



ESPRIT Project N. 25 338

Work package I

Pilot Application 1

Regional Event Notification System Software Report (DI4.1 Part 2)

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1	APPLICATION ARCHITECTURE	2
2	APPLICATION DOMAIN AND USER MODEL	4
3	USER GUIDE	5
3.1	Agent creation and login	6
3.2	Creation and selections of queries	7
3.3	Configuration of queries	7
3.4	Online and offline reporting	12

Overview

This documents is a software report on an application that supports users in retrieving information on social events from distributed data sources – the Regional Event Notification System. The software has been developed as part of workpackage I of the EU-funded ESPRIT project ‘FollowMe’.

The documents provides an architectural overview of the application framework used to implement the Regional Event Notification System. Moreover, a model of the domain of regional event notification along with a respective user model is provided. Finally, a user guide describing how to use the Regional Event Notification System software is provided.

1 Application Architecture

In workpackage I of the EU-funded project ‘FollowMe’ a set of services is established, based on an application framework that provides a generic method for constructing domain specific, user customisable services for context related information retrieval on the internet. The approach taken is to logically separate information sources (raw data) from services (data processing applications). The aim is to give end users high level access to customised information by providing them with access to services rather than letting them deal with locating and filtering raw data from potentially highly distributed information sources on the internet. This is referred to as the pattern of information latticework in the FollowMe architecture report.

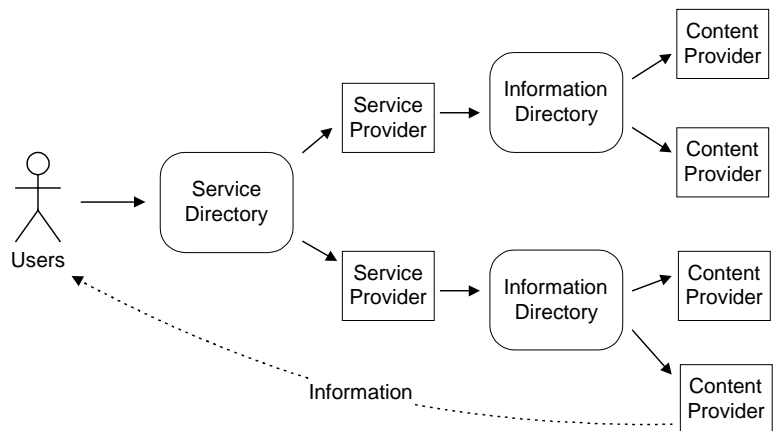


Figure 1: Information latticework

The application framework builds on top of the FollowMe architectural framework as outlined in figure 2. The FollowMe architectural framework provides a set of components that facilitate the development of agent-based applications supporting code and user mobility and personalised information management.

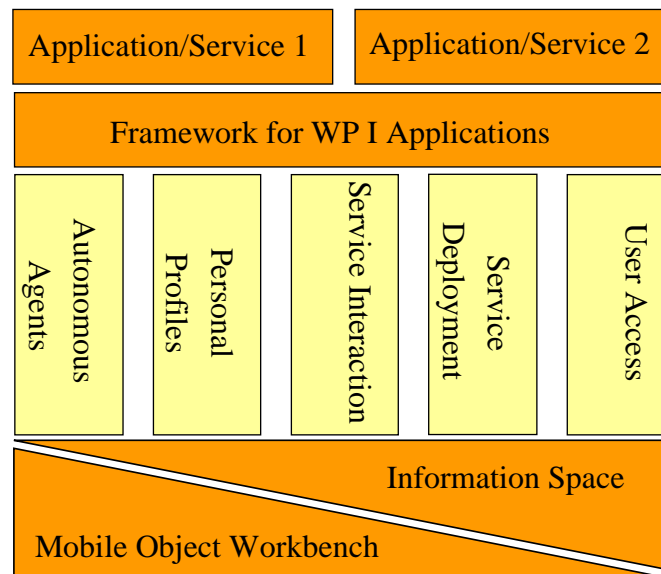


Figure 2: Architecture Framework for WP I Applications

The Regional Event Notification System is one of two implementations of this application framework to be developed within the FollowMe project. The application addresses real world user requirements and is deployed in the context of the Bavaria Online Citizens network which provides a large base of potential users thus validating the concepts developed in the FollowMe project.

