D 4.4
Preparation on user testing report

Easy Reading

PROJECT DOCUMENTATION SHEET

Project Acronym	Easy Reading
Project Full Title	Easy Reading
Grant Agreement	780529
Call Identifier	H2020-ICT-2016-2017
Topic	ICT-23-2017
Funding Scheme	RIA (Research and Innovation action)
Project Duration	30 months (January 2018 – Juni 2020)
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Website	http://www.easyreading.eu

DELIVERABLE DOCUMENTATION SHEET	
Number	Deliverable D4.4
Title	Preparation on user testing report
Related WP	WP4
Related Task	T4.3
Lead Beneficiary	FUNKA Nu AB (FUNKA), Sweden
Author(s)	Linus Ersson
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Reviewers	TUD
Nature	Report
Dissemination level	Public
Due Date	31.12.2018
Submission date	28.12.2018
Status	final

QUALITY CONTROL ASSESSMENT SHEET			
Issue	Date	Comment	Author
	2019-01-03	Approved	Susanne Dirks

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ACKNOWLEDGEMENT

Executive Summary

This deliverable gives a short overview of how the user profile will be validated through user tests with users with a variety of cognitive impairments. It also describes Funka's proven methodology of performing tests with users using techniques and methods such as eye-tracking, observation of user behavior, think-aloud trials and interviews. It suggests which objects to test and at what times in the process, how to write the test scenarios, defining the target group, recruiting subjects and finally how the tests are performed and evaluated.

The present document is a deliverable of the Easy Reading project which is funded by the European Union's Horizon 2020 Programme und Grant Agreement #780529.

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Introduction

The WCAG 2.0 Guidelines focus on the technical aspects of accessibility and methods to improve the accessibility of web resources for users with motor and sensory impairments. The difficulties of people with cognitive impairments play a rather subordinate role. The situation has improved somewhat in the WCAG 2.1 Guidelines published in 2018. For example, the success criteria in WCAG 2.1 now also include examples of people with cognitive impairments who help developers to better understand the aspects of the success criteria.

The basic idea of the Easy Reading Framework is to facilitate the use of Internet resources for people with cognitive impairments. The basic idea of the Easy Reading Framework is to make it easier for people with cognitive impairments to use Internet resources. This can only be achieved if the user interface of the Easy Reading Framework and the integrated tools are cognitively accessible and can be used independently by people with cognitive impairments.

For this purpose, Funka has developed its own guidelines and checklists that go beyond the WCAG requirements with regard to cognitive accessibility.

It is also important to test the interface with users with cognitive disabilities to secure that the tools are usable for the intended target group. Funka has established a long and good relationship with the disability rights movement and has a database of test subjects with different disabilities including cognitive disabilities, which can be involved in the usability tests of the easy reading system.

People with cognitive impairments will be the main users of Easy Reading Tools, including setting up and changing the user profile. If a caregiver is to be associated with a user profile, it is suggested that the main user invites the caregiver by entering the caregiver's email address to log in and gain access to the profile. Therefore, this process also needs to be accessible and tested for people with cognitive disabilities. Task 4.1 will focus on structuring and developing the user profiles so that it can take into account factors of the actual state of the user (based on tracking), save user preferences and previous usage history, the user's capabilities, both in cognitive terms and relating to use of computers and web tools, and preferences (Symbols, Easy2Read, Font size). The task is related to task 4.3 "Profile validation and user testing" and uses it's input to refine the profile framework and to ensure that it corresponds to the needs of the users.

The user test process

The user profile will be validated through user tests with users with a variety of cognitive impairments. The tests will be conducted according to Funka's proven methodology, using techniques and methods such as eye-tracking, observation of user behavior, think-aloud trials and interviews. The results from the user testing will be used as feedback to task 4.1 for further refinement of the profile.

The methodology, the process steps and their application in performing user test on the Easy Reading user profile is described below.

1. The test object

Ideally tests with users are performed several times during the development process and the test object can change from paper outlines, via computer mockups to fully functional prototypes. The tests cover either the entire system or parts of the system.

In the case of the Easy Reading user profile, multiple tests of the concept are recommended. The aim of the first test is to evaluate the navigation, methods and processes for performing various tasks in the concept.

