Final overall pilot testing report and end-user evaluation

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Compiled by:	EURAC [Ines Simbrig]

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Consortium Partners

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1. SUMMARY OF INDIVIDUAL USE CASE REPORTS

In Deliverable 4.3 the approaches and achievements of the trial phases of the five FairCare pilots are described individually. In this document, the overall final results are outlined, and a summary of the pilot phases is given. To get an overview of the three actual trial phases of the FairCare platform, the gantt chart below displays them in a timeline.

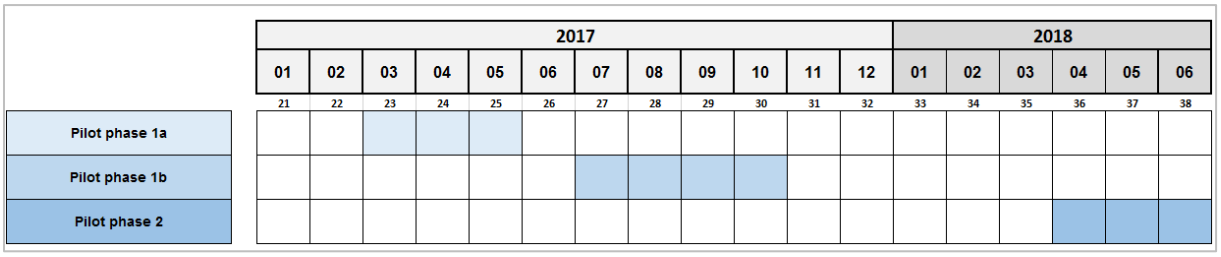

Figure 1 Time line of the three trial phases, platform testing

In this document the subdivision in phases 1a, 1b and 2 only applies to the testing of the FairCare online platform. The testing of the business model is described in a separate chapter.

The Hungarian pilot with its app for volunteer services of middle school pupils has to be seen apart completely from the FairCare platform and the four pilots, which tested it, and will therefore be summarised in a section by itself.

1.1. SUMMARY OF PILOT PHASE 1A – PLATFORM

In this part of the deliverable, a summary on the first internal platform tests of the Austrian, Italian, Swiss and Dutch pilots is given.

At the beginning of 2017, when the outline for all three pilot phases was made (see Deliverable 4.2), internal as well as small scale tests with external end-users were planned for phase 1a. It turned out though that the feedback from the internal platform tests was sufficient at that point of time for the developers to further improve the platform. No tests were therefore carried out with external end-users.

The FairCare platform was tested – mainly on the front-end level and concerning the first functionalities – by the pilot partners' staff in Austria and Italy (EURAC, ASP, UIBK, ORK) and the feedback was provided to the software development team via spreadsheets (a template for the spreadsheets had been elaborated by the WP4 lead and made available to all partners on the project Sharepoint). The further development of the first platform prototype, which was then tested in phase 1b, was based on this feedback.

The idea of inserting a tool for searching for services and products via describing one's own situation on the FairCare platform was introduced into the project by ZHAW. The assumption is that it is often difficult for older adults and their family members to know what they (might) need in a specific situation,

e.g. after having a stroke or when the spouse died. Therefore, ZHAW developed a tool, which would allow by pre-defined buttons to indicate a personal situation and would then result in suggestions about services and products people usually need in such a situation.

Maybe you or someone close to you are in a certain situation and you are not sure which services you need? The following fields help you to name your situation and then suggest suitable services.			
Who does it concern? Please choose.			**In your situaion FairCare proposes the following services:**
I	have	a physical handicap	Meals on wheels
			Household aid
			Domestic care
			Help for personal hygiene
			Physiotherapy
			Assistive technology
			...
		a family member who I take care of	Domestic care
			Help for personal hygiene
			Meals on wheels
			Domestic aid
			Assistive technology
			Psychological counselling
			Self help groups
			Spiritual counselling
			Financial and legal consultancy
			...
		too few social contacts	Seniors club
			Journeys for seniors
			Dancing activities for seniors
			Hiking for seniors
			Visiting servie
			Self help groups
	am	lonely	Seniors club
			Journeys for seniors
			Dancing activities for seniors
			Hiking for seniors
			Visiting servie
			Self help groups
			Psychological counselling
			Spiritual counselling
		severely ill	Meals on wheels
			Household aid
			Domestic care
			Help for personal hygiene
			Physio therapy
			Assistive technology
			...

