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## **PeerAssist**

**A P2P platform supporting virtual communities to  
assist independent living of senior citizens**

### **Deliverable 5.4 “PeerAssist Prototypical Applications”**

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# 1 Introduction

This document describes the main applications included in the PeerAssist platform. By “application”, we mean the individual services the platform offers to the users, as components of the overall architecture. Some applications are only available to the user if he has the necessary equipment, such as microphone and camera for the video chatting and the zwave controller and devices for the home automation application. The applications in the PeerAassist platform are pluggable, which means that the platform can be installed and work even without some of it's applications. Information on the user interface look and feel is also available in D6.2 (Training material). The voice platform is described in deliverables D4.1 (section 7.3.2).

## 2 GUI Features

### 2.1 Login

The Login page of the PeerAssist platform, authenticates the user with his username and password. When the user enters his username and password, the platform creates the connections between the peers of the other users, and establishes a connection with the central server that holds information about the users, groups, services etc.

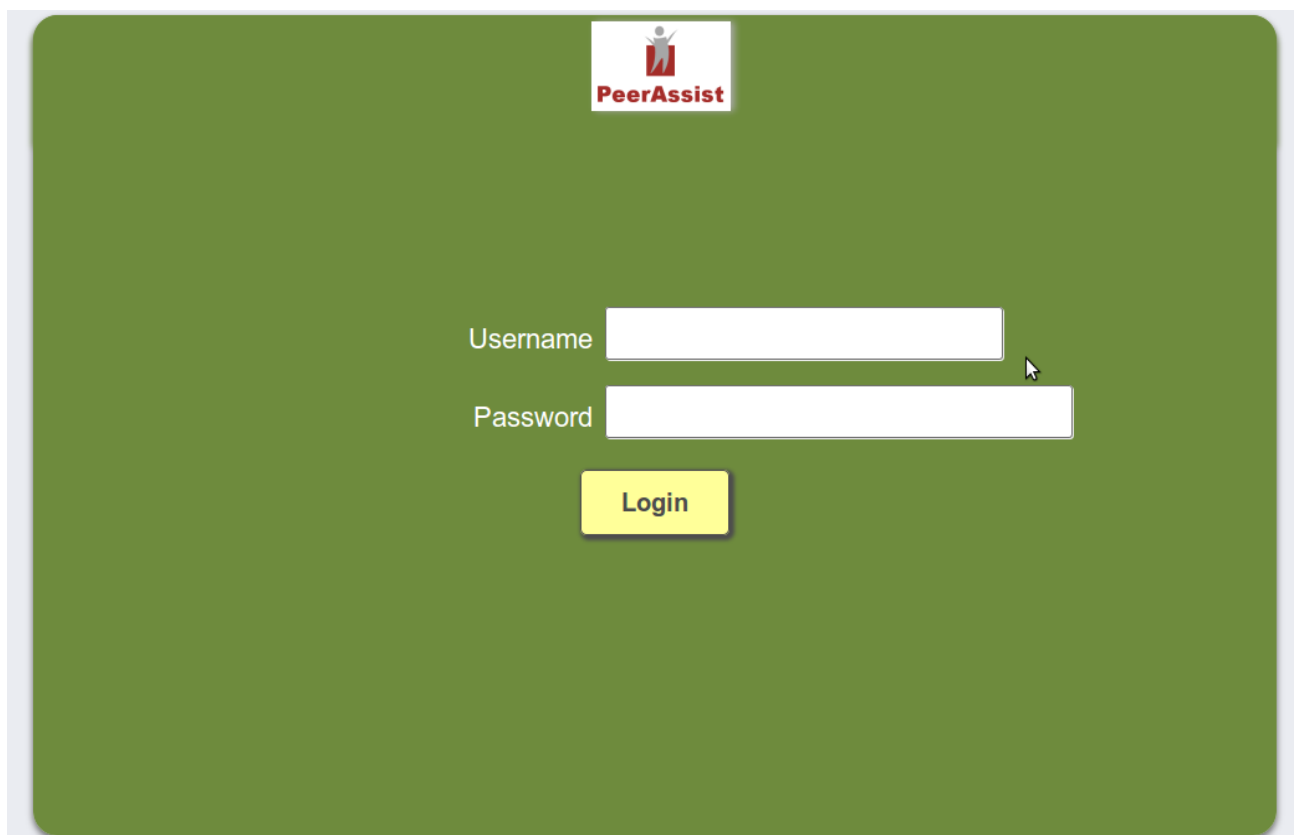


Figure 1: Login page

## 2.2 Home page

The Home page allows access to the four of the main functions of the Peeassist platform. The user have to click the buttons to go to each section.



Figure 2: Home page

