

Empowering seniors' self care at home through advanced technology apps. The Senior-TV project

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Introduction

In the context of population aging, keeping as long as possible the seniors in their own family is highly beneficial for them if they are benefiting from a safe home environment and prompt help for their medical or daily living needs [1]. As documented by the American Association of Retired Persons – AARP [www.aarp.org], about 90% of seniors want to remain in their own homes as they age, even if 82% of them need day-to-day assistance. Delaying seniors' institutionalization is equally important for reducing the social burden in terms of health systems' efforts and costs [2]. However, these two goals are facing several critical challenges. Currently, the eldercare workforce is not large enough to meet older patients' needs, and it is estimated that by 2030, 3.5 million will be additionally needed [3]. Moreover, there is a change of the traditional informal care models. Women are more and more involved into the labour field and thus lesser available for accomplishing informal care giving tasks for the older members of the family. The same effect will have the current decrease in the birth rate in the context of the growth of elder segment in the

overall population. Affordability matters, especially for seniors living alone, are another challenge for getting informal homecare services. Advanced technology-based apps evolve as an enabler for aging in place. They are able to equally empower seniors' self care at home, helping them to fulfill their daily living tasks, and keeping them in contact with needed stakeholders and socially inserted. Moreover, advanced technology-based apps may support the development of the second, non-human, cost-saving ICT-based component of health-care systems [4].

The Senior-TV project

The recently started EU-AAL funded Senior TV project (November, 2015) is dealing with the empowerment of seniors to live as much as possible independent in their own homes. The aims at developing a widespread access, adaptable platform, installed on TV, STB, smartphones or tablets as main interfaces, able to provide seniors living in their own homes with a set of social and health services that may facilitate their self care, prevent physical and cognitive deterioration, improve their access to formal and informal caregiving services, and enhance their family and community insertion.

From a technical point of view, Linux based platforms (running on TV, STB, etc) with support for open standards like HTML5, javascript, CSS and XML will be the preferred operating systems of choice for the project, being the most widely adopted environment in which applications are consumed.

The core scientific, medico-social topic that Senior-TV approach lies on is "aging in place", described by the Center for Disease as "the ability to live in one's own home and community safely, independently, and comfortably, regardless of age, income, or ability level"[5] . Other key notions are formal and informal care at home for the elders in need, community care, ontologies of elderly needs, of services to be provided, of carers and other stakeholders, decision on personalized and permanently updated Formal Intervention Plans (FIPs) for monitoring and helping the old person in need etc.

The most efficient approach of all these topics for designing an useful and easy to use ICT-based app is to closely cooperate with voluntary end users, i.e. old people (over 65 years of age) living and cared in their homes,

enrolled in accordance with well established inclusion/exclusion criteria, as well as with the ethical and legal provisions related to studies that involve human subjects (the informed consent form, personal data protection measures, exit strategy issues and the definition of ethical control instruments within the consortium and the three pilots involved in the project: Cyprus, Romania and Slovenia) [6].

At the beginning of the project, the envisaged methodology for accomplishing the project tasks involves the detection of end users' needs and preferences related to their formal and informal care at home that can be offered by the Senior-TV prototype. In later stages of prototype's progressive development, the voluntary end users will provide their opinions and suggestions about the usability and usefulness of the versions alpha and beta of the prototype, in real life field trials. All these will be collected and analysed grace to a unique approach within the three pilots, synthesized in the Pilot's Workbook. This workbook will include the testing protocols (questionnaires, interviews, diaries etc.) and the ethical and legal instruments adopted by the consortium.

As instruments for end users' feedback collection, analysis and extraction of indications for prototype further improvement, various standard methods will be adopted (e.g. MoSCoW prioritization method), as well as various Excel calculus preconfigured files tailored on the standard questionnaires (e.g. ASQ-PSSUQ) adapted to the needs of a given testing phase and of the overall project.

The project takes into account the cultural and administrative diversity of Southeast Europe, in terms of seniors' care systems.

Envisaged impact of Senior-TV project

The impact of Senior-TV project lies on the aimed enhancement of life quality and social insertion of seniors living alone at home, in urban or rural areas. Its aim also relates to the European and international initiatives and programmatic documents dealing with healthy and active ageing.

Senior-TV meets the requirements and actions promoted by The Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Aging, launched by the European Commission [7].





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