Figure 2 Part of the background structure for the Italian situation assessment tool

The situation assessment tool was tested throughout the project mainly in Italy and Switzerland. It was generally rated positively by the test persons, which means that an integration into the FairCare platform in the future should be considered by all partners who intend to offer the platform on their respective markets.

1.2. SUMMARY OF PILOT PHASE 1B – PLATFORM

For the small-scale tests of the platform version 1 with external users in Austria, Italy, Switzerland and the Netherlands, templates for testing records were provided to ensure a joint procedure (pilot-specific adaptations could be made though). Furthermore, CARES created a test instruction video for the pilot partners, so a common proceeding of the face-to-face sessions with end-users could be ensured.

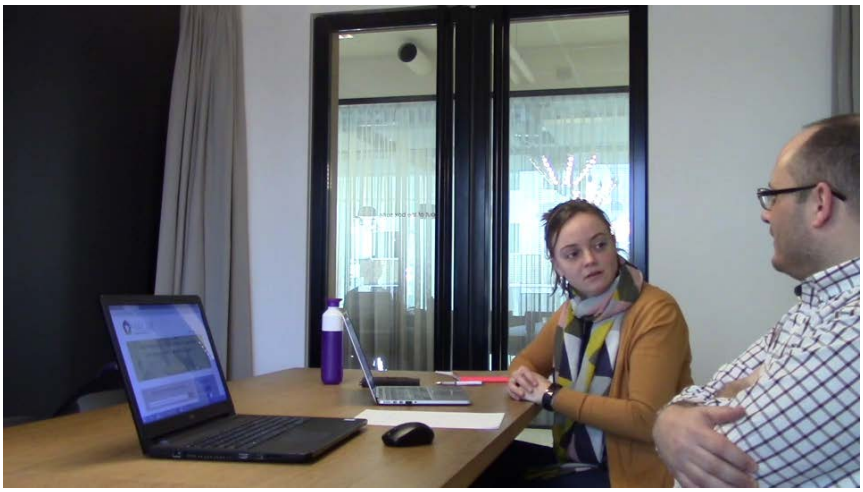

Figure 3 Screenshot of instruction video for pilot testing

As outlined in D4.2, the FairCare platform tests contained the following parts:

- Test scenarios to assess the interaction of the test user with the platform
- Open questions to qualitatively assess the pilot-specific needs
- Open questions to qualitatively assess experiences of test-users
- Rating scales to quantitatively assess the usability of the platform (WAMMI questionnaire).

Thus, the involved end-users tested the platform via predefined scenarios and tasks in individual sessions. At the same time, they were observed by the test assistant, so extensive qualitative information on the usability of the platform, the situation assessment (Switzerland and Italy), and the "pains and gains" (see Value Proposition Canvases) of potential platform users could be gathered.

The collected data was analysed by the four FairCare pilot partners and reflected to the WP3-team for further development of the platform prototype as well as to the WP5-team to make progress on the development of the business models.

Concerning the situation assessment, two versions had at that point been developed by ZHAW in Switzerland: a "natural-language-based" one and a "category-based" one. In Switzerland both versions were tested as planned in D4.2. In Italy only the one that allowed users to describe their own situation by composing a natural language sentence was used (see chapter 1.1). Generally, the feedback on the situation assessment tool(s) was very positive, so the integration into the FairCare platform should be realised after the project.

