

# USER REQUIREMENTS FOR AMBIENT ASSISTED LIVING: RESULTS OF THE SOPRANO PROJECT

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## INTRODUCTION

"Service-oriented Programmable Smart Environments for Older Europeans" (SOPRANO) is an Integrated Project in the European Commission's 6th Framework Programme [1]. SOPRANO will develop supportive environments for older people based on the concept of "ambient assisted living", using pervasive ICTs to enable older Europeans to live independently in their own homes. SOPRANO will not only address the "problems" of old age (e.g. falls, health problems) but will focus on positively enhancing the quality of life of older people. A feature of the Experience and Application Research (E&AR) methodology used in the project is the active and strong involvement of older users throughout the entire R&D process. This paper presents the results of the first phase of user research carried out in SOPRANO in order to determine user requirements for the system.

## METHODS

An extensive program of user-related research was carried out including a comprehensive literature review and an inventory of generic "situations" that threaten older peoples' independence and quality of life. Potential users were involved in order to gather their feedback on the key challenges to independence/quality of life and their initial ideas on how technology could be used to cope with these challenges. A qualitative approach involved both focus groups and individual interviews. Overall, 14 focus groups (with more than 90 users) were conducted with older people, informal carers and care professionals in the UK, the Netherlands, Spain and Germany. Individual interviews with older people took place in Germany, Spain and the Netherlands.

## RESULTS AND DISCUSSION

A number of themes emerged from the user research. *Social isolation* has profound negative outcomes such as loneliness, depression, boredom, social exclusion and disruption of patterns of daily living. *Safety and Security* issues that were highlighted include falls, disorientation, control of household equipment. *Forgetfulness* appears to be a challenge to independence for many and concerns, for example, taking medication or finding objects in the house. *Keeping healthy and active* included physical and mental activity, exercise, good nutrition, daily routines and adherence to medications. *Community participation and contribution to local community* was a priority for some people. *Accessing information/keeping up to date* was a crucial issue as well as finding help and tradesmen to do little jobs around the home. *Getting access to shops and services* was problematic for people who have difficulty getting out of the house. *Quality management of care provision* is an important issue to ensure that the right amount and right quality of care is delivered in people's homes. *Mobility inside and outside the home* includes challenges to personal mobility in terms of walking in the neighbourhood and use of public transport. Ambient assisted living has a potential role in all these areas and the results are being used to drive the technological development in the next phase of the SOPRANO project. A set of use cases have been developed for these thematic areas to capture the functional requirements of SOPRANO and describe interactions between users and the system itself. These not only reflect the functionalities of the technical system but also the processes, actions and interaction of the different components of the overall "socio-technical" system within which SOPRANO is embedded.

## REFERENCES

[1] <http://www.soprano-ip.org/> (accessed 30 January 2008)