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PROJECT N°: AAL-2011-4- 027

D19- MyGuardian Service for Caregivers (Prototype 2)

Start Date of Project: 01/05/2012

Duration: 36 months

PROJECT FUNDED BY THE AAL JOINT PROGRAMME	
Due date of deliverable	M26
Actual submission date	M32: December 22, 2014
Organization name of lead contractor for this deliverable	CON
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Participant(s)	CON, UNIGE, VIGS, HIB
Work package	WP4
Classification	Internal, Restricted
Version	1
Total number of pages	18

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1. Introduction

MyGuardian is an online platform that connects seniors with mild cognitive impairments with their informal caregivers and homecare nurses.

The platform consists of two applications:

- (1) MyGuardian Senior
- (2) MyGuardian Caregiver Web

The MyGuardian Senior application is described in deliverable D18. The present document, D19, describes the application for the caregivers.

MyGuardian Caregiver Web is an online service for both the informal and the professional caregivers who are directly involved with the care activities of an individual. The service enables dynamic and seamless distribution of care tasks and responsibilities between voluntary caregivers and supporting professional caregivers, coordination mechanisms for emergency situations, communication with the seniors, configurations parameters and access to the senior information in case of emergency or just for "guardian" purpose.

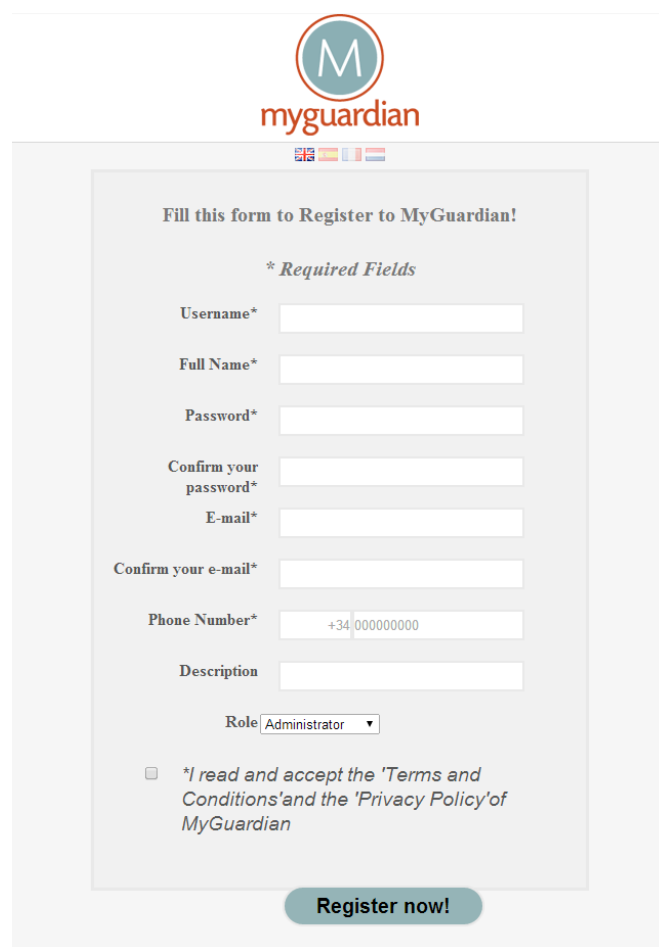
2. Creating a new account

The MyGuardian Caregiver App can be accessed both by caregivers and by seniors. It includes an easy-to-use registration/login interface to allow the registration of new users (both caregivers and seniors) and to log on into the MyGuardian Home Page of each user. Therefore, to access the system, any new user (i.e., senior and his/her caregivers) needs a personal account. This account is created from the web-based application through the following URL:

https://myguardian.hi-iberia.es:4444/MYG/pages/user_register.php

The following user data is needed to create an account (figure 1):

- A unique username
- A full name
- An email address
- A password
- A mobile phone number (for a mobile phone, where the MyGuardian app is running)



myguardian

Fill this form to Register to MyGuardian!

** Required Fields*

Username*

Full Name*

Password*

Confirm your password*

E-mail*

Confirm your e-mail*

Phone Number*

Description

Role Administrator ▾

**I read and accept the 'Terms and Conditions' and the 'Privacy Policy' of MyGuardian*

Register now!

