

**IOT Platform Based Smart Pill Box System**<sup>1</sup>Prof.Raviraj Kasture , <sup>2</sup> Sanket Borkar, <sup>3</sup> Rahul Shinde, <sup>4,2</sup> Diksha Waghmare, <sup>5</sup> Snehal Hande<sup>1</sup>Project Guid, ICEM, Pune, Maharashtra, India<sup>2</sup>BE, ICEM, Pune, Maharashtra, India<sup>3</sup>BE, ICEM, Pune, Maharashtra, India<sup>4</sup>BE, ICEM, Pune, Maharashtra, India<sup>5</sup>BE, ICEM, Pune, Maharashtra, India

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**Abstract** — *The natural decline in physical function with aging ends up in a rise in incidences of varied chronic diseases in elderly individuals; most patients with chronic diseases have to be compelled to take medications over a protracted amount of time so as to stabilize their conditions. ensuring that the patients consume the correct medication at the appropriate time becomes crucial. we have developed an instrumented pillbox, that permits observation of medication adherence on endless basis. This device improves on existing systems by providing quality, frequent and automatic information assortment, additional careful data regarding nonadherence and medicine errors.*

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**Keywords-** : Smart Pill Box; Medication safety; Matrix Bar Code;

**I. INTRODUCTION**

Our medicine box is targeted on users United Nations agency often take medicine or nutriment supplements United Nations agency watch out of the older or patients. The drugs box is programmable that permits users to specify the pill amount to require and therefore the serve time for every day. Our electronic physical pillbox is suitable for aged people United Nations agency don't seem to be conversant in technology-based product as a result of they'll be interacting with the Pillbox primarily through the matrix barcode. With improved convenience and lower prices, the new choices created through this work will assist the aged in developing the habit of taking their medications often. The members of the family or patients got to fill the drugs within the pill box manually, this is often an extra responsibility for members of the family of the aged, or maybe the patients. User register medication and details into good pill box for often take medicine. Good pill box linear unit positive the drugs will for proper treatment of patient send emergency notification to user. Whenever user forget the dosage system send notification to user or whenever user take wrong medication pill send warning message to user . In our system bed down is completed warning message send to the user moreover as medical store for brand new bed down demand. Our pillbox differs from existing solutions because it will give medical bag checks and make sure medications, all at an occasional price. What is more, our electronic physical pillbox is appropriate for aged people United Nations agency don't seem to be in technology-based product as a result of they'll be interacting with the pillbox primarily through the matrix barcode.

**II. LITERATURE SURVEY****[1] A Smart Pill Box with Remind and Consumption Confirmation Functions**

**Author:** Huai-Kuei Wu, Member, Chi-Ming Wong, Pang-Hsing Liu, Sheng-Po Peng, Xun-Cong Wang.

Population aging could be a international issue that affects several developing countries like Taiwan. The natural decline in physical operate with aging results in a rise in incidences of assorted chronic diseases in older individuals, most patients with chronic diseases ought to take medications over a chronic amount of your time so as to stabilize their conditions. making certain that the patients consume the proper medication at the acceptable time becomes crucial. This paper proposes a wise pill box equipped with a camera and supported the drugs bag conception. The matrix Universal Product Code written on the drugs luggage is employed to act with the pill box up order to perform pill prompt and ensure functions. The members of the family or patients ought to fill the drugs within the pill box manually, this can be an extra responsibility for members of the family of the older, or maybe the patients.

**[2] IoT Platform Based Intelligent Medicinebox**

**Author:** Ninu P.J.1, Varun Kesav M.N.2 M.Tech Student, Department of ECE, Vidya Academy of Science and Technology, Thrissur.

