



## DELIVERABLE

Project Acronym: **GreeNET**  
Grant Agreement number: **527891**  
Project Title: **Environmental Education through Enquiry and Technology**

### D3.4 GreeNET Inventory Application

Revision: 1.0 [Final]

---

#### Authors:

**Nikos Manouselis, Giannis Stoitsis, Georgios Papoutsis, Konstantinos Iliopoulos, Katerina Galani (GRNET)**  
**Jad Najjar, Saleh Salem (EUMMENA)**

<b>Project co-funded by the European Commission within the ICT Policy Support Programme</b>		
<b>Dissemination Level</b>		
<b>P</b>	<b>Public</b>	<b>X</b>
<b>C</b>	<b>Confidential, only for members of the consortium and the Commission Services</b>	

*This project has been funded with the support of Lifelong Learning program of the European Union. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

### Revision history:

Revision	Date	Author	Organization	Description
0.1	15/6/2015	N. Manouselis, G. Stoitsis	GRNET	ToC
0.3	15/7/2015	N. Manouselis, G. Stoitsis, G. Papoutsis, K. Galani, K. Iliopoulos	GRNET	First Draft, Description of all tools
0.8	30/7/2015	S. Saleh, J. Najjar	EUMMENA	Addition of moodle section
0.9	31/7/2015	G. Stoitsis	GRNET	Integrated pre-final version to review
1.0	4/9/2015	N. Manouselis, G. Stoitsis	GRNET	Final version

### Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

This project has been funded with the support of Lifelong Learning program of the European Union. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

## Executive Summary

The Deliverable D3.4 "GreeNET Inventory Application" of the GreeNET project aims to provide the final specifications and descriptions of the tools developed and used by the GreeNET project. The three tools described in this document are the following:

1. The GreeNET Inventory
2. The Best Practice Authoring Tool
3. The GreeNET Moodle instance

All of these tools are easily accessible through the GreeNET project website, which acts as the main point of reference for all information, tools and social media related to the project. In this way, website visitors and potential users of the GreeNET tools are provided with all the information and options that they may need.

These tools, as described in the following sections, are aimed at school teachers as well as other types of educators in environmental education that are interested in enriching their teaching material with high quality green Open Educational Resources (OER) and Best Practices on green topics, design their own interactive creativity activities using the Best Practice Authoring tool or reuse existing ones and engage their students in such activities and even create their own school portals using the School Portal Generator (SPG).

This document provides information on the aforementioned tools and the necessary links for potential stakeholders and end-users to get even more information. Two guides, one for the Best Practices Authoring Tool and one for the School Portal Generator are provided as Annexes to this document, aiming to provide all the required information to everyone wishing to use these tools.

## Table of contents

<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
<b>TABLE OF CONTENTS .....</b>	<b>4</b>
<b>LIST OF FIGURES .....</b>	<b>5</b>
<b>1 INTRODUCTION .....</b>	<b>6</b>
1.1 SCOPE.....	6
1.2 AUDIENCE.....	7
1.3 ABBREVIATIONS & DEFINITIONS.....	7
1.4 STRUCTURE .....	7
<b>2 THE GREENET WEBSITE .....</b>	<b>8</b>
<b>3 THE GREENET INVENTORY.....</b>	<b>10</b>
<b>4 THE GREENET BEST PRACTICE AUTHORIZING TOOL.....</b>	<b>15</b>
<b>5 THE GREENET MOODLE .....</b>	<b>17</b>
5.1 FROM GREENET INVENTORY TO GREENET MOODLE.....	18
5.1.1 Login.....	18
5.2 OPEN DISCOVERY SPACE (ODS) .....	19
5.3 STATISTICS .....	21
5.3.1 User stats.....	21
5.3.2 Overview statistics .....	22
5.4 MOODLE WEB 2.0 COLLABORATION PLUGINS .....	24
5.4.1 BigBlueButton.....	24
5.4.2 Recordingsbn.....	25
5.4.3 Cubic.....	25
5.4.4 FB_Comments.....	26
5.4.5 Forum_NG .....	26
5.4.6 Group Self-selection.....	28
5.4.7 MoodleBook .....	28
5.4.8 Wiki Module .....	28
5.4.9 OU_Wiki .....	29
<b>6 THE GREENET HUB.....</b>	<b>31</b>
<b>7 CONCLUSIONS.....</b>	<b>34</b>
<b>ANNEX A: BEST PRACTICE AUTHORIZING TOOL MANUAL .....</b>	<b>35</b>
<b>ANNEX B: SCHOOL PORTAL GENERATOR MANUAL.....</b>	<b>36</b>

## List of Figures

Figure 1.1: The GreenNET Best Practices Tool, Inventory and Moodle on the GreenNET website .....	6
Figure 2.1: The footer of the GreenNET project website .....	8
Figure 3.1: The GreenNET Inventory .....	10
Figure 3.3: The four steps for making use of the GreenNET Inventory .....	10
Figure 3.4: The GreenNET OER Finder .....	11
Figure 3.5: The creative engagement process of a Green Ideas event .....	12
Figure 3.6: The GreenNET Community in the ODS Web portal .....	13
Figure 3.7: The GreenNET School Portal Generator on the GreenNET website .....	14
Figure 4.1: The login page of the GreenNET Best Practice Authoring Tool .....	15
Figure 4.2: A Best Practice uploaded in the GreenNET Best Practice Authoring Tool .....	16
Figure 4.3: The authoring environment of the Best Practices Authoring Tool .....	16
Figure 5.1: The GreenNET Moodle landing page .....	17
Figure 5.2: GreenNET Moodle connection with GreenNET Inventory and ODS .....	18
Figure 5.3: Login page .....	19
Figure 5.4: Search .....	19
Figure 5.5: Browse all results .....	20
Figure 5.6: Resource page .....	20
Figure 5.7: GreenNET 4.3.1 Use stats .....	21
Figure 5.8: Full report describing every hit .....	22
Figure 5.9: Overview statistics .....	22
Figure 5.10: Users analysis .....	23
Figure 5.11: Country analysis .....	23
Figure 5.12: Language analysis .....	23
Figure 5.13: Adding the BigBlueButton functionality .....	24
Figure 5.14: BigBlueButton configuration page .....	25
Figure 5.15: Add a Forum .....	27
Figure 5.16: Forum configuration page .....	27
Figure 5.17: Add Wiki .....	29
Figure 5.18: Adding an OUWiki .....	30
Figure 6.1: The GreenNET Hub home page .....	31
Figure 6.2: The “Generate Ideas” section of the GreenNET Hub .....	32
Figure 6.3: The “Design Activities” section of the GreenNET Hub .....	32
Figure 6.4: The “Create your Portal” section of the GreenNET Hub .....	33

## 1 Introduction

### 1.1 Scope

This document aims to provide the final specifications and descriptions of the tools developed and used by the project. More specifically, the three tools described in this document are the following:

1. The GreenNET Inventory
2. The Best Practice Authoring Tool
3. The GreenNET Moodle instance

These three tools are accessible through the GreenNET project website, which acts as the main point of access for all the project's tools. In this way, access to the tools by their potential users is significantly facilitated.



Figure 1.1: The GreenNET Best Practices Tool, Inventory and Moodle on the GreenNET website

In the following chapters each one of these tools will be described and its basic functionalities will be explained in the form of short guidelines.

## **1.2 Audience**

This report is addressed to GreeNET project partners, the European Commission, and the general public.

## **1.3 Abbreviations & Definitions**

LOM: Learning Object Metadata

ODS: Open Discovery Space

OER: Open Educational Resources

SPG: School Portal Generator

## **1.4 Structure**

**Chapter 1:** contains an overview of this document, providing its Scope, Audience, and Structure.

**Chapter 2:** Provides brief information on the GreeNET website

**Chapter 3:** describes the GreeNET Inventory.

**Chapter 4:** describes the GreeNET Best Practice Authoring Tool.

**Chapter 5:** describes the GreeNET Moodle instance.

**Chapter 6:** describes the GreeNET HUB

**Chapter 6:** provides the conclusions of this document.

**Annex A:** Provides information on the GreeNET Best Practice Authoring Tool.

**Annex B:** Provides guidelines on the use of the School Portal Generator.

## 2 The GreenNET website

The GreenNET project website (<http://greenet.ea.gr>) was designed and deployed in the context of the project's Work Package 6. The website acts as the main point of access to the aforementioned tools of the project, as it provides quick access to them. At the same time, the project website provides access to various sources of information about the project, as shown in Figure 2.1.

- **General information about the project** (<http://greenet.ea.gr/about-greenet>);
- **Information about the project partners** (<http://greenet.ea.gr/greenet-consortium>);
- **A list of associated partners** (<http://greenet.ea.gr/content/associated-partners>);
- **The activities undertaken by each project partner** (<http://greenet.ea.gr/greenet-activities>);
- **The GreenNET Inventory** (<http://hub.greenet.ea.gr/discovery>);
- **Contact information** (<http://greenet.ea.gr/content/contact-greenet>).

The top menu bar of the project website provides quick access to the aforementioned pages. At the same time, the project website provides useful information through the buttons available at its footer.

