

People's revolution

The Oasis project aims to revolutionise the services available to older people, says Silvio Bonfiglio

The profound, pervasive and enduring consequences of an ageing population present enormous challenges as well as enormous opportunities for ICT. As highlighted in a recent report published by the European commission, the “uptake of assistive technology for independent living and care has been slower than might had been expected and seems to be very unevenly spread across the member states”.

Oasis – a new project partially funded by the European commission within the seventh research framework program (ICT and ageing) – promises a breakthrough in the interoperability, quality, breadth and usability of services for all daily activities of the elderly. The project intends to develop an open reference architecture based upon ontologies and semantic services, and will contribute to standardisation. In such a way, it will foster an effective and widespread growth of the assistive ICT market through interoperability, easy personalisation and cost-effective interconnection of existing and newly developed services in all

domains required for the independent and autonomous living of older people and their enhanced quality of life.

The main target user groups of the projects are older adults who experience mild cognitive and physical impairments due to ageing. These people are able, in most cases, to lead autonomous and active living, but are at risk of exclusion due to the slight cognitive and physical deteriorations that they are experiencing, as well as the complexity and lack of utility, accessibility and usability of ICT. Oasis intends to support their physical and psychological independence, stimulate their social engagement and foster their emotional well-being. In doing so, Oasis addresses key areas of their activities, such as independent living and socialising, autonomous mobility and flexible work-ability.

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A health and wellness kiosk in New York transmits health data to a central computer at the Beverwyck assisted living home in Slingerlands, New York



Oasis – the project

STARTED: January 2008

OVERALL LENGTH: 4 years

CONSORTIUM: 33 complementary partners from 11 countries (Belgium, Bulgaria, China, Germany, Greece, Italy, Mexico, Romania, Spain, Switzerland, UK)

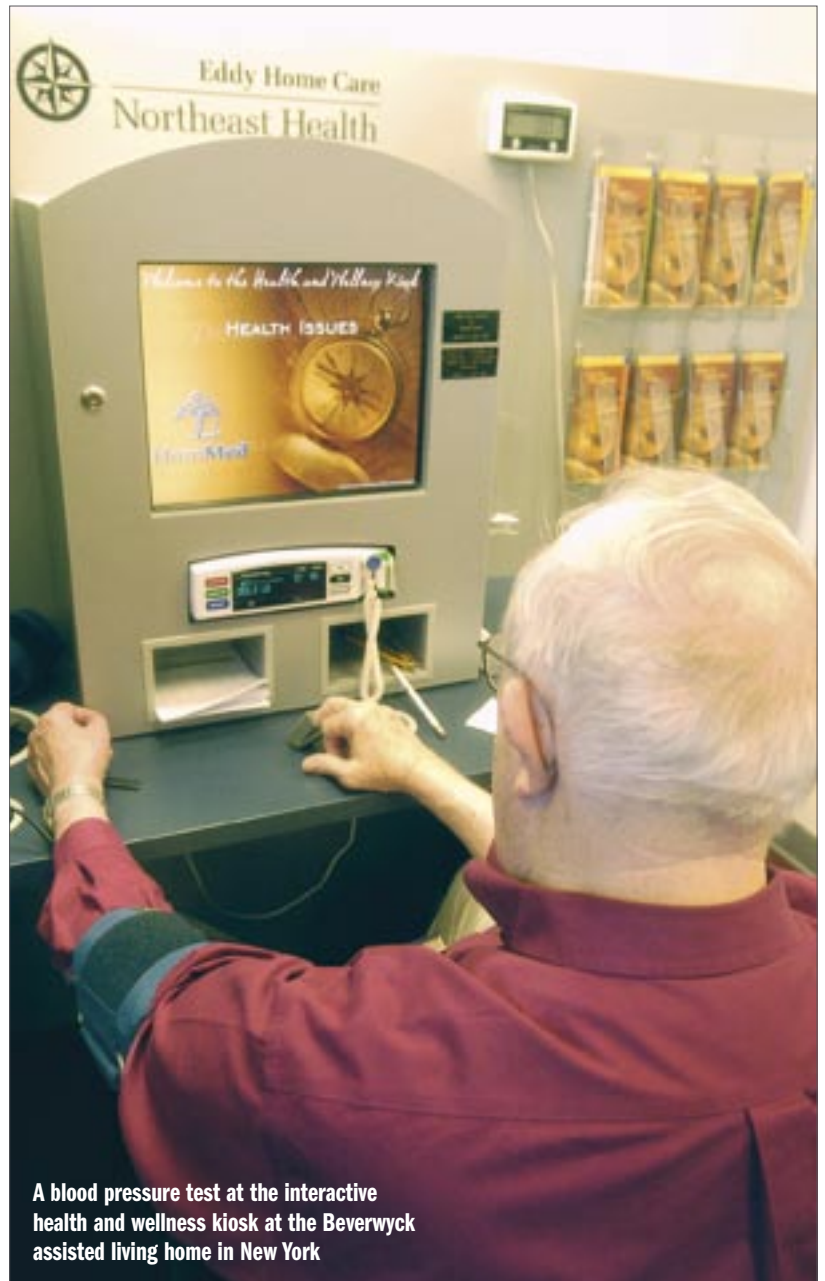
PROJECT COORDINATOR: FIMI Philips, and CERTH (Centre for Research and Technology Hellas) acts as technical manager

