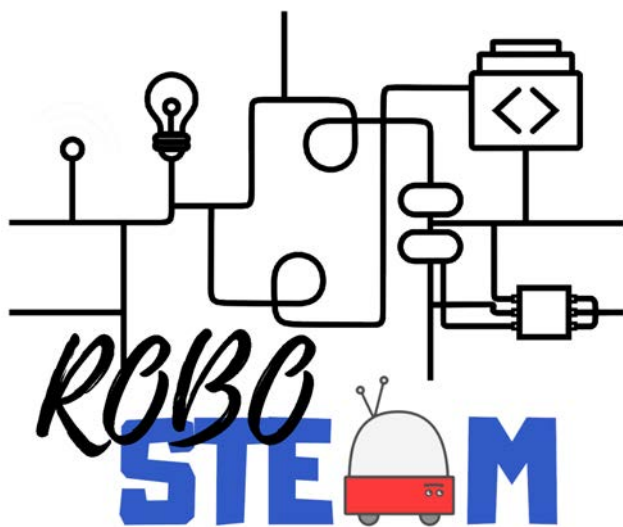

RoboSTEAM User Manual – O3.A3



Version	1.0
Date of issue	30/10/2019
Filename	ROBOSTEAM_O2A3_30102019.pdf
DOI	10.5281/zenodo.3524155
Nature	Service/Product
Dissemination level	PP (restricted to other programme participants)

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Project Number: 2018-1-ES01-KA201-050939

Version History

Version	Date	Comments
1.0	30/10/2019	Full manual version

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1. 03. A3

This document describes part of the work of the Output 3 – RoboSTEAM Environment. The output aims to define an educational environment which will offer to schools and teachers a complete set of tools, activities, guides and support to manage the implementation of STEAM challenges. An important part of this output is to describe how to use the system. This is done through a user manual. The definition of this user manual is described as follows:

- “Collection of multimedia, video and HTML guidelines and tutorials for the use of the system. Special attention to accessibility requirements will be paid to facilitate the use of the environment to any user, regardless his/her technical expertise and/or eventual disabilities. These materials will be accessible in their own contexts as "help tips", but also in a specific section.
- Complete User Manual for teaching staff and students”.

2. RoboSTEAM Environment

The O3.A1 is devoted to design and implement a virtual environment, which means the technological ecosystem [1-5] for RoboSTEAM project [6, 7].

The RoboSTEAM technological ecosystem architecture is presented in Figure 1.

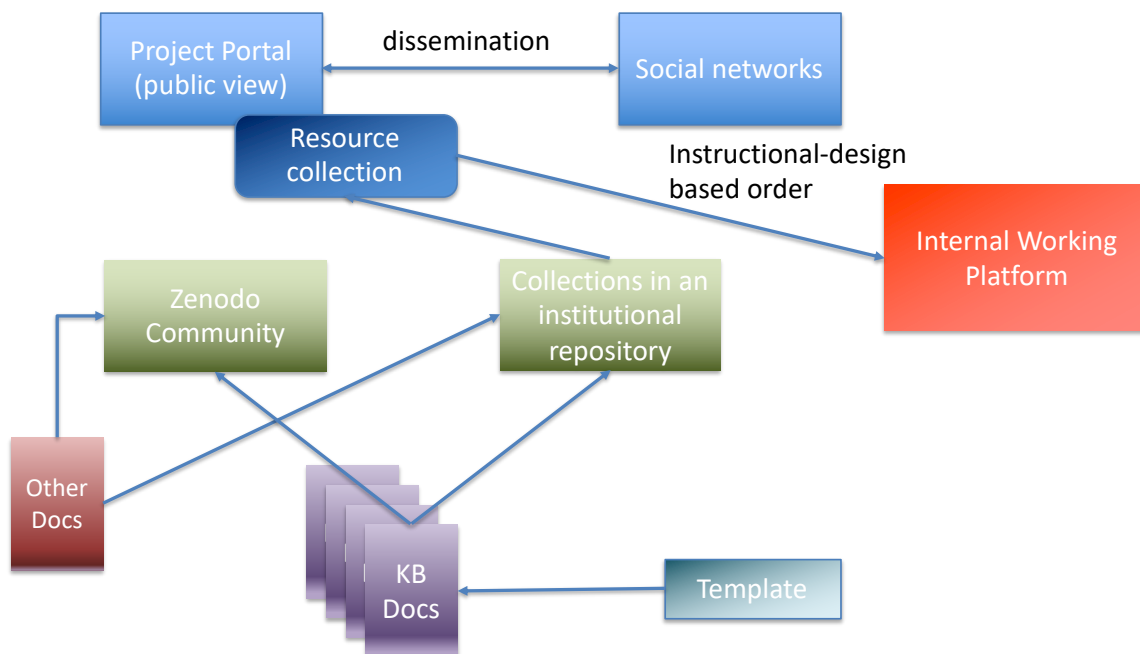


Figure 1. RoboSTEAM technological ecosystem architecture. Source: Based on [8]

3. RoboSTEAM Environment Manual

3.1. RoboSTEAM website

This is the public website of the RoboSTEAM project available at <http://robosteampoint.eu/> (see Figure 2). It is designed following the one-page metaphor and has links to the other main components of the technological ecosystem.

