



Deliverable D3.2

OSOS Incubators



Funded by the Horizon 2020
Framework Programme of the
European Union

This project has received funding from the European Union's Horizon 2020 Framework Programme
under grant agreement No. 741572

Document Control Page

WP/Task	WP3 / T3.2
Title	OSOS Incubators
Due date	
Submission date	
Abstract	This deliverable reflects the work implemented in the context of WP3 with respect to the design and development of the OSOS Incubators (Task 3.2) and the European Open Schools Map (Task 3.4). OSOS Incubators are designed and implemented utilizing the infrastructure and the services provided by the ISE portal and extend them properly to support the needs of the project. More precisely, this document presents the design specifications of the OSOS Incubators, the actors and use cases that implement the desired functionality, the special tools that constitute the OSOS Incubators, the tools that are provided for the online support mechanism designed and provided by the WP3 and special mechanisms that support the assessment of the use of OSOS Incubators and growth of the network and content in the context of the project activities.
Author(s)	Kolovou, L.
Contributor(s)	-
Reviewer(s)	ALL WP Leaders
Dissemination level	<input type="checkbox"/> internal <input checked="" type="checkbox"/> public <input type="checkbox"/> confidential

Document Control Page

Version	Date	Modified by	Comments
1.0	15/05/2017	Kolovou, L.	First version of content structure
2.0	01/09/2017	Kolovou, L.	Content update, ToC update
3.0	31/10/2017	Kolovou, L.	Content update, ToC update based on comments received from EA
4.0	17/11/2017	Kolovou, L.	Pre-final version
5.0	29/11/2017	Kolovou, L.	Final version

Executive summary

This deliverable reports on the WP3 with respect to the design and development of the OSOS Incubators (Task 3.2) and European Open Schools Map (Task 3.4). OSOS Incubators are designed and implemented utilizing the infrastructure and the services provided by the ISE portal and extend them in a manner to facilitate the cooperation and networking of participating schools, to provide the tools for community building and stakeholders' collaboration and to establish and support the growth of an open learning network for teacher2teacher and teacher2students collaboration in the context of new educational activities.

In this context, the main definition and principles of the OSOS Incubators were first examined and established taking into account the specifications that derive from the project needs and the valuable feedback received from the Consortium.

Following these initial statements, considerations and requirements the design and development plan of the OSOS Incubators was designed with first step the design of the full navigation path of all the involved users (Teachers, Experts, Students). Taking into account this and in conjunction with the already established ISE portal and the services that this provides for community and social interactions, the specific user actions and interactions and the content types that the OSOS Incubators need to support were defined.

Based on these, the OSOS Incubators were then implemented as advancement of the ISE portal including mainly: the entrance point for the OSOS community that embeds also the European Open Schools Map, the Schools' profiles and workspaces, the OSOS communities', the authoring tool for the creation and sharing of Students' projects and the OSOS supporting mechanism online presence in the portal Academies and the OSOS structured online guide for the Head Masters, the Teachers and the Students. In addition to these, special mechanisms were made available to support the translation of the authoring tool in the project languages, the tracking and reporting of analytics and social services for further interaction, sharing and networking.

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1 Introduction

1.1 Purpose of the document

This deliverable reflects the work implemented in the context of WP3 with respect to the design and development of the OSOS Incubators (Task 3.2) and the European Open Schools Map (Task 3.4). OSOS Incubators are designed and implemented utilizing the infrastructure and the services provided by the ISE portal and extend them properly to support the needs of the project. More precisely, this document presents the design specifications of the OSOS Incubators, the actors and use cases that implement the desired functionality, the special tools that constitute the OSOS Incubators, the tools that are provided for the online support mechanism designed and provided by the WP3 and special mechanisms that support the assessment of the use of OSOS Incubators and growth of the network and content in the context of the project activities.

1.2 Audience

This document targets all the partners of the project including mainly (i) the partners that contribute in the other Tasks of the WP3 so to deliver in the context of the work-package aligned and consistent work that meets the objectives and the needs of the project and the WP, (ii) the National Coordinators (WP5) that are the main interface with the Schools, Head Master and Teachers that participate in the project activities and they are the main target group that will use the OSOS Incubators, (iii) the Dissemination team (WP7) that can take advantage from the promotion and communication mechanisms of the portal so to better promote the project's results and also feed the implementations of the project that are presented in the project website with best practices and special cases developed by the Teachers in the portal, (iv) the impact assessment team (WP6) that can take direct feedback for the use of OSOS Incubators and also examine the needs and specifications of integration of the OSOS assessment tools with the portal services and (vi) the partners that produce the Accelerators (WP4) of the project that can take advantage from the OSOS Incubators to make the Accelerators online available to the Teachers in a structure and format that can be easily reused and shared.

1.3 Document structure

This deliverable includes the following chapters:

CHAPTER 1. The current chapter is an introduction for the document.

CHAPTER 2. This chapter presents the main design considerations, requirements, principles and definitions of the OSOS Incubators.

CHAPTER 3. Includes the methodology that was followed for the design and implementation of the OSOS Incubators.

CHAPTER 4. Presents all the aspects of the ISE platform, including the services, the social features and the architecture of the infrastructure.

CHAPTER 5. Fully describes the OSOS Incubators as these are available in the portal.

CHAPTER 6. Presents the online support mechanism of the project

2 The OSOS Incubators principles and main requirements

2.1 OSOS Incubators definition and initial requirements

The introduction of the Open Schooling Culture in OSOS project is supported by a series of tools, the **Open Schooling Incubators**, for the involved practitioners, to develop their projects, to share their best practices with others and to disseminate their work. The main aim of OSOS Incubators is to help them to become creators of educational activities which will reflect on the real educational needs of their classrooms as well as providing solutions to their local communities. The focus is not only on the integration of external resources into syllabi, but also on subsequent adoption of the modernization of the school organization, school cooperation with external players as well as the teachers' professional development. OSOS Incubators support also the online availability and sharing of a series of best practices made available in the project, the Open Schooling Accelerators that the participating schools can adopt to their local communities needs in order to demonstrate their potential to act as core nodes in them.

From their definition in the project, the OSOS Incubators use the Inspiring Science Education infrastructure and services (www.inspiringscience.eu, <http://portal.opendiscoveryspace.eu/ise>) to offer the necessary numerous of tools for the school communities that are involved in the project and advances them with additional features and services.

In this context, the basic requirements for the OSOS Incubators include the following:

- Provide the necessary framework and tools to facilitate **the cooperation and networking of the participating schools**
- Provide the **OSOS Communities Support Environment** that will provide tools for community building and support, and will encourage cooperation between teachers, students, parents, local communities, industry and researchers
- Create an open learning network where **teachers can access their colleagues' course materials, share their own**, and collaborate on affecting their everyday practice
- Provide the necessary **authoring tools for the teachers and the students to implement their school based projects** and activities
- Apply Web 2.0 features (**tags, ratings, comments, reviews, and social networking**) to create an online experience that engages users in sharing their best science teaching practices and local projects
- Develop the **Open Schooling European Map** which acts as the entrance point to the schools' communities and depicts the evolution of the school network and its growth following the piloting activities throughout the lifetime of the project

2.2 Project definitions and concepts related to the requirements for OSOS Incubators

Open Schooling Hub: An Open Schooling Hub will be an open, curious, welcoming, democratic environment which will support the development of innovative and creative projects and educational activities. OSOS project will create a core network of 100 Open Schooling Hubs in 12 countries. Each one of these schools will develop a network of at least 9 additional schools to form a national network of schools where the Open School Culture is introduced. Overall more than 1,000 schools will be involved in the project in two implementation phases.

OSOS Accelerators: The OSOS best practices will act as accelerators of the introduction of OSOS approach in the participating schools. They will help innovative schools to proceed more and develop their innovative ideas to new localised projects that could provide new solutions for the school and its community, for bringing the gap between formal and informal learning settings and creating new opportunities for personalisation at different levels (student, teacher, school)



National Coordinators: The implementation of the project activities and the coordination of the national networks of schools will be supported by the National Coordinators, partner institutions that have direct access in school communities. The consortium partners are already working with these schools in the framework of current initiatives. With the support of the National Coordinators, the project team will set in place an effective support mechanism which will provide guidance, training, feedback and recommendations to the actors involved (teachers, museum educators, outreach groups, parents).

The **DFC Model** is guiding students to develop their projects following a four-step process. DFC curriculum has simplified design thinking principles for children. The framework of FEEL, IMAGINE, DO and SHARE builds empathy in children, for them to engage as active participants in their communities. It redefines failure as prototyping and gives them the confidence to be innovative and find creative solutions for problems that bother them. Children become change makers. Teachers are able to experience the capabilities of their own children as they listen to their voices and ideas. Feel gets children to empathize and engage with a problem, they imagine a solution and do the act of change. Through sharing their story, they inspire others. FIDS provides a structured curriculum to teach and assess key 21st century skills.

2.3 Main description and principles of OSOS Incubators

As mentioned before, the OSOS Incubators are built on the ISE portal infrastructure and take advantage from the full set of the existing services and features to fully support the requirements described and the activities implemented in the OSOS project.

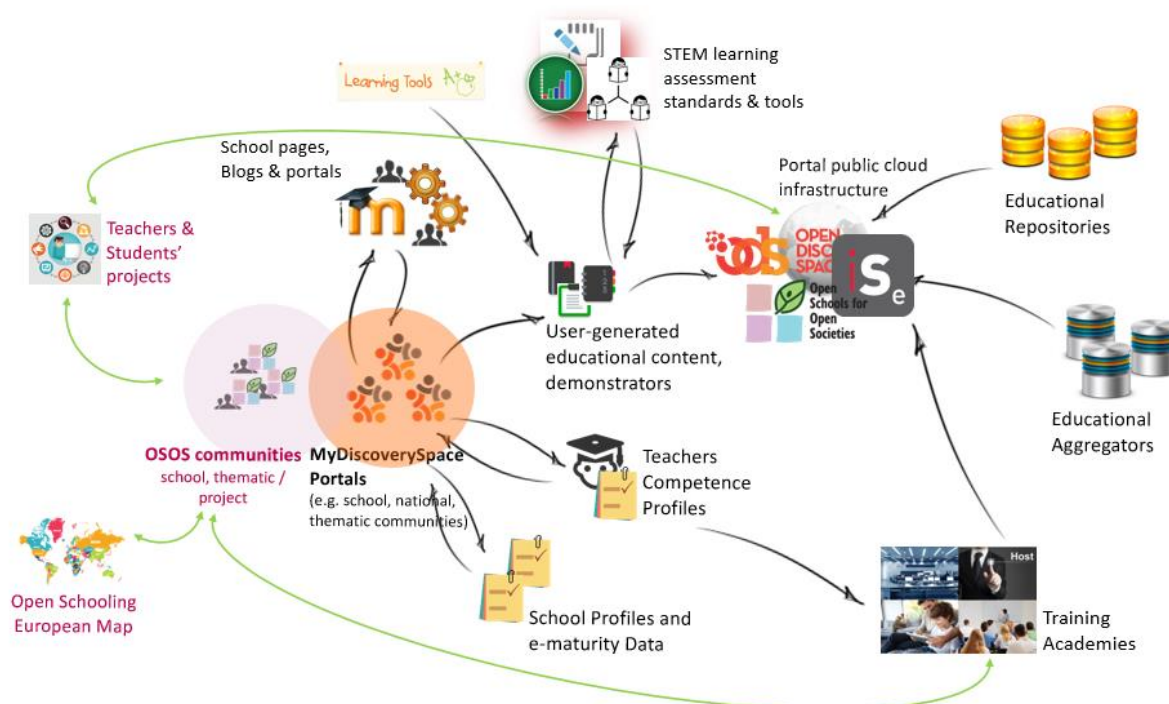


Figure 1: OSOS Incubators build on the ISE portal infrastructure and services

In the diagram of Figure 1 the entire conceptual architecture of the ISE portal is depicted and with the pink colored text the OSOS Incubators' new features are presented that are connected with the green lines with the existing and advanced from the OSOS project entities of the portal infrastructure. Based on this, the OSOS Incubators mainly include:

- The OSOS Communities that are created by the Teachers of the Schools that participate in the project activities and are the main vehicle and workspace for the networking and collaboration

activities among the Schools, the Teachers, the Teachers and the Students, the Schools and the stakeholders that are involved in this open learning network

- The tools that are provided through the OSOS communities to the Teachers and the Students to create and share their own projects and learning activities with the greater OSOS community and the stakeholders that are related to them at local or more extended level
- The repository of the portal that offers the space to implement and host these activities but also offers a large amount of learning resources shared by other Teachers to be adopted and used in the context of the new Teachers' and Students' projects
- The Training Academies that offer a variety of proper Training Activities and relevant material and help the Teachers to introduce the concept of Openness in their Schools
- The Open Schooling European Map that act as a gate to the open school's network and their communities and activities, supporting the networking and further collaboration between them

3 Methodology and planning

3.1 Designing and implementing the OSOS Incubators

For the delivery of the OSOS Incubators the standard Software Development LifeCycle (SDLC) methodology was followed, including the steps presented in the diagram. The process was not for all the features a linear one, since the re-design of the specifications and the further development was needed in some cases, based on the feedback received from the partners and also the results of the testing of each individual feature of the OSOS Incubators. The phases of the SDLC followed for the OSOS Incubators include these activities:

Requirements analysis: This was the first and the most important step in the process since all the users needs and requirements are gathered in the context of the description of OSOS Incubators that is already provided by the Description of the project. Special meetings took place and discussions with the partner using reference documents for the design of the OSOS Incubators. This phase started early enough in the project, to ensure that all the needs will be recorded and properly be translated to technical specifications.

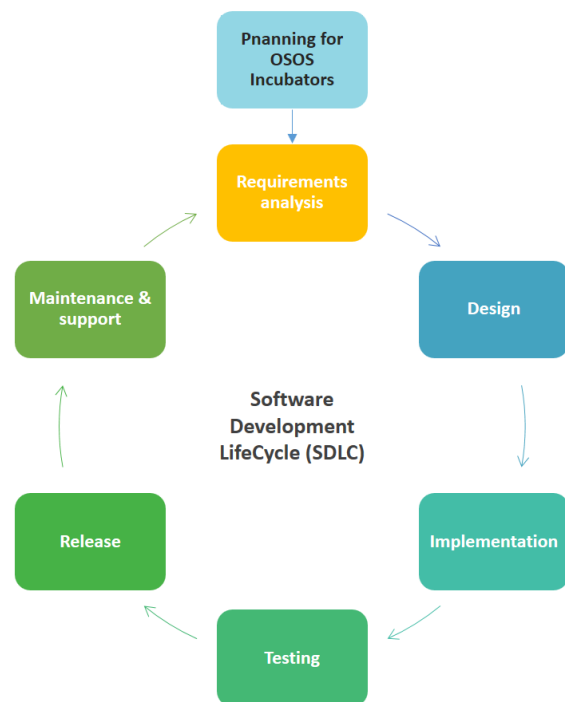


Figure 2: OSOS Incubators development cycle

Design: In this phase, the software design was prepared based on the requirements collected in the first phase and the proper adaptations of the existing infrastructure of the ISE portal were considered as well. In this step, also the design of the UI of OSOS Incubators was provided using mockups for the newly designed pages of the portal and the authoring tool and also for existing pages that needed adaptation in order to support the OSOS Incubators.

Implementation: With the progress of the Design phase the Implementation phases started as well, preparing the infrastructure to host the OSOS Incubators. The work was divided to modules and the actual coding started. This phase was completed at the development environment of the ISE portal, without affecting the performance and the functionalities of the live portal that is hosted in the production environment.

Testing: As the implementation of the various modules was in progress, the testing was also started to ensure that the functionality, the presentation and the performance of the OSOS Incubators meet the design principles, the specifications and the requirements set in the previous phases.

Release: In this phase the deployment of the OSOS Incubators was completed with the transfer of the new features of ISE portal from the development to the production environment, while in parallel, testing activities took place before the final publication.

Maintenance and support: With the release of OSOS Incubators the maintenance of the services started and the support to the partners and users of the portal for the better implementation of the project activities.

3.2 The development time-plan

Along with the design of the methodology for the implementation and delivery of OSOS Incubators, a time-plan was also prepared and followed starting from M2 of the project with the collection of the

requirements. The actual delivery of the OSOS Incubators was completed up to M9 but still, is foreseen that for the next months a continues testing and also the maintenance and support services will be provided to ensure the quality and full availability of the developed services in the project.

The following diagram presents the time-plan of all the phases of the development plan.

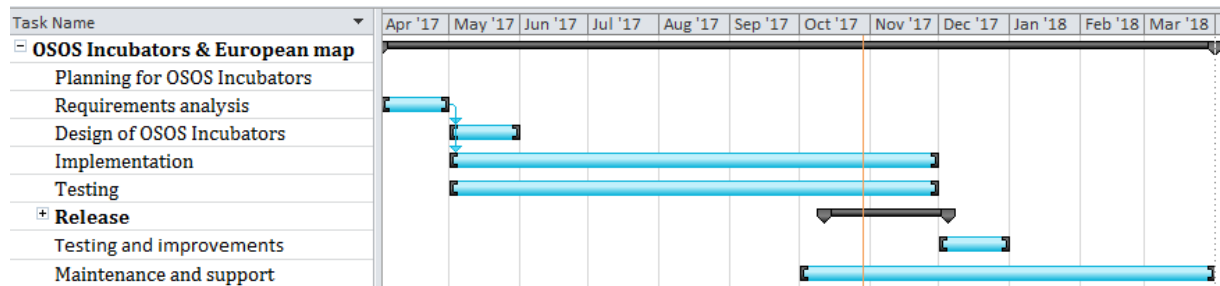
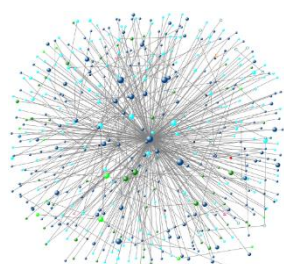


Figure 3: The time-plan of implementing the OSOS Incubators

4 The Inspiring Science Education platform

4.1 The services – main description

The [Inspiring Science Education platform](http://portal.opendiscoveryspace.eu/ise) (<http://portal.opendiscoveryspace.eu/ise>) is a social-based community platform that supports teachers to create new learning processes and educational material for bringing Innovation in schools with the design and implementation of various activities inside and outside the classroom, while networking, collaborating and exchanging knowledge, material and experiences with a broad network of schools, teachers and relevant stakeholders. More precisely, **the teachers** are able to participate in a dynamically expanded collaborative network of School/thematic/national communities, that are internally well structured and organized based on the activities and the content that each community implements/uses/publishes in open or private mode. In these communities, the teachers can organize their own groups in terms of students and content, learning scenarios and tools. Through the communities, the teachers can discover, mix and re-use of learning content, eLearning tools and contextual data using a set of authoring tools in order to produce new learning material and activities. At the top of these possibilities and focusing on the better support



of the teachers, the portal provides a rich set of Training Activities organized under the Training Academies, so the teachers can increase their professional development and advance their competences through an innovation process.

In the same context, **the schools** that are registered in the ISE portal and make use of the available services, are properly supported to build and organize their own profile and workspace in the platform and supports Teachers' involvement under their School communities.

4.2 The social services

The social services provided by the ISE portal cover all the types of social interactions of and among the users, regarding all the content types created, managed and organized in the portal and their use and growth indicate the general activities implementation, the participation of the portal users on them and the trends on the utilization of the provided features and resources.

The table summarizes the entire set of these services and the types of content/entities that these are applied, including also the new OSOS entity of "Projects", presenting the social services that are made available also for this type of content

	User	Community	Resource	Activity	Blog	Discussion	Event	Group	Poll	Training Activity	Project
Bookmark											
Share											
Tag											
Structured tag											
Rate											
Comment											
Vote comment (like)											
Follow											
Connect											
Invite											
Join											
Pin											

Figure 4: Social services of ISE portal and relevant entities

Bookmark	This is used on order to keep “shortcuts” of the desired content on the users’ profile, for easy and faster access of the pages.
Share	Sharing regards the promotion and publication of the portal pages out of the portal, utilizing the available social networks and social facilities, including Facebook, Linkedin, GooglePlus, Twitter, e-mailing and private messaging.
Tag	Tags are used to feature all the content types of the portal, adding special key words from the user (creators and/or visitors) in order to better specify the use and domain of the content presented. This type of social data are of important use for the educational resource, since they provide the general concept of them, the areas where they can be used and ease the searching of the resources through the portal mechanisms with a more effective way.
Structured tag	These are of a special category that follow specific vocabularies defined by the ODS AP for characterizing the educational resources and include: the educational context and the educational objectives
Rate	This is one of the most important means in the portal used to value the quality of the provided content by the ODS community. The users can provide their grades (0-5) assessing the material presented.
Comment	Comments are applied in almost all pages of the portal providing the possibility for the users to express directly their opinions on the presented content. The comments can be either on the content or on comments of other users, thus, providing the possibility of supporting entire discussions and implementation of special activities in the portal. Since the comments can be also enhanced with multimedia content, these has been used in several cases in the portal to raise advance discussions, implements specific activities like photo contests and others.
Vote comment	The votes on the users’ comments are used for assessing the opinions, thoughts and material published by other users. One user cannot vote/like his comments. In several cases, this feature was used in order to take decisions on discussions, to raise the winner on a contest, or other similar activities.
Connect	This service is applied from the users to make connections/friends in the portal and build their networks beyond their participation on specific communities.
Invite	This is actually used by the community managers and group moderatos in order to invite people to join the portal, addressing either people that are already users of the portal but members of other communities, or people that are not registered users, using their e-mail accounts.
Join	Similar to the invitations sent for participate in a community or group, the users can request to participate in a community or group by Joining them.
Pin	This feature is used to reference resources, events or activities from one community to other or to training academies. This supports the community managers and the training activity contributors to share on the members / target group material that is published by others in the portal or educational resources of external repositories that are aggregated targeting of enhancing the entire material presented in the community or training activity and support the users more with more valuable and useful content.

4.3 The ISE portal architecture of infrastructure

The ISE portal infrastructure is presented in the diagram below and presents all the individual parts that are established in both the development and the production environments. The first one, the development environment is used for the implementation, testing, validation and release of the individual features / services of the portal and the replying software upgrades as well. The production environment hosts the live version of the portal that is public and accessible through the <http://portal.opendiscoveryspace.eu/ise>. The architecture follows the layered approach, including dedicated VMs for:

- The application layer, where all the services rely, and made available to the users including: the frontend portal services and the search engine (Solr) for the educational resources.
- The repository layer, where all the data of the portal are hosted along with special VMs for: the users' and portal's services data, the vocabularies used in the portal, the data that are collected through the analytics and the backup files.
- The communication layer that handles the entire communication among the individual parts of the infrastructure along with the interaction and exchange of information with the "integrated" tools and services and with 3rd party portals/repositories/applications.
- The security layer: including a Reverse Proxy that handles the "client" requests and directs them to the appropriate backend server(s).

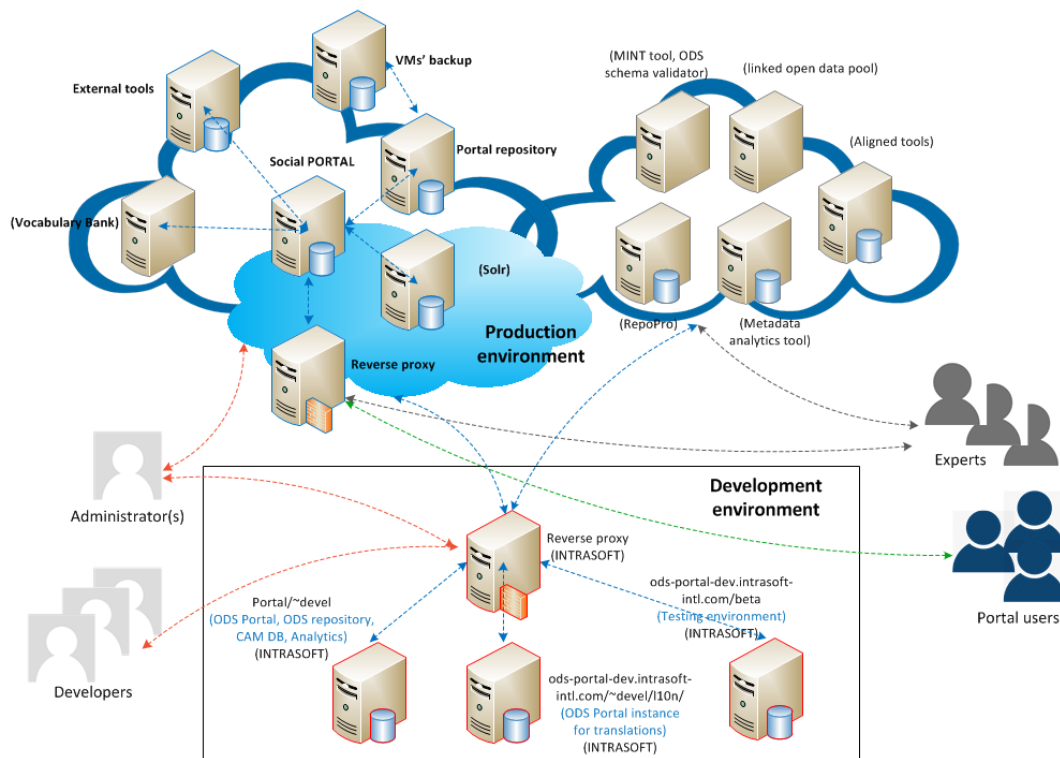


Figure 5: Inspiring Science portal infrastructure

Regarding the security and privacy issues for the interacting users with the platform, these are covered from various aspects and levels throughout all levels of portal's infrastructure and platform including:

- **Platform:** This level targets on the seamless access of the users in the individual components of the portal services, supporting and enhancing the service in an advanced and secure manner.
- **Service / sub-system:** This level of security regards the distributed authorization and auditing processes by the individual sub-systems of the platform and allows the controlled access and guidance of the users on the available services

- **Entities organization:** This level provides the controlled access and follows the privacy mechanisms on the Schools, teachers and communities /groups data that are ensured by the organization of the relations among these entities. These levels of organization are totally respected by the implementation and provision of the relevant services and navigation of the users throughout the portal.
- **Community-based:** Due to the collaborative nature of the services provided through the grow of extended community networks, privacy settings are supported also at community level, in order to protect the privacy settings, set by the community managers on the users' activities and content developed under the communities. The "open" and "private" modes are established as options and respected in all levels of presentation and access of the communities' content.
- **Users' profile-based:** The users / entities that are registered and profiled to the portal manage the partially access on their personal / public data based on their preferences and self-defined restrictions
- **Content contextual description & IPRs:** Access on the individual educational resources, tools and other content provided in the portal follow and cover the IPRs set by their authors/creators, as these are set using the contextual descriptions of them.

Regarding the privacy policy that is followed in the portal and its special conditions are presented in the relevant policy statement in **D1.6 "Data Management Plan"** and it will be online provided for the acknowledgement to the users.

5 The OSOS Incubators

In this section, a full and detailed description of the features of the portal that consist the OSOS Incubators is provided. For each one of these features, the special processes that are followed and also the User Interface and available functionalities are presented.

5.1 Main navigation processes

To better present and understand the use of the OSOS Incubators provided through the ISE portal the description of the main navigation processes for the teachers and the students are described in the following paragraphs.

5.1.1 The basic steps of using OSOS Incubators for Teachers and Students

The start of the basic process for using OSOS Incubators is the registration of the School in the portal and the management from the Head Master, that invites the Teachers to join and start working with their new Projects in collaboration with their Students. The diagrams below present this step-by-step process for all the three key players.