2 Application Domain and User Model

The Regional Event Notification System deals with information in the domain of social events (movies, concerts, theatre performances, special markets, etc.). Actors in this domain are institutions advertising events they host, and their potential customers (that is visitors of these events).

Referring to the pattern of information latticework (see figure 1), the institutions advertising their events are in the role of content providers. These content providers offer information on social events structured according to the following data model:

- Type of event ('What?'): Data on social events is classified according to an extensible three layer category scheme.
- Geographical location of an event ('Where?'): A social event takes place at a specific geographical location.
- Date of event ('When?'): Events take place at specific moments in time. This information is coded in event start and event end dates.

The system provides its users (people searching for information on social events) with mechanisms to automate retrieval of information structured according to above data model. Users may declare and maintain an arbitrary number of queries on social events according to their individual interests. In addition to specifying parameters defining what kind of information users are looking for, they may declare how and when they want to access the information by providing report delivery schedules. The system supports a number of different output devices for delivery of reports: fax, e-mail, SMS and web-browsers.

Example:

A user could instruct the system to regularly deliver information on cinema events taking place over the next weekend. He/she could have the system deliver this information once a week (say every Friday at 17:00) to a specific fax device. A second query could deliver information on pop concerts taking place sometime within the next two month.

3 User Guide

In the following a user guide on how to interact with the application is provided. Since the application is deployed in Bavaria, all screen shots show German user interfaces. Connecting to the application is via URL <http://pictor.fast.de:8888/servlet/fmeproxy/html/b-online.html>.

This start page provides an introduction to the service offered by the Regional Event Notification System along with links to online help files. The button next to the FollowMe logo connects to the agent creation and login page.



Figure 3: Start page

3.1 Agent creation and login

The agent creation and login page is divided into two sections. New users may create a new agent by providing a user name and a password of choice. Already registered users may connect to their agent by entering their user name and their password.

