



D3.3 Pilot Planning Report

Report on the pilot plan and preparation activities including the evaluation approach

ID and title	D3.3 Pilot Planning report
Description	Report on the pilot planning and evaluation approach
Work package	WP3 Social innovation process
Status	External Release
Type	Report
Confidentiality	RESTRICTED
Version	V2.0
Actual date of delivery	29.05.2017
Contractual date of delivery	31.03.2017
Reviewer for external release	Toni Paradell Bondia (WLE), Dustin Steiner (UoAS)

Project name	SOCIALCARE
Project number	AAL-2014-1-181
Project start date	1 May 2015
Project duration	28 months



AMBIENT ASSISTED LIVING

JOINT PROGRAMME

AAL-2014-1-181



Document history

Version	Date	Status	Changes	Owner(s)
v.0.1	02.12.2016	1 st draft	first inputs, toc	Stefan Schürz, LIFETool
v.0.2	03.01.2017	2 nd draft	update document	Stefan Schürz, LIFETool
v.0.3	30.01.2017	3 rd draft	inputs from NFE	Michael Gstötenbauer, LIFETool
v.0.4	06.02.2017	4 th draft	inputs from NFE	Michael Gstötenbauer, LIFETool
v.0.5	02.03.2017	5 th draft	incorporate feedback	Michael Gstötenbauer, LIFETool
v.0.6	02.03.2017	6 th draft	adaptation of time planning	Michael Gstötenbauer, LIFETool
v.0.7	03.03.2017	7 th draft	adaptation of time planning	Michael Gstötenbauer, LIFETool
v.0.8	25.04.2017	8 th draft	incorporate feedback	Michael Gstötenbauer, LIFETool
v.0.9	2.05.2017	9 th draft	adaptation of time planning	Michael Gstötenbauer, LIFETool
v.1.0	05.05.2017	internal review	insert gantt, formatting	Michael Gstötenbauer, LIFETool
v.2.0	29.05.2017	external release	Incorporate feedback	Stefan Schürz, LIFETool

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1 Summary

Iterative testing with expert users will support the release of a highly functional, stable prototype of the SOCIALCARE platform. This prototype shall be tested in 12-week field tests at pilot sites in Austria and The Netherlands including approximately 125 participants. Standardized questionnaires on user experience and quality of life will be used to measure satisfaction with usage and impact. Tablet workshops and dedicated SOCIALCARE platform trainings will help recruit the participants and ensure basic ICT skills.

2 Introduction

The objective of the pilot activities is to carry out iterative evaluations of the prototype and field tests at pilot sites in The Netherlands and Austria. In the field test, which will last about twelve weeks, we also want to measure a possible impact on the lives of the participants. The evaluations will be conducted with the different target groups defined in Task 1.1 (User Requirements Definition): the elderly, informal caregivers, neighbors/volunteers and family members.

During the field tests the prototypes will be evaluated by the participants in their own environment. For this purpose, a community of participants will be set up with the coherence as described in the personas. Family must really be family of one of the seniors and caregivers should really be caregivers of participating seniors, etc. Also, local service providers such as health care, welfare and senior organizations will participate in the pilot by providing a service and/or representing the target groups. It is important that neighbors/volunteers actively participate in the evaluation.

An automatic registration of user interactions on their mobile devices (smartphones, tablets) will be executed to analyze user interaction. Interviews will be performed to demonstrate the effects of the services through standardized questionnaires e.g. on user experience and quality of life. Finally, qualitative interviews and/or focus group sessions will be organized to discuss the use, opinion and feeling of the users during the pilot. All this data will be processed anonymously. Users will receive an information sheet and informed consent so that they are fully aware of the consequences of their participation in the project.

The pilot is made up of the following steps:

1. Implementation of the SOCIALCARE platform and iterative testing of prototypes
2. Preparation of the pilots
3. Execution of the pilots
4. Evaluation and termination of the pilots

These steps are described in detail in the following chapters. See also the Gantt chart.

3 Implementation of the SOCIALCARE platform

This activity will be the responsibility of the technical partners with validation support of the end-user partners.

To support the pilot planning the implementation is divided into two milestones: release of the first prototype for iterative testing, release of the prototype for the field tests. The end-user partners will participate in the release process by validating incremental intermediate versions of the platform and report found problems. The version for use in the field tests – a fully working prototype with known and documented restrictions - is only released after an agreement between end-user partners and the technical partners.

During the implementation phases reported problems are solved and agreed new functionalities will be implemented. For this purpose, a problem reporting procedure and tool will be provided by the technical partners. During the validation phase a number of intermediate versions of the platform will be provided that will include solutions for reported problems.

4 Pilot Preparation

4.1 Validation of the prototypes by expert users

This is a crucial part of the prototype evaluation. The researchers and expert users of the Austrian and Dutch pilot site must be sure that the final prototype delivered runs stable enough and fulfills the expected quality for the field tests. The remaining usability issues and bugs must be reported to the technical partners in order to be fixed prior to the start of the field tests.