1.3. SUMMARY OF PILOT PHASE 2 – PLATFORM

In an earlier stage of the project it was planned to test the FairCare platform, at least for a certain period, in the real environments of older adults and their family members, i.e. at home or via computers they had regular access to. Due to delays in the development of some platform functionalities, this ambitious goal had to be given up. Therefore, in the end even though real services of local service providers were inserted in the respective pilot countries and PE and i-SE were looking for those services on the platform, the tests themselves took place in lab situations (office or seminar room, not in test persons' homes).

Concerning pilot phase 2, a distinction between the Dutch, Austrian and Italian pilot on the one hand, and the Swiss pilot on the other hand have to be made. The former tested the FairCare online platform with various end-users in individual as well as group tests. The main results can be summarised as follows:

- The general idea of an online platform on the local level, which supports all involved stakeholders to organise care and assistance, is clearly supported and considered to be useful by the involved test persons
- The platform is not yet as clear and well-designed as it should be – thus there are several usability aspects which have to be improved in the future (also see chapter about WAMMI results)
- The habit of contacting other persons in the process (for example PE -> f-SE and vice versa) by telephone or personally in an office has to be taken into consideration also by an eventual online platform. The conventional communication ways have to be supported and it must be possible to initiate them via the platform.

Other results showed some inconsistencies, e.g. the results in Austria and Italy differed in that during the Italian pilot services were found much more easily and the results in general were much more positive (e.g. when persons had to state if they would use the platform in the future or would recommend it to other people). One explanation for these divergent results is a higher level of support during the group test sessions in Italy by the test assistants (always three persons were available during a group session), which probably made it easier and more comfortable for participants to use the platform.

In the Swiss municipalities, the advanced service browsing (including filter options, not integrated into the main platform) as well as the situation assessment were the main applications tested. The look and feel of both were different from the FairCare platform tested by the other pilot partners. Furthermore, the Swiss partner worked on the content level of the categories and filters and tried to get detailed feedback on those by the practitioners. These qualitative results are described in D4.3.

1.4. WAMMI RESULTS

The **W**ebsite **A**nalysis and **M**easure**M**ent **I**nventory (WAMMI)[1] measures user experience of websites and benchmarks it with a database containing questionnaire results concerning several hundred other websites. The inventory covers the following dimensions:

Attractiveness
An attractive website is visually pleasant, and also offers much of direct interest to the respondents, whether it be functionality or information.

Controllability
If a website scores well on controllability the respondents most probably feel they can navigate around it with ease and do the things they want to do. Poor usually means a Graphical profile of WAMMI results poorly organised website that disrupts the way they normally expect to do things.

Efficiency
When respondents give a high efficiency rating they feel they can quickly locate and do what is of interest to them in a effective and economical manner. They feel that the website responds (possibly, the pages load) at a reasonable speed.

Helpfulness
A website which is high on helpfulness corresponds with the respondents' expectations about its content and structure. A website low on Helpfulness can be misleading about its layout and content.

Learnability
When learnability is high, respondents feel they are able to start using the website with the minimum of introductions. Everything is easy to understand from the start. When Learnability is low, respondents feel that the website may be using concepts or terminology which are unfamiliar. More explanations are needed.

Global Usability Score (GUS)
Global Usability centres round the concept that a website must make it easy for respondents to access what they need or want from the website, that there is a good, understandable level of organisation, and that the website 'speaks the respondents' language' and meets their expectations.

WAMMI was used in trial phase 1b by Austria, Italy and Switzerland, and in phase 2 by Austria, Italy and the Netherlands. The aim was to compare the two overall results and analyse, which development was made by the end of the project concerning the usability of the platform.

[1] www.wammi.com

1.4.1. WAMMI RESULTS OF PHASE 1B

In total 36 persons compiled the WAMMI questionnaire in phase 1b after having conducted the tasks on the FairCare platform. The distribution across the participating pilots looks as follows:

Pilot country	Number of respondents
Austria	5 (13%)
Italy	18 (50%)
Switzerland	13 (36%)

Table 1 Distribution of WAMMI respondents in phase 1b

All stakeholder groups were included in the testing, the numbers are summarised in the following table.

