# Active ageing through Universal Design

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*G. Whitney, S. Keith, Active ageing through Universal Design. Gerontechnology 2006; 5(3):125-128.* This issue of 'Gerontechnology' addresses two societal changes: the first is the ageing of the population and the second is the increasing need for older people to interact with ICT technology to enable them to participate fully in society both as recipients of care and as holders of wisdom.

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The concept of Universal Design is not new and has been referred to many times in previous issues of 'Gerontechnology'. But with the increased reliance of the European economy on the use and application of information and communication technologies (ICT) and the ageing of the European population it is increasingly seen as a necessity for social inclusion and cohesion.

The use of ICT is changing the way we communicate and share information. "For many years experts have been talking about digital convergence of communication networks, media content and devices" said Viviane Reding, the European Union Commissioner responsible for Information Society and Media. "Today, we see digital convergence actually happening. Voice over IP, Web TV, on-line music, movies on mobile phones – all this is now reality"[1].

ICT for an inclusive society is currently a priority for the European Union, to ensure that no-one is left behind and that everyone can contribute and participate in society. The Ministerial Declaration issued at the `ICT for an Inclusive Society Conference' in Riga, Latvia, in June 2006[2] stated amongst other points that an inclusive ICT society must be implemented in a way "to pay particular attention to the needs of the elderly population, seeking to realise the potential for better quality of life and working environments……". The needs of the elderly population with respect to ICT can be best met by the use of Design for All or Universal Design paradigms to ensure that the technology meets the users' needs with respect to usability, accessibility and fitness to the user's lifestyle and requirements.

This declaration came more than 20 years after the concept of Universal Design was first applied in 1985 by Ron Mace[3] in the context of the design of products and the built environment. He stated that: "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design". This phrase can be seen to describe the basis of Universal Design, Inclusive Design or Design for All. The terminology used to describe products, services and environments which are accessible and useable by all varies both depending on the field of work and the country in which the work is being undertaken.

The first principle of Universal Design[4] is 'equitable use', providing the same means for all users, avoiding stigmatisation of any users and making designs that are appealing for all users. Inclusive Design[5] is often used interchangeably with Universal Design and takes a process view of the design activity that considers the needs of the widest possible range of people right from the start of the design activity. Universal Design and Inclusive Design offer a mandate for exploring active ageing through the principles of equitable use and inclusion and provide a framework for addressing the challenges of the latest design developments in ICT.

## Universal Design and active ageing

Ageing often consists of acquiring a multiple of small impairments whilst retaining a lifetime of knowledge and experience and this is not the same as acquiring a single disability as a younger person. This combination of multiple minor impairments can have a complex effect on an older person's ability to carry out daily tasks. Universal Design has a history of addressing the diversity of the population and can therefore be seen to actively include people of all ages and cultures and to address the range of solutions needed for different tasks. Sandhu[6] draws on the United Nations 'Principles for Older Persons', which were adapted and adopted by the International Federation of Ageing (IFA)'s Declaration on the Rights and responsibilities of Older Persons. These five rights are: (i) the built environment should maximise independence, (ii) it should enable full participation in society, (iii) it should enhance the provision and process of care, (iv) it should provide a platform for self-fulfilment, and (v) it should enhance individual dignity.

This emphasis on full participation and self-fulfilment helps to focus attention on the positive aspects of ageing and provides an important balance to the principles of care and dignity. Taking account of age is not simply about taking account of disabilities and functional limitations. A design may disable because there is a mismatch between the design and needs or abilities of the users, or on the other hand the design can 'enable' by responding to the needs of the user and thus facilitating active ageing. Coleman[7] introduced the concept of 'design for our future selves' to emphasise the positive opportunities of design for the expanding numbers of older people and to challenge designers to work closely with older people in order to 'enable by design'.

### Universal Design and ICT

Increasingly the biggest technology change being faced by designers and by older people is the rapid development of ICTs. The use of computers, interactive TV, digital radios, mobile telephones and the Internet offer a potential for improving quality of life and independence (enabling) but also carry a risk of exclusion from the information, goods and services on offer (disabling). ICTs are being promoted within the European Union as an important driver of economic growth, supporting communication between citizens and government services and delivering social and health care to an increasingly dependent older population[8].

### Age, ICT and Universal Design

Currently, however, this future vision does not appear to be shared by older people whose use of ICTs, and particularly computers and the Internet, is much lower than that of the rest of the population. For example, in the United Kingdom a survey in 2006[9] investigating use of the Internet in the preceding three months revealed an average of 63% of people of all ages had used the Internet, however, only 20% of those

aged over 65 had used the Internet. Figures for the European Union revealed that in 2004 only 8% of those aged 65-74 regularly used the Internet. These European data show that age as well as low income and limited education are correlated with low take up of the Internet[10].

Universal Design provides an important framework for investigating this low take up of technology by our older citizens, of exploring mismatches between the intentions of the service providers and the needs of the users and suggesting future opportunities for innovation.

As one example of these mismatches, older people have a wealth of experience and useful strategies for finding information and interacting with official bodies – in person, by phone or by letter. A series of case-studies to explore the strategies adopted by older people to search for information[11] revealed the importance of these personal contacts which are not replicated in the alternative web based services. The study concludes that human communication is a much richer social experience than a one-way information source, and aspects of this need to be included in information systems.

This social interaction was an important element of remaining socially connected and dealing with unique and complex enquiries. Qualitative studies of current experiences and strategies can help to reveal the gaps in understanding between those commissioning and designing information websites and older people.

This one and similar studies (such as the ones included in this special issue) make an important contribution to the development of new technologies, which address the needs of the older user, and inform the design process, leading to improved product and system design. They also demonstrate the other benefit of Universal Design, the involvement of the users in the design process to ensure that the results meet the needs of the end users and therefore can be seen to `belong' to the end users.

## Design education

One of the remaining challenges to the Universal Design process is the education and training of designers and developers working in ICT to engage with user diversity. The European Design for All e-Accessibility Network – (EDeAN) is working towards the development of an interdisciplinary curriculum on Design for All through the activities of its members such as the Royal Society for the encouragement of Arts, Manufactures and Commerce (RSA).

## Conclusion

ICT products and services already play an important role in everyday living. As the population ages the need for accessible, useable and useful ICT for older people will increase over time. Design for All equates with good design. Good design practices will enable older people to benefit from the services provided and furthermore, for society to benefit from their active participation, knowledge and wisdom.

## Selected papers

The Universal Design process is widely known but is not yet universally accepted in a world which remains resolutely technology driven. The two surveys reported in our first two papers provide some indication that Universal Design is beginning to penetrate industry and provides examples of successful case studies of design improvements in Japan and the United Kingdom. Two papers address concepts that have particular value for improving interactions with ICTs through opportunities for personal-

ization and through investigating concepts of familiarity. The fifth paper looks at how Universal Design can be used to assist older people to continue to live in their own homes with the benefit of quality design and human and technological assistance. Our final paper takes up another important aspect of the Universal Design process, which is the training and education of young designers to comprehend user diversity and specifically ageing and to engage with competitive projects which set high standards in the quality of design for older people.

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