Who: Expert users and researchers from the pilot sites and the end-user organisations

When: January 17 till August 17

4.2 Development of tablet and SOCIALCARE training

The most important device for the target group is the tablet. For participants that are not familiar with the device a tablet training will be designed to safeguard that they can participate in the pilot in a useful way. In addition, all participants should become familiar with the SOCIALCARE platform before the pilot starts. To support this a dedicated SOCIALCARE training will be designed.

Who: The pilot site Putte in The Netherlands as well as LFTL on the Austrian pilot site are developing a tablet training consisting of an introductory part and the real training. The training has a flexible set up which means that, if needed, only parts can be selected or the ordering of the training subjects can be changed. A document from NFE with best practices is available to support this. The training is freely available for the other SOCIALCARE pilot sites. After completion of the tablet training the SOCIALCARE specific training will be developed.

When: The tablet training is planned to be available by December 2016 in Dutch language and by January 2017 in German language. The SOCIALCARE specific training will be available in July 2017.

4.3 Recruitment of participants

Participants should live in the pilot site or should have a relationship with a senior living in the pilot site (informal caregiver, family, neighbours). Furthermore, participants should become involved in one or more well-defined and subjectively useful tasks depending on the services to be evaluated. Participants who need tablet training will participate in the training sessions.

The Austrian pilot site will include approximately 25 participants.

The Dutch pilot site will include approximately 100 participants.

The following target groups are involved: active seniors, seniors with mild impairments (see D5.6 Ethical Manual chapter 6.3 for ethical restrictions), family members, informal caregivers, volunteers and neighbours.

Before the start of the field tests each participant must receive a participant's information that contain – beside others – the research purpose and procedure as well as information about their rights as data owner and how and by whom the generated data will be processed. Following, each participant and the responsible researcher are obliged to sign an Informed Consent Form.

Who: Pilot sites in collaboration with the end-user organisations.

When: June 17 till August 17 inclusive

4.4 Purchase of equipment

This includes purchasing of Android tablets, sensors, e-health devices and mobile internet connections if needed. The tablets should be 9,7 – 10,1 inch devices supporting minimally Android 5.0. Sensors will include a fall detection sensor and an alarm button. E-Health devices will include Fitbit activity tracker, blood pressure monitor and eventually blood sugar meter.

Who: NFE and LFTL will buy the devices on the project budget and will design a loan agreement to be signed by participants.

When: January 17 till August 17 inclusive

4.5 Execute tablet and SOCIALCARE platform training

The pilots are preceded by several workshops for the participants.

The end user organizations at the pilot sites will execute general Android-tablet courses for seniors with the aim to

- recruit participants for the pilot phase and
- provide basic tablet-knowledge for (possible) participants.

Austrian pilot site: The courses will consist of structured hands-on workshops. After the first introductory workshop the participants will be allowed to take the tablets with them and to use them in daily life. After a couple of weeks, there will be a second workshop for answering questions and presenting new content. The tablets will be returned, reset and prepared for the next workshop cycle.

The Dutch Pilot site will take a different approach: participants will get a buddy to safeguard continuous training support. Volunteers will be recruited that will take the role of buddies. During the training sessions the training will be evaluated and if needed improved.

A dedicated SOCIALCARE platform training will be offered to all willing participants in due time before the beginning of the field tests. At the end of the training, all willing to participate in the field tests are asked to fill in a preparatory questionnaire, which will contain a (more or less) binding promise of participation and impose the specific needs of the participants in order to plan the

distribution of sensors (e.g. blood pressure monitor, blood sugar meter,...). Dates for the final hand-over of the devices and possible installations have to be agreed upon.

