

# **Senior Online**

**Telematics DE4002**

## **DELIVERABLE D6.1**

### **Senior Online First Demonstrator**

**Written by:**

Roland Alton-Scheidl

Marina Giardino

Margit Lutowsky

John Nissen

Jacob Palme

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## 1 EXECUTIVE SUMMARY

The Senior Online First Demonstrator is a set of web-based services specially designed for elderly people. It combines services for finding web pages, forums and users on the Internet, for discussion in same-time chats and different-time forums, to send and receive e-mail including in-line pictures and other services required by the Senior Online users.

The First Demonstrator is to a large extent made up of already existing software, sometimes with our own additional development to suit the Senior Online users.

## **2 INTRODUCTION**

Starting from user requirements, a first set of functionalities was defined and developed for the Senior Online first demonstrator. The Senior Online first demonstrator fully offers the services that users associations indicated as fundamental in order that elderly people easily use the Internet. Since there is no single product which can provide all the functions of Senior Online, Senior Online services are provided combining different existing and newly developed products. Therefore, the Senior Online project's technological challenge is to integrate heterogeneous products and environments that have been run and developed independently from each other so far. The integration will be completed at the end of the Project.

### **2.1 THE COMPONENTS OF THE SENIOR ONLINE FIRST DEMONSTRATOR**

The products that make up of the first demonstrator are:

- a Portal, providing a multilingual entry point to Senior Online services (newly developed)
- a directory system (newly developed)
- a distributed groupware system, KOM 2000 (existing, modified for Senior Online)
- a large-scale groupware system, Web4Groups (existing, modified for Senior Online)

Moreover, we are investigating possibilities to integrate an already established groupware, First Class, largely tested and used by some users' associations.

The two kinds of groupware systems in the first demonstrator, KOM 2000 and Web4Groups, satisfy different user needs: the distributed one can be used in local copies in different organisations, the large-scale one is suitable for very large user groups, such as municipalities providing services to the citizens. The Groupware systems are products which provide various services to support groups of people and their interaction.

In the first demonstrator, the above systems will not be completely integrated and connected to each other yet. This will be realized in the ongoing development processes.

However, all the Senior Online components already have the main definitive features: the interface, the functionalities, the services.

Thus we are able to provide a good impression of the look and feel of the end product.

## **2.2 REASONS FOR THE DELAY OF THE FIRST DEMONSTRATOR**

The original plan was to have the first demonstrator ready for demonstrations in August 1999.

This has however met with some problems.

Based on the user requirements and the experience from the existing groupwares, it was decided to design a new user interface for both KOM 2000 and Web4Groups. This work started with a series of observations and questionnaires to elderly people already using them and First Class. Both experienced and less experienced people participated in these trials.

The new user interface is carefully designed to be easy to use for elderly people. This development and testing of the new user interface has taken so much time, that the first demonstrator cannot be ready in August.

Furthermore, since the Portal and the Directory system are newly developed, the users requirements about them have not been based on testing the final products. Instead, the users had to imagine the Portal interface and to select the Senior Online services to put in it. This effort took time and the task was not easy. Many features of the Portal, and of the Directory system too, have been recently defined.

The first demonstrator will be ready in October 1999. It will consist of different components, running in different countries. Full integration of the different components will not be ready in the first demonstrators. The main components will be:

- The Portal and the Directory system at <http://floyd.omega.it/sol>
- The KOM 2000 groupware and e-mail system at <http://cmc.dsv.su.se/KOM2000/>
- The Web4Groups groupware and e-mail system at <http://www.senioronline.at>
- The Promotional pages at <http://www.senioronline.org>

## **2.3 MAIN DESIGN PRINCIPLES**

We will provide a common look and feel to all the national doorsteps. We have tried to accommodate the Web Accessibility Guidelines (WAG) [6] from the World Wide Web consortium. These guidelines are especially designed to make the WWW accessible for people with various kinds of disabilities. However, the WAG have a problem in that they recommend use of functions not well supported by current web browsers. Because of this, it is not possible to follow them in every detail.

## 2.4 OVERVIEW OF THE SENIOR ONLINE FIRST DEMONSTRATOR ARCHITECTURE

In this section, we are going to describe the way to access the first demonstrator and the available services.

### 2.4.1 HOW TO ACCESS THE SENIOR ONLINE SERVICES: THE PORTAL

What is a Portal?

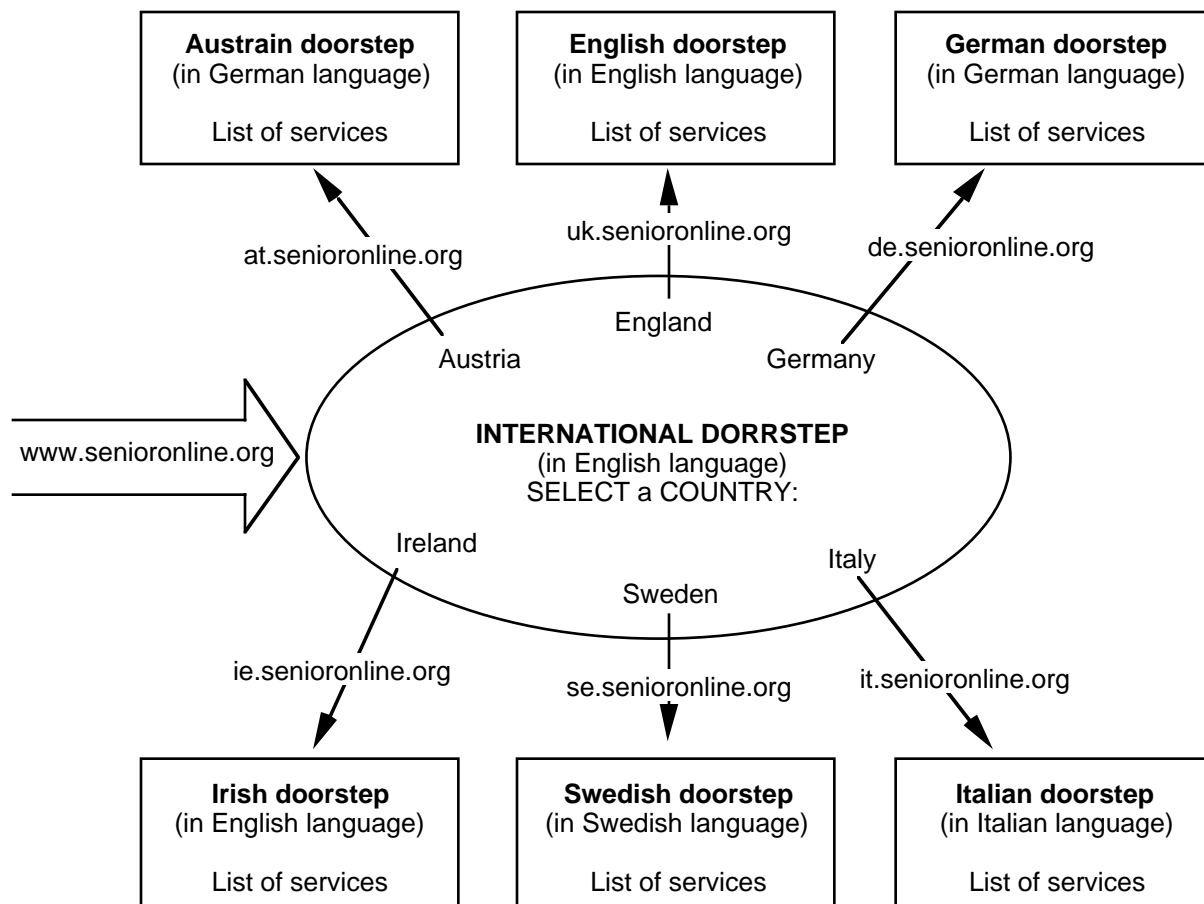
A Portal is a web site or service that offers a broad array of resources and services, such as e-mail, forums and search engines.

