



Work package I

Pilot Application 1

Requirements (Supplement)

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Overview

This document is a supplement of the requirements analysis for the planned pilot applications in WP-I. As described in former documents the pilot applications will implement two personalised information services based on the Follow Me agents-technology. They will be installed at and offered to a wide public through the "Bürgernetze"-association.

This document describes the requirements and demands of the users and the content and service providers. These requirements have been collected through interviews with selected users and providers.

The first chapter deals with the motivation for the pilot applications as well as with the motivation for the requirements survey. The following two chapters describe the real-world requirements of potential users and real-world requirements and comments of the content and service providers. The second chapter contains a summary of interview results, the third chapter deals with the results in detail. The annex shows the original questionnaire used with the interviews (German) and the list of names and professions of the interviewed persons.

Although this survey was solely used to capture requirements for the Bavaria-Online pilot applications, this report was translated to English in order document the results also for the European Commission.

1 Motivation

The main requirements document (WP-D12) emphasised the importance of efficient information management and retrieval. Information flow is becoming the key success factor in business and also in private life. The well known problem of "information overload" and time-consuming searching for the requested information is omnipresent in the internet. Thus the challenge we face is to structure the contents of the web or to get other structured contents into the web and to develop easy to use tools that assist the average information consumer in locating the information sources that best fit his needs.

Thus the major objective of the Follow Me pilot applications in WP I is to exploit mobile agent technology to develop a support infrastructure for mobile information consumers.

Users will only accept the planned information services, if they will gain considerable benefits.

The requirements survey with the users had two main motivations. First, to find out the users general advantages and requirements for the usage of an agents technology. This includes, for example, offline information search, filtering and monitoring by agents, and offline delivery of results. Second, to find out the particular relevance and acceptance of the planned pilot services and the request for further services.

The target group for the pilot applications will be the members of the "BürgerNetz"-association. Therefore the requirements survey addressed representative members of the "BürgerNetze". The survey covers requirements from the users, from content providers, which provide input for the events calendar, and the service provider BürgerNetz, which maintains the service.

One reason to select the "BürgerNetze" as service provider for a FollowMe application was that they provide a large user base and a distributed network of nodes where agents can run. Another, even more important, reason was that the FollowMe -idea of a supporting infrastructure is also part of the philosophy of the "BürgerNetze". The "BürgerNetze" are spread over whole Bavaria and their aims are first to provide everybody a cheap internet account so that really everybody will be able to become acquainted with the internet. The "BürgerNetze" also and mainly want to become a kind of "supportive network" for everybody's needs. The holding of the Bavarian citizens networks "Dachverband der BürgerNetze" welcomes the two personalised information services as an important step into this direction. More information services of that kind could follow.

This requirements survey was carried out by Lioba Gebauer. She was originally and is still working honorary for the "BürgerNetz Inn-Isen-Vils", but is now for the Follow Me project working for FAST as contact-person between FAST and the "BürgerNetze".

2 SUMMARY OF INTERVIEW RESULTS

2.1 *Summary of User Survey Results*

2.1.1 Importance of Personalised Information Services and Functionalities

All interviewed persons show high interest in personalised information services that supply them with customer-tailored informations. In the past they already made experiences with the costly and tedious search for specific information sources on the internet and then, when having been finally successful, to scrutinise these sources for the requested particular information. They would appreciate services, where they can submit their particular information requests to agents which go on search and gather it for them.

All persons are on-line via telephone lines. So they consider it as an advantage to submit their information requests and to be able to be off-line again. Therefore all interviewees would consider it worth, while in terms of time and cost-saving, that their agent is gathering and filtering the information during off-line time.

All interviewed persons consider it practical and a personal advantage not only to be urged to contact the service again, but to have the additional facility to be actively contacted by the service. Main communication medium for defining request is the web-browser. But most of them will prefer alternative communication media for receiving the information report. Depending on their own equipment and depending on the service 60%¹ want to use the phone, also 60% want to use their fax, all want to use email and only 30% consider a web-browser as an adequate medium to retrieve the results.

To use the off-line delivery facilities the agent has to maintain a personal calendar of the user's location and availability. This enables the agent to send information reports and extraordinary events immediately to the user. 70% of the interviewed persons would consider the benefit of off-line delivery high enough, to maintain a personal calendar.

¹ There were exactly 10 interviews conducted. Thus these figures cannot be interpreted as representative data, rather they are just indications of trends.

The interviewees had quite a distinctive opinion on the use of such a personal calendar function. In the stock portfolio service the users regard it as an important feature to get an immediate alarm from the agent in case an extraordinary value change has happened, even if that person is not at home. The same could hold for changes in events details (e.g. the location or the time). These information could be forwarded immediately to the user.

However some people raised security, privacy and maintainability concerns:

- Private data in the personal calendar can be spied out by hackers. Criminals could thus find out when the user's apartment is unoccupied.
- For users (especially professionals) that are quite often on the move, the maintenance of the personal calendar would not be in a reasonable relation to its use.

These problems could be addressed by the option to fix a regular reporting schedule of a report and optionally also the device where this report is sent to.

The interviewees wished to get several options for delivery: for example, a regular reporting (like, for example, reporting every Friday at five o'clock), or a singleton scheduled reporting.

Additional requirements for usage are:

- Usage must be simple and quick
- The presentation of the results must be straight-forward and user-friendly
- Private data must guaranteed to be confidential
- Reasonable default entries must be supported
- Request to the employees of the "Bürgerneze": no first selection of information providers
- The service should be cheap
- Information must be current: information of sudden, short-term changes must be possible, if necessary given to the telephone answering machine
- Personal data (address etc.) mustn't passed on to other institutions
- After login, information of the status of the service should be on top
- The service should report complete information, so that there is no need for further inquiries

2.1.2 Relevance of Event Notification Service

Currently the local Bürgerneze-nodes provide web-based information pages to inform about regional events.

