



OLA – Organizational Life Assistant

FOR FUTURE ACTIVE AGEING

D1.5 Usability evaluation of field Trials in Sweden, Portugal and Hungary



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1 Executive Summary

This deliverable lays down the plan for the pre-trials evaluation procedure, as well as any methodology steps that were necessary to be refined after T1.1. It details the parameters of those pre-trials and monitors their execution and the actual results witnessed. It finishes by making conclusions on the data retrieved, creating a set of technical refinements that are to be addressed before the actual pilots, and also providing input or refinements on the plan of those main pilots.

2 Document Context

2.1 Role of the Deliverable

This deliverable envisages the planning, undertaking and subsequent evaluation of the usability pre-trial assessment efforts performed in OLA. These characterized by using the technologies created in D3.2 and the different modules envisioned in WP2 (while they're not yet integrated within the scope of WP3), as well as occurring as much closer to (or in the same) trial sites and using the users that were already the subjects of T1.1 - User requirements capture and persona/use case scenario design.

2.2 Relationship to other Project Deliverables

Deliv.	Relation
D1.1	Title: User Requirements specification and use case definition Results, as well as experience, is transited from D1.1, namely the methodology employed to interact with the end-users, the refinement (and avoiding) of any issues that were faced at that time.
D2.X	Title: WP2 – Technology development In case that some of the technical modules are not yet integrated into the complete system (see below), the technologies that relate to D2.1, D2.2, D2.3 and D2.4 can be evaluated and tested separately, so that their usability and reception are gathered as soon as possible.
D3.2	Title: D3.2 Integrated system The ideal scenario is that pre-trials are already made with the integrated system, meaning that the majority, if not all, technical modules and features are already available to be tested.
D3.4	Title: D3.4 Pilot Trials and Evaluation As was done between D1.1 and this deliverable, so should D1.5 also create the path for an improved version of the actual pilots' plan and methodology, if one is already ready (or improve its inception if not).

2.3 Target Audience of the Deliverable

This document is a public deliverable. Still, it is mainly intended for the project partners and the European Commission services thus the document will be made public, but not specifically disseminated on a wider scale.



3 Project Description

3.1 General Description

This project aims to offer an answer to the societal challenges by providing an innovative Organizational Life Assistant (OLA), a virtual presence that supports instrumental activities relating to daily living needs of older adults allowing them to be more independent, self-assured and to have a healthier, safer and organized life, while easing caregivers work.

OLA will mediate and facilitate interaction (communication and collaboration) between senior citizens and their informal caregivers or other services or professionals, through technological devices such as standard computers, mobile devices (tablets) and home automation modules. These ICT (Information and Communications Technology) devices will be based on an innovative multimodal model, embracing various physical/healthy and cognitive characteristics of the older adults and will be specifically oriented to increase the level of independence of the elderly, by supporting the possibility of carers' assistance remotely and by improving the accessibility to existing services on the Web, such as on-line shopping services.

Moreover, the OLA will also provide personalized well-being and safety advices to older users in order to avoid unwanted age related health and safety situations in their own home. Such a well-being and safety advisor makes uses of a combination of user information that is collected (personal physical/health and cognitive characteristics) and extracted through emotion recognition and various sensors.

OLA also addresses a major issue that elderly face related to memory degradation and gradual decreasing of their cognitive capabilities, enabling them to remember primary health care and fiscal obligations (e.g. personal hygiene, medical and tax compliance) or helping them to find everyday items such as eyeglasses, wallet or keys. It is based on speech dialogue interfaces and space and object reconstruction and classification to capture and store daily routines and their related contexts.

The primary end-users are the big group of 65+ adults living alone with or without light physical or cognitive age related limitations, who need support from care systems. Secondary end-users are both formal and informal caregivers from public or private sectors, supporting them to cope with the increased demand for care.

3.2 System Description

OLA addresses specifically the following main issues:

- **Well-being advisor:** based on the combination of the collected user information (personal, healthy characteristics) and user interaction information extracted through emotion recognition, sensors settings and contextual recorder capturing the routines as done by the older adult) the system will propose to the older adults personal advice adapted to their situation contributing to their preservation and well-being status in home environment. In case of risk (e.g. irregular heart rate, extreme fatigue) the system may ensure an alert to a local medical emergency service.
- **Collaborative care organizer:** based on the ISCTE-IUL and LM's knowledge of developing human-computer interaction platforms (HCI), OLA will provide online care collaboration between family and professional caregivers, by enabling a local care network to communicate, access sensor data, and coordinate care tasks. With the OLA assistant, seniors will be able to actively participate in the care organization through voice, even when they are unwilling or unable to use traditional web applications.
- **Safety advisor:** based on the combination of collected user environment information through real-time analysis and augmented reality settings, the system will propose suggestions of environment changes that interfere with accessible paths and provide alerts for intruders or other situations that can create hazard situations. In case of risk (e.g. checking intruders or fire), the system may contact local emergency services.
- **Every day instrumental daily living activities memory support:** the system will anticipate medical and fiscal compliances, remember primary health care and food requirements and could help elderly to find displaced everyday items.
- **Environment analysis:** algorithms for real-time object recognition and scene understanding will be developed based on a number of inputs (i.e. 3D object and space reconstruction by using time-of-flight and augmented reality technology) in order to analyze and decide which action to be taken in order support the elderly by suggesting environment changes and providing hints/advice for safety and accessible environments.
- **Multimodal interaction for elderly:** An adaptive organizational life assistant, a virtual presence will be developed in order to facilitating communication and collaboration between older-adults and informal caregivers or other services or professionals. This will be a user-friendly system that uses multimodal approaches based on non-invasive



and minimally obtrusive technologies (i.e. speech, silent speech, touch, gestures, RGB-D sensors).

The overall OLA system will be an easy to download and install software making use of multimodal integrated settings. OLA is in essence a service that enables the elderly user to reduce the demand of care through prevention and self-management, while at the same time also facilitating the supply of formal and informal care assistance.

A series of well-selected use cases where older adults have been supported by caregivers and care professional services will be developed, as well as pilots representing different use cases. Care units will use the system over a one year period. A new evaluation approach will be used during the pilots, investigating up to which point the OLA services alleviate caregivers support and maintain, or even improve the self-management, health and safe lifestyle of the older adult at home.

3.3 Status and Future Developments

The last version of this deliverables already includes the feedback from the users, illustrating the results of the pre-trials, and also listing the fixes and the improvements made on the solution from the end-users validation.