When a user connects to Senior Online (<http://www.senioronline.org>), s/he connects to the *Senior Online Portal*, a web page inviting the user to select a country.

The listed countries are the countries of all the partners in the project. Later on, also other European countries will be added.

Selecting a country means connecting to a Senior Online *National Portal*.

Figure 1 is a diagram showing the steps to reach a National Portal.



### Figure 1: Connecting to Senior Online

Each National Portal shows first a web page listing all the main Senior Online services, from a user point of view, in the major language of that country (no EU country with more than one major language is a partner of the project).

The listed services in each National Portal are:

- Access to some *Help Pages* about Internet use, for users new to the Internet
- Access to Senior Online *Promotional Pages*, to learn more about the Project
- Access to the services offered by the *local users association*, to use them and to learn more about what's happening in the region
- Access to *e-mail* service, provided by the local groupware system
- Access to *chat*, provided by the KOM 2000 groupware system
- Access to the directory system, to find a list of *seniorsites* in the Internet
- Access to a list of *Senior Online users*, provided by the directory system
- Access to web sites offering *games*

Note: This list of services may be changed, depending on user input.

There are more services provided by the Senior Online first demonstrator, but they cannot be used directly from the Portal. We are going to describe them below.

## 2.5 WHICH SERVICES IN THE THREE SYSTEMS OF THE SENIOR ONLINE FIRST DEMONSTRATOR

In the previous section, we listed the services appearing in the Senior Online Portal, based on the user requirements.

There are links both to information web pages and to services provided by the groupwares and the directory systems.

The Senior Online groupwares and directory systems provide more services, available to the users when they access to a system.

The main services provided by the three systems are:

- **Forums, provided by the Groupwares**

A forum is an area of messages. Since the forums are stored in a server, contributions can be written by one person at one time, read by another person at a later time and read by yet another person at an even later time. Such communication system is *non-simultaneous*. A forum can be:

- **Open** forum: anyone can participate
- **Closed** forum: only allowed people can participate. Usually, everyone can see forum name and description; if not, the Closed forum is a **Secret** forum
- **Moderated** forum: forums for which contributions are checked by a moderator
- **Restricted** forum: only members can submit contributions

Each forum is subject to access control.

- **E-mail, provided by the Groupwares**

E-mail is Web-based and compatible with Internet e-mail standards (SMTP, MIME). Messages can contain in-line pictures and files.

- **Directory system, provided by the Portal**

A Directory system is a computer system which allows users to find information in directories.

The Senior Online Directory system allows finding:

- **Users**, and information related to them (e-mail address, home page, etc.)
- **Forums**, and information related to them (the way to join them included)
- **Groupware servers**, and information related to them (the way to join them included)
- **Web pages**, which elderly people can be interested in

The users can find information by textual search (for example: "Find the e-mail address of John Smith") and/or following links from topic to subtopic (for example: Botany → Tropical flowers). They can also limit their searching only to items stored in a particular language directory, since each language has its own directories.

The communication between a Groupware user and the Directory system can be organised in two ways:

1. direct communication: a user click on a link to get to the Directory system
2. indirect communication: a user gives some instructions to the groupware, so that the groupware finds information in the directory

## 2.6 FIRST DEMONSTRATOR SECURITY

By security is meant protection against various kinds of risks (for example: someone getting your private e-mail, someone writing a false message in your name). To provide security, the Senior Online first demonstrator requires user identification (username and password) and lists who is allowed to do what (authorisation).

Further security instruments are still in discussion.

## 3 OVERVIEW OF DEVELOPMENT FOR THE FIRST DEMONSTRATOR

In this section we are going to describe the three Senior Online systems as stand-alone applications.

### 3.1 KOM 2000

KOM 2000 is a *distributed groupware server* application written in Java under Unix.

It was developed by the Department of Computer and Systems Sciences in the KTH Technical University of Stockholm, Sweden, and it is based on the results of the EU project Web4Groups, ended in February 1998. KOM 2000 has been further developed for Senior Online aims.

All KOM 2000 servers can communicate with each other, replication is fully automatic, no manual action is needed to set up replication of new forums to all servers.

KOM 2000 uses a *Web based user interface*, so that users can access it using an ordinary web browser.

Users are identified by login name and password. Keys are used between servers to ensure that outsiders cannot access restricted information.

KOM 2000 provides *forums, chat, e-mail and news*.

#### ***Forums:***

KOM 2000 provides open, closed and moderated forums, organised in a hierarchical structure of folders and subforums.

Access control is connected with this structure, i.e. a forum announced in a certain branch is only available to users with access right to that branch. Users with access right to a forum can themselves subscribe and the organiser of a forum can add members to it.

Contributions can be written in multiple languages. When a contribution has been submitted, translation can be added. A user can specify a personal list of preferred languages and will read contributions in the first preferred and available language.



Contributions referring to previous ones form threads, accessible and scannable by KOM 2000 tools.

***Chat:***

Simultaneous textual discussions whose content is stored in forums.

***E-mail:***

Every e-mail user can send messages to users and to (open/moderated) forums in KOM 2000.

KOM 2000 users can also send messages to external e-mail addresses.

An address book with a collection of names and e-mail addresses of users and forums is available.

E-mail is formatted using the MIME and MHTML standards.

***News:***

The server knows which messages each user has seen and marks new e-mail and forum messages with a red flag in the user interface.

***Additional functions***

KOM 2000 also has an e-mail notification facility, a voting facility and a help facility.

***Message format:***

Messages are in HTML format, including attachments and in-line graphics.

Users can write messages in either plain text or HTML format, they can upload pictures and attachments to be included in messages, they can send a message to many forums, users and e-mail addresses at the same time.

When a user subscribes a forum, s/he gets access to all the messages in the forum, also those written before the user joined the forum. An e-mail notification, reporting all the new contributions to the forum to which the user is subscribed, is sent at a regular intervals.

## **3.2 WEB4GROUPS**

Web4Groups is a *large-scale distributed groupware system*, based on the Web4Groups 2.0 software, which is developed by WebforUs, a joint venture of Kapsch AG, Omega Generation S.r.l. and PUBLIC VOICE Labor.

Web4Groups 2.0 is a new development in the field of teamwork and group communication for Internet and Intranet and offers a refurbished user interface and a modern distributed server network architecture.

The use of Web4Groups means that all communication, whether with an individual or with groups, is located in one single virtual file, a so-called *forum*.

