D 2.3 – Report on Community Building

Project Deliverable

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Short Description

Confidence develops a mobility safeguarding assistance service with community functionality for people with dementia. This document deals with the community functionality and describes the project's objective to build a Confidence community and the implementation in reality.

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Revisions

Rev.	Date	Author	Description
0.1	23.4.2015	Viktoria Willner	Draft
0.2	18.5.2015	Cornelia Schneider	Review
0.3	20.05.2015	Viktoria Willner	New Chapter "Implementation"
0.4	28.05.2015	Cornelia Schneider	Review
1	28.05.2015	Viktoria Willner	Finalization

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Inhalt

1 Executive Summary

The Confidence project aims at providing mobility and safeguarding assistance services to people suffer from mild to moderate forms of dementia. It intends to develop a novel community-enabled mobility safeguarding assistance service that combines “assistive technologies” with “personal help”. This document contains all issues about the Confidence community. First it presents the vision of the consortium. Then the document describes all the members a Confidence community has and all the tasks the members have to support the primary end-users. Further it describes the developed support tools the members can use. Different forms of communities have been tested within field trials in Austria, Switzerland and Romania. One chapter attends to these trials and the different forms of testes communities. Some statistics complete the impressions and feedbacks we got from the trials. Summarizing the deliverable gives recommendations for future care communities.

2 Introduction

2.1 Purpose of this document

This document is the Report on Community Building of the AAL Call 4 project Confidence. It presents all the activities and thoughts about community building which were conducted in Task 2.3 Building up the Confidence Community.

2.2 Scope and Relationship to other Deliverables

This deliverable is related to the community service and the community currency model. Both deliverables are software deliverables and tested within the field trials. D 5.1 describes how the field trials are organized in general. Reading this deliverable beforehand may daff misunderstandings aside.

2.3 Definitions, Acronyms and Abbreviations

PEU	primary end-user – elderly people suffering from mild to moderate dementia or mild cognitive impairments.
SEU	secondary end-user – family members or professional carers who care or have a relationship with a primary end-user, volunteers
ICT	Information and Communication Technology
ADL	activities of daily living
iADL	instrumental activities of daily living

3 The Vision

The overall goal of Confidence is to provide mobility and safeguarding assistance services to people suffer from mild to moderate forms of dementia. Therefore a novel community-enabled mobility safeguarding assistance service that combines “assistive technologies” with “personal help” was developed. In order to guarantee this “personal help” the aim of the project was to build up a community consisting of family members, staff of home care agencies and/or trusted volunteers. Trusted volunteers are persons who aim at helping people who need help. They are recruited by end-user organizations and trained to help the primary end-users adequately. It was envisioned that community members use advanced ICT to work together in supporting people with mild to moderate dementia. Next to the services for the primary end-users, a mobile community service which allows the care persons to be mobile themselves while for example giving instructions to persons who have lost orientation should be implemented in Confidence.

Two technical services were contemplated. The community service which should enable family members and trusted volunteers to announce their possible service times on a web calendar. It was planned to work with different levels of availability e.g. unavailable, free, free in case of emergency etc. Further a community currency component should ensure to keep track and to reimburse earned credits for family members and trusted volunteers.

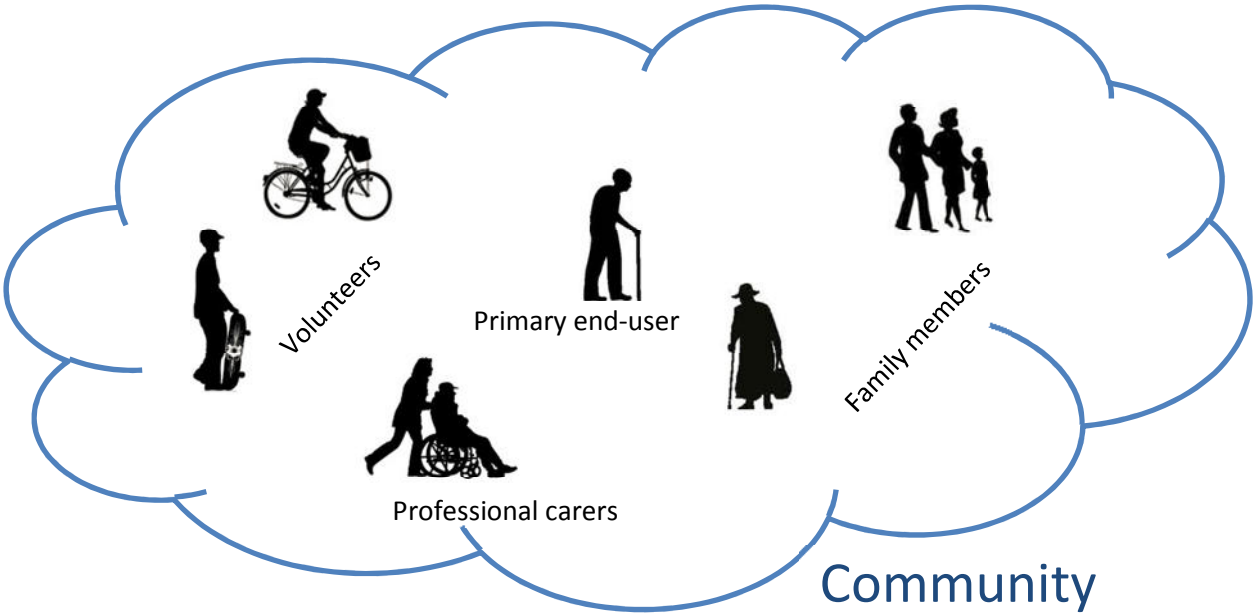
In order to bring the vision to life an important task within the project was to build up a Confidence community in Austria, Romania and Switzerland. At the beginning of the project we thought that the building of the community itself, motivating the members to stay in the community, and offer them help for a longer time period would be the most critical issues.

Summarized, the planned tasks concerning the Confidence community have been:

1. Build up a community
2. Develop and implement technical community services
3. Try services and activities within a field trial

4 Community Members

The Confidence community was supposed to consist of four user groups.



4.1 Primary end-users

The primary end-users of Confidence (PEUs) are elderly with mild to moderate forms of dementia or even signs of cognitive impairments. They use the Confidence system via a smartphone. The Confidence services on this smartphone enable the users to:

- Actively raise an alert in case of emergency
- Get in contact with other members of their community via a voice or video connection
- Use navigation to find their way back home if orientation problems appear
- Get environmental information and
- Manage their daily schedule with reminders

4.2 Family members

Family members are a rather heterogeneous user group. On the one side a family member may be in very close contact with the primary end-user and in the same stage of life (e.g. age, also retired) like a wife or husband. On the other side a family member may live far away and the binding between primary end-user and family member is not that close e.g. child or grandchild. Family members can also use a smartphone to deal with Confidence services which are developed for them. The services enable PEUs to:

- Manage alerts
- Localize the primary end-user in case of emergency
- Get in contact with the PEU via voice or video
- Organize own and the PEUs appointments and reminders

The Confidence system also considers family members who are not willing to use a smartphone. Therefore the alert service can be used via a stationary or a feature phone. So, if the primary end-user raises an alert his/her family member gets automatically informed on his/her usual phone.
Due to different reasons it can be very challenging to organize family care e.g. own diseases and age related difficulties, limited time resources because of occupation or own family, distance etc. Therefore, an aim of Confidence is to build up a community and include trusted volunteers and formal caregivers to reduce the burdens of the family members. Technically Confidence offers a web portal for organizing care responsibilities within a community.

4.3 Professional carers

Professional carers are employees of a social care organisation who care for one or more primary end-users. They may provide different services depending on the PEUs needs e.g. support with ADLs or iADLs. Professional carers may use the Confidence system like a family member on his/her smartphone with Confidence services on it. The difference between these two user groups is related to the supported user group. A family member supports exactly one primary end-user whereas a professional carer may support more primary end-users using the Confidence system. Further a professional caregiver may be responsible to administer the system. Therefore the web portal can be used. Data of the Confidence community members can be managed and the system can be configured individually.

4.4 Volunteers

Volunteers are an additional care resource who should relieve family members and professional carers by overtaking different tasks. The Confidence system provides different possibilities to integrate volunteers in the care community. One thereof is the so called volunteers-pool. All volunteers of a region e.g. a city are organized in a group. If a volunteer is needed by a primary end-user who lives in this region an available volunteer is selected randomly by the system. The other possibility is to connect primary end-users and volunteer. If help is needed the system then chooses an available connected volunteer. Both possibilities have their advantages. The volunteer-pool is more flexible and enables a higher coverage. Connected volunteers enable the users to represent their preferences. The integration of volunteers is done by a trusted end-user organization which is responsible to train and introduce them. Volunteers are also a very heterogeneous user group, which may consist of all kind of people who would like to take part in the community – from pupils to elderly retired persons. Volunteers may arrange their availability via calendar on the web portal. Further the system reports tasks performed by them and they may view these reports on the web portal too.

5 Implementation

The consortium started to work on the Confidence community at the projects kick-off meeting. Together first ideas about attracting stakeholders to participate in the Confidence community have been created. Additionally the consortium agreed on common goals concerning the Confidence community. A community should guarantee an exchange between family members and volunteers, to the idea should be spread, the community should be involved in the development of the system, the community should be a kind of 'non-professional' soft layer between technicians and end users, in general the consortium aimed to reduce costs and effort for care. The community should be an opportunity to gather different requirements and needs and interest (cf. figure 1).

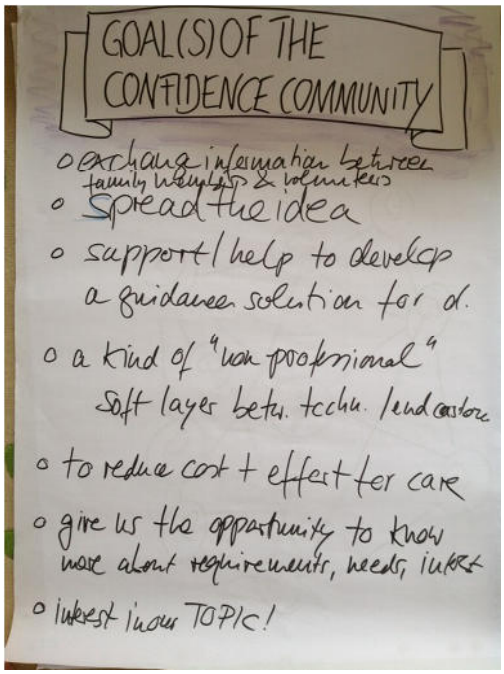


Figure 1: Community goals

After the consortium meeting first ideas for community building were collected for each country. We thought about communication, meetings, "rituals" and others. We defined an introductory community event in each trial country.