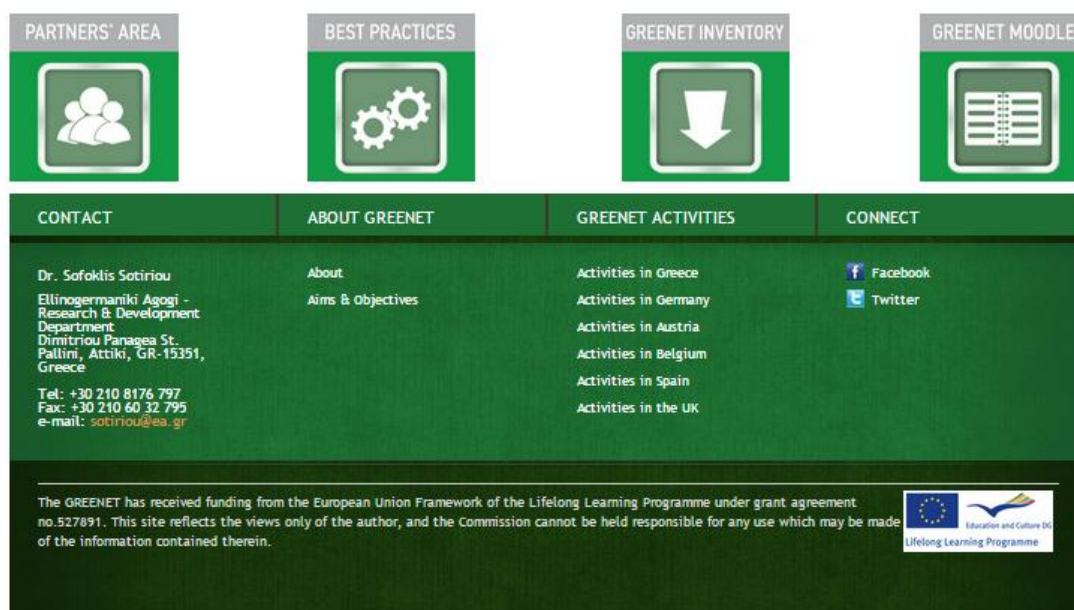


Figure 2.1: The footer of the GreenNET project website

More specifically, the footer provides access to the following:

- **The project partners' working space** (restricted area; <https://fit-bscw.fit.fraunhofer.de/bscw/bscw.cgi/40304235>);



- **The repository of educational Best Practices** (<http://www.greenet-education.eu/greenet>);
- **The GreeNET Inventory** (<http://hub.greenet.ea.gr/discovery>)
- **The GreeNET Moodle** (<http://greenet.eummena.org>).

Last but not least, the footer contains the links to the project's social media channels, namely Facebook (<https://www.facebook.com/GreeNETproject>) and Twitter ([https://twitter.com/GreeNET\\_Project](https://twitter.com/GreeNET_Project)).

In this way, the project website ensures that visitors will have quick access to quality information about the project, its social media as well as to the tools developed by the project. These tools will be described in the following sections.

### 3 The GreeNET Inventory

The GreeNET Inventory is the main component / tool developed by the project and therefore has a core role in the related workflows and activities. It is a Drupal-based tool that allows the collection and retrieval, among others, of Best Practices. Through its modular approach, the GreeNET Inventory allows users to find quality OER on green topics, to learn how to author Best Practices, to engage participants of events in interactive activities and even to create their own portal with green OER from selected external sources. The Best Practices available through the GreeNET Inventory are provided by GreeNET project partners as well as from affiliated institutions in the areas of environmental education and green jobs counseling.



Figure 3.1: The GreeNET Inventory

The home page of the GreeNET inventory proposes a workflow/framework on how the existing GreeNET tools can be used by the end users in an organized way.



Figure 3.2: The four steps for making use of the GreeNET Inventory

More specifically, the GreeNET Inventory allows users to:

a) **Search for online resources in green issues.** This option helps users identify green Open Educational Resources (OERs) of interest. The GreeNET OER finder is available at: <http://hub.greenet.ea.gr/discovery>. This finder currently provides access to almost 4,000 resources that can be filtered by collection, language of the resource, educational context, resource type and expected end user role. These resources are described with metadata based on the widely used IEEE LOM standard for educational resources, a fact that enhances the interoperability of the finder with related external systems and at the same time increase the search capabilities of the discovery space.

This discovery space provides access to green OER in thirteen (13) different languages from seven (7) different collections so far. These resources are appropriate for various educational contexts but always focusing at school level, aiming at teachers, learners and other types of educators. The resources are of different types, such as lesson plans, enquiry-oriented activities, best practices, prototypes and pathways, among others, also including various types of multimedia files (such as videos and presentations).

The availability of these filters ensures that the tutors and educators that are searching for quality OER on green topics will receive a list of resources based on their specific criteria.

In addition, collections of the Open Discovery Service (ODS) Portal, such as the one available here: <http://portal.opendiscoveryspace.eu/search/site/garden>, can be used as additional sources of green OER.

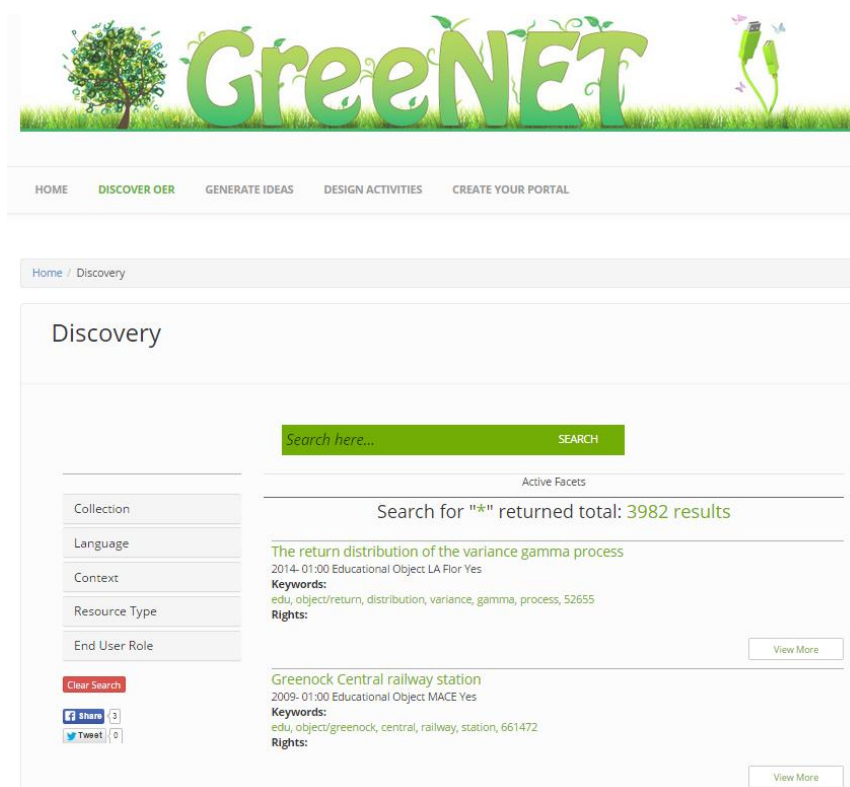


Figure 3.3: The GreeNET OER Finder

b) **Get inspiring ideas through the organization of creative activities in their schools.** In this section, users are introduced to the concept of the Green Ideas events, which are interactive and engaging workshops that explore ways in which green innovation may be empowered by education and technology. These events are organized in the form of dynamic workshops that use the design-thinking approach to innovate new ideas with actionable next steps. Within Green Ideas, collaboration and ideation happen in stages (harvest requirements, plant seeds, cultivate ideas, blossom & thrive). Throughout the experience, participants engage in activities that accelerate meaningful collaboration. The following graph describes the creative engagement process in a Green Ideas event. You can find more information at <http://greenet.ea.gr/content/generate-ideas>, while the website of Green Ideas is available at <http://greenideasproject.org/green-ideas>.

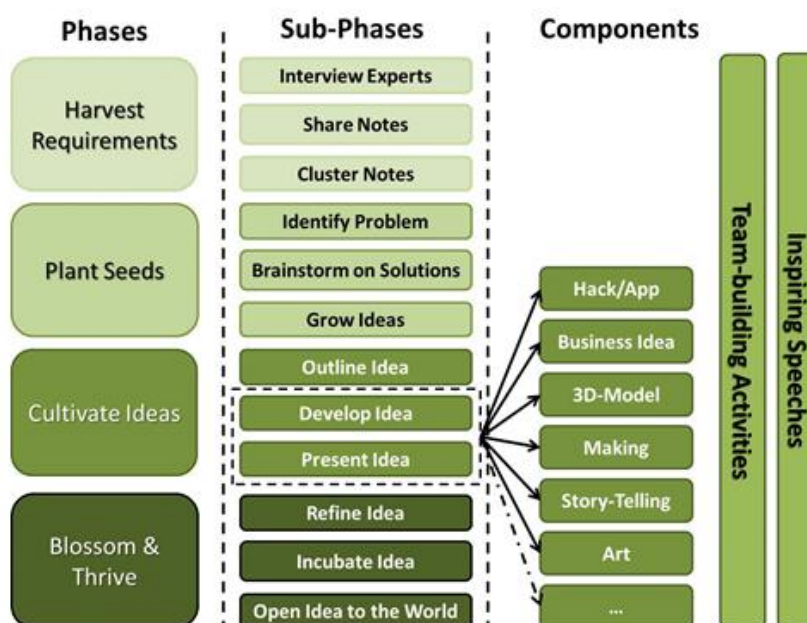



Figure 3.4: The creative engagement process of a Green Ideas event

c) **Get guidance through the authoring process of best practices for the classroom.** This option allows users of the GreenNET community to receive more information on the design of educational activities based on Best Practices. In this section, users are provided with a checklist that allows them to check how compliant their activity is with the concept of Best Practices and on top of that to access the manual of the Best Practice Authoring Tool, that is described in the next Chapter.


