Team GoGetter

Project Proposal

Product Title:

"Grandma House"

Primary Project Proposal:

Alzheimer's disease or other dementia causes people to lose their ability to recognize familiar places and faces. It's common for grandparents living with dementia to wander or become lost or confused about their location, and it can happen at any stage of the disease. Although common, wandering can be dangerous and the stress of this risk weighs heavily on caregivers and family. The project is designed to detect your grandma or loved one's rising from bed by monitoring his/her body weight and motion. It also detects the location of grandma within the house. An alarm will go off when the system detects anything "abnormal" about the grandma's location.

Product Description:

This device will consist of two parts. First, a sensor system that is located under the patient bed and throughout the house to collect and analyze data with an Arduino microcontroller. Second, an alarm/LED that is designed to go off when the system indicates that grandma is doing something "abnormal".

Requirements:

1. Using weight sensors such as strain gauge to determine when the patient leaves their bed.

2. Using different motion sensors and infrared sensors to determine when the patient (leaves their room/enters another room).

4. Transmission of all collected data to a microprocessor (Arduino) and send it to a web server.

5. When the patient leaves their bedroom during an unwanted time and the movement system indicates that the patient has left the room/house, the system will set an alarm to notify their caregivers.

6. The system will be hidden out of sight and without any wearable accessories.

7. Integrate the alarm and the sensor system with wireless communication (RF transceiver)