4 Methodology

This deliverable begins with the first of a three-stage process: the methodology creation for the undertaking of the usability pre-trial tests. This step gathers very much of its structure and experience from the methodology employed by the broader user requirement-related efforts of the project, executed earlier in T1.1. The following steps are envisioned:

1. Create a first evaluation survey: an initial questionnaire to collect user information, responsible of the user information, living and health conditions and an initial evaluation of the devices which the user will be testing;
2. Create a usability evaluation survey - questionnaire related the to the usability tests will be created, having in mind linkages with the previous questionnaires' already employed and their results, as well as what is important to extract from users at this point in the project; please check questionnaire in the next subchapter;
3. Make availability OLA modules: another important part of the methodology is to plan which modules of the platform are ready to be used and in which countries, making sure that a minimum-usable product is delivered to these users; please check testing Modules subchapter for more information;
4. Devise usage guidelines: a script / guidelines report will be devised as a tutorial for how users should use the modules for the time being, as well as the actual supervision parameters that should be demonstrated by the OLA staff. This should also state the usage limitations that the modules may have;
5. Supervise OLA modules usage: this step of the trials is the actual consummation of the tests, for which more details are given in the second stage of the document; the supervision must be taken carefully to detect any abnormalities in the system and also defective usages from all participants.
6. Users fill the usage survey: after the core of the tests is performed, another very important part of the process is for users to fill the questionnaire created in step 1, something which should also be supervised by the OLA staff; The supervisors should also take notes reflecting the negative points that they identified to be transmitted to the technical partners to make the refinements.
7. Results are analyzed: the important outcome of this process is the generation of results from the surveys, not only for the purpose of the next step (8) but also as a means of evaluating the project and the development in OLA as a whole;

- 
8. Refinements are extracted: given the resources of the project (namely time and funds), not all results coming out of the tests that underpin improvements may be doable; this process should filter and extract meaningful refinements that should be addressed by the technical partners before the actual pilots.

4.1 Modules

An important part of the usability tests made in the pre-trial stage is the assessment of which are the current modules of the OLA platform that can already be experimented; since this is mostly a user-level endeavor, modules which sit at the bottom of the vertical architecture, i.e. back-end services and database, can be left out of this list. Following are the modules that can be part of this study:

1. **Interface application:** this entails the using of the overall interface application that is the core of the OLA project; although some of the following modules are embedded into this, they have an increased importance by themselves (they have their own tasks and deliverables into the project plan) and so should be evaluated separately. Specific portions that should be used are the different features of the app (agenda, contacts, news, menus, buttons, etc.);
2. **Speech synthesis:** given that some users may experience some audition-related problems, it's an important test to assess whether the speech technology already available and produced by the technical partners is adequate for a normal usage scenario of the users; attributes to be measured are cadence, volume, clarity, voice tone used, etc.;
3. **Speech recognition:** here users should get in touch with the familiarity of having to dictate commands and phrases into the application, checking the speed by which commands are translated into actions, the frequency of a correct understanding of their voices and the difficulties felt;
4. **Avatar:** a unique feature of the OLA solution, the avatar is a component that can signify the closest thing to a company the user may benefit from; although related with the speech synthesis feature, it's important to notice and report how users react to a tridimensional presence in their houses (will not be tested on pre-trials activities).
5. **Sensor usage:** although at this stage the application doesn't yet support the full list of sensors foreseen, it's already possible to test it with a subset of those regarding an almost complete (i.e. end-to-end) scenario; even if not fully-automatic, such tests can still be made to assess usability of those processes.

The following table lists these components and the project partners that are closer and more knowledgeable about them:

Module	Partner
Interface application	ISCTE-IUL
Speech synthesis	ISCTE-IUL

Speech recognition	ISCTE-IUL
Avatar	LM
Sensor usage	BZN

The following list presents the relationship between our partners and a population of end-users that can be used for those tests:

Partner	Country	Status
LM	Sweden	Active
CKPT	Portugal	
BZN	Hungary	

Given this configuration, it's possible to merge both tables into a mapping that relates modules to the setup / context where they'll have better means of being adequately tested, presented next:

Module	Provided By	Provided To	Country
Interface application	ISCTE-IUL	CKPT	Portugal
Speech synthesis	ISCTE-IUL	CKPT	Portugal
Speech recognition	ISCTE-IUL	CKPT	Portugal
Avatar	LM	LM (end-user partner)	Sweden
Sensor usage	BZN	CKPT or LM (end-user partner)	Portugal OR Sweden

Nevertheless, the ideal scenario is to entirely fill the aforementioned mappings, i.e. to put all modules close to all contexts / countries; this means that a significant amount of deployment efforts is necessary from the different technical partners.

Module	Deployment Effort
Interface application (ISCTE-IUL)	White-list OLA project partners (especially end-user partners) to be able to download and install application from their personal computers.
Speech synthesis (ISCTE-IUL)	<ul style="list-style-type: none"> • Make sure that the Interface application already embeds this technology (the improved version); • Another option is to provide this module alone in a "black box", offering limited functionality (for example with a predefined list of phrases)
Speech recognition (ISCTE-IUL)	<ul style="list-style-type: none"> • Make sure that the Interface application already embeds this technology (the improved version); • Another option is to provide this module alone in a "black box", offering limited functionality (for example with a predefined list of commands)

Avatar (LM)	<ul style="list-style-type: none"> • Make sure that the Interface application already embeds this technology; • Another option is to provide this module alone in a "black box", offering limited functionality (for example with a predefined list of reactions); this option can also be merged with the Speech synthesis;
Sensor usage (ISCTE-IUL and BZN)	<ul style="list-style-type: none"> • Guidelines for making available the sensor gateway (needed to use the sensors) must be provided for end-user partners to be replicate locally; • Supported list of sensors must be provided in time, to allow the acquisition of those by partners.



4.2 Research on the application of the Avatar

LM has done a short survey and a series of in depth interviews concerning attitudes regarding the OLA system and the use of an avatar as a part of the communication interface. In the survey, we have asked general questions on attitudes on the use of avatars functionality of OLA. We have also provided four different images of faces representing the face of an avatar. The participants have in turn noted different aspects of perceived trust on the images.

In the interviews, we have let them elaborate on their thoughts about an OLA system and the use of avatars as means of communication.

Questionnaire

The questionnaire was designed in two parts. The first concerned attitudes towards communicating with an avatar using different task included in the OLA platform. The second consisted of a set of four images of possible avatars with different characteristics. In the first part we got highest scores on the health-related tasks with contacting a doctor and reminding to take medicine being on top, the lowest being reminder to eat and make private appointments.