In the PeerAssist platform there are a number of buttons and selections in a fixed position in all pages of the application ,in order to provide an efficient orientation to the user during his navigation in the application. These are:

- **Back and Home buttons:** Located on the top left corner, allow user either going back one screen or returning to the Home Page

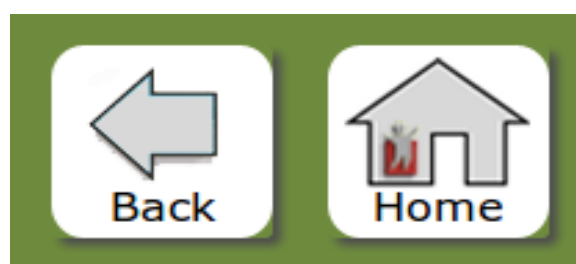


Figure 3: Back and Home buttons

- **Personal assistant:** The Personal Assistant helps the user in all UI navigation providing him additional information or instructions for each section. It is located at the top of the screen.

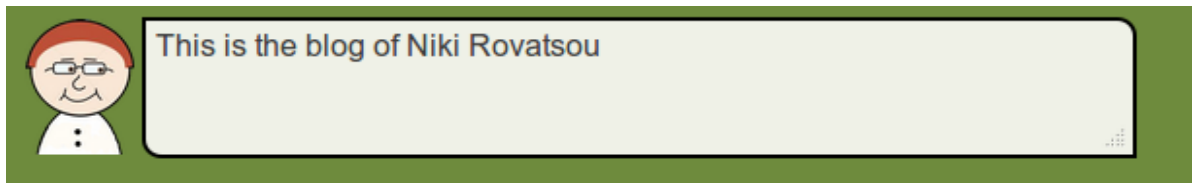


Figure 4: Personal Assistant

- **Languages:** The user can choose the language he wishes between English, Spanish and Greek.



Figure 5: Selection of 3 languages

- **Notifications:** Notifications are the way the PeerAssist informs the user about any action taken that involves him/her. A chat message, a request for video call, a new blog entry for a group, a friend request, appear all as notifications on the respective area. When the user clicks on a notification, he is redirected to the appropriate page to be informed about the action. The notification does not disappear, but it is no longer indicated as a new action. The user can view the last notifications even after he has seen the action itself.



Figure 6: Notifications

- **Logout:** Located on the down right corner, the logout button disconnects the user from the PeerAssist platform. A new connection will be established if the user enters again his username and password.

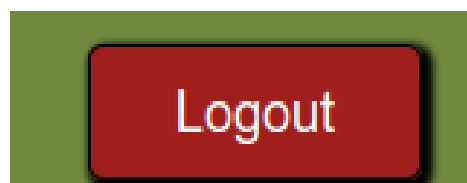


Figure 7: Logout button

## 2.3 Profile

In the Profile section, the PeerAssist user can view and change his/her personal information. Furthermore, the user can read his/her blogs, edit them or create new.



