Chapter 6
Don't Leave Me Untouched:
Considering Emotions in Personal Alarm Use and Development

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ABSTRACT

Older adults want to live independently in their home for as long as possible, and technologies can support them with this goal. However, solutions to help with living alone are often designed from a technical perspective, ignoring the needs and preferences of older adults. This results in strong attitudes and feelings against, and limited adoption of, these technologies. In this chapter, the authors use ethnographic methods to inform the development of solutions taking into account the emotional needs of end-users. They present a three-staged approach by applying it in the domain of personal emergency alarms. First, the authors identify the shortcomings of current emergency alarm systems as perceived by older adults. Then, they develop a prototype that addresses some of the issues identified, focusing on emotional needs. Finally, the authors conduct a trial with the prototype. The results show that considering emotions during system design can improve user experience.

INTRODUCTION

We've put more effort into helping folks reach old age than into helping them enjoy it – Frank A. Clark

In recent years there has been growing interest in the design of technologies for older people. Reasons for this are:

- Older adults are a growing segment of both the Australian and world populations;
- Governments are concerned about the escalating cost of healthcare and are looking to technology to help contain costs;
- Older adults are currently more willing to spend money than previous generations of older adults;

- Older adults are an interesting group as they are more varied than any other user group; and
- Designing for the ageing provides a space for developing seriously innovative and interesting solutions.

However, all this is still not reflected in the availability of technological solutions suitable for an older generation of users. Technology specifically designed for older users focuses on providing support in the context of failing health and increasing frailty. While these concerns are important for older people we propose that emotions of older people and their specific needs and preferences have been neglected in technological development supposedly designed for older adults.

It is important that older adults are not left behind in the adoption of new technologies. Advantages for older people associated with enhanced use of technology include improving the health and quality of life, increased self-confidence, a sense of well-being and belonging (Heo, 2012; Kim, 2012; Russell, 2011). In order for older people to adopt technology into their lives such technology needs to be easy to use and useful (Hanson, 2010). The key determinants for the success of older adopters of technology are willingness and enthusiasm for acquiring new knowledge (Bolton, Gassert, & Cipriano, 2008). Neither of the two is usually present when adopting assistive technologies that are associated with a stigma. It is proposed that the feelings, interests and independence of older people have been neglected in technology design (Waycott et al., 2012). Their individual needs, interests and feelings need to be understood in order to create technologies that can be integrated in their lives.

MOTIVATION OF THE PROJECT

In the modern world the cost of healthcare is rapidly increasing. In Australia alone the estimated expenditure on healthcare rose from $77.5 billion in 2000-01 to $130.3 billion in 2010-11 (AIHW, 2012). Aged care constitutes a significant part of the healthcare expenditure, costing $10.1 billion in 2008-09 (AIHW, 2010). Advances in science have led to increased life expectancy. The average life expectancy for Australians has increased from 73.9 to 79 for males and 80.1 to 84 for females in the last 20 years (AIHW, 2013a, 2013b). This is contributing to the ageing Australian population. The Australian Bureau of Statistics records that by June 2012, 14.2% of the population was 65 years and older (ABS, 2013). The median age of Australians was 32.7 in 1992 and 37.3 in 2012 and it is predicted that it will reach 41.9 - 45.2 by 2056 (ABS, 2011). This growth of the elderly population, along with a decreased labour force and tax base, increases the stress on the Australian health and aged care systems. The Australian older population shows increased preference for independent living arrangements supported by community care – as opposed to residential care – and a desire for greater autonomy and choice in aged care services generally (PC, 2008). Existing community care services and systems, such as those involving personal alarms, are expensive and many older people cannot afford them without the support of the government or other organisations. The government-supported systems are typically one-size-fits-all solutions that lack flexibility and restrict the older person's autonomy. Instead of catering for the needs and habits of older adults, older adults are forced to comply with arbitrary constraints. Moreover, the system designs look dated and are often rejected by the older people. Modern technologies have to be married with thought-through designs to support older people sustainably in their own homes in a manner adapted to their particular circumstances and lifestyle.

The goals of domestic and healthcare systems tend to be unaligned with the goals of traditional business systems. The former seek to achieve difficult to define emotional goals that are related to supporting the recovery and well-being of the

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