



## ProFouND: Prevention of Falls Network for Dissemination

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### DELIVERABLE D 2.5

PFNApp online

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## 1 Description of deliverable and tasks

### Objectives:

One of the objectives of WP2 is the design and technological support for delivery of customised and tailored information services. This objective was addressed in the context of Task 2.5, which is described below.

*Task 2.5: Online system for producing and delivering customised and tailored information on the ProFouND portal (PFNApp).*

The PFNApp is accessible through the ProFouND portal by registered practitioners. This system permits production of tailored guidance, including individualised health management plans, and allows local services to add their own logos and photographs or illustrations, their local services and opportunities for falls management and prevention and the uploading of content (provided by WP3) translated into local languages. The practitioner is able to choose at the customization section images that reflect the person in front of them, e.g. a frailer older person exercising or a younger active person, distinction between male/female etc. The practitioners have at their disposal a folder of copyright-free images and illustrations to be used. The output can be downloaded and provided to the patient via email or printed out, depending on the needs of the user.

A brief online survey can be administered to the older person and/or their carer in English to determine, post appointment, if the patient has acted on the tailored information provided through the leaflet. This helps determine the usefulness of the PFNApp for older people as well as whether the professional has changed the care of older people because of the PFNApp.

The deliverable corresponding to Task 2.5 is D2.5, due on Month 27, which is described as follows:

*D2.5 PFNApp online: PFNApp online customisation and tailoring system for community dwelling older people (in English first).*

The technical infrastructure for ProFouND Fall Prevention App (PFNApp) for producing and delivering customised and tailored information to community dwelling older people and toolkits for different settings/organisations working with community dwelling older people on the ProFouND portal in English initially (expected in Month 18), then available in at least 3 further languages by the end of the project. [Month 27]

It should be noted that D2.5 is the Prototype of the PFNApp, which has been launched on time and is available through the ProFouND portal. The present report gives an overview of the PFNApp functionalities and presents how the requirements defined in Task 2.5 have been addressed through the PFNApp. The development process of the PFNApp, as well as the procedure that was followed for the definition of the content, have been described in detail in D4.5.

## 2 PFNApp Frontend

Special emphasis was given on the production of a user interface that makes the operation easy, efficient, and enjoyable. Solutions and tools for accessible Graphical User Interfaces design are used to implement easy-to-use and efficient visualization and interfacing solutions, taking into account the specific user and application requirements. The user interface is simplified where possible to make user's interaction simple and direct. Using universal colors, and clear fonts was a step to this direction.

Special care was given so that the pages are simple and clear to help the user understand the functionalities without any questions.

The following subsections present the different pages of the application.

### 2.1 Home Page

From the home page, users can log in to the application, register a new account, get a new password in case they forgot it, fill a survey regarding the recommendations leaflets and be redirected to the ProFouND Portal.

There are some texts in the home page that help the user understand what the application is about.

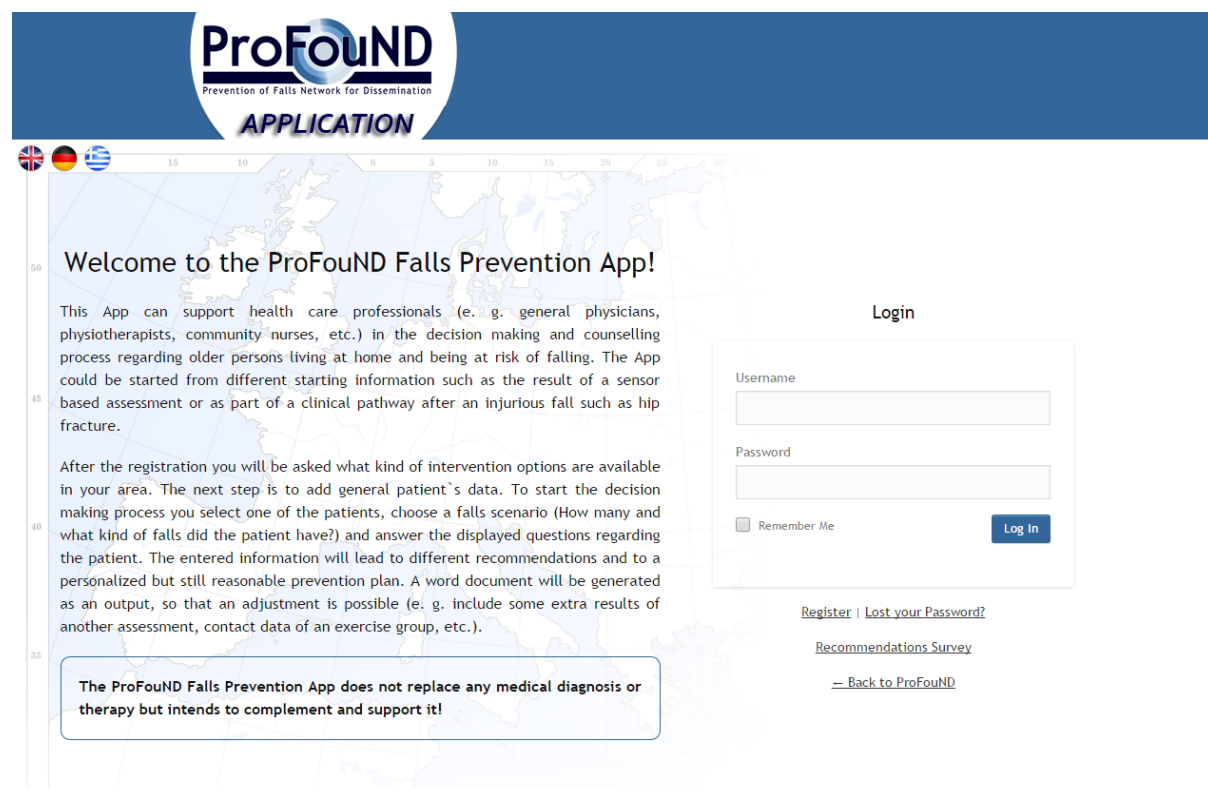
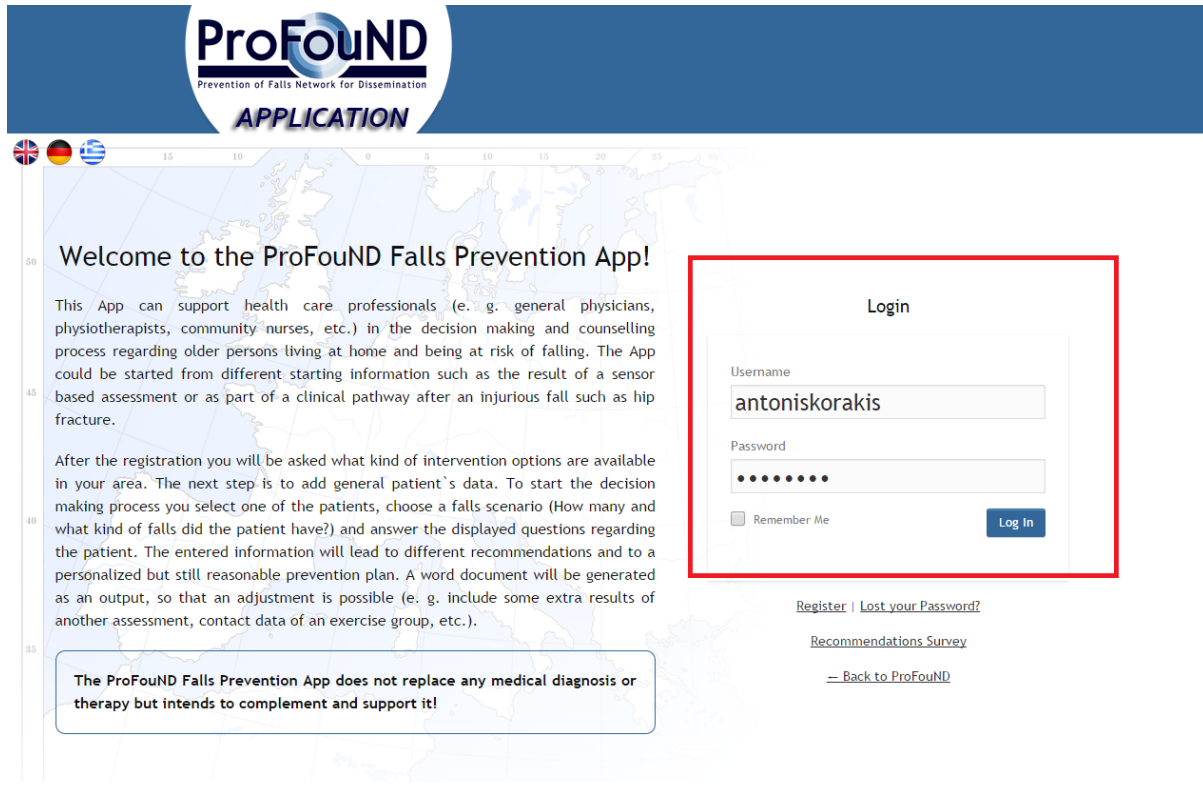


