Elderly users' requirements

Older people are generally interested in new technologies for the improvement of the quality of their life and/or the one of their relatives. However, when developing a IT solutions for this kind of users, it is crucial to keep in mind the limits linked to ageing, as well as the fact that older generations had to adapt to technologies in a later moment of their lives and they might not feel confident in the use of particular devices. Therefore, we can identify three main factors and the relative requirements we need to consider before developing IT solutions for the wellbeing of older people:

1. Issues linked to ageing

Some of the most common issues linked to ageing we need to consider, concern visual and hearing impairments or just low vision or progressive hearing loss. Thus, the interfaces of the developed solutions have the following requisites: big characters, possibility to turn up the volume, video subtitles, no bright colours, simple and readable fonts.
 Also limited mobility is a major concern for the developers of IT solutions. The proposed devices must be light, easy to carry and reach.

> ➢ Tablet or Smartphone applications are usually well accepted by seniors, because of the intuitive nature of these supports and the possibility to easily modify the interface (zoom in, turn up the volume, etc.).
> To detect the movements, sensors or small wearable devices (bracelets, watches, etc.) are a good option, since they are not intrusive and can be easily installed at seniors' home.
> Connected and smart objects are a new useful solution, for example we can think of a smart walking stick connected to an electronic device to detect movements.
> Serious games to promote physical activity are also a good option.

2. Social exclusion

We also need to consider some problems of social nature, such as the exclusion and isolation of seniors. Some of the users might live alone and have no opportunities to meet their relatives or friends. In this case, they wouldn't have any support in the use of a new IT solution. For this reason, it is suitable to keep the device as simple as possible and also to organize training sessions for the users.

> ➢ The developed solution must encourage social interaction, a tool for the seniors to keep in touch with their family, relatives and other people of their age, beside social services providers, health professionals, doctors and caregivers.
> For this purpose, IT solutions may also include serious games, promoting at once social interaction and cognitive training.

3.   <u>Acceptability of the technologies</u>

To avoid frustration or refuse of the IT, it is essential to focus on the acceptability of the new solutions we propose. The device has to be very simple and possibly similar to something seniors are familiar with (a remote control, a mobile phone, etc.).
Furthermore, we must avoid solutions that may humiliate seniors, such as intrusive and unusual devices underlining the health and ageing condition of the user.

> An easy IT solution for seniors is the television, we can think about a device using the TV screen as an interactive interface.
> Also in this case, smart objects are usually well accepted by seniors because they just look like normal ones.
> On the other end, video cameras pose problems in terms of privacy and ethical issues, as well as acceptability.

Radically new ICT-based concepts and approaches in H2020 and FP7 projects

ICT4Life (Horizon 2020 – PHC25) 2015-2018
http://www.ict4life.eu/

ICT4Life has the ambition to provide new services for integrated care employing user-friendly ICT tools, ultimately increasing patients with Parkinson's, Alzheimer's and other dementias and their caregivers' quality of life and autonomy at home.
The project is developing an integrated system to connect Alzheimer's' and Parkinson's patients with their formal and informal caregivers, health professionals and doctors through online platforms specially conceived according to the needs of the project's target groups.
The platforms will be connected to special devices (such as sensors) in the patients' houses, in rehabilitation centres and in day care centres to detect abnormal behaviours and their evolution in the patients.

Alfred (FP7 project) 2013-2016
Watch the video: http://alfred.eu/

A virtual coach on an App to support the elders in all their daily activities.
- ser-Driven Interaction Assistant to allow older people to "talk" to ALFRED and to ask questions or define commands in order to solve day-to-day problems.
- Personalized Social Inclusion by suggesting social events to older people, considering his interests and his social environment.
- A more Effective & Personalized Care by allowing medical staff or carer to access vital signs of older people monitored by (wearable) sensors.
- Physical & Cognitive Impairments Prevention by incorporating serious gaming to improve the physical and cognitive condition by offering games and quests to older people