



## FINAL PROJECT REPORT



***Please send this report ELECTRONICALLY to the Central Management Unit (CMU) as well as a copy to the National Contact Persons (NCPs) of the coordinator and project partners***

***The coordinator of the project must submit this report within 60 calendar days after the final date of the project, on behalf of the consortium.***

***If you have any additional question,  
please contact the AAL CMU at [CMU@aal-europe.eu](mailto:CMU@aal-europe.eu),  
or your NCP (see details on [www.aal-europe.eu/aal-ncp](http://www.aal-europe.eu/aal-ncp))***

Report date

30.04.2016

## PUBLISHABLE PROJECT INFORMATION (TO BE USED BY AALJP)

<b>1A. PROJECT</b>	
<b>Project full title</b>	Personalized adaptive workplace health promotion for older employees
<b>Project acronym</b>	healthy@work
<b>Project No.</b>	AAL-2013-6-079
<b>Project Website</b>	<a href="http://www.youpers.com/en/healthy-at-work/">http://www.youpers.com/en/healthy-at-work/</a>
<b>Project duration</b>	<ul style="list-style-type: none"> <li>• Starting date: 01.04.2014</li> <li>• Termination date: 31.03.2016</li> </ul>
<b>Coordinator's name and details</b>	Full name: YouPers AG, Stefan Müller E-mail address: stefan.mueller@youpers.com Telephone number: +41 79 409 71 37  <i>* Both e-mail address and tel. number must be provided.</i>

<b>1B. PROJECT PARTNERS</b>					
No.	PARTNER ORGANISATION NAME	PARTNER ORG. ACRONYM	TYPE*	PROJECT COSTS: PUBLIC GRANT IN EURO	PROJECT COSTS: PARTNER OWN CONTRIBUTION IN EURO
1 (coord.)	YouPers AG	YPS	SME	360'800	360'800
2	XIM Limited	XIM	SME	183'202	122'134
3	Lucerne University of Applied Sciences and Arts – Engineering & Architecture - iHomeLab	HSLU	Research	178'000	178'000
4	u-sentric	USE	SME	107'250	87'750
5	Romus AG	ROM	SME	209'100	209'100
6	CURAVIVA Verband Heime und Institutionen Schweiz	CUR	End User	66'500	66'500
<i>*Please select one of these options: SMEs, Large, END USER, RTD, other</i>					

## 1C. PUBLISHABLE PROJECT RESULTS SUMMARY (1 PAGE)

The "HealthyTeam" mobile app is a digital health service for working teams. The app promotes healthy activities at work with a team challenge/gamification approach in a fun and informative way.

Team members (users) can download the app easily in the apple or google app store. One team member acts also as healthy team leader. A healthy team member creates the team, selects the first free team challenge and the system automatically invites other team members to join the healthy team and to participate in the first team challenge. The app motivates the team members with daily healthy missions (e.g. "take an outdoor walk with your colleagues" or "eat a healthy lunch") to participate in the weekly team challenge. After completing the daily mission, the user has the chance to do an extra mission (Quiz or Online-Game).

It is our aim to address as many older employees as possible, not only sports enthusiasts but also people who like to play, enjoy achieving goals in a team and even couch potatoes.

The goal of healthy@work is to improve the quality of life of older people with a new approach in occupational health promotion. The project addresses the often-experienced gap between just knowing what would be good for your body and mind and actually starting to change your daily behaviour. healthy@work focuses on older employees.

The "HealthyTeam" solution has been developed for organisations (private enterprises or public organisations) with 5 or more employees. Since the "HealthyTeam" solution is multilingual (first version in English, German and French), it is suitable mainly for enterprises in Europe and North America. Since "HealthyTeam" works on a team level and not on a corporate level, the app is suitable for small, medium and large enterprises. The staff of a small enterprise can be defined as one team, whereas a large enterprise consists of many working teams. Since "HealthyTeam" is a mobile app, it is suitable for any workplace environment. Furthermore, in the end-user workshops we did not identify any special needs for certain occupational groups. Nevertheless we will focus our dissemination activities on industry sectors with a high percentage of older employees.

Technical innovation lays mainly in the way sensor based activity recognition components have been integrated into a team based service that allows the team to share progress and compare its results to other friendly teams in a competitive way.

In the industrialized world employees are the most important resources for a company. This applies especially for companies of the increasing dominant service sector. Employers therefore know that health and satisfaction of their employees and especially of their older employees is crucial for the success of a company. Enterprises will therefore have a need for services that help them to improve health and satisfaction of their employees.

