# Deliverable 5.2

# Trial and Training Concept

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#### Abstract

The document D5.2 Trial and Training Concept describes how the user trials are set up and how the end users are trained for the use and test of the MyLifeMyWay system. In order to keep this document readable and compact, all utilized forms, documents, questionnaires and tools are compiled in the appendix at the end of this document. In the main part of the deliverable a 'file rouge' to the documents in the appendix is given and the respective documents are shortly described in a structured way.

## What is new in Version 4.0 since MTR2 in April 2018

We added the content of all documents needed for phase 3 in chapter 5 and the appropriate documents in the attachment (chapter 6)

This is the final version of this deliverable

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1.0	2017-10-16	Initial Creation	Daniel Bolliger	iHomeLab
2.0	2017-10-13	Update for Midterm Review	Daniel Bolliger	iHomeLab
2.1	2018-01-24	Check Grammar and Wording	Daniel Bolliger	iHomeLab
3.0	2018-04-07	Added all documents utilized for the user trials for Phase 2 (status of MTR II)	Daniel Bolliger	iHomeLab
3.1	2019-08-25	Update with all documents utilized for the last user trials in Phase 3 (status of project end)	Stefan Winterberger	iHomeLab
3.2	2019-09-10	Rewriting chapter 5	Daniel Bolliger	iHomeLab
4.0	2019-09-04	Review and release of final version	Stefan Winterberger Daniel Bolliger	iHomeLab
4.1	2019-10-17	Final review	Edith Birrer	iHomeLab





















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# 1 Executive Summary

This document describes the practical preparations and measures, to execute the end user field tests in the project MLMW. Each end user has received a personal device, where the MLMW-client-system Anne is installed. The system is configured according to the specific characteristics of each end user. The end users keep these devices at least until the termination of the project in their home and can utilize Anne the whole time.

The following steps are executed consecutively, in order to obtain meaningful test results for the first prototype:

- Recruiting of suitable end users
- Explanation and signature of informed consent
- Intake of specific user needs and information for device setup
- Baseline measurements with electronic itinerary, focus group and 1-1 interviews (M0)
- Training of trainers and end users
- Installation of devices and deployment
- Testing phase with support
- Measurement 1 with electronic itinerary, focus group and 1-1 interviews (M1)

Planned are in the project as next steps:

- Deploying of version 2 of MLMW-system
- Training of trainers and end users
- Testing phase 2 with support
- Measurement 2 with electronic itinerary, focus group and 1-1 interviews (M2)

•

- Development and deploying of version 3 of MLMW-system
- Training of trainers and end users
- Testing phase 3 with support
- Final measurement 3 with electronic itinerary, focus group and 1-1 interviews (M3)

This deliverable D5.2 relies on the theoretical testing requirement deliverable D2.1/3 and is the practical realization of it. As base for all testing activities, the utilized technical MLMW system (tablet, client software, backend, dashboard etc.) is required as a precondition.

We undertook quite a reasonable effort to prepare the field tests well. A lot of documentation was created in the following areas:

- **User intake**: System presentation, selection criteria, intake forms, informed consent
- **Measurements**: guideline for interviewers, questionnaires
- Training **documentation**, system description in different levels

















**Deployment**, distributed updates and local respectively remote support organization

All these documents are available in the attachment of this deliverable. They have an overall length of more than 150 pages and are written in the local testing languages (German or Dutch, some instructional documents are available in English). In the attachment, we add when no English version is available, only the German version, used in Switzerland. All documentation is available Dutch for the field trials in the Netherlands and Belgium.

To make the main document shorter and better readable, we describe all attached documents in a structured and conceive form. The details of the used documents is available in the attachment part of this document.

For each instrument we follow this structure:

- Title, Author, #pages:
- Addresses: persons:
- Aim of the document
- Main content

With this approach, we hope to facilitate on one hand the reading and on the other hand the possibility to look up all details in the attachment, whenever needed.

















## 2 Process Flow

The first version of the MyLifeMyWay system was presented to the end users in each end user organization. The time schedule differed, because recruiting, hardware ordering and training time slots were different for each organization.

The duration of the practical work of each end user was set for the first round about 2 months. So the usage behaviour of the end users can be compared over the different end user organizations. Initially it was planned to start with the end user tests first in the Netherlands, followed by Belgium and finally in Switzerland (with the translated German version of the system). It turned out, that recruitment in Switzerland was possible within the planned period whereas at the other end user sites the process was delayed.

Therfore we show the testing process flow for the case Switzerland in the figure below. The procedure in the other countries is almost the same, but shifted in time scale.

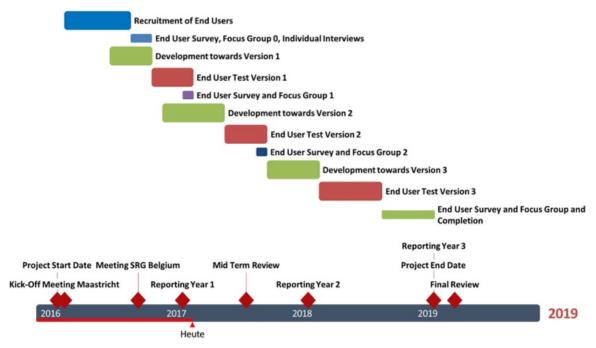


Figure 1: Testing Process Flow (Status December 2016)

Three testing sessions per end user are planned on each site. Until mid-term review, base functionalities as agenda, medication and news are tested. In a next step video communication, end user organization backend integration and improvements from version 1 are planned. This document will be updated after each testing round.