For each project there is an available forum to:

- exchange files, URLs or comments
- create/participate to forums in which any topic can be discussed
- use an 'inbox' that you can access by phone, fax, e-mail or web browser
- send messages by e-mail, voice-mail or send a file
- know who is actually on-line by a real-time display

Web4Groups can use any browser as front-end and it is platform independent as a result of JAVA technology used.

Web4Groups offers the possibility to access personal *forums*, personal *e-mail address book* and *bookmarks* from any personal desktop anywhere. Furthermore it offers two useful tools for real-time communications with *chat* and *friends on-line*.

It uses *UMS* (Unified Messaging System) so that contributions can be made by phone, fax, SMS or e-mail in any forum.

The Web4Groups server requires a Java-based multi-platform.

Its strengths are very good e-mail functions, chat, multi-language and voting.

Many of its features are of high usability (user interface, message composition and management, access control, customised management of data), other of medium usability (navigational aids, search capabilities, integration of external files, storage management, form creation, online help).

The following features have been found to be important for virtual community building and are currently integrated into Web4Groups:

- Notification: users with access to the forum can receive messages when someone sends a new message or sets up a sub-forum, when a vote is completed, or when a certain person goes on-line.
- Statistics: the following data is collected: current scope, number of users, term, number of forums, number of messages, number of times, access limit achieved etc.
- Voting: with a form Wizard, questionnaires can be created easily, and the target group for the survey can be defined. The surveyed people can be informed about the results automatically.

- **Organiser:** anyone who sets up a forum is its organiser, but he can also nominate other users as the organiser. Forums can be public, closed or moderated. The moderator can accept or reject messages; the organiser files or deletes the messages.
- **Help:** the help function is offered on-line and is context-sensitive.
- **People online:** the users sees who is currently online and can communicate with these people.
- **Web servlets:** with servlet technology Web4groups can be connected to any standard web server or use its own Java-based server. That way, the service is visible in the Internet; each forum and user has its own URL.
- **E-mail:** Web4groups can send and receive e-mail. Users can also get e-mail from a POP account and read it with a browser. That way, each forum and user has its own e-mail address.
- **Phone & fax:** Web4groups co-ordinates incoming calls with its own interfaces. Incoming faxes are sent to the user's inbox or the forum. That way, each forum and user has its own phone and fax number.
- **News:** Usenet newsgroups are public forums in which users can read messages from special newsgroups and respond to them directly.
- **Chat:** each user can initiate a chat with several participants. The index lists all the open chat rooms. Chat logs are saved as messages in a forum.
- **Bookmark list:** each user has her/his own bookmark list. Bookmarks can be saved in various folders.
- **Web4groups forums:** each domain has its own forum structure, which can be organised as a file system with messages, documents and URL's.
- **Web4groups user base:** each domain establishes its own regulations for the registration of users. Users are organised in groups.
- **Web4groups access control:** regulations between forums and logged-in or anonymous users are defined in the Access Control lists. You can define user groups and forum characteristics: public, closed, visible, etc.

The following table 1 gives an overview of the technical requirements to run Web4Groups. A user or an administrator usually connects to Web4Groups using a web browser.

For using a full-fledged server with all gateways, currently two platforms are required. The voice gateway requires TAPI which runs only on NT and the fax gateway requires HylaFax, which requires a UNIX (Linux or Solaris) platform (HylaFax will be replaced in future version by an NT based fax solution).

**Table 1: Overview of technical requirements to run Web4Groups**

		Required Software	Required Operating System <sup>1</sup>	Special Hardware
Server	Core Server	JAVA JRE 1.1.7, database with JDBC driver <sup>2</sup>	Unix (Linux, Solaris), Windows NT 4.0	
	Secure Server SSL	JAVA JRE 1.1.7	Unix (Linux, Solaris), Windows NT 4.0	
Gateways	Web Gateway	JAVA JRE 1.1.7, Servlet enabled Web-Server (Java Web Server 1.1.3 or Apache 1.3.4 with JServ)	Unix (Linux, Solaris), Windows NT 4.	
	Mail Gateway	JAVA JRE 1.1.7, sendmail environment (version 8.8.8 or higher)	Unix (Linux, Solaris), Windows NT 4.0	
	Fax Gateway	JAVA JRE 1.1.7	Unix (Linux, Solaris)	ISDN V.34 fax modem (tested with EH Datalink - Elink 343 Profiline P1 Version 1.64), ISDN S0 must have direct dial in (DID) enabled
	Voice Gateway	JAVA JRE 1.1.7, TAPI 2.0 (included in Windows NT 4.0), Lernout&Hauspie Text-to-Speech	Windows NT 4.0 SP3	Telephony card with TAPI 2.0 drivers (tested with Dialogic D/41E-SC)
Frontends	Browser	Netscape Navigator 4.x and higher, Internet Explorer 4.x and higher; Netscape Navigator 3.x and Internet Explorer 3.x via NoFrames version	Internet browser with enabled JavaScript (enabled Java for applets, e.g. chat; but also non-Java and non Javascript simplified pages available)	
	Mail	Web4Groups can send and receive mail to/from any mail client; tested with Microsoft Outlook 97, Netscape Messenger, Eudora 3.1		
	News	Newsgroups can be mirrored from any News Server in config list		
	Phone	any phone, which supports DTMF tones, can be used.		
	Fax	any Fax machine (G3) can be used		

<sup>1</sup> For JAVA based packages, all JVM compliant operating systems should work, including Windows 98 and MacOS, however they are not yet supported.

<sup>2</sup> Currently only Informix V7.x is supported, other databases on request. mySQL133 and MS Access is recommended for demo versions only.

### 3.2.1 Adjustment of Web4Groups to Senior Online users

A first assessment of the user interface mock-ups has been carried out in co-operation with ;- web for us and the Centre for Usability Research and Engineering in March 1999. Four elderly persons were invited to do typical tasks in a groupware application. The main results were that a new button had to be added, to be able to create messages immediately; the navigation had to be improved for folding out forums and icons and font size is supposed to be customisable depending on forums selected. Some of these tasks have already been completed, though not all of these.

As far as PUBLIC VOICE Lab's work to further adapt the user interface is concerned, we are planning to use the results of the first verification phase, being carried out in November 1999. The user validation of prototype 1 will result in guidelines for the technical developers to further improve our groupware product, i.e. Web4Groups 2.0.

## 3.3 THE DIRECTORY SYSTEM

The Senior Online Directory System is an Internet application newly developed by Omega Generation S.r.l..

Since it has to be available at least in the partners' languages, it is a multilingual system.

Each country participating to the Senior Online project will install on one of its servers a National Directory System.

All the National Directory Systems have the same software and the same database structure, but they can be different in language and in database contents.

The Directory system is written in VBScript, and it interfaces to SQL Server databases via ODBC connection.

The Directory system provides three main services: *searching*, *management*, and *registration*.

The registration service, not specified at the beginning, was developed following the specification of users requirements.

### 3.3.1 SEARCHING

The searching service is dedicated to finding information in the Directory system, structured in the different directories:

- Web directory, a directory of web pages interesting for elderly people
- Groupware server directory, allowing users to connect themselves to the nearest Groupware server and to use its services
- Senior Online user directory, allowing information tracing about Senior Online users

- Groupware forum directory, allowing information tracing about Senior Online groupware forums

The **Web directory** collects web pages interesting for elderly people, organised in a hierarchical tree structure of categories and subcategories. Each category can contain web pages and/or subcategories.