Who: End user organizations at pilot sites

When: January 17 till August 17 inclusive

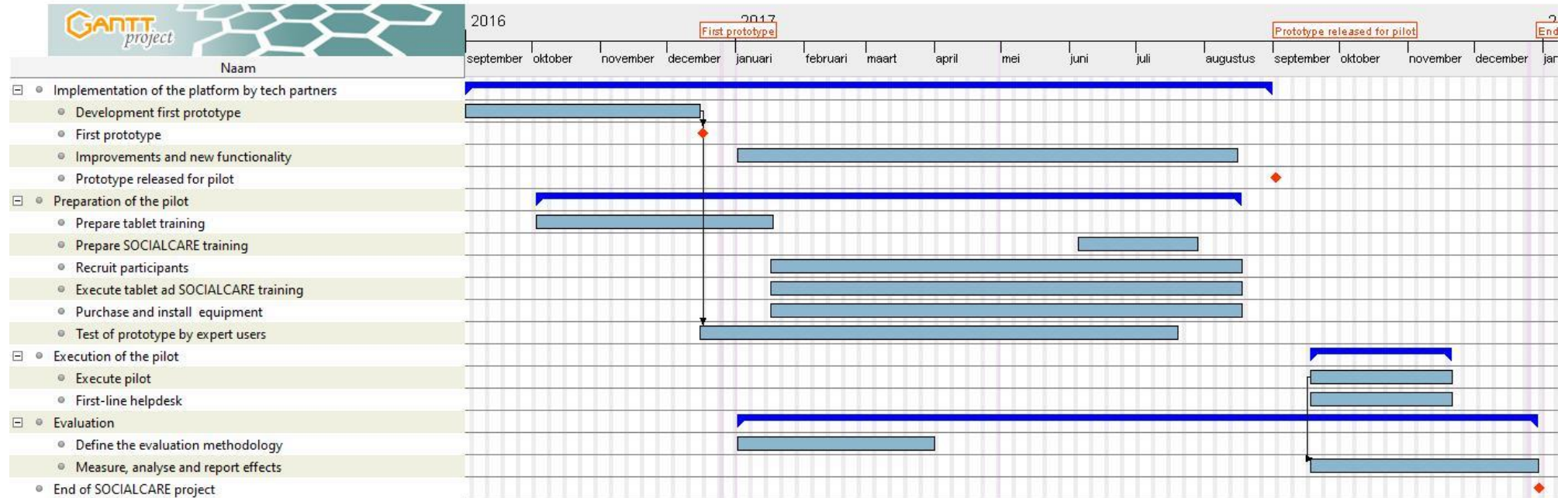
5 Pilot Execution

In the pilot phase the platform will be used by the participants for twelve weeks. In that time no changes will be imposed on the platform to avoid any confusion by the participants. An exception is made for changes required to solve problems that would otherwise seriously threaten the evaluation.

Who: Participants, pilot site representatives, all partners

When: September 17 till November 17 inclusive

5.1 Gantt diagram of pilot planning



5.2 Start of field test and first level support helpdesk for participants

At the end of the SOCIALCARE platform trainings participants and researchers agree on a date for the hand-over of the devices. These may be individual meetings at home and/or group sessions with more participants at once. During these meetings remaining questions will be answered, last settings will be done. The participants will get written instructions for the pilot phase, a pilot diary and will sign the loan agreement and the informed consent. First evaluations will be conducted: The background questionnaire and the WHOQOL-Bref will be either filled in together with the researchers or left at the participant's in order to fill it in alone and send it per mail. The participants will be informed about the helpdesk and dates for the final meetings at the end of the pilot phase are agreed upon.

Helpdesk:

During the field tests there should always be a responsible person of the pilot sites available if questions arise or problems with the system occur.

Who:

Austrian Pilot



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When: From September 17 till November 17 inclusive

5.3 End of pilot

At the arranged dates at the end of the field tests participants and researchers meet again. These may be individual meetings at home and/or group sessions with more participants at once. The devices and participant's diaries are collected. The qualitative questionnaire is filled in, either by interviewing individual participants or having focus group sessions with more participants. The WHOQOL-Bref and the User Experience Questionnaire are either filled in together (interview) or just handed out, so that participants can fill them in themselves and send them per mail.

Who: Participants, pilot site representatives

When: November 17

5.4 Pilot site descriptions

Austrian Pilot

More Zeller Neighborhood

This is a citizen initiative in Bad Zell a small community with approximately 2700 inhabitants. It is an initiative where citizens, the parish, organizations and clubs actively shape together the social area in Bad Zell. The aim is to develop a well-supplied neighborhood where people of all ages care for each other. It is active since 2015 and offers currently 3 services:

Lunch table

- Eating and drinking in company is an important aspect in a human life
- Citizens who never or rarely have the opportunity to eat in company can eat together
- Mobility services are organized for those people who are not mobile

Mobility services

- Mobility is key for independent living and social contacts
- People who are no longer mobile often withdraw from social life
- Service is offered for shopping, doctor appointments and social meetings

Visiting services

- Seniors often feel lonely and isolated. The need for relationships and social contacts is huge.
- People who want become active in visiting services can get free trainings by the red cross and caritas

Mühlviertler Alm

This is a union of 10 communities in the northeast of Upper Austria with the ambition to become a pilot region for age-based assistive services for their inhabitants in rural regions. Their aim is to mobilize the participation and commitment of their citizens and to strengthen identity and solidarity in the long run.

Dutch Pilot

The Dutch pilot will be located in a small town called Son en Breugel and in Putte. In Son en Breugel citizens have started the initiative SonenBreugelVerbonden in a foundation called Stichting Thuisverbonden. They aim to involve all citizens to take part in the community and provide for services and care to the older and frail persons in their community. They want to promote a bigger and more efficient involvement of citizens in public care matters. They aim to reinforce community meaning and cohesion to support those most vulnerable in their town. They focus on preventing loneliness, wellbeing and care for vulnerable people in their society. In order to organize and support their activities they started to implement a version of the The project SOCIALCARE will build further on this initiative. It will reinforce the technological support of the activities in Son en Breugel by implementing the SCP based on the previous Wikiwijk. The different local stakeholders are:

- Stichting Thuisverbonden, the citizen initiative in Son en Breugel that is formally organized in a foundation and consists of volunteers from the town that are working to support older people.

- City council Son en Breugel, city councils are adjusting to active citizens and have to give room for new initiatives that can provide for new creative solutions in complicated societal challenges.
- Different care organizations operating in the Son en Breugel area, who will provide specific services according to the needs of the citizens and older people.
- Local associations and NGO's, including Johanniter the Netherlands.