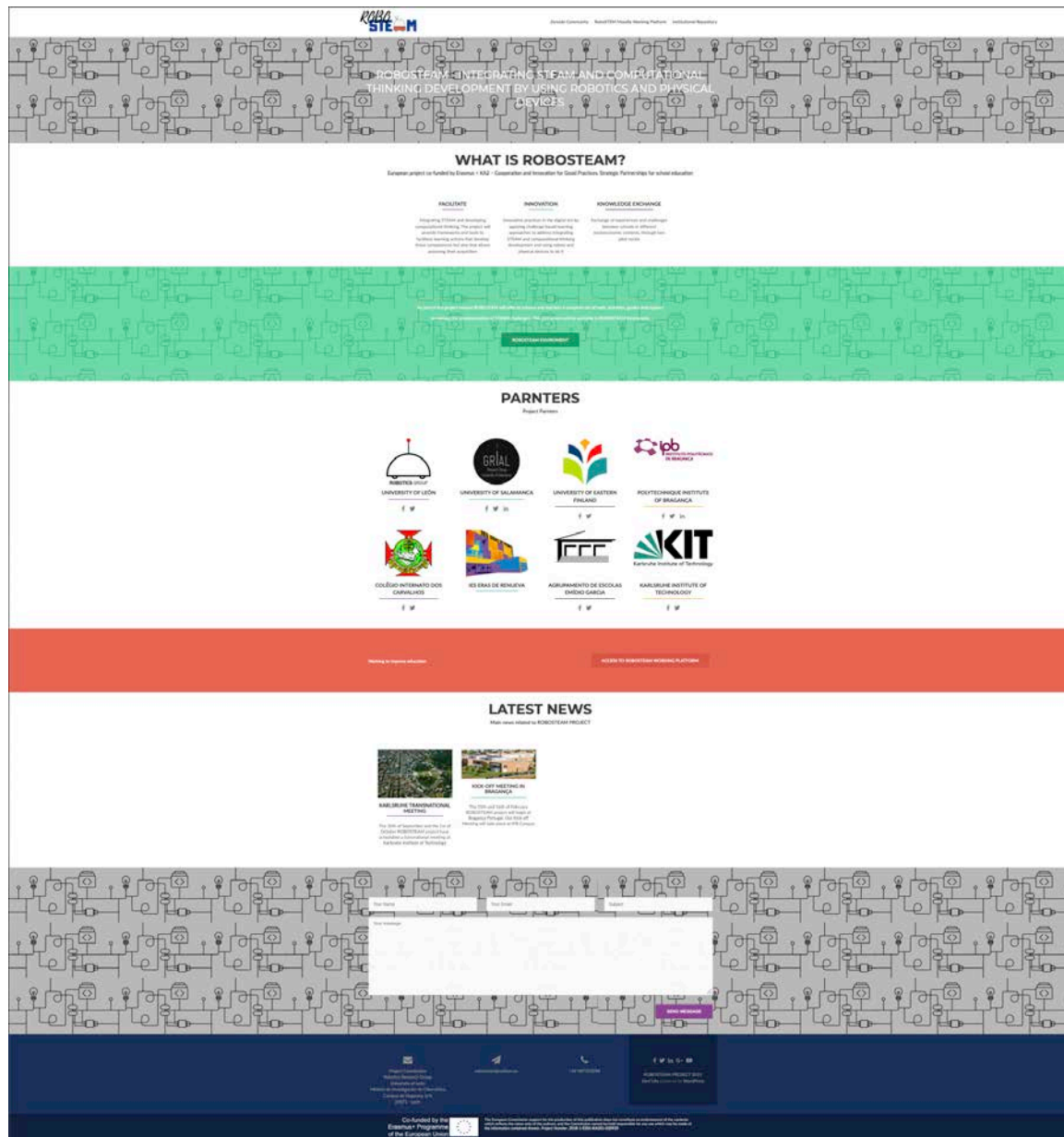


Figure 2. RoboSTEAM web site. Source: <http://robosteampoint.eu/>

3.2. RoboSTEAM internal working platform

It is the system for internal communication for the project partner and is based on a Moodle Learning Management System. This platform is accessible throughout the project website or directly throughout the URL <http://robosteampoint.eu/moodle/>.

This is not a public-accessible site, this means that only the registered users from every partner will have access through user and password (see Figure 3).

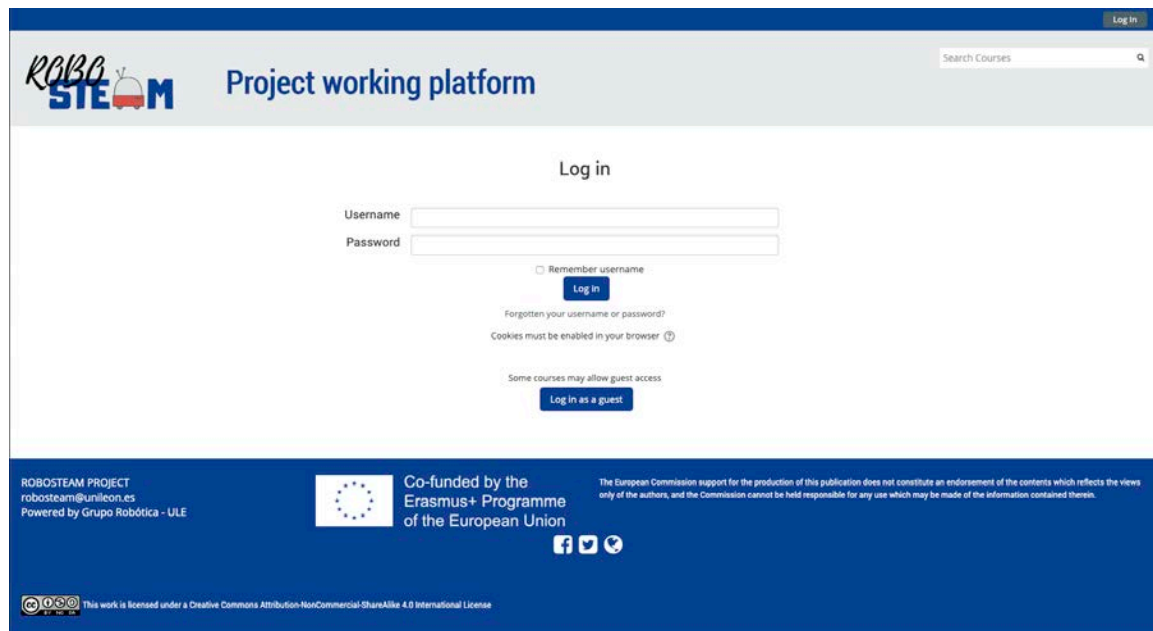
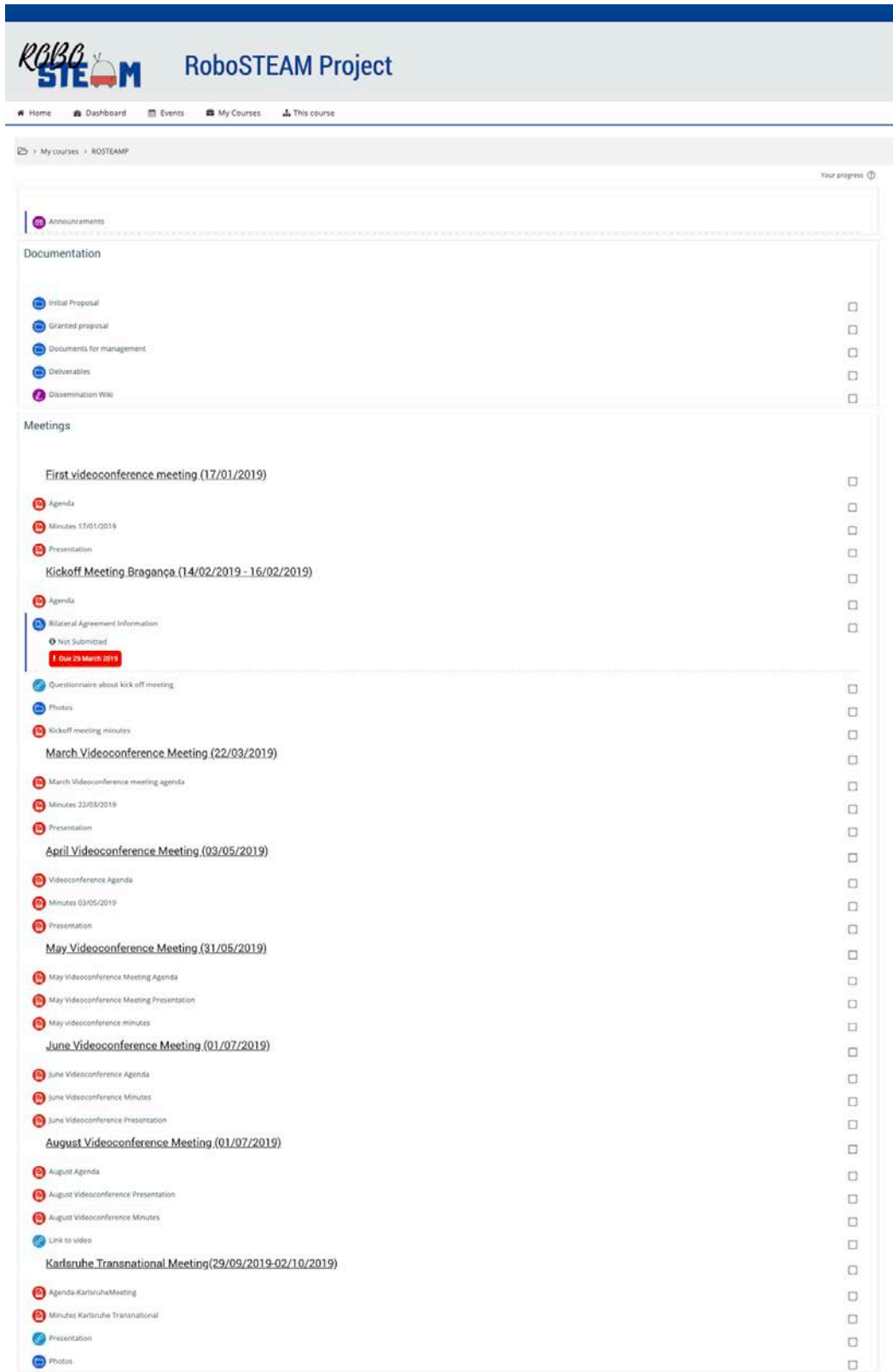