Searching can be done both exploring the categories tree and entering keywords to retrieve web pages and categories matching with them.

The Web directories of different countries can be different in content.

The **Groupware server directory** is geographically organised, in order to identify the closest groupware server. It contains full Groupware servers list and it reports the main features to subscribe each of them.

The **Senior Online user directory** allows the registered users to trace and show information about themselves, subject to security and privacy restrictions. Registered users are Groupware users and all the users who registered themselves into the Portal's Registration Area.

Since the number of users can be high, user lists are organised in an alphabetical structure. Searching a user can be done both entering keywords and consulting the alphabetical list.

The **Groupware forum directory** shows the main information about open, closed and restricted forums; the service does not provide a direct access to them, but it redirects the interested user to the closest groupware server, specifying the software adopted in the forum.

### 3.3.2 MANAGEMENT

Available data on the Directory system are managed by the users themselves, or rather by a group of users who act as system administrators.

The system administrators are hierarchically organised: for each Directory System there is a Supervisor user who assigns other users with the appropriate rights to insert/update/remove data. Therefore, the system administrators uses a restricted and controlled area, named Management area, dedicated to data administration.

The system administrators are controlled by the immediate upper level administrators. They also have the responsibility to accept or refuse users requests about data updating or participation to Senior Online.

The Management area shows a menu for possible actions (insert/update/delete) on the objects.

The menu is customised so that each system administrator can see only actions s/he is allowed to do. For instance, those who can manage web pages but not forums do not see the forum menu.

Each object (web page, category, forum, groupware server, user) is identified by mandatory and optional fields.

Web pages and forums can be associated to many categories.

Each user administrator can update data of other users (administrators included), but not passwords (except their own one), nor Supervisor data. Those user administrator, who have also the right to manage at least one category, can assign to the users the right to manage their own category or sub- categories. They can not operate in other categories.

Any administrator can manage certain objects, usually not all; therefore, they see only the menus for those objects which they can manage.

Nevertheless, in order to have a general view of the Directory system, all the administrators can see users, forums and groupware lists, but with no power to modify them (unless they are explicitly allowed to do so).

### **3.3.3 REGISTRATION**

This service allows any web user to actively participate in Senior Online by registering her/himself in a groupware server or in the directory database. A user registered in the Directory database is only added to it, and appears into the users list, but s/he cannot use the services offered by the Senior Online groupware servers. Nevertheless, her/his data become visible in the lists and retrievable by searching, allowing to be contacted by Senior Online members. The entire Directory service has a unique interface, designed in agreement to user requirements (colours, character format, buttons, etc.). Furthermore, some browsers' standard functionality has been modified to best fit users' needs, like page scrolling (no scrolling bar, but links in each page to go up and down). A consequence is that there are many pages of results and few results for each page.

## **3.4 THE CUPID MINI-BROWSER**

Cloudworld, the UK partner in the Senior Online project, has developed a mini-browser that can be used as an alternative to a "conventional" browser such as Internet Explorer or Netscape Navigator. The mini-browser will run under Windows 95 and successive Microsoft operating systems. However the core program is written in Java, so could be run on any Java-enabled system. The synthesiser currently being used is written in C.

The "Cupid" mini-browser as demonstrated shows how an elderly person with failing eyesight, dyslexia or other reading difficulty can browse simple web sites. Cupid stands for "computer use by print disabled people".

The mini-browser has two modalities of output: visual and speech. The visual display uses RSVP - rapid serial visual presentation - where the words are displayed, one at a time, centralised in the window. Because the words are shown one at a time, they can be enlarged to

around 100 points. It is possible to read about three times as fast with RSVP as compared with conventional reading off the printed page. The colours of text and background can be adjusted for ease of comprehension or minimum eye strain.

The speech output is produced by a built-in speech synthesiser, speaking in British English, with a variety of dialects available. The speech pitch and speed can be varied, according to required comprehension, e.g. for somebody with a hearing impairment.

The display and speech are synchronised. This is of great help to people, such as ethnic minorities, familiar with spoken language but not with the written language.

The mini-browser can be used as a reader for any text stored in a computer, but gives special functionality for text marked up in HTML. For example you can follow links from one HTML document to another, whether these documents are on the computer or on the web. You can jump from heading to heading, if you need to scan through a document quickly. And you can pick up a link and store it as a bookmark for subsequent use.

The mini-browser has been designed to be extremely simple to use - as simple to use as a tape-recorder. You can play through the text, stop, and step backwards and forwards. Each operation requires only the click of a mouse button or the pressing of a letter on the keyboard. There is a mnemonic association of letter and operation: for example s for speed, v for volume.

The operating system is completely hidden from the user, unless it crashes! The user does not have to know anything about Windows 95 in order to run the mini-browser. They do not have to know anything about computers, except switching on and off.

The simplicity of operation makes the mini-browser suitable for people with learning difficulties, including short-term memory loss.

Elderly people with manual dexterity problems can operate the browser using the keyboard alone, or the mouse alone.

The technology thus covers a broad range of problems that will be experienced by elderly people, often in combination: failing eyesight, reduced hearing, failing memory, reduced dexterity, fear of technology, reduced confidence. It also covers problems that may have existed earlier in life, such as dyslexia, colour blindness and poor literacy.

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- [6] Web Content Accessibility Guidelines, published by the World Wide Web consortium.

## **5 Appendix A: The KOM 2000 User Interface for Senior Online**

### **5.1 How the new interface was developed**

The new KOM 2000 release 3 user interface was developed by Marika Mattfolk and Ylva Fernæus under supervision of Jacob Palme and Eva Fåhræus and aided by a reference group from Seniornet Sweden.

The work started by letting a group of technically advanced Seniornet members use KOM 2000 version 1 from December 1998 to February 1999 for a real communication task, the co-ordination of advisory services to Seniornet members. Their experience was collected through a questionnaire and interviews. As a second step, KOM 2000 version 1 was tested by seven users with varying computer experience. Their problems in trying to use the software were noted through observations. For a fuller description, see reference [4].

These studies provided a list of functions which were difficult to understand. Based on this, a first version of a new user interface was developed. During development, issues were discussed with a reference group of people from Seniornet Sweden. The new interface was then tested in two stages with seven Seniornet members, and their reactions and problems in understanding it was noted and used as input for revising the user interface at each stage.

Figure 2 shows the method used for developing and testing the user interface. This method is known to be the best method of user interface design.



User sits in front of a computer, trying to use the software to be evaluated, or a prototype or mock-up of this software.

Observer stands behind, looking at the user, noting what happens, but interfering as little as possible.

**Figure 2: Method of user interface testing**

## 5.2 Main Principles of the new User Interface

The new interface has a new coherent basic organisation and also uses new language. Many of the terms used in the previous user interface were ambiguous or difficult to understand. The new terms were chosen to relate to everyday language, not bureaucratic och technical language.

Examples of choice of terminology:

Previous technical language	New simple or everyday language term
Access control	Members only
Administration	Forum handling
Computer conference, activity, forum	Forum
Subscription	Bookmark

A fuller description in Swedish is available in reference [5].

