**AMBIENT ASSISTED LIVING JOINT PROGRAME**

**senior** ludens

**AAL-2013-6-039**

# SeniorLudens

*Serious Games development platform for older workforce training and intergenerational knowledge transference*

# D3.4
# SeniorLudens platform (1)

| | |
|---|---|
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# Abstract

This document aims to detail the available features deployed in SeniorLudens Platform. This platform is the cornerstone of the SeniorLudens system because it aggregates all the modules providing the unique gateway to interact with the users.

The present document is considered the user manual to each one of the iterations of the agile cycle which defines the work done during the SeniorLudens lifecycle. In particular, this document refers to the first development phase.

# 1- SeniorLudens Platform

SeniorLudens Platform is in charge of providing the adequate mechanisms to organize and agglutinate all the elements developed inside the SeniorLudens project scope. These elements can be divided into two main groups: those related with the game creation, and the ones related with the management and access to the whole platform. The SeniorLudens platform intends to fulfil the latter.

The platform includes visual interfaces to the features oriented to manage the private Platform Instances whose ownership is on the owner organizations. These private platform instances are deployed inside the SeniorLudens general platform, but provide an independent access to the organizations, their contents (the Serious Games) and their users.

Besides the features related with the organizations, the platform also works as main interface between the players or Trainee users and the Serious Games. This access is got by the Trainee Portal, which provides an alternate access apart from the management portal.

To sum up, the SeniorLudens Platform administers three different portals to access the system:

- **Management Portal**: It integrates all the views and features involved in organization and user management as well as providing the access to the tools related with the Serious Games creation (SeniorLudens Game Engine).
- **Trainee Portal**: This website grants the access to players in the system, enabling them to play the Serious Games. At the same level, it integrates the social network which supplies the access to communication channels between users and organizations.
- **Public Portal**: This portal is available to users who are not logged in the platform. It shows the public and playable Serious Games in the platform, but they cannot be played because it is required to have an user account in order to provide a suitable tracking on the game results to maximize the absorbtion of the goal learning objectives. It has been developed to maximize the engagement of new users in the SeniorLudens solution.

## 1.1- Server

The SeniorLudens Platform is deployed, in this first development cycle, in the staging platform created by taking advantage of the PaaS solution Heroku[1]. The url is located at: http://seniorludens-pre.herokuapp.com.

This location is under continuous development because of the agile development process, so it is updated frequently with new features and corrections following the Continuous Delivery approach applied in the project.

The Platform intends to give access suitable to a broad set of devices: computers, tablets and smartphones. This motivation based on the user requirements extracted in WP1, has justified the utilization of responsive web solutions.

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[1] www.heroku.com

### 1.1.1- Requirements

The Server is accesible without relevant requirements, as it is a web application. Any common browser relatively updated is able to operate with the SeniorLudens Platform. However some browsers with a slower rate update roadmaps like Internet Explorer may experience some sections of the Platform with a different visualization on how was initially designed.

## 1.2- Management Portal

The management portal provides the access to the features related with user management, game management and organization management in the SeniorLudens platform.

Following the next points we are going to cover the whole functionality deployed in the management portal.

### 1.2.1- User access

The platform includes a security system based on Spring Security[2] by means of which the access control is established using a generic username and password method.
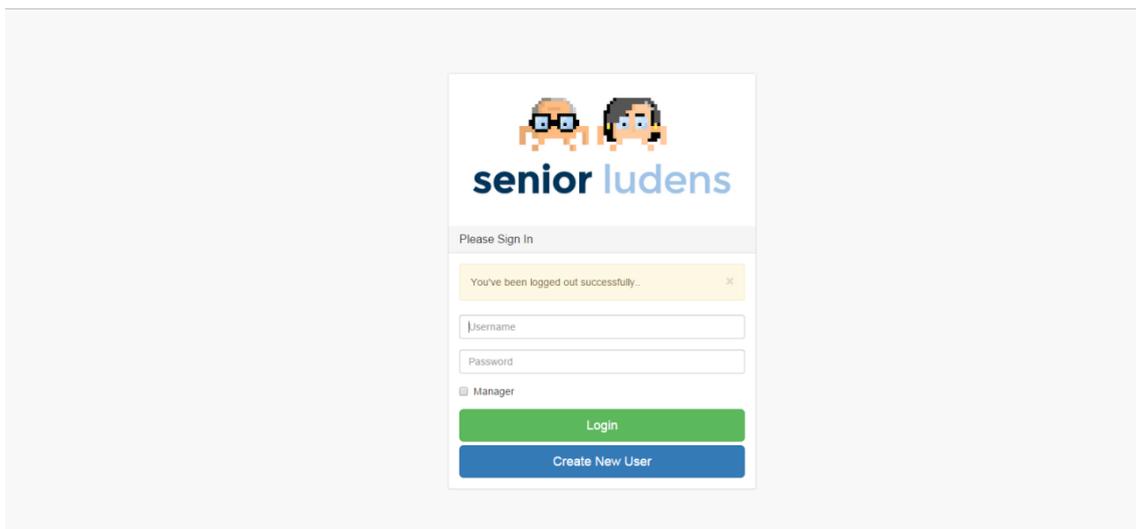


**Figure 1 Login in Management portal**

The view guides the users by placeholder messages and error messages notifying them about the status of their accounts in the system, and advising them about the possible problems occurred during the login procedure in the system.

This view includes a checkbox named 'manager'. By ticking the box, the users are expressing their desires to log into the system and access in the management portal.