**Figure 8: Profile page**

The Peeassist user profile page contains the following information:

- Username (cannot be changed by the user)
- Given name (can be edited by the user)
- Family name (can be edited by the user)
- Birthday (can be edited by the user)
- Gender (can be edited by the user)
- Interests (user provides information about his interests. Based on user interests, user can be found by other users of PeerAssist community that share common interests)
- Country (can be edited by the user)
- Image (user selects his own avatar)

The screenshot shows the 'Edit personal info' page for user 'nikirova'. The interface has a green header bar with navigation icons (Back, Home, Profile) and a status box saying 'This is the info of Niki Rovatsou'. On the right, there's a user profile icon and a 'Notifications' icon. The main content area has two tabs: 'Info' (selected) and 'Blog'. Under the 'Info' tab, there's a form with the following fields:
 

- Username:** nikirova
- Given Name:** Niki
- Family Name:** Rovatsou
- Birthday:** 01/06/1982
- Gender:** Radio buttons for Male (selected) and Female
- Interests:** Cooking, Music
- Country:** Greece
- Image:** http://m3.licdn.com/mpr/pub/image-70

 To the left of the form is a small profile picture of a woman and a name tag 'Niki Rovatsou'. To the right of the form are 'Save' and 'Cancel' buttons. At the bottom of the page, there's a 'Voice' button, a language selector with flags for UK, Spain, and Greece, and a 'Logout' button.

Figure 9: Profile page - Edit personal info

Every PeerAssist user has his own blog, where he can create blog entries about any subject of interest. Blog entries can be read **only** by user's friends, and can also be edited by the user after their creation. User blogs are listed in chronological order.





**Figure 10: Profile page - Blog**

Furthermore, each PeerAssist user can visit the profile pages of other users of the PeerAssist community where he can see their personal information presented above. If the mentioned user is not yet in his friends list, he can add him as a friend. If the mentioned user is in his friends list, a screen similar to Figure 11 is displayed. In such a case, PeerAssist user can see the blogs of his friend or he can contact him via chat or video call in case his friend is online.

Finally, in the right column of friend's profile, several options are displayed such as "invite user to a group", "remove as a friend" and "remove as a care giver".



Figure 11: Friend's profile

## 2.4 Social

In the Social page, two scrollable lists are presented. The first one contains a list of friends of each PeerAssist user, while the second presents the groups that the user has joined in.

In **Friends list**, the user can see the profile page or communicate via text or video call with any of his friends. Friends' names are displayed with different colors in friends list in order to discriminate between users that are only friends (light blue color) and those that are friends and caregivers (pink color). Furthermore, for friends that are online, a green dot is displayed next to their name.

By selecting a friend, the user can see the profile info of his friend. Additionally, PeerAssist user can see the blogs of his friend or he can contact him via chat or video call in case his friend is online. Chat and video call functionality are presented below in detail. Finally, in the right column of friend's profile, several options are displayed such as "invite user to a group", "remove as a friend" and "remove as a care giver".

In **Groups list**, groups that the PeerAssist user is a member are displayed. Again, the user can select a group, see its details, send group chat messages, check the blog, etc.



**Figure 12: Social page**

The PeerAssist users, can create new groups, or join existing ones, to communicate with other users and exchange ideas, information, or chat directly with each other. The groups are created by users, and they refer to a specific activity (art, sports, soccer, movies etc.). The users can then search for a group, based on its topics and join the group to either read the blog entries or chat with other users interested in the group's topics, or even write and share their own blog entries. The group can be either public (anyone can join) or private (the creator of the group decides about which users can be part of the group). This is decided at creation time, but it can also change later.

The user can add/remove users to the groups he has already created by pressing the button "Invite friends"/"Remove friends" to the right of the UI. Furthermore, (s)he can delete the groups (s)he has earlier created. This functionality is illustrated in the following figure.



**Figure 13: Invite to groups**

Groups that are created by the user are marked with an asterisk next to their name. Groups that are created either by the system or by other users are appeared in the list without the asterisk next to their name.

In the right side of the social page, three buttons are displayed:

**Search users.** It is used to find other users that are not in his friends list. There are four search criteria to find users. These are: Name, Country, Gender, and Interest.

