Wearable Devices for Alzheimer Patients

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Abstract

The rising number of elderly persons with cognitive impairment who roam raises safety issues. Alzheimer's disease is common form of dementia and characterized by a progressive loss of cognitive processes, such as short-term memory and spatial cognition. Aside from memory problems, a person with this disease has trouble with visual processing and even recognizing and identifying loved ones. Moreover, Alzheimer's disease puts a patient's entire family under stress. It could even be fatal, because people who have the condition may stroll right into danger without realizing it. The fact that the patient must be observed 24 hours a day, seven days a week makes it difficult for the caregivers to give up their vocation in order to care for the patient. Recent technological advancements have made it feasible to connect everything on the planet to each other via the internet, this is what the wearable devices, sensors, wireless network, internet-of-thing nowadays, has enabled communication among the devices and gathering and storage of vast amount of data that is deemed very essential and relevant information. And in this age of technological advancement using detecting gadgets and new innovations on wearable technologies aims to provide a more useful strategy to screening and tracking patients. Wearables hold a lot of promise for enhancing the quality of life of Alzheimer's patients while also reducing the burden on healthcare and lowering operational costs. We discuss the various tracking systems and devices available today, as well as their benefits and drawbacks.

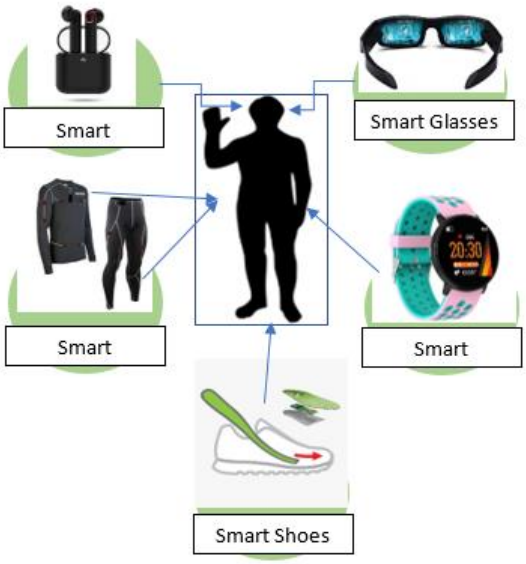


Figure 1. Smart Wearable devices at present.

Recent Publications (minimum 5)

1. Ahmad Waleed Salehi, Baglat Preety, Gupta Gaurav* (2020). “Alzheimer’s Disease Diagnosis using Deep Learning Techniques” International Journal of Engineering and Advanced Technology (IJEAT) Volume-9 Issue-3, February, 2020.
2. Gupta Gaurav*, Gupta Ankit, Barura Parimita and Jaiswal Varun (2019). “Mobile Health Applications and Android Toolkit for Alzheimer Patients, Caregivers and Doctors” Biological Forum–An International Journal, 11(1):199-205.
3. Gupta, G., Gupta, N., Gupta, A., Vaidya, P., Singh, G.K. and Jaiswal, V. (2021) ‘Prediction of Alzheimer associated proteins (PAAP): a perspective to understand Alzheimer disease for therapeutic design’, Int. J. Bioinformatics Research and Applications, Vol. 17, No. 4, pp.363–374.
4. Vanipriya, C. H., Subhash Malladi, and Gaurav Gupta* (2021). "Artificial intelligence enabled plant emotion Xpresser in the development hydroponics system." Materials Today: Proceedings.
5. Preety Baglat, Ahmad Waleed Salehi, Gupta Gaurav* (2020). “Review on Machine and Deep Learning Models for the Detection and Prediction of Coronavirus” Materials Today: Proceedings



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