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[2] http://projects.spring.io/spring-security/

Apart from the Login view, it is provided a register web feature, which enables the users who are not registered in the system, to sign up in it. By registering, the new users have granted access to Trainee Portal, just to play and interact with the free and public games. The organization and the responsible users in each organization are in charge to provide the management roles to the users, by means of which this recently created user will have access to the Management Portal.
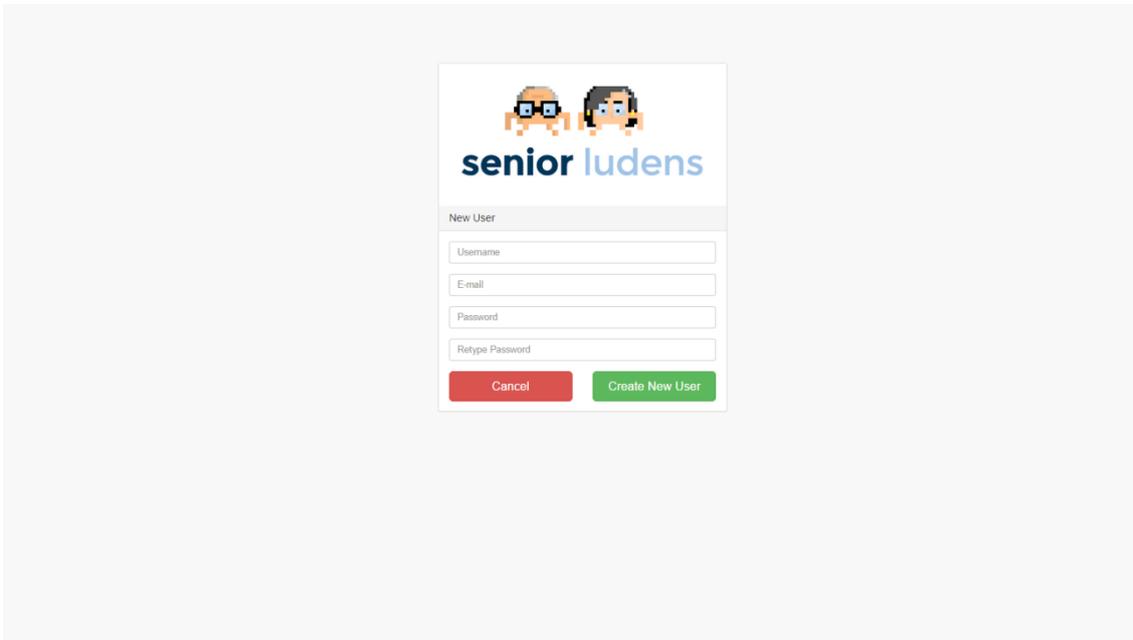


**Figure 2 Register new user view.**

The required fields required to create new users have been limited to the very minimum in order to induce the new users to test the platform, the system and the deployed Serious Games. In the current version it is only included as mandatory fields: the username by which the user will log in into the platform, the email, which will be used to recover the password features (this feature will be developed in next releases), and the desired password, which is requested twice in order to reduce any keyboard mistakes while the users are typing. The password must be greater than 4 to guarantee a minimum level of security in the accounts of the system. It is important to highlight that the passwords are not stored in plain text in the system, but in hashed format to reduce the visibility by attackers.

## 1.2.2- Dashboard

After the users log in into the Management portal, they visualize the dashboard view. This view is considered the main view in the management portal. It provides general information about the organization, like the games deployed, the users registered in the organization and the messages related the organization in the social network. It provides direct shortcuts to the most used features.

It intends to show a review graph with the aim of summarizing the status of the Serious Games deployed in their organization. The figure shows the information about the number of Trainees playing the Serious Games deployed in the organization. In this release the graph has not been developed, reason why the information included has been simulated to show the future functionality.

**Figure 3 Dashboard**

## 1.2.3- Helper menus

On Management Portal are visible two main helper menus which guide and support the users over all the available features.

### 1.2.3.1- Top helper menu

This menu is intended to supply the direct access to manage some additional functions (from right to left):

- **Own user management**: This dropdown menu includes three main features access.
  - User profile: By selecting this option, the user will visualize a view in which he will be able to update the information about his own user profile. It will be detailed in the User Profile sub section.
  - Settings: This option provides access to the users to modify the configuration of the Management Portal for their own users. It has not been developed yet, but it will be included in the future releases.
  - Logout: This option closes the current user session in the SeniorLudens platform. After this, the users are redirected to the login view to validate again if they want to. After clicking on this option the user information is removed from the session, and the user will not have access to any view or feature until he log in again in the system.
- **Messages**: This dropdown menu shows the last messages sent to the current user or organization. These messages can be originated from other users, like for example in the social Network, or be related to the internal workflows based on user roles integrated in the game management. In some sense this menu can be seen as an alerts menu.
- **Organizations**: This dropdown menu shows all the organizations in which the current user has a management related role. By selecting any of the  organizations in the list, the user changes the platform to operate only over his selection. After clicking over the desired organization, the user is redirected to the desired organization dashboard, which confirms to the user the change in the current organization being managed in the system. The menu shows a brief review on the users and games included in each one of the available organizations to support the user in his selection.
- **Add organization**: This button permits the user to access to the creation of a new organization.
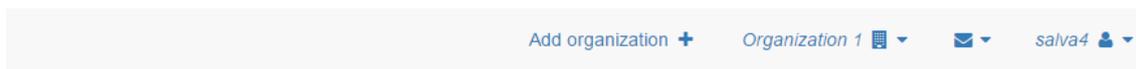
**Figure 4 Top Helper menu in Management Portal**

## 1.2.3.2- Side functions menu

This menu in contrast with the top menu is mainly oriented to provide access to the users to the major tools in the overall SeniorLudens system.

