PAPER

Sensors and Monitoring

L. DUPUY, H. SAUZÉON. *Ambient assisted living platforms for aging in place: lessons learned from a field study*. *Gerontechnology 2018;17(Suppl):109s;* https://doi.org/10.4017/gt.2018.17.s.106.00 **Purpose** Ambient assisted living (AAL) platforms, providing an assistance that is sensitive and reactive to the user and the environment[1], are potentially supportive to aging in place. Nonetheless, most of the existing studies are realized in (semi-) controlled environments (e.g. living labs, smart homes) which present the flaw of moving the older participants to an unfamiliar environment. Only a few studies are based on retrofitting the actual house of older adults by adding sensing technologies[2,3]. Real-life testing induces some issues that would have remained unseen between the walls of laboratories. Therefore, this paper aims at providing insightful feedbacks from a long-term real-setting deployment of an AAL platform for older adults. **Method** Sixteen older adults (mean age: 80.38), cognitively healthy and living alone, agreed to be a part of this study. The AAL platform provides assistance in several aspects of independent living, including activity monitoring, reminders and communication, based on wireless sensors and tablets[4]. The platform has been deployed over a 9-month period, while several measures were taken, including acceptance and usability of the technology, and benefits for aging in place[4,5]. **Results & Discussion** Feedback across deployment are presented with two points of view: technical and ergonomist. First, during the installation phase, the objective was to adapt and customize the platform to each person and housing. Therefore, from a technical point of view, the necessary steps were: settings and personalization of the assistive apps (e.g., fill the calendar, add family contacts) and platform's testing. The ergonomist's goal was to make explicit and record older adults' everyday routines and preferences. The presence of a caregiver (family, friend, home care professional) was greatly helpful, both for reducing older adult's stress and for helping the older adult to declare his/her preferences. During the learning phase, the ergonomist expert introduced the different features of the platform on a step-by-step basis, during one weekly session. This instructional strategy was used successfully in other studies[6]. This phase also permitted to refine the platform's installation and resolve some technical problems before starting the experimental trial. Again, the presence of a caregiver, who could learn from both the ergonomist and the technician professionals, offered support later in case of usage of technical issues. At the end of the learning phase, we gave the older user a paper-based manual, reminding them of the different features and uses of the platform. The manual was made by the collective work of the research team, in a sake of clarity. For the experimental phase, a 24/7 hotline was provided to the participants, for any questions or difficulties. Some problems were solved remotely but some required personal visit. The most prevalent problems (recorded in case report forms) were due to sensors battery life (35 occurrences), loss of internet connection (26 occurrences), and participants' incorrect use of the tablet, leading to malfunction (15 occurrences). Conducting field studies yields a real added value as it enables to gain in-depth knowledge and to test technology scaling-up. Multidisciplinary human expertise (activity analysis, gerontology, embedded systems), support material (manual, case report forms, hotline), and the caregiver's support, have been critical resources to succeed our field study.

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