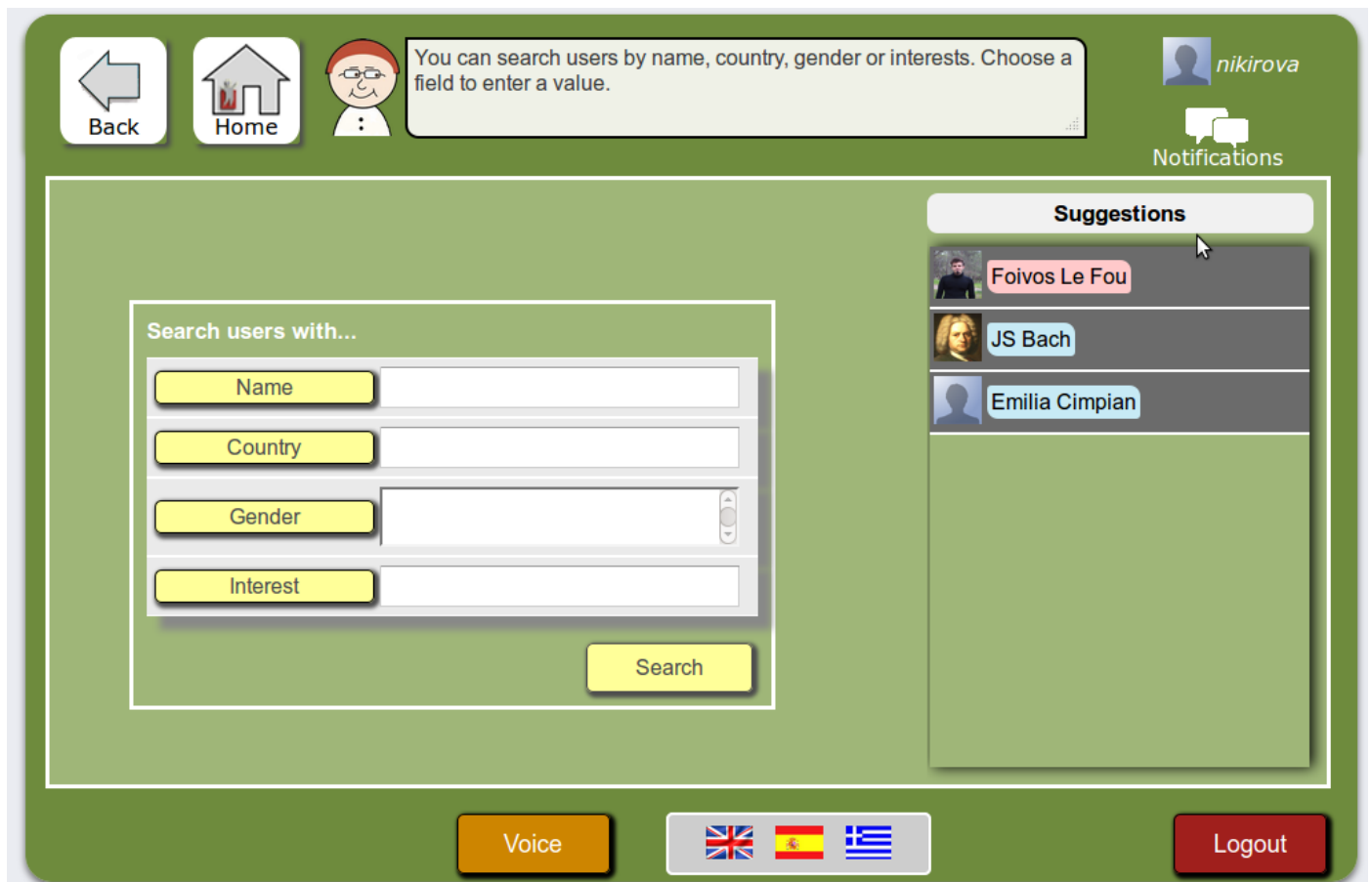


Figure 14: Search users

**Search groups.** It is used to find groups that are not in his groups list. There are four search criteria to explore new groups. These are: Name, Description, Topics and Type.

**New group.** Each PeerAssist user can create his own groups of interest by pressing the button “New Group”. By adding the Name, Description, Topics and Type (public or private) and pressing the button “Create”, the new group is created and displayed in groups list.