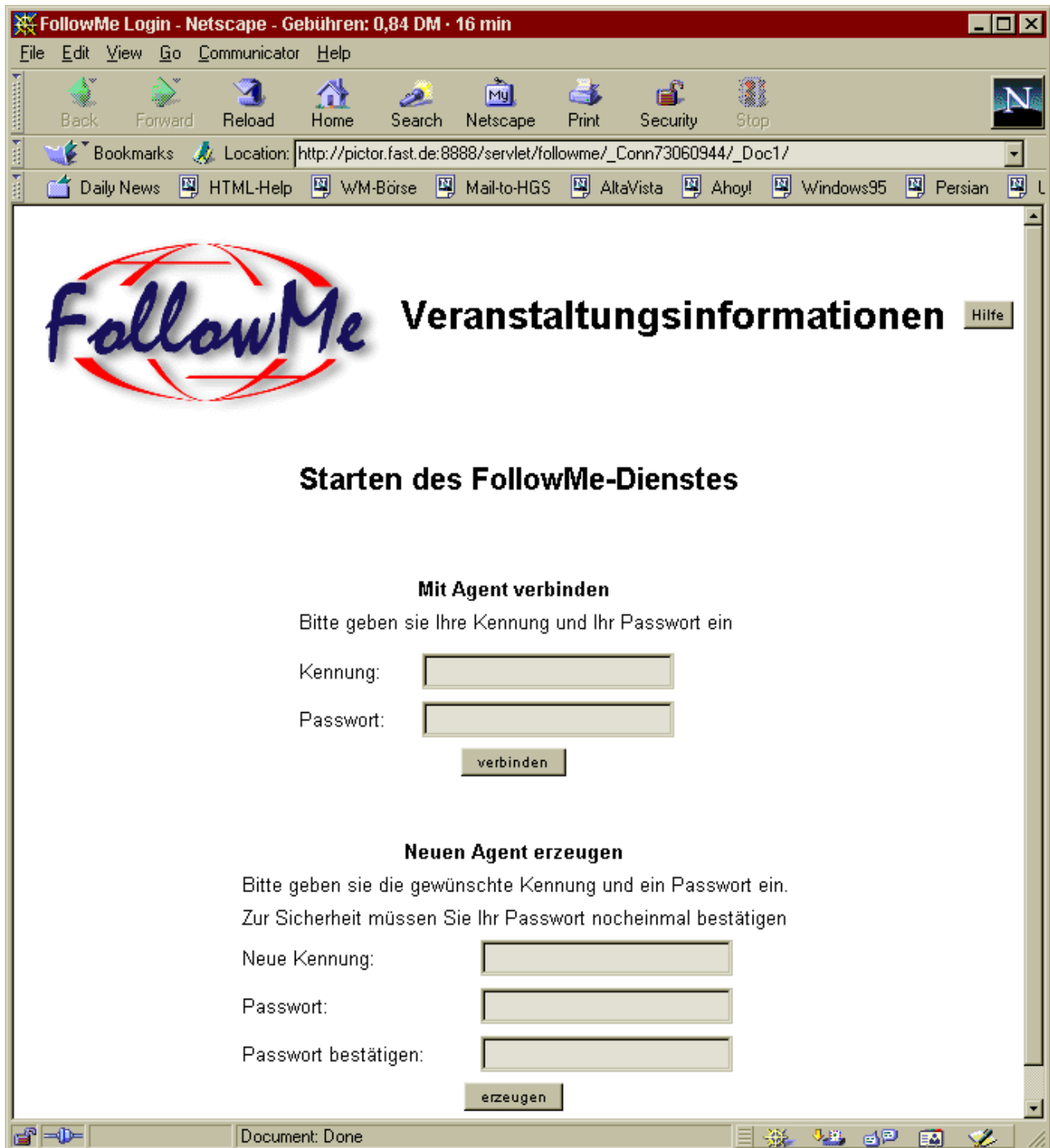


Figure 4: Agent creation and login

3.2 Creation and selections of queries

After successful authentication users may create a new query, select an existing query to either delete it or change its configuration or view an online report related to a selected query.