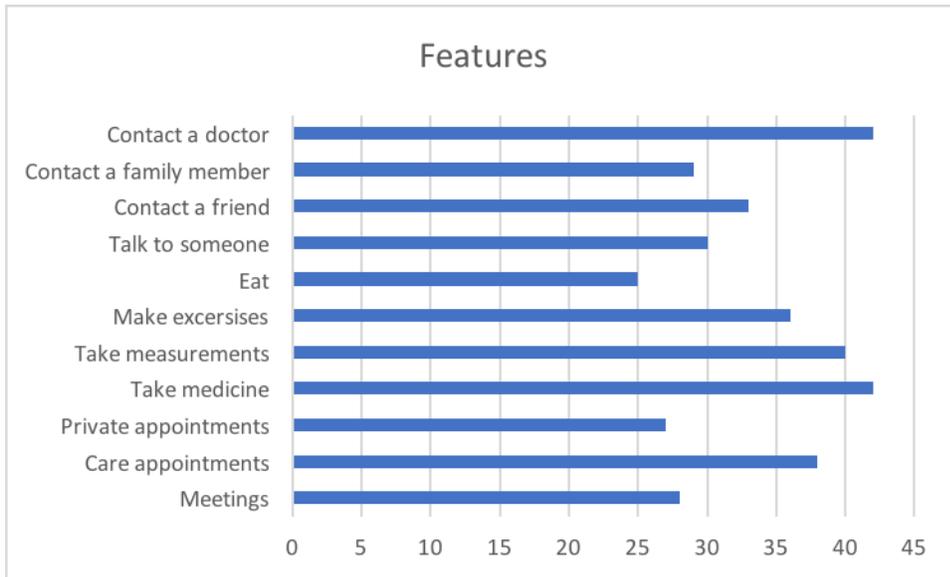


FIGURE 1 - GRADING OF DIFFERENT FEATURES USING AN AVATAR IN OLA

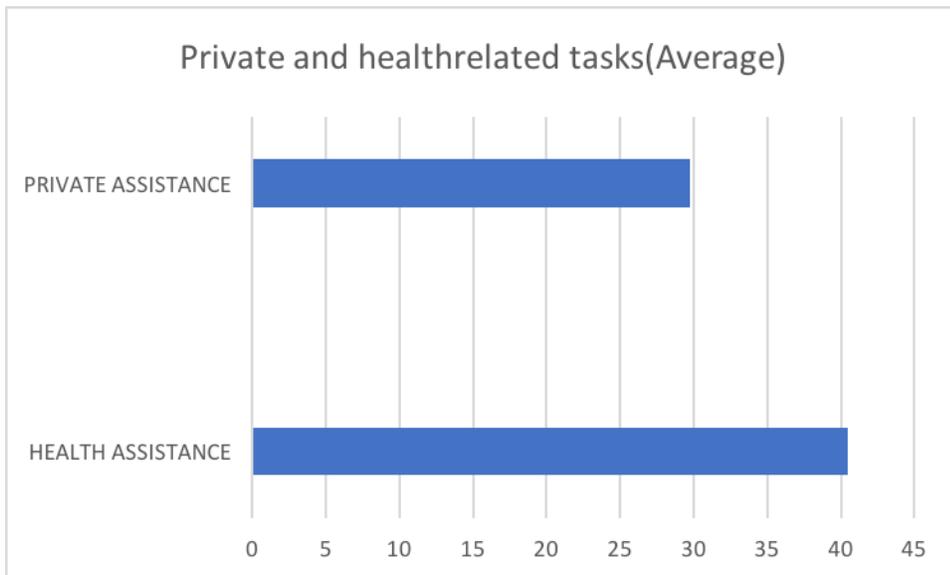


FIGURE 2 - AVERAGE OF GRADING BETWEEN PRIVATE ASSISTANCE AND HEALTH ASSISTANCE FEATURES IN OLA

Health features being: Contacting a doctor, take measurements, take medicine and care appointments. Private features being: Contact family member, contact a friend,

talk to someone, reminder to eat, make exercises, and make private appointments/meetings.

In the second part the participants were presented a set of images of female avatars ranging in age, looks and ethnicity.

Places of origin seemed not to affect their choices, the face with an African look scored the highest points. The face considered to be the happiest got the highest points in contact and the face considered to be strict got the highest points in assisting to take measurements. This is not conclusive but is in indication for further study. The different faces got quite similar points and it seems difficult to get reliable information on using this type of images. The participants were distracted by details like eyes or mouth. They also felt uncomfortable grading looks in this manner.



Avatar Image no1



Avatar Image no2



Avatar Image no3



Avatar Image no4

FIGURE 3 - IMAGES OF AVATARS USED IN THE SURVEY

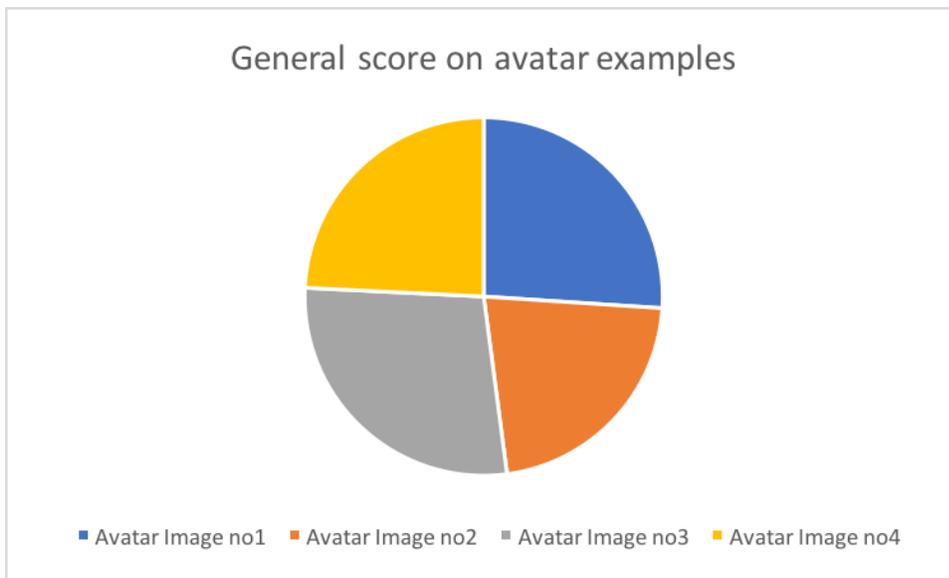


FIGURE 4 - GENERAL SCORE ON THE DIFFERENT EXAMPLES OF AVATARS IN THE SURVEY

Generally, interviews span from very skeptical to enthusiastic. The skeptical views concern mostly of the idea of replacing human interaction with technology. Even if we say that OLA is not a replacement than more of a collaborating tool there is a common association to a general discussion on technology such as robots and systems replacing humans.

