

IoT Based Tracking System for Alzheimer Patients

Mamta Madan,^{*} Vani Nijhawan and Rameet Singh

VIPS-TC, Delhi, India

Abstract: In today's technological world, Information Technology has become the backbone of all businesses. Machine learning, Artificial Intelligence and Internet of Things have been put in application in the daily utility devices. This work is about an attempt made to design a wearable tracking device for patients suffering from Alzheimer and dementia. The Band consists of global positioning system, an Organic Light Emitting Diodes Screen SOS button, and a haptic feedback system. The GPS provides the real-time location of the patient to a connect mobile app. The device supports two-way communication as if patient's loved ones want to contact the patient, they can do so by sending the message through the app and if the patient wants to contact loved one she can press the SOS button to send message to the app. The device and the app communicate through firebase over the internet.

Keywords: Wearable Tracking Device, Mobile App, Global positioning system (GPS), OrganicLight Emitting Diodes(OLED), Flutter

1. Introduction

Worldwide, around 50 million people have dementia and Alzheimer, and there are nearly 10 million new cases every year. People suffering from Alzheimer's and dementia have the tendency to lose their potential to identify familiar places and/or people. Six out of 10 people having dementia will diverge at least once and many do it repeatedly. Although common, wandering can be dangerous even life-threatening and the stress of this risk weighs heavily on caregivers and family. With the aid of a tracking device, we can keep track of such patients and keep them close to their loved ones. Today's world is the world of emerging technologies. Internet being the essence of the business now a days, gives a push to the usage of mobile internet as well. In the present scenario, people have the mobile app for almost everything under the sun, may it be to order grocery items, food delivery, clothes & footwear and even for buying electrical appliances, which is being used as a medium to boost the company's sales and hence, profits. Following the same track, it was thought of providing the health care related facility through the mobile app.

This research is design a smart tracking device that can track patients who get lost due to Alzheimer and dementia, to tracking and two-way communication are done using firebase as a database over the internet and to develop a Mobile app based communication system that works both ways, i.e., from patient side and attendant side.

^{*} Corresponding author. Email: mamta.madan@vips.edu