FP6-2004-27020

Access-eGov

Access to e-Government Services
Employing Semantic Technologies

Instrument: STREP
Thematic Priority:
SO 2.4.13 Strengthening the integration
of the ICT research effort in an enlarged Europe

D8.3 Evaluation of trial and specification for revision of components

Start date of project: January 1, 2006 **Duration:** 36 months
Date of submission: April 13, 2008
Lead contractor for this deliverable: Kosice Self-governing Region (KSR)
Revision: Final
Dissemination level: RE

Acknowledgement: The Project is funded by European Commission DG INFSO under the IST programme, contract No. FP6-2004-27020.

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D8.3 Evaluation of trial and specification for revision of components

Work package:	WP8	**Task:**	T8.2

Date of submission:	13 April 2008
Lead contractor for this deliverable:	KSR
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Version:	1.0
Revision:	Final
Dissemination level:	RE

Project partners:

Technical University of Kosice (TUK), Slovakia (Coordinator); University of Regensburg (UR), Germany; German University in Cairo (GUC), Egypt; Intersoft, a.s. (IS), Slovakia; EMAX S.A. (EMA), Poland; Kosice Self-Governing Region (KSR), Slovakia; Cities on Internet Association (COI), Poland; e-ISOTIS (ISO), Greece; Municipality of Michalovce (MI), Kosice; City Hall of Gliwice (GLI), Poland; State Government of Schleswig-Holstein (SHG), Germany.

Abstract

This deliverable mainly focuses on the evaluation of Trial #1 based on the trial evaluation strategy defined in the deliverable D8.1. The document is structured according to the evaluation framework beginning with preparations, specifying both user interface components evaluation results and finally ending by specification for revisions of components. The Access-eGov (AeG) platform consists of two key user interface components. The Annotation Tool that represents an interaction with public administration. The second one, the Personal Assistant Client provides a user-interface for citizens and business users.

Each chapter is divided into four paragraphs specifying conditions of Slovak and Polish trials, a German field test and a lab test in Egypt. In the end proposals for revision of the components are indicated.

Document Sign-off

Nature of Sign-off (Reviewed/Approved/Submitted)	Name	Role	Participant short name	Date
Reviewed	Gabriela Hajdukova	TL	KSR	08.04.2008
Approved	Gabriela Hajdukova	WPL	KSR	12.04.2008
Submitted	Tomas Sabol	PM	TUK	13.04.2008

Document Change Record

Date (d/m/y)	Version	Contributor(s)	Change Details
18.07.2007	0.1	Stefan Ukena, Ralf Klischewski	Initial version of time table for trial 1 milestones.
07.02.2008	0.2	Gabriela Hajdukova, Michal Kmec	Deliverable framework ready for filling in
15.03.2008	0.3	Gabriela Hajdukova, Michal Kmec, Maren Kleimann, Magda Sroga, Stefan Ukena, Peter Bednar, Jan Hreno, Alexis Gizikis	First complete draft of deliverable
30.3.2008	0.4	Gabriela Hajdukova, Michal Kmec, Maren Kleimann, Magda Sroga, Stefan Ukena, Peter Bednar, Jan Hreno, Alexis Gizikis	Second complete draft of deliverable
5.4.2008	0.9	Gabriela Hajdukova, Michal Kmec, Maren Kleimann, Magda Sroga, Stefan Ukena, Peter Bednar, Jan Hreno Stefan Duerbeck, Alexis Gizikis	Complete deliverable for internal review
12.04.2008	1.0	Gabriela Hajdukova, Michal Kmec, Maren Kleimann, Magda Sroga, Stefan Ukena, Peter Bednar, Jan Hreno Stefan Duerbeck, Alexis Gizikis	Final version ready for approval

Files

Software Products	User files / URL
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Table of Contents

Executive Summary

This deliverable is a result of the evaluation of the first trial, Task T8.2 (Trial 1 (components) and its evaluation), using the methodology specified in D8.1 (Trial Evaluation Strategy) and is related to the testing of the Access-eGov (AeG) prototype I. Within the second trial a prototype II will be tested. During the reported period there were two trials in Slovakia and Poland carried out, a field test in Germany and a lab tests took place in Egypt. All involved partners ensured a unified approach was followed.

The aim of the trials, especially their evaluation, was to guarantee the project progresses in the right direction with regard to the needs of both user partners (Public administrations (PAs)) and citizens. The overall evaluation process itself can be seen as a three phases approach:

1. Preparation of trials;
2. Monitoring & documentation;
3. Evaluation according to specific criteria.

Based on the above the common evaluation strategy guided user partners towards accurate realization and evaluation of the four AeG pilot tests (pilots, field test and test lab) in order to systematically challenge the technology and application for technical feasibility and service quality.

The user partners tried to perform “real life” tasks with the pilot systems. System testers (citizens, experts on relevant field, IT skilled staff, students etc.) were asked to participate in the evaluation and perform their tasks in the respective countries using the system. Administration employees used the pilot system to perform their part of the task.

Regarding the evaluation process and its results, firstly the Annotation tool was tested by developers and user partners’ members. Then selected PAs staff of all the user partners undertook training on how to annotate those public services which their PA provides. The collected feedback allowed the developers to modify the software component in order to improve its functionality. In general, testers claimed that the Annotation tool (AT) component fulfilled their expectations and found it effective. Negative remarks are mostly related to a need for a more intuitive user-interface.

In a later stage the interface for citizens and business users was developed and tested so that it could be rectified according to requirements of the common public. In order to record immediate feedback, all testers were asked to fill in an online questionnaire common for all the user partners right after completing a test. They were also interviewed so the user partners could obtain their individual response and attitude towards the prototype I.

In conclusion many users/testers appreciated the way the Personal assistant client (PAC) component worked as it provided a value added through system customization according to individual conditions of a user. Also the users welcomed that all the relevant information was in one place. Most objections were related to user friendliness of the PAC as users had problems to understand what they should do. The user-interface was expected to navigate users step by step. However; the developed Personal assistant did not fulfill this task successfully as it was designed to give the user as much freedom and flexibility as possible. Users many times reported they got lost in the complexity of information and buttons. Other problems were not related to the software component but to the information provided by user partners: Users did sometimes not understand properly the questions they needed to answer in order to customize the so called “to do list”.

A list of suggestions has been developed in order to tackle the key objections to reach the expectations. According to what extent the proposed solutions are feasible, they were divided into four main categories (1) will be done within the trial II, (2) will be done till the end of the project, (3) can be done but is out of the project scope and (4) can not be done (using this technology).

As a follow-up activity, the key task will be to modify the user interface of the PAC in order to make it more user-friendly according to the requirements collected from public tests. The following steps will be taken: Firstly a new user-interface will be proposed through preparing a mock-up presentation of the PAC and provided to the user partners for review. The modified PAC shall be ready for testing by the end of June 2008.

1 Introduction

The report shortly introduces trials specification, describes the whole process of evaluation, discloses assessment results and outlines proposed measures aiming at both the further system improvements and the higher user-friendliness. All that was based on the trial evaluation strategy defined in the deliverable D8.1. The trials evaluation and system improvement as a process follow-up are provided by each user partner and uses the approach specified below.

The structure of the deliverable is divided into the following seven chapters which describe each step of the evaluation process:

1. Preparation of the trials/tests in general;
2. Evaluation of the Annotation tool;
3. Evaluation of the Personal assistant client;
4. Specification for revision of components (Annotation tool, Personal assistant client);
5. Improvement of information integration and information quality (as defined in D8.1);
6. Process improvement (as defined in D8.1);
7. Improvement of other issues (as defined in D8.1).

Furthermore, the setup and results of the user test lab (located in Egypt) is described

Holding two trials of the pilot applications (Slovakia and Poland) and the field test (Germany) is a vital part of this approach as it provided the context for implementation and evaluation activities. The tests went through the phases of preparation, monitoring/documentation, and evaluation according to specific criteria as already mentioned.

As described in D8.1, the improvements of services to be included in the trial were traced according to: (a) informational output, as well as (b) in the process itself. Evaluation of improvements were built on criteria related to (1) information quality, (2) process automation as well as (3) other issues such as accessibility, ease of use, security and trust.

The evaluation strategy and framework used is the same for all trial sites, and all user partners have elaborated on it to describe their specific trial and the specific functionality according to the characteristic of the services included in pilots and field test.

As far as the timing of the trial I is concerned, a slight delay has been reported from the planned time-table. The reason behind can be related to the fact that both components required some more time for their rectification which postponed the whole process. In the chapter below the up-to-date trial timing is provided.

The trial results from all the user partners show fundamental feedback on how the Personal assistant user-interface needs to be modified especially in terms of making it more user-friendly.

2 Time table of milestones for trial I

2.1 Milestones

The table of milestones below indicates when and how the key project tasks were performed by responsible project partners. There is a slight delay in project implementation due to unpredictable conditions.

Table 1 - Milestones

Dates	Milestone	In charge (involved)	Comment
03.09.07-07.09.07	Access-eGov in Regensburg during EGOV 2007	n/a	Presentation and discussion of a mock-up for the annotation tool. Agreements on fields in the tool.
31.07.07	Semantic structures are available for ontology development	GUC	
30.08.07	Prototype 1 of Annotation Component is available to user partners for review	IS, TUK	This corresponds to the internal developer milestone M1 in TRAC.
15.09.07-28.02.08	Field test and pilot are promoted by all partners on a local level	ALL	Articles on websites, leaflets, posters, promotional presents, materials for management…
30.11.07	Inputs for Egyptian test lab are submitted to GUC	ALL	
13.12.07	Test scripts for Egyptian test lab are available	GUC (ALL)	
04.10.07	Prototype 2 of Annotation Tool is available for use by annotation authors	IS, TUK	AT Prototype was made available to partners at: http://esprit.ekf.tuke.sk/annotationtool_de http://esprit.ekf.tuke.sk/annotationtool_pl http://esprit.ekf.tuke.sk/annotationtool_sk
04.10.07	Integration of platform components for trial 1 is complete.	TUK, EMA, UR	TUK: Tool for uploading annotations from AT available for: - DE pilot - SK/PL pilot
10.10.07 22.10.07 03.12.07	Annotations authors have been trained	KSR, MI, GLI, COI, SHG (ALL)	SHG (10.10) – workshop with administration officers who will use the AT KSR (22.10) – training under supervision of TUK's developers GLI (03.12) – relevant civil servants training in Gliwice City Hall
10.10.07	User helpdesk and support is available	KSR, MI, GLI, COI,	Four discussion forums have been created (hosted on AeG website in private section) - general comments

		SHG (ALL)	- Slovak/Polish/German pilot
09.-12.10.07	Major problems are reported to developers and if necessary the tool is modified	TUK, IS	Testing period for users, comments, bugs and problems obtained: - SHG (mail 11.10) – based on a workshop with administration officers who will use the AT (10.10) - COI (mail 11,12.10; helpdesk 11.10) - KSR (mail. 11, 12.10)
15.10.07		TUK, IS	A new updated version of AT - critical bugs resolved (non-critical remain, postponed for the 2nd trial) - database empty (test data were flushed out)
15.10.07		TUK, IS	SK pilot – data from an old version of AT were incorporated into the new version
08.11.07	A separate copy of AT installed for ISO to perform tests	TUK	available: http://esprit.ekf.tuke.sk/attest/
29.11.07 01.12.07 24.12.07	Services have been annotated by annotation authors	KSR, MI, GLI, COI, SHG (ALL)	DE: done 29.11 SK: done 01.12 PL: done 24.12
13.11.07	PAC has been prepared for testing by users	EMA, UR, TUK, IS	three instances of PAC (for anonymous user) made available at https://aeg.cppo.max.com.pl/acg-clientpl/faces/CategorySearch.jsp https://aeg.cppo.max.com.pl/acg-clientsk/faces/CategorySearch.jsp https://aeg.cppo.max.com.pl/acg-clientshg/faces/CategorySearch.jsp
15.11.07	Infrastructure and procedure for technical evaluation is in place and has been tested	TUK, EMA, IS	PAC installed on 2 servers 15.11.07
29.11.08	Deployment of integrated alpha version for the first trial	EMA	PAC test installation (29.11)
07.01.08	Technical testing and testing by user partners (correctness of information and process) is finished. Unit Tests, component and component Integration	TUK, IS, UR, EMA	Technical testing of PAC finished (7.1.08)
09.01.08	Access-eGov personal assistant is publicly available for citizens	ALL	DE: expected 09.01.08 SK: available since 31.01.08 PL: available since 13.02.08
13.02.08 02.03.08	Test use of trial 1 is finished Data collection for trial evaluation is finished but PAC is still online		This marks the end of the operation of trial 1. DE, SK: 13.02.08 PL: 02.03.08
31.01.08	Preliminary results from Egyptian	GUC	

	test lab are available		
14.02.08 27.02.08 13.03.08	First results from evaluation are available and documented	ALL	SK: 14.02.08 DE: 27.02.08 PL: 13.03.08
12.04.08	End of T8.2 (Trial 1 and its evaluation) according to Technical Annex. D8.3 (Evaluation of trial and specification for revision of components) is available	KSR, MI, GLI, COI, SHG, TUK (ALL)	Expected: 31.03.08

3 Preparation of the tests in general – description

3.1 Slovak pilot

The Slovak pilot has been carried out in the area of the Kosice self-governing region and the municipality of Michalovce as its part. It focuses mainly on supporting citizens during the process of obtaining permits for building a house, especially a building permit, including services related to land-use planning and approval proceedings. This process is very complex and often difficult to comprehend for laymen. By providing a personal guideline via the Access-eGov personal assistant, the responsible administrations plan to improve the service experience from the citizen's point of view. To this end, the Access-eGov system is expected to provide all relevant information about necessary services in a comprehensive and user-friendly way.

Following the above a strategic objective of the pilot was to make the processes of land-use, building and approval proceedings easy to go through for common users by developing and implementing AeG components. For this purpose it must be ensured that all the components are running properly and no errors that may somehow disable the system functionality are reported.

Within this project there are two types of institutions involved. Firstly it is the regional government of Kosice which has only an overall review competence in the land-use planning of the region. The city of Michalovce as the second project partner is responsible for land-use planning and the whole building process in the district of Michalovce. The city with its building office is a decision making body in the field of issuing final approvals and building permits. The Slovak project partners plan to include also building offices of Kosice in the project so the scope might be extended also to the area of Kosice. As already mentioned the whole building process is very complicated and generates a vast number of possibilities that cannot be covered within this project.

As regards the pilot preparation process, firstly the Annotation tool component (back office) was developed and technically tested by developers. Consequently trained public servants from KSR tested the AT by annotating relevant Slovak services. The developers incorporated feedback and the AT was open for further testing by the user partners.
Once the Annotation tool was ready for use, a development of Personal assistant client as a user interface of the AeG system started. After a few internal testings and revisions were undertaken, the platform was open for public testing.

Preparation process of the pilot
In the beginning an activity scenario was developed with the following key parts: Land-use planning, land-use proceedings and building proceedings. Together with the finalization of the scenario also diagrams of the whole process were completed so that Slovak user partner visualized all the possible options within the building process. In order to review the scenario in terms of being an appropriate demonstration of the AeG platform, team members carried out several interviews and collected 8 questionnaires. Later a round-table with developers took place so all the feedback was discussed. Slovak user requirements were then presented in the working meeting in Krakow. It was necessary to add the "final approval proceedings" to the whole process, including diagrams for the Slovak pilot (agreed during the 2nd plenary meeting in Krakow). Slovak user partners then in co-operation with TUK developers worked on the specification of the Slovak pilot.

Slovak user partners prepared processes of the land-use proceedings, building proceedings and final approval proceedings with corresponding schemes in both Slovak and English so the system could be later on tested by foreigners or other partners. Also as a further process extension a merged procedure of land-use and building proceedings was elaborated with corresponding schemes. Together 10 different scenarios and 20 diagrams were developed (of the more frequent cases). As a part of the deliverable D8.2 a responsibility chart as well as a SWOT analysis of the Slovak pilot was developed. Slovak user partners also prepared a description of relevant legislation and a glossary for the Slovak pilot. In addition the user-interface of the PAC was translated into Slovak language.

While elaborating and finalizing deliverables D8.1, D8.2 by responsible partners, Slovak partners provided their contribution and appropriate feedback. On March 9th 2007 a Slovak national round table (TUK, KSR) was conducted in order to review and discuss the Slovak pilot preparations. Then a plenary meeting took place in Athens where details of the Slovak pilot were presented. Within the task 7.1 there were both supporting material to knowledge models on the Slovak pilot and comments to the conceptual knowledge model provided. Slovak partners participated at a round-table regarding the Annotation tool testing. As the developed Annotation Tool was intended to be used by Public administration staff, it was decided to train those who shall be involved in the trial as annotators of appropriate services. In the training eight people were trained. Then the Annotation tool was tested internally within the project team and annotators annotated together 32 services within the Slovak pilot. KSR prepared testing scripts so that testers in the later stage would be able to cover by testing all the possibilities. Again a round-table of the Slovak partners took place aiming to discuss the PAC testing. The PAC interface was prepared in both Slovak and English. Once the Personal assistant client was developed, developers carried out some technical testing in order to eliminate technical defects and user partners then tested the PAC. Also user manual as well as user’s questionnaire for evaluation of the PAC was translated into Slovak language so the testers could use it within the public testing. Later on another round-table of the Slovak partners was held in order to discuss evaluation of the trial I, which marked the beginning of the evaluation process.

Especially for the Trial I four structured detailed scenarios and four simplified procedures for testing (land-use, building, merged, final approval proceedings) was developed.

Key milestones of the AeG components Slovak testing:

Annotation tool:
Round-table of Slovak developers and user partners – 20th September 2007
Internal testing of the Annotation tool – from 21st September to 21st October 2007
Annotation training of the Slovak user partners conducted by TUK – 22nd October 2007
Testing of the Annotation tool by the user partners – from 23rd October 2007 to 15th November 2007

Personal assistant client:
Internal testing of the PAC: from 15th December 2007 to 15th January 2008
Round-table of Slovak developers and user partners – 17th January
Testing the PAC by the user partners: from 18th January 2008 to 25th January 2008
Public testing the PAC: from 31st January 2008 to 10th February 2008
Round-table of Slovak developers and user partners – 14th February

3.2 Polish pilot

General information

The Polish pilot implementation has taken place in the Silesian region and has been performed by the Gliwice City Hall. The user scenario of the example process considers the life event “establish an enterprise” and involved four main user goals: registration in local government, registration in statistical office, registration in tax office and registration in social insurance agency.

Preparation of pilot application

The initial step of pilot application and the whole project was the preparation of user activity scenarios. The user scenario describes in detail the process of the chosen life event “establish an enterprise”. The description involves all steps of the process (registration in different institutions), all possible paths of registration dependent on individual user’s case, all required documents and forms as well as information which must be collected from the user to construct the path relevant to user’s needs. On the basis of that scenario, the user requirements analysis have been performed, user requirements have been gathered and described as required functionality of AeG system. According to the scenario, relevant services have been identified (electronic services as well as traditional ones) and information on service providers (in the Gliwice area) has been collected and prepared.

In Poland establishing an enterprise is a complicated process, not easy to understand by common citizens and entrepreneurs and four different institutions are responsible for the execution of a particular phase of the process. All these features cause possibilities of wide application and usage of the AeG system if the the following conditions are met: the process is clearly explained, the user gets relevant information and is properly navigated by the system within the whole process and always knows what to do next and what activities have been completed.

In the AeG project only one type of institution responsible for enterprise registration is involved – the Gliwice City Hall, which is a representative of local government. Gliwice City Hall participated in the description of the whole scenario – registration in local government and also those parts related to other authorities, because as being the first institution which the citizen has to get in contact with, local governments often play the role of information provider and proxy between citizen and the statistical or tax office.

According to the defined user requirements and identified types of available services a schema of a “dialogue” with the user has been prepared. All of the questions are formulated as yes/no questions or questions with a predefined set of answers. Depending on previously chosen answers, further questions are asked and the requirements and relevant forms are introduced to the user.

Preparation of tests

With regard to both AeG components (Annotation Tool and Personal Assistant Client) tests, the testers were relevantly prepared. They were provided with a description of the user scenario (in Polish language) and a short Polish description of components usage and the purpose of it. They were also shortly instructed how to use the components that were to be tested.

For evaluation of the Annotation Tool, several questions have been prepared on the basis of document D8.2 (system requirements, expected functionality and quality described there). In case of the Personal Assistant Client special online questionnaire was also prepared by the GUC to evaluate the improvements between trials 1 and 2.

Tests execution
In case of the annotation tool, the internal tests were performed by COI and GLI to eliminate spelling mistakes and system bugs. These tests were conducted by AeG project members (COI and GLI and developers) and appropriate changes were suggested. When the suggested corrections were introduced, relevant civil servants from Gliwice City Hall were assigned to play different roles in process of services annotation: administrator, editor, publisher and viewer and according to their roles they annotated available services (mostly traditional ones). The list of services was prepared beforehand so the annotators could simply choose the right service for annotation. Thanks to this service annotation, tests were conducted in a realistic environment and with the usage of real data (addresses, phone numbers, names of responsible persons, etc.).

In case of the Personal Assistant Client also some internal tests have been conducted and mistakes have been corrected. These tests have identified one serious mistake in the process construction, but it was possible to correct this in an easy way. After the internal tests "public" tests were performed (last two weeks of February 2008). There were three groups of testers: domain experts (GLI civil servants involved in process preparations), IT experts (GLI, COI members) and "public" (common citizens, people not involved in AeG project). They were provided with a short process description and specially prepared questionnaires based on document D8.2 as mentioned above.

3.3 German field test

In the German field test, the methods and software components developed within the project have been tested on the example of the life event "marriage" and related procedures.

General preparation of the field test:
In the first step, a sample scenario has been written which describes the activities to be done by a user in the process of getting married (see D8.2 section 4.3) and how Access-eGov could support a citizen who wants to get married in identifying which steps he has to take in preparation of a marriage (e.g. which documents need to be provided), which decisions have to be taken (e.g. on a marriage location) and which administrative services thus need to be used. On the basis of this scenario, the different needs that a citizen has in this scenario have been identified and the types of government services that are relevant for fulfilling theses needs in the life event "marriage" have been identified, analyzed and formalized in the ontology. Furthermore it has been described what kind of information is required from citizens in the scenario to identify the individual requirements for registering for marriage and which offices are responsible for the citizen.

In Germany, the registry offices are responsible for marriage registration, for marriage performance and also for providing most of the documents that have to be handed in when registering for marriage. Therefore, the registry offices from SH have been involved also in the preparation of the field test. They participated in the description of the scenario as well as in the general descriptions of the government services and the requirements that each service has.

Annotation of government services and test of the annotation tool
In the first phase of the practical part of the field test (September - December 2007), different registry offices had to describe their government services. It was thus necessary that their services are semantically annotated on the basis of the AeG ontology.

In order to conduct the test in a realistic setting, all registry offices in SH have been contacted and asked to participate in the field test. The objectives of the project and how they could participate in the field test have been explained to them and eleven different municipalities (the registry offices but also the internet authors or people from the IT departments) volunteered to participate in the field test, hoping to profit from the results of the project and from the insights into the newly developed technologies.

For the annotation of government services, an annotation tool has been developed in the project. In first internal tests, the tool has been tested by SHG and suggestions for modifications of the tool and the underlying ontological model have been made by SHG and implemented by the developers of the tool if possible. There have been several cycles of testing, demands for modifications, modifications and again testing.

In October 2007, the municipalities, mainly the internet authors but also registrars, took part in a training session for “annotation authors” organized by SHG. In this training, the final version of the annotation tool, which they were supposed to use in the following weeks to describe their services, was introduced and explained. The tool provided a list of services to be annotated so that annotation authors could simply select each service type and create a new instance of a service description. During the training session, the annotation authors could already finish at least one service description and felt well prepared to create further descriptions independently after the training. They were also given a short German handbook on the usage of the annotation tool which described in a step-by-step manner how to annotate a service. After the annotation authors considered all their annotations to be finished, they set the status of the annotations to “ready for publication”. The finished annotations have been checked for completeness by members of SHG and in case of problems (e.g. missing data), the annotation authors were contacted and asked to modify the annotations. Four weeks after the training, all municipalities had finished their service annotations successfully. During and after the training session, the annotation authors were asked for feedback on the usage of the tool, to suggest improvements and to report problems. The problems and suggestions have been collected after the workshop and have been provided to the developers of the tool. Some changes with very high priority from the point of view of annotation authors were made right after the training sessions so that annotation authors could work with an improved version of the tool even during the first trial.

Usage of the service annotations and test of the personal assistant client
In the second phase of the field test (January/February 2008), the personal assistant client (PAC) has been tested and evaluated by public authorities from the involved municipalities (registrars and internet authors) and by the public. In order to get as many citizens as possible to test and evaluate the system, the involved registry offices were asked to distribute flyers announcing the website where the personal assistant could be tested and to ask people coming to the administration to test and evaluate the system via an online questionnaire. 1000 flyers

have been produced for this purpose. Furthermore the field test has been announced through a press release and on the website of SHG and the involved municipalities.

A workshop on the evaluation of the PAC has been organized for the public authorities.
During the field test feedback on the personal assistant has been collected via an online questionnaire which has been filled in completely by 69 people and incompletely by 223 people.

Furthermore four users have been video-taped while using the PAC. They have been asked to fulfill certain tasks with it, e.g. “Imagine you want to get married next week, what do you have to do in preparation of the marriage”. They were asked to “think aloud” while using the tool and their comments on the tool will also be part of the evaluation.

The results of these activities concerning the evaluation of the field test will be summarized in the following sections.

3.4 Egypt Lab test

The lab test was designed to test the information consumer perspective through the use of the Personal Assistant Client. Testers were recruited among the students and were asked to perform and document a series of tasks. The documented results were later evaluated with regard to the completeness and correctness of the retrieved information.

The test lab did not perform any technical tests, like load testing. The tasks were designed in such a way that the testers could easily identify with it, which was intended to bring the test as close to real-life situations as possible. Each tester had to perform the same series of three different tasks during three one test sessions. 14 testers performed a total 42 test tasks over a period of three days. The tests were conducted as supervised lab tests with the test focus lying on real-life tasks. Each task took around 90 minutes to complete including organizational over-head like introduction and attendance. One task focused on those aspects of the Personal Assistant Client that deliver non-personalized information. The other two tasks focused on the personalized information.

The test lab was conducted during mid-December 2007. At this time, the Schleswig-Holstein marriage-scenario had been fully implemented and was thus used in the test lab. The other scenarios had not been fully implemented at this time and were not tested.

4 Evaluation of the Annotation tool (AT)

To be able to provide access to electronic or traditional services, it is necessary to first semantically describe these services. This process is called “annotation” and it consists of describing non-functional properties and functional properties of the services together with a semantic description of life situations and goals in which these services participate. The functional properties can be regarded as defining the type of a service, while the non-functional properties describe certain attributes of a service. Because non-functional service properties change more often than functional properties and because new services are generally of a known type, the Annotation tool (AT) was developed to create and edit the non-functional service properties. It is a web based application, where public servants can log in and enter, edit or view service properties in forms. As these properties are in a highly structured form, only a short training of the user was needed before use. The Annotation tool is based on the usage of “service templates”, which means that the user does not have to (and cannot) define functional properties of services. Instead, these are predefined for every service type and the user simply chooses the service type from a list.

4.1 Technical testing of the Annotation tool (common for all the trials)

The technical test of the annotation tool took place before the trial run of the annotation tool itself and was common for all the pilots / field test. It was done in two phases: Firstly, a technical test was run only with developers involved; secondly, testing by every user partner was organised. For that purpose three installations of the annotation tool were created, one for each trial region:
http://esprit.ekf.tuke.sk/annotationtool_de
http://esprit.ekf.tuke.sk/annotationtool_pl
http://esprit.ekf.tuke.sk/annotationtool_sk

Feedback from users was collected in the form of MS Excel tables together with the possibility to communicate requirements with a responsible developer directly. Some bugs were discovered in this second phase but most feedback was related to specific user requirements. This led to redefining of the ontology structure and also to new versions for the German installation of the Annotation tool, which was then published on the following URL:
http://esprit.ekf.tuke.sk/annotationtool_de_new

The results of the Annotation tool technical test were partially included in the trial version already, while some issues had to be postponed to trial 2. The results are published in the following chapters for every single trial region. Below is the table of requirements arising from the technical testing and the trial itself divided according to different criteria.

Table 2 – Number of requirements for Annotation Tool

Overall structure of requirements	Requirements based on trials	Requirements fulfillment	Requirements priority
Ontology based: 4	German: 75	Closed in trial 1: 101	Critical: 21
Software requirements: 19	Slovak: 20	Postponed to trial 2: 21	High: 32
Other requirements: 94	Polish: 29	Rejected: 1	Low: 22
			Other: 59

Together with the technical testing by user partners before the trial, there was another technical test focused on accessibility.

The accessibility test came to following conclusion:

Although the tool does not conform to any level of WCAG conformance, it is in a very good state regarding accessibility and only very few checkpoints need to be looked at in order to achieve AAA conformance (i.e. the highest level of conformance). The tool's usability is at a very good level and can be improved with minor modifications. Accessibility tests were published as internal deliverable „Annotation Tool Accessibility and Usability Evaluation Report".

4.2 Slovak pilot

4.2.1 Process of testing

As already mentioned, after the development of the Annotation tool was finished and ready for testing, the developers undertook some technical tests in order to eliminate any technical difficulties and bugs. The user partners followed with introductory testing through annotating sample services and collecting their feedback for the developers. Once the system was sufficiently free of malfunctions, it was introduced to appropriate persons from the public administration (PAs) for annotating services. They had been told to gather any issues they encountered in order to be able to enhance the tool from the view of its user-friendliness and functionality. Their proposals were then forwarded to the developers for evaluation and proper incorporation.

The process of testing and development of the Annotation tool consisted of six main parts:

- Technical testing by developers and system revision
- Internal testing of the Annotation tool – from 21st September to 21st October 2007
- Annotation Tool training for Slovak user partners – 22nd October 2007 in the KSR premises led by TUK developers
- Testing of the Annotation tool by the user partners – from 23rd October 2007 to 15th November 2007
- Annotation of services within the Slovak pilot application, totally 37 services annotated
- Final system modifications done by developers

A round-table of the Slovak developers and user partners was held on 20th September 2007 to discuss necessary changes of the Annotation Tool.

4.2.2 Internal testing

At the beginning of the internal testing a problem with a Back button in a browser occurred. If a user used this button, other than expected results displayed. Therefore the issue was solved through hiding standard browser buttons so that a user is not confused by clicking on them. Another error occurred when displaying already created items („page is not available").

The testers encountered some problems with creating and editing new templates because at first only developers were able to create a new template. Later this right was added to the "Superadmin"-role.

The user manual needs improvement with respect to technical and security issues. In particular, the duration of a session was not mentioned. Neither was mentioned, that a user must log out so nobody else can start editing service profiles without the user's permission.

As all the remarks were immediately reported to the developers from TUK, they were able to address the issues efficiently and promptly. The internal testing of the AT was done in a very "interactive" manner because of the lack of barriers of language and distance. The testers also used screenshots for better visualization of problems which occurred, as well as noting the exact time of an incident.

4.2.3 Testing by the user partners

In July 2007 the first version of the Annotation tool was ready for testing. The KSR annotated together 32 services representing a group of institutions which issue statements on building project documentation. All these organisations were introduced in the trial portrait (Deliverable 8.2) and most of them consisted of PAs and Public utility personnel.

Later a second version of the AT was provided for annotating. From this several remarks towards user friendliness were brought up (for more details please see annex 9.1 *Problems/bugs identified during the internal testing of AT – Slovak pilot*). This feedback was sent to the developers for revision. After the Annotation Tool was revised once more it was ready for annotating services. Team members carried out the annotation of sample services and were told to report whether the AT is working as required. The developers then erased all data and imported already annotated services from the initial version of the AT into the new one. The AT was again checked by user partner members for any defects in the annotated services and any defects were reported and corrected as necessary.

As regards the structure of the group of testers, members of both user partners, KSR and MI, participated in the tests. Four people from KSR and three from MI were trained for annotating services in the premises of KSR (see annex 9.2 *Photos from Annotation tool training – Slovak pilot*). After the AT introduction by the developers, testers were able to test the tool by annotating sample services. The annotation of relevant services was completed within the next week. Most of the annotated services are related to the Building office of Michalovce (including land-use planning, building procedure, merged process as well as final approval proceedings). The whole training was documented and is a part of the annex.

User manual of the AT was translated into Slovak and thus allowed the testers to better understand the system functionality. Together 4 people of MI aged from 29 to 59 tested the AT (2 – field experts, 1 IT staff, 1 public servant). From side of the KSR participated 5 people with the background of construction and architecture, administration and IT. The average age of the KSR testers reached 40 years.

Seven out of nine team members were university graduates, two with vocational high school diploma. Two thirds of the testers were women which corresponds to the overall higher share of women the public administrations of Slovakia.

As regards the feedback of the testers, they found the tool effective from the point of view of future user as public servant.

Key responses of the Slovak user partners on the Annotation tool

Testers expressed an overall satisfaction with the AT component.

Objections:
- User-interface – the user-interface is less user-friendly as expected
- Security issue – up to 60 minutes sessions are used – relevant notice in the user manual shall be included which indicates that a user must log out when leaving
- Too many roles with their owns rights
- Creating new templates is complicated

4.2.4 Annotation of services by public administrations

As already mentioned, altogether 37 services individually described in the trial portrait (a part of the D8.2) were annotated. After the Slovak annotators undertook training by the developers, all of the services were added to the system as annotated. For information, the respective services are currently provided to citizens through both the Department of land-use planning of the KSR and Building Office in Michalovce. The annotators' structure consisted of three men, six women and three out of them with IT skills.

After the annotated services were imported from the first AT version to the enhanced one, it was necessary to carry out a few modifications within the imported data, translation and names of relevant institutions. The annotation process ended by 15th of November 2007 with the final audit performed on the data entered between 27 and 28 November 2007. This data was then used for testing of the PAC.

The feedback from all the annotators was quite positive and none of them encountered significant problems with the use of the Annotation tool. Almost all the errors and objections reported were eliminated within the technical and internal testing period. The improvements enhanced the quality and convenience of the Annotation tool. The testers expressed their feeling according to which are ready to participate in the trial II.

4.2.5 Summary of the AT tests by Slovak user partners

In general it can be concluded that the developed Annotation tool served its purpose well during the testing. The feedback from the tests showed a few objections towards the user-interface that could have been more user-friendly. However, the tool is intended to be used by annotators of PAs and they are expected to read a user manual first and to use the system quite often. Therefore the user-interface seems not much a subject for further modifications at this point.

The close co-operation of Slovak user-partners and developers was appreciated as they did not have to encounter language barriers. Comments (technical, functional or from the view of content) collected from the tests were therefore promptly incorporated into the Annotation tool. Besides the user-interface, from the remarks gathered the most crucial were the issues with a mixture of roles and respective rights, timing of the session and preview page that was missed.

4.3 Polish pilot

4.3.1 Process of testing

The process of annotation tool testing was divided into two phases:

- Internal testing – this phase was conducted in order to identify most important mistakes (for example spelling mistakes) and bugs of the tool. They were preformed by AeG developers and members of GLI and COI who are involved in the project and know exactly the usage of annotation tool.
- Testing by user partners – these tests were conducted in order to identify and correct further mistakes (with special emphasis put on technical and essential problems), but the group of testers was different – tests were performed by members of GLI (civil servants) who are not involved in AeG project. This phase included also the creation of service annotations.

The process of testing was iterative – when some mistakes were identified by testers they were reported to developers, corrected by them and the annotation tool was tested again. After this cycle, testing of service annotations was performed by responsible civil servants.

4.3.2 Test scripts

With regard to tests conducted by user partners not involved in the project, testers were provided with appropriate information on the project, process of enterprise registration, the future way of running of the annotation tool and the aim of its usage.

With regard to the annotation process the annotation authors were provided with the description of the way of annotating and they were trained before the annotation process. The list of available services was also prepared within the Annotation tool, so the annotation authors were able to choose relevant services and simply annotate and publish them.

4.3.3 Internal testing by the user partners

Internal tests were conducted by the developers and persons involved in AeG project from GLI and COI who were checking bugs of the system. User partners did a translation (from English to Polish) of the fields and buttons of the annotation tool and they were also checking language (spelling) correctness. Internal tests were conducted in September 2007 and the bugs were reported to developers via discussion forum on the AeG web site or they were sent directly via email.

Internal tests were conducted by four people from GLI and four people from COI. All of these people are somehow involved in AeG project. Among the testers there were three IT experts, two domain experts (related to enterprise registration) and three other persons.

The tests were done on the basis of information from the appropriate institutions responsible for providing the public services and on the basis of service descriptions to keep their functionality and to enable detailed description of these services using non-functional properties. The non-functional properties proposed by the developers were verified by all user partners (SHG, KSR&MI, GLI&COI) to adjust them to users' needs (what information they need), to make them easy to understand (several elements from the first version of non-functional properties were unclear), and to adjust them also to services requirements and particular providers' context.

During the tests several bugs and mistakes were identified. They are described in the tables in Annex 9.3

Problems/bugs identified during the internal testing of AT – Polish ***pilot***. Bugs which appeared during the tests were mostly related to technically incorrect functionalities of the tool; there were problems with logging in and logging off from the system, unexpected reactions after clicking some keyboard buttons, etc. Several language or spelling mistakes were found and corrected and lacking translations were completed. During internal tests (and later during the annotation process) users complained about names of buttons, which were unclear or they had ambiguous names which did not properly suggest their real function.

Territorial responsibility of Polish authorities

One of the main issues which has to be improved in case of the Polish pilot (and probably in case of Slovak and German ones, too) is locality and territorial (i.e. spatial) responsibility of particular public authorities. It was impossible to add this responsibility automatically although it was described in appropriate ontologies. In the second trial it should be possible to use these ontologies. It was one of the most often reported issues by annotation authors.

Other suggestions of improving usability and feasibility:

- It is possible to add organization types which have the same name and the same service templates; there is no mechanism which checks whether given value exists.
- No possibility of adding new service templates – shouldn't the Superadmin user be able to add that if needed?
- No control over the format of data put into field „Service hours" – maybe it should be checked somehow whether the annotator put really hours into the field. The same remark in case of other fields where the correctness of put data is possible to be checked.
- No functionality of previewing data to be saved after clicking the button "Save".
- When adding new contact person only "Given name" is a required field – shouldn't "Family name" be a required one?
- The button "View" is a little bit confusing, because users usually expect to be able to edit data after viewing it.
- The button „Cancel" in the main menu (first screen) of Superadmin account does not make sense. What is to be canceled at the very beginning?
- No possibility to edit data which was filled in by another user in spite of having such a right given by Superadmin – should it work in such a way?
- No possibility of to view all information of a service.
- Names of some buttons do not describe what they exactly do – for example the button "Save" does not only save data but also closes the current screen and the user does not know it. Proposed name for that button is "Save and close".
- The common public administration user (annotator) does not need access to wsdl source – the functionality should be available for advanced users (e.g. technical experts or admin and superadmin).

Comments of people who did not know the annotation tool at all

General comments:

- Application is sometimes unintuitive and not understandable.
- Lack of consistency in sections' editing, sometimes it is possible to add new elements from the level of different section, sometimes not.
- Input of some fields to be filled in is unclear, users do not know what kind of data should be put into some fields – maybe additional explanations should be added.

Summary of Polish experiences with annotation tool

The annotation tool fulfils general expectations of GLI and COI and is a useful tool for service annotation. Most of reported bugs and spelling and translation mistakes were corrected by developers according to user partners' guidelines. Some suggestions of improving usability are still considered, some of them were moved to the 2nd trial. One general remark is that the annotation tool is sometimes unintuitive, but previous training of annotation authors solved that problem. The most urgent requirement is to regulate territorial (spatial) responsibility issue in the Polish case. The table below summarizes the most important conclusions from the tests of the annotation tool, mentioning the elements and functionalities which need improvement, possible ways of improving and suggested priority.

Table 3 – Polish requirements on AT

To be improved	How to improve (users' suggestion)	Priority
Unclear names of buttons	Improve names of buttons – add clear, unambiguous names	High
Lack of territorial responsibility	Use ontologies to enable annotators to add responsibility areas from predefined lists	High
No control of data format put into some fields	Add such a functionality	Lower
Unclear fields' input	Add some explanations or better formulated descriptions of particular fields	Lower
Lack of fees for services	Add fees as nonfunctional property	Lower
No possibility of previewing data	Add functionality of previewing data	High
No control of added services and authorities (it is possible to add authority types which have the same names and service templates)	Add control of at least names of organizations	Lower

4.3.4 Annotation of services

The last part of the annotation tool testing was the annotation of public services involved in establishing an enterprise. Annotation authors were civil servants from Gliwice City Hall. Four different types of services were annotated:

- Registration in local government

- Registration in statistical office
- Registration in tax office
- Registration in Social Insurance Agency

which were covered by five particular services: registration of an enterprise in Gliwice City Hall, registration of an enterprise in a branch in of the Gliwice of Statistical Office in Katowice, registration of an enterprise in 1st Tax Office in Gliwice, registration of an enterprise in 2nd Silesian Tax Office in Bielsko-Biala, registration of an enterprise in Local Office of Social Insurance Agency in Gliwice. They were annotated by civil servants at the beginning of December 2007, during approximately a one week period. The annotation authors were previously trained. Some elements of the annotations were made by COI members, especially ones related to authorities uninvolved in the AeG project. The annotation authors reported their comments related to the annotation process itself. Generally, they managed to annotate all services and found the tool efficient, but it wasn't an easy task although they had been trained before. The main problem was the unintuitive usage of the annotation tool and a lack of understanding of the information required to be filled in.

4.4 German field test

4.4.1 Process of testing

Before the annotation tool has been used by the eleven municipalities involved in the field test, it has been tested internally by the developers of the project and by members of SHG. There has been an iterative process of testing by SHG, providing feedback on the usage, modifications of the tool by the developers and further testing by SHG etc. Only after a version that met the general requirements of SHG had been agreed upon by all involved in testing and development, it was provided for usage in the field test to the public authorities from the eleven municipalities. The tool was then presented and its usage explained to annotation authors from the municipalities. In this training session and in the following days, feedback on the usability and functionalities of the annotation tool have been collected from annotation authors. This feedback has been provided to developers of the tool.

4.4.2 Internal testing

The iterative tests of the first versions of the annotation tool have been performed by a test person from SHG. The test person collected information on the relevant services from the municipalities' websites and then tried to enter all the already existing information on the services into the annotation tool. If this was not possible because it had not been previewed that a certain property would be annotated, it was reported to the developers of the tool. It has then been analyzed in how many cases a missing property was currently provided on a government's website, how relevant this property seemed to be for citizens and if it should thus be added or not. This way, for example the property "access points" has been added.

The members of SHG then tried to annotate a few sample services for a "test registry office". Whenever the usage of the tool was not clear or problematic, it has been reported to the developers. This way, mainly a few usability issues, like names and places of buttons, have been discussed and modified.

During this testing phase SHG also formulated the general requirement that functionality in the tool was needed to translate the annotated information into English, so that the annotations could be used for the English test lab in Cairo. This functionality has been added in the first trial and the information that had to be translated was added by members of SHG so that all data would be available in English.

Furthermore, it was required to add a functionality which allows annotating and reusing already existing web resource which are maintained in legacy systems. It has thus been suggested by the developers to add a "grabber" functionality which allows grabbing content that has already been published on the web from existing websites. This additional feature has not been used for the annotation of services for the first trial. The feature has been added during the field test but has not been tested by the public authorities responsible for service annotations yet.

4.4.3 Evaluation of Annotation Tool through think-aloud session

The think-aloud session was conducted at the office of an administration officer, who is responsible for public relations. The administration officer was around 40 years of age working part-time as the public relations officer being also responsible for the communal web-site of the community with around 200,000 residents. The officer was asked to annotate marriage-related services and also to edit some of the already annotated services by using the annotation tool. The session lasted about 45 minutes.

The main tasks of describing the services and the corresponding responsibilities were successfully completed in less than half an hour. This included also extensive comments of the officers regarding the user interface.

The following problems with the annotation tool were identified after analysing the think-aloud session:

1) The structure of the interface, i.e. where to find what and where to make changes to certain elements, was sometimes difficult to comprehend. The officer had to "search" (by repeatedly clicking through different screens) to find the right place where existing information could be changed.

   Suggestion to developers: Provide a way to easily change existing information. Consider re-structuring the interface.

2) It is not clear, what information is already provided by the system (through life event descriptions etc.) and what information must be added through the annotation tool. For example, the field "description" of a new service was used by the officer to describe the service in general. However, this is exactly what the life event description already contains.

   Suggestion to developers: Add a text box to each field where a short paragraph describes what is expected to be entered in this field.

3) For some of the fields the officer was uncertain, what to put into the field. For example, the field URL was used for two URLS, even though this is not intended. Also, the annotation tool does not provide validation for this kind of erroneous data.

   Suggestion to developers: Same as for 2), in addition consider adding validation for fields that might impact the information consumer's user experience.

4) The names of some of the interface elements are not clear. For example, the term "Access Point" of a service was repeatedly mentioned as being difficult to comprehend.

   Suggestion to user partners: Find names that are easier to comprehend.

5) The officer had difficulties to find the right place where to enter fees for a service.

Suggestion to developers: Describe in the documentation of the annotation tool how this should be done.

6) Default values and predefined values should be provided (e.g. for community names and codes), especially for addresses.

   Suggestion: Addresses should be made "re-usable" (through an address book of some sort) and should be pre-filled as much as possible.

4.4.4 Testing by the user partners (annotation authors)

During a training session for annotation authors in which the usage of the annotation tool has been explained and trained in practice, feedback on the usability and the general functionality of the annotation tool has been collected. In the weeks following the training, annotation authors were asked to provide feedback in case they had any problems using the annotation tool (e.g. if it did not work properly, if they could not enter some properties they wanted to enter or if they did not know how to best enter the data into the tool). All annotation authors managed to successfully annotate all the required data. Even users not familiar with similar applications could use the tool without any major problems. A major problem reported was the time required to annotate services which are provided for a large number of municipalities (which have to be annotated also). In cases where a service was provided for more than 15 municipalities, loading time of the tool was very slow and it took about one hour to annotate one such service.

The requirements arising from the tests by the user partners during the training session are summarized in the following section. This section summarizes the most important aspects that need to be improved for the second trial. Some of the bugs and problems that have been identified in the tests by the user partners have already been solved during the first trial. These fixed problems, as well as a detailed list of problems and bugs that still need to be addressed are listed in the Annex 9.4. *Bugs and requirements for modification of AT – German field test*

Highest priority: aspects of usability need to be improved

- a more descriptive interface is needed, e.g. with additional texts explaining each field and each screen
- a preview of the entered services is required
- the annotation author has to have a reference of what general information about services will be provided by the system (e.g. about fees) so that he knows what information needs to be added by him for a complete service description
- parts of the service annotations should be reusable as templates, especially services, areas (lists of municipalities) and lists of persons and it should be possible to move them to different contexts, e.g. to move a service to a different office
- the page should not reload after entering a value into the fields
- the service annotations should be validated for completeness

High priority: Navigation in the tool needs improvement:

- using backspace-key results in loss of data
- the navigation has to be more intuitive so that the already annotated data can easily be found again

High priority: other issues

- the language settings should not switch
- the preview of services needs to be improved/corrected
- users with viewing rights should have the right to view all the information
- the performance of the tool needs to be improved because loading annotations with a lot of data is very slow
- it has to be possible to enter fees into AT

There are also a few issues regarding the improvement of usability which are considered to be of lower priority:

Lower priority: Elements in AT have to be sorted

- the services should be sorted by service type and alphabetically
- it should be possible to influence/change the order of access points and contact persons

Lower priority: Other issues

- it is required that annotation authors can add new service types for offices
- editors should be allowed to edit services for their offices even if they were created by other authors
- Exceptional structures in the scenario “marriage” do not fit into the provided structure for service annotations. The scenario marriage contains a few very exceptional structures that made annotation of the relevant services (reservation of the location for marriage and marriage itself) rather difficult. See Appendix 9.5 *Exceptional service properties in the marriage scenario* for a more detailed description of this particular problem.

