

D1.1 – User requirements report

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Acronyms

Term	Explanation
Persona	A Persona is a user archetype used to help guide decisions about product features, navigation, interactions, and even visual design
Scenario	A fictional story about the envisioned solution and its main users

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1 Summary

This report relates to the methodology and the results of the user requirements definition process of the SOCIALCARE project. User requirements collection and analysis aims at providing insights on user needs, as well as on the nature of the envisioned services. It is necessary to create a deep understanding of potential users and their routines. Without a good understanding the developed solution might be brilliant in technical terms, but useless from a user point of view. User integration can increase market success if AAL solutions meet the target group's actual needs from the beginning. The first step is to understand who these users are. In order to obtain this knowledge, the followed methodology started with the definition of the target & user group (chapter 3), the creation of Personas and (usage) scenarios as well as the conduction of Persona group specific semi-structured interviews together with a thorough analysis of the results (chapter 4). Towards focusing development resources on most relevant user-driven issues, the variety of envisioned product functions and ideas were systematically evaluated by each interviewed Persona group to choose the most required ones (chapter 5). The most interesting findings were summarized within the conclusions and remarks (chapter 6). Together, the outcome of all these activities provide a clear view on real end-user requirements and demanded functionalities. The document serves as a basis for interface co-design and setting up the final user stories of SOCIALCARE

2 Introduction

The user requirements collection is a research exercise which is undertaken early in the SOCIALCARE project to establish and qualify the main objectives. The aim of the research is to understand the product from a user's perspective, and to establish users' common needs and expectations. The requirements capture findings are used to balance the business goals with the user needs to increase the chance that the project will be successful. The main advantages of the user requirements collection is the saving of time and money by validating the scope of the project against its users' needs and expectations before any work begins. The user requirements are subject throughout the project progress.

3 Target & User Group

3.1 Primary Users - Seniors

The primary users are seniors who make use of the SOCIALCARE platform and benefit directly from the provided services and functionalities. Elderly users cannot be treated as a homogenous population. The basic differentiation is between their third and fourth ages (Laslett, 1991) [2]:

The third age (young old) describes older adults in a healthy and active life phase, which is characterized by the continuation of their former lifestyle after retirement (approximately from 60 to 80). This era is defined by personal achievement and fulfillment. They might have specific needs related to their age (decrease in mobility, sight, etc.).

The fourth age (oldest old) begins roughly around 80, but the boundary between the third and the fourth age can be dynamic, depending on the individual health situation. In general, it is associated with fading health and independence. They are often more frail and in need for care and support. High age often leads to frailty on physical and emotional level: social exclusion (loss of friends and relatives), depression, reduced strength, weight loss, slower movements, tiring sooner and diminished physical activity.

The SOCIALCARE project targets both above mentioned groups: It is planned to provide services where seniors can offer voluntary work for others as well as care or domestic work services for older people.

Although elderly (especially fourth age) are less inclined to use ICT and new technologies than younger people, they are motivated to use technology if it is compatible with their current lifestyle and routines, and if they are sure that the benefits clearly outweigh the effort of learning something new (Ryu et al., 2009). As a result, the use of ICT is more a question of assumed benefit than of age. Seniors are willing to learn to handle new technology if it meets their core needs.

3.2 Secondary Users - Relatives, Volunteers, Formal and Informal Caregivers

On the one hand, relatives and informal caregivers who are taking care of their family members can obtain satisfaction, fulfillment and personal growth of these activities. But intensive care can also be especially stressful, potentially leading to burnout and stress [2]. Relatives are often torn between their responsibilities towards the cared person and their own needs.

The issues with which informal caregivers struggle are [2]:

- The burden of guaranteeing the cared person's well-being and safety.
- Feelings of guilt when unable to take care of the recipient of care.
- Crises of conscience when relatives are institutionalized.
- The need for information about their relatives' diseases.
- The need for practical advice on and support strategies for treatment or coping strategies.
- The need for information on support services (e.g. meals on wheels) or facilities, and the financing of this support.
- The organization of caring, time and coordination with the workplace and own family.
- The need for leisure time for oneself in order to revive.
- The psychological effects of being confronted with age-related decline.
- Conflicts with the recipient of care, other relatives, professional caregivers and/or insurance companies about care measures, responsibilities or financial matters.
- Conflicts within the family because of increasing independence of the person cared for.

Informal caregivers are predominately women (daughters) and spouses and are often older as well. Giving care can provide positive experiences, but can also lead to severe stress and health complaints. It is crucial that the developed solution meets the needs of informal caregivers as well as fit into their daily routines. Moreover, informal caregivers are probably more willing to pay for services in order to help themselves.

Volunteers are active citizens in the neighborhood. Volunteers are active in a wide range of activities in the community from organizing leisure activities (like sports, knitting clubs or card tournaments) to wellbeing activities (like organizing a meal service, or a grocery shopping service, working at the Red Cross, etc.). Volunteers in some cases can also be considered as informal caregivers, depending on their volunteer work. The majority of volunteers are people around 60 years old.

Finally, formal caregivers have to deal with many different groups (e.g. relatives, care insurances, doctors...) and tasks (caring, monitoring, documenting...). They have to be friendly, empathic, and active with elderly recipients of care, while complying with current quality standards, rules and routines.

Some examples of issues with which formal caregivers deal on a daily basis:

- Strenuous labor due to having to lift or turn elderly people.
- Psychological stress due to experiencing sickness and mortality.
- A heavy workload, many organizational duties (e.g. documentation) and little time for personal contact.
- Strong time pressure due to a lack of staff and many clients.
- Conflicts with the recipients of care, their relatives or within the team.
- Keeping relatives informed about client's status or financial support they can receive.

3.3 Tertiary Users - E.g. public institutions and insurance companies

Public institutions are tertiary users of SOCIALCARE. They provide services to older people in a community and can use SOCIALCARE to reach them. They are not directly in contact with the SOCIALCARE platform, but benefit from the increased efficiency and effectiveness in terms of reducing costs for professional care.

4 Understand the user

4.1 Personas Definition

Personas are a design tool based on the ideas of Alan Cooper (1999). The aim of the Persona method is to raise the empathy for the end users in development teams through virtual user models and as a means for communicating peer group definitions. Personas allow developers to define which users they are developing products for. They are "specific types of individuals with specific needs". According to Cooper Personas are "a precise descriptive model of the user, what he wishes to accomplish, and why." As an archetypical figure Personas can guide decisions about product features, interactions, and even visual design and assure an effective user-based end product. Personas are considered to be a strong tool for interaction design processes as this method also allows incorporating other techniques.

Personas are based on the behavior and motivation of real people. They represent them throughout the design process. Personas build consensus and commitment to the design and measure the design's effectiveness. In general, they show the nature and scope of the design problem. Personas determine what a product should do and how it should behave. They are a communication tool for stakeholders, developers and other designers. Furthermore, Personas also contribute to other product-related efforts such as marketing and sales plans.

Personas create...

- an understandable form of user data.
- a transparent, vivid and realistic representation of complex and abstract data.
- sympathy and empathy for the target user group.
- a unified representation of the target group in the design team.
- a strong focus on the target group and essential aspects.
- the possibility for realistic and efficient user scenarios.
- a reduced complexity of problems.
- time-saving development cycles.

The Persona theory suggests not to choose more than 5-6 Personas for a project, as the risk of an undesirable development gets too high if you try to design a product or service that pleases everyone. [5]

In order to create a deep understanding of the lives of the targeted users **6 Personas** were created for the SOCIALCARE project:

1. An active elderly person who wants to socialize and provide voluntary work through the SOCIALCARE platform
2. A senior with mild age related impairments (e.g. visual, acoustic, motor, cognitive)
3. A young volunteer who wants to get involved in voluntary work on a free basis
4. An informal caregiver who cares for his mother on a daily basis
5. A formal mobile caregiver who deals with a heavy workload
6. A relative who wants to stay in contact with his parents

Information on the user's everyday activities and natural environment were collected through the following methods:

- **Literature research**

A literature research involves reviewing all readily available materials. These materials can include internal company information as well as deliverables of completed projects in the field of AAL, relevant publications, on-line data bases, and any other published materials. It is a very inexpensive method of gathering information. One interesting research-project called "CURE-Elderly-Personas", developed a set of Personas as a design tool to support researchers and developers to get empathic with the heterogeneous group of older persons [4]. These Personas served as a basis in order to create the primary-senior Personas of the SOCIALCARE project. They also served as a common template in terms of design to create a common set of Personas for the project.

- **Interviews**

Interviewing representative users or target users is one of the most common ways of collecting data on Personas. In order get a good impression of the life of mobile caregivers, informal caregivers as well as volunteers, LIFEtool did interviews with 2 representatives of these groups. The interviews helped to gain a thorough understanding of participants and their perspectives.

4.1.1 Persona 1 - Jan

Name: Jan

Age: 70

Status: Active elderly person



About & Family

Jan is 70 years old. He lives with his wife Johanna (69) in a small town in a house with garden, which belongs to them. They are married for 45 years now and they still care a lot for each other. Their only son Markus (44) has a family of his own and lives with his wife and two kids in a big city about 200 km away.

Jan was working as a plumber all his life. He run his own little business and retired at the age of 65. Johanna was a primary school teacher. Both enjoy their retirement, especially Johanna, who has enough time for her beloved garden at last. And both like to travel, their favorite destination Asian countries. Jan however still has some difficulties with filling all the free time. He always liked to work and he enjoys helping his wife with gardening and in the house, as there is always something to be fixed. But nonetheless he feels a bit useless. There he is with a knowledge only a dedicated working life can bring forth and it is of no use anymore?! Among his greatest satisfactions therefore are the occasions, when neighbors or friends ask him for his expertise and help.

Jan and Johanna have a decent circle of good friends, many of them go back to their childhood days. They meet regularly, e.g. on Sundays for dinner, make one day trips or visit local events. Jan is especially fond of well-made presentations of travels and foreign countries and cultures.

His relation to his son Markus is a good one. Markus calls about twice a week and he visits them quite regularly. Johanna is always looking forward to these visits as she is especially fond of her two grandchildren. She would like to see them more often. In order to stay in better contact and provide Johanna with photos and videos Markus has given a tablet to his mother. Of course both know how to handle the computer as both used it on their jobs. But when it is coming to the latest smart phones or tablets, they feel not so secure. But all beginnings are hard and Jan does not feel too old to learn new things. On the contrary!

Jan does not worry too much about the future. He and Johanna are in good shape, apart from some aching joints every now and then and maybe the brain is not so good as it used to be. But he wants himself and Johanna to be prepared for changes that might appear in the future and both will give their best to be able to stay in their house as long as possible.

Psychographics

- Happy life
- Experienced
- Optimistic
- Wants to be needed

Devices in Use

- PC (Windows)
- Tablet (Android)
- Smartphone (Android)

Technology Usage

Jan is a skilled craftsman and can repair almost anything in the house by himself. He is not afraid of new technologies like smart phone or tablet and more than willing to learn how to use them. With a little help from his son and his 14 year old neighbor he is confident to come to terms with these marvelous little things.

4.1.2 Persona 2 - Maria

Name: Maria

Age: 75

Status: Senior with mild impairments



About & Family

Maria lives near a big city in a house of her own, which she and her husband Johannes built 50 years ago. She has a daughter, Eva (48), who lives in the same town and a son, Frank (50), who lives abroad. Johannes worked for the national railroad company, Maria stayed at home, being a fulltime mother and tending the house and garden. Both were active members of their community.

This year in February, Johannes died unexpectedly from stroke. This was a big shock. Since the death of her husband Maria is confronted with loneliness. And she feels the burdens of getting older more heavily: she experiences increasing bad sight, less strength, bad memory and the loss of friends. Her social contacts are decreasing and she feels that she is not able to cope with daily life as she used to. If it was not for her daughter, who visits her daily and helps her with cooking and cleaning, she would not be able to live in the house any longer. Additionally there is also a mobile caregiver, who comes every second day.

Maria is not very familiar with the usage of technology and ICT. She can only shake her head in wonder, when her daughter and grandchildren show her their smart phones and tablets and all the possibilities, these devices offer. On the one hand she is afraid to use them on the other hand she can see the benefits in order to stay in contact with friends and family.

Although she is insecure, Maria thinks ICT might help her to get involved and to fill the gap the death of her husband left her with. Some of her friends use tablets and tell her about apps that they find useful, e.g. for monitoring health parameters. Maybe this could be an investment for the future? At least her daughter strongly encourages her to try it out. In the local newspaper she read that the community center offers a training course on how to use a tablet. She called the center and they told her that she is very welcome and that the course is aimed at seniors like her, no requirements needed. She decided to enroll. Maybe they can take her anxiousness away, provide her skills as well as confidence and teach her how to use this device in a proper way.

Technology Usage

Maria has little experience with modern technology. Johannes had his own PC, but he never explained her how to work with it. She sees other people using tablets and smart phones and on the news she hears about hacking, phishing and the dangers of digital banking. It gives her lack of confidence. Her son bought her a digital photo display and he sends her pictures that are presented on it. She has no clue how all this works. Since the start of the training in the community center she has a tablet of her own.