End-user group	Number of respondents
Primary end-users	18
Informal secondary end-users	6
Formal secondary end-users and service providers	10
Tertiary end-users	2

Table 2 Distribution of end-users among respondents in phase 1b

The graphical profile below shows that the FairCare platform in phase 1b was rated above average on attractiveness, efficiency, and helpfulness. According to the WAMMI authors, a score above 70 (is the case for attractiveness) can be interpreted as exceptional. The platform was rated as slightly below average on controllability and learnability, which means that at the end of 2017 the weak points of the FairCare platform concerned navigation, organisation and comprehensiveness of the website. The Global Usability Score, i.e. the overall rating of the FairCare platform, is above average again.

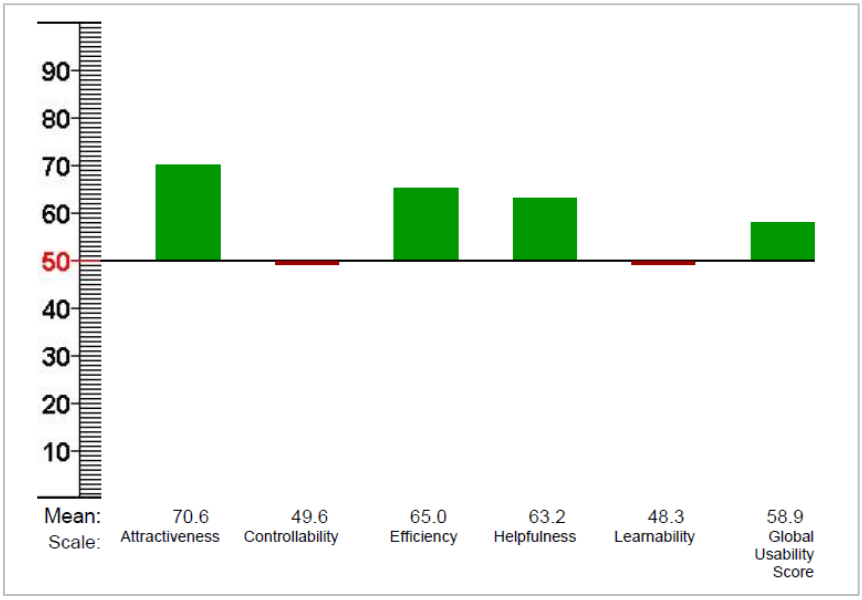

Figure 4 Overall graphical profile of WAMMI, phase 1b

The following table shows that the group of test persons, despite containing representatives of all end-user groups (with PE being the biggest sub group), was slightly heterogenous as the standard deviation of the scale values varies between 20 and 27. (The test authors: “For this kind of data, a reasonable value for the standard deviation is 20.00. If all your respondents are agreed on their evaluations of your website, the standard deviations will be smaller. If your respondents have divergent opinions, the standard deviations will be much greater. Standard deviations over 30 suggest you have two or more groups of respondents with very different opinions about the usability of your website.”).

Scale	Mean	Standard Dev.
Attractiveness	70.56	24.54
Controllability	49.61	22.13
Efficiency	65.00	26.12
Helpfulness	63.22	26.97
Learnability	48.31	25.51
Global Usability Score	58.92	20.83

Table 3 Means and standard deviations for WAMMI scales, phase 1b

When comparing the ratings of the platform across the three countries it can be noticed that the 18 Italian users rated the FairCare website the most positively. Therefore, a certain inhomogeneity is also visible in this set of data. It is hard to explain the differences between countries – certainly the small sample sizes (only five persons in Austria, who rated the platform the most negatively) are not sufficient to reach a normal distribution of the results (extreme values do not balance each other out).