It supplies access to the following features (from top to bottom):

- **Dashboard**: It is the shorcut to access the dashboard of the organization selected by the user (by using the top menu feature).
- **Games**: This option provides access to the users to visualize the current Serious Games catalog.
- **Profile**: This option redirects to the organization management. It is a dropdown menu which includes access to the organization profile, payments and financial information.
- **Users**: It provides access to manage the user roles in the organization. By using this option it is possible to grant permissions to other users in the organization. Only users with required permission in the organization has access to modify this functionality.
- **Reports**: It shows the reports of the selected organization in SeniorLudens Platform. It has not been developed yet, but will be integrated in the next releases.
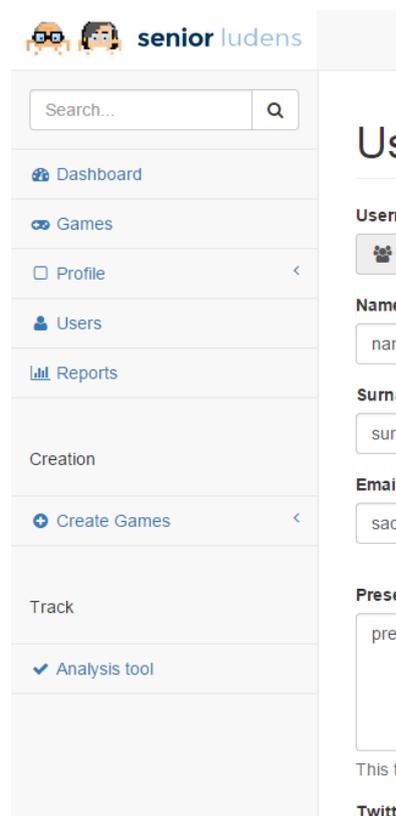


**Figure 5 Side helper menu in Management Portal**

## 1.2.4- Organization Management

The organization management features are accessible through the side helper menu by clicking on profile dropdown menu, except for the organization creation that is located in the top helper menu.

The user logged in the system (with the required role to administer the organization) can change the current organization (if the user has management roles on more than one organization in the system) by selecting the desired organization in the dropdown menu in the top helper menu.



**Figure 6 Selection of the desired organization**

The organization management includes a set of possibilities in the SeniorLudens Platform: create new organizations, update the organization profile, manage the financial data and manage the billing plans and payments. The payments tracking, billing plans and financial data have not been developed in the current release but will be included in the next development iterations.

### 1.2.4.1- Organization creation

A logged user with the required role is able to create new organizations in the system. These new organizations must be verified by the SeniorLudens Platform Manager in order to accept them. This acceptance will be included as an alert for the internal messaging service. However, as the alert system has not been covered in the first iteration, the organizations are created automatically after providing the required data. This process will be updated in the next release.

The required data on the creation of new organizations are: the organization name, the short description that will be visualized by the users; the long description, which will be visible from the public organization profile in the system; and additional information like the image, website url and twitter account.
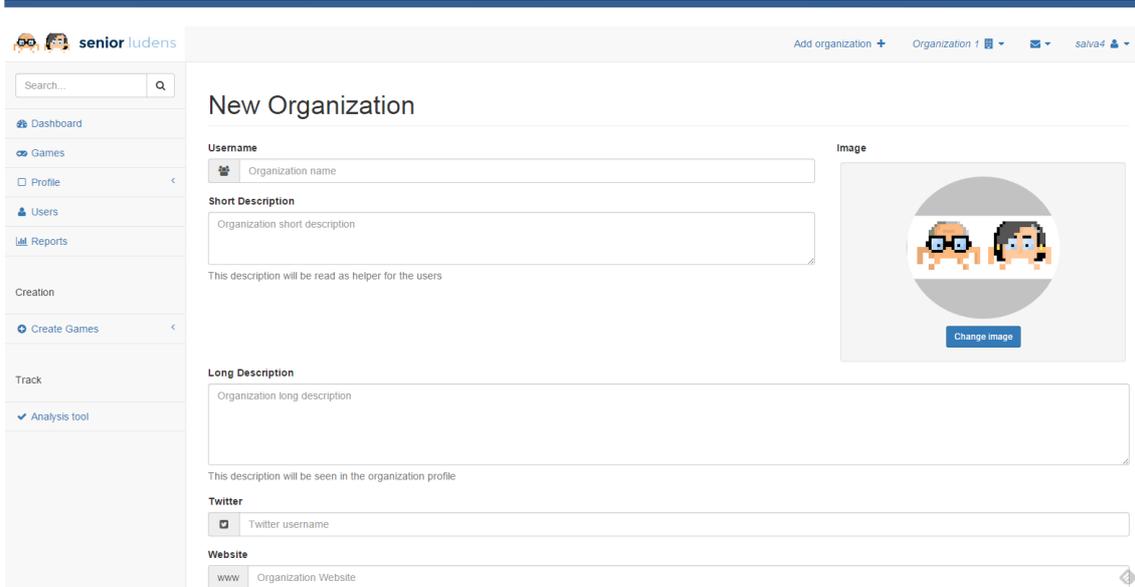
**Figure 7 Create new organization**

After the approval of the organization, it can be visualized by the user who created it, in the organizations dropdown menu in the top helper menu. This new organization will grant automatically the role of Platform Manager to the user. This role can be deleted only by the responsibles of the SeniorLudens System with role SeniorLudens Manager (SLM).

