Private Public Partnership Project (PPP)

Large-scale Integrated Project (IP)

D11.5.1: Community Building and Engagement Platform

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1.1　Executive Summary

This report is the accompanying document for the first prototype of Campuse.ro, FI-WARE's "Community Building and Engagement Platform". The report briefly describes the main requirements, functionalities and characteristics of this first prototype, and gives clear ideas for the future steps in the development process of Campuse.ro. Special attention has been paid to distinguish between the features created before FI-WARE and within FI-WARE.

In this part of the project, we contemplate three successive deployments of the Campuse.ro platform, starting with this very prototype and progressing into January 2014 and April 2014, when the final version will be ready.

1.2   About This Document

This report is the accompanying document for the first prototype of Campuse.ro. The document briefly describes the main requirements, functionalities and characteristics of such prototype.

1.3   Intended Audience

The document targets all types of stakeholders interested in the FI's possibilities as a business and as communities' catalyzer, with special focus on developers, web entrepreneurs and SMEs.

1.4   Acknowledgements

The current document has been elaborated using a number of collaborative tools, with the help of ATOS as leaders of the exploitation tasks of the project, and TID as Project Coordinators.

1.5   Keyword list

Developer, Web Entrepreneur, Venture Capitalist, SME, Community, Geek, Web Portal, Talent Search, Registration, Tags and Permits, End-users, FI-WARE, PPP, Architecture Board, Steering Board, Roadmap, Reference Architecture, Generic Enabler, Open Specifications, Developers Community and Tools, ICT.

1.6   Changes History

Release	Major changes description	Date	Editor
v0.7	First draft of deliverable, submission to ATOS and TID	2013-10-09	Javier de Vicente, Raúl Sánchez (FNE), Carlos Caicedo, Leonardo Santiago, Juan Carlos Castellanos (FNE Colombia)
V0.81	Improved version	2013-10-16	Javier de Vicente, Raúl Sánchez (FNE), Carlos Caicedo, Leonardo Santiago, Juan Carlos Castellanos (FNE Colombia)
V0.82	Final version	2013-10-17	Javier de Vicente (FNE)

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2   Introduction

Ever since the first Campus Party in the late nineties, strong support has been given for the development of a community that, at the time of writing, has exceed 300,000 "campuseros": fanatics of Internet, digital culture and experts in many branches of ICT knowledge. These individuals are from 130 different countries, from Spain to Mexico, and Germany to Brazil and many of them are attendees of the Campus Party events.

The idea of Campuse.ro is in fact very recent. Campuse.ro, as a concept, was born in 2012 with the objective of delivering a digital platform for strengthening and fostering the network of knowledge that was, and is, already present in the minds of the community. Making this knowledge continuously available – and not only during the Campus Party events – usable and useful for other individuals or organizations is the goal of Campuse.ro.

By entering the FI-WARE consortium, a huge opportunity for extending this vision, making it real and connecting it to the scientific world has been given to us. Our challenge now is to reach the developers, entrepreneurs and researchers and engage them in the FI-WARE ecosystem

By delivering Campuse.ro, we expect our users to be able to get in touch with other individuals and organizations with technological interests alike while at the same time promoting contents, activities and talent-search for future tasks and developments on top of the FI-WARE architecture.

Figure 1. Campuse.ro Logo

When all functionalities are in place, a great experimental environment for promotion, cooperation and business development will be ready, gathering thousands of strategic players (developers, creative minds, internet leaders, opinion leaders, bloggers, social media influencers, entrepreneurs, start-ups, big companies, public institutions, media, universities etc) that will contribute to create and support dynamic ecosystems around the FI-WARE results.

The current status of Campuse.ro can be checked at http://campuse.ro/

3 Requirements and functionalities

3.1 Requirements and functionalities for the June 2013 version

In this chapter the initial requirements and functionalities already *conceived* before entering FI-WARE will be introduced to the reader. It is important to note that these were not deployed before FI-WARE. The first public deployment of Campuse.ro took place by the end of June 2013. The initial requirements and functionalities, though very basic, had already been conceived prior to the enrolment in the project, and it was Fi-WARE the real impulse that:

- Accelerated the deployment of the very first version of Campuse.ro (June 2013)

- Accelerated the process of setting new requirements and functionalities

- Made the subsequent version of Campuse.ro (this very deliverable, September 2013) a reality

Initially, only three types of users were considered for Campuse.ro:

1. Visitors (unregistered users), who could navigate into the contents but only access general information
2. Campuseros, registered at Campuse.ro, and who can access any contents, interact with other Campuseros, take part in the activities, read articles and conversations.
3. Administrators, who manage the user community and the content.

An automatic process was created for migrating the access data of the users already registered at www.campus-party.org directly to the Campuse.ro website's database. This way, an already existing campusero needed not register again at Campuse.ro. Once the user entered the correct credentials there, he/she has access to a profile page where his/her interests can be modified.

3.1.1 User profile

3.1.1.1 *Requirement*

The requirement to be met was for the users (1) to have a public/private space in which they could self-administrate their personal information and academic and professional interests so these can then be published to the community and used by the platform's other processes (e.g. talent search); and (2) to be able to choose which language will be used for self-administrating such profile (English, Spanish or Portuguese).

3.1.1.2 *Quick Description of the Functionality*

Once the migration process is completed, the user of Campuse.ro can manage the following fields:

- Profile: Including contact information (name, birthdate, profiles for other websites) and privacy options for all the given information.

- Talent: Including information relating to interests, differential specialities and abilities. When the user adds such information, the system suggests contents and other users' profiles to him/her, aligned with his/her information.

- Services: This field allows the user to manage the alerts that will be received in his/her email account and how external connections to other services (e.g. Twitter, Facebook, others) for sharing content are configured

Further functionality can be managed here, including:

- Recent Activity: Notifications from the system about recent activity carried out by the user (e.g. Conversations or activities he/she is administering or takes part into, other users with he/she interacts, events he/she is attending)

- Contents: A summary of the activities (meetings, workshops, talks) and articles which are linked to the user – being that as organiser or as participant.

- Conversations: Messages that he/she is delivering or receiving

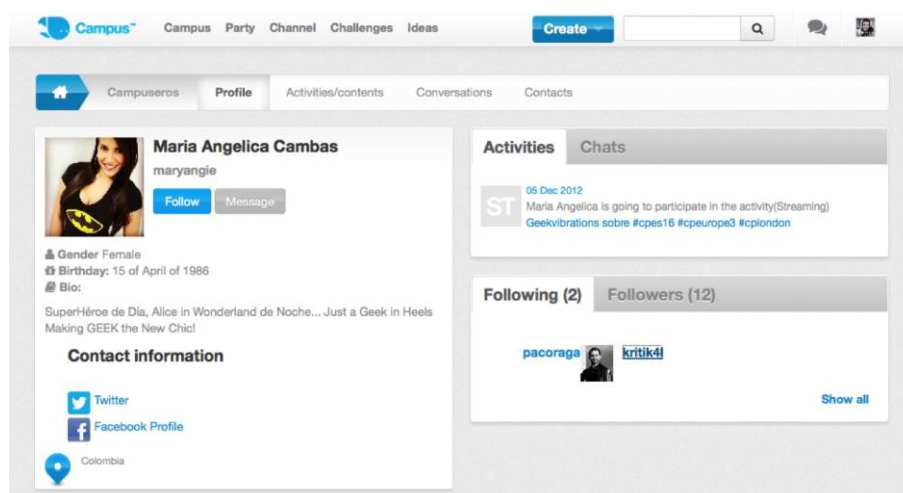- Contacts: A list of followers and followed individuals.

Figure 2. Example of profile page

3.1.2   Home Page

3.1.2.1   *Requirement*

The requirement to be met was for the users to have a home page in which they could be welcome and have at hand information that *motivates* them to navigate deeper into the Campuse.ro site. This home page should be neat and sharp-looking, and configurable for each user, based on his/her own profile information and interests.

3.1.2.2   *Quick description of the functionality*

Several blocks are shown at Campuse.ro's home page, covering the different types of content: activities, conversations, profiles and articles. The criteria is:

- Updates of the contents for which the user is either an organizer or creates part of them
- Updates of contents marked as "favourite"
- Content created by other users who this user is following
- Suggestions performed by the system, depending on the user's interests
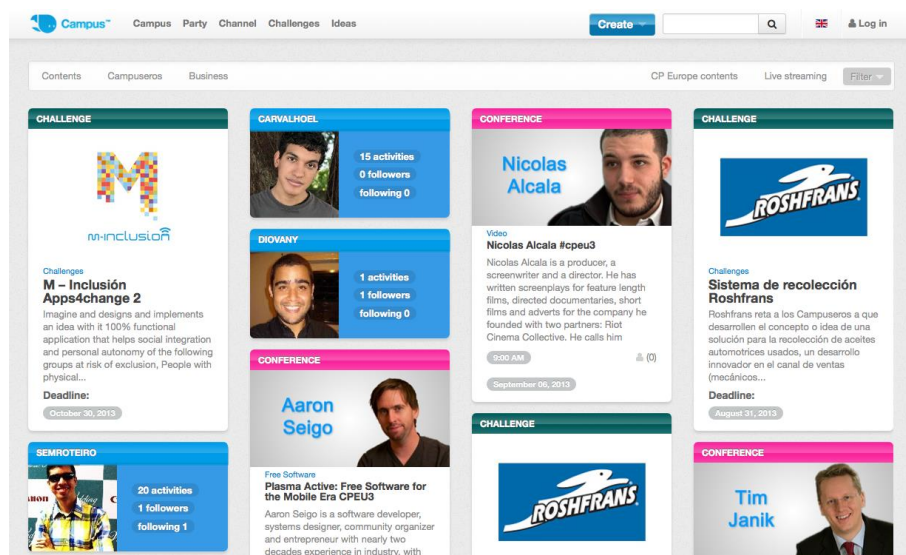- Other content, promoted by Campuse.ro's administrators.

Figure 3. Home Page

The visual representation is done by means of a grid of contents with several different sizes for each information block. These sizes are ordered taking into account the relevance and pertinence of the contents themselves. In any case, the campusero can make use of a filtering and presentation tool with which the blocks are shown depending on his/her particular preferences, too.

3.1.3   Search Engine

3.1.3.1   *Requirement*

The requirement to be met was for the registered users to have search and filtering tools enabling them to find and sift the required contents according to their preferences.