Choice	Mean rating for each of the WAMMI scales				
	Attractiveness	Controllability	Efficiency	Helpfulness	Learnability
Austria	49.00	42.60	39.20	40.40	43.00
Italy	80.56	53.56	78.33	76.22	56.39
Switzerland	65.00	46.85	56.46	54.00	39.15

Table 4 Differences in results per pilot country, WAMMI phase 1b

As a final component of the WAMMI analysis, the average responses on the six most positively rated statements of the questionnaire are shown in the image below. It shows, which aspects of the first platform version already seemed developed well.

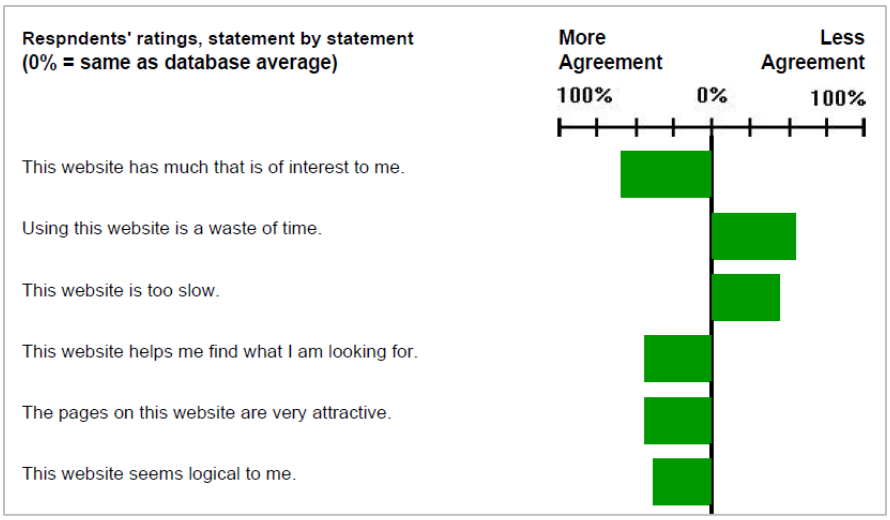

Figure 5 Respondents' ratings, statement by statement, WAMMI phase 1b

1.4.2. WAMMI RESULTS OF PHASE 2

In total 150 persons compiled the WAMMI questionnaire in phase 1B after having conducted the tasks on the FairCare platform. The distribution across the participating pilots looks as follows:

Pilot country	Number of respondents
Austria	43 (28%)
Italy	91 (60%)
Netherlands	16 (10%)

Table 5 Distribution of WAMMI respondents in phase 2

This time, not all stakeholder groups could be included in the testing. In the Netherlands, where the questionnaire was filled in online, nine persons did not indicate, which of the end-user groups they belonged to or chose the option “other”. The numbers are summarised in the following table.

End-user group	Number of respondents
Primary end-users	66
Informal secondary end-users	72
Formal secondary end-users and service providers	3
Tertiary end-users	0
No indication and other	9

Table 6 Distribution of end-users among respondents in phase 2

The graphical profile below shows that the FairCare platform in phase 2 was rated clearly above average on efficiency, and slightly on attractiveness and helpfulness. The platform was rated as slightly below average on controllability and substantially on learnability. This means that the perceived week points were mainly that the platform was not very understandable and test persons thought it felt unfamiliar. The Global Usability Score, i.e. the overall rating of the FairCare platform, is almost average.