4.4.5 Annotation of services

Eleven municipalities have been involved in the field test. The annotation authors of these municipalities were either internet authors or registrars with different levels of experience with similar applications. Each of them annotated at least nine different services (eight services of the registry office (Standesamt) and one service of a different office (Einwohnermeldeamt)), resulting in more than 99 annotated services for the German pilot. Because some of the offices annotated marriage services at different locations as separate services, some offices provided more than one service of the kind “marriage” and “reservation of the marriage location”.

All of the annotation authors managed to annotate all the services within the four weeks following the training. One author was not able to participate in the training but managed to use the tool successfully using only the user manual. Members of SHG verified if the annotations were complete and correct and if the services had been annotated as expected. A frequent error in annotations was that annotation authors had forgotten to annotate the area of responsibility of an access point.

4.4.6 Conclusion and outlook

The overall functions of the annotation tool met the requirements of SHG when the tool was provided to annotation authors for annotation of real services. It could be used even by untrained users to annotate all the required services successfully. Just the performance of the tool was very poor when a large number of municipalities had to be annotated.

It had been expected in the very beginning of the development that the tool would allow annotation of already existing contents by somehow integrating it into existing CMS. This requirement could not be met yet. Just among the eleven municipalities involved in the testing, eight different CMS are in use and no general solution for all these systems could be provided for integrating the existing web contents. SHG is preparing a meeting with providers of the CMS’ to discuss the possibility and calculate the required effort to annotate the contents directly in the CMS. The possibility to integrate existing websites contents into the AeG system this way in the second trial will be evaluated.

4.5 Specification for revision of the AT

Taking into account all the responses of the AT testers and user partners, in general the Annotation tool provides effective operation with relatively sufficient standard of the user-interface required for the PAs. Even though the testers found the tool not very user-friendly, it provides an acceptable functionality for changing and updating information for public servants. An important note has to be emphasized: the tool is intended to be used by public servants who are expected to be trained and to use the AT component more often than the general public. Therefore this fact was considered within the evaluation of the public testing.

In the table below there are the main remarks collected by the user partners and are expected to be addressed within the trial II. These suggestions for improving the AT were assessed by the developers in terms of whether or not they can be addressed and in what time period. However, as a result all the requirements will be solved within the Trial II time-schedule. Classification of requirements is indicated below:

1 - Will be done by the Trial II
2 - Will be done by the end of the project
3 - Can be done, but not within this project (out of scope of the Access-eGov project)
4 - Cannot be done (using this technology)

Table 4 – Summary of key requirements for the AT modification

User partners	Developers	
Proposed improvement	**Category of requirement (1-2-3-4)**	**Partners responsible**
Performance should be enhanced if many services are annotated	1	Developers
Annotation of territorial responsibilities is required	1	Developers + user partners
More intuitive user-interface is needed, especially better navigation	1	Developers + user partners
Names of the buttons shall clearly indicate their functions	1	Developers + user partners

Fees should be included in the AT	1	Developers
User with viewing-rights should be allowed to see everything	1	Developers
Preview of annotated services should be available	1	Developers
Clarification of what inputs are needed in fields	1	Developers + user partners
Super-admin should have the right for creating and editing new templates	1	Developers
Validation of data format for some fields needed	1	Developers
Validation of completeness of annotation needed	1	Developers

As shown in the table above, the developers assessed all the proposals as feasible and therefore all shall be incorporated within the trail II. The enhanced AeG system is expected to be completed by the end of June 2008. Afterwards it will be exposed to public testing and ready for final revision.

General expectations on the AT:

- A Web-service interface is available that takes a Web-page as input and returns either the same Web-page containing semantic mark-up for a specific service (or services) or only the mark-up as an output
- A Web service interface is available that can be used to make content available for annotation
- Service Profiles can be identified by URIs and are accessible from non-Access-eGov applications
- Ontology Managers can register ontologies, thus making them available to Access-eGov, and notify users about ontology changes.

5 Evaluation of the Personal assistant client (PAC)

Communication of the citizens with the Access-eGov platform is occurring through the Personal Assistant client, which provides the main web-based user interface for functionalities of the platform components. The list of functionalities provided by PAC includes:

- registration of citizens in the platform and managing of the user profiles
- navigation and selecting of the life event from the hierarchical list of life event categories
- customization of the life event to get list of suitable services with the wizard-like questionnaires generated for the particular user case
- browsing of the detailed information about the selected services (i.e. contact data, etc.).

5.1 Technical testing German, Polish and Slovak administrative processes

During the run of the trial various user issues were reported. These issues were tracked within the online track system (http://147.232.5.49/aegtrac). Partners were using this system to directly report issues noticed as tickets. They were aware which issues are relevant to whom from the development team so they assigned all tickets to the right person(s). Of course they were not always able to classify them correctly but that was caught by developers who reassigned tickets to the right person(s) if needed. One of the characteristics of the tickets was their severity. If the severity is high then the ticket had higher priority and was processed firstly (before tickets with low severity). Since the developers, had knowledge about overall AeG system, they were able to decide whether the request -that was implied by a ticket- can be solved or need to be postponed into next trial.

The statistics provided below about the tickets relevant to the administrative process models (i.e. WSMO process ontologies) of German (administrative process of marriage), Polish (administrative process of establishing of enterprise) and Slovak (administrative process of getting a building permit for new family house) user partners. These tickets can be classified (see table 2) to those relevant to the process logic and those relevant to the textual descriptions within the process ontologies.

Table 5 - Number of reported and closed tickets from German, Polish and Slovak user partners

	Tickets (total)	Closed tickets (total)	Postponed tickets (total)	High priority tickets	Closed high priority tickets
German administrative process	14	12	2	10	10
Polish administrative process	16	14	2	14	13
Slovak administrative process	6	5	1	5	5

Table 6 - Number of reported tickets from German, Polish and Slovak user partners categorized by their impact into logic of process or their relevancy to the textual description within the process ontologies.

	Tickets related to process logic	Tickets related to textual description
German administrative process	8	6
Polish administrative process	10	6

Slovak administrative process	1	5

In case of Slovak pilot, the tickets were submitted after the internal phase of discussing the discovered problems and were already grouped according to the responsible test person. Therefore they represent a larger group of smaller issues. Altogether 39 such issues were reported, where 5 were related to the process model, 12 to textual descriptions, 5 to navigation, 12 to displayed content itself and 5 to annotation of utilized services.

5.2 Slovak pilot

5.2.1 Process of testing

Similarly as mentioned above regarding the testing development of the AT, also the PAC was primarily tested by the developers. The user partners performed internal tests with collecting relevant comments according to which the PAC was modified and enhanced. Once the system improvements stabilized to the expected functionality, a selected group of people with various backgrounds tested the platform and reported their feedback through online questionnaires and interviews.

The testing of the Slovak pilot application progressed in the three phases as follows:

- Internal tests
- Tests carried out by user partners
- Public tests

PAC User Manual, user interface and user questionnaire for evaluation of PAC were translated into Slovak language in order to ease the tests performance.

Testing of the Personal assistant client was carried out in January and February 2008 by a group of testers with and without professional background. With the aim to perform comprehensive tests, testers of various background participated so that the developers were provided with a broad feedback, addressing different issues.

The average age of the testers was 43 having the following backgrounds: architects, construction engineers, project engineers, IT developers, lawyers, waiters, public servants and also a few unemployed people.

18 different scenarios were tested by the participants (for more details see the test scripts paragraph below) who were provided a user manual describing step-by-step instructions on how to perform particular test scenarios. The feedback on the PAC was collected via e-mail. Some of the testers were disappointed with the system performance but many of them claimed a wish to test Prototype II within the second trial.

Regarding the timing of the PAC testing, for a month the system was open for internal testing. Right after the closure of the internal testing, Slovak partners (developers with user partners) conducted a round-table in mid January 2008. From the 18th January was the PAC tested by the user partners for a one week. In the beginning of the January 2008 the public testing started and finished by another round-table with Slovak partners.

5.2.2 Test scripts

Test scripts for the Slovak pilot were strongly depending on individual life events (i.e. the system customizes according to filled in introductory online form). The form indicated seven mandatory questions + location specification. According to the answers a user entered, the system generated a group of relevant services showing on the left panel (16 basic combinations). In order to make the tests comprehensive, the test scripts covered all the possible combinations and were introduced to the testers of the KSR and MI.

Questions concerned:

1. Are you already decided for a concrete lot for building your house?
2. Are you a legal entity?
3. Do you have a certificate of ineligibility or is your case considered as an exemption? (see the explanation below)
4. Is your construction (type) in compliance with the respective land-use plan regulations?
5. Are you the owner of the land that is planned for the construction?
6. Do you have project documentation for the construction complete?
7. What are the estimate costs of the construction?

+ Additional question "Where do you plan to build your house?" (District of Michalovce, other)

The test scripts in particular:

- Citizen planning to build a family house in <u>the district</u> of Michalovce
- Citizen planning to build a family house in <u>other than</u> the district of Michalovce
- Citizen <u>already decided</u> for a concrete land
- Citizen <u>no yet decided</u> for a concrete land
- Entrepreneur planning to build a family house in <u>the district</u> of Michalovce
- Entrepreneur planning to build a family house in <u>other than</u> the district of Michalovce
- Entrepreneur <u>already decided</u> for a concrete land
- Entrepreneur <u>no yet decided</u> for a concrete land
- Citizen <u>with</u> a complete project documentation, with/without the ownership of the lot
- Citizen <u>without</u> a complete project documentation, with/without the ownership of the lot
- Entrepreneur <u>with</u> a complete project documentation, with/without the ownership of the lot
- Entrepreneur <u>without</u> a complete project documentation, with/without the ownership of the lot
- Citizen <u>with</u> an ineligibility certificate and complete project documentation, with/without the ownership of the lot
- Citizen <u>with</u> an ineligibility certificate, <u>without</u> complete project documentation, with/without the ownership of the lot
- Entrepreneur <u>with</u> an ineligibility certificate and complete project documentation, with/without the ownership of the lot
- Entrepreneur <u>with</u> an ineligibility certificate, <u>without</u> complete project documentation, with/without the ownership of the lot

5.2.3 Internal testing

Internal testing of the PAC aimed at searching for errors, so called bugs and other malfunctions that could lead to a partial/total system failure. The testing was performed within Slovak consortium of developers and user partners (TUK, IS, KSR, MI). An immediate elimination of defects found was ensured by the developers. For this purpose English version of the German pilot was used for testing. Because of the language barrier, only four members of the user partners' team participated in the activity which started in mid-December 2007 and ended by mid-January 2008.

After the first version of the PAC was rectified according to the feedback from user partners, in mid January a Slovak initial version of the PAC was introduced for the internal tests purposes.

The key issues reported in both the German and Slovak version:

- Error when creating a new user
- Error displaying of the button "Building permit" in the web browser IE
- Empty process descriptions
- Misspelled texts
- Confusing buttons names with unclear functionality
- Incorrect and inaccurate translation from English to Slovak

The collected remarks from the internal testing can be grouped into four categories:
Navigation, Process, Texts and Buttons.

Empty process description required a quick response and therefore adding relevant texts was the highest priority at the time. Firstly this was done in Slovak, later on in the English version of the PAC. Upon agreement with the developers all the services were put in line with the process so after filling in an introductory form a user was offered only the services relevant to his/her life event. As a result the user did not have to roll down a large screen with a lot of services.

Communication between the Slovak user partners and developers of TUK was carried out via emails and on 17th January 2008 a round-table of all the Slovak partners was organized.

5.2.4 Testing by the user partners

Actually, user partners testing commenced when the Slovak developers and user partners met in the premises of the TUK January 17 2008 with the aim to agree on the testing time schedule and reporting system. At the time the Slovak user partners were also introduced with the PAC user interface features. For the reporting purposes all the partners used a systematic approach, so called TRACK system which enabled developers a prompt and accurate reaction.

The system was open for testing between 18th and 25th January 2008. Together 9 testers of the KSR and MI project teams carried out the tests.

Within the following four days - until the end of January 2008, reporting process took place. The collected remarks related not only to the system functionality and process as itself but also to accuracy of the content. In parallel a standard of the information basis (SK/EN versions) was continually improved in a close cooperation of the KSR and IS teams. Results of the internal tests were processed and forwarded to the developers through the mentioned Track system.

Most of the remarks were linked to an improper translation of the user interface as well as to a large number of services displayed on the left panel of the PAC so that a user got lost and was unable to decide for a step by step action (did not know what to do). As a result a more accurate translation was incorporated into the user interface. Also in order to simplify the complexity of displayed services, only those related to a particular life event appear now. In addition, the developers included forms samples with relevant instructions and other links for enhancing system information quality.

5.2.5 Testing by the general public

System tests done by external persons can be considered as the most fundamental ones as those people, shall be potential system users in the future. The public testing was carried out from 31st January to 12th February 2008. Within the Slovak pilot application public test citizens, relevant experts, PAs employees and potential users of the AeG system were involved. The average age of the testers was 43. Real number of persons involved was higher than expected (D8.2) and achieved 40 people in total. The structure of the testers is analysed in the below table.

Firstly the testers were shortly introduced with the project, AeG platform and the aim of the tests. After the testing the testers were asked to fill in an online questionnaire and some of them were interviewed in order to receive immediate feedback. 19 questionnaires were received and 6 interviews conducted. Many of the remarks were sent via email. On 14th of February 2008 we organised a round table of Slovak project partners in order to evaluate the public test.

Table 7 - Testers' structure within the public test

Groups	Users	Number of users	Description
Citizens / Business Employees	Citizens	15	General public
	Regional Building Office in Kosice	4	Experts in the field of construction
	Unit of Head Architect of the Kosice City	4	Experts in the field of architecture
Admin employees	Office of the Kosice Self-governing region	7	Employees – project team members, IT staff, others
	Municipality of Michalovce	6	Employees – project team members, IT staff, others
	Local Building Offices	4	Experts in the field of construction

Results of online questionnaires (questions were the same for all the user-partners)

Each user partner used common questionnaires for collecting feedback while public testing was open. Testers were asked to answer given questions online right after completing the PAC testing. The results are averaged for each of the statements. The statements are grouped by quality dimension, listed in the table below. The scale of the results is from 1 to 5, 1 meaning "Fully agree" and 5 meaning "Fully disagree". Thus, the higher value delivered the higher disagreement with a given statement.

Together 19 testers out of total filled in the questionnaires for the purpose of the AeG assessment. According to the table 8 below, averaged results show that Slovak testers tend to have rather neutral or more positive assessment on the given statements. The respondents appreciated the way the Access eGov works as it gathers all the necessary information at one place. Experts in the field complained about an inaccuracy in the information provided. Also more links to external institutions were expected however links to any private companies in the field of building process shall be avoided. In addition some relevant information was missing and the public testers did not know how to proceed. All this will be rectified in trial II. In general, the testers expressed an interest to be involved in the trial II and would use the system if it was in place.

Table 8 – Averaged results of online questionnaires evaluation (1-agree, 5-disagree)

Dimension	Adjusted average
Relevance	**1,9**
Use of language (Ease of understanding)	**2,6**
Completeness	**2,9**
Ease of use (User experience)	**2,5**
Navigation (Access)	**2,7**
Structure (Consistent representation)	**2,4**
Performance	**2,3**
Appearance	**2,9**
Believability (a)	**2,9**
Believability (b)	**2,2**
Believability (c)	**2,2**
Reputation (a)	**2,1**
Reputation (b)	**2,2**
Error Handling	**2,8**

As an example few particular results are visualised through the graphs below. Testers were more neutral with the user-friendliness of the user-interface but would appreciate to be more intuitive. Within the navigation there were however some of the respondents totally rejecting the sentence that the platform directed them towards the information they needed.

Figure 1 – Evaluation of the question: I find this website easy to use

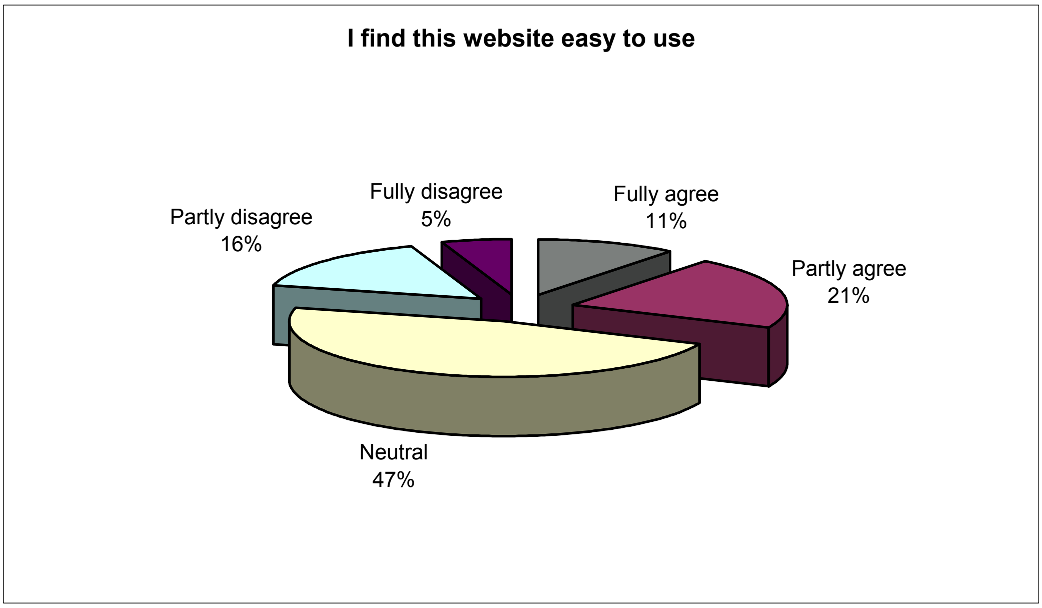


Figure 2 – Evaluation of the question: I like the way the website looks

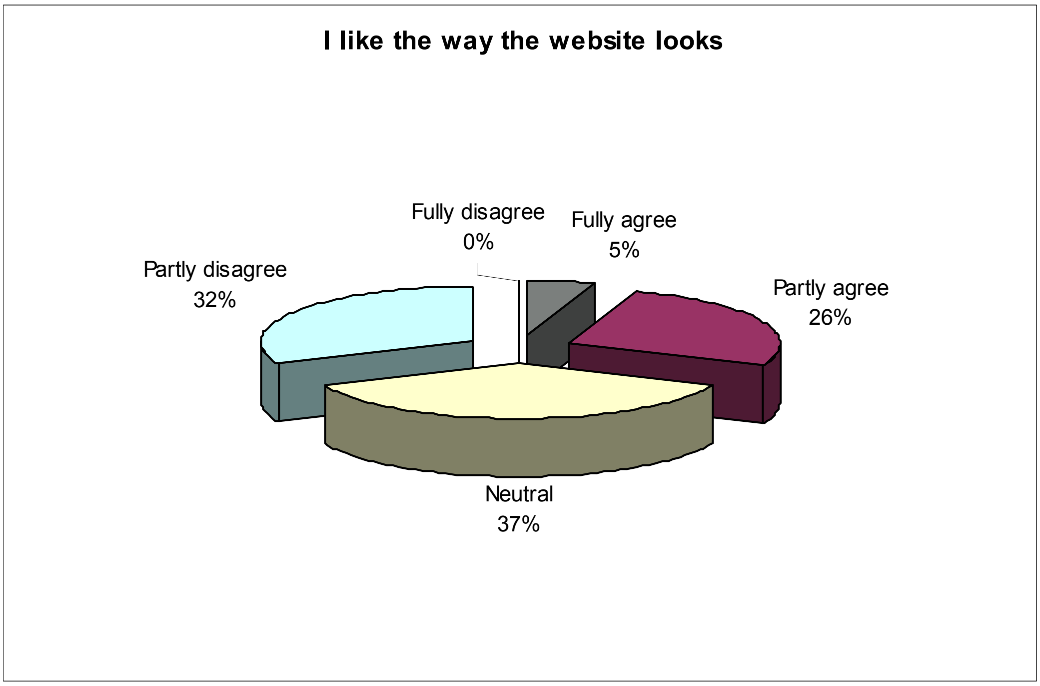
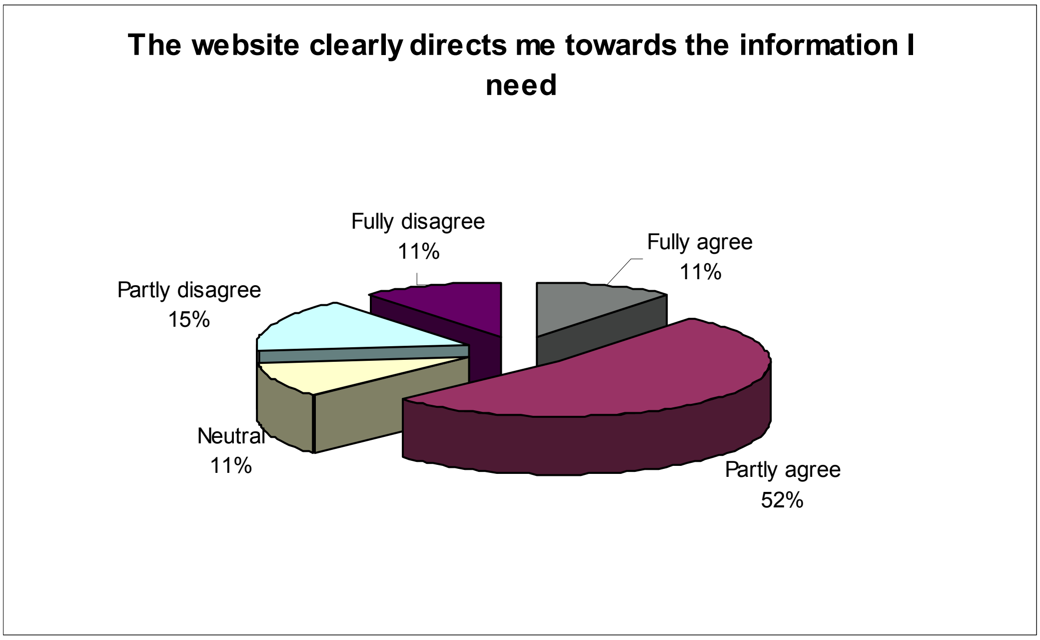


Figure 3 – Evaluation of the question: The website clearly directs me towards the information I need



For more details on the overall questionnaires results please see the annex 9.14 *Results of online questionnaire*

Results from interviews

In addition to the mentioned online questionnaires interviews were conducted in order to collect more addressed feedback from the users. Team members interviewed 6 testers right after they finished testing the system. The testers consisted of different background from the general public to experts in the field of IT and building process. User partners were thus able to gather immediate responses of the users on the system. The users were asked questions such as “what impression of the AeG did you have”, “Were your expectations on the system functionality and performance fulfilled – or to what extent”, “Do you think this is a good step towards making the whole building process more easy for applicants”, “What you did not like when trying to perform some procedures through the system”, “What do you suggest in terms of improving the system as a whole” and others.

User partners were able to gather interesting feedback from the interviews. An expert in the IT field welcomed the project idea and supported such activities that ease the complexity of public services. However he pointed out a few issues that shall be addressed in order to make the system more usable in the practice. Firstly he suggested unifying the design of screens (e.g. it should be avoided to have too much graphics on one page and too much text on the next page). Also he lacked more help and assistance while carrying out the test as the general public might encounter severe problems in orientation within the user-interface. The user shall be directed towards what he/she is looking for and for this purpose an exact algorithm of steps required should be used. Also the structure of provided information should be unified. No great graphics shall be applied as the system is not intended to be a commercial website. According to the user the texts should be structured into smaller groups so that it is easy for people to read them.

Another expert but in the field of construction expressed inaccuracy in the terminology used. The information provided was not accurate according to the respective legislation. On the other side she proposed not to use such complicated texts as it might be difficult to understand for the public.

In general it can be concluded that the results from the interviews were pretty much the same and the key outcomes are defined in the table 9.

Conclusions from the PAC evaluation

The testers appreciated the idea that the system gathers all the information in one place. Testers pointed out the ease of use of the user-interface as the most critical issues. They had problems with orientation and navigation which was insufficient according to their feedback. Also some of the sentences or buttons names were unclear or ambiguous so they did not know what will happen when using them. The information on the website was not structured well and made the users confused. The testers expected that the system will be able to replace in-person visits of offices with electronic services however this is still difficult to realise as it mostly depends on decision of the concerned public administrations.

As regards an overall fulfilment of the expectations on the system user-interface and functionality, the Slovak user partners expected more user-friendly system in which the user would be navigated in a step by step manner.

One of the major problems was that the system could not be tested under fully real conditions because a real interaction with the PAs is difficult to organize, also due to insufficient legislation as well as no real applicants available.

In the table below key requirements on the Personal assistant client are indicated as they were collected from the evaluation results.

Table 9 - Main requirements on PAC

Key improvements required	In details	Priority
Easy-to-use user-interface shall be ensured (without reading a user manual)	The user-interface is expected to provide only relevant and accurate information in an easy-to-understand way.	High
The platform navigation shall be improved	User is expected to be guided throughout the whole process without a need of studying user manuals or thinking of what to do next.	High
Displayed stage of completeness was needed	User needs to be informed on what is the current status of his application as well as how long it might take yet to have it completed.	High
Unified design and structured information is required	User requires unified design of the screens, information shall be more structured into smaller groups	High
Texts are expected to be unambiguous/easy to understand	Any information provided to the user must be clear and accurate. Otherwise the user might get lost in the process.	High

Translation must be improved (more accurate)	Translation of the user-interface has to be made accurate and comprehensible.	High
Land-use plans/maps shall be included in the system	To ease the process of identifying a lot online land-use plans shall be provided to the user.	High
On-line forms are expected to be incorporated	Also on-line forms will help so that the user does not have to print out electronic forms. The system shall assist when filling in online forms too.	Medium
Territorial coverage of the services is expected to be extended to other regions	During the trials it should be allowed that the user does not have to be limited only by the district of Michalovce. It shall be extended to some other areas.	Medium
More links to external supporting organization needed	User needs to have more links to external organisations so that he/she may use their services too.	High

For more detailed requirements of the Slovak testers on the PAC see annex 9.12.1 *Slovak pilot*

Suggestion of users for extended functionality:

- Integration of AeG with cadastre on-line
- Possibility of electronic submission of documents via email – depending on PA (eSignature needed)
- Integration of AeG with existing payment portals
- Transfer of pilot into other regions in Slovakia

Promotional presents – T-shirts, pens, glasses, paper bags with Access e-Gov logo for the testers within the Slovak pilot:

5.3 Polish pilot

5.3.1 Process of testing

The public tests of PAC were performed after the period of internal testing and fixing identified mistakes and bugs. Internal tests were mainly performed to identify serious discrepancy of process description and its real function and to correct it. The internal tests were conducted by technical (familiar with IT applications) and domain experts (familiar with enterprise registration). Public tests were performed by several people mostly unrelated to the AeG project and consequently representing common users who do not know the enterprise registration process very well. Outcomes of these tests were collected by COI and 24 online questionnaires prepared by GUC were filled in by testers. On the basis of comments collected by COI and filled in online questionnaires the evaluation of PAC was performed.

5.3.2 Test scripts

Due to the fact that group of public testers did not know the way of usage and functionality of the personal assistant, testers were provided with a relevant description of the tool, its functionality and general scenario of the process of establishing an enterprise. Apart from the online questionnaire prepared by GUC, they were also provided with several questions (prepared by COI and GLI) regarding registration process improvement, information quality and general functionality of the tool. Questions were prepared according to evaluation guidelines and quality expectations described in documents D8.1 “Trial Evaluation Strategy” and D8.2 “Specification of Pilot Applications and Design of Trials”. The testers were not asking about functionality which was not provided during the first trial. These questions were focused on issues and functionalities specific for Polish pilot and enterprise registration process. Users were asked not only about their general impression (accessibility, added-value services, general quality improvement, information relevancy, etc.), but also about particular Polish data, whether it is relevant to the registration process, whether users receive enough guidelines related to registration process, and whether and how PAC improves information on public services in comparison with current Polish situation. The translation of questions from questionnaires is presented in the table in the Annex (originally they were asked in Polish).

Testers were also asked to indicate whether they are IT experts (meaning web application familiarity) or not, and that characteristic was taken into consideration. There were also three domain experts among public testers.

5.3.3 Internal testing

Internal tests were mainly performed in order to identify several issues of process description and its real function. The tests were conducted by technical (IT experts) and experts in the field of enterprise registration.

5.3.4 Testing by the user partners

Taking into consideration internal COI and GLI tests, the final version of PAC was much more different than the initial one. It was caused by bugs and errors in the user interface and PAC function in comparison with previously described process. The correct appearance and functionality was provided during cyclic information exchange between Polish internal testers and project developers.

One serious mistake in phase of registration in tax office (made by user partners) was identified and corrected and then the whole process construction was settled and fixed. All additional descriptions and clarifications were added – need of display of these additional facilities was identified during internal tests.

After all these preparations the Polish PAC application was ready for public tests.

5.3.5 Testing by the general public

There were 30 testers of Polish version of PAC. Group of testers consisted of GLI and COI members who are not related to AeG project and other common citizens. 24 persons of that group filled in the online GUC questionnaire and all of them answered COI/GLI evaluation questions.

Background of testers:

- 3 IT experts,
- 3 field experts,
- 24 "common" citizens.

Public tests lasted two weeks – during that time the testers were able to use the PAC system as they wished and when they wished. In case they had questions they could ask AeG partners. They were also provided with COI/GLI questionnaires and online GUC ones. All testers answered our internal questions (regarding not only the whole system function, but also particular aspects of specific Polish case). 25 testers answered also online questionnaire.

Internal Polish questionnaires (For more details see Annex 9.6 *Polish internal questionnaire for PAC evaluation*)

Table 10 - Internal questionnaire answers structure

Question	Number of answers Percentage rate			Comments
	YES	NO	Partly	
1) Is the information provided by PAC more relevant?	15	5	10	
	50%	17%	33%	
2) Is the information better organised?	21	4	5	Definitely better organisation than some Polish portals are currently organised.
	70%	13%	17%	
3) Is the information relevant to your particular case?	21	2	7	The user does not have appropriate knowledge and may not know whether the information is relevant.
	70%	7%	23%	
4) Do you find the number of links to external sources enough?	5	7	18	Too small amount of external links. The users would feel more comfortable when having more links to external (e.g. law) sources. Suggestion: Use links from annotation tool.
	17%	23%	60%	
5) Did you receive guidelines related to all aspects of required service?	3	7	20	Lack of some guidelines is caused by too little functionality (e.g. the first trial did not provide help in choosing way of taxation – so relevant guidelines were lacking).
	10%	23%	67%	
6) Is the information up-to-date?	30			
	100%			

7) Did you log in to the service?	4	26		Most of users did not log in because of lack of questions and answers. Some of them admitted they had not found that functionality.
	13%	86%		
8) Is user registration a useful functionality?	22	2	6	Users prefer to have a choice – register or not.
	73%	6%	13%	
9) Did you receive enough help in defining way of running the business?	10	15	5	Too little information. Some pieces of existing information are unclear.
	33%	50%	17%	
10) Did you receive information relevant to the previously chosen case, in the further phases of the process?	10	2	18	Even better customization could b achieved. The main condition is, the user must provide the system with some additional personal data which would be used to this customization.
	33%	6%	61%	
11) City hall: Did you receive whole information on required additional documents?	26	1	3	
	87%	3%	40%	
12) Statistical office: Did you receive whole information on required additional documents?	26		4	
	87%		13%	
13) Tax office: Did you receive whole information on required additional documents?	25	2	3	A lot of comments: lack of relevant information on the way of taxation.
	83%	6%	11%	
14) Social insurance agency: Did you receive whole information on required additional documents?	24	4	2	
	80%	13%	7%	
15) Social insurance agency: In your opinion, did you receive comprehensive information on further requirements and forms dependent on type of your enterprise and number of employees?	5	4	21	Process of registration in social insurance agency is very complicated one. A lot users complained for small amount of explanations specially in case of that phase of the process.
	17%	13%	70%	
16) Are all relevant documents available via the PAC application?	28		2	
	93%		7%	
17) Are the required forms properly associated	29	1		

with the process phases?	97%	3%		
18) Is the information available from one point of access?	28		2	
	93%	7%		
19) Did you find any piece of information on facilities for impaired citizens in particular authorities?		30		Such information must be added.
		100%		
20) Is the relevant information available via different channels?		28	2	
		93%	7	
21) Was it possible and easy to download forms required to complete registration?	30			
	100%			
22) Is English version of PAC clear, understandable?	14		16	
	47%		53%	
23) Can English version of PAC be useful for foreign users?	30			
	100%			
24) Is the PAC easy to use?	5	13	12	COI/GLI comment: application seems testers not easy to use because they: · Do not know the process very well and the PAC did not clarify everything. · Some pieces of information were difficult formulated. · Some users complained they had not been properly navigated and they had got lost. · Some of users additionally were confused with names of buttons.
	17%	43%	40%	
25) Is the PAC user friendly?	5		25	
	17%		83%	
26) Do you like the PAC interface?	23	3	4	
	77%	10%	13%	
27) Do you want to use such a system with relation to other public services realisation?	8	8	14	COI/GLI remark: quite a lot of answers "no" is probably caused because users don't think PAC is easy to use, and it is because of what has been written in point 24 above.
	27%	27%	46%	

The figures below illustrate the structure of chosen answers.

Figure 4 - Structure of answers [part 1]

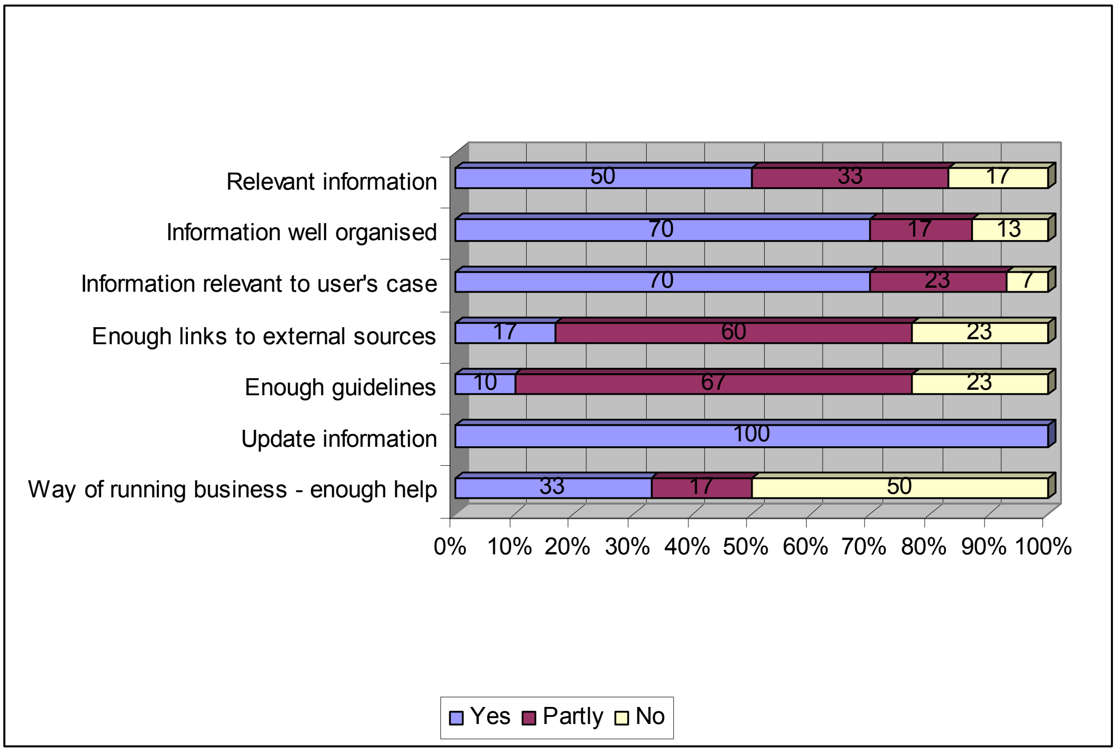


Figure 5 - Structure of answers [part 2]

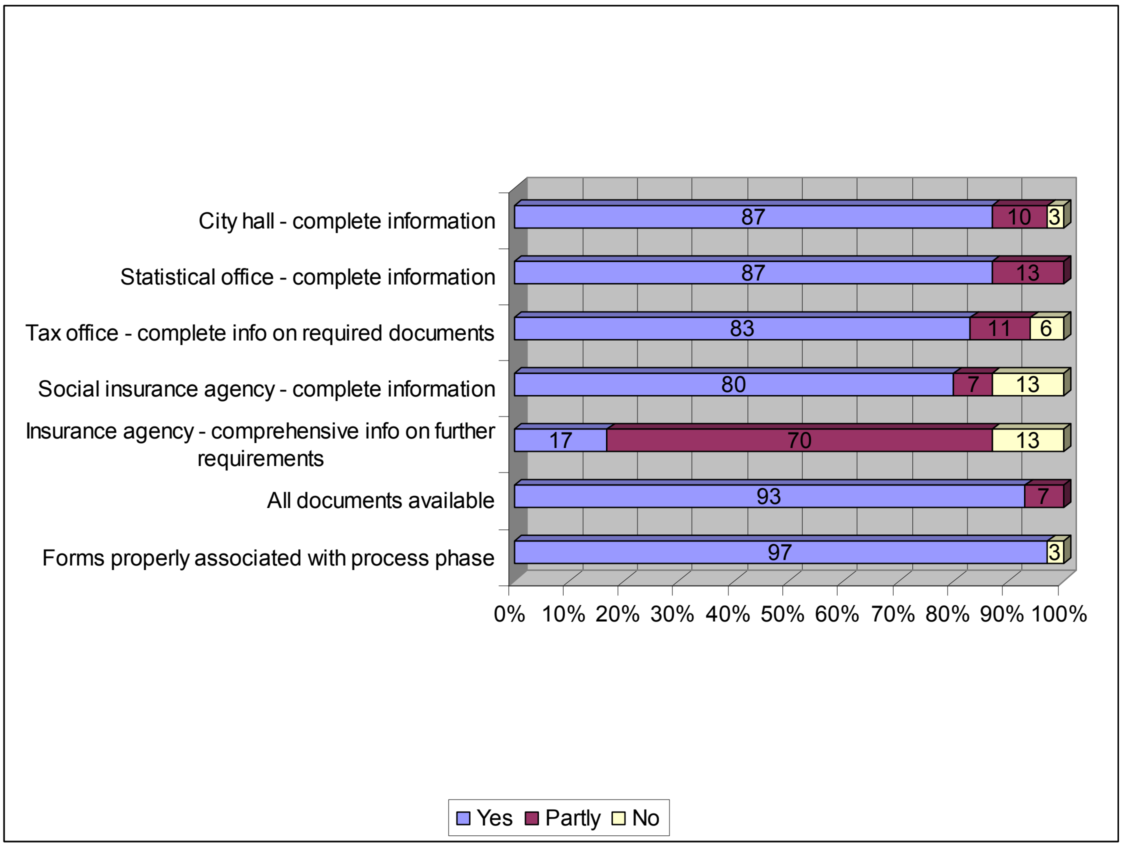
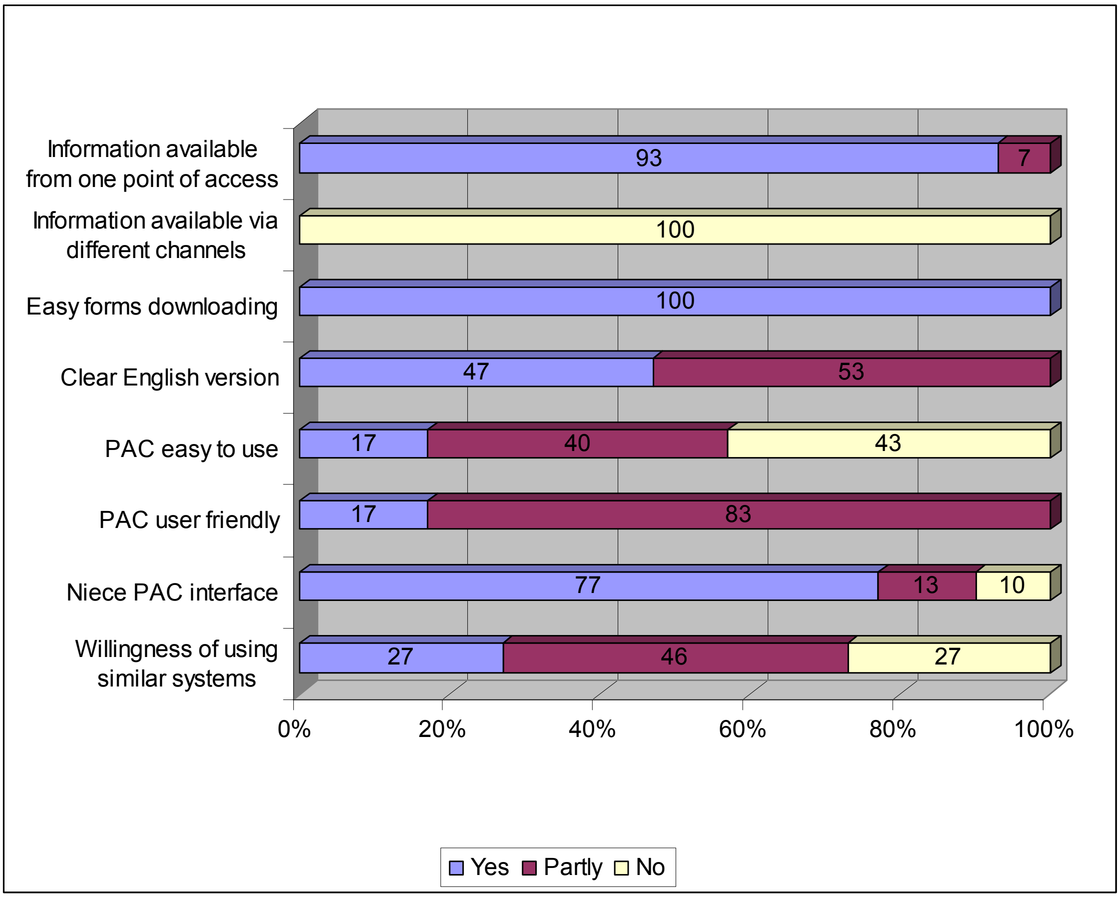


Figure 6 - Structure of answers [part 3]



Summary of the Internal Questionnaire evaluation

Taking into consideration answers and comments, users generally are glad with information relevancy to their individual case and organisation of information. Most of users pointed lack of enough guidelines related to the process and too little number of links to external sources as one of main PAC disadvantages. Most of users agreed that information related to forms and documents is complete. They think registration in social insurance agency is a complicated one and expect more information and help in case of that phase of registration process. They also expect to be provided with information and help related to codes of Polish Business Classification and ways of taxation. Regarding quite a big number of foreigners in Poland English version seems to be important for the most of users, but they think its content should be improved. The most urgent problem is that many testers find PAC not easy to use and not user friendly. Consequently not many of them declare that they would use such a kind of system in the future. The main problem is lack of proper navigation indicated by many Polish public testers; many of them indicated phases of the registration process where they did not know what to do next. They also wanted to be aware what has been completed yet. Users also did not find all pieces of information they had expected and did not understand all the questions. Sometimes they did not know why such a question was asked in that particular moment (it was not obvious from the context). Testers also complained about lack of information on timing and dead lines of particular activities realisation. This time is in most cases defined by law regulations and users want to be informed on it, to be able to plan the whole process reasonably. The users like PAC interface and idea of information customisation. They think such a system is needed, but should be improved.

Online questionnaire and evaluation of its results (common for all the trials)

24 testers answered questions from the online questionnaire. Below mentioned graphs illustrate the character if answers given by Polish testers. Questions were asked in such the way that users were able to choose one of five possibilities:

- Fully disagree
- Partly disagree
- Neutral
- Partly agree
- Fully agree

To present the results, particular answers were counted and its percentage range was counted and the percentage structure of the answers for questions related to four main categories is presented in the pictures below. The structure of answers related to the rest categories is illustrated in the annex 9.7 *Structure of answers for online questionnaire – Polish pilot*.

