

1. Some brief outline and discussion of new learning technologies in the academia environment

A course is divided into lessons which cover the learning of a concept. Learning is done by the students remotely according and in response (elaboration of an essay/"composition") to assignments received for each lesson by the instructor. The instructor can keep track of the activities of students which comprise the elaboration of compositions and integration of multi media material added by the students to a composition. The integration of multi media material is facilitated by a "bookmarklet" (browser plugin) which analyses relevant web pages and extracts multimedia content. Images and videos can be annotated before entered into an essay. Doing this a student can contribute information of his own interest into a lesson. The instructor can give a feedback to the student's responses; dedicated discussion lists allow group work among different students. All activities filtered by whole class or student's contributions and allow to measure the input and level of participation of a participant in a course.

The following examples should provide some insight into mediathread's support along the workflow carried out during a course:

Figure 1: Mediathread Dashboard

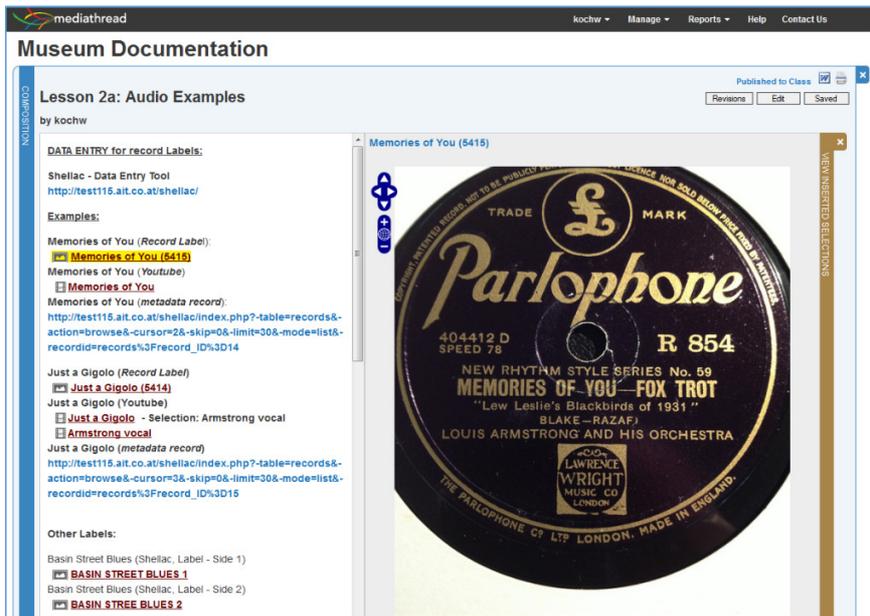
The screenshot shows the Mediathread dashboard for a course titled "Museum Documentation". The dashboard is divided into three main columns: "From Your Instructor", "Composition", and "Collection".

- From Your Instructor:** Contains a list of lessons and resources, including "Lesson 1: Introduction", "Lesson 1: Recommended Sources", "Lesson 2: Metadata for the Cultural Heritage Domain", "Lesson 2: Recommended Resources", and "Lesson 2a: Audio Examples". There is also a "Discussions" section with a link to "Cataloguing Objects (2)".
- Composition:** Shows a list of assignments and compositions. The top assignment is "Lesson 2a: Catalog 2 Record Labels" by kochw, saved on 08/06/14 at 05:46 PM, with 0 responses. Below it is a composition "Lesson 2a: Audio Examples" by kochw, saved on 08/06/14 at 05:33 PM, published to class. The bottom assignment is "Lesson 2: Catalogue three objects" by kochw, saved on 07/30/14 at 08:53 PM, with 1 response.
- Collection:** Includes a "View Full Collection" button and an "Import into Collection" section. The import section provides instructions on how to use the Mediathread Bookmarklet to import images and video from any web page containing Mediathread-friendly items. It also includes a section for "Install Bookmarklet in Firefox" with two steps: 1. In the View menu, show the "Bookmarks" toolbar. 2. Drag the link below onto your browser bookmarks toolbar. A button labeled "Analyze w/Mediathread" is at the bottom.

Starting point of all activities is the main dashboard. It is divided into two columns; the left column contains the compositions of the instructor, the middle one shows assignments from the instructor, the responses of the students and the feedback from the instructor. The dashboard also

includes a link to the multimedia collection and a hint how the "bookmarklet" can be plugged into a browser.

Figure 2: Lesson 2a – Audio Documentation



Part of the Museum Documentation Course is the documentation of Shellacs. The instructor prepared a collection of record labels which can be accessed via the collection of the course. The composition contains links to images, videos, but also to web based tools to be used for documentation purposes. This composition is accompanied by a oral presentation of the instructor during lesson 2.