Back Home

These are the lists of your friends and the groups you're in. Use the buttons on the right to search users, search groups or create a new group.

nikirova Notifications

**Enter the group data**

**Name** Group name

**Description** Description

**Topics** Group topics

**Type**

Create

**Suggestions**

Voice UK Spain Greece Logout

Figure 15: New group

In the remaining of this section, the chat and video call functionality are briefly described.

The **chat** component of the platform, allows PeerAssist users to talk to each other either directly or in an offline manner. The user can send text messages to other users in their friends list. The user that receives the message receives a notification about a new chat message. By clicking on the notification, the user is redirected to the chat tab of the other user's profile page, where they can exchange messages directly. The user can also receive messages when he is offline. The offline messages are stored on the server, and are delivered to the user the next time (s)he logs in the PeerAssist platform. The platform keeps a log with the exchanged messages, so that the user can always review the previous conversation with a specific friend.

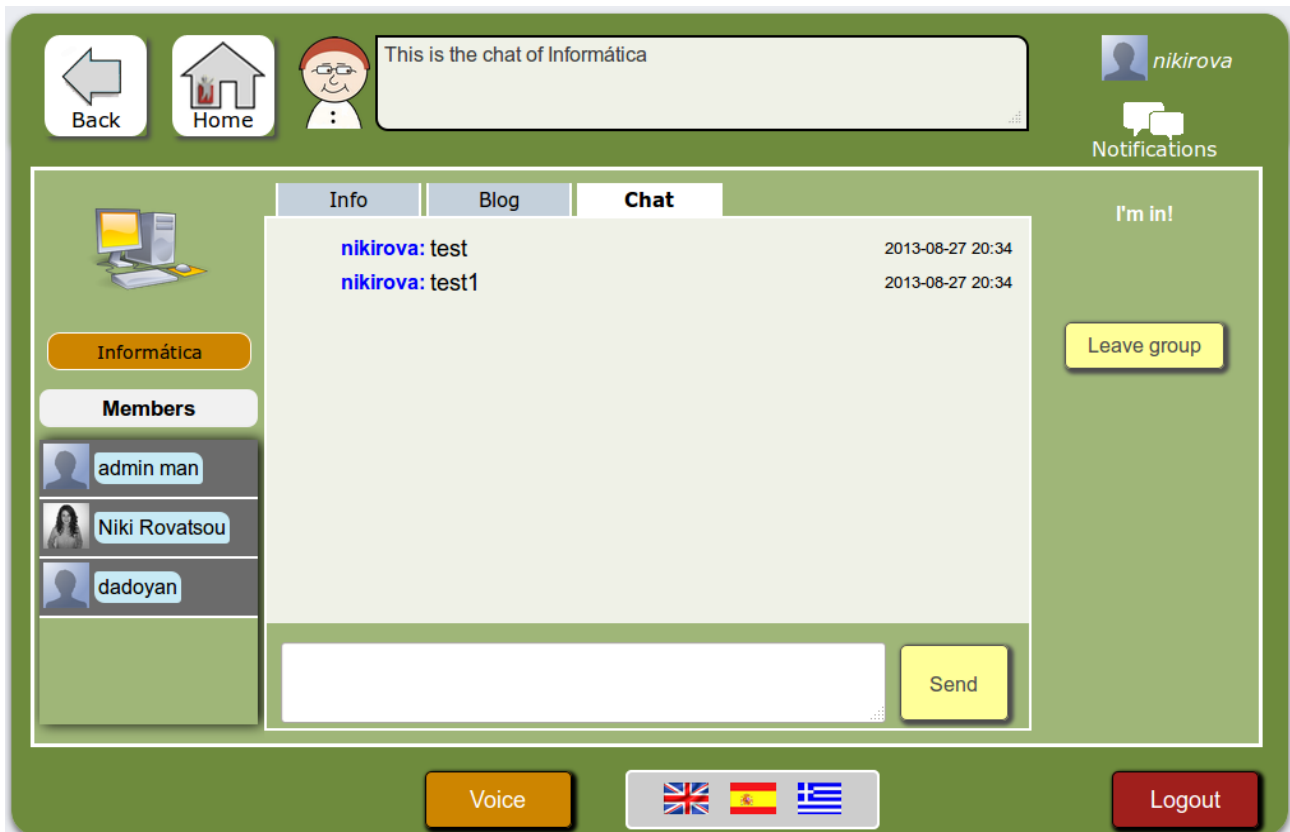


Figure 16: Chat

The **video call** capability of the PeerAssist platform, offers the ability to users to talk directly to each other, using voice and video. The user can start a video call with any of the users in his/her friends list (only with one user at a time). If the other user accepts the request, the video call starts and users can communicate using the builtin camera and microphone of the user's PeerAssist client. The user cannot have simultaneous video call sessions with more than one users, as the camera and microphone can serve only one session at a time. The camera, microphone and browser settings for the video call capability is tuned during installation time and no further configuration is needed every time a user starts a PeerAssist session.