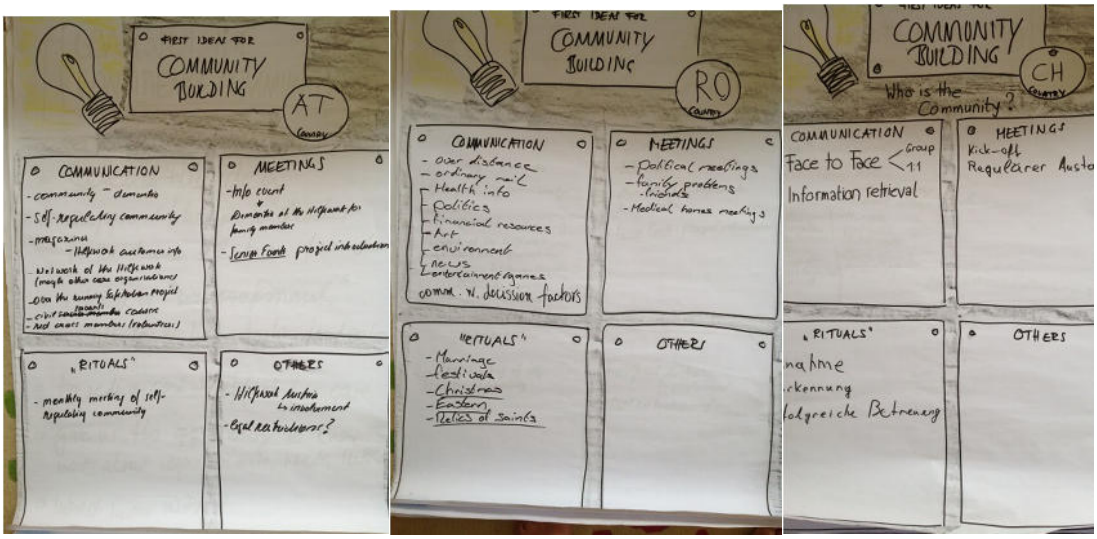


Figure 2: Ideas for community building

Within the requirements phase the first community building event was conducted in Salzburg where three researchers, eight employees of the Hilfswerk and one volunteer participated. Ideas for community building were collected, selected and a first step within the community has been conducted. First sketches of personas for each community member were developed.

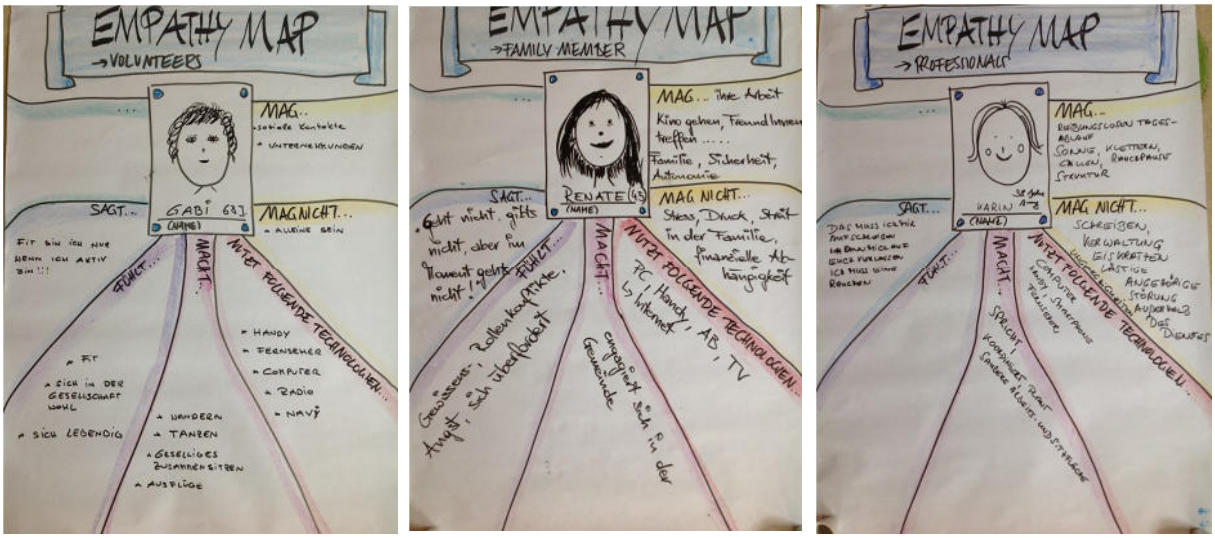


Figure 3: Persona sketches

In addition to the mentioned workshop, different requirements workshops and meetings with end-users in the three trial countries have been conducted in order to gather the requirements for Confidence and derived functions (see D2.1). Like described above we decided to provide assistance in emergency and 'normal' situations, guidance when geographical orientation support is needed, environmental information and support to structure the day including reminders. The two assistance use cases ('emergency support' and 'support in other situations') require personal help. Here the community comes into play. A community member may have following tasks:

- Support the primary end-users in case of emergency
- Communicate with the primary end-users when they need personal support

Both tasks are described in detail in chapter 6.

The requirement analysis phase further showed that the system should offer technical support tools for the community members e.g. administration of their availability, documentation of the tasks they did and possibilities to connect to each other. We decided that every community member should have the possibility to use the basic community features. Therefore, these features were implemented on the Confidence web portal. Every community member had access to the Confidence web portal and was able to use these features. Some further features like alert management and video calling are implemented for the Confidence partner smartphone. Community members who used these features (mainly relatives) had to use the Confidence partner smartphone too. The support tools are described in detail in chapter 7.

In the beginning of the project we planned to develop a so-called community currency. We thought about coins or points a community member could collect for specific tasks and discussed about

possibilities to reimburse the points. After some discussions the involved end user organisations told the rest of the consortium that they prefer to decide themselves how to reward participants. So the consortium decided to develop the recording and visualization of tasks done without a specific rewarding system. Additionally statistics were developed which make it possible for the end-user organizations to compare fulfilled tasks of different users or the effort of a user within a specific time span. Based on these statistics the organization was able to decide how to reward effort.

The Confidence system was tested within two field trials. The first field trial focussed on testing functionality and usability of the system. In order to address this focus, the consortium decided to involve primary end-user and committed relatives into this trial. The second field trial was conducted after the incorporation of the trial participants' feedback and improvement of the system. This trial focused on measuring the effects of the usage of the system e.g. changes in feeling of safety or changes in communication and connection to others. Therefore, now all kind of community members were included – primary end-users, family members, professional caregivers and volunteers. Chapter 8 deals with the second field trial and presents the organization and building of the Confidence community in each test region.

6 Tasks

The aim of Confidence is to support the primary end-user in staying independent as long as possible. Therefor it provides a lot of feature which can be used by the PEU alone, but it also supports him/her in getting connected with others when help is needed or even in communicating with someone. Basically, there are two features which actively connect primary end-users and other community members: SOS (emergency) and Call (communication).

6.1 Emergency

Primary end-users are able to actively raise an alert by pressing the SOS button on their Confidence smartphone. There is nothing else to do for the PEUs; the Confidence system arranges the notification of a helper automatically in background. Besides the active alerting, the system offers the possibility to define movement zones and restriction zones for a primary end-user. If the PEU lefts his movement zone or enters a restriction zone the system automatically raises an alert.

Figure 4: Pressing the SOS button

As mentioned above, the system automatically notifies a helper in case of emergency. Therefore a so-called alerting chain has to be defined for every PEU when starting to use the system. Persons within the alerting chain can be family members, connected professional care-givers and volunteers. The alert chain defines the order in which the helpers have to be notified in case of an emergency. The community members have insert their phone number into the system and to define their availability. In order to provide help as fast as possible the system just informs available helpers.

Figure 5: Alerting chain example with volunteer-pool

Figure 6 shows the alerting process. In case of emergency the system phones the first contact of the alerting chain. If this person doesn't answer the next person in the chain is called. Unavailable persons are missed out. Figure 6 also shows how volunteers can be integrated in the alerting chain as volunteer-pool. The system treats all volunteers equally and calls one available volunteer randomly.

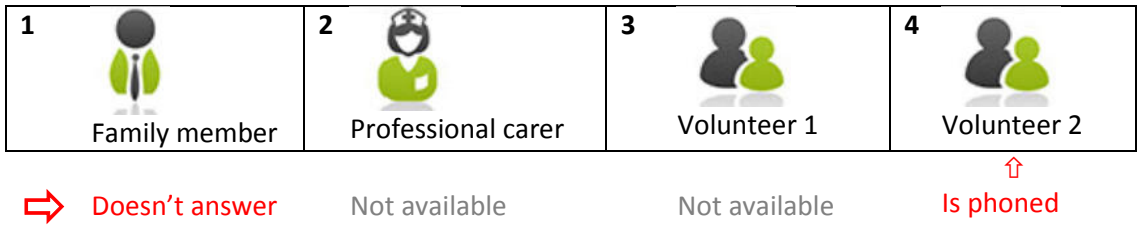


Figure 6: Alerting chain example with dedicated volunteers

Figure 7 shows an alerting chain with dedicated volunteers. Every volunteer is connected to one or more PEUs directly and has a specific position in the alerting chain. In this example volunteer 2 is phoned because the family member on the first position didn't answer the call and the professional carer and volunteer 1 on position second and third position are not available.

As already mentioned, the system informs the helper via a normal phone call about the emergency. The informed helper is able to decide (with the keypad of his/her phone) whether he/she accepts or denies an alert. On acceptance the alerting chain stops, if the helper denies the alert the next helper in the chain is called.

After acceptance the helper decides how to deal with the alert. If needed the helper can localize the person concerned and navigate to him/her via web portal or Confidence smartphone app.

6.2 Communication

The system enables the PEU to get in contact with available community member via voice or video connection.

Figure 7: Pressing the Call button

If the user presses the Call button all available members of his/her community are shown. Next to the name an ear symbol is shown, pressing this symbol the PEU calls this member by a normal phone call. If a member also uses a Confidence smartphone and the internet connection of the PEU and SEU is good enough also an eye symbol is shown next to the name. If the PEU now presses this button, a video connection between those two is established.