Figure 6: Basic navigation in OSOS Incubators for Head Masters

The basic steps and the full path that are followed by the Teachers to use the OSOS Incubators in the portal are presented in the figure below. It is considered as a precondition to complete the entire navigation that the Teachers are already registered users and members OR managers of at least one community in the portal, so to be able to upload new content and initiate the process of creating new projects.

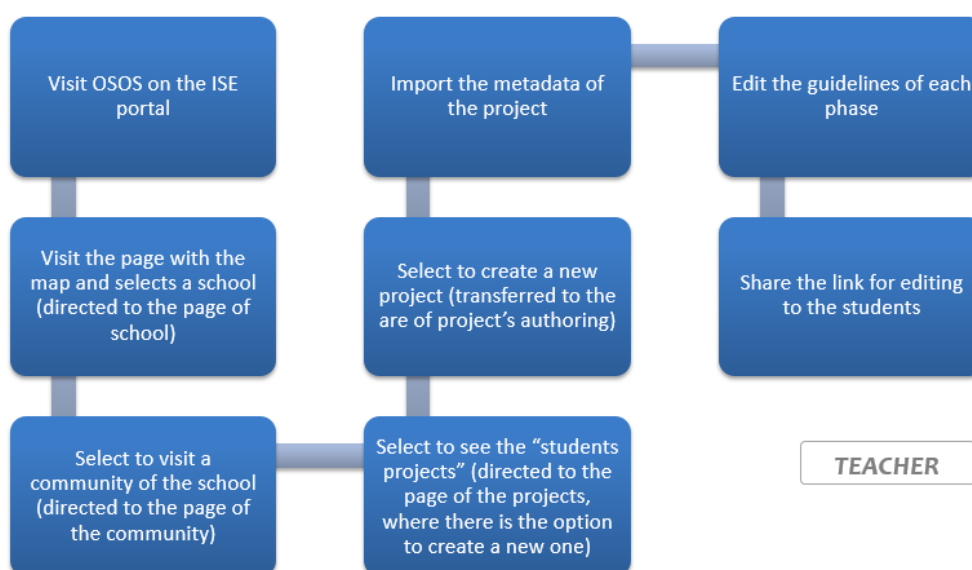


Figure 7: Basic navigation in OSOS Incubators for Teachers

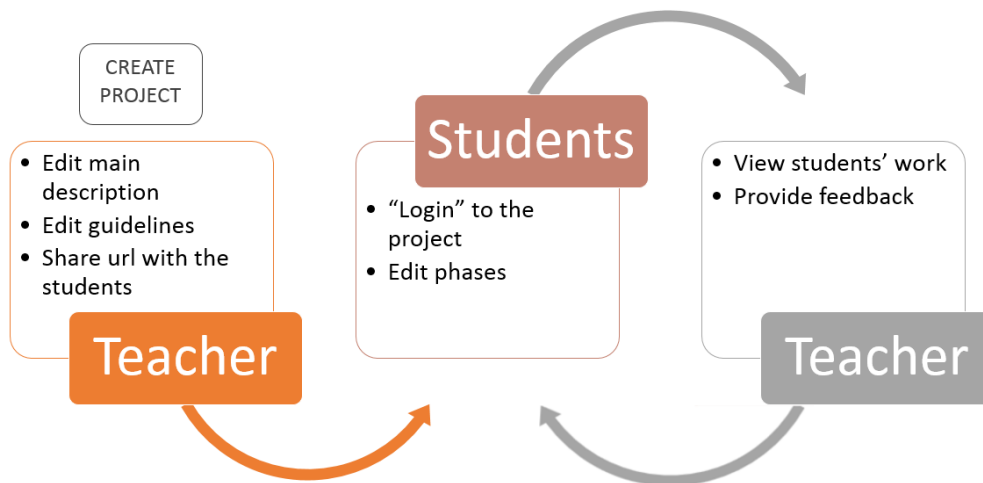


Figure 9: Teachers – Students interaction and individual steps for creating a new Project

Through the OSOS Incubators the Students have the possibility of interacting with their Teachers during the editing of the Project and get the necessary guidelines and feedback until the Project become published.

When editing a new Project, the Students add their material and build their idea following four phases, as designed in the OSOS Project. These are:

- **Feel:** Students identify problems in their local communities. They can also select topics related to global challenges. Students observe problems and try to engage with those who are affected, discuss their thoughts in groups, and make a plan of action, based on scientific evidences.
- **Imagine:** Students envision and develop creative solutions that can be replicated easily, reach the maximum number of people, generate long-lasting change, and make a quick impact. They are coming in contact with external actors, they are looking for data to support their ideas and they are proposing a series of solutions.
- **Create:** Students are implementing the project (taking into account the RRI related issues) and they are interacting with external stakeholders to communicate their findings.
- **Share:** Students share their stories with other schools in the community and local media.

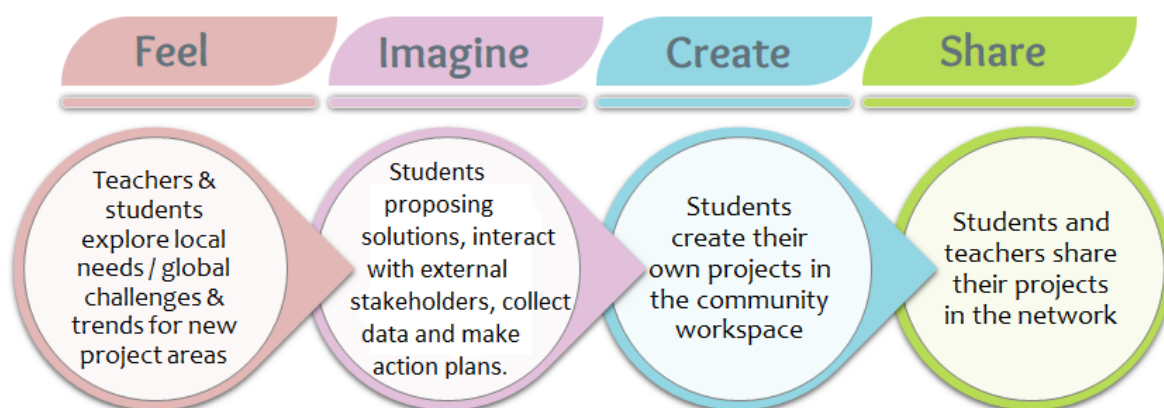


Figure 10: The OSOS platform offers to the students the opportunity to develop their projects following a simple four step process

In each one of these phases, the Teacher provide special guidelines to the Students on what it is expected to be provided and on the methodology and/or tools they need to use to achieve a Project that is ready to be published and during the editing process by the Students, the Teacher has again the

possibility of assessing the work that is already described in the phases and provide his/her feedback supporting the process with additional guidelines and comments.

5.2 Actors and use cases

This section presents all the Actors and the Use Cases that are provided by the OSOS Incubators, facilitating the advanced services of the ISE portal.

5.2.1 OSOS actors

This section presents the actors' specifications along with the actions that each actor will be able to perform using OSOS Incubators. It is mentioned that in some cases the users might have more than one of the roles that are presented. E.g. a Teacher can be also a Community Manager of he/she creates his/her own community in the portal.

Actor	Administrator
Actor ID	ACTOSOS1
Description	This actor has full access in the portal content and services. Only a few people are assigned with this role that are responsible for the administration of the portal and the support of all the users.
Action(s)	<ul style="list-style-type: none"> ~ Manage portal content ~ Manage portal registrations and memberships ~ Manage training activities ~ Manage / export analytics

Actor	Teacher
Actor ID	ACTOSOS2
Description	Teachers are regular registered users in the portal and they are able to create communities under the School that they are registered in, initiate new projects and collaborate with their students for the finalization and sharing of the projects. The teachers can also follow personalized training activities in the portal.
Action(s)	<ul style="list-style-type: none"> ~ Create / join a community ~ Create / update / share projects ~ Copy existing projects / Demonstrators ~ Share new project with the students ~ Follow / access project within the community ~ Share, rate, bookmark, comment portal content ~ Make connections with other users of the portal ~ Exchange messages with the connected users and the members of the community(ies) he/she is a member

Actor	Expert
Actor ID	ACTOSOS3
Description	The experts are registered users in the portal and they are able to participate in the portal communities, or create their own, view the projects uploaded and shared by the teachers and the students and in general they have access in all the open content of the portal.
Action(s)	<ul style="list-style-type: none"> ~ Visit the page of a school ~ Visit the page of a community

	<ul style="list-style-type: none"> ~ Request membership in a community ~ Create community ~ Access the projects of an open community (if not a member) ~ Access the projects of a community (if member) ~ Share, rate, bookmark, comment portal content ~ Make connections with other users of the portal ~ Exchange messages with the connected users and the members of the community(ies) he/she is a member
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Actor	Training activity contributor
Actor ID	ACTOSOS4
Description	Such an Actor is responsible for the management of the Training Activities if the OSOS Academy in the portal.
Action(s)	<ul style="list-style-type: none"> ~ Create / update the topics of OSOS Academy ~ Upload / manage Training Activities ~ Make relations between the Training Activities of the OSOS Academy

Actor	News editor
Actor ID	ACTOSOS5
Description	This Actor is responsible for managing the news of the project in the portal.
Action(s)	<ul style="list-style-type: none"> ~ Upload news of the project in the portal ~ Set the priorities / weights for the sequence of presentation of the news in the Home Page of OSOS Community ~ Update / delete news

Actor	Analyst
Actor ID	ACTOSOS6
Description	These Actors can create queries on the analytics and view the results in the form or reports or download them as excel files.
Action(s)	<ul style="list-style-type: none"> ~ Create new queries for producing reports with statistics ~ Manage his/her own queries ~ Access the portal analytics tool

Actor	National coordinator
Actor ID	ACTOSOS7
Description	The National Coordinators are mainly responsible for the registration and management of the Schools. This role is assigned by the administrator of the portal.
Action(s)	<ul style="list-style-type: none"> ~ Register new schools ~ Set School Manager for the schools that he/she registers ~ Update the profile of the school

Actor	School manager
Actor ID	ACTOSOS8
Description	For this Actor, the role is assigned by the National Coordinators. This Actor is the teacher that is responsible to manage the profile of the Schools under of which they are registered.
Action(s)	<ul style="list-style-type: none"> ~ Update the profile of the school

	~ Create new communities under the school
--	-------------------------------------------

Actor	Student
Actor ID	ACTOSOS9
Description	A student is not regular user of the portal (he/she has no account). He/she accesses the projects that participate using only a nickname and password that are related only to the project and the url of which is shared by their teacher.
Action(s)	~ Edit / update the content of the phases of a project ~ Make a project final / publish the project to the community

Actor	Community Manager
Actor ID	ACTOSOS10
Description	This role is automatically assigned to the registered user that creates a new community in the portal and have access to the administration of the content of the community and also the members of it. The Community Manager initializes among others descriptive elements, the school under of which this community belongs to (if he/she is a Teacher) and if a community is public or private.
Action(s)	~ Create a community ~ Update the description and main information of the community ~ Upload and update community modules (blogs, activities, discussions, polls, events, groups) ~ Manage members of the community ~ Invite new members to the community ~ Connect the community with other communities ~ Manage membership requests to the community ~ Delete a community ~ Pin educational resources and projects from other communities

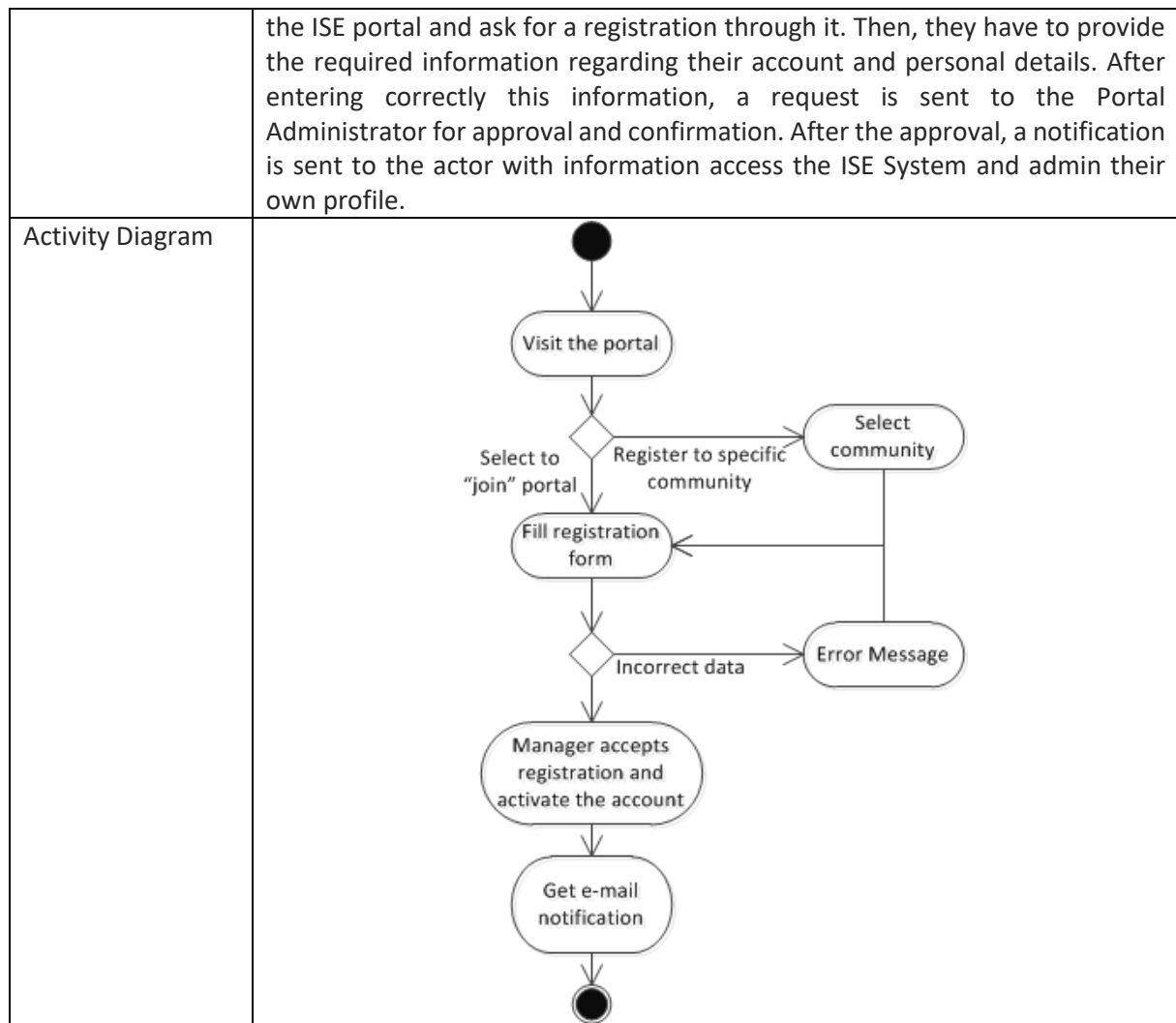
Actor	Translator
Actor ID	ACTOSOS11
Description	This actor is responsible for providing translations on the portal interface using the tools that are online available.
Action(s)	~ Translate the user interface of the portal ~ Translate the user interface of the projects authoring tool ~ Translate the training activities of the OSOS Academy

5.2.2 OSOS use cases

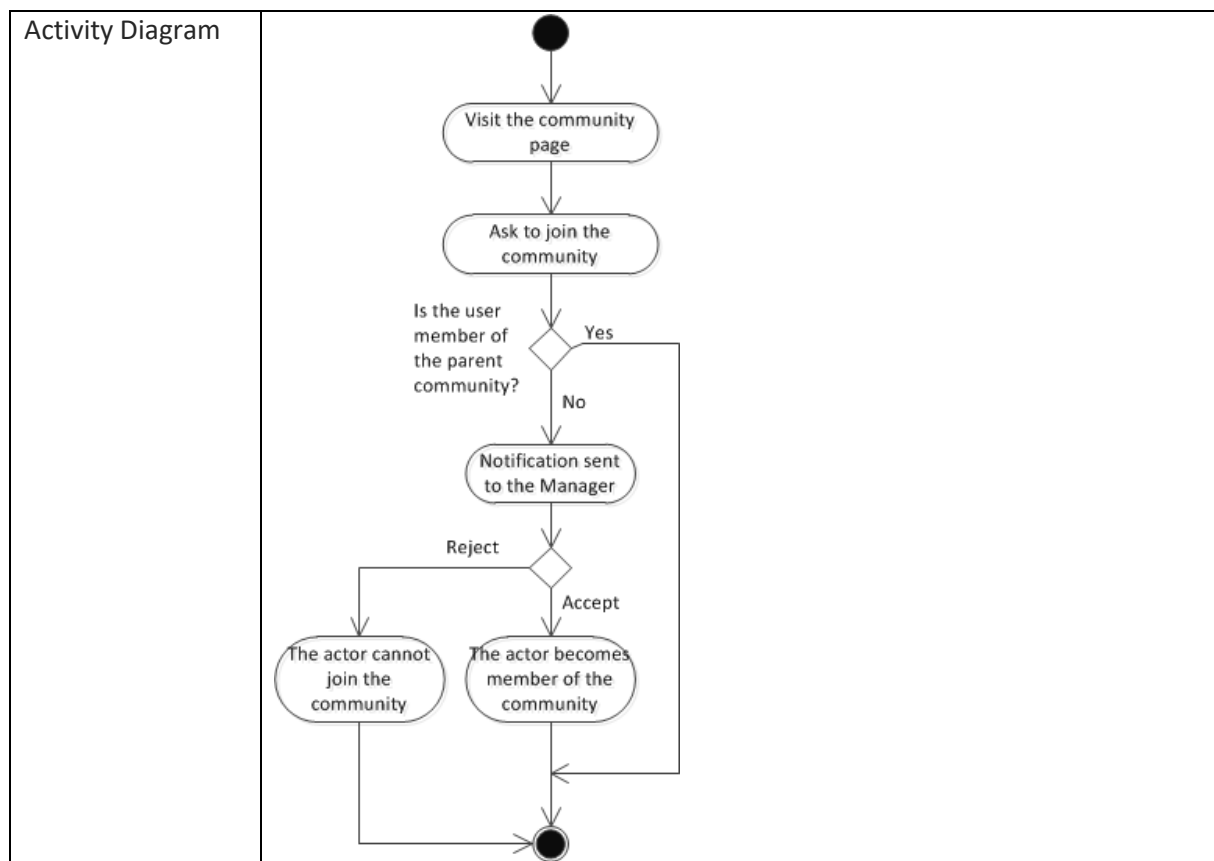
In this section, the use cases supporting the OSOS Incubators are described.

Use Case Name	Register in ISE portal
Use Case ID	UC1
Actor(s)	ALL
Precondition(s)	none
Post condition(s)	The actor is registered to the ISE portal
Brief Description	The actors have proper access to the ISE services (based on their profiles) after being registered to the ISE System. To be registered, the actors have to visit

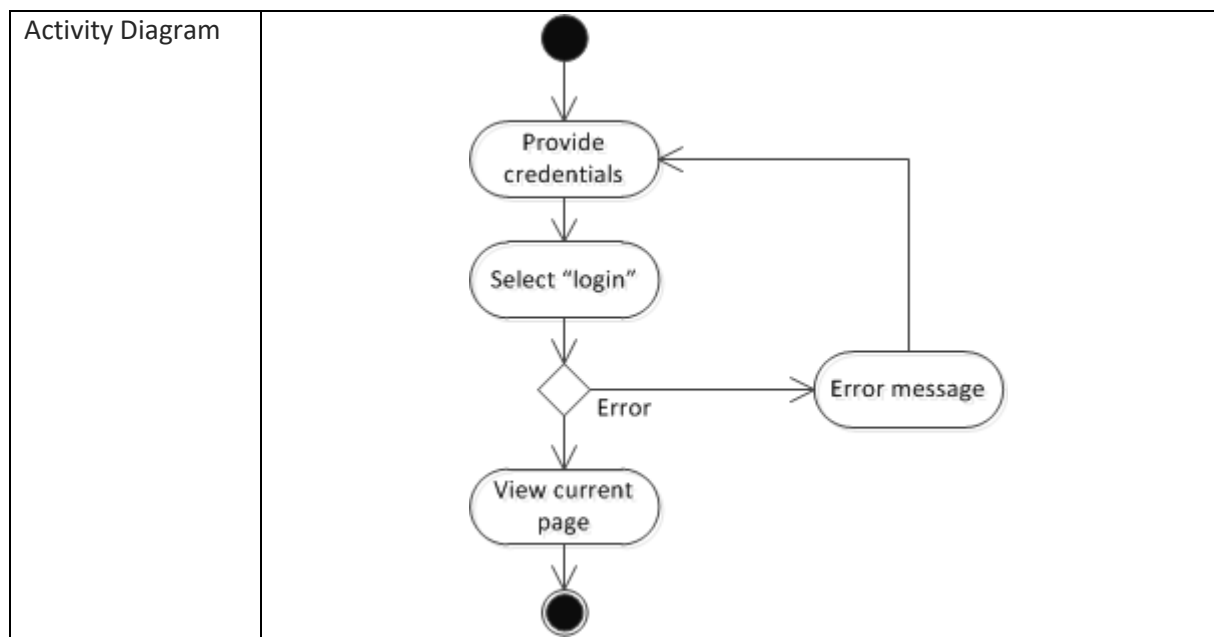




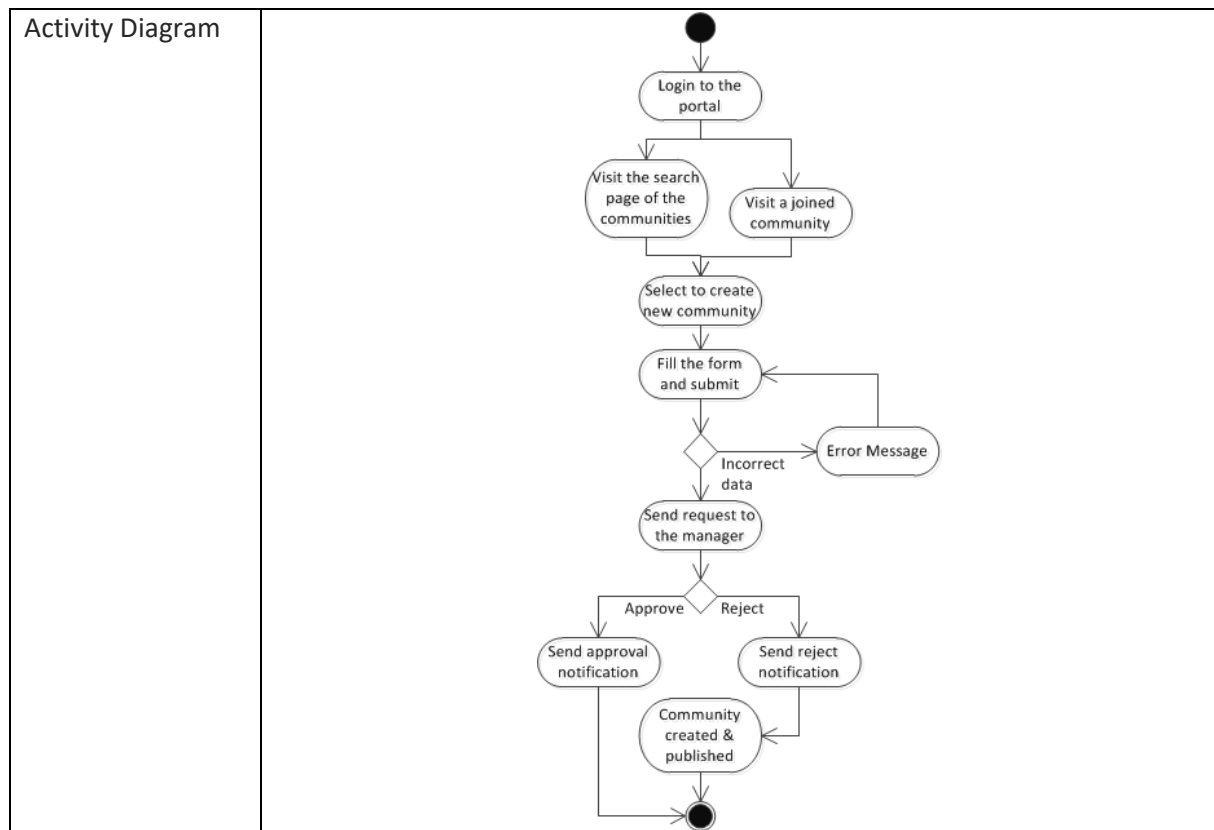
Use Case Name	Join an OSOS community
Use Case ID	UC2
Actor(s)	ALL
Precondition(s)	To registered in the ISE portal and logged-in
Post condition(s)	The actor becomes member of the selected OSOS community
Brief Description	After login to the ISE portal the actor can visit the page of an OSOS community and ask to join using the provided option. When asking to join a notification is sent to the community manager that he/she can either approve or reject. When approving the actor becomes member of the community. In the case the actor is already member of the parent community (if exists) then no approval is needed from the community manager.



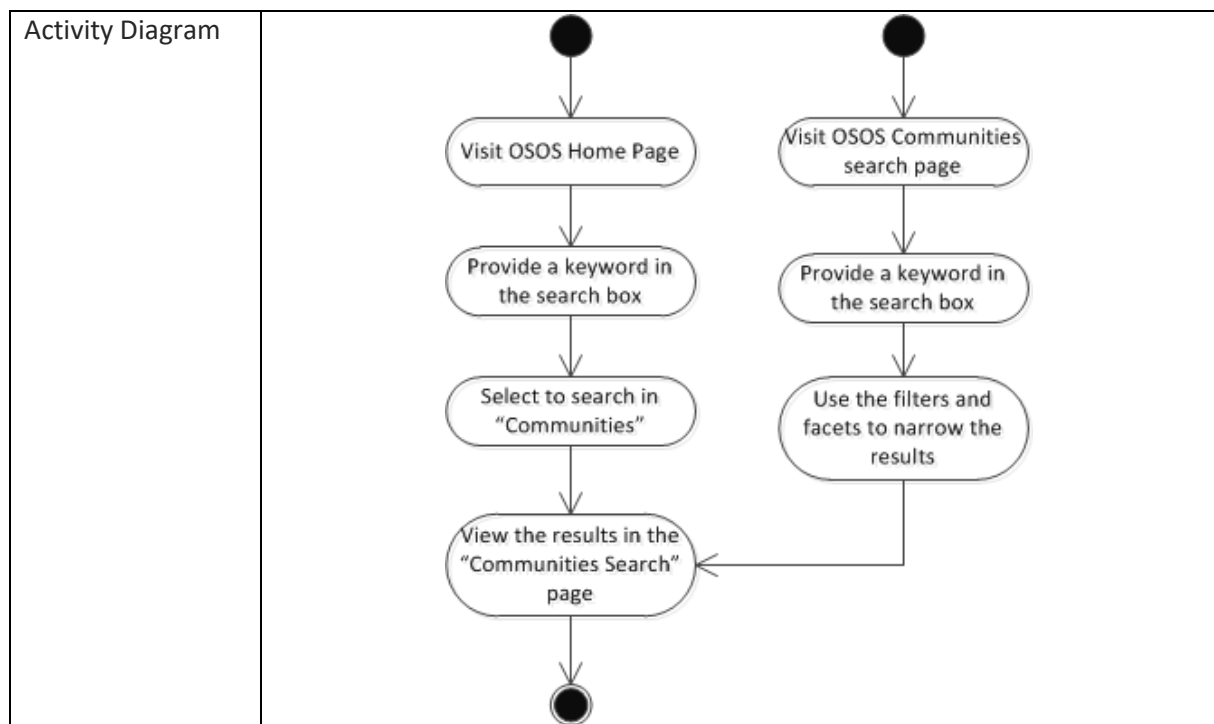
Use Case Name	Login to the ISE portal
Use Case ID	UC3
Actor(s)	ALL
Precondition(s)	The user is registered in the portal
Post condition(s)	The user has access to the ISE portal and OSOS Incubators
Brief Description	The actor enters his credentials to the ISE System to login. In case he does not remember the credentials, he uses his username or his e-mail account to receive a reminder and then access then login. In any case, when the user provides correctly his username and password then he accesses the ISE System as a logged-in user.