Home | GREENET: Sharing Environmental Educational Resources

---



## GREENET: Sharing Environmental Educational Resources

Domain: Science





Around the world, awareness is growing that we live on a planet with limited resources. The apparent 'planetary emergency' signals an educational crisis, among others, that demands new ways of thinking and calls for support to these key competences necessary for active citizenship and social cohesion, as well as a turn towards green professions. What is more, teachers may lack the necessary skills needed to enhance students' key reflective problem-solvers, and at the same time, students do not comprehend the applicability of science studies to future career choices, thus being hesitant towards green science studies and careers.

GREENET aims to correspond to this increasing recognition, through the development of an appropriate scheme for collecting and exchanging exceptional good practices and their respective tools in the area of environmental education and green careers counseling that exist in various EU countries, in accordance with the "Education and Training 2010" framework. Moreover, a European network of teachers shall be formed and motivated through specific educational actions, contests, and summer schools, to develop the competencies necessary in order to properly educate their students according to cutting-edge approaches in environmental education.

Have a look to the unique [GREENET Best Practices](#) from different schools across Europe.






Visit the project's [website](#)






**Tags:** environmental education, green resources

**Managed By:**  
sofoklis  
  
Katerina Riviou  


**Created on:** 03.04.2015  
**Last visited:** 31.08.2015

Network of related communities

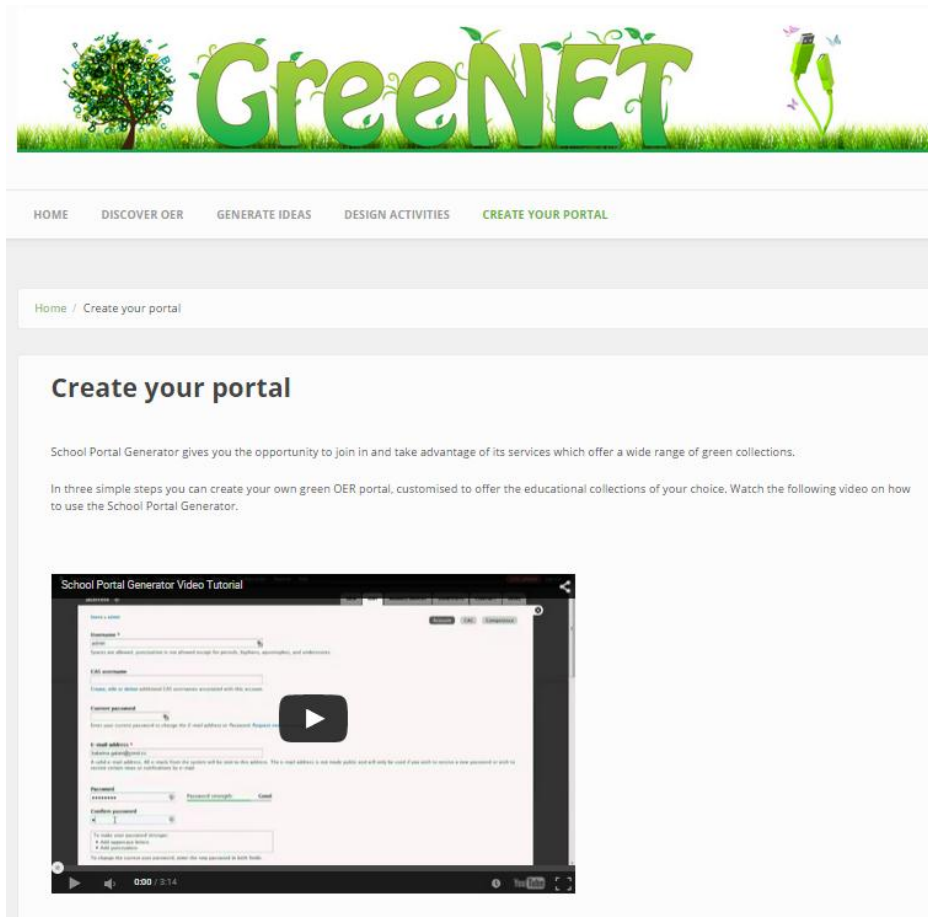






 <b>Members: 9</b>	 <b>Events: 0</b>	 <b>Discussions: 0</b>
 <b>Activities: 0</b>	 <b>Resources: 4</b>	

**Figure 3.5: The GreenNET Community in the ODS Web portal**

Through a user community hosted in the Open Discovery Space (ODS) Web portal, the GreenNET users and other stakeholders interested in using the project's tools and approach can initiate and participate in discussions related to the design of educational activities based on the Best Practices of the project (<http://www.greenet-education.eu/greenet>) or the ones created by the users themselves. Users are also provided with a login link, which can be used for accessing the admin interface of the GreenNET Best Practice Authoring Tool (inventory). More information about the tool can be found in Chapter 4 of this document as well as in Annex A.

**d) Create their own school portal on green ideas and projects sharing locally or in public the outcomes of their work.** Through the use of the School Portal Generator (SPG; <http://spg.latramis.com>), users are allowed to create portals that provide access to selected green OER that are specified by the user. The GreenNET School Portal Generator is available here: <http://hub.greenet.ea.gr/node/5>.



**Figure 3.6: The GreenNET School Portal Generator on the GreenNET website**

A video tutorial on the use of the School Portal Generator is available through YouTube: <https://www.youtube.com/watch?v=Ppo0luWBjM8>.

The School Portal Generator manual is available in the Annex B of this document.

## 4 The GreeNET Best Practice Authoring Tool

One of the aims of the GreeNET project is to create an inventory of Best Practices related to sustainable development and environmental protection. In order to help green educators design and create innovative Best Practices, an online software tool that guides them through each step of the best practice design has been developed by the project. In this context, the Best Practice Authoring Tool provides the user environment for creating these Best Practices and at the same time a digital repository of educational scenarios and digital resources.

The resources created and stored in the software tool can be easily searched, retrieved and used into a new or existing best practice. In addition, authors using of the Best Practice Authoring Tool are allowed to upload and store their own resources to be used in their Best practices. Apart from that, the tool allows users (but not authors) to search for and use educational scenarios as well as to play with digital resources.

The GreeNET Best Practice Authoring Tool is available at <http://greenet-education.eu/greenet>

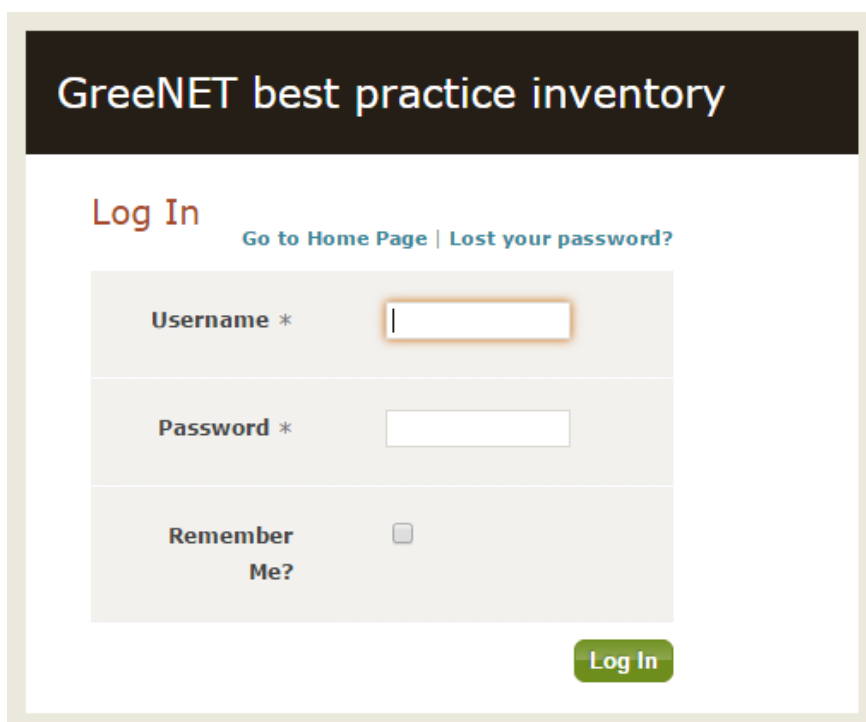



Figure 4.1: The login page of the GreeNET Best Practice Authoring Tool

Each one of the best practices available through the tool is described with educational metadata and contains one or more resources that are uploaded by the author of the best practice or resources already uploaded in the tool by other authors.



**Implementation of the Best Practice**  
Students during a hands-on working station

**Title: Energy – Today and Tomorrow**

Description: Secondary school students (15-16 years of age) learn in a learner-centred learning environment about energy use, fossil energy and renewable energies. The emphasis lies on how saving fossil based resources by saving energy and using renewable resources like biomass, wind, water and sun. During the first part of the learning scenario the students working with offline material. In the second part of the intervention the learners working with an interactive energy game/simulation. The aim of the game is to substitute all nuclear and fossil power plants with renewable energy.