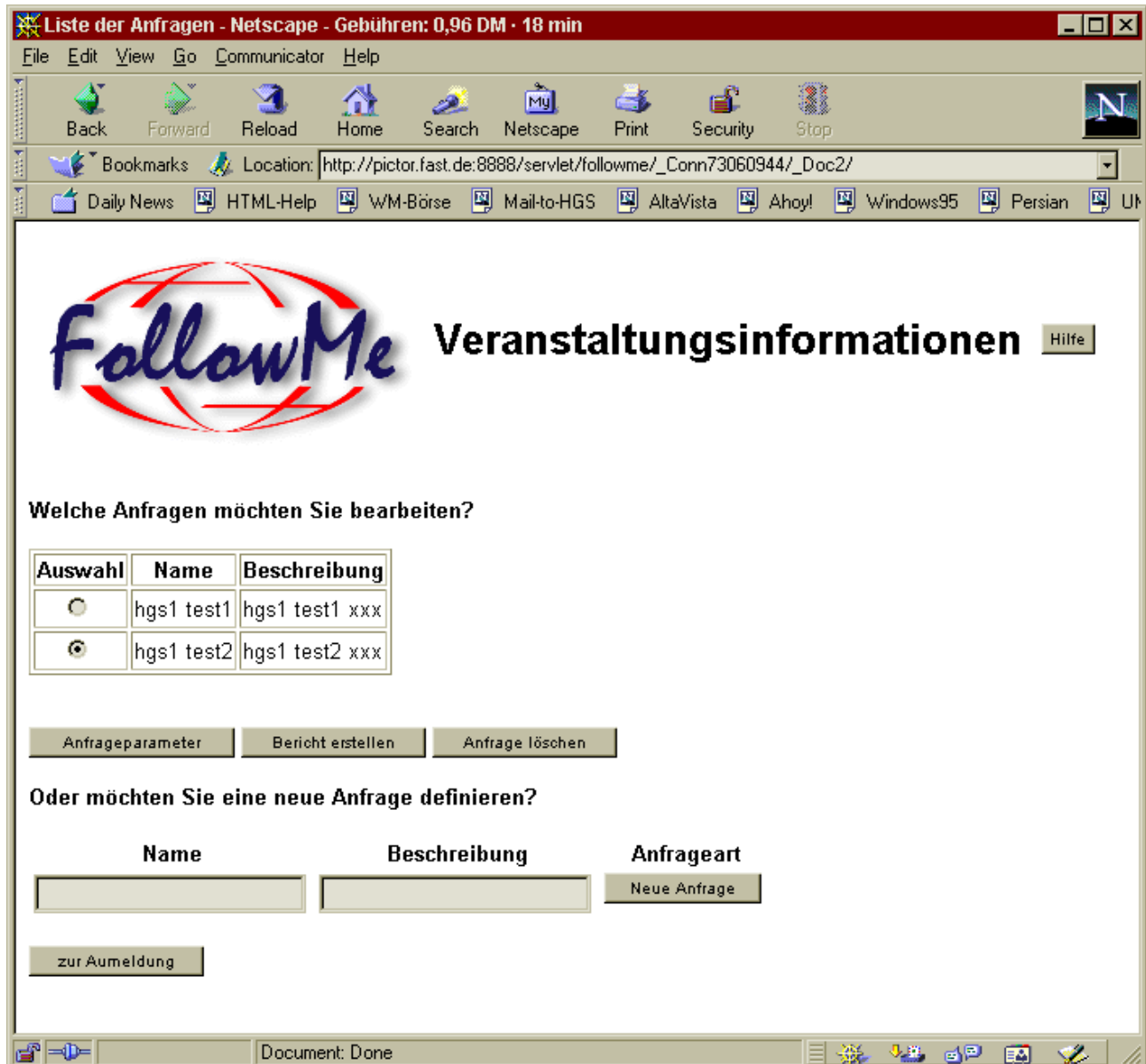


Figure 5: Creation and selection of queries

3.3 Configuration of queries

In order to instruct their agent on what information it should gather and when this information should be delivered, users need to fill out a configuration form (see figures 6 and 10) which is divided into four sections. The first three sections deal with the 'what, where and when' of events that should be returned by the query. The last section deals with the report delivery schedule.

All events stored in the provider databases are classified according to a three level category scheme. In the first section of the configuration form users may define a list of categories into which the requested information should fit.