Use Case Name	Create an OSOS community
Use Case ID	UC4
Actor(s)	Teacher, Expert, School Manager
Precondition(s)	Logged-in in the ISE portal
Post condition(s)	The actor becomes a Community Manager and have created a community in the portal
Brief Description	<p>The actor can follow this use case in order to create a new community. The actor has initially logged-in to the portal and visited the search page of the communities or any of the communities that he is already a member of or created. The actor selects to create a new community. In the first case this is an independent community. In the second case this is sub-community of the visited one and belongs to its specific network. After completing correctly the proper fields the user send a request to the portal or community manager to approve his request for the new community. The manager can either approve or reject this request. If the request is approved an e-mail is sent to the actor. The e-mail contains a link to the visited community homepage. The has then the possibility to further manage the community information, members and content.</p>



Use Case Name	Find a community
Use Case ID	UC5
Actor(s)	ALL
Precondition(s)	None
Post condition(s)	None
Brief Description	An actor can see and access the pages of any community in the portal even he is a registered user or not by visiting the respective search page of the portal OR the Home Page of the OSOS Community. The diagram presents the two alternative paths for searching a community.

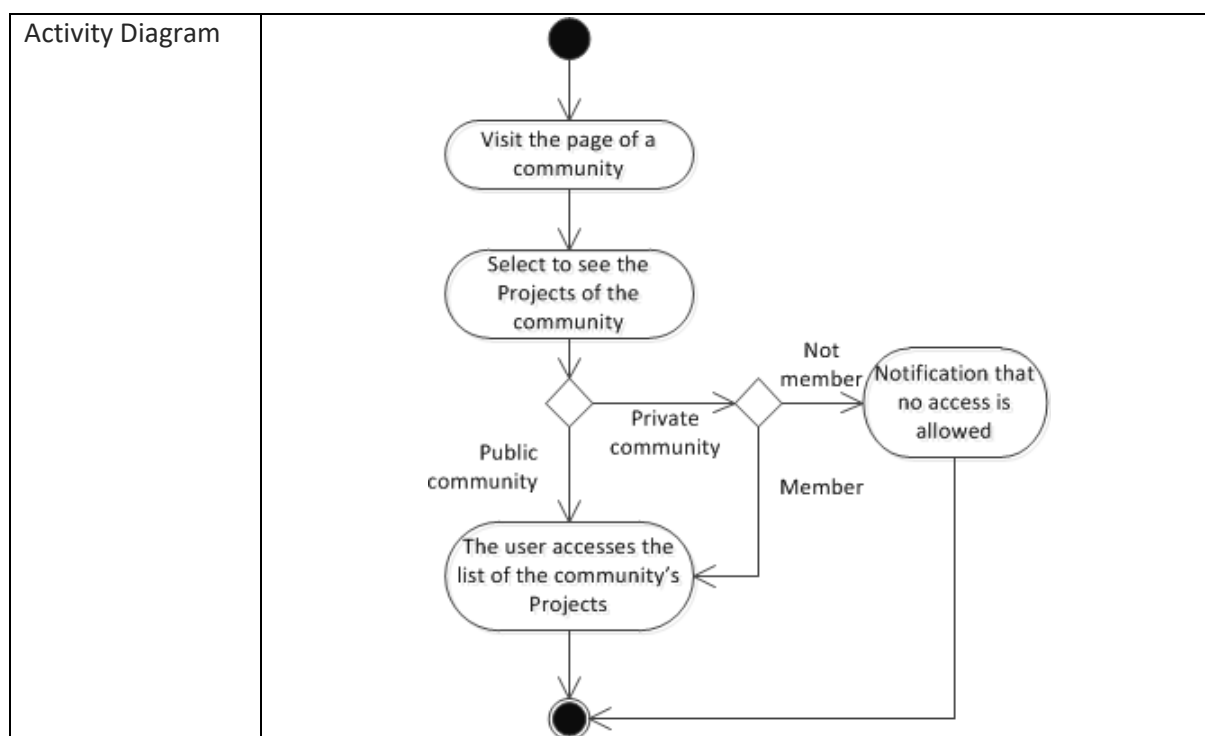


Use Case Name	Manage Community registration requests
Use Case ID	UC6
Actor(s)	Community Manager
Precondition(s)	Be Manager of the community in which the user requested to join
Post condition(s)	The requested is either accepted or rejected
Brief Description	The actor can follow this use case in order to manage join requests for his/her community portal. The actor has initially visited his/her dashboard and views his/her notifications. He/she views the join requests and selects one of them. Then the actor views the request. Finally, the actor can reject or accept the join request.
Activity Diagram	<pre> graph TD Start(()) --> A([View Join Requests]) A --> B([Select a Join Requests]) B --> C([View Join Requests]) C --> D{ } D --> E([Accept Join Request]) D --> F([Reject Join Request]) E --> End(()) F --> End </pre>

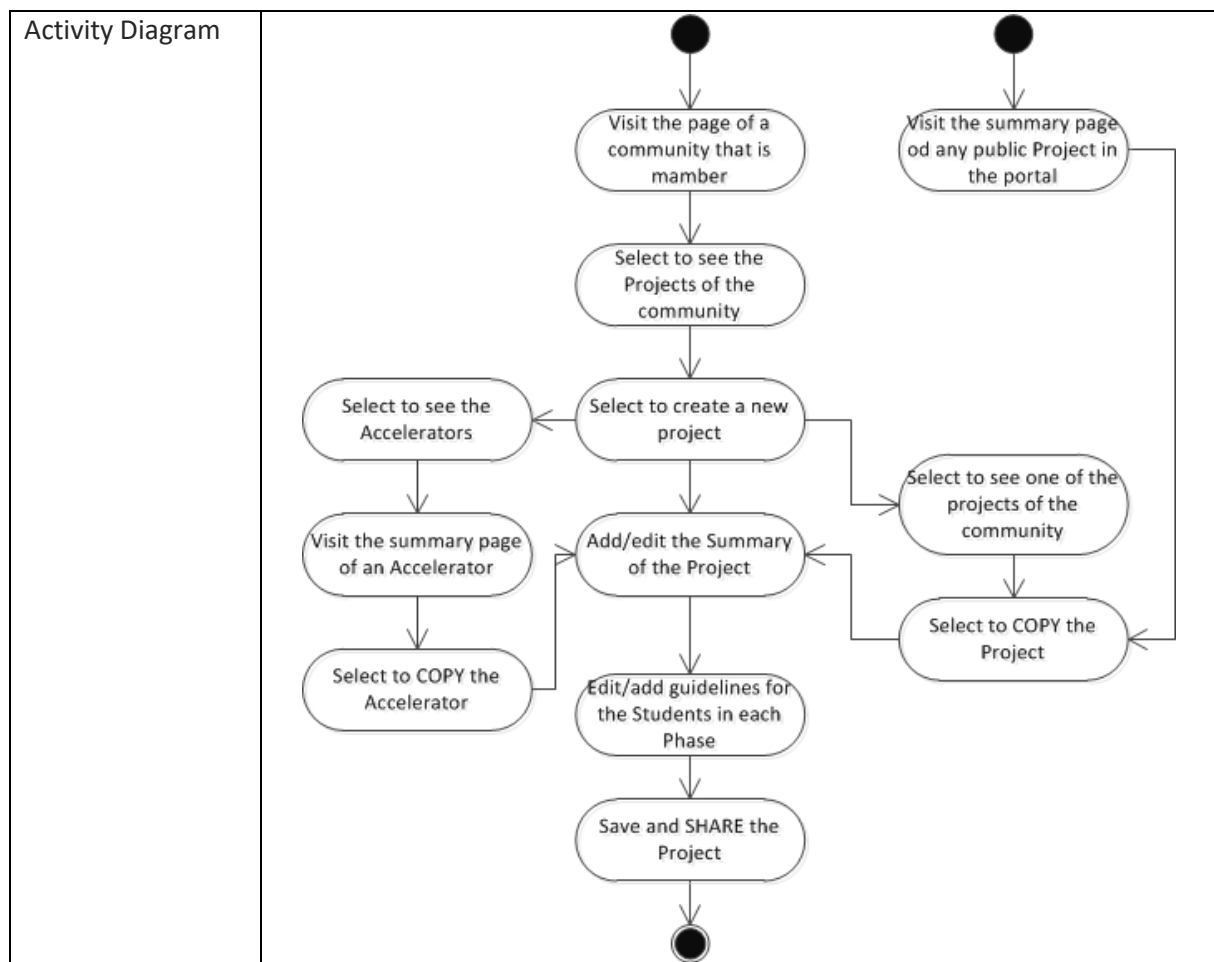
Use Case Name	Leave Community
Use Case ID	UC7

Actor(s)	ALL
Precondition(s)	The actors needs to be member of a community
Post condition(s)	The actor cancels his/her membership to the community
Brief Description	The actor can follow this use case in order to leave a community. The actor has initially visited his/her dashboard and views the list of the communities he/she belongs to. Then the actor selects to leave a community. The system asks for a confirmation and the process ends.
Activity Diagram	<pre> graph TD Start(()) --> A([View List of User's Communities]) A --> B([Select a Community from the List]) B --> C([Select to Leave the selected Community]) C --> D([Confirm leaving the Community]) D --> End((())) </pre>

Use Case Name	View projects of an OSOS community
Use Case ID	UC8
Actor(s)	Teacher, School Manager, Expert, National Coordinator, Community Manager
Precondition(s)	For private communities, the actor needs to be member of the community. For public communities there is no pre-condition
Post condition(s)	The actor has access to the projects of the community
Brief Description	The actor visits the page of a community and selects to see the Projects of the community. If this is a public community the user is directed to the page that presents all the final Projects of the community. If the community is a private one, the user can access the page with the projects only if he/she is member of the community. Otherwise he/she receives a message from the portal to notify him/her that the access is allowed only if he/she becomes member of the community.



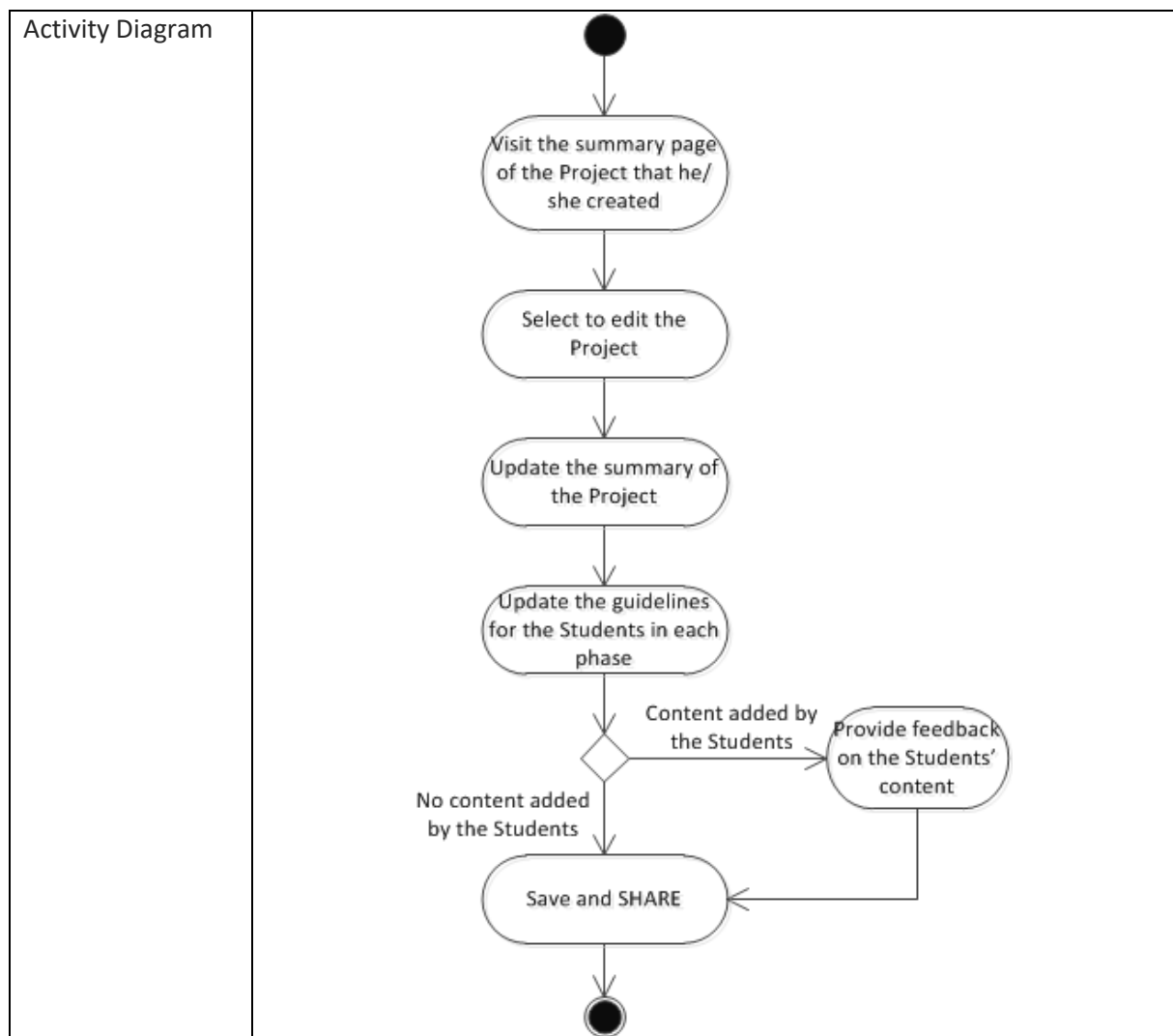
Use Case Name	Create new project in an OSOS community
Use Case ID	UC9
Actor(s)	Teacher
Precondition(s)	The actor is logged-in in the portal and member of the community under of which he/she wants to create a new Project The actor is logged-in in the portal
Post condition(s)	The actor has created a new Project in the portal
Brief Description	<p>The actor visits the page of a community that is member or manager. He/she then selects to visit the page of the community with the Projects uploaded by the members. In this page selects to create a new project. In this step two options appear. The first is to see and copy an Accelerator of the project uploaded in the portal. The second is to create a new “blank” Project and start working with the authoring tool.</p> <p>As an alternative path, the actor can visit any “public” project in the portal and select to copy it and then start working with the content using the authoring tool.</p> <p>After opening the authoring tool following any of the options above, the Teacher needs to add/edit the “<i>Description – summary of the project</i>” and then add/edit the guidelines for the Students in each phase. When finishing editing this information, the Teacher saves the project and publishes the information that will be used by the Students to edit the new Project.</p>



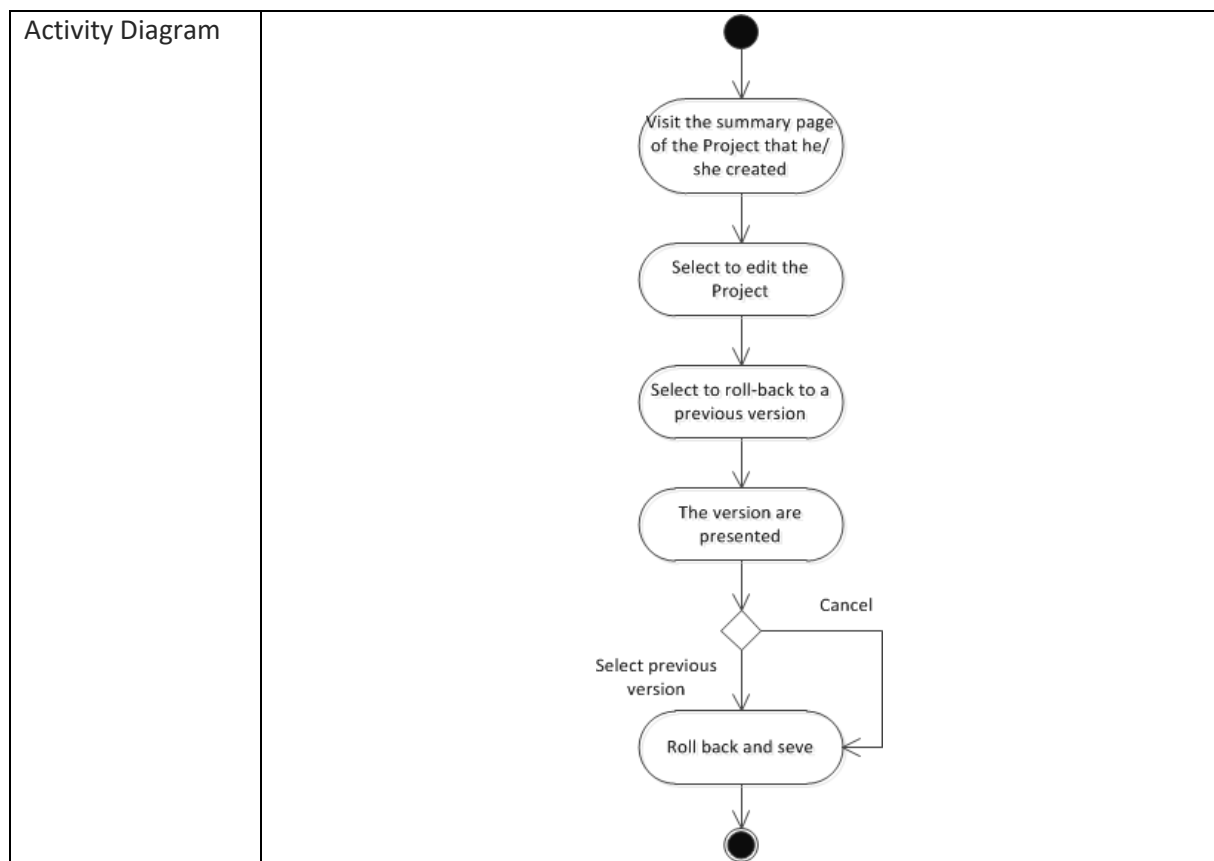
Use Case Name	Access own projects
Use Case ID	UC10
Actor(s)	Teacher
Precondition(s)	The actor has created at least one Project in the portal The actor is logged-in in the portal
Post condition(s)	The Teacher accesses the selected Project that he/she is creator
Brief Description	The actor can access his/her own Projects in the portal (the final and the draft ones) through his/her profile in the portal by selecting the option “Projects”.
Activity Diagram	<pre> graph TD Start(()) --> A([Visit the profile in the portal]) A --> B([Select to see the Projects]) B --> C([Access the list in the same page]) C --> End((())) </pre>

Use Case Name	View/search projects of a community
Use Case ID	UC11
Actor(s)	ALL
Precondition(s)	None for the public communities. For the private communities, the actor needs to be logged-in and member for the community
Post condition(s)	None
Brief Description	All the actors in the portal can see the Projects of a community that is public by visiting the page of the community and selecting to see the Projects. For the private communities, the actors follow the same process but they need to be logged-in and member of the community.
Activity Diagram	<pre> graph TD Start(()) --> Visit([Visit the page of a community]) Visit --> Select([Select to see the Projects]) Select --> D1{ } D1 -- Public community --> Access([The user accesses the list of the community's Projects]) D1 -- Private community --> D2{ } D2 -- Not member --> Notify([Notification that no access is allowed]) D2 -- Member --> Access Access --> End((())) Notify --> End </pre>

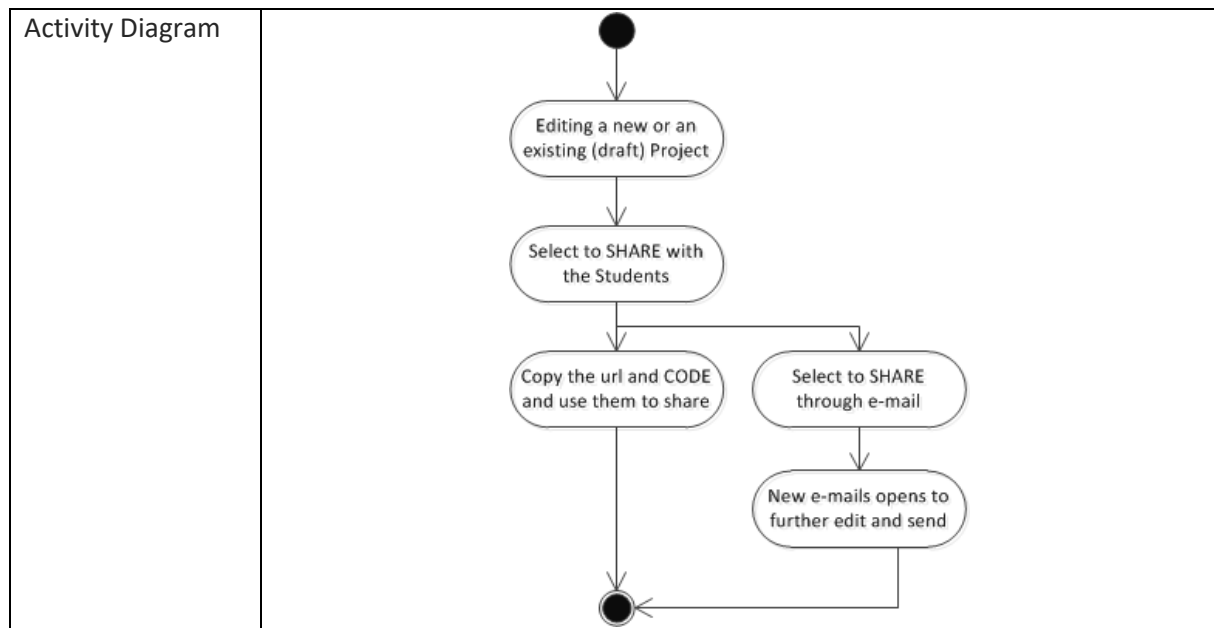
Use Case Name	Edit an existing project
Use Case ID	UC12
Actor(s)	Teacher
Precondition(s)	The actor is logged-in in the portal
Post condition(s)	The Project is updated
Brief Description	The actor can edit one of the Projects that he/she created by visiting the summary page of the Project and selecting to edit the Project. while editing the Project the actor can: (a) update the summary of the Project", (b) edit the guidelines for the Students in each phase, (c) provide feedback in each Phase on the content that was added by the Students, and (d) update the feedback provided in the previous editing of the Project. When finishing the update of the Project the actor Saves the project and exits from the authoring tool.



Use Case Name	Recover previous version of a project
Use Case ID	UC13
Actor(s)	Teacher
Precondition(s)	The actor is logged-in The actor is the creator of the Project Content was added by the Students The Project is “draft”
Post condition(s)	A previous version of the Project is recovered
Brief Description	The actor can recover any previous version of the Project by visiting the summary page of the project and selecting Edit. In the authoring tool the option Recover is available and the previous versions of the project per date are presented. The actor selects one of these versions and recovers it. the information of the project then is rolled-back to this version.



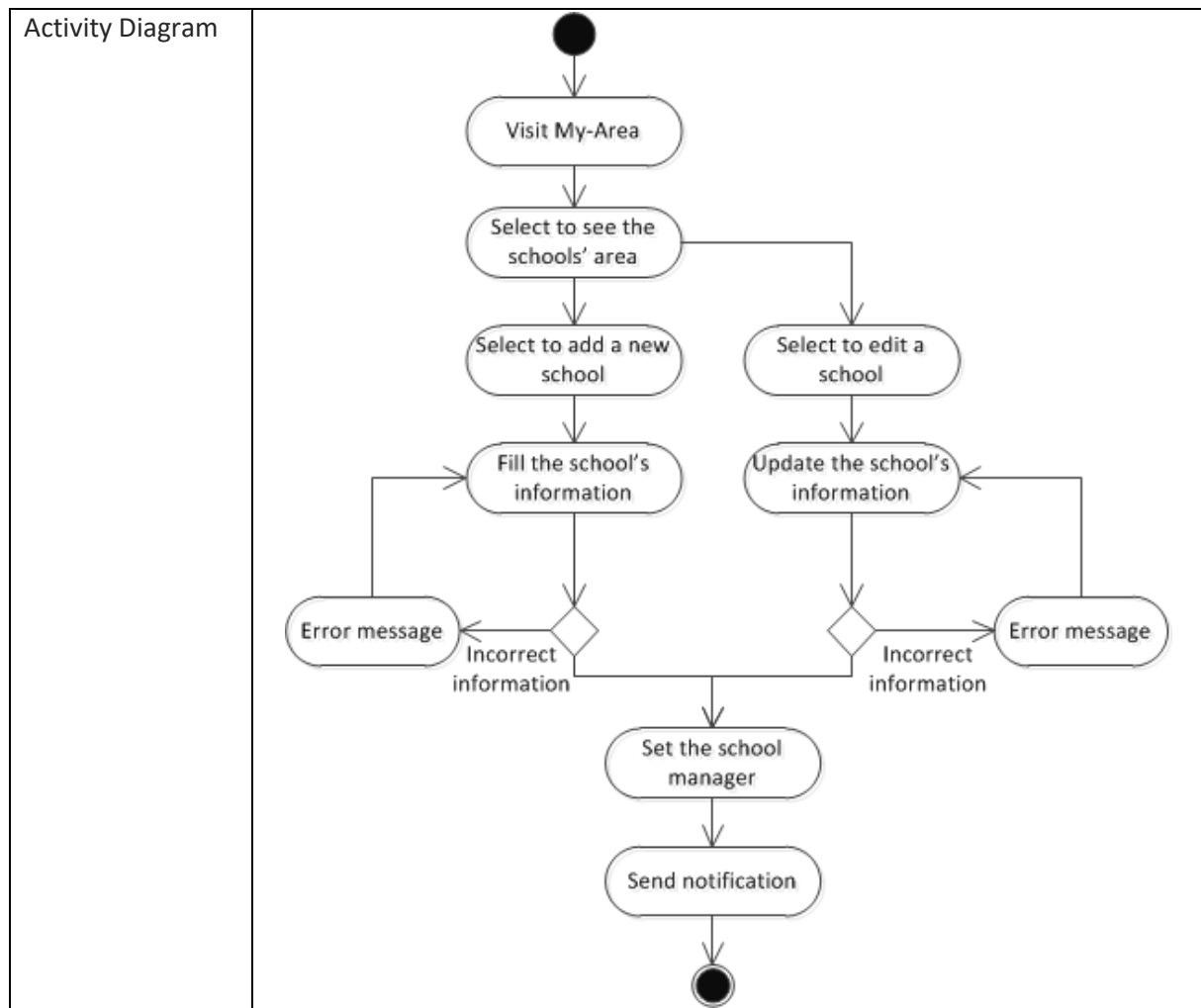
Use Case Name	Share project with students
Use Case ID	UC14
Actor(s)	Teacher
Precondition(s)	The actor is the creator of the Project The actor has visited the authoring tool and finished with “edit” the new Project
Post condition(s)	The information that can be used to edit the Project is shared to the Students
Brief Description	The actor follows this use case when finishing editing a new or an existing Project (draft) in order to share with the students, the information that they can use to access and edit the Project. when sharing the actor has the option to copy the information available or share this information directly by e-mail.



