# Designing computer technologies with older people

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*A. Dickinson, G. Dewsbury, Designing computer technologies with older people. Gerontechnology 2006; 5(1):1-3.* There is a growing recognition that gerontechnology must be about more than usability and technical reliability, it is also about addressing and fulfilling wishes and desires; fitting in to people's lives and according, as far as possible, to their expectations. To create appropriate technologies that will be acceptable and appropriate demands a shift of emphasis from the technology to the people, from analyses of functional decline to more holistic views of ageing as personal and life experience. Most importantly, it demands innovative approaches to gerontechnology: a person-centred approach in which researchers form partnerships with older adults.

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The challenge for gerontechnology is to determine how we can advance technology systems to support older people through telecare[1] and assistive technology as well as make computer services accessible for all[2], not only in the narrowly-defined terms of conventional 'accessibility' but in the sense of genuinely facilitating user enjoyment and access[3]. A reflection of the success of gerontechnology is that technology is permeating the private spaces of older people, coming into their homes and becoming part of their lives. This occurs in various spheres, summarized in the Gerontechnology matrix[4]. In early issues of Gerontechnology, Bouma[5] and Fozard[6] both emphasised that technology should be used to support and enhance not only the physical needs of older adults, but their ambitions, wishes and recreational desires. Bouma focused on investigating and *starting from* the ambitions of older people themselves[5]. The area can – and should – be extended to cover more than what is *needed* by the older population, and to explore what people may want.

To do this, it was argued, stakeholders, including researchers and older adults, had to become partners in "an effort to improve the technological environment of aging society"[5]. We argue that to create such a partnership it is necessary to depart from what is often seen as the traditional, technocentric model of gerontechnology and to explore more person-centred approaches. Indeed, to extend the Gerontechnology matrix to include a third dimension: user emotion and response to technology.

Conventionally, both technology-focused and 'medical' models represent older people as recipients of technologies, and their role in technology development is primarily as reflexive indicators (reflecting whether the technology is suitable or workable). 'Person-centred' design, by contrast, begins from the person and seeks to find technological solutions that fit their life ex-

perience, expectations, desires and activity patterns. Such an approach is a central tool in creating effective working partnerships between researchers and older people. By starting with older people as the focus of the design and designing for a small number of actual people it is possible to avoid gross stereotypes and produce designs that genuinely reflect the aspirations of the older people.

Such an approach also allows a balanced approach to the phenomena associated with ageing, supporting design that focuses on the state of ageing rather than concentrating mainly on the problems associated with it. A more holistic approach like this is more likely to lead to acceptable and appropriate technologies for older people.

The tremendous diversity of people over 60 presents a challenge to researchers: older people come from a wide variety of backgrounds, histories and experiences and their demands and desires for technology are likely to reflect diverse personalities, educations and outlooks. This creates difficulties for technology design intended to appeal to a mass market. Yet conventional approaches to technology design have, in general, failed to appeal to this demographic.

An indication that many current technologies are not acceptable is their low rate of use. Concern about the 'digital divide'[7] (see, for example, the Scottish Executive's policy "Bridging the Digital Divide", work by the British Educational and Communications Technology Agency (BECTA)[8] and the 'Falling through the Net' reports in the USA[9]) reflects the low uptake of standard technologies by older users: internet use in the UK, for example, has been consistently around 20 per cent for people over 65 since April 2003[10]. Perhaps of even greater concern is the low level of use of technologies specifically designed for older people. Older people tend to have rejected technologies that are too difficult to use, look bad, make them appear older, or that do not appear to have a net gain effect for the user[11,12]. Technology becomes part of the person's self-concept and is only taken up when it enhances this[13].

A person-centred focus rather than a technology focus demands the use of new methodologies for creating dialogues with older people to facilitate discussion about technologies. A vital aspect of acceptability that can be difficult to measure formally and quantitatively is the user's emotional responses to technology in the home. Innovative strategies for enabling dialogue include the use of drama (see McKenna et al.[14]) and intensive qualitative dialogue with small groups of users (Hawthorn[15]; Bagnall et al.[16]). A challenge that is faced in person-focused work is how we can support the person, who may not have any technical background, to comment on technologies that may not exist yet. McKenna et al. describe the use of theatre to address such issues[14].

We argue that qualitative, person-centred approaches both complement existing approaches to gerontechnology and reduce the likelihood of unsuccessful technology being developed. It is important to avoid treating ageing in terms of functionality decline and incapacity: this is a stereotype that fails to reflect our personal knowledge of older people in our lives and which is unlikely to be recognised as a fair or accurate representation of their life experience by most adults over 65. Indeed, where such negative representations of ageing are accepted by older adults, this can have very negative effects on health and wellbeing[17].

We are aware that this is a controversial approach to the field of gerontechnology but we believe it is important to extend the methodologies in use in order to provide a more inclusive and person-centred future for gerontechnology. We are keen to find ways of bridging the apparent divide between quantitative, technology-focused development and more qualitative person-centred design. If conventional gerontechnology needs to reconsider its approach and representation of people, then person-centred design also needs to find ways to communicate its results and discoveries to the wider community. We hope that this special issue will begin a process of dialogue.

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