Chapter 9
Acceptance of Ambient Assisted Living Solutions in Everyday Life

Annette Spellerberg
University of Kaiserslautern, Germany

Lynn Schelisch
University of Kaiserslautern, Germany

ABSTRACT

The aim of "Ambient Assisted Living" -devices is to increase comfort and safety and to provide support for elderly people in their homes. In a housing estate in Kaiserslautern, Germany, a touch screen tablet-PC called PAUL (Personal Assistive Unit for Living), numerous sensors and an EIB/KNX-Bus were installed in 20 apartments. Within the framework of the project "Assisted Living", Urban Sociologists from the University of Kaiserslautern analyzed the elderly people's experiences and acceptance of the implemented home automation devices, especially of the tablet-PC over a period of two years of usage. Besides technical aspects social issues like community building are focused in the project. The main results of the project will be presented in the chapter.

INTRODUCTION

In aging societies, most elderly people wish to stay in their self-chosen-environment as long as possible, even if they experience a growing loss in quality of life and health problems. At the same time, the traditional system of care for the elderly ceases and the costs for professional care constantly grow. As a consequence, new social and technical solutions enabling elderly people to live independently as long as possible have to be developed.

Ambient Assisted Living (AAL) is seen as a promising contribution. But until now it is not clear which technological concepts and which single devices are of use for elderly people and are accepted at the same time. Apart from pilot projects AAL-technology is not prevalent in senior households. Housing companies and scientists who conducted pilot projects often experience

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disappointments, because the needs of elderly people are not considered adequately.

Therefore, the objective of the project "Assisted Living" is to directly involve the target group into the development process of an Ambient Assisted Living system. In the German city of Kaiserslautern a housing estate was equipped with scores of technical solutions from the field of home automation which aim to assist elderly people. The original project "Assisted Living" was conducted until March 2009 by the Institute of Automatic Control (Prof. Dr. Lothar Litz and Dipl.-Ing. Martin Floeck) and the Research Area for Urban Sociology (Prof. Dr. Annette Spellerberg, Dipl.-Soz. Jonas Grauel and Dipl.-Ing. Lynn Schelisch) at the University of Kaiserslautern. The project was funded by the Ministry of Finance of Rhineland-Palatinate and the housing societies BauAG Kaiserslautern, Gemeindliche Siedlungs-Gesellschaft Neuwied mbH and Gemeinnützige Baugenossenschaft Speyer eG. We would like to thank our partners for their kind support.

The impact and success of all technological features implemented in the project in Kaiserslautern were assessed by sociologists: To gather feedback about elderly people's experiences and acceptance of the technical devices, as well as to find out how technology supports their everyday life, the tenants were interviewed ahead of and while using the new technical devices two months after moving in and again one and a half year later. By bringing in the user perspective, potential improvements can be pointed out.

However, the vision of AAL in this project is not purely technologically oriented. Living in the social community with neighbors and preserving this integration are as well considered crucial factors for a high standard of living, regardless of the health situation. Hence, all technological development is accompanied by sociological research and support, helping to build a good community spirit.

The aim of this paper is to present the most important outcomes of the social research regarding the technological aspects of the project. First, we will shortly describe the applied concept and then we will present the experiences and habits of elderly people using the technical devices implemented in the housing estate in Kaiserslautern. Concluding, we suggest some new pathways AAL-projects should take.

BACKGROUND

Technical solutions facilitating independent living have not become accepted very well yet. There are various reasons: they are often intricately to use, are unattractive, appear stigmatizing, require a lot of technology expertise, and in particular, are too expensive (Meyer & Schulze, 2008; Mollenkopf & Kaspar, 2004; Mollenkopf, Oswald & Wahl 2007). In addition, there is also a great deal of restraint on the part of the landlords from the housing industry to invest in technical solutions.

A new batch can yet be expected, namely for four reasons: First, regarding energy costs, which suggest optimal heating, especially in tight pensions, and require intelligent sensors. Second, due to health reasons, because the health risks grow with higher life expectancy. Prevention, security and care itself, may be supported by technology and telemedicine. Third, the technical equipment regarding home appliances and the media is getting more advanced. The technical competence of the elderly is increasing. Therefore, fourthly, it is likely that technical solutions to facilitate independent living are accepted, if they are affordable (BIS & DZFA, 2002; Research Institute for Gerontology, 2006).

There are very wide-ranging approaches for technical solutions for living, which are known under the heading of "smart home", "smart neighborhood" and Multimedia-Services. In about 60 pilot projects across the EU smart-home concepts with so-called ambient technology is tested. In this case, ambient means a technological environment which is intelligent, but not necessarily