	Deliverable reference:	Date:
	D4.1	4th December 2014
	Title:	
HELASCOL Helping elders to live an active and socially connected life by involving them in the digital society	**Services specified**	
Project Title: Helping elders to live an active and socially connected life by involving them in the digital society	Responsible partner: Kecelcom, Kapsch	
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Contract no. AAL_08-1-2011-00011 (Magyar)	Approved by:	
AAL AMBIENT ASSISTED LIVING ASSOCIATION AAL-2011-2	Classification: Confidential	

Abstract:

   This report presents a description of a project to develop a web responsive application directed to the "assisted living" market.

   In this project we intend to develop a web responsive application with wireless sensors for monitoring health and environmental data. This application must also include a social component to offer functionalities such as chat, video call, shared agenda and games.

Keywords:

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Project:	HELASCOL
Contract no.	AAL_08-1-2011-00011 (Magyar)
Start – End dates	
Deliverable	D4.1
Date	December 2014
Version	0.2

NOTE:

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Document History

Revision	Date	Author	Organisation	Description
0.1	**04.12.2014**	**Anita Zsiros**	Kecelcom	Services description
0.2	**16.12.2014**	**Ferenc Nemecsek**	Kapsch Business	

Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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Glossary of terms

1 Introduction

1.1 Project scope

The „Helping elders to live an active and socially connected life by involving them in the digital society" project addresses the objectives of the call by offering a 360 degree user involvement methodology to examine how a new approach towards digital technologies can be harnessed to support the involvement of elderly people in digital society. The proposal intends to synthesize the skills, experience and knowledge of the consortium members in developing a state-of-the-art platform and service package backed with feasible business models which supports the on time and on budget realization and market introduction of the call objectives.

The project focuses on providing an enriched communication experience, anywhere, anytime and to any device with accessible, intuitive, easy to use, multimodal User Interfaces. We believe that the right service and the right content are only accepted by the end users if it is delivered on the right device, one that they are used to. This can be the screen of the television, mobile phones, etc. Our goal is to enable elderly people, their family and social surrounding to share their everyday experiences anytime, anywhere and help them make use of existing and currently developed multimedia services to generate the sense of closeness and community belonging they are searching for. This enriched experience, which allows users to share their emotions and experiences in a vivid and interactive way, requires a new approach both in services and the technology that supports them.

1.2 Purpose of this document

The Deliverable 4.1 contains a description of the services that we are carried out during the project.

1.3 Structure of the document

This document contains the following sections:

Pillars: describes pillars based on the Description of Work

Services: general information and main functions of services for each pillars

2 General findings

2.1 Concept and project objective(s)

The main scope is to develop a framework to facilitate the provision of relevant service on the relevant channel for households with elderly people. The inclusion of elderly people in the digital society has to begin with the most common channel and interface they are used to, the television, and then the applied types of communication channels may expand.

2.2 Specific objectives

- Objective 1: Create an intuitive and easy to use Graphical and Multi-modal User Interface that can be applied to television screens, mobile phone screens and computer screens.

- Objective 2: Develop a service delivery platform based on open standards and existing, innovative yet ready-to-use state-of-the-art technology and frameworks, which enables 3rd party service developers to provide services for the end users.

- Objective 3: Integrate basic home automation and smart home functions that can be managed by the elders and also monitored by their relatives.

- Objective 4: Develop service packages based on 5 pillars:
    - Pillar I: communication (chat, video chat, bulletin boards, photo sharing, etc.)
    - Pillar II: entertainment (mind training games, elderly social network etc.)
    - Pillar III: accessibility (smart home control)
    - Pillar IV: active lifestyle and health keeping (medicine reminder, measurement for health rate)
    - Smart metering management

The main objective of the project is to provide the elderly people with the means of maintaining social relations by developing an easy to use and easy to understand communication platform with social and entertainment capabilities that can be easily upgraded with security and medical features. As mentioned above (Pillar V), we will address energy efficiency and the build-up of conscience by the elderly people, using the physical application and communication infrastructure to be put into place anyway, by providing information about the power consumption of the many devices at home, in an intuitive, entertaining and educative fashion.

3   Pillars

3.1   I. Pillar – communication

In this pillar the main focus is in communication. These services are suited for elderly to establish real-time connection with relatives and friends.

Three main services of communication pillar are chat, video chat and e-mail.

3.1.1   Chat

Chat is suitable to send and receive text message instantly between two or more users. Users can check status of contacts, if the colour is green, the partner is available. Users can reach relatives or friends directly, by pressing a button, and they can answer on the same way.