Figure 1: Home Page

### 2.1.1 Login

The user can login to the application using the credentials that had been provided in the registration phase. After filling the login form and if the credentials are correct, users are redirected inside the application. There is an option “Remember Me” that helps users, by remembering the credentials on their behalf.



The screenshot shows the ProFouND Application login page. At the top, there is a blue header with the ProFouND logo and the text "Prevention of Falls Network for Dissemination APPLICATION". Below the header, there is a map of Europe with a latitude and longitude scale. The main content area is divided into two columns. The left column contains a welcome message and a description of the app's purpose. The right column contains a login form with fields for Username and Password, a "Remember Me" checkbox, and a "Log In" button. Below the login form, there are links for "Register", "Lost your Password?", "Recommendations Survey", and "Back to ProFouND".

**Welcome to the ProFouND Falls Prevention App!**

This App can support health care professionals (e. g. general physicians, physiotherapists, community nurses, etc.) in the decision making and counselling process regarding older persons living at home and being at risk of falling. The App could be started from different starting information such as the result of a sensor based assessment or as part of a clinical pathway after an injurious fall such as hip fracture.

After the registration you will be asked what kind of intervention options are available in your area. The next step is to add general patient's data. To start the decision making process you select one of the patients, choose a falls scenario (How many and what kind of falls did the patient have?) and answer the displayed questions regarding the patient. The entered information will lead to different recommendations and to a personalized but still reasonable prevention plan. A word document will be generated as an output, so that an adjustment is possible (e. g. include some extra results of another assessment, contact data of an exercise group, etc.).

**The ProFouND Falls Prevention App does not replace any medical diagnosis or therapy but intends to complement and support it!**

**Login**

Username  
antoniskorakis

Password  
••••••••

☐ Remember Me **Log In**

[Register](#) | [Lost your Password?](#)  
[Recommendations Survey](#)  
[— Back to ProFouND](#)

Figure 2: Login Page

### 2.1.2 Single sign on

The user can also login in the application without entering credentials (only if he/she is a registered ProFouND Portal member) by first logging in to the ProFouND Portal and then clicking the ProFouND Application button on the right sidebar. He/she is then redirected inside the application.

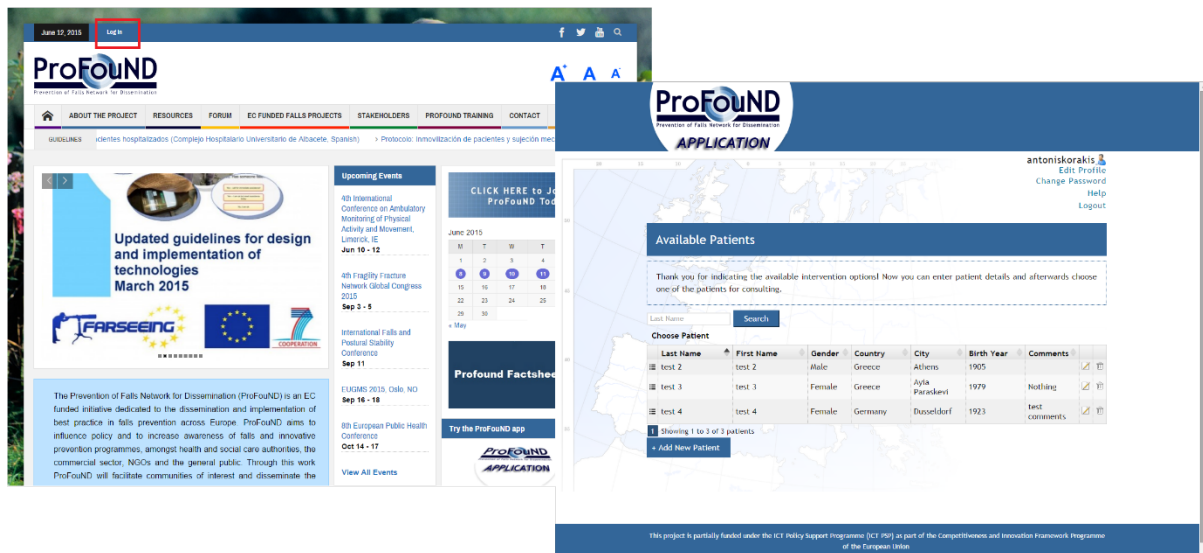


Figure 3: Login to the application through the ProFouND Portal

### 2.1.3 Register Page

Users can create a new account and register in the application by filling their personal information in the “Register Page”. The information needed are their first and last name, a username, an email address, and a password. The password must contain at least 5 characters, 1 capital letter, 1 number and one symbol in order to be as secure as possible.

Additionally, for security reasons, a “captcha” is used to prevent unwanted registrations e.g. bots that submit forms. Captcha displays an image with some text in it and the user has to enter the text in order to submit the form successfully.

**Required Information**

Username \*  
kostaspapadopoulos


Email Address \*  
kostaspapadopoulos@dat.demokritos.gr

Password \*  
\*\*\*\*\*  
At least 5 characters, 1 letter, 1 capital letter, 1 number and 1 symbol

Confirm Password \*  
\*\*\*\*\*

First Name \*  
Kostas

Last Name \*  
Papadopoulos

Captcha \*  
  
kkUeu

Submit

\* Indicates required field

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Figure 4: Registration Page with “captcha”

### 2.1.3.1 Register additional information

The first time a user enters the application, he/she is asked to fill some additional information, regarding his/her country, city, and speciality, and also to provide a link that represents an image (logo) that will be showed in the produced recommendation leaflets that will be given to the patients.