Other than in case of emergency, the primary end-user here gets in direct contact with a community member. Either he/she needs personal support or he/she just would like to communicate with somebody he/she knows or maybe not knows (possibly someone of the volunteer-pool).

The Confidence smartphone app for partners (SEUs) also supports the community members in getting in contact with the PEU. The function is implemented equally as in the Smartphone app for PEUs and also enables video calling. Members of the community who do not use the Confidence smartphone can get in contact with the PEUs by a normal phone call.

7 Support Tools

The Confidence system offers different features to support community members. These features are provided as smartphone application and/or by a web portal. Every community member has an account to login into the web portal; availability and the own data can be managed there. Further the primary end-users can be localized in case of an emergency with the web portal and the smartphone app. The smartphone app extends the functionality by enabling video communication. In the following the functionalities are described in detail.

7.1 Organization

Community members have to arrange their available time spans for the Confidence tasks.

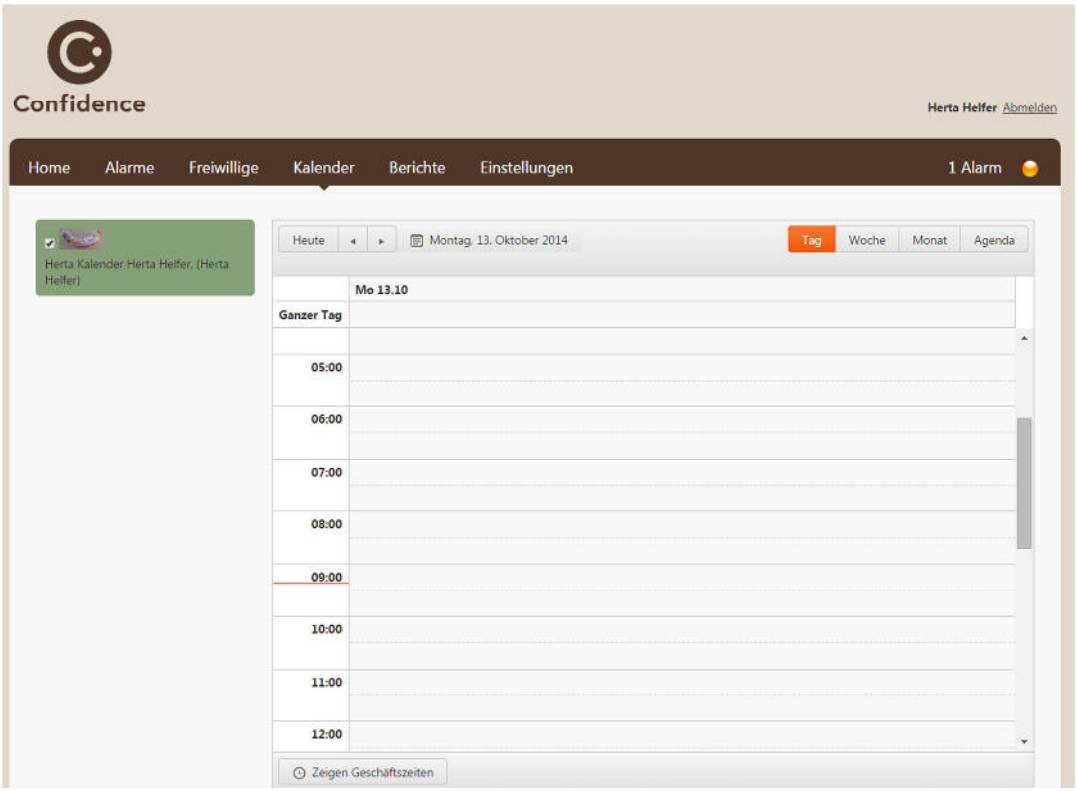


Figure 8: Calendar Web portal

Figure 9 shows the calendar on the web portal where community members define their availability.

7.2 Emergency

Available community members of the alerting chain get informed in case of an emergency. The phone number defined in the web portal is called. So, any telephone can be used to accept an alert. The web portal offers some features to support the helper in case of an emergency. First it shows details about the alert e.g. when, why and where the alert was raised and further who was informed about the alert. After acceptance the helper is able to localize the person in need. The position is shown on a map (cf. .figure 10.).

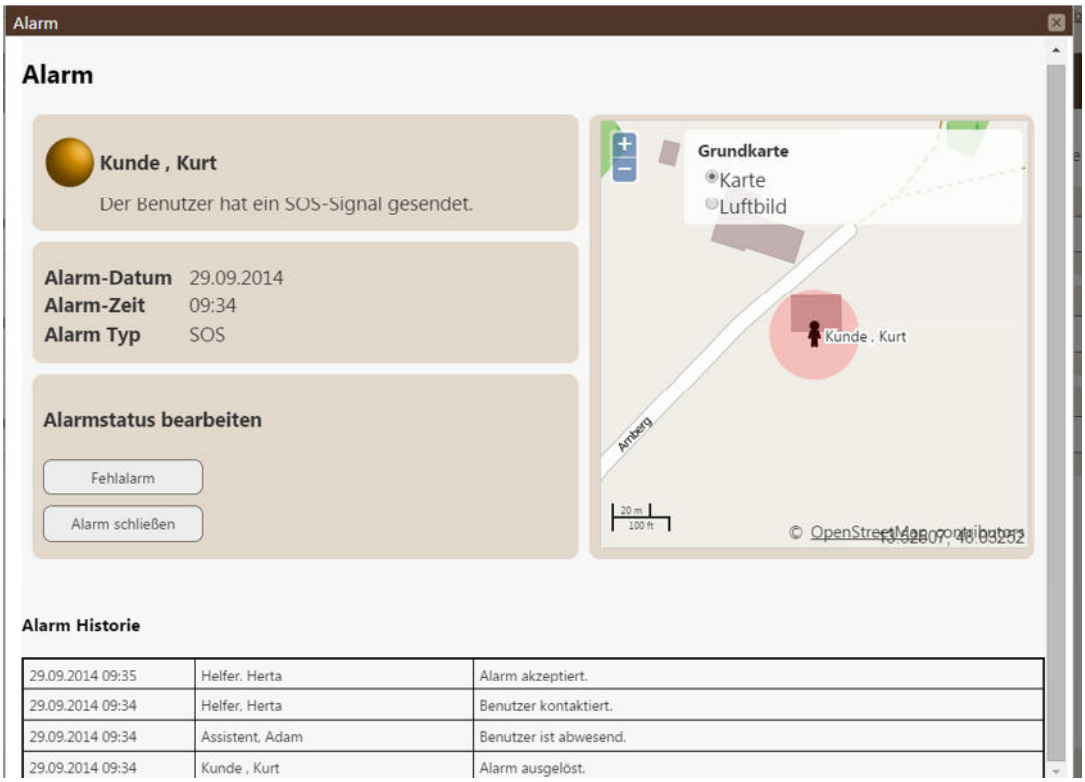


Figure 9: Alert details

When the problem is solved the helper can close the alert.
If the helper uses a Confidence smartphone, he/she can localize the primary end-user also on the smartphone (cf. figure 11).

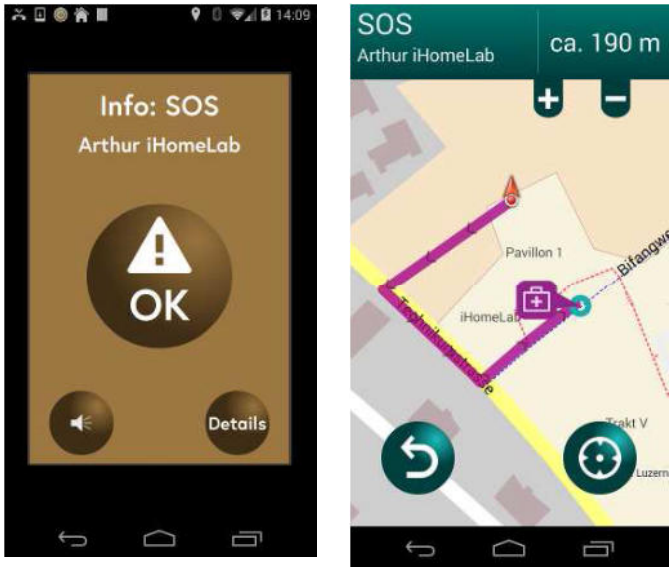


Figure 10: Smartphone alert info

Figure 11 shows the info screen on the smartphone after an alert is accepted. Pressing the details button shows the location and distance to the concerned primary end-user.

7.3 Communication

Community members can get in contact with the primary end-users using their own telephone. In addition to 'normal' phoning the Confidence app supports video calling. This means, that if the internet connection is good enough primary and secondary end-user can see each other (cf. figure 12) while talking.

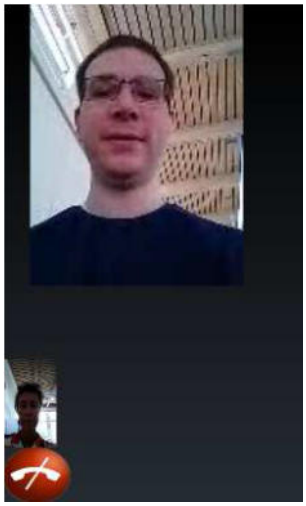


Figure 11: video calling

The secondary end-user is always able to call the primary end-user. The primary end-user has an own Confidence contact list, where all the available community members are shown. It is not possible to call a member who is not available at the moment. The contact list shows if video calling is possible, then the eye-symbol is shown next to the contact. If just talking is possible (e.g. the user is not using the Confidence app or currently has a bad internet connection) only the ear symbol is shown (cf. figure 13).

Figure 12: Contact list

7.4 Community Network

Volunteers are able to provide information about them on the Confidence web portal (cf. figure 14). All members of the Confidence community can view this information there.