The central question through the interviews are the difficulties in learning new technology.



By and large the attitude was mildly positive.

One central concern that comes up is that of responsibility and trust.

- A negative consequence of an assisting system can be the risk of reducing the users' control of their own life.
- One participant commented that a monitoring health system where you can access data focuses the user on his condition. He expressed that too much focus on monitoring can be negative and a cause for worry. Another cause for worry could also be the system putting responsibility on the user.

A difficulty in evaluating the use of avatars was the participants' limited experience of avatars in other situations. One compared it to the safety instruction movies on airplanes.

Reflections on Avatars:

- The idea of communicating verbally with technology seems disconcerting and an avatar would enhance that.
- It is also disturbing if they are too realistic.
- It seems easy to communicate with an avatar if it works properly.

Important to notice is that the one being most skeptical to the avatar expressed critical concerns in controlling systems and technology universally.

Conclusion on the Avatar research

The participants in the study are mostly positive to the use of an avatar in the OLA interface.

Overall, they considered the health-related task of greater interest which may refer more to the OLA features than the specific use of the avatar. The main points of interest being contacting a doctor and reminding to take medicine. The grading of the avatar seemed not to relate to age or ethnicity.

We have seen an indication that a glad or strict appearance that could be positive in different situations. That could be a relevant subject for further study. A successful



implementation of the avatar and the voice interface can be an important feature to address the concerns on learning how to use the system.

4.3 Field Trials

The objective of the activities performed

This section describes the aim of the Field Trials and the benefits expected to be gained from this activities. The main objective of the pre-trial activities was to improve the connection between the different components and training the users, allowing to get to the pilot activities with a solution already capable, tested and fixed.

The end user representatives signed the importance of conducting this trials for verifying the development level for storing data and also the frontend robustness.

Participants and tested devices

Details on the number of participants and the devices that were tested.

Following, we present the pre-trials hardware setup and some of its measurement results. The corresponding graphics for the five pre-trials that are listed below, are an extremely valuable tool to assess the overall health condition of the elderly, based, for example, on the blood pressure and heart rate readings. Therefore, considering these two biometric variables (used in all pre-trials except #4), they can be used, by the formal caretaker to adjust medication to handle eventual heart condition of the elderly. They, could also be used by the informal caretaker, to signal the need for formal caretaker assistance. A part from health related measurement devices, the Microsoft Band (used on Pre-trials #4 and #5) can also give insight (e.g. using accelerometer values) into more or less sedentary habits of the elderly, allowing to, if needed, suggest them to have a more active lifestyle. These pre-trials also allowed to test the feasibility and usability of both the hardware (computer, gateway, and measurement devices) and the software (Irina OLA App), according to the usability survey referenced above.

Pre-trial #1 (senior)

Portugal

Start date: 24/09/2016

Collection rate: Once a day

Devices:

- Surface Pro 2
- Lisbon Gateway

- Blood Pressure Monitor – Fora P20b
- Weight Scale - Fora W310
- Glucose Monitor
- Microsoft Band 1

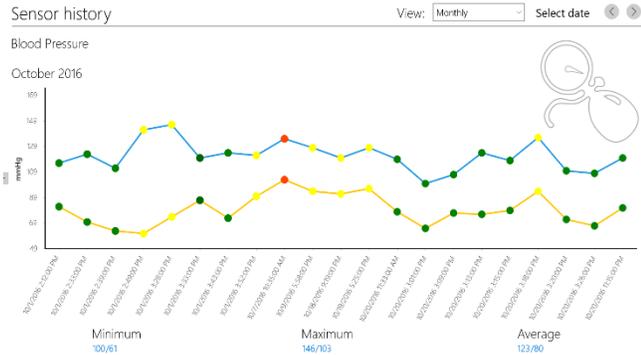
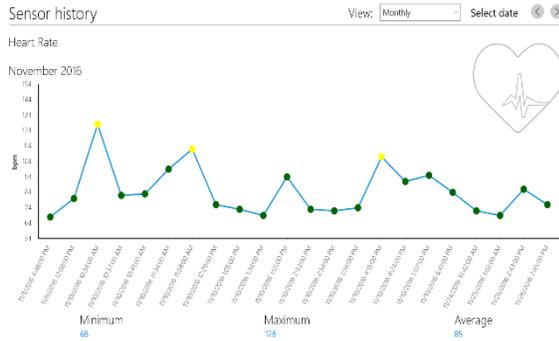


FIGURE 5 - HEART RATE VALUES FOR PRE-TRIAL#1

FIGURE 6 - BLOOD PRESSURE EVOLUTION FOR PRE-TRIAL#1

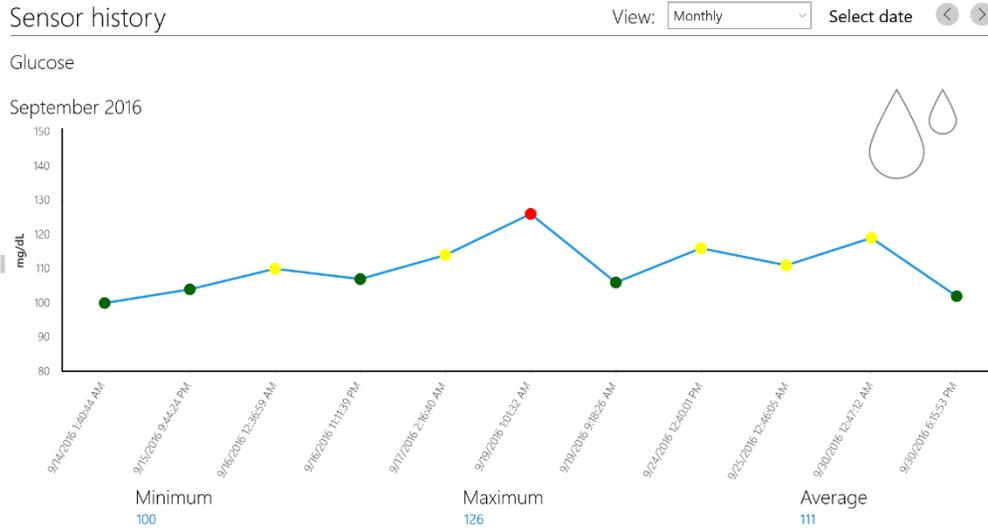


FIGURE 7 - GLUCOSE EVOLUTION FOR PRE-TRIAL#1

Pre-trial #2 (senior)