The first pilot service will provide up-to-date information on regional events by a federated search through such data bases. The local Bürgerneze-nodes maintain local databases with regional events. The user can commission his agent to collect all data available in a certain distance from a location.

Almost all persons were interested to use such an information service.

When people shall judge about the relevance of a new version of an events calendar, they state various criteria of judgement, which are a new of different importance to the different people.

Here we have the following criterias of judgement (considered as the most important criterias - pretenced by the interviewer within the interviews) :

- Costs,
- Time spent,
- Content of information (e.g. information in the wished depth of detail, but without getting overloaded with informations, or informations out of regions of their interests and for dates of their interests)
- Preparation of information (e.g. perceiving at a glance which information is of importance or of interest)

2.1.2 Relevance of Event Notification Service

When people shall judge about the relevance of a new version of an events calendar, they state various criterias of judgement, which may be of different importance to different people.

For the interviews the following criterias of judgement were pretenced by the interviewer (considered as the most important criterias):

- Costs
- Time
- Content of information (e.g. information in the wished depth of detail, but without getting overloaded with informations, or informations out of regions of their interests and for dates of their interests)
- Preparation of information (e.g. perceiving at a glance which information is of importance or of interest)

The relevance of a new service always orients itself at the increase in value, which it offers compared with comparable, well-established services. Therefore it had to be found out first, with which weighting the individual queried criteria exert influence on this increase in value.

Nevertheless this query on the weighting resulted in no uniform picture. It could be observed that most interviewees asked first, partially even still before beginning the interview, for the costs of the service. In the course of the interviews it could be observed then however that the interviewees processed the topics of the questionnaire with varying interest, i.e., for several interviewees the question about the costs remained the central point till right to the end of the interview, while other persons were more interested in the new in the various new features of the system (e.g. the agent's autonomy).

The evaluation of the expected increase in value presents itself in detail as follows, ordered by the criterias of judgement mentioned above:

Cost situation

- 2/3 of the interviewees are mainly interested in events within their environment. In their opinion they wouldn't save any costs by the new service or this saving would be only marginal, because information on regional and local events can be received free of charge via conventional media (e.g. newspapers, regional newspapers, brochures, posters, but not Internet services). Partly this information is even shipped to the door and free of charge.

Therefore cost savings only can be expected within searching for local or regional events in the margins or outside of the circulation areas from magazines or other publications, where you had to afford till to now costs for driving, telephoning or postage, when you wished to receive appropriate information about events of areas, which are in your neighbourhood, but are situated outside the circulation of the publications.

Users, which are already looking for local information in the internet, believe to gain an advantage within costs: Online-costs spend on searching for events in traditional online event calendars would be substantially reduced. Depending upon intensity of the use of event calendars available in the internet these users consider a cost saving of up to 5 DM monthly as likely.

- The situation presents itself differently with the still remaining third of the interviewees, which is frequently visiting events, which take place outside of the circulation areas of the locally avail-

able, traditional information media. These persons are mostly young people or singles. This group of persons already uses the internet extensively to receive information about forthcoming events, which means a quite noticeable financial load looking at the hitherto existing condition of online events calendars (e.g. no user personalised pre-selection and therefore long online times to navigate to appropriate bits of information). These persons consider savings from 5 to 20 DM monthly as likely.

- Additional costs for maintaining the new service have to be weighed against above cost savings.

Factor time

As bases for the estimation of the time saving achieved by using the new service the interviewer assumed that commissioning the Event Notification Service won't take more than 10 minutes, and that reading of the report won't take more than 5 minutes.

Based on these assumptions all interviewees came to the result that the Event Notification service would entail noticeable saving of time. In particular the following disadvantages of the past acquisition of information were stated:

- Very much time must be spent, in order to search for event notifications in different traditional information sources
- The traditional event calendars are mostly sorted chronological, not by content. Therefore the content related sifting takes up much time in particular with more extensive event calendars, e.g. annual statements or event calendars of larger cities.
- Information on events, which are situated outside of the circulation area of locally available "classical" news services, must be inquired at very high temporal expenditure.
- Additional information to planned events is often to be attained only with disproportionately high expenditure of time, because specifications concerning the organiser of the event are often unsatisfactory.
- Event notifications on less popular topics can be, if at all, received only from pertinent technical periodicals or after time-consuming search by contacting special topic related institutions.

Nevertheless, it was visibly difficult for the interviewees to estimate the saving of time. The reason for this difficulty is anchored in the circumstance, that so far for lack of other alternatives none of the interviewees had made thoughts about the time he spent sifting event calendars. After making themselves conscious of their habits, most interviewees however stated in surprise that they spend unexpectedly much time in sifting event calendars. The reasons are, first of all, free advertising magazines which contain event calendars of the circulation area.

Quantity and quality of information within event notifications

For the evaluation of an increase in value with regard to the scope and the quality of the event notifications created by the Event Notification service a prototype of an event notification was shown to the interviewees.

All interviewees saw throughout large advantages in the offered information. Basically it was marked positively that within the electronic output of event notifications the existing physical restrictions of other media, e.g. the limited size of a newspaper-page, would have no more validity. Therefore, whenever appropriate, more or less information can be delivered without violation of the usual aesthetic principals in print media layout. The event notifications can be offered in a layout that is uniform and easy to be read.

All interviewees appreciated especially the possibility to make references out of the notifications through medium-typical mechanisms, in particular through web-links, to additional offers of the organiser of the event. Additional offers can reach from more information about the event up to a complete bookkeeping systems. If organisers offer the latter, online-registrations and -orders can be executed directly out of the event notification.

Such processes represent genuine creation of value chains in the economical sense (which is required in order to maintain the service beyond the scope of the project).

The interviewees also appreciated the complete address specification of the organiser within the event notification and the associated possibility of an immediate communication (in the ideal case via e-mail).