To start up the whole testing process we relied on the following three documents in the attachment:

Title, Author, #pages:

"Konzeptübersicht Studienaktivitäten AAL MyLifeMyWay 'Anne' Version 1.0"; Sylvia Hoekstra HAN, 3 pages















Addresses:

All end user organizations, all scientific research partners, supporting end user organizations (HAN, UCLL, IHL)

Aim of the document

Deliver action list and time planning (status summer 2016) for end user testing of version 1 of the MLMW-system – coordination of all partners

Main content

List of all study activities, delivering M0 (baseline) measurements and M1 (measurements after first testing round)

Title, Author, #pages:

"Organization Switzerland, Setup for Zero-Measurements", Daniel Bolliger and Alain Benz from iHL and bona, 5 pages

Addresses:

Project consortium

• Aim of the document:

How end user testing in Switzerland will take place, who is responsible for what, and what interests have the two organizations IHL and bonacasa

Main content

The document is structured as follows:

- o Description of the two parties involved, with their business and research environment
- Expectations of the two parties towards the field tests. For iHomeLab this is: Acceptance of the avatar Anne, insight to the user requirements for further development, usage of Anne and the tablet.

For bonacasa, the interest in the tests are to find out, if an avatar interface is suitable and favorable for their clients, to support their customer interactions. Further they want to find out the acceptance of the tablet hardware, and to find out what the users wants most for the next iteration of the sys-

- o And finally the organizational setup of the user tests in Switzerland. Who is responsible for what, which persons are involved etc.
- Title, Augthor, #pages:

"Preparation End User Testing Switzerland", Daniel Bolliger iHomeLab, 9 pages

Addresses:

End user organization bonacasa and scientific partner iHomeLab in Switzerland, responsible for end user testing in Switzerland

Aim of the document





















Give overview over all steps and documents required for end user testing in Switzerland. Additionally an actual snap shot on the current status of the required documentation for the testing phase is given.

#### Main content

This document was used by the end user organization bonacasa to prepare all required steps for recruiting end users, perform all interviews, organization of trainings and trainers, as well carrying out the tests.

In the first chapter, an overview is given, followed by the test plan timing. In the next chapter we describe the end user selection with all required documents and criteria's.

Then follows a listing of required steps and documents until just before the hardware rollout.

Chapter 5 lists the training of the trainers, end users and installation of the devices at the end user sites.

The next section covers the running test phase with the MLMW version 1. The support organization on the different levels is outlined.

And in the last chapter is described, what is needed to perform the measurement 1 (M1) campaign after the testing

# 3 User Test MyLifeMyWay Version 1

## 3.1 User Recruiting

Responsible for recruiting end users are the respective end user organizations. They are supported by the research or/and development partners for product demonstration and training. In the case of Switzerland, bonacasa has the full responsibility of recruiting. They approach suitable users according the inclusion and exclusion criteria.

The criteria are listed in D2.1/3 and can be summarized as follows: We are looking for **fragile but not too fragile persons, living in their own flat with or without services**. They are not fully dependent on professional care. IT literacy is not a prerequisite for selection.

The end users are motivated by direct contact or by an information leaflet, to take part in an information event, near to their living space. This leaflet is described in the following document:

• Title, Author, #pages

"MyLifeMyWay- Anne, Persönliche Einladung zur Teilnahme an einem Forschungsprojekt", Rahel Jenni Bonacasa, 4 pages

UC Leuven

Addresses

Potential end users for MLMW

Aim of the document









Inform about MLMW, invite to information meeting near the living space of the potential end users

#### Main content

- Short explanation of the project MLMW and the avatar Anne.
- Inclusion and exclusion criteria for potential end users
- Expectations from the project team towards the end users
- Benefits for participants
- o Duties of the participants
- o Contact data of local end user organisation and development partner
- Invitation with place and date of information event

Based on the recruitment actions, bonacasa in Switzerland headed for 15 users from the project start on, and 5 users with home automation for project entry in a later stage.

This is described in the following document:

### • Title, Author, #pages

"Smart Home, Integration Plan End Users in CH", Daniel Bolliger and Alain Benz (IHL and BONA), 3 pages

Addresses

Consortial members

• Aim of the document

Agreement on split of end users in Switzerland to two groups: 15 without home automation, involved from first testing. 5 with home automation, participating from spring 2018 onwards

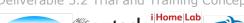
Main content

The first smart home flats of bonacasa are handed over to the end users in late summer 2017. Normally, in the first 6 months after moving in, a lot of things do not yet work properly in the new flats. Therefore bonacasa and the new tenants are very busy in eliminating all open points. An immediate start with MLMW with these users would not be ideal, because they would link their issues with the new flat also directly with MLMW. Therefore, we decided to start with these users in spring 2018.

The user split in Switzerland was accepted by the consortium partners in Q1 2017.

The information and demo of MLMW to the end users took place in collaboration between the end user organization bonacasa and the development and scientific partner organization iHomeLab at the end user sites in Switzerland.

There was a life demonstration of the currently available platform and a presentation that explained the project more closely to them.















• Title, Author, #pages

"Infoanlass am 8. Mai im Roggernpark", Daniel Bolliger and Rahel Jenni, 25 pages presentation

Addresses

Potential end users at services flats Roggernpark

• Aim of the document

Inform and motivate potential end users for MLMW field testing

- Main content
  - Present research project MLMW
  - Present current state of MLMW client device with Anne
  - o Introduce research organization iHomeLab
  - Sensualise for demographic challenge in Europe
  - Data protection and boundary conditions
  - Next steps

After this meeting, the end user organization took again contact with all potential end users and agreed with them on the participation in the project.

All suitable and agreed end users were invited to participate in the following activities, described in section 3.2 to 3.8

Before starting any further action, the informed consent was explained to the end users. All end users and a member of the project consortium signed the informed consent:

• Title, Author, #pages

"Die Einwilligungserklärung Forschungsprojekt AAL Anne MyLifeMyWay", iHomeLab in collaboration with HAN – same informed consent declaration as in other countries, 2 pages

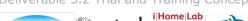
Addresses

End user, taking part in field trials

• Aim of the document

Understanding and consent of boundary conditions, end user rights, data protection, privacy and resignment options.

This informed content is the only document where the clear text name of the proband and the user identification number are connected. The original documents only exist in paper form and are safe stored with restricted access at iHomeLab in Switzerland. So no connection can been made, between the end user identification and the real person behind, during any data evaluation. The same procedure is applied in all participating countries.

