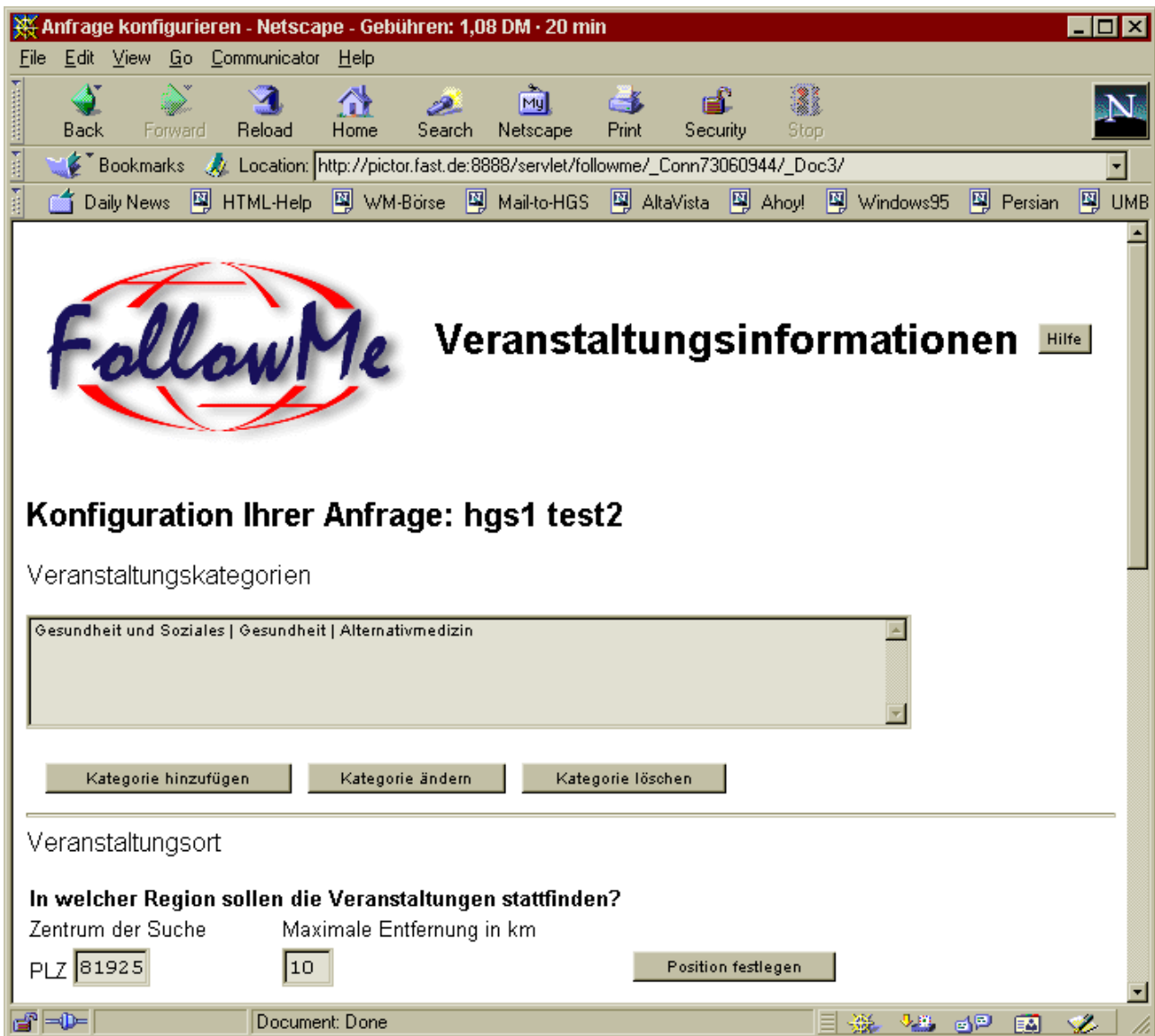


Figure 6: Configuring a query – part 1

When adding to or changing categories in above list, users may either directly select the appropriate categories by using the form shown in figure 7 or select the categories of choice from a complete listing of all available categories as shown in figure 8.



Figure 7: Selction of event categories



Figure 8: Complete category listing

In the next section of the configuration form (figure 6) the user has to specify the geographical area in which the requested events should take place. Geographical locations in the Event Notification System are specified in geo-coordinates via a third party geographical information system.

In order to specify the geographical area in which the requested events should take place the user has to provide geo-coordinates of the centre of the search along with a search radius. To pin down the coordinates the user specifies an area zip code and connects to the geographical information

system which pops up with a map centred on the area of the specified zip code. From there the user may use zoom and pin functions to exactly pin down the precise location of the centre of the search.



Figure 9: The geographical information system

Next, the user has to specify on which weekdays and at which day-times the requested events should take place. Event start times and event end times can optionally be ignored. If, for example, users are interested in events starting after 18:00 but don't care for event end times, they would specify 18:00 as event start and check the 'ignore event end time' checkbox.

Additionally the user must specify the maximum time interval allowed between time of reporting and occurrence of the event.

In the last section the user provides information on when (in which intervals) reports on information about regional events should be sent. To do so, the user specifies a date up to which reports should be sent on a regular basis (after this date reporting will stop). Next the user specifies at which weekdays and at which day time the reports should be sent. Finally the user specifies an output device which may be either an e-mail address, a fax number or a SMS number.

Anfrage konfigurieren - Netscape - Gebühren: 1,08 DM - 21 min

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Stop

Bookmarks Location: http://pictor.fast.de:8888/servlet/followme/_Conn73060944/_Doc3/

Daily News HTML-Help WM-Börse Mail-to-HGS AltaVista Ahoy! Windows95 Persian UMBI

Veranstaltungszeiten

An welchen Tagen sollen die Veranstaltungen stattfinden?
 Montag: Dienstag: Mittwoch: Donnerstag: Freitag: Samstag: Sonntag:

Zu welcher Tageszeit sollen die Veranstaltungen stattfinden?
 Anfangszeiten ignorieren Endezeiten ignorieren
 Beginn 0 : 00 Ende 23 : 45

Wie weit sollen die gesuchten Veranstaltungen zum Zeitpunkt der Berichterstattung in der Zukunft liegen ?
 Bis zu 3 Monate

Berichterstattung

Bis wann sollen Berichte zugestellt werden?
 Bis 13 Februar 1999

An welchen Tagen sollen Berichte zugestellt werden?
 Montag: Dienstag: Mittwoch: Donnerstag: Freitag: Samstag: Sonntag:

Zu welcher Tageszeit sollen Berichte zugestellt werden ?
 Um 12 : 00

Welches Endgerät soll verwendet werden?
 E-Mail
 Fax
 Short Message Service (SMS)