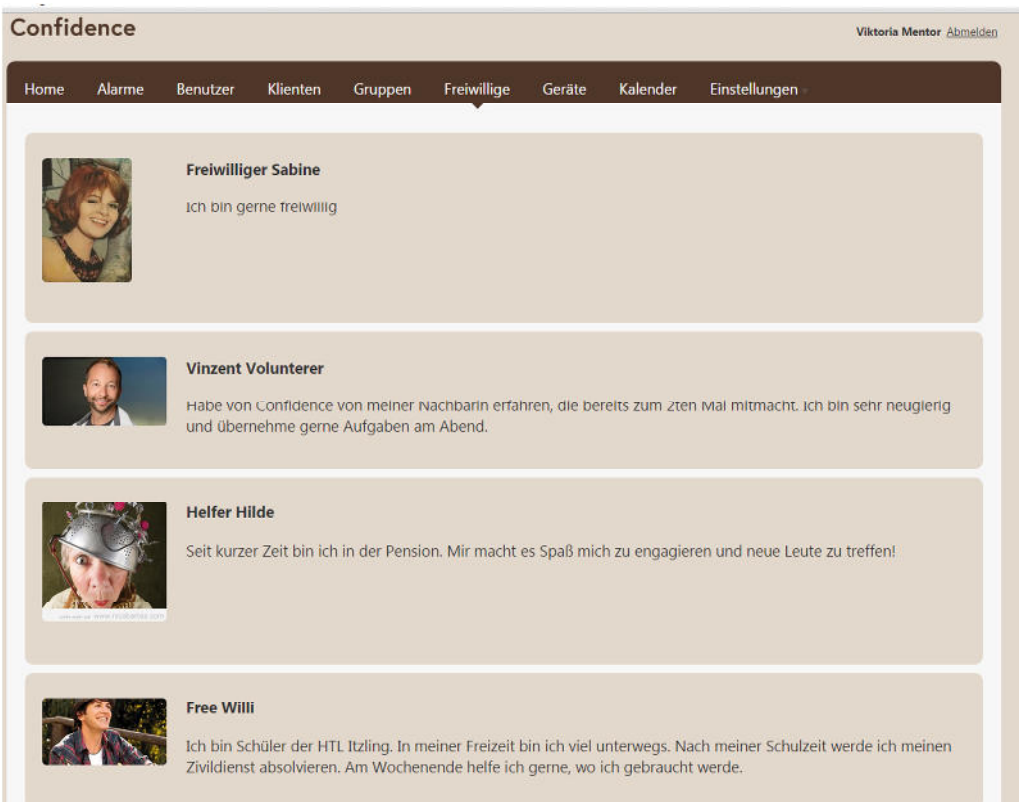
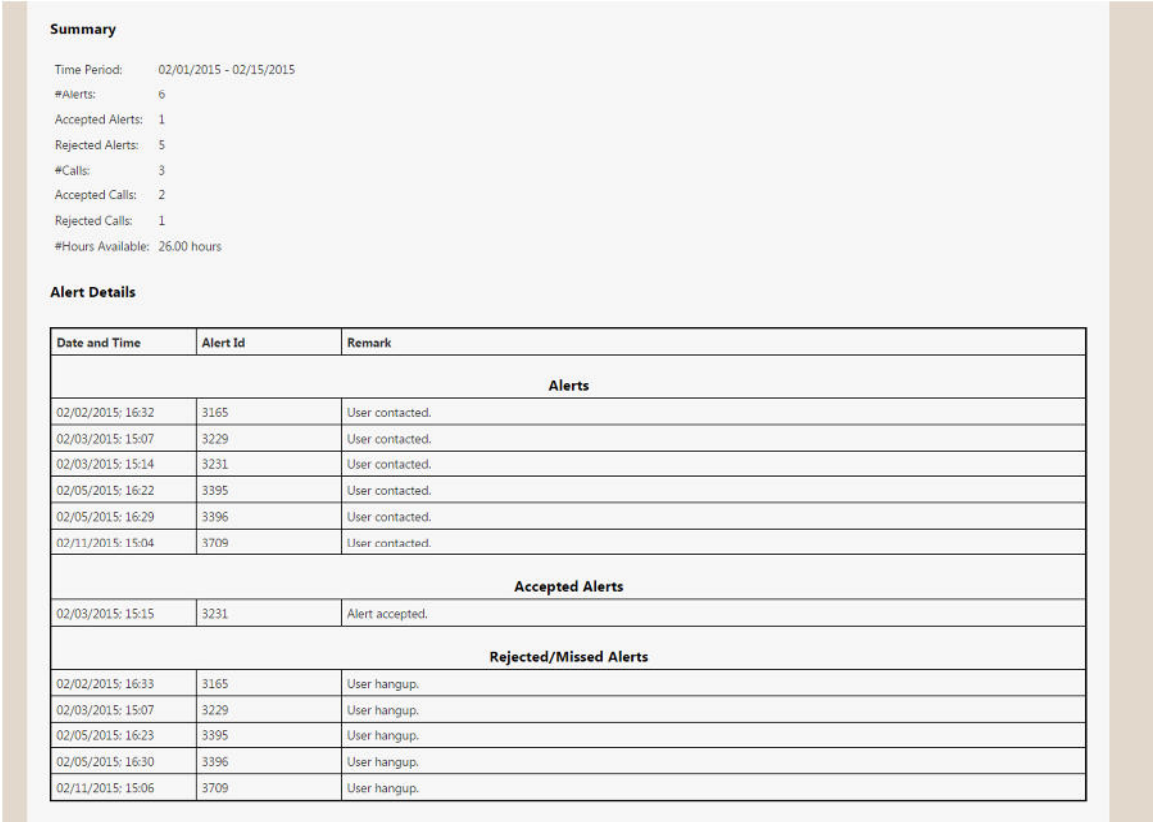


Figure 13: Information about volunteers

7.5 Reports

It is planned that volunteers get rewarded for their tasks. Therefore all their tasks are recorded within the system. The organization which runs Confidence e.g. a social care organisation like the Hilfswerk in Austria, is responsible for the rewarding and decides which and how the volunteers receive tribute for their effort. Volunteers may use the web portal to get information about their executed tasks.



Summary

Time Period:	02/01/2015 - 02/15/2015
#Alerts:	6
Accepted Alerts:	1
Rejected Alerts:	5
#Calls:	3
Accepted Calls:	2
Rejected Calls:	1
#Hours Available:	26.00 hours

Alert Details

Date and Time	Alert Id	Remark
Alerts		
02/02/2015; 16:32	3165	User contacted.
02/03/2015; 15:07	3229	User contacted.
02/03/2015; 15:14	3231	User contacted.
02/05/2015; 16:22	3395	User contacted.
02/05/2015; 16:29	3396	User contacted.
02/11/2015; 15:04	3709	User contacted.
Accepted Alerts		
02/03/2015; 15:15	3231	Alert accepted.
Rejected/Missed Alerts		
02/02/2015; 16:33	3165	User hangup.
02/03/2015; 15:07	3229	User hangup.
02/05/2015; 16:23	3395	User hangup.
02/05/2015; 16:30	3396	User hangup.
02/11/2015; 15:06	3709	User hangup.

Figure 14: Volunteer Report

A report can be generated for a specific time period and shows detailed information about accepted and rejected alerts and calls as well as the availability during the time period (cf. figure 15).

8 The Confidence Community in the Field Trials

This section describes how the community was organized within the second field trials of the Confidence project. The field trials were conducted over six weeks in five test regions (rural test region surrounding area of Constanta in Romania, urban test region in Bucharest Romania, mixed test region in Switzerland, rural test region in Pongau Austria, urban test region in the City of Salzburg Austria).

8.1 Organization

Figure 16 shows all persons who have been involved in the field trials and their belonging to the test regions.

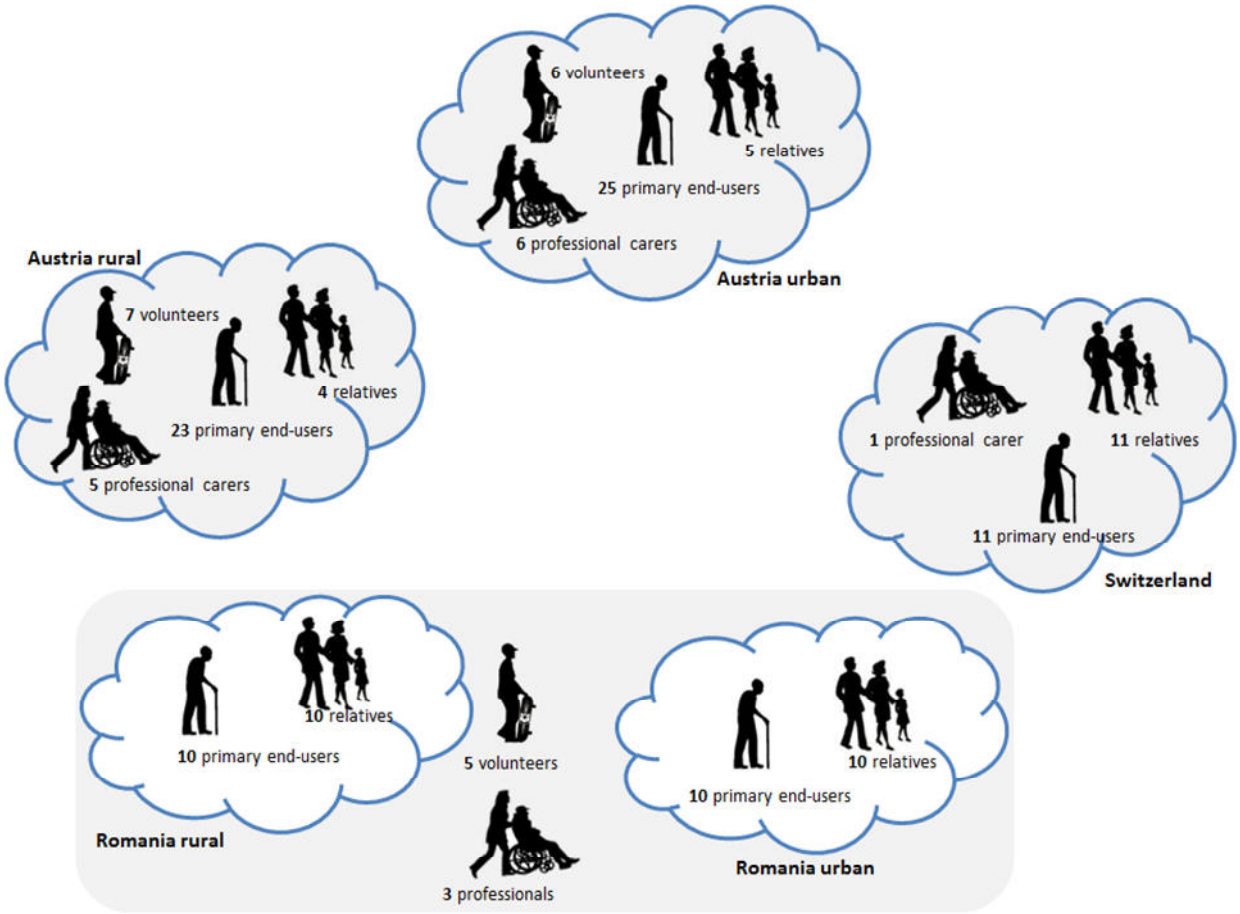


Figure 15: Field trials participants

The organization of several Confidence communities in the field trials was different in each country; especially the connection between professionals, volunteers and primary end-users differed. Both possibilities to integrate volunteers – volunteer pool and dedicated volunteers (described in 4.4) – were tested in the field trials.