Figure 7 – Evaluation of Appearance aspect

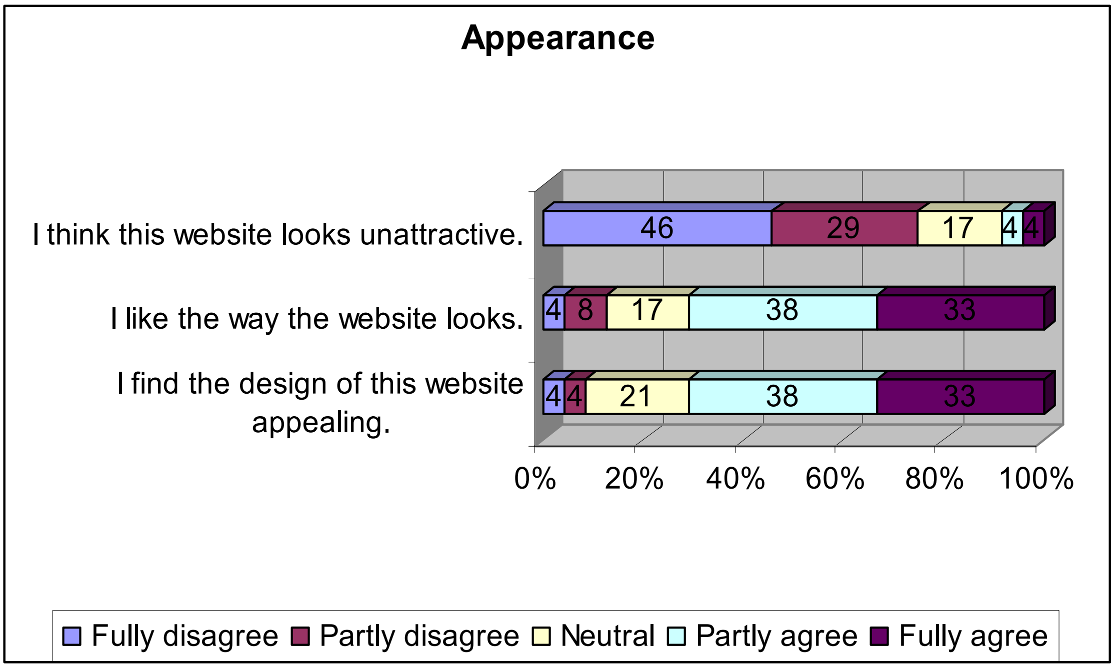


Figure 8 – Evaluation of Ease of use aspect

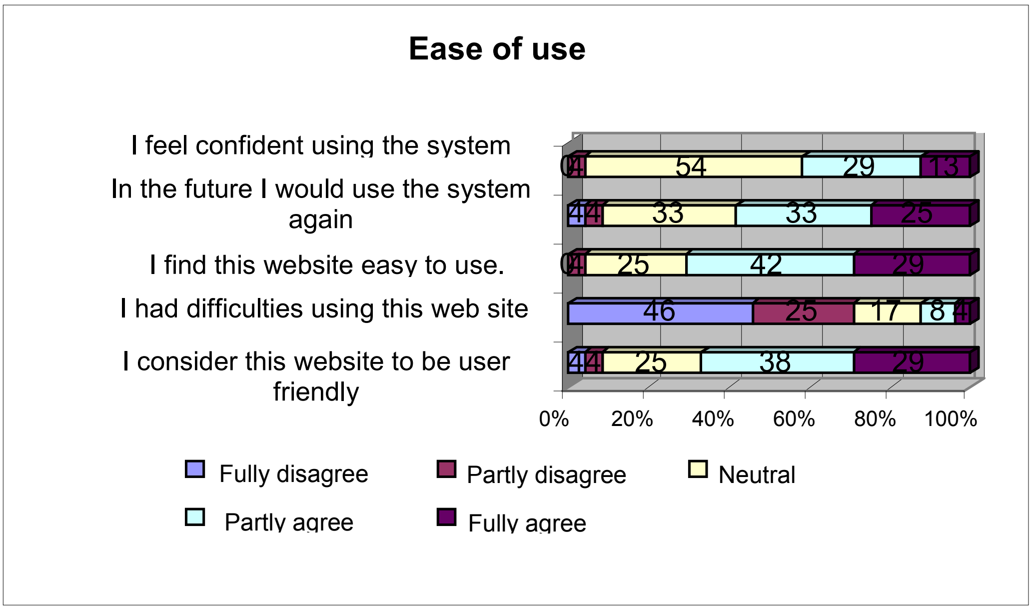


Figure 9 – Evaluation of Relevance aspect

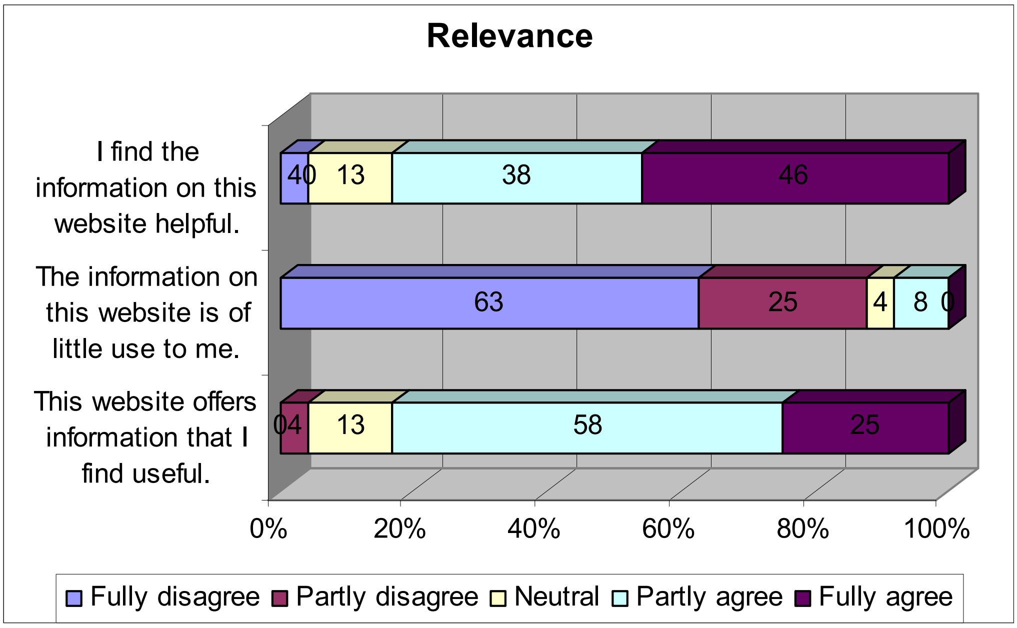
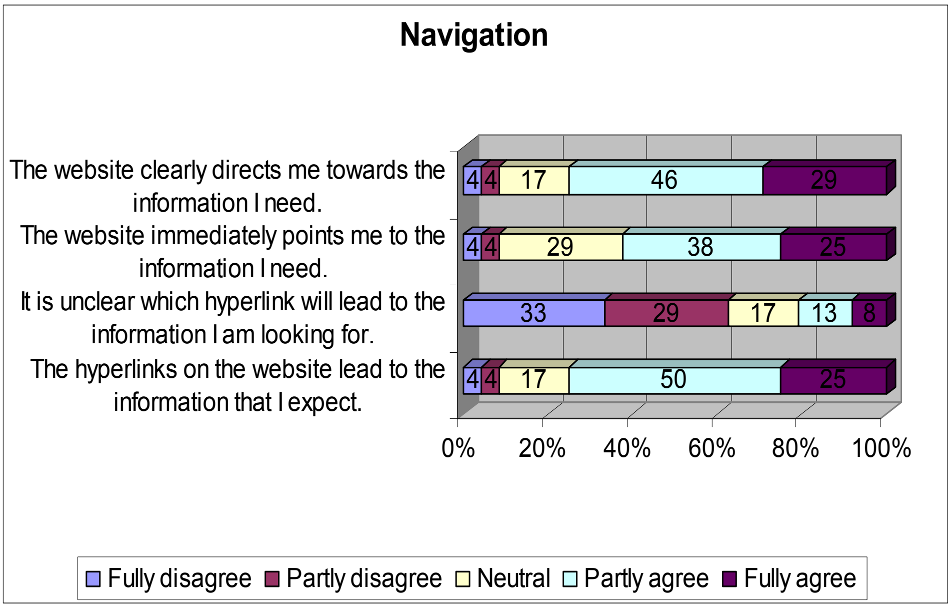


Figure 10 – Evaluation of Navigation aspect



Online questionnaire was related to the general PAC functionality and its general features characteristic for the whole system, independently on language scenario. Polish users like the general appearance and design of the system. Users believe that information they found is correct, but they cannot tell who the author is. Most users did not have any difficulties using the PAC and more than 70% find the website easy to use, but almost 60% did not feel confident using the system. Most of users did not find any system errors during tests, what gives evidence that the system is quite stable yet. On the one hand the language used on the website is understandable for the users and they understand provided information, but on the other hand testers indicated in their comments that they do not understand some questions and the purpose of answering them. It suggests that general information is clear, but the information strictly related to the process is not clear enough. Most of users find information useful and relevant. In comments they highlighted that one of main PAC advantages was gathering information on the whole process in one point of access. In its current shape the website has quite a good reputation, because more than half of users trust its information. Also more than half of testers assesses the structure of the website positively, it is clear for them. Navigation within the information is sufficient for most of users, but regarding comments of users, the weak point of PAC is navigation within the process, which is poor, users did not know what to do after some activities and some of them got lost.

According to the results of public tests there are several elements appreciated by the users and elements which need to be improved. The most important PAC advantages are:

- Personalised information
- Information on the whole process available from one access point
- Information relevant to user's individual case
- Information well structured on the website
- Attractive interface and appearance
- Possibility of downloading relevant forms

Mostly mentioned weak points of PAC are listed in the table below.

Table 11 – Requirements on PAC

To be improved	How to improve (users' suggestion)	Priority
Poor navigation within the process	Facilitate the navigation – add some guidelines on order of activities, indicate completed activities and ones to be started, add navigation buttons, etc.	High
Small believability of the website	Add more links to external sources.	High
PAC not easy to use	Improve clarity of buttons and fields of user interface due to the users understand what is available on the screen.	High
Lack of enough user-friendliness	Add more information on the main page, add facilities providing users with explanations what to do in which moment.	High
Not clear functionality of previewing data	Change the name of the button "Re-enter data".	High
Lack of information on timelines	Add such an information (possibly also special interface's element)	High
Too less guidelines	Add more information on most complicated elements of the process.	Medium
Not clear context of some questions (lack of "meta-information")	Add such an information (description of questions context)	Medium

For more detailed requirements see annex 9.12.2 *Polish pilot.*

Generally, the first trial and first tests of PAC lead to the conclusion that the Access-eGov approach is a useful solution to users, but needs several improvements to become widely used by citizens. These expected improvements shall be completed before the second trial to enable users to tests new functionalities and facilities.

5.4 German field test

5.4.1 Process of testing

In a first testing phase the first version of PAC has been tested internally by the developers and SHG as well as by some registrars. Bugs and important requests for modifications have been reported to developers via a bug-tracking system and most of the bugs have been solved before the PAC has been tested publicly. Only the version of PAC which has been tested by the public will be evaluated in the following.

During the public field test, the personal assistant has been tested by registrars, who are thus service providers in the scenario "marriage", as well as by annotation authors, i.e. people working with internet applications regularly, like internet authors or people from IT departments, but also by citizens with different levels of experience in the usage of websites.

Citizens have been asked to evaluate the tool using an online questionnaire (69 questionnaires have been filled in) and 4 citizens were asked to participate in a think-aloud session in which they were video-taped during usage of the AT and it was observed where problems in usage of the AT occurred.

5.4.2 Evaluation in think-aloud sessions

In the think-aloud sessions, four different users aged between 20 and 30 have been asked to use PAC. All of them have some experience using computers and internet. Two of them use it almost daily and the other two at least weekly. Two of the users tested PAC on their own PC and the others on a PC with the internet browser they usually use. There were two male and two female users. All of them were in a similar life situation and would need the same kinds of documents for getting married when entering their data into PAC because they were all (or pretended to be) unmarried, German, from Kiel and their parents were married in Germany after 1958.

In a first step, testers had 5 minutes to simply use they page as they liked to get a first impression of it. They were then asked three questions by the interviewer regarding who is presented on the website, who the site addresses and what the website offers. They were then asked to fulfill the task to prepare their marriage using PAC. Users spent 10-30 minutes on this task, depending on how much time they took for reading the texts in PAC. In the end they were asked about their general impression of the website.

Assumptions on the general purpose of the website

The four test users were asked three questions regarding the general purpose of the website. (For exact answers of the users see Appendix 9.8. *German field test results of think-aloud sessions for PAC testing*).

Table 12 – Evaluation of general purpose of the website

Question	***Who is presented on this website?***
Answers	None of the test users was sure about this. Two of them said it was the state government of SH. One user thought it was the ministry of family affairs. In fact it is the state government which provided the general information and service details have been provided by individual registry offices.
Problem	It has to be clearer who the information provider is and where information entered by users of the system into questionnaires will be stored and used.
Suggestion	The disclaimer should be shown on the start page or the start page should give a brief introduction to PAC also stating who the provider of information in PAC is.

Question	***Who is addressed on this website?***
Answers	All users said that it was aimed at citizens wanting to get married and looking for information on marriage which is correct.
Problem	None.
Suggestion	If several life events will be supported by PAC in the future, it might be necessary to state on the start page what PAC is intended for.

Question	*What does the website offer?*
Answers	All users thought that it mainly offers information but only one user mentioned that it might also contain electronic services.
Problem	It is true that the application currently offers mainly information which can be personalized by filling in the provided forms. Fully electronic services are not available yet in the German pilot. However, if PAC will in the future also support electronic services, it has to be explicitly stated on the start page if, for instance, the users' data will also be sent to an administration and if it will be used for fully electronic services.
Suggestion	An introduction or a slogan on the start page of PAC should briefly state what the website offers.

Users' general impressions of the website

In the end of the session, the users were asked about their general impression of the website and to point out some positive and some negative impressions. (See Appendix 9.8. *German field test results of think-aloud sessions for PAC testing* for the exact answers.) The users mentioned different aspects of the website that they found useful. None of the users had an overall bad impression of the website but one user said that there was too much text that he was not willing to read but which he realized was necessary to understand the process. All users mentioned that at first they did not understand the structure of the website with its tabs and the navigation on the left. They had to get used to it but then understood the structure and then found it rather clear: they found it useful to have the „to do"-list on the left and details on each step in the middle frame.

Support of the user in preparing a marriage

In order to find out if the PAC serves the users in fulfilling the tasks they have to do in the life event "marriage", the four users were asked in the think-aloud sessions to fulfill the following task:

Imagine you want to get married. Try to find out what you have to do if you want to get married with the help of this website.

In the following tables it will be summarized if, with the help of PAC, the users were able to find all relevant information and to identify all relevant activities that are expected to be done in the scenario "marriage". The expected activities relate closely to the activities listed as "required tasks and activities by system users" in D8.2 section 4.3.

Table 13 – Evaluation summary of user support

Expectation	True for number of users
The user will identify the documents required for marriage when using PAC	3 out of 4
The user will get an overview of the process of getting married after he did customization. A personalized "to do" list will be generated in PAC.	3 out of 4

The user will know that he needs a certificate of registration when it is displayed in the “to do” list of PAC	1 out of 4
The user will know that he needs a certified copy of the family register of the parents when it is displayed on the left hand side in PAC.	3 out of 3
The user will know where to get the certificate of registration after using PAC.	0 out of 4
The user will know where to get the certified copy of the family register of the parents after using PAC	1-2 out of 3
The user will know what fees he needs to pay for each activity after using PAC.	0 out of 3
The user will know what documents he needs to provide for each of the activities.	0 out of 3
The user will have selected a marriage location after using PAC.	3 out of 4

In Appendix 9.8. *German field test results of think-aloud sessions for PAC testing* it is also described in detail which user fulfilled which of the expected activities, why some of them did not access or understand the information as expected and what are the resulting suggestions for modification of the system.

In summary, all users understood in the end of the session how to use the PAC in principle for finding the relevant information on the different steps required in the administrative process of getting married. Only one user did not see the tabs at all until the end of the test.

Three of them managed to get the list of required documents and knew in principle where to search for the responsible office and the fees to be paid. However, the presentation of requirements (fees and documents) was not clear to the users and they were not always sure which fees had to be paid for which part of the process. Furthermore, information on fees and required documents was incomplete or missing for some activities which made the general understanding of the system more difficult. Also, it was not clear why the responsible offices were not found or identified in some cases because a significant message was missing in PAC.

Users were sometimes lost because there were different ways to navigate through the website (tabs and menu on the left and navigation to single activities from the requirements tab). Parts of the information was displayed in several places, e.g. the list of required documents was shown in the middle frame in a well readable format at the end of customization but also on the left hand side of PAC in the „to do“-list. Users did not immediately realize that these were identical or found the list in the middle frame more useful or easier to read and all of them tried to navigate back to that list in the middle frame which was difficult because there is not back button in the application.

All users had the impression that the same questionnaires had to be filled in several places for different purposes. It was not clear why they had to provide some data to the system in a specific context and they could not always see the effect of customization. Also the usability of the forms to be filled proved to be problematic: in some cases the page kept jumping to the top and scrolling in combo-boxes led to error messages which annoyed all of the users.

The users are not led through the process step by step but can freely navigate through the website so that it is not ensured that they do not miss any important information and that all required activities are identified. Three of the users thought they had “finished” everything before they had accessed all relevant information (e.g. had not accessed service details for registering for marriage or had not selected a location for the marriage). Further comments of users are collected in the tables of user comments in the Annex in section 9.12.3 *German pilot.*

5.4.3 Evaluation in a workshop with public authorities

A workshop with registrars and internet authors revealed mainly issues regarding the usability of the personal assistant but also some points regarding the information quality (correctness and ease of understanding of the provided information) were raised. During the workshop the 13 participants were asked to discuss the usage of the personal assistant in groups of 3-4 people for about 90 minutes. One group consisted only of registrars and this group was asked to take mainly aspects regarding the information quality into consideration.

All workshop participants were provided with a list of aspects they could discuss if they considered them relevant (see Annex section 9.11 *Aspects to be discussed during the workshop for the evaluation of PAC*). The participants had access to the personal assistant during their discussions so that they could look at specific aspects of the tool together. They were asked to note down all issues that were raised in the discussion. After these group discussions, the results were presented by all workshop participants and the different issues that were raised were collected, clustered and prioritized.

The following table summarizes the main aspects that need to be improved from the point of view of the workshop participants for the second trial. In Annex 9.9 *Requirements for PAC modification identified in a workshop – German field test*, it is described in detail which parts of the PAC need modification and what are suggested improvements in detail. The different aspects are also summarized in the tables of user comments in the Annex in section 9.12.3 *German pilot.*

Table 14 – Requirements on PAC

Requirements	In details	Priority
The information displayed or generated in the PAC has to be corrected	Most of the texts were considered correct and well understandable but there were some errors in the descriptions and in the process.	High
Interaction with the user via forms has to be facilitated	The questions in the forms have to be easy to understand and if questions have to be asked, that the user might not be able to answer immediately, support for deciding on the right answer is required. The user has to be able to see what the effect of some customization is.	High
Navigation has to be more intuitive	The structure of the website has to be more explicit. It is not clear how to best navigate through the website, where a user currently is in the process, what information has been already and what still needs to be accessed. The to-do list on the left has to be structured more clearly into main and sub-activities.	High

Different target groups of the application have to be addressed	The workshop participants had the impression that the application mainly meets the requirements of the administrations but not of the citizens and that the application should focus more on the view point of the citizen.	Medium
Information has to be more structured	The texts need to be as short as possible and clearly structured into paragraphs. They need to be adapted to a hypertext environment (e.g. having a short text with a link to more details). Long texts should be provided as PDF for download.	Medium
Adaptation of the page by the user should be possible	It should be possible to print parts of the information and to enlarge the font	Low
More help has to be provided	The help for PAC is not but should be context sensitive. The provided help icons should open on mouse-over	Low

5.4.4 Evaluation with an online questionnaire

A third instrument for the evaluation of the PAC was the online questionnaire which has been used for all three pilot applications in the project and which is also described in this document. In Germany, 69 users provided feedback via this online questionnaire. The questionnaire was available online for six weeks on the website of SHG and users were asked to test PAC and fill in the questionnaire by a notice on several websites, via e-mail, a press release and 1000 flyers which have been distributed in registry offices and announced the website where PAC could be tested and evaluated.

A few particular results of this evaluation are visualised by the graphs below. In contrast to the results of the Slovak pilot, in which only 11% of the users said that the website directly led them to the information they needed, more than a third of the users fully agreed with this statement in the German field test (cf. Figure 12). This may be due to the fact that the process of getting married is not as complex and only involved three main activities. However, 27% of the users disagreed partly or fully with this statement and did not have the impression that they were directed to the relevant information. The layout of the website could be improved because 56 % of the users did not partly or fully agree that they liked the way the website looks (cf. Figure 11). 24% of the users answered that they did not find the information useful (cf. Figure 13). From three users' "disappointed comments" provided at the end of the questionnaire, it becomes clear that at least some users were searching for particular information (e.g. office hours of registry offices, certain fees or marriage locations) which was provided on the website but which they could not find. Some of the users' comments relate to the usability of the website but there are no comments that reveal new aspects which have not been mentioned in the think-aloud sessions or the workshop. See Appendix 9.14.5 for all comments provided by the users via the online questionnaire.

Figure 11 – Evaluation of the question: I like the way the website looks

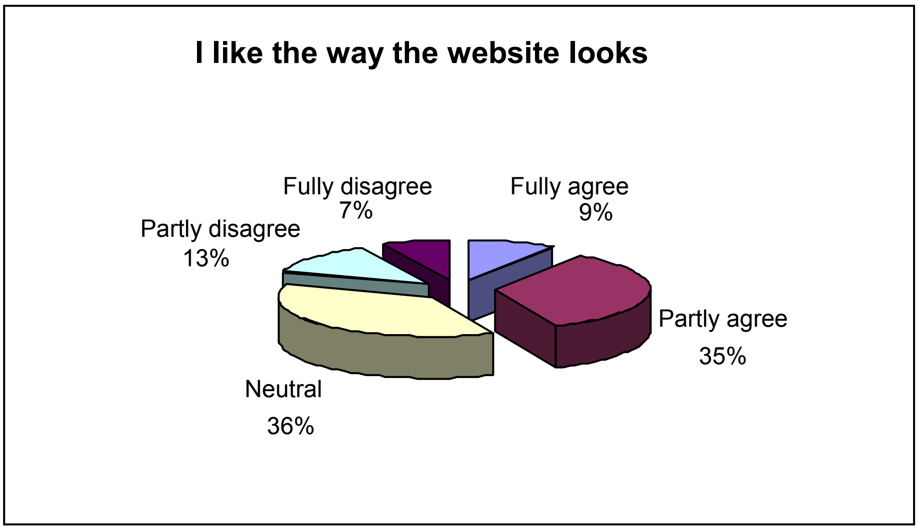


Figure 12 – Evaluation of the question: The website clearly directs me towards the information I need

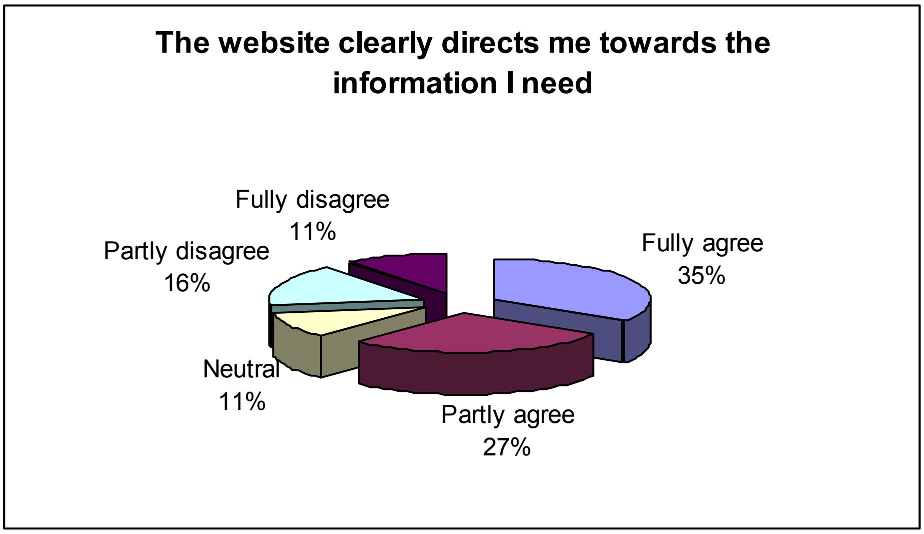
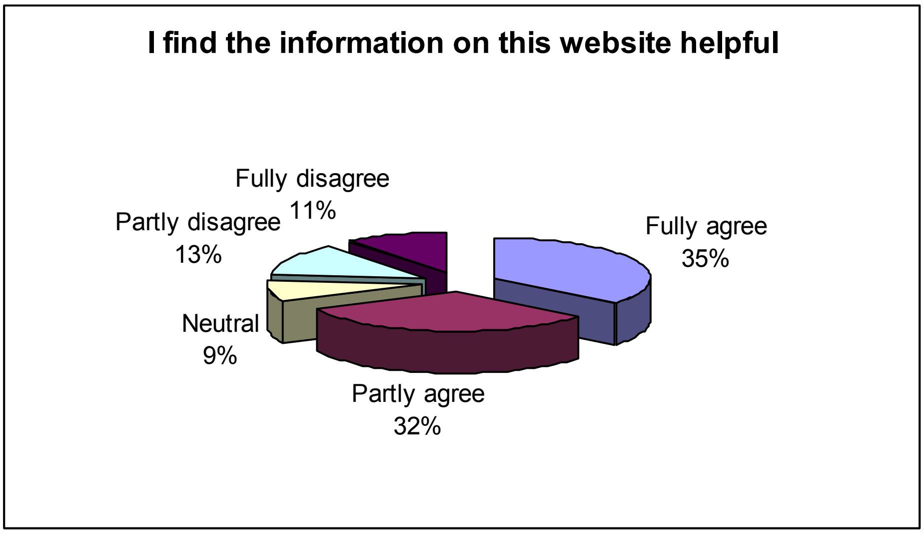


Figure 13 – Evaluation of the question: I find the information on this website helpful



5.4.5 Conclusion and outlook

In summary most of the expectations regarding the functions of PAC for the first trial in SH have been met, i.e. in principle the application can be used to get personalized information (descriptions, contact data, fees, requirements) on all the activities required by an individual citizen in the process of getting married and also links to e-services, forms and further information are provided if available. Only in few cases the fees and requirements need to be specified further and for two kinds of services, service filtering based on the users' requirements needs to be implemented. Some issues regarding the usability of the application need to be improved so that the provided and also relevant information can actually be found easily by the user. These relate mainly to a more intuitive interface, easier navigation and how to lead the user through the administrative process.

An initial expectation of SHG for the trial was that a full text search would be provided and that users should also be allowed to search for life events and services. Also a search for synonyms should be possible. These features should be added for the second trial. It should also be possible to look up only parts of the process, e.g. if a user just wants to get the address of a registry office, he should be enabled to do so without having to do customization of the whole life event.

It still needs to be specified how information from existing systems (e.g. existing responsibility finder or any government's website) can be integrated into the AeG system and thus also be used by the PAC.

Furthermore it needs to be addressed how changes in the administrative process (of getting married) can be managed and how information that is contained in the core ontologies can be changed by the information providers.

5.5 GUC Test Lab

According to the description of work, the GUC is responsible for implementing and conducting

> "a test lab to systematically challenge the technology and application for technical feasibility and service quality (i.e. adequate modeling of administrative issues, use across language barriers etc.) from an outside view". (Technical Annex, p. 47)

This section describes the preparation and implementation of the test lab, the process of evaluation and the results.

5.5.1 Preparation of the test lab and evaluation methods used

The test lab was prepared and conducted at the GUC in Cairo, Egypt. The test consisted of a test scripts that described certain tasks, which had to be completed by using the Personal Assistant Client and documented by writing down the results in the scripts. Three different scripts were created containing three different and complementary tasks. A single test run consisted of completing these three scripts in a specified order. The test lab was open to testers during specified time slots and tests were only conducted during these hours.

The test session always followed this sequence of events:

- Introduction of test method and explanation of test procedures. In particular:

  - instructions not to talk to other testers during or after the test in order not to falsify the test results
  - stressing that this is not a test situation with “right” or “wrong” answers
  - description of requirements for documentation
- Testers conduct the test
- When finished, testers wait until all tests are complete before leaving
- Collecting test scripts

The testers were recruited among students of IT management student. Each tester was required to perform a complete series of three test scripts. A total of 18 testers conducted all three scripts, yielding a total of 54 test script executions. One of the test scripts execution of a single tester was conducted as a think-aloud session and video-taped for later analysis by the developers.

The test lab sessions were conducted during normal hours over the course of three days during mid-December of 2007. Testers were free to pick a test session that fit their schedule.

At this point of time the Personal Assistant Client was still under development. The development of the PAC-variant for the SHG field test was the most complete. Thus the test lab had to be limited to this scenario (i.e. marriage).

5.5.2 Test script design and evaluation process

The tasks of the test scripts were intended to be of the kind that the testers could easily identify with them. This was seen as being important in order to yield results that would closely resemble real-life use of the Personal Assistant Client.

Each test script was designed to build on top of the previous:

- Test script #1: General orientation about life event

  This test script is a case of “reporting facts”, i.e. the test user is instructed to locate information about certain facts. (Which documents are required in general and which processes must one complete in general.)

- Test script #2: Context-based information for specific services (part 1)

  This and the following test script is a case of “context-related search”, i.e. the test user is instructed to locate information that is specifically related to her or his case. This is done by providing sample that the test user should use.

- Test script #3: Context-based information for specific services (part 2)

The general idea of the test script tasks is presented to the test users in the beginning of script #1 as follows:

> Imagine that you are planning to move to Germany to marry your fiancé, who has the German citizenship. Your fiancé has asked you to retrieve some information about required documents for your marriage in Germany.
>
> You have received a URL from you fiancé that you must use to retrieve this information: [Here, the URL for the test installation was given.]

Before and after each task, the test user is required to write down the current time in order to track how long each task takes. The first task for each tester is intended to make the tester acquainted with the Personal Assistant Client and the test lab situation:

Please take your time (10 to 20 minutes) to make yourself familiar with the „personal assistant" web-site. Have a look at the different sections of the web-site and read some of the information that you find there. In particular, look for information about the main process steps that are required for marriage.

The next task is a multiple choice question that must be answered based on the information found in the Personal Assistant Client.

The web site mentions three main steps that a couple needs to complete in order to get married. Which are they? (Please check)

0 Announce the marriage in a local news paper

0 Register for marriage

0 Reserve a date and location for the marriage

0 Attend the marriage ceremony

0 Provide a birth certificate

0 Get engaged

0 Visit an attorney or notary to make a wedding contract

Other tasks require writing down free text answers, e.g. describing how a specific step in the marriage-process should be completed.

Please note: The appendix contains a verbatim copy of each of the test scripts.

For the purpose of evaluation, the test script results were assessed after all test sessions were completed. Each task was judged on the following scale:

- **Complete**: A task is complete if the tester was able to give a correct answer to the main question of a task (e.g. mark all three main process steps in the task above).
- **Partially complete**: A task is partially complete if the tester gave an answer that was at least partially correct (e.g. marking at least one correct process step in the task above)
- **Failed**: A task was failed if the tester was not able to give a partially complete answer (e.g. failing to any correct step in the above task).

5.5.3 Test Lab Results

This section presents the results of the GUC Test Lab.

5.5.3.1 Results of test script #1

Table 15 – Test scripts 1 results

Task	Complete	Partially complete	Failed	Comment
1	12	6	0	
2	17	n/a	1	The tester who failed took less than one minute to look for the information. This task could not be partially completed.
3	12	n/a	6	The task was to write down as many names of documents as the tester had been able to find. Writing down at least one name is considered a complete answer. Failing to write down at least

				one name is considered failed.

Task 1: All testers were able to identify at least one of the three main steps for marriage in Schleswig-Holstein. The large majority of the testers (12) were able to identify all three main steps.

Task 2: All except one tester was able to locate information about a specific deadline. (The main reason the single tester failed to locate the information seems to be a lack of effort on the tester's part.)

Task 3: A third of the testers failed to correctly identify any documents. Of the 12 tester who did identify at least document, one half identified 3 or 4 documents, the other half identified 1 or 2 documents. The testers indicated in their comment that the information about documents was either not there at all or difficult to find. Some testers mentioned correctly, that the information points out to contact an officer to get more detailed information.

5.5.3.2 Results of test script #2

Table 16 – Test scripts 2 results

Task	Complete	Partially complete	Failed	Comment
1.3	10	4	0	
1.5	6	n/a	7	One tester encountered a fatal error.
2	10	2	0	Two testers encountered a fatal error.
3.3	7	2	2	Three testers encountered a fatal error.
3.6	3	1	1	Nine testers encountered a fatal error.

Note: During this test, many testers began to encounter errors, which the system could not recover from. This is reason why some testers could not complete all tasks.

Task 1.3: All testers were able to find the name of the office ("register office"). Four testers additionally marked names that closely matched the correct name (e.g. "registry office") and/or the German translation ("Standesamt"). No tester failed to include the correct name of the office among the answers.

Task 1.5: In this task, the testers were asked to check where the person ("your fiancé") in the scenario can register for marriage. Only six testers correctly answered that the fiancé must register in Flensburg. This information could have been inferred from the fact that the fiancé lives in Flensburg together with reading the first sentence of the general description of this process step, which reads:

> Before you can get married in Germany, you have to register for marriage at the registry office at your or your partner's German place of residence.

Task 2: Almost all testers (who did not encounter errors) were able to complete this task and correctly identified and described the three main steps for marriage. Only two testers completed the task partially.

Task 3.3: Seven testers completed the task. Two testers who partially completed the task were able to find the correct street address but did not correctly identify the German name of the office ("Standesamt"). Instead, they incorrectly took the German name of the service ("Anmeldung zur Eheschließung", i.e. "Register for marriage") as the name of the office. Two testers failed because they used the wrong service to get the address.

5.5.3.3 Results of test script #3

Table 17 – Test scripts 3 results

Task	Complete	Partially complete	Failed	Comment
1.3	2	1	1	Ten testers encountered permanent errors and could not complete the task.
1.5	-	-	-	This task was excluded because there was a mistake in the test scripts.
2	3	0	1	Ten testers encountered permanent errors and could not complete the task.

General note: The majority of testers encountered permanent errors that stopped them from completing their tests. These errors were introduced through a hot-fix that was intended to fix the problems encountered during a previous test session.

5.5.3.4 Results of think-aloud session at GUC Test Lab

In addition to the regular test script, one think-aloud session was conducted with one of the testers. This think-aloud session had not been planned in the beginning but it complements the results presented in the previous sections very well.

The think-aloud session revealed one important point that could not have been discovered through the results of the test scripts:

The user interface is confusing with respect to when and where data needs to be entered. After the user had filled in the form found under "Activity requirements" the user never clicked on this tab again. Instead, when looking for the right information the user only clicked on the other two tabs, i.e. the tab "General description" and the tab "Service details". When the user was not able to find the information that she was looking for, the supervisor suggested to choose the "Activity requirements"-tab again. After doing so, the user was obviously surprised that the content of the tab had changed after she had last entered data here. From the user's actions it is clear that she was not able to form a clear mental model of the application's structure.

In fact, the user interface does provide a visual clue that indicates that the user needs to enter data in a particular tab. However, the visual clue was too subtle for the user to notice it. (The colour of the tab title changes to dark red instead of dark blue.) This issue had already been addressed by adding another visual clue, i.e. a question mark.

However, this does not address the problem that the user had difficulties to form a mental model of the application which resulted in repeatedly switching between different tabs and services without knowing where to look for the required documents.

5.6 Specification for revision of the PAC

User partners collected a number of useful remarks and requirements that in some how need to be addressed within the trial II. Testers pointed out the key need for a more intuitive and easy-to-use user interface. Hand in hand with the user-interface goes the navigation and guidance which requires improvements. A step by step process has to be defined and supported as well as more contextual help is required. Also a current status of application shall be displayed in the user-interface so that the user knows exactly what steps are completed already and what is still to be done. In addition, some information and buttons were ambiguous and not clear for users so they expressed a need for more accurate information. Either structured information or pdf format was required in case of long texts. Paragraphs shall be shortened and hyperlinks can be provided to each section.

Also unified graphics shall be used so users get used to it quickly. There were still some misspelled information and translation errors that need to be corrected. As far as the amount of the information is concerned, on one hand the users had a feeling that they need more information, on the other hand there was some useless information provided. Following this request, further information is expected such as land-use plans/maps, taxation, business classification. Some information was found useless and needs to be eliminated. For more external expertise available it was proposed to have more links to supporting institutions from the relevant field. The external links need to be marked correctly. Also online forms will have to be made available in the trial II so that the applicants will easily fill them in with help of the PAC.

In addition to the above, also a territorial coverage of the services is expected to be extended to other regions / countries. The life event customization needs an enhancement as well as it should be able to print or download of generated results. The user partners expected that it would be possible to integrate existing systems into the PAC.
Also the system believability is expected to be increased as user should be able to identify who is the author of the source; however the testers did not confirm this sentence much. User needs to understand why to provide what information and when. Questions in the introductory form have to be easy to understand and answer. It also should be possible to skip questions if a user cannot answer them easily.
In the table below numbers of requirements are indicated according to stated categories.

Table 18 - Figures on numbers of remarks collected from all the pilots

CATEGORY	SK pilot	PL pilot	DE field test	TOTAL
Texts	5	9	11	25
Button names	3	2	3	8
Navigation	5	6	12	23
Process	6	9	18	33
Links	3	1	4	8
Help	3	1	3	7
Interaction with a user	-	-	15	15
Requirements tab	-	-	6	6
Others	7	3	8	18

TOTAL	32	31	80	143

From the table it is obvious that the majority of the objections were received in the categories Navigation and Process. The most remarks collected the German user partners due to high number of testers. The Slovak user partners communicated many of the problems directly (via email) and not all of them were fully reported.

The table below summarizes suggestions on how to enhance the PAC following the collected feedback from the public tests. The comments and requirements for PAC modification are divided into four categories:

1 - Will be done by the Trial II
2 - Will be done by the end of the project
3 - Can be done, but not within this project (out of scope of Access-eGov project)
4 - Cannot be done (using this technology)

For more detailed table of requirements of each pilot please see 9.12 *All pilots – tables of **remarks*** in the annex.

Table 19 - Summary table of the requirements raised during testing of the Trial 1

User partners		Developers		
Proposed improvement	**Action needed**	**Category of requirement (1-2-3-4)**	**Comments (if needed)**	**Partners responsible**
TEXTS				
Only relevant text shall be provided	Irrelevant text will have to be removed	1	That requires some QC process and somebody is qualified decides what is relevant.	User partner + developers
Simple, accurate and correct text shall be included	Difficult, incorrect and misspelled text must be removed	1	That requires some QC process when somebody is qualified decides what is relevant.	User partner + developers
More relevant information and more explanation needed	More appropriate information is required to be included	1	That requires some QC process when somebody is qualified decides what is relevant.	User partner + developers
BUTTONS				
Clear and more intuitive names of the buttons needed	Buttons names have to be replaced	1	More attention is needed during translation. Possibly an iterative process.	User partner + developers
Back button is required	The back button shall be in place	1	Still there are situations when free use of browser back button can not be secured (like going back into the middle of	PAC Developers

			customization).	
NAVIGATION				
More intuitive navigation needed	Step by step process shall be in place, or appropriate instructions provided at every step	1	It's expected that user partners will participate in new mockup agreement process and making user interface related decisions.	User partner + PAC developers
Generated To-do-list requires more explanation	Relevant information on its purpose, structure and content is needed	1	It's expected that user partners will participate in new mockup agreement process and making user interface related decisions.	User partner + PAC developers
Tracking the application process is required for user	Information about the current status of the application is required	1/4	Total "hand holding" experience requires full support of every PA back office system which is not feasible. Instead simple marking of activities as done can be added.	Developers
Overall information on the process is needed	Information on what is already completed and what else is needed to be done (e.g. diagram)	1	It's expected that user partners will participate in new mockup agreement process and making up related decisions.	Developers
PROCESS				
Customization process shall be enhanced	Service filtering needs to be enhanced for every activity			GSE developers
The application process should be as a sequence of required activities	Every step of a user shall be guided by the system (from the beginning to the end)	1	It's expected that user partners will participate in new mockup agreement process and making up related decisions.	PAC developers
The user-interface should have unified structure	All the screens shall be unified in their structure	1		PAC developers
Territorial extension of the trial is needed	Other areas/countries should be included in the process	3	No annotation of services outside of areas in reach of cooperating partners was planned.	
LINKS				
Email contacts shall be linked, links to web-pages must work properly	Verification and rectification of the concerned links	1		Content providers

More appropriate links to external institutions needed	Links to other institutions should be included	1		Content providers
HELP				
Help-icons must be more explanatory	Pop-up window should be added (instead of question mark)	1	Help can be displayed in expandable help banner directly on the related page.	PAC developers
Translation of help shall be in proper language	Appropriate translation should be provided	1		PAC developers
NTERACTION WITH THE USER – FORMS FILLING				
Only drop-down lists with more than 1 value should be in place	Drop-down lists with only one value shall be avoided	1		PAC developers
The forms shall not always jump to the top when filling in	It should be avoided	1	Only with javascript turned on.	PAC developers
User shall be allowed not to be required to do customization for every action	It should be optional so the user may decide whether he/she needs life event customization	1	The system displays goal descriptions w/o customization. Other information is filtered according to customization answers. The only relief here is to make local customizations more relevant by making questions dependencies more fine grained. Without the customization, the system can only show the general information about the life event, which may contain parts irrelevant to the specific user case. For specific information, customization is mandatory.	GSE developers
It should be allowed to skip a question if difficult to answer	The user should be given an option to skip the question in the forms (+ what will happen if user does so)	4	Customizations are now single purpose. In such a case it is not possible to fill single purpose of customization so it does not make sense to complete it. Too difficult questions signify badly described/constructed process. The user is	

			free to suspend customization and look at other tasks, get information and complete the customization later. See also the comments for previous issue.	
TAB OF REQUIREMENTS				
Empty requirement tab is confusing	The tab has to be adapted accordingly so it indicates functioning	1	Adding information about ID/Passports will remove the sense of emptiness. This part of the screen can be disabled/hidden when the list will be empty.	PAC developers
It should be noticed to what requirements refer (whole process or just one step)	Appropriate information shall be in place	1	It's expected that user partners will participate in new mockup agreement process and making up related decisions.	PAC developers
OTHER				
The user needs to print out generated results	Generated information shall be made printable	2		PAC developers
It is not clear who is the information provider	This information shall be included in a suitable place	1		PAC developers

6 Evaluation of accessibility and usability of the Access e-Gov system

6.1 Introduction

A round table expert evaluation was conducted to evaluate the accessibility and usability of the Annotation Tool and the Personal Assistant components of Access-eGov. Three reviewers conducted the evaluations with experience in expert and end user evaluations of usability and accessibility.

Usability evaluation was based on the guidelines produced for the project and are documented in Quality Assurance Process & Risk Management report (Amendment to D1.3). The guidelines cover a variety of usability characteristics such as user experience, navigation, user feedback and content organisation.

Accessibility evaluation was based on W3C's Web Content Accessibility Guidelines (WCAG) 1.0. However, suggestions of what is considered good practice for accessibility have been made when applicable, since WCAG 1.0 have been issued in 1999. WCAG 2.0 are not finalised yet and hence they have not been used in this evaluation.

While the usability evaluation was performed manually, accessibility evaluation was assisted by the use of automated tools, such as WAVE and ATRC Web Accessibility Checker. Points that need further assessment after the automated check were checked manually in addition to the WCAG checkpoints that can not be validated through automated tools.

The review process was based on the W3C's Conformance Evaluation method. Results of the evaluation were at a good level for both components. Based on this evaluation, both the Access-eGov Annotation Tool and the Personal Assistant is close to meeting all three conformance levels of WCAG 1.0 including Triple A.

6.2 Results overview[1]

The accessibility evaluation results of the Annotation Tool lists 3 unique checkpoints not addressed for priority 1, 3 for priority 2 and 1 for priority 3 (Table 20).

Table 20 - WCAG 1.0 Accessibility checkpoints not fully addressed for the Annotation tool

Priority	Number of unique checkpoints not addressed
1	3
2	3
3	1

The accessibility evaluation results of the Personal Assistant lists 1 unique checkpoint not addressed for priority 1, 4 for priority 2 and 2 for priority 3 (Table 21).

[1] For detailed results see also Annexes 2 and 3 containing the evaluation reports

Table 21: WCAG 1.0 Accessibility checkpoints not fully addressed for the Personal Assistance

Priority	Number of unique checkpoints not fully addressed
1	1
2	4
3	2

The checkpoints not addressed for both the Annotation Tool and the Personal Assistant in many cases are referring to issues such as missing alternative text to images or form controls, missing row headers, use of device independent control handlers and code validation to published formal grammars. Although these need to be addressed in order to formally conform to any level of the WCAG 1.0, the reviewers find both applications at a good accessibility level.

The usability of the two components is also at a good state with minor issues to be addressed such as more specific titles for each page, change of email addresses and URLs to HTML links and identifying the path that a user has followed to reach a particular page. More detailed results can be found in Annex 2 and 3, containing the detailed evaluation reports of the Annotation Tool and the Personal Assistant Client respectively. Results of each evaluation are contained in section 5 of each Annex. The pilots with end users are expected to be particularly valuable to the usability evaluation of the two components in terms of their intuitiveness and information retrieval.

Usability questionnaires were completed by the development teams and the reviewers. Initially, the questionnaires were used by the reviewers as an indication of the technologies used in the applications, how requirements have been implemented and were good starting indicators about where the evaluation should focus most. At the end of the evaluation the questionnaires were also completed by the reviewers and in most cases agreed with the answers of the development teams.

Both the Annotation Tool and the Personal Assistant are characterised by strong accessibility and usability points, such as consistent and self explanatory interfaces, intuitive information architecture and good system responses. According to the opinion of the reviewers, a user familiar with general computer use and some familiarity about the services shouldn’t require intensive training in order to use the tool and perhaps the user may not even require conducting a user manual. This is a good overall indication that the tool achieves good usability and it is straightforward to use.

7 Evaluation of expected improvement

Following the evaluation methodology defined in the D8.1, all the pilots were assessed through a unified form in order to evaluate the AeG system properties and functionality, as well as taking into account expected vs. achieved aspects. For this purpose various evaluation instruments were used such as online questionnaires, round-tables, think-aloud sessions, experts' assessment and interviews. The three main categories of issues have been addressed in the evaluation of the pilots:

- Information quality: Does the information quality meet the requirements of the information providers and the information consumers?
- Support of the process: Does the system provide all functions required to fulfil the tasks which are supposed to support, i.e. is the system effectiveness?
- Other issues as Usability and others: Is the system easy and intuitive to use so that it can be used efficiently and supports the user in fulfilling the tasks he/she should be able to do with PAC? This category consists of the following:
  - filling in forms to provide information to PAC
  - navigation
  - names of buttons and tabs
  - usages of buttons and tabs
  - intuitive usage of the system
  - adoption of the page by a user
  - support of the process by the system
  - PAC help and start page
  - general impression (influences users general willingness to use the system)

Taking these aspects into consideration in the different activities of evaluation, the following tables cover how the testers perceived the given sentences through mentioned evaluation tools. Each pilot is evaluated in a separate table. D8.1 defined the minimum requirements for the evaluation instruments used, e.g. at least 10 online questionnaires or 2 experts' assessments and so on.

7.1 Improvement of information integration and information quality

7.1.1 Slovak pilot

In general, information sources of public administration offices in the Kosice region are of a diverse nature and require a more unified form. When searching for concrete information, citizens usually require assistance (in person or online). This is the reason in most cases information is sought by phone or personal meeting because online information is insufficient, not up-to-date, or not easily retrievable on the web.

Therefore the relevant online information sources (web pages of Kosice and Michalovce public administrations) were expected to be enhanced, firstly in terms of their quality content. This includes ensuring information quality based on the following criteria (see the tables below). As a subsequent step, semantic annotation of the relevant online information sources was expected to be done, so the (information about) services are more integrated and thus easily searchable for a visitor.

However, the project depends on one group of public services only, making the assessment of the improvement in the quality of information difficult. As a result the table below shows the comparison of the expectations vs. fulfilment towards the developed system.

Table 22 - Information quality improvement (The evaluation scale - Fully agree [1] - fully disagree [5])

Quality dimension	Statement	Used instrument(s)	Averaged evaluation results (1-5 scale)[2]
Intrinsic quality			
Accuracy	a) The information is accurate with regard to legislation, current procedures etc.	4 assessments by experts	**a) 2** Information accuracy shall be improved in the trial II as there was some inaccurate information
objectivity	n/a		
believability	a) The source (author) of every piece of information can be easily identified b) Links to content of external parties are clearly marked as such c) The information is believable	19 users surveyed by on-line questionnaires	Results from online questionnaire: **a) 2.9** **b) 2.2** **c) 2.2**
reputation	a) The system is a good source for information about services b) The information is trustworthy	19 users surveyed by on-line questionnaires	Results from online questionnaire: **a) 2.1** **b) 2.2**
Accessibility quality			
access	a) It is easy to locate the necessary information	19 users surveyed by on-line questionnaires	Results from online questionnaire “Navigation (Access)”: **2.7**
security	a) Storage, processing, and transmission of user data is secure	2 assessments by experts	secure storage of user account data shall be improved in trial 2; long session time shall be

[2] Evaluation scale: Fully agree (1) - fully disagree (5)

			mentioned in the user manual
Contextual quality			
relevancy	a) The information is relevant for the given task b) The information provided is specific for the given user context	19 users surveyed by on-line questionnaires	Results from online questionnaire „Relevance“ **1.9**
Value-added	a) The needs of different groups of users are well supported b) Information is provided for a high number of different user groups c) The information from different sources is well integrated	4 assessments by experts	a) 3 b) 3 c) 3
timeliness	a) The information is up-to-date with respect to the current status (opening hours etc.) b) The system supports annotation editors to keep the information up-to-date **Note: In this case, users must be annotation editors who have used the service annotation component.**	4 assessments by experts	a) 2 b) 5
completeness	a) The user was able to determine whether the information was complete to the given task b) The information is complete with respect to the given task c) The level of detail of the information was sufficient for given task	19 users surveyed by on-line questionnaires	Results from online questionnaire „Completeness“: **2.9**
amount of data	a) The amount of data is adequate with respect to the complexity of the supported process	4 assessments by experts	Was subsumed under “Completeness” in the online questionnaire.
Representa-tional quality			
interpretability	n/a (see next, “ease of understanding)		
ease of understanding	a) The user was able to comprehend the information b) It is easy to identify the relevant parts	19 users surveyed by on-line	Results from online questionnaire

	of the content	questionnaires	„Use of language (Ease of understanding)“: **2.6**
concise representation	a) The information was presented in a short and concise way	4 assessments by experts	Was subsumed under “use of language” in online questionnaire because the distinction would have been difficult to grasp for respondents.
consistent representation	a) The information is presented in a consistent way	19 users surveyed by on-line questionnaires	Results from online questionnaire „Structure (Consistent representation)“: **2.4**

From the evaluation table can be concluded that public testers in general tended to assess the information quality in a neutral or more positive way. However as already mentioned before, the information provided could be made easier to understand. In addition, experts in the field of construction and architecture expressed negative feedback on inaccurate information specifically about the building process. The information must be clear and in compliance with the relevant legislation provided to a citizen.

