INFORMATION SOCIETY TECHNOLOGIES (IST) PROGRAMME

im@gine it

IM@GINE IT

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Verification pilots results consolidation

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Version history

Version	Date and comments
V1	**06/02/2006** First draft version of the deliverable ready with results of three sites.
V2	**07/04/2006** Second version ready, with all results included. Sent to partners for comments.
V3	**25/04/2006** Third version ready, sent for peer review.
V4	**08/05/2006** Forth version ready updated by the authors according to peer reviewers' comments. Ready for submission.
V5	**21/06/2006** Fifth version ready, with quantitative results added, according to the recommendations form the final project review.

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List of Abbreviations

AGPS	Assisted GPS
GPRS	General Packet Radio Service
GPS	Global Positioning System
LBS	Location based service
PC	Personal Computer
PDA	Personal Digital Assistant
POI	Point Of Interest
UC	Use case
UI	User Interface
URL	Uniform Resource Locator

Executive summary

IM@GINE IT developed a set of infomobility services that can be received through the mobile phone, the mobile PC, the PDA and the car. All the above devices were tested at the verification tests. The development includes algorithms specifications, s/w development, user interface design and development, services interconnection, etc. Thus, system testing evaluates all the above factors.

The results of the first tests, namely the verification tests that have been realised with the IM@GINE IT system, are reported in this document. The analysis is based on 4 questionnaires that have been specifically selected from D6.1: 'Pilot plans', as well as a monitoring template, where the error messages and drawbacks have been reported. Four pilot sites performed the tests, with 16 users in total, while all five sites returned a monitoring template.

Chapter 2 presents shortly the questionnaires and templates used to record the users' opinion on the system and the specific errors. The analysis of the results follows in Chapter 3 per pilot country and for the across-countries tests. In the next chapter, an attempt to compare key results between countries is presented. A summary and next steps are included in the Conclusions chapter. At the end, there are six annexes, where the detailed filled templates per pilot site are given.

As the integration and debugging of the services at each site were ready at different time periods, the full performance of verification tests took place in different dates. Also, as the Finnish site services were available quite late, the verification stage was not performed in Finland (apart from reporting of progress in the monitoring template), and the pilot went straight to demonstration.

The full, detailed tests of the IM@GINE IT system are to be performed with 20 users in total, where more questionnaires are to be used. These tests will be focused more on usability, usefulness and user acceptance issues, in contrast to the verification pilots.

1 Introduction

The aim of the verification pilots was to test the IM@GINE IT system according to the test scenarios that have been identified in Deliverable 6.1 per pilot site, in order to undergo a technical and preliminary usability analysis. The target is to optimise the overall system functionalities, based on the verification tests observations about system bugs and deficiencies in general, before the demonstration tests with external users will take place. The system has been tested in 4 pilot sites: Germany, Greece, Hungary, Italy. Also, across-countries scenarios have been tested. In total, 16 users participated at the tests that were recruited by the respective pilot sites partners companies, not however having an immediate involvement with the project evolvement.

The scenarios that were tested in each test site were not exactly the same, meaning that some secondary functions that were tested in one site may not have been tested in another. However, all sites covered the basic system functionalities and use cases, that were applicable at the time of the tests. The majority of the trials was realised in December 2005, and few in March 2006, in order to test also the fully debugged services and wait for late functionalities.

2 Measuring tools

The methodology followed for the verification pilots realisation is according to the Deliverable 6.1 Pilot plans.

The main focus is on the technical and reliability status of the developed services. As through these tests the preliminary usability of the system is evaluated, the users that have participated come from the pilots companies personnel, which are not however directly involved in the IM@GINE IT services development.

Four questionnaires were selected for the verification tests, among the measuring tools included in D6.1. These are:

- User acceptance questionnaire (Annex D in D6.1).
- Usability questionnaire (Annex E in D6.1).
- UI assessment questionnaire (Annex F in D6.1).
- QoS questionnaire (Annex G in D6.1).

Furthermore, a monitoring template has been specifically designed to report the technical problems that are observed during the tests. More specifically, the target is to:

- Validate for each device the relevant use cases (PC emulator, PDA, smartphone, in-car) per site.
- Validate the Plan a trip use cases for a cross-border travel.
- Assess the localisation techniques, and identify any telecommunication, device installation problems, etc.

In this template, further problems noticed by the technical responsible person in each pilot are reported, even if not observed during the pilots, but are specific system bugs or inefficiencies, that were not solved by the time of the test. A different section is prepared per pilot site. Each section includes two types of tables. The first type lists the UCs that will be implemented at each site for all types of devices. Each site is asked to update these lists (add UCs if needed). For each device and use case, the pilot partners must perform tests and report the results. For example for the UC “Select POI and POI information” the partners are asked to test the system, by asking for example to find restaurants, and report the results and problems.

The table with the UCs includes the following columns:

- Date: The date of the test.
- Localization technique used: The localization technique (if any) that has been used during the specific test, for example external GPS device, AGPS, etc.
- Scenarios performed: The scenario that has been performed, for example a route has been requested from….. to…..

Furthermore, for each device a second table is included in order to report telecommunication (roaming, not available network, etc.) and other issues/problems, if applicable.

3 Procedure and results per pilot site

Since the number of subjects that tested the system is low (ranging form 2 to 5), any analysis is not statistically significant. However, relevant analyses graphs are provided, in order that the results can be qualitatively understood and can be visualised 'at a glance'.

3.1 Greek site results

Initially, some observations about the system functionality were realised in order to be in line (timely-wise) with the rest test sites. The actual verification tests took place significant time after the rest tests were realised, as it was decided to wait for important system improvements that were pending, relating also to the Greek functionality elements. The tests were performed with the mobile phone and the PC emulator of the PDA (desktop PC). In total 5 users participated at the verification tests in Greece.

3.1.1 Technical reliability and QoS

The questions in the relevant questionnaire are split into three groups, depending on the nature of the question.

First of all, the response time of the system was judged normal by all the subjects (mean value 25 sec.). The application loading time (mean 13 sec.) was found satisfactory by 4 users and fast by 1 user.

Regarding the technical characteristics of the system, the results are presented in the following figure.

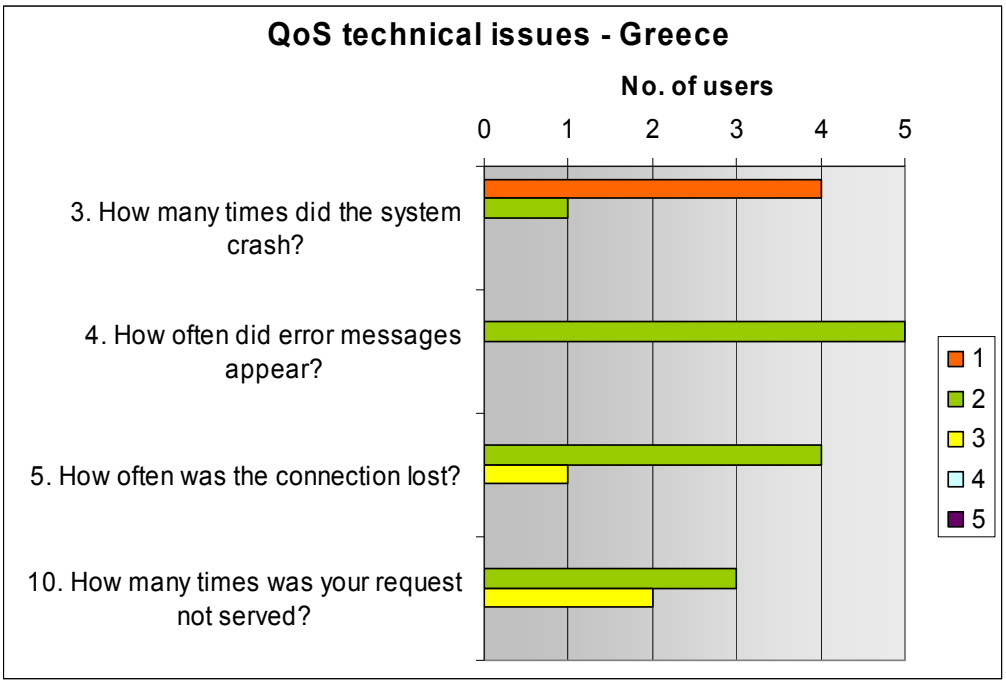

Figure 1: Technical issues of the QoS questionnaire – Greek results (results are given in a 5-point scale, from 'none' to 'very often').

Summarising the results of the figure above, error messages appeared very rarely in all users, the connection was good and the system reaction to the users' request was positively rated. Also, it seems that there were no system crashes. Regarding the overall functionality of the system the results are given in Figure 2.

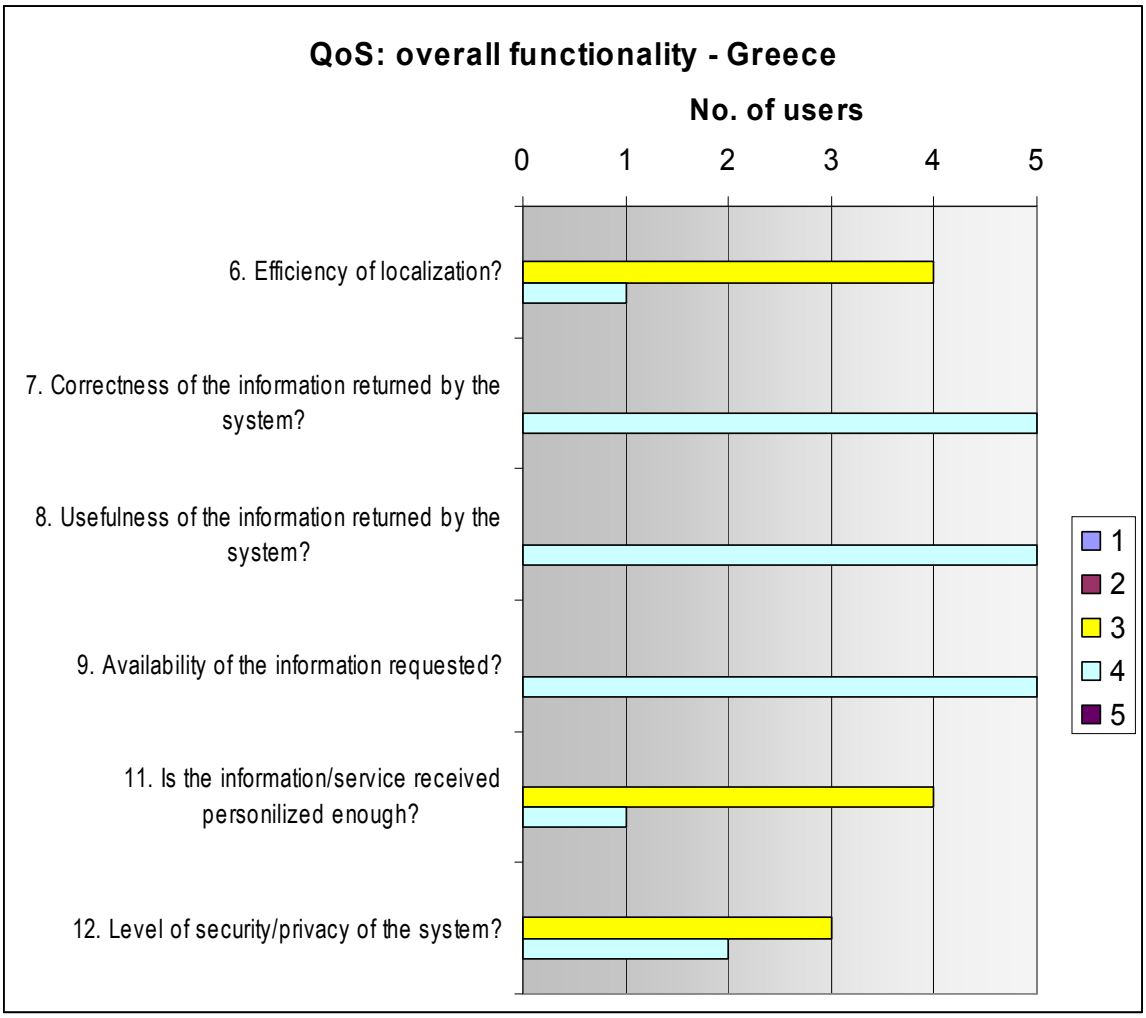

Figure 2: Overall functionality issues of the QoS questionnaire – Greek results (results are given in a 5-point scale, from 'very low' to 'very high').