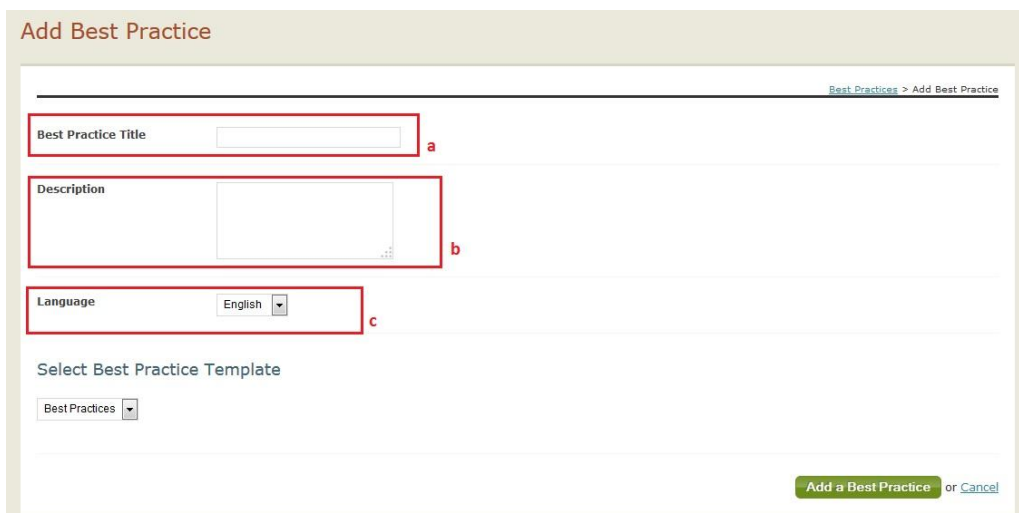
Language: English  
Best Practice last saved at : 2014-11-07 13:00:30  
Name : Mona Schönfelder  
Email : mona.schoenfelder@uni-bayreuth.de  
Typical Age Range: 15-16 years  
Intended End User Role: learner

Email  
Print  
f t g+

CC BY NC

**Figure 4.2: A Best Practice uploaded in the GreenNET Best Practice Authoring Tool**

The authors of Best Practices are provided with credentials that allow them to access the authoring interface of the tool. This environment allows authors to create Best Practices using the tool, making use of resources and providing the necessary metadata for the description of the Best Practices.



**Add Best Practice**

Best Practices > Add Best Practice

Best Practice Title

Description

Language English

Select Best Practice Template

Best Practices

Add a Best Practice or Cancel

**Figure 4.3: The authoring environment of the Best Practices Authoring Tool**

You can find additional information about the GreenNET Best Practice Authoring Tool in the Best Practice Authoring Tool manual – see Annex A.



## 5 The GreeNET Moodle

The integration of the GreeNET Best Practice Repository, which provides access to both Best Practices and related resources, in the Moodle web site allows users of GreeNET to access all Best Practices introduced into the GreeNET inventory in a Learning Management System that helps teachers add and access learning resources and activities. On the other hand, the connection of GreeNET Moodle with the Open Discovery Space ODS repository enables GreeNET users to have access to a massive number of relevant learning resources of ODS from within the GreeNET Moodle Learning System (<http://greenet.eummena.org>); giving users many choices of relevant resources that they may add to the Best Practices collected by GreeNET community during the project life time; see figure below of GreeNET Moodle Landing page.



**Figure 5.1: The GreeNET Moodle landing page**

The figure below demonstrates the framework of the integration of the three systems.

- 1) The GreeNET Moodle is connected with the GreeNET Inventory via a software interface that assures the import of all content and metadata (based on the IEEE LOM Standard; for more information see deliverable D3.1) from the inventory (indexation portal with experts-introduced best practices) into the GreeNET Moodle Learning Management System (LMS) that is open to any interested users in learning, adding feedback and collaboration activities or content related to the Best Practices.
- 2) The GreeNET Moodle is connected with the ODS repository via web services on both sides of the systems. In addition, a Web 2.0 widget allows users to interact with the learning resources harvested from the ODS into the GreeNET Moodle LMS. This widget provides users with recommendations on learning resources

from the ODS repository, that are relevant to the best practice they are working in the LMS. The widget supports rating and feedback of learning resources.

The coming sections demonstrate the features supported in the integration introduced above.

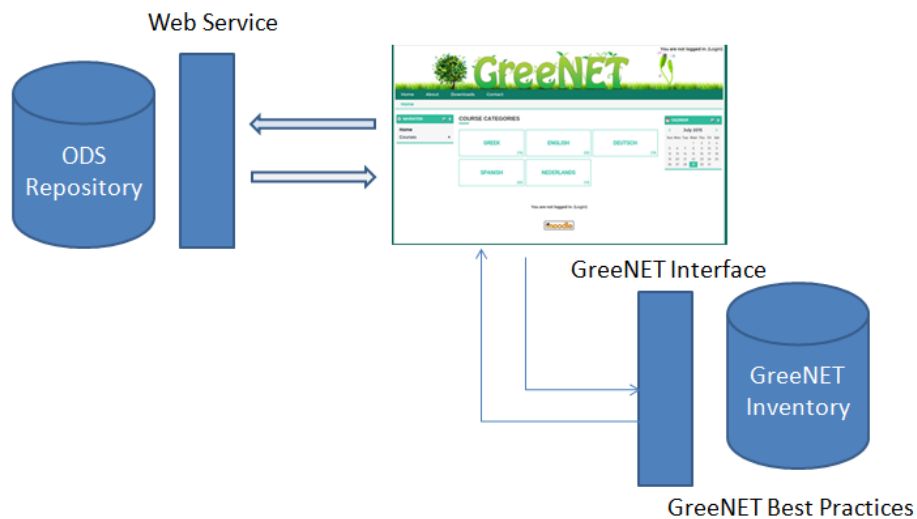


Figure 5.2: GreeNET Moodle connection with GreeNET Inventory and ODS

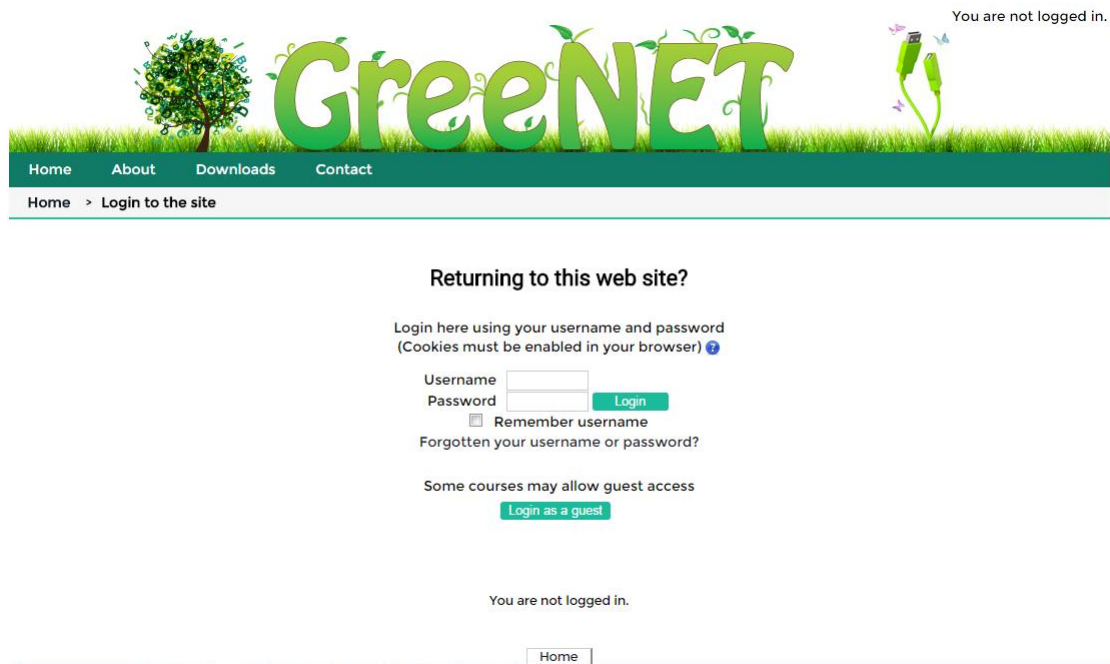
## 5.1 From GreeNET Inventory to GreeNET Moodle

All courses in GreeNET Moodle are imported from the GreeNET inventory and classified into the GreeNET Moodle based on the following:

- A. Languages: every language from GreeNET inventory has been imported in a single Moodle category. So, the user goes into category with the selected language to see all resources created using this language.
- B. Topics: all resources have been classified to Moodle courses based on the title of this resource; this can make the browsing easier for the learner.

### 5.1.1 Login

Users who have a username on the GreeNET Moodle site, can login using their username and password. If they are not registered users, they can click on (login as a guest) button at the bottom of login page. However, the guest users will be logged in to GreeNET Moodle automatically as guests.



GreenNET

Home About Downloads Contact

Home > Login to the site

You are not logged in.

**Returning to this web site?**

Login here using your username and password  
(Cookies must be enabled in your browser) ⓘ

Username

Password

Remember username

Forgotten your username or password?

Some courses may allow guest access

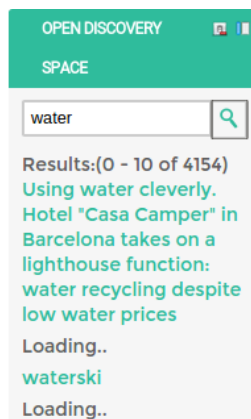
You are not logged in.