7.1.2 Polish pilot

Table 23 - Information quality improvement (The evaluation scale - Fully agree [1] - fully disagree [5])

Quality dimension	**Statement**	**Used instrument(s)**	**Averaged evaluation results (1-5 scale)[3]**
Intrinsic quality			
Accuracy	a) The information is accurate with regard to legislation, current procedures etc.	Assessment by 3 domain experts	a) 1.4
objectivity	n/a		
believability	a) The source (author) of every piece of information can be easily identified b) Links to content of external parties are clearly marked as such	24 users surveyed by on-line questionnaire	Results from online questionnaire: **a) 3.5** **b) 3.0**

[3] Evaluation scale: Fully agree (1) - fully disagree (5)

	c) The information is believable		**c) 3.1**
reputation	a) The system is a good source for information about services b) The information is trustworthy	24 users surveyed by on-line questionnaire	Results from online questionnaire: **a) 2.7** **b) 2.5**
Accessibility quality			
access	a) It is easy to locate the necessary information	24 users surveyed by on-line questionnaire	Results from online questionnaire "Navigation (Access)": **2.2**
security	a) Storage, processing, and transmission of user data is secure	Either 1 assessment by expert **or** 1 round table discussion of experts.	secure storage of user account data shall be improved in trial 2; long session time shall be mentioned in the user manual
contextual quality			
relevancy	a) The information is relevant for the given task b) The information provided is specific for the given user context	24 users surveyed by on-line questionnaire	Results from online questionnaire „Relevance“ **1.8**
Value-added	a) The needs of different groups of users are well supported b) Information is provided for a high number of different user groups c) The information from different sources is well integrated	Assessment by 3 domain experts and 1 IT expert	**a) 3.0** **b) 2.2** **c) 1.7**
timeliness	a) The information is up-to-date with respect to the current status (opening hours etc.) b) The system supports annotation editors to keep the information up-to-date **Note: In this case, users must be annotation editors who have used the service annotation component.**	30 users surveyed by internal questionnaire	**a) 1.0**

completeness	a) The user was able to determine whether the information was complete to the given task b) The information is complete with respect to the given task c) The level of detail of the information was sufficient for given task	24 users surveyed by on-line questionnaire	Results from online questionnaire „Completeness“: **2.9**
amount of data	a) The amount of data is adequate with respect to the complexity of the supported process	24 users surveyed by on-line questionnaire	Was subsumed under “Completeness” in the online questionnaire.
Representa-tional quality			
interpretability	n/a (see next, “ease of understanding)		
ease of understanding	a) The user was able to comprehend the information b) It is easy to identify the relevant parts of the content	24 users surveyed by on-line questionnaire	Results from online questionnaire „Use of language (Ease of understanding)“: **1.9**
concise representation	a) The information was presented in a short and concise way	24 users surveyed by on-line questionnaire	Was subsumed under “use of language” in online questionnaire because the distinction would have been difficult to grasp for respondents.
consistent representation	a) The information is presented in a consistent way	24 users surveyed by on-line questionnaire	Results from online questionnaire „Structure (Consistent representation)“: **2.3**

7.1.3 German field test

Table 24 - Information quality improvement (The evaluation scale - Fully agree [1] - fully disagree [5])

Quality dimension	Statement	Used instrument(s)	Averaged evaluation results (1-5 scale)[4]
Intrinsic quality			
Accuracy	a) The information is accurate with regard to legislation, current procedures etc.	Workshop/round table:	a) 2
objectivity	n/a		
believability	a) The source (author) of every piece of information can be easily identified b) Links to content of external parties are clearly marked as such c) The information is believable	Thinking aloud and discussion in workshop. (The concrete number in the scale is always estimated by SHG)	a) 4 b) 1 c) 2
		Results from online questionnaire:	**a) 2.6** **b) 2.4** **c) 1.8**
reputation	a) The system is a good source for information about services b) The information is trustworthy	Thinking aloud and discussion in workshop	a) 1 b) 2
		Results from online questionnaire	**a) 1.9** **b) 2.0**
Accessibility quality			
access	a) It is easy to locate the necessary information	Round table and think-aloud SHG	a) 3
		Results from online questionnaire “Navigation	**2.4**

[4] Evaluation scale: Fully agree (1) - fully disagree (5)

		(Access)":	
security	a) Storage, processing, and transmission of user data is secure	Either 1 assessment by expert **or** 1 round table discussion of experts.	secure storage of user account data shall be improved in trial 2; long session time shall be mentioned in the user manual
Contextual quality			
relevancy	a) The information is relevant for the given task b) The information provided is specific for the given user context	Round table and think-aloud SHG	a) 2 b) 2
		Results from online questionnaire „Relevance“	**1.8**
Value-added	a) The needs of different groups of users are well supported b) Information is provided for a high number of different user groups c) The information from different sources is well integrated	Round table and think-aloud SHG	a) 3 b) 3 c) 3
timeliness	a) The information is up-to-date with respect to the current status (opening hours etc.) b) The system supports annotation editors to keep the information up-to-date **Note: In this case, users must be annotation editors who have used the service annotation component.**	Round table and think-aloud SHG	a) 2 b) 5
completeness	a) The user was able to determine whether the information was complete to the given task b) The information is complete with respect to the given task c) The level of detail of the information was sufficient for given task	Round table and think-aloud SHG	a) 4 b) 2 c) 2

amount of data	a) The amount of data is adequate with respect to the complexity of the supported process	Round table and think-aloud SHG Comment: In the online Questionnaire this was subsumed under "Completeness"	a) 3
Representa-tional quality			
interpretability	n/a (see next, "ease of understanding)		
ease of understanding	a) The user was able to comprehend the information b) It is easy to identify the relevant parts of the content	Round table and think-aloud SHG	a) 2 b) 2
		Results from online questionnaire „Use of language (Ease of understanding)":	**2.0**
concise representation	a) The information was presented in a short and concise way	Round table and think-aloud SHG In the Online Questionnaire this was subsumed under "use of language" because the distinction would have been difficult to grasp for respondents.	a) 2
consistent representation	a) The information is presented in a consistent way	Round table and think-aloud SHG	a) 2
		Results from online questionnaire „Structure (Consistent representation)"	**2.4**

7.1.4 GUC Test Lab

The following table summarizes the relevant results of the online questionnaire:

Table 25 - Information quality improvement (The evaluation scale - Fully agree [1] - fully disagree [5])

Quality dimension	**Statement**	**Averaged evaluation results from online questionnaires (1-5 scale)**[5]
Intrinsic quality		
believability	a) The source (author) of every piece of information can be easily identified b) Links to content of external parties are clearly marked as such c) The information is believable	**a) 4.4** **b) 2.0** **c) 1.6**
reputation	a) The system is a good source for information about services b) The information is trustworthy	**a) 1.8** **b) 1.6**
Accessibility quality		
access	a) It is easy to locate the necessary information	"Navigation (Access)": **2.3**
Contextual quality		
relevancy	a) The information is relevant for the given task b) The information provided is specific for the given user context	Results from online questionnaire „Relevance" **2.3**
completeness	a) The user was able to determine whether the information was complete to the given task b) The information is complete with respect to the given task c) The level of detail of the information was sufficient for given task	„Completeness": **2.7**
Representa-tional quality		
ease of understanding	a) The user was able to comprehend the information b) It is easy to identify the relevant parts of the content	„Use of language (Ease of understanding)": **1.6**

[5] Evaluation scale: Fully agree (1) - fully disagree (5)

consistent representation	a) The information is presented in a consistent way	„Structure (Consistent representation)“: **2.5**
Accessibility / Ease of use	a) All relevant information is available from a single point of access b) All electronically available information is made available c) The personal assistant is easy to use d) The application is easy to use	„Ease of use (User experience)“: **2.6**

7.2 Process improvement

7.2.1 Slovak pilot

As mentioned in the deliverable, the Slovak scenario is based on the citizen's intention to build a family house. At present, a citizen faces the complexity of procedures he/she needs to cope with while going through the process of getting a final construction approval. The aim of the AeG is to ease such procedures using an intelligent web-platform which provides citizens with useful guidance of "what and how to do it". As a result, a user will be given a tool that integrates all relevant information in one place and at any time.

The table below assesses to what extent the expected improvements were achieved from the view of the process implemented. The evaluation analyses results of the whole cycle time of the building process in Slovakia.

Table 26 - Evaluation of the process improvement

Quality dimension	**Before trial (as is)**	**Expected Improvement**	**After trial I** **- fulfilled** **- partly fulfilled,** **- not fulfilled,** **suggestions**
Information providing · Semantic annotating of resources · Putting resources on relevant web pages	At present there are none of the steps done on web-pages of the public administrations.	· There will be more relevant information available for users · Information will be more easily searchable - better structured information · Information relevant to particular user's case · Links to original sources of information (legal regulations for example)	· Fulfilled
· Searching for a correspondent service · Asking questions	At present there is no possibility to ask queries.	· Response with only information relevant to a query	· Fulfilled

Resources management based on ontologies · Data updating (in case of changes in legislation) · Adding new services	There is no resource management used in this process at all.	· Technically easier update of relevant information	· Fulfilled
AeG platform user registration · Entering of user's personal data · Logging on to the AeG assistant	There is no registration mechanism in place at present	· Personal data entered can be saved (optional – save only if a user will agree) · User identified while logging in · The AeG system will use the personal data saved automatically in different forms · Privacy and security issues must be addressed accordingly	· Fulfilled
User requirements defining · Defining a type of the construction · Defining a location	No possibility to define or select type of the construction and location.	· Online list of building types with further details available will speed up this process · Interactive land-use plan available so a user easily look for a desired location	· Not available in the Prototype I · Land-use plan available in .pdf format
· Registration process related to land-use, building and final approval proceedings. · Filling in an application form · Payment of an administration fee to the municipality for the services · Getting and sending a proof on the land ownership · Sending a project and technical documentation	No online registration in use at present. No possibility to pay fees through credit card or internet.	· All the relevant application forms are available with a adequate assistance (online personal assistant) · If saved, user's personal data are automatically used in forms · It is possible to pay the administration fee without visiting the construction office (internet, credit card etc.) · User is informed on what documentation is required to be submitted (how and where he can get it)	· So far only links to related forms are provided (on-line filling-in is not provided) · Only user´ profile is saved without any relation to the · It's not a part of the system, internet banking is supported by involved administration · Fulfilled
Land-use, building and final approval proceedings	A user usually waits for a decision of the relevant offices. Any communication between user and	The communication will be electronic - email (possibly using online personal assistant). (Subject to availability of electronic	· e-mail communication supported · electronic signature not included

	the respective offices is in paper form (regular mail).	signature provision.)	
Media integration			
Paper-based vs. electronic	At present, there are no electronic services/documents available for this process except for land-use plan of the Kosice region (accessible on KSR portal)	· Relevant forms and documents available at the Access-eGov platform · Automatic filling in the forms by personal assistant · Sending filled in forms through e-mail · The use of electronic services of concerned external administrations and other organisations depends on them, however	· Only traditional paper-based services available in Trial I · Not available in the Trial I · Not supported by the current legislation · Depends on particular public administration

The results confirmed that the platform provides all the relevant information at one place. The information is easy to modify and update so public servants do not need to visit various websites if an amendment to the legislation is made. Also the registration process as an advantage for a user is included. However there are still issues that have not been addressed properly such as online forms or land-use plans available. Also the PAC was expected to assist the user while filling in forms. In addition the interaction of the user with PAs still depends on how whether the institutions have already decided for an electronic signature use. For example the land registry office provides online land-use plans and corresponding documents via the internet portal; however they still can not be used for official purposes because the eSignature is not used.

7.2.2 Polish pilot

New enterprise registration process was tested by potential end users of the future Access-eGov system. The group of testers consisted of people between 20 and 40, of both genders and having varied experience in the area of computers, Internet usage as well as frequency of administrative pages usage. The evaluation bases on users comments attached to online questionnaire and remarks sent directly to Polish user partners.

The table below describes how the process and its execution have been facilitated according to quality dimensions defined in the D8.2 Specification of Pilot Application and Design of Trials. It must be considered that in case of Polish pilot there was no system similar to Access-eGov platform so the platform itself is an improvement for Polish users.

Table 27 - Evaluation of the process improvement

Quality dimension	**Before trial (as is)**	**Expected Improvement**	**After trial I** **- fulfilled** **- partly fulfilled,** **- not fulfilled,** **suggestions**
Information providing (two steps: resources annotating and putting them on web page)	No semantic annotations, information available on web page in a descriptive way.	· More relevant information · Better organised information (most important issues and additional ones) · Information relevant to particular user's case · Links to original sources of information (legal regulations for example)	FULFILLED · Services have been annotated · Information relevant to process of registration (general information given at the beginning of each goal, more detailed descriptions provided in places where necessary) · Resulting requirements relevant to particular user's case (information customised on the basis of answers for questions), but it could be even more improved. · Not enough number of links to original sources (will be completed before 2^{nd} trial, several links can be transferred from annotation tool)
Searching for a service (1 step - asking a query)	No possibility of asking queries.	· Getting only information relevant to a query (not more and not less) · Getting guidelines for all aspects of required service (at least tips)	PARTIALLY · Whole process customization built on the basis of queries, but the user is not aware whether receives complete information or not · Not enough number of guidelines and explanations especially in connection with questions (will be completed before 2^{nd} trial). Restricted functionality causes also the limitation of guidelines.
Resource management (2 steps: information updating and adding new services)	No resource management (in such a sense) Updating stiffly written information	· Easier update of significant amount of sources of information (because of annotations showing connections between pieces of information)	FULFILLED Within 1^{st} trial no updated have been done, but there are at least two identified elements which have to be updated before the 2^{nd} trial: codes

			of Polish Business Classification (functionality moved to 2nd trial) and ZUS forms.
User registration (3 steps: entering personal data, logging on, user authorisation)	No user registration on the web page	· Delivering the user data only one time · Reusing the data for filling in the forms · Logging in (or giving PESEL number in the future) will enable users' identification · Security issues	NOT FULFILLED User registration moved to 2nd trial, but: · The user gives data only once – it is saved till the end pf session · No filling in forms (moved to 2nd trial)
User requirements defining (2 steps: defining type of business activity and way of running the business)	No possibility of determining type and way of running the business	· Getting help in defining these elements (they are problematic ones) · Getting information relevant to particular type of business activity and way of running it (they may differ) · Getting this information as soon as possible (earlier than currently) which gives possibility of thinking over the issue and choosing the best solution on the basis of knowledge of all details related to particular possibility	PARTIALLY – users expect more detailed information and more explanations. · The user chooses one of two possible ways of running business (both are explained) · Further questions and information are adjusted to chosen way of running business. They could be much more adjusted if the user is able to provide several personal and customisation data. · Receiving information much earlier before application submitting and having possibility of breaking session the user is able to think over possible ways of running business and make the most suitable decision for her. · No possibility of choosing types of business activities (functionality moved to 2nd trial because of Polish law changes which caused necessity of ontology changes to update the codes of Polish Business Classification)
City hall registration (5 steps, beginning with filling in the form and finishing with applying the	No possibility of online registration	· Less possibilities for making a failure while filling in the form · Getting information on requirements for additional documents and where the user can receive them · Help in defining an exact type of business activity (suggestions	PARTIALLY · Within the 1st trial there is no possibility of online registration while no electronic services are available

form)		taking into consideration type of the business activity and possible activities connected to that type of activity) based on ontologies · Receiving other relevant information delivered on the basis of information provided by the user · Possibility of online delivering the form to the city hall, user authentication involved	· After answering customisation questions the user received information on required forms and documents together with links to pdf files of these forms as well as to interactive ones if they exist. · No possibility of online forms delivering (moved to 2nd trial)
Statistical office registration (2 steps: filling in the form and enclosing other documents)	No such a possibility	· Proper filling in the form · Information on required additional documents	PARTIALLY (users know documents but they can not be filled in automatically) The user is able to fill in pointed forms herself and knows which documents should be enclosed and why.
Tax office registration (3 steps: choosing the way of taxation, filling in the form, enclosing other documents)	No such a possibility	· Help in choosing the way of taxation through providing details distinguishing different ways and giving their advantages and disadvantages · Proper filling in the form · Information on required additional documents	PARTIALLY · Currently there is information on possible types of taxation – the only help the user may be offered is detailed information which will be specified in detail in the 2nd trial. · The user is able to fill in received form herself (no automatic filling in) · The user receives information on all required forms and documents together with links to pdf files of forms.
Social Insurance Agency registration (2 steps: filling in the forms and enclosing other documents)	No such possibility	· Proper filling in the form · Comprehensive information on requirements and forms to fill in dependently on type of enterprise, number of employees etc. · Information on required additional documents	PARTIALLY · The user is able to fill in received form herself · Information on required forms, conditions of them as well as asked questions is insufficient (will be completed and detailed in the 2d trial) · In case of that complicated phase of the process users demand more

				information.
Media integration				
Paper-based vs. electronic	No electronic documents. Paper-based documents in the process: · City hall registration form · RG-1 form (statistical office) · NIP-1, NIP-2, NIP-D, VAT-R, VAT-6	· All relevant documents available on Access-eGov platform (in one place) · Associating appropriate forms with phases of the process and with individual user cases · Automatic filling in the forms by personal assistant (in case of registration in the city hall on condition that appropriate security issues will be provided) · Sending filled in forms via e-mail or directly by the system		PARTIALLY · All relevant documents are available for use on Access-eGov platform – the user may download all pdf files of forms as well as interactive versions of them if possible. · The forms and other documents are associated with particular user's case according to process phase – they are conditioned by answers (or answers combinations) of previously asked questions. · No automatic filling in forms (moved to 2nd trial) · No possibility of sending form electronically (it is caused by Polish conditions of public authorities)

Most activities planned for the 1st trial have been completed and are positively assessed by the testers. Some of them (links to external sources and guidelines on goals realisation) were insufficient for the users and will be completed in detail before the 2nd trial. According to process improvement the most important issue is proper information which must be detailed and asked questions must be described to widen users understanding. Process of customisation have been conducted successfully and is the biggest improvement for users, although they expect more information in some cases. Apart from information on ways of taxation which will be completed, the rest of lacking issues was intentionally moved to the 2nd trial because the whole functionality was planned for the 2nd trial or due to the fact of law changes - if they had been taken into consideration (Polish Business Classification) the 1st trial would have been much more delayed.

Considering the process issues to be changed and facilitated are:

- Improve navigation within the process.
- Add explanation of some questions and its context.
- User's registration (login and password, storing and saving users data which can be used for customisation process and for filling in forms).
- Include much more details of information.
- Include help in choosing way of taxation.

- Include help in choosing codes of Polish Business Classification (types of business activities) and information on relevant licenses.
- Include at least one electronic service possible to be provided via AeG platform.
- Include automatic filling in of at least one form (using users data previously provided).
- More detailed information on registration in social insurance agency and include questions related to insurance of family members of employees.
- Include information regarding timing and deadlines of registration process phases.
- Add functionality of information previewing
- Improve names of some buttons.
- Add more links to external sources to authenticate the website.

7.2.3 German field test

Table 28 - Evaluation of the process improvement

Quality dimension	**Before trial (as is)**	**Expected Improvement**	**After trial I** **- fulfilled** **- partly fulfilled,** **- not fulfilled,** **suggestions**
Cycle time	Citizens are asked not to register earlier than 6 months in advance of the marriage – therefore the cycle time is shorter than 6 months and may only be a few days	If a user is provided with information on all the required documents and knows where to order the documents (e.g. by mail), the cycle time becomes shorter. A citizen who is already informed before making an appointment with the registrar has less difficulty understanding what the registrar might demand (e.g. he might be familiar with the terminology and the general procedure) and there might be less misunderstandings.	· fulfilled In principle with PAC at least German users can get information on all the required documents and do not need to go to the registry office in person to find out about the requirements. However, in exceptional cases, it is still necessary to talk to a registrar in person (e.g. when somebody has been born abroad). The think-aloud tests showed that still users misunderstand what documents they need to provide (e.g. confounded “Aufenthaltsbescheinigung” and “Aufenthaltsgenehmigung” or “family register” and “family book”). The terminology used in PAC was difficult for some of the users but in a subsequent meeting with a registrar, a citizen might be prepared for usage of this

			terminology.
User activities (number & complexity of steps)			
<marriage>	Required are at least 3 complex steps (if the couple already knows which documents are required and does not have to produce any new documents): · Hand in documents · Registration (formal application) · Marriage ceremony If the couple does not know which documents are required and has to request some of them: 1. Gather information on requirements 2. Request required documents (depending on the situation this may involve several other steps) 4. Receive documents from different administrations 3. Hand in documents 4. Registration 5. Marriage ceremony	A user has to do the same steps as before but can do several of these online. Information may be gathered on requirements and request the needed documents all online in one complex step (without having to go (physically) to different locations) 1. Gather information and request needed documents online 2. Receive and hand in documents (online) 3. Registration (usually in person, only in exceptional cases via mail) 4. Marriage ceremony	A German user can in principle find out using PAC which requirements for marriage have to be met. He can find out where the required documents can be obtained and, if the registry office participated in the field test, he can get detailed information on the relevant services and may be linked to the relevant online services or download forms for ordering the documents. The user cannot yet receive the documents in an electronic form because they need to be provided in paper form to the office. The user cannot yet register for marriage online and it is not desired by the registry offices involved that this should be possible in the near future. Registration in person is usually required and only in exceptional cases registration in written form is possible. In addition to the activities listed in the previous column, a user can select a marriage location online.
Paper-based vs. electronic	No electronic service, except supply of information and requests for documents (which can be downloaded, printed out and filled in at home)	Some of the required steps can be fulfilled online (e.g. request for documents, fixing date of marriage)	Fulfilled: Finding out which document are required can be done online, ordering documents online can only be done if such a service is provided by an office already

7.3 *Improvement of other issues*

7.3.1 Slovak pilot

As already mentioned in the introduction of section 7, other issues include how the developed platform fulfilled expectations in the accessibility and user-friendliness for a user.

Table 29 - Usability and accessibility aspects (Scale: Fully agree [1] - fully disagree [1])

Quality dimension	**Statement** (Scale: Fully agree (1) - fully disagree (5))	**Used instruments**	**Averaged evaluation (1-5 scale)**
Accessibility / Ease of use	a) All relevant information is available from a single point of access b) All electronically available information is made available c) The personal assistant is easy to use d) The application is easy to use	19 users surveyed by on-line questionnaires	Results of online questionnaire “Ease of use (user experience)”: **2.5**
Accessibility for impaired citizens according to W3C-guidelines like WAI (see "Web Accessibility check list")	a) The personal assistant meets common accessibility criteria (like WAI, BIK) Note: In addition, the level of conformance to WAI will be assessed and documented by e-ISOTIS (see section 6 and annexes).	1 assessment by expert	**2**
Multi channel support	a) The service and information about services are provided through various channels (e.g. Web, email, fax)	4 assessments by experts	The platform provides contacts such as web links, emails or fax numbers **3**
Search facilities	a) The search facility was easy to use b) The search facility delivered good results		*Was not part of first trial.*
	a) The personal assistant is easy to use b) The application is easy to use	19 users surveyed by on-line questionnaires	Results of online questionnaire “Ease of use (user experience)”: **2.5**

Table 30 – Evaluation of security aspects

Is the feature available?	**Yes**	**No**	**Comment**
Support for authentication and authorization infra-structure functionality		X	This functionality is not supported within the first trial
Openness to external partners		X	The system is not open to external partners
Value added services	X		All relevant information at one place
User support for consumers / providers	X		User manual available and help
Multi-Lingual Support	X		English

Security			
Digital rights management for annotated content		X	Not planned anyway
Transmission (data encryption)	X		SSL encrypted transmission from PAC-server-software to PAC-at-user-PC is already a PAC feature
Support for authentication and authorisation infra-structure functionality		X	UR's security infrastructure will generically provide PAC with this software-functionality as planned for trial 2, but the real-world functionality depends on the actual back-office requirements by Public administrations; hardware-authentication (in terms of smart card usage and/or Trusted computing usage) is not planned for the trials
Handling of user data (privacy)	X		User data handling is subject to the organisational restrictions as set out by EU data privacy regulations and the laws as issued by EU member states (Slovakia, Germany, [Poland]). Stored user account details will be done in encrypted format in the second trial ; user passwords are already encrypted (i.e. using hash-values)

7.3.2 Polish pilot

Table 31 - Usability and accessibility aspects (Scale: Fully agree [1] - fully disagree [1])

Quality dimension	**Statement** (Scale: Fully agree (1) - fully disagree (5))	**Used instruments**	**Averaged evaluation (1-5 scale)**
Accessibility / Ease of use	a) All relevant information is available from a single point of access b) All electronically available information is made available c) The personal assistant is easy to use d) The application is easy to use	24 users surveyed by on-line questionnaire	Results of online questionnaire "Ease of use (user experience)": **2.2**
Accessibility for impaired citizens according to W3C-guidelines like WAI (see "Web Accessibility check list")	a) The personal assistant meets common accessibility criteria (like WAI, BIK) Note: In addition, the level of conformance to WAI will be assessed and documented by e-ISOTIS. (see section 6 and annexes)		

Multi channel support	a) The service and information about services are provided through various channels (e.g. Web, email, fax)	30 users surveyed by internal questionnaire	5.0
Search facilities	a) The search facility was easy to use b) The search facility delivered good results		*Was not part of first trial.*
	a) The personal assistant is easy to use b) The application is easy to use	24 users surveyed by on-line questionnaire	Results of online questionnaire "Ease of use (user experience)": **2.2**

Table 32 – Evaluation of security aspects

Is the feature available?	**Yes**	**No**	**Comment**
Support for authentication and authorisation infra-structure functionality		X	
Openness to external partners		X	
Value added services	X		
User support for consumers / providers	X		
Multi-Lingual Support	X		English
Security			
Digital rights management for annotated content		X	Not planned anyway
Transmission (data encryption)	X		SSL encrypted transmission from PAC-server-software to PAC-at-user-PC is already a PAC feature
Support for authentication and authorisation infra-structure functionality		X	UR's security infrastructure will generically provide PAC with this software-functionality as planned for trial 2, but the real-world functionality depends on the actual back-office requirements by Public administrations; hardware-authentication (in terms of smart card usage and/or Trusted computing usage) is not planned for the trials

Handling of user data (privacy)	X		User data handling is subject to the organisational restrictions as set out by EU data privacy regulations and the laws as issued by EU member states (Slovakia, Germany, [Poland]). Stored user account details will be done in encrypted format in the second trial ; user passwords are already encrypted (i.e. using hash-values)

7.3.3 German field test

Table 33 - Usability and accessibility aspects (Scale: Fully agree [1] - fully disagree [1])

Quality dimension	**Statement** (Scale: Fully agree (1) - fully disagree (5))	**Used instruments**	**Averaged evaluation (1-5 scale)**
Accessibility / Ease of use	a) All relevant information is available from a single point of access b) All electronically available information is made available c) The personal assistant is easy to use d) The application is easy to use	69 users surveyed by an online questionnaire.	"Ease of use (user experience)": **2.2**
		workshop with experts in the field and IT experts	a) 2 b) 2 c) 3 d) 3
		Think-aloud sessions	a) 1.5 b) - c) 2.5 d) 2.5
Accessibility for impaired citizens according to W3C-guidelines like WAI (see "Web Accessibility check list")	a) The personal assistant meets common accessibility criteria (like WAI, BIK) Note: In addition, the level of conformance to WAI will be assessed and documented by e-ISOTIS. (see section 6 and annexes)	Evaluation by IT experts	a) 2
Multi channel support	a) The service and information about services are provided through various channels (e.g. Web, email, fax)	Workshop with experts in the field and IT experts	a) 2 Comment: Mail and web addresses and Fax/phone numbers can be found in PAC
Search facilities	a) The search facility was easy to use b) The search facility delivered good results	*Search facility was not provided for the first trial.*	*Search facility was not provided for the first trial.*

Table 34 – Evaluation of security aspects

Is the feature available?	Yes	No	Comment
Support for authentication and authorization infra-structure functionality		x	Has not been required in first trial
Openness to external partners		x	External partners may not yet participate in the service processes: XML based interface is not available, and exchange of user information is not yet possible. Only links to external parties are available.
Value added services		x	Forms are provided for download by some offices but automatic filling of forms is not possible yet.
User support for consumers / providers	x		A manual is available. But more contextual help would be useful.
Multi-Lingual Support	x		Interface and all information are available in English and German.
Security			
Digital rights management for annotated content		X	Not planned anyways
Transmission (data encryption)	X		SSL encrypted transmission from PAC-server-software to PAC-at-user-PC is already a PAC feature
Support for authentication and authorisation infra-structure functionality		X	UR’s security infrastructure will generically provide PAC with this software-functionality as planned for trial 2, but the real-world functionality depends on the actual back-office requirements by Public administrations; hardware-authentication (in terms of smart card usage and/or Trusted computing usage) is not planned for the trials
Handling of user data (privacy)	X		User data handling is subject to the organisational restrictions as set out by EU data privacy regulations and the laws as issued by EU member states (Slovakia, Germany, [Poland]). Storing user accounts in encrypted format will be made available in the second trial; user passwords are already encrypted (i.e. using hash-values)

8 CONCLUSIONS

This document describes the evaluation of the trials in detail based on the evaluation strategy explained in D8.1 and trials description in D8.2. Evaluation outcomes are collected from the pilots in Slovakia and Poland, the German field test and the Egypt Lab test. Outcomes are divided in categories and cover the assessment of both components the Annotation tool and Personal assistant client.

The assessment of the trials exploited evaluation methods such as online questionnaires, expert evaluations, round-tables, workshops, think aloud sessions, and interviews. For proper evaluation outcomes basic standards specified in the D8.1 were followed. According to these each user partner was required to use minimal assessment criteria (i.e. min. 2 experts involved, 10 questionnaires collected). Also in order to compare evaluation results, all tests were scored through online questionnaires as a common evaluation instrument for all.

The user partners carried out the AeG components testing from October 2007 to February 2008. Performing the first trial was delayed from the initial plan due to required modifications in the components while being tested. However it didn't have an impact on the quality of the evaluation.

The evaluation results lead to the conclusion that the Annotation tool requires less – improvements compared to the Personal assistant client, which is the key interaction between public administrations and citizens/businesses. The developed annotation tool as an instrument for PAs serves its purpose well, regardless of few comments delivered by the testers. As outlined in the document, all requirements for AT enhancement are technically feasible to be incorporated within the second trial, leading to an improved AT version to be ready for a second user testing in 2008.

The PAC testing identified more crucial findings which need to be addressed. At first, the results confirmed that the PAC's user-interface requires radical modifications in its structure, design and navigation. The feedback collected proves that the system is not very easy to use and might confuse users when going through the process. They expected the AeG would guide them through step by step instructions. Regarding the web content, the platform provides a lot of information in one place, though there is a need for making the content more consistent and structured. Also the information available needs to be more accurate so the user understands it easily. In addition, information relevant to the user only should be clearly available.

Looking ahead, the system shall be able to provide additional functionality such as online forms or authentication procedures that are still not available. In addition, the PAC was also expected to assist the user while filling in forms. However, it must be noticed that the online interaction between PAs and citizens still in many cases depends on whether the institutions have already decided to use electronic signatures.

To conclude, the PAC is expected to be modified according to the feedback of a vast number of testers who mainly responded towards low ease of use of the front-end. According to a time-plan agreed at the last plenary meeting held in March 2008, the user-interface of the PAC will be improved and the system shall be ready for the second trial by the end of June 2008.

Based on the results presented in this document, the follow-up process will immediately emphasize on proposing a new design, structure and navigation aspects of the PAC through preparation of new PAC mock-ups to be provided to the user partners for further revision.

9 ANNEXES

ANNEX 1

9.1 Problems/bugs identified during the internal testing of AT – Slovak pilot

ID	Subject	Note of developers
1	Problem to enter relevant links. See mail attachment.	Fixed
2	New organization creation. Access rights missing after it is created.	It is needed to assign some user privileges to edit organization after it is created. It is written in users guide.
3	Language switches back to default language sometimes.	Impossible to simulate this problem, more information needed
4	I can not see newly created contact persons.	Access rights have to be set for them.
5	“Michalovce mesto” missing some information.	To be added by MI
6	No possibility to edit templates of services.	Can be allowed only for superadmin.
7	It is not clear how citizen will be able to use AT interface.	AT is only for public administrators. There is no guest account. Personal assistant will be used to access information by citizen.
8	Some of the users see interface easy to use some not.	Fixed
9	Please put navigation on top of the page also (not only on bottom)	Fixed
10	Too much time is needed to fid out how to use AT. Not like other web pages	AT is intended for public administrators, who are responsible for the data entered into it. They are supposed to be at least introduced to AT first, before they can use it. Users’ manual is also available with the tool.
11	Please import data from the previous version of the AT	Done
12	There is problem with pop up windows not appearing.	Pop up on AT is needed to be sufficiently working in this version. It is needed to hide navigation from web browser (AT has its own navigation)
13	I can enter system without password after I closed the window	AT is session based. You have to log out or close all browser windows to log out from the window.
14	BACK button is only on top of the page. Can it be also on bottom?	Fixed
15	Change service name to service type	Fixed

16	Is it possible to choose service hours from drop down menu?	As we have no possibility to put all possible opening hours combination to drop down menu, it has to be free text.
17	Error message after clicking View button (see attachment in mail)	Fixed
18	Error message (see attachment in mail)	Fixed
19	Error message (see mail attachment)	Fixed
20	List of contacts does not view correctly	Fixed
21	Same page displayed clicking different button.	Fixed. Do not use back button on browser. Application now opens in pop up window without browser navigation buttons. Application now shows expired if still browser navigation back button used.
22	Project documentation service type missing.	Fixed. Added to ontology.
23	Same view of different items.	Fixed
24	Error message trying to edit existing item.	Fixed
25	Problem editing new item.	Fixed
26	Editing „as“ item in testing application – error message (attached in mail)	Fixed
27	Viewing item „tytry“ error message (attached to mail):	Fixed
28	Clicking „odhlásit“ (log out) works after second try.	Fixed
29	Translations of both ontologies and AT interface	It was done in many iterations (more than 15), every change in interface required new translations from every partner.

9.2 Photos from Annotation tool training – Slovak pilot

9.3 Problems/bugs identified during the internal testing of AT – Polish pilot

Table 1 Bugs identified during internal tests

No.	Description of the bug	Solution
1.	Password changing accessible before the user has logged in to the system	To be repaired by developers
2.	After the user has logged out and clicked AT link again, the tool opened the last screen and the user was still logged in.	To be repaired by developers
3.	No reaction after clicking “Logout“ button. The user is still logged in.	To be repaired by developers
4.	No reaction after clicking “Back“ button.	To be repaired by developers
5.	Incorrect reaction when clicking backspace on keyboard.	To be repaired by developers
6.	http server error after clicking “Enter new person“ button.	To be repaired by developers
7.	Button “Add new service of type…” does not work – it is impossible to add any link and its URL.	To be repaired by developers
8.	Button “Add new service of type…” does not work – it is impossible to add any new service.	To be repaired by developers
9.	In section “Organization type” the button “Hide/show details” doesn’t work.	To be repaired by developers

Table 2 Language and spelling mistakes identified during internal tests

No.	Place of the mistake	Description of the mistake	Suggested solution
1.	After logging in at the very end of page	Spelling mistake "użytkonik"	Change to "użytkownik"
2.	After clicking "Change" button	Spelling mistake "Dodaj nowu wartośc Szablony usług"	Change to "Dodaj nowe wartości do szablonu usług"
3.	After selecting button "Select new item: area" and then "Enter new value: area"	Spelling mistake "Dodaj nowu wartośc Poszczególne lokalizacje"	Change to "Dodaj nową lokalizację"
4.	While adding service template	Forgotten translation to Polish of the statement "Because this is template, it is not needed…"	Add previously prepared translation
5.	After selecting button "Approve"	Forgotten translation to Polish of the statement "remove approved mark (service need to be modified)"	Add the translation "Usuń znacznik publikacji (usługa musi zostać zmodyfikowana)"
6.	"Edit"	Wrong translation to Polish "Zmień"	Change into "Edytuj"
7.	Section "Organization address"	Forgotten translation to Polish of the phrase "Original value"	Change into "Wartość oryginalna"
8.	After selecting button "Enter new value: service"	Polish text "Wprowadź nowe wartości…" doesn't fit to the field (to little place)	Change into "Dodaj nowe właściwości usługi"
9.	Section "Service properties"	Spelling mistake "Dodaj nowu wartośc do powiązanych informacji"	Change to "Dodaj nową wartość do powiązanych informacji"
10.	After selecting button "Select item: service" and than button "Approve"	Spelling mistake in English version of AT "service need to be modified"	Add "s" at the end of the word "need"
11.		Forgotten translation to Polish of the phrase "remove approved mark (service need to be modified)"	Change to "Usuń znacznik publikacji (usługa musi zostać zmodyfikowana)"
12.	After selecting button "Select item: annotator user"	Under buttons "View", "Edit", "Add new value…" languages are mixed.	Settle proper languages according to the version of AT.

13.	Everywhere	“Osoba do kontaktu”	Change to “Osoba kontaktowa”

Table 3 Names of buttons

No.	Name of button	Description of the problem	Suggested solution
1.	“Choose different item type”	Unintuitive button to return for common users. Inconsistent because in some other places of application there is “Back” button.	Change to “Back” button
2.	“Cancel”, “Cancel all changes”, “Back”, “Choose different…”	There is inconsistency in usage of these buttons which actually mean the same but have different names.	Settle the one, best matching name.

9.4 Bugs and requirements for modification of AT – German field test

1) Bugs in the tool that have been fixed directly after the workshop:

1.	After having created an Access Point and saving it, the same access point was duplicated after changes were made (to the access point) and saved afterwards. When deleting one of these duplicated access points, they were both deleted. The same for contact persons.
2.	After deleting an access point which had contact persons attached to it, the "view" of the service still showed the access point with a funny name given to it (a678237283 or so) and the contact person was still there. When deleting the contact person later and creating a new access point for the service, this access point was not shown in the "view services" screen. The old data with the funny name for the access point, and the old contact person attached to it, remained.
3.	If a person of an access point has been deleted, but this person was selected as responsible for a service, the person is still shown when editing the access points at which this person was selected as responsible for a service (although "no value" is preselected as value for this person). One could also still see the deleted person in the drop-down list of persons when describing the access point for a service, but when trying to save it, there is an error message.

2) Problems that have been evaluated to be critical and that have been fixed already during the first trial:

	Reported Problem/Requirement	Category
1.	It should be possible to see all information belonging to one service in one place	**Usability**
2.	The default setting for the view given when clicking "edit access point for this service" should be to hide all details. Only when wanting to see more, "show details" can be selected by the user. This way the form is not too long (especially when there are many municipalities in the spatial responsibility).	**Usability**
3.	The order of the address data should be changed: postbox and postal code of post box should be listed right after "postal code" (Postleitzahl) and before "town" (Stadt)	**Usability**
4.	The different screens look too much alike and there are no visual clues that aid the user in recognizing and remembering different screens quickly and easily. Icons for each type of entity (Organisation etc.) should be introduced. These should be used whenever the entity	**Usability**

	appears. In addition, the top of the screen should show a bigger version of the icon.	
5.	The field for entering the service description has to be much bigger and could also be a bit longer	**Usability**
6.	All users would like to have the right to view information entered by other users - and also data entered by us on the test account	**user rights**
7.	The field "Opening hours" should be multi-line	**Buttons**
8.	The button "Approve" should be labeled "Publish" - German is now "Annehmen" and should be "Publizieren"	**Buttons**
9.	The button for "remove approved mark" should be labeled "Publizieren rückgängig machen"	**Buttons**
10.	There should be a "back" (zurück) or "Return to previous screen" (zurück zur vorherigen Seite) button on every screen on which you cannot edit data - on screens where you can edit data, it should be like "Back (without saving changes)" (Zurück (alle Änderungen gehen dabei verloren))	**Buttons**
11.	The button "Cancel all changes" should be labeled "Back (without saving any changes)" or something like that - in German: "Zurück (eventuelle Änderungen gehen dabei verloren)". This is useful for all pages where you can edit data.	**Buttons**
12.	The buttons should describe what they do. E.g. "Save" should be labelled "Save and close", "View" should be labeled "View details of X" where X is "Organisation", "Access Point" etc.	**Buttons**
13.	The location of the "Edit" and "View" buttons should be exchanged. Everyone was confused when they pressed "View" and were not able to edit anything. They usually overlooked the "Edit"-button.	**Buttons**
14.	On each button there should be an icon for editing, viewing, etc. so that users easily recognize what they can do. The text on the button should only be "edit", "view", "access points", "contact persons" etc. Mouse-over should display what exactly the buttons do (e.g. edit organization, view access points etc.)	**Buttons**
15.	Additional text that explains each button (e.g. as a mouse-over) is required.	**Buttons**
16.	Ontology-information should not be shown in the view-screen (at least not for these users), e.g. "service type"-template should not be shown because user does not know what it is.	**Layout**
17.	localizations of non-functional service properties must be created/edited in the AT	**Translation**
18.	Contact persons need a property "Form of address" (e.g. Mr., Ms., Mrs.).	**Properties**
19.	Contact person's firstname must not be mandatory.	**Properties**
20.	All fields for describing links to related content need additional fields NAME and DESCRIPTION to describe the links. (E.g. "Download of the form").	**Properties**
21.	Person should also have a field for adding links to URLs to a homepage of a person.	**Properties**

3) Problems with low priority that have been fixed:

	Reported Problem/Requirement	Category

1.	The field "Name" of a service should be pre-filled with "Name of the service type (Organisation)".	
2.	For each name in the list of municipalities, the region should be indicated in brackets behind the name of the municipalitity, e.g. Glinde, Stadt (Stormarn)	
3.	It is only possible to delete a contact person for a service by selecting "no value" in the drop down list. It would be good to have a button "remove contact person from this service" or so, in German "verantwortliche Person entfernen" (e.g. next to the drop down list)	

4) Critical problems that still need to be addressed:

	Reported Problem/Requirement	**Category**
1.	When the content of the page is reloaded, the display always jumps to the beginning of the page. E.g. when using the "Details"-button to show / hide parts of the information.	**Usability**
2.	Additional text on each screen that describes what to do here. User partners will write these texts	**Usability**
3.	The button "Accept" should provide a preview of what is going to be published. (It should then also be labeled "Preview and publish")	**Usability**
4.	The Save-Button should provide a preview of what is being saved.	**Usability**
5.	Additional info-text for the input-fields that describe what to put into the field and how this may be related to other things.	**Usability**
6.	The general information and other elements that are stored in the goals-ontology (or other ontologies that will be used in the PAC) should be somehow available as reference for the annotation authors. E.g. when creating a new service the description field should provide a button where the author can look up what the general description of the service already includes or the text could be simply displayed in the "edit service" screen - above the "service description"	**General requirement**
7.	services should be usable as templates which contain not only service descriptions but also access point, spatial responsibility and contact persons - this way if two services differ e.g. only in the description, they can be copied and edited. For this it might be required to be allowed to change the service type lateron also. E.g. the services for ordering different documents from the registry office are almost all identical except for the name of the document.	**General requirement**
8.	it should be possible to move services to a different administration when responsibility changes	**General requirement**
9.	a once entered list of municipalities in the spatial responsibility for a service of an office should be reusable for another service (like "save this list of municipalities as an area" and then select next time this area simply)	**General requirement**
10.	a once entered list of contact persons for a service should reusable for another service (save a set of persons)	**General requirement**
11.	when correcting the service annotations, it became obvious that many offices had forgotten to enter spatial responsibility. It has to be ensured that this information is given, otherwise a warning has to appear. It would be good to have spatial responsibility set fix for the office and to only have to enter it for a given service, if it deviates from default.	**General requirement**
12.	All buttons for creating new services should have the same length	**Buttons**
13.	In certain situations (when no input field has the focus), using the backspace-key results in loss of all data that has been input so far. (The reason is that backspace acts like	**Navigation**

	pushing the "back" button of a browser.)	
14.	when navigating back from an access point to the list of services, user often gets lost because there is no way to navigate back to the one service for which the access point was selected…maybe the whole service with all the information attached to it should be in one separate page. the list of services should only be a list of services which you can select to then have the possibility to edit or view descriptions, access points and contact persons	**Navigation**
15.	The language setting of the tool sometimes changes unexpectedly from German to English	**Bug**
16.	When "viewing a service", the access points of the responsible organization are also shown. However, if access points have been deleted, several empty lines remain in the "view screen" there. Anyways, it is not necessary to show all the services and all the access points of the responsible organization, when clicking on "view this service" - it is much more information than only information on this one service. It would be better to show under "view this service" the name and description of the service, the related links, the access points for this service and the responsible persons at this access point - and maybe also the responsible organization but not with details on all the access points and services of it. The view does not show the access points everywhere.	**Bug**
17.	It should be possible to also view the access points and spatial responsibilities for a given service when user has only rights to view services of an organization.	**User rights**
5.	loading the pages is slow - especially when a lot of contact persons and municipalities are entered for access points	**Performance**

5) Problems with low priority that still need to be addressed

	Reported Problem/Requirement	**Category**
1.	The Services screen (listing services and providing buttons to create new services based on service types) should be grouped by service type. That makes it easier for authors to see, for which services they have already created services. If this it not possible, the list of services should at least be ordered alphabetically.	**Usability**
2.	it should be possible to change the order of access points and contact persons (move upwards or downwards)	**Usability**
3.	Users were not quite sure about what is the access point sometimes: is it the place where i get information or is it the place where the service is actually provided? This led to mistakes in annotation.	**Usability**
4.	Sometimes users "abuse" fields in the AT to make the kind of data they want to enter into the structure previewed by AT, e.g. a group of people was entered as one contact person with many different phone numbers, or a contact person was attached to a wrong access point because the point where the contact person is working did not belong to the administration really and so it was avoided to enter this office.	**Usability**
6.	the registry office also offers the service REGISTRATON certificate, it should be indicated somewhere	**General requirement**
7.	It should be possible to move a contact person from one access point to another access point	**General requirement**
8.	editors should be allowed to edit services for their offices even if they were created by other authors	**User rights**

9.5 Exceptional service properties in the marriage scenario

It proved to be especially difficult to model that there are special office hours during which marriages are performed and that they are performed at special locations because this is not the case for most (if any) other services in the administration. Although marriages themselves are performed by the registrars from the responsible offices just like any other service of the registry office, the service “marriage” is performed at special times (e.g. marriages are also offered on Saturdays and on ships) and possibly in special locations. As it is assumed in the general model that each office has one or more access points at which all their services can be obtained at specific office hours. However, for marriages this is different and it was required that e.g. the access points for marriages had to be described independently of the registry office because of the special office hours for this service.