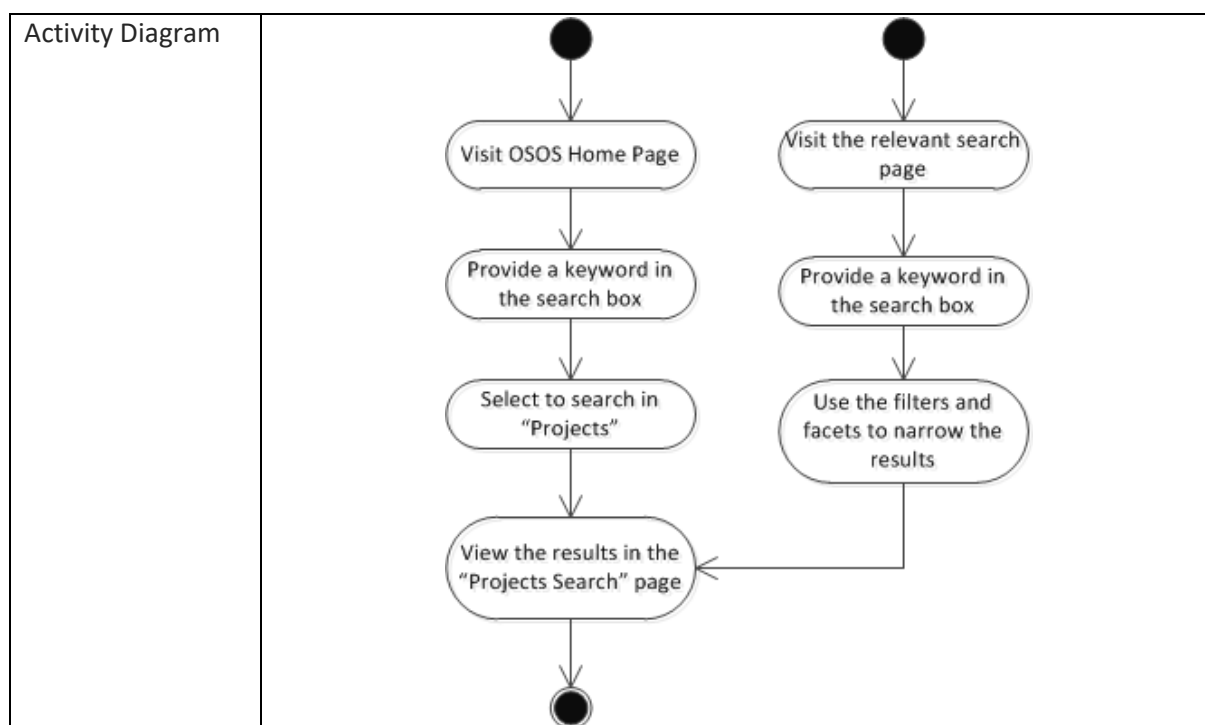
Use Case Name	Edit project (students)
Use Case ID	UC15
Actor(s)	Students
Precondition(s)	The information for accessing the Project has been shared by the Teacher
Post condition(s)	The Project is updated by the Students
Brief Description	As soon as the Students have the information to access a Project (url and CODE) they use this to visit the page of the Project. At this step the Student need to enter a nickname and a password that can be used for future access of the Project as well, along with the available url and CODE. After entering this details the authoring tool opens and the Students can edit each phase of the Project adding their content. If the project is a new one, only the guidelines of the Teacher is presented in the phases. If the Project was visited before, each phase might include also the feedback of the Teacher.
Activity Diagram	<pre> graph TD Start(()) --> A([The Student visits the url of the Project SHARED by the Teacher]) A --> B([The Students enters the CODE, the nickname and the password]) B --> C{ } C -- "Not 1st time" --> D([Check for the credentials entered by the Student]) C -- "1st time" --> E([The Student edit each phase of the Project]) D --> F{ } F -- "Correct" --> E F --> G([Notify the Student]) G --> B E --> H([Save and exit]) H --> End(()) </pre>

Use Case Name	Publish a project
Use Case ID	UC16
Actor(s)	Teacher
Precondition(s)	The actor is the creator of the Project The actor is logged-in in the portal All the phases are filled by the Students
Post condition(s)	The Project becomes “final” and becomes available to the community
Brief Description	The actor visits the summary page of the Project and selects to edit. If all the phases of the Project are filled by the Students the actor can then “Publish” the Project on order to make it final and available to the community.
Activity Diagram	<pre> graph TD Start(()) --> Visit([Visit the summary page of the Project that he/she created]) Visit --> Edit([Select to edit the Project]) Edit --> Publish([Select to Publish the Project]) Publish --> Decision{ } Decision -- "Confirm:yes" --> PublishToComm([Publish the Project to the Community]) Decision -- "Conform:no" --> PublishToComm PublishToComm --> End((())) </pre>

Use Case Name	Register / Manage a school
Use Case ID	UC17
Actor(s)	National Coordinator, School Manager
Precondition(s)	The actor is logged-in in the portal
Post condition(s)	The School is registered / updated in the portal
Brief Description	The actor accesses this use case in order to register a new school in the portal. The actor visits first his dashboard and selects to see the schools area. Then, he selects to add a new school. In the form that is open the actor adds all the necessary information to register the school and sets the school manager that will be responsible to fill the school profile. While submitting this information a notification is sent to the school manager to access the school and complete all the fields of the profile and be published to the portal. the process ends with the completion of the profile by the school manager.



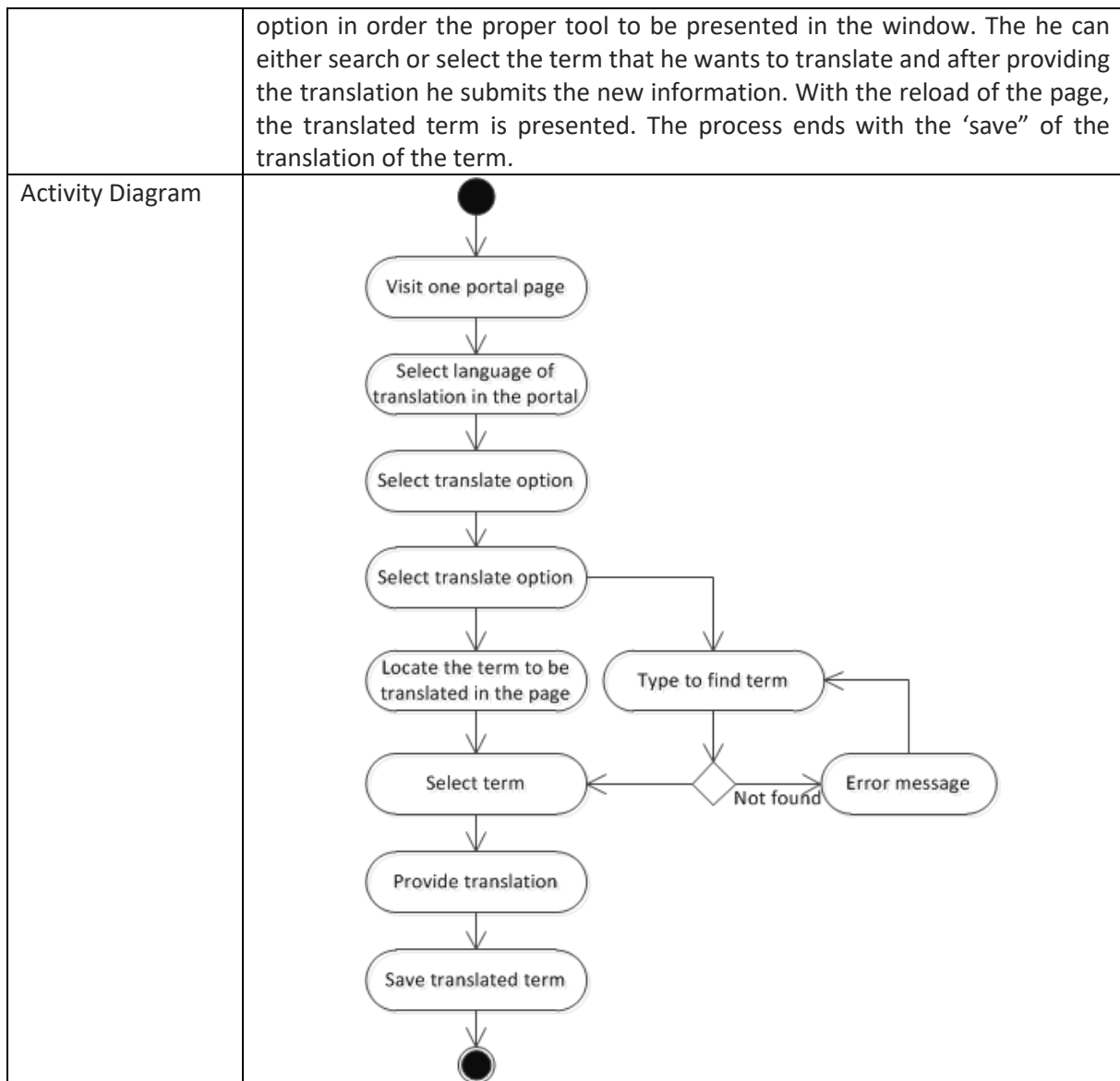
Use Case Name	Search projects / Demonstrators
Use Case ID	UC18
Actor(s)	Teacher, School Manager, Expert
Precondition(s)	None
Post condition(s)	None
Brief Description	The actors can visit the specific page of the portal where all the Projects and the Demonstrators are available. He/she can enters a keyword and use the filters and facets to narrow the results of the page.



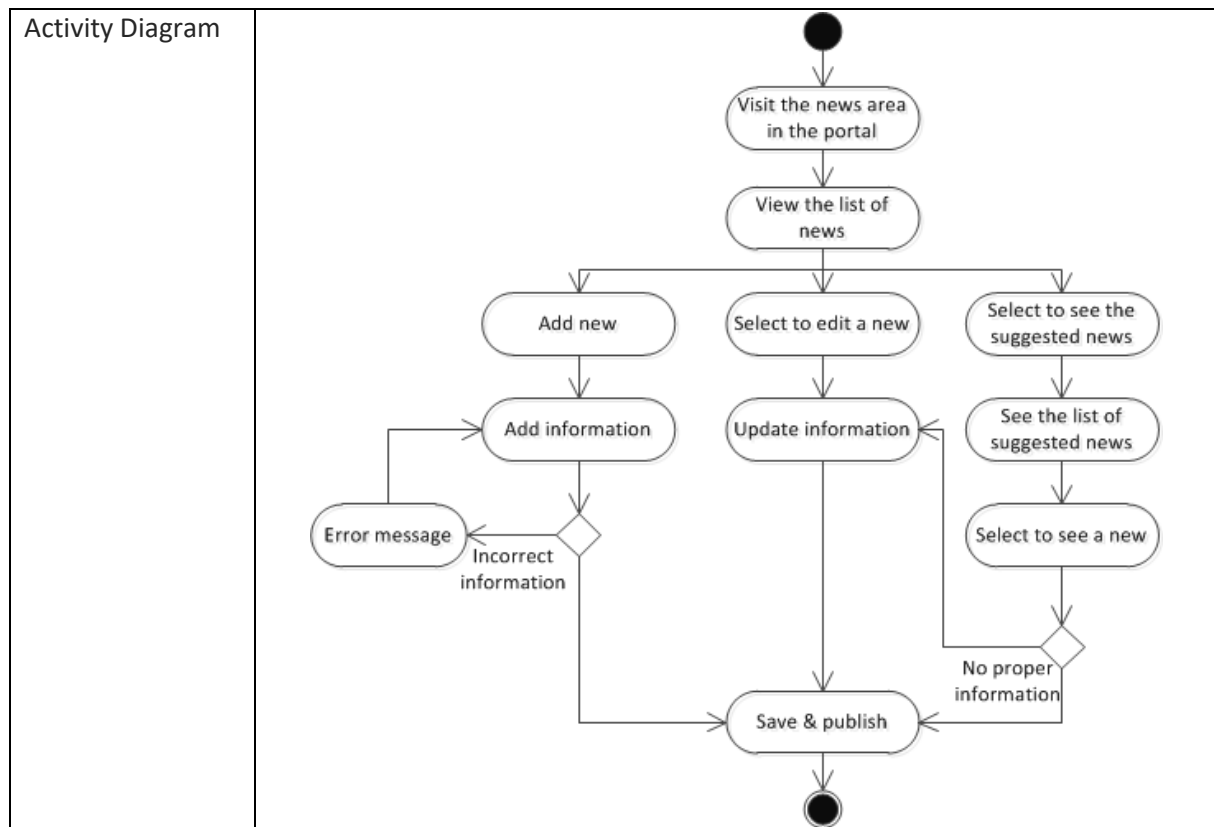
Use Case Name	View / search OSOS schools
Use Case ID	UC19
Actor(s)	ALL
Precondition(s)	None
Post condition(s)	None
Brief Description	The schools of the OSOS project are presented in the OSOS Home Page, in the Open Schools European Map. The user can navigate in the map to find the school that he wants or to use the search box and facets that are available to narrow the Schools that are presented in the map.
Activity Diagram	<pre> graph TD Start(()) --> A1([Visit the OSOS Schools map]) A1 --> Fork(()) Fork --> A2([Navigate using the map]) Fork --> A3([Keyword search]) A2 --> A4([Select criteria]) A3 --> A4 A4 --> A5([View results]) A5 --> Decision{ } Decision -- "No results" --> A6([Re-define search]) A6 --> A3 Decision --> A7([Select school]) A7 --> A8([View school profile]) A8 --> End(()) </pre>

Use Case Name	Manage / update Training Activity
Use Case ID	UC20
Actor(s)	Training Activity Contributor
Precondition(s)	The actor is logged-in in the portal
Post condition(s)	New Training Activities are uploaded in the portal
Brief Description	The actor can follow this use case in order to create a training activity. The actor has initially visited the area of Training Academies in the portal and selects to visit the academy for teachers. Then the actor selects to create an activityThe actor has also the ability to manage the topics and the courses, under of which the activities are organized. After the actor fills all the required and desired fields, adding also multimedia content, links to other courses and activities and resources he saves the activity, that is then available. The training activities are also connected to one of the levels of the competence profile supported by the portal, in order to ease and guide the teachers to improve their professional levels following the relevant activities.
Activity Diagram	<pre> graph TD Start(()) --> Visit([Visit the Academy]) Visit --> Select([Select to add/edit topics & courses]) Select --> Edit([Edit / add Training Activity]) Edit --> Add([Add supportive content and links to other Training Activities]) Add --> Define([Define the competency level of the Training Activity]) Define --> Save([Save and exit]) Save --> End((())) </pre>

Use Case Name	Translate portal page
Use Case ID	UC21
Actor(s)	Translator
Precondition(s)	The actor is logged-in in the portal
Post condition(s)	The portal page is translated in the selected language
Brief Description	The actor follows this use case to provide translation of the terms of the portal interface. The actor visits the page of the portal that he wants to translate and he selects from the portal languages the one that he wants to provide the translation of the terms presented on the page. He then selects the “translate”



Use Case Name	Manage news in the portal
Use Case ID	UC22
Actor(s)	News editor
Precondition(s)	The user is logged-in in the portal
Post condition(s)	The news in the portal are updated
Brief Description	The actor follows this use case to manage the news that are presented in the homepage of the portal. The actor visits the page of the news in the portal and selects either to (a) add a new, (b) edit an existing new or (d) to see and publish new(s) that are suggested by other partners or users. In cases (a) and (b) the same forms are used to fill properly the information needed to present and publish a new in the homepage. In case (c), the actor sees first all the news suggested by other users, selects the suggested material uploaded and decides either to publish it, or reject it. Before publishing any suggested new the actor can also manage the information of the new to improve the content and the presentation of it through the portal.



Use Case Name	Pin a project
Use Case ID	UC23
Actor(s)	Community Manager
Precondition(s)	The actor is logged-in in the portal
Post condition(s)	The Project is presented in the targeted community
Brief Description	The actor can create a reference in a project that is uploaded in one of the communities that he/she is not a manager to his/her own communities by visiting the summary page for the Project and selecting to “Pin” it. after this, he/she needs then to select the name of the community that he/she wants.
Activity Diagram	<pre> graph TD Start(()) --> Visit[Visit the summary page of a project] Visit --> SelectPin[Select "pin"] SelectPin --> SelectComm[Select community(ies)] SelectComm --> Save[Save] Save --> End((())) </pre>

Use Case Name	Create / manage queries for analytics
Use Case ID	UC24
Actor(s)	Analyst, aDministrator
Precondition(s)	The actor is logged-in in the portal
Post condition(s)	New queries and reports are created for analytics in the portal
Brief Description	The actor can follow this use case to view the statics in various levels (project, community, group, academy, page). For each level, a subgroup of the entire list of types of analytics can be applied. The actor has initially visited the analytics homepage. For each level, the actor can either see the results of already created instance or create new ones to produce more presentation modules of the selected analytics. Each one of these modules is configurable based on the type of content and portal entity they regard. The process ends with accessing a page with the results of a specific analytics instance.
Activity Diagram	<pre> graph TD Start(()) --> Visit[Visit analytics tool] Visit --> SelectLevel[Select level of analytics] SelectLevel --> Project SelectLevel --> Communities SelectLevel --> Groups SelectLevel --> Academies SelectLevel --> Page Project --> ViewEntireList[View entire list] Communities --> ViewEntireList Groups --> ViewEntireList Academies --> ViewEntireList Page --> ViewEntireList ViewEntireList --> FilterName[Filter by name entity] ViewEntireList --> FilterType[Filter by type of analytics module] FilterName --> SeeResults[See results] FilterType --> SeeResults SeeResults --> Download Download --> ManageModules1[Manage modules] ManageModules1 --> SeeResults Download --> View View --> SeeAnalytics[See analytics results page] SeeAnalytics --> Configure[Configure results] Configure --> SeeRequested[See requested analytics] SeeRequested --> End(()) ViewEntireList --> CreateInstance{ } CreateInstance --> SelectType[Select type] SelectType --> SelectFields[Select type's configuration fields] SelectFields --> SaveInstance[Save instance] SaveInstance --> UpdateInstance[Update instance] UpdateInstance --> End CreateInstance --> ViewResults[View results] ViewResults --> SeeResults </pre>

5.3 OSOS content

This section presents the type, main description and relations of the content entities that are related to the OSOS Incubators. This first paragraph includes an overview of the entities and their relations, since the next paragraphs give more details of the nature of the entities, the privileges that the Actors have on them and the last part describes the structure of the Projects that is the totally new entity created in the ISE portal in the context of the OSOS Incubators.

This paragraph presents the relations of the entities in the portal and is an introduction on how the OSOS Incubators work in the ISE portal. The diagram below presents these relations along with the horizontal connections and possibilities of “actions” between the different entities.

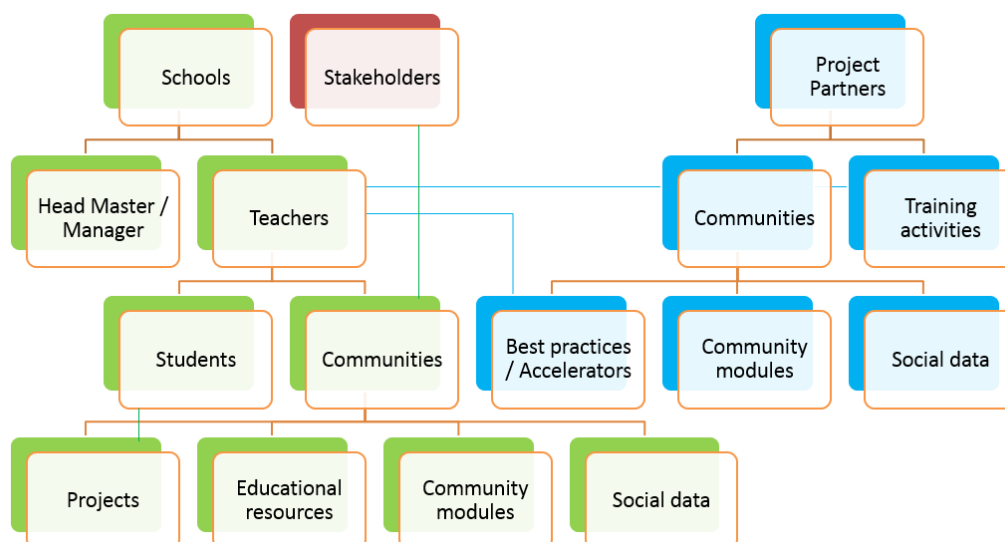


Table 1: Relations between the entities of OSOS Incubators

Entities	Relation(s)
School	The Schools is the main entity under of which all the content of OSOS Incubators is created. A School has the Head Master as Manager in the portal and several Teachers registered under this.
Head Master / Manager	Is the Manager of the School that can edit / update the basic information and profile of it and can also register other Teachers under the School. He can create
Teacher	The Teachers are registered under a School and they can create their own Communities and Projects (and Educational Resources) in the portal. after Initiating a new Project, the Teachers share the relevant url with their Students to start working on it. The Teachers can also visit, access and follow the Training Activities in the portal that are made available by the Project Partners.
Students	The Students are related with their Teacher through their participation in the preparation of the Project shared by him/her.
Communities	The communities can be created by any registered user in the portal. for OSOS Incubators, these can be created by the School Manager, the Teachers and the Project Partners in the context of their work in the project.
Projects	The Projects are created by the Teachers under a specific community that they are members and they are edited and published by the Students.
Educational resources	These are created by the Teachers under a specific Community that they are members.
Community modules	These are created by the members of a Community to organize their Activities, raise discussions, share ideas and experiences, announce events, etc.

Social data	These are data that are created when the members and the visitors of a community are applying the social services of the portal in the content of the Community.
Project Partners	The Project Partners are regular users of the portal since they are registered and they can create their own Communities and upload the Accelerators using the OSOS Incubators to share them with the Teachers. The Project Partners have also the possibility of uploading supporting and training material in the portal, under the OSOS Training Activities in the ISE Academy . The Project Partners are registered in the portal as “Experts”.
Training Activities	The Training Activities are uploaded by the Project Partners for the Teachers.
Accelerators	These are uploaded in the portal by the Project Partners and they can be used by the Teachers by viewing or copying them for creating new Projects.
Stakeholders	The Stakeholders are normally registered in the portal as “Experts” and they can join the Communities created by the Teachers to have access and participate in the Projects created in them.

5.3.2 OSOS content types

OSOS features will be support from the infrastructure side by a number of content types hosted and managed in the ISE portal. These are following described:

Projects: this content type is mainly created by the teachers and enhanced by the students that participate in the implementation of the project. Similar to the educational resources, they include (1) the metadata scheme that describe them and partially follows the structure and vocabulary of the ODS LOM AP and (2) the main body, where the actual content is included (simple text or multimedia content).

Demonstrators: this is a specific type of learning content with similar structure of the educational resources that are advanced learning scenarios or lesson plans that make use of eLearning tools and are provided as best practices from the portal. They follow the same structure as the rest of educational resources. The metadata description of the demonstrators follow the ODS LOM AP¹. This type of content is provided by the project partners.

Communities: this is one of the core content created in the portal and follows a specific structure. Several relations among various communities and other content in the portal are created. The communities are user generated content and can be created by any registered user in the portal. The communities created by the Teachers are automatically related also with the School where these Teachers “belong” to. The level of access of the Communities define the also the level of their content. The “public” communities are accessible to all visitors of the portal and the content follows the restrictions that their creator enforce. The “private” communities allow access to the content only to their members and as a next level the restrictions of the creators of the content are applied.

Schools: this content type include all the information that describe the schools that are registered in the portal as specific entities. Their structure does not follow an standardized scheme. The schools are registered and managed in the portal by the project partners.

Training Activities: these are training material provided to the teachers, experts and parents that visit the portal and follow specific structure. They might contain simple text or multimedia content and urls to better support their training objectives. Partially they follow the vocabulary of ODS LOM AP in order

¹ D1.6 “Data Management Plan

to ease the interrelations with the rest of the content in the portal and make searching mechanism more effective. The training activities are mainly provided by the project partners.

Community modules: each community might contain several modules that serves the organization and promotion of its members activities. These modules are Croups, Events, Discussions, Activities, Blogs and Polls), they follow specific structure in the portal and they are created by the members of the communities.

Educational resources: this is learning content created mainly by the project partners as best practices and also from the teachers that are registered in the portal. The learning resources can be either simple educational objects or more complex lesson plans or learning scenarios. This type of content is a complex type that include (1) the metadata scheme that describe the educational resource with specific structure and vocabulary followed based on the applied ODS LOM AP and (2) the main body, where the actual educational content is included (simple text or multimedia content).

Multimedia content: this is content that might be added in all previous complex content types to better support the presentation of the content.

Social data: social data are structured elements of data that accompany the complex content types described above. They are mainly provided by the members of the communities and can be tags, rates, shares, votes, bookmarks, comments, follows. Especially for the educational tags that are provided by the registered users on the learning resources the ODS LOM AP vocabulary is followed.

Analytics: these data are created with an anonymous way in the portal, monitoring and following the users' actions in the portal in each portal page. They are not available to all visitors in the portal and to access them, specific queries should be created by the properly privileged users, the analysts.

News: the news is a simple content type in the portal that it is provided be privileged users and they present the most recent activities of the project. No metadata description is added but they might contain textual ore multimedia content to better present the activity described.

Accelerators: these are projects provided by the project partners to be used as best practices in the portal and they fully apply the structure of the projects.

	Educational resources	Schools	Public communities	Private communities	Modules of public community	Modules of private community	Projects	Accelerators	Analytics	News	elearning Tools	Training Activities
Administrators of the portal	Full	Full	Full	Full	Full	Full	Full	Full	Full	Full	Full	Full
Teachers	C, M, V, Cp, SP	C, M, V, J	C, M, V, J	C, M, V, J	C, M, V, J (only for members)	C, M, V, J (only for members)	C, M, Cp, V	V		V	V, SP	V, SP
Experts	V	V	C, M, V, J	C, M, V, J	C, M, V, J (only for members)	C, M, V, J (only for members)	V	V		V	V	V
News editors	V	V	V	V	V	V	V	V		V	V	V
Analysts	V	V	V	V	V	V	V	C, M, Cp, V	C, M, V	V	V	V
National Coordinators	C, M, V, Cp	C, M, V	C, M, V, J	C, M, V, J	C, M, V, J (only for members)	C, M, V, J (only for members)	C, M, Cp, V	V		V	V	V
School managers	C, M, V, Cp, SP	C, M, V, J	C, M, V, J	C, M, V, J	C, M, V, J (only for members)	C, M, V, J (only for members)	C, M, Cp, V	V		V	V	V
Students	V	V	V	V	V		EDIT / PUBLISH	V		V	V	V
News editors	V	V	V	V	V		V	V		C, M, V	V	V
Anonymous / unregistered / not logged-in visitors	V	V	V	V	V		V	V		V	V	V
Community Managers	C, M, V, C	V	C, M, MM, V, J	C, M, MM, V, J	C, M, MM, V, J	C, M, MM, V, J	C, M, V, C	V	C, M, V	V	V	V
Project partners	C, M, V, C	C, M, V, MM	C, M, V	C, M, V		C, M, V, J (only for members)	C, M, V, C	C, M, V, C		V	V	V

Table 2: Privileges of Actors on the content types

Abbreviations used to define the privileges:

Create (C): generate new content

Manage (M): edit / update, delete. The creators of the content have by default management privileges on the content that they gave created

View (V): access to view the content of the public communities and the content of the private communities that the user is a member

Copy (Cp): create new content IF the IPRs from the originator allows it creating a clone of the original content

Join (J): become a member of the entity

Manage Membership (MM): manage the members of a community or community module

Search based on Profile (SP): this option is automatically available to all registered Teachers for personalized searching of content in the portal, based on their preferences in their profile. It is mentioned that a user can have more than one of the roles mentioned in the

Based on its participation in the portal and the project and these cases the super set of the privileges are taken into account to define the access and management options of the user in the content of the portal.