## 3.2 Focus Group and Interviews 0

For the next step, all users participated either in a focus group or a 1-1 interview. HAN prepared for these interviews/groups a quideline for the interviewers. Both kind of meetings/inteviews were executed out in the same manner:

Title, Author, #pages

"Research AAL/MyLifeMyWay", HAN, Sylvia Hoeckstra, 5 pages

Addresses

Leader of focus group 0 and 1-1 interview 0 (M0)

Aim of the document

Guideline to the focus groups, as well as to the 1-1 interviews

- Main content
  - Introduction of the interview
  - Explaining MLMW and the research goals
  - How to handle the groups, how to protocol
  - All questions, to find out what expectations the users have, prior working with the client device.
  - Find out about motivation of the end users
  - Find out about self suffiency of the end users
  - Explaining the next steps in the project

Theses guided interviews give a more depth insight into the motivation and needs of the end users, as well as their expectations towards the project. The results are summarized in the different country reports.

For the Swiss focus group, the questions are projected with a beamer to assist the discussion. An expample can be found in the following document:

Title, Author, #pages

"Fragen Fokusgruppe", Rahel Jenni – bonacasa, 8 pages

Participants focus group and 1-1 Interviews

Aim of the document

Facilitate focus group discussion - show actual questions...

Main content

According to the guideline document: "Research AAL/MyLifeMyWay" in this section

For the focus group - as well as for the 1-1 interviews - the following form was utilized to take the interview notes:

Title, Author, #pages



















"Einzelinterview Fragebogen - Baseline Measurement", Daniel Bolliger iHL, 9 pages

**Addresses** 

Expert who takes notes during the focus group and 1-1 interviews

*Aim of the document* 

Structured aid for taking notes during the interviews. The answers can be entered into this form. A tabular export of the answers is easy feasible

Main content

Questions and place for answers as described in the guideline in this section.

## 3.3 0-Measurements Questionnaires

In the next step after the focus group and 1-1 interviews, all participants fill out an electronic FormDesk questionnaire:

Title, Author, #pages

Untersuchung der Wirkung von ANNE – elektronischer Fragebogen Form-Desk", german translation Iwan Bolzern iHL, 27 pages, 87 questions

Addresses

End users of MLMW, primary end users

Aim of the document

Fill out expectations and IPA prior using MLMW for the first testing period

- Main content
  - Introduction to the questionnaire and MLMW
  - Obfuscated identification questions (house number, age, sex...)
  - Personal health data (impairment)
  - ITC literacy
  - Expectations towards the available functions of the system
  - Expectations towards the usability of MLMW client device
  - Expectations towards the effects on the primary end user after the first testing period
  - IPA (see deliverable D2.1/3 for theoretical background)

The questionnaire is available in German and Dutch. They have the same structure and data formats. Therefore it is possible to evaluate the quantitative results with SPSS in one pass for all regions.

For non-professional carers, the care giver strain index (CSI) is measured with the following FormDesk questionnaire:

Title, Author, #pages

"ANNE\_CSI-Pflegende Angehörige\_Deutsch – elektronischer Fragebogen FormDesk", translation Iwan Bolzern,4 pages



















Addresses

Informal carers or concierges of bonacasa, that take care of the primary end users

Aim of the document

Measure the Care Giver Strain Index of the informal carers

- Main content
  - Identification of organizational membership
  - Self-declared CSI according to officially translated CSI

## 3.4 User Intake

At this point of the user trials with version 1 of MLMW, the devices for each user have to be set up. The necessary information needed, is filled in by the end user in the following form:

Title, Author, #pages

"MyLifeMyWay Benutzerregistrierung", Edith Birrer iHomeLab, Google Form, 9 pages

Addresses

Primary end users, fill out the form. Then technical staff uses the information to setup specific client devices

Aim of the document

Get all necessary information to setup devices

- Main content
  - Personal identification
  - Support contact information
  - Medication needs
  - Calendar initial settings and appointments
  - News preferences
  - Local network credentials

With all this information, the technical responsible for the client devices can use all inputs, to setup the devices according to the needs and wishes of each end user. In Switzerland the setup was done by the technical staff of iHomeLab. Data is only used for setup of the devices and not for statistical evaluation. After setting up the devices the questionnaires are deleted. The setup information is stored in the dashboard of every client. For data protection issues see deliverable D3.3.

#### 3.5 Train User and User Documentation

This section is about the training of the end user, the user documentation for end users, informal carers and technicians.





















By filling in all baseline questionnaires, taking part in focus group and 1-1 interviews, all prerequisites for device installation are available. The device is then setup with the information delivered in section 3.4.

It is very important that all users have a good personal introduction/training to the system. Additionally good user documentation must be available.

Virtask has generated a training course, iHomeLab has translated it to German. The target group for this training are end users that do not have any ITC literacy at all. If a specific end user is familiar with tablets, smart phones etc. the introduction of the currently available MLMW version 1 can be done within ½ hour easily. The described training document is the maximal required effort for the training of an ITC novice.

Title, Author, #pages

"Endusertraining ANNE - Trainingsanleitung für Trainer", German translation Iwan Bolzern iHomeLab, 13 pages

Addresses

Trainers, introducing MLMW prototype to primary end users

Aim of the document

Give detailed, careful training proposal for non ITC literacy end users

- Main content
  - Four training sessions, step by step
  - Needed material
  - Required effort
  - Special measures, to keep attention of end users high enough
  - Template for end user journal

During our software testing we recognized, that it is really helpful to have a cheat sheet, that lists all common commands of Anne in a very short form. The "Cheat Sheet". It is a kind of reference card.

Title, Author, #pages

"Quick Reference - Kurzanleitung", Daniel Bolliger iHomeLab, folded Quick-Card 4xA6

Addresses

**End Users** 

Aim of the document

Cheat sheet to lookup most common commands during operation of Anne

- Main content
  - Contact addresses for support
  - Main screen commands
  - News screen commands

















Medication and calendar screen commands

Additionally we have listed all available commands and symbols in a printed user documentation. This description of MLMW is normally sufficient for most of the end users.