Main functions:

- Send text message
- Receive text message
- Invite to chat
- Accept contact invitation
- Reject contact invitation
- View chat history
- Add a contact
- Remove a contact
- View Google contacts

3.1.2   Video chat

In addition to the text message users can start video chat. During the video chat every connected partner can see each other. Video chat is working on computer, tablet or smartphone device (also called videophone chatting), and may involve one-to-one interaction, as in the case of FaceTime and Skype, or multipoint (or one-to-many) interaction, as in the typical case of Google Hangouts.

If somebody likes to make a call, just check the status of the called party. If it is green, status is available.

Main functions:

- Invite to video chat
- Start video chat
- Accept video chat
- Accept contact invitation
- Reject contact invitation

- View video chat history

- Add a contact

- Remove a contact

- View Google contacts

3.1.3   E-mail

Using e-mail service elderly can receive and send e-mail via an easy to use and understandable platform. Every user has an e-mail account with personal e-mail address, but the service is very simple, lacks of too many built in features.

Main functions:

- View all e-mails

- View an e-mail

- Reply to e-mail

- Write e-mail

- Send e-mail

- Search in e-mails

- Add contact

- View Google contacts

3.2   II. Pillar – entertainment

3.2.1   Games

In this Pillar the main focus is to give opportunity for digital gaming to elderly. Using this service users can access many games in a simple way. Games includes different types of card game, memory and brain stimulation game. These help the elderly to keep their mind and memory fresh.

Main functions:

- View game list

- Play game

3.3   III. Pillar – accessibility

3.3.1   Security solutions

This Pillar includes services which provide safety solutions for elderly who lives independently. This services contain several sensors which can watch the elderly people habits, behaviors.

The sensor detects the in-bed activity of elderly people. The sensor is installed under the bed's leg detecting the deflection of a spring. Based on this measured data the system

knows the elderly is in bed or not. Considering habits and behaviors system can send alert to the relatives, if the elderly is in bed all day, because it is a deviance.

Other sensors can watch the usage of water. Sensors watch the usage habits of water, and if it sense deviance send alert to the relatives.

Main functions:

- View all Available Environmental sensors
- View Environmental sensors data (as last record)
- View Environmental sensors data (as chart)
- View Environmental sensors data (as table)
- View Environmental sensors alerts
- View Environmental sensors variable's limits
- Edit Environmental sensors variable's limits

3.4 IV. Pillar - active lifestyle and health keeping

3.4.1 Health monitoring

Health monitoring uses a WSN based application to monitor people's health and quality of life through vital signs and activity information collected via wireless sensors and collected in a Smartphone. This solution monitors users such as elderly, people suffering from chronicle conditions in their home environment. Continuously monitoring of vital signs and daily activity information can help to promote better healthcare and better quality of life.

Helascol is able to monitor the real-time condition of people through body sensors and automatically alert their caregivers. The system will be prepared to monitor heart rate, blood pressure, weight, glucose and oximetry. The sensor data is transmitted via Bluetooth to mobile application (gateway) that will processes data locally and warns the caregivers if the data exceeds pre-defined thresholds. Furthermore, the system has an alert button for emergency situations that establishes immediately the communication between patient and caregiver, this function could have a vital role in people lives.

Main functions:

- View all Health Sensors
- View Health Sensors data (as last record)
- View Health Sensors data (as chart)
- View Health Sensors data (as table)
- View Health Sensors alerts
- View Health Sensors variable's limits
- Edit Health Sensors variable's limits

3.4.2   Calendars

Elderly people often attend at events with other elderly and like to spend time together for example to walk in the forest, or just visit somebody. Using this service elderly can organize events with relatives or friends. Users can create and share events, and invite somebody to join.

In the calendar users can set up alerts and it help us to not forget things.

Main functions:

- View all calendars
- View calendar events
- Add event
- Remove event
- Invite to an events

3.4.3   Reminders

Based on calendar service above, users can set up reminders which can help to manage the medicine problems. An elderly people usually takes a lots of medicine, and it can be difficult to keep in mind. Reminders can solve this problem, because it can alerts elderly when it is the time to take pills.

Main functions:

- Add Reminder
- Edit Reminder
- View Reminders
- Delete Reminder
- View Reminder Alerts

3.5   V. Pillar - Smart metering management

3.5.1   Smart metering

Smart metering services need to provide additional help for elder people on their everyday activity. In the scope of Helascol, many services have been defined with the target of giving the elder people more secure environment in their household. These are the following services:

- Tap and shower monitoring,
- CO_2 levels observation,
- CO level observation,
- Temperature observation and
- Humidity observation.

4   Conclusions

In order to involve elderly to the digital society Helascol execute services in a very simple and understandable platform. These services can help them to take part in the digital world, can communicate via internet in real time, and can ask help when they are in trouble.
It is very important not for the elderly, also their relatives, because they can be calm about their parents or grandparents.
Some services helps the elderly to participate in a community, which could be local or worldwide using the internet. Other services makes their life easier, helps to check the usage of energy or water, and could be save their life in emergency.