

D2.3.2: Implementation of the ePortfolio Platform Mahara

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N.B.: All Screenshots shown in this deliverable are taken from pages from https://mahara.ats2020.eu which are either publicly accessible or to which the creator (in all cases Andrea Ghoneim) has granted the right to be published in this deliverable.

1 Introduction

The purpose of this document is to show the **implementation and development of the online ePortfolio Platform Mahara** that is used for student-centred learning and assessment during the pilot implementation of the ATS2020 project.

Based on the User Requirements defined in Deliverable 2.1.1 and the assessment of available tools and platforms in Deliverables 2.2, we have decided to develop the ATS2020 learning platform based on two separate platforms, Office 365 and Mahara. This would eventually lead to two platforms with similar characteristics. Users, at the country or school level, will be able to choose either one of the two platforms to use.

This document is complementary to the development of https://mahara.ats2020.eu which is documented in the WP2 ePortfolio, especially at https://mahara.ats2020.eu/view/view.php?id=302. While the ePortfolio page devoted to D. 2.2 (https://mahara.ats2020.eu/view/view.php?id=302) was kept simultaneously with WP2 developments since April 2016, this document shows the developments of, in, and around the platform Mahara chronologically.

2 PROJECT MANAGEMENT

2.1 PROJECT TEAM

Danube University Krems is in charge of Mahara for ATS2020. The table below shows the Project Team members for the learning platform, along with their role and contact information.

Role	Name	Email
Project Manager	Andrea Ghoneim	andrea.ghoneim@donau- uni.ac.at
System Developer	Gregor Pirker	gregor.pirker@donau-uni.ac.at
Additional Programming (Dashboard, enhancements of MyLearning)	Gregor Anzelj (POVSOD)	gregor.anzelj@gmail.com
System Administrator	Gregor Pirker	gregor.pirker@donau-uni.ac.at

As Mahara is an Open Source Software, the help and development of the Mahara community has to be mentioned here, with great thanks to mahara.org, namely Kristina Hoeppner. Suggestions of Mahara users in the project ATS2020 were reported by Gregor Pirker at the Mahara developer meetings (managed by Kristina Hoeppner). The suggestions were partly reflected in a Mahara Upgrade (to Version 17.04).

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¹ https://products.office.com/en-us/student/office-in-education

² https://mahara.org/

ATS2020 project partner Dora Nousia of CTI, Greece, did a great contribution to Mahara for ATS2020 by contributing a text on Risks and Legal Aspects of working with Mahara (and similar platforms which is published at the Mahara landing page (for logged in users at https://mahara.ats2020.eu/view/view.php?id=176).

2.2 IMPLEMENTATION PHASES

Mahara is a learner-centered ePortfolio platform. Implementation is based on the ePortfolio Implementation Guide for Policy Makers and Practitioners which was elaborated during the project EUfolio. EU classroom ePortfolios. The guide is available at https://eufolio-resources.eu/school-unit/recommendations/.

For train-the-trainer purposes, Mahara for EUfolio (http://mahara.eufolio.eu) was adapted, as the project team wanted to make sure that trainers agree with using Mahara before setting up an own instance. After collecting the trainers' feedback in November 2015, Mahara for ATS2020 was set up. Additionally, Gregor Anzelj of POVSOD was subcontracted to develop a new (teacher) dashboard for Mahara, as a lack of overview for the teachers was identified as the main weakness of the platform.

Thus, the implementation phases look as follows:



Main phases for developing the ATS2020 learning platform

Mahara was upgraded to version 17.04 in July 2017. This upgrade also contained the ameliorated teacher dashboard as developed by Gregor Anzelj in cooperation with the Mahara team of ATS2020.

In the meantime, a project on "Enhanced Analytics In Mahara" had emerged. Here is a note from the University of Sussex posted on the 4th of April 2017 (retrieved from: http://blogs.sussex.ac.uk/tel/2017/04/04/enhanced-analytics-mahara/):

"The reporting capabilities within the leading open source eportfolio solution <u>Mahara</u> will be fundamentally enhanced in a future release as a result of a project led by the University of Sussex and <u>Dublin City University</u> (DCU). The Higher Education Funding Council for England (HEFCE) Catalyst Fund makes funding available to universities to stimulate innovation in practice across the HE sector and the development of innovative solutions. Supported by the <u>Catalyst Fund</u>, the Advanced Analytics in Mahara project (https://aaimproject.com/) aims to provide more fine grained insights into how portfolios are used over time, and how learners engage with them with a view to supporting evidence-informed use across disciplines in the future."