Figure 3. Login page of the RoboSTEAM internal working platform. Source: <http://robosteampoint.eu/moodle/>

Once the users are authenticated in the system, they have access to the project documentation, forum threads and pending tasks (see Figure 4).



The screenshot displays the RoboSTEAM Project internal working platform. The header includes the RoboSTEAM logo and the project name. Below the header is a navigation bar with links to Home, Dashboard, Events, My Courses, and This course. The main content area shows a list of courses, with 'ROSTEAM' selected. The 'ROSTEAM' course page displays a progress bar and a list of documents and meetings. The documents section includes 'Initial Proposal', 'Granted proposal', 'Documents for management', 'Deliverables', and 'Dissemination Wk'. The meetings section lists several videoconference meetings, including 'First videoconference meeting (17/01/2019)', 'Kickoff Meeting Bragança (14/02/2019 - 16/02/2019)', 'March Videoconference Meeting (22/03/2019)', 'April Videoconference Meeting (03/05/2019)', 'May Videoconference Meeting (31/05/2019)', 'June Videoconference Meeting (01/07/2019)', 'August Videoconference Meeting (01/07/2019)', and 'Karlsruhe Transnational Meeting (29/09/2019-02/10/2019)'. Each meeting entry has a list of associated documents, such as 'Agenda', 'Minutes', and 'Presentation', each with a checkbox for completion. A red banner indicates 'Due 29 March 2019'.

Figure 4. RoboSTEAM internal working platform

3.3. RoboSTEAM community in Zenodo

A public community has been set up in Zenodo (<https://zenodo.org>). This community is accessible at <https://zenodo.org/communities/robosteam/> (see Figure 5) or throughout the project website.