5.3.3 OSOS projects' structure

The projects in the portal follow the same structure and provide the possibility of organizing them under two main parts. The first part includes the basic information that describe the project and includes information related to its concept and context. The second part is the main content of the project that is added by the students, following the four phases of FEEL, IMAGINE, CREATE and SHARE. The table below present all the fields of the used structure. For some of the fields a standard classification is used based on the ODS AP and the applied vocabularies are presented in Appendix 2.

Table 3: Structure of OSOS projects

Field	Description
<i>Description – summary of the project</i>	
Language	Defines the language of the project and can be one or more than the project languages, which are: Greek, German, Italian, French, Hebrew, Arabic, Irish, Dutch, Spanish, Portuguese, Romanian, Finish, Bulgarian, Basque
Title	This is the title of the project
Description	This is the main description of the project
Keywords	These keywords are provided to better describe the concept and the area of the project and are free words
Subject domain	The classification of ISE portal is followed for the domains of ICT, Mathematics, Science, Technology and Engineering
Date of creation	This is the date when the project first initiated by the teacher and it is auto-filled by the portal
Date of publication	This is the date when the project is made final so it is published to the community and it is auto-filled by the portal
Learning objectives	The teacher indicated with this field the learning objectives that the project intends to cover and it is free text
Available Partnership Opportunities	This is openly provided by the students when editing the project and describe the possible opportunities for partnerships and collaborations that the implementation of the project can build, e.g. Coffee shops, restaurants, food stores, schools, community service organizations
Logo of the project	This is the brand/visual identity of the project

Students' age group	This indicates the age group of the students to whom this project is targeted and better fits to be implemented by. It can be one or more age groups than the available options
Number of students participating	A project can be authored by more than one students. In any case, not all the students may add content, so the number of the actual students that participate in the preparation of the project should be mentioned by this field
Version	This is available only in the edit mode. It is important to have available the different versions of the project since this is edited by various students, and to be able to rollback in a previous version
Status	This can be draft or final. It is mentioned that only the final projects are shared within the community. The draft ones are accessible and visible only to their creators
Public or private	This field regards the License level and can be private or public. When a project is private only the summary page is accessible from the people out of the community. When it is public the project is accessible from the visitors of the portal
<i>Phases of the project: FEEL, IMAGINE, CREATE, SHARE</i>	
Guidelines from the teacher	This area enables the teacher to provide for each one of the four phases some guidelines, suggested material and actions that the student should/may follow in order to create the project and add their content in all phases. For each phase the guidelines are provided separately.
Feedback from the teacher	This field is used by the teachers to provide feedback to the students on the content they have added in each phase. For each phase the feedback is provided separately.
Rich text (for students)	This field is used by the students to add their content under each phase and supports the possibility to add multimedia content and special formatting apart from simple text
Files (for students)	This fields is used by the students to upload additional material in each phase that can be: external urls, external files, resources searched and retrieved from the ISE repository
Contact info (for students)	This field is used by the students in the SHARE phase to provide some contact details for the people that access their project through the portal and they want to communicate with them. A special note it is added so not to publish personal information.

5.4 The OSOS Incubators in the portal

This section provides a full description of the OSOS Incubators as these are provided through the portal services.

5.4.1 OSOS schools' map – OSOS Home Page

The home page of the OSOS Community is designed in a sense to support mainly the following objectives:

- Have a clear area for user login and registration
- Provide the main menu and structure of the community at a first glance
- Promote the latest OSOS achievements and news implemented and supported by the project and the communities of the Teachers working on the project activities, in order to be directly viewed by the visitors
- Have a direct link to the dissemination website of the project for the visitors that are interested in learn more about OSOS project

- To present in a structured and clear way the last achievements of the project from the portal perspective, focusing on the engaged schools, the contribution of the users, the growth of the communities and the most important content on it
- To provide clear and direct access to the supporting mechanism and material of the project
- To present the Open Schools European map

Following this, the homepage of OSOS community is designed and implemented as depicted below:

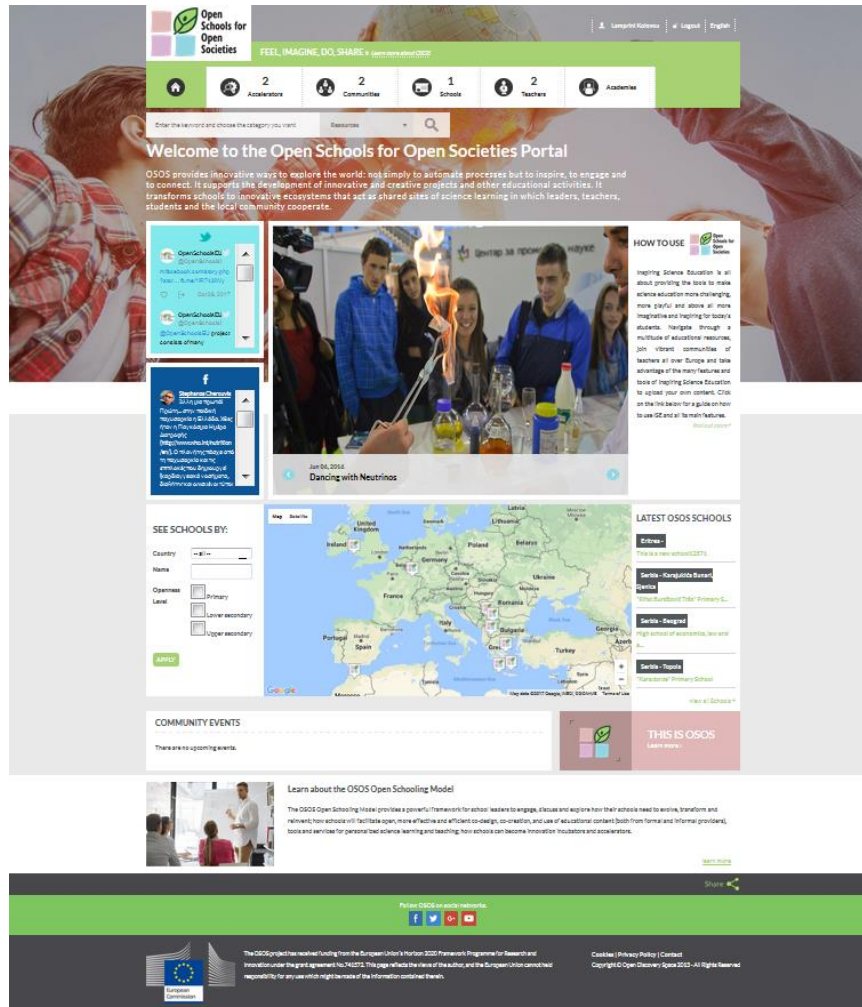


Figure 12: OSOS Community Home Page – Open Schools European map

Especially for the Open Schools European map a number of criteria are provided to search and present in the map the relevant OSOS Schools including:

- The Name
- The Country
- The Openness level

These criteria are used to narrow the number of the Schools that are presented in the map and the Teachers can easily find the ones that are of their interest and thus ease the collaboration and building of networks among the Schools.

In addition to this, the Home Page of the OSOS community provides also the possibility of searching in the OSOS content and more precisely, the visitors can search for the following:

- Resources: searches in the learning resources that are available in the ISE portal, based on the keyword provided

- Communities: searches in the OSOS communities based on the keyword (in the title of the communities)
- Accelerators: searches for accelerators that include the keyword in the title
- Training activities: searches based on the search mechanism in the training activities using the keyword provided

5.4.2 The schools' workspace

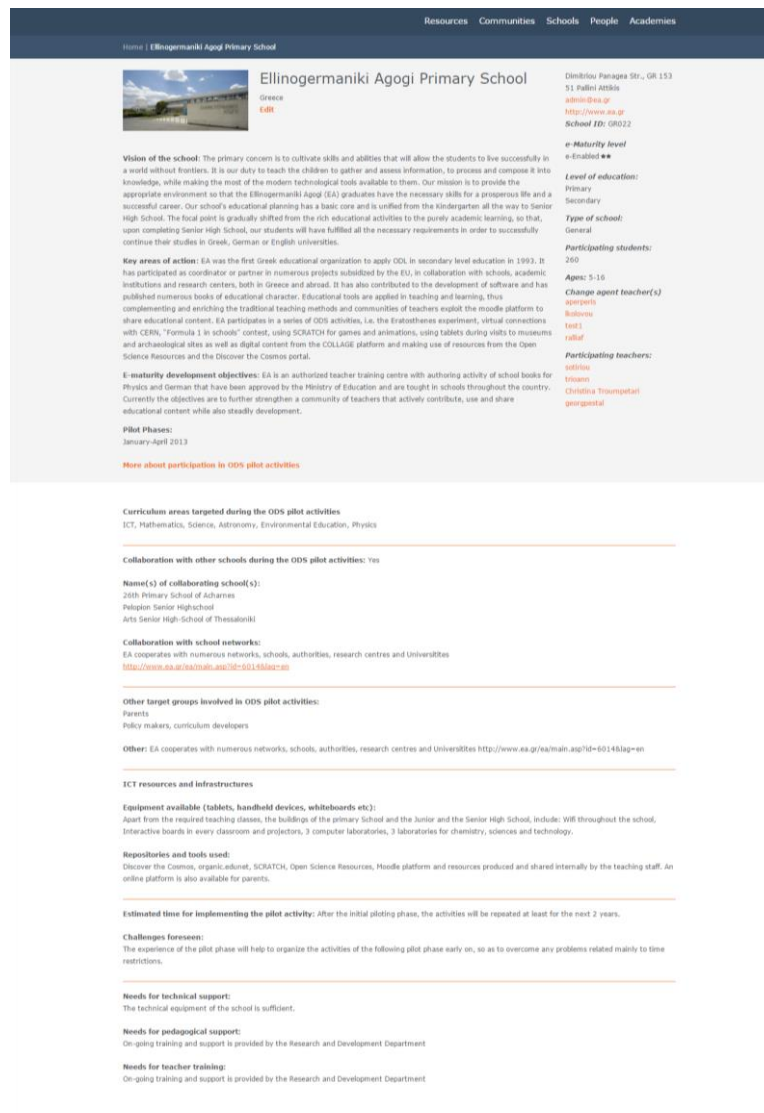
The schools of the project in the portal are considered as dedicated workspaces that are created under each school with its registration along with the necessary profile and collects all the information related to the characteristics and geographical location of the school, the teachers related to this school and all the entities of the portal that relate to this school while taking activities in the project and participate in the OSOS portal community. The following sections present the process of registration and management of the school portals and the elements of the schools' profile in the portal as well.

5.4.2.1 The school's profile / area

The profile of the schools built in the portal follows the same structure and type of information of a standard profile organized and established in the Inspiring Science Education platform, enriched with some features that support the OSOS Incubators as following described.

The profile of a school in the portal is divided in four main areas:

- **The School's identity**, that provides all the information related to the characteristics of the school, the location, the number and age of students, the type of the school, the change agents teachers that are also users of the portal, the users that are registered under this school, the communities' network that is created under the school, and also the domain areas that the school covers / is active on.
- The **school's general information** includes a description of the school, the key areas of action, the e-maturity development objectives and also the phases of the project of implementation that the school participated in.
- Information related to the participation of the school in **OSOS activities** providing information that is necessary for documenting its interests, maturity level, collaborations built in the project with other schools or school networks, etc.
- Information related to the activities of the School and its Teachers in the portal produced in the context of the project implementations such as, the communities created under this school are presented, the teachers connected (registered) under this school and the number of students' projects.
- Along with this information for the registered and logged-in users in the portal, this page also provides the possibility of creating new communities under the School that is presented.



5.4.2.2 The management process

The diagram below depicts graphically the short process of registration of a school in the portal. Two types of actors participate in this process:

- The National Coordinator, that is responsible to first register the school in the portal and provide the first necessary information defining also the teacher / user from the school that is 'responsible' for this school in the portal.
- The School Manager that is the teacher / user in the portal that manages the entire profile of the school and have full access on it.

As depicted, the NC first provides the information collected in the project for the school and since this is imported, a notification is sent to the selected School Manager to enter to the portal and manage the rest of the information that build the profile. The schools registered and managed by specific NCs and SMs are always presented in their profile for easy access and they are also available under the schools search page of the portal (<http://portal.opendiscoveryspace.eu/schools>).

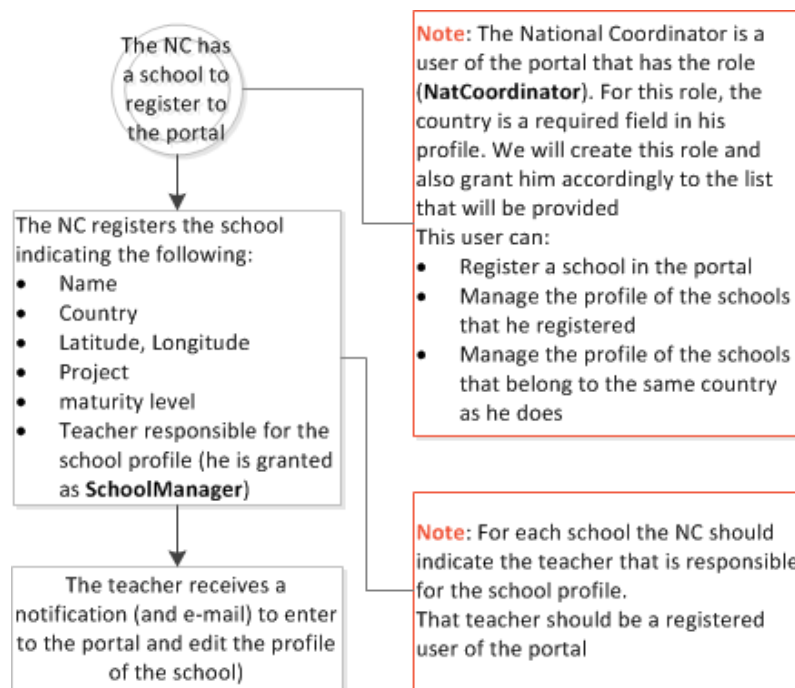


Figure 14: OSOS Schools – the management process

For all the registration and management procedure a manual have been delivered that describes step by step all the process and also the location of the information and the school profile, that is available here: http://portal.opendiscoveryspace.eu/sites/default/files/u39/ods_portal_adminschools_ncs.pdf

5.4.3 OSOS communities

5.4.3.1 What OSOS communities are

The OSOS Communities are the core component of the portal. They can be featured as national, thematic or school communities or any of the combination of those types. As individual communities, they belong to the grate OSOS community but beyond this, more, smaller networks of communities can be created within the portal. These networks are composed by communities that are related each other with two types of connections:

- Parent – child communities: these are communities that belong to the same network and the same hierarchical structure. E.g. in a school community, the members can create several ones based on the thematic area that they are working on or are interested in or in a community of a specific thematic area can have a network of smaller localized communities, based on the geographic area they are focusing in. These examples are one of the most common cases in the portal, but the use, the combination and focus of the communities within the networks can vary based on the activities of their members
- Directly connected communities: these are communities that are manually connected each other by their managers because the feel that these would be of the interest of the members of their communities or they need to have direct access from the one community to the other

In the figure below, the grey lines depict the parent-child connections and the green lines depict the direct relations between the communities. The padlocks represent the “private” communities of the portal. In this case, the content created by the members of the community can be accessed only by them and it is not open to the various visitors of the community’s workspace.

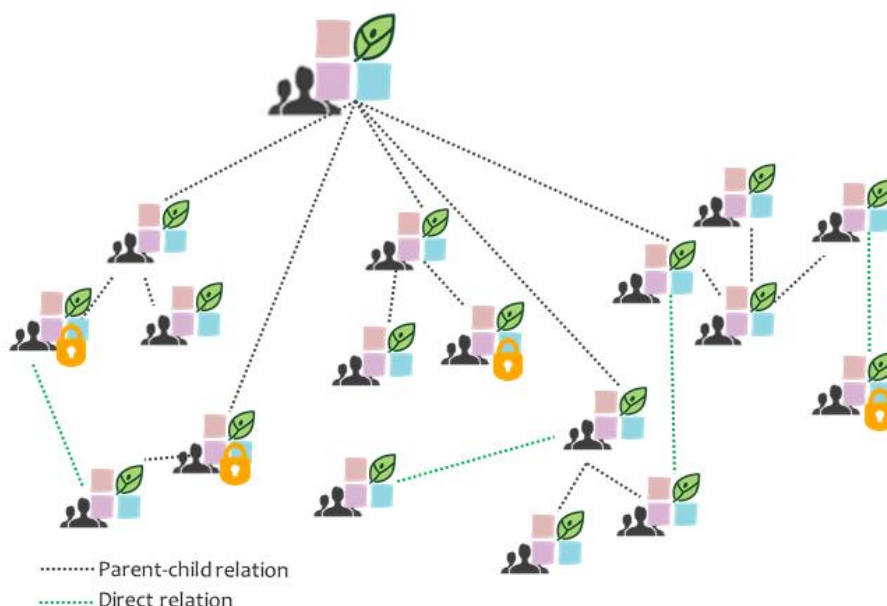


Figure 15: The OSOS communities' network

5.4.3.2 What the OSOS Communities offer

The ISE communities support the objectives presented above by very specific services and tools in the communities several services are provided to the users. These are summarized in the diagram below.

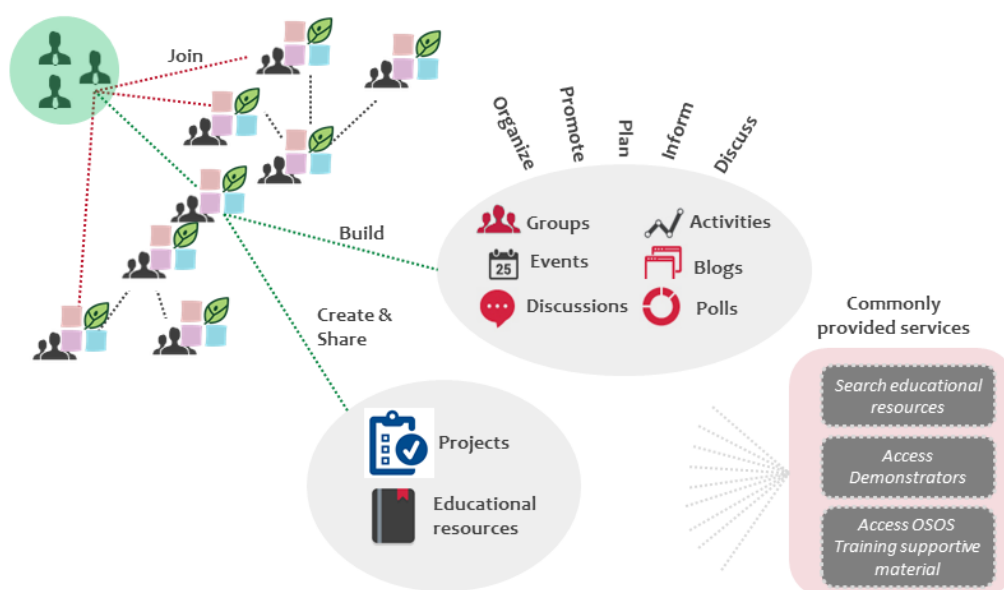








Figure 16: Participation of the users in ISE communities and their possibilities

The users can be members/creators/managers of one or more communities, based on their activities in the portal and the main possibilities they have participating on them are the following:

- Organize the activities within the communities building one or more from the six modules presented in the picture and also described in the Table 4.
- Share new resources by creating new ones using the tools that are provided according to the type of the content that is to be authored (educational objects, lesson plans or educational scenarios).
- Being navigated to the network of the communities that the current community belongs to.

Table 4: The modules for organizing a Community

Community modules	Description
 Groups	Members of a Community that have a special interest in comparison to the general context or thematic area of the Community creates the Groups. In these Groups, the participants can create new Discussions, post Events and organize Polls of their specific Group's interests.
 Activities	The Activities that are organized by the members of the Community within the Community and the Portal are presented here.
 Events	The events that are organized out of the Community but are related with the activities and/or the thematic area of the Community and might be of its member's interest are presented here.
 Blogs	In the Blogs the members of the Community share their thoughts and feelings with each other on special issues of their interest or relevant to the activities of the Community.
 Discussions	Wider discussions, which go across the boundaries of the Community's activities, are developed here.
 Polls	Assess the opinion and the reaction of the Community's members by creating special Polls.

5.4.3.3 How the OSOS communities are presented in the portal

All the features, information and possibilities described in the previous paragraphs are provided by the communities' workspace by the means of the options included in the window here:

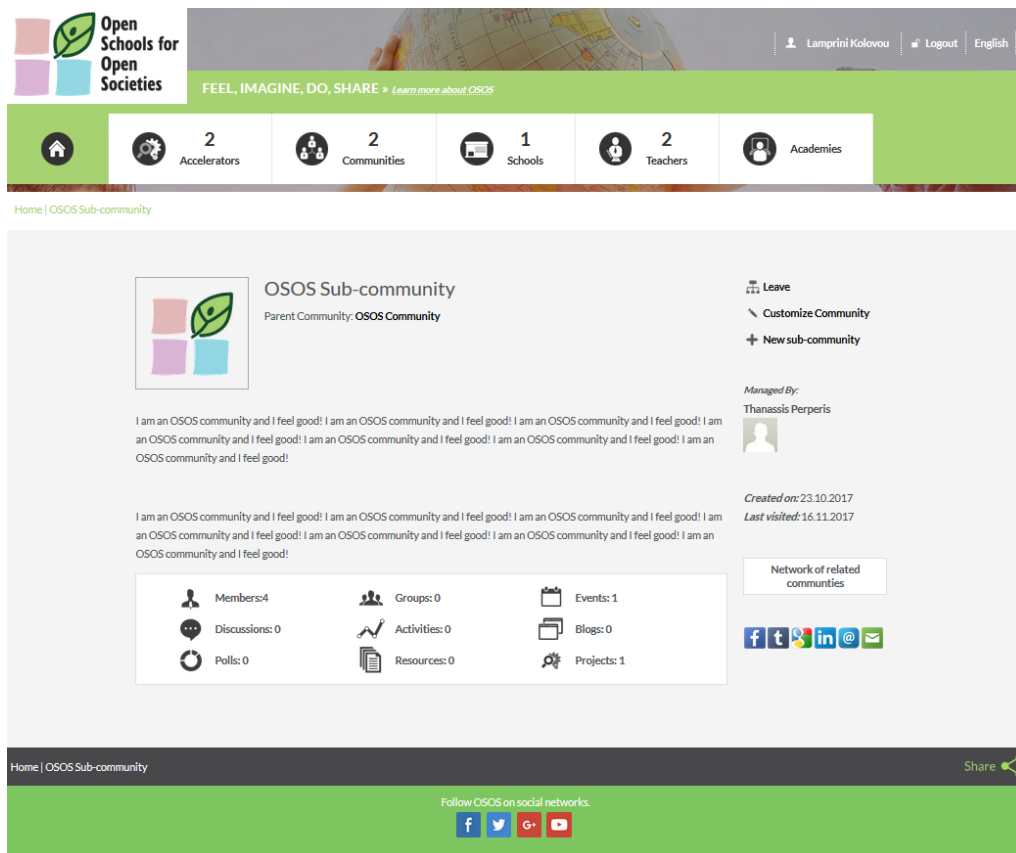


Figure 17: The OSOS Communities page

This is divided in the following main areas:

- General information: includes the title of the community, the general description and also the type of the community (school that might belongs to, country or thematic area)
- Community information: presents the managers of the community and also the dates of creation and last visit of it. A special part of this area provides access to the network of the community, presenting all the related parent and/or child communities and also the ones that are directly connected with the presented community.
- User interaction: provides to the users the options of Join / Leave the community and also to the community managers to administrate them regarding the presentation, the features of the community and also the members
- Community organization: includes all the modules of the Community (blogs, activities, events, discussions, groups and polls). This area may vary among the different communities, since the community manager can select through the admin page, which of them are “active / visible” and which of them are “hidden” for his specific community. This area also includes the option to access the members of the community.

Regarding the network of the communities, this is presented using a graph and different representations are used for the different types of relations. E.g. in the network that is depicted below the parent community has nine (9) child communities in two levels and three (3) directly related communities, that are presented in the graph with the blue arrows. The direction of the arrow represents the “starting” and “ending” communities in each relation. The direct relation in the picture here shows that the Manager of the currently presented community started these connections with the rest ones.

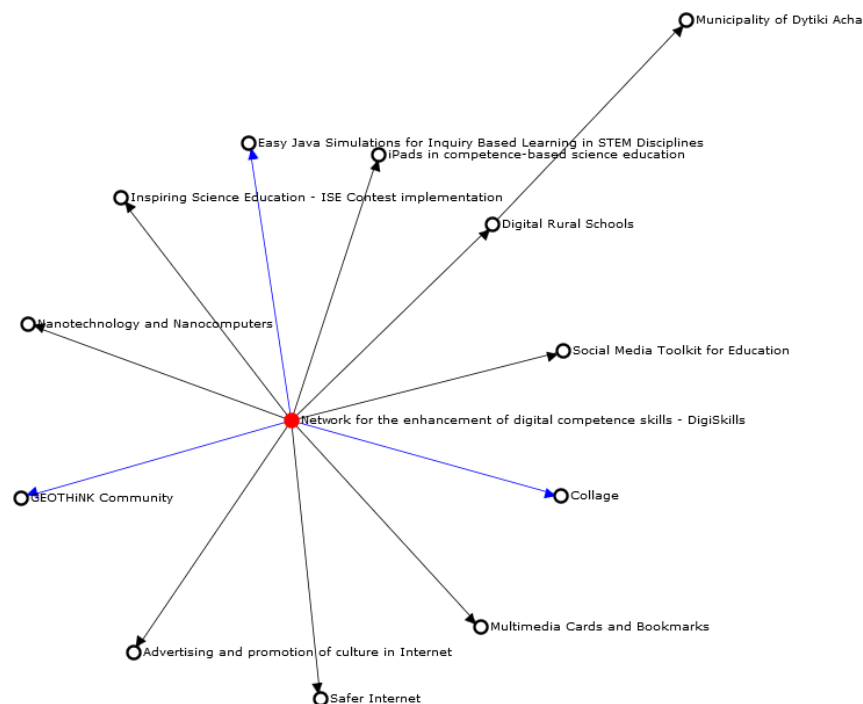


Figure 18: Representation of a Community's network

5.4.3.4 Navigate through the modules of a community

For each one of the modules of the community the same pattern of navigation is provided to the users. When the user selects to access one of the six categories (groups, events, discussions, blogs, activities and polls) he is first directed to a page, where the options of searching and creation are available like in the window in the following picture.