30 Office workers and 10 Caregivers have been involved as primary end-user in the

project. In Belgium, Switzerland and the U.K. the requirements are registered in workshops. After the iterative software development both target groups tested the healthy@work app during four weeks in their countries.

As time to market is crucial for the commercial success of an innovative software-solution, we have planned to bring the "HealthyTeam" mobile app as fast as possible to the global market.

The outcome of the field trials conducted in parallel in three different countries showed that further significant investment is needed for this solution to be commercially exploitable. According to the test results, the prototype is not yet good enough to release it publicly. A detailed concept paper how and what needs to be changed in the service has been developed as a result of the field trial evaluation. We believe that the market potential exists, but we now have to verify the business case. Therefore the consortium partners are currently evaluating whether such an investment will be made.

The plan that is being considered has the following corner points:

In 2016 (1st year) we will develop the final prototype and distribute it to a limited number of pilot enterprises in the first half of the year. The release of the beta version is planned for the second half of the year. The free beta version will be offered to enterprises in the English, German and French speaking parts of Europe.

In 2017 (2nd year) we plan to conduct a global commercial launch of the final version 1.0 of our service with the aim to reach commercial exploitation potential in 2018 - 2020 (3rd - 5th year).

## CONFIDENTIAL PART OF THE REPORT

### 2. DELIVERABLES SUBMITTED AND MILESTONES ACHIEVED DURING THE PROJECT

After the mid-term review the Document “Description of Work (DoW)” has been revised with conclusions and recommendations for the future work. These changes have been communicated to the AAL CMU and the involved NCPs.

Has the project been finalised in line with the Description of Work?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	PARTLY <input type="checkbox"/>
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*IN CASE OF DEVIATION, PLEASE EXPLAIN:*

Has the project achieved its expected results as described in the Description of Work?	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	PARTLY <input type="checkbox"/>
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*IN CASE OF DEVIATION, PLEASE EXPLAIN:*

### 3 A. PROJECT RESULTS - SCIENTIFIC/TECHNICAL PROJECT RESULTS

**Provide a summary of the confidential results, including:**

- The progress per work-package
- The performance of the project consortium (added value of cooperation, added value and performance of each partner etc.)
- Scientific/technical achievements during the course of the project
- End-user services developed during the course of the project
- Other confidential information

The Healthy@Work AAL JP project consortium has delivered all work-packages as planned in the Description of Work document. After an initial delay caused by difficulties to complete the consortium reconfiguration the consortium was able to catch up and deliver the desired results.

**Work Package WP2 Requirements and Design** was delivered under the lead of romus AG with the main contributors u-sentric (User Interaction), Curaviva (End user Involvement) and Youpers (IT Architecture). The main source for the results of this work package was the several End User Workshops conducted in multiple countries. The outcome of these workshops allowed the consortium to build a solid understanding of the user's needs and lead to a promising usability prototype and software architecture. Curaviva was able to base the work on the ethical issues on their broad experience with ethical topics in Swiss nursing homes and delivered a well received Ethical Issues Concept.

**Work Package WP3 Implementation** under the lead of XIM with the main contributors Youpers and HSLU delivered the planned components and the integrated system as planned.

The consortium encountered very little unexpected difficulties on the platform side as it was able to build upon the solid foundation of the existing Youpers cloud platform and the experiences of HSLU, XIM and Youpers with mobile and server-side applications. The main system architectural decision was to base mobile app development on the hybrid technology stack (ionic and cordova). By using the ionic/cordova mobile development platform we were able to share 95% of client-side code between the Android App, the iOS App and the Browser web app. Performance of the mobile apps was good, but not perfect. As a conclusion the consortium recommends using the hybrid platform for any prototype and trial versions, such as during an AAL JP project. For a large-scale commercial deployment it might be required that some apps need to be partly rewritten in mobile native technology though.

The sensor and activity recognition components were implemented by XIM and HSLU. Because of the outcome of the end user workshops the consortium focused on three main areas: Mood tracking using video data, step tracking using step sensors and location tracking with geofence technology. The consortium partners delivered all three activity tracking components and two of them have been successfully included to the field trial version of the app. The consortium could ultimately not include the mood recognition component in the field trial release version as internal testing showed that the tracking component does not have the required accuracy and was not mature in terms of system stability. Stabilizing this component is one of the first tasks that need to be done on the technical side for a commercial exploitation of this system.

