# Energy-efficient intelligent house that can monitor health

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(PhysOrg.com) -- An energy-efficient house which can send alerts if its residents are ill has been developed by researchers at the University of Hertfordshire, UK.

InterHome which is the first home in the UK which can learn from its residents and take decisive action and text if it is being burgled or the door has been left unlocked can now also monitor the health of its occupants.

“We developed it further with elderly people in mind so that the house can send alerts if the person has a fall or a stroke,” said Mr Johann Siau, Senior Lecturer at the University’s School of Engineering and Technology. The researchers have developed a prototype device which can be strapped to a person’s wrist and is equipped with various sensors which take readings of body temperature and pulse.

“This opens up a platform for us to add new types of technologies around assisted living,” said Mr Siau.

InterHome, incorporates modular custom design units and draws on standard home automation systems which have been adapted so that the house ‘learns’ and ‘adapts’ to its users’ lifestyles. The prototype of the home, which has been developed in a doll’s house, integrates embedded devices with home automation controllers, so that it provides convenience and security to the home owner and also enables them to reduce energy.

According to Direct.gov, making your home as energy efficient as possible will reduce carbon emissions and could save you over £300 a year on your fuel bills and contribute to reducing greenhouse and carbon emissions. InterHome incorporates an intuitive touch screen user control panel that also allows the house to be monitored and controlled using web browsers, smart phones and any SMS-capable mobile phone.

“InterHome improves on its competitors by being modular, adaptable and able to ‘learn’ our routines,” said Mr Siau. “The technology enables the system to learn rapidly when we need the lights on or whether we are at home or at work and how the house needs to be at certain times of the day. If we forget to lock the front door or turn off the lights, it can text us and our response can reprogramme the system.”

Through this approach, InterHome can eradicate wasted energy within UK homes and make a difference to CO2 emission statistics when installed in enough houses. The prototype is now being trialled by industry and the team led by Mr Siau is working with the Building Research Establishment where they are installing the InterHome system into two of their show homes on their innovation park.

Provided by University of Hertfordshire