

# NALAIYA THIRAN

**USER CASE: PERSONAL ASSISTANCE FOR SENIORS WHO ARE SELF RELIANT**

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## **LITERATURE SURVEY:**

### **Medicine Reminder and Monitoring System for Secure Health Using IOT**

The elderly people and the people victims of chronicle diseases who need to take the medicines timely without missing are suffering from dementia, which is forgetting things in their daily routine. Considering this situation study has been done in this. Paper reviewing the technologies of home health care which are currently used for improving this situation by reminding the scheduled of medicine, remote monitoring and update new medicine data of patients, which can be done by prescriber through web.

### **Smart Medicine Reminder Box**

This project's main aim is to make a Smart medicine box for those users who regularly take medicines and the prescription of their medicine is very long as it is hard to remember to patients and also for their care giver. Also, Old age patients suffering from problems of forget to take pills on proper time which causes certain health issues for patients having Permanent diseases like diabetes, blood pressure, breathing problem, heart problems, cancer diseases etc. These are a kind of problems in hospitals & people around us who have such kind of diseases and thus based on these two problems smart medicine box which solve these problems by Setting up time table of prescribed medicines through push buttons as given in prescription. Present time will be saved in RTC module and notification time will be saved in EEPROM. Therefore, at the time of taking medicine system generate Notification sound and display the Bright light in certain pill boxes. So, patient can know the specific number of boxes from which he has to take out medicines.

### **IoT based Monitoring and Control System for Home Automation**

This project proposes an efficient implementation for IoT (Internet of Things) used for monitoring and controlling the home appliances via World Wide Web. Home automation system uses the portable devices as a user interface. They can communicate with home automation network through an Internet gateway, by means of low power communication protocols like Zigbee, Wi-Fi etc. This project aims at controlling home appliances via Smartphone using Wi-Fi as communication protocol and raspberry pi as server system. The user here will move directly with the system through a web-based interface

over the web, whereas home appliances like lights, fan and door lock are remotely controlled through easy website. An extra feature that enhances the facet of protection from fireplace accidents is its capability of sleuthing the smoke in order that within the event of any fireplace, associates an alerting message and an image is sent to Smartphone.

### **IOT Based Home Automation System Using Arduino Board**

In this project smart environment condition monitoring by various sensors (Temperature and Light level) for providing necessary data to annually adjust the comfort level in home by optimizing use of energy is developed. In this project we are also using Arduino board and Arduino Wi-Fi shield. Temperature sensors will also detect the high and low temperatures which will identify the temperature and will notify it on device. The android application developed will allow user to manually switch ON and off the lights. This gives a huge advantage on the smart home system using IoT.

### **Smart Home Automation System for Elderly and Handicapped People Using Mobile Phone**

Smart Home Automation System for Elderly, and Handicapped People using Mobile Phone is a mobile web based application. The aim of this project is to propose a mobile device based remote control that permits elderly with physical challenges, in particular, aged and handicapped people, to command their desired devices without moving to the nearest control point [1]. At the same time, the local control is not excluded but alternative additional controls are achieved using a remote control supported by Raspberry pi 3 processor.

### **Development of a Wearable-Sensor-Based Fall Detection System**

Fall detection is a major challenge in the public healthcare domain, especially for the elderly as the decline of their physical fitness, and timely and reliable surveillance is necessary to mitigate the negative effects of falls. This paper develops a novel fall detection system based on a wearable device. The system monitors the movements of human body, recognizes a fall from normal daily activities by an effective quaternion algorithm, and automatically sends request for help to the caregivers with the patient's location.

### **Fall detection system for elderly people using IoT and Big Data**

Falls represent a major public health risk worldwide for the elderly people. A fall not assisted in time can cause function impairment in an elder and a significant decrease in his mobility, independence and life quality. In that sense, the present work proposes an innovative IoT-based system for detecting falls of elderly people in indoor environments. If a fall is detected, an alert is activated and the system reacts automatically by sending notifications to the groups responsible for the care of the elderly people. Finally, the system provides services built on cloud.