3.1.3.2   *Quick description of the functionality*

Two methods have been set up:

- Keywords search: Similar to that of a conventional internet search engine
- Filtering: Using a tree-like structure through which the user can navigate and combine different criteria for receiving fine-tuned results

3.1.3.3   *UML Diagrams*

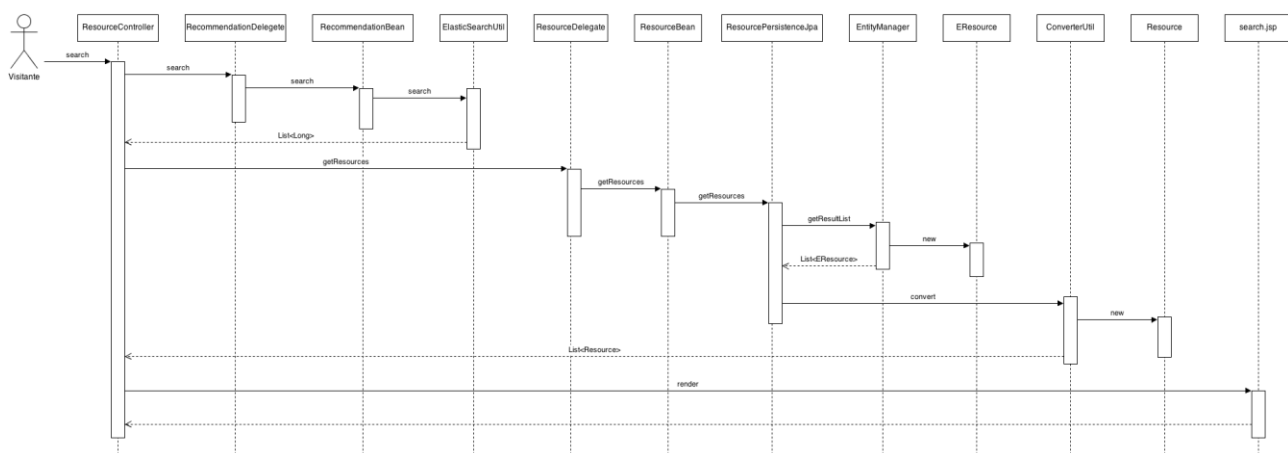(For more details on the architecture's tiers please see Chapter 4)

Figure 4. UML diagram for "Search"

3.2 More requirements and functionalities for the September 2013 version

3.2.1 Introduction

In this sub-chapter, and thus differentiating it from 3.1, the requirements and functionalities conceived *within* FI-WARE will be introduced to the reader.

FI-WARE, and the use intended for Campuse.ro as part of the exploitation activities of the project, suggested new requisites and functionalities to be fulfilled and delivered in the course of the project. Conceptually, three main updates of Campuse.ro are to be put in place during the whole project:

1. Registration, Management system and Roles
2. Creation of tools and modules for the interaction among users
3. Recommendation and gamification (awards) tools.

Temporarily, these do not necessarily coincide with the several versions to be released in the history of this work package, which are: D11.5.1 (September 2013), D11.5.2 (January 2014) and D11.5.3 (April 2014).

As indicated in the Description of Work document, this very version (September 2013) will cover "user profile functionalities for the individuals and the creation of activities"; so it includes part of the two first main updates, as it focus on the individuals.

D11.5.2 will cover the remaining features of the two first main updates, focusing on profiling companies and delivering activities for such non-individual profiles, and then D11.5.3 will focus on update 3 (Recommendation and gamification tools).

In order to pick the June 2013 version, deploy it, stabilize it and take it to the D11.5.1 agreed level, more functionalities have been recently put in place. These are now explained.

3.2.2 Register for non-Campuseros

As explained in Chapter 3, an automatic process was created for migrating the access data of the users already registered at www.campus-party.org directly to the Campuse.ro website's database. This way, an already existing campusero needed not register again at Campuse.ro. This was a

partial solution.

3.2.2.1 *Requirement*

The requirement to be met was for the users not registered at www.campus-party.org to have a public/private space just as any other user previously registered at www.campus-party.org

3.2.2.2 *Quick Description of the Functionality*

Very few things are needed from the Campusero, only his/her email address, screen name and password. Further fields can be completed along the way, and the system will send the user brief reminders about this. Such fields include:

- Avatar or photograph, and biography
- Demographic and personal data: name, surname, gender, age, location, education
- Talent: Interest areas, following the same indications as those in subchapter 3.1.2.

These users will not need to validate his/her account to enter the website. Instead, this process will be automatically activated when certain actions are performed, such as creating an activity or sending a message.

3.2.2.3 *UML Diagrams*

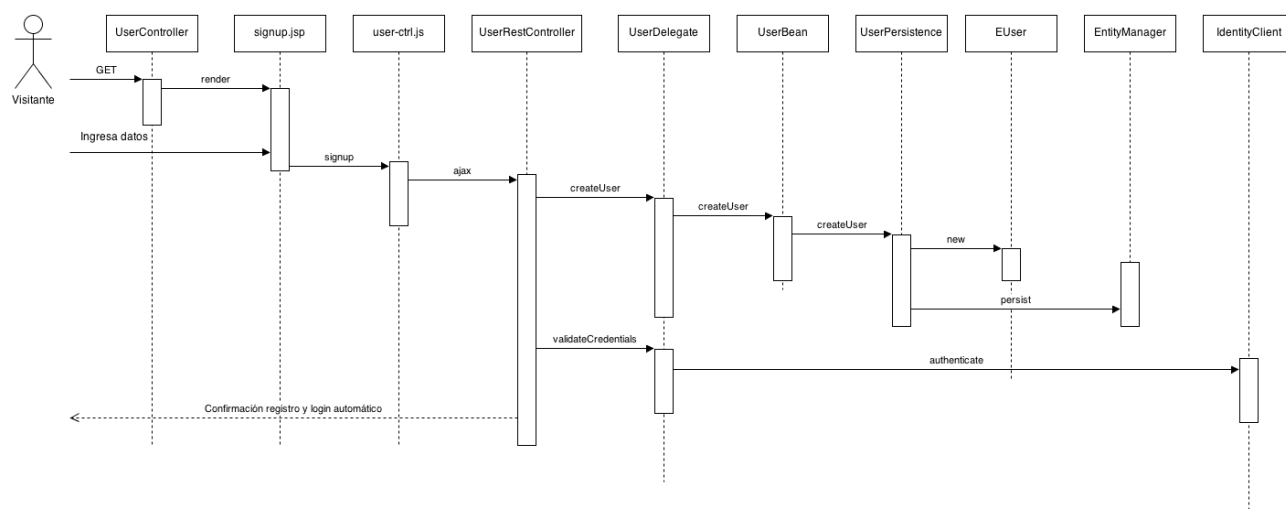(For more details on the architecture's tiers please see Chapter 4)

Figure 5. UML diagram for "Sign up"

3.2.3   Activities

3.2.3.1 *Requirement*

The requirement to be met was for the registered users to create and promote activities of interest to the remaining members of the community. The required activities were:

- Meeting: An open (virtual or physical) meeting.

- Workshop: Educational meeting with special emphasis on the interaction and practical exchange of knowledge. Several fields are disposed, where the speaker, theme, level and

other data are defined.

- Conference: Oriented by one or more people addressing a particular theme.

3.2.3.2 *Quick description of the functionality*

In all three cases, the campusero can make use of the following options:

- Inputting the relevant information for creating and/or editing the activity. These are the fields defined, common to all activities:
  - Title
  - Similar themes
  - Start and end dates
  - Physical address and website
  - Scheme of participation (can be open or invitation-based).
  - Description: speakers, agenda, required level, certification – if any, attached documents, related links, maximum attendance, etc
- Defining the status of the published activity: draft, active (published), suspended (on hold), erased.
- Participation: any activity can be open to everyone or instead it can require authorization from the organizers – who can restrict the participants' enrolment.
- Conversations: the enrolled users can participate in the main conversation with their messages or instead create new conversations related to the activity.
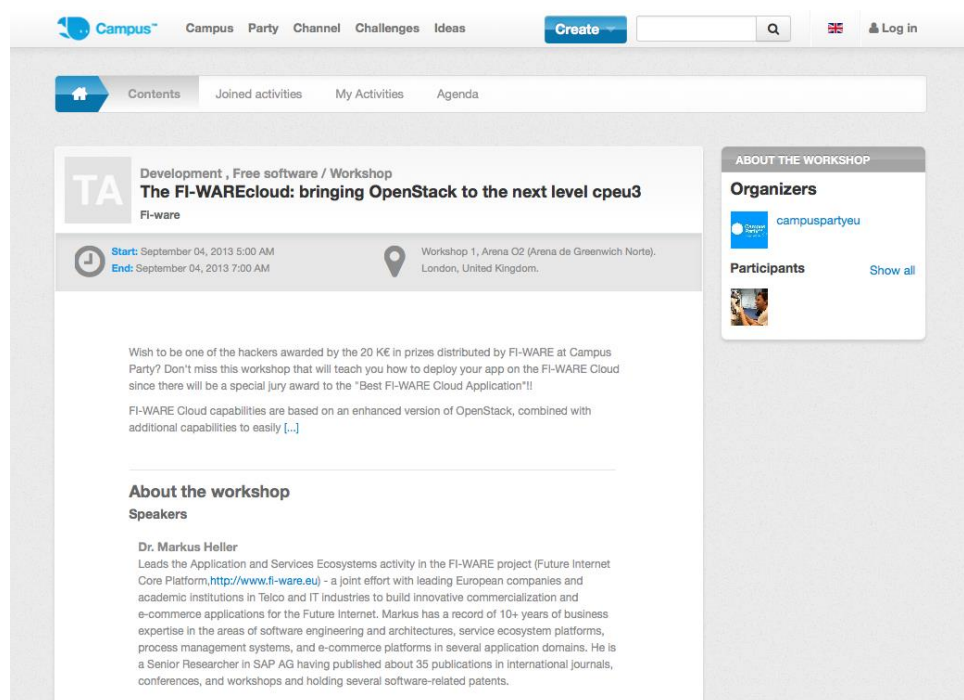