2.3 DOCUMENTATION

User help **documentation** was created for teachers and students with step by step instructions and visualizations. This documentation is available as "Guides for Tools" via the Mahara ePortfolio of WP2 (Technology and Tools) at the following link:

https://mahara.ats2020.eu/view/view.php?id=468

Additionally, trainers and country coordinators were provided with support and information through the following Mahara-groups:

Admin Support: https://mahara.ats2020.eu/group/view.php?id=6

ATS2020 Trainer Online Forum: https://mahara.ats2020.eu/group/view.php?id=7

ATS2020 Community of Practice: https://mahara.ats2020.eu/group/view.php?id=4

An exhaustive overview over Mahara and its features is given at the Mahara Manual at http://manual.mahara.org/en/17.04/index.html.

2.4 Training

It is important to provide the teachers involved in the project with a clear and common understanding of the use of the ATS2020 learning platform developed, under the scope of the project. Therefore, **face-to-face workshops** and **online webinars** were offered, as well as Mahara pages devoted to topics of common interest.

Here is a selection of the resources available (partly only for logged-in users of Mahara for ATS2020):

WA4: ATS2020 Learning Environments: https://mahara.ats2020.eu/view/view.php?id=149 (Resource for all tools which were planned for ATS2020 by: 13 November 2015, including OneNote/Office 365 and Mahara)

Manage Institutions in Mahara (Slide presentation at https://mahara.ats2020.eu/view/view.php?id=468 and webinar recording at https://donau-uni.adobeconnect.com/ a965712322/p4ambjtmhfq/?proto=true). The webinar was held twice in January 2016 for country coordinators of the ATS2020 pilot and the to-be institution admins.

As Mahara for ATS2020 (https://mahara.ats2020.eu) was established in April 2016, when some trainers and country coordinators already had established ePortfolios in the "old" Mahara (see above), it was necessary to guide users "How to Export and Import ePortfolios from one Mahara to another". The slide presentation is available at https://mahara.ats2020.eu/view/view.php?id=468.

As the plugin "My Learning" is crucial for the ePortfolio platforms used in ATS2020, an own ePortfolio page about the "Work with MyLearning" was set up at https://mahara.ats2020.eu/view/view.php?id=179.

These and further resources can be found as D. 2.4 (Further development of tools) or, respectively at https://mahara.ats2020.eu/view/view.php?id=468.

2.5 EVALUATION

The success of an initiative is determined by the extent to which intended and unintended project outcomes are achieved and how they have affected stakeholders. Planning for evaluation should identify and map baseline information as well as ensure that ongoing access to consistent data sources will be available through monitoring over the life of the initiative.

All relevant stakeholders – especially teachers and teacher trainers – were providing feedback and comments. Evaluation was collected following training activities and via the

above mentioned Mahara groups to ascertain teachers and student's reactions. Comments were evaluated and led to the elaboration of further training materials, installation of plugins and/or adaptation of the platform, whenever possible. Findings and recommendations from reviews regarding the ePortfolio platform were considered to foster implementation improvement.

2.6 MAJOR ROLES

Mahara offers the roles

- Administrator (for the whole platform)
- Country coordinator
- Institution Administrator
- User

For ATS2020, all country coordinators were trained on how to manage an institution and an institution was created for them for training purposes. As only the administrators of the platform can add institutions, institutions for the ATS2020 piloting schools were added at request by the ATS2020 administrator (Gregor Pirker). The process was described in an ePortfolio page "ATS2020 Piloting. Registration issues" which was presented at the ATS2020 partner meeting in Dublin in May 2016 and is available via https://mahara.ats2020.eu/view/view.php?id=957.

Each school was registered as an institution. The institution administrator can set up groups for each class in the school (with advanced features, such as handing in ePortfolio pages or collections for assessment). Groups with simple features can be created by every user. Thus, also students can create groups if they like them in order to collaborate (or even for private purposes).