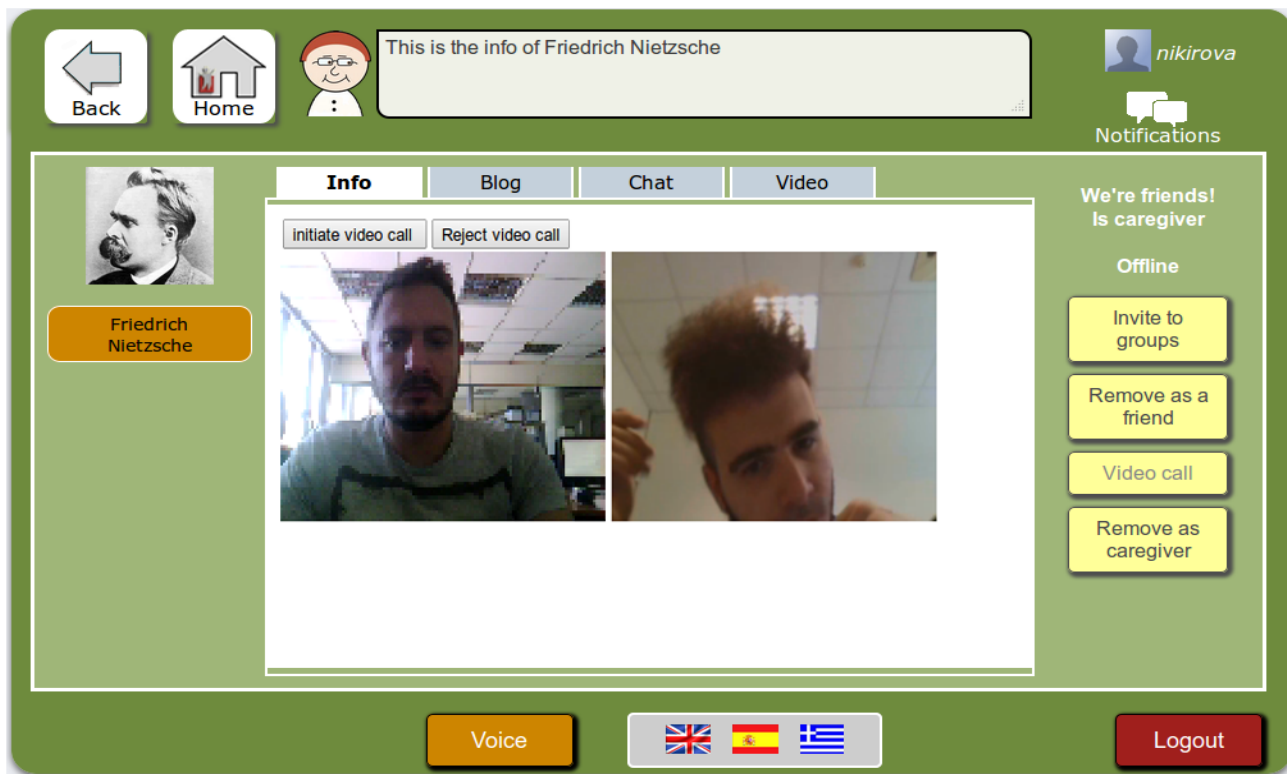


Figure 17: Video call

## 2.5 Services

The PeerAssist Services, are external services that are available to a user, like food delivery, news, sports, taxi services, etc. A service can be a restaurant that delivers food, a sports channel that streams its content over the internet, a news channel that broadcasts articles, an e-shop etc. Each service is identified by a unique name, and its profile consists of two sections: Info tab and Web tab. In the first tab, there is a general description of the service, along with