Existing Systems and Approaches for Smartwatch based Ambient Assisted Living: A Review

WAD Chandrasiri, DMR Kulasekara

Department of Computer Engineering, Faculty of Computing, General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka

Abstract. This review paper, mainly considering Ambient Assisted Living for elderly care, people who live and work alone. With the development of the fields like Wireless Sensor Network (WSN), Internet of Things (IoT), Machine Learning, Image Processing, Cloud-based network, etc. in near future all of us be able to experience Ambient Assisted Living. Wearable Sensors are the new trend of the modern days, developers and scientists are thinking in the future lots of technology come with more portability features. Therefore, they are more considering developing new devices with the use of wearable sensor technology. There are many problems. that occur when developers try to implement these Ambient Assisted Living solutions because many of these solutions are targeting the elder generation of the society and most of the people from the elder generation are not familiar with these modern technologies. That kind of situation we can easily observe in mainly Asian and African regions. In the African region, many people from the younger generation also not very familiar with these modern technologies. Therefore, awareness about Ambient Assisted Living is more helpful for the people and as well as developers. Developers found a new solution, based on wearable sensors and other above-mentioned technologies. Here it is mainly considering the smartwatch-based solution. Nowadays people tend to wear smartwatches and it was the main reason to take this smartwatch-based solution for ambient assisted living as a topic. Also, other methods used in ambient assisted living cover in this review paper. After reading this paper we able to understand what the pros and cons are also in the other methods.

Keywords: *Ambient Assisted Living (AAL), Wearable Sensors, Elderly Monitoring System, Smartwatches*