In the village of Putte citizens have started 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.

Each pilot site will involve approximately 50 older persons, neighbours, volunteers and informal caregivers to test the different components of the platform in real life situations.

6 Pilot Evaluation

Measurements and interviews will be performed to demonstrate the effects of the SOCIALCARE solution through

1. Log files
2. Standardized User Experience Questionnaires
3. Participant's diary to note issues
4. General questions about demographics and business aspects
5. Standardized and validated questionnaire WHOQOL Bref for measuring the impact of the SOCIALCARE solution
6. Qualitative interviews and/or focus group sessions

All this data will be processed anonymously. Users will receive an information sheet and informed consent so that they are fully aware of the consequences of their participation in the project.

Main target groups

The main target groups for the measurements/interviews during the pilot phases are:

- Seniors
- Relatives, informal caregivers
- Neighbors/volunteers/community members

Frequency of Interviews

There will be two interviews within an evaluation time of 10 weeks with all participants in the trials (details see also the table in 6.7):

1. Baseline interview at the beginning of the trial
2. End of trial interview

This should provide sufficient data to measure and test for possible effects of the SOCIALCARE solution on the lives of the test users.

6.1 Log Files

The analysis of log files can provide an interesting insight into the usage of the apps and user experience. With the help of the automate toolkit (Open Source version of the framework developed in the AUToMATE project – Automated Usability Testing of Mobile Applications) developed by the Department of Mobile Computing of the University of Applied Sciences Upper Austria an effective and efficient logging of user interaction is possible. Tests with a large number of users over a longer period with the incorporation of the context of use (e.g. activity and viewing direction) under real-world conditions are feasible. This should provide information about e.g. app usage time, interaction preferences, possible flaws...etc. However, no data of health related sensors is going to be logged or assessed by researchers in the project.

Point of measurement

Although automate can (and will) record data over the whole pilot period, it will be necessary to identify significant parameters and restrict the evaluation to these parameters. It may also make sense to evaluate collected data only at specific times in order to better visualize changes in usage and frequency.

6.2 User Experience Questionnaire

For testing the user experience, we make use of the validated User Experience Questionnaire by Laugwitz, Held and Schrepp (2006) which allows a quick and simple assessment and comes with a tool for evaluating the results. Besides it is available in all pilot site languages.

Every app of the SOCIALCARE system (SOCIAL, CARE, LEARN and DEVICES) will be evaluated separately.

The User Experience Questionnaire allows a quick assessment of the user experience of interactive products. The format of the questionnaire supports users to immediately express feelings, impressions, and attitudes that arise when they use a product. The scales of the questionnaire cover a comprehensive impression of classical usability aspects and user experience aspects:

- **Efficiency:** Can users solve their tasks with the product without unnecessary effort?
- **Perspiciuity:** Is it easy to get familiar with the product?
- **Dependability:** Does the user feel in control of the interaction?
- **Attractiveness:** Overall impression of the product. Do users like or dislike it?
- **Novelty:** Is the product innovative and creative?
- **Stimulation:** Is it exciting and motivating to use the product?

The questionnaire consists of pairs of contrasting attributes that may apply to the product. The circles between the attributes represent gradations between the opposites. The agreement can be expressed with the attributes by ticking the circle that most closely reflects the impression about the product. The user should decide as spontaneously as possible in order to make sure that the original impression is conveyed.

Items of the User Experience Questionnaire

	1	2	3	4	5	6	7		
annoying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	enjoyable	1
not understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	understandable	2
creative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	dull	3
easy to learn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	difficult to learn	4
valuable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	inferior	5
boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	exciting	6
not interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	interesting	7
unpredictable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	predictable	8
fast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	slow	9
inventive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	conventional	10
obstructive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	supportive	11
good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	bad	12
complicated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	easy	13
unlikable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasing	14
usual	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	leading edge	15
unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	pleasant	16
secure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	not secure	17
motivating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	demotivating	18
meets expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	does not meet expectations	19
inefficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	efficient	20
clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	confusing	21
impractical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	practical	22
organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	cluttered	23
attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unattractive	24
friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unfriendly	25
conservative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	innovative	26

Point of measurement

At the end of the pilot phase.

6.3 Participant’s diary

In addition to the log files we will ask our participants to use a diary during the pilot phase. They are provided with a template to support this objective: the participants are encouraged to indicate when they have used the services and whether they have any comments or feedback at that moment or if any issues related to system errors, failures or success moments occur. The log files could additionally be used to cross check the entries of the diaries.

6.4 General questions about demographics and business aspects

General, demographic question will help us understand important aspects of our participants' backgrounds, such as personal and social status, education, attitude towards technological solutions, financial situation, ... This will also help us developing appropriate business models.