Although the optimal answer 'very high' was not given to the questions posed (which is normal, as the system is not in its final but in the de-bugging version), the correctness, usefulness and availability of the information returned by the system were rated as 'high' by all the subjects. For the rest of the questions, i.e. efficiency of localisation, personalisation level and security/privacy level, the majority of the users found it 'normal'.

3.1.2 Usability and UI Assessment

Most users seem to find the system not so easy to use, and thus need to learn using before requesting a service. However, all users agreed that they would like to use the system in a frequent basis (3 times per month, mean value). It was not considered that was any kind of inconsistency in the system.

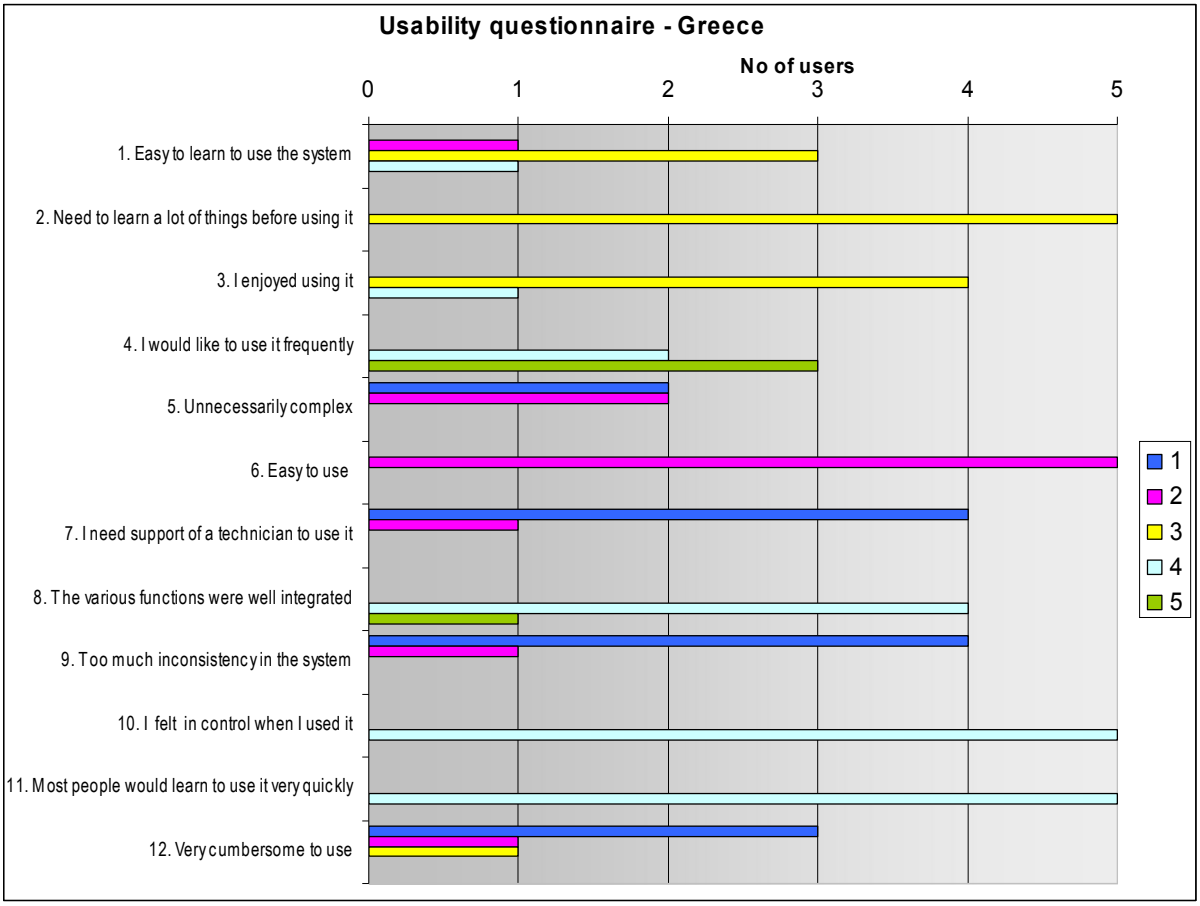

Figure 3: Usability assessment results – Greece (results are given in a 5-point scale, from 'strongly disagree' to 'strongly agree).

As it is shown in Figure 4, the system usefulness, pleasantness, effectiveness and reliability were rated positively by all the users. Also, all users stated that they would like to have the system available in their daily activities. A somewhat negative answer was given to the question dealing with the increase of situation awareness by the system. Finally, the general assessment of the system was given a positive mark (4 out of 5) by all users.

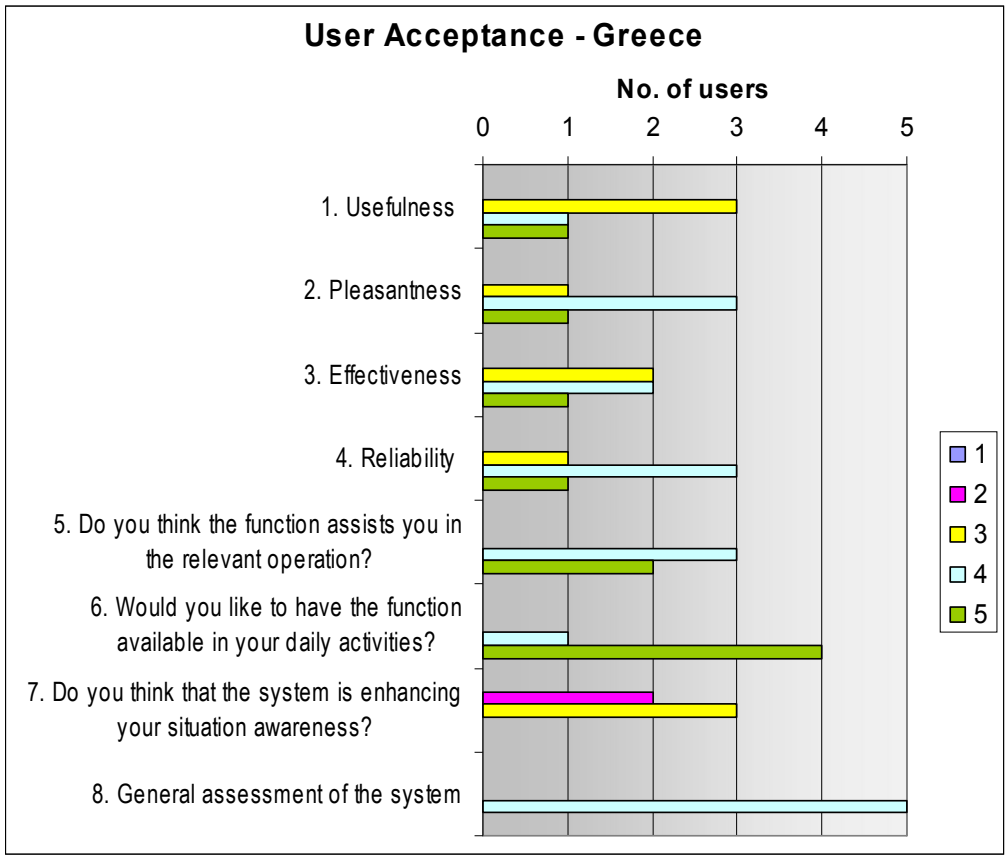

Figure 4: User acceptance assessment results – Greece (results are given in a 5-point scale, from negative to positive).

The total score given by the users for the user acceptance ranged from 29 to 33 out of 45 (mean 31.4 points).

As far as the User Interface of the system is concerned, all the participants were extremely positive regarding its layout, colour, graphics, friendliness, etc. The procedure for acquiring information was not considered as time consuming.

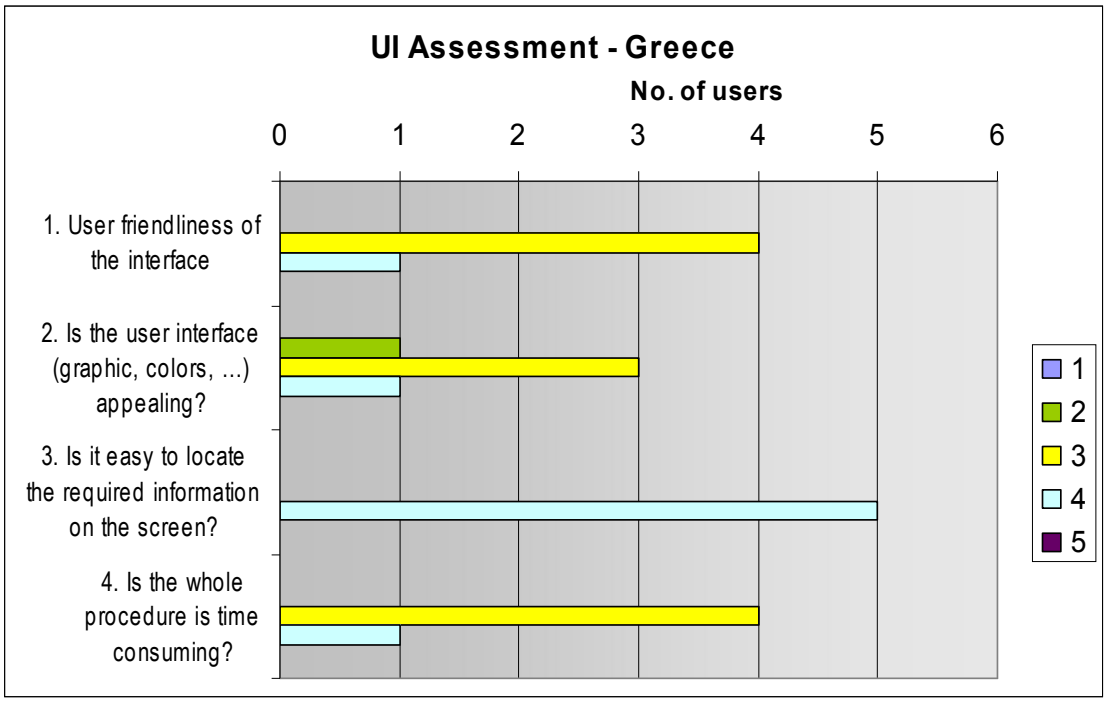

Figure 5: UI acceptance assessment results – Greece (results are given in a 5-point scale, from negative to positive).

Finally, all users don't think that that there should be any additional information on the screen that is currently missing.

3.1.3 Organisation and legal problems

As it was mentioned in the beginning of section 3.1, the Greek verification tests were performed with a mobile phone and a PC emulator of a PDA. The reason that the full PDA application could not be tested, is an organisational problem of the Greek telecom provider (TIM Hellas), where it does not allow GPRS connections for port bigger than 1024 (default port numbers) for security reasons. Thus, the message with the authentication status (after user registration) cannot be delivered to the user device.

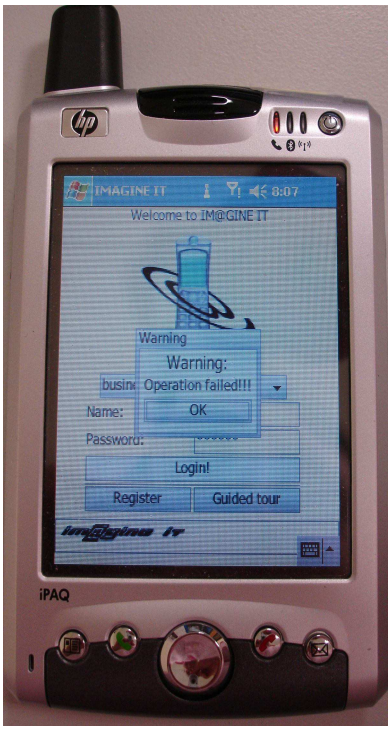

Figure 6: Error message returned at the client side (PDA).