## 1.2.4.2- Organization profile

Any user with role Platform Manager (PM) in the selected organization is able to update the organization profile information. For the sake of simplicity in the updating process, are used the same fields than are used in the organization creation.
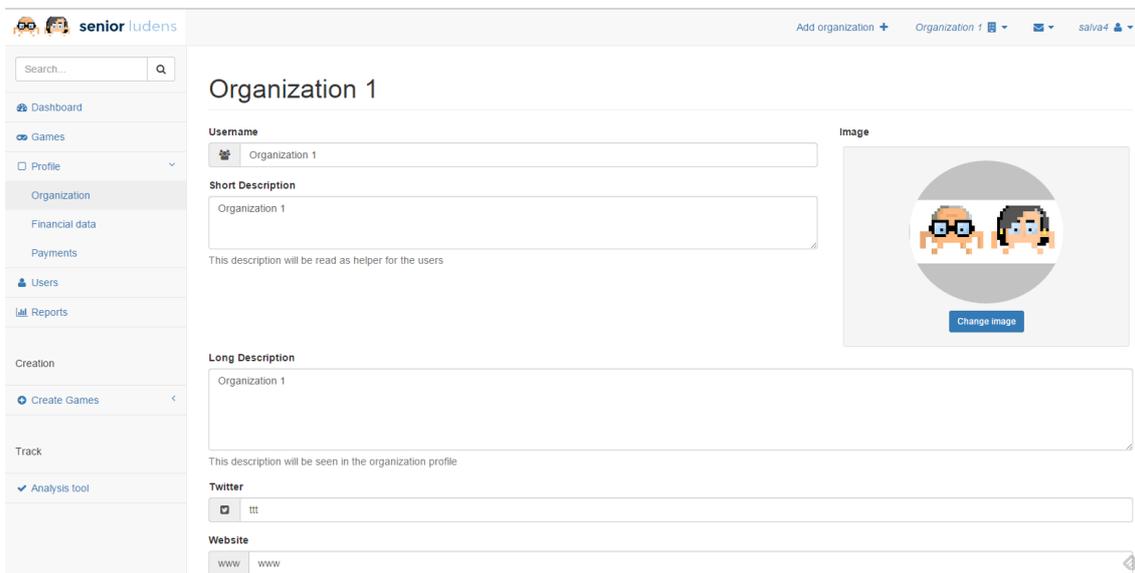


**Figure 8 Update organization profile**

After the user changes the information about the organization it is visualized a confirmation message notifying the user that the change has been performed on the selected organization.

## 1.2.5- User Management

The user management comprises two main features in the administration portal depending on the specific scope in which the user operates.

It is possible to modify and visualize the own user profile of the user that is logged in the system, and from the other side it is possible to include new user roles in the selected organizations.

### 1.2.5.1- User Profile

The own user profile is accessed by clicking the option user profile in the top helper menu. All users has access to modify the own profile, so there is no needed any specific role at this stage.
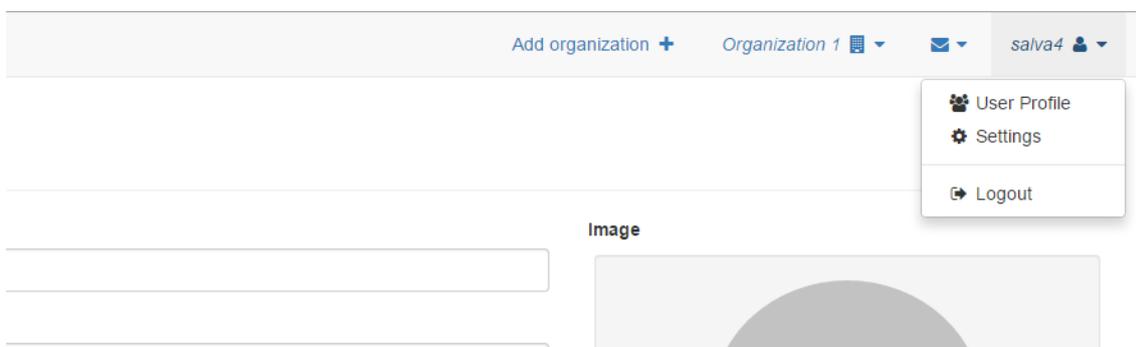


**Figure 9 General dropdown menu**

After clicking the option, the user can visualize the user profile information. The form included in the view includes the fields:

- **username**; this is the username of the user in the system. It cannot be changed.
- **Name & Surname**: This information is required to manage individual payments. The individual payments feature has not been covered in the present release, but will be included in the following.
- **Email**: The email of the user. This email address will be used to change the forgotten password in the password recovery procedure.
- **Image & Presentation**: This is a short description about the user with the objective of showing this information in the social network.
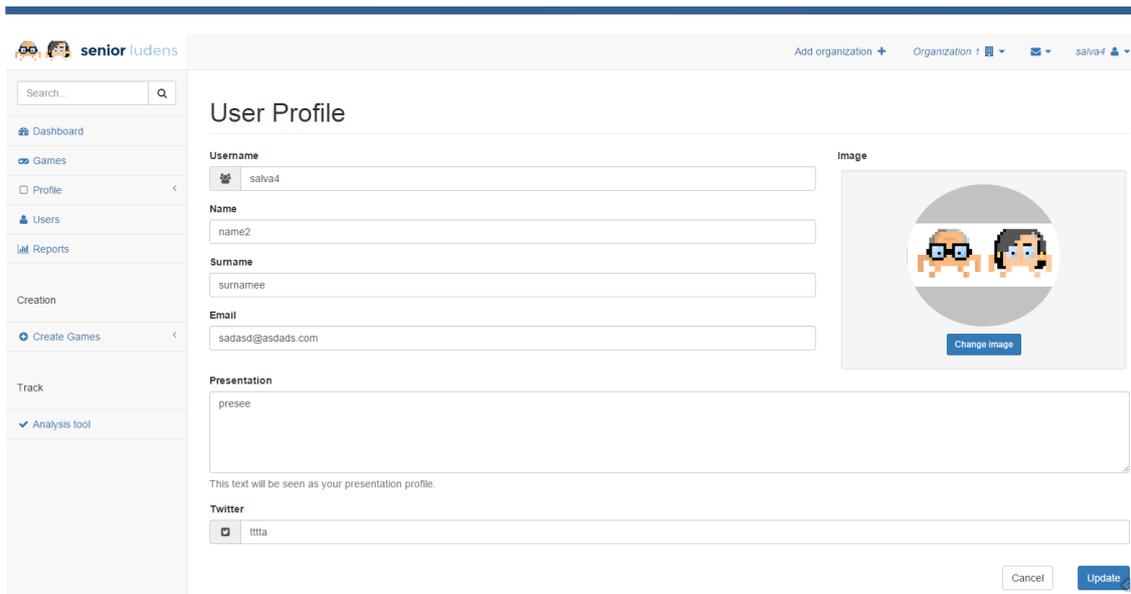- **Twitter**: The user's twitter account.

**Figure 10 Update User Profile**

## 1.2.5.2- User Roles in organization

The management of user roles in organization is accessible through the side helper menu by clicking on the option users. It is only accessible to users with PM role in the selected organization.
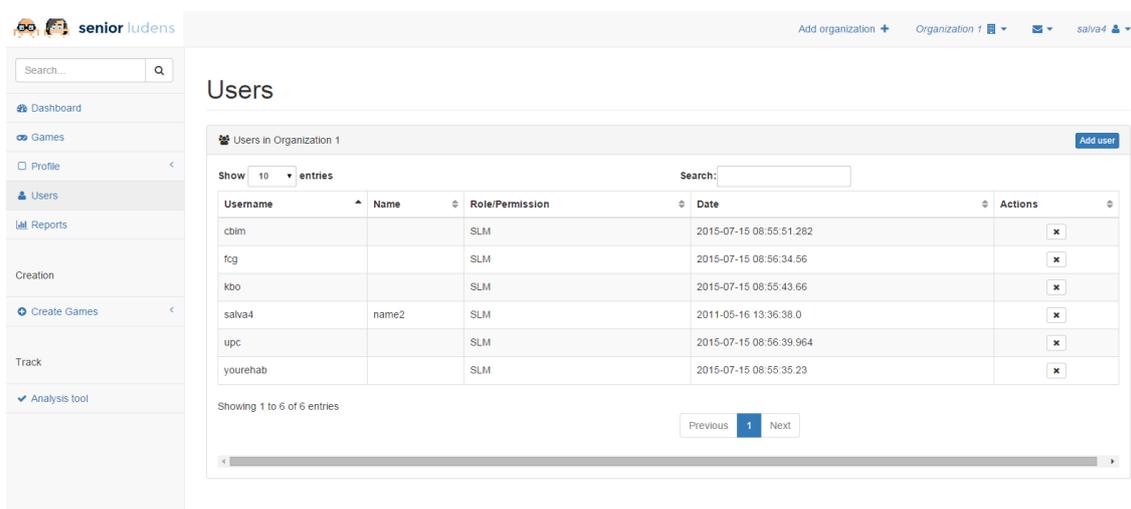


**Figure 11 Management of users in the organization**

The user can add new users in the organization with the different roles available in the SeniorLudens Authorization schema. It is important to grant only the needed roles to the specific users because these roles are attached to rights and accesses to features in the system.

Any user in the system can have any role (even more than just one) in the same organization. Each one of the roles is displayed as a single row in the table. The user can also remove roles to the users by clicking the x button at the end of each row. To finally delete the role it is needed to confirm the deletion in a confirmation popup message.

The table is paginated to provide good visualization of the data. Besides it can be arranged by any of the column fields. The user can also search for the information included in the table, to ease the access to the specific role or user that he wants to visualize.

All changes done in the user roles in each organization are tracked to provide audit information.

# 1.2.6- Game Management

The game management in SeniorLudens Management Portal is integrated in a single element located in the side helper menu under the option Games.

It is in charge of visualizing the games available in the selected organization. Besides it provides additional actions to alter the status of the games in the SeniorLudens System.

## 1.2.6.1- Game catalogue

Although all users with management role has access to visualize the game catalogue, not all users has the same permissions on the actions associated with the individual games (E.g only Game Designers, GD, can publish&unpublish a game).

The game catalogue shows all the games created in the selected organization. Each game responds to a state flow that covers from its creation to the final publishing in the organization. The current state of each game can be checked in the bottom part of the game panel. This information is attached to the game version that is in the system.