1. Former Profession:	
2. Household Income:	<input type="checkbox"/> 500 – 1000 € <input type="checkbox"/> 1000 – 2000 € <input type="checkbox"/> 2000 – 3000 € <input type="checkbox"/> > 3000 €
3. Marital status	<input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Divorces <input type="checkbox"/> Widowed
4. Household	<input type="checkbox"/> Living alone <input type="checkbox"/> Living with children <input type="checkbox"/> Living with partner, no children <input type="checkbox"/> Living with partner and children
5. 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
6. Residential situation	<input type="checkbox"/> Living independently at home <input type="checkbox"/> Independent planned housing, congregate housing <input type="checkbox"/> Home for elderly
7. Self-rated health	<input type="checkbox"/> Poor <input type="checkbox"/> Not so good <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good
8. Do you wear glasses?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9. Are you left or right handed?	<input type="checkbox"/> Left <input type="checkbox"/> Right
10. Vision: Is your eyesight good enough to read ordinary newspaper print? (with glasses if usually worn)	<input type="checkbox"/> Yes, without difficulty <input type="checkbox"/> Yes, with minor difficulty <input type="checkbox"/> Yes, with major difficulty <input type="checkbox"/> No, not able to
11. Hearing: Do you hear what is said in a normal conversation with 3 or 4 other persons? (with hearing aid if you wear one)	<input type="checkbox"/> Yes, without difficulty <input type="checkbox"/> Yes, with minor difficulty <input type="checkbox"/> Yes, with major difficulty <input type="checkbox"/> No, not able to
12. Motor control: Can you press small items like buttons on a remote control?	<input type="checkbox"/> Yes, without difficulty <input type="checkbox"/> Yes, with minor difficulty <input type="checkbox"/> Yes, with major difficulty <input type="checkbox"/> No, not able to

13. Self-rated mobility level	<input type="checkbox"/> Poor <input type="checkbox"/> Not so good <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good
14. What is your technological experience?	
<input type="checkbox"/> Very high: I use regularly (at least twice a week) my PC and Smartphone or Tablet to get onto the internet. <input type="checkbox"/> High: I only use my PC to get onto the internet and use it once or twice a week. <input type="checkbox"/> Medium: I have a PC and internet but I hardly use it and do not feel up to using it more. <input type="checkbox"/> Low: I do not have a PC or internet and have never or very rarely used any technological devices.	
15. What is your attitude towards technology?	
<input type="checkbox"/> Positive: I don't mind trying out new devices when they are handed to me. <input type="checkbox"/> Neutral: I don't know or I don't really care. <input type="checkbox"/> Negative: I don't like technology and stay far away from it.	

Point of measurement

At the beginning of the pilot phase.

6.5 Questionnaire for measuring the impact of the SOCIALCARE solution

As we want to measure possible effects of the SOCIALCARE solution on the lives of our test users and the pilot site communities an appropriate questionnaire has to be used.

The first idea was creating a new questionnaire. Having identified the key values/domains that we want to follow, an adapted version of the WHO Disability Assessment Schedule 2.0 seemed quite promising. The key values of physical self-care, independence/autonomy and participation describe core domains of the SOCIALCARE solution. To suit our needs some statements have been adopted without changes, some have been altered or omitted. Some new statements have been added.

But as the evaluation of the pilot phase shall also provide data for measuring the socio economic impact of the SOCIALCARE solution, the need for a standardized and validated questionnaire became obvious, a promising candidate the WHOQOL.

The WHOQOL

The World Health Organization Quality of Life (WHOQOL) project was initiated in 1991. The aim was to develop an international cross-culturally comparable quality of life assessment instrument. It assesses the individual's perceptions in the context of their culture and value systems, and their personal goals, standards and concerns.

While the full version, the WHOQOL-100, comprises 100 items, the abbreviated version, the WHOQOL-BREF, which consists of 26 items, seems sufficient and adequate for our objectives. It measures the following broad domains: physical health, psychological health, social relationships, and environment.

Considering that there is an effect of SOCIALCARE and it is positive as well, the collected data has to provide a strong stance and answer questions. A positive effect on the participants' quality of life would be a very strong argument for claiming a socio economic impact of the solution.

Another important question at the end might be “Why is your solution better than other solutions?”. To answer this question, comparability with other studies and solutions would be necessary. The WHOQOL instruments have been widely field-tested and would provide such a comparability of data.

Summary: Why use the WHOQOL as tool for Socio Economic Proof on Concept?

1. Measuring the Quality of Life seems the appropriate approach to evaluate possible effects of the SOCIALCARE platform.
2. It is the international standard for measuring Quality of Life, a validated instrument.
3. It is available in all needed languages of SOCIALCARE
4. Description and evaluation concept is available in all needed languages of SOCIALCARE
5. The chance to compare SOCIALCARE with effects of other projects or studies allows an additional argument for the business model
6. One instrument is capable of substituting lots of efforts to draw from the platform

Point of measurement

At the beginning and at the end of the pilot phase.

6.6 Qualitative Questions and/or focus group sessions

Additional qualitative questions will help us to complete the picture and give our participants the chance to share their personal experiences with and express their opinions about the SOCIALCARE platform.