Figure 1- Web Registration page

A validation mechanism is used to validate the account upon creation (by sending an email to the indicated email address of the user). Once the account has been validated, the user can access to the application.

3. Login screen

The Caregiver App is a website, that can be accessed through the following URL:

<https://myguardian.hi-iberia.es:4444/MYG>

The user has to enter the username and password (figure 2).

Figure 2 - Web Login page

Select language

User can select the language which is adopted by MyGuardian platform among these four languages (English, Spanish, French and Dutch), where English is the default language.

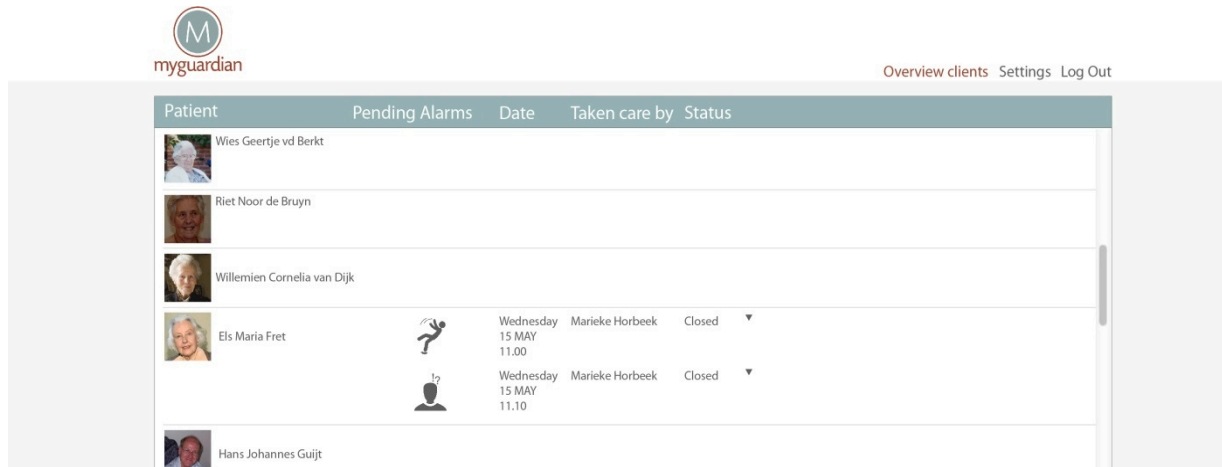
Retrieve forgotten password

If a user forgot his password, he can click on a link that sends him his password by email using the email address provided during the registration (figure 3).

Figure 3 - Retrieve forgotten password

4. Overview of multiple seniors

If a caregiver takes care of multiple seniors, he will see an overview of all seniors that he is taking care of. The overview screen shows pictures, names, and active alarm messages (figure 4). The user can select a network, and proceed to the home screen.



The screenshot shows the MyGuardian interface. At the top left is the MyGuardian logo. At the top right are links for "Overview clients", "Settings", and "Log Out". Below the header is a table with columns: "Patient", "Pending Alarms", "Date", "Taken care by", and "Status".








Patient	Pending Alarms	Date	Taken care by	Status
 Wies Geertje vd Berkt				
 Riet Noor de Bruyn				
 Willemien Cornelia van Dijk				
 Els Maria Fret		Wednesday 15 MAY 11.00	Marieke Horbeek	Closed ▾
		Wednesday 15 MAY 11.10	Marieke Horbeek	Closed ▾
 Hans Johannes Guijt				

Figure 4- Overview of multiple seniors

5. Home screen

The home screen (figure 5) brings together the 6 core information modules:

- **Contacts** shows the status of all caregivers
- **Tasks** enable coordination of care activities that are not linked to the shared agenda
- **Agenda** enables coordination of care activities that are linked to a specific timeslot
- **Alarms quick view** shows the status of alarm events
- **Today trace** shows up-to-date status information of the senior
- **Messages** provides the caregiver to communicate in the group