This could be done in a computer mockup that contains outlines for all pages and tasks that are needed, i.e. login, concept navigation, user profile setup, setting up and editing settings, inviting a nurse, etc., but not all the different settings that are added at the end.

Alternatively, this can be done in an already implemented and functional prototype. In the latter, the technical accessibility can also be tested. For example, it can be checked whether it is possible to set up the user profile with the screen reader or only with keyboard navigation.

2. Test scenarios

The Funka user testing process usually starts with a set of background questions. For testing the Easy Reading user profile are the following questions are suggested:

- How old are you?
- What is your gender identity?
- How do you describe your computer literacy?
- Can you describe to what extent you use mobile, tablet and desktop when you're surfing the internet.
- Can you describe to what extent you use mobile, tablet and desktop when you're using E-services like for instance shopping on the web or making an online application?
- Do you use social networks? Which ones?

The set of background questions is followed by a description of tasks the user needs to perform. The tasks are designed to check interactions that are critical, complex or can be difficult for the user to perform or understand. Recommended tasks for evaluating the concepts of the user profile are the following:

- Log in and start setting up a new profile by entering language and location.
(Checking the process of login in with google and starting a new profile.)
- Add the tool of changing background color to your list of tools.
  o What do you think is the meaning of tool?
  o What does it mean to add a tool?
  o How can you use this tool?
  (Is the context and terminology understandable? Do the user understand the connection adding tools/widget and what they are added to?)
- Change the background color to red.
(Can the user find the settings page for each specific tool?)
- Invite a care taker to take part of your user profile.
  o What do you think is the purpose of inviting a care taker?
  o What do you think the care taker can do in the profile when you've invited her/him?
  (Does the user understand how to invite a care taker and the meaning of doing that?)

In the further course of the Easy Reading project it will also be necessary to test the concepts with the involvement of the care takers.

3. Target group and recruiting subjects

At Funka, usability and accessibility tests are usually carried out with groups of 5-10 people. Experience has shown that testing with users with different types of functional impairments in almost all projects contributes to more relevant findings than testing with people without impairments. For example, testing with dyslexic users provides a lot of important information about the legibility, structure and comprehensibility of information that is relevant to all users.

- A typical test group of 10 people with cognitive impairments should include the following people:Two people with reading and writing impairments, dyslexia
- Two people with cognitive impairments
- two people who do not speak Swedish or english as their mother tongue two people with mild sight impairments
- two people with no impairments

Usually, general tests also include users of different ages and computer skills in the test groups.

4. Performing the tests

In the user tests at Funka there are usually two supervisors who carry out the test. The supervisors instruct the users, present the tasks and take notes during the execution of each task. The tests last about 45 minutes to one hour.

Before the test cases are started, the following additional information is given:

- The test will take about 45 minutes to one hour, but you can have a break at any time.

- Speak frankly. We will not be offended if something does not please you. The intention is to test the web page/prototype. We're not testing you in any way.
- We expect that there may be difficulties in carrying out the tasks, but that is what is intended. The purpose of this test is to identify these difficulties in order to improve them. We may not be helping you if you ask us something. To improve the system, we need to see how you behave when you act on your own. We ask you to speak out loud during testing and express what you think. This method is called 'think-aloud'. With your permission we will record the sound and screen movements. We will only use it for internal purpose and we will delete it when we are finished with analysis.

Eye tracking

Funka has equipment for eyetracking which can be useful in some cases but not all. Eye tracking records eye movement, fixations and fixation times and it is especially helpful in recognizing parts of the user interface which is more or less observed or even overlooked by the user. It also makes it apparent when there are parts of content competing with similar meaning when the user is uncertain among different alternatives in performing a task. Interfaces that is perceived as messy or with a lot of different elements can also be apparent with eye tracking.

Conclusion

People with cognitive impairments will be the main users of Easy Reading Tools, including setting up and changing the user profile and this means that the user setup needs to be tested thoroughly with users with different kinds of cognitive disabilities. Additionally, the setup will be tested by users with reading disabilities (Dyslexia), English as secondary language and users with no apparent disabilities.

The tests will be performed at Funka in Stockholm and the methods will include eye-tracking, speak-aloud and observations.