Figure 6. An example of an activity page

3.2.3.3 *UML Diagrams*

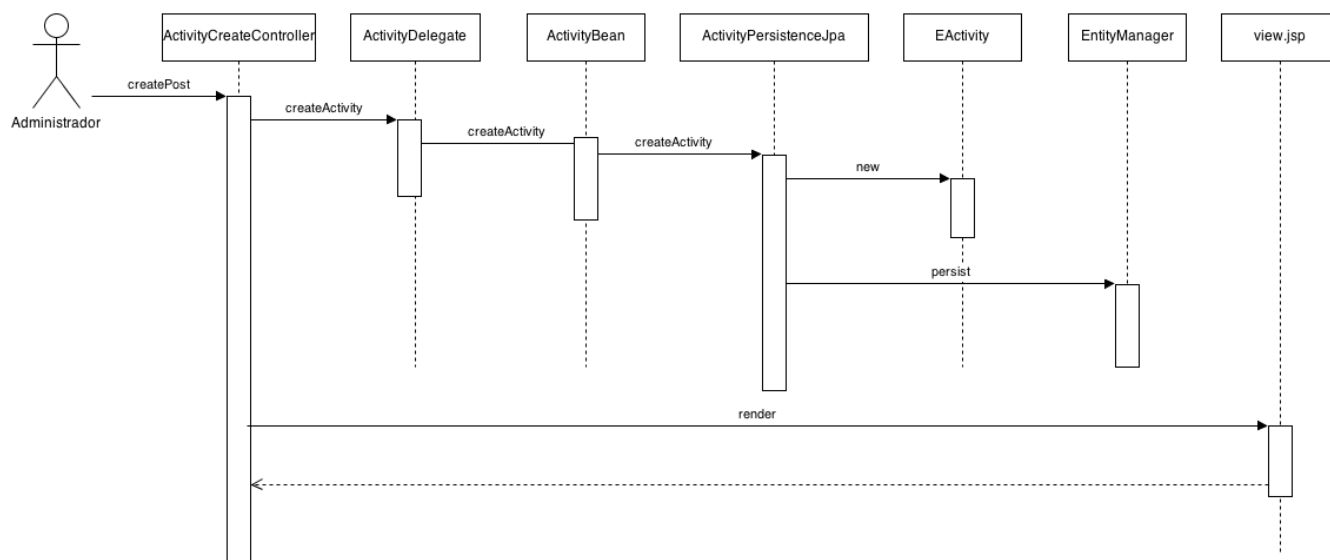(For more details on the architecture's tiers please see Chapter 4)

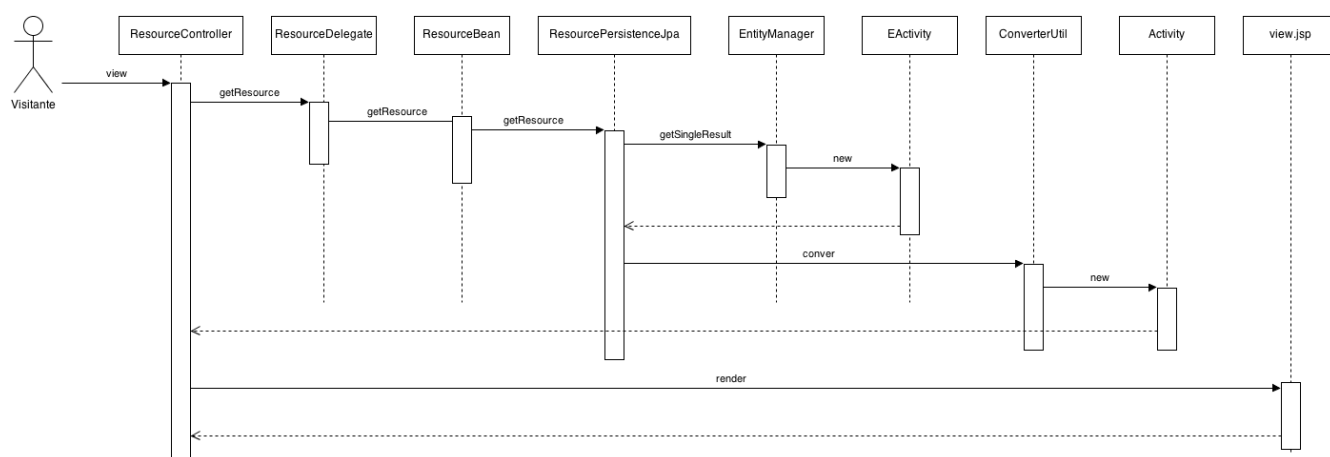**Figure 7. UML diagram for "Administrator creating an activity"**

Figure 8. UML diagram for "Visitor accessing an activity"

3.2.4   Conversations

3.2.4.1   *Requirement*

The requirement to be met was for the registered users to have a way to exchange messages in a conversation. In a conversation, the campuseros should act as organizers or participants. Campuseros could check previous messages if the conversation is open, regardless of the restrictiveness of the access (to post new messages). This should work as any forum on the Internet. Messages should be enriched with temporary information, so they can then be arranged and this timeline can be consulted. From any conversation, a new one can be created, and the links between both should be maintained. Accordingly, two different conversations can converge into one.

3.2.4.2   *Quick description of the functionality*

Finally, with regards to any conversation:

- Any user can invite one or more users or create an open conversation, available to the

entire community. Accordingly, the creator can define whether the participants need previous authorization to access the conversation (post a message), or define a conversation as private.

- This is composed of a title, a theme and a description of the conversation.

- This can be linked to other content in Campuse.ro. When this is done, the attributes of the linked content are inherited (theme, scheme of publication)

3.2.4.3 *UML Diagrams*

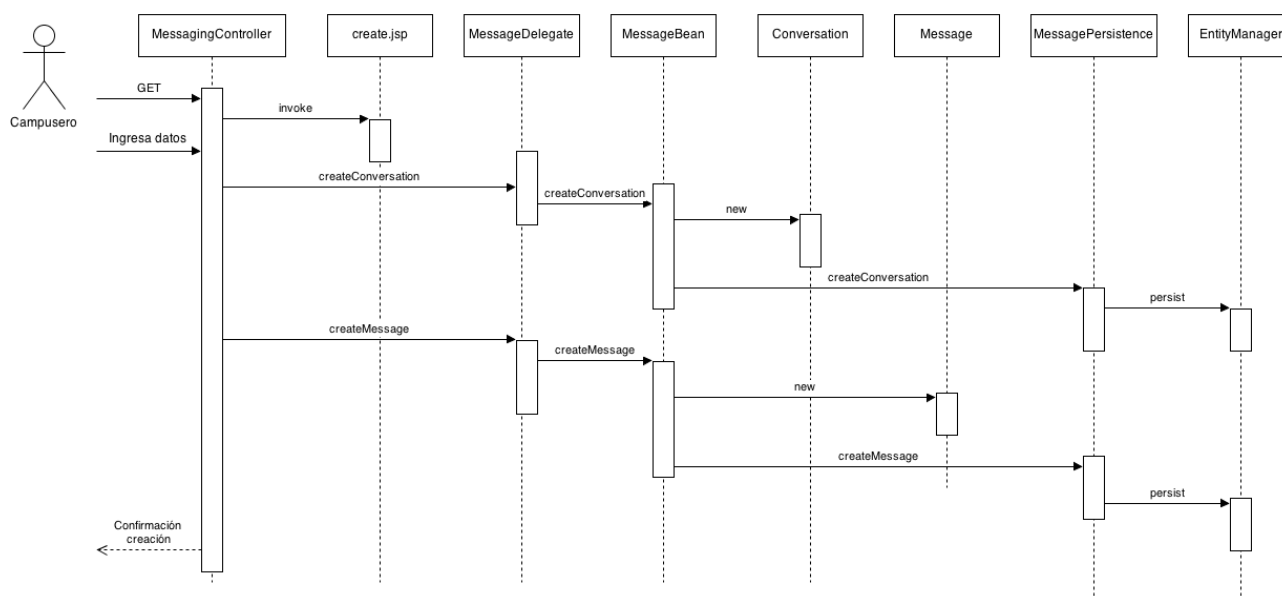(For more details on the architecture's tiers please see Chapter 4)

Figure 9. UML diagram for "Create message"

3.2.5   Register for collective users – companies

3.2.5.1 *Requirement*

This requisite is in fact part of the expected January 2014 version, but it has been advanced into the current version nevertheless. The requirement to be met was for Campuse.ro to have a digital ecosystem not only populated by Campuseros (developers) but also by other types of organizations, which are key to guaranteeing the own sustainability of the FI-WARE solutions.

As part of this ecosystem of other types of organizations, "companies" stand out as probably the most important profile of them all. The profile "company" must be able to fully interact with the users (and in the near future, with other collective users such as public bodies).

3.2.5.2 *Quick Description of the Functionality*

The register for companies has the following fields:

- Email address
- Name of the company
- Password

Once the register process has been validated – and similarly to the procedure with individual

profiles – the following data will be periodically requested, and according to the own interests of the company:

- Logo
- Summary
- Contact information
- Offices and branch offices
- Type of organization: public organization, private, educational, NGO, others
- Economic sector and type of activity
- Interests of the company inside the Campuse.ro ecosystem – following the Campuse.ro taxonomy
- Clients portfolio
- Qualification
- Financial details

4   Architecture

This chapter describes the architecture of the Campuse.ro portal. This description applies to the deployment done in June 2013 but also, in general terms, to the September 2013 version. The main difference is that the expected loads at those points in time were different, and for this reason in September 2013 the system was migrated to AWS (Amazon Web Services), securing 24/7 availability and correct management of resources. In the June 2013 version, the system was deployed in a single application server.

Instead of continuing with the requirements and functionalities required by FI-WARE, the reader is now presented with the Campuse.ro Architecture, so it can be conceptually linked with Chapter 3. Afterwards, such new requirements and functionalities, that have not really affected the initial architecture, will be presented.

We will now describe the June 2013 version and then a new figure will be presented, showing how (little) the migration to the AWS cloud facility affects Campuse.ro.

4.1   Architecture June 2013

4.1.1   Introduction

The software architecture was developed in three tiers, following low coupling and modularity conventions. Spring and Java Enterprise Edition 6 were used, which ease the applications' maintenance, horizontal scalability and reuse. The following diagram shows the main blocks:
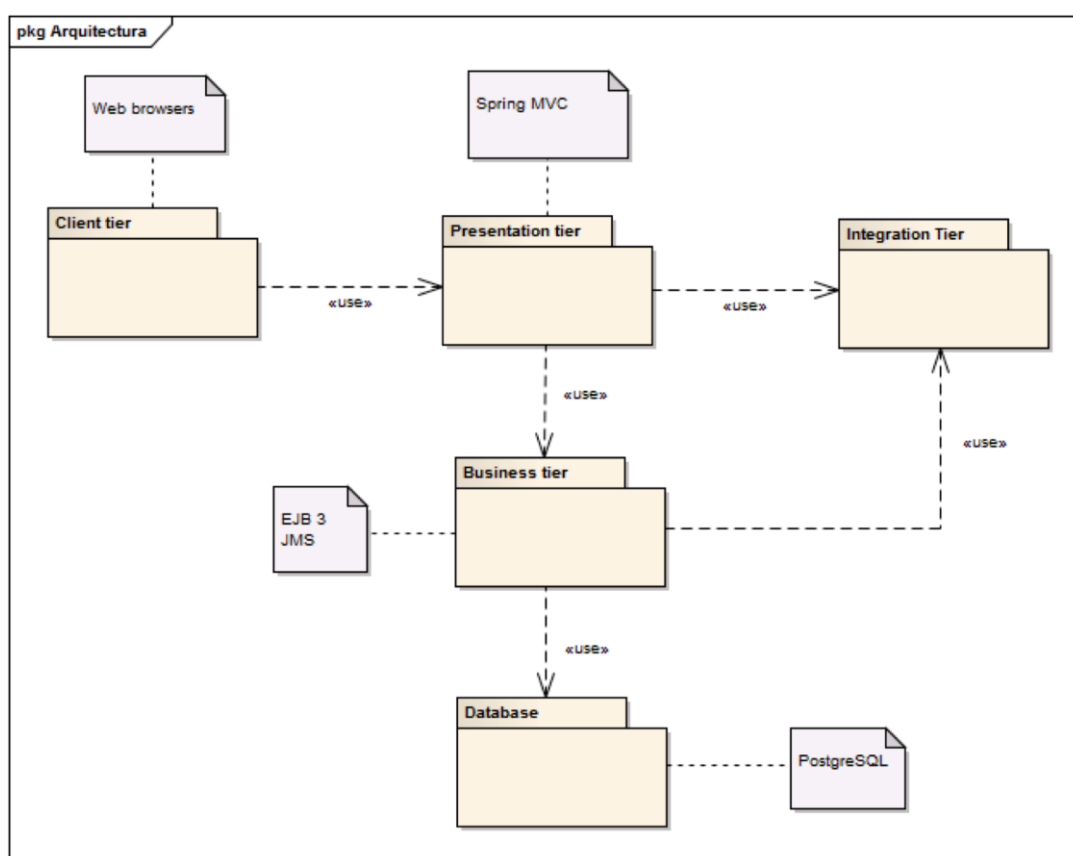

