EDITORIAL

HCI and the older population

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1 Introduction

The population of the world is ageing, and the proportion of older people is increasing in both the developed and developing world. This is due to both a combination of a low birth rate and increased longevity. For example, in Finland, Italy, Poland and Portugal the proportion of people aged 65 and over doubled between 1960 and 2004 [7]. This demographic change has implications for many areas of policy and practice, including that of Information and Computing Technology (ICT) systems. These systems are becoming more and more a part of daily life, presenting valuable opportunities for supporting and engaging with older people.

However, older people are not adopting these technologies as rapidly as those in younger age groups. For example, in the UK, 82% of those aged 65 and over have never used the Internet, compared with only 10% of those aged 16–24 [6]. This may be because older people find interactive systems unsuitable for their needs or difficult to use, due to differences in experience, capabilities, expectations and situations. This can make it difficult for them to participate fully in the information society and to enjoy many of the activities which are currently enjoyed by other people, and for the information society to benefit from their skills and experience. Although computer use among older people is increasing, the challenges that they face often remain. Further work is needed to understand related issues and to develop more suitable and usable technology.

To aid this understanding, this collection of papers has been produced to present some of the latest research in this area, with a particular focus on design methodology, examining how designers can develop technology better suited to older people's needs, abilities and desires. The papers were solicited from researchers in the areas, particularly drawing on participants at the latest in a series of workshops on HCI and the Older Population at the British Computer Society HCI conferences [3].

2 Universal access and older people

Age on its own is not a disability, but older people are more likely to experience disabilities of various kinds. These include both single severe impairments and combinations of multiple minor sensory, cognitive and physical impairments, which can combine to make products and services much harder to use [5]. For instance, more than one person in six over the age of 75 is blind or partially sighted [2], and a significant number also have an acknowledged or unacknowledged hearing impairment.

However, in many (but not all) cases, although they may have such impairments, older people do not consider themselves as disabled. In addition, they have a whole lifetime's worth of experience and knowledge, which can

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enable them to carry out familiar tasks successfully [4]. But problems often still occur when they are confronted with a new task or a new piece of equipment.

The principles of universal design offer a framework for including the needs of older and older disabled people within the design of ICT's. The Trace Center defines universal access as making "everyday technologies accessible and usable so all people, including those with disabilities, can interact with electronic devices more easily and independently (and) so that technology products and services can be enjoyed by everyone" [8]. To achieve this, it is particularly important to address those who currently find technologies most inappropriate and hardest to use. As mentioned above, this includes older people, who often struggle with technology due to differences in experience, abilities and situations.
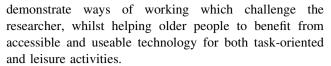
3 Social aspects of engaging with ICT

At the same time as this change in the demographics of society, there has been a change in the ways in which members of that society use technology. ICT is now a necessary part of many peoples' lives. It not only supports people in work-related and administrative tasks, but also helps them to manage their lifestyles (through activities such as shopping, buying parking permits and banking) and communicate with friends and family (for example, through email, social networking websites and text messages). It is also often used as a source of leisure and entertainment, for example, through computer and online gaming, music and other downloads, and as a way of sharing interest and expertise with like-minded people. This is becoming increasingly important with the advent of the increased social and entertainment possibilities offered by Web 2.0.

Older people could potentially greatly benefit from these aspects of technology, as well as from more traditional ICT applications, and will miss out on a wide variety of experiences if they get left behind in these technology changes. To ensure that they are included and enabled to make the most of these possibilities, more research is required. Researchers need to look at how older people can most benefit from and use social and entertainment technologies as well as traditional applications and supportive technologies for everyday living.

4 This special issue

For this special issue, four papers and one communication were selected that demonstrate the variety and quality of work being carried out in this area. All of the papers demonstrate ways of working which challenge the researcher, whilst helping older people to benefit from accessible and useable technology for both task-oriented and leisure activities.

Harley and Fitzpatrick, in their paper entitled "YouTube and Intergenerational Communication: The Case of Geriatric1927" present an in-depth case study showing how an older person can interact with technology in a positive, amusing and life affirming way. Based on this study, they emphasize that ageing is not merely a process of decline that needs addressing through the design of supportive technology; rather they highlight the importance of social and emotional aspects in the design of technology. They argue that technology should address older people's "ongoing need for meaningful social interactions and for intimate reflection on the meaning of one's life in relation to others". This paper's positive view of older people negates many of the stereotypes that are often held, and provides a great start to this special issue, in which the importance of the older population is of key concern.

The paper "Representing Older People: Towards Meaningful Images of the User in Design Scenarios", by Blythe et al., describes one way in which designers can explore older people's reactions to technology. They use pastiche personas, i.e., well-known older fictional characters, to encourage designers, researchers and users to think through how older people might use and respond to proposed technologies. By using well-known and widely available descriptions, they simplify the use of rich personas, and challenge people's own views of ageing and older people, which may be more restricted.

In the paper entitled "Using art to express visions of technologically-supported independent living for older people in north-east England", Vickers et al. discuss how standard research methods for investigating users' needs do not always work well with older people, and argue for the importance of developing new ways of working with older users as part of a participatory design process. They present one such method, involving art and creativity to engage older people in research in a useful and fun way, and describe how it was applied in a case study on future home technologies. Their experiences and the factors that they identify as influential to the success of this method could be very useful to others working with older people in research and design, whether applying and adapting existing methods or developing new methods of involving older users.

The paper by Astell et al., entitled "Involving older people with dementia and their carers in designing computer based support systems—some methodological considerations", discusses the particular issue of attempting research with older adults with dementia who can be difficult to communicate with. This paper looks at communication and consent, as well as the issue of training for

research staff in the special skills required when working effectively and constructively with this user group.

The communication by Prendergast and Roberts, entitled "Practice, systems and technology for seniors" shows how research with older adults is taking place in the commercial world and how this is based on considering the older person's quality of life and life experiences. By demonstrating the importance of this work in the commercial world and the practical ways in which it can be carried out, this contribution shows how technology in the future may be designed in such a way as to be useable and desirable by older people.

5 Conclusion

The main message to be gained from this special issue is that research is needed to explore and define the needs of older people, to ensure that mainstream products are designed to meet these requirements. This research must be based on real older people, including "baby boomers" still in employment, frail older people with disabilities and the full range in between. The research must take account of both the changing world of older people and the rapidly developing world of ICT, so as to avoid out of date

stereotypes of either. The design of products to benefit older people is an important element of Universal Access and this importance will grow as the population ages.

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