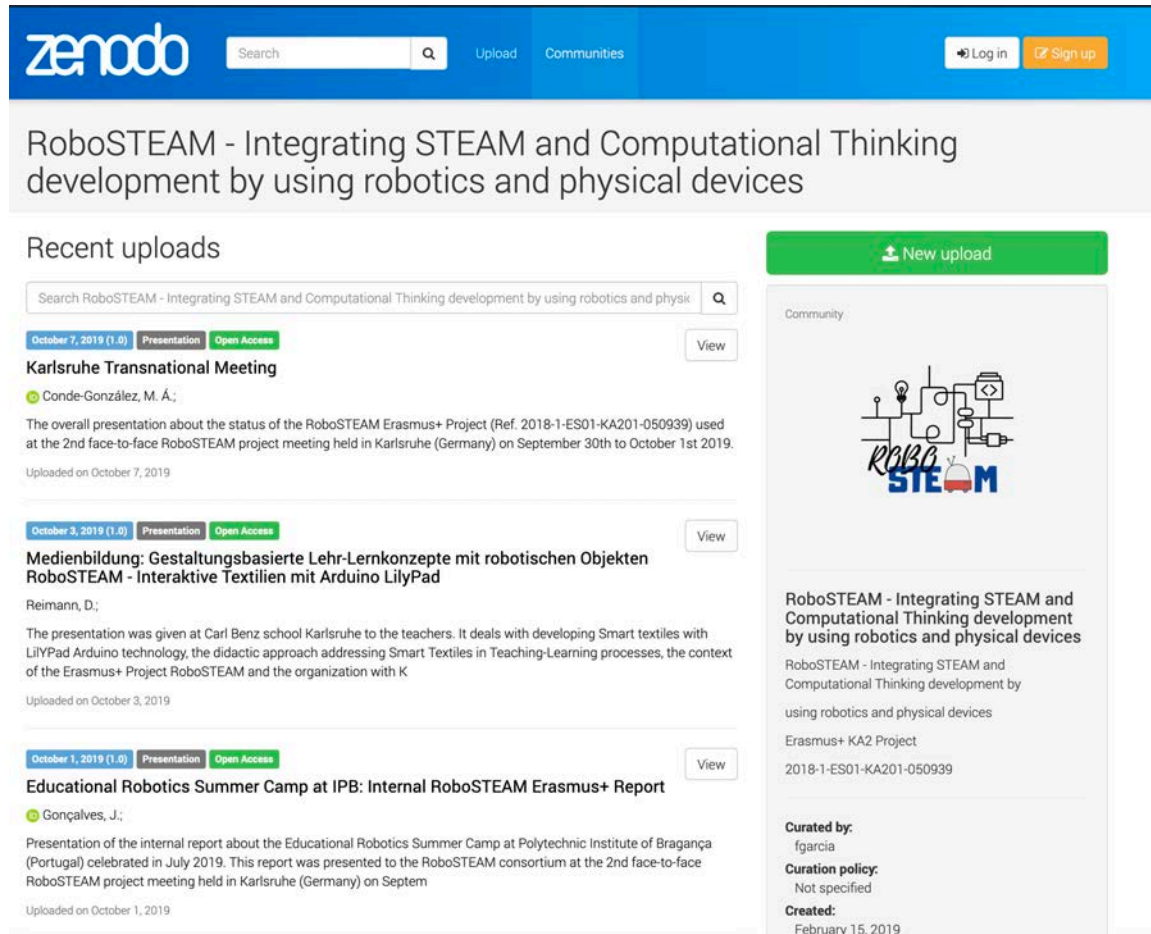
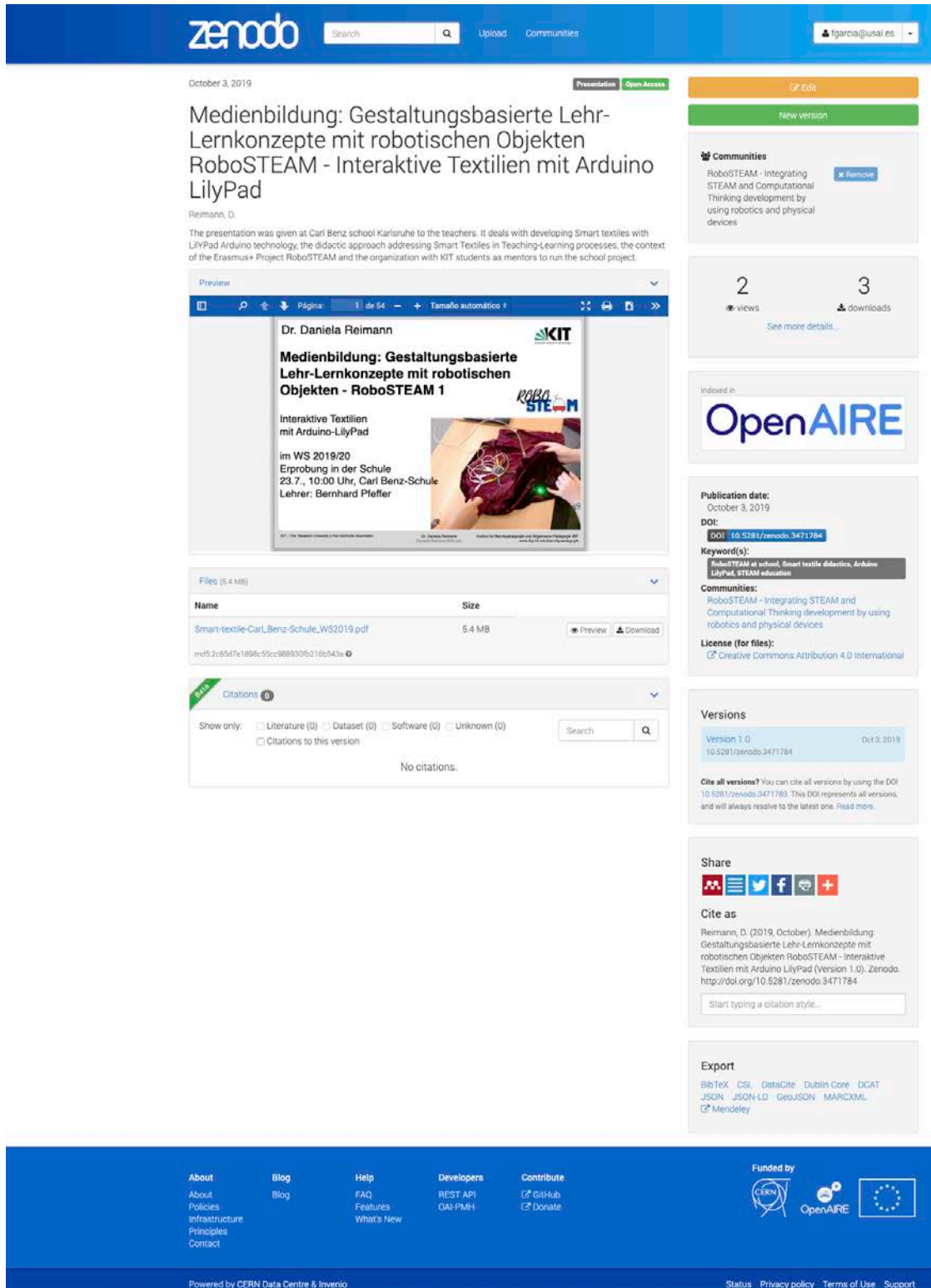


Figure 5. RoboSTEAM community in Zenodo. Source: <https://zenodo.org/communities/robosteam/>

The goal of this community is sharing all the documents and outcomes of the RoboSTEAM project. RoboSTEAM follows the principles of the open knowledge movement and open science policies [9, 10].

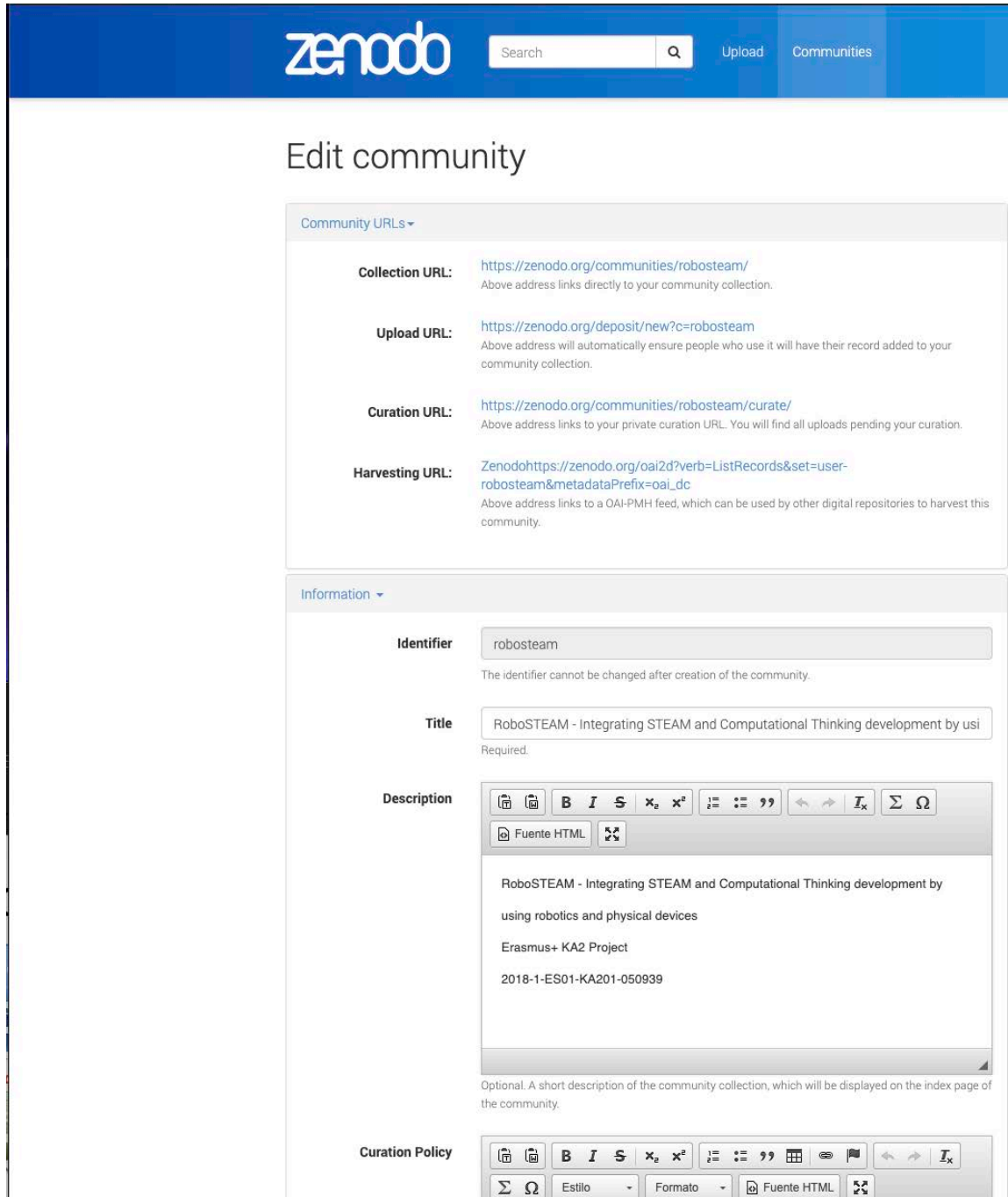
Figure 6 shows a RoboSTEAM register in the Zenodo community.