Selection and assortment of event notifications

All interviewees were very interested in the possibility of filtering the event notifications delivered by the Event Notification service by setting some suitable parameters. This way they might no longer scrutinise the whole abundance of all available event notifications, but get them filtered and sorted by event categories, region and time according to their commission .

In particular the interviewees high-valued the fact that the conception of the Event Notification service suggests the overcoming of the spatial limitations of the traditional media, in particular the newspapers. These media orient themselves so far mostly at political boundaries, mostly district boundaries. In particular, citizens who live close to such boundaries suffer from the fact that they would need to check more than one daily paper to keep informed on everything that is going on in their local area. The ability of the Event Notification service to query databases distributed over the whole of Bavaria (or even a wider area), represents a substantial progress towards meeting the users' requirements.

According to unanimous opinion of the interviewees, these possibilities of filtering, may not exclude global information about all events stored in the system. It must be also possible to dispatch a search query without restrictive selective criteria.

To summarise it is to be stated that all interviewees appreciated the Event Notification service for bringing substantial improvements to their information gathering processes (compared to other information sources). Each particular interviewed person expected for itself an increase in value, which however deduced itself, depending on personal circumstances of life, from different characteristics of capability of the service and which was always in dependency to other factors.

During the interviews it also became clear that most of the interviewees reckon with a rather slow start of the service with regard to the existing supply with information about events. Doubts were expressed particularly regarding the completeness of the information available via the new databases. Therefore most interviewees assumed that they first will use the service in addition to the established sources of information, but that in the near future (with the percentage of events covered by the new databases rising) their user behaviour might change.

Relevance of further services:

All interviewees would appreciate to get offered further services. They requested services like property markets, second-hand car markets, job markets, storehouse markets (purchase and sale), travelling markets, markets for direct sales (e.g. of agricultural products), "flea" markets, trading of neighbourhood assistance, markets for exchanging goods, car – sharing information.

2.1.3 Relevance of Stock Portfolio Management Service

The second pilot service will provide a maintenance and alert facilities for a user's stock portfolio. Users can set limits for their portfolio values. If the current value reaches such a limit, the user gets an alert.

All interviewed stockholders do their stock transactions with their bank. They are watching the development of their stocks, by reading exchange reports mainly in newspapers and on television (NTV), but also more and more in the internet (pages of their bank, yahoo etc.).

Half of the interviewed persons are nevertheless watching stock values not to such degree, that they look after actual values every day, to be able to react immediately to every small fluctuation, because they are in possession of stock funds or stocks of firms (were they are working), which they would like to let them run for a longer time. They do not have a high need for nearly real time alerts on value fluctuation.

Or they set limits with the bank, which is then reacting, when a limit was reached.

The other half of the interviewed persons are watching the development of their stocks more intensively. These are typically young people which like to come to know the nerve tickling with stock transactions.

They all would be interested in the offered internet stock service. They would like to receive regularly the actual market value and to get alarmed, best by handy (or also fax), if a limit they had set was reached. These interviewees would appreciate an option to give order to buy or sell stocks via internet to banks or stock brokers immediately after a limit was reached.

An additional requirement was to couple the service to an information service about market and economy news.

2.2 Summary of Provider Interests (Content Providers, Service Provider)

2.2.1 Summary of Content Provider Interests

The interviews were made with a manager of an adult education program and a press manager of a local municipality.

Both providers already use the WWW to advertise institution specific information. They see the need to address additional target groups with this medium (e.g. young people). Electronic media will gain a larger market share to transport current information.

Both providers see a competitive advantage using a focused channel with respect to geographical neighbourhood and pertinent subject to the user.

The manager of the adult college emphasised that online-registration and -order is becoming an important advantage within this new medium. So it would be of great importance that informations to events also contain links to belonging information-sites within the WWW.

2.2.2 Summary of Service Provider Interests

The "Bürgernetze" as Service Providers are interested in offering new information services which meet the specific interests of their users. Information services, that best fit the user's individual needs are very largely corresponding to the philosophy of the "Bürgernetze".

They also see the chance to make a further contribution to secure the future of the "Bürgernetze", when offering services on future-directed agent technology.

3 Results in Detail

3.1 Methodological Approach

The members of the Bavarian Bürgernetze are the target group for the two pilot services deployed by the FollowMe project. The co-operation with the Bürgernetze was chosen, because the provision of a supportive and user-oriented service network is one of their main goals. Provided a good potential for acceptance the Bürgernetze will operate and maintain the pilot services in the future.

The Bürgernetze are organised as local personal associations of citizens. Most of the citizens are not computer experts, rather they have only an elementary knowledge about the technology.

The basic concept for the to pilot applications was agreed in direct contact with the "Dachverband der Bürgernetze". However to ensure the acceptance of the potential users and contents providers this requirements survey was conducted.

3.1.1 Requirements Collections of Users

For collecting the requirements an interview approach with potential users was taken. This was considered superior to a mass opinion poll on all members via the internet: Firstly it would have been quite difficult to formulate precise questions on such a complex technical topic as personalised software agents. The results would have been quite restricted in use. Secondly the direct interviews resulted in a much broader communication of the requirements, a controlled feedback was possible.

For the interviews persons were selected that had already some technical computer background and have some experience and valuation of the potential services.

As there were only 6 persons that were also stockholders, we decided to interview 4 more persons being stockholders. But those 4 stockholders were only asked about the relevance of a Stock Portfolio Management Service.

For the interviews a questionnaire (see appendix) was prepared. It was structured in three parts: The first covered general questions about the usage of personalised information systems, the second and third part addressed specific questions about the two pilot services.

All interviews were conducted by Lioba Gebauer who acts as a contact person between FAST e.V. and the Bürgernetze. Each interview took between half and one hour.

3.1.2 Requirements Collections of Content Providers

The possible content providers for an Event Notification-Service are:

- Organisers of singular events and institutions that regularly arrange events like associations, cinema, theatre, adult evening classes....
- Collecting places for event notifications like municipalities, offices for tourism and cultures, association cartels....