• Title, Author, #pages

**"Kurzanleitung Anne – Q1 2017 – deutsch",** original Dutch version by Dennis Kleinbussink (VIR) – translation Martin Wuethrich iHomeLab, 14 pages

Addresses

Normal end users of MyLifeMyWay,

• Aim of the document

List of all available client commands and symbols of MyLifeMyWay of version 1

- Main content
  - Login, WiFi setup
  - Tips and tricks for speech recognition
  - Symbols and their meaning
  - Starting page symbols and speech commands
  - Calendar page symbols and speech commands
  - News page symbols and speech commands
  - Common guestions and answers trouble shooting

For trainers, supporting carers and interested end users, there is also a reference manual available. Especially the handling of the dashboard for medication and news, as well as the entering of new agenda items is described in detail. This manual is not recommended for non-skilled ICT users.

• Title, Author, #pages

"Bedienungsanleitung Anne – Q1 2017 – deutsch", original version K.J. Mulder-Nijssen virtask; translation German by Martin Wüthrich iHL, 36 pages

Addresses

Trainers, informal supporters, technicians, skilled end-users

• Aim of the document

Reference documentation of MyLifeMyWay system version 1

- Main content
  - How to use the documentation
  - Tips and tricks for voice recognition
  - How to approach help desk
  - Start page description, commands and symbols















- Calendar page description, commands and symbols
- News page description, commands and symbols
- Q+A0
- How to enter calendar items into a specific user calendar
- Description of the utilized Surface 4 Pro Hardware

# 3.6 Support Organization During Field Testing

The support organization during field tests is very important. So we can guarantee short response time, and the user get appropriate solutions timely. Otherwise, if something does not work as expected with MyLifeMyWay. We have the risk of losing the end users quite soon due to frustration,

We describe here the support chain in Switzerland. Similar setup is installed in Belgium and the Netherlands:

- First level support: Any questions about handling, problems etc. can be placed directly to the concierge of the tenants of the service flats of bonacasa. The end users can call, text or mail the concierge any time. Every week on Thursday afternoons the concierge is on site (anyway) and is also able to answer questions.
- **Second level support:** If issues cannot be solved by the concierge, she escalates to the backend organization of the end user organization. In urgent cases, the end users can also directly contact this backend
- Third level support: If the issue cannot be solved in the first two layers, the issue is escalated to the development partner iHomeLab. In addition to the first two layers, iHomeLab has remote access support capability to each running end user device via team viewer. This access is only available on specific agreement by the end user.
- Fourth level support: If some issues are not solved by iHomeLab, they can be also escalated to virtask. In our experience this happens only in very rare cases.

Additionally each user has on the desktop of his/her device a link to an error reporting form, which is pushed directly to iHomeLab:

Title, Author, #pages

"MyLifeMyWay Kontaktformular https://goo.gl/forms/YwgPv0dfoZKiDKt82", Daniel Bolliger iHomeLab, 1 page

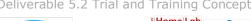
**Addresses** 

End users with bugs, questions, problems

Aim of the document

Error reporting to development partner

- Main content
  - Machine identification
  - Type of error















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- Frequency of occurrence
- Severeness
- Description

## 3.7 Questionnaires 1

After using the device with version 1 for around two months, the users are contacted again. They have to to fill in an electronic form desk questionnaire very similar to the one described in section 3.3. This questionnaire has to be similar, in order to find out the evolution of the expectations, behaviour and stress during the testing period. It also will be used as source for detailed focus group and 1-1 interviews as described in section 3.8.

Title, Author, #pages

"Untersuchung der Wirkung von Anne – ANNE AAL ENDUSER M1 Deutsch", translation bei Edith Birrer iHomeLab, 11 pages

Addresses

End users, participating in field-test with version 1 of Anne

Aim of the document

Change of expectations, IPA, and usability experience of Anne

Main content

Same content as in electronic questionnaire in section 3.3. The questions about ITC literacy, education, income etc. are skipped, because there is no additional information expected.

## 3.8 Focus Group and Interviews 1

For closing the first field trial phase, all users take part either in a focus group interview or digg the root causes of the answers in these interviews.

We have prepared similar to the ,Leitfaden M0' a guideline for this interviews and focus groups. For all countries there is a 'Leitfaden' in the local language available:

Title, Author, #pages

"Befragung 1 - Einzelinterviews und Fokusgruppe Leitfaden", Daniel Bolliger iHomeLab, 7 pages

Addresses

End user organisation bonacasa, who makes focus groups and 1-1 interviews for measurement 1

Aim of the document

Understand the root causes to the answers in section 3.7

- Main content
  - o Introduction with research questions, focus, statistical data, how to introduce interview and boundary conditions





















- o Experiences with MLMW during the trial period
- Usage (personal perception)
- How was the learning curve
- Missed features
- Usability
- How assistance could be improved

The guide to the interview M1 is accompanied again with a google form, utilized to enter all answers. The results of all interviews can be exported then easily in tabular form

Title, Author, #pages

"Antworten Enduser-Interview 01", Daniel Bolliger iHomeLab, 4 pages

**Addresses** 

End user organisation bonacasa, who makes focus groups and 1-1 interviews for measurement 1

Aim of the document

Understand the root causes to the answers in section 3.7

Main content

Same question as described in the document "Befragung 1 – Einzelinterviews und Fokusgruppe Leitfaden"

















# 4 User Test 2

## 4.1 User Recruiting

New end users were recruited in Belgium and the Netherlands with the same inclusion and exclusion criteria as in the first field test. We refer for recruiting material to the first field test of spring 2017.

Due to the input of the different national data protection officers the informed consent used in the first field test is adapted and presented to all end users for signature (again). Additional emphasis was given to simplify the different paragraphs for better understanding. Additional sections were introduced, handling the evaluation of telemetry data and the use of the google calendar framework.

