

Enabling and applying person-centred design for older adults

In our editorial¹ we argued that person-centred design acts as an antidote to technocentric visions of ageing by approaching technology development from the perspective of the people who will use it. This best practice reports on two projects: a user centre, and evaluations of person-centred technologies.

THE USER CENTRE AT THE UNIVERSITY OF DUNDEE

At the University of Dundee, a dedicated user-centre for older adults has been created. The management of the centre is a collaboration between academics and older users of the centre ensuring that a range of interests is represented and that the centre genuinely caters for the needs of those who use it. Weekly computer classes are run in which users with more experience help those who are beginners. Research is carried out within the User Centre, allowing longitudinal evaluation of software prototypes and investigation of the strategies adopted by older adults learning about computer technologies. The centre is a well-attended facility, which attracts

adults from 50 to 95 years old, primarily 65+, through social and educational activities and ensures a committed, reliable and highly-motivated user group for academic research.

Another innovative facility is the Wolfson Research Theatre, dedicated to exploring the use of drama as a means of working with older adults inexperienced with technology. Successful projects that have used drama to encourage dialogue with older users include the supportive monitoring project² and on-going work on digital television.

PERSON-CENTRED TECHNOLOGY EVALUATION

Lancaster's department of computing has long explored the relationship between technology and older people's life styles through working with older people in the North of England in a research study that deployed 'cultural probes' to obtain glimpses into seniors' everyday lives³⁻⁴. The probes were complemented by other activities such as questionnaires, observation, and technology tours⁵. The results of this three



The User Centre at the University of Dundee



Getting to grips with FREECARD

year project funded by the Engineering and Physical Sciences Research Council (EPSRC) under the Interdisciplinary Research Collaboration in Dependability (DIRC) initiative (www.dir.c.org.uk), was that much of the technology given to older people was inappropriate, unused and invasive. The project also determined that many of the participants considered themselves to be lonely for considerable periods of time⁶. The loneliness was not self imposed but built into a number of covert structures within the participants' lifestyles. For example one group of seniors lived in a shared house but considered that it was inappropriate to visit each other after a predetermined hour (six o'clock).

Moreover when friends and family visited participants, others would be alone until their friend's family had left. This prompted us to consider a method of providing a portable informal communication tool, called the Personal Assistive Device or PAD⁷, as well as a non-rules based game, called FREECARD. These tools allow seniors to see when others are available and encourages interaction between the users of the system by providing a VOIP (Voice Over Internet Protocol) speech communication channel as well as a writing & drawing feature, and

card based games. These are currently being evaluated in the participants' homes⁸.

References

1. Dickinson A, Dewsbury G. Designing computer technologies with older people. *Gerontechnology* 2005;5(1):1-3
2. McKenna S, Marquis-Faulkes F, Newell A, Gregor P. Requirements gathering using drama for computer vision-based monitoring in supportive home environments. *Gerontechnology* 2006;5(1):29-45
3. Gaver W, Dunne A, Pacenti E. Design: Cultural probes. *Interactions* 1999;6(1):21-29
4. Cheverst K, Clarke K, Dewsbury G, Hemmings T, Hughes J, Rouncefield M. Design with care: Technology, disability and the home. In: Harper R, editor, *Inside the Smart Home*. London: Springer; 2003
5. Baillie L, Benyon D. Investigating ubiquitous computing in the home. Proceedings of the 1st Equator IRC Workshop on ubiquitous computing in domestic environments, School of computer science and information technology, University of Nottingham, 13-14th September 2001
6. R. Kaspar. Technology and loneliness in old age. *Gerontechnology* 2004;3(1):42-48
7. Dewsbury G, Sommerville I, Bagnall P, Rouncefield M, Onditi V. Software co-design with older people. In: Clarkson P, Langdon P, Robinson P, *Designing accessible technology*. London: Springer; 2006; pp 199-208
8. Bagnall P, Onditi V, Rouncefield M, Sommerville I. Older people, technology and design - A socio-technical approach. *Gerontechnology* 2006;5(1):46-50

Guy Dewsbury

E: g.dewsbury@lancaster.ac.uk

Anna Dickinson

E: adickinson@computing.dundee.ac.uk