Figure 5.3: Login page

## 5.2 Open Discovery Space (ODS)

Building a Moodle block allows Moodle users to search, browse and share all ODS resources without leaving the GreenNET Moodle. This block contains the following features:

**Search:** The default search word is the name of the current course; however, the user can type any other keyword to search for learning resources from the ODS repository.



OPEN DISCOVERY ⓘ ⓘ

SPACE

Results:(0 - 10 of 4154)

[Using water cleverly.](#)

[Hotel "Casa Camper" in Barcelona takes on a lighthouse function: water recycling despite low water prices](#)

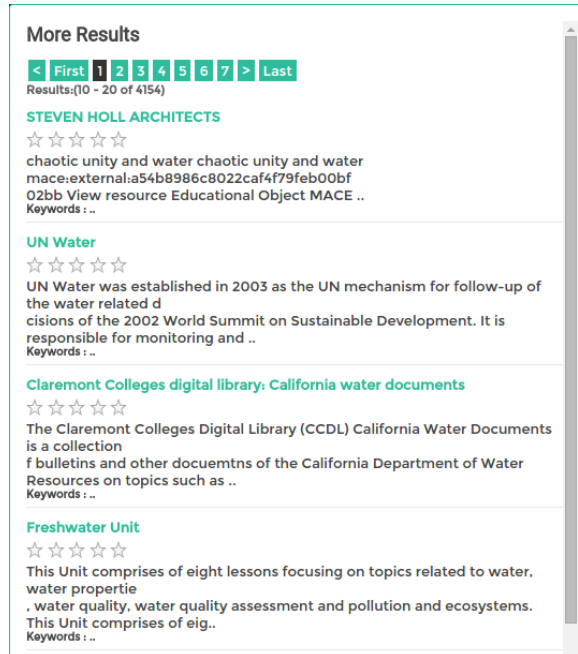
Loading..

[waterski](#)

Loading..

Figure 5.4: Search

**Browse all results:** The search engine returns the first 10 results in the same block; however, the user can load more results by choosing the “See all results” option. Then the user can see all result comes back from the ODS repository with pagination (10 results per page).



**More Results**

< First 1 2 3 4 5 6 7 > Last

Results:(10 - 20 of 4154)

**STEVEN HOLL ARCHITECTS**  
☆☆☆☆  
chaotic unity and water chaotic unity and water  
mace:external:a54b8986c8022caf4f79feb00bf  
02bb View resource Educational Object MACE ..  
Keywords : ..

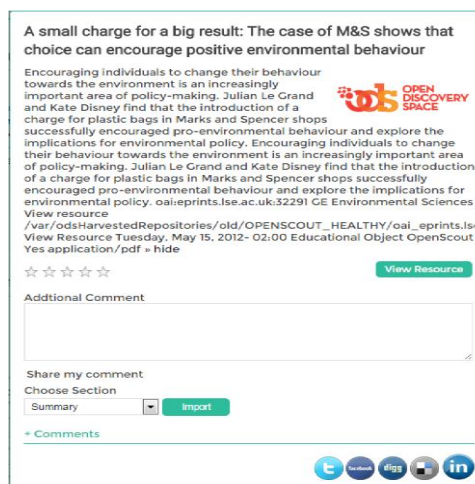
**UN Water**  
☆☆☆☆  
UN Water was established in 2003 as the UN mechanism for follow-up of  
the water related d  
cisions of the 2002 World Summit on Sustainable Development. It is  
responsible for monitoring and ..  
Keywords : ..

**Claremont Colleges digital library: California water documents**  
☆☆☆☆  
The Claremont Colleges Digital Library (CCDL) California Water Documents  
is a collection  
f bulletins and other documtns of the California Department of Water  
Resources on topics such as ..  
Keywords : ..

**Freshwater Unit**  
☆☆☆☆  
This Unit comprises of eight lessons focusing on topics related to water,  
water propertie  
, water quality, water quality assessment and pollution and ecosystems.  
This Unit comprises of eig..  
Keywords : ..

Figure 5.5: Browse all results

**Resources:** once a user clicks on any learning object from the search results, the following window appears.



**A small charge for a big result: The case of M&S shows that choice can encourage positive environmental behaviour**

Encouraging individuals to change their behaviour towards the environment is an increasingly important area of policy-making. Julian Le Grand and Kate Disney find that the introduction of a charge for plastic bags in Marks and Spencer shops successfully encouraged pro-environmental behaviour and explore the implications for environmental policy. Encouraging individuals to change their behaviour towards the environment is an increasingly important area of policy-making. Julian Le Grand and Kate Disney find that the introduction of a charge for plastic bags in Marks and Spencer shops successfully encouraged pro-environmental behaviour and explore the implications for environmental policy. oai-eprints.lse.ac.uk:2291 CE Environmental Sciences View resource /var/odsHarvestedRepositories/old/OPENSOUT\_HEALTHY/oai\_eprints.lse.ac.uk:2291 CE Environmental Sciences View Resource Tuesday, May 15, 2012 - 02:00 Educational Object OpenScout Yes application/pdf » hide

☆☆☆☆ [View Resource](#)

Additional Comment

Share my comment

Choose Section

Summary [Import](#)

+ Comments

[Twitter](#) [Facebook](#) [RSS](#) [YouTube](#) [LinkedIn](#)

Figure 5.6: Resource page

Then the user will have the following options:

1. **Rate** the learning object.
2. Add a **comment** to the learning object.
3. **Import** this learning object from the ODS directory and add it to your course as a resource.
4. Visit this object in **ODS** site.
5. **Share** this object in your social account, Facebook, Twitter, etc...

### 5.3 Statistics

Statistics help the administrator to monitor the site and develop it in future. In the GreeNET Moodle there are two types of Moodle plug-ins that produce statistics charts and reports.

#### 5.3.1 User stats

This Moodle block allows the site administrator to monitor all actions for any registered user. Simply, choose one user and the period of time to see when this user logged to the site and where he spends his time.

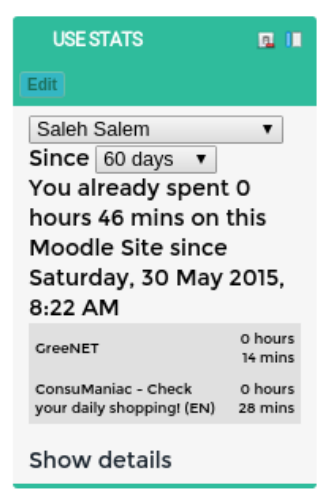


Figure 5.7: GreeNET 4.3.1 Use stats

By clicking on “show details”, you’ll got a full report describing every hit.

Saleh Salem

Observable classes	Time elapsed	Hits
<b>sessions</b>		
	now	
News forum	22 mins 24 secs	0
classroom 1	18 mins 27 secs	0
ForumNG 1	16 mins 18 secs	0
	4 mins 53 secs	
OU wiki test1	44 mins 6 secs	0
<b>user</b>		
	2 mins	
<b>coursestotal</b>		
News forum	56 mins 31 secs	13
	15 mins	
Plastic Bags	34 mins 37 secs	11
<b>course</b>		
	1 hour 38 mins	
<b>page</b>		
STEVEN HOLL ARCHITECTS	6 mins 3 secs	2
<b>activities</b>		
Plastic Bags	6 mins 3 secs	2

[Continue](#)

Figure 5.8: Full report describing every hit

### 5.3.2 Overview statistics

This option can be access through Site administration >> Report >> overview statistics.

This Moodle plug-in produces various site and course report charts.

