

H2020 FRAMEWORK PROGRAMME

H2020-DS-SC7-2016: DS-05-2016 EU Cooperation and International Dialogues in Cybersecurity and Privacy Research and Innovation



Cybersecurity and privacy dialogue between Europe and Japan

D5.1: Website and collaboration tools[†]

Abstract: This document discusses the website of the EUNITY project. We focus on its different content sections, the integration of social networking features, and the content update mechanism. Then we provide a short overview of the platform and methods used for its development. Finally, we conclude with the website report.

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The *EUNITY* consortium consists of:

Institut Mines-Telecom	Coordinator	France
FORTH	Principal Contractor	Greece
ATOS SPAIN SA	Principal Contractor	Spain
NASK	Principal Contractor	Poland
KATHOLIEKE UNIVERSITEIT LEUVEN	Principal Contractor	Belgium

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1 Introduction

This document details the EUNITY website which is one of the objectives of WP5 of the project. The EUNITY website is publicly available at <http://www.eunity-project.eu>. The website will be the main channel through which the general public will gain access to EUNITY results, publications, news and new tools developed in the context of this project. It will fulfill three different roles:

- It will deliver the general information about the project: participants, objectives, status reports and acknowledge EC contribution.
- It will deliver end-user-oriented output in a friendly, helpful and effective way. The website, along with various means of spreading information on the web, will be the main channel through which the general public will gain access to EUNITY results.
- Finally, the website will be a complete repository of all the information the project has delivered (e.g., software, public deliverables and demonstrators).

For better dissemination of the information, we took advantage of social media such as Twitter, as a way to aggregate and reach out to our constituency.

1.1 Document Outline

In the following Chapters, we will describe the EUNITY website as it was at the time of delivery of this document. In Chapter 2, we initially present the content and features of the EUNITY website and then in Chapter 3, we describe how the website can be updated using a web browser. Next, in Chapter 4, we describe the tools used to create the website and why we chose them. We also briefly present the principles that the site is based on, and the web standards that the EUNITY website adheres to. In Chapter 5, we present the hardware and network infrastructure we use to run the site. In the next chapter (Chapter 6), we describe our presence on social media. In Chapter 7 and 8, we refer to some other tools we need for collaborative purposes, like SVN and GotoMeeting. Finally, in Chapter 9 we summarize the website setup and outline possible future additions and enhancements. These are the contents and features that can be updated at any time through the course of the project, to help the website to better serve its purpose.

2 Website Layout

In this section we will briefly present the current layout of the EUNITY website. At this point of time, the main goal of the website is to provide information on the project and its goals, and to enable interested parties to get in touch with the project. Of course, the website will be a work-in-progress throughout the duration of the project.

2.1 Home Section

The primary goal of the Home section is to provide a quick overview of the EUNITY project. We can see that Home section (Figure 1) uses a two-column layout. The larger left part is used to provide the overview of the project. The right part of the layout is used to show the latest EUNITY news. The displayed news is obtained real-time from the EUNITY Twitter feed.