1. How often did you use the SOCIALCARE solution? (Several times per day, once per day, several times per week, ...)
2. What did you use it for?
3. What was your biggest challenge using the SOCIALCARE apps?
4. What did you like most?
5. Did you often need help when using the SOCIALCARE apps? Yes or No? Which kind of problems did you usually face?
6. Please describe an instance/event/experience where the SOCIALCARE solution was helpful.
7. Please describe an instance/event/experience where the SOCIALCARE solution was not helpful.
8. Do you think that the SOCIALCARE solution is a useful tool for your daily life/for your community? If yes, in which situations, for which tasks/aims?
9. Would you say that the SOCIALCARE solution improves your quality of life? If yes, in which aspects?
10. What is still missing? What function/ service should additionally be implemented?
11. Do you want to continue using any service after the trial period? Which one?
12. Do you have some more remarks/ questions/ ideas about the SOCIALCARE solution you want to tell us?

Point of measurement

At the end of the pilot phase.

Focus group sessions (optional)

Focus group sessions/workshops with selected stakeholders will be conducted to gather information/feedback that may still be missing.

6.7 Overview of evaluation measures

Measurement	At the beginning	At the end	Whole period
Log-files			X
User Experience Questionnaire		X	
Participant's Diary			X
General questions	X		
WHOQOL-Bref	X	X	
Qualitative Questions		X	

7 References

Laugwitz, B.; Held, T. & Schrepp, M., Construction and evaluation of a user experience questionnaire, Holzinger, A. (Ed.): USAB 2008, LNCS 5298, pp. 63-76.

Development of the World Health Organization WHOQOL-BREF quality of life assessment. The WHOQOL Group. (1998) Psychol Med, 28(3), 551-558.

8 Annex - WHOQOL BREF

WHOQOL-BREF

June 1997

U.S. Version



University of Washington
Seattle, Washington
United States of America

Emblem.. Soul Catcher: a Northwest Coast Indian symbol of physical and mental well-being. Artist: Marvin Oliver

WHOQOL-BREF

About You

Before you begin we would like to ask you to answer a few general questions about yourself by circling the correct answer or by filling in the space provided.

1. What is your gender

Male	Female
------	--------

2. What is your date of birth?

	/		/	
Day		Month		Year

3. What is the highest education you received?

None at all
Elementary School
High School
College

4. What is your marital status?

Single	Separated
Married	Divorced
Living as Married	Widowed

5. Are you currently ill?

Yes	No
-----	----

6. If something is wrong with your health, what do you think it is?

	illness/problem
--	-----------------

Instructions

This questionnaire asks how you feel about your quality of life, health, or other areas of your life. Please answer all the questions. If you are unsure about which response to give to a question, please choose the one that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life in the last two weeks. For example, thinking about the last two weeks, a question might ask:

		<i>(Please circle the number)</i>				
		Not at all	A little	Moderately	Mostly	Completely
<i>For office use</i>	Do you get the kind of support from others that you need?	1	2	3	4	5

You should circle the number that best fits how much support you got from others over the last two weeks. So you would circle the number 4 if you got a great deal of support from others. □

		<i>(Please circle the number)</i>				
		Not at all	A little	Moderately	Mostly	Completely
<i>For office use</i>	Do you get the kind of support from others that you need?	1	2	3	④	5

You would circle number 1 if you did not get any of the support that you needed from others in the last two weeks. □

		<i>(Please circle the number)</i>				
		Not at all	A little	Moderately	Mostly	Completely
<i>For office use</i>	Do you get the kind of support from others that you need?	①	2	3	4	5

Please read each question, assess your feelings, and circle the number on the scale that gives the best answer for you for each question.

		<i>(Please circle the number)</i>							
		Very poor	Poor	Neither poor nor good	Good	Very Good			
For office use	G1 / G1.1	1.	How would you rate your quality of life?		1	2	3	4	5

		<i>(Please circle the number)</i>							
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied			
For office use	G4 / G2.3	2.	How satisfied are you with your health?		1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

		<i>(Please circle the number)</i>							
		Not at all	A little	A moderate amount	Very much	An extreme amount			
For office use	F1.4 / F1.2.5	3.	To what extent do you feel that physical pain prevents you from doing what you need to do?		1	2	3	4	5
F11.3 / F13.1.4	4.	How much do you need any medical treatment to function in your daily life?		1	2	3	4	5	
F4.1 / F6.1.2	5.	How much do you enjoy life?		1	2	3	4	5	

		<i>(Please circle the number)</i>				
		Not at all	A little	A moderate amount	Very much	An extreme amount
For office use F24.2 / F29.1.3	6. To what extent do you feel your life to be meaningful?	1	2	3	4	5

		<i>(Please circle the number)</i>				
		Not at all	Slightly	A Moderate amount	Very much	Extremely
For office use F5.2 / F7.1.6	7. How well are you able to concentrate?	1	2	3	4	5
F16.1 / F20.1.2	8. How safe do you feel in your daily life?	1	2	3	4	5
F22.1 / F27.1.2	9. How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

		<i>(Please circle the number)</i>				
		Not at all	A little	Moderately	Mostly	Completely
For office use F2.1 / F2.1.1	10. Do you have enough energy for everyday life?	1	2	3	4	5
F7.1 / F9.1.2	11. Are you able to accept your bodily appearance?	1	2	3	4	5
F18.1 / F23.1.1	12. Have you enough money to meet your needs?	1	2	3	4	5

		<i>(Please circle the number)</i>				
<i>For office use</i>		Not at all	A little	Moderately	Mostly	Completely
F20.1 / F25.1.1	13. How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
F21.1 / F26.1.2	14. To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		<i>(Please circle the number)</i>				
<i>For office use</i>		Very poor	Poor	Neither poor nor well	Well	Very well
F9.1 / F11.1.1	15. How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good** or **satisfied** you have felt about various aspects of your life over the last two weeks.