Figure 10. Software architecture of Campuse.ro

4.1.2   Presentation Tier

The presentation tier was developed using Spring MVC, which as the acronym implies, implements the Model-View-Controller pattern of design. Controllers invoke the business tier through the use of *business delegates*, which allow the decoupling between the presentation tier and the business tier. These business delegates interact using JNOs (Java native objects) as *transfer objects*.
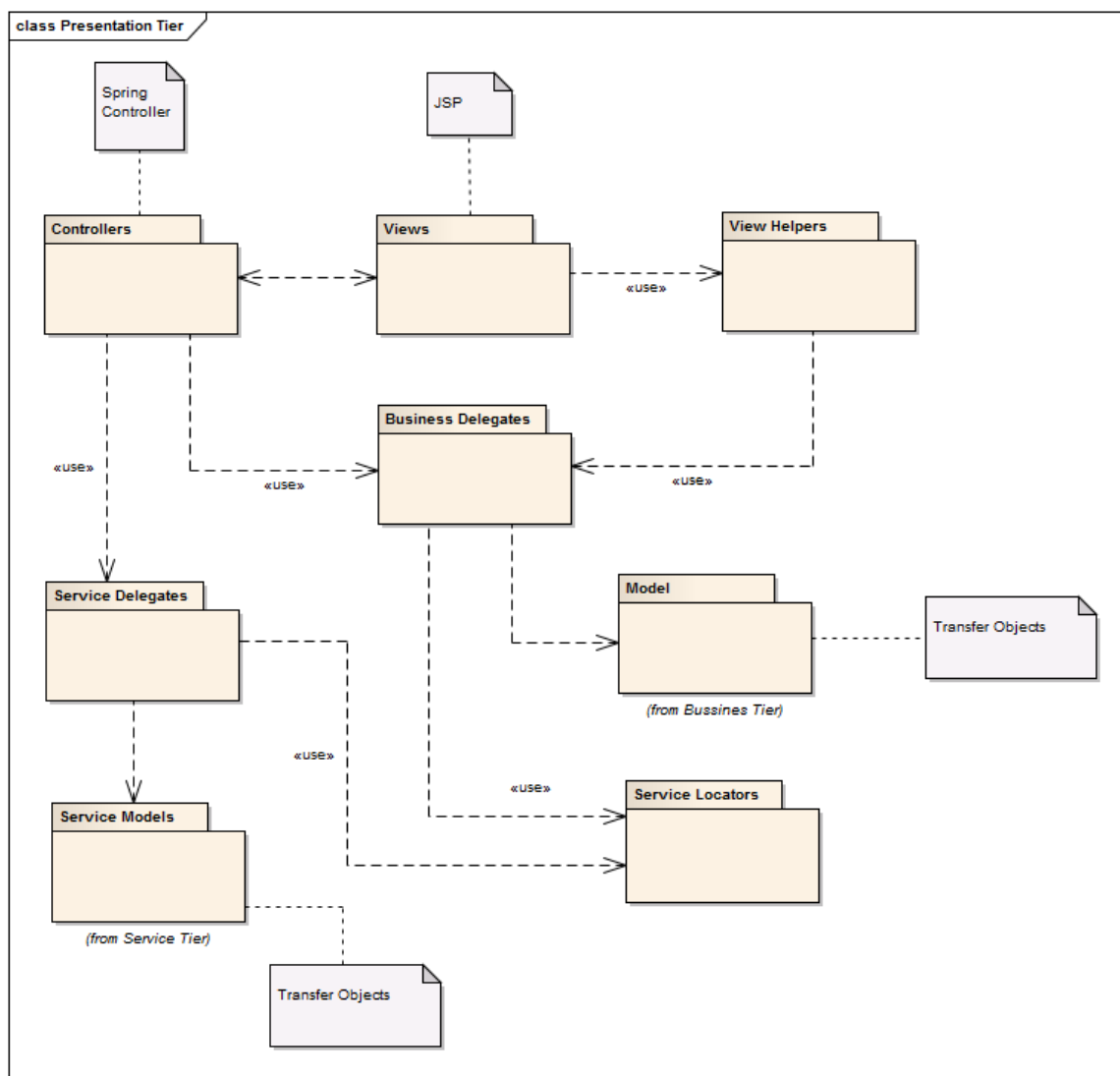

Figure 11. Campuse.ro's presentation tier

To facilitate horizontal scalability, the business delegates use the *service locator* in order to connect to the business tier, and the business tier can be locally or remotely deployed.

Business delegates can be used by other Java clients to invoke the business logic.

4.1.3   Business Tier

The business tier was developed using session stateless Enterprise Java Beans 3. The business logic is exposed through Session Facades, which then are used by the aforementioned presentation tier through the business delegates.

The services exposed by the session facades are coarse-grain and invoke other services exposed by the Application Services that are fine-grain. The session facade services can invoke several

services of the Application Services.

The Application Services allow data persistency and are able to convert between Model objects and Entity objects with JPA annotations. This conversion between Model and Entity ensures that data persistency can be performed without affecting the higher-level layers.
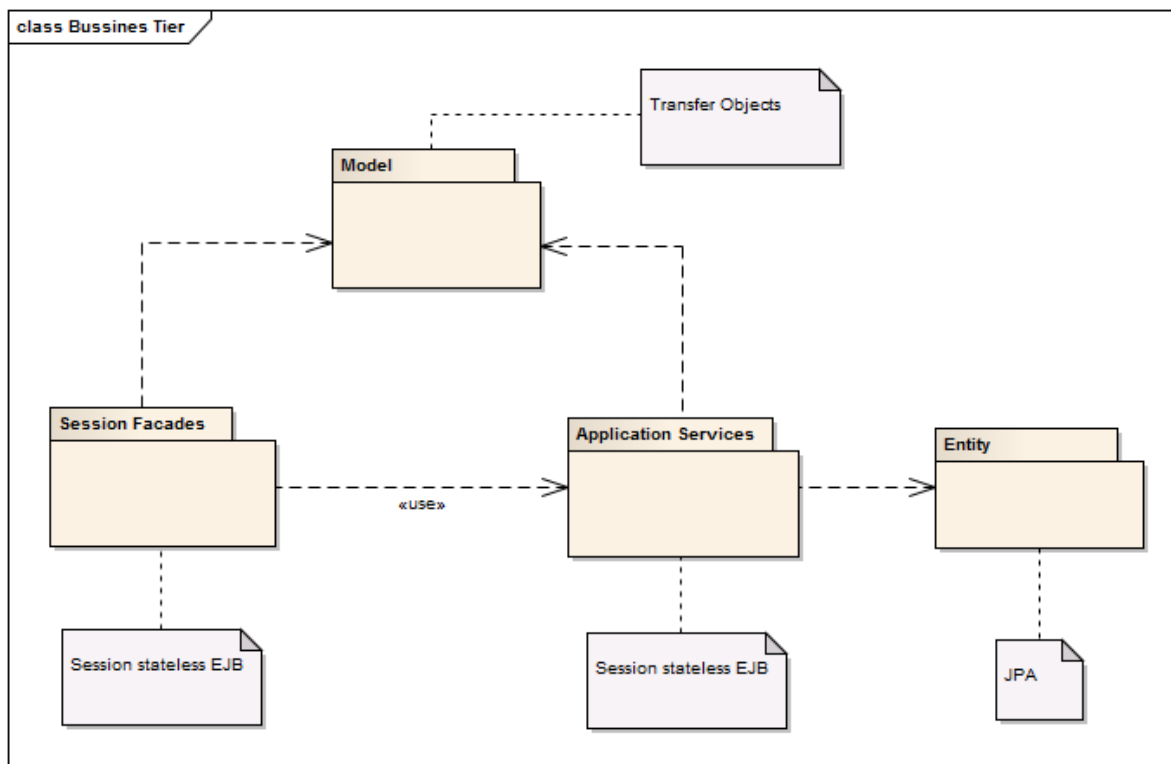