As representative of the first type a manager of an adult education college was selected. The second type was an administrative person in a local municipality that is in charge for collecting and announcing events.

3.1.3 Interview with 1 Service Provider

Service providers are FAST together with the "Bürgernetz"-nodes respectively –associations. As we already described in the requirements analysis (DI2), five "Bürgernetz"-nodes will participate in the Follow Me – project during the pilot phase.

The "Bürgernetze" will implement and deploy the services and will provide them on-site as services to their users, we turned in this document to the side of the "Bürgernetze" as service providers on the scene.

A responsible person of the participating "Bürgernetz"-node Schwindegg was interviewed to find out real-world requirements and issues for service providing.

3.2 Result

3.2.1 Exploitation of the Questionnaire on User Interviews

1. Relevance of personalised information services and functionality within them

	Interest	Less interest	No interest
1. Information-service, which can be ordered to search for certain customer-tailored informations within the internet.	10		
2. The system is searching and gathering the information, while the user is offline again.	10		
3. The user has various communication channels available for receiving the information-report (e.g. fax, Handy).	Telephone /Handy: 6 Fax: 6 E-Mail: 10 Webbrowser: 3	1	

4. The user is maintaining his own personal calendar, which outlines when and where he is available to receive the information-report.	7		3
5. The user is able to determine what time or deadline he wishes to receive his information-report.	10		
6. The user is able to receive regularly his reports on informations on which he wants to be kept-up-to-date.	9	1	
7. User interfaces are straight-forward and user-friendly (commissioning the service).	10		
8. Personalised default values of query parameters can be stored (e.g. queries by default centre around the home location of the user).	10		

2. Relevance of Event Notification Service

Interest in Event Notification S.	Less interest	No interest
8	2	

3. Relevance of Stock Portfolio Management Service

Interest in Stock Portfolio M.-S.	Less interest	No interest
5		5

3.2.2 Questions and Results of Provider Interviews

A. Questions and results within interviews with 2 content providers:

Interview with a Person, who is in charge of collecting, co-ordinating and publishing Event Notifications of his Municipality:

1. Question

More and more municipalities insert their offers in the internet for reaching important target groups like e.g. people with final examinations of high schools and/or young people being interested in computing or internet.

How high do you estimate the need of following this trend for your municipality?

Answer:

The municipality of Schwindegg is already following this trend by presenting important informations (municipality letter, ordinances, open hours etc.) in web pages at the citizen net. At the present time I do not estimate the need of following this trend very high, because the least citizens have an internet account and are able to receive informations from the internet. Nevertheless, the technical and electronically development (integration of TV and computer/internet) and more easy handling will expand the community of users rapidly and will also entail an increasing demand on local informations, which also municipalities will have to meet; for example, in form of online services (informations, "box for worries", registration of business, records of municipal council-conferences, etc.).

2. Question

How do you value the new Event Notification service, which will supply citizens with event notifications according to their individual needs (special type of event, time and region, in which the event should take place, time schedule on when the information is to be delivered and specification of the device to which the information is to be delivered), without the money –and time consuming need of searching in a variety of not connected local sites and without the money- and time consuming need to stay online till to the end of report delivery?

Answer:

I really welcome the new event notification service from the point of view of its rough draft. As event calendars mostly include only local events, it is very idle and time consuming leafing through several event calendars to get a regional overview. In this case, operating with corresponding "searching agents" is really helpful.

3. Question

Could you imagine, that it would be of advantage for the citizens of your municipality, when they could receive informations about events of your municipality automatically by the new Event Notification service?

Answer:

Of course, it would be an important facilitation, when citizens would be able to subscribe this service and to manage it that way, that they could automatically receive the events of the following weekend at a fixed day in advance, or that they could receive a list of certain events (e.g. flea market) free of charge.

4. Question

Would you welcome it, when your events could be received in whole Bavaria (with regard to tourism)?

Answer:

I would already welcome, too, when event notifications would be retrievable regional (e.g. within an administrative district). The expenditure of producing and maintaining an event calendar isn't negligible at all. You can get a little bit satisfaction in the idea of bringing event notifications to a larger circle of users and increase the value of your work in that way.

5. Question

Could you imagine, that you and many other municipalities insert their data of events at their next Bavaria Online node, and that this way all citizens of Bavaria and not least the citizens of your municipality would profit from it?

Answer:

As I conceive and maintain the events calendar for the municipality of Schwindegg, I would definitely take up this suggestion.

I would welcome everything that contributes to a reduction in the volume of work and at the same time leads to an increase in the potential community of users.

6. Question

Would you agree to insert your collected data of events into the data base of your next Bavaria Online node by an insert program that you get offered by the node

- with respect to representation and bavarian wide advertising of your municipality,
- with respect to supplying your inhabitants with event notifications of your municipality in an advanced, electronically way,
- and last not least with respect to the advantages for your inhabitants, when becoming able to receive event notifications from every region within Bavaria (when also many other municipalities agree to it) ?

Answer:

Yes, of course, if reduction of expenditure of working will follow.

7. Question

Do you have any specific requests and requirements towards the service?

Answer:

Insertion of events into the database should be as easy as possible.

- The inserting program should enable changes and supplementation of event-data.
- It would be desirable to be able to compose data of several events offline in a prescribed format and next load the data into the server, where they will be integrated into the database.
- Searching for events within a certain subject, which refers to a topic/keyword:
- This kind of keyword searching requires data of events to be equipped with the corresponding keywords (e.g. "Galli-market" in Dorfen: pottery, toys made of wood, embroidery, hobby artist,...)
- The presentation of event data should be individually customisable for each municipality, i.e. each municipality can work out an own pattern, in which all event data will be inserted, and which will then be sent to the "Bürgernetz"- node.

Interview with a Manager of an Adult Education Program (AEP):

AEPs are publishing their course offers in own AEP-booklets, in which course offers of several AEP-Institutions out of several districts are united. These booklets are lying at central places (banks, local governments) for everyone, who is interested in to take it along.