limited data, and in the second tab, there is its web page, viewed as part of the PeerAssist page (integrated in a frame).





**Figure 18: Services**

The user can search for available services that are relevant to his interests, by name or type of service, and then (s)he can use the service without leaving the PeerAssist platform.

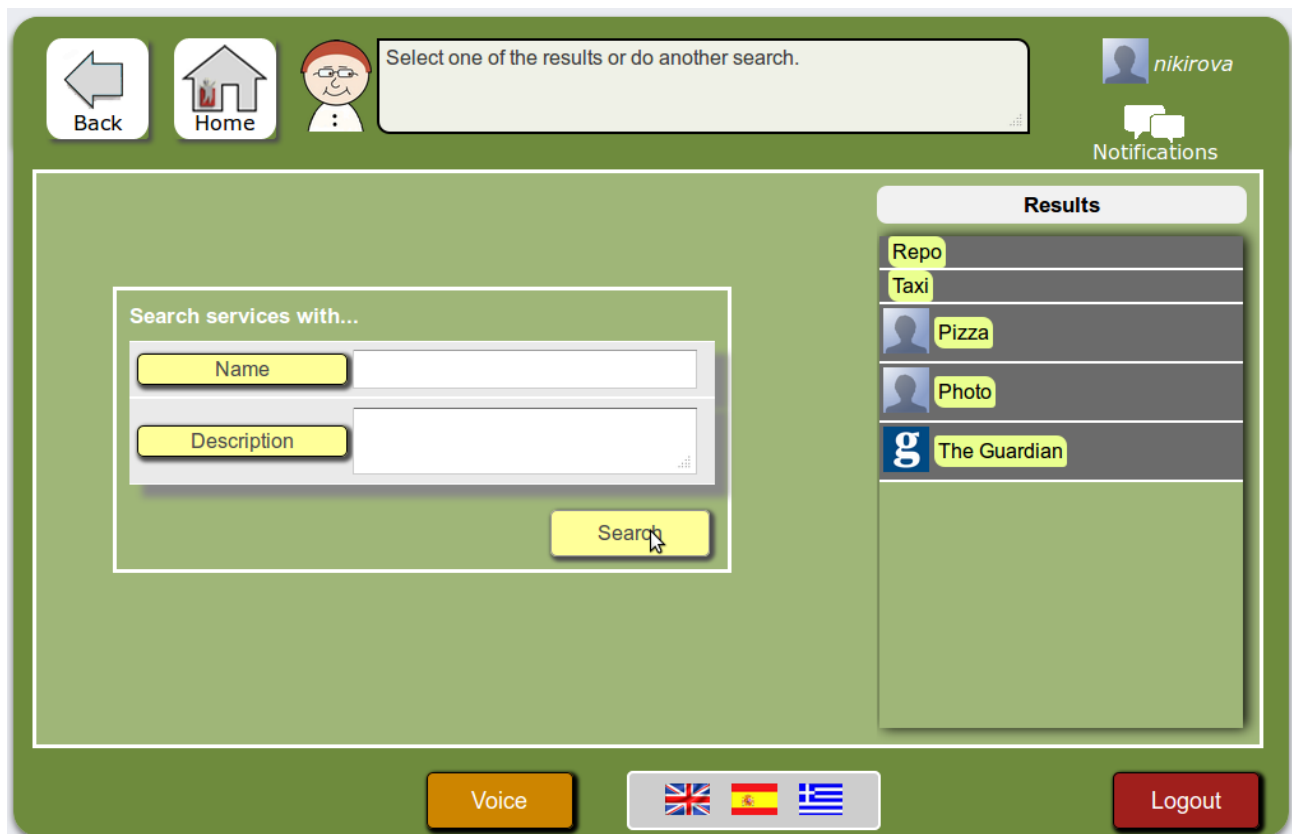


Figure 19: Search services

The available services are configured on the main server, and can be updated at any time, without further configuration or update to the users platform.

