

New 'smart' homes for dementia sufferers

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Within five years innovative 'smart' sensing systems that will help the UK's 700,000 dementia sufferers live independently at home could be available commercially.

Once installed, the systems are designed to closely monitor people's movements and actions around the home. As well as providing voice-prompts (e.g. reminders to turn off a tap or cooker), they can also directly switch lights or appliances on and off in order to eliminate potential dangers.

Developed at the University of Bath with funding from the Engineering and Physical Sciences Research Council (EPSRC), the systems incorporate specially developed, cutting-edge sensor, electronics and IT capabilities.

Two trial systems installed in care homes in London and the West Country have now been operating successfully for over a year.

They are providing clear evidence that, if installed in domestic properties, systems like this could help people with dementia live safely and with more control over their lives. They could be particularly useful where sufferers live on their own.

As well as boosting quality of life for those with dementia, the systems could help reduce the burden on the families of people with the condition, as well as on professional carers and healthcare budgets.

A mocked-up living environment with working examples of these 'smart' technologies will be on show at EPSRC's 'Pioneers 09' showcase event, to be held on Wednesday 4th March at London's Olympia Conference Centre.

Professor Roger Orpwood, the lead scientist behind the systems' development, says: "The driver really has been to arrive at a creative engineering solution that addresses real problems faced by real people with real needs. The key is to focus on enabling people, not on taking decisions away from them."

It is envisaged that systems installed in domestic properties would function on a simple 'plug in and use' basis, with minimal visibility or intrusiveness.

The key will be to tailor them to individual requirements and ensure that they act as much like a live-in carer as possible. For example, voice-prompts can utilise the voices of relatives or friends to deliver reassuring messages, as well as to influence behaviour.

The systems are also designed to be monitored remotely via computer by healthcare professionals.

Professor Orpwood says: "The next step is to make sure the systems can be managed by non-technical local authority carers and healthcare staff. If manufacturers can be brought on board, we could see systems in people's houses within five years or so."

Evaluation of the two trial systems is currently being funded by two medical charities.

Source: Engineering and Physical Sciences Research Council

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