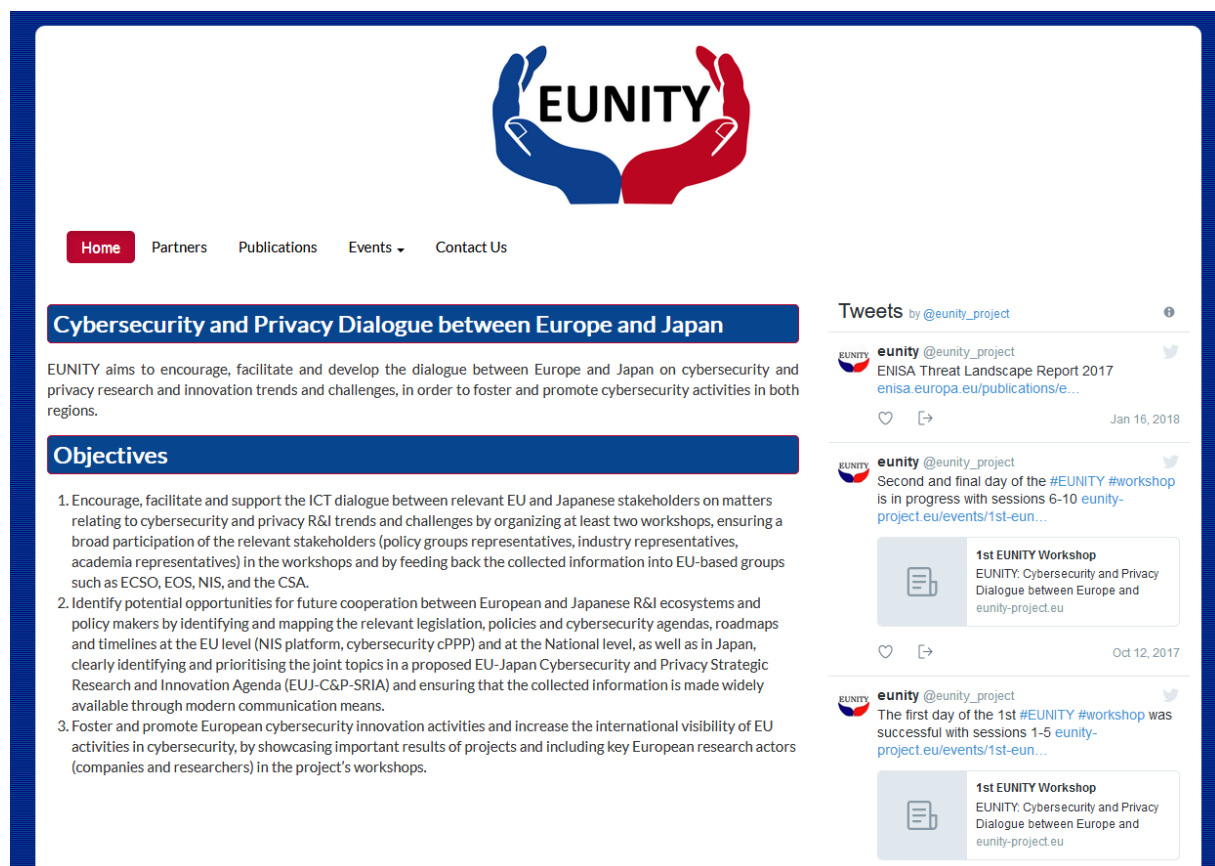


Figure 1 Homepage

2.2 Partners Section

A short profile for each project partners is provided through the Partners section (Figure 2) of the website. All the official partners' logos have been included in this page for the visitor to have a clear view of the EUNITY consortium.



EUNITY

Home **Partners** Publications Events - Contact Us

The EUNITY Consortium

Partners in Europe



Institut Mines-Télécom is a French public research and education organization placed under the aegis of the Minister of the Economy, Industry and Employment whose missions are to provide programmes for higher education, conduct research and support economic development in the field of information and communication technologies and sciences. The Institut Mines-Télécom is one of the major French players of the R&D Framework Programme (FP) in ICT (Information & Communication Technologies). It coordinates a network of excellence on future networks (Euro-NF) and is a key contributor in a number of STREP and IP projects.



Atos is an international information technology services company with annual 2010 pro forma revenues of EUR 8.6 billion and 74,000 employees in 42 countries. ATOS carries out managed security services and security monitoring services for its customers. In particular, the Atos High Performance Security (AHPS) solution allows Atos customers to obtain the same security service implemented by Atos for the Olympic Games. AHPS is enabled by a leading edge heterogeneous environment that integrates both central cloud and local digital infrastructure across Europe. Atos Research & Innovation (ARI) is the research, development and innovation hub of Atos and it is a key reference for the whole Atos group, delivering technology innovation to our customers. Within ARI, the Trustworthy Services and Systems (TSS) Laboratory conducts research in trust, security and privacy domains for the improvement of IT security, as well as the increase of trust and dependability in systems and services.



Partners in Japan



Nara Institute of Science and Technology is a national institution for research and postgraduate education. NAIST has been one of the top Computer Science research institution in Japan, according to several independent evaluations. It has participated in key national R&D programs for cybersecurity in the past years, and it has also been leading the cybersecurity education program among regional university consortium. Researchers at NAIST, especially in the field of cybersecurity, have been playing leadership role in other national research institutions, operational agencies, and government agency subcommittees, e.g., NICT, JPCERT/CC, and JSPS.



The **University of Tokyo** was established in 1877 as the first national university in Japan. As a leading research university, the University of Tokyo offers courses in essentially all academic disciplines at both undergraduate and graduate levels and conducts research across the full spectrum of academic activity. The university aims to provide its students with a rich and varied academic environment that ensures opportunities for both intellectual development and the acquisition of professional knowledge and skills. The University of Tokyo has a faculty of over 4,000 and a total enrollment of about 29,000, evenly divided between undergraduate and graduate students. As of 2006 there were 2,269 international students, and over 2,700 foreign researchers come annually to the university for both short and extended visits. The University of Tokyo is known for the excellence of its faculty and students and ever since its foundation many of its graduates have gone on to become leaders in government, business, and the academic world.