Psychographics

- Feeling lonely
- Experiencing physical impairments
- Lack of confidence

Devices in Use

- Tablet (Android)
- Digital photo display

Name: Laura

Age: 24

Status: A young volunteer



About & Family

Laura is a last year student, studying Business Administration at the local University. She is in a relationship with Michael (27), but she still lives on her own in a small town not far away. Laura has a younger sister (21). Her parents live separated, but she is on good terms with both of them. Only one of her grandparents is still alive, her grandmother (82) is living in a senior service centre approximately 100 km away from her place.

Laura wants to get involved in voluntary work. It gives her the opportunity to get some experience before she starts working and it deeply satisfies her. Being a student forces her to find a voluntary job with enough flexibility. Laura decided to work with older people. Two incidents were influential on her decision: some time ago there was a feature on national TV about the possibilities in the elderly care and the need for voluntary work. Last week the news informed about an 80-year old woman who was found dead in her home. She had died ten years ago and no one had missed her. Laura was shocked.

Laura is very eager to develop a meaningful contact with older people who are in need of help. She has already done voluntary work on different occasions: she once helped with the organizing of Christmas dinners and was involved in the planning of beach trips especially for older people. But this kind of activities were very time consuming over a short period and did not give her the possibility to stay in closer contact with the older participants.

While reading the local newspaper Laura found that the senior service center in her neighborhood is organizing a tablet course for seniors. The center is looking for volunteers to plan and conduct the course over a longer period of time. That's exactly what she was looking for. Laura is pretty experienced using different tablets and she applied on the spot. She hopes that she will get in contact with older people, get to know the senior service center and possibly make friends with other volunteers (preferably her own age).

Psychographics

- Active
- Busy
- Positive and happy
- Eager to learn new stuff

Devices in Use

- Tablet (iOS)
- Smartphone (Android)

Technology Usage

Laura grew up with the use of modern consumer electronics. She knows how to use different smartphones (iOS and Android driven) and she has her own tablet. She uses it for all kinds of tasks: to get in contact via video calls (using Skype or FaceTime), to send text messages and photos with Facebook or WhatsApp, to share pictures with Instagram. She also uses the tablet to watch television and to read the news.

4.1.3 Persona 3 - Laura

4.1.4 Persona 4- Eva

Name: Eva

Age: 48

Status: Informal care giver



About & Family

Eva is married to her husband Ben (46) and mother of two children, Erick (12) and Sophie (10). They live a few kilometers away from Eva's mother, Maria (75), near the center of a big city. Eva's brother Frank (50) lives abroad, there is not much contact.

Eva's father Johannes died this year in February, which left her mother Maria living alone in their house. Eva cares a lot about her mom and so she tries to help her compensate the loss and make it possible for her to stay in her beloved house. Although she thought she could handle all extra work by herself (and maybe with a little help from her husband and kids), she soon realized that this was impossible. Now a mobile care giver comes every second day.

Eva works as a nurse in a clinic. She likes her job but lately she feels exhausted. Helping her mom takes a lot of her energy and she does not find enough time for herself and recreation. Eva used to go jogging every day, now she is happy if she manages to run twice a week. And she is aware, that her family is not very happy with the situation also. Of course they all understand that Eva does everything to help her mother, but they cannot help feeling neglected. And they also worry about her.

What Eva troubles most is that her mother significantly aged after the death of her father. She used to be active and joyful and was still capable of running the house by herself, but all her strength and energy seem to have diminished considerably in the last months. She complains about aching joints and how hard it is doing the housework. Her eyesight got worse and she forgets a lot of things, like appointments and medication. She does not want to leave the house, not even for doing the groceries. And she even stopped cooking for herself.

Eva wonders if technical solutions like wristbands with emergency call functions or fall detectors could help relieve the situation. And there must be other solutions to help her mother remember things and monitor important health parameters like blood pressure. She would definitely feel more secure and worry less, if she immediately got informed, when something went wrong.

Psychographics

- Stressed & overpowered
- Experiencing care related health issues
- Worried
- Busy

Devices in Use

- PC (Windows)
- MacBook (MacOS)
- Tablet (Android)
- Smart phone (Android)
- Android TV set-top box

Technology Usage

Eva turned out to be an enthusiastic smart phone user since she got her Nexus smart phone 3 years ago. She loves WhatsApp and especially sharing photos and videos of her kids with family and friends. Eva uses a Windows PC at work and a tablet at home. She is not afraid of technical solutions as she is surrounded by them at her workplace in hospital. Sometimes in the evenings Eva likes to watch Netflix series on their Android TV set-top box.

4.1.5 Persona 5 - Verena

Name: Verena

Age: 29

Status: Professional mobile caregiver



About & Family

Verena is 29 years old, single and happy to be so as she likes her independence and freedom. She is an only child and her relation with her parents is not tension-free since their divorce two years ago. Her relation with her grandparents is very good and important to her, as they always played an important role in her life. When she was a child she used to be at her grandparent's place every second weekend. Her circle of friends is quite big as she is a very open person who likes socializing and all kinds of activities, from going to the cinema and concerts to outdoor activities like hiking and cycling. Her greatest passions however are Yoga and travelling.

After school at the age of 18, Verena did a voluntary year of social work in a retirement home. This year made a deep impression on her and she decided to do a nursing training afterwards. When she finished her training she went on a trip to India for six months. Today Verena is employed by a big social enterprise. She works as mobile caregiver and she is very happy with her job as it gives her a deep satisfaction to care for others. She thinks that she gets much in return and that she can learn a lot from her clients, from their experience of life.

Of course it is not all sunshine: she is quite aware, that her job costs her a lot of energy – physically, mentally and even emotionally. She meets and learns all the difficulties of high age, especially illness and solitude and she wonders what future will bring when there are less young ones together with all the cuts in the welfare system. The hardest thing for her to see is, how isolated some of her clients are and that she can do nothing about it with her tight schedule and limited resources.

But she knows of the dangers of burn-out, especially when one gets too involved emotionally in a job like hers. Thanks to group and single supervision she has learned to deal with these problems and dangers professionally.

Psychographics

- Active
- Satisfied with life
- Empathic
- Happy with job but also challenged

Devices in Use

- Laptop/PC (Windows)
- Smart phone (Android)

Technology Usage

Verena is very competent using modern technical devices. Of course she owns a smartphone – who doesn't? She is on Facebook and WhatsApp and makes at least 10 photos per day. She also relies heavily on it in her job as she manages all her appointments with it (calendar, email...) and she has quick access to all the important information on her clients. Furthermore she uses the navigation function when going to her clients by car. For documentation and accounting she uses a laptop and she is especially fond of the cloud services for sharing data.

4.1.6 Persona 6 - Markus

Name: Markus

Age: 44

Status: Relative



About & Family

Markus is a family man: married to his wife Carina (38) and father of two daughters, Sara (13) and Lena (11). He is working in a big sales company, where he has reached a medium-high position. His job takes up much of his time and he often has a lot of stress related to his workload and responsibilities. For recreation he goes running and plays video games.

His parents, Jan (70) and Johanna (69), live together in their house in a small town about 200 km away. Markus is the only son, there are no more close relatives. Markus cares a lot about his parents, especially his mother, and he calls her by phone about twice a week. He and his family try to visit them at least every two months and on holidays.

Markus often thinks he should visit his parents more often. He is thankful that both are doing well and are able to live on their own and tend the house and garden. Apart from a mild form of rheumatism, both are healthy and quite active. But he wonders how long this will still be the case. Especially his mother seems a little forgetful lately. He knows that they want to live in their house as long as possible. They do not even want to discuss the possibility of a smaller dwelling with less work or special dwelling forms for older people.

Last Christmas Markus gave a tablet to his mother. He configured e-mail and showed her the Skype app. He hopes that this will improve their communication and help her stay in closer contact with her grandchildren Sara and Lena. For cognitive training he also downloaded some games, among them a Sudoku app. It is not easy for Johanna to handle the new device, every now and then she faces problems, which they cannot solve alone. Then the tablet is not being used until Markus shows them how to do it.

To improve this situation, Markus asked the 14 year old neighbor son to help them with the tablet in case of trouble and to show them the basics for a small pocket money. This arrangement works quite well, especially his father seems to get a grip and Markus wants to show him all the wonders and possibilities such a device can offer.

Psychographics

- Active
- Cares for his parents
- Satisfied with his life
- Busy

Devices in Use

- Laptop/PC (Windows)
- Tablet (Android)
- Smart phone (Android)
- Smart watch (Android-Wear)
- PlayStation 4

Technology Usage

Markus is quite competent using state-of-the-art-technology. He uses a PC at work and a laptop at home. He tries to have the latest smart phone and tablet and uses them for a variety of things. He is especially fond of his new smart watch, which he bought mainly for sport applications. He is convinced that this kind of technology helps improve everyday life.

4.2 Scenarios Definition

A scenario is a description of an activity or situation that takes place while someone is using a product or service. Scenarios are useful because they force to think about how actual people will really use the SOCIALCARE platform. It is more important to focus on what the user-experience will look like, rather than trying to pin down technical details of how the product will work. Within the scenarios it is supposed that the SOCIALCARE platform already exists.

Each scenario includes the following elements:

- Prerequisites (what has happened prior to this particular scenario?)
- One or more Personas (who is involved as an actor?)
- Activities (what is happening?)
- Results (what is the final state of the scenario?)

In order to cover the two major SOCIALCARE use cases and its primary users two scenarios were created:

1. An active senior & SOCIALCARE
2. An elderly with impairments & SOCIALCARE

With the help of the two scenarios, typical daily routines of Personas as well as benefits and main application ideas of the SOCIALCARE platform were illustrated. They cover all the important portlets (functionalities) of the platform and their usage within a story. As a result, they assisted in getting a lively impression of the project idea, which was essential for both researchers and end-users.

4.2.1 Scenario 1

Scenario: An active senior & SOCIALCARE

Involved Personas: Jan, Markus, Laura, Maria

Jan wakes up. It is around 7:00 on a promising autumn day in October. As usual his wife Johanna is already up and out of bed and he hears her stirring in the kitchen. „Hi dear“, she says, „Coffee is ready! And take a look at the tablet! Lena has sent me some pictures, she wants our opinion on which Halloween costume she should wear this year!“ Jan takes the tablet and opens the SOCIALCARE app. There it is: Lena has sent three photos with different costumes and asks via chat, which suits her best. „I would go for the Zombie. Looks really scary on an 11-year-old!“ Jan chuckles. „My choice too“, Johanna replies, „Tell her!“ Jan quickly writes a reply and then turns to his SOCIALCARE homepage.

He checks his emails and looks at the news: the local senior service center announces that there will be a follow up to the basic tablet training course. Jan smiles. He does the basic course at the moment, which will end soon and he was hoping that there was another one. The SOCIALCARE platform offers an excellent training module on how to use it and on ICT in general, which he consults frequently, but following the course is really enjoyable and he is quite fond of Laura, the young volunteer who conducts the course.

Jan then opens his calendar. There is an entry at 9:00 this morning. He is going to help Pete, a new acquaintance and SOCIALCARE member, who lives two blocks away, with building a sauna in his basement. Pete was responding to a voluntary work offer, Jan has posted on the SOCIALCARE platform two months ago. It was easy to fill out the form and he was surprised, how quick he got a request. Of course he does not want to do a full plumbers job, but sometimes a problem is easily fixed or people just need a first assessment. And building a sauna sounded interesting enough. Pete seems to be a jolly good fellow, who already promised, he will invite Jan to the sauna opening.

There is another entry in the afternoon. Johanna wants to bring in the apples and nuts from her garden and needs some helping hands. Jan put up a request in the SOCIALCARE platform one week ago and soon they had enough replies of members who willingly offered their help in exchange for a decent coffee break. Of course he is also going to help which reminds him, that he is not able to attend the tablet course in the afternoon. What a pity! Jan enters the group section and writes a short email to all members that he unfortunately cannot join them today.

At the same time Laura is sitting in the small cafeteria at her University and planning the next session of her tablet course at the senior service center. Apart from the basics she concentrated on the SOCIALCARE app, which in her opinion is a perfect tool for seniors who just started using a tablet. She is very happy with the course and how fast her ten participants were able to use e.g. email and video calling. A very useful function turned out to be the possibility to create groups: All participants and herself are members of the „Tablet Group“ which she created right at the beginning. She encouraged them to use the group to ask questions and share their experiences so they all could learn from another. „Ah, there is an email from Jan to everybody, he cannot come today. Well, there is nothing that can be done about it.“ But Jan is far ahead and she will add today’s content to the media section, so he can look up, what will be covered today.