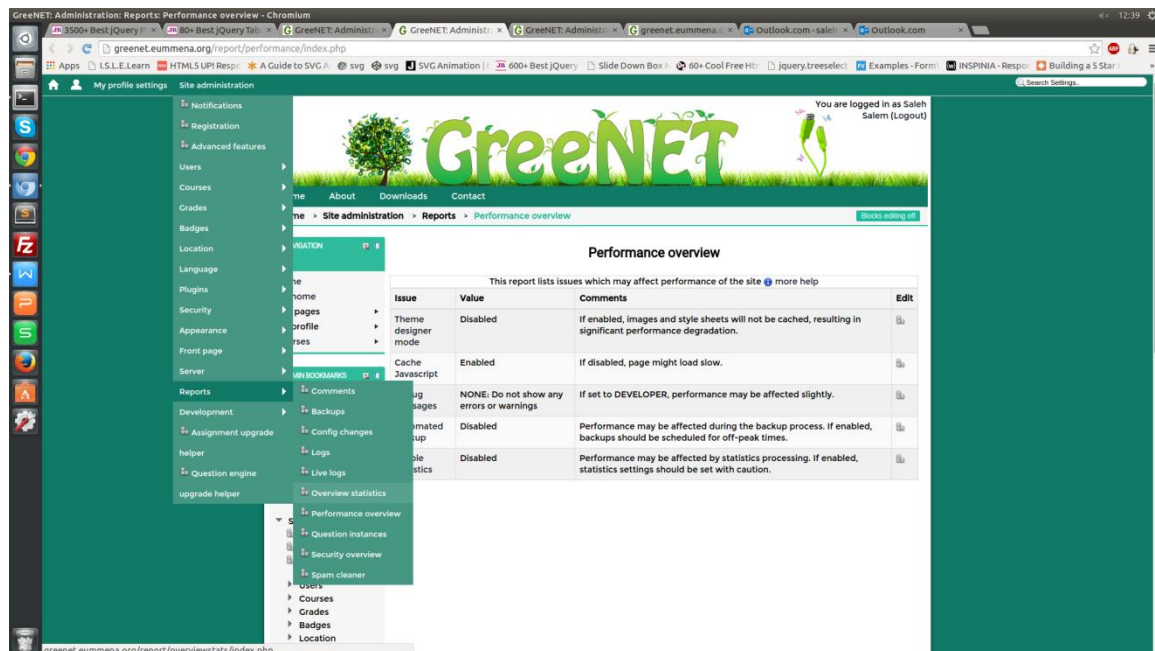


Figure 5.9: Overview statistics

A. **Users:** This feature produces a chart describe the number of users per the time.

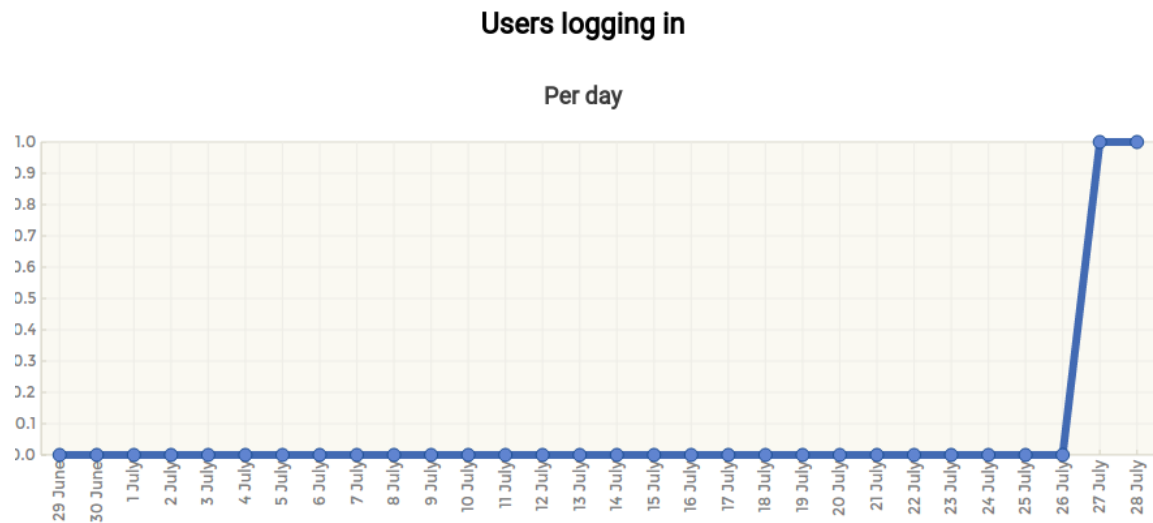


Figure 5.10: Users analysis

B. **Country:** produces a chart to describe the users depends on his country(country activity).

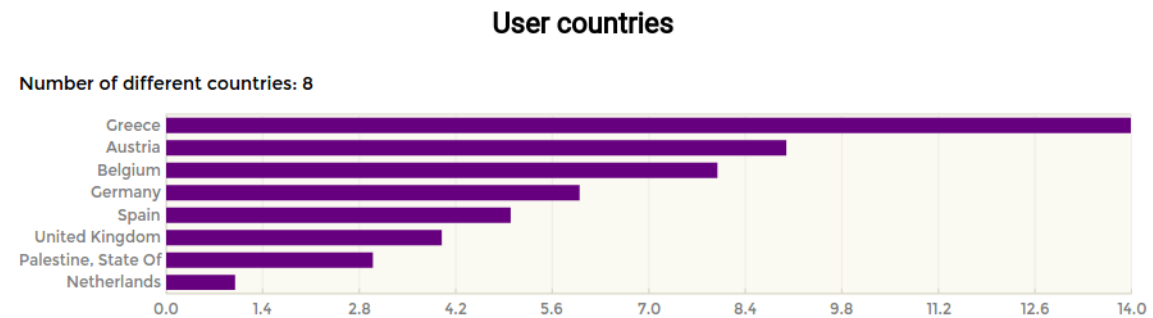


Figure 5.11: Country analysis

C. **Language:** produces a chart to show the usage for each language in the site.

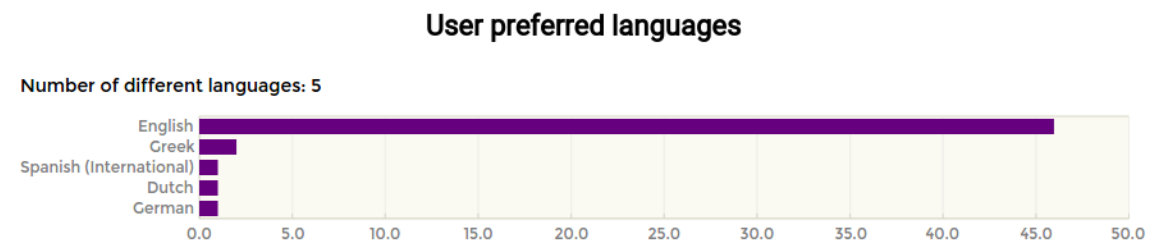


Figure 5.12: Language analysis

## 5.4 Moodle Web 2.0 Collaboration Plugins

There are other Moodle plugins that may be summarized in the following sections:

### 5.4.1 BigBlueButton

BigBlueButton (<http://bigbluebutton.org>) is an open source web conferencing system for distance education. It supports real-time sharing of slides (including whiteboard), audio, video, chat, and desktops. It also supports the recording of lectures for later playback, specifically the slides + audio + chat.

This module enables users to:

1. Create multiple activity links to on-line sessions within a course
2. Restrict students from joining a session until a teacher (moderator) joins the session
3. Launch BigBlueButton in a separate window
4. Create a custom welcome message that appears at the top of the chat window when joining the session
5. Specify join open/close dates for the session that appears in the Moodle's calendar
6. Record a session (requires BigBlueButton 0.8 or later)
7. Access and manage recordings (requires installation of recordingsbn)

To add BigBlueButton, you just add a new activity or resource,

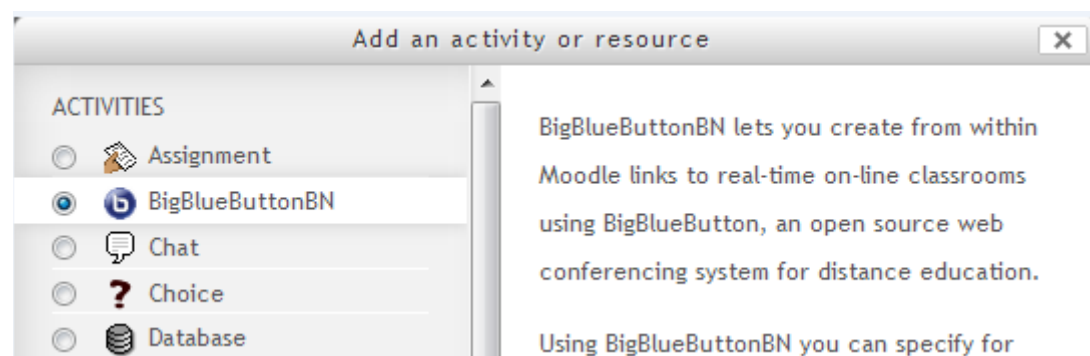


Figure 5.13: Adding the BigBlueButton functionality

Then start to specify the BigBlueButton as follows:



### Adding a new BigBlueButtonBN to Topic 2

**General settings**

Virtual classroom name\*

Welcome message ?

Open BigBlueButton in a new window

Students must wait until a moderator joins

**Schedule for sessions**

Join open       Enable

Join closed       Enable

**Record settings**

Record

Description of recorded session

Duration ?

**Common module settings**

Group mode ?

Visible

ID number ?

Figure 5.14: BigBlueButton configuration page

## 5.4.2 Recordingsbn

This recordingsbn ([http://moodle.org/plugins/view.php?plugin=mod\\_recordingsbn](http://moodle.org/plugins/view.php?plugin=mod_recordingsbn)) module works with the bigbluebuttonbn module to let you view and manage your BigBlueButton recordings within a course. This module lets you give students access to the recordings, publish/unpublish recordings, and delete the recordings. To use recordingsbn, you need to install it alongside bigbluebuttonbn.

In short: the bigbluebuttonbn module lets you create BigBlueButton sessions from within your course, recordingsbn lets you view and manage the BigBlueButton recordings from within your course.

## 5.4.3 Cubic

Cubic ([https://moodle.org/plugins/view/theme\\_cubic](https://moodle.org/plugins/view/theme_cubic)) is a new theme for Moodle 2.3. Its objective is to provide users with a more user-friendly interface, which provides several forms of social awareness and some new concepts. On the top of every Moodle page, this theme introduces a user bar which provides users with several menus. Each of these menus contains information about the current user courses, activities, notifications, events, messages, settings, and others.

This theme also provides a settings page where you can change several properties like logos, colors, system name, and others. On this page you can also remove the institutions and applications menus from the user bar in case you don't want to use them.

#### **5.4.4 FB\_Comments**

This plugin is used to add Facebook like and comment box to your Moodle. It aims to make Moodle more user friendly by allowing users to like or comment on specific subjects and courses.

#### **5.4.5 Forum\_NG**

This is a Moodle activity plugin which is an alternative option to the standard Forums within Moodle. Like the OU Wiki module, this can sit alongside the original forum activities as it is completely independent. There will be times you may want to use one or both systems depending on the use case.