Portugal

Start date: 13/10/2016

Collection Rate: Once a day

Devices:

- Surface Pro 2
- Asus Laptop
- Asus 8' Tablet Gateway #8
 - Blood Pressure Monitor – Fora P20b:
 - Blood Pressure
 - Heart Rate
 - Weight Scale - Fora W310:
 - Weight
 - Body Mass Index

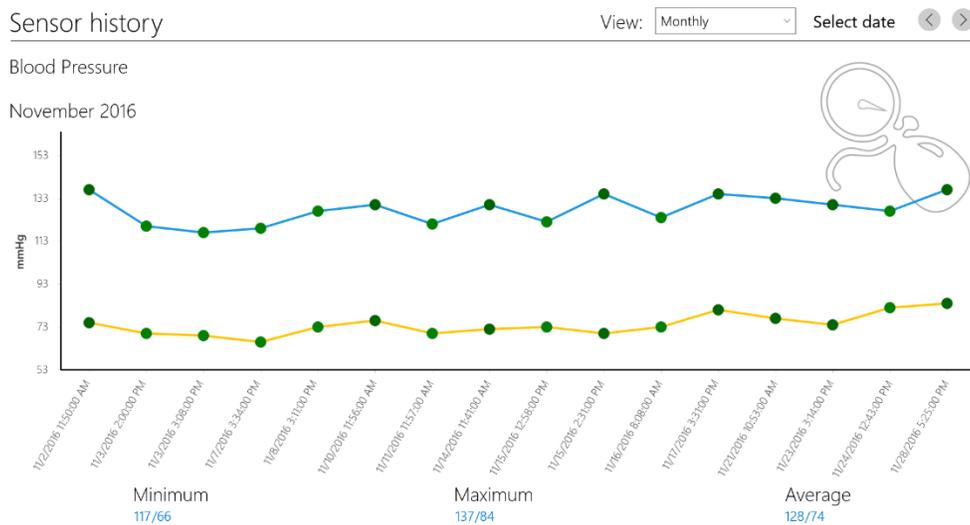


FIGURE 8 - BLOOD PRESSURE EVOLUTION FOR PRE-TRIAL #2

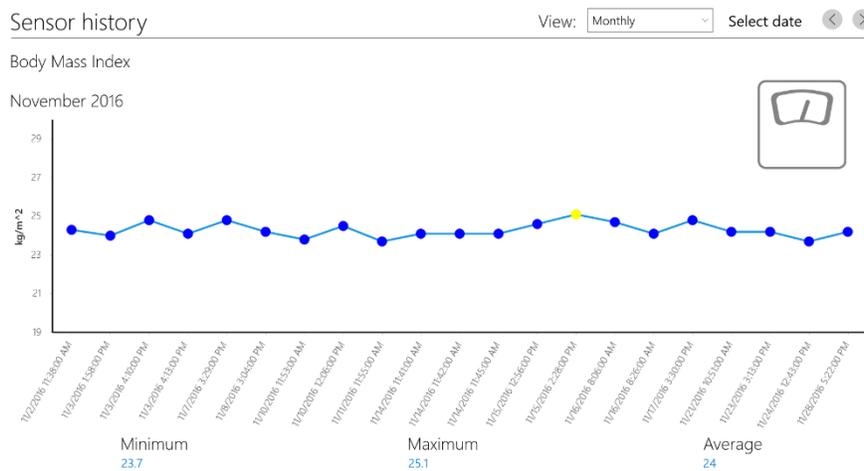


FIGURE 9 - BODY MASS INDEX EVOLUTION FOR PRE-TRIAL #2

Pre-trial #3 (senior)

Hungary

Start Date: 15/11/2016

Collection Rate: Once a day

Devices:

- PC
- BayZoltan Gateway
 - Blood Pressure Monitor
 - Heart Rate

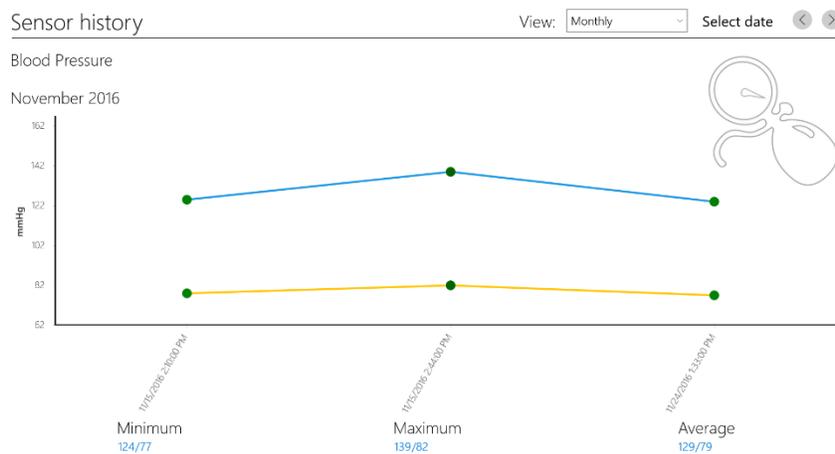


FIGURE 10 - BLOOD PRESSURE EVOLUTION FOR PRE-TRIAL #3

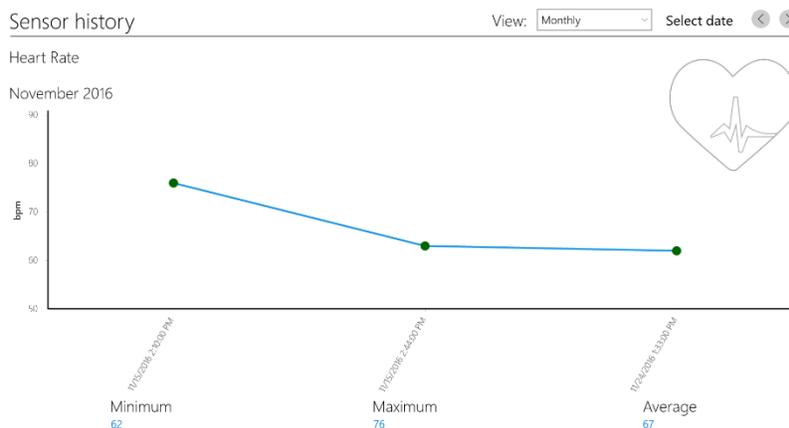


FIGURE 11 - HEART RATE EVOLUTION FOR PRE-TRIAL #3

Pre-trial #4 (Elderly and Informal Caregiver)