Photo sharing

Chat

Email

News

Training module

Calendar

Offer voluntary work

Make new contacts

Request voluntary work

Group conversation

Create a group

Group media

Scenario: An active senior & SOCIALCARE

Involved Personas: Jan, Markus, Laura, Maria

And there is another email from Maria. Maria is also a member of the tablet group. Compared to Jan it is a lot harder for her to follow the course. So she gladly accepted the offer that Laura comes to her place once a week to help her with the tablet. In fact, they mostly just drink tea and talk or go for a walk. Laura is aware, that Maria feels lonely and is happy for having her and spending some time together. That is an additional voluntary service, Laura is offering via the SOCIALCARE platform: visiting. Especially for not so active, isolated elderly. At the moment Maria is the only person she is visiting on a regular basis, as University started again and there is a lot to do. But she intends to have more clients, when there is time again. Studying the market place, she recognizes that there is a big demand for visiting, as she finds many requests.

Laura is very satisfied with how things evolve around her voluntary work at the senior service center. She feels that she is learning a lot. Of course there were some uncertainties at the beginning. Especially visiting Maria posed some serious practical and ethical questions. Talking with other voluntary workers and studying the documents and guidelines in the training section of the SOCIALCARE platform turned out to be very helpful, as she feels quite competent and confident now.

It is lunch time as Jan returns home. It was fun working with Pete and their project is progressing rapidly. Jan finds Johanna in a video conversation with Markus. "Say hello to your son!" she greets him. Jan waves his hand into the camera and continues his way to the fridge. Was Markus really growing a moustache, he wonders. "These are the benefits of technology!" he cannot suppress a smile. He is glad though as he is convinced that having video conversations really helps Johanna feeling closer to their son and his family. They are having at least one video session per day now.

Markus finishes the call. He is glad to see, his parents are well and busy. Some of his friends and colleagues mock him, because he is calling them almost daily. But he does not care. It gives him a feeling of closeness and intimacy. If it was not for the job, he would seek to live in a big house altogether. Like they used to in former days, when there was no need for retirement homes. He is happy that they make good use of the tablet and he thinks that this SOCIALCARE network is really a great invention. It surely helps his parents to be active members of their community and build a stable network which will allow them to live independently in their house for many years to come.

Later in the afternoon the work in the garden has finally been done. It was great to have additional hands for the job and Johanna has prepared a nice supper for all. Some of the helpers are well known friends. Some faces Jan and Johanna knew just by sight, as they are living in the neighborhood, but they have not made closer contact until now.

After the last guest has left, Jan checks the tablet for emails again. There is a new one from Philip, a close friend. Jan, he and three more friends meet at least once a month and they have created a group for planning events and activities. Philip has found an announcement saying that there will be a must-see presentation soon at the local community center: a young fellow has surrounded the world on foot and shares his story. "Perfect!" Jan thinks and a few clicks later the event is registered in his calendar.

Right on time as he hears Johanna calling from the kitchen: Seems like it is his turn to do the dishes today.

Market place

Documentation and training

Video call

Strengthening neighborhood

Events

Calendar

4.2.2 Scenario 2

Scenario: An elderly with impairments & SOCIALCARE

Involved Personas: Maria, Eva, Verena, Laura

It is 7:30 as Maria is wakened by her favorite song 'Stormy Weather' from Lena Horne. She very much prefers this gentle music to the awful ring tone her alarm clock used to make. "What would Johannes have said, seeing me use a tablet as alarm clock?" As always her first thoughts of the day go to her husband who has died eight months ago.

Using her tablet as alarm clock is part of the tablet training Maria is doing at the moment. Laura, the young volunteer who conducts the course showed her, how to do it and yes, it is not so hard after all.

Having the tablet already in hand, Maria puts her glasses on and opens the SOCIALCARE app to take a look at her calendar. There are two entries: Verena, her mobile caregiver, is coming at 9:00 and she is staying for three hours today. "That's special! What is she up to?" Maria wonders, as she remembers Verena talking about an idea she wanted to present to her. Laura, the volunteer will come at 15:00. "Up with me, it is time to get me pretty and have my coffee!" Maria leaves her bed and goes to the bathroom. She follows her daily routine which includes stepping on the scales and waiting for the 'Peep', which means, the data has been successfully sent to the SOCIALCARE app.

In the meantime Eva is on her way to work by car, as she gets a notification on her smartwatch: 'Bathroom door'. Eva nods, her mother is up and everything seems fine. At first she thought it is strange and unethical to have a sensor on the bathroom door and an app that registers all movements of the door. But now she sees the beauty and simplicity of this solution. She feels better, if she knows that her mother is up and the day starts normally. Of course she explained everything to her mom and how it would help them both, but she would bet that Maria had already forgotten about the sensor by now.

Fifteen minutes later Maria is sitting at her kitchen table and having her coffee, as her smartwatch begins to vibrate and bleep: "Ah, the medication reminder!" She takes her pills against joint pain and taps on the small display to indicate, she has done so. Her gaze wanders over the table and gets caught by the blood pressure monitor. "One more thing to do, so my daughter is satisfied!" she sighs. But the monitor is easy to handle and again the data is sent to the SOCIALCARE app. Eva will look at the data from her own tablet and react, if something is wrong. So Maria does not think twice about it.

Verena stops the engine in front of Maria's house. She is a bit early and uses the time to check on her schedule again. She uses the SOCIALCARE app, as she has several clients who also use this app and she likes the simplicity of it. It is easy to handle several clients and coordinate the appointments with the calendar. Additionally she can easily contact her clients by email or video calls. And she can monitor important health data, her clients want to share.

Today Verena stays an extra hour at Maria's place as she wants to talk to her about taking part in a group intervention for seniors with experiences of grief and loneliness. Verena found a notification of this intervention, which takes place at the local senior center, in the services section of the SOCIALCARE platform. She thinks this could help Maria as she still misses her husband a lot and it really is time that Maria gets out of the house more often and meets new people.

Calendar

Health monitoring

Lifestyle monitoring

Medication reminder

Health monitoring

Calendar
Manage several clients

Events/Services

Scenario: An elderly with impairments & SOCIALCARE

Involved Personas: Maria, Eva, Verena, Laura

She already has another client in a similar situation: Marc, who has lost his wife four months ago. He is going to do the intervention program and Verena wants both of them to make contact which can easily be done via the SOCIALCARE app. Verena is confident, that Maria is willing to do a video call and have a chat with Marc who is already waiting for the call.

It is lunch time. Verena has just left and it was a fine morning indeed. Maria was reluctant at first as she heard about the intervention program. But having the video chat with Marc changed her opinion. It is good to talk to someone who can understand your loss and the feeling of emptiness.

After the video chat they both took a look at the collected health data in the SOCIALCARE app. All parameters were fine except weight. It was clearly visible that Maria has lost weight during the last weeks. Verena understands that Maria has lost interest in cooking as there is nobody she can dine with. So they discussed the possibility to try meals on wheels. They compared several meal providers in the service section of the SOCIALCARE app. But Verena made it clear how important it is to have fresh homemade food and that it is perfect for training the brain and staying active. She even came up with the idea of inviting somebody on a regular basis. Maybe there is some neighbour, some working mother with a kid or someone in a similar situation who would be glad to have lunch with her. She could put an offer in the marketplace of the SOCIALCARE platform. Maria promised to think about it. Afterwards they checked on the provisions and made a list of things to buy. Verena helped her planning a few simple meals and they went to the next supermarket down the street.

Maria enjoys the vegetable soup she has prepared with Verena. It was delicious. As usual Maria is having a little nap after lunch. "I just have to wait for the medication reminder first! I do not want it to disturb my sleep!" she smiles because she has not forgotten this time!

At 15:00 Maria feels rested and is having coffee with Laura. Still there are some functions of the tablet she does not fully understand and Laura patiently guides her through the necessary steps. The repetition of course material is very helpful for Maria and Laura once again encourages her to post her questions in the group conversation, so the others can also benefit from them. But soon they stop. It is a fine day outside and both agree on taking a walk.

Later in the afternoon, it is 18:00 and Laura has already left, Maria is watching TV and having a sandwich as a video call is coming in on the tablet. It is her daughter Eva who wants to check on her and ask how the day has been. Since both of them use the SOCIALCARE app, Eva does not come every day as she used to. It is simply not necessary and Maria is glad, that Eva has more time for herself and her family again. She is quite aware how wearing it was for her daughter.

Eva finishes the call. Her mother looked good and quite content. She is happy that her mom is going to take part in the group intervention. She also has noticed the loss of weight and she is glad that Verena has addressed the issue and come up with some fine ideas. She will definitely write her an email and thank her for it. Having the SOCIALCARE app definitely helps her to feel more secure and worry less about her mother. Knowing that she will get a notification, when her mom goes to bed, she turns to her son who wants her to check his Maths homework.

Video chat

Bringing people together

Health monitoring

Service providers

Offer voluntary work

Medication reminder

Group email

Video call

Lifestyle monitoring

4.3 Semi-structured Interviews

Together with the Personas and the scenarios a “good picture” of the SOCIALCARE solution and its users was created. In order to get a “full picture” semi-structured interviews with end users were conducted. An interview-guideline for each Persona group was developed including the following topics:

- Demographic questions
- Persona specific questions (relationships, problems, challenges, contacts, care issues)
- Questions on ICT-usage and knowledge
- Presentation of scenarios and Personas
- Opinions on existing technological devices and solutions
- Expectations and requirements for the SOCIALCARE platform
- Ethical issues
- Rating of SOCIALCARE platform functionalities

Based on these interview-guidelines 18 interviews were conducted in Linz, the capital of Upper Austria and its surrounding municipalities. LIFEtool was responsible to perform the interviews in close collaboration with its subcontractor Diakoniewerk Gallneukirchen which runs professional mobile care, voluntary work, as well as assisted living services.

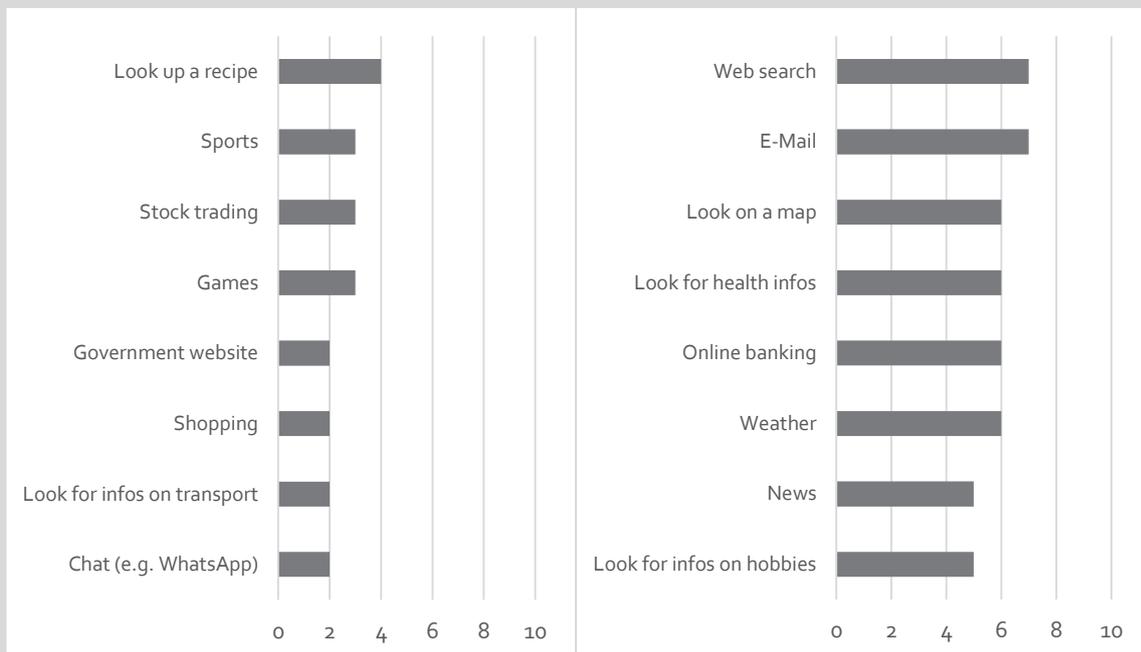
19 interviews were executed in Son en Breugel and 20 in Putte. Both are villages in the province of Noord-Brabant in the south of the Netherlands. The interviews in Son en Breugel were executed by NFE in close cooperation with foundation Thuis Verbonden, a citizen initiative to facilitate and stimulate community building, regional care-organizations Archipel and Zuid Zorg, volunteer organization LEV groep and the local umbrella organization of seniors the Senioren Raad. In the village of Putte the interviews were executed by representatives of the foundation Zorg Coöperatie Putte, a citizen initiative to organize and provide care for all citizens in Putte in need of care. Putte was welcomed as an additional pilot site by the consortium as the foundation is very interested in setting up the SOCIALCARE platform for their members.

A focus group session was conducted by Johanniter International in Brussels, covering ten representatives from various organizations in the field of health and wellbeing.

4.3.1 General and Persona specific Questions - Active Seniors

Gender?	6 Females	4 Males
Year of birth?	1931 - 1948	Ø 1940 (76 y/o)
Nationality?	3 Austria	7 Dutch
Living Situation?	4 Living alone	6 Living with partner
Technological Experience?	3 Very High	2 High
	4 Medium	1 Very low
Attitude towards ICT?	8 Positive	2 Neutral
Devices in use?	9 Computers	5 Tablets
	3 Smartphones	

Online activities performed in the last 30 days?