3 Mahara Development and Features to support ATS2020

3.1 ABOUT

Mahara is an Open Source Software for ePortfolios. The Mahara community, very helpful in 3rd level support, maintains regular developer meetings (led by Mahara Frontwoman Kristina Hoeppner) in which Gregor Pirker, system administrator for Mahara for ATS2020 participated.

Mahara for ATS2020, available at https://mahara.ats2020.eu/ is not limited regarding the time of service. It can be used by teachers and students, even after the end of the project with limited support through the Mahara project team.

Generally speaking, Mahara is a Content Management System (CMS) which is user-centered, as ePortfolios themselves should also be. This means that the user has a range of possibilities, such as creating own groups or deciding what to share with whom and when.

3.2 Services developed/embedding of other Programmes

3.2.1 User Dashboard

A user-centered approach as described above, leads to shortcomings as far as the management through the teacher is concerned. A **dashboard** that gives a better overview about the latest developments in what was done by other users recently was created/adapted for ATS2020 and is now part of the core of Mahara. This means, that other users benefit from the development done for ATS2020.

3.2.2 Plugins and iframe

Mahara allows the user to work with a range of features, allowing them to embed products from other platforms. For ATS2020 purposes, Mahara plugins were installed that allow users, for example, to use Dropbox content or content from a Microsoft platform.

Furthermore, a range of iframe sources which allow to embed content from external sites user's pages, inside HTML <iframe> elements were utilised. Typically this is used to display content hosted elsewhere. Users made use of iframe-embedding from Google docs, Google slides, and further Google products. Users also could embed videos, for example via Youtube and Vimeo. Pictures can be embedded for example from Photosnack or Flickr.

Many teachers like to work with Padlet, which could be embedded via iframe, as well. Furthermore, the embedding of Mindmaps, for instance via WiseMapping, was made possible and was also used for teaching and learning purposes.

Allowing of iframe embedding was done in close collaboration with the teachers who were asking the site administrator for additions.

A major plugin for ATS2020 is the "Learning" plugin, known as "My Learning" (see above). Documentation and user help for utilizing this plugin was provided via the ePortfolio page "My Learning" at https://mahara.ats2020.eu/view/view.php?id=179.

3.2.3 Smart Evidence

Mahara also allows experiments with the embedding of competence frameworks on the basis of Smart Evidence (http://manual.mahara.org/en/17.04/administration/smartevidence.html). This feature should associate competences/skills "automatically with an evidence map for a visualisation of the competencies already gained, in progress, and not yet started" (ibid.)

The Mahara team at Danube University Krems did a few tests, trying to make Smart Evidence work in Mahara for ATS2020. Unfortunately, the mapping of evidence for ATS2020 skills could not be implemented successfully during the time of the project.

4 IMPLEMENTATION

In the "User and Technical Requirements Report for ATS2020's Learning Platform" (**Deliverable 2.1.1**) different use case models are described:

- 1. Domain name registration
- 2. User Registration
- 3. User Login and landing page
- 4. Teacher Dashboard
- 5. Student Dashboard

In this section, the implementation process for these use cases is described in more detail.

4.1 Domain name registration and DNS hosting

The domain name registered for the implementation of the ATS2020 programme is "ats2020.eu". The DNS servers of the Cyprus Pedagogical Institute provide DNS hosting for all the provisioned services under this domain.

4.2 USER REGISTRATION

All persons participating in the ATS2020 project need a **user account** before they can sign in and access ATS2020's Mahara ePortfolio platform and the related services. The System Administrator and the country coordinators (in the role of institution administrators) handle **user registration**. An administrator can add users to his/her institution in Mahara either one by one or via CSV upload. As the CSV upload was difficult for a range of institution admins, help through the system administrator was provided. The admin (Gregor Pirker) offered those, who did not want to bother with registration, CSV upload of school groups (usually organized in an institution). This service was used by most of the ATS2020 institution administrators at the beginning of the pilot and at the beginning of the following school year.