Figure 12. Campuse.ro's business tier

4.1.4   Integration Tier

The Integration Tier allows Campuse.ro to use internal services as well as external ones from third parties. Each service is composed of an interface and its specific implementation; these service components are Java interfaces and Java classes that can actually be used by any Java client.
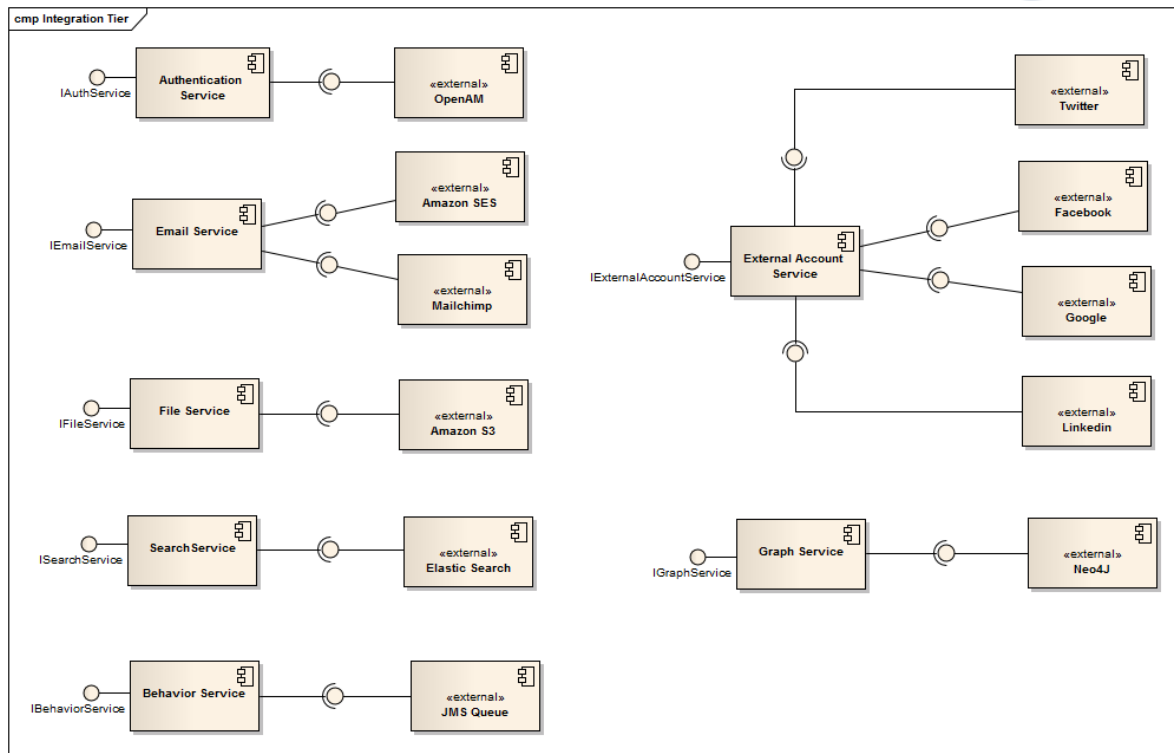
Figure 13. Campuse.ro's integration tier

4.2 Architecture September 2013

As mentioned in the beginning of Chapter 4, the main difference between the June 2013 and the September 2013 versions is that the expected loads at those points in time were different, and for this reason in September 2013 the system was migrated to AWS (Amazon Web Services), securing 24/7 availability and correct management of resources. In the June 2013 version, the system was deployed in a single application server, as the figure shows:
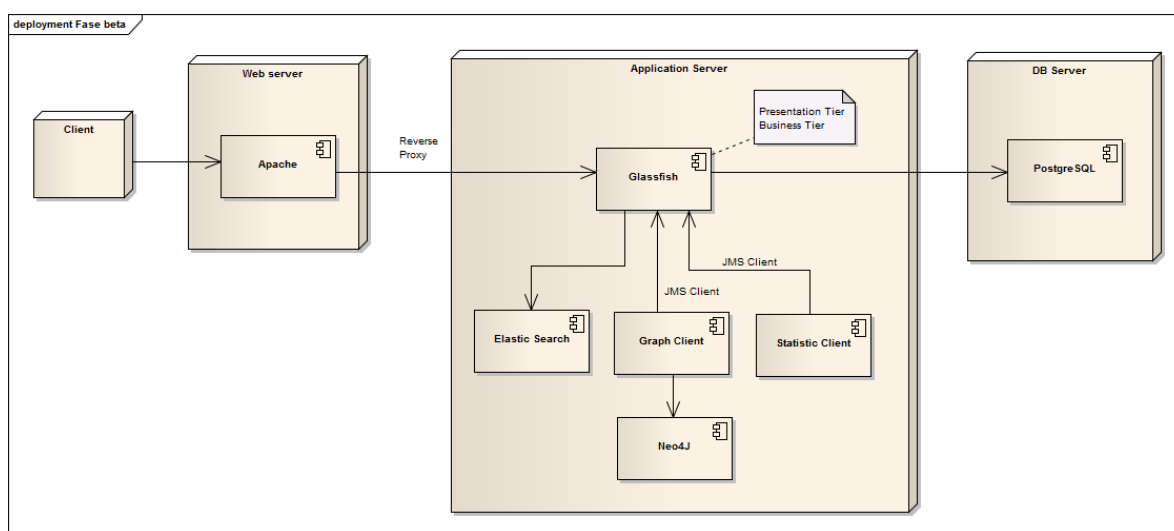

Figure 14. Deployment of Campuse.ro in June 2013

Right after the Campus Party Europe in London (beginning of September 2013), a second deployment is done using the AWS infrastructure, which can now cope with more concurrent connections and which vastly improves the response times.
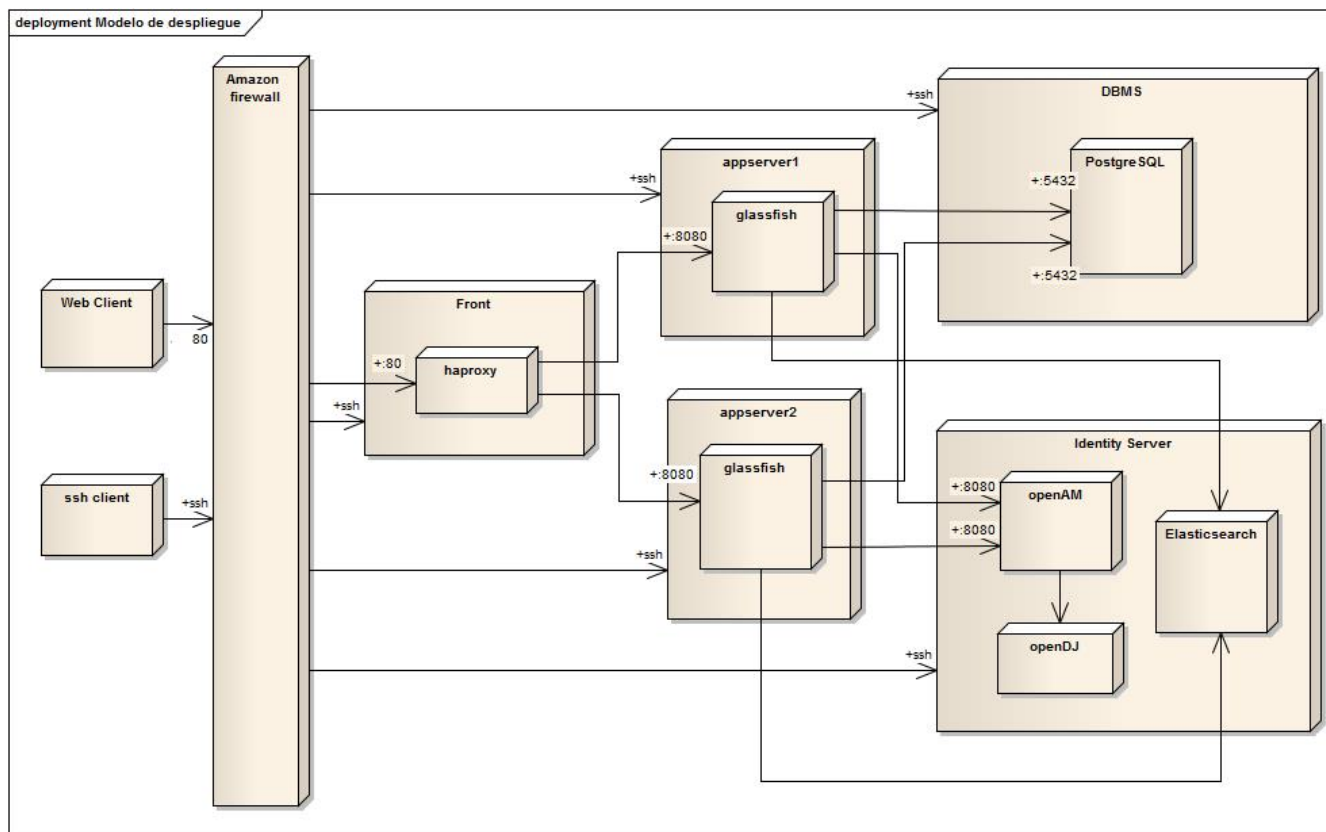

Figure 15. Deployment of Campuse.ro in September 2013

5 Performance and Multi-purpose design

5.1 Multi-purpose design

Any web portal's designer lacks the certainty of the specific format in which the user is going to consume the e-Services. Such user can access Campuse.ro via a laptop, a tablet or a smartphone, but also a games console or a TV.

More and more users are starting to change their daily computational tool from a desktop PC to any of the aforementioned devices. This is truly a challenge for the design of Campuse.ro. Two paths can be taken: (1) to assume that the user's behaviour is going to be one of a certain kind, and immobile, or (2) to propose a user interface that tries to accommodate to the maximum number of potential devices.

One of the strongest trends in web design is the Responsive Web Design[1] (RWD). When designing responsive web pages, the designer uses CSS style sheets and/or JavaScript to respond to the users' needs (or better described: their devices' own impositions). The Stanford University explains that a responsive web site is the one that responds to the accessing device and delivers an output that is appropriate for its use. This is a different paradigm from the one that imposes designing and deploying several web sites, indexed with different URLs, for different devices. In the RWD paradigm, the web site is unique, and it is wdesigned in a way that allows it to be device-dependent, delivering its contents in different ways depending on a list of specifications for several devices to be supported.
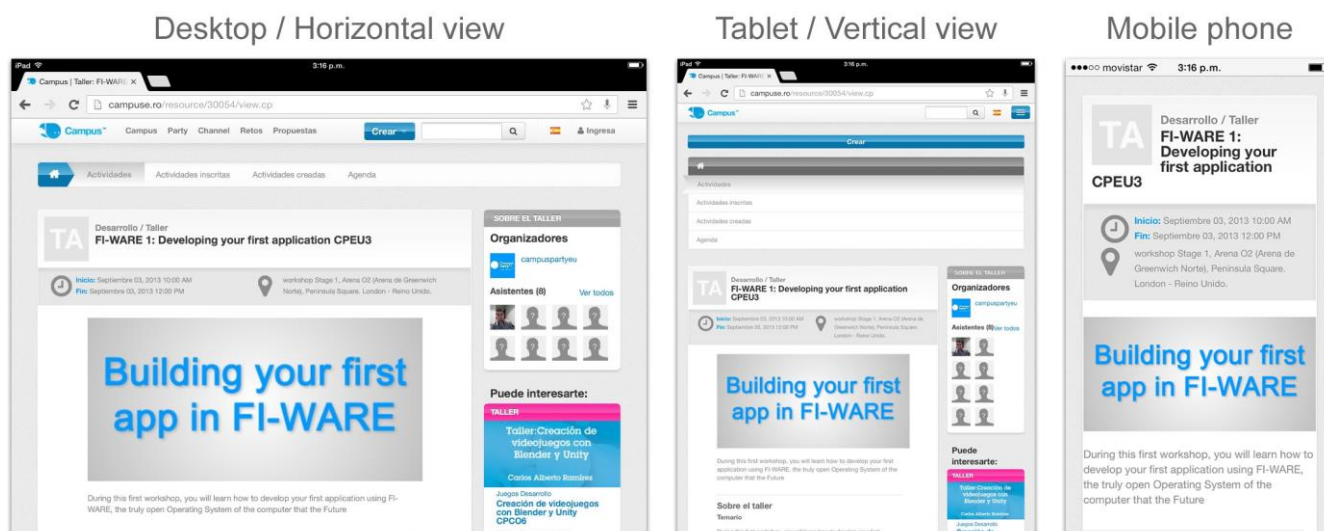

Figure 16. Different views as delivered by Campuse.ro following the RWD paradigm

During the first phase, Campuse.ro's user interface was configured so it could adapt to whatever device was used. At the same time, the standardisation and optimisation of the initial source code took place, to guarantee reasonable load times. In the following months, the new source code is just as well going to be standardised and optimised – and potentially, specific functionalities could be deployed for smartphone users.