Curaviva lead the **WP4 Field Trials** supported by Youpers, Romus and u-sentric. The consortium was able to run a coordinated, parallel field trial in three countries (UK, BE, CH) – exceeding the planned two-country-trial as specified in the DoW Document. On the technical side the system proved to be very stable – there were very few support requests and performance was very good for the number of trial participants. The system will easily scale to much larger numbers of users.

The consortium worked well together. All partners were able to contribute expert knowledge and benefit from the diverse experiences of each other. Especially the ability to execute field trials in three different countries was very valuable.

The consortium was able to reach significant technical achievements. The two main areas that also proved to be valuable for further activities and projects for several consortium partners are, first, mobile app development using a cutting-edge hybrid technology stack and, second, integration of activity recognition and sensor data into the healthy team service. Main research achievements were the intelligent activity tracking mechanisms that made interacting with healthy team more efficient and fun. The end-user services developed during the course of the project consists of the Android App “Healthy Team” and the iOS app “Healthy Team”. In addition there is a Admin and Content Management Web Interface.

### 3 B. PROJECT RESULTS – BUSINESS MODELS & INDICATORS

The “HealthyTeam” mobile app is a digital health service for working teams. The app promotes healthy activities at work with a team challenge / gamification approach in a fun and informative way.

healthy@work should inspire older employees for a healthier behaviour at work. On one side healthy@work will create healthier, well-balanced and fit older employees and on the other side employers can rely longer on the experience of their older employees. And finally also the society profits, because people can stay occupied and healthy for a longer time, preserving the invaluable experience of these people for a longer time in times of changing demographics.

The added value / unique selling proposition are:

- The “HealthyTeam” mobile app promotes healthy behavior especially for elderly employees at workplace (office workers, caregivers, industry/production professionals, construction workers, etc.) in a fun, social and motivating way.
- The “HealthyTeam” mobile app allows tracking and improving the mood of the team or an individual team member by proposing a team pause and social media features.

The service can be ordered by every healthy team leader (formal/informal health promoter of a working team) or by the company-responsible for workplace health promotion. After a free of charge team challenge, the healthy team leader pays for every additional team challenge (in-app payment). Alternatively the healthy team leader can buy an unlimited number of Team Challenges for his team. Team members (users) can download the app easily in the apple or google app store.

The consortium partners are currently evaluating the conceptual recommendations and changes that were developed as the outcome of the user trials. These changes and recommendations had a significant impact to the business cases, therefore the partners are evaluating further investments.

**Please answer the questions below, if possible:**

Cash flow	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	4 <sup>th</sup> year	5 <sup>th</sup> year
Revenues	€ 0	€ 525'000	€ 2'800'000	€ 7'500'000	€ 16'625'000
Total Costs	€ 820'000	€ 1'700'000	€ 900'000	€ 1'600'000	€ 2'000'000
<b>Cash flow</b>	<b>- € 820'000</b>	<b>-€ 1'175'000</b>	<b>€ 1'900'000</b>	<b>€ 5'900'000</b>	<b>€ 14'625'000</b>

Cash flow cum.	- € 820'000	- € 1'995'000	-€ 95'000	€ 5'805'000	€ 20'430'000
What is the <b>targeted range of manufacturing/service costs</b> per product/service unit (€, € per month etc.)?	see above				
What is the <b>estimated size of the targeted market</b> in Europe for your product/service (in €)?	see above				
<p>In your business model, <b>who will pay</b> for the product/service (you can tick more than one box):</p> <p><input type="checkbox"/> End user (older person)    <input type="checkbox"/> Informal carers    <input type="checkbox"/> Formal care providers    <input type="checkbox"/> Public subsidies</p> <p><input checked="" type="checkbox"/> Other (add if necessary) <b>Healthy Team Leader</b></p> <p><input checked="" type="checkbox"/> Other (add if necessary) <b>company-responsible for workplace health promotion</b></p> <p><input checked="" type="checkbox"/> Insurance <b>(After market establishment we take under consideration to provide sponsored content as an additional revenue option)</b></p> <p><input type="checkbox"/> not yet decided</p>					
<p>In your business model, who will take the decision about purchase of the product/service (you can tick more than one box):</p> <p><input type="checkbox"/> End user (older person)    <input type="checkbox"/> Informal carers/family    <input type="checkbox"/> Formal care providers    <input type="checkbox"/> Public subsidies</p> <p><input checked="" type="checkbox"/> Other (add if necessary) <b>Healthy Team Leader</b></p> <p><input checked="" type="checkbox"/> Other (add if necessary) <b>company-responsible for workplace health promotion</b></p> <p><input checked="" type="checkbox"/> Insurance</p> <p><input type="checkbox"/> not yet decided</p>					
At what <b>stage of development</b> are you with your product/service (e.g. research, pilot, real life trial etc.)?	real life trial with pilot services				
When will your product/service be <b>ready for market</b> ?	in about 9 months				
What type of <b>further research/development</b> is necessary to finalize the product (technical, adoption, market research etc.)?	content, usability and market research				
What <b>further investments</b> are necessary to launch product on the market?	marketing and sales				