The screenshot displays the ProFouND APPLICATION interface. At the top, the ProFouND logo is accompanied by the text 'Prevention of Falls Network for Dissemination' and 'APPLICATION'. A user profile for 'antoniskorakis' is visible in the top right corner, with links for 'Home', 'Change Password', and 'Logout'. The main content area features a map of Europe in the background and a 'Required Information' form in the foreground. The form includes the following fields: 'Country' (dropdown menu showing 'Germany'), 'City' (dropdown menu showing 'Bonn'), 'Speciality' (dropdown menu showing 'General Physician'), 'Language' (dropdown menu showing 'English'), and 'Logo Url' (text input showing 'http://www.vesselmedical.com/wp-content/uploads/2014/06/medical-supplies-online.jpg'). A 'Submit' button is located at the bottom of the form. A red asterisk and the text '\* Indicates required field' are positioned below the form fields. At the bottom of the page, a blue footer contains the text: 'This project is partially funded under the ICT Policy Support Programme (ICT PSP) as part of the Competitiveness and Innovation Framework Programme of the European Union' and 'EC ICT PSP Grant Agreement 325087'.

*Figure 5: Additional register information page*

### 2.1.3.2 Register Intervention Options Page

The first time the user enters the application, he/she must provide some information about the Intervention Options that are available in the specific area. Some popups are used to explain words or phrases that users might find difficult to understand (e.g. LiFE program) or when more information is needed.

**ProFouND**  
Prevention of Falls Network for Dissemination  
**APPLICATION**

jimy10   
[Home](#)  
[Change Password](#)  
[Logout](#)

### What is available in your area?

#### EXERCISES

| Group Exercise  | Home Exercises   | Other  |
|---|--|--|
| <input checked="" type="checkbox"/> Falls Management Exercise (FaME) <a href="#">Info</a><br><input type="checkbox"/> Tai Chi<br><input type="checkbox"/> Otago-Group <a href="#">Info</a><br><input type="checkbox"/> Other falls prevention classes<br><input type="checkbox"/> Other senior exercise classes<br><input type="checkbox"/> Cognitive-Behavioural-Therapy<br><input type="checkbox"/> I dont know what is available | <input checked="" type="checkbox"/> Otago Exercise Programme <a href="#">Info</a><br><input type="checkbox"/> The Lifestyle Exercise Pro (LiFE) <a href="#">Info</a><br><input type="checkbox"/> Physiotherapy<br><input type="checkbox"/> I dont know what is available | <input checked="" type="checkbox"/> Outpatient physiotherapy<br><input type="checkbox"/> I dont know what is available |

**Next**

*The LiFE program is an evidence based program and integrates balance and strength activities into regular daily basis, e. g. brushing the teeth standing on one leg. (Clemson et al., 2012)*

Figure 6: Popup explaining LiFE program

#### 2.1.4 Recommendations Survey page

There is a survey page, accessible from the Home Page, which is used for getting feedback from the patients. The survey questions can be filled by the patients themselves or by the health professional that takes care of them. The questions refer to the recommendations being produced by the application and given to the patients, aiming to help determine whether the patient has acted on the tailored information provided through the leaflet. This helps evaluate the usefulness of the PFNApp for older people, as well as whether the professional has changed the care of older people because of the PFNApp. The statistics produced by the submitted answers are available for evaluation reasons.

**ProFouND**  
Prevention of Falls Network for Dissemination  
**APPLICATION**

## Recommendations Survey

This is a survey containing some questions regarding the recommendation leaflet that has been given to you.

Please give your answers to help us improve our application and give better recommendations in the future.

How useful did you find the recommendations given to you?

1 2 3 4 5

Not at all ☐ ☐ ☐ ☐ ☐ Very much

Have you noticed any improvement following the suggestions?

☐ Yes  
☐ No

Do you have any comments that you think are important?

[Submit](#)

Never submit passwords through Google Forms.

Powered by Google Forms

This content is neither created nor endorsed by Google.  
[Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

*Figure 7: Recommendations Survey Page*

### 2.1.5 Lost your password page

In case a user has lost his/her password, he/she can click the “Lost your password?” button in the Home Page. After entering the email address, which was used in the registration process, a new automatic generated password is produced and sent to the user via email. The user can then change to the desirable password from inside the application.

**ProFouND**  
Prevention of Falls Network for Dissemination  
**APPLICATION**

UK Germany Greece

### Lost your Password?

In case you forgot your password, please insert below the e-mail that you used in registration.

An e-mail will be sent back to you in this account with an auto generated password. You can then change the password from inside the application.

E-mail \*  
kostaspapadopoulos@dat.demokritos.gr

**Submit**

\* Indicates required field

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EC ICT PSP Grant Agreement 325087

*Figure 8: Lost your password Page*

### 2.1.6 Change Language

The entire application is currently available in 3 languages (English, German, and Greek). The language can be changed for the users that are not registered or not logged in the application, through the flag buttons that are visible in the corresponding pages.