Before starting any further action, the informed consent was explained to the end users. All end users, the carers and a member of the project consortium must sign the informed consent. The changes to the informed consent in phase I is described in:

• Title, Author, #pages

"Informed Consent Addenum", HAN in collaboration with UCLL and iHL, 2 pages

Addresses

Research Organizations in NL, BE and CH

Aim of the document

How to extend the informed consent inorder to be compliant with the new GDPR legislation, and as reaction on the investigation of the juridical boundary conditions of MLMW.

And a sample of the German informed consent is given here:

• Title, Author, # pages

"Die Einwilligungserklärung Forschungsprojekt AAL Anne MyLifeMyWay", iHomeLab in collaboration with HAN – same informed consent declaration as in other countries, 2 pages

Addresses

End user, taking part in field trials

• Aim of the document

Understanding and consent of boundary conditions, end user rights, data protection, privacy and resignment options.

This informed content is the only document where the clear text name of the proband and the user identification number are connected. The original documents only exist in paper form and are safe stored with restricted access at iHomeLab in Switzerland. So no connection can been made between the end user identification and the real person behind, during any data evaluation. The same procedure is applied in all participating countries.















## 4.2 Focus Group and Interviews 0

The overall planning for research actions phase 2 until end of the project is described in Deliverable D2.1 End User Eclicitation Plan and Evaluation Specification. The part concerning the end user testing is described in:

Title, Author, #pages

"Proposal Planning Research Activities Project MyLifeMyWay Phase 2", HAN, Sylvia Hoeckstra, 2 pages

Addresses

Leader of research activities and project partners

Aim of the document

Timeline on research activities Phase 2 onwards

- Main content
  - o Timeline and short description of each research task.
  - Update after MTR in Nov 2017

For the next step, all new users participated in a focus group. UCLL prepared for these groups a guideline for the interviewers:

Title, Author, #pages

"Research AAL/MyLifeMyWay", UCLL, Evi Verdonck, 2 pages

Addresses

Leader of focus group 0

Aim of the document

Guideline to the focus groups

- Main content
  - Introduction of the interview
  - Explaining MLMW and the research goals
  - How to handle the groups, how to protocol
  - All questions, to find out what expectations the users have, prior working with the client device.
  - Find out about motivation of the end users
  - Find out about self-sufficiency of the end users
  - Explaining the next steps in the project

Theses guided interviews give a more depth insight into the motivation and needs of the end users, as well as their expectations towards the project. The results are summarized in the different country reports.



















#### 4.3 User Intake

At this point of the user trials with version 2 of MLMW, the devices for each new user have to be set up. The necessary information needed, is filled in by the end user in the same form as described in section 3.4

### 4.4 Train User and User Documentation

This section is about the training of the end user, the user documentation for end users, informal carers and technicians.

It is very important that all users have a good personal introduction/training to the system. Additionally good user documentation must be available.

For daily work with the device we created for each country quick-cards that describe in a very easy way the operation of the system for different use cases.

Title, Author, #pages

"Quick Cards MLMW", VIR, Linsey van Marion, 12 pages

**Addresses** 

End Users, Carers

Aim of the document

Cheat sheets to lookup most common commands during operation of Anne

- Main content
  - Main screen commands
  - News screen commands
  - Calendar screen commands
  - Medication screen commands
  - Video Call screen commands
  - Web App Video Call screen commands
  - Games screen commands
  - Radio screen commands
  - WiFi connection commands
  - Dashboard handling commands
  - Calendar entry How To

For trainers, supporting carers and interested end users, there is also a reference manual available. Especially the handling of the dashboard for medication and news, as well as the entering of new agenda items is described in detail. This manual is not recommended for non-skilled ICT users.

Title, Author, #pages

" Handleiding Anne - Manuals Phase 2", Theo van Tuil - virtask; 42 pages





















#### Addresses

Trainers, informal supporters, technicians, skilled end-users

Aim of the document

Reference documentation of MyLifeMyWay system version 2

- Main content
  - Introduction
  - How to Use the Documentation
  - How to Start
  - Agenda
  - News
  - Video Call
  - Radio
  - Games
  - Medication
  - All Speech Commands
  - The Dashboard
  - Quick Cards for the Dashboard
  - Webapp for Video Call

## 4.5 Support Organization During Field Testing

The support during the field tests in phase 1 worked very well and reliable. Therefore there is no new procedure defined. So chapter 3.6 is also valid for this testing phase.

## 4.6 Paper Diaries

In order to motivate the end users to utilize regularly the devices with SW version 2, we hand them out a printed diary, where they can fill out their experiences, problems and success with Anne.

Title, Author, #pages

"Tagebuch-Deutsch", iHL, Daniel Bolliger, 56 pages (in attachment only 4 pages as example)

Addresses

End users, participating in field-test with version 2 of Anne

Aim of the document

Motivation for use of Anne through the whole testing period. Have complete notes of the end users on their device usage. Memory aid for the regularly user meetings during the test phase.

Main content





















Personalized title page with name and testing duration. On the second page is an explanation, how the document can be used and has to be filled in. Then subsequently for each testing day is a single page, where the usage time and satisfaction with the system can be checked, additionally there is space for notes on the actual day with Anne

# 4.7 Focus Groups During and After the Test Phase 2

During the evaluated test phase, regular group meetings take place on the local user groups. A guidline for discussion is developed by HAN.

This guideline then also can be used by closing the test phase in focus group interviews.

For all countries there is a 'interview guide ' in the local language available:

Title, Author, #pages

"Topic List Phase 2 - M1 and Focus Groups", HAN, Sylvia Hoeckstra / Evi Verdonck UCLL, 5 pages

Addresses

End user organisations, who makes focus groups and 1-1 interviews for measurement 1

Aim of the document

Understand the root causes to the answers in section 4.8

- Main content
  - o Introduction with research questions, focus, statistical data, how to introduce interview and boundary conditions
  - Experiences with MLMW during the trial period
  - Usage (personal perception)
  - How was the learning curve
  - Missed features
  - Usability
  - How assistance could be improved

# 4.8 Questionnaire

After using the device with version 2 for around two months, the users are contacted again. They have to to fill in an electronic form desk questionnaire similar to the one described in section 3.7. We decided to evaluate the IPA part to shorten and to get the answers in the focus group there. The main idea is, to get as much input on the satisfaction with the system from our end users. Further we expect to get a better insight what has to be changed and how the system has to extend towards the third field test.