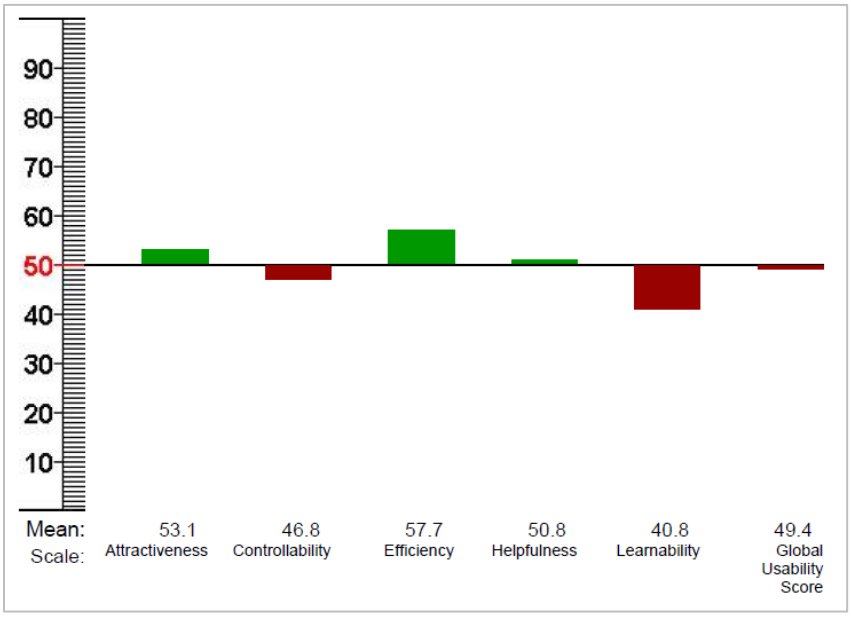

Figure 6 Overall graphical profile of WAMMI, phase 2

The overall WAMMI results of testing phase 2 seem weaker than those of 1b. Looking at the scores of the involved pilot countries separately (see table below) shows that again in Italy the platform was rated best and got considerably lower scores in the other two pilot countries – especially in the Netherlands. Again, the number of test persons in Italy is the highest.

Choice	Mean rating for each of the WAMMI scales				
	Attractiveness	Controllability	Efficiency	Helpfulness	Learnability
Austria	41.91	43.02	45.12	42.42	36.23
Italy	63.51	50.58	66.56	58.57	45.51
Netherlands	23.81	35.31	40.88	28.88	26.19

Table 7 Differences in results per pilot country, WAMMI phase 2

In general, it has to be taken into consideration that the test numbers (especially in the Netherlands) were not very high, and therefore an overall bias toward negative answers is possible. Furthermore, the table with the standard deviations shows that the respondents formed a very inhomogeneous group, with five of the six values around 30:

Scale	Mean	Standard Dev.
Attractiveness	53.08	30.84
Controllability	46.79	29.48
Efficiency	57.67	30.21
Helpfulness	50.77	30.03
Learnability	40.79	29.57
Global Usability Score	49.42	26.21

Table 8 Means and standard deviations for WAMMI scales, phase 2

In summary, the results clearly show that the FairCare platform at the end of the project still possesses weak “Learnability”. Before the platform is introduced to the market, this facet certainly has to be improved. The other results seem ambiguous and further software development and subsequent user tests are necessary to draw clear conclusions about other usability domains of the platform.

1.5. TESTING OF THE BUSINESS MODEL

At the beginning of the business model testing, in a joint effort the contract, manual and presentations for the Social Franchise system were developed and validated in pilot phase 1a, the Value Proposition Canvases were elaborated by the different pilots and based on it, first calculations of the social franchise fee system were made.

In phases 1b and 2 no testing in the narrower sense (e.g. simulating different processes like recruitment and training of franchisees and potential service providers and using the report documents that were developed for the quality management within the social franchise system) were carried out. A social franchise expert was commissioned to hold a workshop in Bolzano in November 2017 to help the Italian and Austrian pilot make further progress in the respective direction. The Social Franchise concept was characterised as profound and high-quality by the expert. However, the iterative business model

considerations showed that the attractiveness of the role as a Franchisee is still very low (for more details see Deliverable 3.6). Furthermore, the diverse international circumstances and market needs make it difficult to form a transnational FairCare association as a franchisor. The application of the franchise system will be a foundation for the business plan of the FairCare solution in Austria and Hungary though. (The details on this implementation and the Business Models of all countries can be found in the Deliverable D 5.4 Final Business Plan. For more details on the Validation measurements for the Social Franchise concept, please see Chapter 4.2 in Deliverable D 3.6).