Figure 2 Partners Section

2.3 Publications Section

The *Publications* section is intended to make available to the public the documents published by EUNITY. As the list of published documents will expand both in length (i.e. more conference papers) and in diversity (i.e. inclusion of deliverables), it is expected that more pages will soon be added to this section. In its current state, the title of each paper is added to the page, as soon as, its acceptance notification is received. The full text of the paper or a link to the paper on the publisher website is added at the same time, or shortly after.




Figure 3 Publications Section

2.4 Events Section

This section will provide information about all public events, workshops and summer-schools organized by EUNITY. It is expected that the visitor will be also able to see there photo galleries related to these events.

2.5 Contact Us Section

The *Contact* page (Figure 4) contains a contact form allowing visitors to contact project consortium and submit comments, questions, or suggestions. The *email* address of the visitor is required, in order to send feedback. We opted for a contact form, instead of publishing a contact email address, in order to avoid having our email address harvested and spammed through the course of the project. As an additional anti-spam measure, the form is protected by a CAPTCHA.



Home Partners Publications Events - **Contact Us**

Contact us




Please fill the following form to send us your comments, questions or suggestions.

Your email address:

Subject:

Message:

Please enter the two words on the image separated by a space:



Type the text [Privacy & Terms](#)

Submit

Figure 4 Contact Us

3 Updating the website

The contents of the EUNITY website can be easily updated using a web browser. This feature is provided by the CMS we use (see Section 5.1). After successful authentication, the website editor is presented with the *Site Administration Panel* shown in Figure 5. Through this panel all of the website's modules can be configured.