Title, Author, #pages

"Anne.1\_AAL\_Enduser\_(M1) ", Sylvia Hoeckstra HAN, 9 pages

**Addresses** 

















End users, participating in field-test with version 2 of Anne

• Aim of the document

Change of expectations, and usability experience of Anne

Main content

Same content as in electronic questionnaire in section 3.7, but in a compacter form.











## 5 User Test 3

## 5.1 Concept and Timing of Phase 3

As a starting point for the last end user testing phase the goals and the timing for this period was fixed and aligned with the development and testing tasks needed for the last system iteration of Anne in the MLMW project.

Title, Author, #pages

"conceptPlanning research act MyLifeMyWay 180222-Phase III", Sylvia Hoekstra, HAN, 1 page

Addresses

Addresses all end use-r and research organisations, who are in charge for the end user tests phase 3

Aim of the document

Defines the main goals for phase 3 and explains the timing of this last testing phase

Main content

The main goals are to become insights on Anne on general acceptance of existing, improved and new modules. Special attention is given to the branded page concept and (for those who have home automation facilities) to the ABB home automation, linked to Anne. Additionally an overview on the whole project and some busuiness relevant points are envisioned.

# 5.2 User Recruiting

In the last test phase, the focus was set on testing the new features and improvements, that were implemented since the last filed trials. For testing the new home automation module, the criteria were, that the test participants have the necessary components installed in their apartment. Bonacasa recruited new test user in the region of Utzenstorf in Switzerland. The recruitment was quite difficult, because a minor change in the test users home automation system was necessary. Beside this, the criteria for the test users was the same as in the first 2 trials. A presentation for possibly interested users was held on site.

The potential end users were selected by the local concierge. A personal letter was sent to these potential end users, with an invitation to an information event in Utzenstorf in an exhibition flat. The invitation letter is the following document:

Title, Author, #pages

"Flyer User Information Utzenstorf", Sonja Wolf bonacasa, 5 pages

Addresses

Potential end users with ABB free@home home automation, living in the test site Utzenstorf.

Aim of the document

First information to potential users on Anne, with the goal to meet them in an info event in the exhibition flat at Utzenstorf.











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#### Main content

- Short description of the project MLMW and Anne
- Project flow / timeline of the tests
- Benefits and duties of the potential participants
- Contact address of the end user organisation and the technical partner
- Invitation to the info event in Utzenstorf

After sending out the invitation letter, and becoming some registrations, the concierge and some very well connected persons living in the neighbourhood talked to several neighbours, in order to get the targeted number of home automation end users.

Finally we were able to have the info event with the interested end users. We demonstrated there Anne (including home automation) and demonstrated them the project more in detail. Special attention was given to the informed consent (data usage and analysis within the project). Further we explained them in detail, what interventions to their home automation system were planned. The underlying presentation is this document:

Title, Author, #pages

"Presentation\_MLMW\_Utzenstorf", Daniel Bolliger and Stefan Winterberger, iHomeLab, 26 pages (slides)

#### Addresses

Potential end users, living in Utzenstorf. Prerequisite is, that they have all installed the free@home home automation from ABB

#### Aim of the document

Allow the participants to learn more about our project, get information how their participation will look like. Get information on the interventions on their home automation installation and a very clear picture on data protection and security in this project. The goal was, that the potential end users have the possibility to decide, and whether they would like to take part in the tests or not

#### Main content

- Introduction of iHomeLab as research and technology partner
- Explanation of the demographic change, the AAL-JP and the project MLMW
- Demonstration of Anne
- Test flow and end user involvement
- Data protection and intervention into their home automation system
- Giving contact persons details
- Q&A to help them to decide upon participation in the project

End users not having home automation were already part of the tests of phase 1 and 2 already. They had not to be recruited once again. But because there was already some time passed since the closure of the last test phase, we informed them with an information letter about the final testing phase in the project:

Title, Author, #pages



















"Flyer User Information", Sonja Wolf bonacasa and Daniel Bolliger iHomeLab, 5 pages

Addresses

Existing end users (without home automation), that will take part in phase 3 of the end user tests

Aim of the document

Prepare for the information meeting, announce that the next test phase will take place.

- Main content
  - Announcement and timing of the third end user test phase
  - Short description, what has changed on the existing features
  - Short description, what new features they can expect
  - Asking them to let the tablets turned on for the next few days, in order to remote install the updates
  - Announcing the training session on site
  - Give information on the supporting persons, they can address

## **5.3** Train the Trainer

In phase 3 there we had a main emphasis on local information and information provided with the branded page. Therefore we organized a training session with the concierges, the back office of bonacasa (responsible for bonacasa wide news on the branded page) and the marketing team of bonacasa. They act as content providers and as trainers for the phase 3 too. In the workshop there was given an introduction to Anne and the branded page concept in Solothurn. The introductory presentation is the document:

Title, Author, #pages

"Introduction - train the trainer", Daniel Bolliger and Martin Wüthrich iHome-Lab, 10 pages

Addresses

Concierges, marketing and back-office team of bonacasa

Aim of the document

Introduction to MLMW, phase 3 and the planned duties of them.

- Main content
  - The project MLMW
  - The different communication channels of the end user organisation with their clients and situation of the branded page concept within
  - Project flow in phase 3 and work to carried out by the end user organisation
  - Short glimpse to video communication, Group calendar and News stream within Anne















After giving the trainers an overview on the training they get during this session, they were introduced to the motivation behind the new feature "branded page". It is important that they understand the ideas behind the concept, in order to provide appropriate content during phase 3

Title, Author, #pages

"MotivationBrandedPage-V1-0", Daniel Bolliger iHomeLab, 3 pages

Addresses

Provider of the actual content of the branded page during field test phase 3

Aim of the document

Giving deeper understanding, why a branded page was implemented. Context in the whole communication chain within their organization.