The user can order food, watch a movie online, book tickets and have whatever each service offers, without leaving the platform.

## 2.6 Care

In the Care page, a scrollable list that displays the user's caregivers is presented. Each time a PeerAssist user adds any of his/her friends as a caregiver, the latter will be appeared in this list. The caregivers are also displayed in the user's Friend list with pink color as already mentioned in the section presenting the functionality of the social page.

The users can interact with their caregivers with different ways:

- View caregiver's profile
- Read caregiver's blogs
- Contact caregiver via text message (chat)
- Contact caregiver via speech and video (video call)

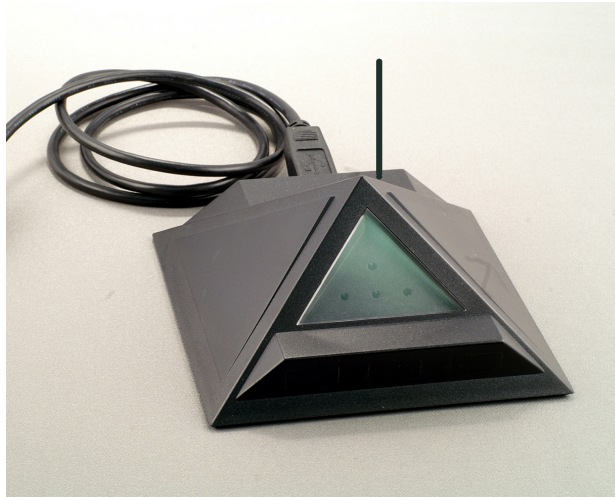
The users have also the options of removing a caregiver from their Caregivers list or to remove a caregiver from both Caregivers and Friends list.



Figure 20: Care page

### 3 Home Automation

The home automation application, is the component responsible for monitoring the elderly people using the platform, by their registered caregivers. All home automation devices, are using the zwave protocol and are connected to the zwave controller (Picture 1).



**Picture 1: ZWave Controller**

The zwave controller (Picture 1), handles the communication with the peripheral devices and sensors that monitor the user's activities. During installation, each device registers to the controller and receives a unique ID. When registered, each device starts sending “alive” signals to the controller, so that the controller is aware of the devices currently connected and active. Each individual device that is part of the home automation network, has a limited distance range that can send and receive signals to and from the controller, and sends different kinds of signals that are all interpreted by the module that handles the home automation.



**Picture 2: ZWave door trap**

The zwave door trap (Picture 2), notifies the zwave controller when the user opens the door. During configuration of the platform, the PeerAssist users that act as caregivers of a specific user, configure the home automation service to notify them when the user they monitor opens a door or when the user fails to open the door until a specified time of the day.



**Picture 3: ZWave fob key**

The zwave fob (picture 3) is a simple device that sends a signal to the controller whenever the user presses one of its buttons. That signal triggers an alarm that is delivered to the user's caregivers and this alarm is the one with the highest priority (meaning that the user asks for help immediately). The user carries the fob key with him/her the whole time (s)he is in the house, and not only during the use of the platform.



**Picture 4: ZWave motion sensor**

The zwave motion sensor (picture 4) is used the same way as the door trap. It is configured to notify the caregivers of the user being monitored, when the user enters a room (or moves in the same room), or when the user fails to move for a specified time interval, or fails to move until a specific time of the day. The PeerAssist platform can use any number of zwave sensors, as each controller can handle as much as 256 different devices.

The way triggers are interpreted and what actions are activated are handled by the Home Automation Controller that is part of the overall architecture and is explained in deliverables D4.1 (Section 6.2).