1. Question

More and more people like to get dial ins for the internet (young people, companies, firms, employees in the computer sector). The number is continuously going up.

Could you generally imagine, that you would reach a wider public, and that you would increase the number of your course participators by additionally offering your course program in the internet?

Answer:

Yes, I can imagine. Through the electronic medium we especially would get young people and firms to use our course offers. This target group is less present in our courses although we have a large and interesting offer for them (for firms and their employees for instance courses about rhetoric, marketing, etc. - presented by professional competent speakers).

2. Question

How do you value the new Event Notification-Service at Bavarian Online nodes as service, which supplies citizens with event notifications according to their defined orders (special type of event, time and region, in which the event should take place, time schedule on when the information is to be delivered and specification of the device to which the information is to be delivered), without the money-and time consuming need of searching in single local sides, without the money- and time consuming need of staying online till to the end of delivery?

Answer:

That sounds very good.

Especially the reference of the event to a special type respectively topic would be important for us. The reference to a special topic would be the best way for us to be automatically present among the big number of course providers and so to reach more people with our course offers. People, who otherwise possibly might not have taken an AEP-booklet to search in it for a suitable course.

3. Question

Could this service be suitable instruments for your course offers within the internet?

Answer:

Yes, of course it could. I am even sure, that we will use this instruments.

Here, we will have the best chance within electronic facilities to get rid of our courses.

4. Question

Do you have any requests and requirements towards the Service?

Answer:

It would be of facilitation for us, when we could use an easy to handle online data insertion program or a tool.

It would be of very great advantage and value when people also get informed about the internet information site of the AEP (link to web site), for receiving more information and for online registration.

The possibility of online registration and -order is becoming an important advantage within this new medium.

B. Questions and results within an interview with a responsible person of a "Bürgernetz"-node:

1. Question:

Why have you accepted the offer of FAST to join this EU-project and install a pilot application on your machines?

Answer:

In order to stay ahead of competitors in the internet service provider business, the concentration on content related value-added service is becoming more and more important for the "Bürgernetze".

The most important criterion for a citizen, when he selects an internet service provider, besides the costs, is the quality of services. In this context it is decisive in how far the offered services meet the individual situation of life. A service which can be configured very individual is a strategic product, that means, it may be a doorway to a new segment of the market. So, if the "Bürgernetze" are the first providers opening this door together with FAST, it will be a great benefit for them. They may safe exclusive rights, at least a leadership on this segment of market. Personally I think that information services based on agent technology are key services for a new segment of the market.

2. Question:

Isn't the orientation on services for individual situations of life one of the basic themes of the "Bürgernetze"?

Answer:

Indeed, it is. That's why the Bürgernetze are an ideal base for the suitable and useful deployment of these services.

Let me explain:

The "Bürgernetze" are associations with ideal, non-commercial goals. The individual benefit of a data network should be promoted for everybody. This is the philosophy of the "Bürgernetze". The new information services, based on agent technology, meet the interests of the "Bürgernetze" very well, because they are well matched with its philosophy. Everybody should one day be served by such a service, ranging from a regional event service to any imaginable service involving information brokerage of any kind (e.g. a used car market).

The structure of the service concerns a lot of different participants, e.g. users, information providers and service providers.

We expect, that the requirements for a contribution of information or for consumption of information, especially the technical requirements, will be realised at least partially at the "Bürgernetze". For instance the databases for service providers or content providers, all user specific components like "Personal Assistant", "Task Agent" and access modules for users.

It will be of great advantage for the "Bürgernetz", when the FollowMe System, databases for service providers and so on will be installed there: All the participants will come to the "Bürgernetz". The "Bürgernetz" will be the first address, they will become a basic distribution infrastructure.

Annex

Original German Questionnaire on User Interviews

Fragebogen zum Interview mit Nutzern

1. Einleitung: Dringlichkeit der Verbesserung von Informationsfluß

- 1.1 Der Bürger wird sensibilisiert für die Problematik, die sich ergibt, wenn er auf dem herkömmlichen Wege nach Informationen sucht.
Gleichzeitig werden ihm Lösungen, Wege der Verbesserung des Informationsflusses innerhalb des Internet aufgezeigt, wie wir sie dann auch in unseren Pilotanwendungen bieten wollen (internetbasierte personalisierte Informations-Dienste).

2. Fragen zu diesen speziell bei der Suche nach Informationen im Internet möglichen Lösungen und Verbesserungsvorschlägen -- um herauszufinden, welche diesbezüglichen Interessen und Wünsche die Bürger haben.

3. Fragen zur Relevanz eines Veranstaltungskalender-Dienstes (Pilotanwendung 1)

4. Fragen zur Relevanz eines Aktien-Portfolio-Managem.-Dienstes (Pilotanwendung 2)

5. Frage nach dem Wunsch nach weiteren Diensten dieser Art.

1. Einleitung: Dringlichkeit der Verbesserung von Informationsfluß

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Einleitung:

Es geht um:

Vermittlungsdienste von Informationen zu Themen an denen ein langfristiges, regelmäßiges Interesse besteht - z.B.:

Veranstaltungshinweise

Theaterprogramme

Kinoprogramme

Immobilienangebote

Gebrauchtwagenangebote

andere Verkaufsangebote wie z.B. CDs, Kleidung, Bücher...

Bislang (ohne entsprechende Informationsdienste) geht man dabei so vor:
Der Interessent muß alle maßgeblichen Informationsquellen (z.B. Tageszeitungen, Fachliteratur, Werbesendungen, Gemeindeanzeiger, Internetseiten) nach für ihn relevanten Informationen durchsuchen (= information pull).

Er kann sich regelmäßig von den Informationsanbietern Informationen zukommen lassen (z.B. Zeitung oder news-letter abonnieren = information push).

