

Could robots help older people look after themselves

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(PhysOrg.com) -- Researchers at the University of the West of England, Bristol (UWE) are taking part in a European project aimed at creating an intelligent system comprising a robot and smart sensors that can support independent living for elderly people.

MOBISERV (An Integrated Intelligent Home Environment for the Provision of Health, Nutrition and Mobility Services to the Elderly) has been funded with an EU Framework 7 grant of 2.7 million Euros, of which UWE will receive 267,605 Euros. The project co-ordinator is Systema Technologies S.A., and the consortium has nine European partners from seven countries.

The project will bring together a multi-disciplinary team in UWE with expertise in care for [older people](#), Tina Fear and Simon Evans, robotics, Sanja Dogramadzi, and human-computer interaction, Praminda Caleb-Solly, who will look at the needs of older people and the potential of technology to meet those needs, with companies such as Robosoft (France) Smartex (Italy), CSEM (Switzerland) and Smart Homes (Netherlands). The team will also include [health care providers](#) St Anna in the Netherlands and the universities of Thessaloniki and Lappeenranta.

The project aims to produce three key systems of caring for older people. A wearable health status monitor with smart sensors woven into undergarments (Smartex and CSEM); a secure tele-alarm and health reporting system; and a nutrition support system (Thessaloniki), which might consist for example of reminders for when meals and drinks should be taken.

All these systems will be linked to a [robotic platform](#), which will also facilitate communications - helping people to keep in touch with friends or relatives, or create shopping lists using voice recognition. ROBOSOFT will deliver 2 Kompad'-R&D robots for trials starting in May 2010.

Dr Praminda Caleb-Solly who is leading the user experience research for UWE explains, "We are very excited about this project. We are working with some of Europe's leading robotic and wearable sensor companies in this field, to ensure that the technology being developed enhances the lives of older adults and gives them the ability to make informed lifestyle choices. We hope that the health monitoring and the nutrition support systems will help people to track and maintain a better standard of health and activity, helping them live independently for as long as possible. Initially we will look closely at the context in which older people live, their expectations and perceptions, to ensure that the

technology that is developed brings real benefits to them.”

“Our aim is to bring the lifestyle of older adults closer to the engineers and to bring the MOBISERV technology and solutions closer to the users. Six user groups of older people - three in the UK and three in the Netherlands will take part in the research. We will be looking at older people living alone in their own home, people living in residential care homes and those who live at home and go to day care. We want to know what would be acceptable to them in a personal and social context, and make sure that the technology is easy and intuitive to use. In our initial meetings with user groups we will be taking a robot and samples of the smart textiles along, so that people can gain a more tangible understanding of the technology thus enabling them to engage in a more informed discussion about the scope and impact of these in their lives.”

UWE and SMART HOMES researchers will work with user groups initially to gain a deep understanding of their needs, problems and issues, their experience of technology, routines and the context of their lives. This will help the team to compile a set of real scenarios of use, leading to design specifications for early prototypes which will subsequently be tested with user groups as part of field trials providing feedback for modifications. Several cycles of field testing and modification will be done to enable the technology to be closely aligned to user needs.

Dr Caleb-Solly says, “This research could have long term benefits in supporting a growing elderly population. We need to look at these systems holistically in the context of real lives and ensure that the support they give to older people living independently matches their expectations and meets a real need. The ethical aspects of using robots with older people will also be considered as part of this research.”

Dr Dogramadzi participates on the international Service Robotics Standards development committee and sees this project as an important

case-study to inform the standards being developed as part of ISO/TC184/SC2.

It is planned that standards and discoveries from this research will be shared openly. The project website is available at www.mobiserv.eu

Provided by University of the West of England

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