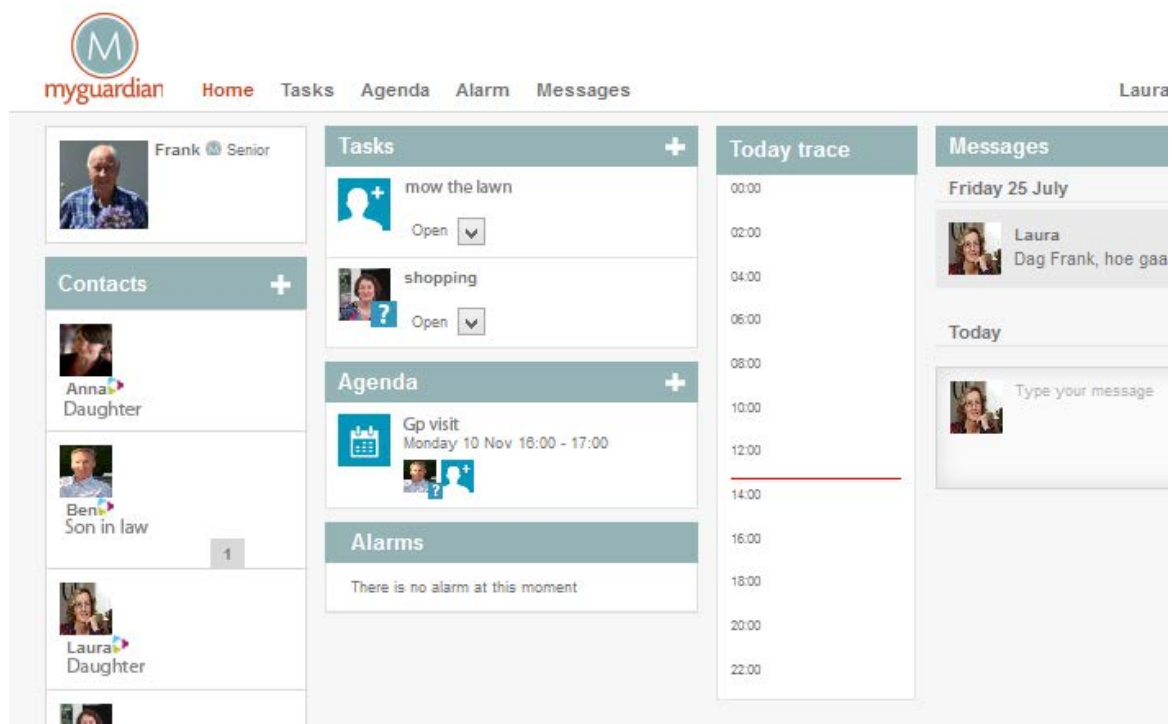


Figure 5 - Home screen

Contacts

The contacts list shows the senior, the informal caregivers and the professional caregivers that have been linked to the account of the senior. The senior and the first caregiver decide whom to invite to the system, and who will have access to specific information.

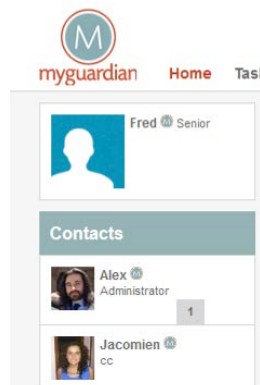


Figure 6 - Contacts

Tasks and agenda

With the shared task list and the shared calendar, people can coordinate the care tasks. A caregiver can for example ask another caregiver to do the shopping or ask a professional to assist. With the plus button, a new task or appointment can be added. Once a day all people in the network receive an overview of all new tasks and appointments.

By drag and drop contacts can be invited to take responsibility for a task or participate in an event. An email with the request will be sent to the contact. A question mark indicates that the invitation has not yet been accepted.

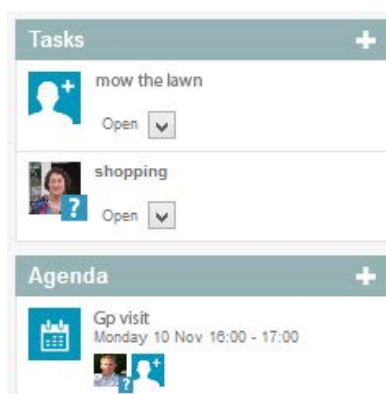


Figure 7 – Tasks and agenda

Alarms quick view

The alarms quick view shows the status of alarm events. When a new alarm is triggered, all caregivers can see the alarm in the alarms quick view. More details on the alarm will be shown, when the alarm is selected.