The forum has some key extra features which make it quite a nice tool to use including:

1. Easy to use Ajax driven User Interface
2. Unique discussion view, with expanding posts
3. A friendly star system for ratings.
4. Sticky Posts
5. Discussion locking
6. Multiple file attachments
7. Flagging posts
8. Private one to one discussions between individual students and teachers
9. Draft options for posts

When creating the forum, the teacher is given options to select the forum type. Unlike the standard Moodle forum, there are only two types available - The standard forum or the Study Advice (which is the one to one with student/teacher format). The teacher can also set ratings, limit posts times, remove old discussions and limit users to a number of posts per day.

To add a Forum\_NG, from the activities menu, choose the Forum\_NG:

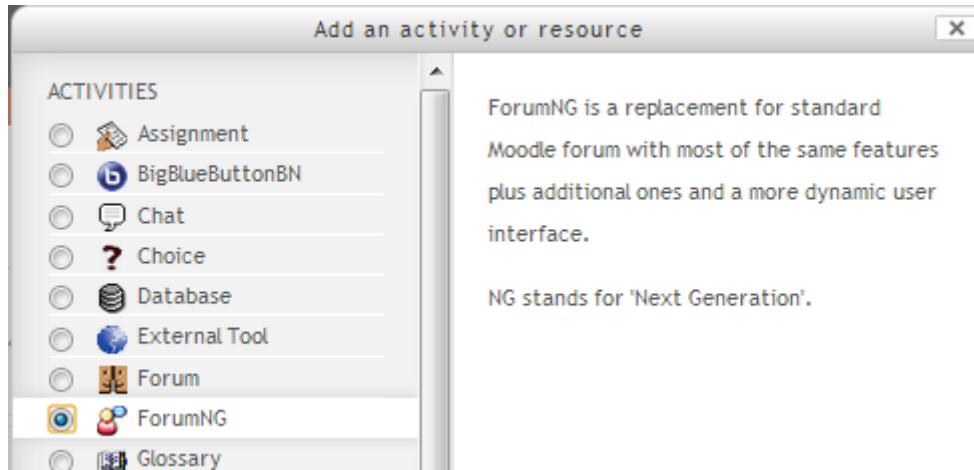


Figure 5.15: Add a Forum

Then choose the configurations for the Forum:

### Adding a new ForumNG to Topic 2

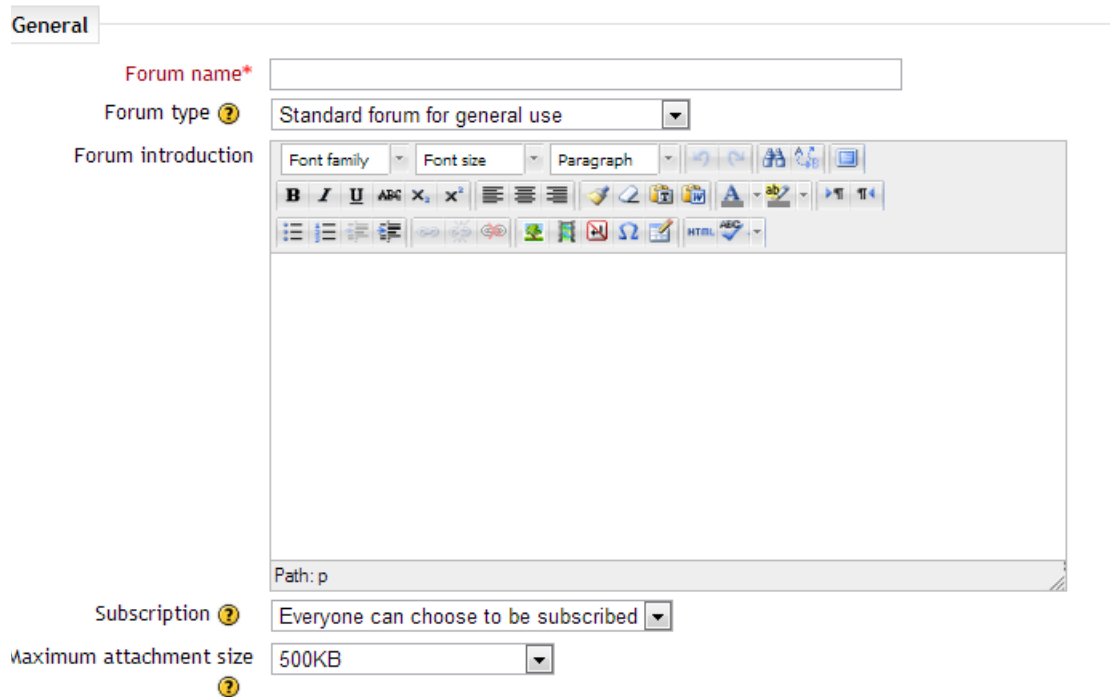


Figure 5.16: Forum configuration page

### **5.4.6 Group Self-selection**

This activity allows students to select the group they want to be members of. You can set up this activity to enable the students to self-select groups from either all groups or a specific grouping of groups. You can set limits on the group memberships and require a global password to complete the selection process. You will need to have the groups and groupings already created defined.

This is a very useful tool for getting students into different streams of work.

### **5.4.7 MoodleBook**

Moodlebook is a three-column that emulates the look and feel of Facebook. It improves usability by shifting setting blocks to top of the page, so called "Moodle awesome bar".

For developers, It transfers the performance info into a colorful floated bar at bottom of the page, which brings the performance awareness as well as improves usability.

### **5.4.8 Wiki Module**

A wiki is a collection of collaboratively authored web documents. Basically, a wiki page is a web page that everyone in your class can create together, right in the browser, without needing to know HTML. A wiki starts with one front page. Each author can add other pages to the wiki by simply creating a link to a page that doesn't exist yet.

A wiki is indeed a fast method for creating content as a group. It's a hugely popular format on the Web for creating documents as a group. There is usually no central editor of a wiki, no single person who has final editorial control. Instead, the community edits and develops its own content. Consensus views emerge from the work of many people on a document.

In Moodle, wikis can be powerful tools for collaborative work. The entire class can edit a document together, creating a class product, or each student can have their own wiki and work on it with you and their classmates.

Add a Wiki from the activities menu, then specify the configurations:



A nice feature is the edit timeout. When two people want to edit the same page in a wiki, it is locked to one of them. This allows setting a timeout that will release auto-submit the person who is editing saving their changes and unlocking it.

To add an OUWiki, from the activities menu, then choose the configurations:



















**Adding a new OU wiki to Topic 2**





















**General**

Name\*

Wiki description

Font family    Font size    Paragraph

**B**   *I*   U   ABC   X<sub>2</sub>   X<sub>1</sub>                                                      

Path: p

Display description on course page  [?](#)

**Wiki settings**

Sub-wikis [?](#)

Annotation system [?](#)

Time allowed for edit [?](#)

Allow editing from [?](#)     Enable

Prevent editing from [?](#)     Enable

**Figure 5.18: Adding an OUWiki**

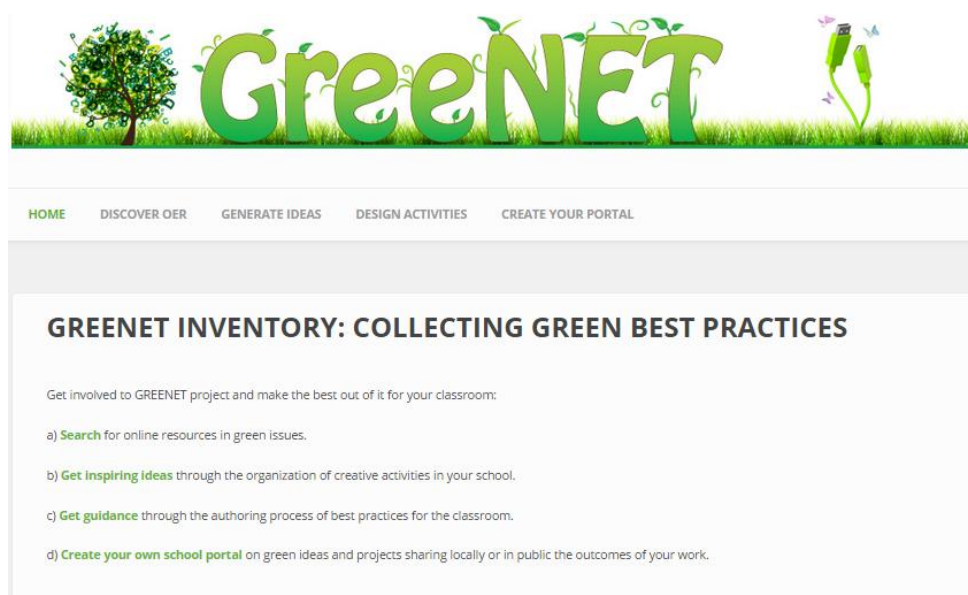
The OU wiki sets itself up as a simple wiki with clear goals, and it delivers on them all. It is easy to use for teacher and student whilst also having the option of annotation and grading which are very good for teaching practice and feedback. It does not have all the options of the Moodle wiki and so there will be times you will use the standard Moodle.

## 6 The GreeNET Hub

As described earlier, the GreeNET website currently acts as the point of reference for the project's tools and resources, providing easy access to them. Throughout the lifetime of the project, this was a convenient way to lead the project website visitors to the tools that may be of interest to them, in order for them to access the Best Practices of the project as well as related quality green OER, create their own Best Practices and design interactive activities and even create their own portal.

