

OLDES

OLDER PEOPLE'S E-SERVICES AT HOME



OLDES project: an affordable and customizable e-Health system

Facing the challenges of an ageing society, there are also chances: technological and social economic innovation as well can enhance the quality of life for older and impaired people; moreover they can harness the economic problems of an increasing ageing population and create new business opportunities. In short ICT can make key contributions to an independent living of the elderly.



Picture 1. User Interface

What is OLDES?

The project offers a new technological solution to improve the quality of life of older people, through the development of a very low cost and easy to use entertainment (teleaccompany) and health care (telemedicine) platform, designed to ease the life of the elderly in their homes.

THE PROJECT PHASES

- To define the system final users' real needs
- To develop the platform in relation to those needs and 'expectations',
- To test and validate the system at 2 locations, in Bologna (Italy) and Prague (Czech Republic). In both cities the system

has been tested for the telemedicine aspects involving diabetic patients in Prague and cardiopatic patients in Bologna whereas it has been tested for the teleaccompany aspects only in Bologna,

- To disseminate, exploit and evaluate the OLDES application.

THE PLATFORM DESIGN

The platform has a typical hub and spoke architecture and a low cost computer based system working as access station for OLDES functionalities. The computer installed in user's home is connected to a TV set displaying info provided by the platform via a simplified graphical user interface, and access contents are selected by means of a simple remote control.



Picture 2. Remote control

Entertainment – teleaccompany system

Through the application the users can access audio and video contents and, by an adapted handset connected to the computer, they can actively participate in discussion groups with an animator helping to create reactions. Hence they can easily call their relatives (using a classic PC connected to the internet) and friends connected to OLDES system using computer and handset (VoIP Phone calls).

Telemedicine system

The whole platform is based on two different levels, namely: a local hub, receiving physiological data

and sending them through Voice-IP modality to the central hub, receiving and monitoring information in a personal health agenda, set-up for each patient.

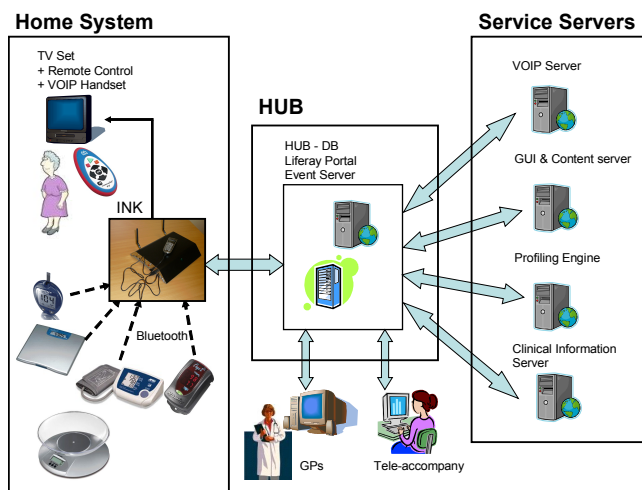
Health services and physicians are therefore able to receive, store, compare medical data and, in case of need, promptly respond to raising alarms. format and stored in large medical databases.

The selected medical devices used for capturing medical data are easy to use for older people and are less invasive as possible. Data are communicated to the computer via wireless connections (mainly via Bluetooth) so as to limit as more as possible inputs or technical interactions by the elderly. The following devices and sensors have been tested in the design and development of the OLDES platform: an adapted version of sphygmomanometer for obtaining elderly blood pressure, a fingertip pulse oximeter for monitoring SpO2, ECG for measuring heart rate and R-R, a glucosimeter for blood glucose level, together with scales for weight check and daily diet. Moreover, some ambient monitoring systems (for patient home's temperature and humidity) are being tested in order to check patients' living conditions, mainly in summer periods when raising temperatures may cause serious rebounds to elderly' health.

Some considerations

Through its federated design, spanning a number of different agencies and institutions, OLDES supports and proposes an innovative and collaborative approach to the delivery of welfare services to older people. Following EU recommendations (*The benefits go beyond improving patient care and healthcare system efficiency. Telemedicine can also make a significant contribution to the EU economy¹*), the OLDES system is designed to be scalable, highly customizable and governable by service providers, users and commissioners in response to dynamic and emergent needs and priorities. In the OLDES vision, many elderly people can be supported in their own homes by means of network connections and services, contributing greatly to the quality and the cost-effectiveness of their care, and to their independence and wellbeing.

OLDES Current Architecture



Picture 3. OLDES System

OLDES CONSORTIUM

Coordinator ENEA (IT)

Partners: Bologna Municipality(IT), CUP 2000 (IT), Local Health Authority Bologna (IT), Bologna University (IT), Newcastle-upon-Tyne University (UK), CETIC (B), Prague Technical University (CZ), Charles University, Prague(CZ), INK Media (Canada), Agentscape (D)

Timetable : from 01/1/2007 - to 31/8/2010

Total cost : 3.647.844 €

EC funding : 2.500.000 €

Instrument : STREP

Project Identifier : FP6-IST-2005-045282

¹User-centred approach

The design of this application is based on a user-centred approach to develop a product meeting the real needs and feature of the users; HUMAN FACTORS ARE KEY TO THE ACCEPTANCE OF THE FINAL PRODUCT.

Important Links:

Project website: <http://www.oides.eu>

ICT for Health website: http://ec.europa.eu/information_society/ehealth

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