The screenshot shows the Zenodo record page for a presentation titled "Medienbildung: Gestaltungs-basierte Lehr-Lernkonzepte mit robotischen Objekten RoboSTEAM - Interaktive Textilien mit Arduino LilyPad" by Daniela Reimann. The page includes a preview of the presentation slides, which show the title, author, and a photo of a person working with a textile robot. The file is a PDF named "Smart-textile-Carl-Benz-Schule_WS2019.pdf" and is 5.4 MB in size. The page also displays the DOI (10.5281/zenodo.3471784), the publication date (October 3, 2019), and the license (Creative Commons Attribution 4.0 International). The right sidebar shows the OpenAIRE logo, the number of views (2) and downloads (3), and a list of communities (RoboSTEAM - Integrating STEAM and Computational Thinking development by using robotics and physical devices). The bottom of the page features a footer with links to About, Blog, Help, Developers, and Contribute, as well as logos for CERN, OpenAIRE, and the European Union.

Figure 6. RoboSTEAM register in Zenodo community. Source:
<https://zenodo.org/record/3471784#.XbhoBUVKils>

The information about the community could be edited by the admin of this community at <https://zenodo.org/communities/robosteam/edit/> (see Figure 7).



zenodo Search Upload Communities

Edit community

Community URLs ▾

Collection URL: <https://zenodo.org/communities/robosteam/>
Above address links directly to your community collection.

Upload URL: <https://zenodo.org/deposit/new?c=robosteam>
Above address will automatically ensure people who use it will have their record added to your community collection.

Curation URL: <https://zenodo.org/communities/robosteam/curate/>
Above address links to your private curation URL. You will find all uploads pending your curation.

Harvesting URL: [Zenodohttps://zenodo.org/oai2d?verb=ListRecords&set=user-robosteam&metadataPrefix=oai_dc](https://zenodo.org/oai2d?verb=ListRecords&set=user-robosteam&metadataPrefix=oai_dc)
Above address links to a OAI-PMH feed, which can be used by other digital repositories to harvest this community.

Information ▾

Identifier
The identifier cannot be changed after creation of the community.

Title
Required.

Description

B **I** **S** **x_e** **x_o**

Fuente HTML

RoboSTEAM - Integrating STEAM and Computational Thinking development by using robotics and physical devices

Erasmus+ KA2 Project

2018-1-ES01-KA201-050939

Optional. A short description of the community collection, which will be displayed on the index page of the community.

Curation Policy

B **I** **S** **x_e** **x_o**

Estilo Formato Fuente HTML

Figure 7. RoboSTEAM community metadata. Source: <https://zenodo.org/communities/robosteam/edit/>