After the end of the project, in Austria the FairCare platform will be distributed further together with the Red Cross. In Italy, the co-operative Wohnen im Alter will mainly operate as additional information centre for the public contact points (Territoriale Anlaufstellen für Pflege- und Betreuungsangebote).

In Switzerland as well as in the Netherlands, concrete municipalities could be found, which were interested in testing the FairCare platform with the option to apply it further after the end of the project. In Switzerland several municipalities in east Switzerland (each having between 3.000 and 9.000 inhabitants), in the Netherlands the city of Delft (around 100.000 inhabitants), were involved in the platform testing as well as further considerations concerning the period after the project.

1.6. SUMMARY OF HUNGARIAN PILOT

The aim of the pilot in Hungary was to match the demand for volunteer work (50 hours are compulsory for every middle school pupil in Hungary) with offers made by retirement homes and other not for profit organisations. This matching occurred via app, which the pupils could download onto their mobile phones, and a corresponding website on which service providers could insert their volunteer job offers.

Due to this different product in Hungary (called KÖSSZ), the primary end-users were not older adults but teenagers looking for volunteer work, the recipients of which can be older adults. The feedback from the two involved schools, where the app and platform were tested, was generally good and both were perceived as useful and easy to use.

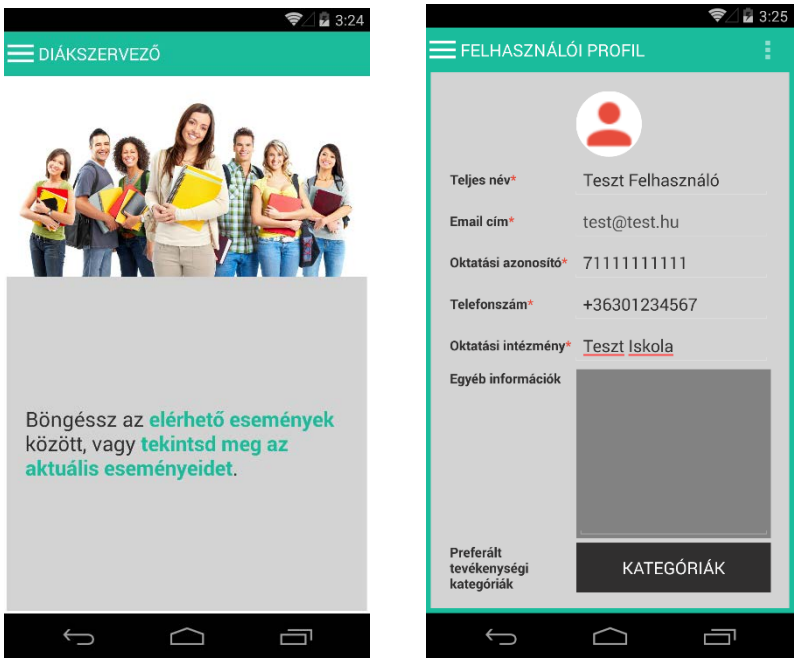

Figure 7 Screenshots of the KÖSSZ application for mobile phones

The problem of the pilot was that too few offers were inserted into the platform and thus the app became little attractive and practical for the pupils. Furthermore, service providers as well as the teenagers often struggled with the new way of organising the volunteer jobs and preferred the traditional ways of communicating face-to-face and on the phone.

Even though facing some difficulties, both schools would like to continue offering the app to their pupils after the end of the project, i.e. when the new school year starts in September: While conducting the evaluation sessions with the schools' coordinators, PNB received the offer to start the next semester in a way that all classes of the schools will be visited again to introduce and promote the application. Using their own resources, PBN is preparing flyers and posters to promote the app among the pupils, which hopefully will create higher awareness. Also, the app will be introduced to the pupils' parents of all the individual classes to convey the main idea and the support the application can offer.