### 3 C. PROJECT RESULTS – END USER INDICATORS

**In the section below, please provide the information you have gathered during your project on primary, secondary and tertiary end-users<sup>1</sup> of your product/service.** Note that secondary end-users can be formal and informal carers (see footnote). For the indicators cited below, please provide information if available; any other qualitative or quantitative information on beneficiaries can be provided instead.

The target group of the healthy team app was caregivers and office workers. The recruitment for the field trial was focused on both target groups. In Belgium and Switzerland a team of office workers and caregivers have participated in the field trial. In the UK two teams of office workers have participated in the field trial.

We decided to have at least a third of the participants over 50 years of age out of the approximately 10 participants per team. There were no additional age requirements as real world teams vary in age: we decided to have a team which consisted of different age groups so we would have representative teams participating in the field trial.

Besides a mix in age, a mix in gender, smartphone experience and interest in ‘being healthy/becoming healthy’ was required to have good representation.

The following graphs will give you an overview of the teams in each country. The teams consisted out of different ‘profiles’ and ‘levels’ in the organization.

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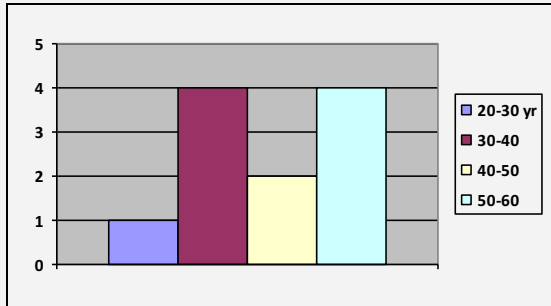
<sup>1</sup> Definition of end-users in AAL Joint Programme:

- *Primary end-user is the person who is actually using an AAL product or service, a single individual, “the well-being person”. This group directly benefits from AAL by increased quality of life.*
- *Secondary end-users are persons or organisations directly being in contact with a primary end-user, such as formal and informal care persons, family members, friends, neighbours, care organisations and their representatives. This group benefits from AAL directly when using AAL products and services (at a primary end-user’s home or remote) and indirectly when the care needs of primary end-users are reduced.*
- *Tertiary end-users are such institutions and private or public organisations that are not directly in contact with AAL products and services, but who somehow contribute in organizing, paying or enabling them. This group includes the public sector service organizers, social security systems, insurance companies. Common to these is that their benefit from AAL comes from increased efficiency and effectiveness which result in saving expenses or by not having to increase expenses in the mid and long term.*

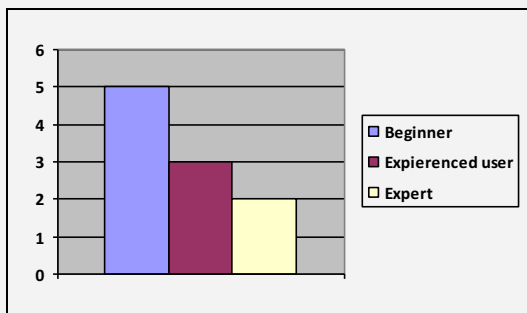
## Belgium team:

### Office workers:

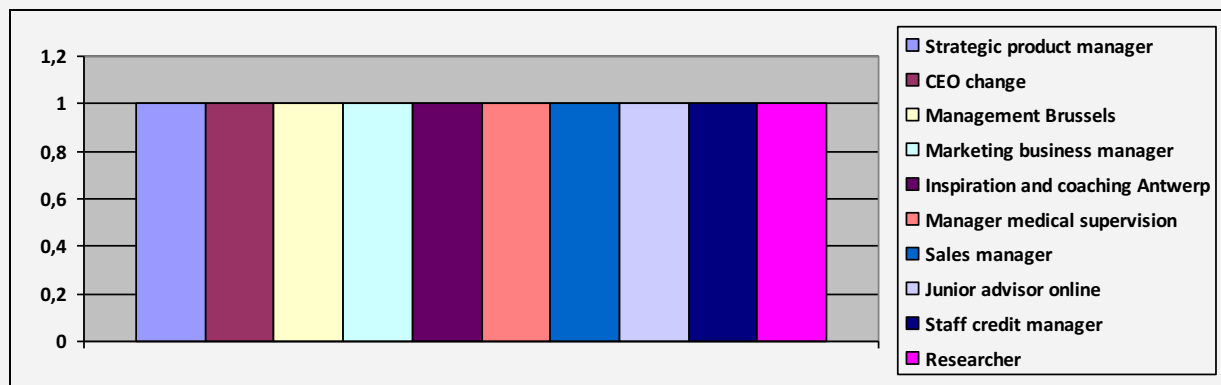
#### 1. Age and Gender



#### 2. Smartphone experience

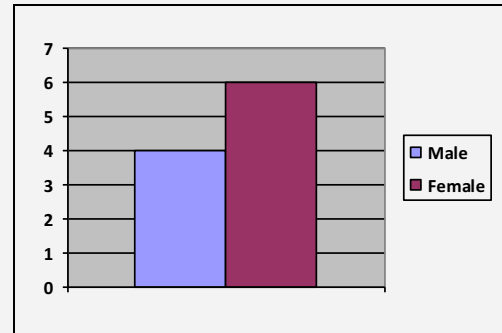
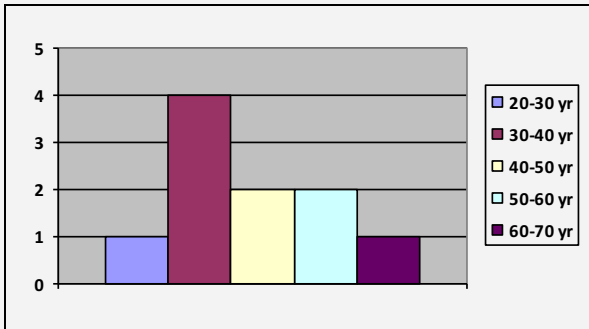