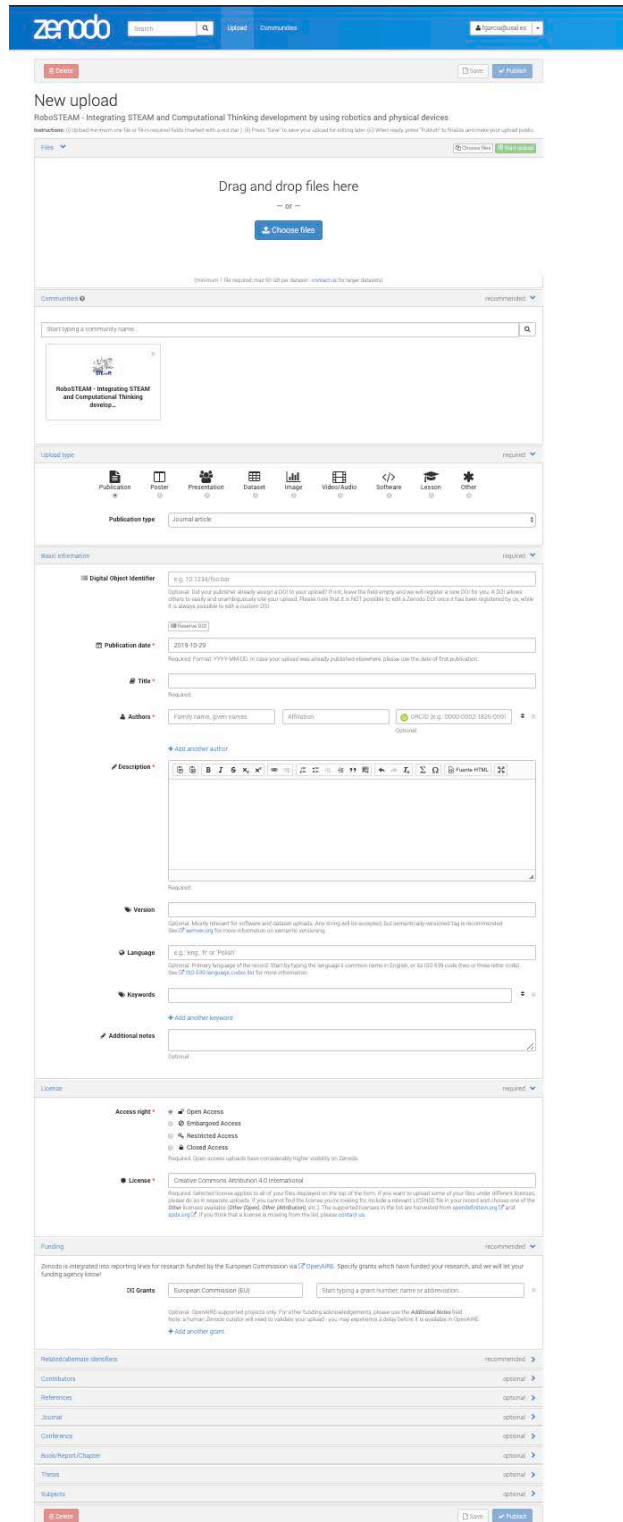
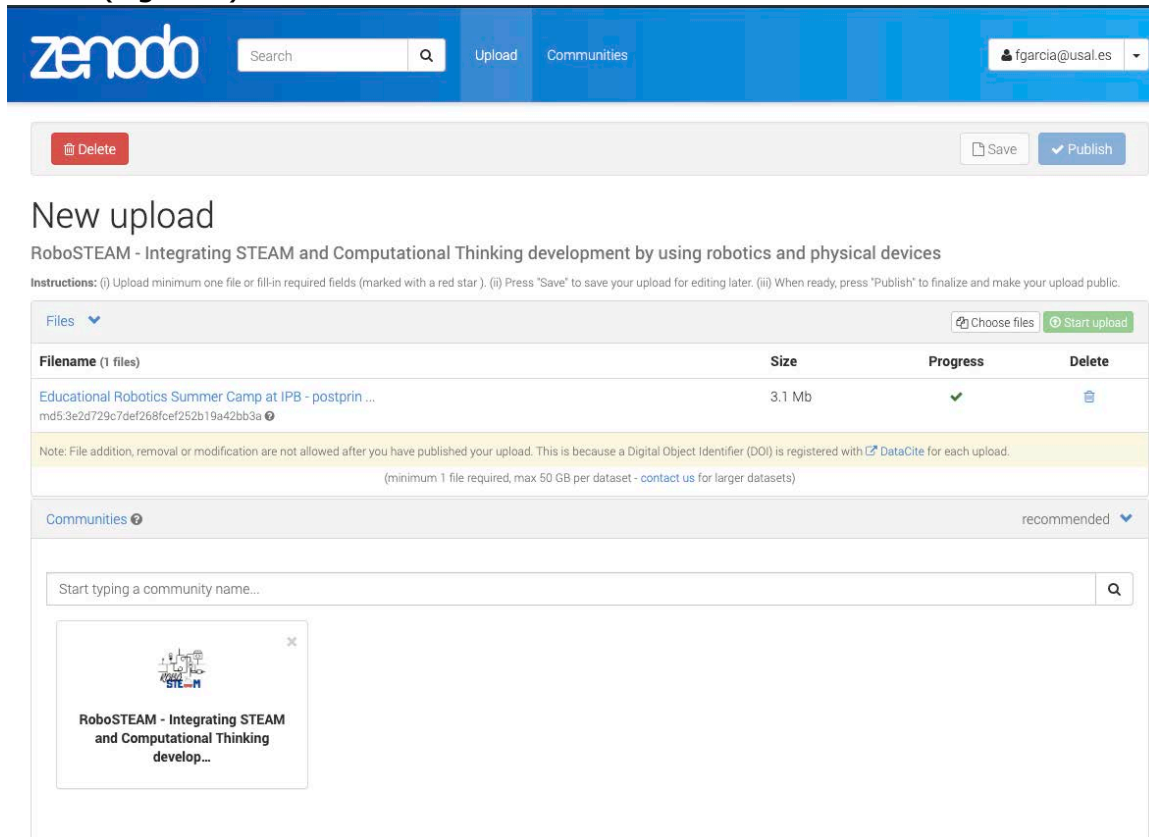


Figure 8. RoboSTEAM community empty upload form. Source:
<https://zenodo.org/deposit/new?c=robosteam>

The upload of a new item in the community may be done by every person, but the uploads must be confirmed by the admin of the community. To do that, the user might access to the upload form through the “New Upload” button in the community page (see Figure 6) or directly throughout the URL <https://zenodo.org/deposit/new?c=robosteam>.

Figure 8 shows an empty upload form and figure 9- an example of a new resource that will be uploaded, specifically a post-print of this conference paper [11], following this procedure:

- 1) Drag and drop the pdf file containing the post-print version of the paper (Figure 9).



zenodo Search Upload Communities fgarcia@usal.es

Delete Save Publish

New upload

RoboSTEAM - Integrating STEAM and Computational Thinking development by using robotics and physical devices

Instructions: (i) Upload minimum one file or fill-in required fields (marked with a red star). (ii) Press "Save" to save your upload for editing later. (iii) When ready, press "Publish" to finalize and make your upload public.

Filename (1 files)	Size	Progress	Delete
Educational Robotics Summer Camp at IPB - postprin ... md5:3e2d729c7def268cef252b19a42bb3a	3.1 Mb	✓	

Note: File addition, removal or modification are not allowed after you have published your upload. This is because a Digital Object Identifier (DOI) is registered with [DataCite](#) for each upload.
(minimum 1 file required, max 50 GB per dataset - [contact us](#) for larger datasets)

Communities recommended

Start typing a community name...

RoboSTEAM - Integrating STEAM and Computational Thinking develop...

Figure 9. Uploading the pdf file

- 2) Select the type of the document, a conference paper in this case (Figure 10).

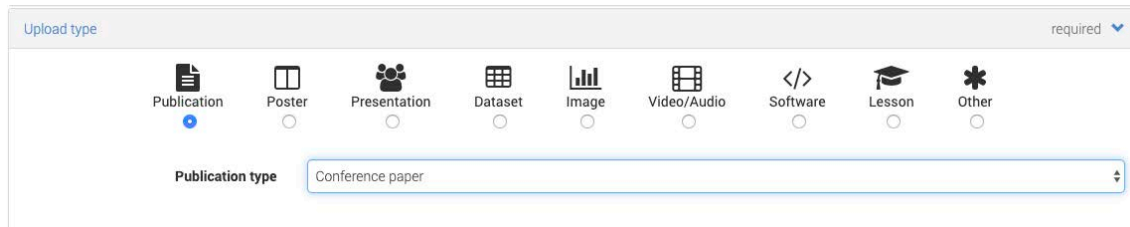


Figure 10. Selecting the document type

3) Fill the basic metadata of the source (Figure 11).

