persona
PERceptive Spaces prOmoting INdependent Aging

Daily activities

AAL Services aiming at complementing the abilities and capacities of the elderly when facing daily activities by providing an adaptive context-aware workflow that guides the user all day long, providing support in carrying out the activities and keeping safety margins that guarantee (as maximum as possible) a trouble-free living ambient.

TARGET NEEDS

HOUSEWORK ASSISTANCE
Supports the elderly to successfully run a house.

PERSONAL CARE
Support the elderly when addressing their daily self-care.

Denmark 🇩🇰	Italy 🇮🇹	Spain 🇪🇸
Homecare and housekeeping assistance are services provided by the local authorities and all elderly can access to them. 25% of elderly requested permanent home help.	Nearly 65% of elderly perceive themselves as self-sufficient in relation to daily activities. Only 6% of request is assisted by public servants, the majority is attended by relatives.	Nearly 70% of elderly population demand support for housework. 1 out of 2 seniors need help to perform personal care. These needs are covered mainly by personal assistance (relatives, informal care-givers)

EXAMPLES OF SERVICES

HOUSEWORK ASSISTANCE:
- ✓ Shopping list assistant, able to detect essential items missing from the inventory and update it, and easily controlled by end-user.
- ✓ Cooking assistant to provide guidance when preparing meals and controlling cooking devices and timing accordingly.
- ✓ Laundry assistant, provide contextual instructions to the elderly to perform the activity.

PERSONAL CARE:
- ✓ Weekly menu , personalized and provided to help the elderly to keep a healthy and balanced diet.
- ✓ Personal hygiene assistance, providing guidance and reminders to the elderly to perform the needed activities.

KEY TECHNOLOGIES

Natural, intuitive and context-aware guidance tool, based on user indoor location, activity profile and other relevant contextual information.

Integration with familiar multimedia devices (TV, mobile phone) and new purpose made interactive devices (intelligent textiles).

A knowledge management tool to synchronize user preferences, profile and behaviour.

Control over home aspects to avoid risky situations, sensors and actuators.

RFID integration to control food inventory, integration of smart appliances.

---

persona
PERceptive Spaces prOmoting INdependent Aging

Safety and Security

AAL Services aiming at preventing injuries amongst the elderly in their home environment, making them feel safer and most important giving them a sense of being able to cope living in their own space without the need of the constant presence of a caregiver.

COPING AT HOME
Being able to manage their lives at their home by themselves, in spite of possible restricted abilities due to age or illness, in a non-dependent way.

PROTECTIVE SPACE
Promoting a safer living to elderly, by both **being and feeling secure**, without the sense of isolation or loneliness.

Denmark 🇩🇰	Italy 🇮🇹	Spain 🇪🇸
The new elderly are both *healthy and wealthy*, and are expected to demand new quality and more diversified welfare services both from the public sector and private sector to meet their needs.	Elderly have conflicting opinions regarding protected homes and residences : 32.5% is favourable especially if used by lonely elderly, 25.1% are positive and 27.7% consider them as ghettoes where elderly are confined.	The social changes in Spain are changing the role of the elderly in the families. But still only 1 out of 5 lives alone. There is a lack of information and related needs on indoors activities technical assistance services.

EXAMPLES OF SERVICES

- ✓ Emergency services where in a critical situation an alarm is raised. The service is not only automatic; it also takes into account the view and decision of the user e.g. by voice command or pressing a button.
- ✓ Supporting a normal activity at home, such going to the bathroom, in a safer way; e.g. by automatically turning on the lights in the path.
- ✓ Monitoring behaviour to find user's patterns and provide useful feedback, i.e. reminders ("Please remember to lock the front door")
- ✓ Communication services including: between user and healthcare professionals ("Are my vital signs OK?") and automatically updating information at home ("Your medication has been updated")
- ✓ Automatic service for advising (e.g. educating for a healthier lifestyle), giving recommendations (e.g. for better nutrition) and alerting (e.g. "You have not exercised enough this week").