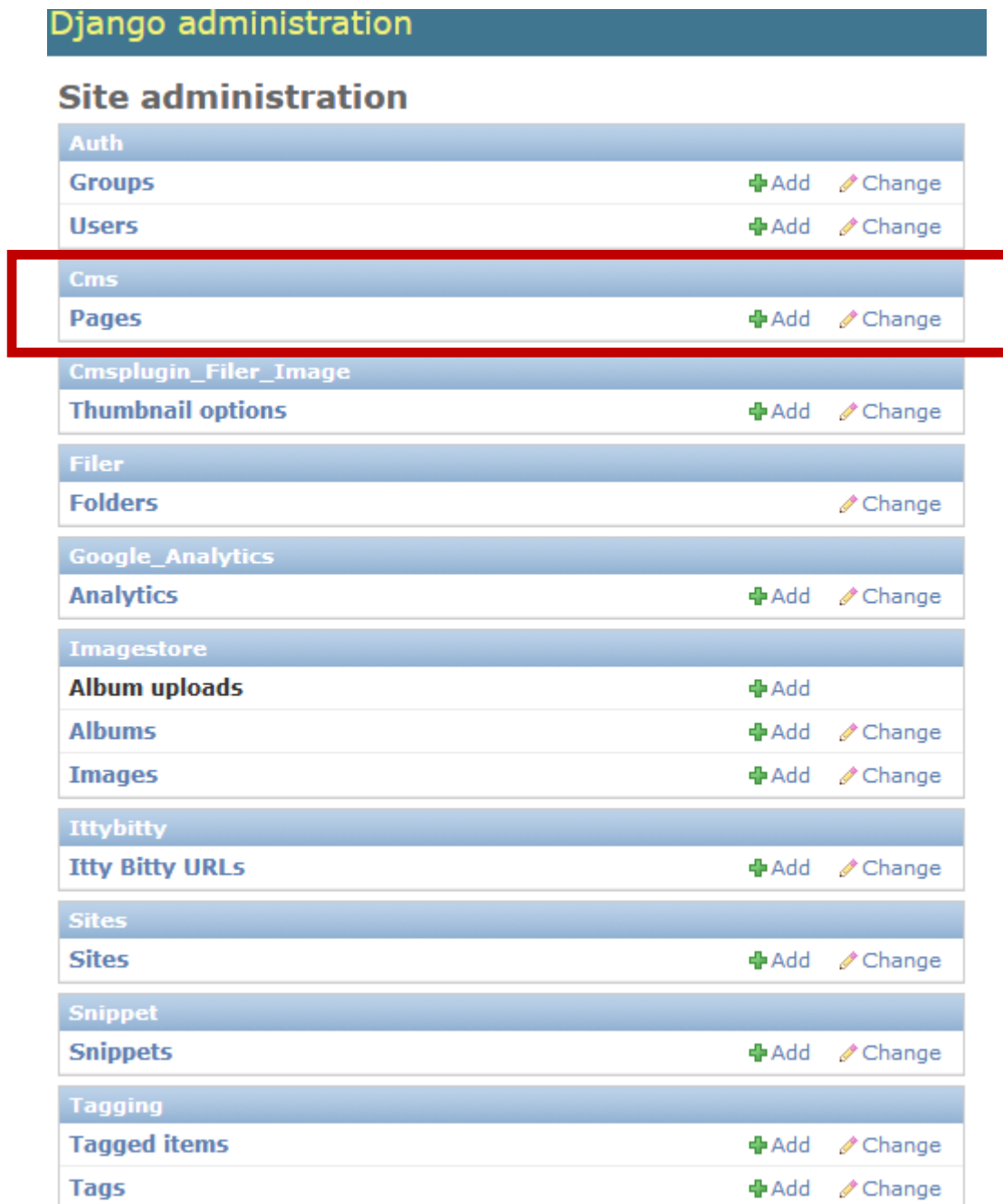


Figure 5 Site administration panel. Highlighted is the section of the CMS module, which is used to edit content.

The contents of the site are updated through the *CMS module*, which appears highlighted. Following the Pages link, the *page hierarchy panel* (shown in Figure 6) is displayed. The panel

allows the website editor to restructure the website layout by using *drag & drop* on the items. Additionally, with a single-click, the editor may hide a page from the navigation menu or take it offline.

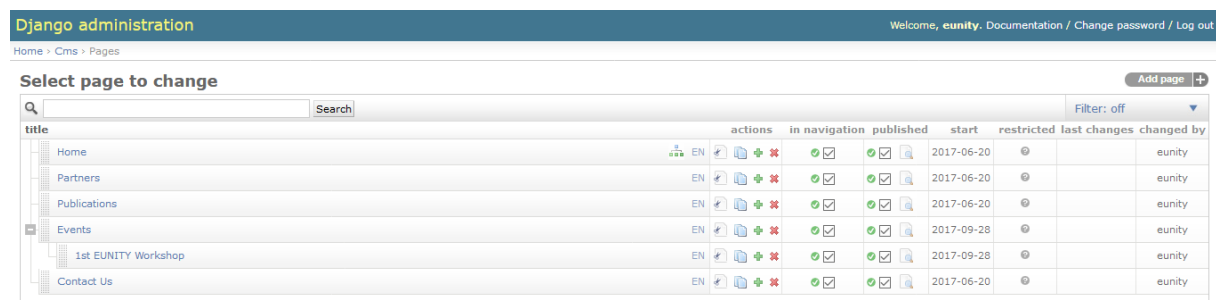


Figure 6 Page hierarchy panel. The pages can be rearranged by dragging them and dropping them on their new location in the hierarchy tree.

While it is possible to edit the contents of a page through the admin interface we presented, it is usually more convenient to update it through the front-end editor of Django-CMS. The front-end editor feature is automatically enabled when visiting the website, after having logged in the administrative interface. When it is enabled, a toolbar appears on the top of the page, which enables the user to go into edit mode.

The actual content of the page is encapsulated in *Content Plugins*. Content Plugins produce HTML output, which is placed in designated locations in the template called placeholders. Obviously, the most commonly used plugin is the *Text Plugin*, which is used to edit and then display html formatted text. However more specialized plugins exist for interfacing with specific data sources (e.g. Twitter).

The built-in editor used for editing the page text offers many of the formatting options found in a full-blown word processor. The formatting options supported by default have been chosen to encourage semantic-based html formatting. i.e. the editor marks-up the contents according to their semantics on the page and their final appearance is determined by the CSS stylesheet used.

From its day-to-day use, we have found the website update mechanism very convenient and easy to use. Currently, the content of the website is updated by FORTH. If the need arises, it would be straightforward for other partners to be involved in adding and updating website content with only minimal training (if any at all).

4 Website design

4.1 Grid based design

We wanted the EUNITY website to have a visual layout which is clean-cut while at the same time is easy to change in order to accommodate future needs. For this, we chose to have it designed and built using [Twitter Bootstrap](#). Twitter Bootstrap is a CSS framework that allows the rapid prototyping of *grid based website designs*, while working equally well when integrated into a production system.