At the same time, an updated version of these services was designed, taking advantage of updates in the existing services and making use of state-of-the-art technologies. T

The GreeNET Hub (<http://hub.greenet.ea.gr>) is the new point of access of the GreeNET tools and services. The Hub makes use of the outcomes of projects that have already worked on this direction, such as the Inspiring Science Education (ISE, <http://www.inspiringscience.eu>), the Green Learning Network (GLN; [www.greenlearningnetwork.eu](http://www.greenlearningnetwork.eu)) and the Open Discovery Space (ODS; <http://opendiscoveryspace.eu>). The contributions of the aforementioned projects allowed an elaborated version of the GreeNET tools to be available to their potential end users, offering enhanced usability and maximizing the user experience.



**Figure 6.1: The GreeNET Hub home page**

The main component of the GreeNET Hub is the GreeNET Inventory, which is available through the home page of the Hub. The concept is identical to the one described in chapter 2; this means that through the GreeNET Inventory, the users are guided into

- searching and retrieving quality green OER and Best Practices;
- getting ideas for the organization of interactive school activities making use of these resources;

- authoring best practices for their classroom by implementing the aforementioned ideas;
- creating their own school portal for sharing their own resources.

The following images show the corresponding sections of the GreeNET Hub.

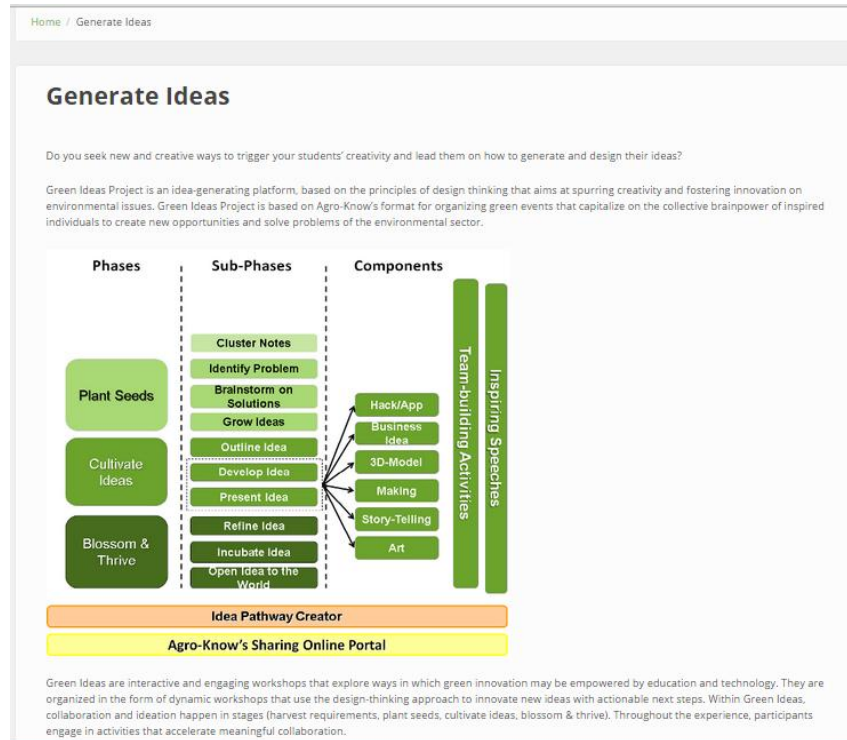


Figure 6.2: The “Generate Ideas” section of the GreeNET Hub

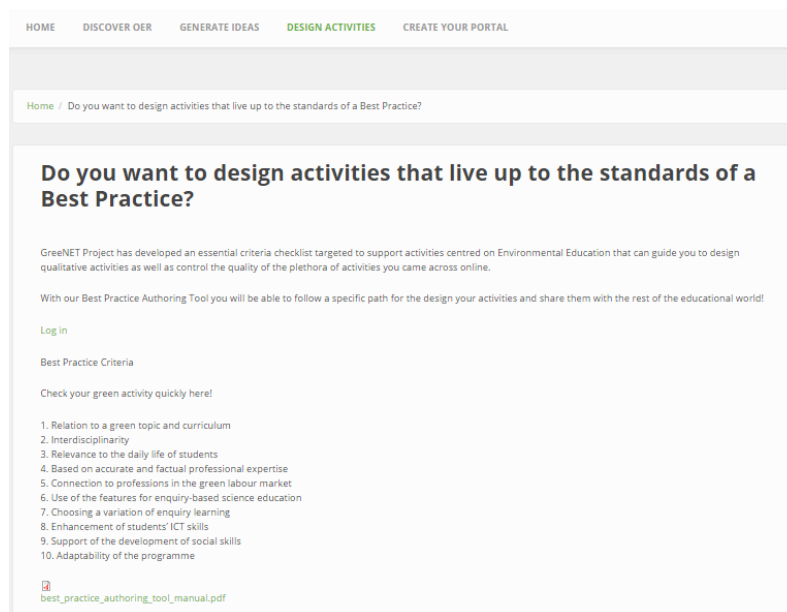
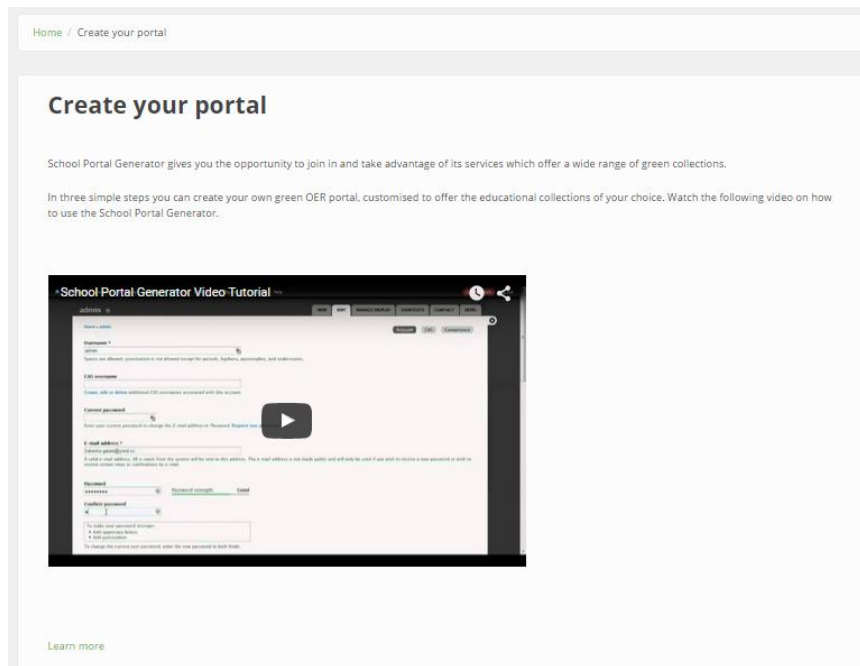


Figure 6.3: The “Design Activities” section of the GreeNET Hub



Users are also provided with a login link, which can be used for accessing the admin interface of the GreenNET Best Practice Authoring Tool (inventory).



**Figure 6.4: The “Create your Portal” section of the GreenNET Hub**

The integration of these pages under the GreenNET Hub “umbrella” in the project website not only allows their access through the project’s website but on top of that creates a feeling of “Tool Section” for those interested in using the tools described in these pages.

## 7 Conclusions

This document aims to provide an overview of the GreeNET set of tools:

1. The GreeNET Inventory
2. The Best Practice Authoring Tool
3. The GreeNET Moodle instance

These tools aim to support potential end users in creating, storing, indexing and retrieving quality educational resources in the form of Best Practices, OER and courses. The GreeNET inventory provides users with a number of options that aim to boost the creativity of teachers and other types of educators, by introducing them to the concepts of Best Practice-based interactive activities and the Green Ideas series of events. It also provides all the necessary information to everyone wishing to author Best Practices or retrieve quality green OER from the GreeNET discovery space. The Best Practice Authoring Tool allows its users to create Best Practices through an easy to use interface, making use of existing green OER available through the GreeNET discovery space (a part of the GreeNET inventory) or through other sources of quality OER. Last but not least, the GreeNET Moodle instance allows users to develop courses and make them available to their students, using high quality OER and Best Practices as essential parts of their courses.

It is important to mention that in order to ensure the interoperability between the different systems and ensure their wide application, all these tools are based on widely used open source platforms. More specifically, the GreenNET inventory has been built on the Drupal platform (<https://www.drupal.org>), one of the most widely used content management platforms. Drupal is supported by a large user community, including developers, system administrators and content experts and supports a large number of interoperability and extensibility options.

The Best Practice Authoring Tool is based on the widely used, open source Omeka platform (<http://omeka.org>), which has already been used in other instances for serving different types of applications. Examples of these applications are the Agricultural Learning Repository Tool (AgLR), which has been developed and used by the Organic.Lingua project as its main repository and metadata authoring tool and the Pathway Authoring Tool of the Natural Europe project.

The GreeNET Moodle instance is based on the Moodle platform (<https://moodle.org>), a widely used learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments. Moodle is also supported by an ever-growing user community and supports various interoperability and customization options.

The use of open source tools and platforms provides a number of advantages over commercial software and ensures, among others, constant support from the user community, access to various customization options, use of existing standard file formats (avoiding proprietary ones) as well as minimum (or even) no cost for related to licensing.

## **Annex A: School Portal Generator Manual**

Available as a separate file

## **Annex B: Best Practice Authoring Tool manual**

Available as a separate file