Problem:

(Pull) Der Interessent muß sich selbst darum kümmern regelmäßig die Fülle der allgemein verfügbaren Informationen (verteilt über verschiedene Quellen) nach für ihn relevanten Informationen zu durchforsten.

(Push) Der Interessent erhält die Informationen zugesandt. Diese sind aber nicht auf seine persönlichen Interessen abgestimmt. Er erhält also zum Großteil Informationen, die ihn gar nicht interessieren (zu viele verschiedenen Zeitschriften, Werbewurfsendungen, e-mails, news-letters -> es bleibt das Problem des Filterns nach relevanten Informationen.

Die Lösung: Informationsvermittlung über Agenturen:

Der Informationssuchende beauftragt eine Agentur mit dem Auffinden und dem Filtern der Informationen. Er liefert der Agentur einmalig ein Anforderungsprofil. Danach erhält er regelmäßig von der Agentur Informationen, die seinem Anforderungsprofil entsprechen (Bsp. Veranstaltungshinweise). Oder er erhält Informationen umgehend, sobald für ihn relevante Informationen vorliegen (z.B. Aktienkurse, Neuerscheinungen von CDs, neue Bücher von bestimmten Autoren, günstige Angebote für einen Gebrauchtwagen,...).
Für jedes Wissensgebiet (z.B. Veranstaltungen, Aktien,...) gibt es spezialisierte Agenturen. Der Informationssuchende kann also aus einer

Reihe von Agenturen diejenigen auswählen, die auf Gebieten tätig sind, für die er sich interessiert.

Erreichbarkeit:

Wenn eine Agentur einem Informationssuchenden Informationen zukommen lassen möchte, muß sie Zugriff auf Erreichbarkeitsinformationen zum betreffenden Kunden haben. Im Allgemeinen pflegt dazu jede Agentur Kundendatenbanken mit entsprechenden Adressangaben.

Problem:

Jede Agentur muß selbst eine Kundendatenbank pflegen. Ändert sich eine Adresse, so können Informationen so lange nicht zugestellt werden bis der Kunde der Agentur seine neue Adresse mitteilt. Der Kunde muß dann jede Agentur die in seinem Auftrag tätig ist über die Änderungen informieren.

Lösung:

Jeder Informationssuchende pflegt einen persönlichen Kalender, in dem er Erreichbarkeitsinformationen zu bestimmten Zeitpunkten hinterlegt (z.B. Mo-Fr tagsüber im Büro, sonst Privatanschrift). Alle Agenturen haben auf diese Informationen Zugriff (sofern sie dazu ermächtigt wurden). Damit wissen alle Agenturen zu jeder Zeit, wo der Kunde erreichbar ist.

In unseren Internet-Agenturen wird der Kunde als Anschrift Adressen für e-mail, fax, sms, handy oder web-browser angeben können.

2. Fragen zu diesen speziell bei der Suche nach Informationen im Internet möglichen Lösungen und Verbesserungsvorschlägen -- um herauszufinden, welche diesbezüglichen Interessen und Wünsche die Bürger haben.

2.1 Sie benutzen zusätzlich das Medium Computer und Internet, wenn Sie nach Informationen suchen.

Dann kennen Sie auch das Problem zunächst nach geeigneten Informationsquellen suchen zu müssen und diese dann nach den für Sie relevanten Informationen durchforsten zu müssen.

Sie haben gerade von den Agenturen bzw. Informationsdiensten gehört.

Diese könnten einen Auftrag von Ihnen annehmen und für Sie nach bestimmten von Ihnen gewünschten Informationen suchen. Bestimmte Informationen könnten zum Beispiel sein: klassische Konzerte in München am Wochenende, od. Gebrauchtauto, V W Passat, Diesel...u.ä.

Wäre es für Sie von Interesse, solche Internet-Agenturen benutzen zu können, die Ihnen speziell nach Ihren Maßgaben definierte Informationen z.B. über bestimmte Veranstaltungen od. Gebrauchtautos etc. liefern könnten, sodaß Sie nicht mehr selbst nach geeigneten Informationsquellen suchen und diese nach für Sie relevanten Informationen durchforsten müßten?

Interesse

Kein Interesse, weil...

Weniger Interesse, weil.....

- 2.2 Sie könnten Ihren Auftrag online eingeben und die Agentur (Agenten) würde für Sie die gewünschten Informationen sammeln während Sie wieder offline wären.

Wäre es für Sie von Interesse (evtl. aus Kostengründen), wenn Sie lediglich Ihren Auftrag, Ihr Anforderungsprofil (Suche nach bestimmten Informationen wie z.B. nach einer bestimmten Art von Veranstaltung, an einem bestimmten Ort, zu einer bestimmten Zeit) online bei der Agentur eingeben müßten, und diese dann den Auftrag für Sie ausführt, während Sie wieder offline sein könnten?

- Interesse
 Kein Interesse, weil...
 Weniger Interesse, weil...

- 2.3 Wenn die Agentur mit dem Sammeln der gewünschten Informationen fertig ist, stellt sich als nächstes die Frage → wie gelangt man zu diesen Informationen. Der nächstliegende Weg ist natürlich der, daß man sich wieder bei der Agentur einwählt und die Informationen abrufen. Es gäbe jedoch noch eine weitere Möglichkeit:

Was würden Sie davon halten, wenn nicht Sie die Agentur abermals kontaktieren müßten, sondern wenn die Agentur auf Sie zukommen würde und Ihnen die Informationen sozusagen frei Haus liefern würde?

Es wäre beispielsweise denkbar und auch technisch möglich, daß Sie die Informationen per Faxgerät oder sogar per Handy oder Telephon geliefert bekämen. Auch e-Mail wäre möglich. Das Handy als Informationsübermittler könnte sich etwa bei einem Aktien-Dienst als nützlich erweisen, bei dem Sie sofort benachrichtigt werden könnten, wenn ein von Ihnen angegebenes Limit erreicht worden ist.