#### 3. Job title

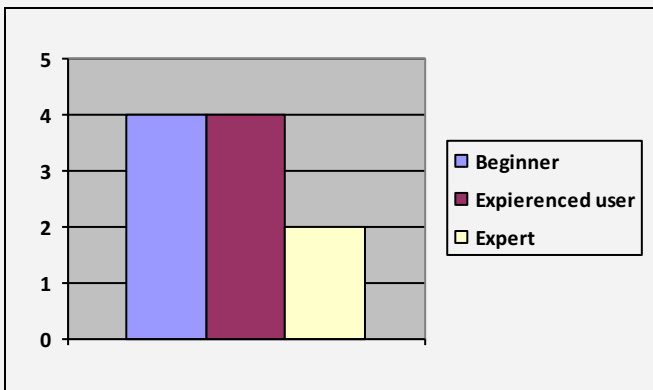


## Caregivers:

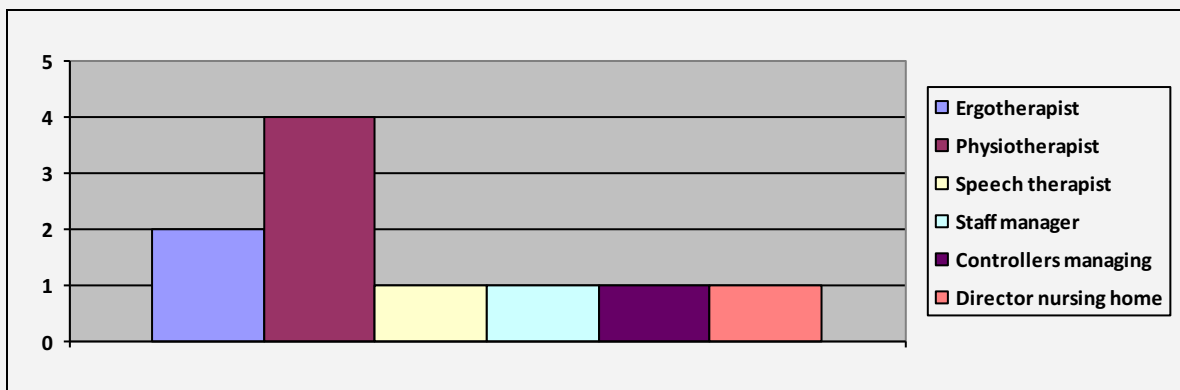
### 1. Age and Gender



### 2. Smartphone experience



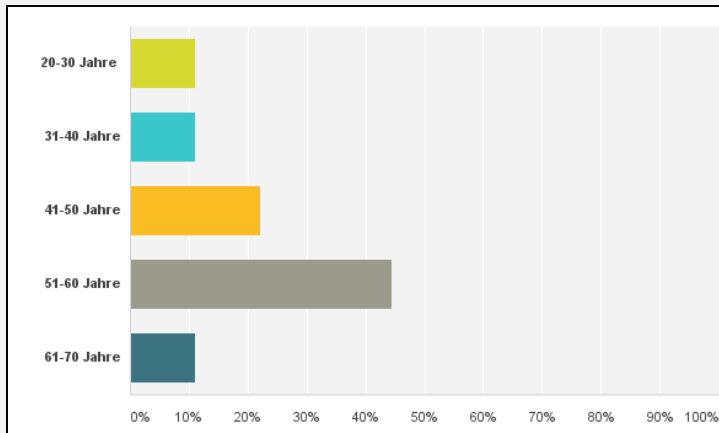
### 3. Jobtitle



## Swiss team

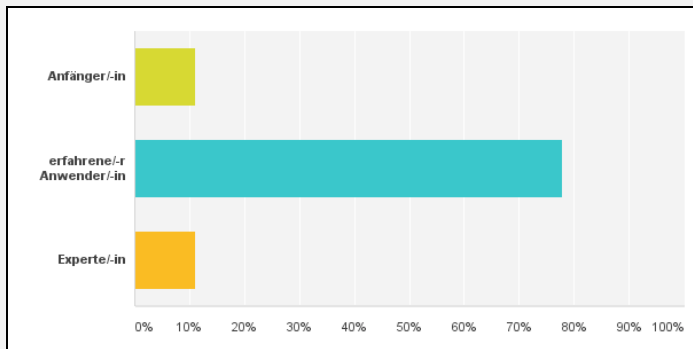
### Office workers:

#### 1. Age and Gender

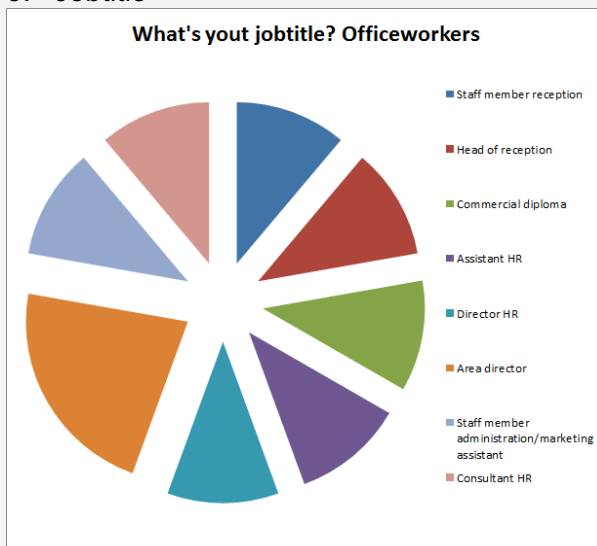


two men and five women

#### 2. Smartphone experience

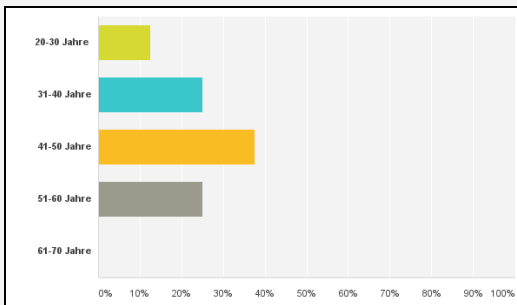


#### 3. Jobtitle



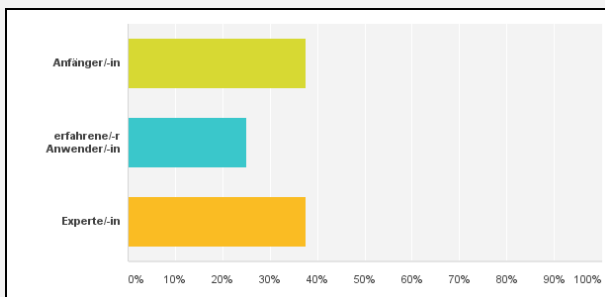
## Caregivers:

### 1. Age and Gender

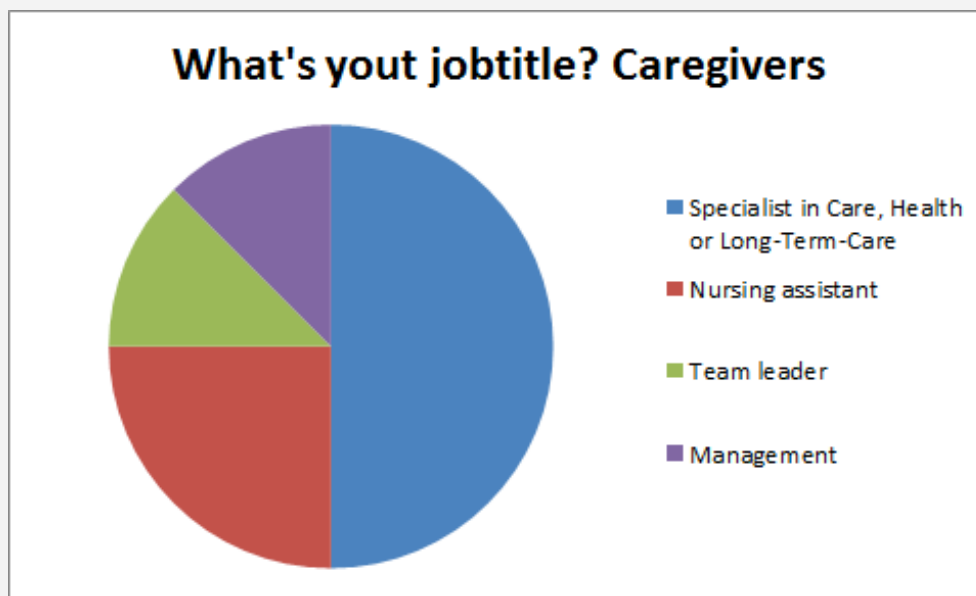


The field study involved eight women.

### 2. Smartphone experience

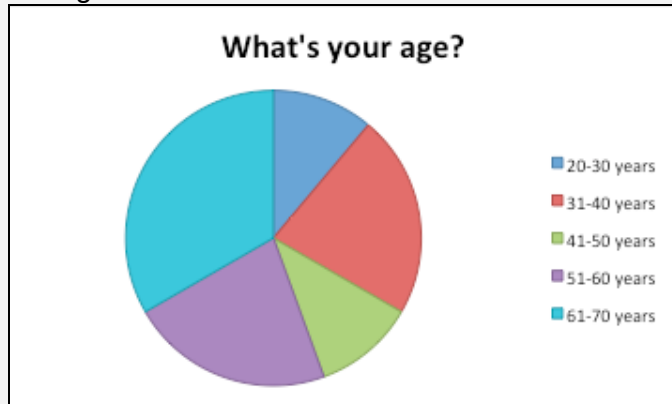


### 3. Jobtitle



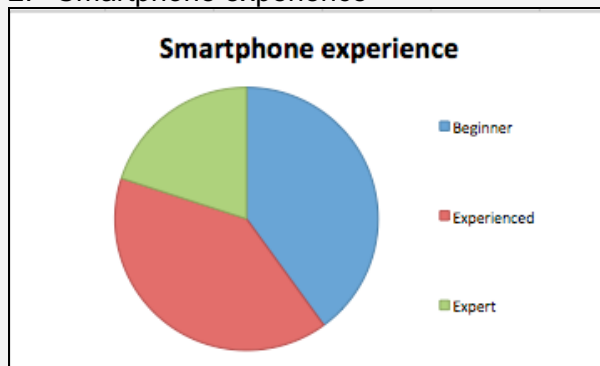
## UK team:

### 1. Age and Gender

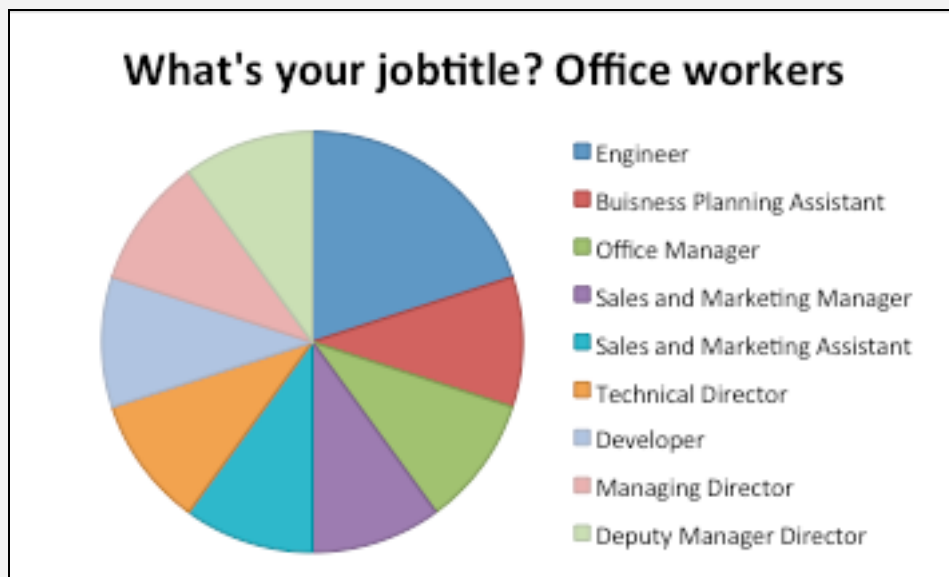


The UK field study involved three women and seven men.

### 2. Smartphone experience



### 3. Jobtitle



<b>3 D. PROJECT RESULTS – OTHER INDICATORS</b>	
<b>Patents</b> , which are the direct result of the project work	There are no patents as a result of the project work.
Collaboration to <b>standards</b> , which are the direct result from the project work	Collaboration to multiple open source software frameworks and standards.
<b>Publications (scientific or other)</b> , which are the direct result from the project work (please provide details)	Youpers: no publications XIM Limited: no publications Lucerne University of Applied Sciences and Arts: no publications u-sentric: no publications Romus AG: no publications CURAVIVA: no publications
Other <b>dissemination activities</b>	The final mobile app for iOS and Android has been deployed to the public Apple AppStore and Google Android Playstore. A project website is being maintained. The project has been presented at the AAL Forum in Gent. HSLU is planning a showcase for their HomeLab visitor center. The purpose is to demonstrate the app to the interested general public together with other advances in the field of AAL.
<b>Type and size of audience</b> reached by dissemination activities	About 2500 ppl/year will see the app in action in the iHomelab visitor center. This is a mixed audience consisting of representatives of political bodies, press, schools and the general public.

<b>4. FINANCIAL INFORMATION - OTHER COMMENTS</b>
<p><b><i>Please check appropriate box:</i></b></p> <p><b><i>The financial part of the project</i></b> <input checked="" type="checkbox"/> <b><i>is in line with (or)</i></b> <input type="checkbox"/> <b><i>deviates from the partner's Grant Agreements &amp; Work Packages plans</i></b> (personal efforts, other costs, etc.)?</p> <p><b><i>In case of deviation, please give a short explanation:</i></b></p>
<p><b>Other comments related to financial part of the project:</b> no comments</p>

## 5. AAL JP PROGRAMME

*Please comment, using your AAL project experience, on the main advantages and disadvantages of AALJP projects.*

The consortium partners enjoyed the multinational and Multilanguage collaboration. The AAL project experience is invaluable for research organizations in that it provides opportunity to exchange in advanced research topics and leads to connections between faculties in different countries. For the participating SMEs which often are focused on national markets only the AAL project experience provides an access to other markets in other European countries by having trusted partners based in those countries. The exchanges of experiences between the consortium partners are extremely valuable.

The main advantages are:

- International cooperation brought new visions and new ideas, which is a form of innovation
- New business connections and new business relations
- Open up new market opportunities in other European countries
- New contacts to End-user Organizations in other European countries

The main disadvantages are:

- Language barriers make it more difficult to communicate
- Language barriers leads to delay, inefficiency and/or increased costs



6. UPDATED PROJECT PARTNERS' CONTACT DETAILS <sup>2</sup>					
No.	PARTNER ORGANISATION NAME	CONTACT PERSON		EMAIL ADDRESS	TELEPHONE NUMBER
		NAME	LAST NAME		
1 (coord.)	YouPers AG	Stefan	Müller	stefan.mueller@yopers.com	+41 41 79 409 71 37
2	XIM Limited	Laurence	Pearce	laurence@xim.ai	+44 7803 950356
3	Lucerne University of Applied Sciences and Arts – Engineering & Architecture CEESAR - iHomeLab	Paul	Schmieder	paul.schmieder@ihomelab.ch	+41 41 349 38 28
4	u-sentric	Annita	Beysen	annita@u-sentric.com	+32 475 690129
5	Romus AG	Martin	Sigrist	martin.sigrist@romus.ch	+41 41 351 38 01
6	CURAVIVA Verband Heime und Institutionen Schweiz	Anna	Jörger	a.joerger@curaviva.ch	+41 31 385 33 45

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<sup>2</sup> Please insert here, for every partner organization participating in your consortium, the updated email address and telephone number of the main contact person. These persons might be contacted after the closure of the project for statistical enquiries related to impact assessment.