The new user interface has the same main layout of most of its windows. Figure 4 shows an example of this user interface.

News

Private

Forums & chats

Search & Help

Logout

Bookmarks

All forums

All chats

Administration

Different kinds of forums:

Open:

Anybody can read and write.

Group:

The forum is open only to your group.

Chat:

Discussion in real time.

Moderated:

Somebody checks all messages before they are presented.

Q & A:

Anonymous messages are presented together with an expert answer.

Top

info

Bookmarks

Sort by: Title

✓ Forum	Type	Messages	New
<input type="checkbox"/> <a href="#">Summer</a> All about summer.	Open	23	23
<input type="checkbox"/> <a href="#">It used to be better...</a> ...what do you think?	Open	23	17
<input type="checkbox"/> <a href="#">Internet</a> All about the Internet.	Open	23	13
<input type="checkbox"/> <a href="#">Flowers</a> For flower lovers!	Chat	23	11
<input type="checkbox"/> <a href="#">Violets</a> Discussions about violets. Sub-forum of Flowers.	Q & A	23	23
<input type="checkbox"/> <a href="#">Winter</a> What to do in the long Swedish winter?	Open	23	23

✓

Remove bookmark

info - Bookmarks


This page lists all forums and chats that you have visited or been invited to join. If you want to remove some forum or chat from the list, tick the corresponding box(es) and then click on the wastebasket icon.


**Figure 3 : An example of the new user interface**

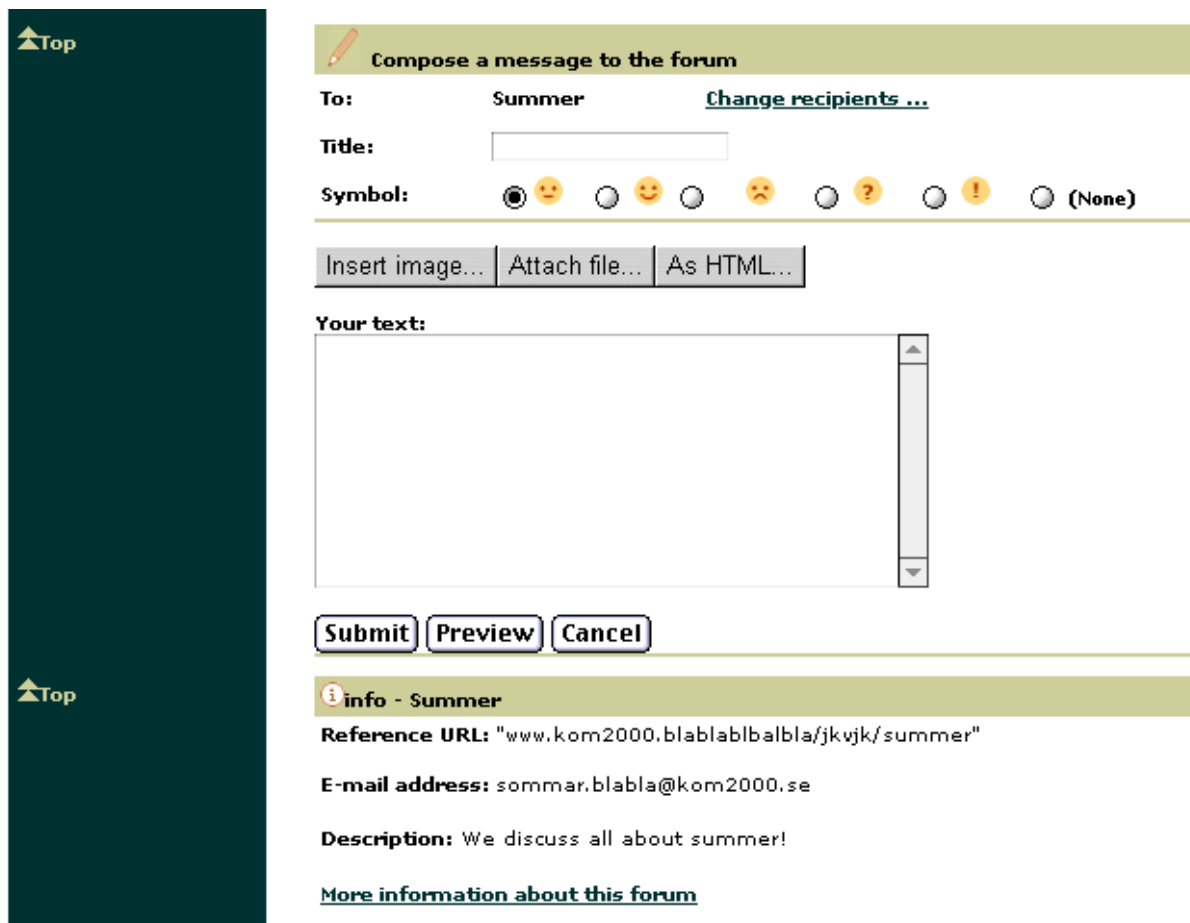
There is a major menu in the top horizontal bar with five choices:

- |                |                                                                                                                                                                                                                          |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| News           | Gives an overview of all new personal messages, all subscribed forums with new items in them, and all new forums. This is the entry page after login, it provides a user an overview of everything new in a single page. |
| Private        | An area for reading and writing personal e-mail and changing the personal profile and managing the personal address book.                                                                                                |
| Forums & chats | An area where all group communication facilities are collected together.                                                                                                                                                 |
| Search & help  | Provides searching for forums and users and help information.                                                                                                                                                            |
| Logout         | Will return to the Senior Online national portal or the home page of the organisation running the KOM 2000 system.                                                                                                       |

There is a secondary menu as a bar to the left, with subcommands to the main menu commands.

Every page has an info area at the bottom (so as not to disturb regular users) but an  **info** icon in the upper left corner will refer the user to this area.

There is no usage of frames (except in two cases, see chapter 5.5 on page 23) and no use of subwindows, since frames and subwindows are known to be confusing to users. The user interface normally requires no use of scrolling, since elderly people can have problems with scrolling. Instead of scrolling, there are links in the pages to move up and down. This is shown in Figure 4, which contains an excerpt of a window. The  **Top** icon will move the user to the top of the screen, and can be used as a replacement for scrolling up.



The screenshot displays a web interface for a forum. On the left is a dark green vertical sidebar containing two 'Top' icons with upward-pointing arrows. The main content area is divided into two sections. The top section, titled 'Compose a message to the forum' with a pencil icon, contains a form with fields for 'To:' (filled with 'Summer'), 'Title:', and 'Symbol:' (with a row of smiley face icons). Below these are buttons for 'Insert image...', 'Attach file...', and 'As HTML...'. A large text area labeled 'Your text:' is followed by 'Submit', 'Preview', and 'Cancel' buttons. The bottom section, titled 'info - Summer' with an 'i' icon, lists 'Reference URL:', 'E-mail address:', and 'Description:', followed by a link 'More information about this forum'.

**Figure 4: Part of the window showing a forum**

## 5.3 Forums and Chats

Forums and chats are unified with a similar structure. A chat is a kind of forum with certain special capabilities:

- Very easy to write short messages.

- A separate frame which refreshes regularly shows the current discussion.
- Chat messages are saved just as forum contributions, so that latecomers or those who could not participate can view the discussion.