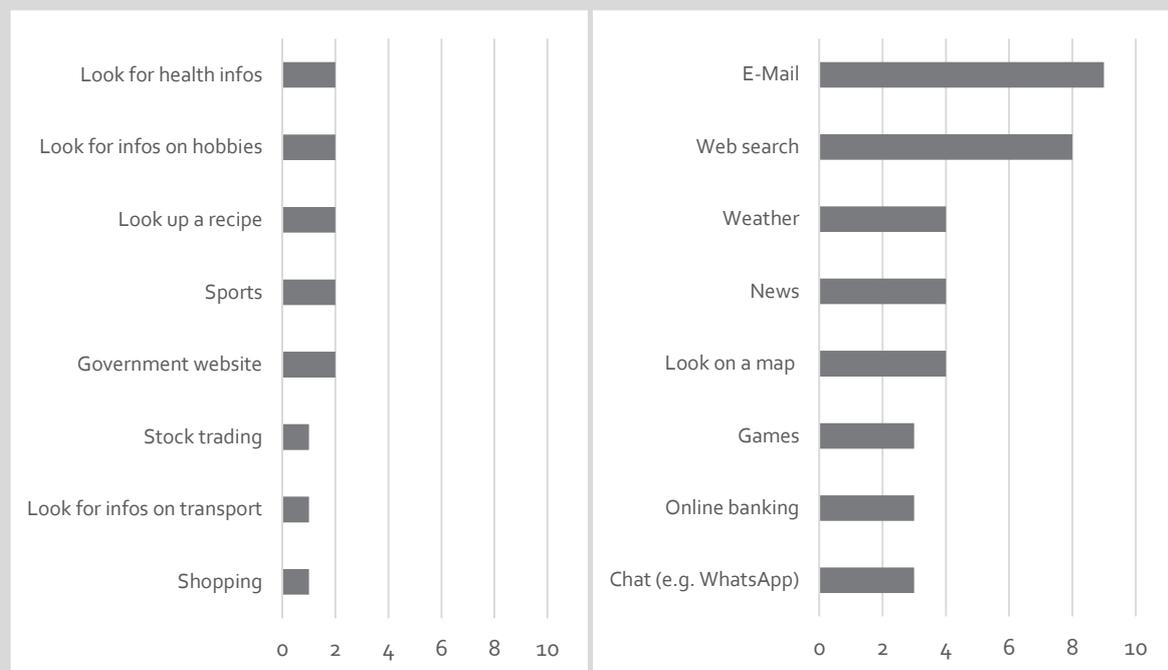
In order to cover the Persona group of active seniors ten participants joined the semi-structured interview. Nine out of ten indicated that they are using information and communication devices on a daily basis. What turned out to be an interesting result is the fact that five participants are using a senior mobile phone, two a normal mobile phone, three an Android smartphone while nine are using computers and five tablets. As a result, we might assume that computers and tablets are more popular among the target group than smartphones. When it comes to favored apps Facebook was mentioned three times while video calling apps got referenced twice.

Most of the active seniors describe their relationship to their family as lively and good. The two usual ways for contact are visits and telephone calls. E-Mail, SMS, WhatsApp and Skype are used rarely or not at all. They have regular contact (from daily to monthly) with their close relatives (children, grandchildren, brothers and sisters). But not all of them have the possibility to meet their family face to face regularly. This mostly results from long distances between their places of living and sometimes from a lack of time of the family members. Nevertheless, most of them get help from their relatives, at least if they need it. Nearly all of them have daily or weekly contacts with their neighbors. Additionally, many are members of some organizations like senior advisory boards. Most of them are pleased with the current situation but some also want to improve the number/frequency of contacts or the communication channel. It is a concern to stay in contact with other people. Nearly all of them face problems and challenges in the future. Mainly they worry about physical and mental problems that will probably increase in the coming years (e.g. immobility, dementia, etc.) They want to stay active. Therefore, many of them are sporty and want to maintain it in the future. They do things like cycling, walking, swimming and hiking. Some of them are committed to help others or are even working.

4.3.2 General and Persona specific Questions - Seniors with mild impairments

Gender?	4 Females	5 Males
Year of birth?	1926 - 1950	Ø 1940 (76 y/o)
Nationality?	3 Austria	4 Dutch
	2 Belgian	
Living Situation?	3 Living alone	4 Living with partner
	2 Living with partner and children	
Technological Experience?	2 Very High	2 High
	3 Medium	1 Low
	1 Very Low	
Attitude towards ICT?	9 Positive	
Devices in use?	5 Computers	6 Tablets
	3 Smartphones	

Online activities performed in the last 30 days?

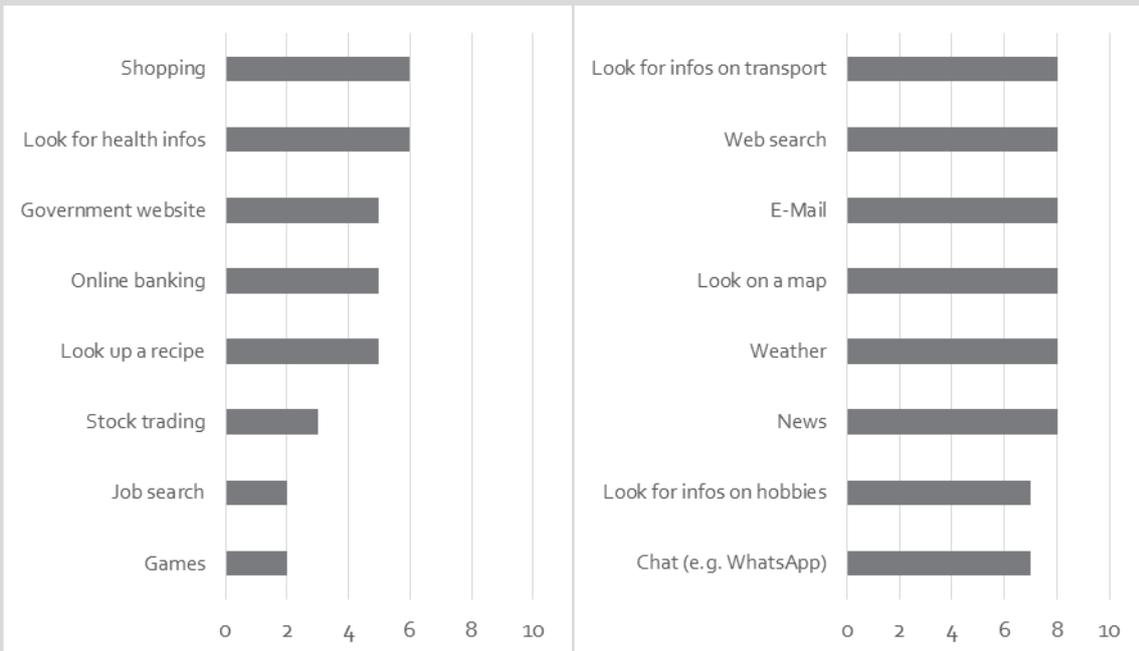


Nine seniors with mild impairments participated in the interviews. The majority of them have a quite good and lively relationship with their families. If possible they are visited regularly on a daily or weekly basis. Besides visiting and phoning also technologies like smartphones and tablets play a role. A few of them use E-Mail, WhatsApp and Skype specially to contact family members who live far away. Two of the interviewees described the relationship to their families as complicated and difficult. The frequency of contact with neighbors highly differs between all of them. All who said that they have no contact at all live in a region with younger people. The others have occasional to very frequent contact. Two participants (one with and one without contact to neighbors) want to improve their contacts. Additionally, some of them stay in touch with friends, caregivers, Facebook contacts, etc. In general, the relationship to caregivers and volunteers is described as good or even as very good. It seems that all of them have had good experiences. The social involvement is different in every case. Approximately half of the interviewed people feel involved. The ones who do not feel involved would like to extend their contacts. This is not always easy because of their health condition. Especially these people announce the demand for possibilities to easily extend and maintain their contacts from home. Many of the surveyed persons fear losing their current contacts and feel alone because of decreasing mobility. Another fear is to lose independence. Thus, most of the participants are of the opinion that it is important to actively participate in life and not to hide at home. This includes activities like shopping, attending events and concerts, going for a walk, making appointments, etc. Also social contacts are considered by many to be helpful. However, there is also another opinion. One individual does not think that social activity is important.

4.3.3 General and Persona specific Questions - Volunteers

Gender?	8 Females	1 Male
Year of birth?	1938 - 1978	Ø 1957 (59 y/o)
Nationality?	3 Austria	6 Dutch
Living Situation?	4 Living alone	4 Living with partner
	1 Living with partner and children	
Technological Experience?	5 Very High	4 High
Attitude towards ICT?	8 Positive	1 Neutral
Devices in use?	9 Computers	3 Tablets
	7 Smartphones	

Online activities performed in the last 30 days?



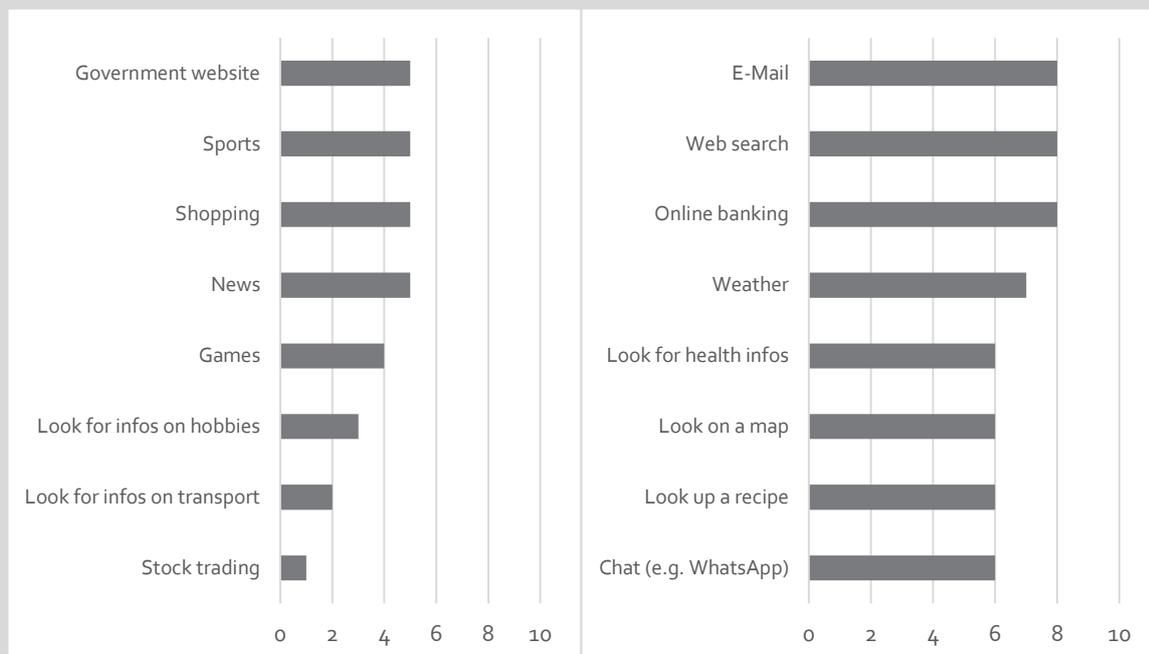
Nine volunteers were interviewed. All of them indicated that they make use of information and communication devices on a daily basis. Seven participants use a smartphone. Their favored apps are WhatsApp and Facebook as they both got mentioned three times.

The majority of these volunteers have a similar motivation. They want to do something useful for other people. Individuals also indicated that they want to get in contact with people, that they have time left or that they look for something new. The most frequent answers for what the volunteers are looking for were that they want to find new contacts, bring people together and be meaningful. Some of them think that voluntary work is a good way to spend time. Also courses for voluntary workers are mentioned. The relationship between volunteers and elderly seems to be quite good. They call or visit their clients to help, spend time, listen to them, go for a walk or go shopping for them. On the other hand, only a small part of the interviewees have contact to other volunteers. The amount of experience varies from volunteer to volunteer. It ranges from no experience to 15 years. Generally voluntary work can be easily integrated into daily life. Most of the volunteers spend just a few hours, 1 or 2 times per week with their clients.

4.3.4 General and Persona specific Questions - Informal Caregivers

Gender?	8 Females	1 Male
Year of birth?	1943 - 1961	Ø 1950 (66 y/o)
Nationality?	3 Austria	6 Dutch
Living Situation?	1 Living alone	6 Living with partner
	1 Living with person in need of care	1 Living with partner and children
Technological Experience?	6 Very High	2 High
	1 Low	
Attitude towards ICT?	8 Positive	2 Neutral
Devices in use?	7 Computers	7 Tablets
	7 Smartphones	

Online activities performed in the last 30 days?



