GIVE&TAKE

Deliverable: D5.6 Quality Assurance Report

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Version: 1.1

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Background

In the Give&Take project, Workpackage 5 (WP5) defines the development of the software infrastructure, user interface and web application.

Relations to workpackage(s), task(s) and other deliverable(s)

The Give&Take platform enables senior citizens to reciprocally exchange services, creating new opportunities for the elderly to contribute to society as volunteers and caregivers in their local communities.

This deliverable is related to deliverables 5.3 (specification of user-interfaces) and 5.5 (Release candidate) since all these elements are an integrating part of the software development process.

Content

The Give&Take project aims at allowing senior citizens to exchange skills and services in their local community. Our vision was to create a collaborative network for a better and engaged life for senior citizens.

Regarding the Quality Assurance process, this depends on several input factors (see Diagram 1).
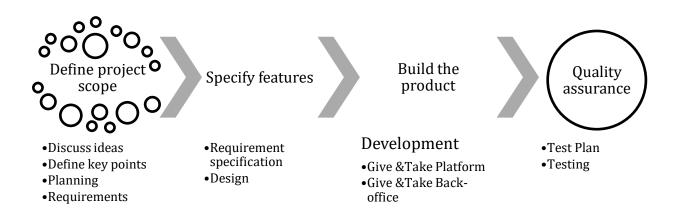
Define project scope
- Discuss ideas
- Define key points
- Planning
- Requirements

Specify features
- Requirement specification
- Design

Build the product

Development
- Give &Take Platform
- Give &Take Back-office

Quality assurance
- Test Plan
- Testing

Diagram 1: Processes involved in Quality assurance.

First, the QA (Quality Assurance) team proceeded to the static analysis of the requirements and the design leading to the writing of test cases that covered the existing requirements for the project. These test cases were written for each of the application roles (member, manager, coordinator, and owner) and each platform (Platform and Back-office).

Then a test plan was set up, which was run in the different browsers and devices, referred to in the requirements (Desktop: Chrome, Firefox 39.0, Internet Explorer 10+, and Safari; Mobile: Chrome, Safari, Opera), for the different roles.

Complementary activities were performed in order to assure error anticipation and handling, accessibility and interoperability, maintainability, precision and responsiveness, expandability and adaptablity of the final system as: testing in different resolution devices, with different operating systems (either of iOS and Android systems).

In each new version of the Give&Take platform, a full run was performed. Additionally, ad hoc testing was made relatively the different languages and different browsers and devices, to ensure that the platform and back-office worked as expected.

Along the run of the test plans, it is noticeable an improvement of the software quality. We noticed over time, that the percentage of bugs found decreased and the number of tests increased due to the implementation of new features (see Table 1). It is a fact that the number of Blocker/Critical and Major bugs decreased exponentially. The latest released version (v3.6) had only 9 major bugs, all related to the new features implemented.

Table 1: Execution of test plans and related versions until latest version delivered.

Version	Execution	Total of tests		Total OK		Total NOK		Improvements		Total Not Applicable	
v1.0	20-07-2015 - Android Device	321	100%	75	23%	26	8%	1	0%	105	33%
v1.0	20-07-2015 - Desktop PC	322	100%	51	16%	17	5%	0	0%	24	7%
v1.1	21-07-2015 - Android Device	330	100%	95	29%	2	1%	1	0%	110	33%
v1.1	21-07-2015 - Desktop PC	333	100%	75	23%	0	0%	0	0%	21	6%
v2.0	17-08-2015 - Desktop PC	392	100%	216	55%	27	7%	3	1%	97	25%
v2.0	17-08-2015 - Android Device	477	100%	122	26%	6	1%	1	0%	69	14%
v3.0	16-09-2015 - Android Device	569	100%	322	57%	13	2%	2	0%	29	5%
v.3.0	17-09-2015 - Desktop PC	568	100%	189	33%	5	1%	2	0%	9	2%
v.3.2	08-10-2015 - Desktop PC	590	100%	203	34%	12	2%	0	0%	11	2%
v.3.2	08-10-2015 - Android Device	367	100%	333	91%	14	4%	8	2%	14	4%
v.3.3	04-11-2015 - Desktop PC	667	100%	602	90%	33	5%	2	0%	32	5%
v.3.4	13-11-2015 - Desktop PC	680	100%	637	94%	11	2%	4	1%	30	4%
v.3.4.1	17-12-2015 - Desktop PC	740	100%	397	54%	8	1%	4	1%	14	2%
v.3.5.0	22-03-2016 - Desktop PC	900	100%	281	31%	29	3%	5	1%	13	1%

v3.6	16-02-2017 - Desktop PC	900	100%	755	84%	18	2%	1	0%	126	14%
v3.7	12-05-2017 - Desktop PC and Mobile Devices	-	-	-	-	-	-	-	-	-	-

Concerns

QA team difficulties were related to the different roles defined in the conceptual service exchange model, which sometimes involved simultaneous testing of different people to ensure the quality of interaction between all of them.

The fact that the application was considered a prototype and used in living labs, led to several changes which meant several runs of the test plan, being more time consuming.