3.1.4 Feedback to development

The observations that were made in December 2005 gave a lot of feedback, as there were still certain system deficiencies that needed to be fixed. From a technical point of view, the following comments are considered important for the system improvement:

- POIs and trips are not stored in the system, so the next time that the user logs in, the bookmarked POIs are lost. If due to a problem the application is terminated, the user looses everything.
- Operation failed messages were received at various points, especially after crashes, thus the application had to restart.
- When a bookmarked POI is put as destination point, probably due to the fact that the POI's address has no number.
- The route in the 'Your travel details' page always has two segments. If the address is too big then it is not displayed completely. The same holds true for the POI long addresses.
- Info/km/directions/hour for each segment is not returned by the system in the "details" page.
- The details of each segment "start on" "finishes on" give the impression that the duration of the first segment is 0min and the duration of the next segment equal to the duration of the trip as a whole.
- Guide me around: In the map that shows all POIs, only one or two major streets are shown. Also maps were received where the POIs did not show at all.
- When restaurants and hotels are asked from the returned list it cannot be distinguished which are restaurants and which are hotels.

- When an incorrect addresses is typed (according to the spelling of the addresses as they have been recorded in the system!) or an address with more than one matches, the same message appears “Your request matches more than one address”. Probably a distinction should be made between the above cases.
- When the system does not recognize at all the address it returns empty addresses with different ZIP codes to choose! It is not clear when this page appear what should be done, i.e. that the “right” address has to be found with ‘prev’, ‘next’. The page has “choose” option both on address and ‘prev’, ‘next’. Furthermore when the end of the list is reached, a warning appears saying that the list is terminated. It gives the impression that a mistake has happened. If the ‘ok’ of the warning message is pressed more that once the system “stuck”. If the operation fails it is not possible to navigate away from the page.

The above comments highlight the remaining system deficiencies. However, some functions seem to work without any problem, as the user registration, un-registration, login and change of account details. Also, storing a trip is working properly. The ‘guide me around’ functionality works partially, since it returns POIs but there were certain problems (as described above). The same holds true for the selection of POI and viewing of detailed information.

As the actual Greek verification tests were performed later than the rest, many development problems that were noticed by the technical people in December ‘05, were fixed. Only 2 problems were encountered during the verification pilots and are reported below:

- Problem in the ‘bookmark POI’ function using the A100 mobile.
- Problem in deleting POI in the A100 device (while on the PDA it is OK).

Annex A contains the filled monitoring templates both for the observations and for the verification pilots.

3.1.5 General proposals

The following points are proposals for the system improvement, not from a technical point of view, but mostly relating to the layout, pre-defined messages, UI design, etc.

- Once a trip is planned the user cannot navigate to another page by selecting plan a trip again.
- It would be useful that the trip that the user has requested to be shown in all pages.
- The message “Warning: Operation failed” when attempting to login with a non-existent password and username is proposed to be replaced by “please type again”.
- The process bar sometimes (especially while searching for POIs) disappeared before the search was over. That was confusing since the user could not know if the search was still active or it had failed. Moreover, it was allowed to press buttons in the UI which made it even more confusing.
- Obviously in the map you can not tell which restaurant is which. Since maps for individual POIs are not returned for the Greek site this is a drawback.

- The user should be able to write the address in case he/she has made a mistake and generally the addresses given do not include the desired one.

3.2 Italian site

Four subjects evaluated the system in Italy, two the mobile phone application and two the in-car application. Due to the difference of the UI and service provision in these two modes, results are given separately. Furthermore, observations about the PC emulator functionality are reported in the relevant monitoring template.

3.2.1 Technical reliability and QoS

Starting with the mobile phone, questions 6, 11 and 12 were not applicable. The application response time (mean 21 sec.) and loading time (mean 12 sec.) were judged as quite satisfactory. For the technical issues (system crash, errors, connection), both users stated that there was no problem at all, giving the best possible answer. The availability of the information was found poor and the correctness of the information returned very high by one user and indifferent by the second.

For the in-vehicle application tests, the response time and loading time were found OK. The system crashed 1 time for 1 user due to server failure. Error messages a loose of connection did not appear at all. The request of 1 user was not some times (2-3) satisfied. Both users found the localisation efficient and the correctness and usefulness of the information provided, high. The security level was interpreted as being high.

3.2.2 Usability and UI Assessment

According to the feedback from the usability questionnaire regarding the mobile phone use, both users agree that it is easy to learn to use the system, but some kind of support by a technician would be helpful. Regarding questions if the users enjoyed using, if they would like to use it frequently (mean 4 times per month), or if they felt in control when using it, users gave a neutral answer. Regarding the usefulness, pleasantness, effectiveness and reliability of the system, the answers where neutral to somewhat positive. Neutral responses were also given regarding the situation awareness enhancement. The general assessment of the system was rated with 23 and 28 points. As far as UI assessment issues are concerned, the answers given were neutral to positive.

With the in-vehicle tests, the 2 users find that it is easy to use the system and there is no need for support by a technician. Both users agree that they would like to use the system frequently. In questions if they enjoyed using the system and if they felt in control using the system, the answers were neutral to positive. The system usefulness was rated positively, while an indifferent answer was given for the pleasantness, effectiveness and reliability, by both users. Also, the users declared that the system assisted them in the relevant operation and they strongly agreed that

they would like to have this system available in their daily activities. The overall system was assessed positively, with both uses assigning 29 points. It was commented by one user that the system is useful and provide an important support while planning a trip, but sometimes the time needed to complete the operations are too long.

3.2.3 Organisation and legal problems

None reported.

3.2.4 Feedback to development

At the PC emulator, the initial functions (register, login, etc.) work fine. The POI bookmark and management function well. Also, the users were able to store trip, manage it, view bookings and plan a trip. Details on route info could be seen without any problem. Selecting the 'Guide me around' option, the system returned correct info on the selected POIs. Also, the functionality showing selected POI info worked OK, but the POI info needs to be corrected. Trip activation, cancel of booking and request of parking availability were properly functioning.

Most of the tested functions were also successful for the mobile phone testing, apart from the problems reported below. The in-vehicle tests seem to have carried out without any significant problems.

The following problems were reported:
PC emulator

- POI: Airport. When requesting for the POI map, a map with the airport web site (URL information of the POI) has been shown on the browser. This must be corrected with the URL of the map that shows the POI location.
- Find best fuels station: No POIs were found, while the MMS POI service provides for the same request about 30 gas stations.

Mobile phone:

- When tried to change account details, if the user logs and re-logins, modifications are lost.
- POIs could not be deleted.
- When planning a trip in Italy, the system always returns just one trip using car. No relevance is given to user preference.

The monitoring template with the relevant results is shown in Annex B.

3.3 German site

The verification tests in Germany were performed with 5 users, using a Smartphone MDA2 (PDA with phone).

3.3.1 Technical reliability and QoS

The majority of the users (3 out of 5) found the system response time adequate (mean 20 sec.). Different opinions were expressed for the application loading time (min 8; max 18 sec.), which ranged from 'slow' to 'very fast'.

At the time of the tests, the system crashed several times and there were problems with the connection, affecting directly the question about the times that the request of each user was not served. Also, all the subjects received some kind of error messages. Of course, the above results, although not satisfactory, are normal considering the period of the tests (December 2005), since when many bugs and malfunctions have been solved.

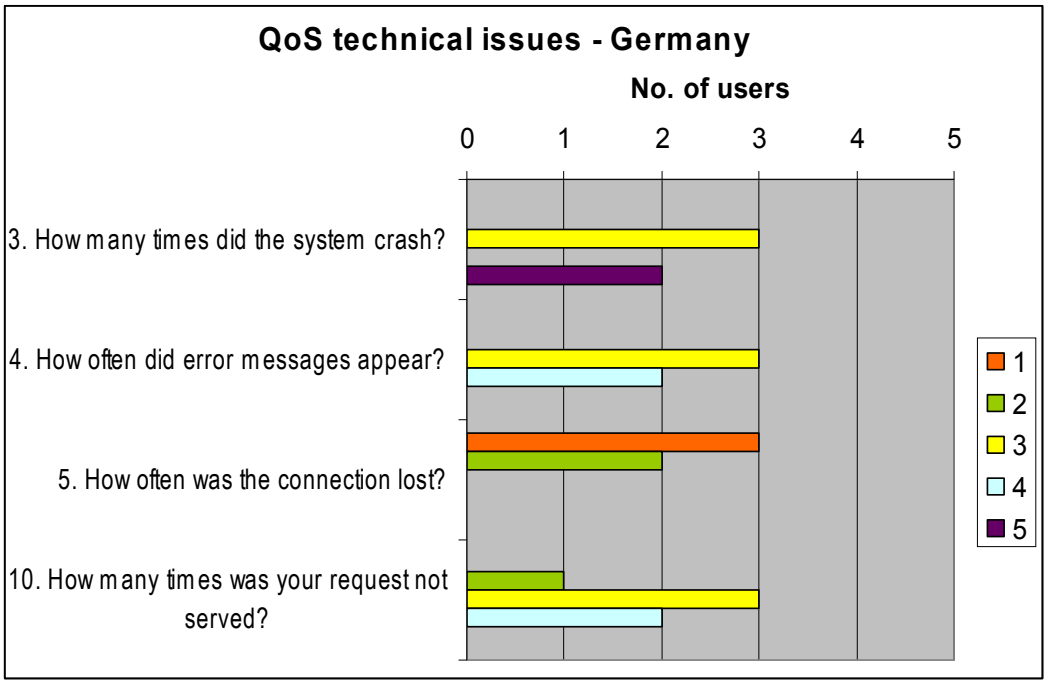

Figure 7: Technical issues of the QoS questionnaire – German results (results are given in a 5-point scale, from 'none' to 'very often').

Moving on, questions 6, 11 and 12 were considered non applicable, as the localisation, personalisation and security status of the system could not be evaluated at this stage. Testers were indifferent to positive about the usefulness of the information provided and the availability of requested info. All users gave a middle value concerning the correctness of the information returned by the system.

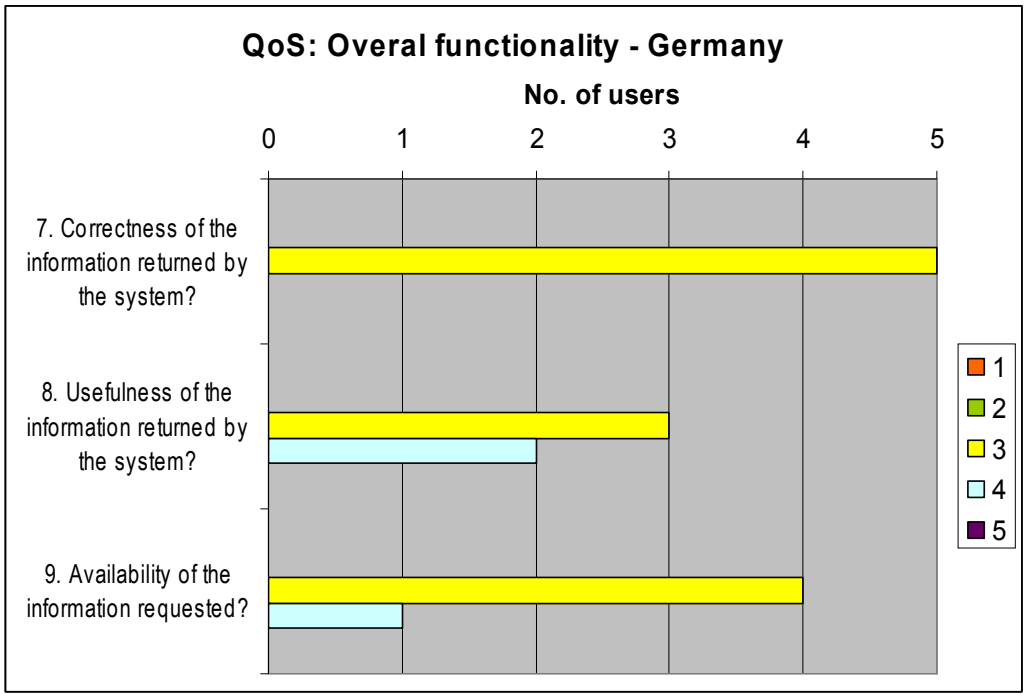

Figure 8: Overall functionality issues of the QoS questionnaire – German results (results are given in a 5-point scale, from 'very low' to 'very high').