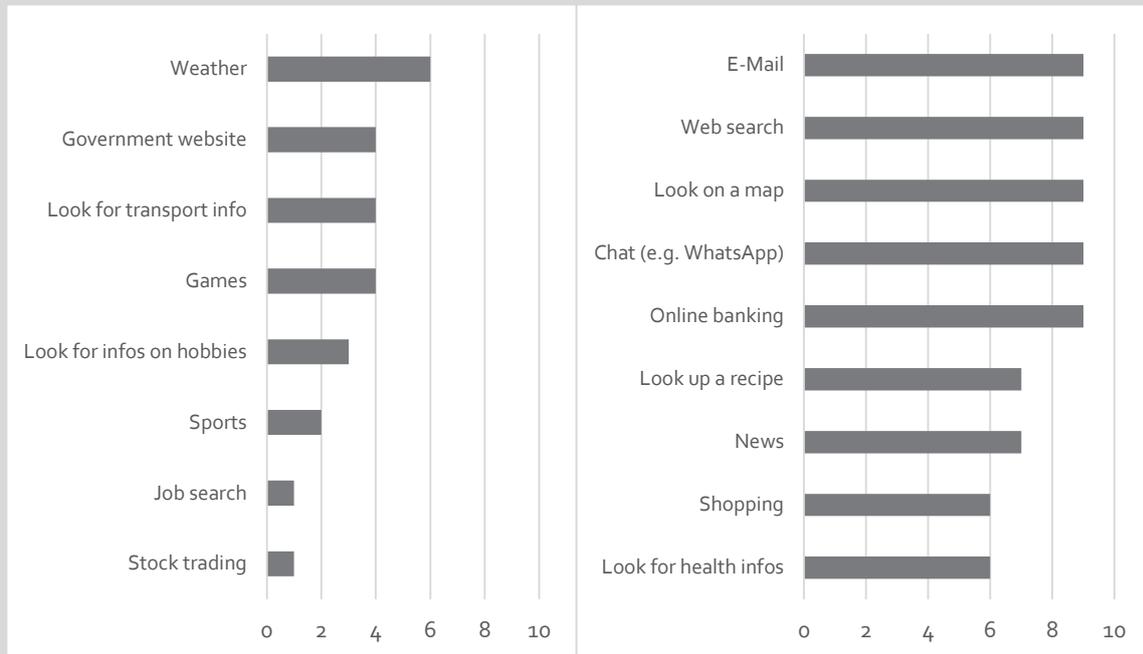
Nine informal caregivers were interviewed. Eight of them stated that they are using information and communication devices on a daily basis. What looks interesting here is that we can see a significant increase of performed online activities as well as devices compared to the Persona group of active seniors as the average age difference is about ten years. As far as favored apps are concerned WhatsApp was mentioned three times while Facebook got noted twice.

The duration of informal care given depends on factors like the relation to the care recipient or the reason why care is needed. Most of them give care since two to ten years, individual cases since 20 or even 41 years. The majority of the caregivers asked are not the main caregivers. They spend just some hours a day or per week giving care. There are many different problems and challenges which bothers the informal caregivers. About half of the participants mentioned a high emotional pressure or emotional problems. Their clients often have problems with the medication management, managing appointments, shopping, doing the groceries, etc. Informal caregivers feel responsible for their clients, although the contact to their clients is often difficult. The incorporation of care into daily life is not easy for everyone. For about 1/3 the care is totally integrated in everyday life. For the others it seems to be a little bit more problematic. One reason for that is the fluctuating demand of their clients.

4.3.5 General and Persona specific Questions - Mobile Caregivers

Gender?	9 Females	1 Male
Year of birth?	1953 - 1989	Ø 1972 (44 y/o)
Nationality?	3 Austria	7 Dutch
Living Situation?	2 Living with children	5 Living with partner and children
	3 Living with partner no children	
Technological Experience?	8 Very High	2 High
Attitude towards ICT?	9 Positive	1 Neutral
Devices in use?	9 Computers	6 Tablets
	10 Smartphones	

Online activities performed in the last 30 days?



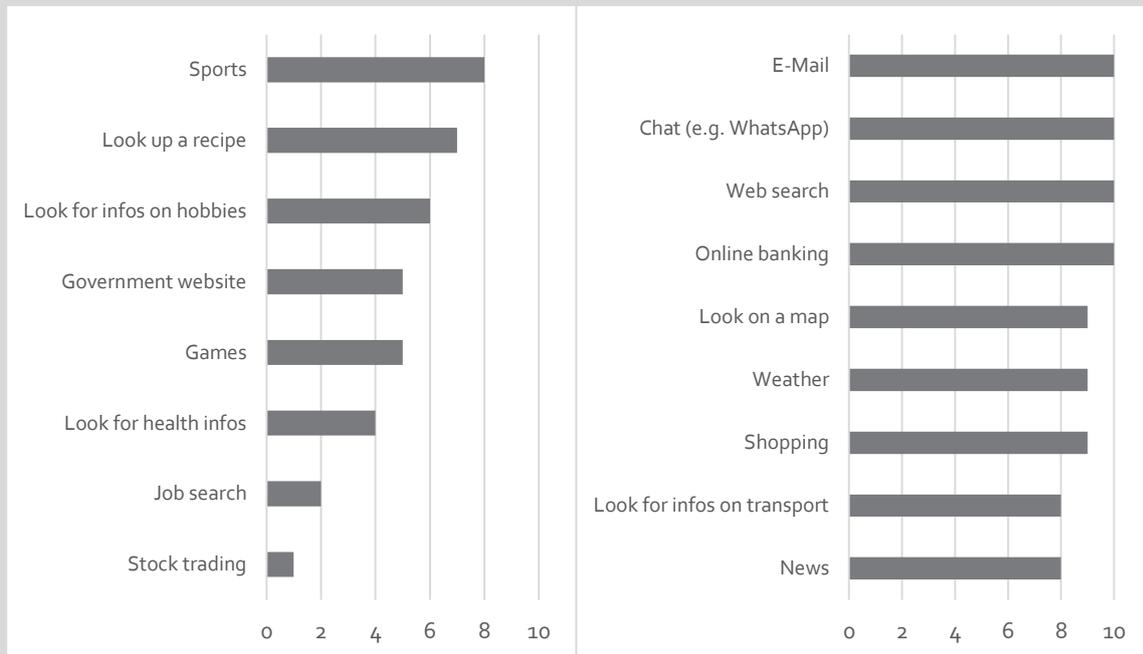
Ten mobile caregivers joined the interview for gathering user requirements for the SOCIALCARE project. All of them are using a smartphone. As a result, they all make use of information and communication devices on a daily basis. When we look at favored apps Facebook, YouTube and WhatsApp are the ones which the participants like the most. Again the bigger part of the caregiver group are females.

On average the mobile caregivers work for approximately ten years in care. The most experienced caregiver works for more than 35 years in this field, the newest one for at least ten months. Some of them also have worked in related fields before. All of the interviewed mobile caregivers use electronic devices at work. The areas of application and software solutions differ. The interviewed Austrians all have the Vivendi software. The Dutch have individual solutions. At least the phone, tablet or computer is used by everyone. Often used are E-Mail and WhatsApp. As example they also have different solutions for documentation, planning vacations, reporting or order medications. The most frequently cited problems and challenges at work are that time pressure and documentation work have increased during the last years. Some other points that have been mentioned sporadically are: budget cuts, a difficult cooperation with family members or other professionals, depression and problems in the social environment of clients. The mobile caregivers face the problem that money for care of clients decreased in the last years. This results in more work in less time. The participants agree that technological solutions might save money for care (e.g. video consults instead of visits). Other mentioned solutions are emergency wristbands, automatic sending of blood pressure curve, sensors, fall prevention, etc. Nevertheless, there is also the presumption that technology will not prevail in this generation, because many elderlies are frightened of new technology.

4.3.6 General and Persona specific Questions - Relatives

Gender?	8 Females	2 Males
Year of birth?	1947 - 1989	Ø 1961 (55 y/o)
Nationality?	3 Austria	7 Dutch
Living Situation?	2 Living alone	1 Living with children
	6 Living with partner no children	1 Living with partner and children
Technological Experience?	10 Very High	
Attitude towards ICT?	10 Positive	
Devices in use?	10 Computers	8 Tablets
	10 Smartphones	

Online activities performed in the last 30 days?



Ten relatives were interviewed and every participant stated that they are using information and communication devices on daily basis. Again Facebook and WhatsApp are the apps which they like the most.

Most of the relatives have contact with their elderly family members daily or at least weekly. It depends on the distance between them but also on the quality of the relationship. The frequently used channels of communications are face to face, phone call and E-Mail. Software like Skype and WhatsApp is not as common. The relationship to the elderly varies from case to case. In some cases, it seems to depend on the state of health from the elder person. All in all, a majority of the surveyed specified a rather good relationship. Also the problems and challenges are very different. Mainly there are thoughts about the right care, prevention of injuries and what will happen in the future when the condition gets worse.

4.3.7 Presentation & Discussion of Scenarios

While presenting the Personas and scenarios the interview participants were invited to ask questions and express their first impressions.

It may be worth to look at these remarks and ideas despite the more specific questions and answers of the SOCIALCARE platform questions.

1. Active seniors

Out of ten participants five seem rather positive about the SOCIALCARE platform while the other half seems rather skeptical.

Those in favor of the app think that there are some good ideas and solutions, video chat and health monitoring were explicitly noted.

For some the app is simply too technical and they think that older people will not use it, mostly because they are afraid of computers and lack knowledge and it will take much effort to convince them to try it out. One repetitive argument is that they prefer to get in contact the "normal" way, meet people face to face or use the phone.

2. Seniors with mild impairments

The reaction to the scenarios in this group was similar to those of the active seniors. Five out of nine seem to be rather in favor of the platform, two seem rather skeptical about the usefulness of it, while another just cannot decide. Again some of the features like emergency call, video chat, health and lifestyle monitoring were explicitly appreciated by some, while others think it is too technical and even unethical. For some the scenario was way too complex and they cannot figure themselves in it.

Anyway, if the goal is clear, there seems to be motivation to try it out. To quote one participant: "If it helps to stay at home longer, I will use it."

3. Volunteers

"To be able to help is very important for a fulfilling life." Seven of nine people asked, already involved in voluntary work, rather see benefits in the projected SOCIALCARE platform. Some also appreciate the possibilities for planning and scheduling group functions. It was also stressed that the solution has to be simple and that most probably the generation of older people to come will be eager to use it.

4. Informal caregivers

The acceptance of the projected solution was also high among informal caregivers. Seven out of nine can imagine using the SOCIALCARE platform as presented in the scenarios. But there is also some fear that real physical contact could become less. Health monitoring was rejected by one participant and again it was remarked that maybe the upcoming generation of older people will fully accept and benefit from the solution.

5. Mobile caregivers

The group of professionals was rather in favor of the presented ideas. Some of the mobile caregivers already use software for time and performance records and can imagine more software based functions e.g. for sharing information among professionals. Some appreciated monitoring functions and tele-care but also ethical concerns were uttered regarding lifestyle monitoring. It was stressed that face to face contact must not be replaced and there is also doubt that people in high age will use this kind of technology.

6. Relatives

The relatives asked turned out to be the group obviously with the highest approval of the SOCIALCARE platform. Nine out of ten seem rather positive about it. They can imagine that it can help preventing isolation, foster self-esteem and help relieving family members. Although some doubt that it is a solution for everybody, especially people already in their high age, some are optimistic that it will be accepted by the younger generation of seniors.

4.3.8 Platform questions

a) Is there an existing exchange of information between you, other service providers and relatives? Do you think this is necessary?

This question aims to find out how well all involved people around a senior are connected and already able to exchange information.

1. Active seniors

The need for connection between relatives and third party like service providers and professionals may be of less importance for this group. Exchange of information takes place primarily over the active senior himself, which - from the answers - mostly is done face to face and via phone. Also E-Mail and video call are used widely by the participants interviewed.

2. Seniors with mild impairments

The situation is similar to that of the active seniors. Many of them already are in contact with care centers and professionals, again mostly by phone, E-Mail or face to face, but also by video call and chat. There is hardly any exchange between e.g. relatives and professionals, which some of the interviewed would wish for.

3. Volunteers

All of the volunteers asked provide their work within an institution. So there is at least an exchange of information between the client and the organization. Some also said that they are in contact with family members and professional caregivers, mostly face to face, by phone or E-Mail.

4. Informal caregivers

All of the informal caregivers asked are already in good contact with doctors, professionals, mobile caregivers, in direct contact or by phone, E-Mail or written reports. They all agree that exchange of information is important and becomes even more crucial, when health conditions of the person they care for deteriorate.

5. Mobile caregivers

As expected formal caregivers already have to exchange information between different stakeholders around their clients, e.g. doctors, relatives, nurses, mobile hairdressers... Some see it as part of their job description to establish this exchange of information, make appointments, arrange contacts... It is mostly done face to face, by phone, chat or E-Mail. Some already use an online platform which provides data that can also be used by relatives.