Figure 8 shows an alarm message indicating Frank is outside the home area. The question mark indicates no caregiver has accepted the alarm yet. Any caregiver can accept the alarm by clicking 'accept'. The alarms quick view will then be updated, showing the responsible caregiver.

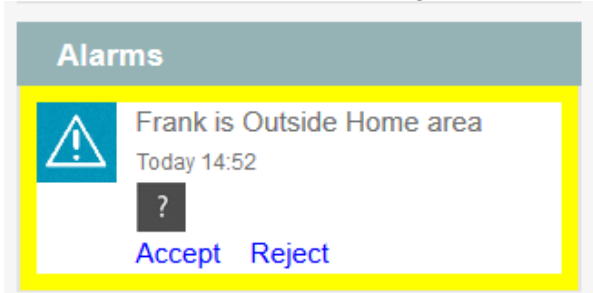


Figure 8 – Alarms quick view

Today trace

Today trace shows up-to-date status information on the senior. The color represents the zone, e.g., the blue color in figure 9 represents the 'home' zone. More detail is shown when the user hovers over the trace.

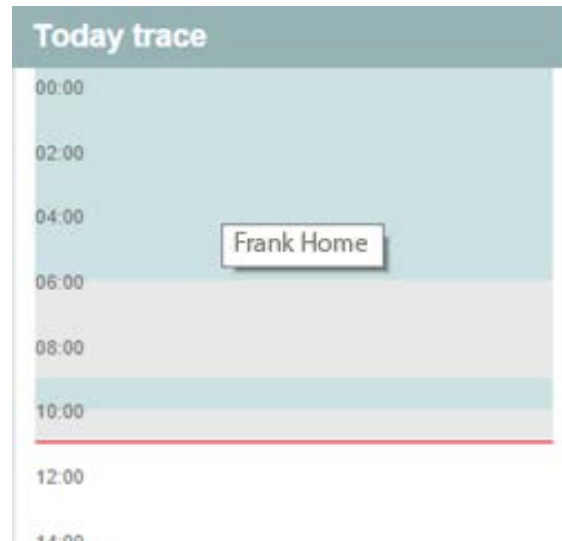


Figure 9 – Today trace

Messages

All caregivers can share messages to all contacts in the network. Anyone with access to the application can post messages. Messages can be liked or removed.

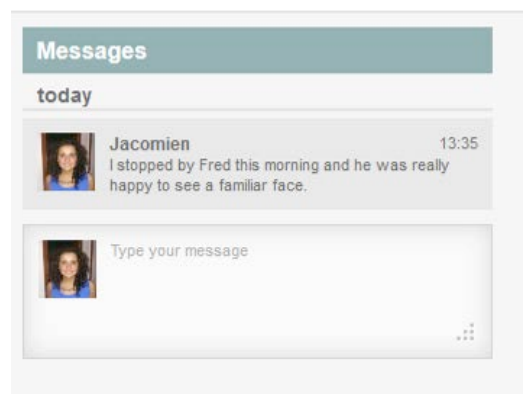


Figure 10 – Messages

6. Agenda

The agenda page shows the group calendar. Users can add new appointments to the agenda, and check the status of existing appointments. Multiple contacts can be invited to each appointment by using drag and drop. The contacts will receive an invitation to the appointment by email. The appointment can be accepted or rejected using the link in the email.

A *notes* field allows people to add remarks to the week, e.g. "Ria is on holidays." The notes are text-only, and the notes are not linked to the escalation procedure.