Adresse des Endgerätes

Senden
 Abbrechen

Document: Done

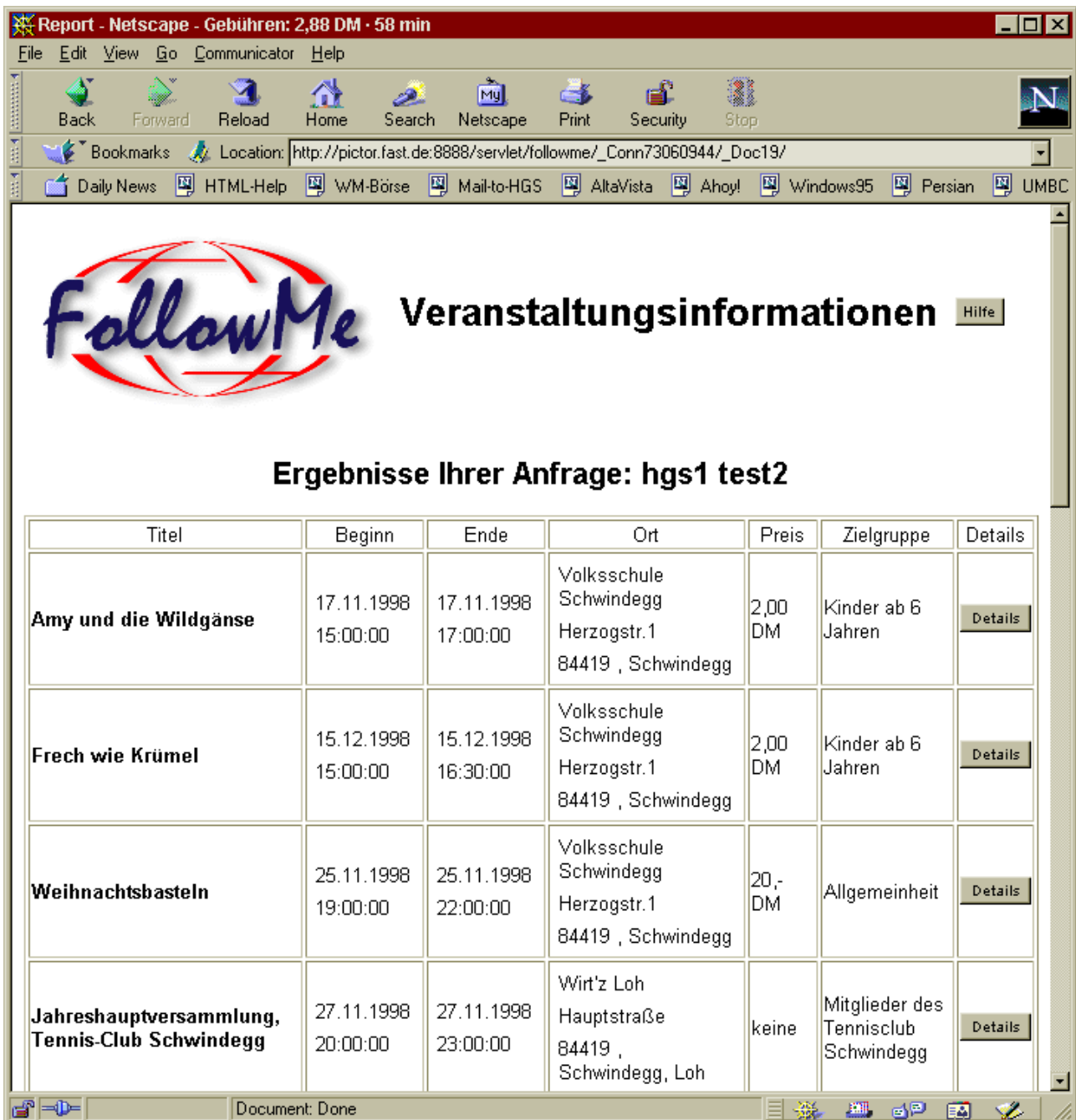
Figure 10: Configuring a query – part 2

After submitting the configuration parameters the user may disconnect from the system. Reports on regional events will be sent automatically according to the specified parameters.

3.4 Online and offline reporting

Reports on events are sent to either fax, SMS or e-mail gateways. In addition to viewing reports via these output media, users may choose to generate reports online using their web-browsers. These

reports do not triggered new database queries. Instead the results of the most recent already executed query are used to produce the online report.