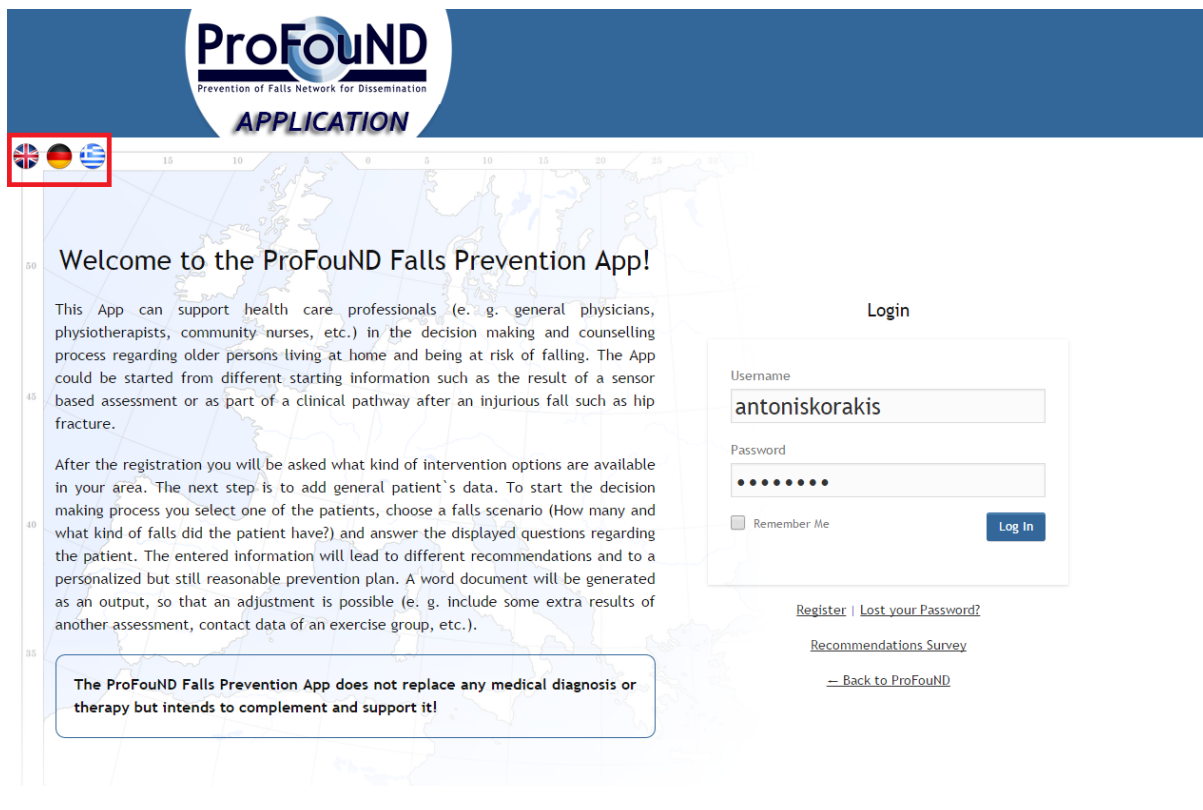


Figure 9: Change Language

The registered users can change the language from the “Edit Profile” menu, inside the application.

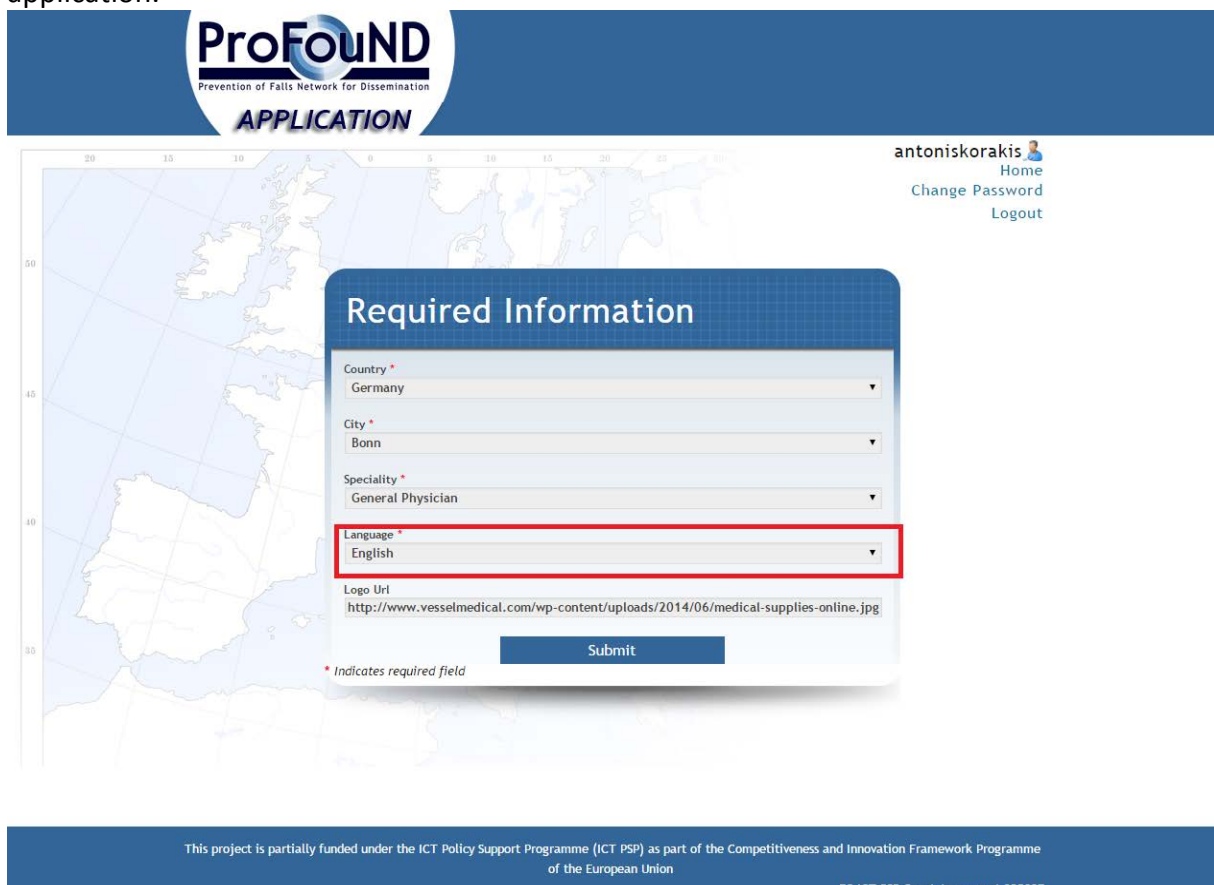


Figure 10: Language change for logged-in users



Figure 11: Multi-language support

## 2.2 Main Application Page

After a user has successfully entered his/her credentials, he/she is redirected to the main page of the application. There he/she can add, edit or remove patients, answer a questionnaire for a patient, and get the corresponding recommendations. Furthermore, he/she can see a patient's history, containing all the questionnaires a patient has answered along with his/her answers and recommendations.

There are texts that help the user understand how the application works by giving general guidelines.