6. Relatives

The relatives interviewed all seem well connected, at least within their family, sharing information with sisters, brothers... They use phone, E-Mail, chat and video chat, even Facebook and one mentioned a special family app. Where needed, there is also contact to doctors and professionals. The need for being able to share information fast and reliable is clear to this group.

b) Could the SOCIALCARE platform be useful to establish this exchange of information?**1. Active seniors**

Generally, yes, all but one see possible benefits in using a platform like this, like contacting the doctor or get in touch with service providers. Two participants wonder, if they are able to learn how to use it.

2. Seniors with mild impairments

Again most interviewed think that the SOCIALCARE platform may be useful, even if some of them see no benefits for themselves or fear that they will not be able to use it. One participant hopes that the platform will help him/her feel less lonely while another is sure that a solution like that will not be able to solve the problem of isolation.

3. Volunteers

All interviewed are confident, that the projected platform could help to establish a good connection between all stakeholders, even if some see no immediate need for themselves. One participant sees a big advantage in the fact that providing help and voluntary work would be possible without an institution as facilitator. Others expect that it will be easier and faster to exchange information and to connect. One is skeptical if the actual older generation is ready to use a technical solution like this but is optimistic for the generation to come.

4. Informal caregivers

Two participants are skeptical that a technical solution like this is suitable to establish a better communication at least not for the older generation of today, one simply does not know. The majority is positive and thinks it is a useful solution.

5. Mobile caregivers

One participant already uses a "similar" platform based solution and sees no benefit for himself. Another one plainly says no, it simply is no solution in her opinion. The majority sees benefits like faster and better communication, more safety, independence and self-dependency for their clients.

6. Relatives

All interviewed are confident that the SOCIALCARE platform has the potential to establish a better communication between all involved parties, e.g. using the group function for better and faster exchange of information. Also health monitoring was mentioned and the possibility to get in contact with professionals via the platform.

c) Can you envision benefits or improvements for your daily life?

1. Active seniors

All can envision benefits. One even gets excited by the idea of using it, while another does not want to get to dependent on technical solutions.

2. Senior with mild impairments

All but one says "yes". Two think maybe in the future, when he/she is not so busy or frailer. A third says he has to learn how to handle it first. Getting in contact with relatives and being informed about events were the benefits mentioned here as well as health monitoring and emergency call.

3. Volunteers

Four participants think that the SOCIALCARE platform is not helpful for their voluntary work right now, considering the clients they have.

4. Informal caregiver

One "no" - the rest "yes". Appreciated functionalities given here were video calling, market place, vital data and medication reminder, resulting in more safety and reassurance.

5. Mobile caregivers

All participants see the usefulness of the SOCIALCARE platform for a variety of reasons. Even if some would not use the app themselves they still think they would benefit because of the better living situation of their clients.

6. Relatives

All "yes" but one "no" and one "I don't know". The SOCIALCARE platform can help to ease and speed up communication and to feel more secure and worry less.

d) Do you think that you/your client would accept a technical solution like the SOCIALCARE platform?

	Rather yes	Rather no
Active seniors	10	-
Seniors with mild impairments	9	-
Relatives	8	2
Informal caregivers	4	5
Mobile caregivers	2	8
Volunteers	6	3

Despite their initial reservation and skepticism both groups of seniors say that they would accept a technical solution like the SOCIALCARE platform! It was stated several times that the system must be simple enough and that a good introduction to the system is required.

It is no surprise that the number of “rather no” is relatively high with the informal and formal caregivers, as many of them have clients in their high age and severe impairments, e.g. dementia.

e) Do you have any ethical concerns regarding the SOCIALCARE community platform?

	Rather yes	Rather no
Active seniors	3	7
Senior with mild impairments	3	6
Relatives	3	7
Informal caregivers	2	7
Mobile caregivers	6	4
Volunteers	3	6

In all groups, except that of mobile caregivers, the majority has no (special) ethical concerns about the platform. But all asked are aware that there is sensitive data involved which must not be abused. Privacy is an issue for almost everybody and it is important to have trust in the platform. Lifestyle monitoring was only mentioned once. It should only be done, when absolutely necessary. The marketplace is also potentially dangerous as you possibly invite people with bad intentions into your life. One participant generally fears that one becomes too dependent on technical devices.

e) Do you think that there should be a verification process for volunteers, professional caregivers or service providers?

	Rather yes	Rather no
Active seniors	7	3
Senior with mild impairments	8	1
Relatives	10	-
Informal caregivers	9	-
Mobile caregivers	9	1
Volunteers	7	2

The vast majority wants to have some kind of verification process, especially for volunteers. Not everybody should be able to register. Among the suggestions are obligatory basic registration data, the bringing of some kind of disclosure (official document, certificate of good character....), even interviews or procedures similar to a job application. Some wonder if a thorough verification process is reasonably manageable and are satisfied with instruments of control: Somebody has to be in charge and there must be some kind of responsible organization behind the platform.

“Only trustworthy and good service providers should be allowed to be on the platform.”

4.3.9 Outcomes of focus group session in Brussels

The participants of the 1st focus group session held in Brussels were very diverse: There was a representative from the Brussels Wellbeing and Health Council. They represent various organizations within the Brussels Capital Region that promote health and wellbeing. Another representative was the Brussels Capital Region knowledge center, who bring together various organizations and share information on health and care. They are also very active in various focus groups around health and innovation. Their feedback is valuable in terms of what is already being done in Brussels, how can things be done differently and where do most innovative projects fail. These two organizations emphasized the importance of user involvement in the entire process in order to promote acceptance of the end product. They mentioned that a lot of in theory great ideas failed because of the lack of acceptance amongst users. One more organization represented the rights and wellbeing of informal caregivers. This group is usually neglected because they are “invisible”. They pointed out the importance of addressing this group. Most relatives do not realize, that they are in fact informal caregivers because they see what is expected of them as a normality. The fourth member of the session was the AGE platform Europe which represented seniors from around Europe. They sent a representative who is very active in different senior councils and boards. He is also an advisor in Belgium for all matters that concern elderly citizens. The last group was Énéo, an organization by and for senior citizens. They sent us representatives of the Brussels Chapter. This organization was represented by six members. In total ten participants joined the focus group session.

In essence the activity can be summarized by saying that the focus group generally thinks the envisioned SOCIALCARE platform could be useful, if the following points are taken into consideration:

- The SOCIALCARE platform must be truly user oriented.
- Good training material must be provided on how to use the platform.
- Support must be provided to end-users.
- A verification procedure must be provided to ensure the safety of the platform.
- The acceptance by end-users of the platform must be in focus.

5 Conceptualization

5.1 Selection List

With the help of the description of work, Personas and scenarios a list of functionalities and ideas was created. In order to focus development resources on most relevant user-driven issues, the selection list method was applied. The variety of product functions and ideas was systematically evaluated by each interviewed Persona group to choose the most required ones. The interviewed persons were asked to assign a rating to the descriptions of the different portlets/functions on a scale from 1-6 (1 = unrequested, 6 = requested). Together, the outcome of all these activities provides a clear view on real end-user requirements and demanded functionalities. It will serve as a basis for interface co-design.

5.1.1 Ratings - Active Seniors

QNr.	Portlet	Description	Mean-AS
Q8-1	Services	Basic information about services and organisations	5,9
Q6-3	Healthcare	To manage and monitor blood pressure	5,8
Q6-4	Healthcare	To manage and monitor blood sugar	5,8
Q6-8	Healthcare	To have an emergency call function	5,8
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	5,8
Q6-1	Healthcare	To manage and monitor medication intake	5,7
Q6-2	Healthcare	To have a reminder for medication intake	5,7
Q7-4	Media	To get familiar with the software platform	5,7
Q5-1	Groups	To join groups	5,6
Q2-2	Market	To find voluntary work	5,5
Q5-2	Groups	To create groups	5,4
Q0-1	User Profile	To manage user profile	5,3
Q1-1	News	To receive news	5,2
Q3-3	Contacts	To communicate with contacts via video calling	5,1
Q6-7	Healthcare	To manage and monitor pulse	5,1
Q4-1	Events	To receive information about events	5,1
Q3-2	Contacts	To communicate with contacts via e-mail	5,0
Q6-5	Healthcare	To manage and monitor body weight	5,0
Q7-2	Media	To learn about care practices	5,0
Q7-3	Media	To learn about preventive healthcare	5,0
Q7-1	Media	To learn about first aid	4,9
Q6-6	Healthcare	To manage and monitor physical activity	4,9
Q3-1	Contacts	To find new contacts	4,8
Q3-4	Contacts	To communicate with contacts via telephone calling	4,8
Q6-10	Healthcare	To evaluate vital data over time	4,7
Q8-2	Services	To get in contact with possible clients	4,6
Q2-1	Market	To provide voluntary work	4,5
Q5-3	Groups	To manage groups	4,4
Q4-4	Events	To manage events with the calendar	4,2
Q3-6	Contacts	To share photos	4,2
Q4-2	Events	To register for an upcoming event	4,1
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	4,0
Q2-3	Market	To share things with others	3,9
Q8-3	Services	To manage and coordinate multiple clients with a calendar	3,9
Q1-2	News	To provide news to others	3,7
Q2-4	Market	To manage voluntary work with the calendar	3,7
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	3,7
Q4-3	Events	To define and offer an event to others	3,6
Q3-5	Contacts	To communicate with contacts via chat	3,0
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	3,0
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	2,4

5.1.2 Ratings - Senior with mild impairments

QNr.	Portlet	Description	Mean-SMI
Q3-4	Contacts	To communicate with contacts via telephone calling	5,6
Q7-4	Media	To get familiar with the software platform	5,6
Q3-3	Contacts	To communicate with contacts via video calling	5,3
Q6-2	Healthcare	To have a reminder for medication intake	5,3
Q4-1	Events	To receive information about events	5,2
Q6-1	Healthcare	To manage and monitor medication intake	5,1
Q2-2	Market	To find voluntary work	5,0
Q3-2	Contacts	To communicate with contacts via e-mail	5,0
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	4,9
Q8-1	Services	Basic information about services and organisations	4,9
Q5-1	Groups	To join groups	4,6
Q3-1	Contacts	To find new contacts	4,6
Q6-8	Healthcare	To have an emergency call function	4,6
Q6-3	Healthcare	To manage and monitor blood pressure	4,5
Q1-1	News	To receive news	4,4
Q6-4	Healthcare	To manage and monitor blood sugar	4,4
Q7-2	Media	To learn about care practices	4,4
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	4,3
Q7-1	Media	To learn about first aid	4,3
Q0-1	User Profile	To manage user profile	4,2
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	3,8
Q3-5	Contacts	To communicate with contacts via chat	3,7
Q7-3	Media	To learn about preventive healthcare	3,6
Q3-6	Contacts	To share photos	3,6
Q6-10	Healthcare	To evaluate vital data over time	3,6
Q4-2	Events	To register for an upcoming event	3,4
Q6-5	Healthcare	To manage and monitor body weight	3,3
Q6-6	Healthcare	To manage and monitor physical activity	3,3
Q8-2	Services	To get in contact with possible clients	3,3
Q2-1	Market	To provide voluntary work	3,3
Q2-4	Market	To manage voluntary work with the calendar	3,1
Q6-7	Healthcare	To manage and monitor pulse	3,0
Q8-3	Services	To manage and coordinate multiple clients with a calendar	3,0
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	2,9
Q2-3	Market	To share things with others	2,9
Q5-2	Groups	To create groups	2,9
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	2,9
Q4-4	Events	To manage events with the calendar	2,8
Q1-2	News	To provide news to others	2,7
Q5-3	Groups	To manage groups	2,2
Q4-3	Events	To define and offer an event to others	2,1

5.1.3 Ratings - Volunteers

QNr.	Portlet	Description	Mean-V
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	5,9
Q0-1	User Profile	To manage user profile	5,8
Q6-2	Healthcare	To have a reminder for medication intake	5,7
Q6-8	Healthcare	To have an emergency call function	5,7
Q4-1	Events	To receive information about events	5,7
Q4-2	Events	To register for an upcoming event	5,6
Q8-1	Services	Basic information about services and organisations	5,5
Q2-2	Market	To find voluntary work	5,4
Q3-2	Contacts	To communicate with contacts via e-mail	5,4
Q3-1	Contacts	To find new contacts	5,4
Q7-1	Media	To learn about first aid	5,4
Q7-2	Media	To learn about care practices	5,4
Q7-4	Media	To get familiar with the software platform	5,2
Q2-1	Market	To provide voluntary work	5,1
Q2-3	Market	To share things with others	5,0
Q8-2	Services	To get in contact with possible clients	5,0
Q1-1	News	To receive news	4,9
Q4-3	Events	To define and offer an event to others	4,9
Q4-4	Events	To manage events with the calendar	4,9
Q3-6	Contacts	To share photos	4,9
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	4,9
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	4,9
Q7-3	Media	To learn about preventive healthcare	4,8
Q6-1	Healthcare	To manage and monitor medication intake	4,7
Q6-3	Healthcare	To manage and monitor blood pressure	4,7
Q6-4	Healthcare	To manage and monitor blood sugar	4,7
Q3-4	Contacts	To communicate with contacts via telephone calling	4,7
Q3-5	Contacts	To communicate with contacts via chat	4,7
Q1-2	News	To provide news to others	4,6
Q6-10	Healthcare	To evaluate vital data over time	4,4
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	4,4
Q2-4	Market	To manage voluntary work with the calendar	4,4
Q6-5	Healthcare	To manage and monitor body weight	4,3
Q6-6	Healthcare	To manage and monitor physical activity	4,3
Q6-7	Healthcare	To manage and monitor pulse	4,3
Q5-1	Groups	To join groups	4,3
Q5-2	Groups	To create groups	4,3
Q5-3	Groups	To manage groups	4,1
Q3-3	Contacts	To communicate with contacts via video calling	4,1
Q8-3	Services	To manage and coordinate multiple clients with a calendar	3,6
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	3,6