5.2 SEO

Woorank was used to extract key conclusions about the behavior of Campuse.ro in SEO terms. In future deliverables, similar tests will be performed to see the evolution throughout the project.
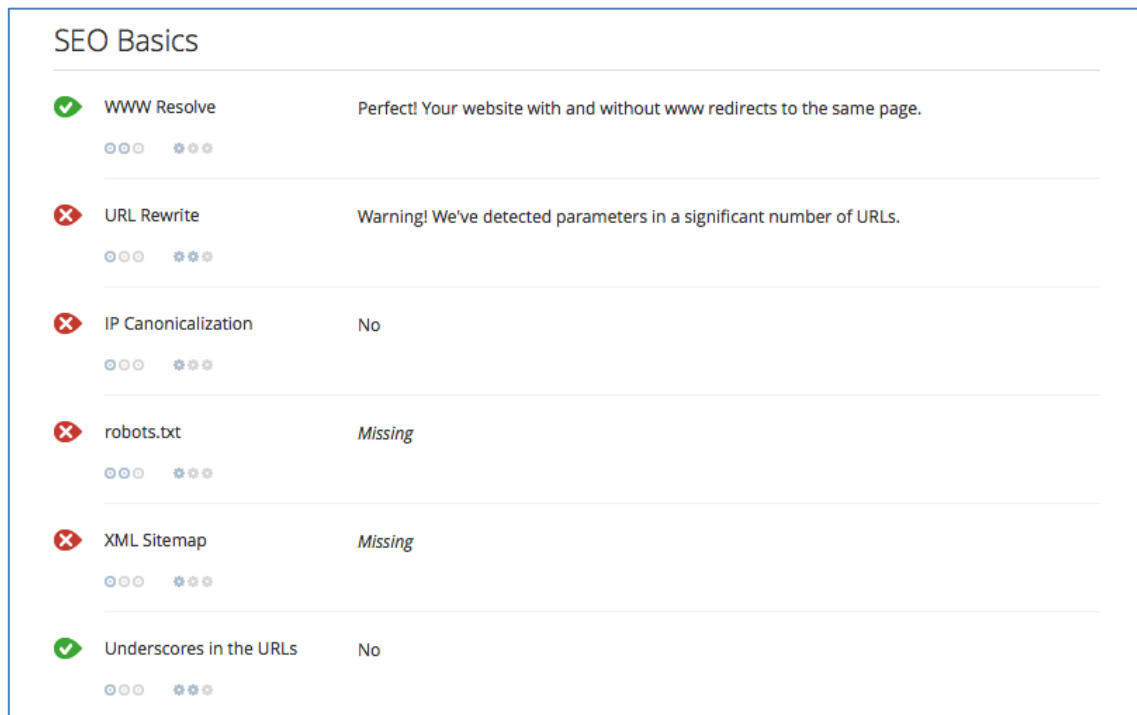
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[1] https://itservices.stanford.edu/service/web/mobile/developers/responsivedesign

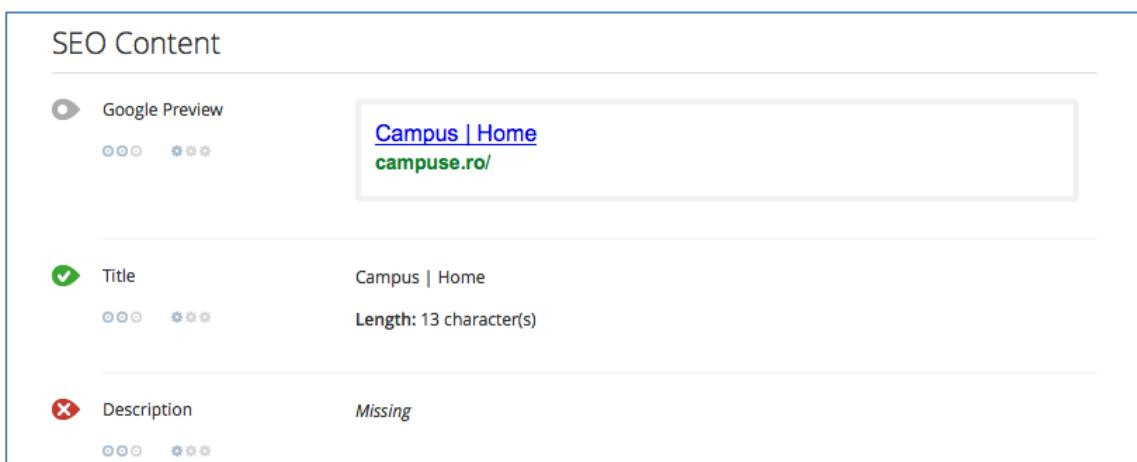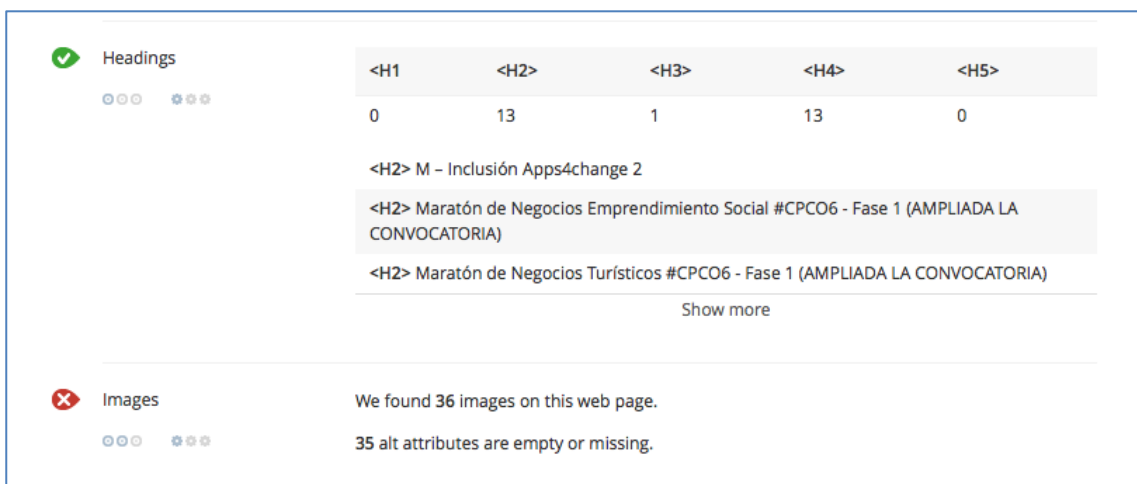**Figure 17. Woorank results for Campuse.ro (1)**

Figure 18. Woorank results for Campuse.ro (2)

At the time of writing, Campuse.ro has a very basic level of search engine visibility. For the next versions of Campuse.ro, several changes have been planned:

- HTML:
  - Alternative texts will be used in all images
  - Improvements in the metadata that describes all content
  - Semantic HTML: Specific tags will identify key content, to reinforce search engine positioning
  - Optimization and revision of load times
- Content:
  - Optimization at keyword-level
  - CTR Optimization and follow-up: Detailed analysis of the user's behavior and statistics, including *click through ratio*, to enhance efficiency of contents and reminders.
  - Locating broken links. Updating links that direct to an inactive page.
  - Revision of each section's specific weight, again in order to improve search engine positioning and to minimize the number of clicks needed to access such section. Pages with similar contents will be linked by using high-visibility keywords.
  - Link building: Promoting the contents of Campuse.ro so they can be linked from the users' pages in Twitter, Facebook and others. On a different level, a strategy will be set so key allies can invoke and exchange contents with Campuse.ro and their own organizations' pages.

5.3   Overview of Performance Tests

Performance was measured using the open source tools at Webpagetest.org and also Google's Page Speed instrument. In the first case, the results with the home page at Campuse.ro were acceptable but average:

	Load time	First byte	Start render	DOM Elements
First view	4.4 s	0.7 s	1.6 s	966
Repeat view	5.2 s	1.9 s	2.6 s	949

Table 1. Load times and DOM elements (Webpagetest.org)

	Document complete			Fully loaded		
	Time	Requests	Bytes in	Time	Requests	Bytes in
First view	4.4 s	72 s	1392 KB	4.8 s	73	1393 KB
Repeat view	5.2 s	17 s	567 KB	45.4 s	18	568 KB

Table 2. Time, Requests and Bytes In (Webpagetest.org)

In the case of Google's Page Speed, Campuse.ro was ranked 54/100, which is acceptable for a first version, but the following improvements were planned for future implementations in January 2014 and in April 2014:

- HTML code will be compressed in certain cases. So will be JS and CSS files, by using GZIP tools
- Optimizing cache use on the client side, by identifying common static elements that would

be transparently downloaded on the client's memory, so there is no need for those elements to be downloaded again in future visits.

- Improve the way in which the user-uploaded images are compressed.

6 Quick User Guide

This is a very quick guide to start using Campuse.ro right away with the currently deployed functionalities. It is aimed at Campuseros (i.e. developers), who are our main players for the current version, and it is written in second person.

6.1 Creating a user account

Any visitor to Campuse.ro can easily register now and interact with other users. The future functionalities will be ready to be enjoyed in the upcoming months.