Start Date: 14/11/2016

Collection Rate: Once a day

Caregiver Devices:

- Asus Transformer Book

Elderly Devices

- Surface Pro 2
 - Microsoft Band I:
 - Heart Rate
 - Skin Temperature
 - Accelerometer
 - Pedometer
 - UV Index
 - Calories

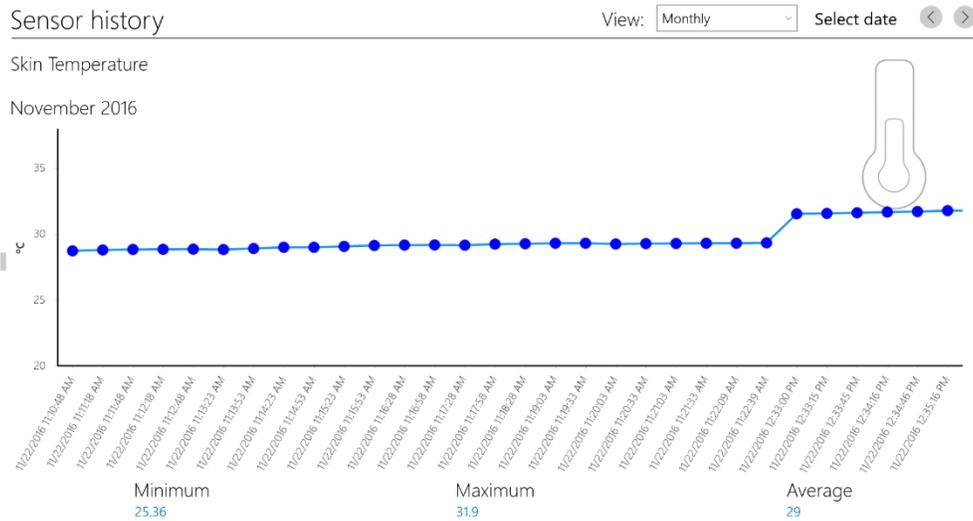


FIGURE 12 - SKIN TEMPERATURE EVOLUTION FOR PRE-TRIAL #4

Sensor history

View: Monthly Select date < >

Heart Rate

May 2017

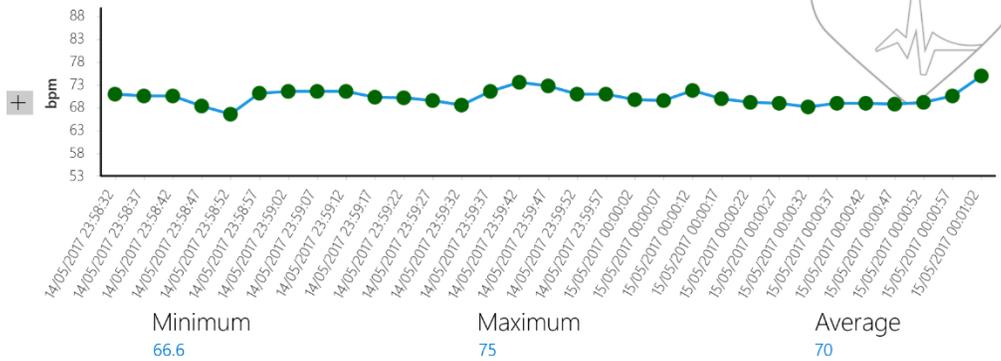


FIGURE 14 - HEART RATE EVOLUTION FOR PRE-TRIAL #5

Sensor history

View: Monthly Select date < >

Accelerometer

May 2017

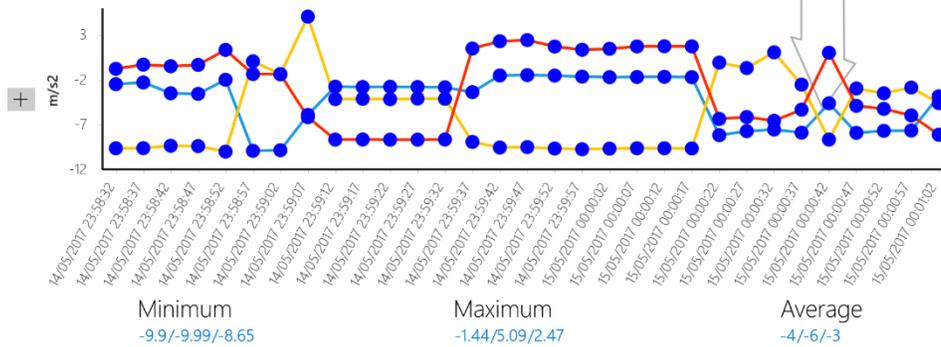


FIGURE 15- ACCELEROMETER VALUES FOR PRE-TRIAL #5

Sensor history

View: Monthly Select date < >

Blood Pressure

April 2017

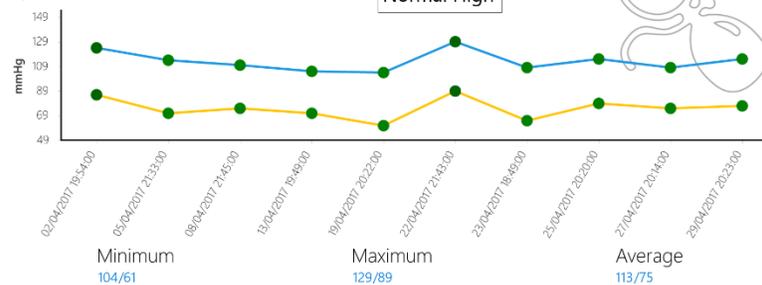




FIGURE 16 - BLOOD PRESSURE EVOLUTION FOR PRE-TRIAL #5

Feedback from the Users

This section contains notes regarding the feedback received from the users during or at the end of the tests.

After passing over the instability found during the initial tests and the loss of connection between the router and raspberry pi, the users expressed that it was an interesting application to use.

Improvement suggestions from End-Users' Representatives

The End-Users' Representatives which conducted the pre-trials LM and CKPT identified a number of improvements, whether from observation of the users during their performance with devices as well considering their experience and the overall expertise in this field.