Wären Sie daran interessiert evtl. neben dem Weg des Sich-wieder-Einwählens auch noch oben genannte Kommunikationskanäle zur Verfügung zu haben?

- Interesse
 Kein Interesse, weil...
 Weniger Interesse, weil....

Welche Kommunikationskanäle würden Sie gerne wählen?
 Telephone / Handy () Fax () E-Mail () PC ()

Bei Interesse an mehreren Kommunikationskanälen:

- 2.4 Hier ist es nun wichtig für die Agentur, daß sie darüber informiert wird, wie und wann Sie erreicht werden möchten oder generell erreichbar sind.

Da gibt es verschiedene Möglichkeiten:

Zum einen gibt es die Möglichkeit, daß Sie bei jedem Suchauftrag (oder auch für generell) auch gleich noch angeben über welches Endgerät (Adresse des Endgeräts) und zu welcher Zeit Sie den Informationsbericht übermittelt bekommen wollen.

Zum anderen gäbe es auch die Möglichkeit, daß Sie einen persönlichen Kalender führen und selbst verwalten (zugänglich für die Agentur), in welchem Sie angeben könnten zu welcher Zeit rund um die Uhr Sie über welches Endgerät erreichbar wären. Eine Zusatzfunktion der Festlegung der Zeit, wann der Informationsbericht generell oder im Einzelfall geliefert werden soll ist natürlich auch hier möglich oder angebracht.

Dieser persönliche Kalender brächte einerseits den Vorteil, daß Ihnen auch noch jede kurzfristige Änderung einer Information mitgeteilt werden könnte, oder daß Ihnen eine ereignisabhängige Information sofort nachdem das Ereignis eingetreten ist mitgeteilt werden könnte.

Andererseits brächte das eigene Verwalten eines persönlichen Kalenders auch noch den

Vorteil, daß Sie jederzeit irgendwelche Änderungen hinsichtlich Ihrer Erreichbarkeit selbst vornehmen könnten und dadurch keine evtl. Verzögerungen bei der Zustellung der Informationen entstehen würden.

Welche Meinung, Wünsche oder Anforderungen haben Sie bezüglich Erreichbarkeit durch die Agentur?

Möchten Sie gerne die Zeit festlegen können, zu der Sie den Informationsbericht zugestellt haben möchten?

Was halten Sie davon, einen persönlichen Kalender zu führen und zu verwalten?

Würden Sie evtl. auch gerne regelmäßig Informationsberichte übermittelt bekommen beispielsweise über Ereignisse, über die Sie auf dem Laufenden gehalten werden möchten?

2.5 Welche weiteren Anforderungen würden Sie an einen Informations-Dienst (Agentur) dieser Art stellen oder welche speziellen Wünsche hätten Sie noch?

Online-Eingaben (Auftrag für die Agentur) einfach zu handhaben

und bedienungsfreundlich:.....()

Schnelle Eingabe möglich:.....()

Private Informationen müssen sicher sein:.....()

Standard-Einstellungen sollten möglich sein:.....()

Weitere Anforderungen und Wünsche:

.....

3. Fragen zur Relevanz eines Veranstaltungskalender-Dienstes (Pilotanwendung 1)

3.1 Wie gehen Sie bisher vor, wenn Sie nach Veranstaltungshinweisen suchen?

3.2 Wie oft sehen Sie sich Veranstaltungskalender an?

Täglich mal

Wöchentlich..... mal

Monatlich mal

3.3 Sehen Sie sich auch Veranstaltungskalender im Internet an?

Wenn nein, warum nicht?.....

Wenn ja, welche?.....

welche regelmäßig?.....

3.4 Welche Umstände erachten Sie als wichtig, wenn Sie sich nach Veranstaltungen erkundigen?

- Die Kosten - einschließlich der versteckten Kosten (für Telefonate, Fahrten, Kauf von Zeitungen?
 Sehr wichtig () wichtig () nicht wichtig ()

- Den Zeitaufwand - wie lange brauchen Sie für Telefonate, Fahrten, etc.
 Sehr wichtig () wichtig () nicht wichtig ()

- Den Informationsgehalt - werden Sie in der gewünschten Detailtiefe informiert, ohne mit Informationen überfrachtet zu werden? Erhalten Sie Informationen aus den Regionen, die Sie interessieren, und für die Zeiten, die Sie interessieren?
 Sehr wichtig () wichtig () nicht wichtig ()

- Die Informationsaufbereitung - Sie können auf einen Blick erkennen, welche Veranstaltungen für Sie wichtig sind.

Sehr wichtig () wichtig () nicht wichtig ()

- Welche weiteren Umstände sind für Sie wichtig?

.....

.....

3.5 Wir haben gerade über Informations-Agenturen bzw.-Dienste und ihre möglichen Funktionalitäten gesprochen.

Ein möglicher Informations-Dienst könnte ein Dienst sein, der Sie über bestimmte Veranstaltungshinweise informiert. Ein solcher Dienst wurde bereits während des vorangegangenen Interviews in Beispielen immer wieder mal erwähnt.

Dieser Dienst könnte derartig gestaltet werden, daß er Ihnen Hinweise liefert über von Ihnen speziell gewünschte Veranstaltungen, in einer bestimmten Region innerhalb Bayerns, von einer bestimmten Zeit. Sie bräuchten nicht mehr selbst auf die Suche gehen, sondern nur noch den Dienst mit Ihren entsprechenden Wünschen beauftragen und dazu angeben zu welcher Zeit und über welches Endgerät (Fax etc.) Sie den Informationsbericht geliefert haben möchten.

Er könnte Sie beispielsweise regelmäßig über bestimmte aktuelle Veranstaltungen aus Ihrer Umgebung informieren oder er könnte für Sie spezielle Veranstaltungen aus einem entfernten Ort für einen bestimmten Zeitpunkt suchen, damit Sie informiert sind, wenn Sie als Reisender für diesen Tag in diesen Ort kommen.

