

M. ISKEN, N. VOLKENING, D. LOWET, F. VAN HEESCH, D. VAN DE WOUW, M. BRELL, A. HEIN. **Preferred services of assistive robots for elderly: Results of user studies within the Florence project.** *Gerontechnology* 2012;11(2):375; doi:10.4017/gt.2012.11.02.591.00

**Purpose** Within the European Florence research project (florence-project.eu) a multipurpose service robot for supporting the elderly is being developed. As part of the scientific research methodology, several user studies have been performed. This talk will present the results on how the elderly perceive use and how they react to such new technologies as well as identifying the benefit care providers see in these developments. **Method** The Florence (multi-purpose mobile robot for ambient assisted living-AAL) project aims to improve the well-being of the elderly (and that of the next of kin) as well as to improve efficiency in care through AAL-services supported by a general-purpose robot platform. The main objective is to make this concept acceptable for the users and cost effective for society and care givers. The process of developing the system is intentionally highly centered on the user. During the development cycles, different phases of user participation were integrated. This began with focus group interviews<sup>1</sup> at the start of the project to define the limits of usage scenarios, continuing with Wizard-of-Oz (WOz) studies<sup>2</sup> to evaluate first design mock-ups. Afterwards user tests within controlled home environments (living labs) were performed. This conclusive system will later be evaluated in real user's homes (facilities of a care provider service). This talk will describe the outcomes of the focus group interviews, Wizard-of-Oz tests and controlled home environment tests. **Results & Discussion** First interviews were used to arrive at a general collection of ideas of services an assistive robot for the elderly should provide. This collection was selected by both the elderly and professionals. Starting with around 30 services, eight main services were selected. Next, a first mock-up system and basic robotic functionality was implemented to show the functionalities of the eight selected services. Users then provided a second feedback in the WOz-studies. The services were implemented subsequently. Two years after implementation the beta-status services were tested with users in controlled home environments to get a more realistic feedback on the system. It was tested with about 40 persons, including elderly people, family members, and care professionals. The evaluation of the results is still ongoing, but first results suggest the following: feedback of people depended strongly on their experience with technology: surprise vs. comparison to other products and their experience with caring for elderly people; the robot should adapt to the user's needs – acquiring additional functionality over time; safety- and reminder functionality as well as communication are strong features.

**References**

1. Morgan DL. *The Focus Group Guidebook*. Thousand Oaks: Sage Publications; 1998
2. Dahlbäck N, Jönsson A, Ahrenberg L. Wizard of Oz studies — why and how, *Knowledge-Based Systems* 1993;6(4):258-266; doi:10.1016/0950-7051(93)90017-N

**Keywords:** robotics, assistive systems, ambient assisted living, elderly  
**Affiliation:** OFFIS eV, Oldenburg, Germany; E: melvin.isken@offis.de  
**Full paper:** No



Figure 1. Four main areas have been evolved in the Florence Project; Services (or parts of) that have been tested and implemented are shown in small bubbles