During the field test it proved that most annotation authors however, did not describe each marriage location as a separate access point to a service because it caused too much work. It would have been required to define a separate service for each location where a marriage can be performed. Some registry offices did this but some did not have enough resources to annotate the services at such detail and simply referred to the different marriage locations in the textual (unstructured) service descriptions.

It was difficult to enter all the required information regarding the responsible offices for the service „reservation of the marriage location“ in the annotation tool because: There are 1) the registry office performing the marriage at the location, 2) the address of the person where the reservation itself is done and 3) the address of the marriage location. All this information is expected by the citizen when looking up the service „reservation of the marriage location“.

The following has been suggested to registrars as a solution:

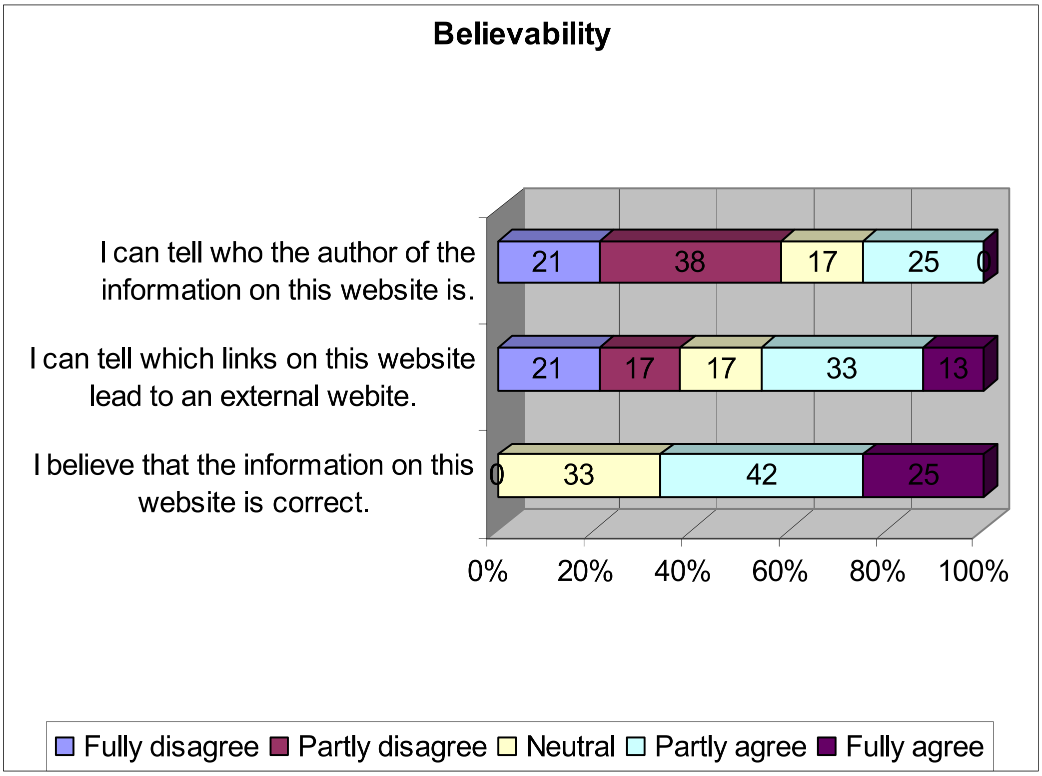
a. The place where the marriage location is reserved is entered as access point of the service. This may be identical to the address of the responsible office or the marriage location, if the office makes the reservation or if the registry office is the marriage location.
b. The person who does the reservation is the contact person for this access point
c. The responsible office is always the registry office which performs marriages at this location.
d. The address of the marriage location cannot be annotated in the AT but needs to be indicated in the general description of the service „reservation of the marriage location“. The address of the marriage location could however be indicated to be the access point of the service „marriage“ because this is the place where the citizen needs to go to obtain this service „get married“.

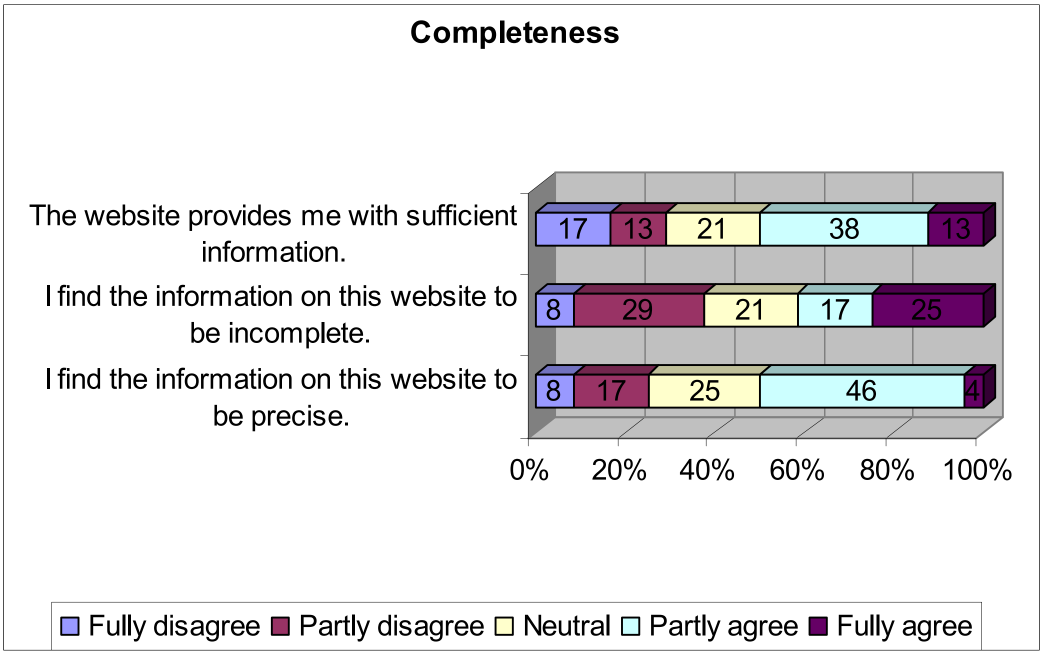
9.6 Polish internal questionnaire for PAC evaluation

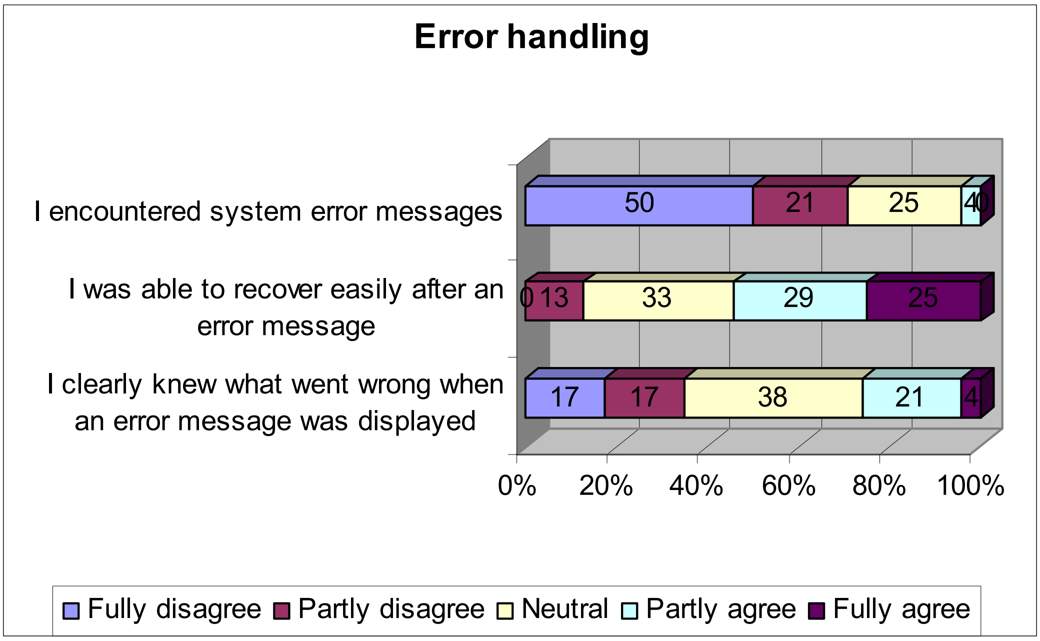
Q u e s t i o n s
Information providing (please compare questioned functionality with currently existing information)
1) In your opinion, is the information provided by PAC more relevant? 2) In your opinion, is the information better organised? 3) In your opinion, is the information relevant to your particular case? 4) Do you find the number of links to external sources enough?
Searching for a service

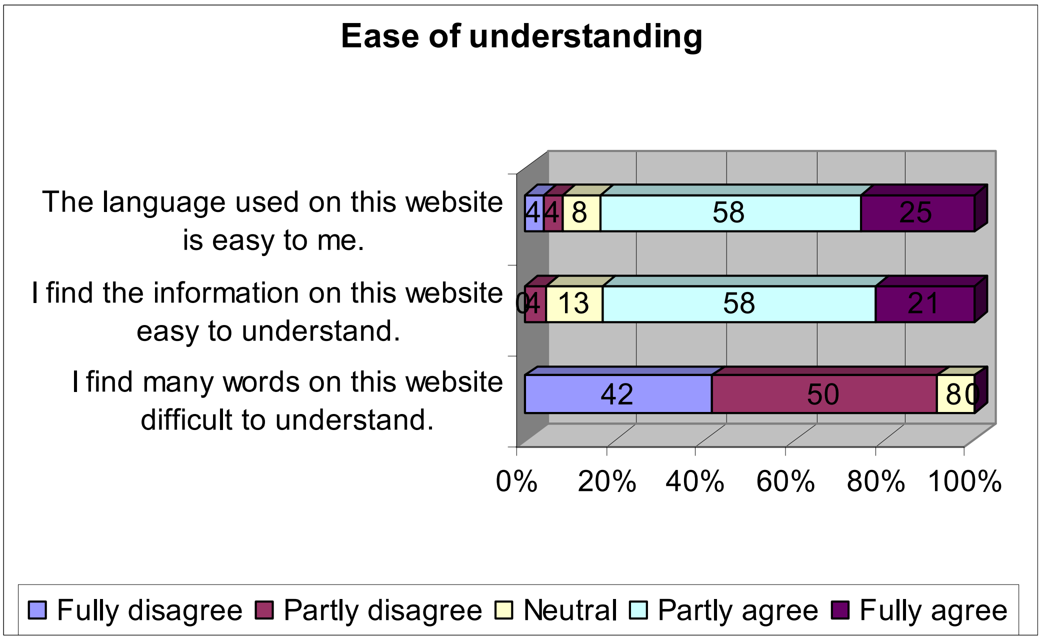
5) Did you receive guidelines related to all aspects of required service?
Resource management
6) Is the information up-to-date?
User registration
7) Did you log in to the service? 8) Is user registration a useful functionality?
User requirements defining
9) Did you receive enough help in defining way of running the business? 10) In your opinion, did you receive information relevant to the previously chosen case, in the further phases of the process?
City hall registration
11) Did you receive whole information on required additional documents?
Statistical office registration
12) Did you receive whole information on required additional documents?
Tax office registration
13) Did you receive whole information on required additional documents?
Social insurance agency registration
14) Did you receive whole information on required additional documents? 15) In your opinion, did you received comprehensive information on further requirements and forms dependent on type of your enterprise and number of employees?
Paper-based vs. Electronic
16) In your opinion, are all relevant documents available via the PAC application? 17) In your opinion, are the required forms properly associated with the process phases?
Accessibility / ease of use
18) Is the information available from one point of access?
Accessibility for impaired citizens
19) Did you find any piece of information on facilities for impaired citizens in particular authorities?
Multi-channel support
20) Is the relevant information available via different channels (web page, e-mail, phone, in the city hall)?
Value added services
21) Was it possible and easy to download forms required to complete registration?
Multilingual support
22) Is English version of PAC clear, understandable? 23) Can English version of PAC be useful for foreign users?
General impression
24) Is the PAC easy to use? 25) Is the PAC user friendly? 26) Do you like the PAC interface? 27) Do you want to use such a system with relation to other public services realisation?

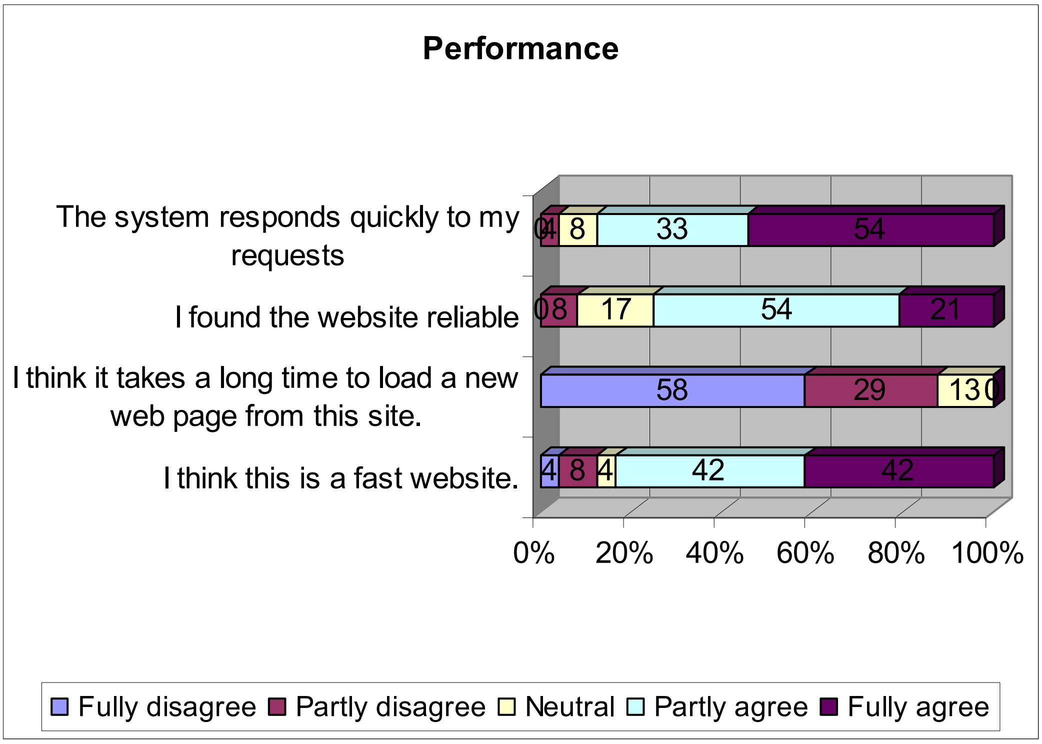
9.7 Structure of answers for online questionnaire – Polish pilot

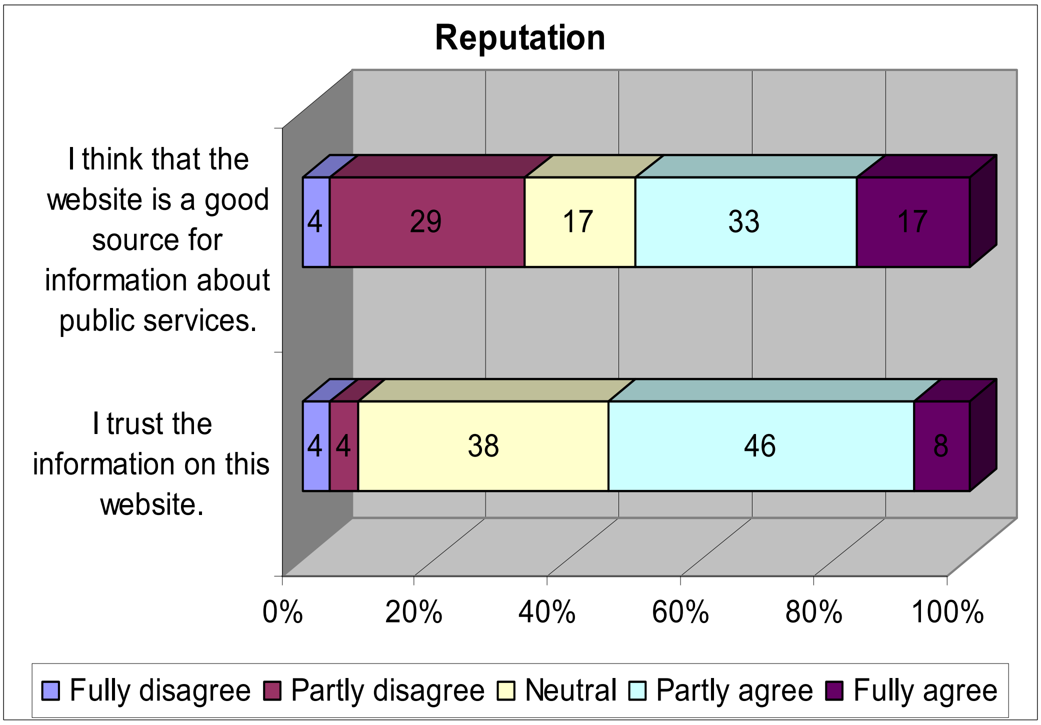


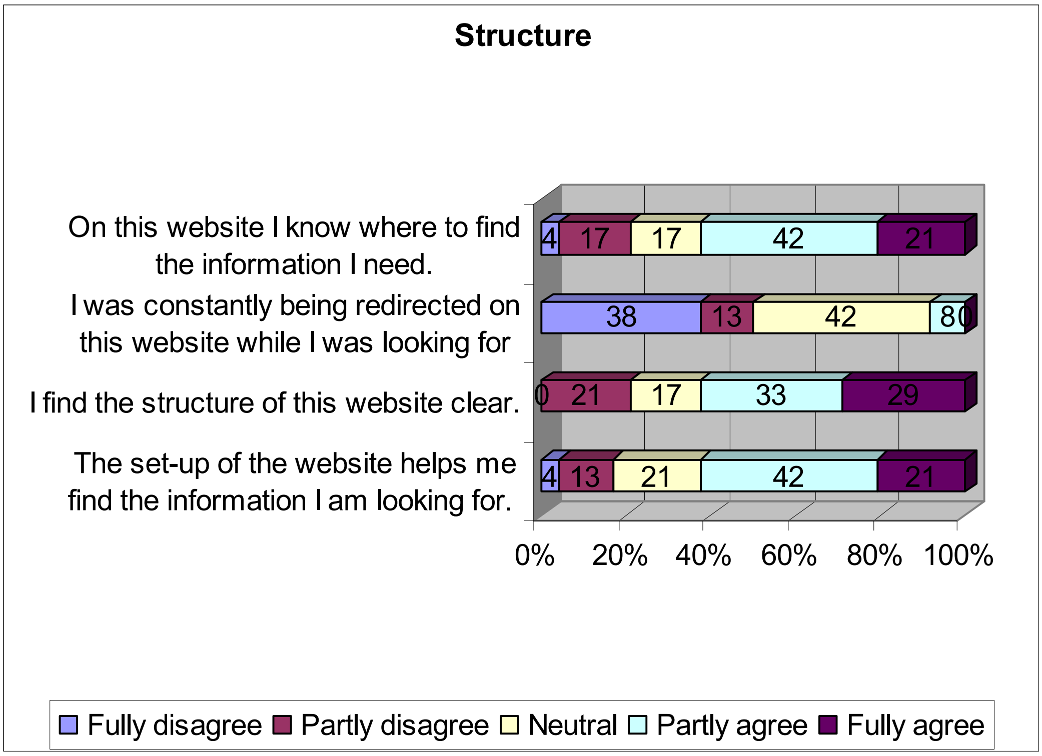



Error handling
I encountered system error messages
50
21
25
4
0
I was able to recover easily after an error message
0
13
33
29
25
I clearly knew what went wrong when an error message was displayed
17
17
38
21
4
0%
20%
40%
60%
80%
100%
Fully disagree
Partly disagree
Neutral
Partly agree
Fully agree


Ease of understanding
The language used on this website is easy to me.
4
4
8
58
25
I find the information on this website easy to understand.
0
4
13
58
21
I find many words on this website difficult to understand.
42
50
8
0
0%
20%
40%
60%
80%
100%
Fully disagree
Partly disagree
Neutral
Partly agree
Fully agree


Performance
The system responds quickly to my requests
I found the website reliable
I think it takes a long time to load a new web page from this site.
I think this is a fast website.
0
4
8
33
54
0
8
17
54
21
58
29
13
0
4
8
4
42
42
0%
20%
40%
60%
80%
100%
Fully disagree
Partly disagree
Neutral
Partly agree
Fully agree


Reputation
I think that the website is a good source for information about public services.
I trust the information on this website.
4
29
17
33
17
4
4
38
46
8
0%
20%
40%
60%
80%
100%
Fully disagree
Partly disagree
Neutral
Partly agree
Fully agree



9.8 German field test results of think-aloud sessions for PAC testing

The following answers were given by users of the system in interviews during and after the think-aloud sessions.

A. Who is presented on the website?

User 1: It is from this Czech university and somehow the ministry of finance is involved. But I only know who the owner of this website is because I've been led there from the website of SH.
User 2: Oh, ha! THAT is not clear. You just see "access-egov" here but not who that is. And it is not written anywhere. It could just be general information from anyone. Maybe the government. Because of e-gov - as government.
User 3: Maybe the ministry of family affairs, something from the government. Nothing private. Because I have not seen any private party here.
User 4: I have of course the impression that it is the state government SH. Because I saw at the top this blue-red-white flag.

B. Who is addressed by this website?

User 1: For people who want to get married
User 2: People who want to get married but don't know how to do it. Who want to know what they need and how the process is.
User 3: Young people who are supposed to think about long-term relationships, commitment, not just being together but also fixing it on paper and for society
User 4: Citizens. For citizens who want to get information from the government. And here in this test especially for citizens who want to get married.

C. What does the page offer?

User 1: Information, general information, judicial information... and you can identify what documents you need and where you can get them. But I don't know if you can also order these documents already or not.
User 2: Information about marriage in general and the requirements. And I can tell the system via this form and the information will be personalized. For people from Germany and Slovakia.
User 3: Information about how to get married in Germany. Maybe it is for people who come to Germany to get married and to who it needs to be explained what marriage means in Germany.
User 4: You can get information on the processes which are required when getting married. I think.

D. What is your general impression of the website?
User 1: I think it is a good guide for getting some basic information. Where, why, what? What do I need? Do I need a marriage contract etc?
And regarding the layout, I think it is rather easy to grasp (übersichtlich). And also with these tabs….I think one has to get used to it at first but once you have done it and got used to it and clicked it, then you are able to use it and know it because it is repeated always.
User 2: When you looked at it for a while you see that the list on the left is chronological - at first it might just be a bunch of information and it is not clear what order is required and why two of them (panels on the left) are not in line with the others.
It is annoying that I have to select SH in the drop-down list (because it is the only choice).
The drop-down (combo-box) didn't work properly.
The page was set to English in the beginning.
In the first screen there are so few fields that one does not really know what do to. I missed an introductory description in the beginning. It was not explained what this tool is for.
User 3: I think it is understandable…although I did not see these tabs here at first, although they are well visible.
I personally would not search for information on marriage on the web in a first step. I would take my ID and maybe my birth certificate and would register at the responsible town hall. I would prefer a face to face meeting. Maybe the registry office would then have to advice me to have a look at this website to find the wedding locations.
My first association was that one wants to help me find the woman for life because of "personal assistant" and "registry office".
User 4: A lot of text. I did not read everything properly and missed important points.
And I find it not good that the responsible office is not identified for me when I already entered that I live in Kiel. So now I think that I can get my certificate of registration in ANY registry office.

E. What do you consider positive about the website?
User 1: The information on the documents I need.
User 2: I think it is easy to grasp. Not too many graphics etc., not too much text.
It is not too colorful. It can be read well.
User 3: List of wedding locations is very useful. And that I can even get the contact data.
User 4: Decent colors. Easy to read (visually). I have this “to do”- list here on the left which is good and gives a good overview. And in the middle frame I always can read up details on these things. (Discovers icons.) And I have these icons here. Ah, cool. I only saw these now...

F. What do you consider negative about the website?

User 1: Maybe the links could be better and that the place for marriage could be selected by kind or region because when I selected my place for marriage I had to search a lot and "googled to death".
User 2: Some information is missing (locations)
User 3: There is so much general information that I don't need. I don't want to be informed about what marriage is. I don't need it once I have decided to get married.
User 4: This website is always loading again when I enter something in these combo-boxes. ...And a lot of text. Maybe I should have registered…but normally I would not register.

The following tables summarize the results of the think-aloud session when fulfilling the task to find out what the user has to do in preparation of the marriage. They summarize what the user was expected to do during usage and what information he was expected to get from the system. For each expectation it is described if it was met by the four users in the tests.

Expectation	**The user will get some basic information on getting married.**
Result	Basic information is provided but most users did not want to read longer texts in the tests. Only one user took the time to read most of the texts.
Problem	Some basic information has to be provided to the users so that they can understand the process but users are not willing to read longer texts. Possibly all users would be willing to read the texts in a real life event. One user did not want to be told about what marriage is in general because he assumed that once one decided to get married, one knows this already.
Suggestion	The texts should be more structured and slightly shortened to keep the paragraphs as short as possible and to give the user a quick overview of the contents so that he can then decide what information is relevant for him.

Expectation	**The user will identify the office responsible for marriage registration.**
Result	All users knew in advance that the registry office was responsible and just read the additional information that it was the registry office at their place of residence that they need to contact. None of the users was looking for the address of the responsible registry office.
Problem	When first selecting the tab "requirements" for register for marriage, the whole customization process starts and users start thinking about what documents they need but do no more look up which office is responsible later. The general information, that the office at the place of residence is responsible, was sufficient for them.
Suggestion	Possibly the tabs requirements and service details could be merged so that the user does not have too many different tabs and will not miss important information.

Expectation	**The user will identify the documents required for marriage when using PAC**
Result	Three out of the four users filled in the required customization forms and in the end a correct list of all activities that they need to do was displayed on the left hand side of PAC (ToDo list). The fourth user did not see any of the tabs in PAC during the test and so could not do any customization and did not get a list of required documents.
Problems	- Three of the users thought that one of the documents displayed as required was not relevant to them but only for foreigners (to get a certificate of residence/registration) and did not think they needed it or did not understand why they needed it - one of the users did not find the tabs

	- one user started customization under the tab requirements for the activity "get a certificate of registration" and was then not shown a list of required documents for marriage but for getting a certificate of registration in the end of customization. He said: "i would have thought it would tell me now what documents i will need and so on. What documents i will need when i want to get married in Sylt when i am from Kiel...and Slovak. As Slovak citizen of Kiel without children. But I do not need anything - just a certificate of registration." But in fact the certificate of registration was only indicated as the output of the activity.
Suggestion	- customization should only be done once in the beginning or only in the relevant contexts so that it is clear to the user what is the purpose of customization - it has to be clear to the user what the result of a customization process is - information on why a certain document is needed and from who should be provided and easily understandable - the user should be led more through the process so that he does not miss important information

Expectation	**The user will get an overview of the process of getting married after he did customization. A "to do" list will be generated in PAC.**
Result	All users assumed that the "to do" list on the left was a "to do" list and that they have to go through it in chronological order from top to bottom. All of them started by clicking panels in the top and planned to go down the list but sometimes got lost in details for the first panel and then only later remembered to click the next activity in the list.
Problem	It is not stated explicitly enough that the "to do" list is a "to do" list. The users did not see which steps had been selected already and which still needed to be read/customized. It cannot be indicated in the "to do" list if an activity has already been accomplished.
Suggestion	The "to do" list has to be marked as such more clearly. The user should be guided through the process so that he knows which activities he still needs to look at/customize/fulfill.

Expectation	**The user will know that he needs a certificate of registration when it is displayed in the "to do" list of PAC**
Result	Only one user knew what this document was for and believed that she needed it. The three other users did not know what it is for and believed that they do not need it.
Problem	The document "certificate of registration" is displayed all the time as required in PAC because everyone needs it so it was not clear to users if it was personalized information for them or not. The name of the document in German (Aufenthaltsbescheinigung) is not familiar to users and very similar to the name of another document (Aufenthaltsgenehmigung) that is more familiar but only needed by foreigners in Germany (in a different context). The users did not believe in the information displayed. <u>User 1:</u> "But it is written here (under the tab requirements for marriage registration) that I need it, this is very confusing. I thought this was only information personalized for me now. So, first it tells me I need the certificate of registration. But when I click on details (requirements/fees tab opens after clicking on „go" button), it tells me I don't need it. And also, I think that when I am getting married in Germany and am German, I don't need a certificate to proof that I am from here." <u>User 2:</u> „Now I just need to make sure I really need this certificate of registration. (reads information) It is already written in my ID that I am living here. Why do they want to have this? Maybe they want to have it because…(clicks on fees tab) … oh, it's for free. Oh, nice. Then they can have it."

	User 3: Only saw the panel “get a certificate of registration” but did not click it and said “Certificate of registration - I don't need this” User 4: Wanted to look up some more information on this document and clicked on the buttons “go” next to the required document and then on the button under the word “certificate of registration” where she expected to find further information. She said: “I will look at the details to find out what is meant by "get certificate of registration (clicked on “reenter data” underneath the word “certificate of registration) … uups. Ok, I would have expected that when clicking "details" (which she did not click), that I would get information what a certificate of registration is or where I can get it. But somehow I now was led to where I have to enter my data. "
Suggestion	- the document should not be displayed as required before customization has been done - the name of the document implied for all users that it was somehow related to foreigners needing to proof their place of residence is in Germany because there is a very similar document like this which has a similar name. The name of the activity should be changed to avoid this. - it has to be clear to the users if the to do list is personalized or not - the textual description has to make clear and explain to the user why he needs this document - after the list of required documents is created, it has to be easier to get some more information on each of the documents

Expectation	**The user will know that he needs a certified copy of the family register of the parents when it is displayed on the left hand side in PAC.**
Result	The users knew and understood that they need to provide it after using PAC.
Problem	Two of the users did not understand anyways what the document was and what it was needed for in the process.
Suggestion	The explanation for the document has to be simpler.

Expectation	**The user will know where to get the certificate of registration after using PAC.**
Result	None of the users could find the service details from the office responsible for providing the document „certificate of registration“. However, all of them were searching for this information under the right tab and understood where it should be found. From the general description of the activity they learned that it was the registry office at their place of residence.
Problem	Finding the right office is not yet supported by PAC for this document: while a list of available services was shown, the services were not filtered based on the user’s place of residence and the users could not identify which service to select from the list although one of the services was the right one for three of them. The fourth person was from a location that had not registered any services into Access-eGov and could not have found the right service anyways.
Suggestion	Services have to be filtered accordingly based on the place of residence.

Expectation	**The user will know where to get the certified copy of the family register of the parents after using PAC.**
Result	One of the users could find the service details from the office responsible for providing the document „certified copy of the family register“. The other two users did not find the service details for different reasons.

	Three of the users had some problem knowing which place they had to enter in the form for customization of service details and had to reread the general information several times.
Problem	The users did not expect that they have to go to the registry office of their parents to get documents for their own marriage and the purpose of getting this document was not clear to them. User 1: The parents of user 1 got married outside SH so that the relevant service could not be found. However, the user knew in principle where to find this information and could have found the service details if the city would have been in the scope of the trial. However, at first she entered the place of residence instead of the place of marriage of the parents because she missed the information saying which place to enter for customization. User 2: Another user did not understand what the document was needed for and thought he should maybe get it from his parents but not from an office. He decided to ask his parents about it. After some reading he found out that he could also contact the registry office where his parents got married by phone or mail and ask them to send the document to him so he also considered this a possible solution. But he did not try to find the address of the responsible office in PAC.
Suggestion	In the customization form it should say “enter the place of marriage of your parents” instead of “enter the place of marriage”. It has to be explained why the document has to be obtained from the registry office of the parents. If the responsible registry office is outside the scope of AeG, there should be some message for the user.

Expectation	**The user will know what fees he needs to pay for each activity after using PAC.**
Result	The users did not understand what the indicated fees were for exactly.
Problem 1	For application for marriage, a fee of 33 Euros has to be paid. None of the users understood this correctly but thought is was the fee for the required documents or for reserving a marriage location: User 1 said: Ok, so I need, a certificate of registration, a certificate indicating the academic degree, copy of the family register, certificate of birth indicating natural parents. And it costs all together 33 Euros…. User 2 said: They want 33 EUROS? For eh, for eh, this here (points at two documents displayed directly above the price) User 3 said: I have to pay a fee for the special location (when registering for marriage) - that is the 33 Euros mentioned previously
Problem 2	For the certified copy of the family register, a fee of 8 Euros has to be paid. Users found and understood this information.
Problem 3	For the certificate of registration the fee depends on the office. This information is only provided under the service details tab though and could not be found by the users. Under the tab fees/requirements it is currently displayed that there are no requirements/fees for this document.
Suggestion	The missing information has to be added. The requirements tab has to be restructured and clearer so that the users can identify which fee is required for what exactly and to which office it has to be paid when. Maybe it should be merged with the service details tab.

Expectation	The user will know what documents he needs to provide for each of the activities.
Result	Users did know what to provide for registering for marriage but not what to provide for the sub-activities in which they get these documents.
Problem	When no documents had to be ordered for an activity, PAC showed that there were no requirements but in most cases and ID was needed. This was only described in the general information and is missing under the requirements tab in PAC. Users sometimes believed that this information "there are not requirements" related to the whole process and not just one sub-activity. User 1 did not understand the requirements for getting a certified copy of the family register and said: "it costs 8 euros and I need the copy of the family register". But the copy of the family register is the output only. User 2 when reading "there are no requirements" for the activity "getting a certificate of registration", thought that in fact she did not need the certificate of registration at all and was confused.
Suggestion	Missing information has to be added and when there are no requirements the tab should be left out or it should be explained at more detail for which activity no further requirements have to be met. The information on the output of an activity was confusing for the users who thought that the output was a requirement of the activity (but it is only a requirement of the main activity). Users did not understand to which activity which requirement was related.

Expectation	The user will have selected a marriage location after using PAC.
Result	All users knew that they could get married in any registry office in Germany. Three users selected a marriage location and saw the service details from the offices. One user did not get to the point where this could be selected because he spend a lot of time on identifying the requirements and then thought that he was finished already.
Problem	- The user is not lead through the process and may miss this option offered by PAC. - More filtering options for marriage locations should be provided. - The locations for marriage were not filtered on the users' previously entered data on a preferred marriage location.
Suggestion	- The user has to be led through the process. - Marriage locations should be filtered by region and kind. - The locations for marriage should be filtered based on the users' previous specification of the preferred marriage location

9.9 Requirements for PAC modification identified in a workshop – German field test

A. Highest priority: The information displayed or generated in the PAC has to be correct

1. The general descriptions of the goals/services that are displayed in PAC under the tab „general information“ have been agreed upon with the involved registrars in advance of he trial already. Therefore the registrars found that the quality of these texts is all right. (However, the internet authors found that they are too long, are not well adapted to a hypertext environment and are not well readable for this reason.)

2. The tab „Activity requirements“ (in German labeled as „Required documents and fees“) contains errors (and therefore its purpose is not clear). For most goals it says under this tab: „Required items and results of an activity: There are no required items for the activity“. However, for all services, except reservation of the marriage date and location, a passport is required from the citizen as it is also described in the general description.

3. For ordering any document from any office it has to say under the tab „activity requirements“: „You need a passport or identification card. You may authorize a person of legal age to get the certificate for you if you write an authorization for that person. In this case the authorized person needs to provide the written authorization as well as your and his own passport or identification card when picking up the certificate.“

4. The fee for the „certificate of registration“ is missing. It varies from office to office and has to be annotated by the offices in the annotation tool.

5. If the tab „Activity Requirements“ do not contain any information (i.e. if no documents or fees are required), the tab should disappear altogether or it should somehow be indicated that no important information will be found under this tab.

6. There was an error in the process. The documents identified as required by people who have been married before have been false. This error has been correct right after the workshop.

7. In the PAC it says that when a parent has the sole child custody, a certificate proving the sole child custody has to be handed in. The registrars reported that it was correct like this, however, in reality this document was never required for marriage registration and it should not be displayed as required in PAC. They suggested to only providing some general information on marriages when the spouses have children already.

8. In the to-do list on the left hand side, one goal is labeled „get a birth certificate indicating natural parents“. In fact this can refer to the birth certificate of the children or of the spouses themselves. It has to be distinguished in the "to do"-list whose birth certificate it is.

9. When a users enters in the first form that he is aged younger than 18, there is no information provided to him, that he is not allowed to get married at this age. He can only get married when he is over 18 or when he is at least 16 and the partner is older than 18. The user has to be informed about this.

10. The tab „activity requirement“ should also list documents that do not necessarily have to be obtained in a government service but also documents that the citizen may already have but has to hand in. (e.g. Passport or written authorization)

11. For the requirement „get a proof of your academic degree“, a more detailed description is needed how this proof can be obtained and what it may possibly be (diploma etc.).

B. High priority: interaction with the user via forms has to be facilitated

1. The user is confused when the system asks some information about his life situation but then does not see what this information is needed for. For example, the user is asked about his age but the process is not adapted depending on the answer. Also when the user entered his preferred place of marriage, he is still offered a list of all possible marriage location and not only those at his preferred place of marriage. And although the user is asked about his place of residence, all registration offices are listed as responsible offices to him, although only the office at his place of residence is responsible and should be selected automatically.

2. The system should allow entering data for two persons: the future husband and wife. Currently only one of them can enter their data and it is not always clear if the documents required from one of them will also be required by the other one.

3. The user should not be asked for some piece of information in contexts where it is not necessarily needed. It should be avoided that the user answers a set of question but then does not immediately see in which context that information was needed.
   - ⇨ For example under the tab „requirements“ for the certificate of registration, he is asked about age, place of residence, previous marriages etc and in the end it is presented to him that for ordering a certificate of registration, he does not have to bring any documents. The user cannot guess that the information asked from him was required to identify the requirements for marriage application in general.
   - ⇨ Also under the tab „customize life event“, the user provides some information to the system but does not see after finishing customization how the data has been used and how the system changed after the data has been entered.

4. After having entered the necessary data to identify the responsible office, the user has to select the button „show services“. This step should be omitted and the services should be shown immediately after the data has been entered. This is also the case for the button „activity requirements“ at the end of goal customization.

5. In the form for customization, the link „Skip further questions without making any changes“ is not well visible. Users kept clicking „next“ after each question when they did not want to make changes because they did not see this link. The link should be displayed as a button next to the „next“- button.

6. When scrolling down in the combo-boxes to select a location (place of residence, place or marriage, place of birth), in the forms, there is the error messages „The page you require cannot be reached using back- or forward-buttons of your browser....“

7. Negated questions in the forms should be avoided.

8. In the forms, there is a question „Did your parents get married in Germany (not in the GDR) after 1.1.1958 or did they register the marriage at a German registry office?“ which has to be answered by yes or no. It is not logical to answer an „or“-question with yes or no. The question has to be split into two different questions. This is the case for all „or“ questions.

9. On the first screen displaying questions to identify the requirements for marriage, the user is asked about two facts: previous marriages and children. He is then asked further questions about previous marriages, nationality etc. and only much later asked about „these children“ again. The user does not remember exactly which children are referred to at this point. Therefore all questions related to previous marriages should be asked first and only then all questions related to children should be asked so that the questions that depend on each other are asked immediately after each other.

10. In forms containing questions about the place of residence and the place where the citizen wants to get married, it was not clear to all participants that these could be different and they had the impression to be asked about the same fact twice (i.e. where they live). The participants suggested to change the second question to: „Do you also want to get married at your place of residence?“

11. The question „Is the dissolution of the marriage indicated in the family register or the marriage certificate?“ should be left out because the user cannot know it before he ordered the document. Registrars reported that it is only the case in rare exceptions that the dissolution is not indicated in the ordered (updated) certificate.

C. High priority: Navigation has to be intuitive

1. It is not possible to use the back-button of the browser. There is an error message when trying to open a tab after the back buttons has been used. This led to confusions among the participants. There should be a possibility to navigate back to a previous page by at least providing a „back“- button in the application. Several participants wanted for example get back to the list of required documents for marriage registration but did not remember under which point it had been displayed and wanted to use back buttons to find it again.

2. The structure of the website it not clear enough. The user can navigate using the menu on the left but also using the tabs in the main frame. To the user it is not clear which way he is supposed to navigate through the website (i.e. what is the intended/best path so that all information is found).
   - ➔ The priority of tabs and menu on the left is not clear. Which should be selected first?
   - ➔ The user cannot see clearly which points in the navigation have been accessed already and which have not been accessed yet. The provided symbols do not help for navigation because their meaning was not recognized intuitively for the users.
     Suggestion: point from the menu on the left should be marked (e.g. by a checkmark after they have been accessed)
   - ➔ The icons in the menu on the left changes during usage, but the users did not realize this at first. A stricter/more obvious guidance of the users is required.
     The participants suggested: to have one version of PAC where the user can freely navigate as he likes and another version in which the user is guided through the whole process and where it is shown to him in a progress bar, where he is in the process.
   - ➔ The panels representing sub-activities cannot well be distinguished from the panels representing main activities. The participants asked for a clear distinction and prioritizing main activities. Only shifting them a bit to the right was not clear enough

for them. A further visual clue is needed. Several participants thought that it was an error in formatting that some panels were put further to the right than others.

Suggestion: the sub-activites should be represented by smaller panels

➔ The user does not know when he is „done“

3. Updating of the list of required documents for marriage registration (under requirements tab) does not always work correctly: it is not always adapt according to the users inputs. For example when changing data in the forms from „not married before“ to „married before“, the list of requirements shows twice „your birth certificate indicating natural parents“ but it is only required once.

4. When clicking on „Go“ next to each requirement in the list of requirements under the „activity requirements“ tab, the user is led to information on the required documents, but not to the tab „general information“. He is led to the tab „activity requirements“ instead. This should be changed so that when selecting for example „Go“ next to the requirement „copy of the family register of the previous marriage“, the user should be led to general information on „copy of the family register“.

5. The participants would like to be able to easily access the list of documents required for marriage registration. Users found this list to be very important in the process but found it difficult to find this list again.

D. Medium priority: Different target groups of the application have to be addressed

1. The participants had the impression that the application mainly meets the requirements of the administrations but not of the citizens. Especially in the scenario marriage, the citizens' requirements are very important. They had the impression that there is a conflict between:

   a. The citizen wants to prepare a romantic marriage and wants for example to select a nice marriage location.

   versus

   b. The citizen needs to be informed about the required administrative procedure and has to be led through the process.

   It has been discussed if citizens looking for A. would not rather use websites that are different from application like the personal assistant (e.g. websites specialized on marriage locations).

   -> Maybe the administrative process should not be so much the focus of the application.

2. It is not clear why users should register.

E. Medium priority: Information has to be well structured

2. The first impression when looking at the application is that there is a lot of or even too much text. The texts should be adapted to a hypertext environment: they should be shorter and links to „details“ should be provided when a user wants to read more.

3. Texts provided under the tab „general information“ are too long.

4. Information on „required documents“ which is currently displayed under the tab „general information“ should be displayed under the tab „activity requirements“ instead.

5. Some users asked for hyperlinks in the text where technical terms were used (or a glossary with all the technical terms should be provided).

6. The relation between the tab „activity requirements“ and the menu on the left is not clear enough. Users thought that the tab „activity requirements“ would always show all documents required for marriage registration.

7. The document mentioned in the "to do"-list as „Aufenthaltsbescheinigung“ („certificate of residence“) should be renamed: „Bescheinigung der Meldebehörde“ because users do not know what „Aufenthaltsbescheinigung“ is and might think that it is only required from foreigners.

8. The name of the panel „Anmeldung der Eheschließung“ (register for marriage) may cause that users are afraid to open this panel because they might fear that they will immediately register for marriage online. It is not clear if only information is provided or if the user can actually register online. The tooltip-text should display help here and display „information on marriage registration“.

9. The tooltip-texts should be modified

10. The offered services should be sorted

11. Long texts should be provided for download as PDF.

F. Low priority: Adaptation of the page by the user should be possible

1. There should be a button for „print“ - it would be good to be able to print the whole process (all the data entered, all the required documents, all fees, the responsible offices with their addresses etc.)

2. Advanced support for printing would be nice: the user should be able to select which parts of the process should be printed.

3. The font is not big enough for all users. There should be a button to enlarge the font size for people with visual disabilities.

G. Help has to be provided

1. The help for PAC is not but should be context sensitive.

2. In the application there are question marks in different context which provide help. When going to these question marks, a pop-up window should open immediately without having to click it.

9.10 German field test interviews during and after the think-aloud sessions

The following answers were given by users of the system in interviews during and after the think-aloud sessions.

A. Who is presented on the website?

User 1: It is from this Czech university and somehow the ministry of finance is involved. But I only know who the owner of this website is because I've been led there from the website of SH.

User 2: Oh, ha! THAT is not clear. You just see "access-egov" here but not who that is. And it is not written anywhere. It could just be general information from anyone. Maybe the government. Because of e-gov - as government.

User 3: Maybe the ministry of family affairs, something from the government. Nothing private. Because I have not seen any private party here.

User 4: I have of course the impression that it is the state government SH. Because I saw at the top this blue-red-white flag.

B. Who is addressed by this website?

User 1: For people who want to get married

User 2: People who want to get married but don't know how to do it. Who want to know what they need and how the process is.

User 3: Young people who are supposed to think about long-term relationships, commitment, not just being together but also fixing it on paper and for society

User 4: Citizens. For citizens who want to get information from the government. And here in this test especially for citizens who want to get married.

C. What does the page offer?

User 1: Information, general information, judicial information... and you can identify what documents you need and where you can get them. But I don't know if you can also order these documents already or not.

User 2: Information about marriage in general and the requirements. And I can tell the system via this form and the information will be personalized. For people from Germany and Slovakia.

User 3: Information about how to get married in Germany. Maybe it is for people who come to Germany to get married and to who it needs to be explained what marriage means in Germany.
User 4: You can get information on the processes which are required when getting married. I think.

D. What is your general impression of the website?
User 1: I think it is a good guide for getting some basic information. Where, why, what? What do I need? Do I need a marriage contract etc?
And regarding the layout, I think it is rather easy to grasp (übersichtlich). And also with these tabs….I think one has to get used to it at first but once you have done it and got used to it and clicked it, then you are able to use it and know it because it is repeated always.
User 2: When you looked at it for a while you see that the list on the left is chronological - at first it might just be a bunch of information and it is not clear what order is required and why two of them (panels on the left) are not in line with the others.
It is annoying that I have to select SH in the drop-down list (because it is the only choice).
The drop-down (combo-box) didn't work properly.
The page was set to English in the beginning.
In the first screen there are so few fields that one does not really know what do to. I missed an introductory description in the beginning. It was not explained what this tool is for.
User 3: I think it is understandable…although I did not see these tabs here at first, although they are well visible.
I personally would not search for information on marriage on the web in a first step. I would take my ID and maybe my birth certificate and would register at the responsible town hall. I would prefer a face to face meeting. Maybe the registry office would then have to advice me to have a look at this website to find the wedding locations.
My first association was that one wants to help me find the woman for life because of "personal assistant" and "registry office".
User 4: A lot of text. I did not read everything properly and missed important points.
And I find it not good that the responsible office is not identified for me when I already entered that I live in Kiel. So now I think that I can get my certificate of registration in ANY registry office.