Further information is on www.oasis-project.eu

Unlike previous projects, Oasis does not focus on simply developing a purpose-built ontology and related services, but on connecting semi-automatically existing or emerging ones, even if they have different/additional fields; their integration will be possible on the ontology layer and not only on a single service layer. In fact the new Oasis architectural framework (Oasis hyper-ontology) is open, modular, holistic, easy to use and standards-abiding, and it allows the interoperability, seamless connectivity and sharing of content between not only single services but also competing ontologies of the same or different application domains. Thus, Oasis represents a new paradigm in the service area, offering the combined benefits of Linux-like open development and updated framework with a controlled Wikipedia-like expansion policy.

The Oasis project intends to go beyond the state-of-the art by solving issues of software development, maintenance and reuse; unlike previous ontology efforts, it intends to apply a tested and mature set of best practices available in software engineering directly to the ontology domain, promising in such way improved performance. Contributions to innovation are also expected in other areas, such as the intelligent agents and ambient intelligence (AmI) framework, wearable sensors for elderly health and activity monitoring, and in-home and domotic sensors. Furthermore, the project intends to develop a wealth of connected applications to prove that this vision is both realistic and beneficial to all.

Offered services – integrated into the Oasis platform – include independent living applications (ILA), such as nutritional advisor, activity coach, brain trainer, social platform, health monitoring and environmental control and autonomous mobility and smart workplaces applications (AMSWA) such as elderly-friendly transport, elderly-friendly route guidance, personal mobility, tourism, leisure and smart workplaces. These services will be personalised and adapted to the profile of the users, to their preferences and to their health status. They will support older people by keeping them active and productive for longer, by promoting social networks and overcoming isolation and loneliness, by fostering better quality of life for longer, and independence, autonomy and dignity.



A blood pressure test at the interactive health and wellness kiosk at the Beverwyck assisted living home in New York

As user friendliness and acceptability by the elderly represent a top priority for the project, a user-centred design approach will be followed along the services and applications development. The resulting integrated systems and services will be tested iteratively and thoroughly by hundreds of end-users, their caregivers and other stakeholders in four sites Europe-wide (UK, Germany, Italy and a combined eastern site in Greece, Romania and Bulgaria). Involved elders will be living both in sheltered homes and at their home alone, in pairs or with relatives. ★

Silvio Bonfiglio works for Philips FIMI, and is the coordinator of the Oasis project