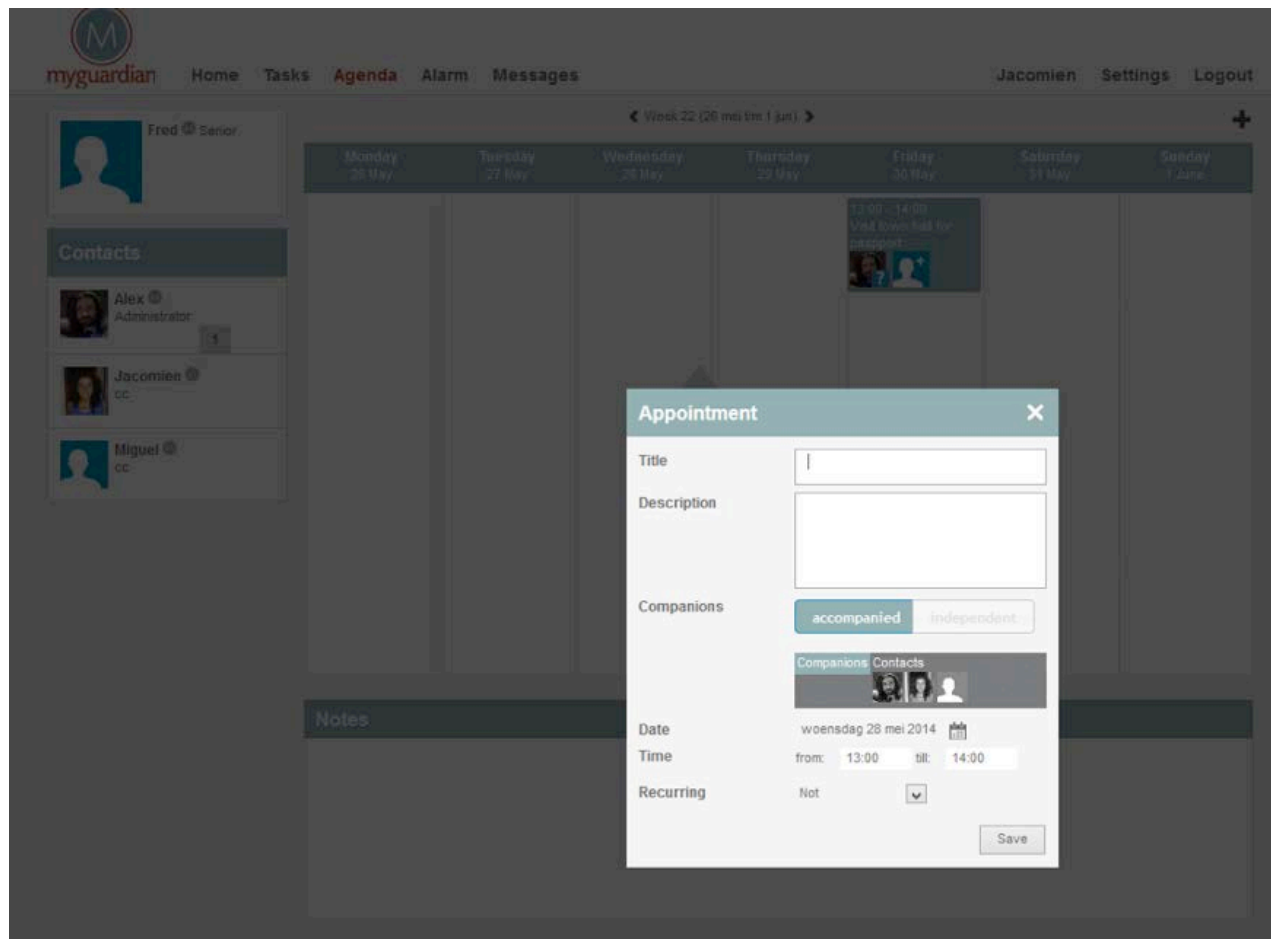


Figure 11 - Add/edit appointment

7. Alarms

The alarm page shows the active alarms. For each alarm, the system shows who is responsible, the context (e.g. location) and the status (e.g. 'solved').

Alarm events can include:

- The senior is out of comfort area
- The battery of the phone is low

The screenshot displays the MyGuardian web interface. At the top, the navigation menu includes Home, Tasks, Agenda, Alarm (highlighted), and Messages. The user is logged in as Marjo, with links for Settings and Logout. On the left, there is a profile card for Fred Senior and a contacts list showing Laura (Dochter) and Marjo (Neighbor). The main content area is titled 'Alarms' and shows 'There is no alarm at this moment'. Below this is a 'Location' section with a map of Geneva. A red polygonal zone is drawn on the map, and a blue circle is visible. At the bottom, an 'Events triggering an alarm' section lists a 'Low Battery' event with details: 'When the battery of Fred is below 30%, The following persons are notified: Laura (by Email, MyGuardian Application), Marjo (by Email, MyGuardian Application)'. A 'Create Zone' button is visible on the map.