The procedure of user registration for all ATS2020 technical services (Mahara, Office 365/OneNote Class notebook/ EIS testing database) is explained at https://mahara.ats2020.eu/view/view.php?id=957. The page was presented at ATS2020 partner meeting 4 in June 2016 in Dublin.

4.3 Use of the Site

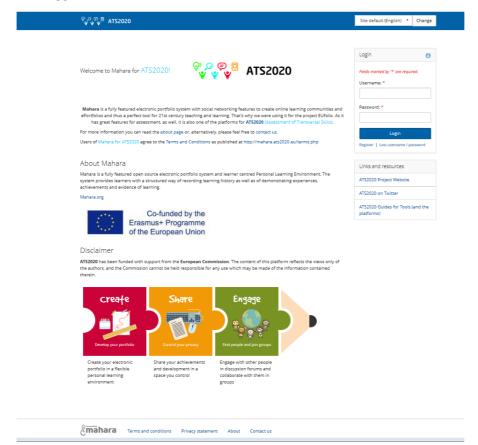
"Terms and Conditions" regulate the use of Mahara for ATS2020. These "Terms and Conditions" are published at: https://mahara.ats2020.eu/terms.php.

The "Privacy statement" is an extension of the "Terms and Conditions" and informs users about collection and use of personal information as well as storage and security of this information and the use of Cookies. It is available at: https://mahara.ats2020.eu/privacy.php.

Furthermore, a Landing Page gives information about Risks and Legal Aspects of working with the platform (and similar platforms). The Landing page can be seen by logged-in users at https://mahara.ats2020.eu/view/view.php?id=176.

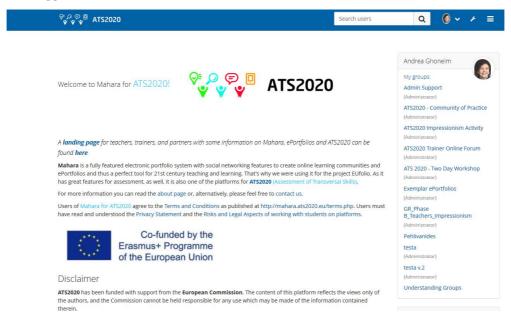
The login procedure leads to the pages as follows:

1. Logged-out home



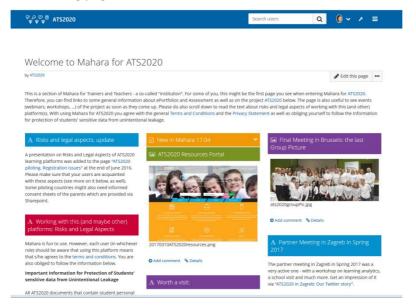
https://mahara.ats2020.eu/

2. Logged-in home



https://mahara.ats2020.eu/

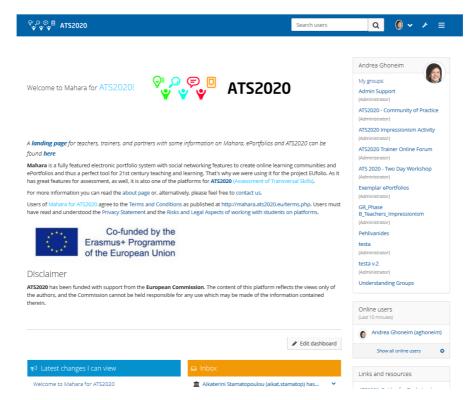
3. Landing page



https://mahara.ats2020.eu/view/view.php?id=176

4.4 DASHBOARD

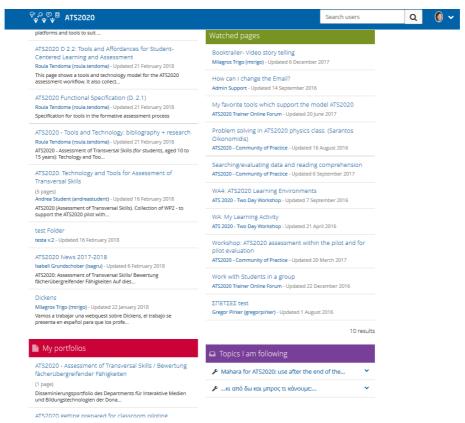
The Dashboard (as described above) is accessible for logged-in users. It can be edited to suit different needs. In general, the dashboard is the same for teachers and students.