After clicking on the "Log in" button, you must click on the "Join now" link, as shown in the figure.
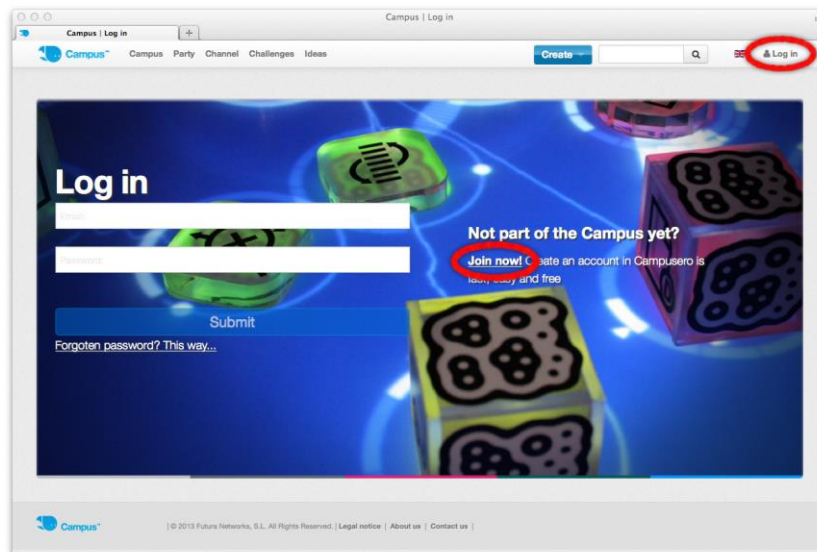

Figure 19. The Log-in page at Campuse.ro

Then you will be prompted to input your email address, username and a password of your choice. It is that easy!
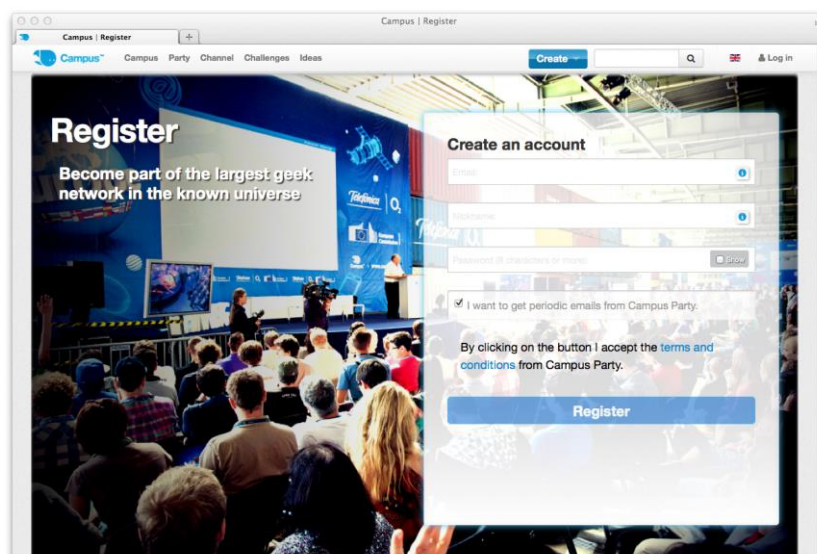

Figure 20. Registering at Campuse.ro

6.2   Logging in

To access your account, just click on the "Log in" button and enter your email account and your password. It is not really necessary to activate your account. This will be automatically done when you participate in certain activities.
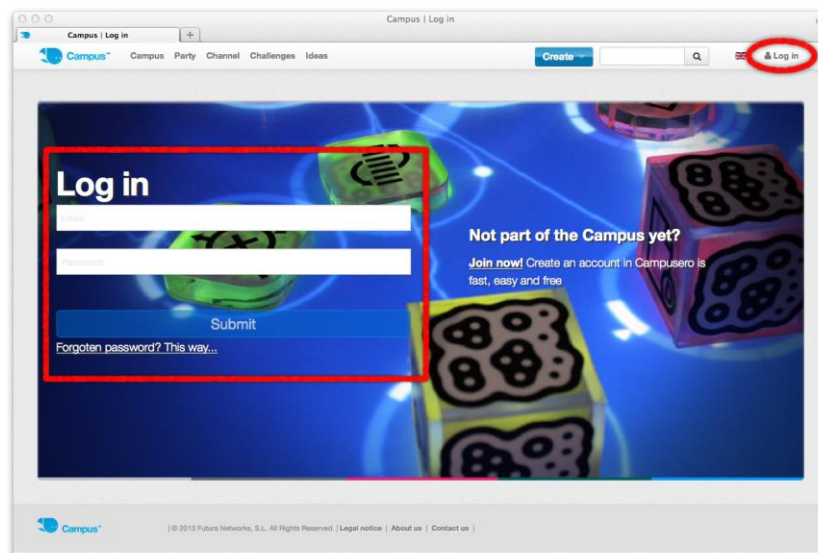

Figure 21. Logging in at Campuse.ro

6.3   Editing your profile

Click on your avatar and a menu will be shown where you will be able to access your profile. Once there, just click on the "Edit profile" button and a new interface will pop up where you will be able to add and update fields to your profile, and set your privacy preferences.
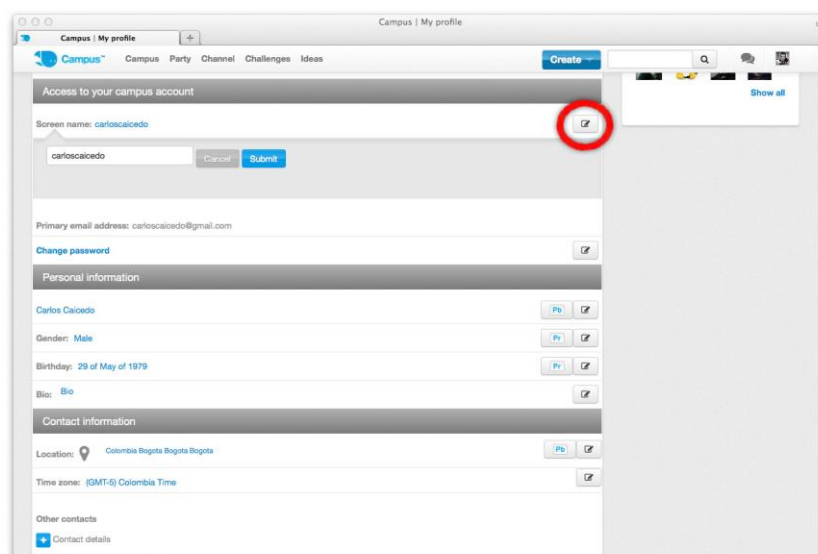

Figure 22. Editing your profile at Campuse.ro

6.4   Talent and interests

While at your user profile page, check the "My Talent" tab. Go to the "Edit" button and you will be able to choose among a list of interests and specialities. This will help you to stay in touch with future activities related to these interests/specialities, like challenges, meetings and jobs.
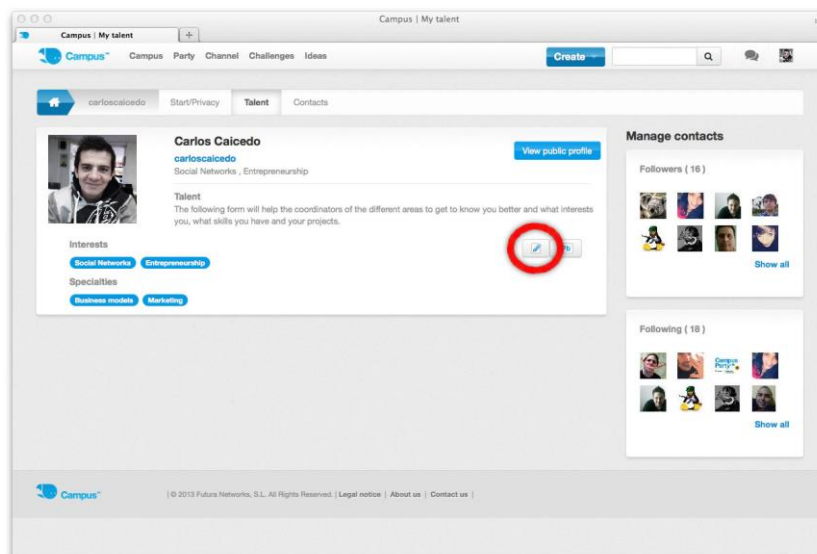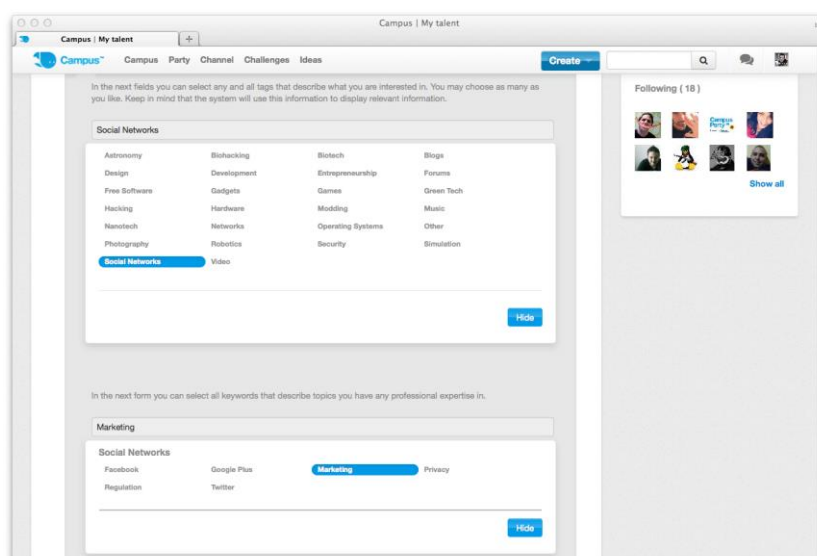

Figure 23. My Talent tab at Campuse.ro (1)

Figure 24. My Talent tab at Campuse.ro (2)

6.5   Following other people and being followed

While at your user profile page, go to the "My Contacts" tab. There, you will be able to update the list of users you want to follow and to check the list of users that are following you. You can administrate the contacts you want to follow and the contacts you wish to stop following, and also keep a private conversation with them.
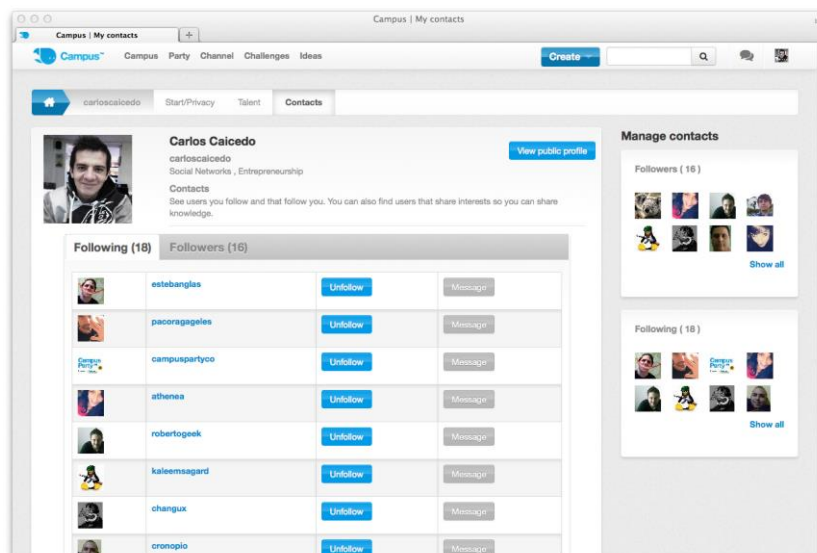
Figure 25. My Contacts tab

6.6 The Main page

Once done with the previous steps, it is time you enter the main page. At the main page you will be able to access the highlighted content and the main sections of Campuse.ro. The navigation is totally intuitive. This is some of the information you will be shown:

- Contents: Meetings, conferences and workshops of the latest Campus Party events, along with the ones created by the Campuseros that you are currently following

- Campuseros: Profiles of other users registered at the website. Be part of the community!