Most of the elders have multiple chronic diseases, and that they use medicines to stabilize their health conditions. Pharmacists Association suggested that the family ought to be a lot of involved on medication safety of the elders. Most patients with chronic diseases ought to take medications over a long amount of your time so as to stabilize their health conditions. Confirming that the patients consume the proper medication at the right time becomes crucial. associate IoT-based intelligent home-based health care platform, that absolutely connects sensible sensors connected to the bod for

biological watching and intelligent medical packaging for daily medication management. The system will offer timely reminders to patients concerning their medication, and precisely management the kind and quantity of prescribed medicines, therefore avoiding medication misuse and abuse. once a patient consults a doctor, his/her details as well as drugs prescription are uploaded to the online server. From the remote physician's perspective, it's terribly convenient to form or update a prescription for a selected patient.

**[3] A Mobile Phone Based Medicine In-take Reminder and Monitor**

**Author: Mei-Ying Wang, John K. Zao, P.H. Tsai, J.W.S. Liu**

Out-patient medication administration has been identified as the most error-prone procedure in modern healthcare. Under or over doses due to erratic in-takes, drug-drug or drug-food interactions caused by un-reconciled prescriptions and the absence of in-take enforcement and monitoring mechanisms have caused medication errors to become the common cases of all medical errors. Most medication administration errors were made when patients bought different prescribed and over-the-counter medicines from several drug stores and use them at home without little or no guidance. Elderly or chronically ill patients are particularly susceptible to these mistakes. A smart phone application designed to help patients avoiding these mistakes. It can remind its users to take the correct medicines on time and record the in-take schedules for later review by healthcare professionals. It is equipped with user friendly interfaces to help its users to recognize the proper medicines and obtain the correct instructions of taking these drugs. It can maintain the medicine in-take records on board, synchronize them with a database on a host machine or upload them onto a Personal Health Record (PHR) system.

**[4] ArduMed - smart medicine Reminder for old people**

**Author: Mayuresh Waykole, Vatsalya Prakash, Himanshu Singh, Nalini N VIT University, Vellore**

It's a frequent observation that people provide a lot of preference to their work and alternative material things than taking care of their health. If smart, working adults will forget taking correct medications, the situation will only be worse for our folks and grandparents. usually they forget to require their medications or take drug of it, leading to any health deterioration. Our system aims to reduce this downside by reminding patients regarding their medications and showing them the proper quantity of medication to require. it's a combination of physical and digital reminder that may be useful for individuals of any age, however is specially useful to previous people that forget taking their medications.