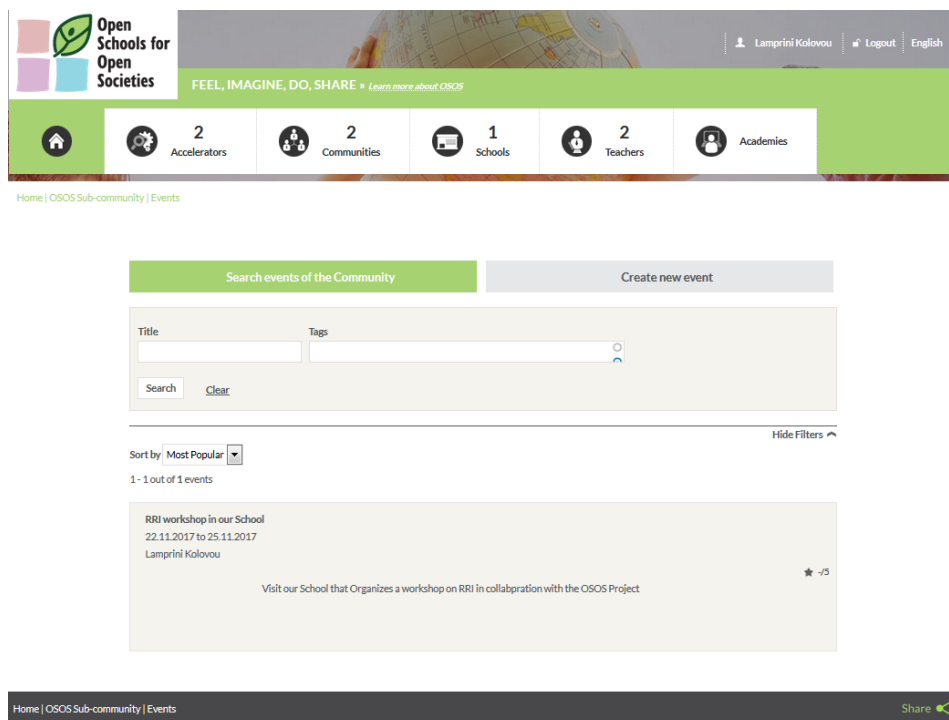


Figure 19: Search & create window for the Community's modules

While selecting one of the records presented under the “search” the user is directed to the page where the content of the individual group, discussion, etc is presented. **The same pattern and navigation is used also for the Projects of the communities.** The following picture presents a typical page that is used for the presentation of the community modules.

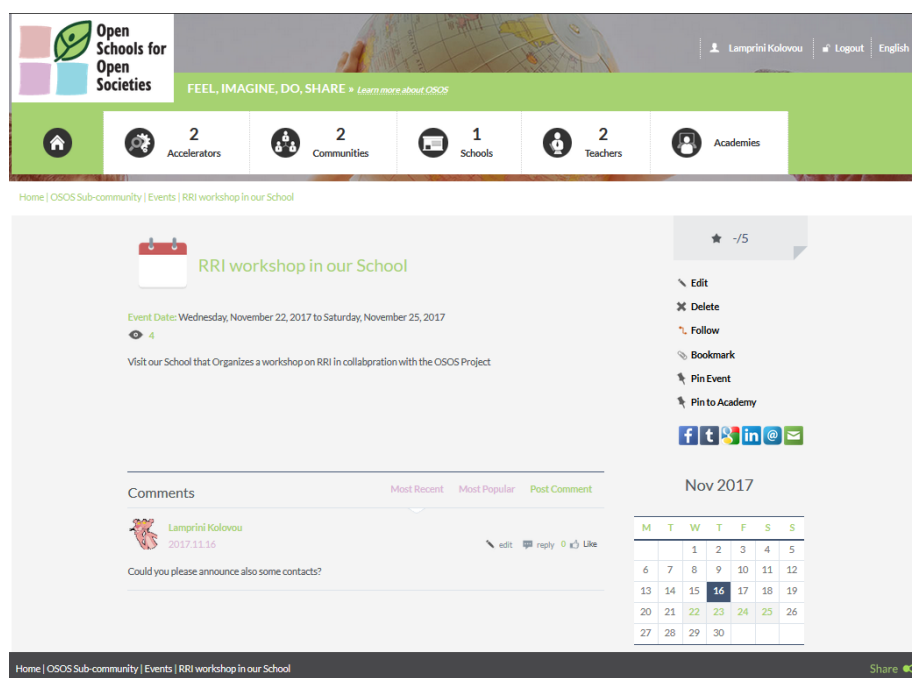


Figure 20: Presentation of Community's Activity

Every such page includes the following main areas:

- The content area: includes the title and the description of the module that is the content uploaded by the creator. This can be simple text, or enriched with hyperlinks and/or multimedia content (images, video, “attached” files).
- The user interaction area: includes all the activities that a user can perform on the content that is presented. These can be either editing of the content (if the user is the creator) or social interactions inbound and outbound the portal. The social services of the portal are presented in paragraph 4.2 of the current document.
- Commenting area: although this is also one of the social services that the ISE portal supports, a special area is dedicated for them due to the input is provided by the visitors of the page and the variety of the content that the user can upload while commenting.

Regarding the members of a community a different type of navigation and presentation is used. The following picture shows how the members of a community are presented to the visitor. This kind of presentation provides to the users the possibility of:

1. Searching among the members of a community
2. See the summary of the members’ activities in the community
3. Access the public profile of the individual members
4. Follow the user or add it as a connection under the visitors profile

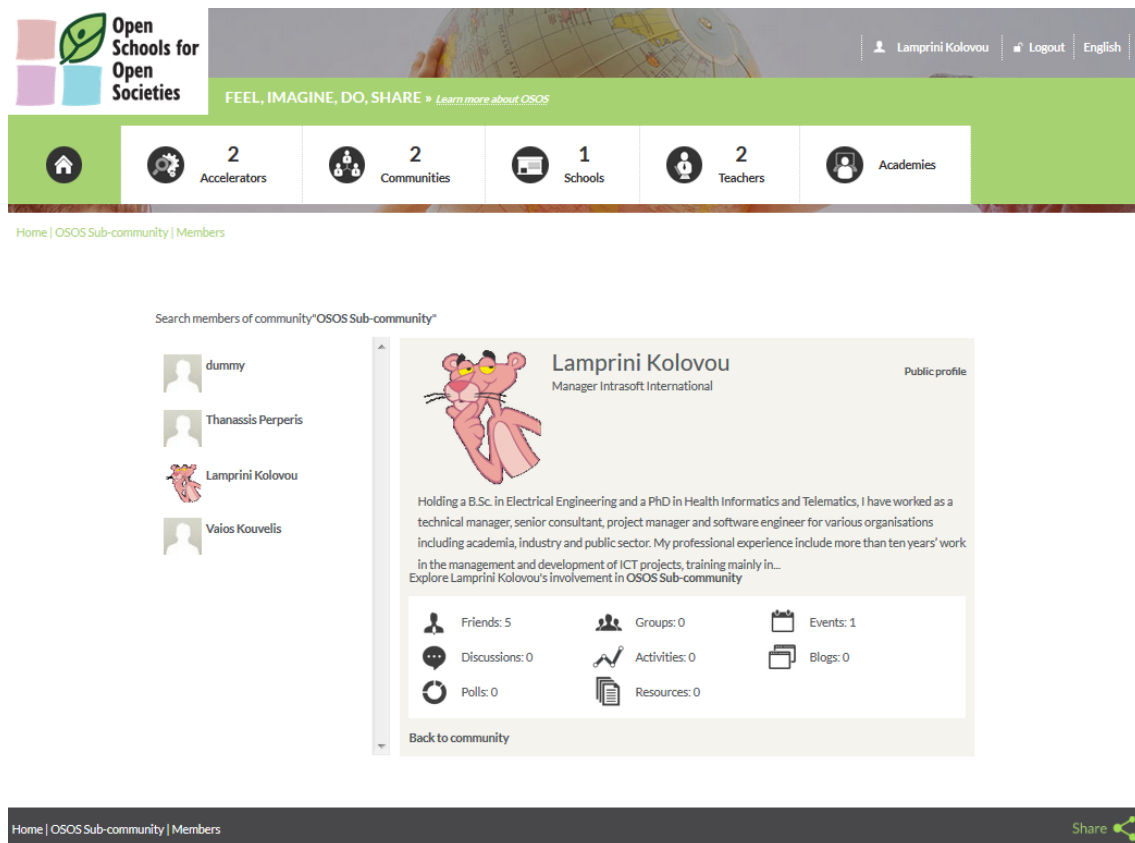


Figure 21: Search and presentation of the community’s members

The user activities on the communities’ content

The table below summarizes the actions that a user can perform in a community as member of it to every type of content or on the community itself:

Table 5: User actions on the Community's content

Type of content	User actions
Projects	Create new project Copy an existing project Copy a Demonstrator Edit a project (only the author) Search projects of the community Pin a project to a community that the user is Manager
Communities:	Create Community Request to Join a Community Invite people to a Community (inbound and outbound the Portal)
Events:	Create, Manage, Edit, Post an Event
Blogs:	Create, Manage, Edit, Post and a Blog
Polls:	Create, Manage, Edit, Post and a Poll
Discussions:	Create, Manage, Edit, Post a Discussion Participate in a Discussion
Activities:	Create, Manage, Edit, Post, Pin an Activity
Educational Resources	Upload Educational Content Reuse Educational Resources Create Educational Resource Edit an Educational Resource Annotate Educational Resource Search educational resources of a Community Pin a resource to another community

5.4.4 Authoring projects – the teachers' environment

The workflow that a Teacher follows to create a new Project through the portal is presented in the diagram below:

**Figure 22: Process for authoring a new Project for the Teachers**

This process is step-by-step described in the paragraphs that follow.

5.4.4.1 Step by step process for creating new project

A Teacher, after visiting the page of a Community that he/she is member or Manager, he then visits the part of the Community that presents all the Projects of the Community. In this page, the Teacher can either select to see an existing project and copy this, or he/she can select to create a new one. In this second step there are also two options for creating a new project. The first is to create it from scratch or visit the Accelerators of the portal and select to copy one of them. These options are presented in the image below.

(a) Search on existing Projects of the Community

(b) Create new in a blank form OR using Accelerators as template

Figure 23: Create new project page in a Community

After finalizing this decision the Teacher is directed to the Projects authoring tool to fill the individual sections of the Project as described in the next paragraph.

5.4.4.2 Step by step process to edit a new project

When creating a new Project, the Teacher is asked to fill in two parts: (1) the main description (metadata) of the Project and (2) the guidelines for the Students in each individual phase of the Project. During the process of editing the Teacher has the following options as actions:

- Save & go to next: saves the provided information and move to the next step
- Save: saves the provided information and remains at the same page
- Exit: exits from the page without saving any change. Exit is completed requesting form the Teacher to confirm his selection with a special message
- Clear: clears all the fields of the form in the selected tab of the tool
- Delete: deletes the entire project. To complete this action, the tool is asking from the Teacher to confirm his selection

To better support the Teachers while creating and editing the Projects and safeguarding the availability and recovery of the Projects in the case that this is necessary or requested by the user, the Tool has the following feature:

- Checks for the “required” fields in each step and notifies properly the user if they are missed
- Saves the content among the different steps so the user is not necessary to press “Save” while navigating among the phases of the Project
- Keeps and tracks versions. This is applicable after the editing from the Students
- Allows the user to freely move between the phases
- The Rich editor used to add content allows full formatting, add urls, add images and other files and multimedia content so to support the users to better describe the Project
- Further to the rich editor the Tool provides additional possibility for uploading external material and searching the ISE portal repository for educational resources. This material is “attached” to the selected phase of the Project
- A Project can be made “Final” and be published to the Community only when all the phases have content from the students

During the step (1) the Teacher fills the fields of the main description as these are presented in &5.3.3 using the form presented in the window below.

At this step the Teacher can also select if the Project will be Public or Private. The Public Projects are available with full access and future use (Copy) to the visitors of the community, since the Private ones are not accessible for visitors that are not members of the community and cannot be copied.

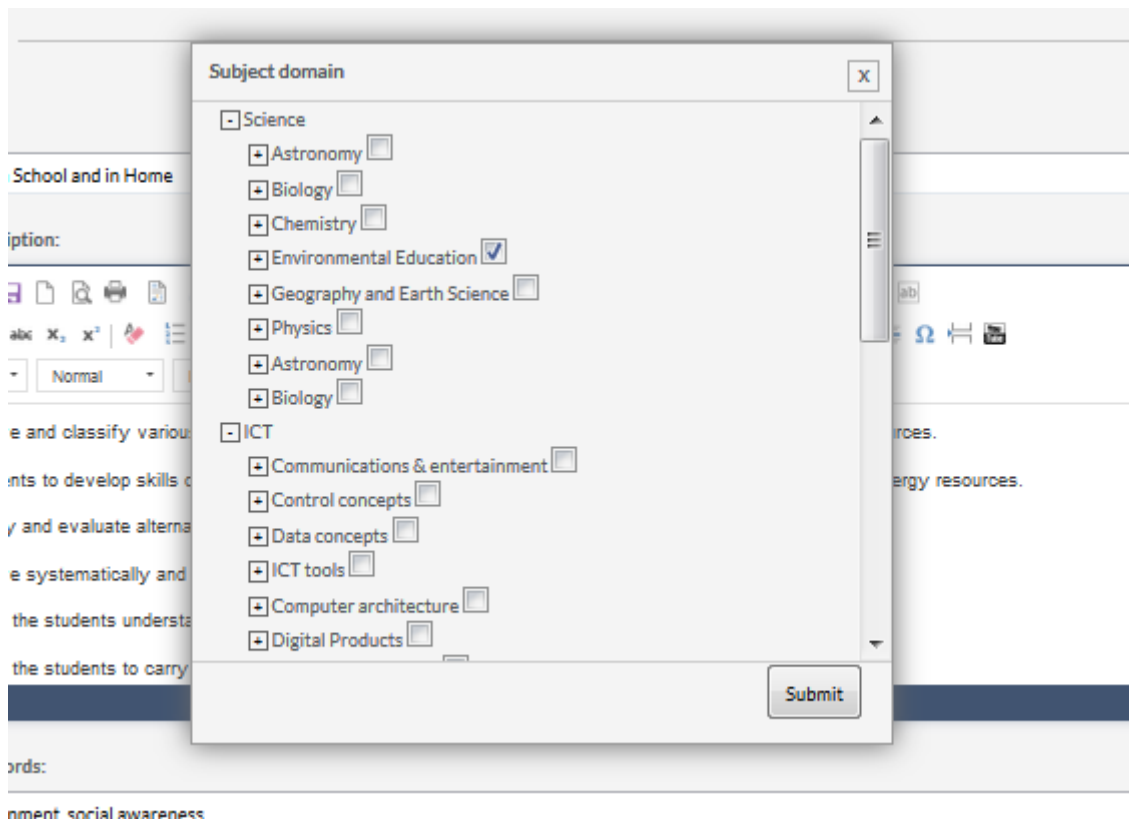


Figure 25: Window for selecting the domain(s) for the new Project

After filling this information, the Teacher is asked to add for each Phase of the Project the guidelines for the Students as depicted in the window below.

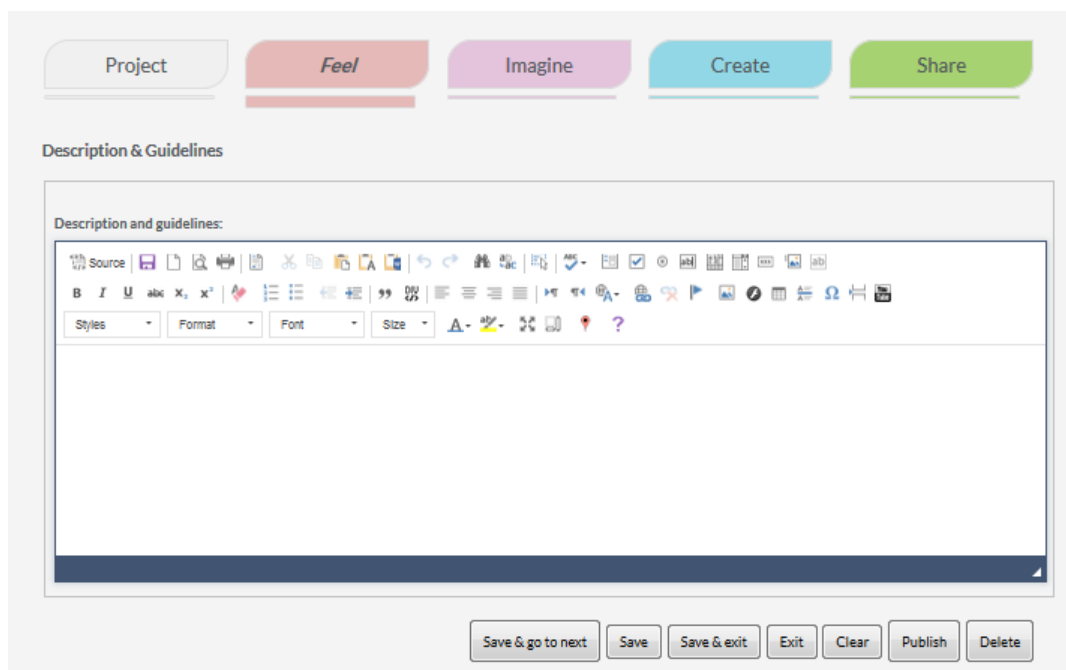


Figure 26: Authoring Tool (Teachers) – Editing the guidelines for the Students

When completing the process if the Teacher selects to exit from the Tool, the portal notifies his/her that the Project is saved as “draft”.

To share this Project with the Students, the Teacher must press the option “Publish”. Selecting this, a new window opens that includes the LINK and the CODE that the Students need to use to access it and start working with the Project. This window gives to the Teacher the possibility of copying this information so to use it independently OR to create a new e-mail that he/she can send to share to the Students the information of accessing the Project.

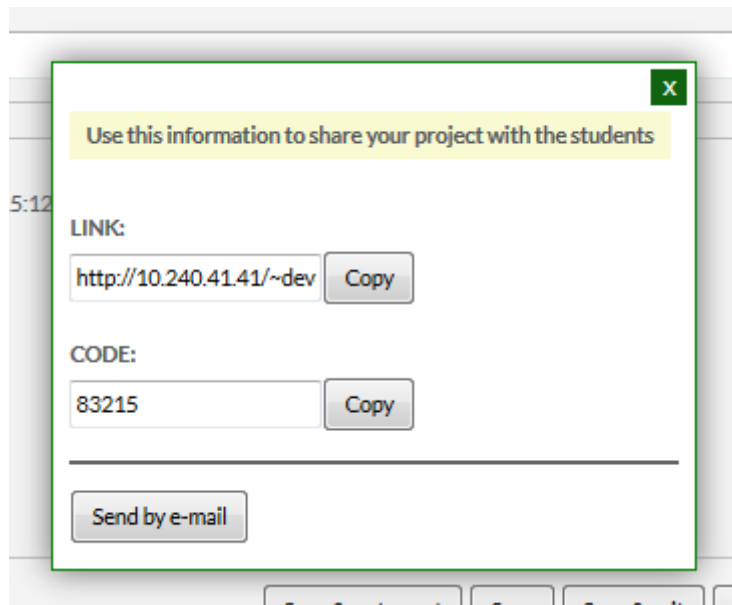


Figure 27: Authoring Tool (Teachers) – Sharing the Project with the Students

5.4.4.3 Provide feedback to the students for an existing project

After the Students have added material to the Project, the Teacher can see all this content when re-visiting the Project and assess the progress. In a special field at the bottom of each phase, the Teacher can add his/her feedback providing additional instructions to the Students, as depicted below.

5.4.4.4 Where a Teacher can find his/her projects

After completing the process of creating a new Project, there are several pages in the ISE portal where the Teacher can find the Project, depended on its status, “Draft” or “Final”. The drafts are presented only under the profile of the creator, since the final ones are presented in the following pages:

- Under the profile of the user
- In the page of the Projects of the Community where the Project was created
- In the page of the School under of which the Teacher is registered in the portal
- In the page of the portal where all the final Projects are presented

The picture below presents all these pages, where the Projects are made available and accessible:

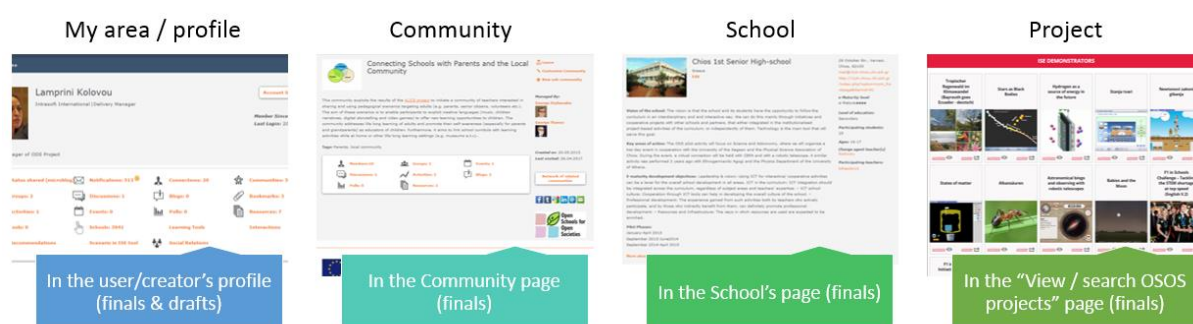


Figure 29: Where the Projects can be found in the ISE portal after as “draft” or “final” Projects

5.4.5 Authoring projects – the students’ environment

The workflow that the Students follow to edit a Project is presented in the diagram:

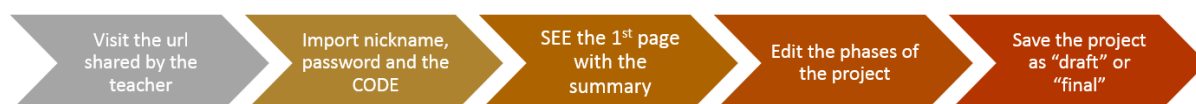


Figure 30: Process for authoring a new Project for the Students

5.4.5.1 Access the Project

As a first step, the Students need to login to the page that was shared by the teacher and put the CODE, a nickname and a password to access it and start working. These credentials can be also used for re-visiting the project area as many times are needed, until the Project is completed.

Welcome! Start working with your project.

Save energy in School and in Home

Project code:

Username:

Password:

Figure 31: Log-in page for the Students in the page of a Project

5.4.5.2 Editing the phases of the Project

After entering the area of the project, the student starts working on the four phases describing them and adding relevant material to enhance it. The students have also the possibility of viewing the general description of the project, but not editing this as presented in the window.

Project

Feel

Imagine

Create

Share

Description

Save energy in School and in Home

Globalization has brought rapid change in the life style of present generation. The things which are luxurious at one time have now became minimum needs. The modern facilities like Air Conditioners, Computers, Mobiles, Cars etc have become as a part of life and as such the consumption of Electrical & fuel energy is very high.

To save fossil fuels from extinct and to minimize the usage of electricity & gasoline, it is needless to mention that there is an urgent need to harness every source of energy to safeguard Nations' future.

The main targets of the project are:

- To enable the students to identify and understand that most of the activities in our daily life require energy.
- The students understand use and misuse in relation to energy conservation.
- To observe and classify various energy sources predict and impact of tapping energy from the various energy sources.
- The students to develop skills of classification, observation, collection, comparing and analysing information on energy resources.
- To identify and evaluate alternate solutions for non-renewable energy.
- To observe systematically and calculate accurately energy—use details for practicing energy efficiently.
- To enable the students understand the importance of individual action in conserving energy resources.
- To enable the students to carry out a energy audit in the school and to devise a campaign to conserve electricity.

Keywords: energy, environment, social awareness
Subject Domain: Environmental Education, Technological change
Learning Objectives: social interaction, save energy, environmental awareness

Project Status

Created: Thursday, November 16, 2017 - 15:12

License Level:

☐ Private ☒ Public

Status:

☒ draft ☐ final

Version:

Save & go to next

Save

Save & exit

Exit

Clear

Preview

Figure 32: Summary of the Project presented to the Students

In each phase, the Student can see at the top the instructions and the material added from the Teacher in each phase and can use the rich editor to add the new content. The editor supports the Students to add any kind of content, even, copy & paste formatted text from another program that can include also images.

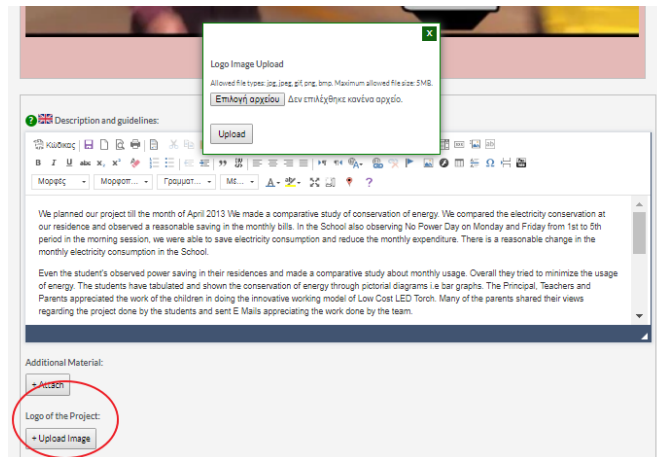


Figure 35: Upload the logo of the Project in the FEEL phase

Project
Feel
Imagine
Create
Share

Description & Guidelines

Students share their stories with other schools in the community and local media

Description and guidelines:

CREATE EMPLOYMENT

TSEP supports students in starting valuable careers in the energy sector. You can build a stronger CV and apply for jobs in the energy sector online.

PROVIDE GREEN EDUCATION

Lead the way as a responsible landlord by supporting students learning. We provide online courses in energy and our project helps mould the responsible student of the future.

REDUCE ENERGY CONSUMPTION

Student rewards are paid for by the student energy savings. Save energy and decide how much of this saving should be attributed into the reward pot for students. Win-Win.

SAVE MONEY

To break-even in running the scheme you normally have to achieve less than a 1% utilities saving. Anything above break-even is increased profits for your business.

Additional Material:

Attach

Contact Info: **Important Notice!** Do not publish personal phone number or data.