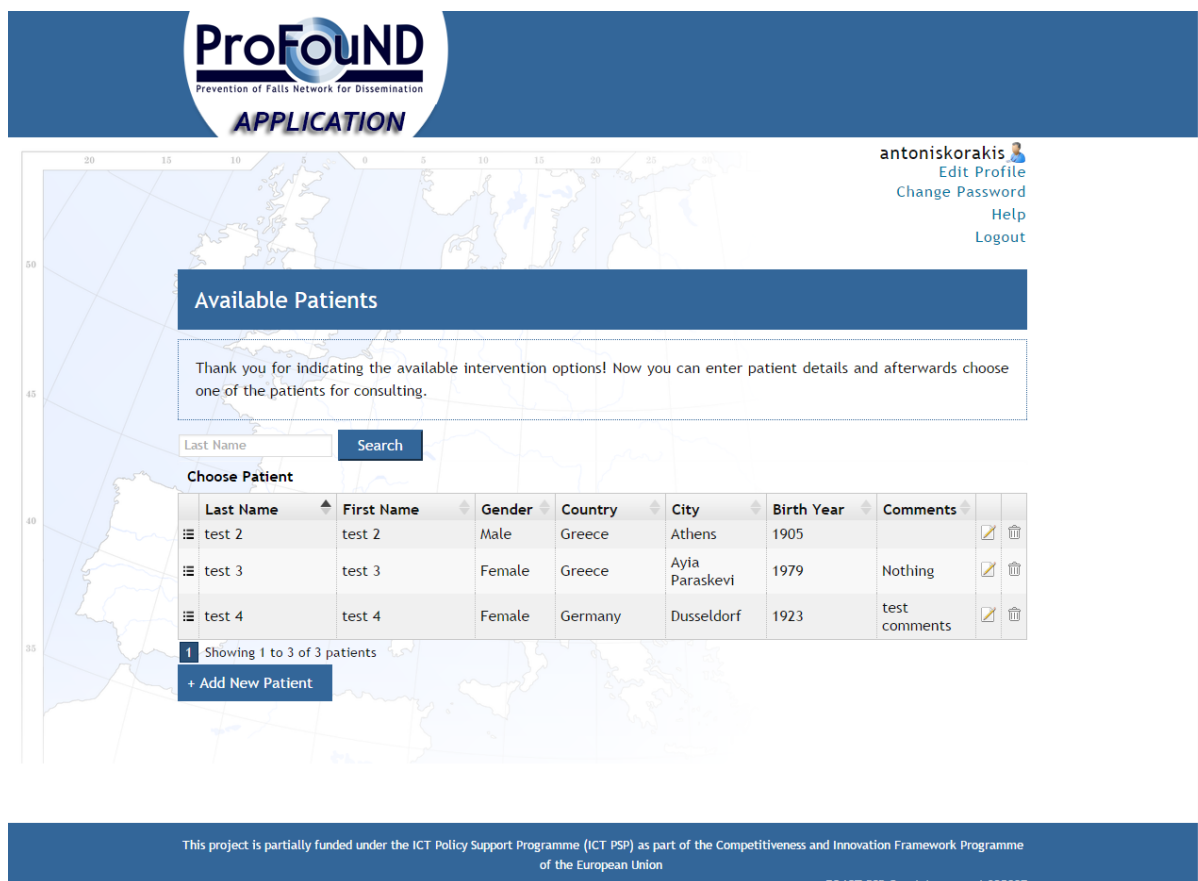


Figure 12: Main Application Screen

### 2.2.1 Add New Patient

To create a new patient record, the user has to click the “Add New Patient” button and fill all the details about the patient. The data that are needed are the first and last name, gender, city, country, and year of birth. There is also a field that enables the health professional to add any comments that could be useful, regarding each patient.

**ProFOUND**  
Prevention of Falls Network for Dissemination  
**APPLICATION**

antoniskorakis  
[Edit Profile](#)  
[Change Password](#)  
[Help](#)  
[Logout](#)

**Available Patients**

Thank you for indicating the availability of one of the patients for consultation.

Last Name:  Search

**Choose Patient**

| Last Name | First Name |
|-----------|------------|
| test 2    | test 2     |
| test 3    | test 3     |
| test 4    | test 4     |

Showing 1 to 3 of 3 patients

**+ Add New Patient**

Last Name:

First Name:

Gender:

Country:

City:

Birth Year:

Comments:

can enter patient details and afterwards choose

| City           | Birth Year | Comments      |
|----------------|------------|---------------|
| Athens         | 1905       |               |
| Ayia Paraskevi | 1979       | Nothing       |
| Dusseldorf     | 1923       | test comments |

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Figure 13: Add New Patient Form


## 2.2.2 Edit Patient's Data

Each patient's information can be edited by clicking the edit button that is placed next to the comments column.





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[Edit Profile](#)

[Change Password](#)

[Help](#)

[Logout](#)

Available Patients

Thank you for indicating the availability of one of the patients for consultation

Last Name  Search

Choose Patient

| Last Name | First Name |
|-----------|------------|
| test 2    | test 2     |
| test 3    | test 3     |
| test 4    | test 4     |

Showing 1 to 3 of 3 patients

+ Add New Patient

Edit Record

Last Name

First Name

Gender Male

Country Greece







City Athens

Birth Year 1905

Comments

Cancel Save

can enter patient details and afterwards choose

| City           | Birth Year | Comments      |   |   |
|----------------|------------|---------------|---|---|
| Athens         | 1905       |               |  |  |
| Ayia Paraskevi | 1979       | Nothing       |  |  |
| Dusseldorf     | 1923       | test comments |  |  |

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Figure 14: Edit Patient's Data Form

### 2.2.3 Delete Patient's Record

Users can delete patients' record by clicking the delete icon that is placed next to the edit icon. A confirmation dialog is being showed up to prevent patient's deletion by mistake.

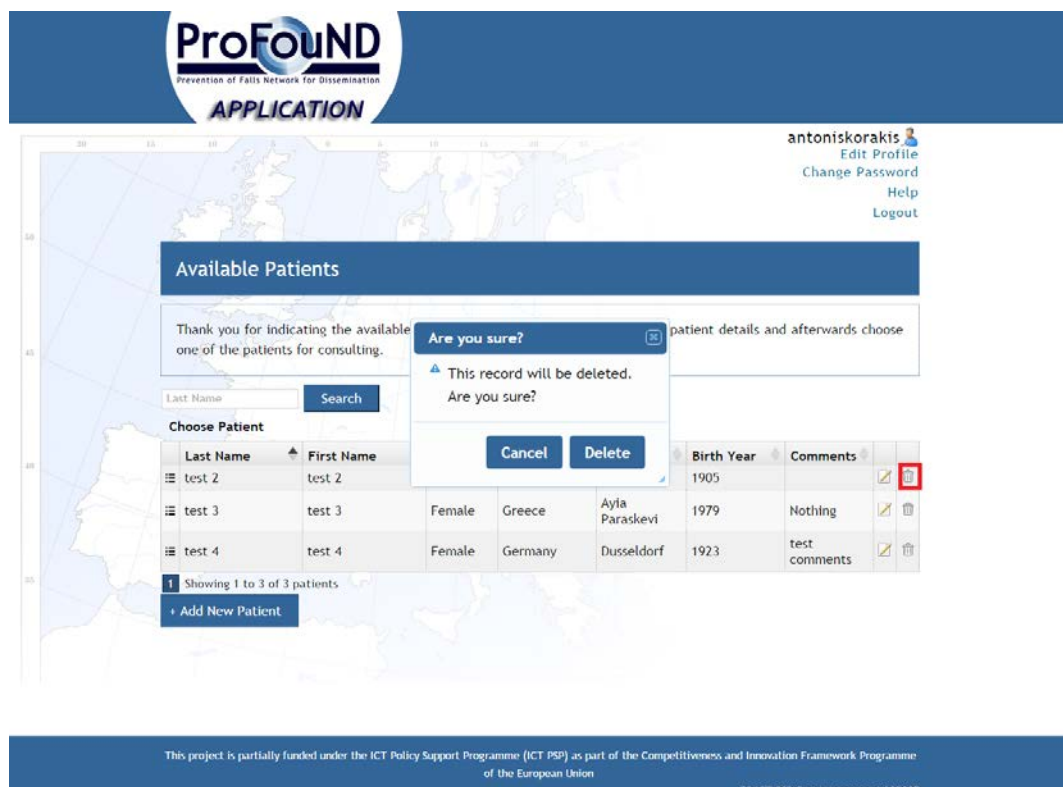


Figure 15: Delete patient's account confirmation dialog

## 2.2.4 Search Patient

Users can search patients by last name, using the search functionality. Filling the search field and clicking the "Search" button will filter the patients' list and show only the patients whose last name starts with the given characters.