E. What do you consider positive about the website?
User 1: The information on the documents I need.
User 2: I think it is easy to grasp. Not too many graphics etc., not too much text.
It is not too colorful. It can be read well.
User 3: List of wedding locations is very useful. And that I can even get the contact data.
User 4: Decent colors. Easy to read (visually). I have this “to do”- list here on the left which is good and gives a good overview. And in the middle frame I always can read up details on these things. (Discovers icons.) And I have these icons here. Ah, cool. I only saw these now...

F. What do you consider negative about the website?
User 1: Maybe the links could be better and that the place for marriage could be selected by kind or region because when I selected my place for marriage I had to search a lot and “googled to death”.
User 2: Some information is missing (locations)
User 3: There is so much general information that I don't need. I don't want to be informed about what marriage is. I don't need it once I have decided to get married.

User 4: This website is always loading again when I enter something in these combo-boxes. ...And a lot of text. Maybe I should have registered…but normally I would not register.

9.11 Aspects to be discussed during the workshop for the evaluation of PAC

- Gesamteindruck
  - Wie finden Sie die Seiten insgesamt?
  - Was gefällt Ihnen?
  - Was gefällt Ihnen nicht?
  - Was vermissen Sie, was Sie vielleicht von anderen Seiten kennen?
  - Was könnte man besser machen?
- Wie bewerten Sie die optische Gestaltung?
  - Farbwahl
  - Schrift
  - Symbole
  - Menüleisten, Aufteilung der Seite etc.
- Technische Aspekte, z.B.
  - Ist die Ladezeit zu lang?
  - Funktionieren die Formularfelder?
  - Kommt es zu Fehlermeldungen? etc.
- Informationsqualität
  - Sind die angebotenen Informationen in der Lebenslage relevant?
  - Sind die Informationen verständlich? (z.B. durch bestimmte Wortwahl, Textstruktur,…)
  - Sind die Informationen vollständig? (aus Fachsicht, aus Bürgersicht)
  - Können Sie den Informationen vertrauen?
- Effektivität
  - Wird der Nutzer dabei unterstützt, sein Ziel (Informationen suchen und wieder finden) effektiv und effizient zu erledigen?
- Struktur
  - Ist die Struktur der Seite verständlich, übersichtlich und hilfreich bei der Informationssuche?
  - Wird die Information an den richtigen/erwarteten Stellen angeboten?
- Navigation
  - Gibt es ausreichend Verlinkungen?
  - Ist die Startseite verständlich und führt zu den wichtigsten Informationen?
  - Kann die Startseite wieder gefunden werden?
  - Sind interne und externe Links erkennbar?
  - Führen die Links zu den dort erwarteten Informationen?
  - Welche Probleme/Fehler treten in der Navigation auf?
- Selbstbeschreibungsfähigkeit
  - Erhält der Nutzer ausreichend Rückmeldung über durchgeführte Aktionen?
  - Erhält der Nutzer ausreichende Rückmeldung über seinen Standort innerhalb des Angebots?
  - Sind die jeweils möglichen Aktionen auf einer Seite klar gekennzeichnet?
  - Werden Navigationsmenüs und Links konsistent dargestellt und verwendet?
  - Ist die Navigation verständlich getextet?

  - Sind die Texte ausreichend strukturiert und in ihrer Lesbarkeit webtauglich gestaltet?
  - Sind die Formulare so gestaltet, dass Eingabefehler vom Nutzer leicht ausgeglichen bzw. korrigiert werden können?
- Gibt es ausreichend Hilfestellungen zur Orientierung und zur Nutzung der Seite?
- Kann der Nutzer die Seite ausreichend für seine Bedürfnisse anpassen (z.B. Drucken)
- Versteht der Nutzer, an wen die Seite gerichtet ist und was die Seite anbietet?
- Welche Änderungen halten Sie für unbedingt notwendig?
- Welche Änderungen halten Sie für sinnvoll, aber nicht unbedingt notwendig?

9.12 All pilots – tables of remarks

9.12.1 Slovak pilot (below)

Title of a comment	Relevant to all respondents	Remark related only to a specific group			Is a remark relevant or not?	What is the issue?	What is a proposal for the enhancement	Can the solution be realized?	
Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
TEXTS									
Incomprehensible texts in the introductory form	X				R	Difficult to understand some questions in the form that is needed to be filled in when starting (i.e. What is exactly q1.1 and q .1.2?)	Texts modification	Yes	KSR/MI, TUK developers
Texts must be more simple			X	X	R	User thinks that language used in PAC must be more simple as he/she considered it too difficult	More simple texts must be used, more fictitious examples such as Karol wants to build a family house should be used	Yes	KSR/MI, TUK developers
Too much of text			X	X	less	There is too much information - as a result bored users were reported	The texts shall be more clear - through dividing it to more paragraphs, structured text	Yes	KSR/MI, TUK developers
Improper information provided		X			R	Information not always comply with Construction act regulations	The texts shall be revised by experts from the Construction office	Yes	KSR, TUK developers
Inaccurate translation of the texts	X				R	The content of the user interface has some inaccurate translation details	More accurate and appropriate translation shall be provided in the user interface	Yes	KSR, TUK developers
BUTTONS NAMES									
What is the difference between "ďalej" and "pokračovat" button?	X				R	Users were uncertain of using these buttons	Either the buttons shall be given more accurate names or one of them shall be erased	Yes	developers
Button "Edit entered data" often misunderstood, ambiguous meaning	X				R	Users thought they were constantly asked to change the data, so could not proceed further	Help shall be attached to buttons with clear explanation of their meaning/function	Yes	KSR/MI, TUK developers
Incorrect display of a button in Internet Explorer (button "Permits obtaining for a house construction")	X		-		R	The text was cut-off in a brown field. Majority of users within the Slovak pilot however use Internet Explorer	???	???	developers
NAVIGATION									
Non - intuitive handling	X				R	Users didn't know what step must they done after filling up the questionaire	Do it more intuitive, more comprendious	Yes	developers
Wraparound system	X				R	Users thought the system repeats same step over and over again (wraparound system), so thay didn't know how to continue. It was very confusing for them.	Graphic backround must navigate / guide the user through all the steps that must be done	Yes	KSR/MI, TUK developers

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
Show a algorithm			X		LR	Step by step process should be showed somewhere on visible place by displaying a diagram	Display a diagram	Yes	developers
Improper navigation	X				R	Chaotic and less transparent user interface	It is needed to enhance the user interface	Yes	KSR/MI, TUK developers
Tab of required artifacts for selected activity/service				X	LR	Users found inconvenient that they had to answer all the questions in order to get the following information: "No items are available for selected service"	The notice shall be reformulated	Yes	KSR/MI, TUK developers
PROCESS									
Missing land-use plan of MI		X			R	The system must offer both land-use plan of MI and land-use plan of KSR	Addition of land-use plan of MI needed	Yes	MI, TUK developers
Every pages must have same structure			X		LR	Miscellanous structure might causes chaos in page orientation	Make the structure more homogeneous/uniform	Yes	developers
Importance of land-use plan not emphasized enough		X			R	Missing notice of required accordance of Construction plan with Land-use plan	This important notice shall be included in the basic information section	Yes	KSR, TUK developers
Necessity of Regional Construction office participation in the process		X			R	More intensive co-operation with Construction public administrations needed	Communication with the Regional Construction office towards the project will be established. Also next services shall be added to the system	Yes	KSR, TUK developers
Neccesity of more spread territorial scope of the trial II	X				R	Limited field of operation. Proposed trial territorial extension onto the whole country	For the trial II support of five Construction offices shall be ensured. Eventually spreading the operation over the whole country	Yes	KSR/MI, TUK developers
Continuity of the process is not ensured when answering Don't know				X	LR	User is blocked and unable to get forward when checking Don't know option in the form	Notice shall be attached informing user of this possibility	Yes	KSR/MI, TUK developers
LINKS									
Missing relevant links		X			R	Missing links to web pages of contractors of land-use plan and project documentation from MI. Also preferring a few private companies shall be avoided	The links shall be included according to interviews outputs	Yes	KSR/MI, TUK developers
Inappropriate promotion of private companies		X			R	Selected links to private web pages were inappropriate.	Instead links to public administrations providing assistance shall be added	Yes	KSR/MI, TUK developers

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
HELP									
Missing introduction of the system			X	X	R	First page of PAC is empty and does not provide an complete inforrmation what is PAC all about	Add some opening introduction	Yes	KSR/MI, TUK developers
Question mark as a help symbol creates an impression of system incompleteness		X		X	LR	Question mark might be confusing for user	Instead of question mark a short explanation/text shall be attached	Yes	developers
Reluctance to read user manuals				X	L	System shall be intuitive enough so user do not need a user manual or help	User interface shall be redeveloped in order to make it more user-friendly	Yes	developers
Others									
Homogeneous graphics			X	X	R	The graphics used in PAC must be more homogeneous	Synchronise graphics	Yes	developers
On-line questionnaires	X				LR	Content of the questionnaire overlaped	Questions shall be reformulated or reassessed for the Trial II	Yes	GUC ???
On-line questionnaires		X			LR	Questions more focused on the process rather then on the content	More questions towards the content shall be included	Yes	KSR/MI, GUC ???
On-line questionnaires		X		X	LR	When questionnaire completed there is no information about its follow-up	Relevant information (such as how received data will be used, etc) shall be provided for user	Yes	KSR/MI, GUC ???
System ability to remember data entered by user				X	L	User is inconvenient with saving his/her data in the system	???	???	???
Missing services				X	L	User is often provided with information that services are currently unavailable	???	???	???
Missing "Back" button at the bottom of the screen	X				LR	While having long texts it is needed to roll up a lot	"Back" button shall be attached at the bottom of the screen	???	developers

9.12.2 Polish pilot (below)

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
TEXTS									
Lack of information on duration of particular tasks and activities and deadlines (of both citizens and administration).				X	R	Information on deadlines and tasks duration is not involved in PAC descriptions.	Add relevant information.	Yes	COI/GLI
Not all pieces of information are clear, specially using the system first time.				X	R	Unclear information for users.	Enhance the descriptions to be easier understandable. Possibly use simpler words (informal, NOT clerical).	Yes	COI/GLI
Some questions are not commented and clarified. I didn't know why such an information is required at that stage of the process.				X	R	The question itself is clear but users want to know what this piece of information is needed for, what sometimes isn't clear from the context.	Add comments to such doubtful questions.	Yes	COI/GLI
Lack of summary in the end of process.				X	R	Users do not know when and in what way the process finishes, what exactly have been completed and what is possibly to do next after the end of interaction with PAC.	Add such a summary.	Yes	COI/GLI
Lack of at least a few statements at the main page.				X	R	Useful information possible to be displayed in the main page: what the Personal Assistant is, what it is used for, how to use it – for example short, simple manual (information suggested by testers).	Add such an information.	Yes	user partners
Some texts and buttons are in English	X				R		Change all texts into Polish	Yes	user partners and developers
Lack of Polish name of the web site.	X				L		Change for Polish name.	Yes	Developers
In case of private person running business there is NO obligatory demand (resulting from law regulations) of having separate bank account for an enterprise. It can be private bank account of the enterprise owner.		X			R	Incorrect information provided by PAC.	Must be corrected.	Yes	COI/GLI
There is a question about the number of bank accounts. What if I haven't opened such an account yet?		X			R		It must be checked, when exactly an entrepreneur must have bank account for an enterprise.	Yes	COI/GLI

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
BUTTONS NAMES									
Not understandable button "Reenter data". Lack of previewing previously chosen answers.	X				R	Users are not aware of possibility of reentering and viewing previously given data because of unclear button name "Reenter data" which allows also viewing data. Users think pressing that button cancels their data.	Rename the button.	Yes	Developers
Unintuitive names of the buttons.	X				R	Users do not understand names of buttons or understand it incorrectly.	Change the names for more intuitive.	Yes	user partners and developers
NAVIGATION									
Lack of precise information what to do in turn to register an enterprise.	X				R	Users do not feel properly navigated within registration process, they do not know the order of required activities. Some of them got lost.	Must be added: description of the proper process order, guidelines what exactly to do after each step and some interface functionality (e.g. additional buttons).	Yes	COI/GLI and developers
Lack of information on further steps after receiving information on forms.	X				R	When users get information on forms they do not know what to do next (gi for the next registration phase or something else?)	Add exact information or additional button	Yes	user partners / developers
Lack of information on exact order of all steps to be undertaken.	X				R	Users do not know the exact order of process tasks which they have to complete.	Clarify the order of activities to be taken by users. Possibly add some functionality to the interface.	Yes	COI/GLI and possibly developers
After logging in there appears a tab "Resule users life situation". Should be any information also in case the user hasn't done anything yet.			X		L		Add such an information	Yes	Developers
Lack of automatic following next phases of the process.			X		R	After finishing particular phase of the process the user could be autiomatically moved to the next activity.	Instead of proposed functionality the user should be exactly informaed on next possibilities in the end of each activity.	Yes	user partners / developers
Lack of clear marking (e.g maroon question marks or grey papers and windows). Knowledge of them facilitates using the system.									

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
PROCESS									
It would be good to design the process as a chain of activities where each "click" opens a new page with next activity to do. It would minimise process' chaos.			X		R	Users propose solutions how to solve problem of misunderstanding and poor navigation. They suggest to construct the process as a chain of activities where user can go forward (to next activity) or back (to the previous one).	Proposition is to add some buttons or icons better suggesting and explaining the next activity and to better explain what to do next after the user has received information on forms and documents. The other proposition is to illustrate the process as chai	Probably yes	Developers with help of user partners
Lack of possibility of checking given data.	X				R	Users would like to have possibility of checking previously entered data because they may not remember what exactly data they have put (specially in case of using PAC only to get information). It is of course possible after clicking button "Reenter data"	Change the name of button "reenter data".	Yes	Developers with help of user partners
Lack of information on Polish Business Classification codes, help in choosing these codes and information on way of taxation.	X				R	Users want to get information on codes of business activities (this information must be put into registration form in city hall and in some other documents), they expect to get help in choosing appropriate codes or at least comprehensive information. They	Add relevant information on Polish Business Classification codes and ways of taxation. Functionality regarding business activities codes was moved to the second trial.	Yes	COI/GLI and developers
Lack of information whether it is required to log in or not.				X	R	Users want to be informed whether they need to log in or not. Advantages and disadvantages of both possibilities should be clarified at the very beginning.	Add appropriate information.	Yes	Developers with help of user partners
Lack of connections between life case Establish an enterprise and particular goals and activities.				X	R	Users do not understand the relation between the life event and particular goals and smaller activities. It should be clarified somehow and displayed on the screen.	Add some connections or at least explanation.	Yes	Developers with help of user partners
Lack of appropriate questions and answers when opening new account.			X		R		Functionality of the second trial, will be improved.	Yes	Developers
In case of goals which do not contain any interaction with the user, the user should be informed that the process' phase does not require any additional questions.			X		L	The example is Creating bank account which contains only information on the goal but no questions are asked. Users expect to be informed that the system at this stage of the process does not ask additional questions characteristic for that goal.	Add such an information	Yes	Developers

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
Before the users chooses any goal and clicks "Customize life situation", answers several questions and then gets information "Reenter data" and nothing else. After clicking "Reenter data" the user answers the same questions and can do so over and over aga			X		R		Add additional button or change the name of "Reenter data". Apart from additional button, information on goals and activities should be displayed.	Yes	Developers and user partners
Opening bank account shouldn't be a subgoal of registration in tax office.		X			R		Must be checked.	Yes	COI/GLI
LINKS									
It would be good to add more external links. It will authenticate the PAC.			X		R	Suggestion of adding more links to external sources.	Add these links were needed and possible.	Yes	COI/GLI
HELP									
Help should be in Polish	X				R	During tests help was in English	Add Polish version of help. Manual was translated	Yes	developers
Technical issues									
Using button "Back" in the browser suspends the applet.			X		R	It happens that users want to use browser' "back" button and expect it would function correctly.	Repair it if possible	Hopefully yes	Developers
PAC does not function properly in Internet Explorer 7			X		L		Should be repaired.	Yes	Developers
Interface									
Small icons displayed on the buttons of particular registration types are unclear, I didn't understand them.	X				L	Users do not understand the small icons, although help information is displayed.	Should be changed somehow or better explained.	Hopefully yes	Developers with user psrtners' help
Others									
It would be good to put "experts' advice" which help making some decisions (e.g way of taxation).		X			L		Possibility of adding such advices should be considered.	Possibly yes	COI/GLI

9.12.3 German pilot (below)

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
TEXTS									
user does not consider all the information relevant				xxx	L	info on same-sex relationships; info on publishing bans; parts of the information are repeated in several places;	texts should concentrate on the most important issues	yes	user partner
users find texts too long and pages look "crowded" with texts				xxx	R	the user was astonished that such long texts were displayed in PAC especially after the first rather emtpy start page	texts should be shorter or more structured, i.e. make use of hypertext functions, the information on required documents which is currently displayed under general information should be indicated under the requirments tab only	yes	user partner, EMAX
user misunderstands information		x	x	xxx	R	user thinks he has to reserve the date when registering; user thinks he has to publish the bans; etc	texts have to be clearer, possibly more structured, terminology should be explained (in a glossary), the name of the document "certificate of registration" ("Aufenthaltsbescheinigung") should be replaced by an easier term	yes	user partner
texts contain errors		x		x	I	there are some typos and some words missing	errors have to be corrected	yes	user partner
texts do not contain all relevant information				x	L	user would like to know where to download the relevant forms, how to apply in written form; what is relevant for foreigners; user wants more info on how to proof the academic degree	more information is needed	yes	user partner
there are some English texts				x x x x	R		all texts need to be translated	yes	TUK
user does not trust in the provided information				x x	L	user did not believe that the family name cannot be changed later as it is described in PAC	reference to further information can be useful or indication of sources/laws might lead to more trust	yes	user partners, EMA
language is difficult		x	x		R	users stated that they did not understand some of the information, like "proof that the certificate is needed for legal purposes" and terminology like "register for marriage", "certificate of registration", "copy of the family register"	texts have to be easy to read and clear, terminology has to be introduced	yes	user partner
phone numbers should be noted in standard notation			x		L		standard has to be supported by AT somehow	yes	TUK
help-icons are difficult to use			x		L	the function of the help-icons is not clear to the user	help-icons should open a pop-up window when without having to click them	yes	
help-icons do not always have a content				x	L	user is disappointed when clicking on help-icon e.g. on the start page but not being provided with any useful information in the context	help-texts have to be created or help-icons should be left out	yes	EMAX, user partners

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
BUTTONS NAMES									
function of button "reenter data" not clear				x	R	User does not expect to reenter some general data about his person when he is in the context of e.g. "reserve a marriage location". Several users pressed this button to see more "details" on a specific document. A different kind of button was expected at	customization has to be more global or more context sensitive; The button should only allow to reenter data relevant in the given context or it should be placed in a different place on the page	yes	EMA
function of button "go" next to items in list of required documents is not clear				xxx	R	not clear what this button leads to	this button should lead to general information on the goal	yes	EMA
the function of the panel "register for marriage" is not clear			xxx	x	R	it is not clear if the user can actually register online or only get information on registration	the panel should be relabelled	yes	user partner
NAVIGATION									
back button of browser cannot be used				xxx	R	when using the back button of the browser, there are errors in navigation which leads to the fact that the user is lost	a back button has to be available	?	EMA
in some texts it says that something will be explained later				x	L	there is no possibility to link texts within PAC to each other	?	?	EMA
users clicked on "go" to look at the details and to find out what is meant by e.g. "get certificate of registration" and where to get it		x	x	xxx	R	user expected to get some more information on this document and how to get it, but he was led to the tab "requirements" which just says that there are no requirements. Some users thought that therefore they did not need the document resulting form an acti	The user should be led to the tab "general information" when clicking on "go" button	yes	EMA
user clicks "next" at the bottom of each questionnaire when he DOESN'T want to change the entered data				x	R	users did not see the skip-link in the top right corner	a prominent button to skip the following questions is missing in the forms. It should be put next to the "next"-button.	yes	EMA
users did not succeed in getting back to the "list of required documents" that was shown at the end of customization				xxx	R	several users found that list of documents helpful but did not remember where it was displayed. The to do list on the left did not seem to be as useful for them although the content was the same.	user needs more guidance and a clearer structure of the things to do	yes	EMA
users thought that the navigation buttons on the left which are shifted slightly are only incorrectly displayed				xxx	R	At least users were not sure if the buttons are not displayed in line on purpose.	structure and priority of activities in the navigation on the left has to be clearer	yes	EMA
it was not clear to all users that information is added on the left hand side after he enters information in the forms				x	L	a user said: i did not at first see that it is all displayed here on the left now	?	yes	EMA
confusing to have navigation on the top (tab) and on the side (to do list)			x	x	R	users found the navigation not clear and where asking what was the inteded path through the information	user needs more guidance, navigation has to be more intuitive	yes	EMA
priority of activities and subactivities is not clear			x		R	IT-experts asked for a stronger distinction between main activities and subactivities	the subactivities could be displayed smaller and the main activities should be emphasized	yes	EMA
it is not clear enough which activities have been looked at/fulfilled already			x		R		already visited links should be marked	yes	EMA

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
priority between navigation on the left and the tabs is not clear			x		R	user does not know how to best get an overview of what needs to be done	relation between tabs and menu on the left has to be clearer. User needs more guidance/an overview of the process.	yes	EMA
most relevant information is not easily seen at once: what do i need and where do it get it and how?				x	R	The tab service details contains very important information but is not in the most prominent place and is not necessarily selected by all users - the user is not sure in which order to best click the buttons/tabs	?	?	EMA
PROCESS									
the purpose of PAC is not clear: can the user just get information or actually "do" something	x			x x x	R	the users were wondering what they can do: just read on the required documents or also order them, can he actually reserve a date and a location online, can he apply online for marriage. One user was wondering if for example the entered data would be sent	distinction between online and traditional services might help. User needs more guidance	yes	EMA
user does not know when he is "done"				xx	R	users comments were: "ok, so, i think theoretically i am now married" and "i think i am able to do all this now"	user needs more guidance	yes	EMA
user assumes that he might also have to update his passport but this activity was not shown				x	L	the scenario also contains activities in reality that are not taken into consideration in the descriptions yet	the scenario could be extended	yes	all
user assumes but is not sure that he has to do all the things displayed on the left hand side one step after the other from top to bottom.				xxx	R	user understands the structure of the site but it could be taken into consideration if the user could not be guided more explicitly	user needs more guidance	yes	EMA
users find a list of services offered which do not match their requirements				xxx	R	after user specified place of residence/marriage/birth, only the offices responisble for him should be displayed	service filtering needs to be enhanced for every goal	yes	TUK
user is not shown the office responsible for the marriage in dependence of the office where the place for marriage was reserved				xx	R	users comment: "the responsible office will be the one where i registered the date and the location"	usability of service filtering needs to be enhanced	yes	TUK
user needs family register of either a previous marriage or of the parents and it is not clear enough which one it is and what info he has to provide to identify the responsible office				x	R	when the user is asked to fill in "place of the marriage" he is not sure if it is the place of marriage of the parents or some other place	The documents need to be distinguished somehow based on who is reffered to in the documents (child, parent, spouse , self). The form for searching the responsible office has to be adapted. The user has to be informed in the context what exactly he has to	?	EMA
when something can be obtained from the same office, it can be useful to indicate this to the user				x	L	users inferred themselves that they can e.g. get the family register and the birth certificate indicating natural parents at the same office and desired to have a table listing where to get what	It would be nice if one could have for this list of requirements a kind of table what is needed and where to get it.	?	EMA

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
user needs more support in selecting an appropriate marriage location				xxx	R	Users comment: "So i need to know WHERE i want to get married before i can select the location. So i must have decided before already if i want to get married in a castle, or a lighthouse, or so and then i must have decided already to which city this loca	user needs more support for selecting a marriage location	yes	EMA
user was not sure how to proceed if the proper place of residence (birth, marriage) could not be selected in the list				xxxx	R	When a user wants to enter a place outside SH, it is not possible	the user has to be informed that only some cities in SH can be found and why	yes	EMA
users were not sure if the fees indicated at each activity were the sum of all activities, the fee for the main activity (register for marriage) or a fee for just one activity. They were not able to clearly distinguish how the tabs relate to the individua				xxx	R	Even a single users mentioned different hypotheses about what he thought the fee referred to, e.g. saying "this is the fee of 33 EUR indicated here is for all the documents i need" and "this fee for this one document is 8 EUR so it is in addition to thes	it has to be clearer what the fees are for, where they have to be paid and what the fees are in sum for the process	yes	EMA, TUK
users were not sure if the partner had to do the same independently or if they needed to do parts of the process together				xxx	R	three users assumed that they could apply for marriage individually and that the partner would have to do the same at her place of residence/birth. From reading the texts they found out that they have to go to apply together but still were not sure if the	partner role has to added and it has to be clear what both and what only one of them needs to do	yes	all
one user did not find the tabs at all				x	R	user thought that the general information was all that is offered. He believed this to be sufficient and all that was offered	User has to be led through the process	yes	EMA
one user was convinced that he needed only a passport and a birth certificate				x	L	the system did not achieve to tell the user what he really needed. From the users point of view his own presupposition were not in contradiction to what the system offered as information.	the system has to lead the user through the system and state explicitly what the user needs to do, when and why.	yes	EMA
users were not sure when they had finished customization and what was the result of it				x	R	the text says "now you will be given a list of required documents" and a button labelled "required documents" is shown. User was not sure if he should click it.	the results of the customization have to be clearer	yes	EMA
user was not sure where the list of documents required for marriage registratation is displayed after he did customization under the tab "requirements" for the activity "certificate of registration". user said:"i would have thought it would tell me now wh				xx	R	user does not understand the difference between "required documents" for the activity marriage and required documents for the subactivity "certificate of registration" because he did customization for marriage registration under the tab "required document	The user should only be asked to fill in some form if it is relevant in the current context. Entering information on previous marriages when wanting to know the requirements for a certificate of registration does not make sense and confuses the citizen.	yes	EMA, TUK
the meaning of the icons was not clear, neither on the left side nor on the tabs			xxx		R	most users did not even see the icons. Experts found them too difficult to use.	instead of having the icons, the user has to be led more explicitly	yes	EMA

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
users were not sure if activities on the left were really required and what for				xxx	R	3 users thought that they did not have to do the activity "get a certificate of registraion" because they did not consider this step relevant for them	It has to be stated more clearly that the activities are personalized on the left hand side. It has to be explained in the texts why a certain requirement has to be met.	yes	EMA, user partner
LINKS									
external links in service details are marked by an asterisk which is a link on its own but the purpose is not clear			x				the link should be marked differently and there should only be one link	yes	EMA, TUK
email addresses should be provided as hyperlinks			x		R		in AT syntax of mail-addresses should be verified and they should be displayed as links	yes	TUK, EMA
some links did not work					R	when a link was entered in AT, it was not interepreted as HTML-code by PAC	entering link-elements (<a href="…">) in the texts for AT should be possible	yes	TUK, EMA
External links should be clearly marked as such and names of links should have the name of the page that will open			x		R		links have to be marked by a different symbol, not an asterisk. Also the disclaimer is marked with an asterisk but it is not clear why.	yes	user partners
HELP									
Homepage is rather empty and does not provide an introduction to what PAC is all about				xx	R		An introduction to PAC is required "Welcome to …. Here you may….Please start by …"	Yes	EMA/user partners
users read "you can authorize your partner to register the marriage for you. most registry office offer forms for this"				x	R	it is not clear where the user can actually find the forms	more information is needed for this target group and a link to the service details might be useful	Yes	user partners
there should be links to googlemaps			x		L	in the service details, links to googlemaps should be provided	it has to be specified how googlemaps can be linked	yes	user partners, TUK
Interaction with the user/Forms filling									
drop-down list with one value only does not make sense				xx	R	when selecting the region in the combo-boxes, only Schleswig-Holstei can be seleted as a value	drop-down lists with one value only should be avoided	yes	EMA
The question asked in the form is too complex.				xxx	R	the users had to reread the texts several times to understand it and still were no able to answer an "or" question with yes/no.	OR-questions should be avoided and have to be split to two questions	yes	TUK
user has the impression of having to fill in the same form everywhere				xx	R	e.g. users said: "so there are most different questionnaires - but they are identical (laugh) - so i answer the same questions for different purposes"	information should only be asked from user in once place in the very beginning or only in the relevant contexts so that the user understands why something is asked for.	yes	TUK?
it is not clear why only German and Slovak can be selcted				xxxx	R	users were wondering why these two nationalities have been chosen for selection only	an option "other" with some default behaviour should be provided	yes	TUK?

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
problems occured while trying to fill in values to combo-boxes				x	R	No values were shown in the combo-boxes for selection in one of the tests - on a computer using FF and java-script disabled. The user could not select a value but also could not send the form without having filled in the form. No help was provided for thi	in some cases users could not use combo-boxes	yes	EMAX
The city of Kiel does not belong to any region				xx	R	when selecting a value in the combo-box, the region always needs to be slected first but in some cases it makes more sense to select the city directly. It should be possible to search for a city or to select a city first and not having to select the regio	selection of the place of residence/marriage/birth should not be done with combo-boxes but (additionally?) a free text field and a fuzzy search should be provided so PAC will then show the possible locations to select.	yes	EMAX
when selecting a value from the list and scrolling down the list, an error message occurs			x	x	R	scrolling in list of values in the combo-boxes is not possible because there is then the same error message as when using the back button	scrolling in lists should be possible	?	EMA
the form always jumps to the top when filling in some data			x	xxxx	R	all users were annoyed by this behaviour because it required scrolling down again each time	the form should not "jump"	?	EMA
user does not want to enter data in contexts where it is not necessarily required			x	x	R	the user is asked to do life event customization under all tabs in the beginning but for some contexts (e.g. when looking for the responsible office), it is not relevant to do life event customization. When doing life event customization, the user provide	it has to be clear to the user why he has to enter what data where	yes	EMA
negated questions were difficult to read for users			x	x	R		negated questions should be avoided	yes	TUK
after having filled in all the information, the user has to press "show services"					R		the user should be shown the list of services immediately after entering the relevant data	yes	EMA
users did not know what "these children" referred to in the questionnaires		x			R	the user is asked first about children and previous marriages and much later he is again asked about "these children"	questions should be grouped if they depend on each other	yes	EMA
questions that cannot be easily answered by the user have to be left out		x			R	the question if the dissolution of a marriage is indicated in the certificates cannot be answered by a user	this question should be left out because it is only in few exceptions that the dissolution is not indicated	yes	TUK
users do not understand that the tab where a form is filled in will contain relevant information later				x	R	a user had used the tab "activity requirements" and filled in a form there. Aterwards she did not use this tab anymore to look up the requirements. The user does not understand why the data needs to be entered and where the result will be seen.	The intention and the result of customization has to be clearer. The fact that the content of a tab changes after customization has to be made explicit.	yes	EMA

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
user does not want to enter data that is not used by the system				xx	R	e.g. user said: "the data i entered before on where i would like to get married did not have any purpose because i can select anything here." Or when a user indicates that he is under 18, there is no warning that he cannot yet get married.	services filtering has to be enhanced; the process has to be adapted according to the user's input	yes	TUK
Requirements tab									
under the requirements tab, the user thinks that the fee is the sum of all required documents. "it costs all together 33 Euros"				x	R	misunderstanding: the costs are just for the "registration for marriage", not the documents that are required for it: structure and purpose of the requirements tab is not clear enough	the display of fees has to be clearer, the user needs an overview of all fees in the whole process	yes	?
This info "There are no requirements…There are no results" is everywhere				xx	R	When the users selected the tab "activity requirements", there mostly was no information about the "requirements" although there were some requirements which should be indicated. The user does not understand the purpose of the tab. Some users thought it r	Tab should contain all relevant information and not be shown or marked somehow if it does not contain relevant information	yes	EMA
users thought that what is displayed as "result" is the required input				x	R	structure/purpose of the requirements tab is not clear	structure of the tab "activity requirements" has to be changed	yes	EMA
emtpy requirements tab is confusing				x	R	users were not sure why no information was displayed. Users comment: "So this tab "requirements" does not have any function"	tab has to be adapted	yes	EMA
information is incomplete						information that a passport is required for most of the activities is missing. Also the fee for one of the documents is missing	missing information on requirements has to be added	yes	user partners, EMA, TUK
users were not always sure what the requirements refer to: to the whole life event or just one step				x	R		?	?	
Others									
contact person needs to be listed for each country				x	I	a user was worried that the contact person from the "czech" university indicated in the disclaimer will not be able to speak German	contact person has to learn German ;-)	Yes	TUK
users did not expect the system to contain information on many different marriage locations				x	R	users do not expect the system to contain all the relevant information	it has to be made made clear what information PAC can provide	Yes	EMA?
it is not clear why the user should register			x		L	purpose of registration needs to be explained	it should be explained when regstering what registration is good for	yes	EMA, all

Remark (category)	Testers-common	Testers-specific			Remark Relevant / less / Irelevant	Remark details	Solution / Adjustment	Technicaly feasible Yes / No	Partners engaged
		Field Expert	IT expert	Public					
the page cannot be printed		x	x	x	R	the personlized "to do" list cannot be printed but a user might want to have an overview to print	a printable view should be provided which shows the process and the responsible offices etc.	yes	EMA
the font is too small			x		R		a button to enlarge the font is needed	yes	EMA
The interface was set to English in one case but it was not clear why				x	R		?	yes	?
it is not clear who is the information provider of this site				x	R		it has to be stated who created what information	yes	?
application meets mainly requirements of the administration but not of the citizens		x	x		L	the application leads users through the administrative process but the user's requirement to find e.g. "a romantic place nearby for the marriage" is not met	administrative could be less in the focus for the scenario "marriage"	yes	all

9.13 GUC Test Lab Scripts

9.13.1 Test Script 1

-

Test Script #1 for German Trial

META-info: **General orientation about life event.**

This test script is a case of „reporting facts", i.e. the test user is instructed to locate information about certain facts. (Which documents are required in general and which processes must one complete in general.)

Your tester ID:_______________

Date: ______/12/2007 Session #:____________________

Before you begin

You are taking part in the GUC Semantic Test Lab, which is part of the evaluation within the Access-eGov project.

The quality of evaluation depends on how well you follow these instructions.

So, please, read and follow these instructions carefully!

Structure of this document

This test script has three parts:

1. An **introduction** with important information for the task execution
2. A **test case** with specific directions how to execute the test
3. A **documentation section** where you have to document the results of the test
4. Please **do not talk** during the test sessions while in the computer lab!

Things to remember

- Please put your tester ID, today's date and the session number at the top of this page.
- Make sure you understand the instructions and the task by carefully reading this test script.
- If you have **any** questions, please ask the test supervisor for help!
- Immediately document the results after completing a task.
- Please keep in mind: We are not trying to test you, we want to evaluate the software system. Therefore, there are no wrong answers. :-)

What you have to do

1. **Read** the instructions carefully
2. **Execute** and **document** the test by following the instructions

Test Script #1 for German Pilot

Page 1 of 4

1. **READ: Introduction to the test case**

Imagine that your are planning to move to Germany to marry your fiancé, who has the German citizenship. Your fiancé has asked you to retrieve some information about required documents for your marriage in Germany.

You have received a URL from you fiancé that you *must* use to retrieve this information:

http://esprit.ekf.tuke.sk/acq-client/faces/CategorySearch.jsp

!

If you encounter an error message at any time during the following tests, please fill out an ERROR REPORTING FORM which is available from the supervisor.

2. **EXECUTE & DOCUMENT**

Task 1

Time? ____ : 1.1

Please note the current time before you starting reading the task description. 1.1

Please take your time (10 to 20 minutes) to make yourself familiar with the „personal assistant" web-site. Have a look at the different sections of the web-site and read some of the information that you find there. In particular, look for information about the main process steps that are required for marriage.

Time? ____ : 1.2

Please note the current after finished looking for the information. 1.2

The web site mentions three main steps that a couple needs to complete in order to get married. Which are they? (Please check) 1.3

- ☐ Announce the marriage in a local news paper
- ☐ Register for marriage
- ☐ Reserve a date and location for the marriage
- ☐ Attend the marriage ceremony
- ☐ Provide a birth certificate
- ☐ Get engaged
- ☐ Visit an attorney or notary to make a wedding contract

Time? ____ : 1.4

Please note the current time after you finished this task. 1.4

Test Script #1 for German Pilot Page 2 of 4

Task 2

Time? ___ : 2.1

Please note the current time before you starting reading the task description. 2.1

To get married you have to register for marriage. After having registered there is a certain deadline that you need to meet in order to arrange a date for the marriage.

Please take some time to look for information about a deadline for reserving a date for marriage after you have registered for marriage.

Time? ___ : 2.2

Please note the current after finished looking for the information. 2.2

The deadline for reserving a date for marriage after I have registered for marriage is: 2.3

- ☐ I did not find any information about such a deadline on the web-site.
- ☐ The web-sites states that there is no deadline.
- ☐ The web-sites states that the deadline depends on the individual case.
- ☐ The web-site states that the deadline is 2 weeks.
- ☐ The web-site states that the deadline is 3 weeks.
- ☐ The web-site states that the deadline is 1 month.
- ☐ The web-site states that the deadline is 2 months.
- ☐ The web-site states that the deadline is 3 months.
- ☐ The web-site states that the deadline is 6 months.
- ☐ The web-site states that the deadline is 12 months.

Please describe where on the web-site did you find the information about the deadline (if you did find any): 2.4

____

____

____

____

____

____

Time? ___ : 2.5

Please note the current time after you finished this task. 2.5

Test Script #1 for German Pilot Page 3 of 4

Task 3

Time? ____ : 3.1

Please note the current time before you starting reading the task description. 3.1

Please take some time to look for information about any documents that are required to get married.

Time? ____ : 3.2

Please note the current after you finished looking for the information. 3.2

About which documents did you find any information? Please write down the names of the documents (if you need extra space please continue on the back of the page): 3.3

1.______
2.______
3.______
4.______
5.______
6.______
7.______

If you were not able to find any information about such documents, please tell us why:: 3.4

- ☐ **There is no information about such documents on this web-site.**
- ☐ **The information was too difficult to find so I stopped looking.**
- ☐ **The information was too difficult to understand so I did not learn anything about such documents.**
- ☐ **Other. Please describe:**

______ 3.5
______
______
______
______

Time? ____ : 3.6

Please note the current time after you finished this task. 3.6

Congratulations! You have completed your first test script.

Test Script #1 for German Pilot Page 4 of 4

9.13.2 Test Script 2

Test Script #2 for German Trial

META-info: **Context-based information for specific services**

This test script is a case of „context-related search", i.e. the test user is instructed to locate information that is specifically related to her or his case.

This is done by providing sample data that the test user should use.

Your tester ID:_______________

Date: ______/12/2007 Session #:____________________

Before you begin

You are taking part in the GUC Semantic Test Lab, which is part of the evaluation within the Access-eGov project.

The quality of evaluation depends on how well you follow these instructions.

So, please, read and follow these instructions carefully!

Structure of this document

This test script has three parts:

1. An **introduction** with important information for the task execution
2. A **test case** with specific directions how to execute the test
3. A **documentation section** where you have to document the results of the test
4. Please **do not talk** during the test sessions while in the computer lab!

Things to remember

- Please put your tester ID, today's date and the session number at the top of this page.
- Make sure you understand the instructions and the task by carefully reading this test script.
- If you have **any** questions, please ask the test supervisor for help!
- Immediately document the results after completing a task.
- Please keep in mind: We are not trying to test you, we want to evaluate the software system. Therefore, there are no wrong answers. :-)

What you have to do

1. **Read** the instructions carefully
2. **Execute** and **document** the test by following the instructions

Test Script #2 for German Pilot Page 1 of 6

1. READ: Introduction to the test case

You are still planning to marry your fiancé who lives in Germany. :-)

As a reminder, here is the URL you should use:

http://esprit.ekf.tuke.sk/acg-client/faces/CategorySearch.jsp

Your fiancé has asked you to look up some more details on the procedures for marriage. The following you remember about your fiancé. You will need this information for one of the tasks:

Table 1

Info	Value	Note
Name:	M. Schmidt	
Place of residence:	Flensburg	*Flensburg is a city in the state of Schleswig-Holstein*
Place of birth:	Flensburg	
Citizenship since birth:	German	
Date of birth:	19.02.1982	*Thus, your fiancé is 25 years old.*
Marital status:	Single	*Your fiancé has not been married before*
Number of children:	None	
Where do you want to marry?	Somewhere in or around Flensburg	
Parents' date of marriage:	20.04.1960	
Parents' place of marriage:	Somewhere in Germany (not the GDR)	

!

If you encounter an error message at any time during the following tests, please fill out an ERROR REPORTING FORM which is available from the supervisor.

Test Script #2 for German Pilot

Page 2 of 6

2. EXECUTE & DOCUMENT

Task 1

Time? ____ : 1.1

Please note the current time before you starting reading the task description. 1.1

By now you may know that there are three main steps a couple has to complete in order to get married. The first step is to register for marriage.
Take some time to look for information on how to register for marriage in your specific case. If you are asked to enter some information about yourself, please use the information provided to you about your fiancé (from the table 1 on the previous page).

Time? ____ : 1.2

Please note the current after you finished looking for the information. 1.2

Please answer the following questions:

At which office or offices can your fiancé register for marriage? 1.3
(Check all that apply)

- ☐ Registry Office
- ☐ Notary Office
- ☐ Register Office
- ☐ Standesamt
- ☐ Einwohnermeldeamt 1.4

Time? ____ : 1.4

Where in Germany can your fiancé register for marriage?
(Check all that apply)

- ☐ Anywhere in her home state of Schleswig-Holstein 1.5
- ☐ Anywhere in Germany
- ☐ Anywhere in the European Union
- ☐ In the city of Flensburg only

Time? ____ : 1.6

1.6

If you were not able to find any information above, please tell us why:

- ☐ There is no information about such documents on this web-site. 1.7
- ☐ The information was too difficult to find so I stopped looking.
- ☐ The information was too difficult to understand so I did not learn anything about such documents.
- ☐ Other. Please describe:

____

____

____

____

Time? ____ : 1.4

Please note the current time after you finished this task. 1.8

Test Script #2 for German Pilot   Page 3 of 6

Task 2

Time? ___ : 2.1

Please note the current time before you starting reading the task description. 2.1

Previously you were asked to identify the three main steps that are required to get married in Germany. Now please look for information how you can complete these steps, i.e. try to find out what you will need to do in order to complete each step.

! **Please do NOT enter any data yet. Please only use information that is available without filling out any online form! (Entering data will be part of another test.)**

Time? ___ : 2.2

Please note the current after you finished looking for the information. 2.2

Time? ___ : 2.3

Please describe briefly what you will have to do in order to complete each of the three main steps (if the space is not sufficient feel free to continue on the back of the page):

2.3
2.4
2.5

Name of step 1: ______________________________

How to complete this step: ______________________________

____
____
____
____
____
____

Time? ___ : 2.6

2.6
2.7
2.8

Name of step 2: ______________________________

How to complete this step: ______________________________

____
____
____
____
____
____

Time? ___ : 2.9

2.9
2.10
2.11

Name of step 1: ______________________________

How to complete this step: ______________________________

____
____
____
____
____
____
____

Time? ___ : 2.12

Please note the current time after you finished this task. 2.12

Test Script #2 for German Pilot Page 4 of 6

Task 3

Time? 3.1 ____ :

Please note the current time before you starting reading the task description. 3.1

You should now have a general overview of what it means to get married in Germany. Now it is time to get the specific information that you fiancé has asked for.

Try to locate information where exactly your fiancé has to go in order to register for marriage. In particular, find the name, address, and opening hours of the office.

Please use the information in table 1 (above on the second page of this test script) to perform this test in case you are asked to supply some information about yourself.

Time? 3.2 ____ :

Please note the current after you finished looking for the information. 3.2

Write down the name of the address of the office and the opening hours: 3.3

Name of the office: ____________________

Address of the office: ____________________

Opening hours: ____________________

If you were not able to find this information, please explain what you did to locate the information and, if possible, why you could not find it: 3.4

____

____

____

____

____

____

____

Time? 3.5 ____ :

At this point the web-site should automatically provide you with information about a certain type of document that your fiancé needs to get in order to register for marriage. 3.5

Which document does your fiancé need? Your fiancé needs to 3.6

- ☐ to get a certified copy from the family register
- ☐ get a marriage contract from the notary
- ☐ get a passport from the city hall
- ☐ get a certified copy of your passport from the Egyptian embassy

Time? 3.7 ____ :

Please note the current time after you finished this task. 3.7

Test Script #2 for German Pilot Page 5 of 6

Task 4

Time?
____ :
4.1

Please note the current time before you starting reading the task description. 4.1

After you filled out the online forms during the previous task the web-site should have automatically provide you with information about a certain type of document that your fiancé needs to get in order to register for marriage.

Please take some time to look for newly available information, if you have not done so already.

Time?
____ :
4.2

Please note the current after you finished looking for the information. 4.2

4.3

Which document does your fiancé need? Your fiancé needs to

- to get a certified copy from the family register
- get a marriage contract from the notary
- get a passport from the city hall
- get a certified copy of your passport from the Egyptian embassy

Time?
____ :
4.4

Please note the current time after you finished this task. 4.4

Congratulations!
You have completed your second test script.
Only one more to go!

Test Script #2 for German Pilot   Page 6 of 6

9.13.3 Test Script 3

Test Script #3 for German Trial

META-info: **Context-based information for specific services (2)**

This test script is a case of „context-related search", i.e. the test user is instructed to locate information that is specifically related to her or his case.

This is done by providing sample data that the test user should use.

Your tester ID:_______________

Date: ______/12/2007 Session #:____________________

Before you begin

You are taking part in the GUC Semantic Test Lab, which is part of the evaluation within the Access-eGov project.

The quality of evaluation depends on how well you follow these instructions.

So, please, read and follow these instructions carefully!

Structure of this document

This test script has three parts:

1. An **introduction** with important information for the task execution
2. A **test case** with specific directions how to execute the test
3. A **documentation section** where you have to document the results of the test
4. Please **do not talk** during the test sessions while in the computer lab!

Things to remember

- Please put your tester ID, today's date and the session number at the top of this page.
- Make sure you understand the instructions and the task by carefully reading this test script.
- If you have **any** questions, please ask the test supervisor for help!
- Immediately document the results after completing a task.
- Please keep in mind: We are not trying to test you, we want to evaluate the software system. Therefore, there are no wrong answers. :-)

What you have to do

1. **Read** the instructions carefully
2. **Execute** and **document** the test by following the instructions

Test Script #3 for German Pilot Page 1 of 4

1. **READ: Introduction to the test case**

You are still planning to marry your fiancé who lives in Germany. :-)

As reminder, this is the URL you should use:

http://esprit.ekf.tuke.sk/acg-client/faces/CategorySeach.jsp

When you told your fiancé about the results of your last „research", it turns out that you had remembered the place of birth incorrectly.

Your fiancé was not born in Flensburg but in Wien (Vienna), which is outside of Germany: in Austria.

Table 1

Info	Value	Note
Name:	M. Schmidt	
Place of residence:	Flensburg	*Flensburg is a city in the state of Schleswig-Holstein*
Place of birth:	**Vienna, Austria**	
Citizenship at birth:	**Austrian**	
Current citizenship:	**German**	
Date of birth:	19.02.1982	*Thus, your fiancé is 25 years old.*
Marital status:	Single	*Your fiancé has not been married before*
Number of children:	None	
Where do you want to marry?	Somewhere in or around Flensburg	
Parents' date of marriage:	20.04.1960	
Parents' place of marriage:	Somewhere in Germany (not the GDR)	

!

If you encounter an error message at any time during the following tests, please fill out an ERROR REPORTING FORM which is available from the supervisor.

Test Script #3 for German Pilot　　Page 2 of 4

2. EXECUTE & DOCUMENT

! Important: Before you begin this test script, **close all** your browser windows and then **restart** your browser in order to clear all previously entered data.