- Main content
  - Introduction to phase 3
  - Branded page easy communication with actual edited content on local and company-wide new streams, calendar and direct video contacts
  - Branded page trial research questions for phase 3

In a next step in this workshop the content provider were trained hands on by writing and publishing their first news articles for their clients. As supporting material they got the following manual:

Title, Author, #pages

"Manual BrandedPage Backoffice-V-1-0", Edith Birrer and Daniel Bolliger iHomeLab, 19 pages

Addresses

Concierges and back office, involved in phase 3 testing

Aim of the document

Instruction how to provide content for the branded page and use the video calling function for direct communication between the backoffice/concierge and the tenants.

- Main content
  - Handling and operation for video calls with the web app
  - Writing, publishing and checking news items on the different news streams of Anne

Each end user can have individually configured its device for the branded page (among a lot of other individualisations). In the following document is described the individualisation procedures for this feature. The individualisation is carried out by the end user Anne administrators. Additionally, the setup of the required RSS-feed generator is described:

Title, Author, #pages

"Manual BrandedPage Setup-V-1-0", Edith Birrer and Daniel Bolliger iHomeLab, 12 pages









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#### Addresses

End user organisation administrators

Aim of the document

User manual to setup the RSS feed writer, video conferencing, calendar and end user individualisation

- Main content
  - RSS Feed generator configuration
  - Setup of organization's calendar
  - Setup of video calling function
  - Configuration of the branded page per user on the dashboard (individualisation)

### 5.4 User Intake and Base Interviews for new Users

All users with home-automation are located in Utzenstorf. Therefore we had to perform with them the whole procedure for new users. This consists of the following three parts:

- Informed consent
- Baseline interview
- o Technical on-boarding

Before starting specific work with the end users, a modified informed consent was discussed in depth with them. The informed consent is amended with a part describing the intervention to their home automation system and the additional installed components (SW and HW). Further the intervention capabilities of the support team and the data used for telemetry is described in detail (sections 6-8).

Title, Author, #pages

"Informed consent modified German 190325", Martin Wüthrich iHomeLab, 2 pages

**Addresses** 

Home automation end users in the project MLMLW in phase 3

Aim of the document

Have an informed consent with the affected end users, prior starting the field test in phase three. And being compliant with GDPR for the end user testing phase.

Main content

Informed consent for home automation users. Especially added/reworked articles 6-8

To carry out the end user baseline interviews comparable and in a structured way, we designed a set of questions for the new end users before they got the installation of Anne in the project MLMW.















Title, Author, #pages

"Fragebogen\_Utzenstorf-M0", Daniel Bolliger iHomeLab, 4 pages

Addresses

Researcher who does the baseline interviews with the new users of phase 3

Aim of the document

Get some biographical/health data from the affected end users

Understand their communication behaviour with their concierge and back-office

Know why they life in a serviceable flat

Motivation and expectations towards Anne and the project MLMW

Main content

Framework, that allows to have a guideline for the interviews in the start-up phase for the new end users with home automation

Like in the first two trials, an in-take form was filled out by the test participants. Additionally, a backup of the existing home automation configuration was made, while the in-take process. Therefor it would have been possible to load this backup, if something would have gone wrong during the installation. Further, a Raspberry Pi (mini pc) was installed, for monitoring and remote while the field trials. In order to be able to configure Anne, as well the home automation properly the following intake form was used. This form was introduced to the new end users (with home automation) at the end of the first visit together with the technical staff of iHomeLab.

Title, Author, #pages

**"Erfassung Teilnehmer MyLifeMyWay Utzenstorf",** Stefan Winterberger iHomeLab, 14 pages

Addresses

The new end users with home automation in phase 3 and the technical administrators who set up the accounts and configure the home automation

Aim of the document

Gather all necessary documents required for correct setup of individual client devices (Anne, dashboard, home-automation...)

Main content

This document is an extension of the document: "MyLifeMyWay – Kontaktformular", as described in the phase 1 already. Additionally there is a section with information needed for configuration and access to the free@home smart home automation of the individual end user.

### 5.5 Train User and User Documentation

The existing manuals from the previous trials where extended with a description of the new modules. Additionally the end user documentation is actualized with all minor changes and improvements. So all screen shots are up to date.

Kurzanleitung Enduser - V1-0 - SW-0.5.9X-de CCCXVII

















Title, Author, #pages

**"Kurzanleitung Enduser - V1-0 - SW-0.5.9X-de",** Stefan Winterberger, iHomeLab, 14 pages

Addresses

All end users – expect the ones that have home-automation installed.

Trainers and carers

Aim of the document

Easy to use short manual, with all speech commands and command buttons of the actual SW

Main content

Same content as the manual "Quick Cards MLMW" with description of the main screen commands. Actualized and added with the

Branded page commands

For the end users having home automation the manual Kurzanleitung Enduser - V1-0 - SW-0.5.9X is extended with the description of the home automation screen. CCCXLVI

Title, Author, #pages

"Kurzanleitung HomeAutomation - V1-0 - SW-0.5.100-de", Martin Wüthrich, iHomeLab, 15 pages

Addresses

New end users, utilizing free@home smart home automation with Anne

• Aim of the document

Easy to use short manual, with all speech commands and command buttons of the actual SW

Main content

Same content as the manual **"Kurzanleitung Enduser - V1-0 - SW-0.5.9X-de"** with description of the main screen commands. Actualized and added with the

Home automation page commands

During the field test phase 3 some specific questions arised from the user side. The technical support of iHomeLab had direct contact with the end users often via the built in video calling function on the branded page. After verification of the end user requests, the support team created additional user manuals for the discussed problems. As an selection for this type of problem solving the three following short manuals were created:

- "Manual \_SysAP\_Anwesenheitssimulation"
- "Manual \_TeamViewer"

Title, Author, #pages

**"Manual \_SysAP\_Anwesenheitssimulation",** Martin Wüthrich iHomeLab, 8 pages

Addresses

















One user in Utzenstorf, who has a holiday resort in Portugal and wants to have some simulation of the lighting at home during his absence.