8.2 Community Organization in Austria

The Austrian field trial was in both regions organized following the “Mentor-Assistant approach”. This means, that one Mentor – an employee of the end-user organization Hilfswerk Salzburg – was responsible for the organization of the field trial in each test region. The Mentor auf the urban area choose five other employees as Confidence Assistants and introduced and trained them to use the system and support the primary end-users. Every Assistant was responsible for five specific primary end-users and used a Confidence smartphone by himself/herself. The Assistants supported the PEUs during the whole test period. In Austria just some few relatives were involved in the field trial; one relative used a Confidence smartphone. This means, that just some of the primary end-users got support from their relatives who were integrated into Confidence. In the urban test region of Austria six volunteers were part of the system within a volunteer pool. Every volunteer gave support to every primary end-user who needed help. If a primary end-user needed help the system choose an available volunteer randomly. All Assistants supported all volunteers when help was needed. The volunteers used their own phones and the Confidence web portal to give support (the Confidence app was not used by the volunteers).

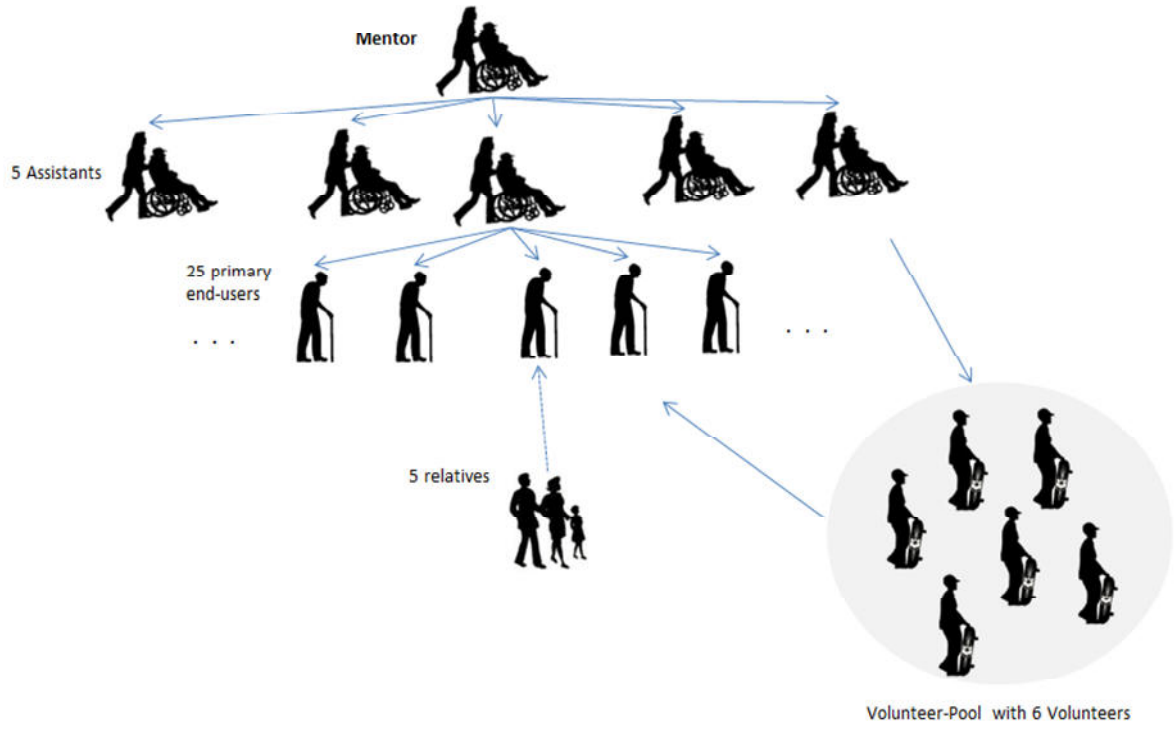


Figure 16: Trial organization urban Austria

The organization in the rural area was similar. There the Mentor defined four Assistants which supported four to six primary end-users during the trial. All Assistants used the Confidence Smartphone. The integration of the volunteers was different from the urban area. All Assistants had one or two dedicated volunteers and the volunteers were especially responsible for the primary end-users who were connected to this Assistant. So, if a primary end-user needed support the system

informed only an available and connected volunteer. Two volunteers used the Confidence smartphone besides the web portal to give support.

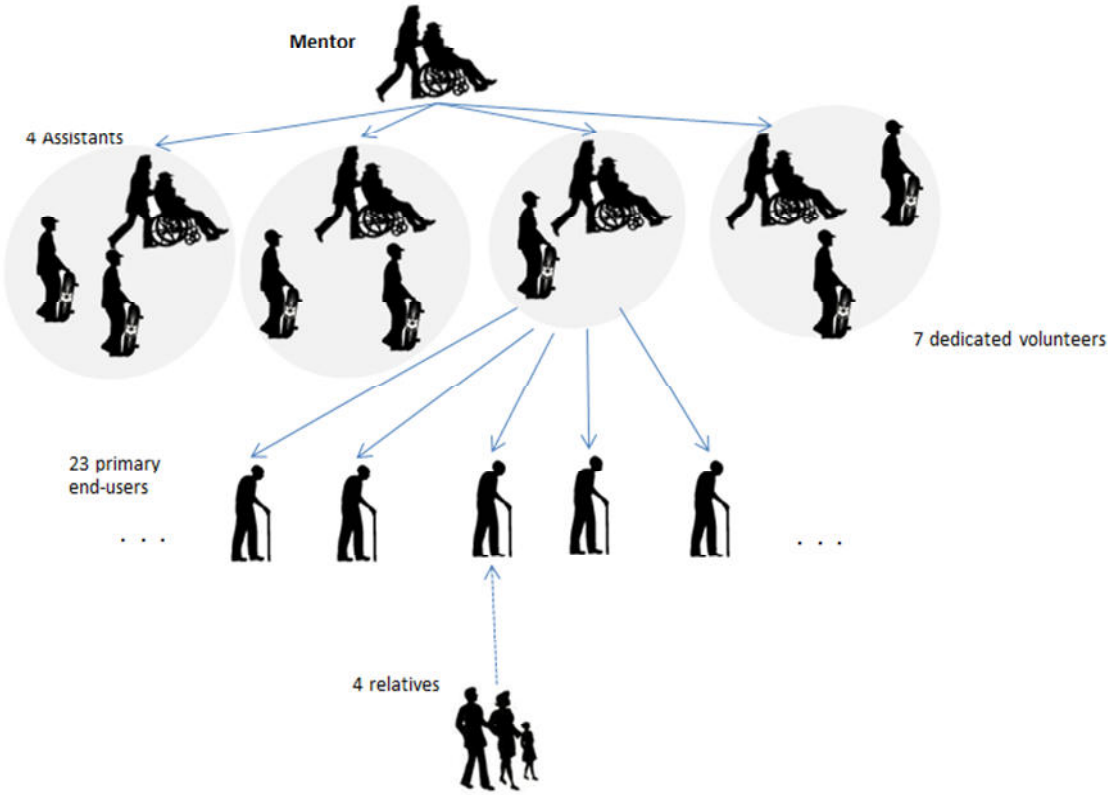


Figure 17: Trial organization rural Austria

8.3 Community Organization in Romania

In Romania also two test regions were established. Other than in Austria there was not a specific Mentor for every region. The same professionals (employees of the end-user organization Ana Aslan) and volunteers participated in both test regions. Therefore the figure below summarizes the organization of the field trials in the rural and the urban area of Romania.

In Romania all participating professionals supported all primary end-users and also supported all volunteers if they needed help. The volunteers were integrated within a volunteer pool like in the Austrian urban test region. Other than in Austria primary end-users and relatives were organized in couples. This means, that for every primary end-user also a family member was integrated in the field trials who used also the Confidence smartphone app. Professionals and volunteers used their own phones and the web portal to support the primary end-users.