In grid based designs, the visual blocks that comprise the website (e.g., menus, text boxes, information boxes, ads etc.) are not placed on arbitrary positions. Instead they are laid out on predefined rigid positions on a grid. This may sound restrictive but in practice the resulting design is much more efficient in communicating its contents to the visitor. This is because placing the visual blocks of the website on a grid results in *clear visual paths* and *visual structure and balance* on the design. Additionally, a grid based design also ensures consistency between the website pages and are much easier to update in order to accommodate additional content.

4.2 Browser Compatibility and Web Standards Compliance

The EUNITY website pages have been tested to comply with the *HTML5* standard, using the [W3C Markup Validator](#). The situation is more complicated with regards to *CSS* compliance. We have chosen to use *CSS3* for the EUNITY website because it greatly simplifies the implementation of aesthetic elements such as rounded element corners, element shadows etc. Without *CSS3*, these elements have to be pre-rendered as bitmap images and then included in the page, which degrades the semantic integrity of the produced *HTML* output.



However, the *CSS3* standard is currently a work in progress. So, while we have taken every care for our *CSS* code, it has been proved impossible to have *CSS3* code that both validates on the *W3C CSS Validator* and works on all popular browsers. This made us take a more pragmatic approach and instead strive to have our pages render correctly with the latest versions of all popular web browsers.

5 Website hosting

5.1 Software stack

For serving the EUNITY website we use a *LAMP software stack*:

- Linux as the operating system
- Apache as the web server
- MySQL as the database backend
- Python for dynamically compiling the web pages

The later components of the stack have been distributed between two servers. The first server is dedicated to running the *MySQL server*, while the second runs the *Apache web server* and generates the dynamic pages using the python-based [Django web framework](#).

Django itself is a generic web framework that provides an *Object-Relational-Mapper* (ORM) that allows accessing objects stored in a relational database (in our case *MySQL*) as Python objects. For serving and managing our pages we use [Django-cms](#) a Content Management System built on top of django.

The benefit of the Django/Django-cms combo is that they provide a clear, well-documented Application Programming Interface. They are much more compact than other solutions which make tweaking and extending them much easier. This could prove useful in case we need to extend the functionality of the EUNITY website beyond the basics. An additional benefit of this combo is the existing expertise of the consortium (specifically FORTH) on building and maintaining Django-cms sites. Finally, we should mention that all the software components are regularly updated in order to be immune to known (and patched) security vulnerabilities.

5.2 Hardware and hosting

The EUNITY website is hosted by FORTH on their premises in Heraklion. The hosting server features two Intel Xeon dual-core CPUs running at 2.66GHz and a total memory of 4GB. It is connected to the Internet through FORTH's Gigabit connection to the GRNET backbone. The server has two high performance SAS disks (10k RPM) arranged as RAID-1 for fault-tolerance.

The server is protected by firewalls in order to minimize the risk from cyber-threats. As an additional security measure, the database server used by the EUNITY website is located on a separate host with even more restricted access rules. Both hosts are internally and externally monitored. Finally, remote backups through the *rsync* utility are performed for both on a daily basis.

It is also important that the hosts reside in a protected physical environment. They are located in one of FORTH's data-centers. For ensuring optimal operating environment, it

is fitted with industrial-strength air conditioning with more than 240.000BTUs efficiency. In power emergencies, it is supported by a UPS power supply and an external power generator which is engaged automatically on power failure. Additionally, the data-center features an automatic carbon dioxide fire-extinguishing system.

6 Social Networks

Currently, EUNITY presence is established in *Twitter*.

6.1 Twitter presence

The Twitter profile of EUNITY¹ can be seen on Figure 7. It has been also integrated to the website in the form of the *news feed* in the right part of our layout.



Figure 7 Twitter profile of EUNITY

¹ Our Twitter profile can be accessed on https://twitter.com/EUNITY_project

7 Centralized Version Control System

Currently, EUNITY partners make use of a centralized version control system in order to facilitate the communication, the management and the exchange of information and documents between them. Apache SVN² is installed and is available to the EUNITY partners only through authentication. On every change of the contents of SVN, the coordinator of SVN is being notified, ensuring its systematic and efficient usage.

