

Augmented Reality

Human Computer Interaction (HCI)

Smart Homes

Ubiquitous Computing

Persuasive Technology

Multimodal AR to Assist Ageing-in-Place

Shaun Lawson & David Nutter

University of Lincoln

The Investigation

This project aims to exploit the emerging and powerful interface technologies of augmented reality (AR) to create persuasive, motivational interfaces to provide just-in-time, appropriate cues to aid ageing-in-place for the older population. The aim of the 12 Month pilot study is to prototype a small number of AR systems to provide real-time cues to older people in a home setting. The cues themselves will contain information about healthier and safer (but longer term) lifestyle choices, or short term warning messages based on a person's current activity.



As a first step, paper-based scenarios and structured questionnaires will be used to construct proposed applications. Then, local NHS practitioners will be consulted to identify potential users of the proposed applications and tailor the applications to their needs. Finally, prototype augmented reality systems designed for deployment in ordinary homes will be developed.

These prototypes will be mock-ups, allowing user feedback to be rapidly incorporated into future revisions of the augmented reality tools using a "Wizard of Oz" methodology.

Potential Benefits

The maintenance of an independent lifestyle through ageing-in-place is a common social need of many older people. Evidence suggests that older people who remain independent are healthier and enjoy a higher quality of life than those reliant on residential care. However, unsupported independence may lead to vulnerability and this can also put increased demands on carers.

Supported ageing-in-place also has direct benefits for both commercial and social care providers. Direct cost benefits firstly arise from a reduction in demand for expensive residential care and upon other areas of the healthcare system. Secondly, ageing-in-place may reduce the burden on supportive families, spouses or other social caregivers who otherwise may become overwhelmed.

Therefore autonomous assistive systems which support decision-making for healthier and safer living to enable long-term ageing-in-place have a significant contribution to make.

As part of a general trend in exploiting electronic devices and pervasive systems, this research intends to support longer-term, safer ageing-in-place than is currently practical. In particular the research will generate the capacity to develop flexible systems which are affordable; tuneable to individual needs; discreet or attention-grabbing when required and which respect people's social interactions and activities.

Contact Details

Principal Investigator

Dr Shaun Lawson

slawson@lincoln.ac.uk

Department of Computing and Informatics

University of Lincoln

Brayford Pool

Lincoln LN6 7TS



Researcher

David Nutter

dnutter@lincoln.ac.uk

+44 (0) 1522 886653

