



Deliverable 3.2

Usability Requirements Specification

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Abstract

This Deliverable describes the usability requirements and implementation into the software 'Anne'.

To ensure that the software is easy to use it is built with a structure that gives the software a natural look and feel, enables users to navigate through the software with ease and provides the software with an accessibility that is needed for the target audience of 'Anne'.

What's new since MTR in November 2017

In November 2017 there was no deliverable available with specific usability requirements. As a reaction on the MTR report the whole team went over the usability of Anne and created therefore the new deliverable D4.1 Usability requirements. – As input served the three usability tests described in Deliverable D5.1

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1 Executive Summary

This Deliverable describes the usability requirements and implementation into the software 'Anne'.

To ensure that the software is easy to use it is built with a structure that gives the software a natural look and feel, enables users to navigate through the software with ease and provides the software with an accessibility that is needed for the target audience of 'Anne'.



2 Introduction

The Usability Requirements are a big part of the personal assistant Anne. The target audience of the software are elderly people with little or no knowledge of technology. Because of the target audience it is important that the software is easy to use, and that you don't need any knowledge of technology to operate it.

With the personal assistant 'Anne' the consortium partners believe that it is possible for users with no knowledge of technology to use a tablet, and receive some of the benefits that are accompanied by the use of technology.



3 Usability Requirements

To enhance the usability Anne is going to be modelled according to Material Design (see <https://material.io/guidelines/>). This means that in the future there will be changes to the software to enhance the usability.

In this document the current state of usability requirements of Anne is explained.

For now, the usability requirements can be split into two topics:

- **Interface design** (section 3.1)
This will explain how the design of the interface makes working with Anne simple and fun.
- **Interaction design** (section 3.2)
This will explain how the design of the interaction is shaped to prevent confusions and how it

3.1 Interface design



Figure 1: Start Screen Anne

To make sure working with Anne is easy and feels natural the software is built with a recognizable and simple design, see figure 1. The start screen gives a clear overview over all the different functionalities and is built with ease of use in mind.

3.1.1 Avatar



Figure 2

The avatar (figure 2) has a prominent place in the design of the software. The avatar is the focus point for the end user and the source of the interaction. It is not the avatar itself that responds to the users. But the avatar is made to move to give the user the feeling that it is not talking to a machine. But rather that the user is talking to a personal assistant. Which the software is aiming to be.

3.1.2 Functionalities

The start screen immediately shows all the functionalities the software provides for the user, see Figure 1. Each functionality has a big icon to ensure visibility, even users with bad sight could see them clearly.

The icons of each functionality are chosen specifically for its recognisability to each function.

Anne is software that provides the user with different functionalities:

- Calendar
- News
- Videocall
- Radio
- Games
- Medication
- Domotica

These functionalities must be visible on the start screen, see Figure 1.

Each functionality must have an icon and title visible. This way literate and illiterate people can work with the software.

When a functionality is opened in the upper right corner an icon and title must be visible. That way the user knows what functionality is active at that moment, see figure 2.



Agenda

Figure 2

3.1.3 Other visible Features

To ensure the recognizable design

- The date and time must always be visible on screen in the upper right corner;
- The following buttons must always be visible in the lower left corner of Anne;

Home Button	Pause Button	Microphone	Wi-Fi Button	Battery	Information
Opens the start screen.	Disables the speech commands.	Shows if Anne is listening to speech commands.	Shows if there is an internet connection.	Shows how full the battery is.	Opens the information screen.

3.2 Interaction design

For the interaction with the software the following two options must be available most of the time:

- **Speech commands**

Anne must be command-based software, this means that the software will only react to predetermined phrases. In the first stage the software may not be able to extract the acceptance of random phrases. Users must know the speech commands to be able to work with the software. In future there should be implemented free text regime speech recognition.

- **Touch commands**

The software is installed on tablets with touchscreen. It must be possible to use the touchscreen to give Anne commands and navigate through the software. For almost all speech commands there must be a corresponding touch command.

To enhance the usability of the software the following user interaction rules must be followed:

- There must be a set with overall speech commands that can be used throughout the program:



- Activating the microphone
 - Also possible by touch command
 - Deactivating the microphone
 - Opening the start screen
 - Also possible by touch command
 - Opening an information screen
 - Also possible by touch command
 - Opening another functionality
 - In the start screen also possible by touch command
 - Asking the date
 - Asking the time
- The software always must acknowledge the activation phrase: 'Listen Anne '.
 - By opening a functionality Anne must say what functionality is opened.
 - Every command must give either a visible or a spoken response.
 - After a phrase said by Anne, the microphone must be activated for the user to give a command to the software, for a time that can be determined by the user.
 - Every functionality must have its own information screen.
 - The medication configured in the software must be displayed and called out by Anne 10 minutes in advance. After the first time Anne must repeat the medication notification every 10 minutes for 4 hours, or until the medication is confirmed by touching the notification.
 - The calendar items configured in the software must be displayed and called out by Anne on the set notification time once. The notification of the calendar item must disappear when the set time for the appointment has passed.
 - Missed call notification must appear on screen and stay visible until the user confirms the notification by touching the notification.
 - Medication/calendar/missed call notifications must always be visible in the side bar.
 - It doesn't matter in what functionality the user is, if a call comes in there must be a pop up with the current contact calling visible.



4 Conclusions

The Anne software is used for a target audience with little or no knowledge of technology. So, it's important for the usability of Anne, that Anne always going to be recognizable for the users. This can be guaranteed by the rules that are applied in the software. Meaning the avatar is the focus point of the communication with the end users, each functionality follows the same layout to ensure the software is always recognizable and the end user always knows where they are in the programme.

Besides this, the software also follows rules of interaction. These rules of interaction ensure that working with Anne is easy and feels natural. The two different ways of interaction makes it possible for users without knowledge of technology to use the software and navigate with ease true the programme.

For now the software is has a high level of usability, but there is still room for Improvement as became visible in the deliverable 5.1 usability tests. To make the appropriate improvements the software will be designed according to the material design guide lines(<https://material.io/guidelines>).