Apart from the game title, image and description, each game includes a dropdown menu in the top of each individual panel. This menu includes actions to:
- Visualize the game details
- Create new game versions
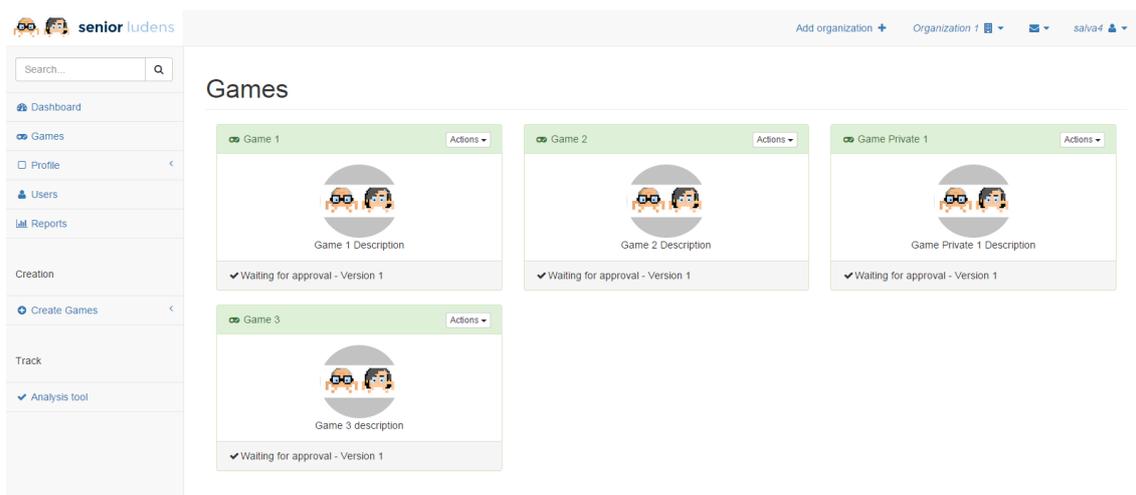- Accept the game (Publish it in the organization)
- Unpublish the game



**Figure 12 Game Catalogue**

## 1.2.7- Integration with other elements in SeniorLudens system

SeniorLudens Platform integrates all the elements involved in the SeniorLudens project. The main essential integration is related with the SeniorLudens Game Engine, which is the system in charge of the game definition based on the premises of SeniorLudens Game Kit.

The connection with the tools involved in SeniorLudens Game Engine is located in the dropdown menu Create Games in the side helper menu. These links manages the Game Creation Chain.

### 1.2.7.1- Game Creation Chain

The game creation chain is considered as the required procedure to create a new game in the system. It is deemed as the consecution of four incremental steps: world definition, scenario definition, tasks definition and training plan definition.

By following this procedure, it is integrated inside the side menu some shortcuts to each one of these phases: Create Scenario, Create Task and Create Training Plan that will provide the access to Scenario Editor Tool, Task Editor Tool and Training Plan Editor Tool respectively. In this release the connection with these tools has not been fully accomplished but will be completed in the next releases.
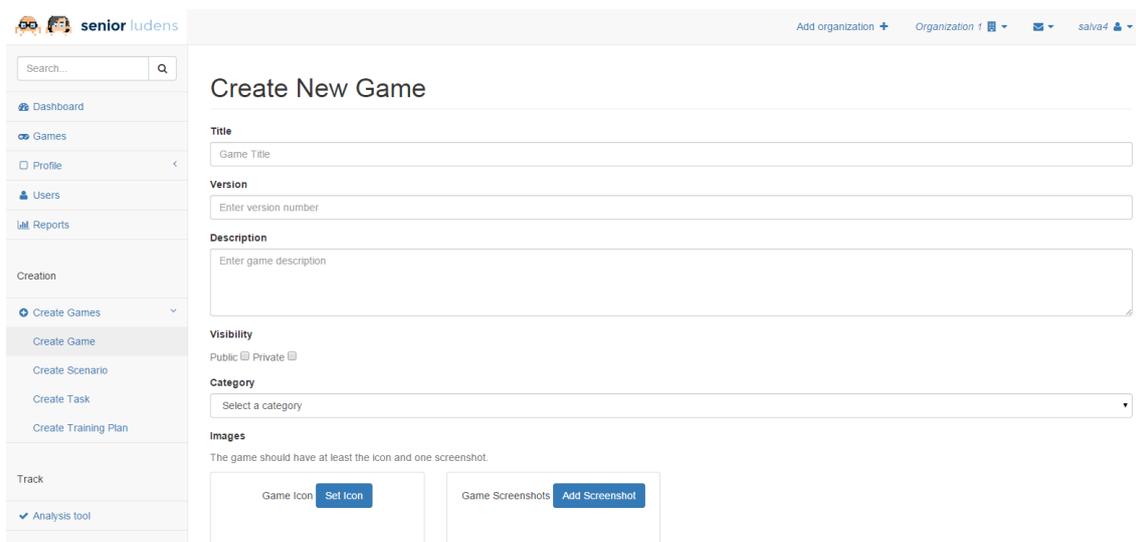


**Figure 13 Create new game**

After completing the different steps defined in the SeniorLudens Game Engine, the user must complete the Create Game form, which provides to the system the information needed to include the Serious Game in the organization. The fields are the following:

- **Title**: The game title
- **Version**: The game version. This field is highly important when the organizations want to update the existing games.
- **Description**: The game description.
- **Visibility**: It is here where the user specifies if the game is public or limited to the selected organization and its users.
- **Category**: The game category where the game fits in.

