

Patient Medication Reminder

Shital Deshmukh¹, Kshitija Koli², Mantsha Khan³, Sakshi Chavan⁴, Prachi Bhosale⁵

Lecturer, Department of Electronics & Telecommunication¹

Students, Department of Electronics & Telecommunication^{2,3,4,5}

Bharati Vidyapeeth Institute of Technology, Navi Mumbai, Maharashtra, India

Abstract: Medication management is medical treatment handled by medical therapist that aims to optimize therapeutic outcomes for patients. It is an important topic for treating the elderly who often take multiple medications simultaneously to treat different conditions and symptoms. Medications usually need to be taken in specific doses at set intervals. Missing doses or timing doses incorrectly can cause medical complications. Medication management can include everything from using devices that issue reminders to patients to take their medications to filling pill cases for patients and marking the lid of each compartment to indicate when the contents need to be taken. In this paper, we present a case study of medication reminder system that helps to alert patients who forget to take their medicines at prescribed time. We used HW/SW Co-design approach to allow the hardware and the software of the system designed and implemented in parallel and make sure that the non-functional properties are met.

Keywords: Health system; Medication management; Medication reminder system; HW/SW Co-design; Behaviour driven development

REFERENCES

- [1]. Australian Government, "Guiding principle for medication management in residential aged care facilities", Department of Health and Aging, October 2012.
- [2]. AN BORD ALTRANAIS, "Guidance to Nurses and Midwives on Medication Management", July 2007.
- [3]. Z. Pang, J. Tian, Q. Chen, "Intelligent packaging and intelligent medicine box for medication management towards the Internet-of-Things", 16th International Conference on Advanced Communication Technology (ICACT), 2014, South Korea, DOI: 10.1109/ICACT.2014.6779193
- [4]. J.M. Slagle, J.S. Gordon, C.E. Harris, C.L. Davison, D.K. Culpepper, P. Scott and K.B. Johnson, "MyMediHealth – Designing a next generation system for child-centered medication management", Journal of Biomedical Informatics, Vol. 43, No. 5, pp. 27-31, 2011.
- [5]. S. Bhati, H. Soni, V. Zala, P. Vyas, Y. Sharma, "Smart Medicine Reminder Box", IJSTE - International Journal of Science Technology & Engineering, Volume 3, Issue 10, April 2017.
- [6]. P. KeeHyun & L. SeungHyeon, "Construction of a Medication Reminder Synchronization System based on Data Synchronization", International Journal of Bio-Science and Bio-Technology, Vol.4, No. 4, pp1-10, 2012.
- [7]. A. Boni, F. Pianegiani, D. Petri, "Low-Power and Low-Cost Implementation of SVMs for Smart Sensors", IEEE Transactions on Instrumentation and Measurement, vol. 56, no.1, pp.39-44.
- [8]. M. Alhaj, G. Arbez, L. Peyton, "Using behaviour-driven development with hardware-software co-design for autonomous load management", Information and Communication Systems (ICICS), 2017 8th International, Irbid, Jordan, DOI: 10.1109/IACS.2017.7921944.
- [9]. Unified Modeling Language, <http://www.uml.org>, Accessed on 11/12/2017
- [10]. Microchip Inc., <https://www.microchip.com>, Accessed on 21/11/2017.
- [11]. Roboteq, <https://www.roboteq.com/index.php/technologymenu/microbasic-technology>, Accessed on 11/12/2017.
- [12]. M. Cohn, User Stories Applied for Agile Software Development, Addison-Wesley, 2009.