Get smart – sensing seniors' situation

Researchers used a network of sensors installed in the seniors' flat to track their memory, movements and sleep patterns over a period of time.



1. Gateway

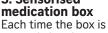
All non-gateway devices transmit their data wirelessly to the gateway, which aggregates and sends the data to the server via the Internet for the researchers to analyse.



2. Tap usage sensor

This is used to determine if the senior had forgotten to turn off the tap before moving away from the designated area.





opened, data is generated and used to determine how frequently the seniors forgot to take their medicine.



4. Motion and environmental sensor This is to detect motion.



5. Bed occupancy sensor

Placed under the mattress, this sensor provides data on the length and quality of sleep.

6. Contact sensor

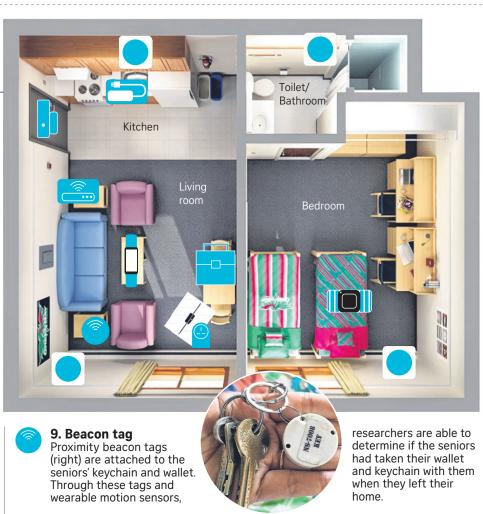
This sensor is placed at the flat's main door and on the medication box to detect if they are open or closed.

7. Smart plug

It monitors the usage of the appliance it is connected to based on voltage measurements.

8. Wearable

Activity bands worn by the seniors measure their heart rate.



SOURCE AND PHOTOS: ASSOCIATE PROFESSOR TAN HWEE PINK STRAITS TIMES GRAPHICS