Task 1

Time? 1.1 ___ :

Please note the current time before you starting reading the task description. 1.1

Try to locate information where exactly your fiancé has to go in order to register for marriage. In particular, find the name, address, and opening hours of the office.

Please use the information in table 1 (above on the second page of this test script) to perform this test in case you are asked to supply some information about yourself.

Time? 1.2 ___ :

Please note the current after you finished looking for the information. 1.2

Write down the name of the address of the office and the opening hours: 1.3

Name of the office: ______________________________

Address of the office: ______________________________

Opening hours: ______________________________

If you were not able to find this information, please explain what you did to locate the information and, if possible, why you could not find it:

______________________________ 1.4

____

____

____

____

____

____

At this point the web-site should automatically provide you with information about a certain type of document that your fiancé needs to get in order to register for marriage.

Which document does your fiancé need? Your fiancé needs to

- ☐ to get a certified copy from the family register 1.5
- ☐ get a marriage contract from the notary
- ☐ get a passport from the city hall
- ☐ get a certified copy of your passport from the Egyptian embassy

Time? 1.6 ___ :

Please note the current time after you finished this task. 1.6

Test Script #3 for German Pilot Page 3 of 4

Task 2

Time? ___ : 2.1

Please note the current time before you starting reading the task description. 2.1

After you filled out the online forms during the previous task the web-site should have automatically provide you with information about a certain type of document that your fiancé needs to get in order to register for marriage.

Please take some time to look for newly available information, if you have not done so already.

Time? ___ : 2.2

Please note the current after you finished looking for the information. 2.2

2.3

Which document does your fiancé need? Please provide the name(s) of the document(s):

____

____

____

____

____

____

____

If you were not able to find this information, please explain what you did to locate the information and, if possible, why you could not find it: 2.4

____

____

____

____

____

____

____

Time? ___ : 2.5

Please note the current time after you finished this task. 2.5

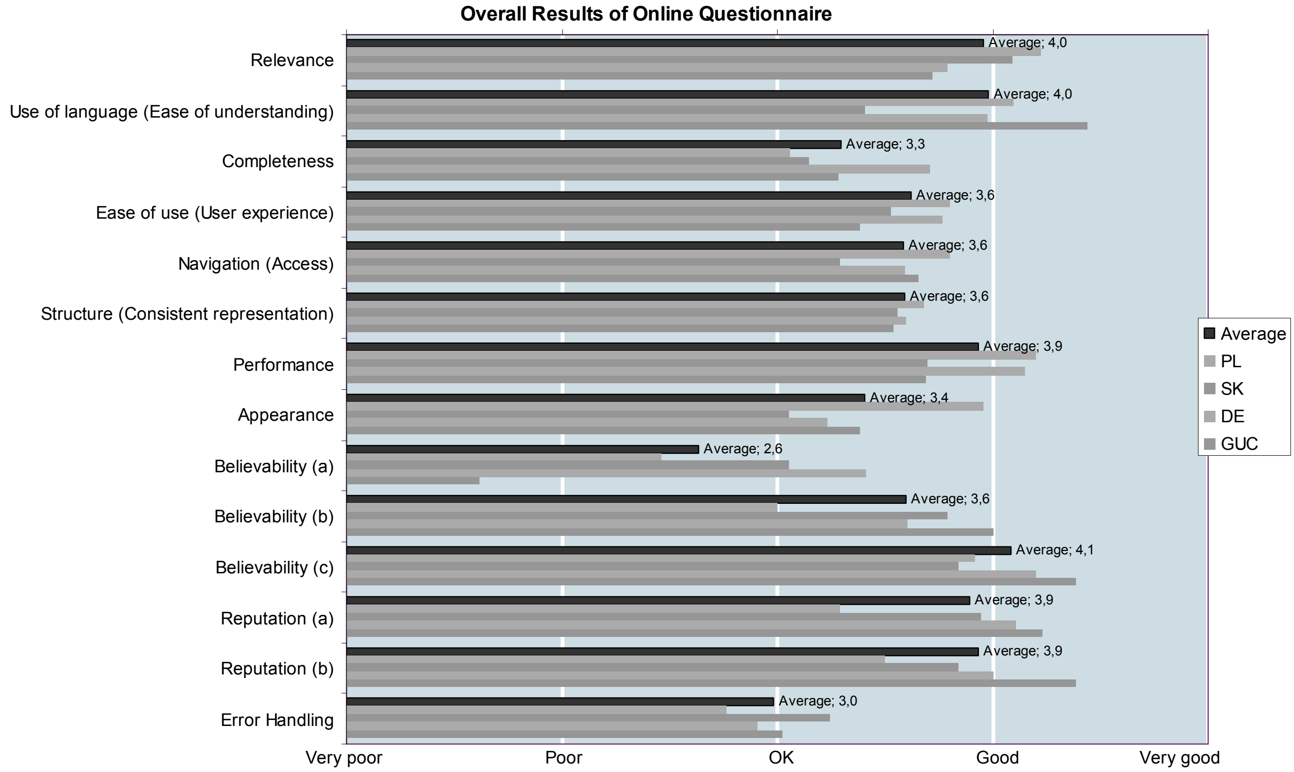
Congratulations!
You have completed your third and last test script.
Now please answer the questionnaire that you will receive from the supervisor.

Test Script #3 for German Pilot — Page 4 of 4

9.14 Results of online questionnaire

Results for each statement

The following sections list the average results for each of the statements. The statements are grouped by quality dimension. The scale of the results is 1 through 5, with 1 meaning “Fully agree” and 5 meaning “Fully disagree”. Thus, higher score higher disagreement with a statement.



9.14.1 Slovak Trial

Dimension	Adjusted average (SK)
Relevance	1,9
Use of language (Ease of understanding)	2,6
Completeness	2,9
Ease of use (User experience)	2,5
Navigation (Access)	2,7
Structure (Consistent representation)	2,4
Performance	2,3
Appearance	2,9

Believability (a)	2,9
Believability (b)	2,2
Believability (c)	2,2
Reputation (a)	2,1
Reputation (b)	2,2
Error Handling	2,8

9.14.2 Polish Trial

Dimension	Adjusted average (PL)
Relevance	1,8
Use of language (Ease of understanding)	1,9
Completeness	2,9
Ease of use (User experience)	2,2
Navigation (Access)	2,2
Structure (Consistent representation)	2,3
Performance	1,8
Appearance	2,0
Believability (a)	3,5
Believability (b)	3,0
Believability (c)	2,1
Reputation (a)	2,7
Reputation (b)	2,5
Error Handling	3,2

9.14.3 German Trial

Dimension	Adjusted average (DE)
Relevance	2,2

Use of language (Ease of understanding)	2,0
Completeness	2,3
Ease of use (User experience)	2,2
Navigation (Access)	2,4
Structure (Consistent representation)	2,4
Performance	1,9
Appearance	2,8
Believability (a)	2,6
Believability (b)	2,4
Believability (c)	1,8
Reputation (a)	1,9
Reputation (b)	2,0
Error Handling	3,1

9.14.4 GUC Test Lab

Dimension	Adjusted average (GUC)
Relevance	2,3
Use of language (Ease of understanding)	1,6
Completeness	2,7
Ease of use (User experience)	2,6
Navigation (Access)	2,3
Structure (Consistent representation)	2,5
Performance	2,3
Appearance	2,6
Believability (a)	4,4
Believability (b)	2,0
Believability (c)	1,6
Reputation (a)	1,8

Reputation (b)	1,6
Error Handling	3,0

9.14.5 Comments from German testers

1	Hi, i find the information provided very good and useful. I am looking forward to finding even more marriage locations here. I would like to have some more details about the possible marriage locations, as castles etc. I did not like that the website was reloaded every time I entered the place of residence etc. and that I had to scroll down on the page. Couldn't this be solved differently? But registration was easy! Iwould say: Good job! Best regards from the grey city at the sea.
2	Where are all the forms, requirements, office hours, responsibilities, reservation of dates etc. Cannot be used like this!!!!!!!!!!
3	The website could look more friendly and use different ClipArts and similar things.
4	What if you do not have what is most important for getting married? How about providing links to dating agencies like neu.de or parship or so?
5	Many questions are asked several times (e.g. on performance of the website)
6	There is an error in this questionnaire…there are at least 2 spelling mistakes. …
7	Will it be necessary to register when it will be used in reality or can I keep using the site anonymously?
8	Think about the semantics of a normal citizen and re-read your texts again. Just an example: No German user will relate the term "certificate of registration" (Aufenthaltsbescheinigung) to his own situation.
9	In general it was all very clear and well structured. I do not use Internet often and am not so much used to it as others, especially young people. I would probably go to the registry office in person and get all the required information on the topic "marriage" there. But I still find it interesting that I can get all the information here also. Good luck with the project!
10	When customizing the life event, it would be useful to pre-fill some of the fields. For example for the place of residence: Schleswig-Holstein in the district Lübeck: there is only one municipality to select and this is also the place where I would like to get married.
11	In principle quite good but I could not find any direct links to the local administrations.
12	For untrained users of internet it is quite difficult to understand the relation between the personalized information and the navigation on the left. There should be some note about this. I found it confusing that in order to I had to
13	I can judge the website on the topic marriage and I find it great! This page is really helpful for people who want to get married and who need information on the requirements.
14	The structure of this website is absolutely chaotic and the provided information is WRONG!!!!!
15	I think that the icons on the left side are too far on the upper left side when one is reading the text in the middle. One has always got the impression of having to scroll down. Apart from this I find the presentation and handling very easy, convenient and well structured.
16	Useless nonsense! I have not found any information regarding my marriage. The system seems to move in circles, just like our political system in Germany. My conclusion: This is not web2.0. You are using AJAX, but I could not see any practical use. I suppose that this is just a waste of tax money. Says somebody who has been working in the IT area for 12 years…
17	I have filled in the information for the personal assistant for marriage. But the questionnaire asks more than that. I did not understand how to get from the general information to the customization. I need a certificate of registration although I am German. It was difficult to select districts and municipalities. When scrolling with the mouse wheel, there was an error message.

	I found the usage of the word „fiancée“ old-fashioned. There were to many pages I had to click to get the relevant info.
18	I could not find the marriage locations anywhere.
19	In the press it said, that fees and marriage locations would be found. But I did not find either of them. I did not find the information on the required documents for marriage. It is a good source of information but it will be required to go to the registry office anyways to get information on the required documents.

ANNEX 2 – Annotation Tool Accessibility and Usability Evaluation Report

Executive Summary

This report describes accessibility and usability evaluation of the Annotation Tool of Access-eGov. Accessibility evaluation was based on W3C's Web Content Accessibility Guidelines (WCAG) 1.0[6], while usability evaluation was based on the usability guidelines produced for the project and are document and documented in Quality Assurance Process & Risk Management report (Amendment to D1.3).

Section 2 describes the Annotation Tool version evaluated and section 3 the evaluators' expertise. The review process based on the W3C's Conformance Evaluation method is described in Section 4. Based on this evaluation, the Access-eGov Annotation Tool is close to meeting all three conformance levels of WCAG 1.0 including Triple A. General and detailed review results are available in Section 6 below. Feedback on this evaluation is welcome.

[6] http://www.w3.org/TR/WCAG10/

10 Introduction

Conformance evaluation of Web accessibility requires a combination of semi-automated evaluation tools and manual evaluation by an experienced reviewer. The evaluation results in this report are based on evaluation conducted during the period November, December 2007. The Web site may have changed since that time.

Usability evaluation was conducted by experienced evaluators and was based on usability guidelines produced for the project and are document and documented in Quality Assurance Process & Risk Management report (Amendment to D1.3)[7].

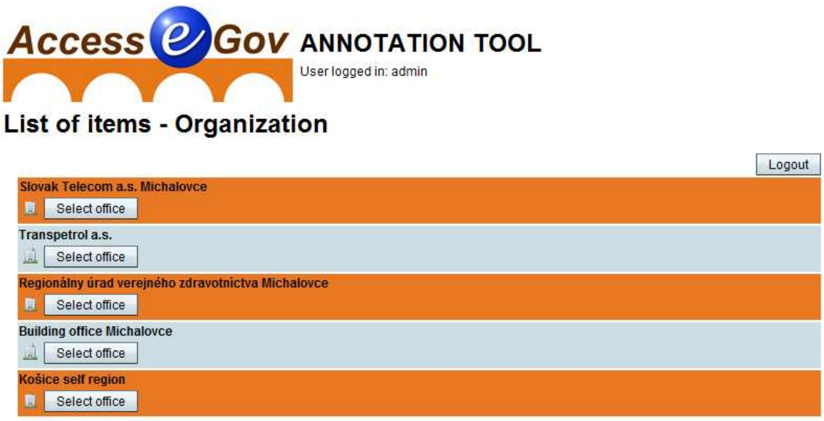
11 Web site reviewed

This report describes the evaluation of the Annotation Tool on a separate release that was set up for evaluation purposes only, with the following details.

Name of Web site	Access-eGov Annotation Tool
Base URL of site	http://esprit.ekf.tuke.sk/attest
Usernames used	editor admin publisher viewer
URL's included in review	Since all pages of the tool have the same url, screen shots are provided. Each page was given a unique number to refer to. Screenshots and page ids are provided in the following section.
URL's excluded from review	none
Range of dates on which review conducted	20/11/2007 – 2/12/2007
Natural language(s) of Web site	English interface with Slovak data

[7] Access-eGov Deliverable Quality Assurance Process & Risk Management report (Amendment to D1.3)

11.1 Pages evaluated

<table>
<tr><th>Page id</th><th>Description</th><th>Screenshot</th></tr>
<tr><td>0</td><td>Login page</td><td>
</td></tr>
<tr><td>1</td><td>Main page, list of organisations</td><td>
</td></tr>
<tr><td>2</td><td>Organisation page</td><td>
</td></tr>
</table>

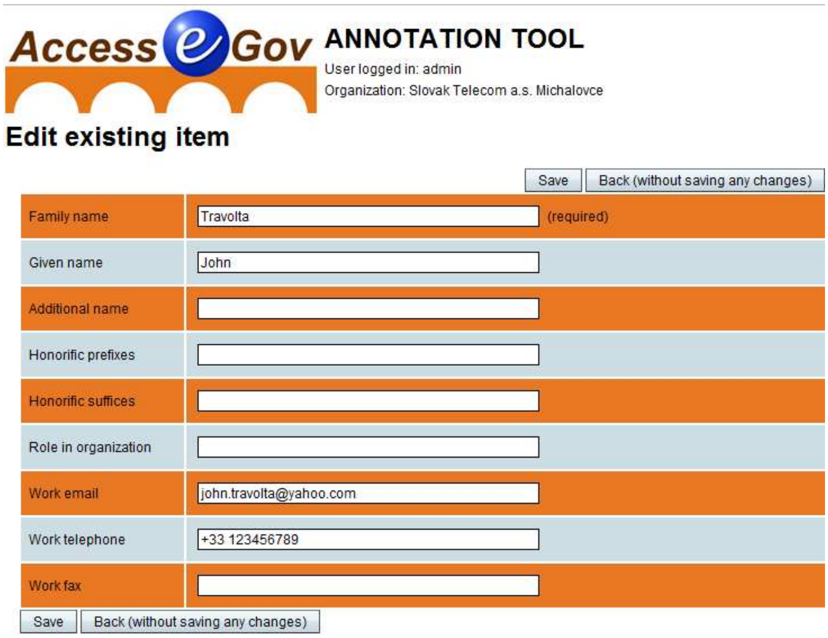
2-1 List of services page for a selected organisation

2-1-1 View selected service for selected organisation

2-2 List of contact persons for selected organisation

2-2-1 Contact person details for selected person and organisation

2-2-2 Edit Contact person details for selected person and organisation



12 Reviewers

e-ISOTIS (ISO) assigned three reviewers to conduct the evaluations from its associates. The reviewers have exprerience in the following areas:

- Web mark-up languages and validation tools
- W3C evaluations
- Web Content Accessibility Guidelines 1.0 (WCAG 1.0) and 2.0 (WCAG 2.0)
- Use of computer-based assistive technologies and adaptive strategies
- Web design and development
- Requirements engineering for IT products
- Training of end users

- Expert and end user evaluations

All reviewers fluently speak and write in the English language.

13 Evaluation Process

This section describes the accessibility and usability evaluation process.

13.1 Accessibility evaluation process

Accessibility of a web site has several aspects that need to be checked. The most widely adopted accessibility guidelines and conformance checklists are the Web Content Accessibility Guidelines 1.0 (WCAG) developed by the World Wide Web Consortium (W3C http://www.w3.org/). The accessibility of the annotation tool was validated for conformance to AAA level according to WCAG 1.0. Description of conformance levels is provided in the next section.

13.1.1 Accessibility validation tools

For the accessibility validation electronic tools were used in addition to the experts' review. The following tools were used:

- **WAVE 3.0 Accessibility Tool**[8] against Wave complete[9], including all levels of WCAG 1.0
- **ATRC Web Accessibility Checker**[10] against WCAG 1.0 AAA level[11]

13.1.2 Accessibility Conformance levels

WCAG defines several checklists a website needs to satisfy in order to be accessible and usable. Checkpoints are grouped in priority levels[12], based upon the checkpoint's impact on accessibility.

- **Priority 1**
  A Web content developer must satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents.
- **Priority 2**
  A Web content developer should satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document. Satisfying this checkpoint will remove significant barriers to accessing Web documents.
- **Priority 3**
  A Web content developer may address this checkpoint. Otherwise, one or more groups will find it somewhat difficult to access information in the document. Satisfying this checkpoint will improve access to Web documents.

[8] http://wave.webaim.org/index.jsp
[9] http://wave.webaim.org/wave/PreferencesHome.jsp
[10] http://checker.atrc.utoronto.ca/index.html
[11] http://checker.atrc.utoronto.ca/servlet/ChangeGuideline
[12] http://www.w3.org/TR/WCAG10/#priorities

Based upon the above priorities WCAG defines three levels of website conformance[13]:

- **Conformance Level "A":** all Priority 1 checkpoints are satisfied
- **Conformance Level "Double-A":** all Priority 1 and 2 checkpoints are satisfied
- **Conformance Level "Triple-A":** all Priority 1, 2, and 3 checkpoints are satisfied

13.2 Usability evaluation process

Usability was tested against the guidelines produced for the project and documented in Access-eGov Deliverable Quality Assurance Process & Risk Management report (Amendment to D1.3). The validation was done without the se of any automated tool. A checklist and a questionnaire was created based on the guidelines. The questionnaire was filled in by the development team and the expert evaluators.

14 Evaluation results

This section describes the summary of results and their details.

14.1 Summary of Results

The summary of results are categorised in those regarding accessibility and those elated to the usability of the tool. Also this section describes the strong accessibility and usability points of the Annotation tool.

14.1.1 Accessibility

The tool does not conform to any the three conformance level. However, the reasons for this are minimal, repeated in each page and should not be time consuming or difficult to correct.

The following table lists the number of unique WCAG 1.0 checkpoints not passed (column 2) per priority and how many times this occurs (column 3) in all the pages validated.

Priority	Number of unique checkpoints not addressed	Number of occurrences
1	3	18
2	3	21
3	1	8
No priority	1	8
	Total	**55**

[13] http://www.w3.org/TR/WCAG10/#Conformance

The row “no priority” identifies one issue not covered in WCAG 1.0, but considered good practice to follow.

14.1.2 Usability

The usability issues are summarised in the following table. The first row is the number of unique usability issues and the second row the number of times they occur in all the pages evaluated.

Number of unique usability issues	8
Number of occurrences	21

14.1.3 Strong accessibility and usability points of the tool

The reviewers believe a user familiar with general computer use, shouldn’t require intensive training in order to use the tool of training required and perhaps the user may not even require to conduct the user manual. This is a good overall indication that the tool achieves good usability and it is straightforward to use. More details on strong points of the tool’s design follow:

- All interfaces are consistent and self explanatory
- Interfaces, actions and information are categorised intuitively
- System response time is good and does not distract the user
- Confirmation screens are displayed for critical actions, e.g. deletion of data
- Alt tags are used in most images
- The tool support well all screen resolutions and items are not positioned on the page by absolute means
- Colour use provides good contrast and does not solely convey important information that may be not viewable to low sight, colour blind or fully blind users
- Font size is resizable and use of images has been kept at minimum
- The tool does not require severe scrolling
- Users with the JavaScript browser functionality disabled can still use the tool
- Tab order is consistent across pages and set carefully

14.2 Detailed results

The detailed results per page are provided in an Excel file for filtering purposes and in Appendix C. Below are explanations of the data included in each column of the spreadsheet

Column	Title	Description
A	Page ID	This is a unique number fro each page tested and refers to the definitions of page ids in section 2.1
B	Issue Number	This is a serial number for each issue per page

C	Type of Issue	Identifies if the issue refers to usability or accessibility
D	Description	Description of the issue. All unique issues are further explained in the following section
E	Reference	A reference screen shot provided in Appendix A
F	WCAG 1.0 Checkpoint	The WCAG 1.0 checkpoint that the issue refers to. This is available only for accessibility issues. Checkpoints referred in the excel file can be viewed from the WCAG 1.0 web page available at **http://www.w3.org/TR/WCAG10/** .
G	Priority	The WCAG 1.0 priority that the issue refers to. This is available only for accessibility issues

14.2.1 Issue descriptions

This section provides more details for all unique issues in the excel file for which more info is not provided in the WCAG 1.0 checkpoints. More info about issues referring to a WCAG checkpoints can be obtained from the WCAG 1.0 web page available at http://www.w3.org/TR/WCAG10/. Issues are sorted alphabetically.

Issue as written in Excel file	**More info available from**
HTML title tag is missing	Each page should have a unique title. This is important for accessibility and usability, in order for the user to be able to identify what an open window contains without having to look at it. Title should descriptive and as short as possible, e.g. Access-eGov – Organisations List
It is no identified that this is the main page (homepage) of the tool	A homepage of a website or the main/central page of a tool should be identifiable to the user, so that the user knows the start point. It is suggested to add a title “Main page” or similar.
It is not clear what the view button does.	All buttons named “View”, “Open”, “Close” etc when not provided in a menu, table or more generally in a specific context should identify what data the action relates to.
It is not possible to navigate to the starting page from this page	It is suggested to be able to return to the main page of the tool from any other page. This is to avoid forcing the user having to continuously click the back button to reach the first page.
Label "View Item" is not indicating what items are currently viewed	All buttons named “View”, “Open”, “Close” etc when not provided in a menu, table or more generally in a specific context should

	identify what data the action relates to.
Provide a skip to content link	Though not covered in WCAG 1.0 it is considered good practice especially for people using screen readers to provide skip to content links. These links can be invisible when style sheets are used and are positioned at the top of the page, before the Access-eGov logo. The links direct the user to the main content of the page or the menu. In the case of the Annotation tool it should direct the user to the main content as there is no menu. The intention of the links is to provide a screen reader user the means to be able to skip listening to the logo and title of the tool every time a page is loaded.
This page should not be displayed if the organisation has only one service	If a page is intended to display a list in order for the user to select an item, the intermediate page should not be displayed if the list contains only one item.
URLs and email addresses should be provided as html links	A label displaying a URL or email address should be presented as a link so that it is clickable. This way the user does not have to copy and paste the text.

14.2.2 Other suggestions

Two more suggestions are made in this section.

14.2.2.1 Page Titles

Page titles could be improved in order to make them more specific. For example page 2-2-1 with title “View Item” would be more appropriately titled “View selected service for selected organisation”. Ideas can be drawn from the page titles in section 2.1.

Also breadcrumb titles can be provided and provide a good and well accepted navhgation mechanism. For example, instead of the title “List of services provided by the organization Slovak Telecom a.s. Michalovce” a breadcrumb such as “ Organizations > Slovak Telecom a.s. Michalovce > List of services” would be more appropriate. This facilitates considerably user orientation within the annotation tool.

14.2.2.2 Table layouts

In general and though accepted from WCAG to use table for layout purposes, this is not considered good practice. It is difficult to use for people using screen readers, especially when nested tables are used.

The following image displays how page 2 with the organisation details would be read by a screen reader. Grey background font displays information read out by the screen reader that refers to table structure, e.g. "Table with two columns and four rows" etc.

dash Internet Explorer Table with two columns and four rows Graphic logo Table with one column and three rows ANNOTATION TOOL User logged in colon admin Organization colon Slovak Telecom a.s. Michalovce Table end Table end Table with one column and one row Organization Slovak Telecom a.s. Michalovce Table end Back to list of Organizations button Logout button Table with one column and three rows Slovak Telecom a.s. Michalovce Table with six columns and one row View Services for Organization button List of Contact persons button Edit button Table end Table with two columns and one row View button Table end Table end Table with two columns and eighty-six rows Table with one column and one row Organization name Table end Table with one column and three rows Table with one column and two rows Table with one column and one row Slovak Telecom a.s. Michalovce Table end Table end Table end Table with one column and one row Desription of organisation Table end Table with one column and three rows Table with one column and two rows Table with one column and one row dash Table end Table end Table end Table with one column and one row Organization unit Organization unit Table end Table with one column and three rows Table with one column and two rows Table with one column and one row Table end Table end Table with one column and one row Organization type Table end Table with one column and three rows Table with one column and two rows Table with one column and one row Table end Table end Table end Table with one column and one row Links to relevant content Table end Table with one column and fifteen rows Table with one column and two rows Table with one column and one row Table end Table end Table with two columns and twelve rows Table with one column and two rows Link name Table end Table with one column and one row Table end Table with one column and two rows Link description Table end Table with one column and one row Table end Table with one column and two rows URL Table end Table with one column and one row Table end Table end Table end Hide details button Table with one column and one row Organization address Table end Table with one column and forty-seven rows Table with one column and two rows Table with one column and one row Špitálska three Table end Table end Table with two columns and forty-four rows Table with one column and two rows Post Office Box Table end Table with one column and one row Table end Table with one column and two rows Extended address Table end Table with one column and one row Table end Table with one column and two rows Street address Table end Table with one column and one row Špitálska three Table end Table with one column and two rows Locality left paren e.g. City right paren Table end Table with one column and one row Michalovce Table end Table with one column and two rows Region left paren e.g. State or Province right paren Table end Table with one column and one row Table end Table with one column and two rows Postal code Table end Table with one column and one row fifty-seven one Table end Table with one column and two rows Country Table end Table with one column and one row Slovakia Table end Table with one column and two rows Work email Table end Table with one column and one row ladislav underline miklos at st.sk Table end Table with one column and two rows Work telephone Table end Table with one column and one row plus four hundred twenty-one fifty-six six hundred forty-four eleven thirty-three Table end Table with one column and two rows Work fax Table end Table with one column and one row plus four hundred twenty-one fifty-six six hundred forty-four forty zero Table end Table with one column and two rows URL Table end Table with one column and one row http colon slash slash www.t dash com.sk Table end Table end Table end Hide details button Table end

The page would be more appropriately structured in the following way:

<h2>Organisation General Details</h2>

Organization name	Slovak Telecom a.s. Michalovce
Desription of organisation	-
Organization unit *Organization unit*	
Organization type	

Organisation name, description, type etc should be tagged as table headers <th>

<h2>Links to relevant content</h2>

Link name	
Link description	
URL	
Hide details	

With the appropriate table headers

<h2>Organisation Address</h2>

Post Office Box	
Extended address	
Street address	Špitálska 3
Locality (e.g. City)	Michalovce
Region (e.g. State or Province)	
Postal code	071 01
Country	Slovakia
Work email	ladislav_miklos@st.sk
Work telephone	+421 56 644 11 33
Work fax	+421 56 644 40 00
URL	http://www.t-com.sk

Hide details

With the appropriate table headers

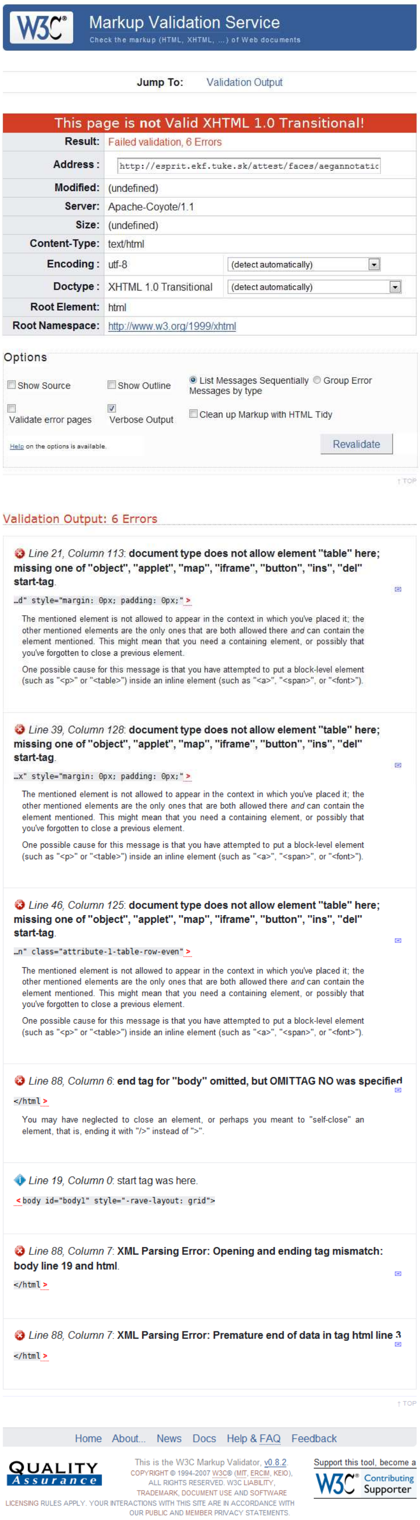
14.2.3 Usability Questionnaires

Usability questionnaires have been provided and filled in by the development team and the experts. Results and issues raised in the questionnaires are indicated in this report and the completed questionnaires are available in Appendix B.

15 Conclusions

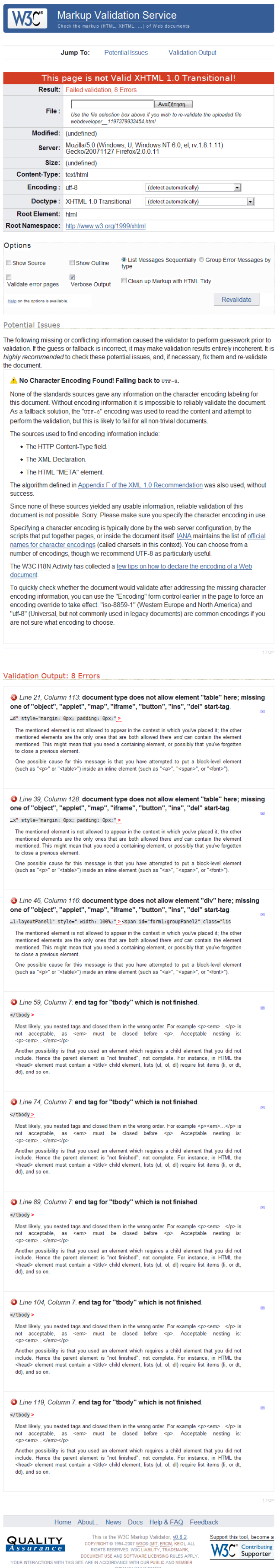
Although the tool does not conform to any level of WCAG conformance, it is in a very good state regarding each accessibility and only very few checkpoints need to be looked at in order to achieve AAA conformance. The tool's usability is at a very good level and can be improved with minor modifications as indicated.

Appendix A – Reference screenshots

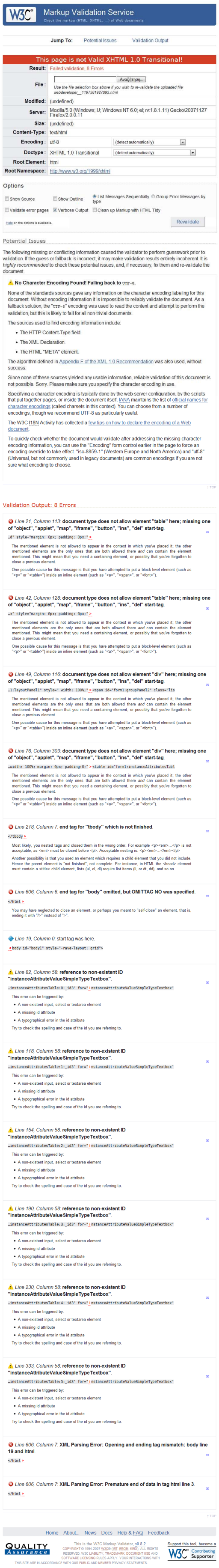
Reference No	Screenshot
0-1	

0-3	

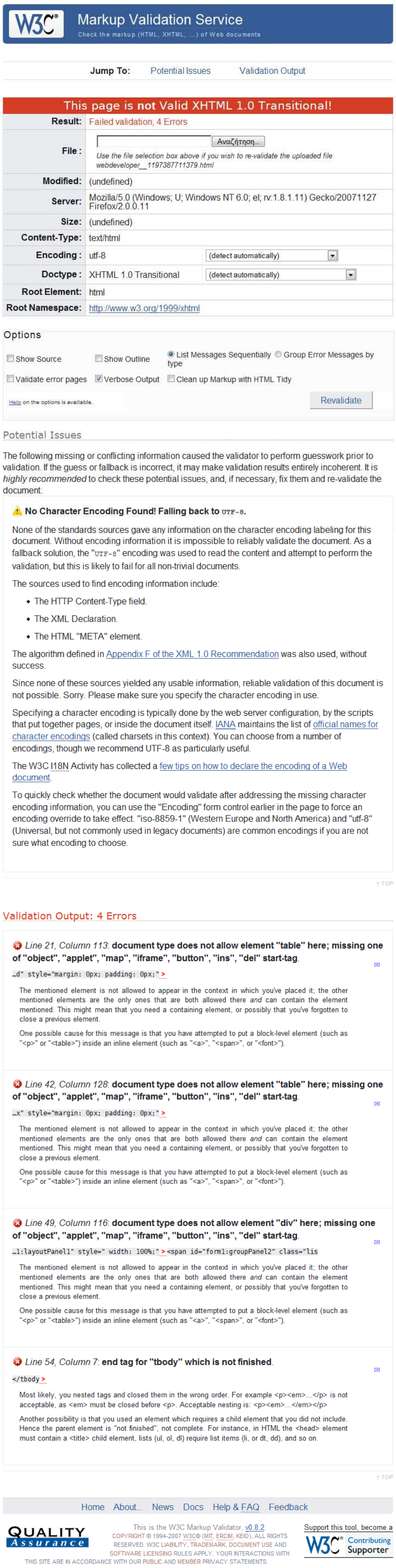
CSS Validation Service
Jump To: Errors (2) Validated CSS
W3C CSS Validator Results for
http://esprit.ekf.tuke.sk/attest/faces/aegannotationtool.jsp
Sorry! We found the following errors
URI : http://esprit.ekf.tuke.sk/attest/theme/com/sun/rave/web/ui/defaulttheme/css/css_master.css
742 .TtldBoxMnu Property -moz-opacity doesn't exist : 0.9
URI : http://esprit.ekf.tuke.sk/attest/faces/aegannotationtool.jsp
18 Property -rave-layout doesn't exist : grid
↑ TOP

1-1	

Markup Validation Service
This page is not Valid XHTML 1.0 Transitional!
Options
Potential Issues
Validation Output: 8 Errors

2-1	 Markup Validation Service This page is not Valid XHTML 1.0 Transitional! Potential Issues Validation Output: 8 Errors

2-1-1



Markup Validation Service
Check the markup (HTML, XHTML, ...) of Web documents

Jump To: Potential Issues Validation Output

This page is **not** Valid XHTML 1.0 Transitional!

Result:	Failed validation, 4 Errors	
File :	Αναζήτηση... *Use the file selection box above if you wish to re-validate the uploaded file webdeveloper__1197387711379.html*	
Modified:	(undefined)	
Server:	Mozilla/5.0 (Windows; U; Windows NT 6.0; el; rv:1.8.1.11) Gecko/20071127 Firefox/2.0.0.11	
Size:	(undefined)	
Content-Type:	text/html	
Encoding :	utf-8	(detect automatically)
Doctype :	XHTML 1.0 Transitional	(detect automatically)
Root Element:	html	
Root Namespace:	http://www.w3.org/1999/xhtml	

Options

Show Source — Show Outline — List Messages Sequentially — Group Error Messages by type
Validate error pages — Verbose Output — Clean up Markup with HTML Tidy

Help on the options is available.

Revalidate

Potential Issues

The following missing or conflicting information caused the validator to perform guesswork prior to validation. If the guess or fallback is incorrect, it may make validation results entirely incoherent. It is *highly recommended* to check these potential issues, and, if necessary, fix them and re-validate the document.

No Character Encoding Found! Falling back to UTF-8.

None of the standards sources gave any information on the character encoding labeling for this document. Without encoding information it is impossible to reliably validate the document. As a fallback solution, the "UTF-8" encoding was used to read the content and attempt to perform the validation, but this is likely to fail for all non-trivial documents.

The sources used to find encoding information include:

- The HTTP Content-Type field.
- The XML Declaration.
- The HTML "META" element.

The algorithm defined in Appendix F of the XML 1.0 Recommendation was also used, without success.

Since none of these sources yielded any usable information, reliable validation of this document is not possible. Sorry. Please make sure you specify the character encoding in use.

Specifying a character encoding is typically done by the web server configuration, by the scripts that put together pages, or inside the document itself. IANA maintains the list of official names for character encodings (called charsets in this context). You can choose from a number of encodings, though we recommend UTF-8 as particularly useful.

The W3C I18N Activity has collected a few tips on how to declare the encoding of a Web document.

To quickly check whether the document would validate after addressing the missing character encoding information, you can use the "Encoding" form control earlier in the page to force an encoding override to take effect. "iso-8859-1" (Western Europe and North America) and "utf-8" (Universal, but not commonly used in legacy documents) are common encodings if you are not sure what encoding to choose.

↑ TOP

Validation Output: 4 Errors

Line 21, Column 113: **document type does not allow element "table" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag**.

```
…d" style="margin: 0px; padding: 0px;" >
```

The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there *and* can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.

One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").

Line 42, Column 128: **document type does not allow element "table" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag**.

```
…x" style="margin: 0px; padding: 0px;" >
```

The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there *and* can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.

One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").

Line 49, Column 116: **document type does not allow element "div" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag**.

```
…1:layoutPanel1" style=" width: 100%;" ><span id="form1:groupPanel2" class="lis
```

The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there *and* can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.

One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").

Line 54, Column 7: **end tag for "tbody" which is not finished**.

```
</tbody>
```

Most likely, you nested tags and closed them in the wrong order. For example <p>...</p> is not acceptable, as must be closed before <p>. Acceptable nesting is: <p>...</p>

Another possibility is that you used an element which requires a child element that you did not include. Hence the parent element is "not finished", not complete. For instance, in HTML the <head> element must contain a <title> child element, lists (ul, ol, dl) require list items (li, or dt, dd), and so on.

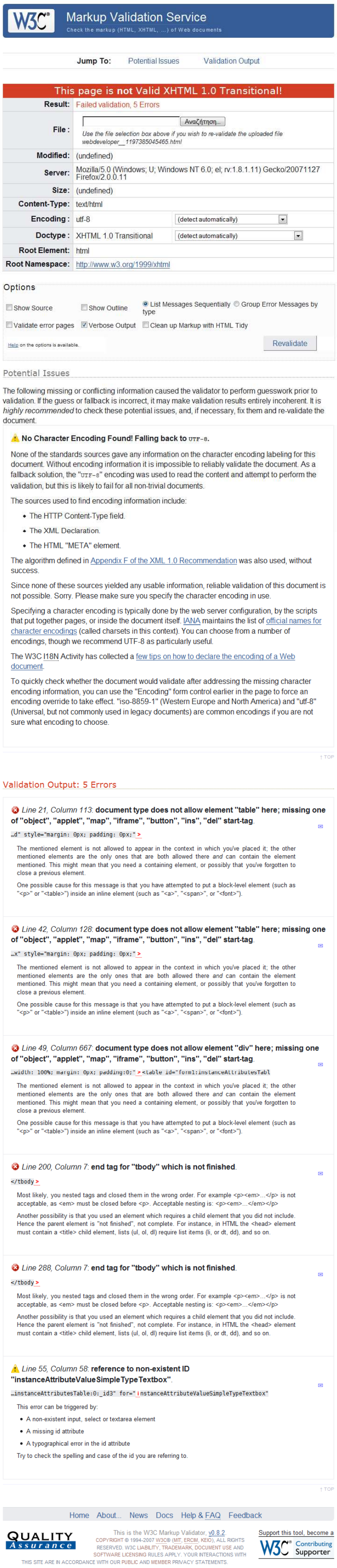
↑ TOP

Home About... News Docs Help & FAQ Feedback

QUALITY Assurance

This is the W3C Markup Validator, v0.8.2.

Support this tool, become a W3C Contributing Supporter

2-1-1-1	

W3C
Markup Validation Service
Check the markup (HTML, XHTML, ...) of Web documents
Jump To: Potential Issues Validation Output
This page is not Valid XHTML 1.0 Transitional!
Result: Failed validation, 5 Errors
File : Αναζήτηση...
Use the file selection box above if you wish to re-validate the uploaded file webdeveloper__1197385045465.html
Modified: (undefined)
Server: Mozilla/5.0 (Windows; U; Windows NT 6.0; el; rv:1.8.1.11) Gecko/20071127 Firefox/2.0.0.11
Size: (undefined)
Content-Type: text/html
Encoding : utf-8 (detect automatically)
Doctype : XHTML 1.0 Transitional (detect automatically)
Root Element: html
Root Namespace: http://www.w3.org/1999/xhtml
Options
Show Source
Show Outline
List Messages Sequentially
Group Error Messages by type
Validate error pages
Verbose Output
Clean up Markup with HTML Tidy
Help on the options is available.
Revalidate
Potential Issues
The following missing or conflicting information caused the validator to perform guesswork prior to validation. If the guess or fallback is incorrect, it may make validation results entirely incoherent. It is highly recommended to check these potential issues, and, if necessary, fix them and re-validate the document.
No Character Encoding Found! Falling back to UTF-8.
None of the standards sources gave any information on the character encoding labeling for this document. Without encoding information it is impossible to reliably validate the document. As a fallback solution, the "UTF-8" encoding was used to read the content and attempt to perform the validation, but this is likely to fail for all non-trivial documents.
The sources used to find encoding information include:
The HTTP Content-Type field.
The XML Declaration.
The HTML "META" element.
The algorithm defined in Appendix F of the XML 1.0 Recommendation was also used, without success.
Since none of these sources yielded any usable information, reliable validation of this document is not possible. Sorry. Please make sure you specify the character encoding in use.
Specifying a character encoding is typically done by the web server configuration, by the scripts that put together pages, or inside the document itself. IANA maintains the list of official names for character encodings (called charsets in this context). You can choose from a number of encodings, though we recommend UTF-8 as particularly useful.
The W3C I18N Activity has collected a few tips on how to declare the encoding of a Web document.
To quickly check whether the document would validate after addressing the missing character encoding information, you can use the "Encoding" form control earlier in the page to force an encoding override to take effect. "iso-8859-1" (Western Europe and North America) and "utf-8" (Universal, but not commonly used in legacy documents) are common encodings if you are not sure what encoding to choose.
↑ TOP
Validation Output: 5 Errors
Line 21, Column 113: document type does not allow element "table" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag.
…d" style="margin: 0px; padding: 0px;" >
The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there and can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.
One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").
Line 42, Column 128: document type does not allow element "table" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag.
…x" style="margin: 0px; padding: 0px;" >
The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there and can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.
One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").
Line 49, Column 667: document type does not allow element "div" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag.
…width: 100%; margin: 0px; padding:0;" ><table id="form1:instanceAttributesTabl
The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there and can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.
One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").
Line 200, Column 7: end tag for "tbody" which is not finished.
</tbody>
Most likely, you nested tags and closed them in the wrong order. For example <p>...</p> is not acceptable, as must be closed before <p>. Acceptable nesting is: <p>...</p>
Another possibility is that you used an element which requires a child element that you did not include. Hence the parent element is "not finished", not complete. For instance, in HTML the <head> element must contain a <title> child element, lists (ul, ol, dl) require list items (li, or dt, dd), and so on.
Line 288, Column 7: end tag for "tbody" which is not finished.
</tbody>
Most likely, you nested tags and closed them in the wrong order. For example <p>...</p> is not acceptable, as must be closed before <p>. Acceptable nesting is: <p>...</p>
Another possibility is that you used an element which requires a child element that you did not include. Hence the parent element is "not finished", not complete. For instance, in HTML the <head> element must contain a <title> child element, lists (ul, ol, dl) require list items (li, or dt, dd), and so on.
Line 55, Column 58: reference to non-existent ID "instanceAttributeValueSimpleTypeTextbox".
…instanceAttributesTable:0:_id3" for="instanceAttributeValueSimpleTypeTextbox"
This error can be triggered by:
A non-existent input, select or textarea element
A missing id attribute
A typographical error in the id attribute
Try to check the spelling and case of the id you are referring to.
↑ TOP
Home About... News Docs Help & FAQ Feedback
QUALITY Assurance
This is the W3C Markup Validator, v0.8.2.
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2-2-1

Markup Validation Service
Check the markup (HTML, XHTML, ...) of Web documents

Jump To: Potential Issues Validation Output

This page is not Valid XHTML 1.0 Transitional!

Result:	Failed validation, 3 Errors	
File :	Αναζήτηση... *Use the file selection box above if you wish to re-validate the uploaded file webdeveloper__1197392380637.html*	
Modified:	(undefined)	
Server:	Mozilla/5.0 (Windows; U; Windows NT 6.0; el; rv:1.8.1.11) Gecko/20071127 Firefox/2.0.0.11	
Size:	(undefined)	
Content-Type:	text/html	
Encoding :	utf-8	(detect automatically)
Doctype :	XHTML 1.0 Transitional	(detect automatically)
Root Element:	html	
Root Namespace:	http://www.w3.org/1999/xhtml	

Options

- [ ] Show Source
- [ ] Show Outline
- (•) List Messages Sequentially ( ) Group Error Messages by type
- [ ] Validate error pages
- [x] Verbose Output
- [ ] Clean up Markup with HTML Tidy

Help on the options is available.

Revalidate

Potential Issues

The following missing or conflicting information caused the validator to perform guesswork prior to validation. If the guess or fallback is incorrect, it may make validation results entirely incoherent. It is *highly recommended* to check these potential issues, and, if necessary, fix them and re-validate the document.

No Character Encoding Found! Falling back to `UTF-8`**.**

None of the standards sources gave any information on the character encoding labeling for this document. Without encoding information it is impossible to reliably validate the document. As a fallback solution, the "`UTF-8`" encoding was used to read the content and attempt to perform the validation, but this is likely to fail for all non-trivial documents.

The sources used to find encoding information include:

- The HTTP Content-Type field.
- The XML Declaration.
- The HTML "META" element.

The algorithm defined in Appendix F of the XML 1.0 Recommendation was also used, without success.

Since none of these sources yielded any usable information, reliable validation of this document is not possible. Sorry. Please make sure you specify the character encoding in use.

Specifying a character encoding is typically done by the web server configuration, by the scripts that put together pages, or inside the document itself. IANA maintains the list of official names for character encodings (called charsets in this context). You can choose from a number of encodings, though we recommend UTF-8 as particularly useful.

The W3C I18N Activity has collected a few tips on how to declare the encoding of a Web document.

To quickly check whether the document would validate after addressing the missing character encoding information, you can use the "Encoding" form control earlier in the page to force an encoding override to take effect. "iso-8859-1" (Western Europe and North America) and "utf-8" (Universal, but not commonly used in legacy documents) are common encodings if you are not sure what encoding to choose.