- **Game Icon & screenshots**: These images serve to inform the user about the game before playing.
- **Descriptors**: These panels refer to each one of the file descriptors needed to create the game uniquely in SeniorLudens Game Engine (World, Scenario, Task and Training Plan).

When the user has completed all the fields, the game is created in the game catalogue. However the game is in the state under approval, therefore it will not be published until GD user in organization accepts it.

### 1.2.7.2- Analysis tool

The Side helper menu offers access to Analysis Tool which is the tool used by the Trainers to check the advances of the Trainees in the games included in the organization. This tool has not been covered in this release so it is not integrated yet in the SeniorLudens Platform.

# 1.3- Trainee Portal

The Trainee Portal is the web access to SeniorLudens Platform for the player user. Any user who wants to play the Serious Games deployed must use this portal.

The users can play the public and free games as well as the games deployed in the organizations to which the user belongs.

## 1.3.1- User access

In the same way than detailed in Management portal, the user must login into the system. However to login into Trainee portal must leave unchecked the Manager checkbox.
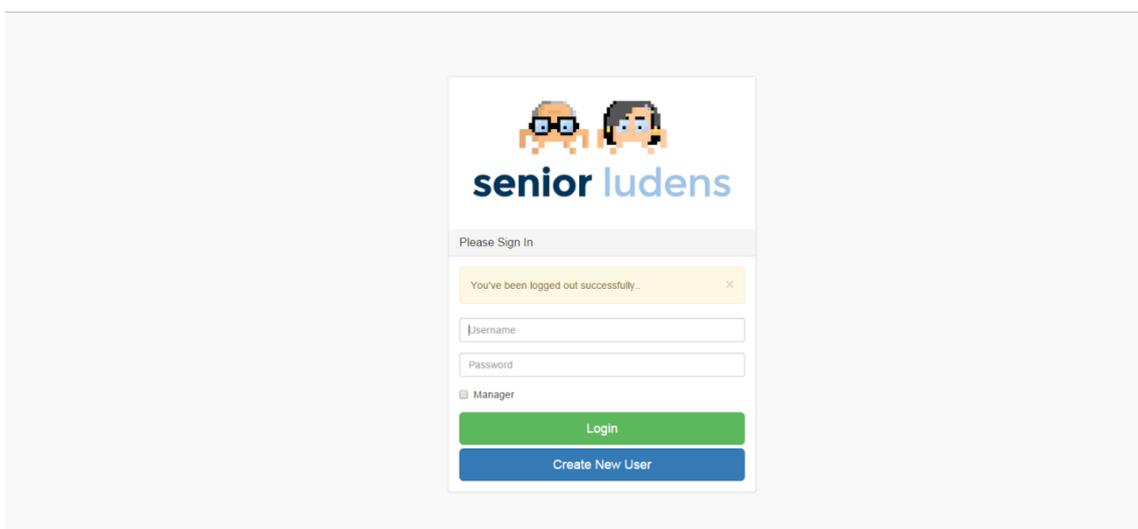


**Figure 14 Login in Trainee Portal**

A new user register in the system, only can access to the Trainee portal.

## 1.3.2- Dashboard

The Trainee Portal dashboard is mainly the Game Catalog as it is considered the main element in this web. This catalog will be explained in the next sections.

## 1.3.3- Helper Menus

This portal is organized with the same menus commented in the management section, but in this case the provided functions are limited.

### 1.3.3.1- Top helper menu

The top helper menu shows a limited functionality adapted to the Trainees. It provides the following elements:

- **Own user management**: This dropdown menu supplies the same elements explained in the case of Management Portal with the main difference of the settings option in where the configuration only applies to the current portal. The settings view has not been developed in this release, but will be included in following ones.
- **Messages**: This dropdown menu aims to show the alerts in the system regarding the Trainees. The nature of these alerts is radically different than those detailed in Management Portal, as these alerts will be focus in game results and Social Network messages.
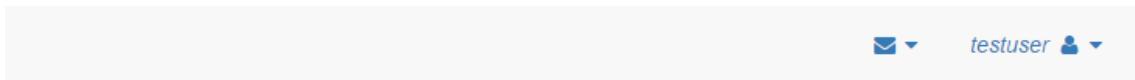
✉ ▼          testuser 👤 ▼

**Figure 15 Top Helper menu in Trainee Portal**

### 1.3.3.2- Side helper menu

The Side Helper menu integrated in the Trainee Portal intends to provide a direct access to the common tools included in the portal. These tools are mainly linked with the Social Network and the tools in charge of tracking the results of the users in the Serious Games. The available options are the following:

- **Games**: This option shows the game catalog. This view is considered the dashboard in Trainee Portal.
- **My Games**: This option visualizes the list of the played Serious Games. It provides access to check the results and advances achieved in each game. This view has not been completed in the current release.
- **My network**: It links the Trainee Portal with the social network of the user, where they can check the messages, timeline and news feed. The connection has not been developed in the current release.
- **My friends**: It links with the friend list available in the social network. The connection has not been developed in the current release.