5.1.4 Ratings - Informal Caregivers

QNr.	Portlet	Description	Mean-IC
Q6-8	Healthcare	To have an emergency call function	5,9
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	5,8
Q0-1	User Profile	To manage user profile	5,7
Q4-1	Events	To receive information about events	5,6
Q4-2	Events	To register for an upcoming event	5,4
Q7-4	Media	To get familiar with the software platform	5,4
Q6-2	Healthcare	To have a reminder for medication intake	5,3
Q2-2	Market	To find voluntary work	5,2
Q1-1	News	To receive news	5,1
Q3-4	Contacts	To communicate with contacts via telephone calling	5,1
Q7-1	Media	To learn about first aid	5,1
Q7-2	Media	To learn about care practices	5,1
Q8-1	Services	Basic information about services and organisations	5,1
Q3-2	Contacts	To communicate with contacts via e-mail	5,0
Q3-3	Contacts	To communicate with contacts via video calling	5,0
Q6-1	Healthcare	To manage and monitor medication intake	5,0
Q2-1	Market	To provide voluntary work	4,9
Q5-1	Groups	To join groups	4,9
Q6-6	Healthcare	To manage and monitor physical activity	4,9
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	4,9
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	4,9
Q6-10	Healthcare	To evaluate vital data over time	4,9
Q4-4	Events	To manage events with the calendar	4,8
Q6-3	Healthcare	To manage and monitor blood pressure	4,8
Q8-2	Services	To get in contact with possible clients	4,8
Q6-4	Healthcare	To manage and monitor blood sugar	4,7
Q6-5	Healthcare	To manage and monitor body weight	4,6
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	4,6
Q7-3	Media	To learn about preventive healthcare	4,6
Q8-3	Services	To manage and coordinate multiple clients with a calendar	4,6
Q3-1	Contacts	To find new contacts	4,4
Q6-7	Healthcare	To manage and monitor pulse	4,3
Q2-3	Market	To share things with others	4,2
Q2-4	Market	To manage voluntary work with the calendar	4,2
Q3-6	Contacts	To share photos	4,2
Q5-2	Groups	To create groups	4,2
Q5-3	Groups	To manage groups	4,1
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	4,1
Q3-5	Contacts	To communicate with contacts via chat	3,9
Q1-2	News	To provide news to others	3,8
Q4-3	Events	To define and offer an event to others	3,4

5.1.5 Ratings - Mobile Caregivers

QNr.	Portlet	Description	Mean-MC
Q6-8	Healthcare	To have an emergency call function	6,0
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	6,0
Q6-2	Healthcare	To have a reminder for medication intake	5,9
Q7-4	Media	To get familiar with the software platform	5,9
Q2-2	Market	To find voluntary work	5,7
Q4-1	Events	To receive information about events	5,7
Q8-1	Services	Basic information about services and organisations	5,7
Q4-4	Events	To manage events with the calendar	5,6
Q0-1	User Profile	To manage user profile	5,5
Q1-1	News	To receive news	5,5
Q3-2	Contacts	To communicate with contacts via e-mail	5,5
Q3-3	Contacts	To communicate with contacts via video calling	5,3
Q8-2	Services	To get in contact with possible clients	5,3
Q1-2	News	To provide news to others	5,2
Q3-4	Contacts	To communicate with contacts via telephone calling	5,2
Q2-1	Market	To provide voluntary work	5,1
Q3-5	Contacts	To communicate with contacts via chat	5,1
Q6-1	Healthcare	To manage and monitor medication intake	5,1
Q3-1	Contacts	To find new contacts	5,0
Q5-3	Groups	To manage groups	5,0
Q6-5	Healthcare	To manage and monitor body weight	5,0
Q2-3	Market	To share things with others	4,9
Q4-2	Events	To register for an upcoming event	4,9
Q5-1	Groups	To join groups	4,9
Q5-2	Groups	To create groups	4,9
Q6-3	Healthcare	To manage and monitor blood pressure	4,9
Q6-10	Healthcare	To evaluate vital data over time	4,9
Q7-3	Media	To learn about preventive healthcare	4,9
Q8-3	Services	To manage and coordinate multiple clients with a calendar	4,9
Q7-1	Media	To learn about first aid	4,8
Q7-2	Media	To learn about care practices	4,8
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	4,8
Q2-4	Market	To manage voluntary work with the calendar	4,7
Q3-6	Contacts	To share photos	4,7
Q4-3	Events	To define and offer an event to others	4,6
Q6-4	Healthcare	To manage and monitor blood sugar	4,6
Q6-7	Healthcare	To manage and monitor pulse	4,6
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	4,6
Q6-6	Healthcare	To manage and monitor physical activity	4,4
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	4,3
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	3,8

5.1.6 Ratings - Relatives

QNr.	Portlet	Description	Mean-R
Q6-8	Healthcare	To have an emergency call function	5,8
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	5,8
Q6-7	Healthcare	To manage and monitor pulse	5,6
Q7-4	Media	To get familiar with the software platform	5,4
Q8-1	Services	Basic information about services and organisations	5,4
Q2-2	Market	To find voluntary work	5,3
Q0-1	User Profile	To manage user profile	5,2
Q3-3	Contacts	To communicate with contacts via video calling	5,2
Q4-1	Events	To receive information about events	5,2
Q2-1	Market	To provide voluntary work	5,0
Q6-5	Healthcare	To manage and monitor body weight	5,0
Q6-6	Healthcare	To manage and monitor physical activity	5,0
Q6-10	Healthcare	To evaluate vital data over time	5,0
Q7-1	Media	To learn about first aid	5,0
Q4-4	Events	To manage events with the calendar	4,9
Q5-1	Groups	To join groups	4,9
Q6-1	Healthcare	To manage and monitor medication intake	4,9
Q6-2	Healthcare	To have a reminder for medication intake	4,9
Q6-4	Healthcare	To manage and monitor blood sugar	4,9
Q1-1	News	To receive news	4,8
Q4-2	Events	To register for an upcoming event	4,8
Q5-3	Groups	To manage groups	4,8
Q6-3	Healthcare	To manage and monitor blood pressure	4,8
Q8-2	Services	To get in contact with possible clients	4,8
Q7-3	Media	To learn about preventive healthcare	4,7
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	4,7
Q5-2	Groups	To create groups	4,6
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	4,6
Q7-2	Media	To learn about care practices	4,6
Q3-6	Contacts	To share photos	4,5
Q3-4	Contacts	To communicate with contacts via telephone calling	4,4
Q8-3	Services	To manage and coordinate multiple clients with a calendar	4,3
Q2-3	Market	To share things with others	4,3
Q3-1	Contacts	To find new contacts	4,3
Q3-2	Contacts	To communicate with contacts via e-mail	4,2
Q2-4	Market	To manage voluntary work with the calendar	4,1
Q4-3	Events	To define and offer an event to others	4,1
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	3,8
Q3-5	Contacts	To communicate with contacts via chat	3,7
Q1-2	News	To provide news to others	3,5
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	3,2

5.1.7 Ratings - All interviewed Persona groups

QNr.	Portlet	Description	Mean-All
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	5,7
Q6-8	Healthcare	To have an emergency call function	5,6
Q7-4	Media	To get familiar with the software platform	5,5
Q6-2	Healthcare	To have a reminder for medication intake	5,5
Q8-1	Services	Basic information about services and organisations	5,4
Q4-1	Events	To receive information about events	5,4
Q2-2	Market	To find voluntary work	5,4
Q0-1	User Profile	To manage user profile	5,3
Q6-1	Healthcare	To manage and monitor medication intake	5,1
Q3-2	Contacts	To communicate with contacts via e-mail	5,0
Q3-3	Contacts	To communicate with contacts via video calling	5,0
Q1-1	News	To receive news	5,0
Q3-4	Contacts	To communicate with contacts via telephone calling	4,9
Q6-3	Healthcare	To manage and monitor blood pressure	4,9
Q7-1	Media	To learn about first aid	4,9
Q5-1	Groups	To join groups	4,9
Q7-2	Media	To learn about care practices	4,9
Q6-4	Healthcare	To manage and monitor blood sugar	4,9
Q3-1	Contacts	To find new contacts	4,7
Q4-2	Events	To register for an upcoming event	4,7
Q2-1	Market	To provide voluntary work	4,7
Q8-2	Services	To get in contact with possible clients	4,6
Q7-3	Media	To learn about preventive healthcare	4,6
Q6-10	Healthcare	To evaluate vital data over time	4,6
Q4-4	Events	To manage events with the calendar	4,6
Q6-5	Healthcare	To manage and monitor body weight	4,5
Q6-7	Healthcare	To manage and monitor pulse	4,5
Q6-6	Healthcare	To manage and monitor physical activity	4,5
Q5-2	Groups	To create groups	4,4
Q3-6	Contacts	To share photos	4,3
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	4,3
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	4,3
Q5-3	Groups	To manage groups	4,2
Q2-3	Market	To share things with others	4,2
Q8-3	Services	To manage and coordinate multiple clients with a calendar	4,1
Q2-4	Market	To manage voluntary work with the calendar	4,1
Q3-5	Contacts	To communicate with contacts via chat	4,0
Q1-2	News	To provide news to others	3,9
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	3,9
Q4-3	Events	To define and offer an event to others	3,8
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	3,7

5.1.8 Ratings - All interviewed Persona groups (ranked by scores)

QNr.	Portlet	Description	Mean-All	Sum	Rank
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	5,7	21	1
Q6-8	Healthcare	To have an emergency call function	5,6	24	2
Q7-4	Media	To get familiar with the software platform	5,5	37	3
Q6-2	Healthcare	To have a reminder for medication intake	5,5	42	4
Q8-1	Services	Basic information about services and organisations	5,4	43	5
Q2-2	Market	To find voluntary work	5,4	44	6
Q4-1	Events	To receive information about events	5,4	45	7
Q0-1	User Profile	To manage user profile	5,3	53	8
Q1-1	News	To receive news	5,0	84	9
Q6-1	Healthcare	To manage and monitor medication intake	5,1	87	10
Q3-3	Contacts	To communicate with contacts via video calling	5,0	91	11
Q3-2	Contacts	To communicate with contacts via e-mail	5,0	94	12
Q7-1	Media	To learn about first aid	4,9	106	13
Q3-4	Contacts	To communicate with contacts via telephone calling	4,9	108	14
Q4-2	Events	To register for an upcoming event	4,7	112	15
Q6-3	Healthcare	To manage and monitor blood pressure	4,9	114	16
Q5-1	Groups	To join groups	4,9	114	17
Q2-1	Market	To provide voluntary work	4,7	114	18
Q7-2	Media	To learn about care practices	4,9	120	19
Q6-4	Healthcare	To manage and monitor blood sugar	4,9	126	20
Q3-1	Contacts	To find new contacts	4,7	129	21
Q4-4	Events	To manage events with the calendar	4,6	132	22
Q8-2	Services	To get in contact with possible clients	4,6	133	23
Q6-5	Healthcare	To manage and monitor body weight	4,5	137	24
Q6-10	Healthcare	To evaluate vital data over time	4,6	142	25
Q7-3	Media	To learn about preventive healthcare	4,6	148	26
Q6-7	Healthcare	To manage and monitor pulse	4,5	154	27
Q6-6	Healthcare	To manage and monitor physical activity	4,5	154	28
Q2-3	Market	To share things with others	4,2	171	29
Q5-2	Groups	To create groups	4,4	172	30
Q3-6	Contacts	To share photos	4,3	173	31
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	4,3	173	32
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	4,3	174	33
Q3-5	Contacts	To communicate with contacts via chat	4,0	184	34
Q5-3	Groups	To manage groups	4,2	185	35
Q1-2	News	To provide news to others	3,9	197	36
Q8-3	Services	To manage and coordinate multiple clients with a calendar	4,1	198	37
Q2-4	Market	To manage voluntary work with the calendar	4,1	202	38
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	3,9	205	39
Q4-3	Events	To define and offer an event to others	3,8	210	40
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	3,7	214	41

6 Conclusions and Remarks

1st Conclusion

It is a satisfying and a promising sign that all seniors asked can imagine using the projected SOCIALCARE platform despite the uttered general skepticism and respect for ICT. This underlines the statement, that elderly are willing to learn how to use new technology when the benefit outweighs the effort. From the answers given it becomes obvious that there is a latent fear of too much technology which could result in isolation, less direct contact and more dependency. It will be important to make clear that the purpose of the SOCIALCARE solution is on the contrary side by improving networks, contacts and self-empowerment.