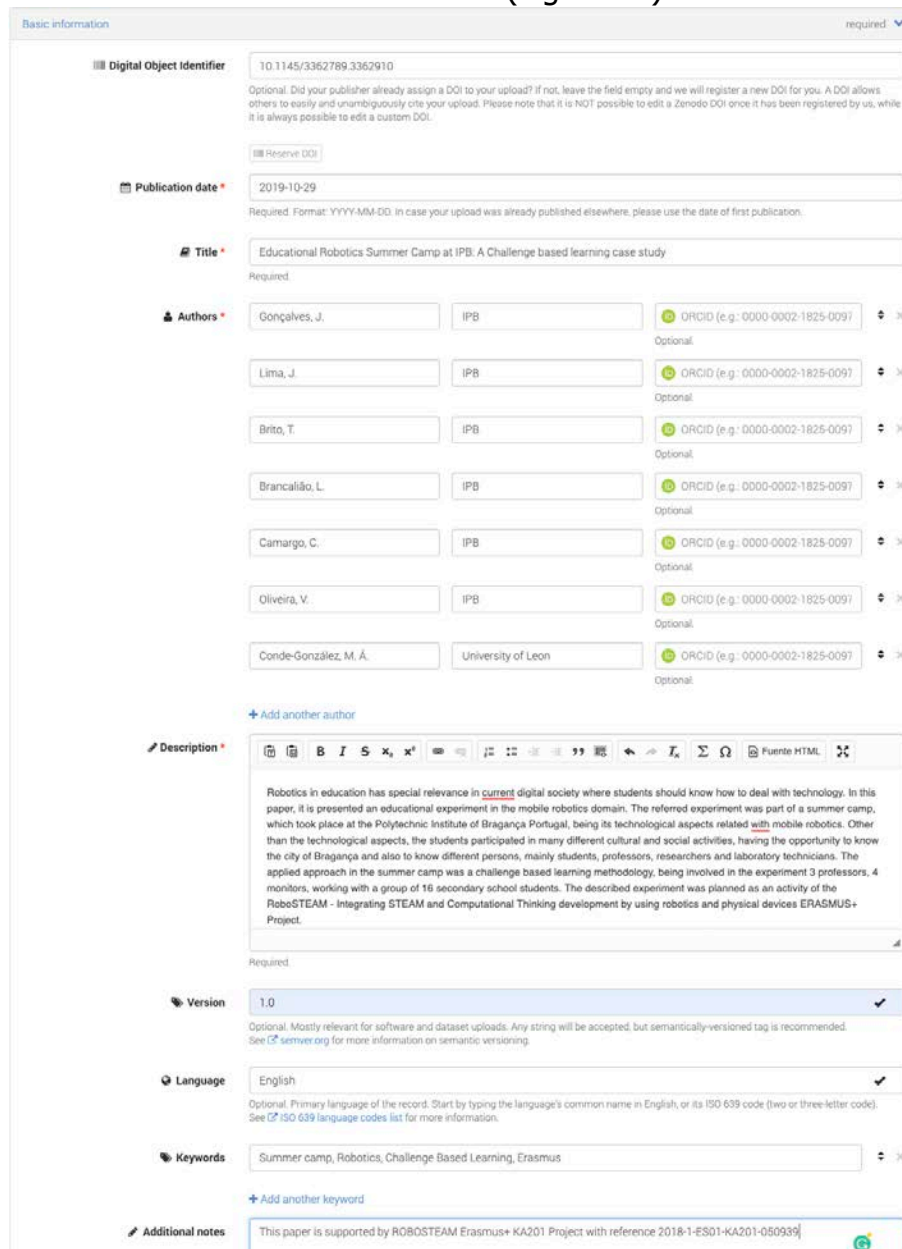


Figure 11. Introducing the document metadata

4) Choose the licence (Figure 12).

License required ▼

Access right *

- ☒ Open Access
- ☐ Embargoed Access
- ☐ Restricted Access
- ☐ Closed Access

Required. Open access uploads have considerably higher visibility on Zenodo.

License *

Creative Commons Attribution 4.0 International

Required. Selected license applies to all of your files displayed on the top of the form. If you want to upload some of your files under different licenses, please do so in separate uploads. If you cannot find the license you're looking for, include a relevant LICENSE file in your record and choose one of the *Other* licenses available (*Other (Open)*, *Other (Attribution)*, etc.). The supported licenses in the list are harvested from opendefinition.org and spdx.org. If you think that a license is missing from the list, please [contact us](#).

Figure 12. Choosing the license

5) Save (Figure 13).

Saved successfully

Delete Save Publish

Figure 13. Saving the changes

6) Publish the document (Figure 14).

zenodo

October 29, 2019

Educational Robotics Summer Camp at IPB: A Challenge based learning case study

Gonçalves, J.; Lima, J.; Brito, T.; Branco-Almeida, L.; Camargo, C.; Oliveira, V.; Conde-González, M. A.

Robotics in education has special relevance in current digital society where students should know how to deal with technology. In this paper, it is presented an educational experiment in the mobile robotics domain. The referred experiment was part of a summer camp, which took place at the Polytechnic Institute of Bragança Portugal. Being its technological aspects related with mobile robotics. Other than the technological aspects, the students participated in many different cultural and social activities, having the opportunity to know the city of Bragança and also to know different persons, mainly students, professors, researchers and laboratory technicians. The applied approach in the summer camp was a challenge based learning methodology, being involved in the experiment 3 professors, 4 monitors, working with a group of 16 secondary school students. The described experiment was planned as an activity of the RoboSTEAM - Integrating STEAM and Computational Thinking development by using robotics and physical devices ENADIMUS+ Project.

This paper is supported by ROBOSTEAM Erasmus+ KA201 Project with reference 2018-1-ES01-KA201-050939

0 views 0 downloads

OpenAIRE

Publication date: October 29, 2019
DOI: [10.1145/3362789.3362910](https://doi.org/10.1145/3362789.3362910)
Keyword(s): Summer camp, Robotics, Challenge Based Learning, Ensembles

Communities: RoboSTEAM - Integrating STEAM and Computational Thinking development by using robotics and physical devices

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Cite as
Gonçalves, J.; Lima, J.; Brito, T.; Branco-Almeida, L.; Camargo, C.; Oliveira, V.; Conde-González, M. A. (2019). Educational Robotics Summer Camp at IPB: A Challenge based learning case study (Version 1.0). <http://dx.doi.org/10.1145/3362789.3362910>

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Bibtex CSL DataCite Dublin Core OAT IRON JSTOR JSTOR-LD GeoJSON MARCXML Zenodo

Files (3.2 MB)

Name	Size	Preview	Download
Educational Robotics Summer Camp at IPB - postprint.pdf	3.2 MB		

Citations

Show only: Literature (0) Dataset (0) Software (0) Unknown (0)