Natürlich brauchen Sie auch Zeit, um einen Agenten zu beauftragen, und die Einwahl ins Internet ist ebenfalls mit Kosten verbunden.

- Schätzen Sie bitte, wieviel Geld Sie monatlich sparen würden, wenn Sie, statt sich wie bisher zu informieren, den Agentendienst, der kostenlos sein wird, nutzen würden:
- () gar nichts
 - () gar nichts, es würde eher teurer
 - () weniger als 5 DM
 - () mehr als 5 DM
 - () mehr als 10 DM
 - () mehr als 20 DM

Der Zeitfaktor für Auftragserteilung und Lesen des Ergebnisberichtes, (hängt auch ein wenig von Ihren Wünschen zur Ausgestaltung, zum Umfang des Dienstes (Detailtiefe) ab,) kann also nur grob geschätzt werden. Läßt man eine erste Gewöhnungsphase, in der man sicherlich mehr Zeit dafür aufwenden muß (trotzdem die online-Bedienung möglichst benutzerfreundlich gestaltet sein wird), außer Betracht, werden es aber sicherlich nicht mehr als 10 Minuten sein, die man benötigt, um einen oder auch gleich mehrere Aufträge zu erteilen und 5 Minuten, um den Ergebnisbericht zu lesen.

Schätzen Sie bitte, wieviel Zeit Sie monatlich sparen würden, wenn Sie, statt sich wie bisher zu informieren, den Agentendienst nutzen würden:

- () keine Zeit
- ()Min., Std.

Der Agent könnte Ihnen die Informationen etwa wie folgt aufliefern, wenn Sie speziell nach >Vorträgen über Gesundheit >in Ihrer Umgebung (30 km Umkreis) >vom 1. - 31.Juli gefragt hätten:

1.

Titel: "Die Homöopathische Hausapotheke"

Beschreibung: Die klassische Homöopathie ist eine nebenwirkungsfreie...
Datum, Zeit: 13./ 20./ 27. Juli 1998, 3 Abende, 19.00 - 20.30 Uhr
Ort: Haus der Kultur, Braunauer Str. 10, 84478 Waldkraiburg
Veranstalter: Volkshochschule, Braunauer Str. 10, 84478 Waldkraiburg,
 Tel. (08638) 959-310
 Fax (08638) 959-399
 e-Mail: vhs.waldkraiburg@iiv.de
Web-link: <http://...>
Zielgruppe: Allgemeinheit
Preis: 60,- DM insg.

2.

3.

Bezogen auf den Informationsgehalt:

Wäre diese Auflistung hinsichtlich des Informationsgehalts vorteilhaft? Warum?

Bezogen auf die Informationsaufbereitung:

Wäre diese Auflistung, bei der nur Veranstaltungen Ihres Interesses (bezogen auf Ihren Auftrag) genannt werden, vorteilhaft für Sie? Warum?

4. Fragen zur Relevanz eines Aktien-Portfolio-Managem.-Dienstes (Pilotanwendung 2)

An Aktionäre:

4.1 Sie sind Aktionär. Wie regeln und verwalten Sie Ihre Aktiengeschäfte? Überlassen Sie alles der Bank oder einem anderen Börsenmaklerbüro? Wenn ja, aus welchen Gründen? Zeitgründe?

4.2 Wie informieren Sie sich über den Aktienmarkt? Zeitung? Fernsehen?

4.3 Sehen Sie sich auch die Börsenseiten im Internet an?

4.4 Wäre für Sie ein Aktien-Dienst nach oben beschriebenem Muster interessant, der Ihnen zum einen als Informationsquelle u. Benachrichtigungsdienst und zum anderen als Portfolio-Verwaltungs-u. Management-Dienst dienen könnte (?):

Sie könnten damit Ihr Aktien-Portfolio verwalten und managen, also Ihr Aktien-Depot, Ihr Bargeld-Konto und das Setzen von Hoch / Tief-Limits. Ferner erhielten Sie eine Auflistung aller bisherigen Transaktionen.

Wäre dies für Sie von Interesse?

Interesse

Weniger Interesse, weil...

Kein Interesse, weil...

Sie könnten sofort benachrichtigt werden, z.B. über Handy, wenn ein von Ihnen gesetztes Limit erreicht wird.

Wäre dies für Sie von Interesse?

Interesse

Weniger Interesse, weil....

kein Interesse, weil....

Sie könnten eine regelmäßige Berichterstattung über die aktuellen Kurswerte erhalten, z.B. über Handy od. Fax.

Wäre dies für Sie von Interesse?

Interesse

- Weniger Interesse, weil...
 Kein Interesse, weil...

5. Frage nach dem Wunsch nach weiteren Diensten dieser Art.

Würden Sie es begrüßen, auch noch andere Dienste angeboten zu bekommen wie z.B. Immobiliensuche, Gebrauchtwagenmarkt...?

- Ja welche?.....
 Nein

List of Interviewed Persons (Names and Business)

14 users, including 10 stockholders:

Peter Bellinghausen,	Dipl.Ing.
Lars Freund,	Student, informatics
Gertrud Hager,	Dipl. Economist
Peter Hutter,	Cushion-master
Roland Kloß,	Dipl.Ing., marketing
Ulrike Kunchintzki,	Librarian
Sabine Müller,	Agency for Internet, Communication and Mediums
Elisabeth Naurath,	Assistant in religious welfare
Volker Naurath,	Programmer
Monika Pirchmoser,	Clerk
Jürgen Schirmer,	Informations-technologist
Christine Weitzer,	Dipl. Mathematician of business, trade and industry
Gabi Wossidlo,	Industrial Merchant
Roland Wossidlo,	Industrial Merchant

2 Content Providers:

Reinhard Kranz,	Dipl. Physicist, person who is in charge of collecting, ...event notifications for his municipality
Christa Veith,	Manager of an adult college

1 Service Provider:

Bertram Gebauer,	Civil Servant, responsible person of a "Bürgernetz"-node
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