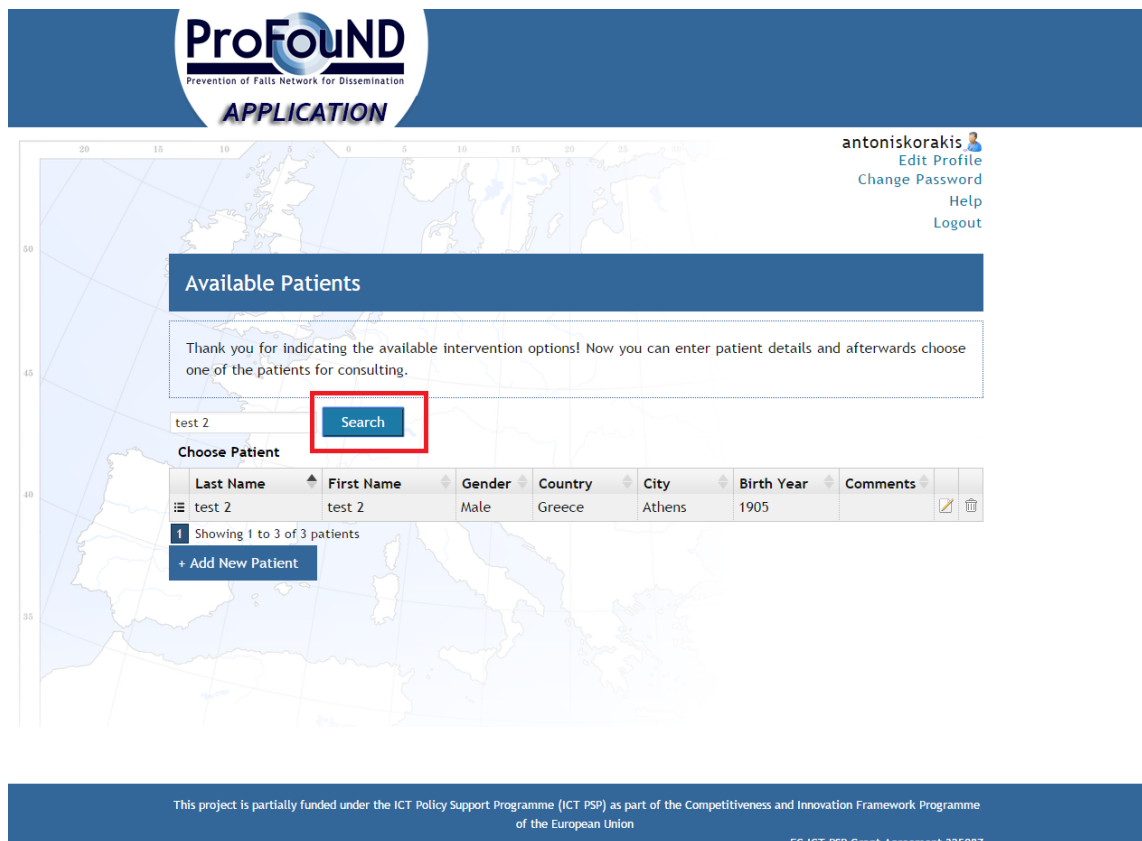


Figure 16: Search patient button

## 2.2.5 View Questionnaire history

The application allows the health professional to view the previous recommendations produced, for every one of the patients. The user can click the “View Questionnaire History” button that is linked with every patient and then, a list of all the previous questionnaires is shown. By clicking “Show Recommendation”, the corresponding leaflet is shown on the screen.

antoniskorakis

[Edit Profile](#)

[Change Password](#)

[Help](#)

[Logout](#)

Available Patients

Thank you for indicating the available intervention options! Now you can enter patient details and afterwards choose one of the patients for consulting.

Last Name

Choose Patient

| Last Name | First Name | Gender | Country | City           | Birth Year | Comments      |  |
|-----------|------------|--------|---------|----------------|------------|---------------|--|
| test 2    | test 2     | Male   | Greece  | Athens         | 1905       |               |  |
| test 3    | test 3     | Female | Greece  | Ayia Paraskevi | 1979       | Nothing       |  |
| test 4    | test 4     | Female | Germany | Dusseldorf     | 1923       | test comments |  |

test 4 test 4 - Questionnaire History

| Questionnaire  | Date       |  |
|----------------|------------|--|
| No Fall        | 2015-06-12 | <input type="button" value="Show Recommendation"/> |
| One Fall       | 2015-06-12 | <input type="button" value="Show Recommendation"/> |
| Multiple Falls | 2015-06-12 | <input type="button" value="Show Recommendation"/> |

Showing 1 to 3 of 3 patients

Figure 17: List of patient's questionnaires history

## 2.2.6 Edit Profile

An “Edit Profile” page is available, which allows the user to edit the personal information and the intervention options that had been submitted during the registration phase.

**ProFouND**  
Prevention of Falls Network for Dissemination  
**APPLICATION**

antoniskorakis  
[Home](#)  
[Change Password](#)  
[Logout](#)

### Required Information

Country \*  
Germany

City \*  
Bonn

Speciality \*  
General Physician

Language \*  
English

Logo Url  
http://www.vesselmedical.com/wp-content/uploads/2014/06/medical-supplies-online.jpg

[Submit](#)

\* Indicates required field

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Figure 18: Edit Profile Page

### 2.2.7 Change Password Page

The user can change his/her password anytime by selecting the option “Change password” on the top right of the screen. The new password must follow the same restrictions as the one provided in the registration phase, i.e. at least 5 characters, 1 capital letter, 1 number and one symbol, for security reasons.



*Figure 19: Change Password Screen*

## 2.2.8 Help

A help section is available to every user from the “Help” menu. It contains videos describing each of the application’s functionalities.

