Chapter 1
iNeighbour TV:
A Social TV Application to Promote Wellness of Senior Citizens

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ABSTRACT
In this chapter, the authors present the on-going work of the iNeighbour TV research project that aims to promote health care and social interaction among senior citizens, their relatives, and caregivers. The TV set was the device chosen to mediate all the action, since it is a friendly device and one with which the elderly are used to interacting. A study, conducted among the project’s target audience, using a participatory design approach is addressed in the chapter. Its purpose was to better characterize this type of users, identify relevant features, and evaluate usability and user interface requirements targeted to television (in an IPTV infrastructure). The analysis of the study results, which ensured the revision of the project’s features, is also presented along with a comprehensive description of the validated features. Some of these include automatic user recognition system, medication reminder, monitoring system (of deviations from daily patterns), caregiver support, events planning, audio calls, and a set of tools to promote community service. The chapter also focuses on the challenges to define the evaluation of the iNeighbour TV through an analysis of related projects and their lab or in situ approaches, concluding that, although the in situ methodology is more complex, it is more suitable for the iNeighbour TV project. The process of implementing a field trial with this specific target audience is revealing important challenges, but the diversity of data that it potentially provides reinforces the relevance of such an evaluation.

DOI: 10.4018/978-1-4666-3667-5.ch001
INTRODUCTION

The world’s population is ageing, due mainly to life expectancy increase and the decline of birth rate. The elderly population is steadily increasing and according to the Portuguese National Institute of Statistics (INE) the number of people over 65 years old (1,901,153) is now higher than children under 14 (1,616,617) (Estatística, 2010a). Although these numbers may vary from country to country, this is a problem that governments from developed and some developing countries will have to deal with within the coming years. In a few years the costs with social security might increase strongly and there could be difficulties in providing enough health and home care professionals to the entire elderly population. This might isolate this group even more and increase the associated problems such as loneliness and mobility issues. For this reason, society must find ways to control the rise of costs and ensure the quality of life of the elderly.

In response to this, the European Community proposed an Action Plan “Ageing well in an Information Society” (Europeia, 2008) with the following objectives: i) Ageing well at work; ii) Ageing well in the community; iii) Ageing well at home.

These problems can be more apparent in non-rural areas, where senior citizens are less acquainted with nearby neighbours who may share their interests and social contexts. This tendency might be overruled with the intervention of social tools equipped with features regarding the presence and needs of users in similar social circumstances, leading to higher levels of comfort, companionship and social interaction between senior users.

In the context, the present research aims to take advantage of the research team experience on Social TV to develop the iNeighbour TV - an interactive TV application targeted to senior citizens. The development of the application is financially supported by the FCT (Foundation for Science and Technology) and its main objectives are to contribute to the improvement of the quality of life of the elderly and to minimize the impact of an ageing population on developed societies aiming a virtual extension of the neighbourhood concept. It is also intended that the system promotes the identification and interaction of individuals based on: i) Common interests and television consumption habits; ii) Geographical proximity; iii) Kinship’s relations – with its inherent companionship, vigilance and proximal communication benefits and; iv) Friendship.

TARGET AUDIENCE

The elderly represent a Target Audience (TA) considerably heterogeneous in terms of digital literacy, willingness, social behavior, etc. This makes the development of this type of applications more complex demanding a previous and balanced definition of this TA. For the purpose of this study, the research team as decided to focus on the case of the Portuguese elderly.

According to the World Health Organization, Human age stages are classified as follows (Organization, 2004): Adult age (15-30 years old); Mature age (31-45 years old); Transition and intermediate age (46-60 years old); Less Old (61-75 years old); Very Old (76-90 years old). According to the Portuguese National Institute of Statistic (NIS), by 2009, 17,9% of the Portuguese population was elderly from 65 years old on (Estatística, 2010a). Most of the Portuguese elderly population is inactive (83,3%) (Estatística, 2010b), and the number of families composed solely by elderly is increasing (more 36% from 1991 to 2001) (Estatística, 2003). This might have contributed to place seclusion as the second biggest problem among the Portuguese elderly population (Marktest, 2007).

In parallel with age people can potentially suffer from a large spectrum of impairments. These impairments can be at sensory, physical, and cognitive levels and they tend to appear com-
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