Notes from tests performed:

- The application sometimes cannot read the voice commands. If the user is interacting with OLA in noisy environment, is recommended to the user a headset or an external Microphone.
- The panic button does not work with a significant distance from the RB Pi. The tests performed by ISCTE concluded a maximum distance from RB Pi of 5 meters without obstacles.
- Added surveys in Portuguese, Hungarian and Swedish Languages to the app (will launch a browser window when you click the Surveys button).
- Upgraded app to Windows 10 that will allow to have the app detecting when updates are available and ask the user to install those updates.
- TTS now shuts off when app is turned off.
- Fixes calendar bug reported by CKPT.
- Fixes logout bug when in the app's main page.
- Adds Swedish resources provided by LM.
- Adds support for in-app updates (app now detects if an update is available and prompts the user to download and install those updates).
 - Progress and manual update button are available in the *About* tab on the Preferences page.
- Caretaker Portal New Version:

- Managing Caretaker and Patient profile information.
- Managing activities (medication, appointments, and measurements) for each Patient (in a list format) and viewing these activities and results in a calendar view.
- Added support for multi user gateways (using BZN's gateway upgrade board).
 - All gateways that are currently running will remain operational, but gateways that are to use this board will need to have its software upgraded to version 1.2.0.0. Please let us know which gateways will receive this board upgrade so we can schedule with you the upgrade path.
- Added Swedish disclaimer for QoL surveys (previous builds already had the disclaimer for Hungarian).

User requirements List Refinements

The user requirements list was refined considering the feedback and suggestions by the end users and the end users' representatives, respectively.

Agenda Functionality to attribute actions to the seniors' events with the caregivers - an agenda that is shared between patients and caregivers, where the caregivers can monitor not only the health data, but also the events linked to a determined senior. The caregivers can propose events to each senior (e.g. as a medical consultancy or for taking medication) e the actions of those events are filled accepting those events/commitments (Requirement #34).

Graphic designs adjustments – Some end users revealed some difficulties on reading some functionalities, as the user interface was not adapted to the seniors. Considering this note, the development team adjusted the interface by improving the resolution of display for the menus and make them better readable (Requirement #35).

The users pointed that the panic button should work with a wider distance from the raspberry pi, allowing them to be at another home rooms and having the possibility to call for assistance with the panic button (Requirement #36).

The users suggested that would be necessary to do some adjustments to the SR, as there were some voice commands that were not user friendly and some not logical to be said considering the respective action associated (e.g. when moving back and forward on the menu, different terms in Portuguese, Swedish and Hungarian can be used) (Requirement #37).

Improvements and fixes made

- The interface showing the area of Login with Email was presented in a low resolutions appeared cut.
- The Go Back Button sometimes did not work with touch.
- A bug in the wrong Exchange of contacts inside of a contact groups in tablets only.
- A bug where username wouldn't be displayed on main page when the app was restarted after login.
- The app back button now works when Windows 10 is in Tablet Mode.
- An issue where preferences option bar was cutting out in tablet devices.
- Modality buttons were cutting out in tablet devices.
- Added support for user group editing in the contacts module (supported via a drop down when editing a contact or via drag & drop in the contacts page).
- When entering the Agenda module from the main screen, it will always load the current day, instead of resuming from the previously selected day (doesn't behave like this when coming from an appointment – create or view details).
- Some refinements were needed for the integration of the Microsoft Band with the platform.
- The application revealed a problem when used by a 32 bits system.

Individual evaluation on technologies and devices

The pre-trials reveal that some features needed to be improved, as the previous section demonstrate several important improvements that were needed during the activities:

- The user interface in the overall was attractive and easy to use;
- The informal caregivers expressed their interest and were enthusiastic to see the measurements on the report;
- The SR was sometimes not easy to use, as there were some commands that were not the best option to represent the actions the users needed to navigate in the platform. New voice data were collected to enable a full functionality.
- Both informal caregivers and seniors stated a great advantage to use OLA for communicating and sharing the health data.

- 
- TTS demonstrated lack of commands to change that specific interaction between the users and the platform.
 - The users pointed that the panic button should work with a wider distance from the raspberry pi, nevertheless they feel same on having this functionality available in OLA.
 - The users found the Agenda a great functionality for them to have a (virtual) assistance helping them to remind taking medicines.
 - The agenda had a structure different from normal, which was a barrier identified by a few users.
 - Some instability between the router and the raspberry pi was verified in the beginning of the pre-trials, which caused some inefficiency at some periods of time.



5 Conclusion

The important result to take from this deliverable are the significant issues identified and reported by the users of the pre-trials.

There were new requirements suggested from the users, collected from the pre-trial activities that enrich the usability of the ones developed and integrated.

Such fixes created a more robustly and easy to use application which enables OLA system to better perform in the coming pilot activities.



ANNEXES

Annex 1 – Avatar surveys

This Annex 1 lists the relevant excerpts from the interviews.

Interview1 Leif:

Do think about think about problems of integrity?

No, I think more about putting responsibility on myself because if you start to worry about things it can get worse.

Interview2 Eva:

What do you feel about a system like OLA to assist at home?

I think that could be helpful, as a complement. But not instead of human contact. It is still human contact that is most important for everyone.

Would you think it to be helpful in having a better control of your life?

Only if it is not passivating. If it not makes you stop using your own brain for your practical survival. You could become passive. I won't have to think about it because my virtual assistant will handle it. Then you stop thinking... But still I accept the idea about reminders. You cannot ask a relative to call whenever you are supposed to take a pill. You must make up your own systems to make things work when you still have a clear mind. And when you haven't you maybe don't know what to ask. Perhaps you don't ask the right questions.

You must know a lot to do it the right way. To have good use of something like this.

What you would need help with this to train your brain so that you don't need a system or other type of help. That would be really interesting...



Interview3 Olof

What do you think about having an avatar, a character that talks to you and helps you?

I think it is an excellent idea.

What do you like about it?

That you can talk to it. Not read or write. Simple... Technology will get better and you will get used to it. And if it might feel strange... we have gotten used to a lot.

Interview4 Karin

How do you feel about communicating through voice?

Well you listen and answer when they pose questions. I have mostly encountered this when I call agencies for information. And you don't say it right so it doesn't work and the voice gets irritated. You always must provide the right answers. If it works I think I would like it.

What do you think about having a face to the voice, an avatar?

I think that is a good idea.

How do you think it would look?

It should be glad and calm. It should not be too realistic. Then it can almost be a bit scary. More of a cartoon character, like the safety instructions on an airplane. I think... It must be obvious that it is not a real human. It should feel safe and caring. Like a good doctor or nurse...

Interview1 Leif

General thoughts on communication with and through a device?

My thought was that you could have a musical tune and a melody and I thought a part of the melody could be when I want something from the system and another when the system wants something from me.