Dashboard for Mahara (view for user Andrea Ghoneim on 2018-03-01

The Dashboard shows a welcome message which differs according to the institution a user belongs to. After this welcome (in the example above it stretches till the Disclaimer) the generated Block "Latest changes I can view" shows ePortfolio pages that have been changed and are accessible — either because they were shared in a group to which the user belongs or because they were shared with the user personally or because they are openly accessible.

The Block "Inbox" shows the latest messages received via Mahara.



Dashboard for Mahara, continued (view for user Andrea Ghoneim on 2018-03-01

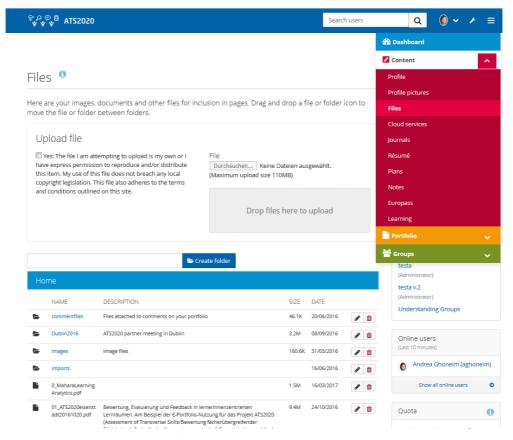
Furthermore, the dashboard shows Watched pages (which are pages the user has put on her/his watchlist – i.e. pages s/he wants to have an eye on), the user's own ePortfolio pages (as "My portfolios") and "Topics I am following" which shows different types of messages (such as group postings or comments on the bottom of one's pages or reactions to comments one has left at someone else's page). Every block can be configured by the user to select for example the type of messages to be shown.

4.4.1 User profile

Each user has a profile page which s/she configures, maintains and fills with content him/herself. There is no difference between teacher and student as far as the authorizations are concerned. The profile page is the only page which can be seen by every registered user. All other Mahara pages can only be seen by the user unless s/he shares them with other users/groups or publicly (on the World Wide Web).

4.4.2 File repository

File repositories are integrated in Mahara.



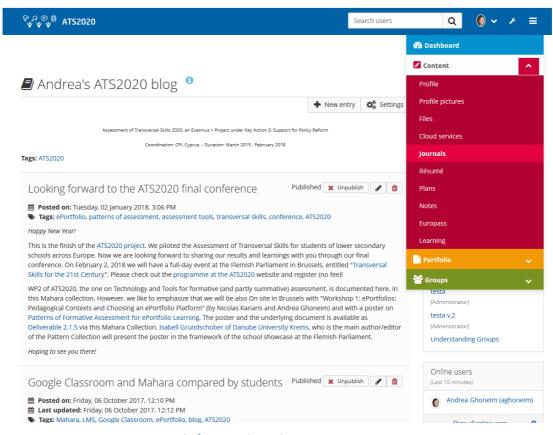
File repository (view for user Andrea Ghoneim on 2018-03-01

There are personal file repositories as can be seen in the screenshot above (file repository of Andrea Ghoneim). There, files can be uploaded and a description for the file can be added at wish. Furthermore, files uploaded to any personal ePortfolio page will be also stored in the personal file repository.

Group file repositories can be maintained by groups. They are practical for collaborative work – for example if a group of students collects images of plants for a biology lesson.

4.4.3 Journal, My Learning and ePortfolio

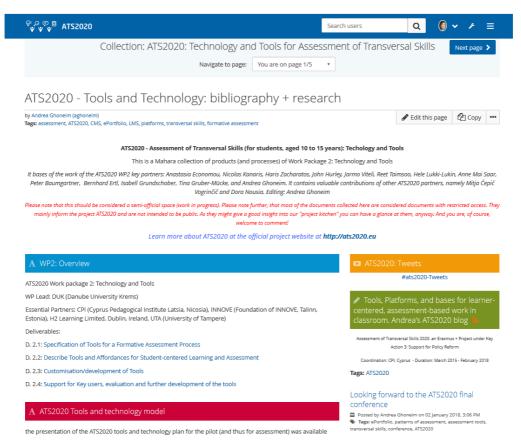
Mahara allows users to maintain journals. Learning Journals are used alongside ePortfolio work, for example to reflect learning. Users can have multiple journals. Journal entries can be tagged.