		<i>(Please circle the number)</i>				
<i>For office use</i>		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
F3.3 / F4.2.2	16. How satisfied are you with your sleep?	1	2	3	4	5
F10.3 / F12.2.3	17. How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
F12.4 / F16.2.1	18. How satisfied are you with your capacity for work?	1	2	3	4	5

For office use		<i>(Please circle the number)</i>				
		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
F6.4 / F8.2.2	19. How satisfied are you with yourself?	1	2	3	4	5
F13.3 / F17.2.3	20. How satisfied are you with your personal relationships?	1	2	3	4	5
F15.3 / F3.2.1	21. How satisfied are you with your sex life?	1	2	3	4	5
F14.4 / F18.2.5	22. How satisfied are you with the support you get from your friends?	1	2	3	4	5
F17.3 / F21.2.2	23. How satisfied are you with the conditions of your living place?	1	2	3	4	5
F19.3 / F24.2.1	24. How satisfied are you with your access to health services?	1	2	3	4	5
F.23.3 / F28.2.2	25. How satisfied are you with your mode of transportation?	1	2	3	4	5

The follow question refers to **how often** you have felt or experienced certain things in the last two weeks.

		<i>(Please circle the number)</i>				
		Never	Seldom	Quite often	Very often	Always
		1	2	3	4	5
<p><i>For office use</i></p> <p>F8.1 / F10.1.2</p>	<p>26. How often do you have negative feelings, such as blue mood, despair, anxiety, depression?</p>					

Did someone help you to fill out this form? *(Please circle Yes or No)* Yes No

How long did it take to fill out this form? _____

THANK YOU FOR YOUR HELP

WHOQOL-BREF Scoring

The WHOQOL-Bref, still in field trials, is a subset of 26 items taken from the WHOQOL-100. The same steps for the scoring WHOQOL-100 should be followed to achieve scores for the Bref. Although scoring the Bref is identical to scoring the WHOQOL-100, there are some differences that need to be addressed:

- The WHOQOL-Bref does not have facet scores
- Mean substitutions are recommended for Domain 1 *Physical Health* and Domain 4 *Environment* if no more than one item is coded missing
- Only three items need to be reversed before scoring

The WHOQOL-Bref (Field Trial Version) produces a profile with four domain scores and two individually scored items about an individual’s overall perception of quality of life and health. The four domain scores are scaled in a positive direction with higher scores indicating a higher quality of life. Three items of the Bref must be reversed before scoring. They can be seen in Table 9, indicated by the “- (reverse)” denotation in the *Direction of scaling* column.

TABLE 9. Scoring Domains of the WHOQOL-BREF

Domains and questions 236BREF	Direction of scaling	Raw domain score	Raw item score
Overall Quality of Life and General Health		...(2-10)	
G1.1/B1 How would you rate your quality of life?	+		...(1-5)
G2.3/B2 How satisfied are you with your health?	+		...(1-5)
Domain 1 Physical Health		...(7-35)	
F1.2.5/B3 To what extent do you feel that physical pain prevents you from doing what you need to do?	-(reverse)		...(1-5)
F13.1.4/B4 How much do you need any medical treatment to function in your daily life?	-(reverse)		...(1-5)
F2.1.1/B10 Do you have enough energy for everyday life?	+		...(1-5)
F11.1.1/B15 How well are you able to get around?	+		...(1-5)
F4.1.1/B16 How satisfied are you with your sleep?	+		...(1-5)
F12.2.3/B17 How satisfied are you with your ability to perform your daily living activities?	+		...(1-5)
F16.2.1/B18 How satisfied are you with your capacity for work?	+		...(1-5)
Domain 2 Psychological		...(6-30)	
F6.1.2/B5 How much do you enjoy life?	+		...(1-5)
F29.1.3/B6 To what extent do you feel your life to be meaningful?	+		...(1-5)
F7.1.6/B7 How well are you able to concentrate?	+		...(1-5)
F9.1.2/B11 Are you able to accept your bodily appearance?	+		...(1-5)
F8.2.1/B19 How satisfied are you with yourself?	+		...(1-5)
F10.1.2/B26 How often do you have negative feelings such as blue mood, despair, anxiety, depression?	-(reverse)		...(1-5)
Domain 3 Social relationships		...(3-15)	
F17.1.3/B20 How satisfied are you with your personal relationships?	+		...(1-5)
F3.2.1/B21 How satisfied are you with your sex life?	+		...(1-5)
F18.2.5/B22 How satisfied are with the support you get from your friends?	+		...(1-5)