Figure 12 - Alarm page

Setting new alarm rules

In order to make sure that caregivers are notified in case of incidents, alarm rules can be configured. First, zones need to be defined in the map component. Next, rules need to be defined in the rule editor.

- (1) Creating zones.** A new zone can be created by clicking 'create zone' in the map component (see figure 12). A blue circle will appear. The user can set the corners of the zone by clicking the map. The zone can be close with a double-click.
- (2) Setting rules.** Rules can be configured in the rule editor (figure 13). A rule wizard guides the user through the configuration process.

Rules +

There is no rule. Click [here](#) to add new one.

Add a new feature by answering questions below

Which area is concerned ? *Add a new area*

Home area

Do you want to be notified if Frank is inside or outside this area ?

Inside outside

Do you want to be notified :

Immediately After a duration

That rule applies:

Everyday From To

All day From To

Which Person will receive notification ?

Frank frankmyguardian@gmail.com MyGuardian Application

You MyGuardian Application lauramyguardian@gmail.com

Ben

Ruben

Anna

Figure 13- Rule editor

Alarms are automatically communicated to the caregivers and escalated. The escalation procedure for each type of alarm is defined in the rule. The escalation procedure might be changed based on the phase of dementia and on the availability of the informal caretakers.

Complete and close an alarm

Open alarm events are shown in the alarm view. Users can manage alarm events:

- Take responsibility for all events that have not been accepted by other contacts.
- Resolve an alarm or clear an alarm status.

Current Alarms				
Alarm Type	When ▼	Delay	Status ↓	Action
Out Comfort Area	06-06-2014 16:53:58	05:57	Open	<input type="button" value="Take care"/>
Low Battery	06-06-2014 16:53:55	06:00	You take care of that	<input type="button" value="Solve this alarm"/>
Help Button Pressed	06-06-2014 16:53:53	06:02	You take care of that	<input type="button" value="Solve this alarm"/>

You have accepted to take care of this alarm: Low Battery.

Figure 14- Alarm view

8. Task notifications and reports

MyGuardian sends out two types of emails to the caregivers: **notifications** that require immediate attention (alarms, task requests, calendar invitations, battery events) and **reports** that require no immediate attention (daily updates, weekly updates).

Notification of a task request

Users can invite other contacts to tasks or appointments. An invitation is sent by email.

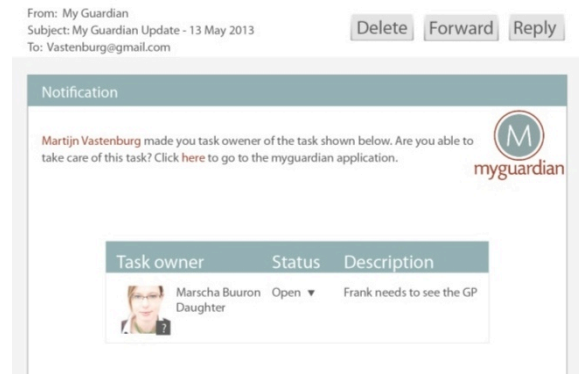


Figure 15 - Task request

Reports

Reports give a status update of the last alarms, actions, appointments and messages. Reports are sent by email. Users can select if they want to receive reports on a daily, weekly, monthly basis or not at all.