• Aim of the document

Description, how the absence simulation in free@home can be configured

Main content

Setup of the configuration capabilities with time schedules, to simulate flat occupiance during absence. This is a description of the free@home configuration site.

Title, Author, #pages

"Manual\_iCloud-Kalender-Integration", Martin Wüthrich iHomeLab, 6 pages

Addresses

One specific end user at the test site Utzenstorf

Aim of the document

One end user had problems with synchronizing his personal electronic agenda on his apple computer with Anne. We provided him an instructional document how to link his google agenda with the underlying Anne google calendar

Main content

Illustrated instruction for linking both calendar types

Title, Author, #pages

"Manual \_TeamViewer", Martin Wüthrich iHomeLab, 2 pages

Addresses

One specific end user at the test site Utzenstorf

Aim of the document

One end user had problems with synchronizing his personal electronic agenda on his apple computer with Anne. Therefore we discussed the item and decided, that we will have a video call with Anne and having a remote session on his apple computer to solve the problems. As preparation for this video call we created this document, that explains, how to install team viewer on his apple computer

Main content

Team viewer installation procedure for apple computers

# 5.6 The Branded Page Feeds during the Field Tests

During the field tests in phase 3 one main goal was to test the branded page at each site. For each site a localized news feed stream was generated and distributed. Each local















stream consisted of two sources: Local information and global information. That the reviewers get a better understanding, what localized information was provided via the branded page during the field testing period, screenshots for the three sites are provided in the following three documents:

- "RSS-Feeds-Malters"
- "RSS-Feeds-Oensingen"
- "RSS-Feeds-Utzenstorf"

Title, Author, #pages

"RSS-Feeds-Malters", concierge Malters, back office bonacasa, 14 pages

Addresses

End users in Malters

Aim of the document

Provide local information (news, events, background info). Announce services and general bonacasa relevant information

- Main content
- The 27 feeds, published for the end users in Malters in date descending order.

Title, Author, #pages

"RSS-Feeds-Oensingen", concierge Oensingen and back office bonacasa, 8 pages

Addresses

End users in Oensingen

• Aim of the document

Provide local information (news, events, background info). Announce services and general bonacasa relevant information

Main content

The 32 feeds, published for the end users in Oensingen in date descending order.

Title, Author, #pages

"RSS-Feeds-Utzenstorf", concierge Utzenstorf, back office bonacasa, tech team iHomeLab, 15 pages

Addresses

End users in Utzenstorf

• Aim of the document

Provide local information (news, events, background info). Announce services and general bonacasa relevant information. Tips and tricks with Anne, regarding the interplay of the home automation free@home and the representation of it in Anne

Main content

The 20 feeds, published for the end users in Oensingen in date descending order.



















## 5.7 Closing Focus Groups and Interviews 1

After closing the active field tests we concluded this phase with meetings with all end users and separate meetings with the concierges and the back-office of bonacasa. To gather the information in a structured qualitative way, we built the interview guidelines upon the research concept of HAN, described in:

Title, Author, #pages

"Topics focusgroup interviews endusers phase III", Josien Caris, HAN, 3 pages

Addresses

End user organizations and researchers, carrying out the last round of interviews and focus groups with the end users of phase 3

Aim of the document

Description of the form of the final interviews of phase 3. Research focus for the final interviews.

- Main content
  - Ease of use
  - Most used features
  - General experiences about Anne 2.0
  - Branded page concept
  - o Home automation
  - o Independence / Participation / QoL
  - o Role of the concierge / informal caregiver
  - Business relevant questions
  - Exit scenario review on the whole project

Title, Author, #pages

"FormularAbschlussinterviewMalters", Sonja Wolf bonacasa, Daniel Bolliger iHomeLab, 6 pages

Addresses

Research fellow, performing end user interviews in Malters and Oensingen

• Aim of the document

Provide guideline for structured interviews with the end users without home automation for closing the last phase of the end user trials in the project MLMW

- Main content
  - General impression on Anne in phase 3
  - o Specific questions on the branded page and its content
  - Commercial aspects / sensitivity and value of privacy















- o Independence, autonomy, QoL
- o Interrelationship in the end user group
- Review over the whole project
- Project exit

Title, Author, #pages

**"FormularAbschlussinterviewUtzenstorf",** Sonja Wolf bonacasa, Daniel Bolliger iHomeLab, 9 pages

Addresses

Research fellow, performing end user interviews in Utzenstorf

• Aim of the document

Provide guideline for structured interviews with the end users with home automation for closing the last phase of the end user trials in the project MLMW

Main content

Additionally to the questions described in the document "FormularAbschlussinterviewMalters":

- Specific questions on the use and usability of the home automation with Anne
- Matching of expectations before testing the device and experience after the testing phase

All concierges were present during the final end user group interviews. In a separate session, there was an additional set of questions to them, pointing to their personal experiences and their role as group coordinator/informal/formal carer, and the effect of Anne to their group

Title, Author, #pages

"FormularAbschlussinterviewConciergeMalters", Sonja Wolf bonacasa, Daniel Bolliger iHomeLab, 6 pages

Addresses

Research fellow, performing interviews with the concierges of Malters, Utzenstorf and Oensingen

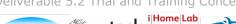
• Aim of the document

How do the concierge experience Anne and her influence to the group dynamics.

Main content

Additionally to the questions described in the document "FormularAbschlussinterview-Malters":

- o Interrelationship in the group effect of Anne
- Motivation for the project
- Benefit of Anne in the work with their clients















Title, Author, #pages

**"FormularAbschlussinterviewSolothurn",** Sonja Wolf bonacasa, Daniel Bolliger iHomeLab, 5 pages

Addresses

Research fellow, performing interviews with the back office of bonacasa in Solothurn

Aim of the document

Get insight into the handling and value of the branded page concept from the perspective of the end user organization bonacasa.

- Main content
  - o General impression on Anne in phase 3
  - o Specific results for the branded page concept
  - o Review over the whole project













# **6** Appendix