2nd Conclusion

While the PC is widely used, only half of the interview partners in these two primary user groups already have a tablet and only one third owns a smartphone. As a consequence, it will be very important to make the app intuitive and easy to use. A good introduction is needed as well as support and assistance in case of need.

3rd Conclusion

Another conclusion from this may be that the tablet is the device of choice, at least for the actual generation of elderly. In combination with smartwatch technology all important functions can be implemented. Portlet functions on the smartphone seem to be rather interesting for the secondary user group (relatives, informal and formal caregivers, volunteers).

4th Conclusion

The average age of volunteers asked is 59, many of the interview partners are already retired. This group can thus also be seen as primary target group - active seniors who already engage themselves. The view of young volunteers was not collected with the interviews.

Many of the volunteers provide their voluntary work within an institution, which may explain, why there is quite a number who see no immediate need for a solution like the SOCIALCARE platform as the institution functions as marketplace.

5th Conclusion

The acceptance of the SOCIALCARE platform was very high among mobile caregivers, which may be associated with the young age of this group and the general acceptance of ICT. On the other hand, almost all of the mobile caregivers think that such a solution would not be accepted by their clients due to high age and severe handicaps. Some of them already use a software for documentation and accounting so they rather do not see a benefit using the SOCIALCARE platform (additionally) themselves. Some see benefits if their (more active) clients use it though. From the answers given it is questionable if it makes sense to implement specific portlets for this group.

6th Conclusion

There is not too much ethical concern among the interviewed about the SOCIALCARE platform. Most of them associated the question with the safety of sensible data and the trust that it is safe on the platform. Only the group of professional caregivers, who are trained to deal with health data, are by the majority concerned about the safety of it.

7th Conclusion

The vast majority wants to have some kind of verification process for volunteers. So trust is a big issue and the interview partners in all groups want the platform to have reliable mechanisms in order to grant security for its members.

8th Conclusion

The values in the rating lists for the portlet functions are generally high if you consider that a mean above 3.5 could be interpreted as "rather required". The values given from the primary groups of elderly are generally lower which corresponds perfectly with a certain skepticism and reserve in these groups. The following statements can easily be derived from the results:

- An Emergency call function and fall detection sensors are very prominent in all groups and are on top of the unified list.
- Finding voluntary work is more relevant than providing voluntary work. It is found in all lists among the top 10.
- Communication by phone, E-Mail and video call is also well appreciated, while using chat got lower rankings, especially in the group of elderly.
- Lifestyle monitoring is not very popular among the elderly (ratings 3 and 2.9) and gets the highest rating among informal caregivers and relatives (rating 4.6).

7 References

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8 Annex - Interview guideline for active seniors



Interview guideline for collecting user-requirements

Persona group: Active Senior



1. Short introduction of the SOCIALCARE project idea

In the current economic climate with cutbacks in care and social wellbeing, the main objective of the SOCIALCARE project is to bring volunteers, neighbors, family members and professional care staff together on a so-called digital platform. The target is to help older people at local level to live longer independently at home. When elderly are becoming frailer and they need assistance, they can receive extensive support from the community. With the help of the platform it is possible to communicate, to organize voluntary work as well manage different services for seniors (e.g. visiting-, and cleaning services). The SOCIALCARE community platform provides three major functionalities:

1) << Connect people >>

The platform provides a number of services for the simple coordination, communication and collaboration between users.

2) << Care for people >>

The platform provides access to a number of professional and voluntary care services. Environmental sensors (e.g. motion and smoke detectors) as well as body sensors (e.g. blood pressure and -sugar) can be used to monitor important parameters and to increase the safety of users.

3) << Educate people >>

The learning component of the platform provides trainings concerning first aid and care practices for volunteers and informal caregivers.



Your personal details and given statements will be treated in strict confidence and will be processed in an anonymous form.

In the case you do not feel comfortable to answer a question you have the possibility to reject the question. Further, at any point during the interview you have the possibility to terminate the interview. This decision will not have any consequences for you.

I understood the information concerning the project, the aim of the study and my rights to withdraw. With my signature I agree to take part in the study.

Date: _____

Signature: _____

2. General questions

- | | | |
|---|--|---|
| a) Gender? | <input type="checkbox"/> Female | <input type="checkbox"/> Male |
| b) Year of birth? | | |
| c) Nationality? | | |
| d) Household Income? | <input type="checkbox"/> 500 – 1000 €
<input type="checkbox"/> 1000 – 2000 € | <input type="checkbox"/> 2000 – 3000 €
<input type="checkbox"/> > 3000 € |
| e) Marital Status? | <input type="checkbox"/> Single
<input type="checkbox"/> Married | <input type="checkbox"/> Living in partnership
<input type="checkbox"/> Widowed |
| f) Children & Grandchildren? | | |
| g) Living Situation? | <input type="checkbox"/> Living alone
<input type="checkbox"/> Living with partner, no children | <input type="checkbox"/> Living with partner and children
<input type="checkbox"/> Living with children |
| h) Education? (highest level, whether or not completed) | <input type="checkbox"/> Primary education
<input type="checkbox"/> Lower vocational training
<input type="checkbox"/> Intermediate vocational training
<input type="checkbox"/> Intermediate secondary training | <input type="checkbox"/> Higher secondary education
<input type="checkbox"/> Higher vocational training
<input type="checkbox"/> University |
| i) Employment? | <input type="checkbox"/> Retired
<input type="checkbox"/> Employed
<input type="checkbox"/> Unemployed | <input type="checkbox"/> Voluntary work
<input type="checkbox"/> Other |
| j) What is your technological experience? | <input type="checkbox"/> Very high => I use different devices on a daily basis to get onto the Internet.
=> I use applications, such as e-mail, WhatsApp, social networks, etc.
<input type="checkbox"/> High => I use Internet and e-mail on a daily basis.
<input type="checkbox"/> Medium => I have a PC/tablet/smartphone and I make use of it a few times a week.
<input type="checkbox"/> Low => I have a PC/tablet/smartphone but I hardly make use of it.
=> I do not feel like I should use it more.
<input type="checkbox"/> Very low => I do not have a PC/tablet/smartphone or Internet.
=> I have never or very rarely used any technological devices. | |



k) What is your attitude towards technology?

- Positive: I do not mind trying out new devices when they are handed to me.
- Neutral: I do not know or I do not really care.
- Negative: I do not like technology and stay far away from it.

Comments:

l) Devices in use?

<input type="checkbox"/> Computer	<input type="checkbox"/> Tablet
<input type="checkbox"/> Smartphone	<input type="checkbox"/> Other

m) Do you face any barriers/difficulties concerning the usage of these devices?

- No
- Yes, namely

Comments:

n) Use of information and communication devices?

<input type="checkbox"/> Daily Use	<input type="checkbox"/> Rarely
<input type="checkbox"/> Weekly Use	<input type="checkbox"/> Never
<input type="checkbox"/> Monthly Use	

o) What type of phone do you use?

- Normal mobile phone
- Senior mobile phone (with big buttons, e.g. Emporia)
- Smartphone (Android, e.g. Samsung, LG, Huawei)
- Smartphone (Apple, iPhone)
- Other:

p) Which of the following online activities have you performed in the last 30 days on your PC/tablet/smartphone?

<input type="checkbox"/> E-mail	<input type="checkbox"/> News
<input type="checkbox"/> Chat (e.g. WhatsApp)	<input type="checkbox"/> Weather
<input type="checkbox"/> Look up a recipe	<input type="checkbox"/> Sports
<input type="checkbox"/> Web search	<input type="checkbox"/> Online banking
<input type="checkbox"/> Look for health/medical information	<input type="checkbox"/> Shopping
<input type="checkbox"/> Look for information on a hobby or interest	<input type="checkbox"/> Playing games
<input type="checkbox"/> Look for transport information	<input type="checkbox"/> Job search
<input type="checkbox"/> Look on a map for directions	<input type="checkbox"/> Financial/stock trading
	<input type="checkbox"/> Visit a local, state or federal government website
	<input type="checkbox"/> Other:

q) What apps do you like the most?

.....



3. Persona specific questions

a) Could you please describe your relationship to your family?

b) Could you please describe the problems and challenges you face as an active elderly person now and in the future? (Worries about family, decision making, future planning and loss of network...)

c) Can you please describe in what way you want to stay active?

d) How and how often do you make contact with people in your surrounding (e.g. neighbors)? Do you want to improve this?

e) Other notes



4. Presentation & discussion of scenarios

a) Notes scenario 1

b) Notes scenario 2

c) Notes on presentation of state of the art devices and solutions (if necessary), Android operated smartphone, tablet and smartwatch

d) Other notes



5. SOCIALCARE platform questions

a) Is there an existing exchange of information between yourself, other service providers and relatives? Do you think this is necessary?

b) Could the SOCIALCARE platform be useful to establish this exchange of information? What expectations do you have in terms of improving social contacts?

c) Can you envision benefits or improvements for your daily life?

d) Do you think that you can accept a technical solution like the SOCIALCARE platform (exchange of information)?

e) Do you have any ethical concerns regarding the SOCIALCARE community platform (privacy problems, abuse of sensitive data, other dangers...)?



f) Do you think that there should be a verification process for volunteers, professional caregivers or service providers?

g) Other notes

6. Rating of SOCIALCARE services

QNr.	Portlet	Description	UR						R	NA
Q0-1	User Profile	To manage user profile	1	2	3	4	5	6		
Q1-1	News	To receive news	1	2	3	4	5	6		
Q1-2	News	To provide news to others	1	2	3	4	5	6		
Q2-1	Market	To provide voluntary work	1	2	3	4	5	6		
Q2-2	Market	To find voluntary work	1	2	3	4	5	6		
Q2-3	Market	To share things with others	1	2	3	4	5	6		
Q2-4	Market	To manage voluntary work with the calendar	1	2	3	4	5	6		
Q3-1	Contacts	To find new contacts	1	2	3	4	5	6		
Q3-2	Contacts	To communicate with contacts via e-mail	1	2	3	4	5	6		
Q3-3	Contacts	To communicate with contacts via video calling	1	2	3	4	5	6		
Q3-4	Contacts	To communicate with contacts via telephone calling	1	2	3	4	5	6		
Q3-5	Contacts	To communicate with contacts via chat	1	2	3	4	5	6		
Q3-6	Contacts	To share photos	1	2	3	4	5	6		
Q4-1	Events	To receive information about events	1	2	3	4	5	6		
Q4-2	Events	To register for an upcoming event	1	2	3	4	5	6		
Q4-3	Events	To define and offer an event to others	1	2	3	4	5	6		
Q4-4	Events	To manage events with the calendar	1	2	3	4	5	6		
Q5-1	Groups	To join groups	1	2	3	4	5	6		
Q5-2	Groups	To create groups	1	2	3	4	5	6		
Q5-3	Groups	To manage groups	1	2	3	4	5	6		
Q6-1	Healthcare	To manage and monitor medication intake	1	2	3	4	5	6		
Q6-2	Healthcare	To have a reminder for medication intake	1	2	3	4	5	6		
Q6-3	Healthcare	To manage and monitor blood pressure	1	2	3	4	5	6		
Q6-4	Healthcare	To manage and monitor blood sugar	1	2	3	4	5	6		
Q6-5	Healthcare	To manage and monitor body weight	1	2	3	4	5	6		
Q6-6	Healthcare	To manage and monitor physical activity	1	2	3	4	5	6		
Q6-7	Healthcare	To manage and monitor pulse	1	2	3	4	5	6		
Q6-8	Healthcare	To have an emergency call function	1	2	3	4	5	6		
Q6-9	Healthcare	To have an automatic emergency call function in case of fall	1	2	3	4	5	6		
Q6-10	Healthcare	To evaluate vital data over time	1	2	3	4	5	6		
Q6-11	Healthcare	To monitor and evaluate lifestyle (eating, toilet, sleep, other habits)	1	2	3	4	5	6		
Q7-1	Media	To learn about first aid	1	2	3	4	5	6		
Q7-2	Media	To learn about care practices	1	2	3	4	5	6		
Q7-3	Media	To learn about preventive healthcare	1	2	3	4	5	6		
Q7-4	Media	To get familiar with the software platform	1	2	3	4	5	6		
Q7-5	Media	To find interesting media (audio, video, documents, presentations)	1	2	3	4	5	6		
Q7-6	Media	To provide interesting media (audio, video, documents, presentations)	1	2	3	4	5	6		
Q8-1	Services	Basic information about services and organisations	1	2	3	4	5	6		
Q8-2	Services	To get in contact with possible clients	1	2	3	4	5	6		
Q8-3	Services	To manage and coordinate multiple clients with a calendar	1	2	3	4	5	6		
Q8-4	Services	To exchange information with multiple clients (e.g. vital data)	1	2	3	4	5	6		



The interviewed person is asked to assign a rating to the descriptions of the different portlet functions on a scale from 1-6 (1 = unrequested, 6 = requested, not applicable).

Can you think of any other services or functionalities that are important?