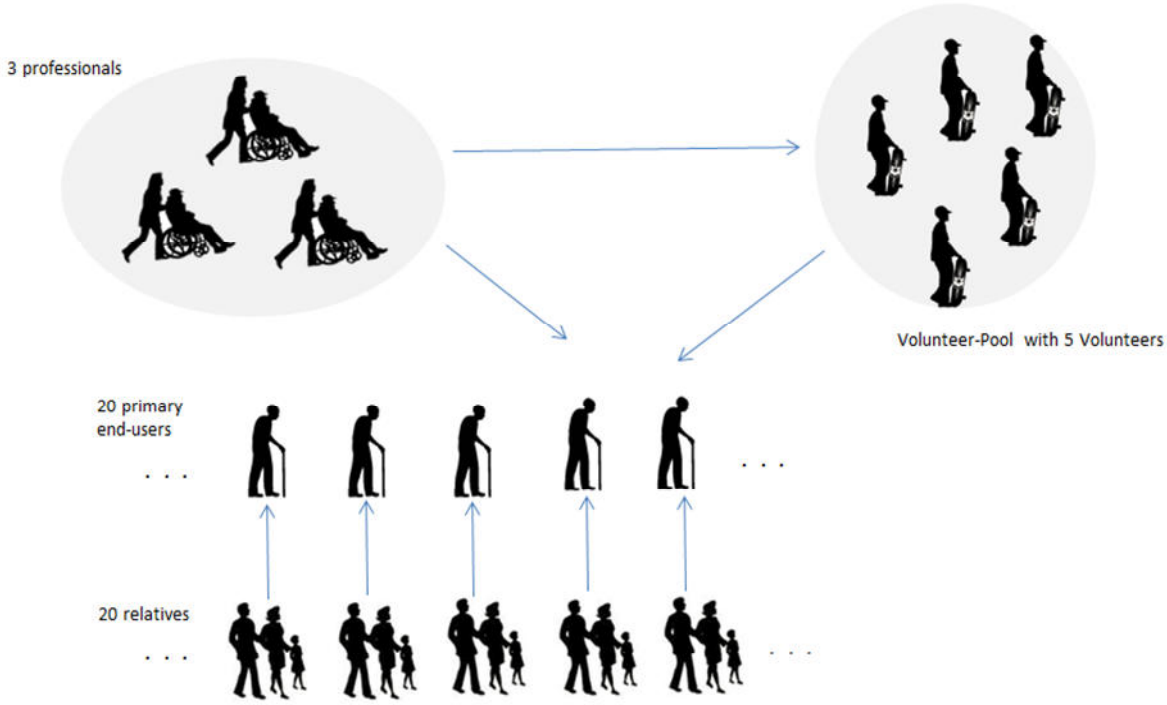


Figure 18: Trial organization Romania

8.4 Community Organization in Switzerland

In Switzerland there was no specific test region. Primary end-users in the German-speaking Switzerland (rural villages in the Kanton Thurgau, rural villages in the Kanton Zurich, cities in the Kanton Thurgau, city of Konstanz, city of Winterthur, city of Schaffhausen, and city of Lucerne) were participating in the trial. Like in Romania primary end-user and their relatives were organized in user couples. Other than in the other test regions volunteers were not integrated in Switzerland. There was one employee of the Swiss end-user organization terzStiftung who organized the trial and introduced the participating users like a mixture of Mentor and Assistant in Austria. He supported the users when help with the system was needed but didn't support them in case of emergency or was listed in their contact list.

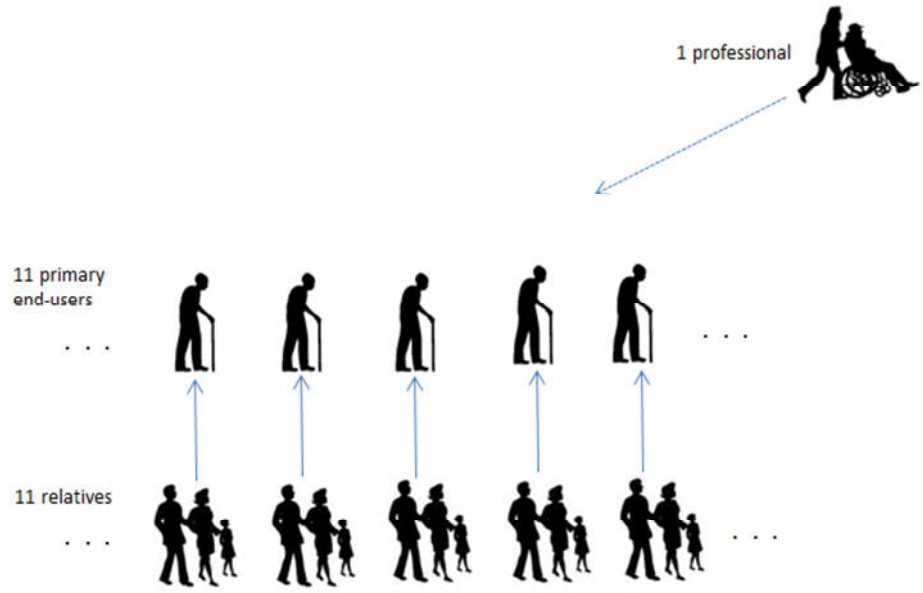


Figure 19: Trial organization Switzerland

8.5 Building Process

All participants were involved directly. An employee of an end-user organization got in contact directly with each person and asks if he or she would like to participate at the field trial. In the beginning of the project the consortium defined the test regions (based on a proposal of the end user organisations) and the number of users who should be included in each community. The end-user organization Hilfswerk Salzburg, Ana Aslan and terzStiftung then had the responsibility to recruit the needed participants.

In Austria one Mentor was defined for each test region. The Mentors nominated four to five Confidence Assistants. Then the Assistants tried to find clients of the Hilfswerk who could participate. About 30 persons were nominated for each test region and most of them were asked if they would like to take part at the field trial. The cognitive status of the participating primary end-users was assessed using the Minimental-State-Test, further they signed an informed consent. The primary end-users were informed about the possibility to integrate relatives as well. A few relatives were interested and decided to take part at the trial. Volunteers were mainly recruited by the Mentors. They involved interested persons, who were also employees of the Hilfswerk and not yet involved in the project, retired employees, trainees and friends.

In Romania three employees of Ana Aslan were selected to organize the trial and support the end-users. The primary end-users were selected using the client data base of Ana Aslan (the cognitive status of these persons was already assessed). Suitable persons were informed about the project and asked to participate. In Romania not just the primary end-users but also their relatives were recruited. All primary end-users who wanted to participate at the trial had to have also a relative

who was willing to participate. Volunteers were recruited by Ana Aslan using their contacts to the medical university. Five students could be found to act as volunteers at both field trials in Romania.

In Switzerland the end-user organization terzStiftung used their contacts to institutions all over Switzerland to find suitable participants. The participating end-users were also assessed using the Minimental-State Test and signed an informed consent. Like in Romania, pairs of primary end-users and relatives could be recruited in different regions of Switzerland.

8.6 Activities

Several activities were conducted to build and support the community before, during and after the field trial by the responsible end-user organizations. The organization was supported by the research organizations Salzburg Research and iHomeLab. These two organizations also did the technical support in Austria and Switzerland. YoooM did the technical support for Romania.

In Austria a training workshop was conducted before the trial to train the Confidence Assistants and clarify questions. Afterwards the volunteers were invited to participate at an introduction event. The project and functionality of the system were presented. Further the volunteer's tasks were clarified. Volunteers who did not attend this introduction were informed by the Mentor. The primary end-users and participating family member were trained and introduced by the responsible Confidence Assistant individually at their own homes. They were visited weekly to get feedback and clarify problems with using Confidence. At the end of the six weeks test period a workshop together with Confidence assistants, the Mentor and the volunteers was conducted to record their experiences.

In Romania the professionals introduced their participating clients and their relatives at the memory clinic. The professionals were in close contact with the users within their weekly visits. The volunteers were specially trained from the professionals in order to properly deal with the clients and correctly use the system.

In Switzerland the participating primary end-users and their relatives were introduced and trained within workshops which were conducted at five different regions in Switzerland. During the test period the users get in contact with the professional when problems with the system usage occurred. At the end of the field trial individual talks with the users were carried out to record their impressions and feedback.

8.7 Support of the primary end-users in the communities

The field trials covered the same tasks than described in chapter 5.

In Austria Confidence Assistants were included in all and volunteers were included in most alerting chains. Family members were included in some alerting chains. Confidence Assistants were connected to specific primary end-users. In the urban test region volunteers were included as volunteer-pool and in the rural area volunteers were connected to the same primary end-users than their belonging Assistant (see 7.1.1). The Mentors of the regions technically organized the trial using

the Confidence web portal. All Confidence Assistants used the Confidence smartphone app to support the primary end-users. Some of them additionally used the web portal for this purpose. In the urban test region volunteers used their own phones. Some of them used the web portal to manage their availability and the others informed the Mentor about their availability and she added the time spans on the web portal. In the rural test region two volunteers used the Confidence smartphone; most of the volunteers added their availability alone and some of them were supported by their dedicated Assistant in doing so. The needed steps within the tasks emergency and communication were defined for volunteers in detail. If a volunteer got informed about an emergency he could decide whether to accept or to deny the alert. If he accepted the alert he should try to reach the primary end-user concerned to clarify the problem. He may use also the web portal to get more detailed information about the alert. If necessary the volunteer further called the responsible Assistant. In the urban region the volunteers had a list to find the responsible Assistants; in the rural region the volunteer could call his belonging Assistant. Concerning communication, the volunteers of the rural area should speak at least once a week with the primary end-users of the Assistants. Whatever the primary end-users called or the volunteer actively contacted them. In the urban area the volunteers had the task to speak with at least five different primary end-users per week.

In Romania the first contact in the alerting chain always was the participating relative of the primary end-user. The relatives also used Confidence smartphones for supporting. The professionals managed the availability for the relatives within the web portal. Volunteers also used the web portal and their own phones. Professionals and volunteers did not belong to a specific test region; they were involved in both Romanian field trials. Other than in Austria, the volunteers informed the relatives instead of the professionals in case of emergency. In Romania there was no duty for volunteers to contact the primary end-users actively.

In Switzerland the relatives alone supported the primary end-users in case of emergency and communicated with them when help was needed. They were the only contacts in the alerting chain. A professional just supported the users when problems with the system occurred. All relatives used a Confidence smartphone. Volunteers were not included into the field trials.

9 Evaluation

This section contains the evaluation of dedicated questions to relatives and volunteers concerning the involvement of volunteers - asked during and after the field trials.

After the trial the participating relatives were asked what they think about the idea to integrate volunteers for supporting the primary end-user. Most of the 39 questioned relatives namely 23 liked the idea to integrate volunteers. Seven even liked it very much. Four don't have an opinion about this issue and four don't like the idea.

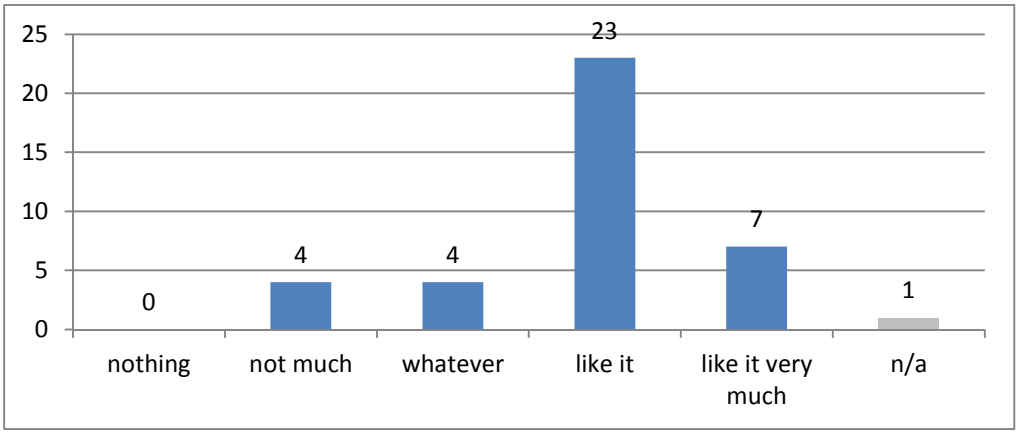
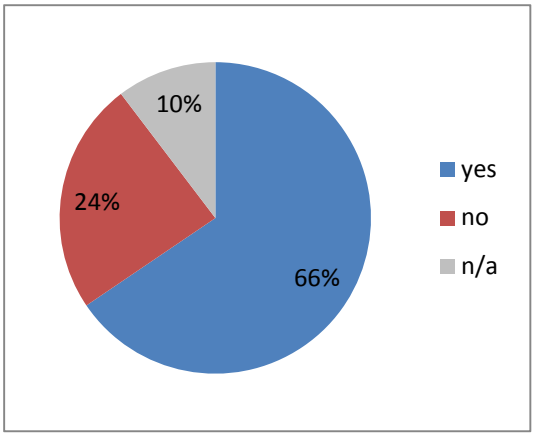


Figure 20: What do you think about the idea to integrate volunteers?