**News** **Private** **Forums & chats** **Search & Help** **Logout**

**Bookmarks**  
**Summer**  
**All forums**  
**All chats**  
**Administration**

**Summer**

List:  **New message**

Discussions	From	Date	Replies
<a href="#">Flowers</a>	<a href="#">John Andersson</a>	1999-06-09	1
<a href="#">Distance work...</a>	<a href="#">Dan-Erik Lindberg</a>	1999-06-09	2
<a href="#">Salary for web programmers</a>	<a href="#">Lars</a>	1999-06-06	0
<a href="#">Salary for web designers</a>	<a href="#">María Pérez</a>	1999-06-09	3
<a href="#">Salary for an MCSE</a>	<a href="#">Torbjörn Friberg</a>	1999-06-01	7
<a href="#">Lotus Notes developer - salary?</a>	<a href="#">Jörgen</a>	1999-06-01	1
<a href="#">SoftImage /DS</a>	<a href="#">Jenny</a>	1999-06-01	0
<a href="#">You get the salary you deserve</a>	<a href="#">Rickard Karlsson</a>	1999-04-27	0
<a href="#">Salary... 18000:- ???</a>	<a href="#">Michael Collin</a>	1999-04-27	5
<a href="#">Salary??</a>	<a href="#">Linda Andersson</a>	1999-04-22	1

Sum: 28 messages, of which 4 are not read

**Different kinds of forums:**

**Open:**  
Anybody can read and write.

**Group:**  
The forum is open only to your group.

**Chat:**  
Discussion in real time.

**Moderated:**  
Somebody checks all messages before they are presented.

**Q & A:**  
Anonymous messages are presented together with an expert answer.

**Figure 5: Viewing a forum**

When viewing forums, the user first gets a list of the current threads (sequences of related messages) within the forums which this user subscribes to (see Figure 5). The user can then click on the name of one of the threads, to see all the messages in this thread. Red flags marks messages, which have not previously been shown to this user, and forums and threads which contain new messages.

A user, who wants to view all forums (not only those which this user subscribes to) can use the window shown in Figure 6. The forums are organised into categories. Two special links at the bottom allows the user to find forums in other organisations and closed forums.

[News](#)
[Private](#)
[Forums & chats](#)
[Search & Help](#)
[Logout](#)

[Bookmarks](#)
[All forums](#)
[All chats](#)
[Administration](#)

**Different types of forums:**

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Discussion in real time.

**Moderated:**  
Somebody checks all messages before they are presented.

**Q & A:**  
Anonymous messages are presented together with an expert answer.

## All forums

**All categories in seniorNet:**

Category / User group	Forums
<a href="#">Work</a> Forums about work.	23
<a href="#">Ambassadors (group)</a> All forums in this group.	2
<a href="#">Data</a> Discussions about computing.	3
<a href="#">Family</a> All about family life.	20
<a href="#">Open air activities</a> All about open air activities.	4
<a href="#">Art</a> Arts and culture.	3
<a href="#">Education</a> Forum for discussion about education.	14
<a href="#">Hobbies</a> All kinds of hobbies.	13
<a href="#">Politics</a> Political debates and community topics.	20
<a href="#">Miscellaneous</a> Rest group for forums that don't fit elsewhere.	4

[Visit another organisation](#)

[Other user groups](#)

Figure 6: Overview of all forums

## 5.4 Forum membership

Forum membership is known to be confusing to users. This confusion is partially created by the fact that many people have experience from using the First Class groupware, and in this groupware, everyone is automatically a member of all open forums.

To accommodate this, users of KOM 2000 will automatically become members of a forum if they go to it. There is, however, a list of the forums which a particular user subscribes to, see Figure 3. This list is called “bookmarks”, since this terminology is well-known to most Internet users. In First Class, users have to move an alias to the desktop to get this functionality, in KOM 2000 it is provided automatically.

## 5.5 Use of Frames

We have tried to avoid using frames and subwindows, since they are known to be confusing to elderly people. But in two instances, frames are needed:

- (a) Reading an e-mail message which is received and which uses advanced HTML formatting, for example white text on black background. Here two frames are used, one for the heading and one for the message.
- (b) The chat service uses two frames, one to show the ongoing discussion, one to write your own contributions.

In these two special cases, frames are necessary to get the required functionality.

## 5.6 E-mail

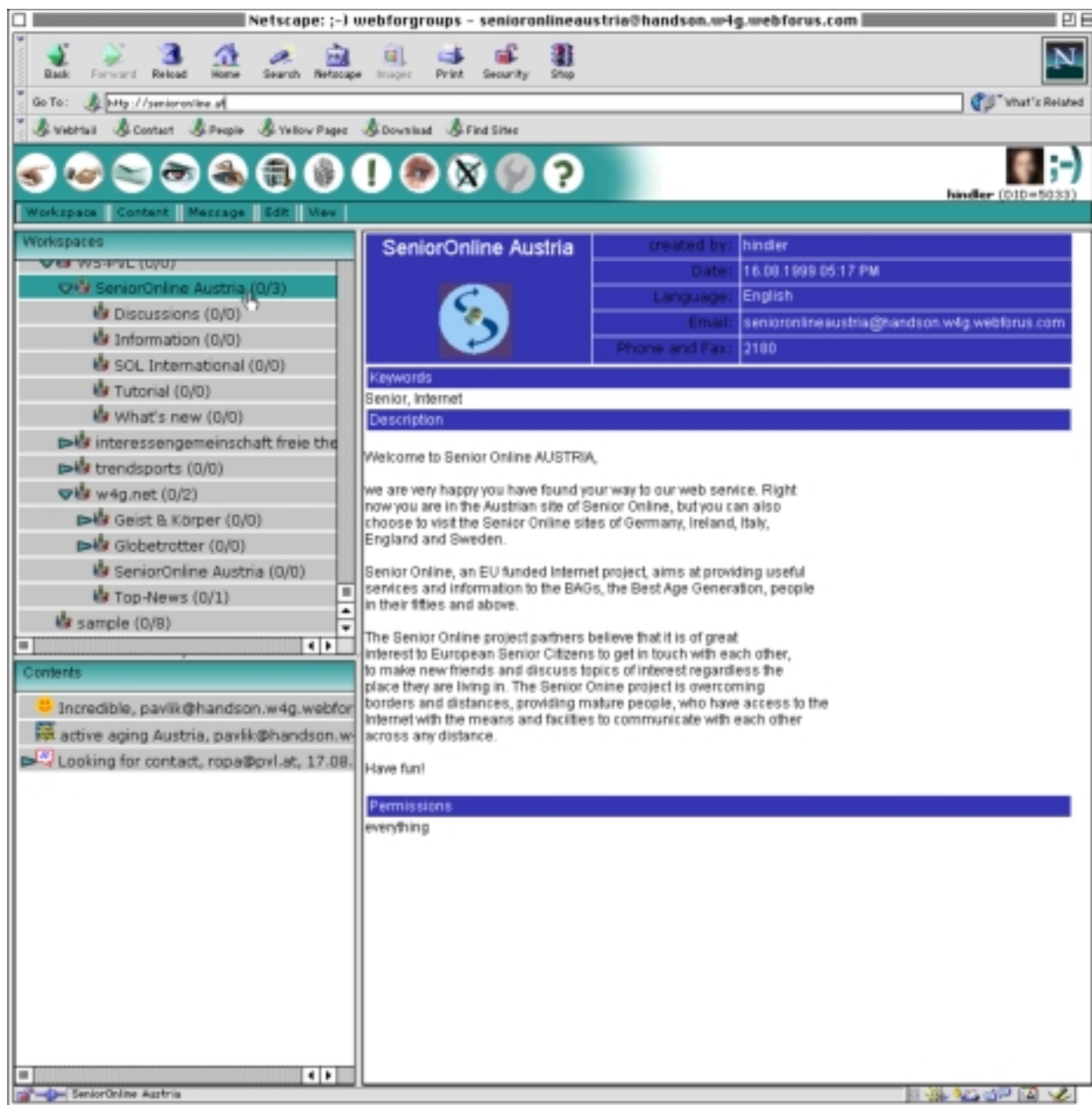
Users can send and receive e-mail, and can use KOM 2000 as their e-mail provider. It is also possible to send e-mail from the Internet directly to forums in KOM 2000, and an Internet e-mail address can be a member of a forum. All contributions to this forum are then sent to this e-mail address.