Fifth Floor - Totara Park House
34-36 Gray's Inn Road
WC1X 8HR
London, United Kingdom

- Tel: + 44 207 242 8602
- E-mail: info@energy4impact.org

Save Save & exit Exit Clear Preview

Figure 36: "Contact" field in the SHARE phase

Similar to the view of the Teacher in the tool, the Students have the following options for actions in the project:

- Save & go to next: saves the provided information and move to the next phase
- Save: saves the provided information and remains at the same page
- Clear: clears all the fields of the form
- Exit: exits from the page without saving any change (a message is appeared to the user asking for confirmation)
- Publish: it is available only when all the phases are completed and visible only in the last phase of the project. It makes a Project from “draft” to “final”
- Preview: the students can any time see the project in preview mode
- Unpublish: for a project that is already final (published) the student can change the status to draft (unpublished)

5.4.5.3 Search and “Attach” additional material in the Project

Apart from the rich editor, the Students can “attach” to the Project additional material that are uploaded with the option “Attach”. With this option the Students can:

1. Search the portal repository for relevant educational resources and attach them to the Project
2. Upload additional files
3. Add external links

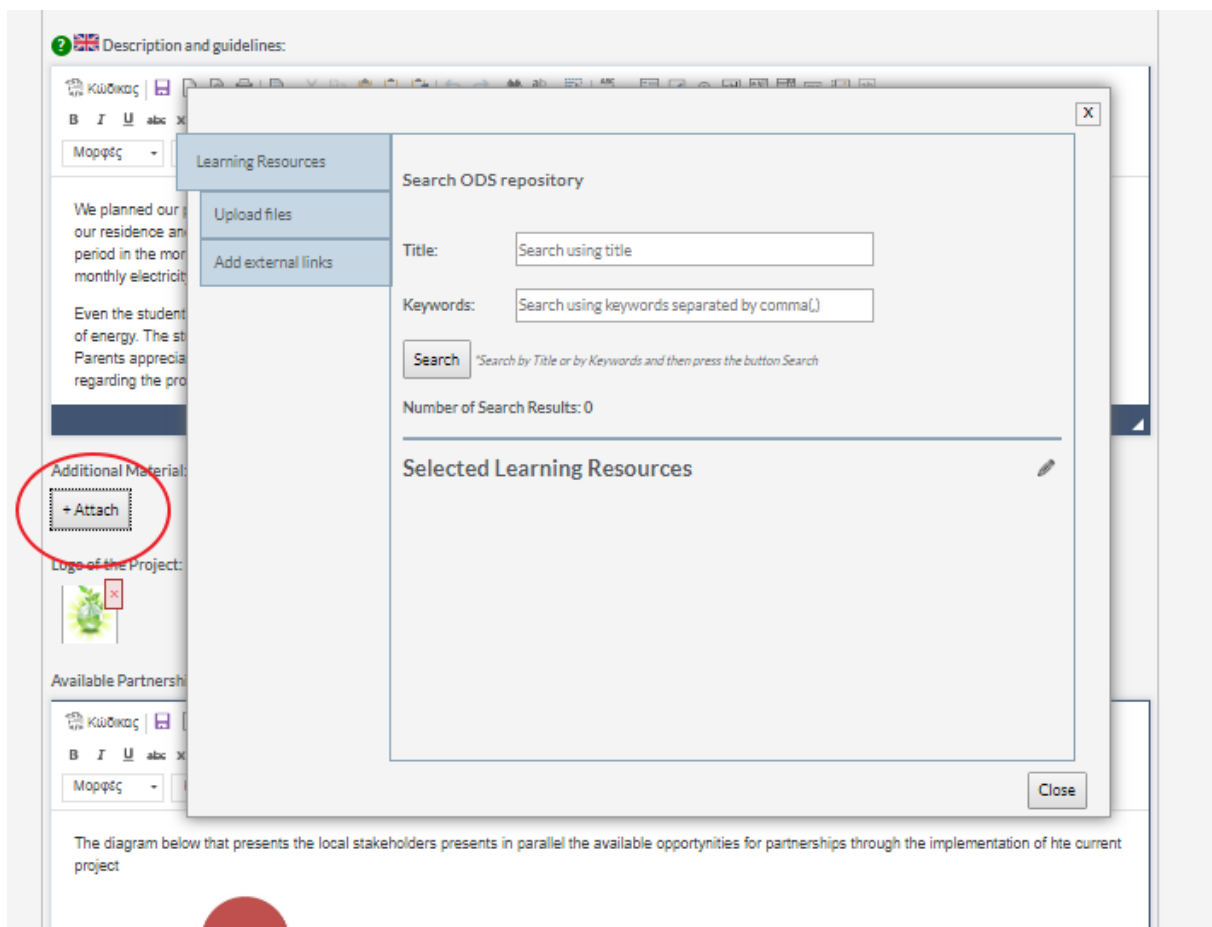


Figure 37: Search and attach resources in a Project

Search and attach educational resources

With this option, the Student can make a keyword search in the title and the keywords of the educational resources that are hosted in the repository of the portal and add as many of them matches their criteria and he/she wants to attach in the project. The found results are presented in a list and the already attached resources are presented in the “Selected” part of the window.

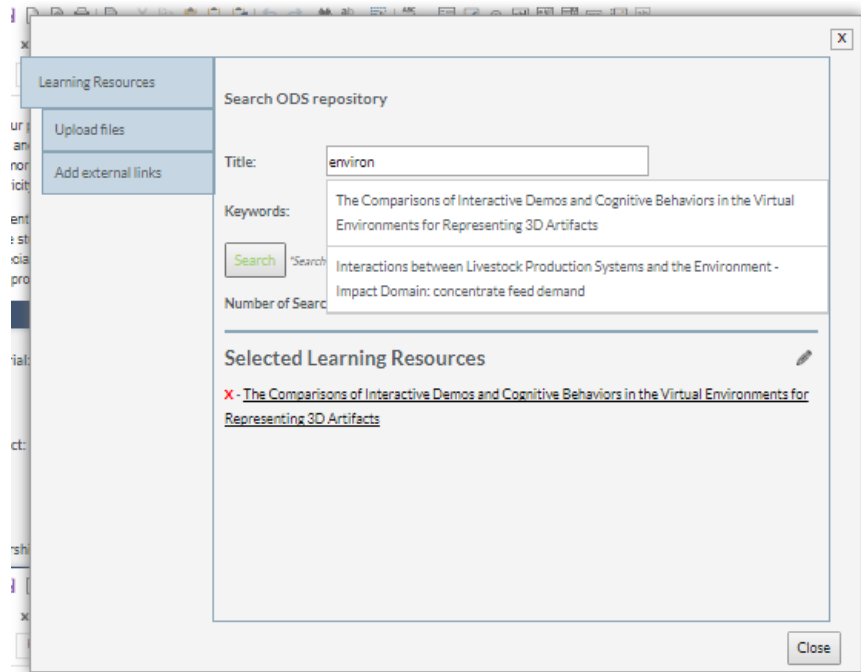


Figure 38: Attach educational resources from the portal repository to the a Project

Attach additional files

To add more files in the selected phase of the Project the window of “Attach” supports the Student to search in the local / network folders of his/her desktop and select the ones that fit the Project that he/she edits and upload them in the tool. To finalize this selection the Student needs to confirm the upload of the files from the list of the selected files in the window.

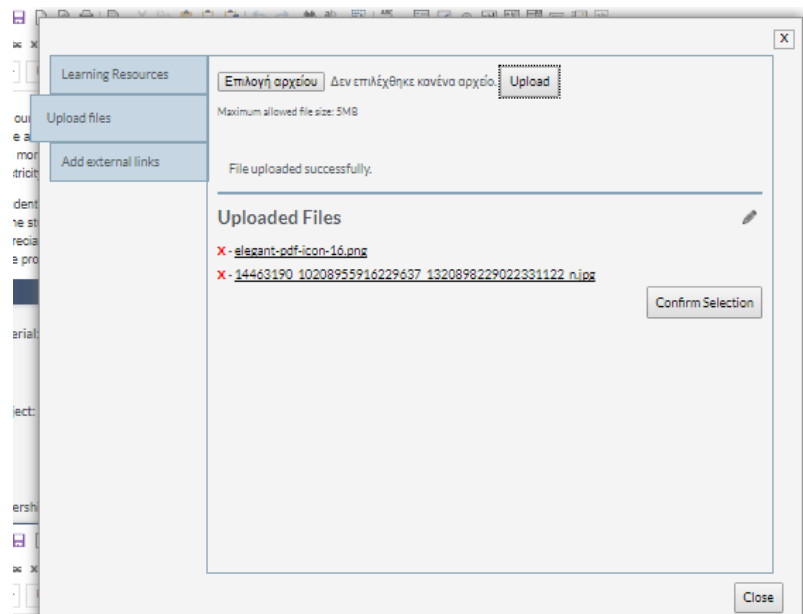
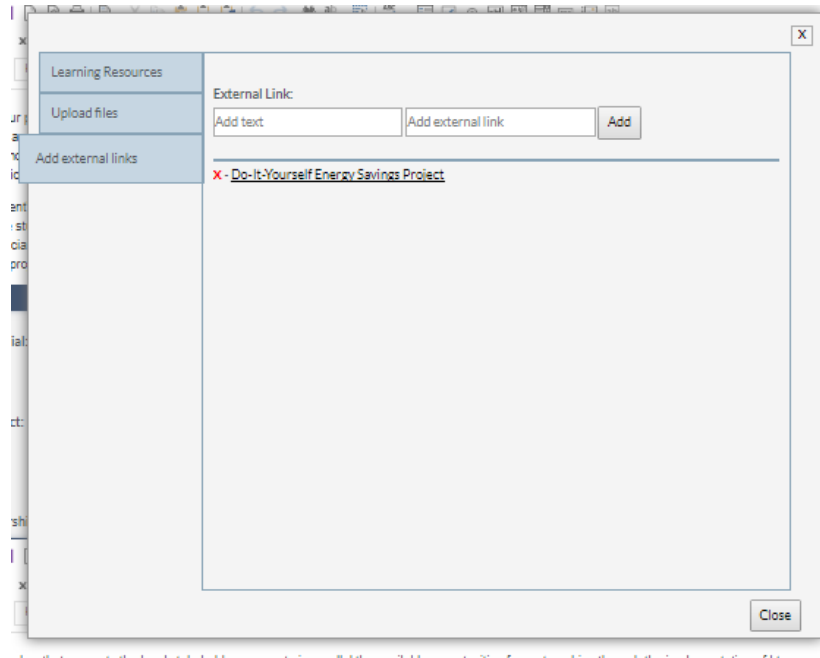


Figure 39: The Student can upload additional files per phase

Add external links to the Project

Apart from the possibility that the Students have to add any url in the rich editor with the description, they have also the option to add more external urls out of the description using this option. The Students import the description / title of the url and the url in the window as depicted below and press “Add” to validate their selection.



When completing the process of attaching additional material and the Student closes the window, the selected content is presented in the respective phase, as “Attached items”.

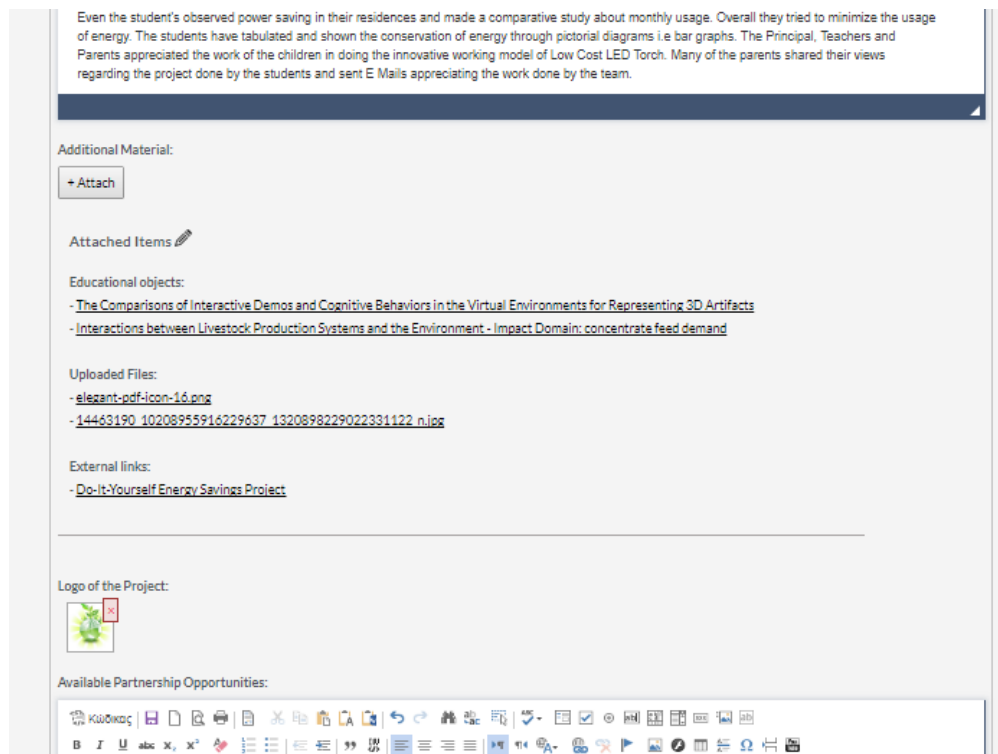


Figure 40: The attached material is presented in each phase as “Attached items”

5.4.6 Project's summary page

The summary Page includes all the “public” information of a Project that is available mainly through the Community where the Project was created by the Teacher and according to the visitor of the page provides different options for actions as following described.

The screenshot shows the 'Open Schools for Open Societies' (OSOS) interface. At the top, there's a header with the OSOS logo, a navigation bar with 'FEEL, IMAGINE, DO, SHARE' and a link to 'Learn more about OSOS', and user options for 'Lamprini Kolovou', 'Logout', and 'English'. Below this is a dashboard with icons for 'Accelerators' (3), 'Communities' (2), 'Schools' (1), 'Teachers' (3), and 'Academies'. The main content area displays the project 'Save energy in School and in Home', hosted in 'OSOS', contributed by 'Lamprini Kolovou' on '16/11/2017'. The project description discusses the impact of globalization on energy consumption and the need for conservation. It lists main targets of the project, such as enabling students to understand energy requirements and conservation. Keywords include 'energy', 'environment', and 'social awareness'. There are options to 'Edit', 'Delete', 'Bookmark', 'Copy', and 'Add Tag'. A 'Comments' section at the bottom indicates 'There are no Comments yet. Be the first to Post a Comment'. The footer shows the breadcrumb 'Home | OSOS Sub-community | Projects | Save energy in School and in Home' and a 'Share' button.

Figure 41: Project's Summary Page

The table below presents the type and the description of the information that is included in the Summary Page and the relevant actions that are available to the visitors of the portal. It is mentioned that the pre-condition for a user to apply the advanced options is to be logged-in.

Table 6: Fields and options in the Project's Summary Page

Field	Description
Main description	
Title	Is the title introduced for the Project by the Teacher
Description	It is the main description provided by the Teacher

Teacher created	the Teacher that created the Project
Date of creation	The date that the Teacher created the Project
Keywords	These are the keywords provided by the Teacher.
Social data	
Rating	The “score” that the Project has based on the Ratings of the visitors of the Summary Page
Views	The total number of views of the Project (from registered and non-registered users)
Language(s)	The language(s) that the Project is available
Students’ age group	The age group of the Students that participated to implement the Project
Subject domain	The relevant subject domains as this(these) selected by the Teacher
# of students participating	The number of the Students that participated in the implementation of the project (not the number of the students that edited the Project)
Published by the students	The data that the Student(s) made the Project final
Option	Action
Social sharing	Enables the visitors of the Summary Page to share the Project through the social media and e-mail / messaging communication
View project	This option is available only for “public” projects and only for the creator of the project. Leads to a window that includes all the information of the Project added by the Students
Edit	This option is available only to the creator of the Project and opens the authoring tool for further editing and update
Bookmark	Add the page in the shortlist of the bookmarked pages of the portal of the user
Pin project	Allows a community manager to create a reference of this Project in one (or more) of the Communities that he/she manages.
Rate	Allows the user to assess the Project and provide his/her score
Add Tag	Allows the visitors of the portal to add their own tags to the Project. the creator then can see them and re-consider the ones used in the initial Project if he/she finds this necessary and proper. The Tags are free words, separated with commas
Comments	Each registered user that visit the Summary Page can add his/her comments
Delete	This option is available only to the creator of the Project
Copy	This is available only for the public Projects and allows a user to create a new project based on a previous one. Only the members of the same community can copy a project

5.4.7 Search and view Demonstrators and Projects

The OSOS Incubators offer to the visitors of the Portal a special space where all the Best practices / Accelerators and the Students Projects are presented, providing the possibility of searching among them using keywords. In this page (<http://portal.opendiscoveryspace.eu/osos/projects>) for each one of the best practices and the projects, the following information is available:

- The title
- The logo
- The link to the summary page (*summary*)
- The link to the content (*preview*) for the public projects

Apart from the keyword search, a number of filters allow the user to sort the presented results either in an alphabetical or a “newest to oldest” way.

5.4.8 Management of OSOS project news in the portal

The Home Page of the OSOS Community includes a special section for the presentation of news that are relevant to the Project activities and the Consortium wants to share with the visitors of OSOS Incubators. To manage these news, the OSOS Incubators make use of an existing service in the portal, properly enhanced so to manage the news for OSOS project as well.

The process that is followed to upload news in the OSOS Home Page is described below and can be followed only by properly privileged users of the portal:

1. Visit the <http://portal.opendiscovery.space.eu/ods-news>
2. Login
3. Press “Add New”
4. In the form fill the title, the description of the new, the image (following the size for the dimensions that are indicated in the form)
5. Select the OSOS project from the list
6. To re-arrange the news in the slideshare select “[Rearrange Slideshow News](#)” and drag the news in the sequence that is preferred (by the cross above the image)

5.4.9 Users’ profile – My area

In general, a user can access his/her profile after login in the portal from his/her name that is appeared in the top right corner of all the pages in the portal or directly using the url: <http://portal.opendiscovery.space.eu/en/my-area>.

The “My area” includes two basic sections. The one section includes all the information that the user selected to present his/her self and the options to admin/manage his personal information and preferences in the portal and the account settings as well. The second one, includes all the content that is related with the activities of the user in the portal. In this area, also the Projects that the user is creating are added, either these are in draft or final version. For each one of the content type that is included in this second section of the profile, a list is opens below allowing the user to search in his/her content and perform the relevant actions (for the types that these are available). Some examples of these list are depicted in the screens below.



Lamprini Kolovou
Intrasoft International | Manager

[Account Settings](#)
[Competence Profile](#)

Member Since: 2013.04.29
Last Login: 2017.11.17

Holding a B.Sc. in Electrical Engineering and a PhD in Health Informatics and Telematics, I have worked as a technical manager, senior consultant, project manager and software engineer for various organisations including academia, industry and public sector. My professional experience include more than ten years' work in the management and development of ICT projects, training mainly in academia and research in healthcare informatics and Telematics. My areas of work and interest are of e-Health, health information systems interoperability, software development, reference modelling, e-Learning, and open content.

Status shared (microblog)	Notifications: 127	Friends: 10	Communities: 21
Groups: 2	Discussions: 2	Blogs: 2	Bookmarks: 2
Activities: 0	Events: 4	Polls: 0	Resources: 24
Projects: 0	Schools	Learning Tools	Interactions
Recommendations	Scenario in ISE tool	Social Relations	

Figure 42: My Area / profile in the portal

Friends

[Friends](#)
[Pending Requests](#)
[Awaiting Approval](#)

	George Thanos Intrasoft International Developer	Remove friend
	Athanasiaides Nikolas Intrasoft International Manager	Remove friend
	Kati Clements University of Jyväskylä Project Researcher	Remove friend
	Argiris Tzikopoulos Ellinogermaniki Agogi Manager	Remove friend
	Nektarios Moumoutzis Technical University of Crete Researcher	Remove friend

1 2 3 4 next > last >

Figure 43: “My” connections with other users in the portal in My area

Notifications

Type

- Any -

Message Status

- Any -

Hide Filters

Sort

☐ Oldest to Newest
 ☒ Newest to Oldest

2017.11.14

Mark as Read

Delete item

User *cecilianicolae* requests to register ODS portal and join *ODS Community*. Please follow the [link](#) to approve or reject his request.

2017.11.14

Mark as Read

Delete item

User *Iuliana Moise* requests to register ODS portal and join *ODS Community*. Please follow the [link](#) to approve or reject his request.

2017.11.14

Mark as Read

Delete item

User *nascha* requests to register ODS portal and join *ODS Community*. Please follow the [link](#) to approve or reject his request.

2017.11.14

Mark as Read

Delete item

User *Pavlidou* requests to create community. Please follow the [link](#) to accept or reject his request.

2017.11.14

Mark as Read

Delete item

User *Pavlidou* requests to create community. Please follow the [link](#) to accept or reject his request.

Figure 44: “My” Notifications in the portal in My area

Communities

New Community

mathematics educators international ODS

7

ENTREDU Community

329

Really cool community!!!

10

Greece
ODS Pilot Schools in Greece

134

Connecting Schools with Parents and the Local Community

10

1

2

3

4

5

6

7

...

next >

last >>

Figure 45: The Communities that the user is member or manager. The option for New Community is available here

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5.4.10 Analytics tool and reports

The ISE portal provides a special mechanism to support the track of analytics and the export of reports for very event that takes place in the portal maintaining anonymous data for the usage by the portal visitors and registered / logged-in users.

The information that is tracked and collected from the [Analytics Tool](http://portal.opendiscoveryspace.eu/analytics) (<http://portal.opendiscoveryspace.eu/analytics>) is used to monitor the following elements in the portal that is the basis for all the analysis behind the design and implementation of the Tool:

- Resources importance
- User engagements and participation
- Community status
- Evolution of OSOS community portal

Considering these dimensions, the base information needed to be collected from the different repositories of the portal containing the OSOS data, in order to be used by the visualization and the reporting tool are defined per entity/object of the portal and analysed taking into account:

- The role of the users that take the relevant triggering actions (teachers, parents, experts, anonymous/non-registered)
- The time period of the analysis
- The type of the content that is related to these actions/events

In order to support all these dimensions and specifications, the total of the actions in the portal that are taken from the visitors and users are tracked. The entire lists of the actions that are monitored and the events that are tracked are presented in the two tables below.

SUMMARY OF TRACKED EVENTS		Portal Entities																	
Activities		Academies	Activities	Blogs	Comment	Communities	Competence Profile	Connections	Discussions	Events	Groups	Help	Multimedia	Polls	Resources	Tags	Training Activities	Urls	User
When, who and how a user accesses the portal content?	Access	x	x	x		x	x		x	x	x	x	x	x	x			x	x
	Search					x									x	x			x
	ViewFullMetadata														x				
When, how often and who adds and changes the Portal content?	Add	x															x		x
	Post				x														
	New		x	x		x			x	x	x			x	x				
	Update						x												
	Edit					x													
When, who and by which mean the portal users adds social information to the Portal and under which content?	Bookmark		x	x					x	x	x				x				
	Rate		x	x					x	x					x		x		
	Share		x	x		x			x	x	x				x		x		x
	Unbookmark		x	x					x	x	x								
	Comment			x					x	x					x				
When, how often and who is networking through the Portal? who is the most active in networking and which are the un-liked to follow?	Like																		
	Follow		x					x		x									x
	Unfollow		x							x									x
	Invite					x													
	Join					x					x								
	Leave					x					x								
When each user access and leaves the Portal?	Remove							x											x
	Login																		x
	Logout																		x
	Registration																		

Table 7: Summary of tracked events by the Portal Analytics Tool

Especially for the OSOS Incubators, the analytics and reports that are produced are related with the following information:

@Project level



- Number of Nodes for every Community: this type of query and report is extended so to include also the Students' Projects. The data are produced in a time related way so to present the progress in the creation of new Projects in the ISE portal using the OSOS Incubators.

@Community level

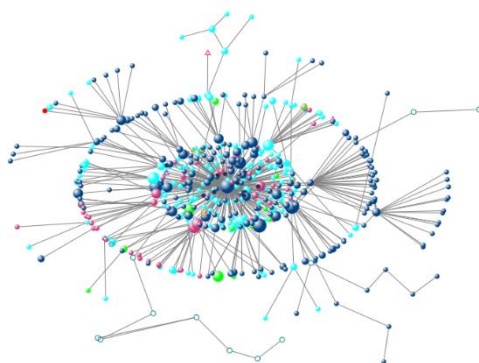
- Node page views: this query and report that is available at community level is extended to track and present also the page views of the Students' Projects in the portal.
- Number of nodes of every community: this is also extended to present in a time related way the progress of creation of new Projects in the selected community(ies).
- Node rate: for the selected community the rates of its content is tracked and reported by the portal. This is extended to include the rates of the Students' Projects by the users of the portal.
- Bookmarks: similar to the rates, also the bookmarks that are added by the users of the portal are tracked and reported at community level.
- Shares number: the users of the portal can share the Students' Projects using the social services of the portal. This query and report includes at community level the shares of the Students' Projects.
- Comments number: similar to the social services above, the comments that are added by the users of the portal in the Students' Projects are tracked and reported at community level.

@Students' projects level

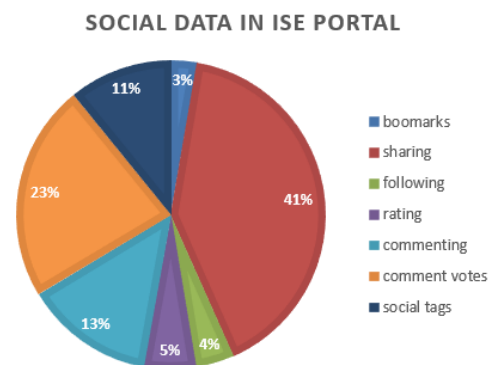
For the Students' Projects special analytics are provided by the portal and provide information related to the following parameters so to ease the assessment of the progress and the impact for OSOS project:

- # of multimedia content (rich text, images, videos. Documents, ODS resources) per phase
- Parent community
- Original project (if it is copied)
- # of editors (students that edited the project)
- # of students mentioned in the project that participated in the preparation of the project
- Status of the Project

Some samples of the diagrams that are provided using the analytics service of the ISE portal are presented below:

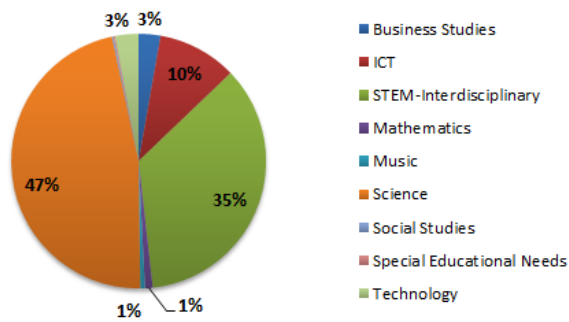


(i) The portal communities' network

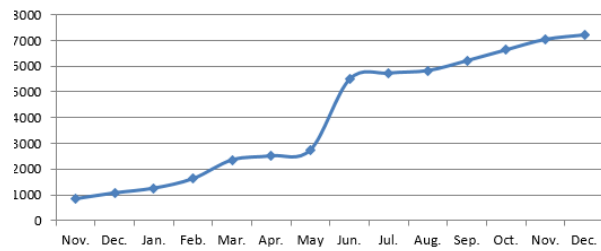


(ii) Distribution of social data in the portal

ISE communities per domain



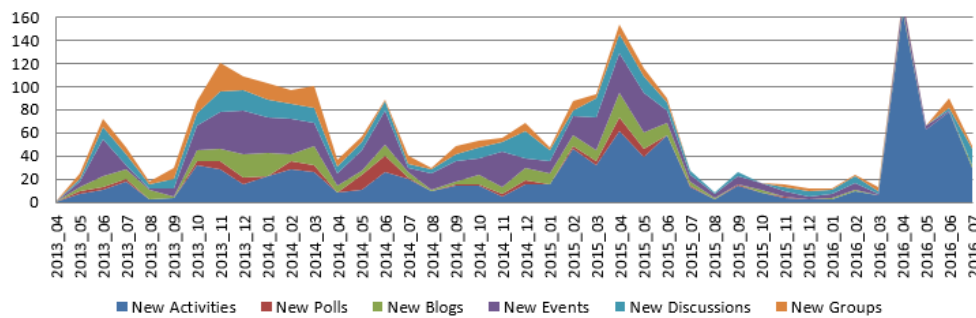
Progress of user registrations



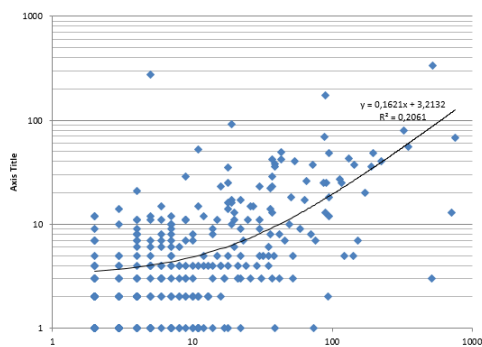
(iii) Allocation of types of communities in the portal

(iv) User registrations in the portal

Growth of community nodes

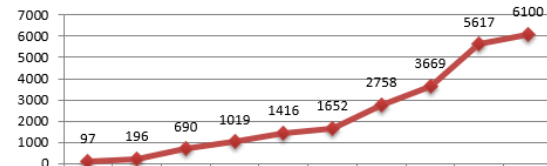


(v) The growth of the communities' content in the portal



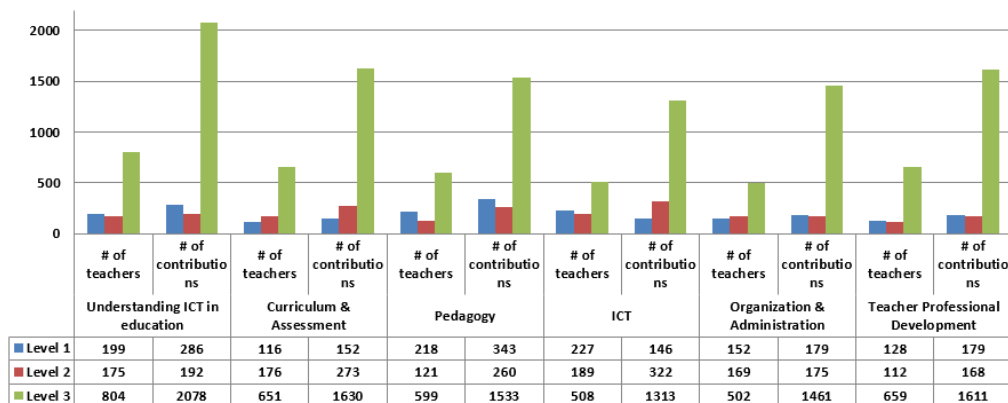
(vi) Users; contribution in resources of the portal