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Domains and questions 236/BREF		Direction of scaling	Raw domain score	Raw item score
Domain 4	Environment		...(8-40)	
F20.1.2/B8	How safe do you feel in your daily life?	+		...(1-5)
F27.1.2/B9	How healthy is your physical environment?	+		...(1-5)
F23.1.1/B12	Have you enough money to meet your needs?	+		...(1-5)
F25.1.1/B13	How available to you is the information that you need in your daily-to-day life?	+		...(1-5)
F26.1.2/B14	To what extent do you have the opportunity for leisure activities?	+		...(1-5)
F21.2.2/B23	How satisfied are you with the condition of your living place?	+		...(1-5)
F24.2.1/B24	How satisfied are you with your access to health services?	+		...(1-5)
F28.2.2/B25	How satisfied are you with your transport?	+		...(1-5)

If no more than one item from the *Physical Health* or *Environment* domains has been coded as missing, we recommend that a domain score be calculated by substituting a person-specific average across the completed items in the same scale. For example, if a respondent does not have a value for item B16 *How satisfied are you with your sleep?* in the Physical Health domain, but has answered all of the other items in that domain, then the value for item B16 would be the average of the remaining 6 items. If two or more items are coded missing in these two domains, the domain score should not be calculated, likewise if any items are coded missing in the *Psychological* and *Social Relationships* domains, a domain score for that respondent would not be calculated.

After item recoding and handling of missing data, a raw score is computed by a simple algebraic sum of each item in each of the four domains. Once complete, check the frequencies of each domain to be sure that the scores are within the correct range indicated in Table 9 *Raw domain score* column. The next step is to transform each raw scale score using the formula on page 31. The possible raw score ranges for each domain are as follows: *Physical Health*=28, *Psychological*=24, *Social Relationships*=12, and *Environment*=32.

SCORING EXERCISE AND TEST DATASET FOR THE WHOQOL-BREF INSTRUMENT

The purpose of this scoring exercise is to help WHOQOL-Bref users to evaluate results from each step in the process of calculating the Domain summary scores of the instrument. This exercise was created for SPSS users, but with minor modifications, can be adapted for other computer programs or can be useful for those scoring the survey manually.

A test dataset and SPSS code for scoring the WHOQOL-Bref a computer diskette in this packet. The test dataset, which is called "WQ_BREF.TXT" on the diskette, contains data from 64 administrations of the WHOQOL-BREF. The data can be seen in *Appendix F*. The enclosed diskette also provides the user with the SPSS syntax used to:

- import raw data into SPSS format [WQ_B_DL.SPS]
- derive the WHOQOL-BREF domain summaries [WQ_BREF.SPS]

The SPSS code (called "WQ_BREF.SPS") on the diskette begins by labeling all items and checking for out-of-range values. It then recodes the 3 negatively stated items so that a

higher score indicates better health. The 4 domains are then scored, labeled, and transformed to a 0 to 100 scale used to interpret and compare to other validated instrument tools such as the WHOQOL-100. A copy of the SPSS syntax is reproduced in Appendix F.

Table 10 presents statistics for the transformed domains for the WHOQOL-Bref. After scoring the test dataset, the means, standard deviations, and minimum and maximum observed values should agree with those presented in Table 10

TABLE 10. Test Dataset Descriptive Statistics: WHOQOL-BREF

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Physical (TRANSFORMED)	64	32.14	92.86	66.7969	14.5480
Psychological (TRANSFORMED)	64	37.50	95.83	73.5026	13.7165
Social Relations (TRANSFORMED)	64	25.00	100.00	73.1771	17.0891
Environment (TRANSFORMED)	64	28.13	100.00	72.8027	14.1592
Valid N (listwise)	64				

After all necessary items have been recorded, a raw score is calculated for each facet and each domain. Both facets and domains are scored through a simple algebraic summation of each item in that scale. As stated earlier, each question contributes equally to the facet score and each facet contributes equally to the domain score. Since each facet has four items with response values of 1 through 5, the raw score for any facet must have a minimum value of 4 and a maximum value of 20 (see Table 7 on the following pages).

TRANSFORMATION OF SCALE SCORES

The next step involves transforming each raw scale score to a 0-100 scale using the formula shown below:

$$\text{Transformed Scale} = \left[\frac{(\text{Actual raw score} - \text{lowest possible raw score})}{\text{Possible raw score range}} \right] \times 100$$

where “Actual raw score” is the values achieved through summation, “lowest possible raw score” is the lowest possible value that could occur through summation (this value would be 4 for all facets), and “Possible raw score range” is the difference between the maximum possible raw score and the lowest possible raw score (this value would be 16 for all facets: 20 minus 4).

This transformation converts the lowest and highest possible scores to zero and 100, respectively. Scores between these values represent the percentage of the total possible score achieved. The WHOQOL-100 scores from other Centers may not be transformed to the 0-100 scale. The U.S. WHOQOL instruments and scoring programs have used this transformation to provide comparative data for interpretation.

Example: A Facet 1 “Pain and discomfort” raw score of 15 would be transformed as follows:

$$\text{Transformed Scale} = \left[\frac{(15 - 4)}{16} \right] \times 100 = 68.75$$