



Towards an integrated TV-based system for active ageing and tele-care



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Abstract

Active ageing and independent living are primary goals of modern society, experiencing a progressive increase of the elderly population. The societal challenges of promoting inclusion strategies along with home-care services supporting independence and de-hospitalization strike against the sustainability of policies tackling these aspects in traditional ways. This work presents the first steps of an AAL Joint Programme project, HEREiAM, aimed at developing an interactive TV-based technological platform, designed around the expected users and delivering both healthcare and AAL services directly in the user's home. Mainly thought to break down the digital divide for the elderly, it will take advantage of this preliminary profiling and usability study to define the specifications able to create a really usable system embodying the required functionalities.

Materials and methods

Since many elderly suffer from digital divide, it is of utmost importance to profile the expected users based on their ICT experience, evaluating their reactions to a variety of possible services to be implemented in the HEREiAM platform and to the different ICT platforms providing them. To this aim, two different existing platforms have been used: a TV-based system (KeepInTouch) and a Tablet-based one (Eldy).

In total, 29 expected users were recruited by convenience sampling from two local elderly associations in Cagliari, Italy. The group is composed of 14 males and 15 females, with average age of 70.1 ± 5.8 . The inclusion criteria were: self-sufficiency, aged 60 – 90 years, autonomous living, low computer literacy.

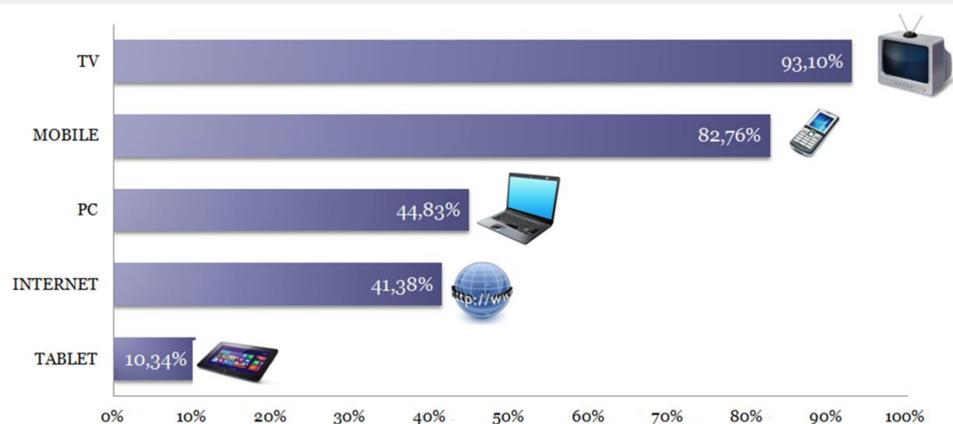
KeepInTouch (KIT)

KIT is a tele-home-care platform based on the DVB-T technology, developed by University of Cagliari. Through KIT, patients with diabetes and cardiovascular diseases can monitor their blood pressure, cardiac frequency, weight and glycaemia from the comfort of their own home, sending such data to the specialist daily.



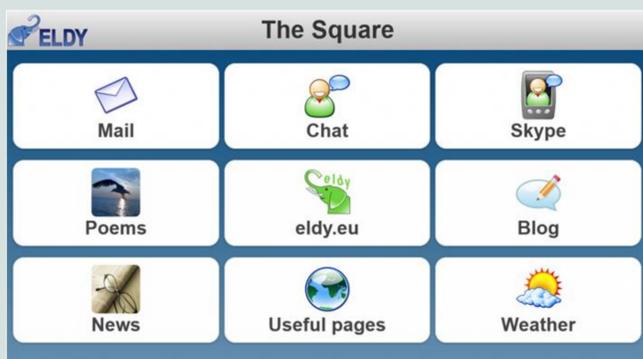
Expected users profile

Analyzing the answers given in the user profile questionnaire, it is possible to characterize the target users.



Question: How often do you perform the following activities?	Never	Every year	Monthly	Every week	Daily
- Gone out (e.g., shopping, bus trip, restaurant) with relative(s)/friend(s)	6,90%	10,34%	20,69%	17,24%	44,83%
- Organizing social gathering/meals	10,34%	37,93%	24,14%	20,69%	6,9%
- Physical activity (e.g., walking, sports, gym)	17,24%	3,45%	6,90%	27,59%	44,83%
- Play card games	67,86%	14,29%	7,14%	3,57%	7,14%
- Go to cultural events (e.g., museums, concerts...)	14,81%	33,33%	11,11%	22,22%	0%
- Travel	13,79%	65,52%	17,24%	0%	3,45%
- Play board games	86,21%	10,34%	0%	3,45%	0%
- Craftwork	17,24%	17,24%	13,79%	13,79%	37,93%
- Play brain-teasers/puzzles	68,97%	6,9%	0%	13,79%	10,34%
- Play computer games	72,41%	0%	3,45%	6,9%	17,24%

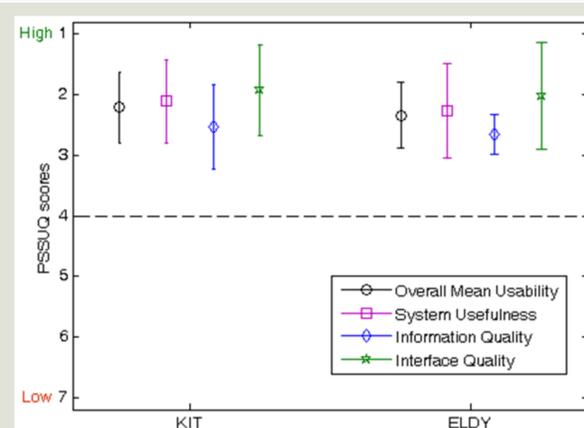
Eldy



Eldy is a free software designed by an Italian nonprofit organization to help the elderly using computers and Internet. It can be installed on tablets and presents a simplified GUI with nine large buttons, making it easy to understand and operate.

Usability test results

The majority of the users completed the assigned tasks in a fairly quick and effective way. The users were positive about the user-friendliness of the systems and the services offered by them. The interface of Eldy was perceived as really intuitive and clear, whereas the interface of KIT less.



Acknowledgements

This work is part of the HEREiAM project, which has been funded by the AAL Joint Programme (AAL-2012-5). The authors would like to thank all HEREiAM partners and, in particular, Dr. Ignazia Emmolo of the Municipality of Cagliari, for helping in finding the participants for the tests and the Elderly Associations "Società di Sant'Anna ONLUS" and "ANTEAS".