## 1.3.4- User Management

The Trainees can visualize and update their user profile by selecting the option in the top helper menu. The profile has the same information shown in the Management Portal, in which all fields are editable with the exception on the username.
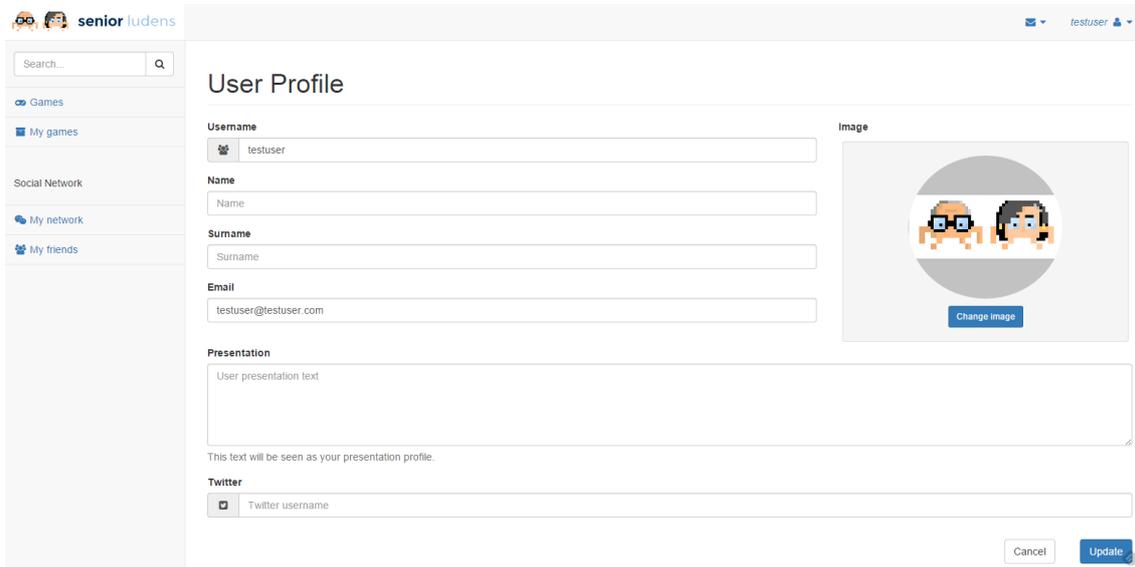


**Figure 16 User profile in Trainee Portal**

## 1.3.5- Game Catalogue

This view is deemed the main view in Trainee portal as it shows the list of available Serious Games for the user. Each Serious Game is encapsulated in its own panel in the list. This panel includes the game title, the game image and the game short description.

The user can load the game details by selecting the desired game. This detail view will let the user play the game and will show the whole information about the game and about the results that the user has achieved in the game in case the user has played before with it. It will include the messages from the Serious Game Trainer user. This view has not been integrated on this release.
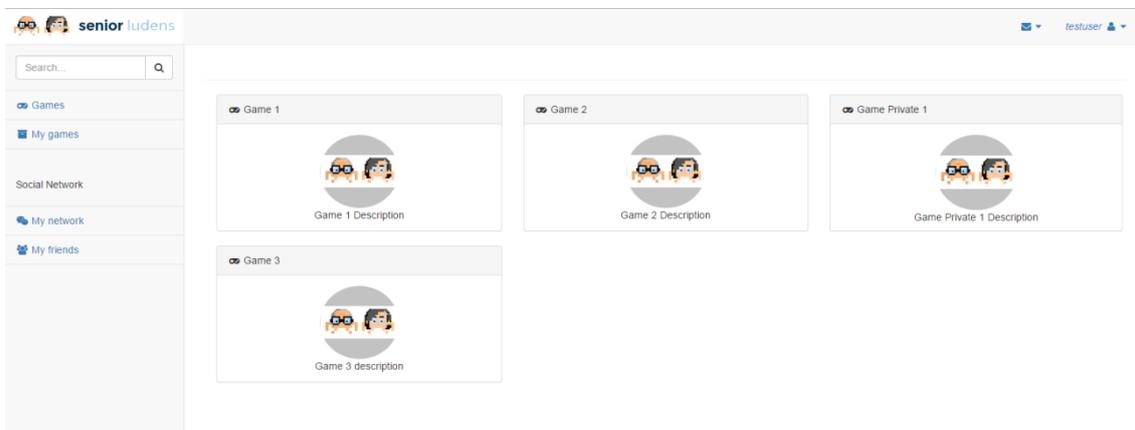


**Figure 17 Game Catalogue in Trainee Portal**

### 1.3.6- Social Network

The social network is a very relevant module in Trainee portal, after the Game Catalogue, because it provides the features to connect the users to the rest of the SeniorLudens Community. This community is composed by other players, editors, organizations and even the Serious Games (the games will have a profile inside the social network). By using this social network the users will share updates in the games and messages with the other players and editors in the system. Besides, it can be considered as the main feedback channel between the users and the SeniorLudens System. The social network has not been fully developed and it is not integrated in the current release.

## 1.4- Free Portal

This portal can be considered as a variant version from the Trainee Portal. It provides access to any not logged user to visualize the public Serious Games. This portal does not let the users play the Serious Games because the user information is required to track the learning objectives collected by the users with the games. However the users can interact with the games and check their details and learning objectives from the descriptions.

# Figures and tables

# Acronyms

| Acronym | Explanation |
|---|---|
| SL | SeniorLudens |
| SLGK | SeniorLudens Game Kit |
| SDK | Software Development Kit |
| TE | Task Editor |
| SLM | SeniorLudens Manager |
| PM | Platform Manager |
| GD | Game Designer |