3.3.2 Usability and UI Assessment

The easiness of use was not perceived high, strangely however, nearly all the subjects believe that there are not many things that should be learnt by a user before managing to use the system, nor support is needed by a technician. Most users agreed that they enjoyed using the system and they would like to use it frequently (4.3 times on a monthly basis). The level of complexity of the system is considered normal by most users.

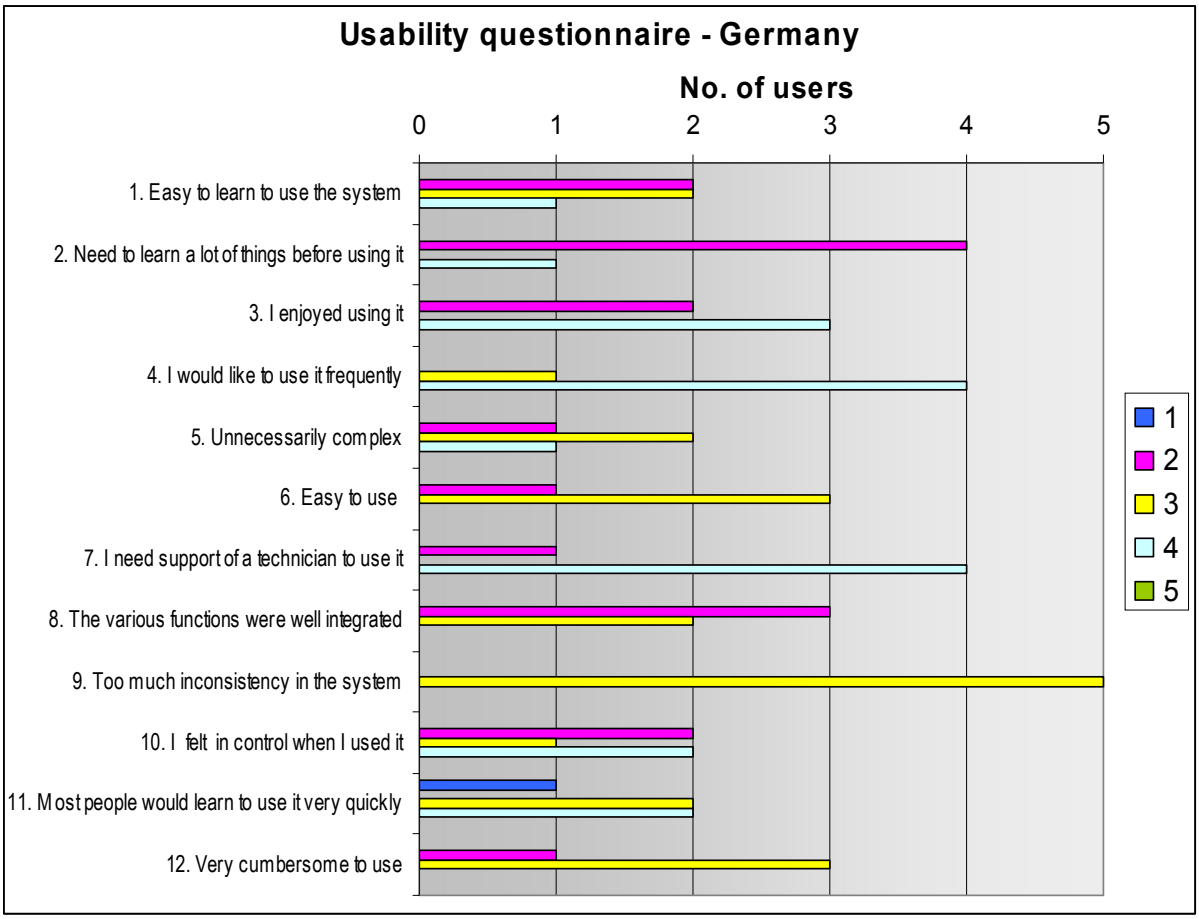

Figure 9: Usability assessment results – Germany (results are given in a 5-point scale, from 'strongly disagree' to 'strongly agree).

The usefulness and pleasantness of the system were evaluated positively, while its effectiveness and reliability mostly from negative to neutral. Most users gave a positive scoring in terms of having the system in their daily activities. Finally, the general assessment of the system received a neutral mark. Generally there was a variation in the users' responses to the given questions. This can be seen in the overall total scoring by each user, which ranged from 18 to 31 points.

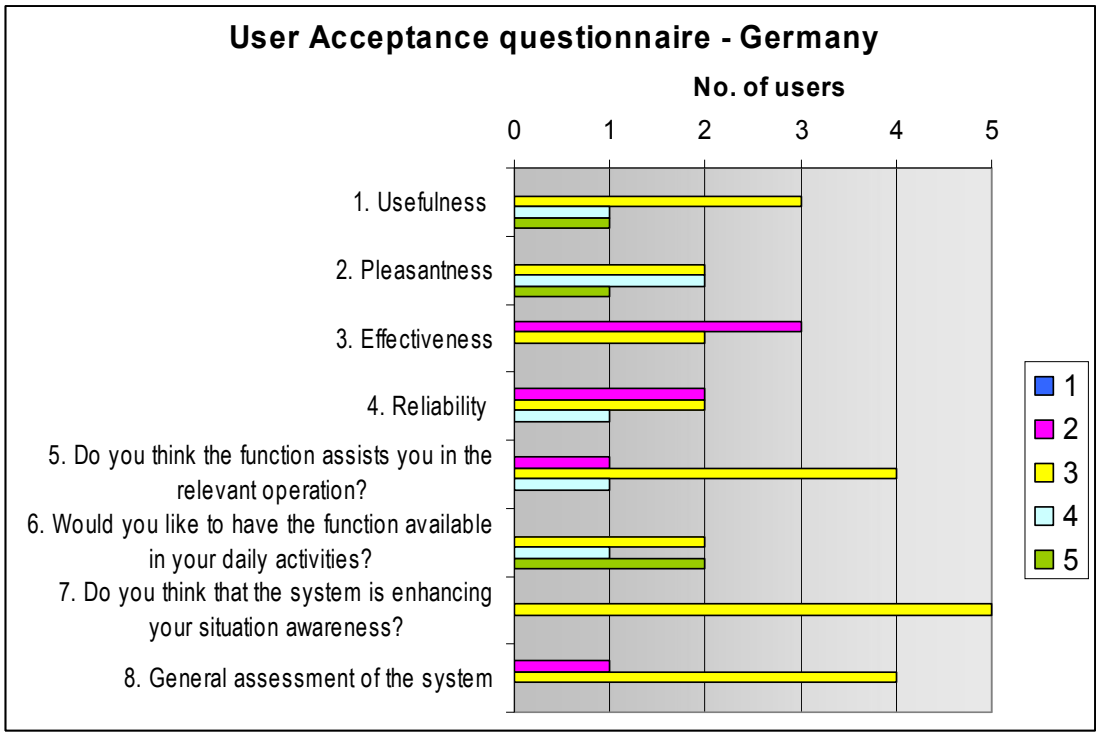

Figure 10: User acceptance assessment results – Germany (results are given in a 5-point scale, from negative to positive).

Issues concerning the user interface were found not too good but not too bad, as all the questions were not assigned neither 1 (very negative) point nor 5 (very positive) points, but the in-between values.

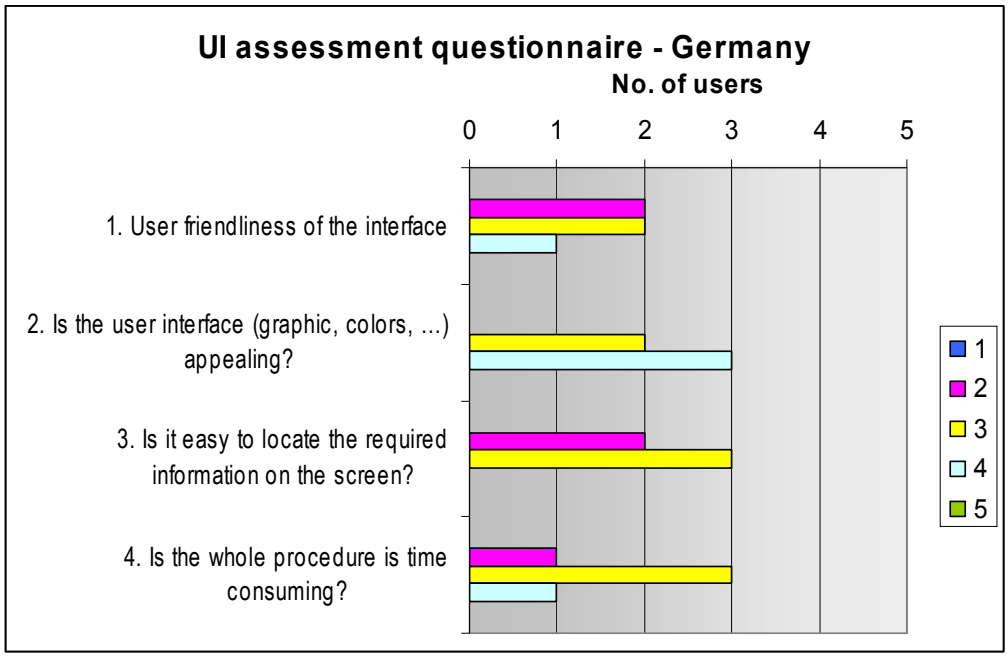

Figure 11: UI acceptance assessment results – Germany (results are given in a 5-point scale, from negative to positive).

3.3.3 Organisation and legal problems

None reported.

3.3.4 Feedback to development

The basic functions (login, etc.) are working as expected. The POI bookmark functionality was partly successful (see below), while the management of bookmarked POIs was perfect. No problem was reported for storing a trip.

The system response during the tests reveals the following feedback in terms of corrections needed:

- When tried to register as businessman, operation failed until third try.
- There is the impression that POIs are bookmarked more than once. If one POI is bookmarked, it reappears at least twice in the bookmark list.
- Manage stored trips: After restart of the application, stored trips seem to be lost.
- If you get an error at the page of 'plan a trip' results, it is not possible to go to HOME or exit the program or try something else.

The detailed monitoring template is given in Annex C.

3.3.5 General proposals

During the 'Store a trip' use case, it takes a few minutes until trip is shown in list. The "From" field seems to be empty if no street is used but city only. Furthermore, the tests participants have proposed to add a "quit" button for the application in any UI, so that the user can quit at any time. Another comment was that detailed maps are missing.

3.4 Hungarian site

Two users performed the verification tests in Hungary, on the PDA device. Thus, there is no point presenting the results graphically. Instead, a discussion will follow for the given answers.

3.4.1 Technical reliability and QoS

Both the system response time (mean 22 sec.) and the application loading time (mean 14 sec.) are found normal. The system crashed in certain cases, mainly in LBS operation and nearby POI search. Also, the connection was lost in every forth-fifth case, which had an immediate effect at the number of times that the user request was not served. Positive answers were given for the information availability, correctness and usefulness. An overall remark that was given by the testers, is that it was unable to test the quality of the system, because not everything was installed

properly at the time of the tests, the whole application was unstable, and there were several error messages and connection failures.

