An Intelligent Watch-Over System Using an IoT Device, for Elderly People Living by Themselves

Authors : Hideo Suzuki, Yuya Kiyonobu, Kotaro Matsushita, Masaki Hanada, Rie Suzuki, Noriko Niijima, Noriko Uosaki, Tadao Nakamura

Abstract : People often worry about their elderly family members who are living by themselves or staying alone somewhere. An intelligent watch-over system for such elderly people, using a Raspberry Pi IoT device, has been newly developed to monitor those who live or stay separately from their families and alert them if a problem occurs. The system consists of motion sensors and temperature-humidity combined sensors that are located at seven points within an elderly person's home. The intelligent algorithms of the system detect signs and the possibility of unhealthy situations arising for the elderly relative; e.g., an unusually long bathing time, or a visit to a restroom, too high a room temperature, etc., by using data cached by the sensors above, at seven points within their house. The system gives more consideration to the elderly person's privacy, by using the sensors above, instead of using cameras and microphones placed around the house. The system invented and described here, can send a Twitter direct message to designated family members when an elderly relative is possibly in an unhealthy condition. Thus the system helps decrease family members' anxieties regarding their elderly relatives and increases their sense of security.

Keywords : elderly person, IoT device, Raspberry Pi, watch-over system

Conference Title : ICIUS 2018 : International Conference on Intelligent Unmanned Systems

Conference Location : Rome, Italy

Conference Dates : March 05-06, 2018