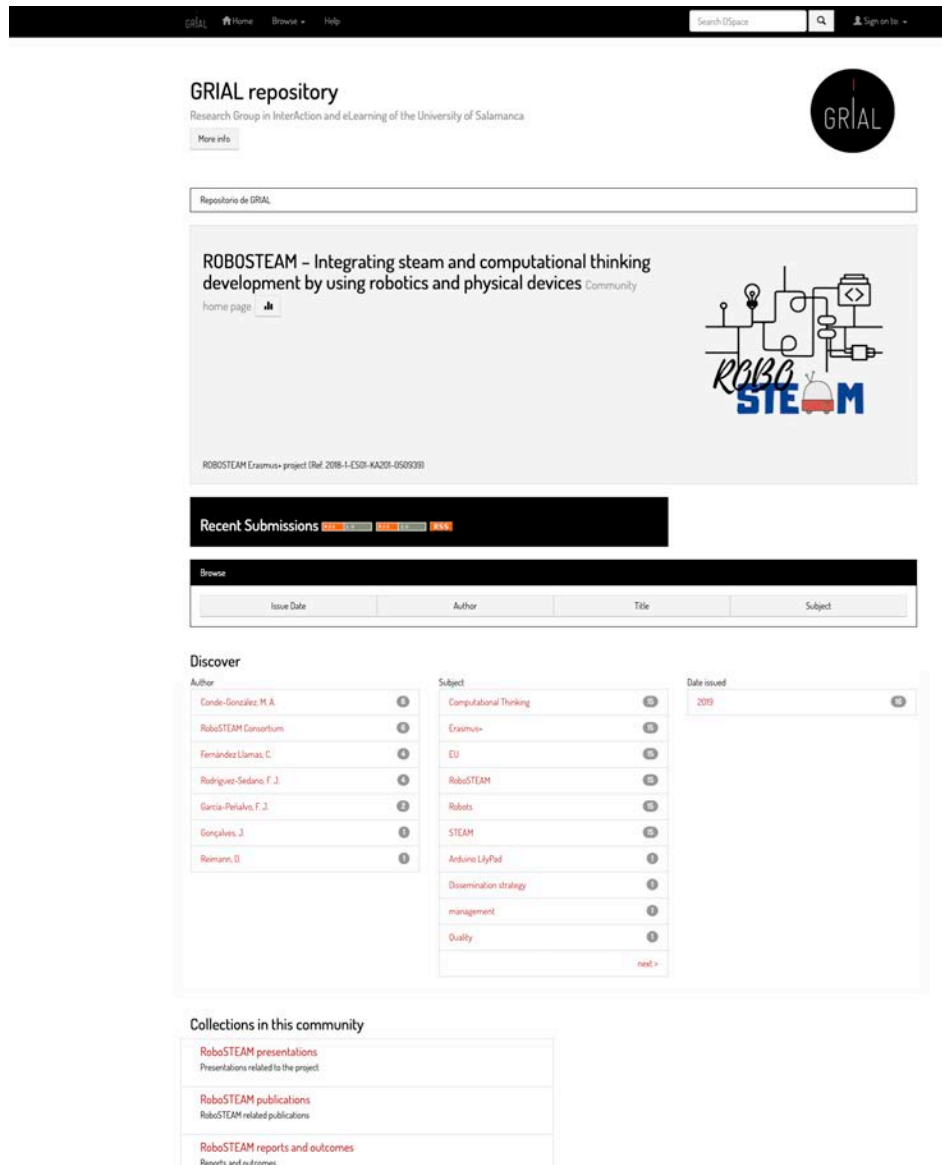
Citations to this version: No citations.

Figure 14. The published resource in RoboSTEAM community open accessible

3.4. Community in an institutional repository

Besides the Zenodo community, a community in the GRIAL research institutional repository (<https://repositorio.grial.eu>) has also been set up. This redundancy helps to disseminate the RoboSTEAM production to every place due to this repository is harvested by Google Scholar.

This community is accessible throughout the URL <https://repositorio.grial.eu/handle/grial/1519> (see Figure 15).



GRIAL repository
Research Group in InterAction and eLearning of the University of Salamanca

Repositorio de GRIAL

ROBOSTEAM - Integrating steam and computational thinking development by using robotics and physical devices Community
home page

ROBOSTEAM Erasmus+ project (Ref. 2018-1-ES01-KA201-050939)

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Author	Subject	Date issued
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Rodríguez-Sedano, F. J.	RoboSTEAM	
García-Perálvarez, F. J.	Robots	
González, J.	STEAM	
Reimann, O.	Arduino LilyPad	
	Dissemination strategy	
	management	
	Quality	

Collections in this community

- RoboSTEAM presentations
Presentations related to the project
- RoboSTEAM publications
RoboSTEAM related publications
- RoboSTEAM reports and outcomes
Reports and outcomes

Figure 15. RoboSTEAM community in GRIAL repository. Source: <https://repositorio.grial.eu/handle/grial/1519>

This collection has been split in different collections to organize better the project outcomes and documents, for example, Figure 16 shows the Presentations Collection.



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Repositorio de GRIAL / ROBOSTEAM - Integrating steam and computational thinking development by using robotics and physical devices

RoboSTEAM presentations

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1.0

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Issue Date	Title	Author(s)
30-Sep-2019	Karlsruhe Transnational Meeting	Conde-González, M. Á.
3-Oct-2019	Medienbildung: Gestaltungs-basierte Lehr-Lernkonzepte mit robotischen Objekten RoboSTEAM - Interaktive Textilien mit Arduino LilyPad	Reimann, D.
1-Oct-2019	Educational Robotics Summer Camp at IPB: Internal RoboSTEAM Erasmus+ Report	Gonçalves, J.
11-Sep-2019	August RoboSTEAM Project Videoconference meeting - September 11th, 2019	Fernández Llamas, C.; Conde-González, M. Á.; Rodríguez-Sedano, F. J.
21-Jul-2019	RoboSTEAM Quality Assurance Plan	RoboSTEAM Consortium
17-Jul-2019	RoboSTEAM School Meeting	Conde-González, M. Á.
16-Feb-2019	RoboSTEAM Project Management Handbook	RoboSTEAM Consortium
1-Jul-2019	RoboSTEAM Project May Videoconference - July 1, 2019	Fernández Llamas, C.; Conde-González, M. Á.; Rodríguez-Sedano, F. J.
31-May-2019	RoboSTEAM Project May Videoconference - May 31, 2019	Fernández Llamas, C.; Conde-González, M. Á.; Rodríguez-Sedano, F. J.
3-May-2019	RoboSTEAM Project May Videoconference - May 3, 2019	Fernández Llamas, C.; Conde-González, M. Á.; Rodríguez-Sedano, F. J.
28-Mar-2019	Follow-up videoconference. RoboSTEAM Project - March 22, 2019	RoboSTEAM Consortium
16-Feb-2019	RoboSTEAM - Dissemination strategy	RoboSTEAM Consortium
15-Feb-2019	RoboSTEAM Project	RoboSTEAM Consortium
16-Feb-2019	RoboSTEAM Management Issues	RoboSTEAM Consortium
15-Feb-2019	03 RoboSTEAM Environment - First overview and discussions	García-Peñalvo, F. J.
16-Feb-2019	ROBOSTEAM A2. Quality Assurance	García-Peñalvo, F. J.

Collection's Items (Sorted by Submit Date in Descending order): 1 to 16 of 16

Discover

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Reimann, D. 1

Subject

Computational Thinking 15

Erasmus+ 15

EU 15

RoboSTEAM 15

Robots 15

STEAM 15

Arduino LilyPad 1

Dissemination strategy 1

management 1

Quality 1

next >

Date issued

2019 16

Figure 16. RoboSTEAM Presentations Collection in GRIAL repository. Source: <https://repositorio.grial.eu/handle/grial/1520>

4. Acknowledgements

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