Further they were asked if volunteers were integrated in the alerting chain of their primary end-user during the field trials. Figure 22 shows the answers of Austrian and Romanian relatives, Swiss are not included, because volunteers were generally not integrated in the Swiss field trial.



n = 29

Figure 21: Were volunteers integrated in the alerting chain?

In total, 18 volunteers were integrated in the field trials; 13 in Austria and 5 in Romania. Most of the volunteers were women. The age range was well distributed and reached from 15 to older than 59.

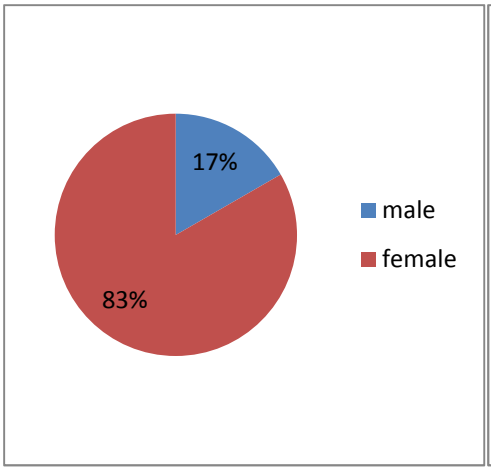


Figure 22: Gender distribution

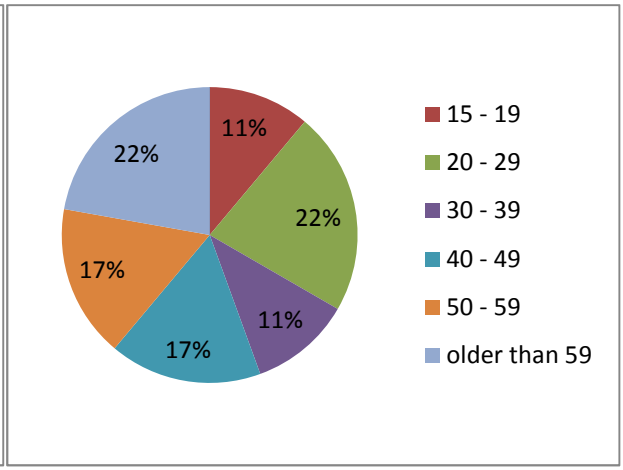


Figure 23: Age range

n = 18

Half of the volunteers were employed, 22 % were in education and 28 % were retired. 56 % lived at the countryside and 44 % in cities.

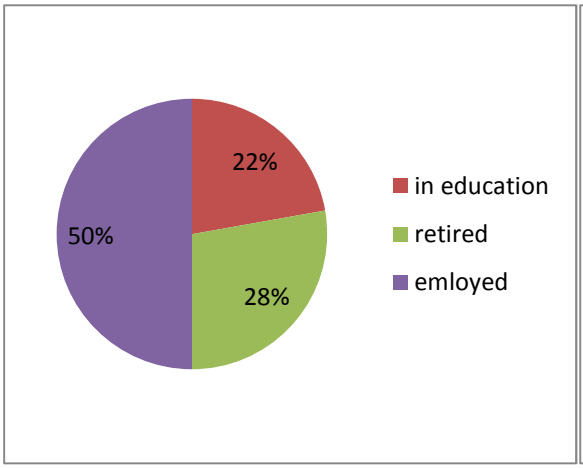


Figure 24: employment

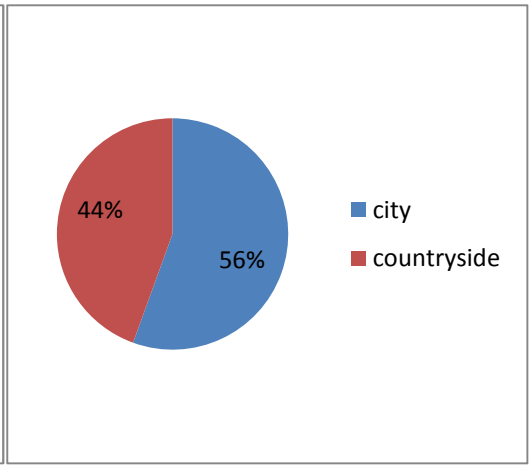


Figure 25: living environment

n = 18

Figure 27 presents the motivation for the volunteers to participate at the field trials. Most named reasons are “I would like to help others”, “I would like to campaign for something important” and “I would like to do something useful for the common welfare”.

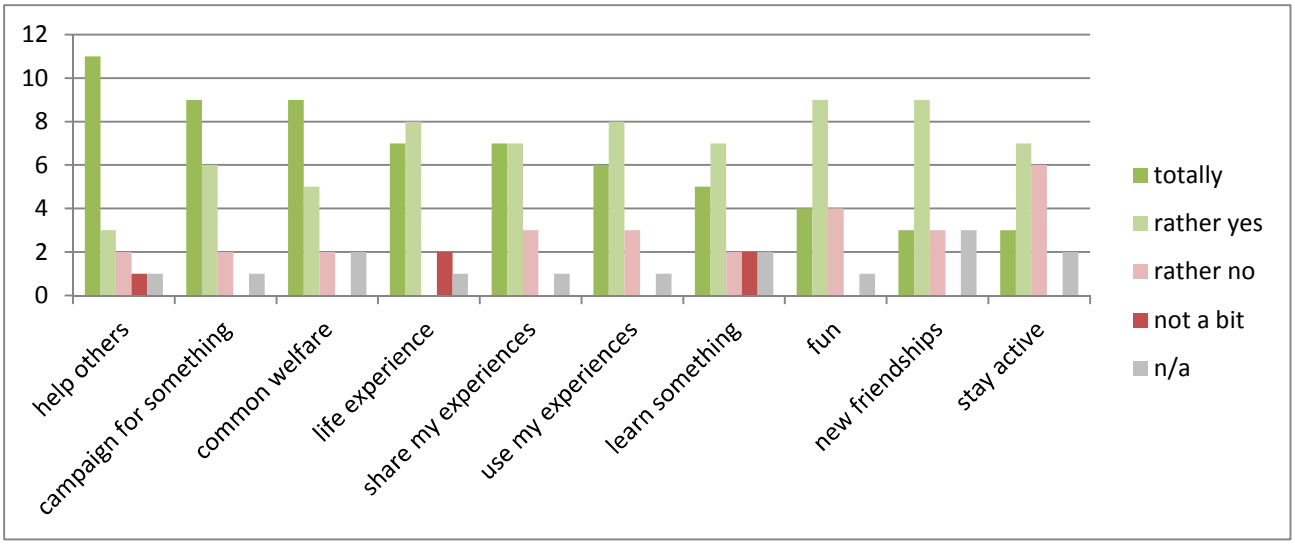
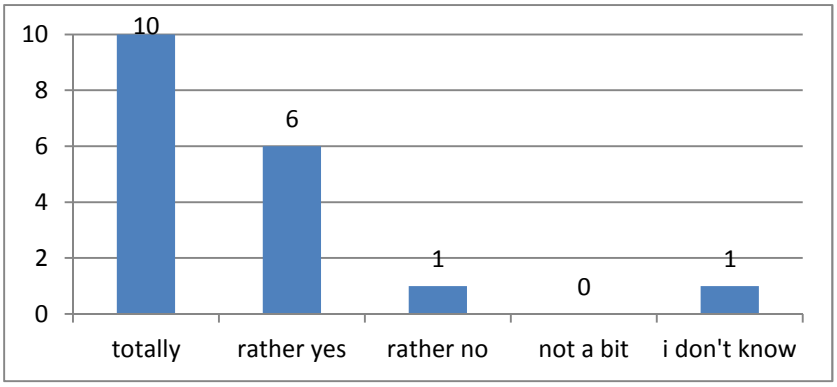


Figure 26: Motivation

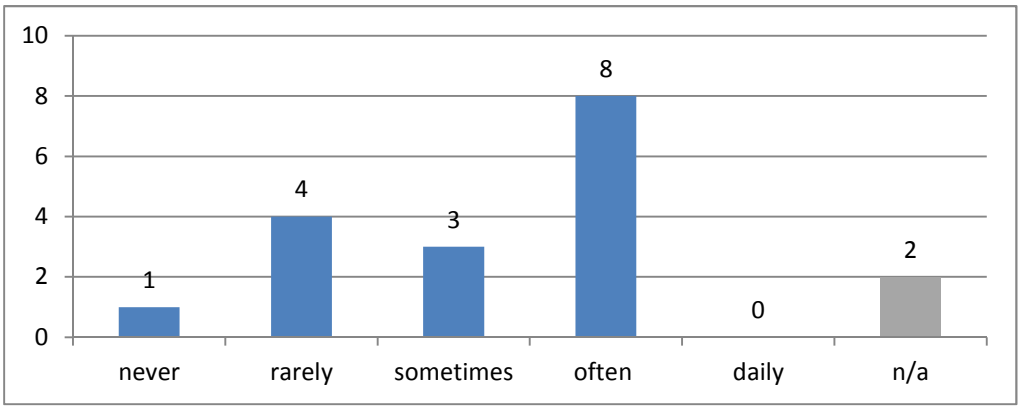
Most of the volunteers also found it useful to integrate volunteers in a project like Confidence:



n = 18

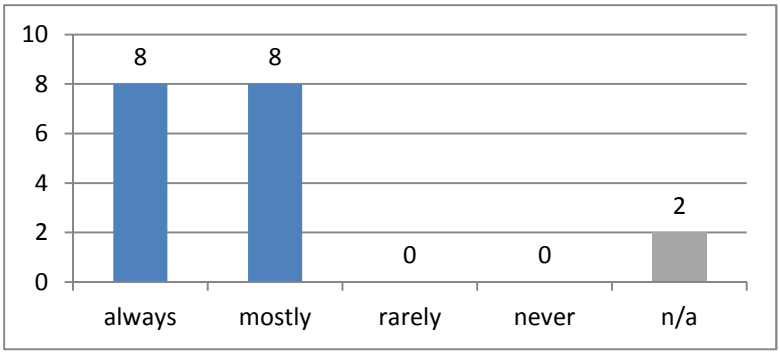
Figure 27: Do you think it is useful to integrate volunteers in projects like Confidence?

