

# The team:



# ALFRED

Personal Interactive Assistant  
For Independent Living and Active Ageing

## ALFRED vision

The objective of ALFRED is to develop a personal mobile assistant for older people, helping them to stay independent, to coordinate with carers and to foster their social inclusion. ALFRED targets older people as a priority and is fully focused on their needs, providing for a practical and real-world impact.

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## Welcome!

Welcome to the first newsletter of the ALFRED project. This newsletter will give an overview of the different objectives that have been achieved since October 2013, when the project was launched. It will give a short insight on the next steps in the project and highlight some of the main technical and user related issues.

The objectives of ALFRED are divided into four different pillars.

- Pillar I:** User Driven Interaction Assistant
- Pillar II:** Personalized Social Inclusion
- Pillar III:** Effective & Personalized Care
- Pillar IV:** Physical & Cognitive Impairments Prevention

## ALFRED achievements End User requirements

The ALFRED project started with the organization of several focus group sessions, involving older end users, as well as care professionals in the definition of the user requirements and use cases. Older people are actively helping ALFRED to grow into a virtual butler that supports their independent living in the future. Focus groups have been set up in Germany, France and the Netherlands where older people and professionals discussed specific needs in each ALFRED pillar.



ALFRED focus group session

## Technical definitions

The technical partners that collaborate in ALFRED have been working on the of the end users, the main functionalities have been defined of the mobile apps. ALFRED has the aim to develop around 20 mobile apps, distributed across four pillars, to implement the uses cases. During the definition and analysis phases, technical partners agreed to follow an exhaustive methodology to choose the best solution for the ALFRED construction. In this way, they have listed the main components of ALFRED, and they have evaluated, scored and selected the best technologies to implement each one of its modules. This process has been based on technical criteria and the extensive knowledge and experience of the partners. The result of this phase is the technical specification of the ALFRED, applying the best tech

nologies, based on open source solutions and free, for each of the principal components that compound the final solution. These conform the foundations for the construction phase that is starting right now.

### ALFRED workshop

The ALFRED project organized a successful workshop with over 70 participants. The workshop took place at the Marriot Hotel in Bucharest as a side event of the Ambient Assisted Living Forum. Attendees mentioned the excellent quality of the speakers. The event focused on the ALFRED project, but included some additional speakers related to mobile apps on independent living to create also an interchange of best practices.



The ALFRED workshop

### ALFRED collaboration

The ALFRED project has established during its first year extensive collaborations with different initiatives, networks and projects in order to create a multiplier effect of the ALFRED objectives and learn from other ongoing initiatives. The ALFRED project has become a member of the Ageing Well Community, which aims to improve quality of life of older persons through ICT. Additionally, ALFRED is a

member of the Haivisio community, reinforcing the visibility and awareness of eHealth and Active Ageing and Independent Living projects. ALFRED. ALFRED is liaising with Network 2020 Network and is looking to expand the collaboration with the EIP AHA community.



The Ageing Well logo

### ALFRED upcoming

The technical work packages of the project have now been officially launched. Within each of the ALFRED pillars indebt research will take place on cutting edge technologies.

### Voice interaction

Research in voice interaction technologies has started with the implementation of a Wizard of Oz method. In a Wizard of Oz study, the system behaves as a real ALFRED assistant, but is in fact controlled by a human test leader. This allows usability testing in an early stage of development. An in-depth analysis will be made on how older people interact with the simulated ALFRED system, using voice interaction. The tests include different scripts and sequences in order to analyse the interaction and utterances. The objective is to make the voice interaction as natural and intuitive as possible, and results from the usability studies will feed into the implementation of the real ALFRED system.

### Body sensors

The aims of body sensors are to contribute in a more effective and personalized care process. This will be done by integrating wearable sensors and permit that data can be accessible from everywhere by trusted care professionals, family members or medical staff. All this data will be personalized according to the needs of end users and health status using a web portal. The design of a wearable device has started including different sensors like heart rate, breathe rate, temperature and movement, according to the requirements previously defined. All these sensors will be integrated into an underwear shirt using smart textiles. The requirements of low energy consumption and comfort have been considered in order to facilitate easy handling for older users.



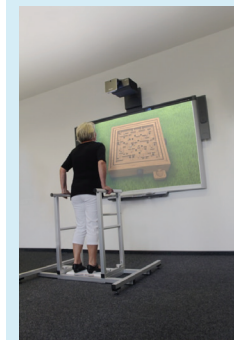
The ALFRED sensor T-shirt

### Serious games

Serious games use the motivational and interactive nature of digital games for "serious" purposes like improving health or acquiring knowledge. The fourth pillar of ALFRED is focused on the development of personalized and adaptive training solutions and game-based interventions which help

prevent cognitive and motor ability decline. Among other things, the Game Manager component will be responsible for monitoring and controlling the games the user currently plays, for suggesting new games to the user that fit her abilities and preferences best, and for communicating with indoor games that require special hardware besides the ALFRED device to be played.

One example for such a game is BalanceFit, a personalized exergame for improving coordination, strength and balance.



The game, which has been developed at the Multimedia Communications Lab at TU Darmstadt, uses a sensor board to determine the player's motoric skills and is now

able with the ALFRED Game Manager and its adaptation and monitoring features.

Other adaptive and personalized health and cognitive training games are also in progress, such as "Dance with ALFRED", a multiplayer dancing exergame for older players running entirely on the user's ALFRED device.