Literature survey

1.Paper name:

A critical analysis of an IoT—aware AAL system for elderly monitoring

Author name:

Aitor Almeida, Rubén Mulero, Piercosimo Rametta, Vladimir Urošević and Marina Andrić

Abstract:

A growing number of elderly people (65+ years old) are affected by particular conditions, such as Mild Cognitive Impairment (MCI) and frailty, which are characterized by a gradual cognitive and physical decline. Early symptoms may spread across years and often they are noticed only at late stages, when the outcomes remain irrevocable and require costly intervention plans. Therefore, the clinical utility of early detecting these conditions is of substantial importance in order to avoid hospitalization and lessen the socio-economic costs of caring, while it may also significantly improve elderly people's quality of life. This work deals with a critical performance analysis of an Internet of Things aware Ambient Assisted Living (AAL) system for elderly monitoring. The analysis is focused on three main system components: (i) the City-wide data capturing layer, (ii) the Cloud-based centralized data management repository, and (iii) the risk analysis and prediction module. Each module can provide different operating modes, therefore the critical analysis aims at defining which are the best solutions according to context's need

2.Paper name:

Elderly Perception on the Internet of Things-Based Integrated Smart-Home System

Author name:

Tae Hee Jo , Jae Hoon Ma and Seung Hyun Cha

Abstract:

An integrated smart home system (ISHS) is an effective way to improve the quality of life of the elderly. The elderly's willingness is essential to adopt an ISHS; to the best of our knowledge, no study has investigated the elderly's perception of ISHS. Consequently, this study aims to investigate the elderly's perception of the ISHS by comprehensively evaluating its possible benefits and negative responses. A set of sensors required for an ISHS was determined, and interviews were designed based on four factors: perceived comfort, perceived usability, perceived privacy, and perceived benefit. Subsequently, technological trials of the sensor-set followed by two focus group interviews were conducted on nine independently living elderly participants at a senior welfare center in South Korea. Consistent with previous studies, the results of this investigation indicate that elderly

participants elicited negative responses regarding usability complexity, and discomfort to daily activities. Despite such negative responses, after acquiring enough awareness about the ISHS's benefits, the elderly acknowledged its necessity and showed a high level of willingness

3. Paper name:

IoT Based Pill Reminder and Monitoring System

Author name:

Sultan Ahmad ,Mahamudul Hasan , Gouse Pasha Mohammed , Mohammad Shahabuddin , Tasnia Tabassum and Mustafa Wasif Allvi

Abstract:

There are many people around us who are the victims of chronic disease. Most of them suffering from dementia. Some people overlook to take care of health. Because of the lack of an expert system, people are forced to submit in frequent health related problems. By analyzing the data, an internet of things (IoT) based reminder system has been developed. It is designed to assist the patient who forgets to take medicine. The proposed system consists of an IoT enabled device and an android application. It mainly focuses on dementia patient. But it is beneficial for all. Patients will no longer have to worry about daily medication. The application will send a notification when it's time to take medicine. The mobile application is used for keeping the record in medicine details and reminding the schedule of medicine. We have used the IoT enabled Arduino device for monitoring the whole system. The device can sense whether a patient has taken medicine or not with the help of the infrared (IR) sensor. We have tried to develop a system which will help patients to manage their health care properly.

4. Paper name:

HABITAT: An IoT Solution for Independent Elderly

Author name:

Elena Borelli, Giacomo Paolini, Francesco Antoniazzi, Marina Barbiroli , Francesca Benassi

Abstract:

In this work, a flexible and extensive digital platform for Smart Homes is presented, exploiting the most advanced technologies of the Internet of Things, such as Radio Frequency Identification, wearable electronics, Wireless Sensor Networks, and Artificial Intelligence. Thus, the main novelty of the paper is the system-level description of the platform flexibility allowing the interoperability of different smart devices. This research was developed within the framework of the operative project HABITAT (Home Assistance Based on the Internet of Things for the Autonomy of Everybody), aiming at developing smart devices to support elderly people both in their own houses and in retirement homes, and embedding them in everyday life objects, thus reducing the expenses for healthcare due to the lower need for personal assistance, and providing a better life quality to the

elderly users the expenses for healthcare due to the lower need for personal assistance, and providing a better life quality to the elderly users

5.Paper name:

A Survey on the Internet of Things Solutions for the Elderly and Disabled: Applications, Prospects, and Challenges

Author name:

Resul das

Abstract:

Advances in technology has not only led to the start of innovative solutions and new business opportunities in different sectors but also reduced manpower needs and operational costs. Furthermore, the quality of provided services has been improved. Therefore, recently, the Internet of Things (IoT) has gained a great momentum as a key enabling technology for a wide range of health care applications, especially for the elderly and disabled. Although, solutions based on IoT technology have started to support the elderly and disabled in many areas of their life and work and the IoT helps improve quality of life for the elderly and disabled, the amount of data collected by the IoT has increased tremendously and surpassed the expectations. This makes it necessary to investigate approaches and solutions in order to efficiently utilise large amounts of data, especially in health care applications. In this paper, we are first going to review existing approaches and IoT solutions specifically proposed and designed for the elderly and disabled. Then, we are going to investigate prospects and research challenges in the use of the IoT in the services designed for elderly people and people with disabilities to provide an insight into future research opportunities