Any message can contain formatted text and pictures. A user who knows HTML or has an HTML editor can submit messages in HTML. But a user who does not know HTML is still able to place in-line pictures at the top or bottom of a message, or at the current writing point.

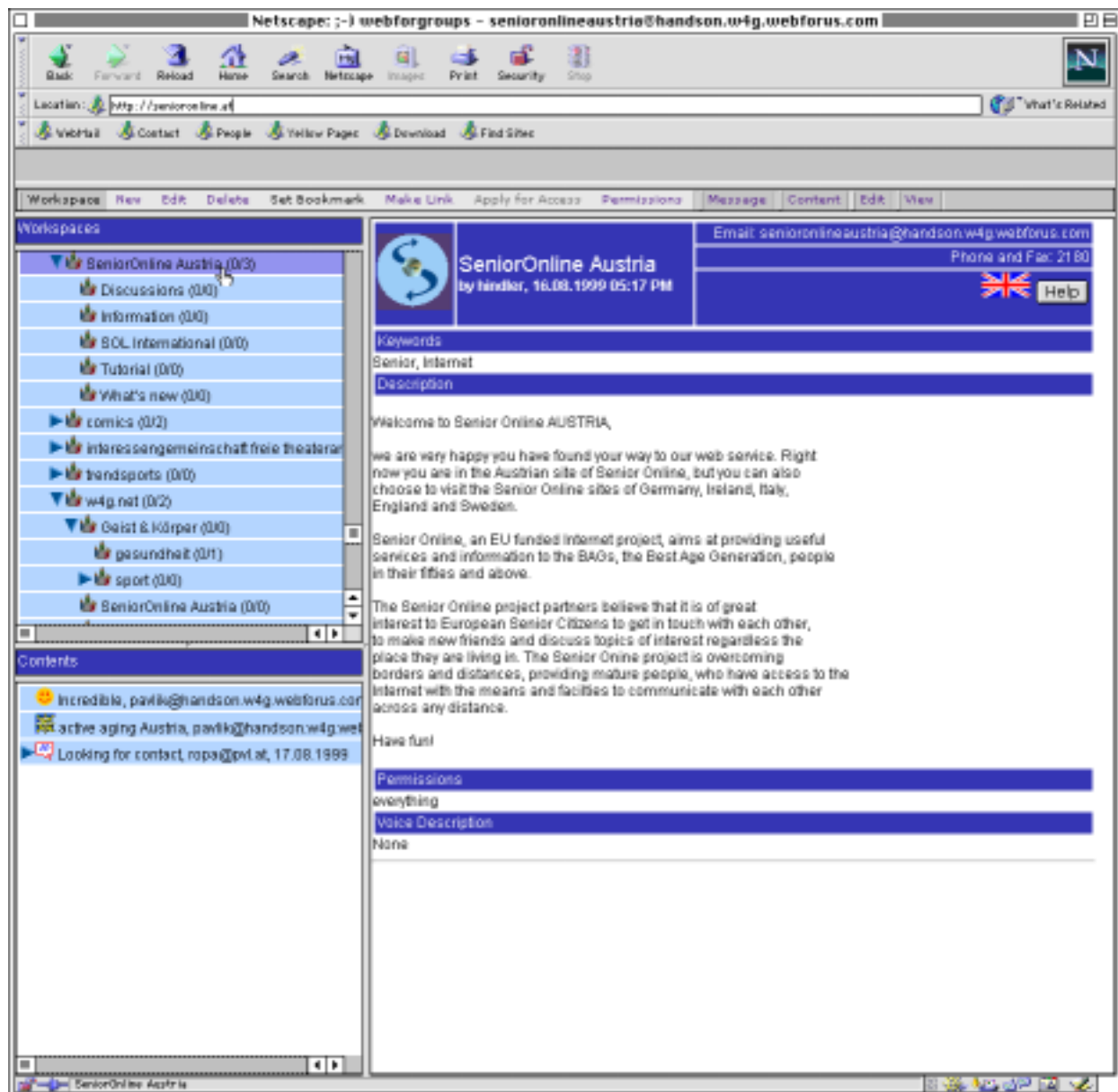
The facility to handle in-line pictures is thus superior to that provided by most web-based mail systems, like for example Hotmail.