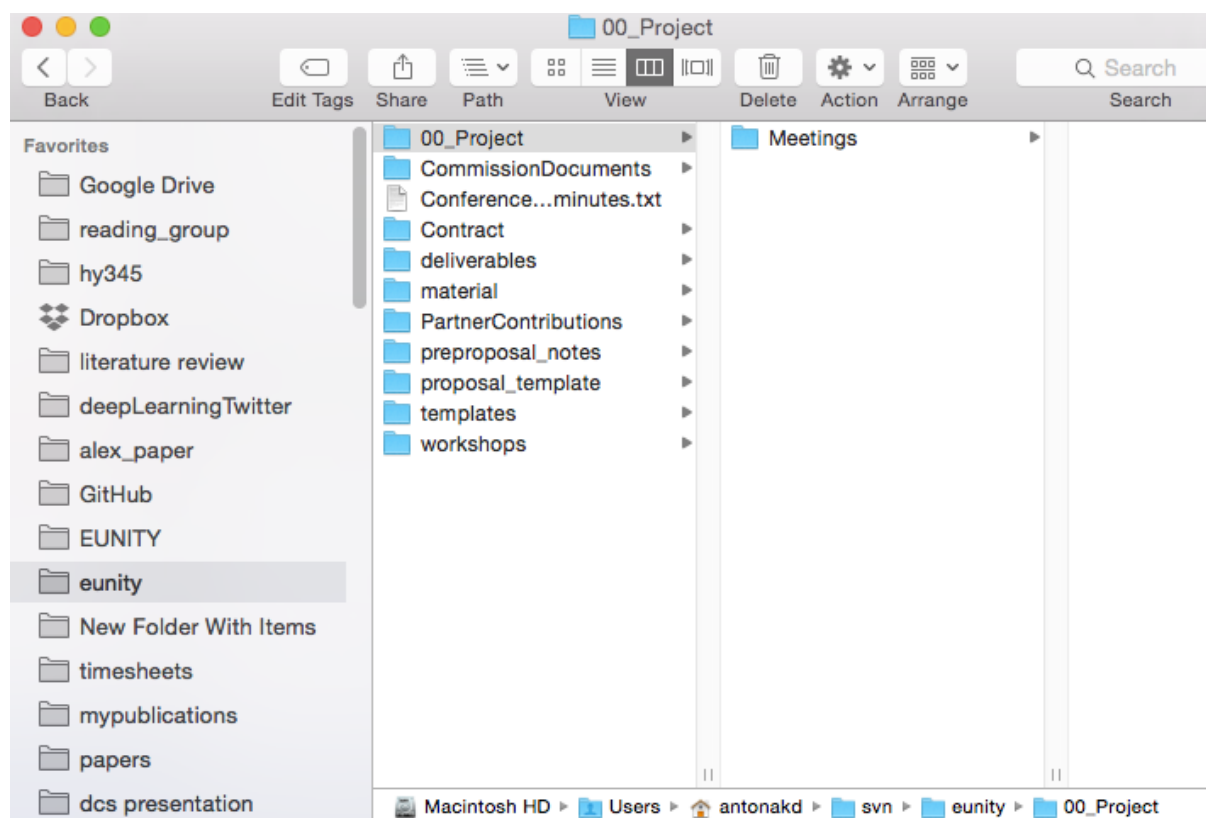


Figure 8 SVN structure

All the documents created by the EUNITY partners are stored in SVN. These documents include the initial Grant Agreement, the template for the deliverables, the deliverables as they are continuously updated by the responsible partners, the material from the workshops organized by the project and several other documents necessary for the on-going progress of the project.

Apache SVN:<https://subversion.apache.org/>²

8 Teleconferences

The EUNITY partners schedule and organize monthly teleconference meetings in order to coordinate and ensure the efficient and smooth progress of the project. Towards this direction GoToMeeting³ software has been used.

³ <https://www.gotomeeting.com/>

9 Conclusions

In this document, we discussed the EUNITY website. We provided a description of its sections and content and outlined the social networking features we have integrated. Moreover, we showed the process of updating the website through a user-friendly front-end editor.

Additionally, we provided an overview of the components and the methodology we used to build the website. We also detailed its software and hardware-hosting environment.

Closing, we should cite that at the time of writing of this document the EUNITY website was already capable to provide the functionality requirements that had been laid out in the project's description. However, in addition to the existing commitment to keep the website running and up to date, the consortium will continue looking throughout the course of the project for features that could be integrated with it in order to provide an enhanced experience to the visitors.