MEMBERS

* MERCY EUNICE C
* JANANAE M
* SARATHI R
* THIYAGARAJAN M

**LITERATURE SURVEY**

PERSONAL ASSISTANCE FOR SENIOR CITIZENS WHO ARE SELF RELIANT

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**INTRODUCTION**

The United Nations predicts that by 2030, the World’s population of adults aged 60 and older would have increased by 56%. According to the National Statistical Office (NSO Senior) in India 2021 report, India’s elderly population is expected to reach 194 million in 2031 from 138 million in 2021, a 41% rise over decade. In such a scenario, we lack a lot of support and assistance for the elderly. And, People in contemporary culture ignore numerous daily necessities as a result of their busy lives. Dementia causes forgetfulness of everyday routine in them and those with chronic illnesses who must take their medications on time without skipping a dose. Taking this into account, a study has been made in order to help the elderly with necessary assistance.

**THEORY**

In the midst of the pandemic, it is more urgent than ever to make sure that vulnerable older persons and people suffering from social isolation can be watched for signs of hazards to their long-term health. It is crucial to make it possible for fragile patients and elderly people at risk to remain in their own homes or facilities for assisted living. For this reason, many web and mobile applications have been developed to solve this issue. Many companies have created prototype AI Robots to study to measure the vital signs such as heart rate, heart rate variability and answer health related questions of an individual.

Some apps have already been developed to

* Make medication and healthcare management enjoyable with rewards programs incentives that motivate users to stick to daily healthy practices and take prescriptions as prescribed.
* Monitor blood pressure, weight and other statistics
* Check the symptoms and follow up the treatments and medical emergency guides
* Suggest diet plans and calorie counter
* Track health data 24/7
* Offer exercise recommendations and other health related tips
* Remember to take their medications, order prescription refills, keep track of doctor appointments.
* Give drug interaction alerts
* Help caretakers keep track of medicines for their loved ones.
* Offer a premium edition with additional features, such as the capacity to sync reminders between several smart devices.

**JOURNAL PAPERS**

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| S.NO | TITLE | AUTHORS | DESCRIPTION |
| 1. | HEALTH CARE MONITORING AND MEDICINE REMINDER FOR ALZHEIMER DISEASE PATIENT | [1] Poonkuzhali, R and Anusuya, V and Arul Nandhini, S and Dhivya, K | The main objective of this application is to make an Alzheimer's patient need medication at the appropriate time without help from others. This app helps patients with daily tasks and connects them to the closest person who can help. Additionally, it notifies the patient of their medication every day. It contains a GPS tracking system to keep tabs on the patient's whereabouts. medicine box with a light sensor that detects changes in the medication slots, counts the quantity of pills a patient is taking to determine whether they've taken the incorrect medication, and emits alert and auditory indicator signals. Here, an IoT platform links patients with their families to cut down on medication abuse. |
| 2. | SMART IoT SYSTEM BASED PATIENT MONITORING AND MEDICINE REMINDER BASED ON REGISTRY SERVICE SELECTION SCHEME | [2] Annamalai, M and Jesintha, DXM | This software is for elderly people and others with chronic illnesses who must take their medications on time to avoid developing dementia. Registry Service Selection (RSS) strategy is used to create a quiet assistance model to achieve the detection and reminder of the patient's physical condition in order to investigate the development of patient help framework dependent on Quality Function Deployment (QFD) in the Internet of Things (IoT) condition.  The developed Registry Service Selection (RSS) and Augmented Data Recognize (ADR) security algorithms, as well as the programming for the IoT system's medical evaluation structure, have been examined. |
| 3. | RASBERRY PI MEDICINE REMAINDER E-MAIL ALERT USING IOT | [3] Kumara, CH Santhosha and Goutham, V and Ramachander, N Santosh | The timing of the patient's medication intake is the subject of this endeavour. The system has a default timing that can be modified by the patient to suit his or her needs. This Linux-based Speaking Medication Reminder can help you avoid these potentially fatal blunders. Medication errors are exceedingly dangerous. This study suggests a smart pillbox system with a consumption and reminder feature that informs the user to take their medications at the appointed time.  The database for the pill dose and reminder time with time and date is constructed using a Raspberry Pi 3. It uses a Linux system's ESPEAK package to convert text to speech, which makes the job easier. |
| 4. | SMART MECIDINE REMAINDER DEVICE FOR THE ELDERLY | [4] Kumar, Shawn Benedict and Goh, Wei Wei and Balakrishnan, Sumathi | The elderly are reminded to take their medications at the appropriate times using IoT-based smart medicine reminder devices. The second goal is to make it possible for elderly people to monitor their medicine intake in an unobtrusive and seamless way. Thirdly, to make it possible for an elderly person's mobile devices and their IoT-Based Smart Medicine Reminder Device to communicate seamlessly. The IoT-Based Smart Medicine Reminder Device mobile application will be created on cloud servers. Compared to using a traditional server, employing cloud servers allows for greater cost savings and increased security. To enable the hardware to connect with one another and perform as planned, mini networks will be created. |
| 5. | SMART MEDICATION & MONITORING SYSTEM FOR SECURE HEALTH USING IOT | [5] Solanke, Priyanka J and Lakshman, Scientist K | Making a smart medicine box that employs a real-time clock is the goal of this project, which uses a PIC microcontroller. The patient must take the pills at the proper time in order to prevent our systems from making loud noises till the medication is removed from the box. Give them a partial release from that obligation and direct all of your attention to the device's load dose. Since only one out of every ten persons in need now has access to such a system due to expensive costs and a lack of awareness, availability, and personal training, the development of alternatives to medicine devices appears to be both necessary and promising. The goal of developing a tool that enables the management of several drug schedules, automated opening system, and efficient alerting system was accomplished |

**CONCLUSION**

We can use technologies such as Machine Learning, AI, IOT, Cloud to make the elderly self-reliant. The senior citizens need 24/7 care and assistance which is provided through the mobile services like Text -to -Speech, AI bots, Cloud database, AWS. We can provide an affordable user-friendly environment in IOT Platform with Web Application development, Voice Assistance, Cloud storage, Web UI. A Web application is built for the user(caretakers) which enables him to set the desired time and medicine. These details will be stored in the IBM Cloudant DB. The device will receive the medicine name and notify the user with voice commands. We strongly believe that this will assist the elderly and turn their older phase of life into a happier one.

**REFERENCE**

**Existing Solution-**<https://karantis360.com>

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[3] Kumara CS, Goutham V, Ramachander NS. Rasberry PI Medicine Reminder E-Mail Alert Using IOT. Think India Journal. 2020 Feb 21;22(41):122-6.

[4] Kumar SB, Goh WW, Balakrishnan S. Smart medicine reminder device for the elderly. In2018 Fourth international conference on advances in computing, communication & automation (ICACCA) 2018 Oct 26 (pp. 1-6). IEEE.

[5] Solanke PJ, Lakshman SK. Smart Medication & Monitoring System for Secure Health using IoT. Int. Res. J. Eng. Technol. 2019;6.

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