## 6 Appendix B: Screenshots from Web4Groups 2.0 and the Senior Online Portal

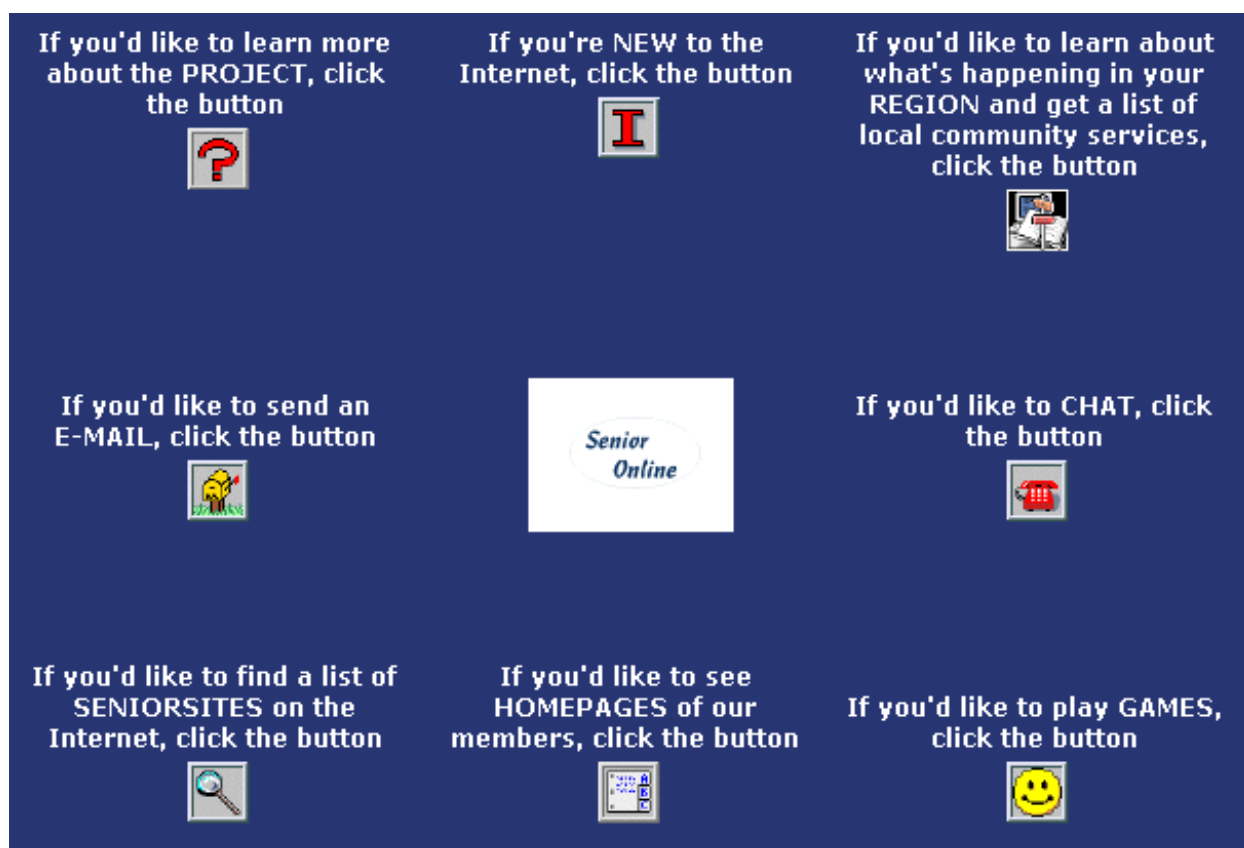
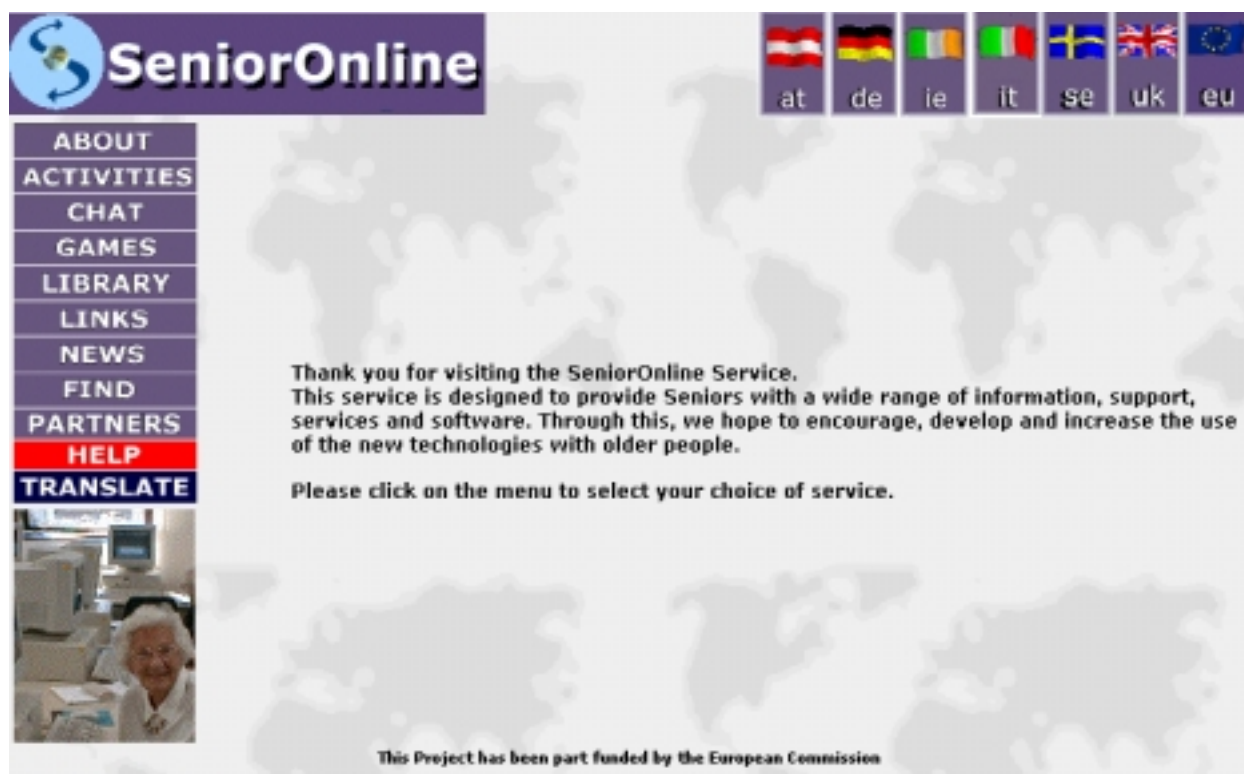
### 6.1 Some screenshots from Web4Groups 2.0

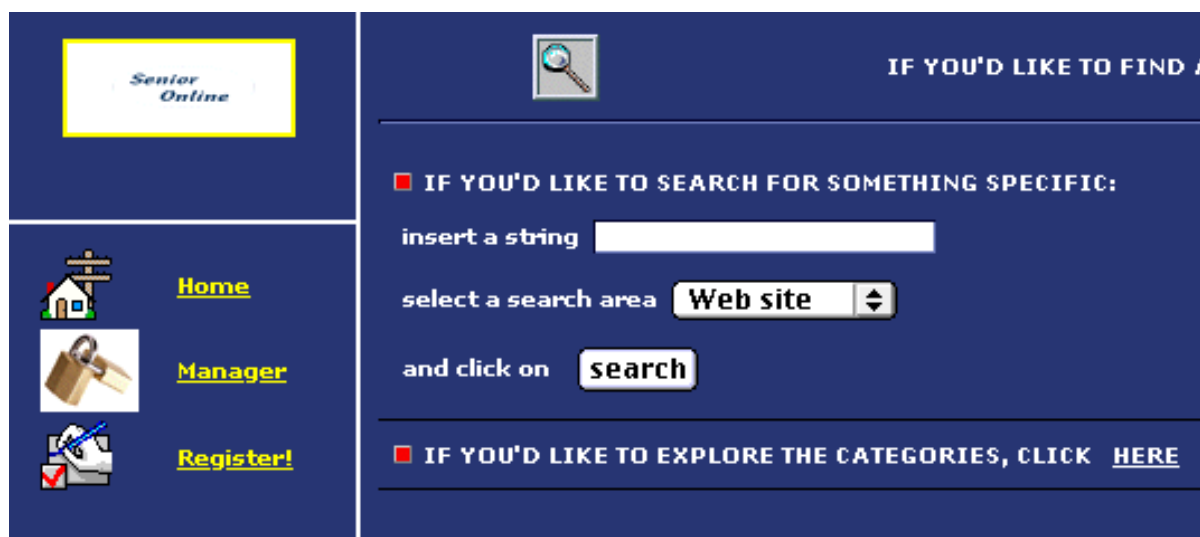






## 6.2 Some Screenshots from the Portal





### 6.3 A screen shot from the First Class service

