor and control the medication schedules.

[2] This system can increase compliance and prevent serious prescription errors by freeing users from the risky process of correctly reading medications.The action-oriented interface's main benefit is extensibility, which allows for easy addition and removal of components with little dispenser control structure. It gives a summary of the algorithms that the medication schedules use.

[3] This system creates medicine delivery systems that are appropriate for people who are opioid
dependant. This includes strategies for monitoring and accessing the patient remotely, processing face images, and background processing. However, the frequency of pharmaceutical errors has dramatically grown over time. Use of dose administration aids (D AA's), which allow doses of one or more solid
oral drugs to be packaged and sorted according to the time of administration, is a typical method to reduce medication mistakes.

[4] The likelihood of non-compliance increases in residential settings where patient monitoring is performed either by the patient or by family members. Purely mechanical and automatic dispensers are the two types of these devices that are currently accessible. However, as technology and automation become more prevalentin the healthcare industry, commercially viable dispensers with automation and audio services are now also available.

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[5] The design and development of medication dispensers and rests based on the healthcare system has been rapidly progressing, yet most healthcare facilities lack this system. As a result, a machine that could administer the patient's prescription doses for a whole week has been developed. By utilizing technical know-how and expertise, the entire system can be made available to society. A completely functional embedded system is not currently offered on the market.

[6] Even for elderly patients, the user interface, which is the same across all operating systems and gadgets, is simple, approachable, and simple to use. The design is adaptable, allows the user the freedom to add new containers, and is also useful to future improvements. The automated medication dispenser accurately and automatically dispenses tablets and liquid medications in accordance with the user's settings. The pumpneeded to be calibrated by trial and error to determine how long it should run to pump out various quantitiesof liquid medicine in order to accurately dispense fluid medications. A study was conducted on liquid medications that were both syrup- and water-based.

[7] In this system in order to decrease prescription errors and enhance communication with physicians, the medication dispensing system was created to streamline the challenging work of managing medications. Medication design is an iterative process, and real-world implementations frequently highlight areas forimprovement. A strategy was required to guarantee that the elderly and patients would take their medicationson time as given by the doctor, so that the patient's medication regimens can be freed up for the workingclass.Out of these mechanisms, the best one should be picked and improved for future innovation, or abrand- new mechanism should be created while drawing inspiration from all the previously describedmechanisms so that it can store any medications.

[8] The automatic medication dispenser's hardware is constructed, and when slots are opened, it remindsusers to take their medications at specific times. If the box is opened, the LCD will display the time as well as whether it is before or after meals. Additionally, LED will glow whenever a slot opens. If the box isopened, GSM will also send the user a reminder message.

[9] This system has demonstrated the usefulness and potential of IOT devices in addressing the challenges that patients have when taking drugs. There is a tonne of room for growth in this area. Using a database offamily medical history, neural networks can be incorporated into the application to forecast hereditary disorders. Machine learning can help doctors diagnose illnesses and potential treatments when patients havecontradicting symptoms. For patients to have access to all medical services in a single application, theapplication can be connected to nearby ambulance services, blood banks, and pharmacies.

[10] Any size pill or capsule can be dispensed using the automatic medication dispenser. It has been discovered that the dispenser may be set to dispense 21 different medications for 31 days. Four times a day,it has the ability to transmit alarms. The number of times and pills to be chosen can be changed dynamically according to the situation thanks to programming.

III . CONCLUSION

It is important for patients and the elderly to follow their medication regimens. There were several mistakesmade when distributing medication dosages in earlier designs,and alarm systems and health monitoring systems were absent. To combat this, we develop automatic food and medication dispensing system thatgives patients a timely break to take their medications, eat, and monitor their temperature and blood pressurewhile also reporting that information to the nurse.

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