3.4.2 Usability and UI Assessment

Although several things need to be learnt before using the system, both users agreed that it is easy to learn the system. They also felt that they were in control when using it. Moreover, they both enjoyed using it and they stated they would like to use it frequently (average 4 times per month).

A positive score was given to the usefulness, pleasantness and effectiveness of the system, and an indifferent value regarding the reliability, which was expected considering the comments of section 3.4.1. The total score of the user acceptance was high, 40 and 42 (out of 45). It was noted that the objectives of the application are very useful in everyday usage, only some functions were not installed properly, so these were unable to test, but the users gave a positive score in general, as they assume that these will be integrated in the future.

All the issues concerning the UI assessment were highly scored and in general it was commented that the system has a clear user layout with well designed screen elements.

3.4.3 Organisation and legal problems

None reported.

3.4.4 Feedback to development

The user registration and login worked after several tries. 'Plan a trip' was partially successful and the same applies to the 'guide me around' functionality.

The following problems were noticed:

- When trying to register, and the server happened to shut down and the registration was lost.
- During the login, the server was shut down.

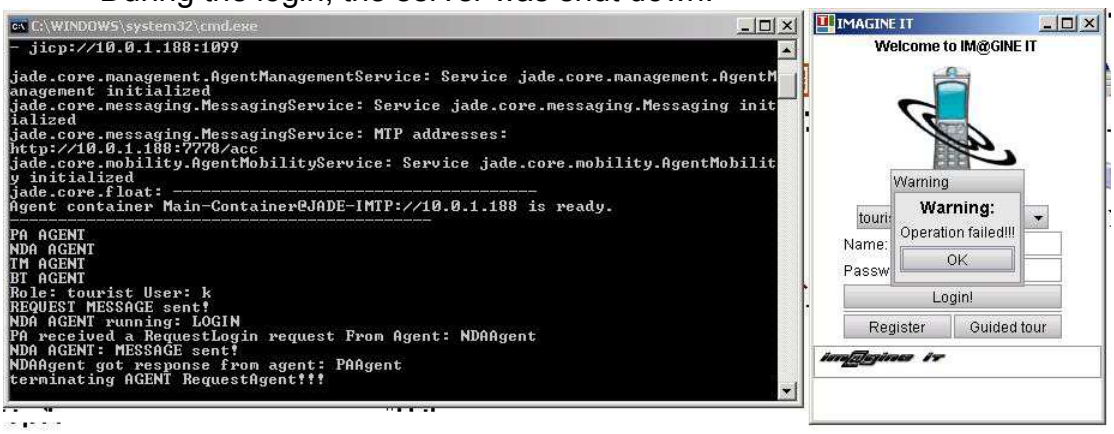

Figure 12: Error message during login (Hungary).

- When attempting to plan a trip between two predefined addresses (in Hungary), the system was sometimes unstable.
- During POI search for restaurants in Budapest, certain times the system was successful, but in others the textual information appeared but no map was displayed, and the error message 'operation failed' appeared.

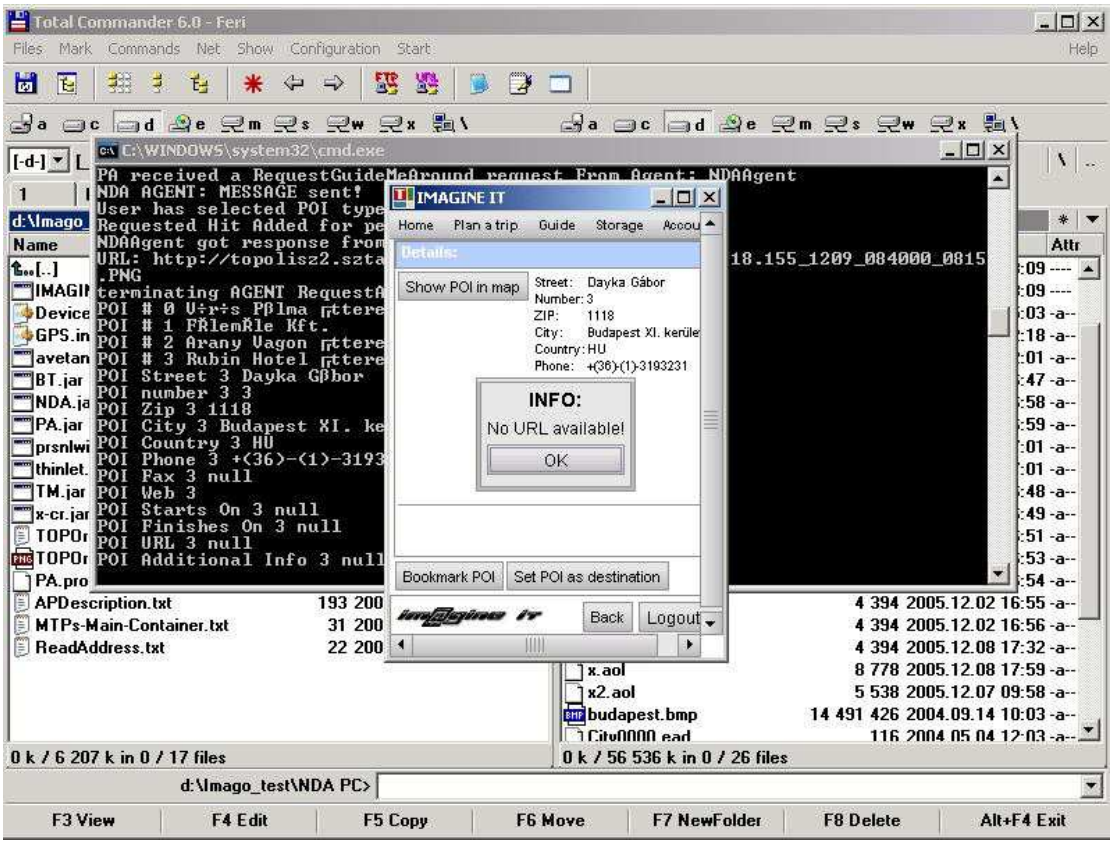

Figure 13: Error message during POI search (Hungary).

The Hungarian site filled monitoring template can be found in Annex D.

3.5 Finnish site

In Finland, only the monitoring template (see Annex E) was filled for tests in the PC emulator, while there were no usability, QoS, etc. questionnaires filled by users. As these tests were the latest performed ones, there are not problems mentioned for the tested use cases.

3.6 Intra-site

Specific scenarios have been tested in order to check the system functionality across countries but also across Europe. More specifically, scenarios involving the following countries/cities were realised:

- Karlsruhe-Rome
- Karlsruhe-Brussels
- Karlsruhe-Helsinki
- London-Athens
- Hannover-Verona

The relevant monitoring template is included in Annex F. The results showed that for an intermodal trip between two countries, the route is calculated, a selection of found alternative trips is given and the respective map is provided. Also, a list of trips were provided. Route information is displayed for each alternative trip. Specific POIs in different countries can be found and displayed on a map.

The tests revealed the following drawbacks:

- POIs are bookmarked more than once. If one POI is bookmarked, it reappears at least twice in the bookmark list.
- Plan a trip (inter-modal route): No maps available, no error message. Did the request take too long?
- In plan a trip, sometimes the geocoding provides an empty address selection. From this point there is no back-button. Error message is “Address terminated”.

4 Comparison

Although a detailed comparison cannot be performed due to the small number of subjects and the difference in the use cases satisfied in each pilot site, some rough results from key questions can be provided. Since the specific system deficiencies at the time of the tests are reported, there is no meaning comparing the error messages, system crashes, etc. Instead, emphasis is given to the design and functionality of the system.

The level of easiness to learn to use of the system perceived by the users is an important factor for its proper operation and successfulness. The results of the 4 countries are depicted below:

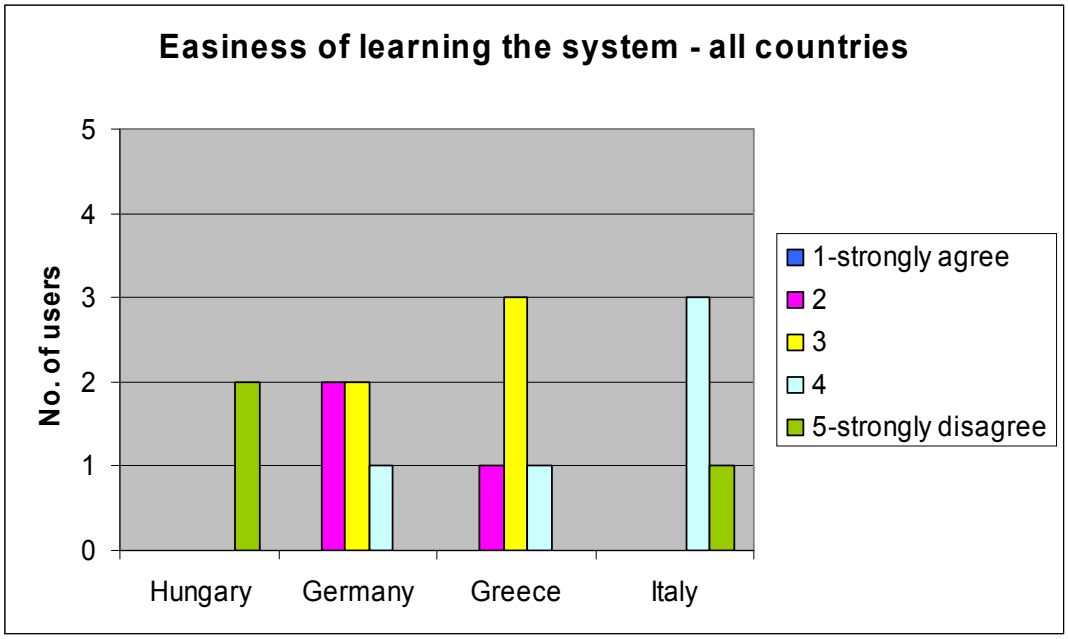

Figure 14: Easiness of learning the system for all countries (results are given in a 5-point scale, from 'strongly disagree' to 'strongly agree).

According to the figure above, the Italian users found it most easy than the rest, with the Hungarians and the Greeks following. However, none stated that the system is very difficult, as the most negative answer was not chosen.

Regarding the user interface design (graphics, colours, fonts, etc.), the opinions of the Hungarian and German participants are more positive than the rest, followed by the Italians and the Greeks. Neither the most positive, nor the most negative answers were selected by any user.

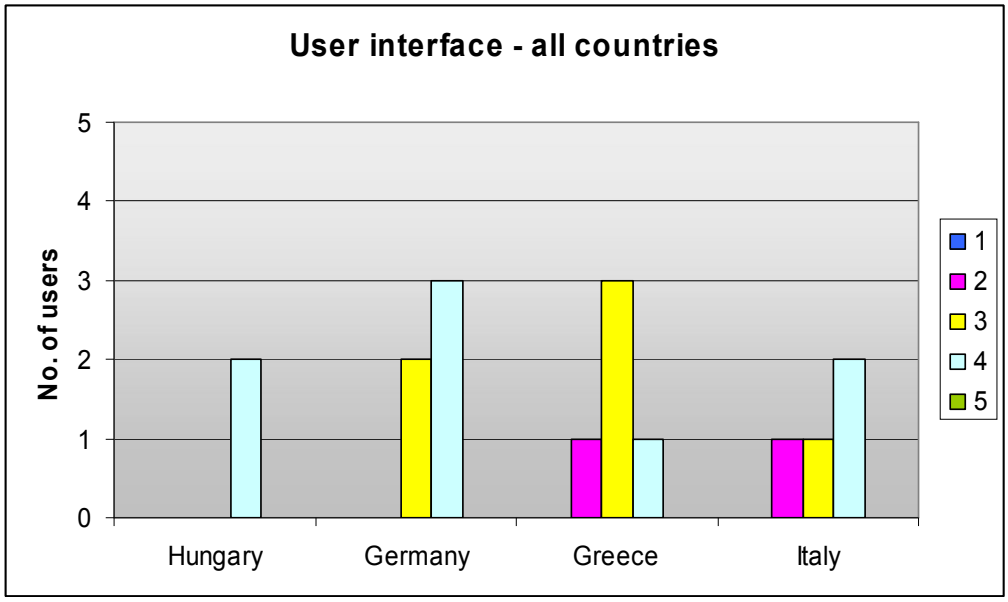

Figure 15: UI assessment results for all countries (results are given in a 5-point scale, from 1-negative to 5-positive).