Journal of user Andrea Ghoneim on 2018-03-01

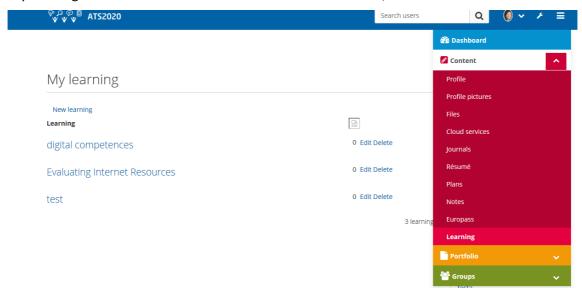
Journals cannot be seen by other users, unless the creator embeds them in an ePortfolio page which is shared with others. Journal entries can also be embedded in a filtered way – selected according to the tags the user gave them.

On the following screenshot you can see how the journal shown above looks for an external user (it is embedded in the WP2 ePortfolio and accessible for everyone via WWW):



"Andrea's ATS2020 blog – here entitled "Tools, Platforms, and bases for learner-centered, assessment-based work in classroom. Andrea's ATS2020 blog" embedded on the right side of the page https://mahara.ats2020.eu/view/view.php?id=178

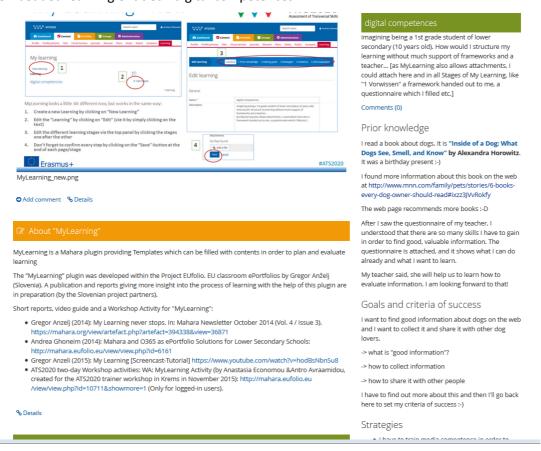
MyLearning is available via the content block of the Dashboard, as well:



Screenshot of "MyLearning" of Andrea Ghoneim

The feature "My Learning" allows students to describe the learning stages as of the ATS2020 Learning Model. They can also link to evidence and/or attach documents to the

"Learning". The descriptions, however, are only visible to others (including the class teacher) if "My Learning is embedded in an ePortfolio page. The Mahara page "Work with MyLearning" gives further advice for teachers and learners and shows an example of an embedded learning entitled "digital competences"



Screenshot on guidance material for the use of "MyLearning" including a sample of an embedded "Learning" on "digital competences": https://mahara.ats2020.eu/view/view.php?id=179

4.4.4 Digital learning space for class

The general registration process was described above and via the ePortfolio page at https://mahara.ats2020.eu/view/view.php?id=957.

There, it is also explained:

"Schools will get institutions, classes of these schools (or even across the schools) will work in groups (setup is done by your institution admins)."

After the end of the pilot,

"Mahara for ATS2020 has been used by 2848 users who are organised in 203 Institutions (which are mainly schools involved in the projects) and 467 Groups (mainly classrooms, but also groups for teacher training etc.)". (Slide presentation "Platforms in use for the ATS2020 pilot. Mahara.ats2020.eu" 2017-07-24, embedded in https://mahara.ats2020.eu/view/view.php?id=302)

Mahara groups are a digital learning space for a class. There can also be more groups, for example for certain skills, for certain subjects, or for a special project – like a school theater festival.

Groups can be created by every Mahara user. In these groups, ePortfolio pages can be created and shared, forums are there as a place for discussion, and there is a group-owned file repository as mentioned above.

Groups – when set up by an institution or site administrator - allow a range of settings. Membership can be open, controlled (Group administrators can add users to the group without their consent, and members cannot leave the group), or on request (users can send membership requests to the group). There are also different editing privileges.

The institution administrator can create groups with more features, especially regarding assessment.