Report - Netscape - Gebühren: 2,88 DM - 58 min

File Edit View Go Communicator Help

Back Forward Reload Home Search Netscape Print Security Stop

Bookmarks Location: http://pictor.fast.de:8888/servlet/followme/_Conn73060944/_Doc19/

Daily News HTML-Help WM-Börse Mail-to-HGS AltaVista Ahoy! Windows95 Persian UMBC

FollowMe **Veranstaltungsinformationen** [Hilfe](#)

Ergebnisse Ihrer Anfrage: hgs1 test2

Titel	Beginn	Ende	Ort	Preis	Zielgruppe	Details
Amy und die Wildgänse	17.11.1998 15:00:00	17.11.1998 17:00:00	Volksschule Schwindegg Herzogstr.1 84419 , Schwindegg	2,00 DM	Kinder ab 6 Jahren	Details
Frech wie Krümel	15.12.1998 15:00:00	15.12.1998 16:30:00	Volksschule Schwindegg Herzogstr.1 84419 , Schwindegg	2,00 DM	Kinder ab 6 Jahren	Details
Weihnachtsbasteln	25.11.1998 19:00:00	25.11.1998 22:00:00	Volksschule Schwindegg Herzogstr.1 84419 , Schwindegg	20,- DM	Allgemeinheit	Details
Jahreshauptversammlung, Tennis-Club Schwindegg	27.11.1998 20:00:00	27.11.1998 23:00:00	Wirt'z Loh Hauptstraße 84419 , Schwindegg, Loh	keine	Mitglieder des Tennisclub Schwindegg	Details

Document: Done

Figure 11: Online reporting

The most important facts on the retrieved data sets are displayed in a table sorted in chronological order. When requesting more details on a specific data set a new window pops up displaying additional information (event organiser, web-link) along with a button connecting to the geographical information system. Pressing this button will bring up a map displaying the location of the event.



The screenshot shows a Netscape browser window titled "Event Details - Netscape - Gebühren: 3,00 DM · 60 min". The main content area features the "FollowMe" logo at the top left, followed by two buttons: "zurück zur Liste" and "Hilfe". Below this is the event title "Amy und die Wildgänse" in a large, bold font. Underneath the title is the text "Kinderkino Schwindegg, ab 6 Jahre, 110 min". The event details are organized into two columns:

Beginn:	17.11.1998 , 15:00:00	Veranstalter:	Gemeinde Schwindegg/Herr Bgm. Georg Huber
Ende:	17.11.1998 , 17:00:00		Gemeinde Schwindegg/Herr Bgm. Georg Huber
Ort:	Volksschule Schwindegg Herzogstr.1 84419 , Schwindegg	Telefon:	
Zielgruppe:	Kinder ab 6 Jahren	E-Mail:	
Preis:	2,00 DM	Web Site:	null

At the bottom of the details section, there is a button labeled "zur Karte". The browser's status bar at the bottom shows "Document: Done" and various system icons.

Figure 12: Detailed information on events

4 Future Releases

Several enhancement and new features will be added to the application in the next release of the software:

- Several pre-configured queries will be supplied to help users to get started quickly without the need to completely fill out the query configuration form (e.g. a query that looks for cinema events on the next weekend or a query that looks for concerts during the next 3 month, etc.)
- User profiles will be added holding information on preferred output devices and geographical locations. These values will be used to set default values in new queries thus reducing the number of parameters user have to specify upon configuring their queries.
- Two new types of queries will be provided: scheduled one-time queries and immediate one-time queries. Scheduled one-time queries will be executed only once at a specified date and send a report to a specified device. Immediate one-time queries will be executed instantly and the results will be displayed directly in the web-browser. Both new types of queries require less configuration effort than the standard query type.
- The database trader currently used to inform agents about available databases at time of query execution will be extended. Information providers will be able to specify properties of the service they offer. A provider of information on regional events may for example use a data model in which event start and end times are not provided. An agent executing a query may decide to use this data source only in case the user specified that event start and end times can be ignored.
- Interfaces to other agent-based information systems will be evaluated and, if possible and suitable, integrated. The agent might for example connect to a route-planning system thus providing the user not only with information on event locations but also with information on how to get there.