KEY TECHNOLOGIES

- ✓ Personal mobile devices that allow the elderly to speak to neighbours or relative in emergency situations.
- ✓ Smart textiles as intelligent carpets or smart garment (sensorized personal items), recording user's vital signs, activities and behaviour inside the house.
- ✓ Other wearable sensors, such as watch-like devices, to record vital signs both for indoors during normal routine, and outdoors activities, such as a short walk in the surroundings.
- ✓ Communication devices to transmit recorded health data to healthcare professionals.
- ✓ Systems, such as an electronic picture frame, for automatic updating medication information.
- ✓ Decision support systems that are able to process the information, classify the risky situations, and learn patterns from previous situations.

Social Integration

AAL Services aiming at alleviating loneliness and isolation among elderly people by providing ICT media supporting the need of belonging and experience exchange, helping in creating friendships, social contact and opportunities for participating in community activities.

TARGET NEEDS

COMMUNICATION
Eliminates the feeling of loneliness and promotes communication with other people.
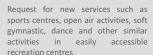
LEISURE
Prevents boredom and therefore tendency to depression by promoting the active participation on leisure activities.

Denmark	Italy	Spain
Nearly 1 out of 2 of elderly lives alone. Social activities are regarded as very important to foster quality of life.	Request for new services such as sports centres, open air activities, soft gymnastic, dance and other similar activities in easily accessible recreation centres.	Only 1 out of 5 elderly population lives alone. Social relationships are not seen as a problematic area for the majority of elderly.

EXAMPLES OF SERVICES

COMMUNICATION:
✓ Multimedia intuitive peer-to-peer communication experience one-to-one (i.e.: speak with my daughter), one-to-many (i.e.: cooking class), many-to-many (i.e.: rehab. session).
✓ Social network through establishment of communication services with virtual meeting places.

LEISURE:
✓ Neighbourhood virtual community membership, supporting the elderly to go out and meet friends.
✓ Personal and social agendas synchronized with automatic reminder alerts.
✓ Teleeducation and telerehabilitation.

KEY TECHNOLOGIES

Natural, intuitive and context-aware videoconference experience, based on user in-door location, user personal agenda and other relevant contextual information.

Integration with familiar multimedia devices (TV, headsets, remote control) and new purpose made interactive devices (intelligent textiles).

A knowledge management tool to synchronize social and cultural community events with personal calendar entries, user preferences and profile.

Control over home aspects remotely: home status request, forwarding of alerts to user's mobile device.

Mobility

AAL services aiming at supporting elderly people when leaving their homes to carry out activities within the neighbourhood, encouraging them to do so autonomously with confidence and security.

TARGET NEEDS

GUIDANCE
Information is provided to elderly people to help them deal with difficult situations that might occur while on the move, enabling them to reach their destinations and get back home safely.

CONFIDENCE
Knowing that they will have assistance to deal with difficulties that might arise while outside their homes encourages the elderly to continue conducting their outdoor activities.

Denmark	Italy	Spain
There's need to improve quality of life through improved individual independence and self-support by using technology.	Moving around is considered essential and 1 out of 3 senior citizens have difficulties in using public transportation.	The majority of elderly citizens need assistance performing outdoor activities, especially using public transportation.

EXAMPLES OF SERVICES

INFORMATION ABOUT PUBLIC TRANSPORTATION
✓ Provides routes to follow including which public transport lines to use when moving around.
✓ Guides the senior citizen while he is using public transportation by indicating the correct bus stops.

NAVIGATION SYSTEM:
A system that locates the user and provides him with information about points of interest or how to get from one point of the city to another on foot.

ASSISTANCE WHEN LOST
✓ Movements of the senior citizen are analysed to detect if he is lost.
✓ If he is lost assistance is provided.

KEY TECHNOLOGIES

Intuitive integration of user interfaces with familiar multimedia devices (TV, headsets, remote control).

Personal mobile device adopted for senior citizens with simple user interface, large buttons and mobile payment alternative available.

Connection to public and on demand transportation service provider systems.

GPS navigation system embedded in personal mobile device able to locate and guide elderly user to destination.