A critical question that was posed to the test participants was about their opinion on the usefulness of the information returned by the system.

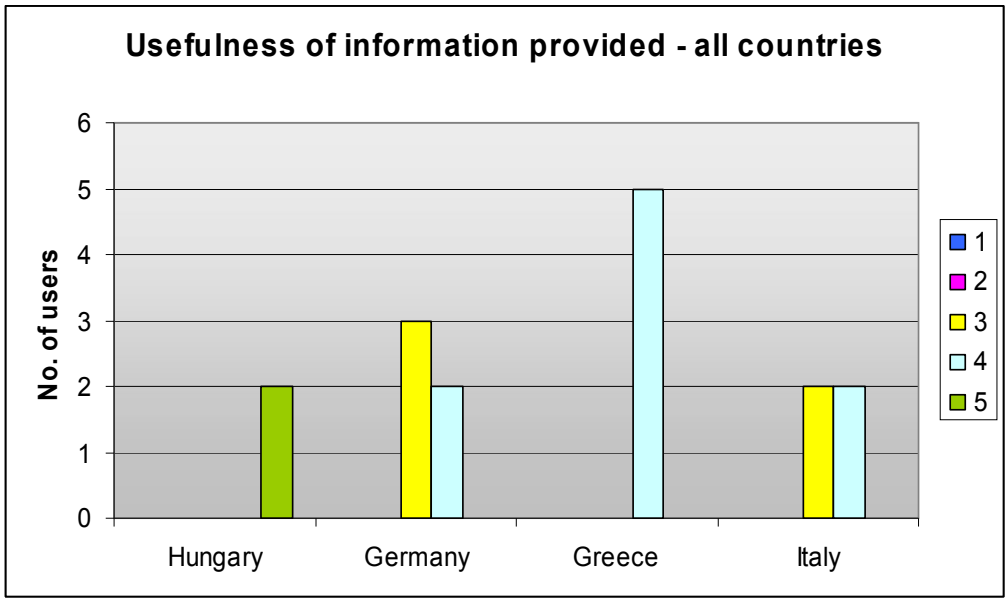

Figure 16: Usefulness of given information for all countries (results are given in a 5-point scale, from 1-'very low' to 5-'very high').

All the users provided satisfactory results, ranging from 'normal' to 'very high'. The Hungarian users gave here the most positive results, followed by the Greeks, the Italians and the Germans.

The general assessment of the system, as it was reported by all the users in all the participating pilot sites, is as follows (through the relevant question at the user acceptance questionnaire):

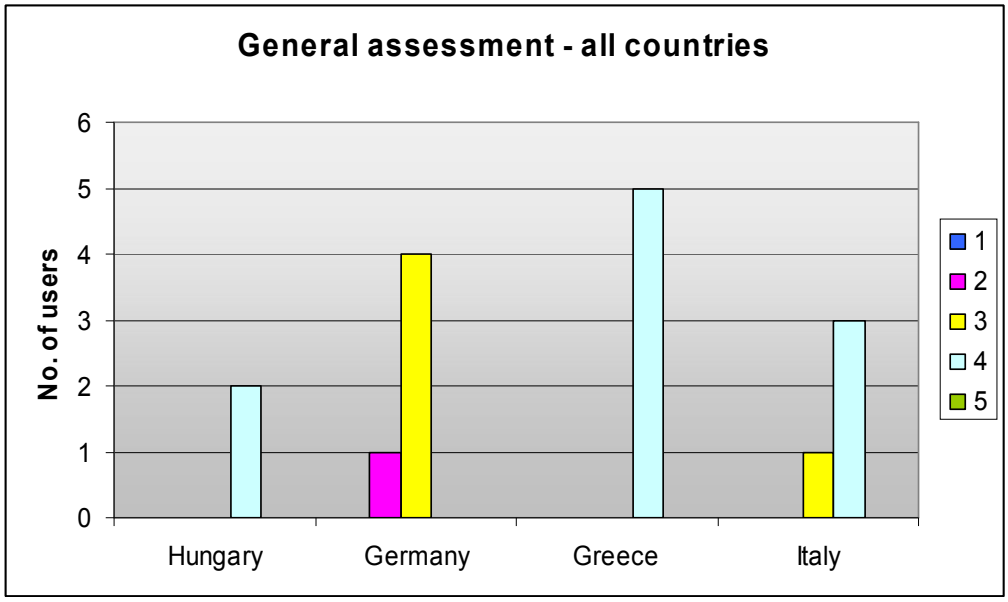

Figure 17: General system assessment by all sites (results are given in a 5-point scale, from 1- negative to2- positive).

It can be seen that the most negative results are given by the German users, with the majority of them however, assigning a neutral result. It is worth noticing that none user marked the system with the most negative answer (1 point), while most users ranked it positively (4 points). The total mean score (out of 45 points) assigned by the tests participants in each country, are shown below:

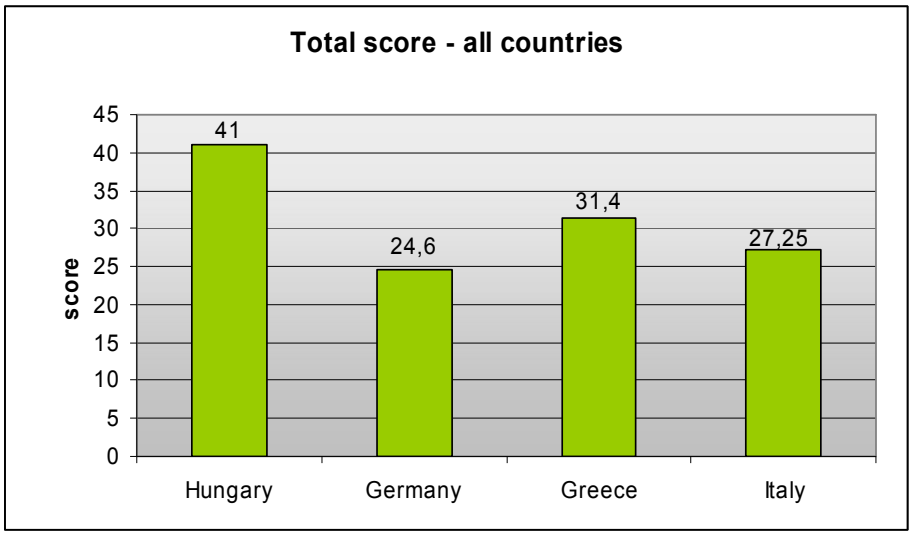

Figure 18: Mean scoring for the system by all countries.

In general, the Hungarian tests gave more positive results than the rest, as less functionalities are installed at this site, thus limited use cases could be tested. Also, the subjects that did the tests stated clearly that they know that certain functionalities do not work at this stage, but the scores are given assuming that these will work at the end. Greek results were also more positive that German and Italian ones, which was expected, considering the time of the tests, as they took place 3 months after the rest, thus a lot of improvement was applied to the system.

5 Conclusion

The verification tests were of great importance, as the status of the development at the time of the tests was clearly perceived. A significant number of foreseen functionalities were found to work as expected in all the test sites. All the basic functions work perfectly and even several of the more advanced ones.

The most important aim of the tests was to show the system drawbacks in terms of software bugs and design deficiencies. The results revealed that a number of problems occurred during the trials, on which significant functions of the system rely. Additionally, the users' interaction with the system gave to the consortium and especially the developers, an insight into the opinion of third actors about the IM@GINE IT system and services as a whole.

The next step is that the development team of the IM@GINE IT application will make use of the specific comments and observations of the participants, as well as the monitoring forms of the test leaders. This phase, the product finalisation, is of great importance for its success. The level of success will be determined at the demonstration pilots, where 20 (external to the consortium) users per site will test the complete IM@GINE IT system and will evaluate its overall services.

6 Annex A: Greek site monitoring templates

1. Observations in December 2005.

UC No.	UC Description	Date	Scenarios performed	Results/ Problems encountered	Comments
1	Register	16/12/2005		Finally successful (TREDIT) We still get the operation failed msg Couldn't login to the system with a valid account after this failure	First attempts failed, for example: REQUEST MESSAGE sent! NDA AGENT running: REGISTER NDA AGENT: MESSAGE sent! PA received a RequestRegister request From Agent: NDAAgent NDAAgent got response from agent: PAAgent terminating AGENT RequestAgent!!! Exception in thread "Thread-22" java.lang.IllegalArgumentException: unknown value e integer for null at thinlet.Thinlet.getDefinition(Unknown Source) at thinlet.Thinlet.setInteger(Unknown Source) at mockups.imagit.Gui1$1.run(Unknown Source)
2	Login	16/12/2005		successful	
3	Change account details	16/12/2005		successful	
4	Un-register	16/12/2005		successful	Why, when I try to login with a non-existent password and username, do I get a " Warning: Operation failed"? Shouldn't a message tell me that the user name and/or password are incorrect, please type again?
6	Bookmark POI	16/12/05	Bookmark a returned POI	OK (TREDIT) the stored items always appear	POIs and trips are not stored in the system so the next time that I will login, the bookmarked POIs are lost. If due to a problem the application is terminated I loose everything.
10	Store a trip or a journey		(TREDIT) Successful		From Athens
14	Plan a trip		Plan a trip between various addresses in Athens. Returned POIs were also chosen as destination.	Unsuccessful	1. When a bookmarked POI is put as destination point, probably due to the fact that the POI's address has no number. 2. The route in the 'Your travel details' page always has two segments. If the address is too big then it is not displayed completely. 3. Info/km/directions/hour for each segment is not returned by the system in the "details" page. 4. The details of each segment "start on" "finishes on" give the impression that the duration of the first segment is 0min and the duration of the next segment equal to the duration of the trip as a whole. 5. Once a trip is planned the user cannot navigate to another page by selecting plan a trip again. 6. It would be useful that the trip that I have requested to be shown in all pages.