In the future, PBN plans to distribute KÖSSZ further via a licencing system in the regions of County Vas and Zala. Contact has already been made to the city council of Szombathely for further cooperation possibilities. Having made many positive experiences during the tests with two schools, further schools could be involved. A survey with pupils will follow as well (because of the GDPR changes it has not been possible yet to collect all the input needed). Furthermore, there will also be new ways for distribution: within other AAL projects and other EU funded programs the system is and will be promoted in the future.

2. FINAL ASSESSMENT OF UNRESOLVED ISSUES

In this chapter a critical review is made on different aspects of the platform and business model testing, which could not be accomplished in a desired way.

2.1. Platform

Some of the features could not be fully developed or integrated into the FairCare platform by the end of the second pilot phase. The following activities have to be conducted after the end of the project and before further business activities:

- More intensive testing of the **advanced service browsing with filter options** for requests by PE or i-SE (e.g. paid vs. unpaid services, one-time service vs. regular services, weekday, time of the day, desired duration of service in hours)
- More intensive testing of the **case management tool**, in order to help older adults in a contingent way over a longer period of time
- Better integration of the **situation assessment tool** into the platform as an intuitive way to look for suitable services
- More intensive testing of **registering as a volunteer** on the FairCare platform.

Concerning the planned involved end-users in WP4, not all numbers could be achieved. The reason lies in the tight time frame towards the end of the project (only around 2,5 months were left for the testing of prototype V2).

When planning the FairCare project, a relatively large number of real and successful matches between demand and offers for care and assistive services was targeted. For testing phase 2, real and successful matches were defined as the positive results of a test-users, when searching a needed service (i.e. not a predefined service but one that the user actually was interested in and would like to inform himself / herself about). For this, real services of the different local service providers in Italy, Austria, Switzerland and the Netherlands were filled into the FairCare platform.

In Hungary, the real and successful matches were defined as the voluntary jobs, which pupils found via the app KÖSSZ and actually carried out.

Towards the end of the project it became clear that the target of the numbers of matches had been too high. Two explanations are that filling in real data on services for trial phase 2 turned out to be complex and laborious, and that recruiting of the test users was very time-consuming.

	PE	i-SE	f-SE	SP
Number of involved end-users in pilot applications:	184	112	27	49
Real and successful matches on the platform:	67	73	13	37

TE workshops
6

Table 9 Overview of involved end-users and matches in platform / app testing

2.2. Business Model

At the end of WP4 no common social franchise business concept between several partners could be achieved. Each partner carried out its own development and testing of the business model. The foundation of the co-operative "Wohnen im Alter"[2] in Italy is considered a major outcome of the project: The FairCare idea and concept was picked up straight away by important local stakeholders and transformed into an organisation, which is operative since 2016 and aims at making the organisation of private care and assistance easier and more transparent for older adults. One of the core points of the WIA member organisations is quality assurance of the services offered through the platform, e.g. by offering a two-day certificate course for handicraft businesses, in which the companies learn about the social and legal implications of offering products and services for older adults.

3. Outlook

Many of the FairCare functionalities still have to be further developed and to be tested more extensively in order to provide a comprehensive and innovative online tool. Many feedback opinions by test-users from all different stakeholder groups have shown that the need for the platform is there and that the purpose of it is useful and helps older adults as well as their family members in organising care and assistance in an easier way.

The business plans of the single pilot countries are very diverse – the initial plan of setting up an international FairCare Association, which distributes the platform and related services on a cross-national level, did not work out. Nevertheless, there will be different stand-alone solutions for the individual platform pilot-countries, which will be pursued after the project end.

In the future, it is not planned to introduce the FairCare platform to the Hungarian market as the potential for a successful exploitation of the product is not given due to low divulgence of the internet and related skills. On the other hand, it is interesting for some pilot partners to use the Hungarian app and platform for the organisation of volunteer work on the local market. Bilateral agreements will have to be made in this respect.

[2] *www.wohnen-im-alter.it*