Progress of users contributions (total)



(vii) Progress of total users' contributions

The competence profile of portal's teachers and their contributions



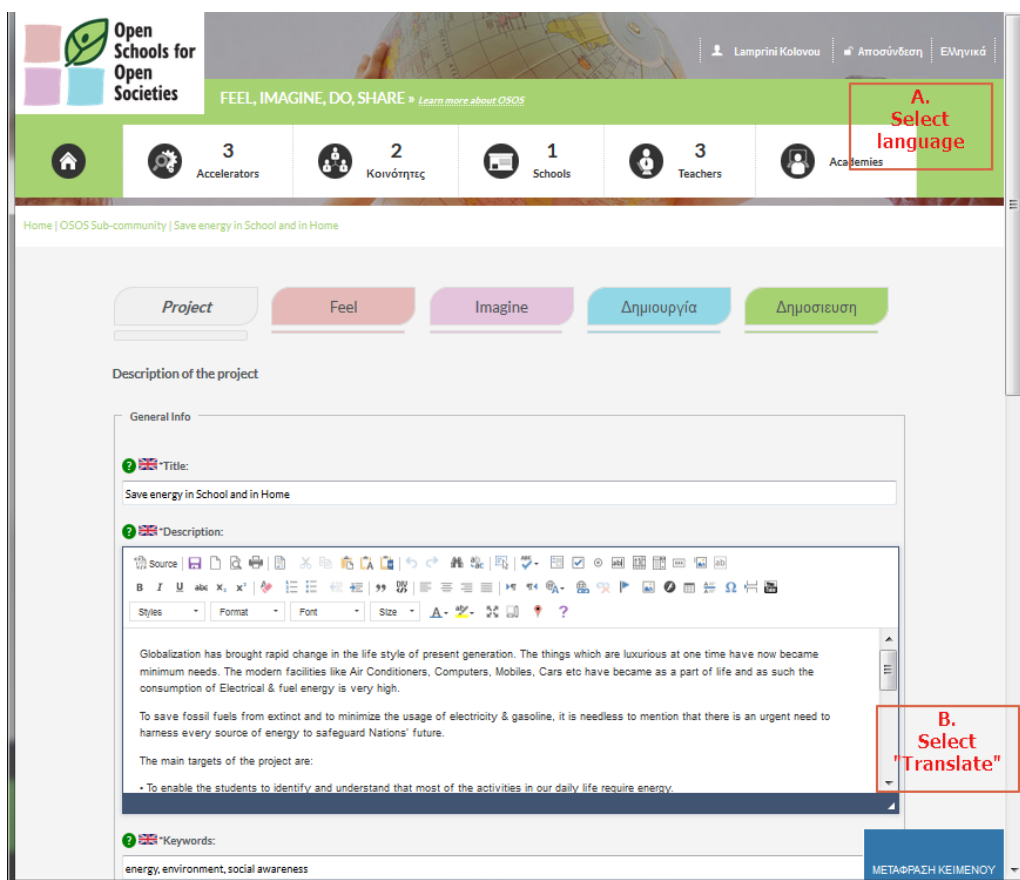
(viii) competence profile of the contributors

Figure 46: Samples of analytics supported by the ISE portal

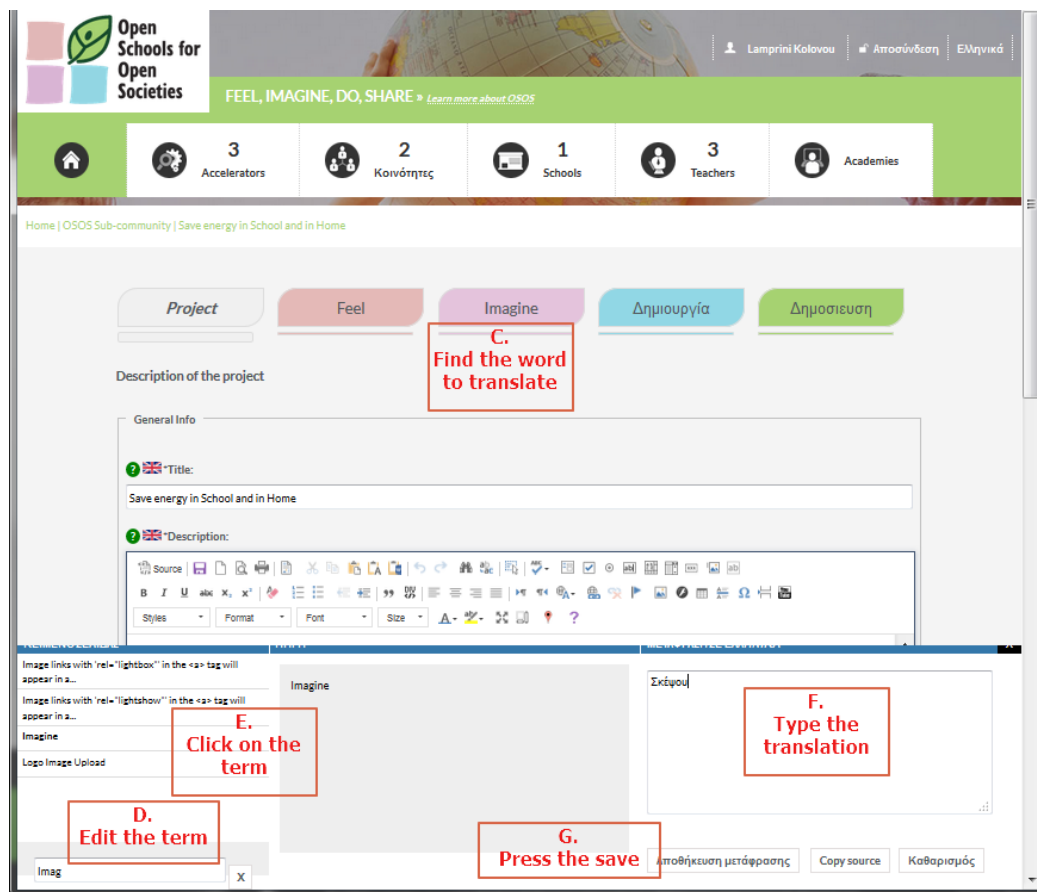
5.4.11 Translation of projects' authoring tool interface

For the translation of the portal interface and especially for the projects authoring tool in the portal languages, a special tool is available, in order all the privileged users (Translators) to be able to provide the terms and publish them directly to the production environment and the live version of the portal. The process of the translation remains simple enough and includes the following steps that are graphically presented also in the next two images:

- (a) The user selects the language
- (b) Locates the term in the page
- (c) Types the term in the textfield of the tool
- (d) Selects the English term from the list
- (e) Types the translation on the relevant area of the tool
- (f) Save and publishes the translated term



(a) Activate the tool



(b) Translate and publish the term

Figure 47: The process of translation

6 Online support

6.1 Teachers' support page

In order to better support the introduction and guidance of the Head Master, the Teachers and the Students on the OSOS concepts and the use of the OSOS Incubators a full Guide is made available through a “How to use” page that is accessible from the Home Page of the OSOS Community.

A specific set of pages was implemented for the three target groups making all the designed material accessible through the following address: <http://portal.opendiscoveryspace.eu/how-to-use-osos>. The full guide was made available also in PDF format. The figure below presents the home page of the relevant guide.

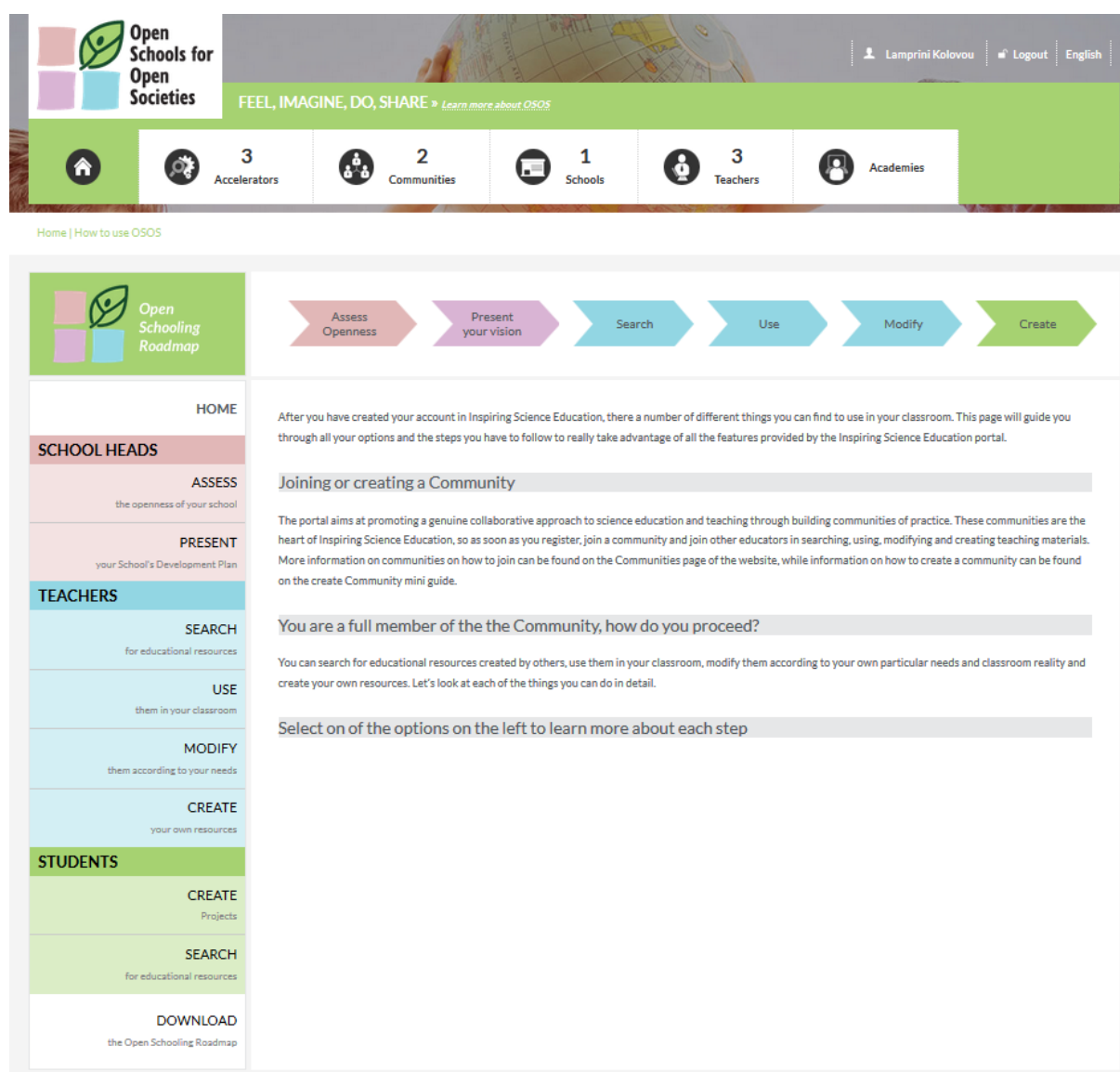


Figure 48: How to use OSOS home page

6.2 Training Academies and support material



6.2.1 General presentation and structure

The [Academies](#) refers to training material for the teachers that is produced in the context of the project and especially under the implementations of WP3. To provide this material properly and also to connect it with the rest of the portal services, this is integrated as a distinct topic under the [Teachers Academy](#) of the [portal Academies](#).

The structure that is followed to implement and present the Teachers Academy and all the training material that this contains is depicted in the diagram below.

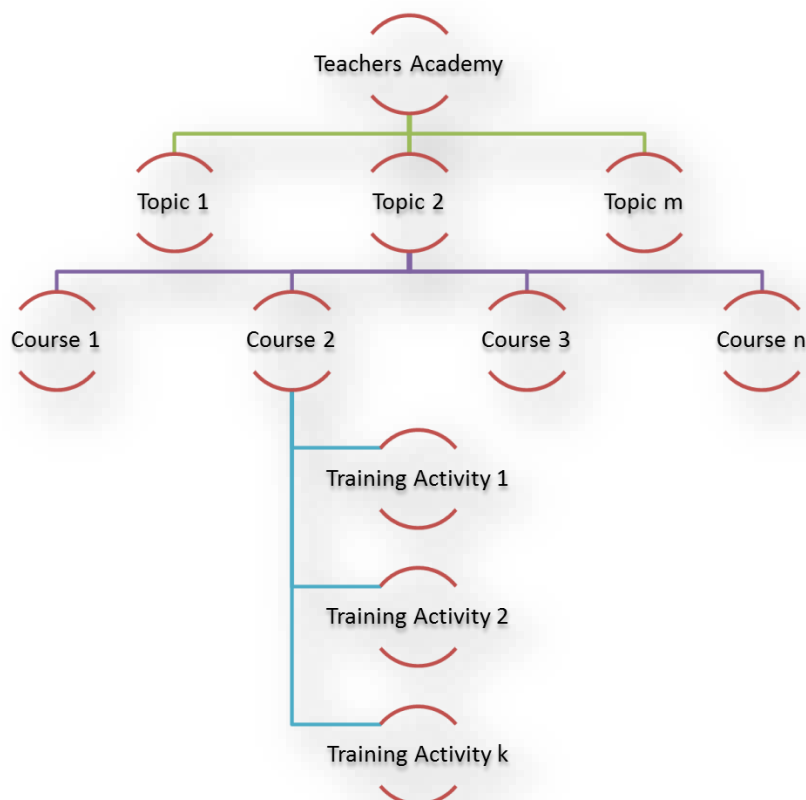


Figure 49: Structure of the training material under the Teachers Academy

The navigation path to access the Training Activities of the OSOS Academy is as depicted in the diagram below.

Taking advantage from the design and services that are implemented ISE portal for the Teachers Academy, the following options / features are offered to the visitors of the ISE Academy:

- The OSOS Training Activities are considered to be part of the ISE Academy
- While navigating in the ISE Academy the users have the possibility to access also the rest of the topics under the Teachers Academy
- While navigating among the various training material the users are informed which of the material have already accessed or not
- For each Training Activity the users are informed how this is connected with their competence profile in the portal and which of them can help them to improve it
- For each Training Activity the portal informs the user about other Training Activities that are relevant to it
- Each Training Activity can be enriched with multimedia content including images, videos, files and external or portal urls



Figure 50: Visiting the OSOS Training Activities in the ISE Academy

The structure of the Training Activities is presented in the diagram below:



Figure 51: The structure of training activities

Since the structure of the Teachers Academy and of its training activities follow a different way from the rest Academies, a special search mechanism is available to ease the navigation of the teachers and guide them properly to find the training activities of his interest. This search page is presented in the screen below and the following features are supported:

- Title search: the user can provide a keyword that might be included on the title of the provided activities
- Search per topic/course: the entire structure of the Academy is provided on the page and the user can select among the multiple topics and courses in order to locate the training activities of his interest.
- Competence level: for the logged-in teachers, a special feature is also provided, that gives them the possibility of accessing the training activities based on: (a) their current competence level, (b) the net competence level they can achieve following specific training activities, and (c) the activities that match any competence level in the portal.

All these filters can be combined and the relevant results are presented on the page.

The screenshot displays the 'Training Activities' section of the Teachers Academy. It features a list of activities with details such as title, level, rating, date, and views. On the right side, there are filters for searching by title, browsing by competence level, and available courses/topics. The 'Available Courses/Topic' section includes options like 'Inspiring Science Education Academy', 'Creativity through Early Years Science Education', 'School Based Inquiry Activities', 'Connecting Schools to Science Centres and Museums', 'Connecting Schools & Scientific Research', 'Science Teachers' Professional Development in Inquiry Based Science Teaching', and 'SimAULA educational game environment'.

Figure 52: Search training activities in Teachers Academy

6.2.2 Translation of Training Activities

A special mechanism is also supported by the portal for the translation of the content of the Academies, in order to support the multilinguality in the portal in all project languages. This mechanism is used from privileged only users that are responsible to provide the necessary translations and publish them to the portal. All portal languages are available for the translation of the Training Academies. The forms used for the translation are similar to the ones used for editing the content, with an additional feature for selecting the language and provide the necessary information for the consistent and valid presentation on other languages than the English one.

The process that is followed is presented below:

1. Edit the Training activity



2. Select "Translations" under the title

Title *

SECTION 1: About educational resources

Translations

3. Select the language that you prefer to add from the table that appears (e.g. Greek in the next image)

LANGUAGE	SOURCE LANGUAGE	TRANSLATION	STATUS	OPERATIONS
English	(original content)	view	Published	edit
Dutch	n/a	n/a	Not translated	add
French	n/a	n/a	Not translated	add
German	n/a	n/a	Not translated	add
Greek	n/a	n/a	Not translated	add
Italian	n/a	n/a	Not translated	add
Spanish	n/a	n/a	Not translated	add
Croatian	n/a	n/a	Not translated	add
Bulgarian	n/a	n/a	Not translated	add
Danish	n/a	n/a	Not translated	add
Czech	n/a	n/a	Not translated	add
Finnish	n/a	n/a	Not translated	add
Hungarian	n/a	n/a	Not translated	add

4. Import the translation in all free text fields (title, description, etc). You can switch between the selected languages from the tabs that appear at the left top corner of the page

Home | Training Academies | ODS Toolbox | SECTION 1: About educational resources

English Greek

→ [@/on \(all languages\)](#)

Title (all languages) *

SECTION 1: About educational resources

Translations (all languages)

Body (Επεξεργασία περιλήψεως)

Εducational Resources are digital objects that can be freely accessed and used for educational purposes. This broad definition refers to many different objects, such as wikis or authoring systems, simulations or animations, electronic textbooks, pictures, videos, but also lesson plans or experiences shared.

The ODS portal gives access to a large collection of educational resources. You are free to use, rewrite, translate and in principle do any change you find fit to make the resource work in your settings, if the license allows this.

Follow the links to learn how to search educational resources, adapt them to your circumstances, and share your work online.

body

Αλλαγή σε απλό επεξεργαστή κειμένου

Μορφότυπος κειμένου: Filtered HTML

Προσθήκη νέων πληροφοριών για τις επιλεγμένες μορφοποιήσεις

- Διευθύνσεις ιστού και e-mail μετατρέπονται αυτόματα σε παραπομπές.
- Αυτόματες αλλαγές γραμμών και παραγράφων.

Difficulty Level (all languages) *

All

Activity Material

Επεξεργασία των δραστηριοτήτων γραμμένων

PREVIOUS COURSE

Τίτλος	URL
<div> <div></div> <div>ODS Toolbox</div> </div>	<div> <div></div> <div>http://portal.opendiscoveryspace.eu/ods-toolbox-668542</div> </div>

The link title is limited to 128 characters maximum.

5. Follow the steps 3 and 4 for all desired languages

*** It is mentioned that within this process also the Activity Material should be translated if necessary.



6.2.3 Academies: connect with communities and resources

To better support the presentation of the training activities under the OSOS Academy and ease the user to find more related content uploaded in the portal there is a the possibility of connecting each course with selected communities and educational resources. These are defined by the authors of the courses and uploaded during the editing. The picture below presents such an example of a course connected with a relevant community.

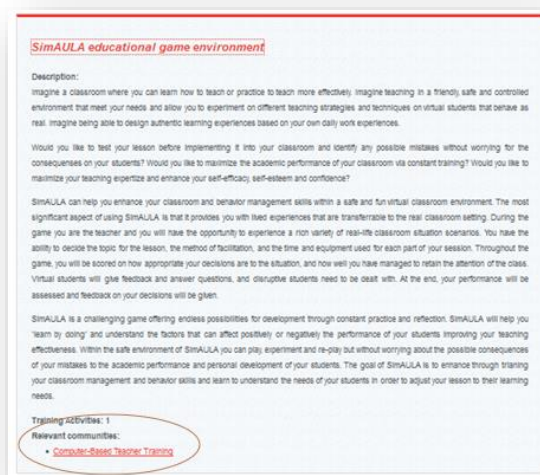


Figure 53: Connecting courses of Academy with communities and resources

6.2.4 Pin events & activities between communities and academies

The portal supports the possibility for the community managers to “share” already existing events and activities uploaded in various communities to their own communities. The process is similar to this of “pinning” educational resources. This is the “Pin” option presented in the page of an activity or event. The activities and events are not actually transferred from the one community to the other, but references are used and always the source community is mentioned in the lists of the relevant communities that includes such references. The diagram below presents the workflow that the users follow in order to share such content with this functionality. The same process is also supported for sharing events among the communities and the OSOS Training Activities, to support the visitors of the Academy to follow the relevant events implemented by the portal communities’ members.

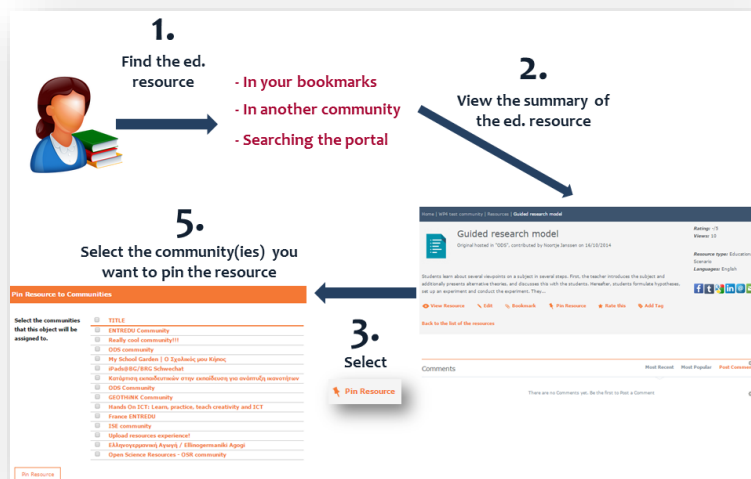


Figure 54: Share communities' activities and events like sharing/pinning resources

6.3 Portal manuals

In order to better support the experience, the use and the navigation of the users in the ISE portal and especially in the use of OSOS Incubators, manuals for all the activities that can be performed applying the portal features have been produced and updated based on the new features provided by OSOS. All the manuals are available in the Training Academies (<http://portal.opendiscoveryspace.eu/en/training-academies>), in online form (pdf) and they support the following features of the portal:

- **User profile:** guide the user on how his profile area in the portal is structured, what information includes and how to access and manage it
- **Create Community:** guides the user on the navigation path of creating a community and the individual steps of completing the necessary information
- **Create modules inside community:** provides all the necessary information about what are the different modules of the communities, how these are used or can be used, what type of information is requested for each of them in order to complete the creation and what actions can be performed on these modules through their pages of presentation
- **Join community:** this is a presentation of the entire navigation path and alternatives while the user attempts to join a community in the portal as a registered or a non-registered visitor
- **Manage community:** this is a guide for all the community managers that presents the different areas of the communities portal and provides all the necessary information for managing the presentation, the members, the network and the interface of the community
- **Registration:** this guide presents step by step all the registration process and options that the visitors have in order to join the portal and/or one of its communities
- **Share resources in community:** this presentation provides the entire navigation path, the various options and the necessary information that the user needs to provide in order to create new resources under the joined and selected community. This is also a guide for the Authoring Tools including all the process, the steps and the options of the users until the final step of saving and publishing a resource (

- **Create and publish students' projects:** includes guidelines for the Teachers for how to create, share and publish Students' Projects within the OSOS community. Presents alternative paths and navigation in the portal for using the OSOS Incubators and the interaction with the Students while editing and finalizing their Projects.
- **Edit Projects:** this includes guidelines for the Students and the step-by-step process for editing, updating and publishing their Projects.
- **Register and manage Schools:** this manual is for the National Coordinators and the School Managers and presents the process and interaction for registering and administering the profile of a School in the portal.

Especially for the project partners, a space in the OSOS community has been created providing short guidelines mainly on how to create and manage their own communities, to better organize and support the collaboration with the Schools / Teachers during the implementation of the project activities (<http://portal.opendiscoveryspace.eu/en/community/osos-community-848423>). This community is periodically updated with new material based on the needs of the partners and the use of the OSOS Incubators.

Appendix 1 – Technologies used

Drupal Platform

Drupal provides its users with the tools they need to make their own content management solution, while still providing some pre-built components to help them get started. Thus, it can be described both as a content management system (CMS) and a content management framework (CMF) - one system that strives to have the strengths of both, without their deficiencies. Drupal is a free and open-source, is written in PHP and is distributed under the GNU General Public License.

Drupal is a modular system. Its functionality is held in modules that integrate into the main workflow at various points, altering the way other parts operate or even adding new features entirely. In order to build a fully functional website, we use modules that either come as part of the standard Drupal download (the core) or are provided by the various developers of the Drupal community.

Appendix 2 – Vocabularies used for the metadata of the projects

General.Language				Age.Group
Value Space				Value Space
English		Dutch		less than 6
Greek		Spanish		6 - 9
German		Portuguese		9 - 12
Italian		Romanian		12 - 15
French		Finnish		15 – 18
Irish		Bulgarian		18 - 25
				25+
				all ages
“9.1 Classification.Purpose” = “Discipline: ICT”				
Value Space				
Element	9.1 Classification. Purpose	9.2.1 Classification. TaxonPath.Source	9.2.2.1 Classification. TaxonPath. Taxon.Id	9.2.2.2 Classification. TaxonPathTaxon.Entry
Value	discipline	ODS ICT Vocabulary	ODS Curriculum – Based Vocabularies	
“9.1 Classification.Purpose” = “Discipline: Language Learning”				
Value Space				
Element	9.1 Classification. Purpose	9.2.1 Classification. TaxonPath.Source	9.2.2.1 Classification. TaxonPath. Taxon.Id	9.2.2.2 Classification. TaxonPath.Taxon.Entry
Value	discipline	ODS Language Learning Vocabulary	ODS Curriculum – Based Vocabularies	
“9.1 Classification.Purpose” = “Discipline: Mathematics”				
Value Space				
Element	9.1 Classification. Purpose	9.2.1 Classification. TaxonPath.Source	9.2.2.1 Classification. TaxonPathTaxon.Id	9.2.2.2 Classification. TaxonPathTaxon.Entry
Value	discipline	ODS Mathematics Vocabulary	ODS Curriculum – Based Vocabularies	
9.1 Classification.Purpose” = “Discipline: Science”				
Value Space				
Element	9.1 Classification. Purpose	9.2.1 Classification. TaxonPath.Source	9.2.2.1 Classification. TaxonPathTaxon.Id	9.2.2.2 Classification. TaxonPathTaxon.Entry
Value	discipline	ODS Science Vocabulary	ODS Curriculum – Based Vocabularies	
"9.1 Classification.Purpose” = “Discipline: Social Studies”				
Value Space				
Element	9.1 Classification. Purpose	9.2.1 Classification. TaxonPath.Source	9.2.2.1 Classification. TaxonPath. Taxon.Id	9.2.2.2 Classification. TaxonPath.Taxon.Entry
Value	discipline	ODS Social Studies Vocabulary	ODS Curriculum – Based Vocabularies	