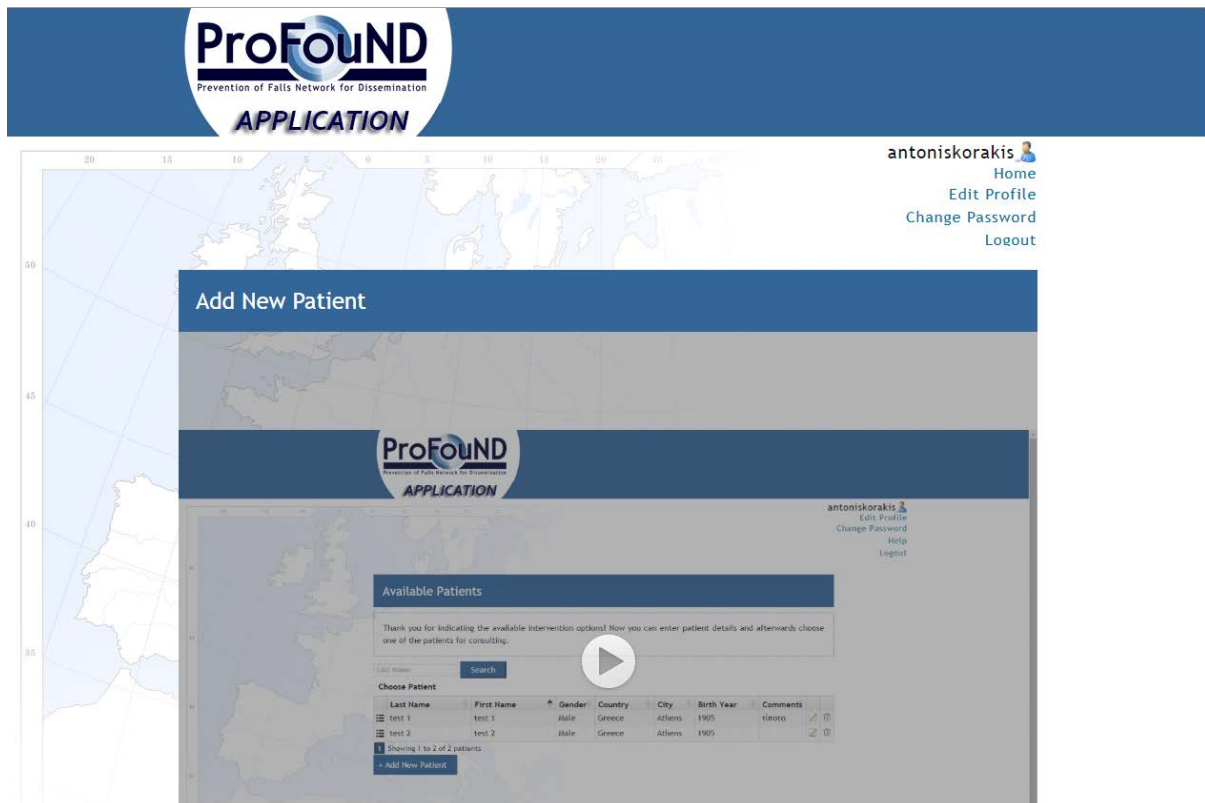


Figure 20: Help page

## 2.2.9 Logout

Users can leave the application by clicking the logout button and being redirected back to the Home Page.

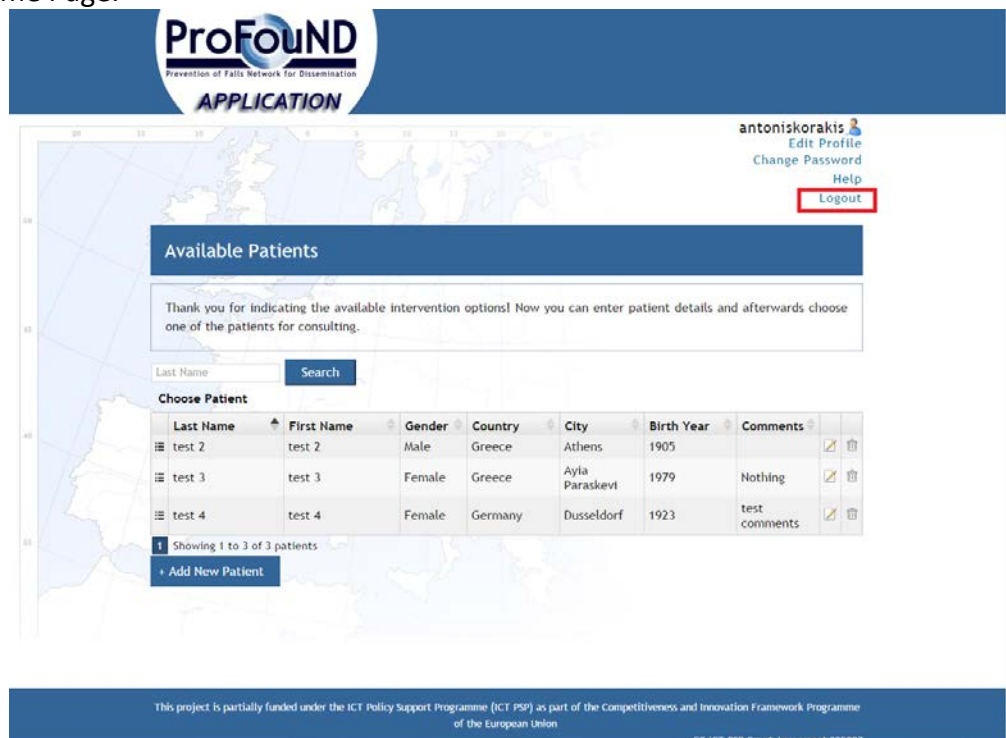


Figure 21: Logout

## 2.3 Available Questionnaires

In order to produce a recommendation leaflet, users have to select the type of questionnaire and answer the corresponding questions. There are four kinds of questionnaires, one for each fall scenario, that were used in the application's design process. The available questionnaires correspond to the No Fall, One Fall, Multiple Falls, and Injurious Fall(s) scenarios. Each of the questionnaires contains some questions that have to be asked to the patient or filled by the health professional after the patient does some tests. After filling the answers, a recommendation leaflet is produced that is given to the patient and provides tailored guidance, including individualised health management plans. There is a field which allows the health professional to input comments that will be added in the leaflet, making it more personalised and adjusted to the patient's condition.

The screenshot displays the 'Available Questionnaires' interface. At the top, a blue header reads 'Available Questionnaires'. Below it, a text box explains the selection process: 'Thank you for entering you patients and choosing one for consulting! First you have to select the "falls scenario", i. e. how many falls your patient has had in the last 12 months. Please use the following definition: A fall is "an unexpected event in which the participant comes to rest on the ground, floor or lower level" (Lamb et al. 2005)\*.' It lists four scenarios: 'No fall in the last 12 months ⇒ Choose "No Fall"', 'One fall in the last 12 months ⇒ Choose "One Fall"', 'Two or more falls in the last 12 months ⇒ Choose "Multiple Falls"', and 'At least one fall with a fracture in the last 12 months ⇒ Choose "Injurious Fall(s)"'. Below this, instructions state: 'After you have chosen the "falls scenario" you have to answer all questions being displayed. On the left side you see the questions you have to ask your patient. On the right side you have to choose the answer the patient had given.'

Below the instructions are four tabs: 'No Fall', 'One Fall' (selected), 'Multiple Falls', and 'Injurious Fall(s)'. The 'One Fall Questionnaire' is displayed. It contains the following sections:

- Please perform the following test:** 'Up And Go\*\*' with an 'Info' link.
- Your patient's test result:** A dropdown menu showing 'Patient has no abnormalities in transfer, standing or gait'.
- Ask your patient:** 'Are you concerned about falling?'.
- Your patient answers:** Radio buttons for 'Quite a lot / Considerable' (selected) and 'No / A little'.
- Ask your patient:** 'Would you like to exercise in a group or at home?' with an 'Info' link.
- Your patient answers:** A dropdown menu showing 'Group Exercise'.
- Comments:** A text area with the text '20 days of relax are proposed'.

Figure 22: Adding comments to the leaflet

### 2.3.1 No Fall Questionnaire

In case the patient has not fallen in the last 12 months the "No Fall Questionnaire" is selected by the health professional.



Available Questionnaires

Thank you for entering you patients and choosing one for consulting! First you have to select the "falls scenario", i. e. how many falls your patient has had in the last 12 months. Please use the following definition: A fall is "an unexpected event in which the participant comes to rest on the ground, floor or lower level" (Lamb et al. 2005)\*.

No fall in the last 12 months ⇒ Choose "No Fall"

One fall in the last 12 months ⇒ Choose "One Fall"

Two or more falls in the last 12 months ⇒ Choose "Multiple Falls"

At least one fall with a fracture in the last 12 months ⇒ Choose "Injurious Fall(s)"

After you have chosen the "falls scenario" you have to answer all questions being displayed. On the left side you see the questions you have to ask your patient. On the right side you have to choose the answer the patient had given.