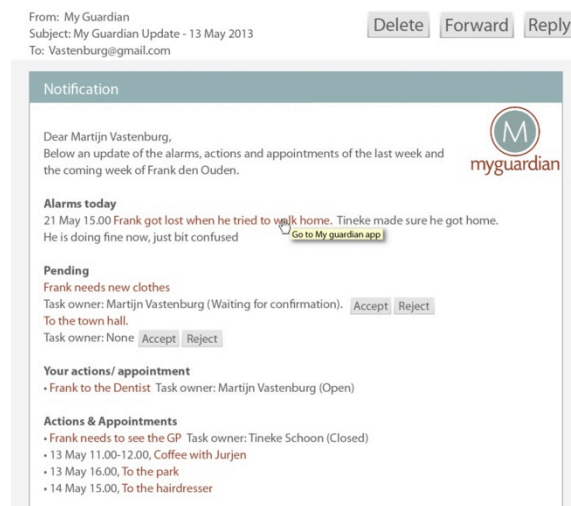


Figure 16 - Report

9. Personal page

The **personal page** shows the user contact details and the pending tasks. Only the user himself and the administrator can edit:

- Name
- Role (close caregiver, caregiver) (which can be edited only by administrators)
- Email
- Phone number
- Mobile number
- Upload a profile picture

The user view also shows:

- Overview of pending tasks (not yet accepted by the user)
- Overview of open tasks and appointments (accepted by the user, not yet completed)

The screenshot displays the 'Personal settings' page in the MyGuardian application. At the top, the 'myguardian' logo is on the left, and navigation links for 'Home', 'Tasks', 'Agenda', 'Alarm', and 'Messages' are in the center. On the right, the user's name 'Laura' and links for 'Settings' and 'Logout' are visible. The main content area is divided into two sections. On the left is a 'Contacts' sidebar with a plus sign, listing: Frank (Senior), Anna (Dochter), Ben (Schoonzoon) with a '1' indicator, Laura (Dochter), Marja (Buurvrouw) with a '1' indicator, and Ruben (Thuiszorger). The right section shows the user's profile for Laura, including a profile picture and the following details: Name: Laura, Role: Daughter, Description: Caregiver, Phone number, Mobile phone, Administrator, Language: English, and Password: *****.

Figure 17- Personal settings

10. Senior page

The **senior page** provides access to:

- Contact details for the senior
- Contextual information on the senior
- Zones and actual location
- Alarm events
- Caregiver circles
- Privacy settings

The screenshot displays the 'Senior page' for a user named Fred. It is divided into two main sections: 'Fred' (personal information) and 'Contextual Information'.

Fred's Personal Information:

- Name:** Fred
- Role:** Senior
- Description:** Senior
- Email:** fred@myguardian.com
- Phone number:** 0034111111111
- Mobile number:** (field is empty)

Contextual Information:

Current location: Universidad

Current position: Static

Temperature: Current -99°, Ambient 18°

Humidity: Current -1%, Ambient 45%

Clouds: (Icon of a cloud)

Moderate noise: 37.2099991dB

Low pollution levels: (Icon of a leaf)

Activity Log: Last checked the phone 2014-12-11 11:27:13+01. Checked the phone 0 times in the last 10 minutes.

Call Status: Last call received at from. Last call at to.

Alerts: Vibrate mode (Icon of a phone with a yellow vibration symbol), 0 unread messages (Icon of an envelope), No missed calls (Icon of a phone receiver).