After the trial, the volunteers estimated how often they got alerted from the system. Most of them said that they think they were often alerted (several times per week). Seven said, they were alerted rarely (one to three times in the test period) or sometimes (one per week). One volunteer was never alerted. All of the volunteers knew in most cases what to do.



n = 18

Figure 28: Estimate how often you got an alert message



n = 18

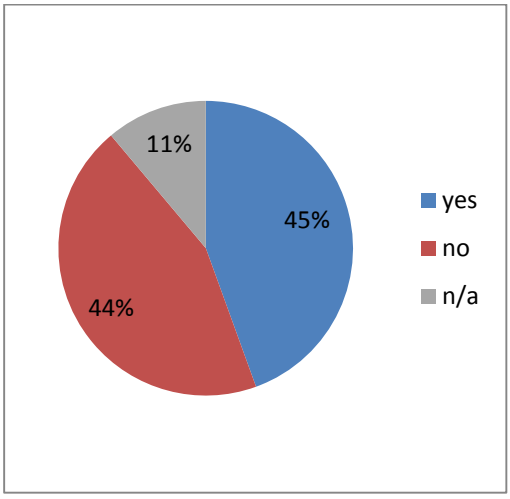
Figure 29: Did you always know what to do?

Two volunteers never had contact with a primary end-user in the test period. One at least had rarely contact (one to three times within the trial); six sometimes (once per week) and five often (several times a week) had contact with at least one primary end-user.

n = 18

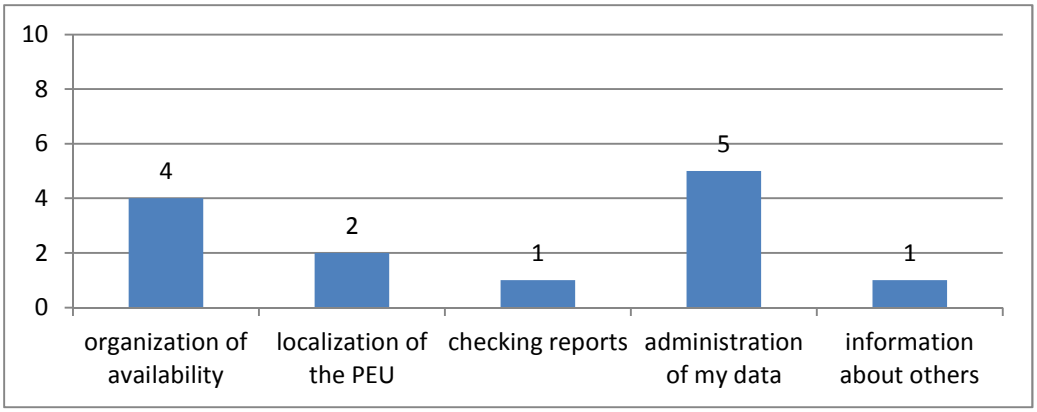
Figure 30: Estimate how often you had contact with one or more primary end-users during the test period

About half of the volunteers used the Confidence web portal for several purposes. The most common activities was the administration of own data.



n = 18

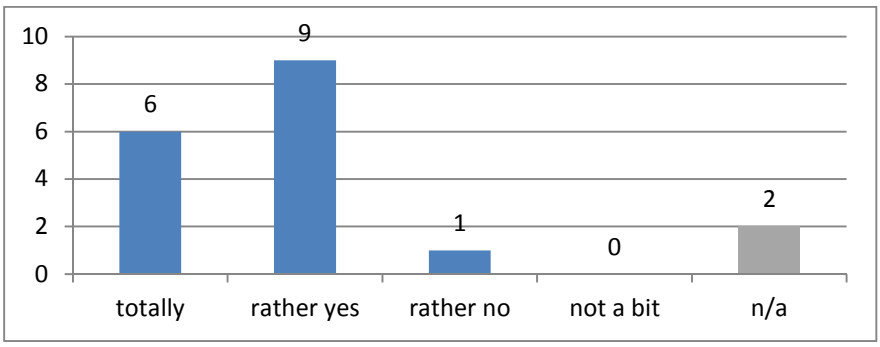
Figure 31: Did you use the web portal?



n = 18

Figure 32: What the web portal was used for

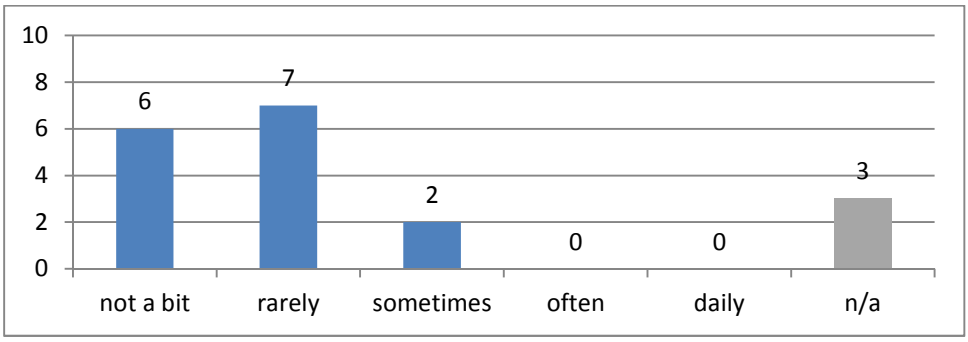
Most of the volunteers felt integrated into the project. No volunteer had the feeling of not being integrated, but one volunteers felt to be rather not integrated.



n = 18

Figure 33: Have you felt integrated into the project?

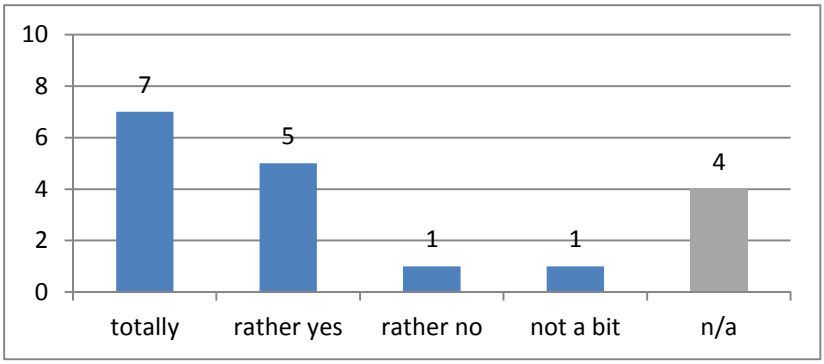
Six volunteers did not exchange their experiences during the project with other volunteers. Seven did so at least rarely (one to three times during the trial) and two met other volunteer sometimes (once a week).



n = 18

Figure 34: Have you compared notes with other volunteers?

The majority of the volunteers think that it would be useful to better connect volunteers to each other. Two volunteers think that it would not be useful.



n = 18

Figure 35: would it be useful to better connect volunteers to each other?

10 Lessons Learned

During the last consortium meeting in Zurich the Confidence team members analysed the community involvement aspects (1) building up (2) maintaining (3) reimbursement and how it could/should be handled in future. Therefore the world-café approach was used. Following questions were discussed:

Confidence community within the trials

- Who was involved?
- How was it built?
- Was it connected and how?
- Usage of technical features?
- Differences due to the nt between 1st and 2nd trial?

In the future

- How could the community be improved?
- Who should be involved in the future and how?
- Possible incentives?
- Further technical support possibilities?

This chapter deals with the outcome of the world-café and lessons learned derived therefrom. Furthermore it deduces recommendations for building up communities in the future.

All test regions made the experience that it is very challenging to build up a community; finding the right participants is not easy. For us it seems to be very difficult to build up a new community and we think that it could be useful to identify suitable networks and introduce Confidence there. End-user organizations or institutions may use their existing networks to recruit suitable volunteers (e.g. Hilfswerk already did so). If one primary end-user would like to use Confidence it also may be useful to analyse his/her social environment and integrate his/her real network into the system. The opinion of the relatives is often very important and even if they don't use the system or are not integrated into the Confidence community their negative attitude towards the system can influence the usage of the primary end-users.

It doesn't make sense to just integrate any volunteer into the community. Volunteers have to be recruited and then trained before they can support the primary end-users. Primary end-users as well as their relatives prefer known persons as volunteers. It can be concluded, that dedicated volunteers are more suitable than the volunteer-pool.

For the regular operation of Confidence one has to decide between small and big communities. This means, that a primary end-user may use the system with one or few contacts e.g. a pair of primary end-user and relative (like in the Swiss field trial) and a primary end-user can also be in a big community and profit from the advantages of volunteers. The purpose of the communities must be clear for primary end-users and relatives and they have to be able to decide how they would like to use Confidence.

Incentives are important to keep volunteers, but the consortium agrees that it need not to be money. Rewards like points or challenges with others can motivate the volunteers to be more active in the community. Events should be conducted to connect the community members. This can be profitable for all members. The primary end-users and relatives get to know the volunteers and gain confidence in them. The volunteers may feel more integrated and responsible for being active in the community.

The Confidence web portal is suitable to organize the community, but further technical support tools would be profitable to better connect the community members. The Confidence system can be used to support communities but it cannot build them.

10.1 Recommendations:

- It's difficult to build up a new community, try to make use of existing ones!
- Volunteers have to be trained carefully before they may support the primary end-users
- Primary end users and relatives prefer dedicated volunteers
- Decide between big and small communities!
- Incentives are important! (But not necessarily money!)
- Events should be conducted to connect the community members
- Confidence can be used to support communities but it cannot build them!