UC No.	UC Description	Date	Scenarios performed	Results/ Problems encountered	Comments
15	Give me alternative's details			Unsuccessful	Only one route is returned (TREDIT) If you requested a car/pedestrian route (e.g. origin & destination points are in Athens) then only 1 route will be returned – that is how the car routing works. To get alternatives try to find a route that includes PT, e.g. from Athens to Iraklio at 14/11.I planned a trip from Athens (no address) to Iraklio (no address) without date. A got three routes from Athens to Thessalonica with different duration. All routes have two car segments and one train. One route has different car route (segments) to Larrisis station. Why do I get two different car routes? Apart from train (which is not correct of course for Iraklio) shouldn't I get an alternative route with airplane? I cannot get a route for other towns for example Patra. This time I get "operation failed". (TREDIT) Not all the route info is presented (e.g. PT Brand) Route is not presented on the map. Route-segment details are not presented correctly since they are shown twice.
23	Guide me around	9/12/05	POI search for restaurants in Athens	Returns POIs (TREDIT) POI search for hotels in Omonoia, Athens always returns "Operation Failed" message, otherwise its OK	1. The progress bar disappears before the system returns POIs. 2. I think that it returned POIs more than 500m away. 3. In the map that shows all POIs, only one or two major streets are shown. For example, the street that I have entered at the "guide around" page, or the streets that the POIs are do not show. (TREDIT) Content problem Also the addresses of the returned POIs do not have number Content problem? 4. I also received maps where the POIs did not show at all. 5. Obviously in the map you can not tell which restaurant is which. Since maps for individual POIs are not returned for Greek site this is a drawback. 6. In the details of a POI a long address will not display completely. 7. The number is at the address field and not in the number field. 8. When I ask for restaurants and hotels from the returned list I do not know which are restaurants and which are hotels. 9. For Verona I guided my self around to get restaurants. I also received pizzeria, even though I did not choose, and café-bar. 10. It would be useful to be shown the POI based on which I guide myself around. When I type an incorrect addresses (according to the spelling of the addresses as they have been recorded in the system!) or an address with more than one matches, I get the same message "Your request matches more than one address". 1. The spelling is incorrect: "maches" and "then". 2. Probably a distinction should be made between the

UC No.	UC Description	Date	Scenarios performed	Results/ Problems encountered	Comments
					above cases. When the system does not recognize at all the address it returns empty addresses with different ZIPs to choose!!!! 3. The user should be able to write the address in case he/she has made a mistake and generally the addresses given do not include the desired one. 4. It is not clear when this page appear what I should do, that is that I have to look for the "right" address with 'prev', 'next'. The page has "choose" option both on address and 'prev', 'next'. Furthermore when I reach the end of the list I get a warning saying that the list is terminated. It gives the impression that a mistake has happened. (TREDIT) If the geocoding results in more than one address I shouldn't be allowed to move outside the array bounds using the buttons Prev & Next. 5. If I press more that once the ok of the warning the system "stuck". 6. If the operation fails I cannot navigate away from the page.
24	Select POI & POI information	16/12/05	View details of returned restaurants in Athens.	OK	1. In the details of a POI a long address will not display completely. 2. When I view a POI, for example a restaurant the name of the restaurant is not shown. I need to remember what POI I have selected (?).
27	Activate trip			(TREDIT) Error	

Table 1: Greek site early observations; mobile phone and PDA.

2. Verification pilots

PC emulator of PDA

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	22/03/2006			successful	
2	Login	22/03/2006			successful	
3	Change account details	22/03/2006			successful	
4	Un-register	22/03/2006			successful	
5	Download application	22/03/2006			successful	
6	Bookmark POI	22/03/2006			successful	
7	Manage bookmarked POIs	22/03/2006			successful	Both Delete & Update operations in bookmark list
10	Store a trip or a journey	22/03/2006			successful	
11	Manage stored trips	22/03/2006			successful	Both Delete & Update operations in stored list

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
14	Plan a trip	22/03/2006		From Thessaloniki to Athens (CAR, AIRPLANE)	successful	
20	Route information				OK	
21	Destination information				OK	
23	Guide me around	22/03/2006		POI search for restaurants in Athens with Street=Omonoia, with 1200 m. radius	successful	5 restaurants returned as POIs
24	Select POI & POI information				OK	
27	Activate trip	22/03/2006			successful	

Table 2: Greek site monitoring template; PC emulator.

Mobile phone (Motorola A1000 device)

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	22/03/2006			successful	
2	Login	22/03/2006			successful	
3	Change account details	22/03/2006			Unsuccessful	
4	Un-register	22/03/2006			successful	
5	Download application	22/03/2006			successful	Via GPRS connect at www.5t.torino.it/imagineit/download.html
6	Bookmark POI	22/03/2006		Bookmarked POI	Unsuccessful	
7	Manage bookmarked POIs	22/03/2006		Deleted POI	Unsuccessful	POIs are not deleted
10	Store a trip or a journey	22/03/2006		Stored a requested trip	Successful	
11	Manage stored trips			Recall stored trips	Successful	
14	Plan a trip	22/03/2006			Successful	
23	Guide me around			POI search for restaurants in Athens with Street=Omonoia, with 1200 m. radius	successful	5 restaurants returned as POIs

Table 3: Greek site monitoring template; Mobile phone.

7 Annex B: Italian site monitoring templates

PC emulator

UC No.:	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	05-16 Dec 2005	none	Registered new user with login="mms" and password="mms01"	Successful	
2	Login	05-16 Dec 2005	none	Inserted login="mms", password="mms01" and user mode="tourist"	Successful	
3	Change account details	05-16 Dec 2005	none	In the "Account" menu the fields name, surname, e-mail, office address has been filled and learning capabilities has been set.	Successful	
4	Un-register					Not yet tested
5	Download application	05-16 Dec 2005		The application has been downloaded from the 5t server http://www.5t.torino.it/imagineit/download.html	Successful	
6	Bookmark POI	05-16 Dec 2005		After UC 24 the POI "Aiport Valerio Catullo" has been bookmarked successfully	Successful	
7	Manage bookmarked POIs	05-16 Dec 2005		After UC 6 the bookmarked POI "Aiport Valerio Catullo" was present in the "Storage" menu section "manage bookmarked POIs"	Successful	
8	Add trip to cart	NA				
9	Manage Cart	NA				
10	Store a trip or a journey	05-16 Dec 2005	none	Trip requested with UC 14 has been stored by selecting the option "Bookmark trip"	Successful	
11	Manage stored trips	05-16 Dec 2005	none	Bookmarked Trip with UC 10 has been loaded with the load button in the "manage bookmarked routes" in the "storage" section	Successful	
12	View Bookings	05-16 Dec 2005	none	From the "storage" menu bookmarked POIs and trips have been listed.	Successful	

13	Administration of the system	NA				
14	Plan a trip	05-16 Dec 2005	none	A route has been requested from the origin address “via Giberti, 7 – Verona – Italy” to the destination address “via Flaminia, 30 – Roma – Italy”	Successful.	
15	Give me alternative’s details	NA in Italy				In Italy the routing service is provided by MMS and the available modes are car and pedestrian. Therefore alternative routes (e.g. with PT) are never presented to the user). Anyway the application implements the use case independently from the Service Provider.
20	Route information	05-16 Dec 2005	none	After UC 14 the route information has been requested. Details and a map of the route has been presented.	Successful	
21	Destination information	NA				
22	Transport terminal information	NA				
23	Guide me around	05-16 Dec 2005		In the menu “guide” a POI search has been performed by searching “railway stations” and airports near the address “via Filopanti – Verona – Italy” with a radius of 10000 meters.	Successful	
24	Select POI & POI information	05-16 Dec 2005		After the POI search of the UC23, 7 POIs have been found. The POI “Aeroporto Valerio Catullo” has been selected and a new window with all the airport information has been shown	Successful, POI information to be corrected	When requesting for the POI map, a map with the airport web site (URL information of the POI) has been shown on the browser. This must be corrected with the URL of the map POI.

27	Activate trip	05-16 Dec 2005		A route has been requested from the address “corso stati uniti – Torino – Italy” to the stored POI “Aeroporto Catullo Verona Italy”. A trip has been presented and the “activate trip option has been selected.	Successful	
37	Unexpected Trip Events	NA				
41	Cancel Booking	05-16 Dec 2005		After UC 12 Bookmarked POI Aeroporto catullo has been deleted	Successful	
16	Ask seat availability	NA				
17	Book / Buy ticket	NA				
18:	Reserve hotel	NA				
25	Parking availability (and booking)	05-16 Dec 2005		In the “guide” menu the “Open parking area” has been requested around the address “Corso Vittorio Emanuele – Torino – Italy”. 10 results have been shown and the parking area of via Nizza had less of 50 free parking spaces.	Successful	
26	Show me public transport timetables	NA				
32	Navigate to	NA				
33	User gets in and off the vehicle	NA				
34	Download Destination to car	NA				
39	Find best fuel station			In the “guide” menu the “Gas station” POIs have been requested around the address “via Giberti - Verona – Italy” within 10000 meters.	Unsuccessful	No POIs were found, while the MMS POI service provides for the same request about 30 gas stations
40	Find best parking			Same scenario as for UC 25	Successful	
42	Car rental					Not yet tested

Table 4: Italian site monitoring template; PC emulator UCs.

Mobile phone

UC No.:	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	01-16 Dec 2005		Register the user with password	Successful	
2	Login	01-16 Dec 2005		User login	Successful	

3	Change account details	01-16 Dec 2005		Change some data of user	Unsuccessful	The data changed are modified during the same sessions, if the user logout and re-login modifications are lose
4	Un-register					
5	Download application	01-16 Dec 2005		Download the application from 5T site	Successful	
6	Bookmark POI	01-16 Dec 2005		Bookmarked POI (pizzeria and gas station found in Torino)	Successful	
7	Manage bookmarked POIs	01-16 Dec 2005		Deleted POI	Unsuccessful	POI are not deleted
8	Add trip to cart					
9	Manage Cart					
10	Store a trip or a journey	01-16 Dec 2005		Stored a requested trip	Successful	
11	Manage stored trips	01-16 Dec 2005		Recall stored trips	Successful	
12	View Bookings					
13	Administration of the system					
14	Plan a trip	01-16 Dec 2005		Planned some trip from different point using different transport means	Successful	The system ALWAYS returns just one trip using CAR. No relevance is given to user preference. Trip planned always in the same country (Italy)
15	Give me alternative's details					
19	Continue trip planning					
20	Route information					
21	Destination information					
22	Transport terminal information					
23	Guide me around	01-16 Dec 2005		Request POI (restaurant, pizzeria and gas station) starting from address or other POI	Successful	Actually in Italy just the listed POI type are available
24	Select POI & POI information	01-16 Dec 2005		POI selection as starting point for plan a trip or Guide Me Around use case	Successful	

Table 5: Italian site monitoring template; mobile phone UCs.

In vehicle device

UC No.:	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register					Registration is not foreseen in the in vehicle device. The user must be already registered
2	Login	12.12.2005	GPS	The user gets in the car and makes a login Username: crf Pwd: crf	Successful	The user is logged in.
3	Change account details					Not foreseen in the in vehicle device
4	Un-register					Not foreseen in the in vehicle device
5	Download application					Not foreseen in the in vehicle device
6	Bookmark POI	12.12.2005	GPS	The MAS provided to the user a restaurant near "Strada Torino 50 – Orbassano – Torino - Italy" . The restaurant is PIZZERIA IL SAGITTARIO. The user bookmarks the restaurant	Successful	The restaurant is included in the bookmark list
7	Manage bookmarked POIs	12.12.2005	GPS	The list of bookmarked POI has 3 pizzerias. The user cancel one of them	Successful	The list of bookmarked POI has now 2 pizzerias.
8	Add trip to cart	12.12.2005	GPS			Not foreseen in the in vehicle device
9	Manage Cart	12.12.2005	GPS			Not foreseen in the in vehicle device
10	Store a trip or a journey	12.12.2005	GPS	The user planned a trip from "Torino – Strada Torino 50 – Orbassano" to " Via Roma 32 – Torino".	Successful	The trip has been stored
11	Manage stored trips	12.12.2005	GPS			Not foreseen in the in vehicle device
12	View Bookings	12.12.2005	GPS			Not foreseen in the in vehicle device
13	Administration of the system	12.12.2005	GPS			Not foreseen in the in vehicle device