Figure 18- Senior page: personal information and contextual information

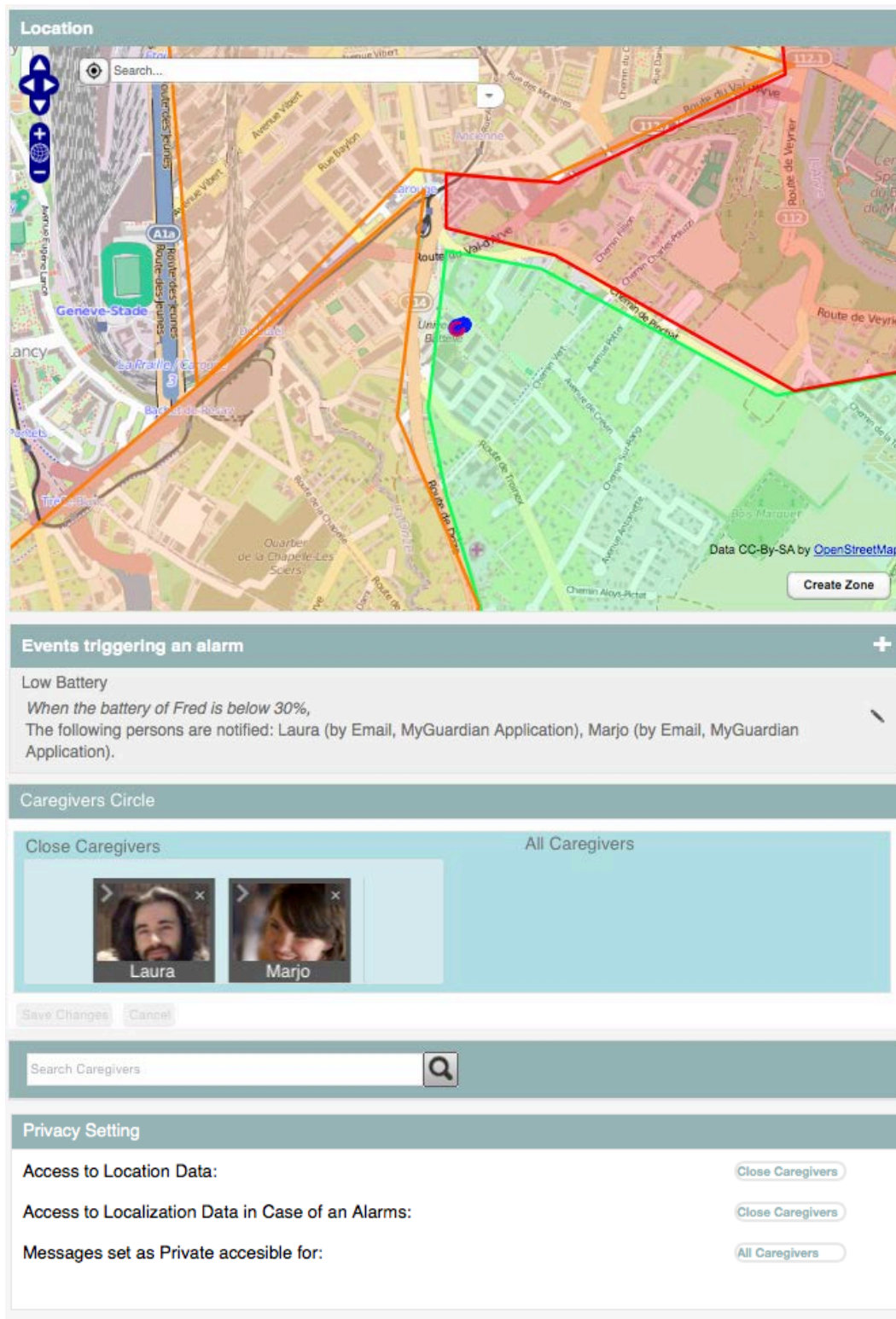


Figure 19- Senior page: Location, events, circles and privacy settings

Inviting new users to the network

Registration of new caregivers is a two-stage process:

- (1) The new caregiver has to register to the system.
By clicking on the plus button next to “contacts”, new caregivers can be invited. An invitation will be sent by email.

(2) The caregiver has to be added to a particular circle of caregivers.

Any registered user can be added to the network in the settings page. At the bottom of the settings page, one can search for registered users, and any registered user can be added to the network.

Roles settings

A Role-Based Access Control (RBAC) model has been chosen in order to manage the user relationship (circle of contacts) and the user roles and permissions to access the resources for certain operations. By means of this model, a role is assigned to a user authorizing the user to have the necessary permissions in order to access particular functionalities or services through particular operations.

So, the following roles are being considered:

- **Administrator and close caregiver:**
 - o View senior's caregivers circle and edit his role: Caregivers are classified as close caregiver or, simply, caregiver.
 - o Add a new caregiver to the senior's circle, by entering their known usernames and select the role that he wants to assign to the new caregiver.
- **Caregiver:**
 - o View senior's caregiver circle exclusively.
- **Senior:**
 - o View his/her caregiver circle exclusively.

For example, these roles are used to define the privacy settings of location, alarms, and messages and also, the caregivers can define the escalation procedure for each type of alarm.

The roles settings can be configured in the **caregivers circle pane** (figure 19). For example, the administrator on behalf of his senior can add new caregivers and define their roles.

Privacy Settings

The **privacy settings pane** (figure 19) can be used to restrict access to location data and private messages. For example, an administrator can grant access to the actual location of a senior only to close caregivers.