4.4.5 Formative and summative assessment

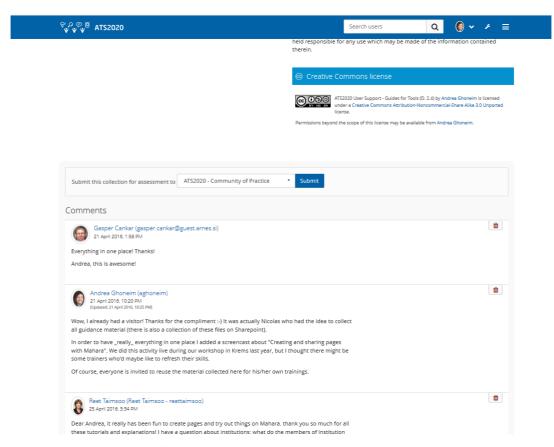
Groups created by an institution administrator allow the attribution of roles: group administrator, tutor, and member.

There is also the feature "allow submissions". This means that members can submit pages to the group that are then locked. These pages cannot be edited until they are released by a group tutor or administrator. This ensures that a page cannot be changed during the assessment process.

The slide presentation "Assessment with Mahara", embedded in the ePortfolio page "ATS2020 User Support – Guides for Tools" (https://mahara.ats2020.eu/view/view.php?id=468) explains the assessment process in detail.

Mahara is mainly a learner centered tool, therefore, there is no feature for summative assessment foreseen. However, teachers (and peers) can use rubrics to assess and add these rubrics as an attachment to comments one can leave at the bottom of the page. This comments-field is also used for non-formal, formative assessment.

However, if a teacher/peer leaves a comment at the end of a page, s/he must be aware that the owner of the page can delete the comment. Therefore, it is advisable to store comments in an additional place – for example in a Learning Management System.

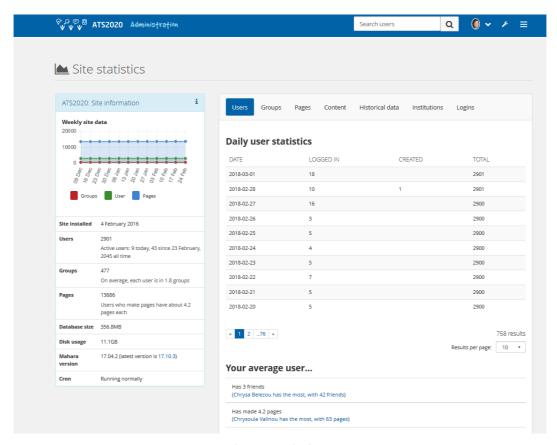


Bottom of a page (https://mahara.ats2020.eu/view/view.php?id=468) with option to submit the page to the group "ATS2020 – community of practice" and with comments. Further down, visitors get the option to leave a comment themselves; a file can be attached, as well. The trash-symbol allows the creator (in this example: Andrea Ghoneim) to delete comments if they are unwanted.

4.5 LEARNING ANALYTICS

The ATS2020 project team maintained efforts to establish learning analytics with its platforms until the middle of the project. It however proved to be not only technically challenging to implement analytics tools in the chosen platforms.

To date (end of February 2018), Mahara doesn't offer learning analytics. However, site statistics can be made by the site administrators.



Site statistics (main view) of 28 February 2018.

Selected site statistics were presented during the ATS2020 project meeting in spring 2017 in Zagreb in the framework of a workshop on learning analytics, led by Riina Vuorikari (of JRC-IPTS)³. The presentation "Mahara, ePortfolios, and Learning Analytics" is available at https://mahara.ats2020.eu/view/view.php?id=302.

The ATS2020 project team also participated in a survey of the project "Advanced analytics in Mahara" (https://aaimproject.com/). The project, led by the University of Sussex and supported by Dublin City University, aims at enhancing existing analytics capabilities within Mahara. Since July 26, 2017, testing is taking place for new reporting features for page activity, group activity, user activity and collaboration. New developments can be obtained via the project blog at https://aaimproject.com/blog/ or via the Mahara community (https://mahara.org/).

³ https://ec.europa.eu/jrc/en/person/riina-vuorikari