No Fall

One Fall

Multiple Falls

Injurious Fall(s)

No Fall Questionnaire

Ask your patient:

Has your balance changed over the last 12 months?

Comments

Your patient answers:

Balance did not change or balance even improved ▼

Submit

Figure 23: No Fall Questionnaire

### 2.3.2 One Fall Questionnaire

In case the patient has fallen once in the last 12 months, the "One Fall Questionnaire" is selected by the health professional.

Available Questionnaires

Thank you for entering you patients and choosing one for consulting! First you have to select the "falls scenario", i. e. how many falls your patient has had in the last 12 months. Please use the following definition: A fall is "an unexpected event in which the participant comes to rest on the ground, floor or lower level" (Lamb et al. 2005)\*.

No fall in the last 12 months ⇒ Choose "No Fall"  
One fall in the last 12 months ⇒ Choose "One Fall"  
Two or more falls in the last 12 months ⇒ Choose "Multiple Falls"  
At least one fall with a fracture in the last 12 months ⇒ Choose "Injurious Fall(s)"

After you have chosen the "falls scenario" you have to answer all questions being displayed. On the left side you see the questions you have to ask your patient. On the right side you have to choose the answer the patient had given.

No Fall

One Fall

Multiple Falls

Injurious Fall(s)

One Fall Questionnaire

Please perform the following test:  
Up And Go\*\* [Info](#)

Ask your patient:  
Are you concerned about falling?

Ask your patient:  
Would you like to exercise in a group or at home? [Info](#)

Comments

Your patient's test result:  
Patient has no abnormalities in transfer, standing or gait

Your patient answers:  
☒ Quite a lot / Considerable  
☐ No / A little

Your patient answers:  
Group Exercise

Submit

Figure 24: One Fall Questionnaire

### 2.3.3 Multiple Falls Questionnaire

In case the patient has two or more falls in the last 12 months, the “Multiple Falls Questionnaire” is selected by the health professional.

Available Questionnaires

Thank you for entering you patients and choosing one for consulting! First you have to select the "falls scenario", i. e. how many falls your patient has had in the last 12 months. Please use the following definition: A fall is "an unexpected event in which the participant comes to rest on the ground, floor or lower level" (Lamb et al. 2005)\*.

No fall in the last 12 months ⇒ Choose "No Fall"  
One fall in the last 12 months ⇒ Choose "One Fall"  
Two or more falls in the last 12 months ⇒ Choose "Multiple Falls"  
At least one fall with a fracture in the last 12 months ⇒ Choose "Injurious Fall(s)"

After you have chosen the "falls scenario" you have to answer all questions being displayed. On the left side you see the questions you have to ask your patient. On the right side you have to choose the answer the patient had given.

No Fall

One Fall

**Multiple Falls**

Injurious Fall(s)

Multiple Falls Questionnaire

Ask your patient:

Do you have an eye disease?

Your patient answers:

Yes ▾

Ask your patient:

Do you take 4 or more different medications or medications acting on the central nervous system? [Info](#)

Your patient answers:

☐ 4 or more different medications  
☐ Medications acting on central nervous system

Please perform the following test:

Up And Go\*\* [Info](#)

Your patient's test result:

Patient has no abnormalities in transfer, standing or gait ▾

Comments

Submit

Figure 25:Multiple Falls Questionnaire

### 2.3.4 Injurious Fall(s) Questionnaire

Finally, in case the patient has fallen at least once with a fracture in the last 12 months, the Injurious Fall(s) Questionnaire is selected by the health professional.

Available Questionnaires

Thank you for entering you patients and choosing one for consulting! First you have to select the "falls scenario", i. e. how many falls your patient has had in the last 12 months. Please use the following definition: A fall is "an unexpected event in which the participant comes to rest on the ground, floor or lower level" (Lamb et al. 2005)\*.

No fall in the last 12 months ⇒ Choose "No Fall"  
One fall in the last 12 months ⇒ Choose "One Fall"  
Two or more falls in the last 12 months ⇒ Choose "Multiple Falls"  
At least one fall with a fracture in the last 12 months ⇒ Choose "Injurious Fall(s)"

After you have chosen the "falls scenario" you have to answer all questions being displayed. On the left side you see the questions you have to ask your patient. On the right side you have to choose the answer the patient had given.

No Fall

One Fall

Multiple Falls

Injurious Fall(s)

Injurious Fall(s) Questionnaire

Ask your patient:

Do you have an eye disease?

Ask your patient:

Do you take 4 or more different medications or medications acting on the central nervous system? [Info](#)

Please perform the following test:

Up And Go\*\* [Info](#)

Comments

Your patient answers:

Yes ▾

Your patient answers:

☐ 4 or more different medications  
☐ Medications acting on central nervous system

Your patient's test result:

Patient has no abnormalities in transfer, standing or gait ▾

Submit

Figure 26: Injurious Fall(s) Questionnaire

## 2.4 Recommendation Page

The Recommendation Page displays the recommendation leaflet that is produced, depending on the answers that were submitted for a particular patient. The leaflets have two columns, one that refers to the answers that were given and one that describes the produced recommendations. They also contain the health professional's logo if it is set on the "Edit Profile" page.

Below is an example of a recommendation produced for the No Fall case scenario:

**In the following you find the most important results of your assessment day:**

You reported...


...that you have not fallen during the last 12 months.

...that you have not experienced any changes in balance over the last 12 months


**Based on the results of our assessment day I would give you the following recommendations:**

To stay healthy or to improve your health, you need to do two types of physical activity each week: aerobic and muscle-strengthening activity. In a separate leaflet you will find some Physical activity guidelines for older adults

**Comments**



Robert-Bosch-Krankenhaus



ProFouND  
Prevention of Falls Network for Dissemination  
APPLICATION

Download

Print

*Figure 27: Recommendation Screen*

The user can print the produced leaflet to share it with the patient and also to export the leaflet to a word document. By exporting the leaflet to a word document, the health professional can customize the leaflet and make it more tailored to the patient. He/she can add pictures, adjusted to the patient's profile (e.g. gender etc.) and condition, update the recommendations based on the intervention options that are locally available, and add texts or information that could be useful to the patients. The final leaflet will then better reflect the person in question, e.g. a frailer older person exercising or a younger active person, distinction between male/female, etc.

### **3 PFNApp Backend**

The backend development of the application included the entire App's logic and the Web Services. The App's logic contains all the combinations of the different scenarios that are available and the different recommendations that are produced depending on each scenario. The production of a recommendation, based on the information that the user enters by answering the questionnaires, is a combination of data stored in the database and Web Services.

All the data that the application uses and produces, are stored in a MySQL database and are encrypted, using the AES128 encryption algorithm. Furthermore, the communication between the database and the application is only achieved via Web Services for security reasons, meaning that the database is not directly accessible (i.e. for running SQL queries) for others.

Web Services define a set of functional capabilities that clients can engage with the goal of realizing some application logic on top of ProFouND data. In this sense, the Web Services form an Application Programming Interface (API).