

Smart Pill Box Based on an Internet of Things Platform

Ravi Kasture, Sanket Borkar , Rahul Shinde , Diksha Waghmare , and Snehal Hande
From the Computer Science Department of Pune University:

ABSTRACT

Aging's inevitable loss of physical vitality leads to an increase in the prevalence of several chronic illnesses among the elderly, and most patients with such diseases need to be forced to take drugs for an extended period of time in order to stabilize their conditions. It becomes vital to make sure that patients take their prescription at the right time. We've created an instrumented pillbox so that patients' medication-taking habits may be tracked indefinitely. This apparatus is superior than preexisting systems because it gathers data on nonadherence and medication mistakes more often and automatically and provides a higher quality overall data set.

Keywords— Safety meds, real-time monitoring, infrared (IR) sensors, and the Internet of Things (IoT).

INTRODUCTION

Users who regularly administer medication or nutritional supplements, such as caregivers for the elderly or ill, are the intended audience for our medicine chest. The pill box is programmable, so users may set the number of pills they need and when they want them served. The elderly may benefit from our computerized pillbox. Whoever uses the Pillbox is unlikely to have a strong background

in using technological products. The new options made possible by this work will help the elderly form the habit of regularly taking their prescriptions by increasing convenience and decreasing costs. Patients or their loved ones have an added duty on their hands while using a pill box since they must manually restock the medication supply. A reliable pill box allows its user to keep track of their medications and their dosages. In the event that the user forgets to take their medication, the good linear unit pill box will alert them. If the user is at risk of missing a dose or accidentally taking the incorrect medicine, an alert will be sent to them. When a user's bed down is complete, our system notifies them and the nearest medical facility in case they need another one. In contrast to current options, our pillbox offers medical bag inspections and medication assurance for a one-time fee. Further, because of the pillbox's physical nature, our electronic pillbox is a good fit for elderly folks who aren't very interested in technology-based products.

Existing System

It's not possible to automate reminders.

- They don't make it easy to have the paper prescription on hand.
- The reminder setup process is laborious and requires human intervention.

A) Proposed System

In our system user will register to

system and add his medicine timing in the system. The system have camera and IR sensors the sensor will sense the if medicine is taking out of box. The camera will use to live monitoring of the patient. If patient scans the wrong medicine the system will makes an alarm. Apart of that the system will notify the user before 5 minutes before his timing so that if user is going out somewhere so he can carry them.

