Sensors help keep elderly safe without intruding on privacy

The sensing system is able to translate the data into computer graphics, which are updated in real time, meaning caregivers would be able to keep tabs on the person's movements remotely. PHOTO: NTU

Singapore is using sensors to monitor whether an elderly person is eating properly, is anxious or has had a fall.
The sensors - placed at various locations around the home - track the person's movements throughout the day, and the information is used to get an idea of his health status and emotional state.

If a door is opened too many times, for instance, it could signal anxiousness, said Associate Professor Miao Chun Yan, director of the Research Centre of Excellence in Active Living for the Elderly at Nanyang Technological University, which is leading the effort.

The same could be done with a refrigerator door, to monitor if a person is eating his meals.

"We are not trying to replace doctors but instead to collect data for caregivers to help them understand the needs of the elderly person," said Prof Miao.

The sensing system developed by the team is able to translate the data into computer graphics, which are updated in real time, meaning caregivers would be able to keep tabs on the person's movements remotely, such as through a smartphone.

NO PEEPING TOMS

A lot of elderly people say they would rather fall than to have a camera watching them, so we do not use cameras.

ASSOC PROF MIAO CHUN YAN, director of the Research Centre of Excellence in Active Living for the Elderly at Nanyang Technological University

Software also generates summaries based on the data it collects, allowing caregivers to get an idea of the old person's behaviour over the last few hours.

Researchers from the centre - opened in partnership with the University of British Columbia in Canada in 2012 - started tests on the sensing system half a year ago and have already started testing it out in a handful of homes. They are in the midst of getting more families to take part in the trial.

The scientists noted that moving into an unfamiliar environment can be nerve-wracking for seniors. Hence their aim is to make use of technology to help them remain at home - rather than in an old folks' home or in hospital - while maintaining their privacy.

Big brother is not watching, stressed Prof Miao.
"A lot of elderly people say they would rather fall than to have a camera watching them, so we do not use cameras."

The team said it might also look at complementing its system with wearable technology, such as slippers which can measure a person's gait, or heart rate trackers.

It also noted that the data collected could later be used to understand behavioural trends of seniors living alone, so that programmes could be tailored for them.

Samantha Boh