Personal Assistance for Seniors Who Are Self-Reliant

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Abstract:

Sometimes elderly people forget to take their medicine at the correct time. They also forget which medicine they should take at that time. It is also difficult for doctors/caretakers to monitor the patients around the clock. To avoid this problem, a reminder system has been proposed. 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 (Internet of Things) Device through the IBM IoT platform. The device will receive the medicine name and notify the user with voice commands.

Keywords: *IoT, Web Application, Medicine Intake, IBM Cloudant.*

Literature Survey:

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| **S.**  **No.** | **Link** | **Publication** | **Paper** | **Author** | **Inference** |
| 1 | [MEDication reminder](https://pubmed.ncbi.nlm.nih.gov/28993388/)  [APPs to improve medication adherence](https://pubmed.ncbi.nlm.nih.gov/28993388/) [in Coronary Heart Disease (MedAppCHD) Study: a randomised controlled trial protocol -](https://pubmed.ncbi.nlm.nih.gov/28993388/)  [PubMed (nih.gov)](https://pubmed.ncbi.nlm.nih.gov/28993388/) | BMJ, October 10, 2017. | MEDication reminder APPs to improve medication adherence in coronary heart disease (MedAppCHD) Study: a randomised controlled  Trialprotocol | Karla Santo, Clara K  Chow, Aravinda  Thiagalingam, Kris  Rogers,6John Chalmers,  Julie Redfern | Medication remainder App through randomization. Randomization will be performed using a central pass-wordprotected web-based computerized randomization program with a 1:1:1 allocation ratio. There will be no stratification for the randomization procedure, and group allocation will be concealed from the study personnel. Due to the nature of the intervention, it is not possible to blind participants to group allocation. |
| 2 | Design of Smart Medicine remainder box with android application.  [(ijser.org)](https://www.ijser.org/researchpaper/ArduMed---Smart-Medicine-Reminder-for-Old-People.pdf) | Indian Journal of Science and Technology, Vol 8(S2), 189–194, January 2015. | Smart Medicine Reminder for Old People with android application. | Shivkumar Dharmoji, Aditya Patil , Akshata Anigolkar | The proposed SMR system takes the idea of automated dispenser to the next level as it has some functionalities that are not included in any other automated dispensers. An account is provided for each patient and no one else can access it except the patient and the caregiver if the credentials were provided to him/her. Some statistics are provided about the pills taken with their alarms and the already existing ones. Online database of the users, pills and their alarms are also a great feature that helped in the design of the project. |
| 3 | [Internet of Things](https://ieeexplore.ieee.org/document/9153994)  [(IoT) Based Smart](https://ieeexplore.ieee.org/document/9153994)  [Health Care Medical](https://ieeexplore.ieee.org/document/9153994)  [Box for Elderly People](https://ieeexplore.ieee.org/document/9153994)  [| IEEE Conference](https://ieeexplore.ieee.org/document/9153994)  [Publication | IEEE](https://ieeexplore.ieee.org/document/9153994)  [Xplore](https://ieeexplore.ieee.org/document/9153994) | May - June 2021 International Journal of Advanced Trends in Computer Science and Engineering. | Internet of Things  (IoT) Based Smart  Health Care Medical  Box for Elderly People | Pampapathi B M1 , Chandana Murthy2 , Supritha Kumar3 , Pooja M4 , Supriya K5 . | The sensors that are incorporated with the medical box enable users to monitor their body temperature and pulse at any time. A database Firebase has been generated to reserve all kinds of data about doctor and patient, Remedies time information and body temperature details. |
| 4 | [Design &](https://ieeexplore.ieee.org/document/8745654)  [Implementation of an](https://ieeexplore.ieee.org/document/8745654)  [Automated Reminder](https://ieeexplore.ieee.org/document/8745654)  [Medicine Box for Old](https://ieeexplore.ieee.org/document/8745654)  [People and Hospital |](https://ieeexplore.ieee.org/document/8745654)  [IEEE Conference](https://ieeexplore.ieee.org/document/8745654)  [Publication | IEEE](https://ieeexplore.ieee.org/document/8745654)  [Xplore](https://ieeexplore.ieee.org/document/8745654) | 2018 2nd Int. Conf.  On Innovations in  Science,  Engineering and Technology  (ICISET) 27 – 28  October,  Chittagong,  Bangladesh | Design &  Implementation of an  Automated Reminder  Medicine Box for Old People and Hospital | Mohammed Abdul Kade,  Mohammad Nayim  Uddin, Asif Mohammad  Arfi, Naeemul Islam, Md.  Anisuzzaman | The device has a box, with compartments, the attendants can manually set the time and store them in SD card. When the time is matched with the set time, the device plays an alarm. |
| 5 | [Medicine management](https://ieeexplore.ieee.org/document/5670451)  [and medicine taking assistance system for supporting elderly care at home](https://ieeexplore.ieee.org/document/5670451) | NEHI (New England Health Care Institute) 2009. Aug 12, [cited 2011 Nov 4] | Medicine management and medicine taking assistance system for supporting elderly care at home | [Regina M. Benjamin](https://pubmed.ncbi.nlm.nih.gov/?term=Benjamin%20RM%5BAuthor%5D), MD,MBA VADM, U.S. Public Health Service Surgeon General. | ​People who have multiple chronic conditions and must manage a number of different medications to help them stay as healthy as possible. We need to involve the health-care community and patients, working together to address the serious public health issue of medication adherence.  ​ |

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2. Al-Mahmud, O., Khan, K., Roy, R., & Alamgir, F. M. (2020, June). Internet of things (IoT) based smart health care medical box for elderly people. In 2020 International Conference for Emerging Technology (INCET) (pp. 1-6). IEEE.
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