**[5] Medication reminder and healthcare – an android application**

**Deepti Ameta, Kalpana Mudaliar and Palak Patel Gandhinagar Institute of Technology, Gandhinagar, Gujarat, India**

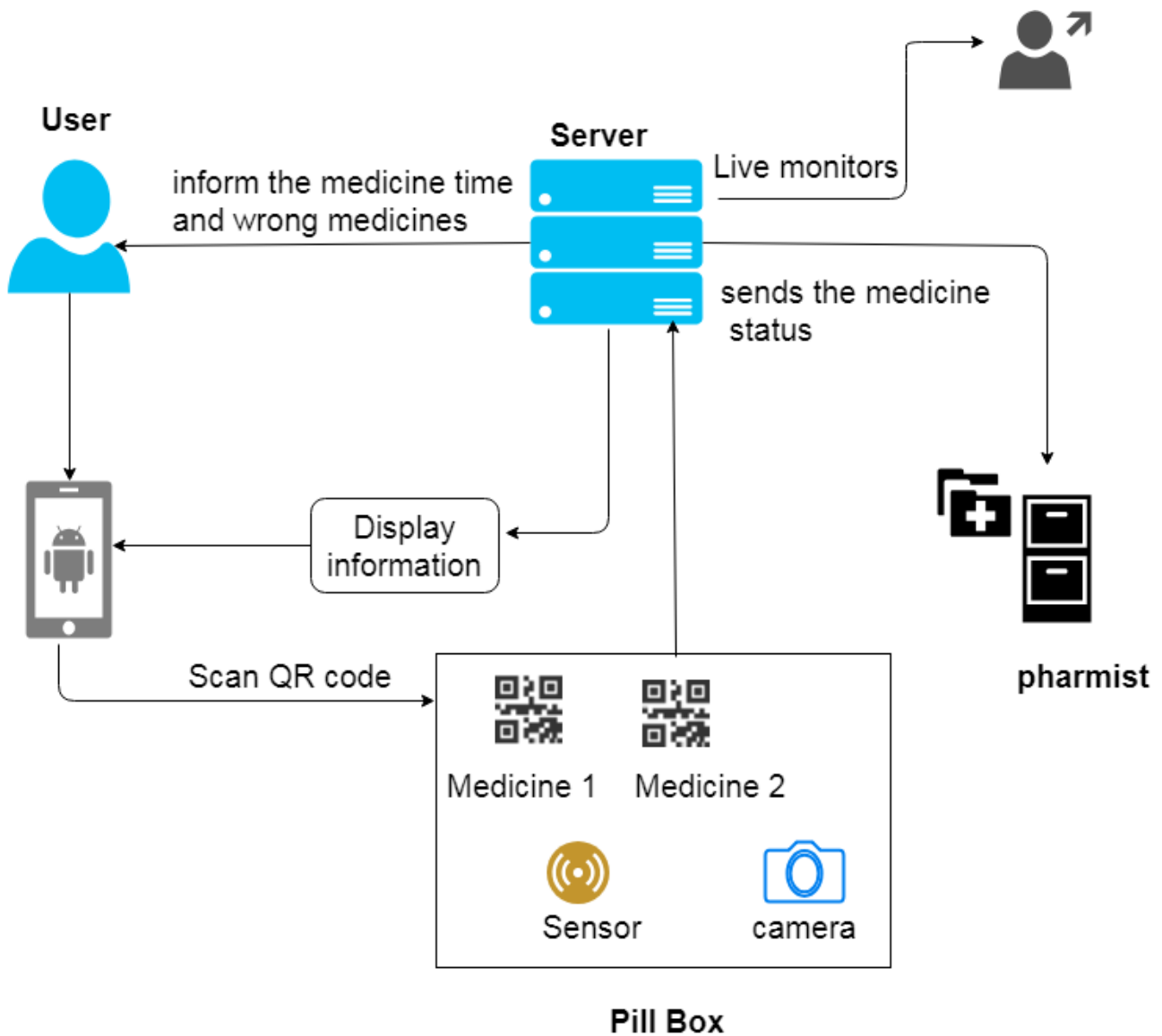
This is an Android-based application during which an automatic alarm ringing system is enforced. It focuses on doctor and patient interaction. Patients need not keep in mind their medication dose timings as they'll set an alarm on their dose timings. The alarm are often set for multiple medicines and timings together with date, time and medication description. A notification are sent to them through email or message within the system ideally chosen by the patients. they'll search doctor malady wise. The patients can get the contact details of doctors as per their convenience. additionally the users will see totally different articles associated with medical fields and health care tips. The system focuses on straightforward navigation and smart interface. several such Medical Reminder Systems are developed wherever a new hardware is needed however in our work we have created an effort to develop a system that is economical, time-saving and supports medication adherence.

### **III. PROPOSED SYSTEM**

In our daily busy schedules, we forgot to take our medicines on time. We are aware to take care of our health. Mostly aged people are suffered of this problem. So we developed a system which will help to those people who forgot to take their medicines.

In our system user will register to system and add his medicine timing in the system then system will generate QR code for every medicine. 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 10 minutes before his timing so that if user is going out somewhere so he can carry them.

#### IV. SYSTEM DESIGN



**Fig: System Architecture of Smart Pill Box**

#### V. ADVANTAGES

Whenever user forget the dosage system send reminder notification to user for dosage. User store all dosages & courses information in system so they relief about dosages time and end date of dosage.

#### VI. 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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