PROPOSED AND IMPLEMENTED SYSTEM ARC

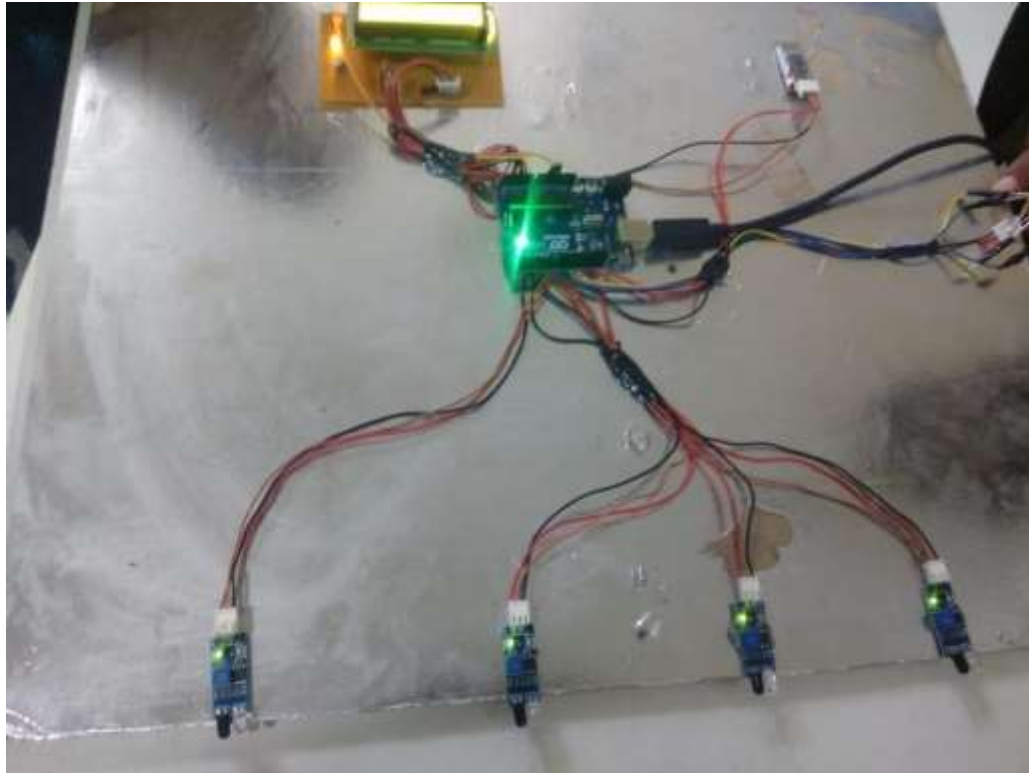


Figure 1- External Components of the system

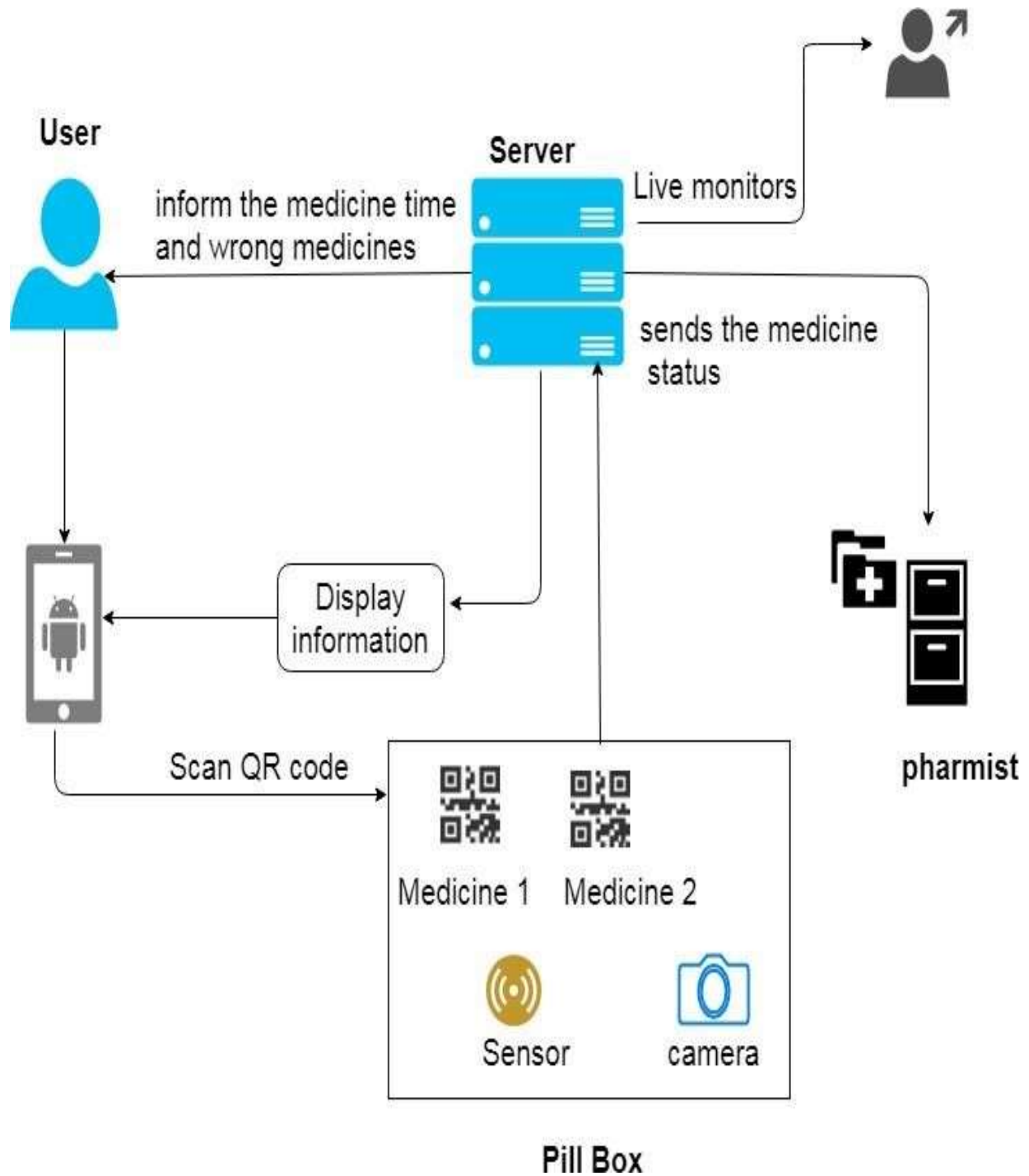


Figure 2- system architecture

CONFIGURATION WITH HARDWARE

EMBEDDED C

Step 1: Start

Step 2: Initialize serial port, & software port.

Step 3: Initialize wifi connection with network.

Step 4: Connect device to wifi network.

Step 5: Get IP address of ESP (Node MCU) & display serially.

Step 6: If no connection then go to step 4.

Step 7: Check serial A data available if yes, then read data & transmit id TCP/IP to server.

Step 8: if no then go to step 9.

Step 9: Check serial B data available.

Step 10: Check serial C data.

Step 11: go to 7.

PYTHON

Step 1: Import required library (Socket)

Step 2: Establish TCP/IP connection with hardware node.

Step 3: Check TCP/IP port if data present then read and display.

Step 4: Differentiate data with respect to class & IP.

Step 5: Check respective IP with class and time table.

Step 6: If any wrong then send E-mail to the parents.

Step 7: Upload all data in server.

Step 8: Goto step 3.

LITERATURE SURVEY

No.	Year	Paper name	Limitations	Future making
1	2017	IoT Platform Based Intelligent Medicine box	There is no option for prescribe new medicine by online.	Security of the highest order for the medical data on cloud storage
2	2015	A Smart Pill Box with Remind and Consumption Confirmation Functions	It works well only if an internet connection is available.	A complex user interface setup is not required.
3	2016	ArduMed - Smart Medicine Reminder for Old People	They are not following up on alarms so if the user skips the alarm, The system dont remind them again.	This will drastically decrease overdose of medicines due to forgetfulness and the patients will also be reminded to take their medicines.

CONCLUSION

To improve medication safety among the older, during this paper, we tend to propose a wise pill box that takes all recommendation and alert of drugs dose of patient. facilitate to patient and patient family to recollect the doss time to require doss time to time as per

the schedule. Whenever patient and patient family take doss first scan the QR code thus smart pill box suggested the proper drugs or not. The projected pill box will reduce family member’s responsibility towards making certain the proper and timely consumption of medicines.

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