- Business: An overall presentation of some of the future functionalities to be included in the next versions of Campuse.ro
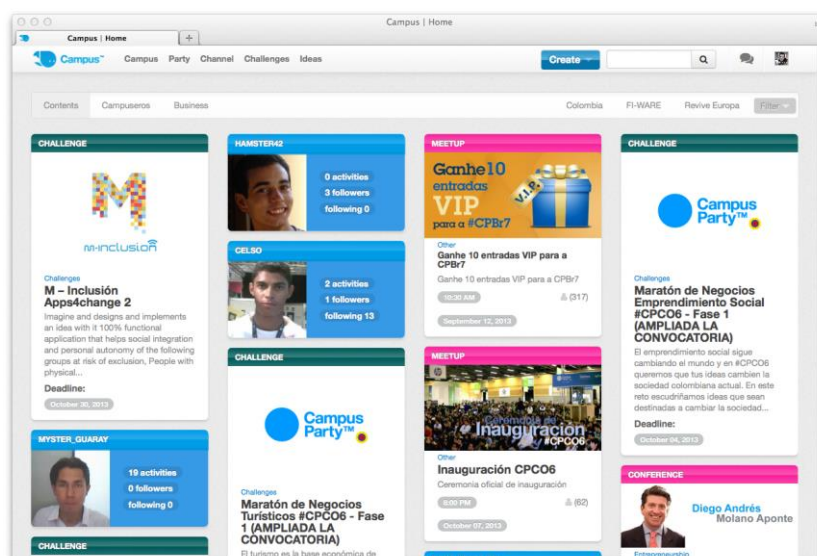

Figure 26. Campuse.ro's main page

There is a filtering option so you can access certain information even faster. Click on it and a sidebar will pop out, with all the relevant categories you might be interested in. You can also quickly access specific contents that were highlighted by the portal administrator, such as all the FI-WARE activities.
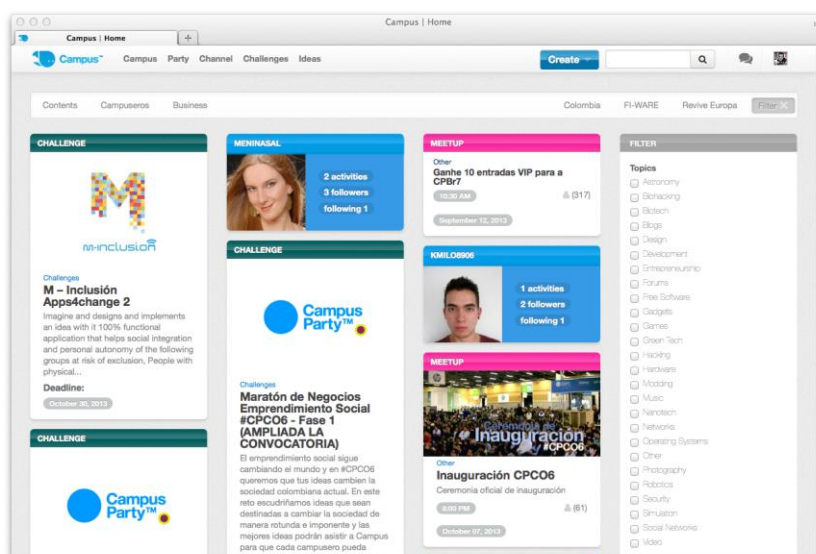

Figure 27. The filtering sidebar at Campuse.ro's main page
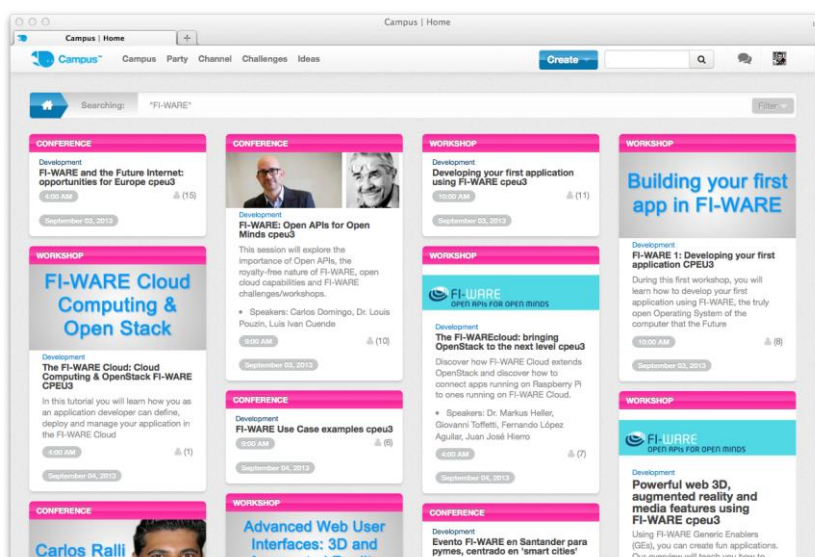

Figure 28. Highlighted contents at Campuse.ro's main page

Once you access any content, you will be able to check the information that is attached or linked to that content, such as live streaming or other files that may have been incorporated. You can also post comments to the conversation that is directly related to the content you are accessing.

6.7   Getting in touch with other users

Campuse.ro offers you our own messaging system, with which you can get in touch with other members of the community. Just click on "Messages" and then on "New Message".
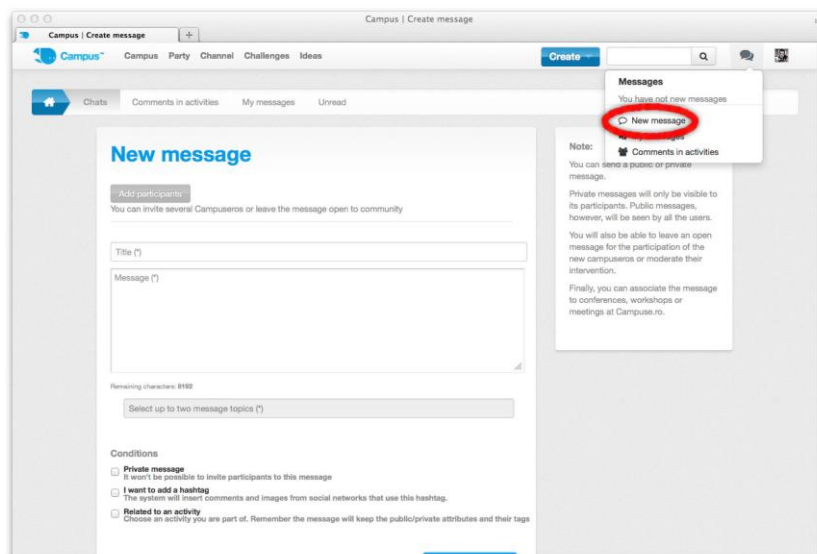
Figure 29. The Messages window at Campuse.ro

Once done, you will be prompted to choose between sending your message to just one user or to more than one, by writing the username of your addressees. You can also select whether this conversation will be seen by your addressees only or by everyone; this second option enables any Campusero to write comments to your messages.
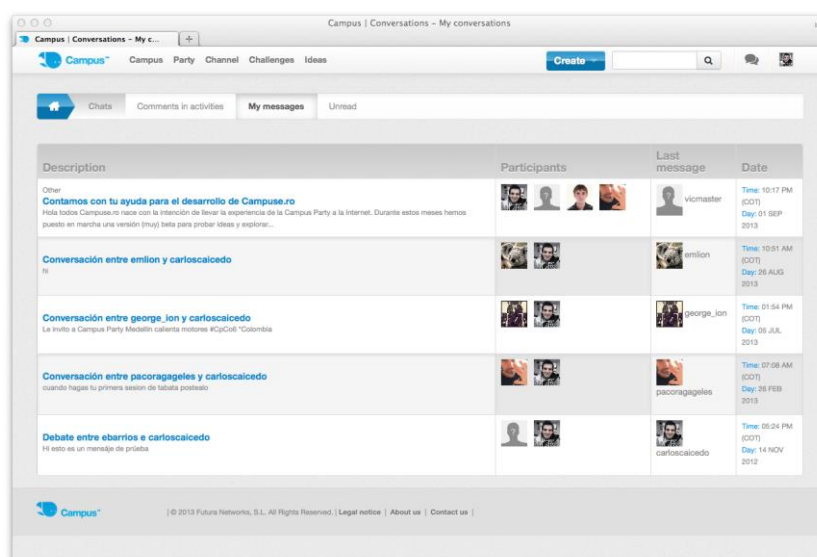

Figure 30. The conversations window at Campuse.ro

If you want to list all your conversations just go to the "My Messages" tab, and there you will be able to check all your conversations plus the comments you have done in the activities you participate in. Whatever you choose, the following information will be presented for each conversation:

• Title and short description

• Participants' avatars

• Author and date of the latest message

7   Future Steps in the development of Campuse.ro

The immediate future steps in the evolution of Campuse.ro will focus on:

- Creating user profiling tools for communities and companies
- Creating modules for the use of business profiles
- Improving performance (see Chapter 5)

The enterprises and public and private organizations are major players in this ecosystem, and so there is current work being done to create specific tools for profiling organizations: everyone will benefit from the entry of companies and organizations in a tight relationship within the community of Campuse.ro. Accordingly, new permissions and potentially new activities – or different ways for managing activities – will be created for these new profiles.

Furthermore, new modules will be created for their use by business profiles. These will include "Talent" and "Challenges".

In the case of Talent, a tool will be created to allow companies and entrepreneurs to efficiently carry out a selection process to find experts in different areas of knowledge, to develop a specific task or to fill a job vacancy. The steps for the creation of an offer will consider:

1. User forms, with basic data of the offer, job or specific project.
2. Multiple segmentation criteria to reach a target audience according to the location or the skills.
3. Publication of the offer to the users with related interests and appears as a suggestion of relevant content when users navigate within certain contents.

In the case of Challenges, they will enable direct interaction between the Campuseros and organizations seeking to find solutions and innovative ideas using special contests:

1. Any challenge will feature multiple criteria segmentation to reach a target audiences according to location and skills
2. Users interested in participating will have tools to attach documents and comply with the formalities required by the organizer to participate in the contest.
3. The organizer will be able to communicate with the participants through private messages and automatic reminders will be set.

These improvements will be part of the next version of Campuse.ro, to be released in January 2014.