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Patent Search

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Abstract:

GSM-BASED AUTOMATION IN A NEW SHOPPING SYSTEM DESIGNED FOR THE ELDERLY AND THOSE WITH DISABILITIES ABSTRACT: The utilisation of smart home automation systems has witnessed a significant rise in popularity, mostly attributed to the extensive range of manufacturer brands and the diverse array of technologies that are available. From a sociological perspective, individuals are granted access to smart houses in order to enhance their comfort, indulge in luxury, enhance their overall quality of life and to ensure protection against potential intrusions and burglaries. Furthermore, the implementation of home automation involves the utilisation of a singular controller that oversees and manages a multitude of interconnected devices. These devices encompass a wide range of functionalities, including but not limited to lighting fixtures, power outlets, heating, ventilation and air conditioning (HVAC) systems, humidity and temperature sensors, gas, smoke and fire detectors, audio and video equipment, home security systems as well as security and emergency systems. Smart homes are characterised by their affordability, energy efficiency, cost-effectiveness, and ability to automate household equipment. This automation is facilitated through user-friendly interfaces, such as remote controls or handheld devices. This smart home system offers significant advantages for elderly individuals, handicapped patients, and individuals with disabilities who experience challenges related to mobility. It enables seamless control and operation of all appliances and gadgets across the entire household, regardless of location, with exceptional efficiency. The provision of ubiquitous access is of great importance when a person is living alone. This requirement is fulfilled through the utilisation of XBee transceivers, which provide RF wireless communication between the remote control and the master control panel board.

Complete Specification**Description:DESCRIPTIONS:**

The elderly population is a significant and expanding demographic within the global populace. The data indicates a consistent increase in the proportion of elderly individuals, which can be attributed to various factors, notably the decline in birth rates and the decrease in female fertility. The percentage of individuals aged 65 and above in the United States experienced a rise from 12.4% in 2000 to 13.3% in 2011, with projections indicating a further increase to 21% by the year 2040. Furthermore, it is noted that the prevailing societal norms, advancements in contemporary healthcare practices, and the convenient availability of medical services have collectively contributed to the augmentation of life expectancy. According to a research published by the United Nations, the average life expectancy was projected to be 65 years in 1950, which increased to 78 years in 2010. Furthermore, it is anticipated that this trend will persist, with life expectancy projected to reach 83 years by the year 2040. Conversely, according to a survey, a notable proportion of those aged 65 and beyond, specifically 35% in the year 2011, had varying degrees of infirmity. Certain individuals necessitate aid in fulfilling essential personal requirements. Frail elderly individuals exhibit a preference for maintaining an independent lifestyle and self-managing the confines of their own residence, since this fosters a sense of competence and diminishes susceptibility to depressive symptoms. From an economic perspective, residing at home with monitoring devices and intelligent appliances proves to be a more cost-effective and advantageous option compared to seeking medical care centres and receiving supervision from nurses. The integration of smart home systems featuring remote monitoring controls and healthcare capabilities is expected to result in a reduction in the costs associated with in-home personal help services. The objective of this article is to present a wireless remote control system designed to enable anyone with physical limitations, specifically those who are handicapped or disabled, to operate their chosen gadgets without the need to physically navigate to the nearest control point. The inclusion of local control is not disregarded; rather, supplementary controls are implemented through the utilisation of a remote control system.

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