

SOFTEC: The Swedish Open Facility for Technology in Elderly Care¹

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Summary: SOFTEC is the Swedish Open Facility for Technology in Elderly Care. Its goal is to provide a shared facility where Swedish and European researchers can jointly study, develop and evaluate technological solutions aimed at increasing the independence and quality of life of elderly people. This poster gives an overview of the guiding principles and implementation of the SOFTEC concept.

Background: As research in enabling fields like robotics, artificial intelligence, sensor systems, and telemedicine progresses, there is an increasing need to disseminate, validate and share scientific findings among the communities and with the society. Rather than continuing on separate tracks, research and development in all relevant fields needs to be provided with a reference point. This is particularly important in the field of elderly and technology as it requires distant research fields to amalgamate and share insights into this common problem. Relevant research stems primarily from medicine, social work and technology and needs to be backed by psychological validation, the approval of society and the interest of the healthcare infrastructure.

The ambition of SOFTEC is to provide such a reference point in Sweden and in Europe.

Methods: The approach of SOFTEC is based on three guiding principles:

- **Multiple disciplines:** Relevant research in technology for elder care stems from a number of different and often separated disciplines, including computer science, artificial intelligence, robotics, medicine, social sciences, nursing and psychology. SOFTEC will foster multi-disciplinary research, and implement tools to facilitate it, e.g., summer schools, expert pools, and shared web spaces.
- **Multiple stakeholders:** The development of relevant and successful technological products for elderly people requires that stakeholders from different communities are in the loop: these include technology providers, gerontologists, social operators, industrial actors, and policy makers. SOFTEC will provide a common point and networking tools to create links across these communities.
- **Open philosophy:** The knowledge, methodological, software and physical resources of SOFTEC are meant to be openly accessible to the Swedish and international research community. Open access will be implemented through a variety of instruments, including research stays at the locality of the facility, web-based distribution, and public documents. In a truly open spirit, partners who make use of the SOFTEC facilities are expected in return to contribute the development of those facilities or the creation of new ones.

Results: The SOFTEC concept has been implemented as a simple umbrella structure. The SOFTEC model is simple: SOFTEC provides shared facilities to a set of projects; the projects provide the "horse-power" that produce results using those facilities; in return, part of each project's results will enter in the pool of SOFTEC shared facilities. SOFTEC is not itself a project, but an umbrella that unites the participating projects. SOFTEC can be thought of as an open-source tool which all can use and to which all are expected to contribute. SOFTEC has recently been approved as a member of the European Network of Living Labs (ENoLL).

¹ Poster presentation at the International Conference on Ageing, Disability and Independence. Newcastle, UK, Spetember 7-10, 2010.

The SOFTEC model is graphically represented by the schema in Figure 1.

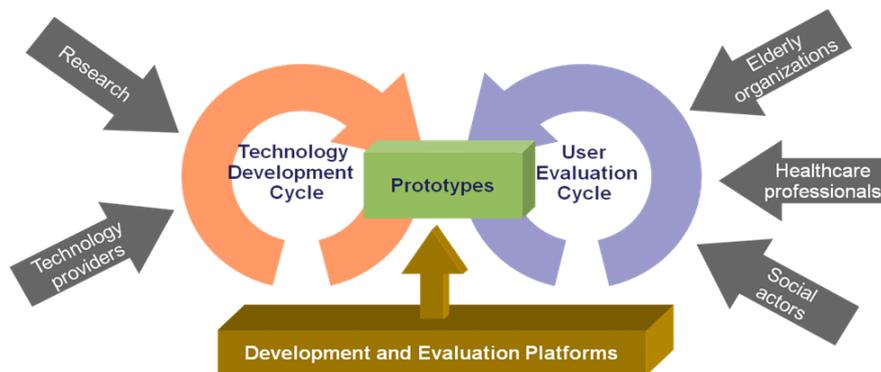


Figure 1: The concept of the SOFTEC Living Lab

Each project in the SOFTEC Pool of Projects is expected to work on a specific technology or product (or set of them) addressing the life of elderly people. Within each project, work is expected to follow a user-centred approach, in which the technology development cycle is coupled to the user evaluation cycle. The coupling is typically provided by a Prototype, which is used within both cycles. Notice that this is a very generic schema: depending on the project, the "prototype" can be anything from a conceptual video to a pre-market product.

The role of SOFTEC in the above schema is multi-faceted:

- SOFTEC will provide a shared resource pool from which technological and methodological components can be drawn in order to realize the "prototypes"; a critical component of this pool is a set of physical testing facilities (e.g., smart home environments) on which analysis, development and evaluation studies can be performed;
- SOFTEC will provide means to maximize the communication and the cross-fertilization between the participating projects;
- SOFTEC will provide means to maximize the dissemination of each project's results, through a set of outreach activities;
- SOFTEC will provide tools for the needed knowledge exchange and cross-disciplinary training for and across the different categories of stakeholders involved [not graphically represented].

In return, the participating projects are expected to contribute to SOFTEC by providing new resources to be included in the shared resource pool, by offering training opportunities, or simply financially. The modalities of interaction will be mutually agreed project by project.

Conclusions: SOFTEC is in its start-up phase. Our ambition is that SOFTEC will become a landmark experience in the study, development and evaluation of technology for elderly people. We expect that SOFTEC will have a markedly European dimension, and that it will be tightly integrated with similar initiatives in Europe.