
Project description

PaeLife is a European Ambient Assisted Living Joint Programme (AAL JP) Project with a consortium of eight partners from Portugal, France, Hungary and Poland. Our Project focuses on individuals who are recently retired and who are used to some level of technology usage and who want to keep themselves active, productive and socially engaged.

PaeLife is our proposal for a Personal Life Assistant, a new solution of Human-Computer Interaction, making it easier and more natural for elderly to interact with computers and technology.

Partners

- [Microsoft Corporation \(Portugal\)](#)
- [Instituto de Engenharia de Sistemas e Computadores, Investigação e Desenvolvimento em Lisboa \(Portugal\)](#)
- [Budapest University of Technology and Economics \(University, Hungary\)](#)
- [The Bay Zoltán Nonprofit Ltd. \(R&D Institute, Hungary\)](#)
- [Knowledge Society Association \(Secondary End User, Poland\)](#)
- [Genitech \(Company, France\)](#)
- [Troyes University of Technology \(University, France\)](#)
- [Universidade de Aveiro \(University, Portugal\)](#)

Meeting in Aveiro

The fifth PaeLife Consortium meeting took place on the 20th and 21st of February in the Portuguese Venice, Aveiro at the Universidade de Aveiro.

The university was created in 1973 and is considered one of the most dynamic and innovative universities of Portugal, with its 430 professors and 11000 undergraduate and 1300 post-graduate students around. In this meeting, partners discussed the current status and agreed on the next steps of the project. The final version of the application, with all the modules and interaction modalities integrated will be ready at the beginning of July.



On the meeting in Aveiro

Development

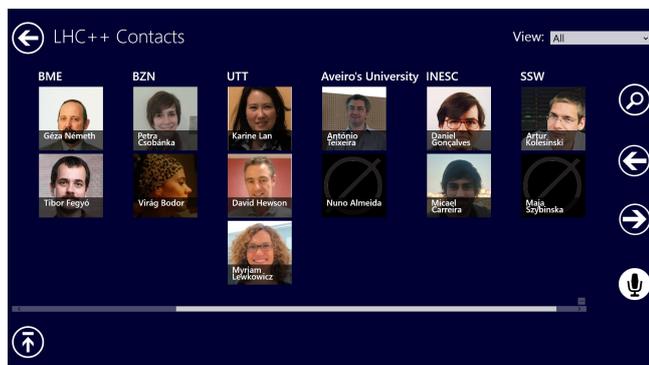
AALFred's new Look and Feel

The user interface of the whole application has been redesigned following the new windows 8 style and the insights from the user tests. The new design offers a more homogenous and better integrated interface between all the modules of features to improve the intuitive use. As a plus, the colors and styles of the user interface can be configured by the user according to their preferences.

AALFred's features

AALFred already offers: Contacts management; Messaging services; Agenda; News reader; Weather forecast; Services finder (e.g. Pharmacies, Post Offices) and TV Guide. Much more is coming soon... But... all of those features are already available outside of AALFred. So, you must be wondering, Why is AALFred any better?

Well, here is why: AALFred delivers all these features in an integrated way, with uniform interaction, and it was iteratively designed taking into consideration the end-users' needs. By providing a single contact point with different technologies, the elders no longer have to learn and deal with the specificities and idiosyncrasies of different tools and applications. For instance, AALFred offers a unified way to manage contacts from several services, such as Skype and Email. Unneeded complexity is made transparent and the most important features made immediately and easily accessible.



Interface of the contacts

Furthermore, AALFred's multimodal interface allows users to interact in ways that are more natural and intuitive, lowering an important acceptance barrier. The user can interact with AALFred using speech, gestures, touch, or simply through the traditional mouse and keyboard.

Modalities

Touch modality

Touchscreen interfaces lack haptic feedback, which makes them harder to perform certain tasks such as text-entry, where users have to constantly select one of many small targets. This problem particularly affects older users, whose deteriorating physical and cognitive conditions, combined with the unfamiliarity with technology, can discourage them from using touch devices. We performed this study in order to better understand the performance and behaviour of 20 older adults when inputting text on a tablet. From our results, we developed an accessible virtual keyboard that help seniors in typing tasks. It features improvements that allow to reduce the error rate, and help the older users learn the keyboard layout..

Gesture modality

People express themselves and interact in everyday social life through gestures. Therefore, gestural interfaces are considered very natural and easy to use. However, seniors have particular physical characteristics that can be a hindrance when using this interface, such as slower motion, less strength, less fine motor control and decreased range of motion and grip force. To ascertain if gestural interfaces are suitable for older users, we are performing an experimental evaluation where we analyze several gestures for interacting with technological interfaces. The results from our study will allow us to understand both performance and acceptance of the defined gestures, from the perspective of senior users.

Speech modality

The first version of the multimodal framework is ready and integrated. The speech modality already works in English. The next step is the implementation of the other languages and gestures and making the Voice Talent Selection. More news to come about this innovation in PaeLife's next newsletter.

Evaluation

PaeLife's user tests on the first working version of the prototype have been made in France last September. The insights produced – from the perspective of the users – have been used, in an iterative approach, to inform improvements. The second version has now been developed and is now available for testing, which will start in the next weeks. The objective of the preliminary user tests was to evaluate the services available so far – Email, Agenda, Social Network and Call – considering 3 issues. First, the users would provide feedback on the percei-

ved usefulness of the services proposed. Second, the aim was to understand the users' existing practices concerning mediated communication and use of technological devices, so as to question how the services could support the elders' social interaction habits, and therefore integrate coherently into their way of life. The third issue was an imbricated usefulness/usability question. The system offering mixed interaction modalities, our concern was to examine how the users would manage to operate between these different modes, and if this mixed modalities was perceived as useful or not. The main insight is that users confirmed the utility of proposing multimodal interaction, including speech and gesture modalities, which constitute AALFred's added value.

Speech Data Collection

The Speech Data Collection Campaign, which involves the collection of speech provided by people using an online platform tool, is now ongoing in France, Hungary and Poland. We are confident of reaching the aim of 100 hours of pure speech (speech without pause) over the next few months of the project.

The Speech Data Collection Campaign, which involves the collection of speech provided by people using an online platform tool, is already finished in Poland and still ongoing in France and Hungary. Nevertheless, we are confident of reaching our initial goal in France and Hungary over the next few months of the project.

The Speech Data Collection is essential for the development of the PaeLife final product, where speech will form an important part of the multimodal interface. Therefore, we are always looking for people who would be willing to contribute and be a part of this project.

The requirements for participation are to be over 60 years old, to be born in one of the countries stated below,

and to have good reading skills.

If you are interested in participating in this project, or know anyone who would like to donate their voice and who meets the criteria above, please contact the main coordinator of the following countries:

- **Hungary:** Tibor Fegyó - fegyo@tmit.bme.hu
- **Poland:** Artur Kolesiński - artur.kolesinski@ssw.org.pl
- **France:** David Hewson - david.hewson@utt.fr

These coordinators will be able to give you further information and guide you through the process. As we require many elderly people to provide their voices, it would be great and immensely appreciated if we could have you on board and count with your participation!

After the data collection recordings are complete we will start the PaeLife data validation procedures to assure the quality of the recorded data. This will involve a data transcription and annotation process based on clear guidelines that were defined taking into account the PaeLife Project high quality standards.

Further information

In order to be informed regarding the **PaeLife** community and its activities online, please join us on:

-  [Twitter](#)
-  [Linked In](#)
-  [Slideshare](#)
-  [Blog](#)