↑ TOP

Validation Output: 3 Errors

Line 21, Column 113: **document type does not allow element "table" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag**

```
…d" style="margin: 0px; padding: 0px;">
```

The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there *and* can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.

One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").

Line 42, Column 128: **document type does not allow element "table" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag**

```
…x" style="margin: 0px; padding: 0px;">
```

The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there *and* can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.

One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").

Line 49, Column 116: **document type does not allow element "div" here; missing one of "object", "applet", "map", "iframe", "button", "ins", "del" start-tag**

```
…1:layoutPanel1" style=" width: 100%;"><span id="form1:groupPanel2" class="lis
```

The mentioned element is not allowed to appear in the context in which you've placed it; the other mentioned elements are the only ones that are both allowed there *and* can contain the element mentioned. This might mean that you need a containing element, or possibly that you've forgotten to close a previous element.

One possible cause for this message is that you have attempted to put a block-level element (such as "<p>" or "<table>") inside an inline element (such as "<a>", "<span>", or "<font>").

↑ TOP

Home About... News Docs Help & FAQ Feedback

QUALITY Assurance

This is the W3C Markup Validator, v0.8.2.

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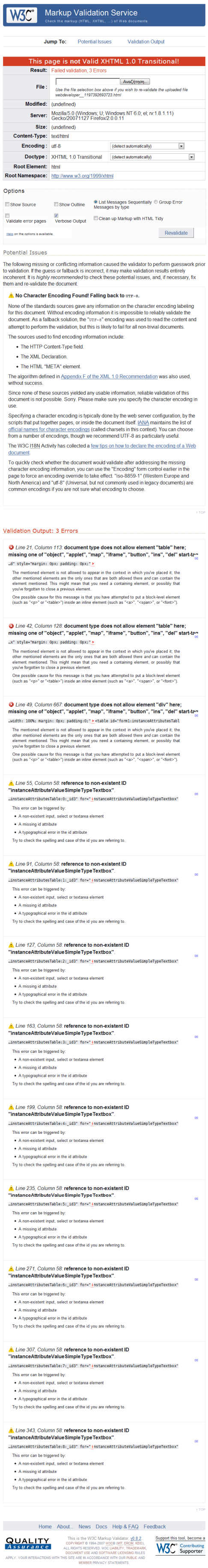
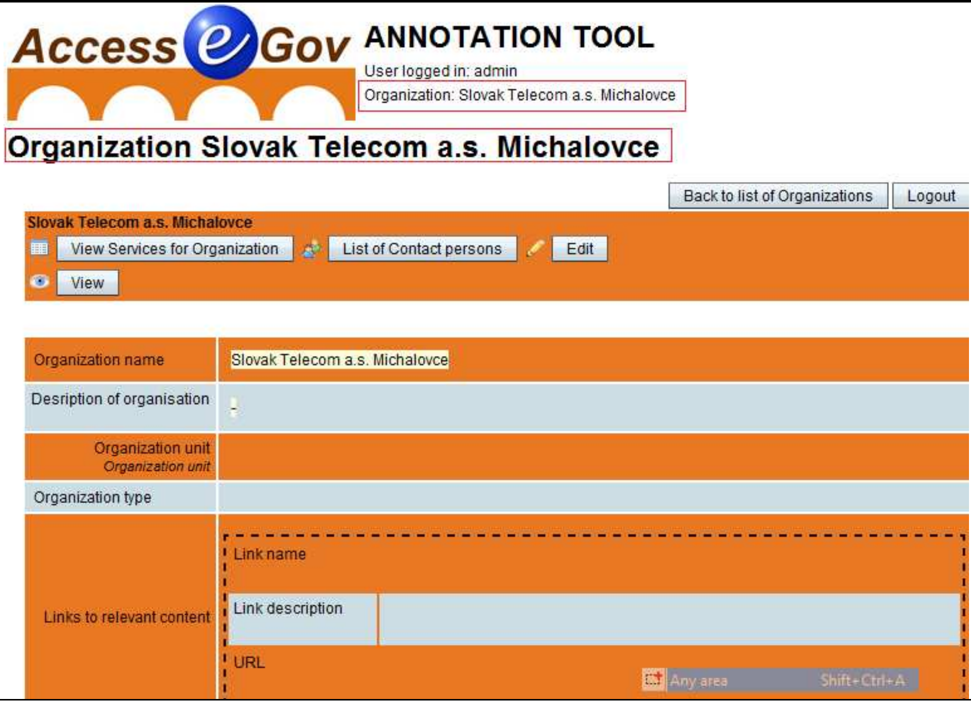
2-2-1-1	Markup Validation Service This page is not Valid XHTML 1.0 Transitional! Validation Output: 3 Errors

2-6	

AccessGov
ANNOTATION TOOL
User logged in: admin
Organization: Slovak Telecom a.s. Michalovce
Organization Slovak Telecom a.s. Michalovce
Back to list of Organizations
Logout
Slovak Telecom a.s. Michalovce
View Services for Organization
List of Contact persons
Edit
View
Organization name
Slovak Telecom a.s. Michalovce
Desription of organisation
Organization unit
Organization unit
Organization type
Links to relevant content
Link name
Link description
URL
Any area
Shift+Ctrl+A

Appendix B – Usability Questionnaires

No	Question	Compulsory Question	Development Team Answer	Development Team Comments	Experts Answer	Experts Comments
1	**User Experience**					
1.1	Does the computer perform the tasks which can be easily done by it (simple and repeated)?	Yes	Yes		Yes	
1.2	Is the accessing time appropriate? (less than 10 seconds)?	Yes	Yes		Yes	
1.3	Are users warned for a page/session time out?	Yes	No	session time is set to 1 hour	No	Not warned but redirected to login page
1.4	Does the system display progress indication and feedback when the user waits longer than 7 seconds?	Yes	Yes	Ajax is used to load some parts of the pages, indicating by "loading…" text	Yes	
1.5	Does the system respond quickly when used through 56Kbit connection?	Yes		Can not simulate	Yes	Not simulated but according to page size max 40KB, it is ok
1.6	Are fees displayed in all relevant currencies? (i.e. for Slovak localisation of AeG in SKK and possibly EUR, for Polish localisation PLN and possibly EUR, for German localisation EUR)	Yes	No	no currency idicators used in Annotation tool (AT)		n/a
1.7	Has the AeG web site been tested if it is accessible by IE7, IE6, Mozilla, Safari and Opera browsers?	Yes	Yes		Yes	Appears ok with IE7, IE6 and Mozilla Firefox 2
1.8	Are display resolutions higher than 800x600 (including) supported?	Yes	Yes		Yes	

1.9	Is a privacy policy statement provided and available from the concerning parts of the AeG web site?	Yes	No	Only public information is filled into AT	No	
2	**Accessibility**					
2.1	Do colours convey information?	Yes	No		No	
2.2	Are all non-text items provided with a text alternative?	Yes	Yes		Yes	with minor exceptions indicated in the report
2.3	Do the text alternatives clearly describe the purpose of the non-text item?		Yes		Yes	with minor exceptions indicated in the report
2.4	Are skip links provided at the beginning of every web page (e.g. skip to main content, skip to menu)?	Yes	No		No	
2.5	Does the site provide keyboard shortcuts?	Yes	No		No	
2.6	Is there an accessibility statement?	Yes	No		No	
3	**Starting Page of Application**					
3.1	Does the user have access to the starting page of the application from any other page?	Yes	No	There is no home page in AT	No	
3.2	Does the starting page of the application contain the most important options and links of the site?		No	Starting page is simple login page.	Yes	
3.3	Does the user need to scroll down to see all relevant information on the starting page of the application?	Yes	No		No	
4	**Page Layout**					
4.1	Are all critical contents and navigation options positioned toward the top of the page?	Yes	Yes		Yes	
4.2	Are the pages too crowded with information?	Yes	No		No	
4.3	Are the information items of the same category aligned consistently?	Yes	Yes		Yes	
4.4	Do the layouts of the pages adjust the page size to monitor resolution settings?	Yes	Yes		Yes	
4.5	Are longer pages used to match the structure of a paper counterpart, to keep related information				No	

	together, or to facilitate downloading and printing?					
4.6	Is a list of "anchor links" provided on long pages with more information below the fold?	Yes	No		No	page size is normal
4.7	Are "back to top" links provided on long text pages?	Yes	No		No	No long pages
4.8	Does the site use frames?	Yes	No		No	
4.9	Does the site use javascript?	Yes	Yes		Yes	
4.10	Can people with javascript disabled use the site?		Yes		Yes	
5	**Navigation**					
5.1	Is the navigation framework consistent in the whole AeG web site?	Yes	Yes		Yes	
5.2	Are there clickable table of contents on long pages?	Yes	No		No	No long pages
5.3	Does the user get feedback about his location within the AeG web site and how to proceed to the next activity?	Yes	Yes		Yes	Through the title, but not appropriate in all pages and can be improved. Please see section 5.2.2 of the report
5.4	Is the primary menu always located on screen?	Yes	No		No	no menu
5.5	Are the destinations of the links clear from the content or from the link labels?		Yes		Yes	
5.6	Is a site map provided?	Yes	No		No	not needed
5.7	Can the user always go back to the previous screen by clicking on the browser's back button?	Yes	No	AT is opened in new window, where back button is disabled, it is needed to use site navigation instead	No	would be useful not to open in new window and have the back button available.It does seem to work with the back button
5.8	Are the task sequences standardized – i.e. are there similar conditions for performing similar tasks within the same sequence?	Yes	Yes		Yes	
5.9	Does the web site contain a FAQ section?	Yes	No	manual is provided. AT is intended to be used by trained staff	No	
5.10	Is breadcrumb navigation provided?	Yes	No		No	

6	**Scrolling and Paging**					
6.1	Does the web site need horizontal scrolling?	Yes	No		No	
6.2	Does the web site need a lot of vertical scrolling?		Yes		No	depending on screen resolution
7	**Headings, Titles, and Labels**					
7.1	Does the language used on the AeG web site correspond to the language commonly used by the target users?		Yes		Yes	
7.2	Is the title on each web page appropriate?		Yes		Yes	not in all pages, please see report
7.3	Is the title on each web page unique?		Yes		Yes	
7.4	Are the most significant data highlighted?		Yes		Yes	
7.5	Do all tables have headers and captions?	Yes	No		No	
7.6	Are tables used to display only tabular data (i.e. not used for presentation purposes)?	Yes	No		No	
7.7	Are the headings of the data tables clear and accurate?				Yes	but not marked as headings
7.8	Is the main content clearly distinguished by using the HTML heading tags?	Yes	No	there is no text content in AT. All the information is of tabular kind.	No	
7.9	Are the HTML heading tags used for presentation (e.g. to make a word bold)?	Yes	No		No	
8	**Links**					
8.1	Is it true that items that are not clickable do not have the same characteristics with clickable items?	Yes	Yes	Only buttons are clickable in AT	Yes	
8.2	Can the important content be accessed from more than one link?	Yes	Yes	Text button and image button are provided in pairs for important links	Yes	
8.3	If a graphical link is used, does it clearly indicate the purpose/destination of the link?	Yes	Yes		Yes	
8.4	Does the colour of the link change after it has been	Yes	No	no links used	No	

	used?					
8.5	Are the links clearly distinguishable to user (without searching for them by using the cursor)?	Yes	Yes			n/a
8.6	Is it true that the length of the text links is appropriate (e.g. no longer than one line and at the same time not too short)?	Yes	Yes		Yes	
8.7	Are the internal and external links clearly distinguished?	Yes	Yes	No external links		n/a
8.8	Are there links described as "click here" or "...can be found here"?		No		No	
8.9	Do links open in new windows / tabs?	Yes	Yes	Only start link opens new window (wit h disabled toolbars)	No	
9	**Text Appearance**					
9.1	Do text and background have high-contrast?	Yes	Yes	fully customizable in CSS	Yes	
9.2	Is size and spacing of characters used and visualized consistently throughout the AeG web site?	Yes	Yes		Yes	
9.3	Are the used fonts familiar for users (e.g. Times New Roman, Arial, Helvetica, Verdana, etc.)?	Yes	Yes		Yes	
9.4	Are font types used and visualized consistently throughout the AeG web site?	Yes	Yes		Yes	
9.5	Are the different font characteristics used for one or two words or short phrases only?	Yes	No		No	
9.6	Can the user increase the font size by the browser provided features?	Yes	Yes		Yes	
10	**Screen-Based Controls**					
10.1	Are the required and optional data entry fields clearly distinguished?	Yes	Yes		Yes	
10.2	Is the case sensitivity clearly communicated to users?	Yes	No		No	could be added if login details are case sensitive
10.3	Do the users need to enter the same information more than once (e.g. the system does not	Yes	No		No	

	populated the user's name when a form is loaded)?					
10.4	If users use a link available on a form during information entry, is the entered information preserved after they return?	Yes	No		No	
10.5	Is the search input box at least 30 characters long?	Yes	No	No search on AT		n/a
10.6	Are the radio buttons used in case users can select one response from a list of mutually exclusive options?	Yes	No			n/a
10.7	Are all data entry controls accompanied by descriptive labels?	Yes	Yes		Yes	
11	**Graphics, Images, and Multimedia**					
11.1	Are all clickable images labelled?	Yes	Yes		Yes	
11.2	Are image maps used in the web site?	Yes	No		No	
11.3	Are video, animations and audio used only when necessary?	Yes	Yes	no video, animations or audio		n/a
11.4	Do images transfer intended information to users?	Yes	Yes	yes but always duplicated with text	Yes	accompanied by alternative descriptions
11.5	Are the acronyms and abbreviations clearly defined?	Yes				n/a
12	**Content organisation and format**					
12.1	Are related information and functions grouped together?	Yes	Yes		Yes	
12.2	Is the number of clicks required to find relevant information minimised?	Yes	Yes		Yes	except navigating to the first page
12.3	Are there any links to outside sources and materials?	Yes	No		No	
12.4	Can the documents be found in a printable format?	Yes				n/a
12.5	Is there a print version css?	Yes	No			n/a
13	**Search**					
13.1	Is it true that the search results provide precise information in a clear format?	Yes				n/a
13.2	Is it true that the search engine is not case and	Yes				n/a

	accent sensitive?					
13.3	Is a search function available in all pages?	Yes	No			n/a
14	**User help**					
14.1	Does the system always display an error message when it behaves inappropriately?	Yes	Yes			couldn't make it to behave inappropriately
14.2	Is there any additional information how to use the AeG web site (e.g. description of the best ways to navigate it)?	Yes	Yes		No	

Thank you for taking the time to complete the questionnaire!

Appendix C – Detailed Results per page

Page id	Issue No	Type of Issue	Description	Reference	WCAG 1.0 Checkpoint	Priority
0	1	Accessibility	HTML code is not valid	0-1	3.2	2
0	2	Usability	HTML title tag is missing			
0	3	Accessibility	CSS code is not valid	0-3	3.2	2
0	4	Accessibility	Input form controls do not have a corresponding label		12.4	2
0	5	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
0	6	Accessibility	Identify the document language		4.3	3
0	7	Accessibility	Provide a skip to content link			
0	8	Accessibility	Use header elements to convey document structure		3.5	2
1	1	Accessibility	HTML code is not valid	1-1	3.2	2
1	2	Usability	HTML title tag is missing			
1	3	Accessibility	Identify the document language		4.3	3
1	4	Accessibility	Provide a skip to content link			
1	5	Accessibility	Use header elements to convey document structure		3.5	2
1	6	Usability	It is no identified that this is the main page (homepage) of the tool			
1	7	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
1	8	Accessibility	Alt text is missing in images for selecting offices		1.1	1
2	1	Accessibility	HTML code is not valid	2-1	3.2	2

2	2	Usability	HTML title tag is missing			
2	3	Accessibility	Identify the document language		4.3	3
2	4	Accessibility	Provide a skip to content link			
2	5	Accessibility	Use header elements to convey document structure		3.5	2
2	6	Usability	Text "Organization: Slovak Telecom a.s. Michalovce" is repeated twice without clear indication of what each one is intended for.	2-6		
2	7	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
2	8	Accessibility	Alt text is missing in icons for viewing services of selected organisation, list of contact persons etc and hide, show details buttons		1.1	1
2	9	Accessibility	Form labels are present, but they are empty, e.g. no controls associated to them, for "organization name"," description of organisation etc.		12.4	2
2	10	Accessibility	Identify row headers, e.g., Organization name, link name, link description should be identified as row headers		5-1	1
2	11	Usability	URLs and email addresses should be provided as html links			
2	12	Usability	It is not clear what the view button does.			
2-1	1	Accessibility	HTML code is not valid	2-1-1	3.2	2
2-1	2	Usability	HTML title tag is missing			
2-1	3	Accessibility	Identify the document language		4.3	3
2-1	4	Accessibility	Provide a skip to content link			
2-1	5	Accessibility	Use header elements to convey document structure		3.5	2
2-1	7	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
2-1	8	Usability	This page should not be displayed if the organisation has only one service			
2-1-1	1	Accessibility	HTML code is not valid	2-1-1-1	3.2	2
2-1-1	2	Usability	HTML title tag is missing			
2-1-1	3	Accessibility	Identify the document language		4.3	3
2-1-1	4	Accessibility	Provide a skip to content link			
2-1-1	5	Accessibility	Use header elements to convey document structure		3.5	2
2-1-1	6	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
2-1-1	7	Accessibility	Alt text is missing in icon for show details button		1.1	1
2-1-1	8	Accessibility	Form labels are present, but they are empty, e.g. no controls associated to them, for "organization name"," description of organisation etc.		12.4	2
2-1-1	9	Accessibility	Identify row headers, e.g., Organization name, link name, link description should be identified as row headers		5-1	1
2-1-1	10	Usability	Label "View Item" is not indicating what items are currently viewed			
2-1-1	11	Usability	It is not possible to navigate to the start page from this page			

2-2	1	Usability	HTML title tag is missing			
2-2	2	Accessibility	Identify the document language		4.3	3
2-2	3	Accessibility	Provide a skip to content link			
2-2	4	Accessibility	Use header elements to convey document structure		3.5	2
2-2	5	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
2-2	6	Accessibility	Alt text is missing in icon for show details button		1.1	1
2-2	7	Usability	It is not possible to navigate to the starting page from this page			
2-2-1	1	Accessibility	HTML code is not valid	2-2-1-1	3.2	2
2-2-1	2	Usability	HTML title tag is missing			
2-2-1	3	Accessibility	Identify the document language		4.3	3
2-2-1	4	Accessibility	Provide a skip to content link			
2-2-1	5	Accessibility	Use header elements to convey document structure		3.5	2
2-2-1	6	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
2-2-1	7	Accessibility	Form labels are present, but they are empty, e.g. no controls associated to them, for "organization name"," description of organisation etc.		12.4	2
2-2-1	8	Accessibility	Identify row headers, e.g., Organization name, link name, link description should be identified as row headers		5-1	1
2-2-1	9	Usability	Label "View Item" is not indicating what items are currently viewed			
2-2-1	10	Usability	It is not possible to navigate to the starting page from this page			
2-2-1	11	Usability	URLs and email addresses should be provided as html links			
2-2-2	1	Accessibility	HTML code is not valid	2-2-1-1	3.2	2
2-2-2	2	Usability	HTML title tag is missing			
2-2-2	3	Accessibility	Identify the document language		4.3	3
2-2-2	4	Accessibility	Provide a skip to content link			
2-2-2	5	Accessibility	Use header elements to convey document structure		3.5	2
2-2-2	6	Accessibility	Access-eGov logo image alt should be more informative e.g. "Access eGov logo"		1.1	1
2-2-2	7	Accessibility	Form labels are present and input control but not associated correctly		12.4	2
2-2-2	8	Accessibility	Identify row headers, e.g., Organization name, link name, link description should be identified as row headers		5-1	1
2-2-2	9	Usability	Label "View Item" is not indicating what items are currently viewed			
2-2-2	10	Usability	It is not possible to navigate to the starting page from this page			
2-2-2	11	Accessibility	Icons for "Add another value…" buttons do not have alt text		1-1	1
2-2-2	12	Accessibility	If style sheets are switched off, it is not clear what is the use of "Add another value…" buttons		6-1	1

ANNEX 3 – Personal Assistant Accessibility and Usability Evaluation Report

Executive Summary

This report describes accessibility and usability evaluation of the Personal Assistant of Access-eGov. Accessibility evaluation was based on W3C's Web Content Accessibility Guidelines (WCAG) 1.0[14], while usability evaluation was based on the usability guidelines produced for the project and are document and documented in Quality Assurance Process & Risk Management report (Amendment to D1.3).

Section 2 describes the Personal Assistant version evaluated and section 3 the evaluators' expertise. The review process based on the W3C's Conformance Evaluation method is described in Section 4. Based on this evaluation, the Access-**eGov Personal Assistant is close to meeting all three conformance levels of WCAG 1.0 including Triple** A. General and detailed review results are available in Section 6 below. Feedback on this evaluation is welcome.

[14] http://www.w3.org/TR/WCAG10/

16 Introduction

Conformance evaluation of Web accessibility requires a combination of semi-automated evaluation tools and manual evaluation by an experienced reviewer. The evaluation results in this report are based on evaluation conducted during the period January, February 2007. The Web site may have changed since that time.

Usability evaluation was conducted by experienced evaluators and was based on usability guidelines produced for the project and are document and documented in Quality Assurance Process & Risk Management report (Amendment to D1.3)[15].

17 Web site reviewed

This report describes the evaluation of the Personal Assistant on a separate release that was set up for evaluation purposes only, with the following details.

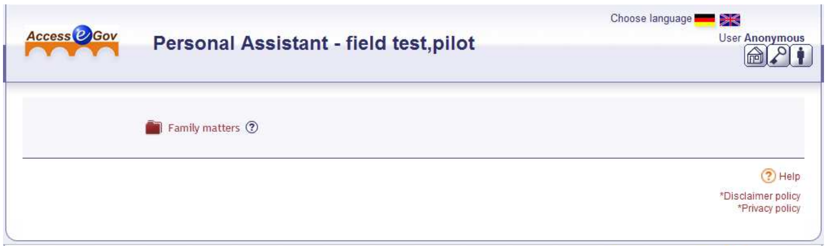
Name of Web site	**Access-eGov Personal Assistant**
Base URL of site	http://esprit.ekf.tuke.sk/acg-client/
Usernames used	**anonymous**
URL's included in review	**Since all pages of the tool have the same url, screen shots are provided. Each page was given a unique number to refer to. Screenshots and page ids are provided in the following section.**
URL's excluded from review	**none**
Range of dates on which review conducted	**11/2/2007 – 19/2/2007**
Natural language(s) of Web site	**English interface with German data**

[15] Access-eGov Deliverable Quality Assurance Process & Risk Management report (Amendment to D1.3)

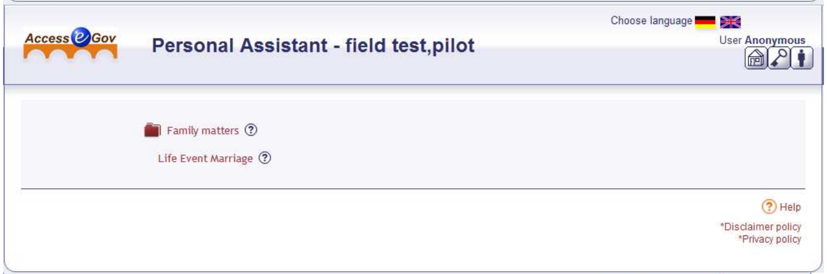
*17.1*Pages evaluated

Page id Description Screenshot

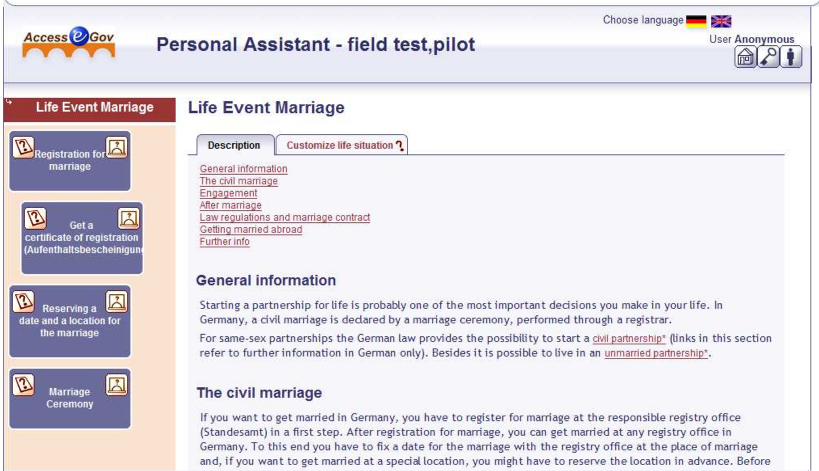
0 **Start page**



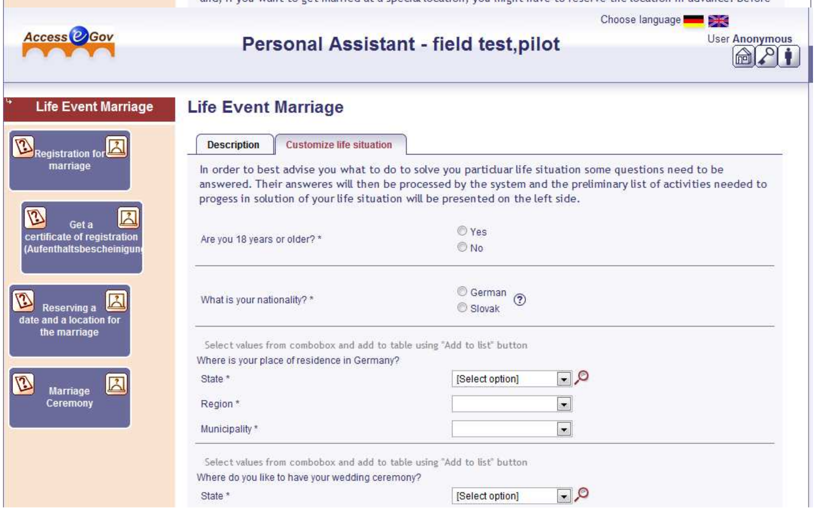
1 **Selection of life event**



2 **Life event start page**



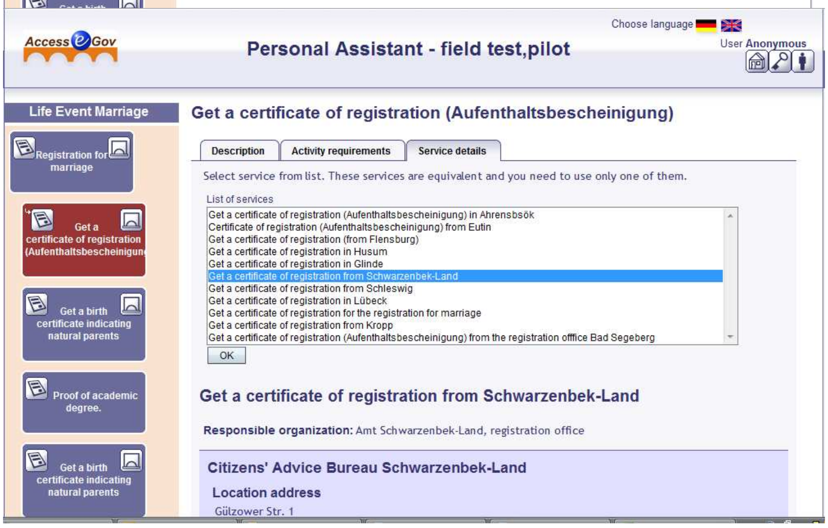
3 **Customise life situation**



4 **Life event scenario customised**

5 **Activity requirements**

6 **Service details**



Note:
The pages that are displayed by the system depend, on the scenario followed by the user. Therefore it is almost impossible to test every single page. However, every attempt has been made to test one page from each type of page.

18 Reviewers

e-ISOTIS (ISO) assigned three reviewers to conduct the evaluations from its associates. The reviewers have experience in the following areas:

- Web mark-up languages and validation tools

- W3C evaluations
- Web Content Accessibility Guidelines 1.0 (WCAG 1.0) and 2.0 (WCAG 2.0)
- Use of computer-based assistive technologies and adaptive strategies
- Web design and development
- Requirements engineering for IT products
- Training of end users
- Expert and end user evaluations

All reviewers fluently speak and write in the English language.

19 Evaluation Process

This section describes the accessibility and usability evaluation process.

19.1 Accessibility evaluation process

Accessibility of a web site has several aspects that need to be checked. The most widely adopted accessibility guidelines and conformance checklists are the Web Content Accessibility Guidelines 1.0 (WCAG) developed by the World Wide Web Consortium (W3C http://www.w3.org/). The accessibility of the Personal Assistant was validated for conformance to AAA level according to WCAG 1.0. Description of conformance levels is provided in the next section.

19.1.1 Accessibility validation tools

For the accessibility validation electronic tools were used in addition to the experts' review. The following tools were used:

- **WAVE 3.0 Accessibility Tool**[16] against Wave complete[17], including all levels of WCAG 1.0
- **ATRC Web Accessibility Checker**[18] against WCAG 1.0 AAA level[19]

19.1.2 Accessibility Conformance levels

WCAG defines several checklists a website needs to satisfy in order to be accessible and usable. Checkpoints are grouped in priority levels[20], based upon the checkpoint's impact on accessibility.

- **Priority 1**
  A Web content developer must satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents.

[16] http://wave.webaim.org/index.jsp
[17] http://wave.webaim.org/wave/PreferencesHome.jsp
[18] http://checker.atrc.utoronto.ca/index.html
[19] http://checker.atrc.utoronto.ca/servlet/ChangeGuideline
[20] http://www.w3.org/TR/WCAG10/#priorities

- **Priority 2**
  A Web content developer should satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document. Satisfying this checkpoint will remove significant barriers to accessing Web documents.
- **Priority 3**
  A Web content developer may address this checkpoint. Otherwise, one or more groups will find it somewhat difficult to access information in the document. Satisfying this checkpoint will improve access to Web documents.

Based upon the above priorities WCAG defines three levels of website conformance[21]:

- **Conformance Level "A":** all Priority 1 checkpoints are satisfied
- **Conformance Level "Double-A":** all Priority 1 and 2 checkpoints are satisfied
- **Conformance Level "Triple-A":** all Priority 1, 2, and 3 checkpoints are satisfied

19.2 Usability evaluation process

Usability was tested against the guidelines produced for the project and documented in Access-eGov Deliverable Quality Assurance Process & Risk Management report (Amendment to D1.3). The validation was done without the se of any automated tool. A checklist and a questionnaire was created based on the guidelines. The questionnaire was filled in by the development team and the expert evaluators.

20 Evaluation results

This section describes the summary of results and their details.

20.1 Summary of Results

The summary of results are categorised in those regarding accessibility and those elated to the usability of the tool. Also this section describes the strong accessibility and usability points of the Personal Assistant.

20.1.1 Accessibility

Currently, the tool does not conform to any the three conformance level. However, the reasons for this are minimal, repeated in each page and should not be time consuming or difficult to correct.

The following table lists the number of unique WCAG 1.0 checkpoints not passed (column 2) per priority and how many times this occurs (column 3) in all the pages validated.

Priority	Number of unique checkpoints

[21] http://www.w3.org/TR/WCAG10/#Conformance

	not addressed
1	**1**
2	**4**
3	**2**

20.1.2 Usability

The usability evaluation has not identified major issues. However, the user trials should evaluate the tool's usability more precisely. The following minor suggestions are provided that could improve the usability of the tool:

- Email addresses to be provided as links
- It would be helpful to the users to provide a legend of the icons used to the left and right of each task in the workflow, since the users will not be familiar with them at first and not all users will know to freeze the mouse over the icon in order to see an explanation
- In the forms containing drop down lists that are data dependent between them, it is suggested to enable and disable the drop down lists according to whether the user can select an item from the list. For example the region and municipality lists can be initially disabled. When the user selects a item from the state list, then the region list should be enabled and when the user selects an item from the region list then the municipality list should be enabled.

20.1.3 Strong accessibility and usability points of the tool

The reviewers believe a user familiar with general computer use, shouldn't require intensive training in order to use the tool of training required and perhaps the user may not even require conducting the user manual. However, some familiarisation with the tool is required and once this is achieved, it is straightforward in its use. This is a good overall indication that the tool achieves good usability and it is straightforward to use. More details on strong points of the tool's design follow:

- All interfaces are consistent and self explanatory
- Interfaces, actions and information are categorised intuitively
- System response time is perfect and does not distract the user
- Alt tags are used in most images
- The tool support well most screen resolutions, with some horizontal scrolling appearing
- Colour use provides good contrast and does not solely convey important information that may be not viewable to low sight, colour blind or fully blind users
- Font size is resizable
- The tool does not require severe scrolling
- Users with the JavaScript browser functionality disabled can still use the tool
- Most pages linearise properly
- Skip links are provided in long pages

20.2 Detailed results

The detailed results are divided in two categories. Issues that occur throughout the tool and are present in the tool's layout and issues at specific pages. Some further suggestions are provided at the end of the section, though these only suggest to improve accessibility and usability of the tool and do not refer to specific violations of the WCAG accessibility checkpoints.

20.2.1 Issues occurring throughout the tool

This section provides more details about issues that occur throughout the site and appear in the tool's presentation template. For each issue a recommendation is provided, although more info about issues referring to WCAG checkpoints can be obtained from the WCAG 1.0 web page available at http://www.w3.org/TR/WCAG10/. Issues are sorted alphabetically.

20.2.1.1 Missing alt text

WCAG checkpoint: 1.1
Priority: 1
HTML input elements and images (including icons) should have alt text. Specific issues occurring with missing alt text:

1. In the present version of the pages, a screen reader user will have no means of understanding which language each flag button corresponds to, because of missing alt text.
   Recommendation: Alt text should be provided.
2. This will also be the case for the three buttons under the logged in user label, namely "start page", "login" and "create user profile".
   Recommendation: Alt text should be provided.
3. Question mark icon next to Help button (bottom right of screen) does not have alt text.
   Recommendation: alt text should be added or be included as background image in the CSS file

20.2.1.2 Use input device-independent event handlers

WCAG checkpoint: 6.4
Priority: 2
Keyboard event handlers should be used in conjunction with mouse event handlers (onclick, onmouseover, onmouseout). Event handlers are used throughout the site and it must be ensured that such event handlers are not tight to particular devices such as mouse or keyboard.

20.2.1.3 Documents should validate to published formal grammars

WCAG checkpoint: 3.2
Priority: 2
Documents should validate against published formal grammars such as the HTML specification.
Recommendation: The HTML and CSS validator of the W3C can be used to validate the documents produced.

20.2.1.4 Avoid deprecated features of W3C technologies

WCAG checkpoint: 11.2

Priority: 2
Deprecated features of W3C technologies should not be used, such as the border attribute of the img element in the HTML files. Such attributes are easily set through the CSS file throughout the site.

20.2.1.5 Separate adjacent links with more than white space

WCAG checkpoint: 10.5
Priority: 3
The links "Disclaimer policy" and Privacy policy should be separated with more than white space.
Recommendation: The two links can be added in an unordered list with <li> having no "list-style" in the CSS file to hide bullet points. Alternatives for this are also described under checkpoint 10.5 (http://www.w3.org/TR/WCAG10-HTML-TECHS/#group-bypass)

20.2.1.6 Identify the primary natural language of a document and changes in the natural language of a document's text

WCAG checkpoint: 4.3, 4.1
Priority: 3, 1
Recommendation: The documents natural language can be identified by using the language attribute and any language changes within the document need to be identified as described by W3C at http://www.w3.org/TR/WCAG10-HTML-TECHS/#changes-in-lang

20.2.2 Accessibility issues at specific pages

This section identifies accessibility issues per page evaluated. Page ids are defined in section 17.1

20.2.2.1 Page 0 - Start page

- The folder icon has empty alt text. While it is assumed this is intentionally left empty as it is used for presentation purposes, a better option would be to be included as a background image in the CSS file
- Question mark next to button "Family Matters" is missing alt text
- "Family matters" button is missing alt text

20.2.2.2 Page 1 - Selection of life event

In addition to the above also the

- Life event marriage button is missing alt text

An additional suggestion for this page is to present life events in a list as it would be more accessible when more than one life event is added.

20.2.2.3 Page 2 - Life event start page

- The list of links at the top of the "Description" tab ("General information", "the civil marriage", etc..) would be better defined as a list
- Heading levels are skipped (h1 and h3 present while h2 is missing). For example the "Life event marriage" heading could be set as an h2 (checkpoint: 3.5, priority: 2)

- Changes in the language of the text need to be identified. For example, under the "Law regulations…" subheading "Bundesnotarkammer" should be identified as a different language (checkpoint: 4.1, priority 1)

20.2.2.4 Page3 – Customise life situation

- Empty h3 immediately over the "Are you 18 years…" question
- There are form labels present not associated with any form input
- Icons in the form are missing alt text descriptions

20.2.2.5 Page 6 – Service details

- Contact details of "officers at your disposal" at the bottom of the screen should be better displayed as a table since this can be considered as tabular data. The table would have three columns with column headings: "Officer name", "Phone", "Email".

20.2.3 Other suggestions

The hidden progress bar image displayed when navigating between pages is a nice presentation effect and it does enhance the web site's usability. However, it is not useful to people using screen readers. The image currently has "display:none;" in the CSS and most likely most screen readers will ignore such content. See http://css-discuss.incutio.com/?page=ScreenreaderVisibility. However, it is good practice to include all presentational elements in the CSS file than the HTML file. Perhaps it would be possible to add the image as a background image in a "div" within the HTML and set this "display:none;". This way screen readers will surely ignore the image.

It is good practice to provide skip to menu, skip to content links. Although not included in the WCAG 1.0 guidelines, it is a helpful aid for people using screen readers and mobility impaired users. In the case of the Personal Assistant, it would be helpful to provide links that all the user to skip everything until the main content or skip everything until the workflow.

As stated by checkpoint 13.3 (priority 2) it would be helpful to the users if some information about the general layout of the site is provided.

Users are currently informed about links that open in new windows by an asterisk next to the link. However, at the beginning it is not clear that the asterisk denotes such information. It is suggested to provide this as text, e.g. "opens in new window" that is also helpful to users with vision impairments or as an icon with alt text "opens in new window". The figure below displays icons used for external links:

20.2.4 Usability Questionnaires

Usability questionnaires have been provided and filled in by the development team and the experts. Results and issues raised in the questionnaires are indicated in this report and the completed questionnaires are available in Appendix A.

21 Conclusions

Although the tool does not conform to any level of WCAG conformance, it is in a very good state regarding its accessibility and only very few checkpoints need to be looked at in order to achieve AAA conformance. The tool's usability is also at a very good level and can be improved with minor modifications as indicated.

Appendix A – Usability Questionnaires

No	Question	Compulsory Question	Development Team: Answer	Development Team: Comments	Reviewers: Answer	Reviewers: Comments
1	**User Experience**					
1.1	Does the computer perform the tasks which can be easily done by it (simple and repeated)?	Yes	Yes		Yes	
1.2	Is the accessing time appropriate? (less than 10 seconds)?	Yes	No	first loads of pages are a bit longer	Yes	
1.3	Are users warned for a page/session time out?	Yes	No		Yes	It is suggested to add an information label the page will expire after X minutes
1.4	Does the system display progress indication and feedback when the user waits longer than 7 seconds?	Yes	No		No	It is good practice to provide such feedback
1.5	Does the system respond quickly when used through 56Kbit connection?	Yes		Can not simulate	n/a	
1.6	Are fees displayed in all relevant currencies? (i.e. for Slovak localisation of AeG in SKK and possibly EUR, for Polish localisation PLN and possibly EUR, for German localisation EUR)	Yes	Yes		Yes	
1.7	Has the AeG web site been tested if it is accessible by IE7, IE6, Mozilla, Safari and Opera browsers?	Yes	Yes	Mozzila firefox is a base browser	Yes	It is suggested to test in IE6 & IE7
1.8	Are display resolutions higher than 800x600 (including) supported?	Yes	Yes		Yes	

1.9	Is a privacy policy statement provided and available from the concerning parts of the AeG web site?	Yes	Yes		Yes	
2	**Accessibility**					
2.1	Do colours convey information?	Yes	Yes	But not only - i. e. together with something else	No	
2.2	Are all non-text items provided with a text alternative?	Yes	Yes	Most of them are.		Most of them
2.3	Do the text alternatives clearly describe the purpose of the non-text item?		Yes		Yes	
2.4	Are skip links provided at the beginning of every web page (e.g. skip to main content, skip to menu)?	Yes	Yes		Yes	for long pages only
2.5	Does the site provide keyboard shortcuts?	Yes	No		No	suggested
2.6	Is there an accessibility statement?	Yes	No		No	suggested
3	**Starting Page of Application**					
3.1	Does the user have access to the starting page of the application from any other page?	Yes	Yes		Yes	
3.2	Does the starting page of the application contain the most important options and links of the site?		No		Yes	
3.3	Does the user need to scroll down to see all relevant information on the starting page of the application?	Yes	No		No	
4	**Page Layout**					
4.1	Are all critical contents and navigation options positioned toward the top of the page?	Yes	Yes		Yes	
4.2	Are the pages too crowded with information?	Yes	No		No	
4.3	Are the information items of the same category aligned consistently?	Yes	Yes		Yes	
4.4	Do the layouts of the pages adjust the page size to monitor resolution settings?	Yes			Yes	However, horizontal layout is required

4.5	Are longer pages used to match the structure of a paper counterpart, to keep related information together, or to facilitate downloading and printing?			Not relevant (at this state)	No	
4.6	Is a list of "anchor links" provided on long pages with more information below the fold?	Yes		Not relevant (at this state)	Yes	
4.7	Are "back to top" links provided on long text pages?	Yes		Not relevant (at this state)	No	
4.8	Does the site use frames?	Yes	No		No	
4.9	Does the site use javascript?	Yes	Yes		Yes	
4.10	Can people with javascript disabled use the site?		Yes		Yes	
5	**Navigation**					
5.1	Is the navigation framework consistent in the whole AeG web site?	Yes	Yes		Yes	
5.2	Are there clickable table of contents on long pages?	Yes		Not relevant (at this state)	Yes	
5.3	Does the user get feedback about his location within the AeG web site and how to proceed to the next activity?	Yes	Yes		Yes	
5.4	Is the primary menu always located on screen?	Yes	Yes		Yes	
5.5	Are the destinations of the links clear from the content or from the link labels?		Yes		Yes	
5.6	Is a site map provided?	Yes	No		No	
5.7	Can the user always go back to the previous screen by clicking on the browser's back button?	Yes	Yes		No	
5.8	Are the task sequences standardized – i.e. are there similar conditions for performing similar tasks within the same sequence?	Yes	Yes		Yes	
5.9	Does the web site contain a FAQ section?	Yes	No		No	

5.10	Is breadcrumb navigation provided?	Yes	No		No	
6	**Scrolling and Paging**					
	Does the web site need horizontal scrolling?	Yes	No		No	only very low resolutions may require horizontal scrolling
6.2	Does the web site need a lot of vertical scrolling?		No		No	
7	**Headings, Titles, and Labels**					
7.1	Does the language used on the AeG web site correspond to the language commonly used by the target users?		Yes		Yes	
7.2	Is the title on each web page appropriate?		Yes		No	More appropriate titles are suggested
7.3	Is the title on each web page unique?		Yes		No	
7.4	Are the most significant data highlighted?		No		No	it is not needed, sometimes they are emphasised by the use of strong html element
7.5	Do all tables have headers and captions?	Yes			No	No tabular data presented
7.6	Are tables used to display only tabular data (i.e. not used for presentation purposes)?	Yes	Yes		n/a	
7.7	Are the headings of the data tables clear and accurate?				n/a	
7.8	Is the main content clearly distinguished by using the HTML heading tags?	Yes	Yes		n/a	
7.9	Are the HTML heading tags used for presentation (e.g. to make a word bold)?	Yes	Yes		No	
8	**Links**					
8.1	Is it true that items that are not clickable do not have the same characteristics with clickable items?	Yes	Yes		Yes	

8.2	Can the important content be accessed from more than one link?	Yes	No	Maybe not relevant for AeG	n/a	
8.3	If a graphical link is used, does it clearly indicate the purpose/destination of the link?	Yes	Yes		Yes	with some exceptions mentioned in the report
8.4	Does the colour of the link change after it has been used?	Yes	No		No	
8.5	Are the links clearly distinguishable to user (without searching for them by using the cursor)?	Yes	Yes		Yes	
8.6	Is it true that the length of the text links is appropriate (e.g. no longer than one line and at the same time not too short)?	Yes	Yes		Yes	
8.7	Are the internal and external links clearly distinguished?	Yes	Yes	External link used in service description	Yes	see report for more details
8.8	Are there links described as "click here" or "...can be found here"?		No		No	
8.9	Do links open in new windows / tabs?	Yes	Yes	External links only (out from the application)	Yes	
9	**Text Appearance**					
9.1	Do text and background have high-contrast?	Yes	Yes		Yes	
9.2	Is size and spacing of characters used and visualized consistently throughout the AeG web site?	Yes	Yes		Yes	
9.3	Are the used fonts familiar for users (e.g. Times New Roman, Arial, Helvetica, Verdana, etc.)?	Yes	Yes		Yes	
9.4	Are font types used and visualized consistently throughout the AeG web site?	Yes	Yes		Yes	
9.5	Are the different font characteristics used for one or two words or short phrases only?	Yes	Yes		Yes	
9.6	Can the user increase the font size by the browser provided features?	Yes	Yes		Yes	
10	**Screen-Based Controls**					
10.1	Are the required and optional data entry fields	Yes	Yes		Yes	

	clearly distinguished?					
10.2	Is the case sensitivity clearly communicated to users?	Yes			n/a	
10.3	Do the users need to enter the same information more than once (e.g. the system does not populated the user's name when a form is loaded)?	Yes	No		no	
10.4	If users use a link available on a form during information entry, is the entered information preserved after they return?	Yes	Yes		Yes	
10.5	Is the search input box at least 30 characters long?	Yes			n/a	
10.6	Are the radio buttons used in case users can select one response from a list of mutually exclusive options?	Yes	Yes		Yes	
10.7	Are all data entry controls accompanied by descriptive labels?	Yes	No	Buttons are not labelled	Yes	
11	**Graphics, Images, and Multimedia**					
11.1	Are all clickable images labelled?	Yes	Yes	Flags are not yet!	Yes	
11.2	Are image maps used in the web site?	Yes	No		No	
11.3	Are video, animations and audio used only when necessary?	Yes	Yes	No such source	n/a	
11.4	Do images transfer intended information to users?	Yes	Yes		Yes	see report for more details
11.5	Are the acronyms and abbreviations clearly defined?	Yes			n/a	
12	**Content organisation and format**					
12.1	Are related information and functions grouped together?	Yes	Yes		Yes	
12.2	Is the number of clicks required to find relevant information minimised?	Yes	Yes		Yes	
12.3	Are there any links to outside sources and materials?	Yes	Yes		Yes	
12.4	Can the documents be found in a printable format?	Yes			no	

12.5	Is there a print version css?	Yes			no	
13	**Search**					
13.1	Is it true that the search results provide precise information in a clear format?	Yes			n/a	
13.2	Is it true that the search engine is not case and accent sensitive?	Yes			n/a	
13.3	Is a search function available in all pages?	Yes	No		n/a	
14	**User help**					
14.1	Does the system always display an error message when it behaves inappropriately?	Yes	Yes		Yes	
14.2	Is there any additional information how to use the AeG web site (e.g. description of the best ways to navigate it)?	Yes	Yes		Yes	