I also thought about if it should be a male or female avatar. One is so used to beautiful women from advertisement. It is so common that people want to sell or attract attention with a beautiful image. There is something sick about this.



Could you describe attractive personality traits or characteristics on a character?

When I saw the images I thought that you will get tired of the same image, and person.

How do you think about a system that helps with collecting health data, communication and care planning?

Partly I see it positively but at the same time one thinks of the overall impression that you risk getting a less personal relationship. Now when you take tests, there is often a real and nice person that talks a little. You get a relation that way. That makes one critical of robots in society. But I also see advantages, that if you have tests from home that give information that helps healthcare to evaluate your condition. Like the blood pressure hat you take once a year. If I can see that my blood pressure has been high for several weeks then a contact automatically can be established that sees that I get the wrong medicine. It has been like that for me. I don't know what happened but anyway, the medicine was changed. And it worked.

Are there any other disadvantages?

"I have a certain skepticism about the computer and how you get tied up to it. I avoid using the computer unless it is necessary. I keep for example paying bill the old-fashioned way on the post. I think that when you make an appointment with several people you can talk a lot back and forth. I think that when such a machine arrives that has a better alternative one will get it. I don't think you can make one only from knowing the needs."

If you can imagine such a service or system that you would like, what would it look like and what would it contain.

"It should be quite simple to use. You give examples on many things that can be automated in some way but the question is if you start to connect everything then it is difficult for me to see how one could trust this. I have heard of people walking around with some kind of watch that measures blood pressure and pulse. But that is usually people that have a serious heart condition ore some type of problem.

One thing is also what kind of principles you have, I don't want to think too much my health condition. If it is not necessary I don't want to think about it.

What if you only focus on some information that is important for you?

That can be the problem with these ideas, the older you get the more difficult it gets to get an overview of the information, and you need help meanwhile this system gives you more information.

You said earlier that you were sceptic to a very complex system with a lot of information.

It can be in many ways. You create something that interferes in a very early stage. This is some kind of philosophical question, you could say. You should think it through on some kind of holistic perspective.

Do think about think about problems of integrity?

No, I think more about putting responsibility on myself because if you start to worry about things it can get worse.

Is it possible that you can put the responsibility on the machine instead, for good or bad?

It can be like that for other people, relatives, they can put the responsibility in the machine – they do not have to make that call to that person because the machine takes care of that.

Interview2 Eva

What do you think of the idea of having an avatar, a character on screen, would that help?

I wouldn't use if I didn't have to. That would be for lack of human contact, to reach another human being. It would be good to have reminders because when you get older it is easier to forget. For me it feels very strange to have an artificial face.

How do you feel about having only I voice compared to a voice with an avatar?

A voice can also express a lot. It depends on the face. Just the knowledge that it is not a real face, and that it has nothing to do with the face. That is enough to make me sceptic. I think that a voice would be enough, for me.

Does it feel more artificial with an avatar?

I think I am childishly sceptic to the artificial contact.... These ideas about robots... It is more frightening than a possibility for me, emotionally... I think of as it is today... when people can mess up with things and do bad stuff... then robots can be very scary... It may be impossible to shut oneself off but that is what is do, right now anyway.

What do you feel about a system like OLA to assist at home?

I think that could be helpful, as a complement. But not instead of human contact.

It is still human contact that is most important for everyone.



Would you think it to be helpful in having a better control of your life?

Only if it is not passivating. If it not makes you stop using your own brain for your practical survival. You could become passive. I won't have to think about it because my virtual assistant will handle it. Then you stop thinking... But still I accept the idea about reminders. You cannot ask a relative to call whenever you are supposed to take a pill. You must make up your own systems to make things work when you still have a clear mind. And when you haven't you maybe don't know what to ask. Perhaps you don't ask the right questions.

You must know a lot to do it the right way. To have good use of something like this.

What you would need help with is to train your brain so that you don't need a system or other type of help. That would be really interesting...

What if system prevents inactivity? Recommends you do something when you are too inactive.

That's right...Like Dr.Moseley says. You should get up every thirty minutes. It prevents cardiac diseases.

Interview3 Olof

What do you think about having an avatar, a character that talks to you and helps you?

I think it is an excellent idea.

What do you like about it?

That you can talk to it. Not read or write. Simple... Technology will get better and you will get used to it. And if it might feel strange... we have gotten used to a lot.

What do you think of a system that assists you?

I think it is a very good idea. The only problem is getting used to it. There is a lot of new things. Like mobile phones. A lot of these things are available in mobile phones today. It is great if you only can learn to use it. Like a mobile doctor.

You must give commandos. Like Siri, she doesn't understand everything...

I look forward to it. Even if I don't have patience enough. Even when you get older you can get interested to learn. To get it to work. You must learn. When this happens, I think I really can see myself taking part in it. All other systems everywhere require tapping on a



computer. I know that the hospitals have a lot of information. Where you can see a lot of information about yourself. There is a lot of help you can get. For example, for the diabetes that I have. Something like this that I have on my arm. It could send the information to the system.

If you can get a hold of a doctor in an emergency would be fantastic. For the sense of safety. A doctor that calls back for example.

Would you feel safe with leaving information in a system like this?

Yes, Absolutely... It is a natural progression for me... nowadays you can get medication in better ways. Like the blood sugar sensor that I have. It tests my blood every seventh second.

Today when you get a test in the hospital you get a whole page. You must have education to understand it. When you have sensors at home you might see problems before they occur. Like cardiac arrest...

Interview4 Karin

Would you like to use a system like OLA yourself?

I think that when you get old it is hard to use technical stuff. I think more about somebody young for example somebody handicapped from a traffic accident. But you never know...

Many old people have alarm bands that they don't know how to use. But my generation is more used to technology. It can be easier for us. I also think it can be good in rural areas, to contact your doctor via skype.

How do you feel about communicating through voice?

Well you listen and answer when they pose questions. I have mostly encountered this when I call agencies for information. And you don't say it right so it doesn't work and the voice gets irritated. You always must provide the right answers. If it works I think I would like it.

What do you think about having a face to the voice, an avatar?

I think that is a good idea.

How do you think it would look?



It should be glad and calm. It should not be too realistic. Then it can almost be a bit scary. More of a cartoon character, like the safety instructions on an airplane. I think... It must be obvious that it is not a real human. It should feel safe and caring. Like a good doctor or nurse...

And the voice is really important. There is a voice on the radio that is too sad. It is good if it is neutral I think. So that you don't focus on how it sounds.



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