14	Plan a trip	12.12.2005	GPS	The user planned a trip from "Torino – Strada Torino 50 – Orbassano" to " Via Roma 32 – Torino".	Successful	The user received 2 options for this trip and selected by car.
15	Give me alternative's details	12.12.2005	GPS			Already included in UC# 14
19	Continue trip planning	12.12.2005	GPS			Not foreseen in the in vehicle device
20	Route information	12.12.2005	GPS	The user planned a trip from "Torino – Strada Torino 50 – Orbassano" to " Via Roma 32 – Torino"	Successful	The use receives a map with route information concerning the trip planned but also textual information about the route
21	Destination information	12.12.2005	GPS			Already included in UC#20
22	Transport terminal information	12.12.2005	GPS			Not foreseen in the in vehicle device
23	Guide me around	12.12.2005	GPS	The user asks for a restaurant around "Strada Torino 50 – Orbassano – Torino - Italy" (radius 2000m).	Successful	The MAS provides 6 results.
24	Select POI & POI information	12.12.2005	GPS	From result of UC#23 the user select PIZZERIA IL LUPO and asks for details	Successful	The user receives address and map indication about the restaurant.
27	Activate trip	12.12.2005	GPS	The user activates the trip from "Torino – Strada Torino 50 – Orbassano" to " Via Roma 32 – Torino"	Successful	The trip details are forwarded to navigation system in the car
28	Plan a trip while on active (stored) trip	12.12.2005	GPS			Not foreseen in the in vehicle device
29	Guide me around while on active trip (Where am I)	12.12.2005	GPS			Already included in UC#23
30	Route information while on active trip	12.12.2005	GPS			Already included in UC#32
31	Transport terminal information while on active trip	12.12.2005	GPS			Not foreseen in the in vehicle device
35	Get transportation means connection information	12.12.2005	GPS			Not foreseen in the in vehicle device
36	End active trip	12.12.2005	GPS	The user reached destination and end the trip.	Successful	The system is ready for a new activation.
37	Unexpected Trip Events	12.12.2005	GPS			Not tested yet

41	Cancel Booking	12.12.2005	GPS			Not foreseen in the in vehicle device
16	Ask seat availability	12.12.2005	GPS			Not foreseen in the in vehicle device
17	Book / Buy ticket	12.12.2005	GPS			Not foreseen in the in vehicle device
18:	Reserve hotel	12.12.2005	GPS			Not foreseen in the in vehicle device
25	Parking availability (and booking)	12.12.2005	GPS	The user asks for a parking around "Via Nizza 120".	Successful	The user receives the indication about: Parcheggio corso stati uniti"
26	Show me public transport timetables	12.12.2005	GPS			Not foreseen in the in vehicle device
32	Navigate to	12.12.2005	GPS	The user activates the planned trip		IMAGINE IT application is interfaced with in car navigation system and activate the navigator.
33	User gets in and off the vehicle	12.12.2005	GPS			Not yet tested
34	Download Destination to car	12.12.2005	GPS	GPS		Already included in UC#32
39	Find best fuel station	12.12.2005	GPS			Already included in UC#23
40	Find best parking	12.12.2005	GPS			Already included in UC#25
42	Car rental	12.12.2005	GPS			Not foreseen in the in vehicle device

Table 6: Italian site monitoring template; in-vehicle UCs.

8 Annex C: German site monitoring template

Device tested: Smartphone MDA2 (PDA with phone)

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	19.12.05	none	Register as business man	"Operation failed"	Third try was successful
2	Login	19.12.05	none	Login as Tourist	Successful	
3	Change account details	19.12.05	none	Change account details. Change of street, zip and house number.	Successful	
4	Un-register	19.12.05	none	Unregister from new account	Successful	
5	Download application	NA				
6	Bookmark POI	20.12.05	None	Bookmark POI "Drachen" ~~Bookmark hotels and restaurants in Roma, Italy~~ Bookmark hotels and restaurants in 1000m radius to Hamburg	Successful ~~Partly Successful~~ Partly Successful	Message "Bookmark successful" ~~I have the impression that POI are bookmarked more than once. If I bookmark one POI, it reappears at least twice in the bookmark list.~~ POI of previous bookmark were double ~~again~~. New POI from Hamburg did not appear~~, but POI from Roma Italy~~.
7	Manage bookmarked POIs	20.12.05	None	Delete POI "Drachen" Delete double POIs in bookmark list Delete an old POI	successful successful successful	
8	Add trip to cart	NA				
9	Manage Cart	NA				
10	Store a trip or a journey	20.12.05	None	Store trip from Frankfurt to "Destination"	successful	Message "Store Trip Successful", but it takes a few minutes until trip is shown in list. "From" field seems to be empty if no street is used but city only.
11	Manage stored trips	20.12.05	none	Load stored trips	ERROR	After restart of the application, stored trips seem to be lost.
12	View Bookings	NA				
13	Administration of the system	NA				

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
14	Plan a trip	~~06.02.06~~	~~None~~	~~Inter-modal route from 76131 Karlsruhe, Germany to Rome, Italy on 10th February 06, 10am~~	~~4 alternative routes with plane~~	~~No maps available, no error message → did the request take too long ?~~
		~~06.02.06~~	~~None~~	~~Inter-modal trip from Leadenhall Market, London, UK to Athens, Greece~~	~~4 alternative routes by plane~~	~~No maps yet available~~
		~~06.02.06~~	~~None~~	~~Inter-modal trip from Hannover, Germany, to Verona Italy by car~~	~~Route was calculated and map was provided~~	
		19.12.05	none	From Torino to Verona From Stuttgart to Frankfurt	"Operation failed"	Geocoding for Frankfurt was successful. A list was shown. If you get an error at this page, it is not possible to go to HOME or exit the program or try something else.

Table 7: German site monitoring template.

9 Annex D: Hungarian site monitoring template

Device tested: PDA

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	01/12/2005	Type in		Unsuccessful	Server shut down, registration lost
		08/12/2005	Type in		Successful	
2	Login	01/12/2005	Type in		Unsuccessful	Problems due to server data lost
		08/12/2005	Type in		Successful	
		15/12/2005	Type in		Successful	
3	Change account details	Not tested yet				
4	Un-register	Not tested yet				
5	Download application	Several times				
6	Bookmark POI	Not installed in Hungarian site				
7	Manage bookmarked POIs	Not installed in Hungarian site				
8	Add trip to cart	Not tested yet				
9	Manage Cart	Not tested yet				
10	Store a trip or a journey	Not tested yet				
11	Manage stored trips	Not tested yet				
12	View Bookings	Not installed in Hungarian site				
14	Plan a trip	01/12/2005	GPS	Between two predefined addresses (Hungarian area only)	Partially successful	It was unstable sometimes
		08/12/2005	GPS	Between different addresses (Hungarian area only)	Partially successful	It was unstable sometimes
		15/12/2005	GPS	Between different addresses (Hungarian area only)	Partially successful	It was unstable sometimes
15	Give me alternative's details	Not tested yet				
19	Continue trip planning	Not tested yet				
20	Route information	01/12/2005	On a planned trip		Avoid the closed sections	Only in Budapest
21	Destination information					

22	Transport terminal information					
23	Guide me around	01/12/2005	POI search for restaurants in Budapest	In a circle around different points	Sometimes successful, not always. Error types: 1. the object type did not match (later corrected) 2. the textual information appeared, no map displayed 3. "operation failed!"	
27	Activate trip	Not tested yet				

Table 8: Hungarian site monitoring template.

10 Annex E: Finish site monitoring template

Pc emulator

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	9.5.06	-	register as user2	successful	
2	Login	9.5.06		login as user2	successful	
3	Change account details	9.5.06		changed phone number	successful	
4	Un-register			N/A		
5	Download application			N/A		
6	Bookmark POI			N/A		
7	Manage bookmarked POIs			N/A		
8	Add trip to cart			N/A		
9	Manage Cart			N/A		
10	Store a trip or a journey	9.5.06		stored a trip from Länsiportti 4, Espoo to Tammela	successful	actually origin and destination were stored, not trip
11	Manage stored trips	9.5.06		searched the return trip for the stored route	successful	
12	View Bookings			N/A		
13	Administration of the system			N/A		
14	Plan a trip	9.5.06		planned a trip from Espoo to Oulu	successful	
15	Give me alternative's details	9.5.06		Checked 6 different alternative trips from Espoo to Oulu	successful	
19	Continue trip planning	9.5.06		Continued trip plan from Oulu to Rovaniemi	successful	
20	Route information			N/A		
21	Destination information			N/A		
22	Transport terminal information			N/A		
23	Guide me around			N/A		
24	Select POI & POI information			N/A		
27	Activate trip			N/A		
28	Plan a trip while on active (stored) trip			N/A		
29	Guide me around while on active trip (Where am I)			N/A		
30	Route information while on active trip			N/A		
31	Transport terminal information while on active trip			N/A		
35	Get transportation means connection information			N/A		
36	End active trip			N/A		
37	Unexpected Trip Events			N/A		
41	Cancel Booking			N/A		
16	Ask seat availability			N/A		

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register	9.5.06	-	register as user2	successful	
2	Login	9.5.06		login as user2	successful	
3	Change account details	9.5.06		changed phone number	successful	
4	Un-register			N/A		
5	Download application			N/A		
6	Bookmark POI			N/A		
7	Manage bookmarked POIs			N/A		
8	Add trip to cart			N/A		
9	Manage Cart			N/A		
10	Store a trip or a journey	9.5.06		stored a trip from Länsiportti 4, Espoo to Tammela	successful	actually origin and destination were stored, not trip
11	Manage stored trips	9.5.06		searched the return trip for the stored route	successful	
12	View Bookings			N/A		
13	Administration of the system			N/A		
14	Plan a trip	9.5.06		planned a trip from Espoo to Oulu	successful	
15	Give me alternative's details	9.5.06		Checked 6 different alternative trips from Espoo to Oulu	successful	
19	Continue trip planning	9.5.06		Continued trip plan from Oulu to Rovaniemi	successful	
20	Route information			N/A		
21	Destination information			N/A		
22	Transport terminal information			N/A		
23	Guide me around			N/A		
24	Select POI & POI information			N/A		
27	Activate trip			N/A		
28	Plan a trip while on active (stored) trip			N/A		
29	Guide me around while on active trip (Where am I)			N/A		
30	Route information while on active trip			N/A		
31	Transport terminal information while on active trip			N/A		
17	Book / Buy ticket			N/A		
18:	Reserve hotel			N/A		
25	Parking availability (and booking)			N/A		
26	Show me public transport timetables	9.5.06		checked the timetables of the line 43 in Espoo		link to different timetables
32	Navigate to			N/A		
33	User gets in and off the vehicle			N/A		
34	Download Destination to car			N/A		
39	Find best fuel station			N/A		
40	Find best parking			N/A		
42	Car rental			N/A		

11 Annex F: Intra-site pilot monitoring template

Smartphone MDA2 (PDA with phone)

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
1	Register					
2	Login					
5	Download application					
6	Bookmark POI	20.12.05	None	Bookmark hotels and restaurants in Roma, Italy	Partly Successful	I have the impression that POI are bookmarked more than once. If I bookmark one POI, it reappears at least twice in the bookmark list.
14	Plan a trip	06.02.06	None	Inter-modal route from 76131 Karlsruhe, Germany to Rome, Italy on 10th February 06, 10am	4 alternative routes with plane	No maps available, no error message → did the request take too long ?
		06.02.06	None	Inter-modal trip from Leadenhall Market, London, UK to Athens, Greece	4 alternative routes by plane	No maps yet available
		06.02.06	None	Inter-modal trip from Hannover, Germany, to Verona Italy by car	Route was calculated and map was provided	
		27.03.06	none	Car route from Hannover, Waldstrasse 2, Germany to Budapest, Hungary	The route list and a map was provided	Sometimes the geocoding provides an empty address selection. From this point there is no back-button. Error message is “Address terminated”.
		27.03.06	GPS	Plan a trip from current position to Brussels, Avenue Louise, by plane	A selection of 4 trips was provided, through Frankfurt and Munich airport	
		27.03.06	None	Inter-modal trip from Karlsruhe, Germany, to Helsinki, Finland on May 20th	Four trip alternatives by plane found	
20	Route information				Route information was displayed for each of the 4 alternatives	

UC No.	UC Description	Date	Localisation technique used	Scenarios performed	Results/ Problems encountered	Comments
23	Guide me around	27.03.06	Street name	Show current position in map by entering street name in address field	Position in Newcastle, Haymarket was displayed in map from Italian server	
		27.03.06	GPS	Searching for Hotels and restaurants in 500 m distance to current position	5 Hotels and Restaurants found and displayed in map	

Table 9: Intra site monitoring template.