The Elderly Monitoring System (EMS) monitors the elderly daily activities at home, and thus enabling the elderly to live independently on his/her own. This is done through unobtrusive monitoring with the use of wireless sensors network that will alert the caregiver (via sms) of abnormal long period of inactivity.

This system uses non-contact, non-invasive and low cost methodology and it is able to monitor the elderly in real time and provide timely alert as well. All this is achieved without requiring the elderly to wear a device or pressing a panic button where they may not be able to reach it.

**Potential Applications**

The system developed can be an off-the-shelf consumer product customizable to suit the requirements of the elderly. It is designed for elderly who lives alone and can be installed in a single room or as a comprehensive whole house monitoring system. For real time remote monitoring application, a computer system is installed as well. Additionally, the system can be extended to monitor multiple homes when undertaken by a welfare organization.

**Customer Benefits**

- Peace of mind for the caregiver/children taking care of elderly staying at home alone
- non-contact, non-invasive and low cost methodology
- Real-time monitoring

**Technology Features & Specifications**

This technology consists of a series of PIR sensors to detect elderly movement. With wireless technology, sensor signals are transmitted to microcontroller unit to monitor long period of inactivity and trigger alert using SMS messages. Optionally, at a remote monitoring site, a server with modem will keep track of the daily activities of the elderly.

**Market Trends and Opportunities**

The trend is that more elderly are living longer and prefer to stay at their own home. This system extends their ability to live independently in their own home and grow to a ripeful age. The elderly and disabled assistive devices market had reached a value of US$12.37 billion in 2012. This market is likely to reach an expected value of US$19.68 billion in 2019 to increase at a 6.9% CAGR from 2013 to 2019 (Transparency Market Research).

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