Figure 3: data Entry Tool for record Labels:

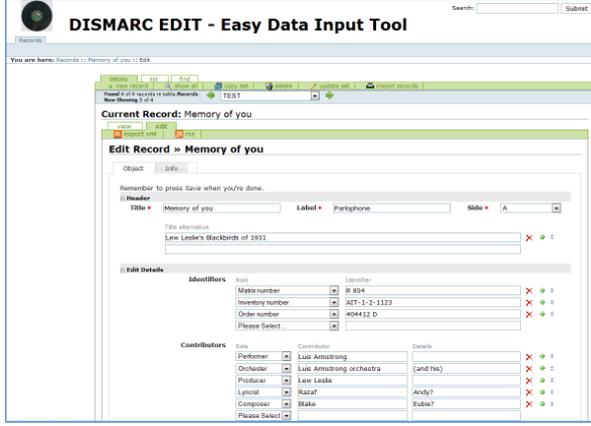


Figure 4: Integration of an Audio Data Base

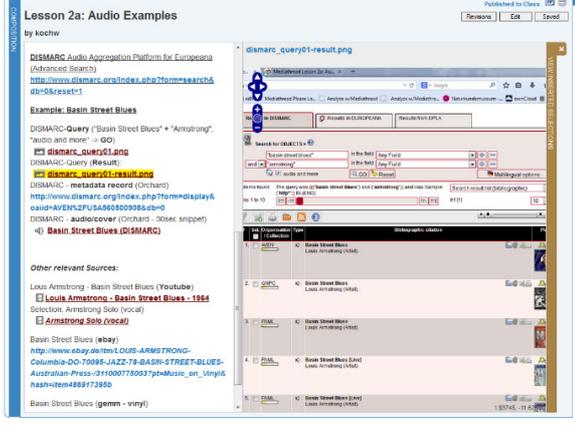


Figure 3 and 4 demonstrate the integration of a tool and a database relevant to a specific lesson of the course

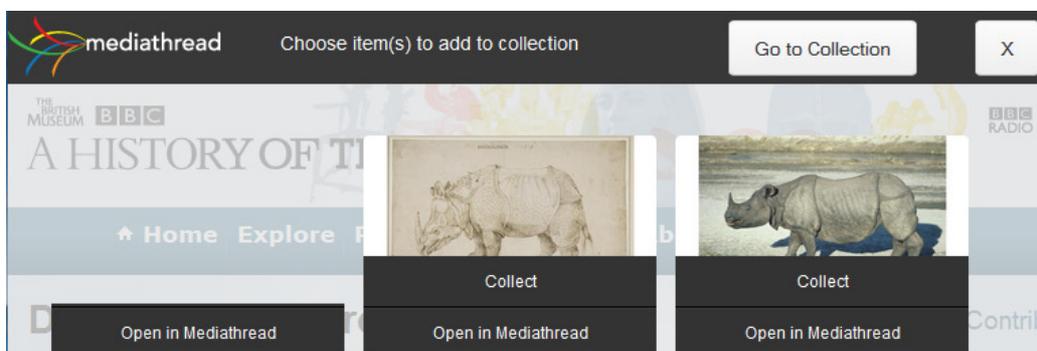
Instructors and students can define data sources using the mediathread’s bookmarklet facility. For learning how to document museum objects relevant web sites are selected where from images have been grabbed for documentation training purposes. In lesson 2 a selection of images related to objects of a museum has been provided by a broadcaster.

Figure 5: Website containing an image related to an art work.



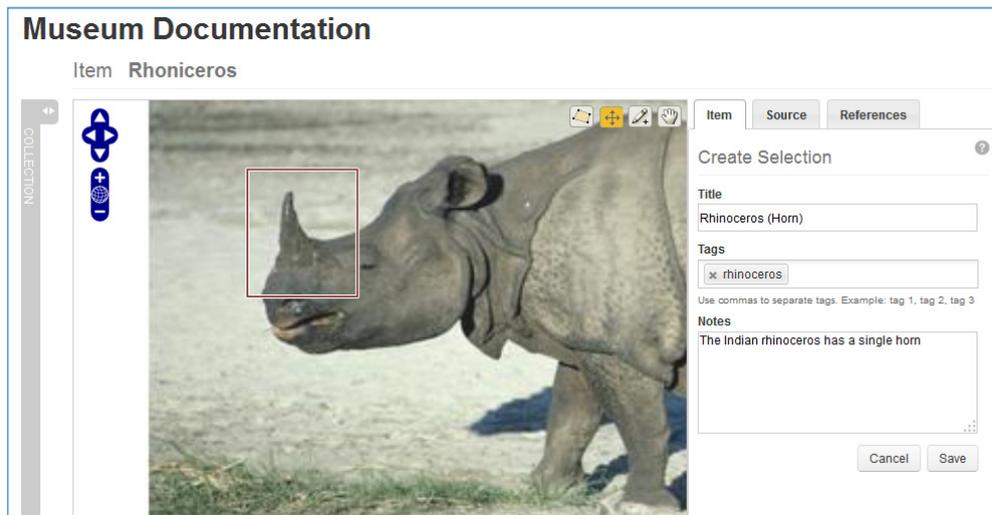
The bookmarklet identifies some images on the web site which can be used as training material for a lesson; images are not copied to the course collection but only referenced.

Figure 6: Selected images from the mediathread bookmarklet



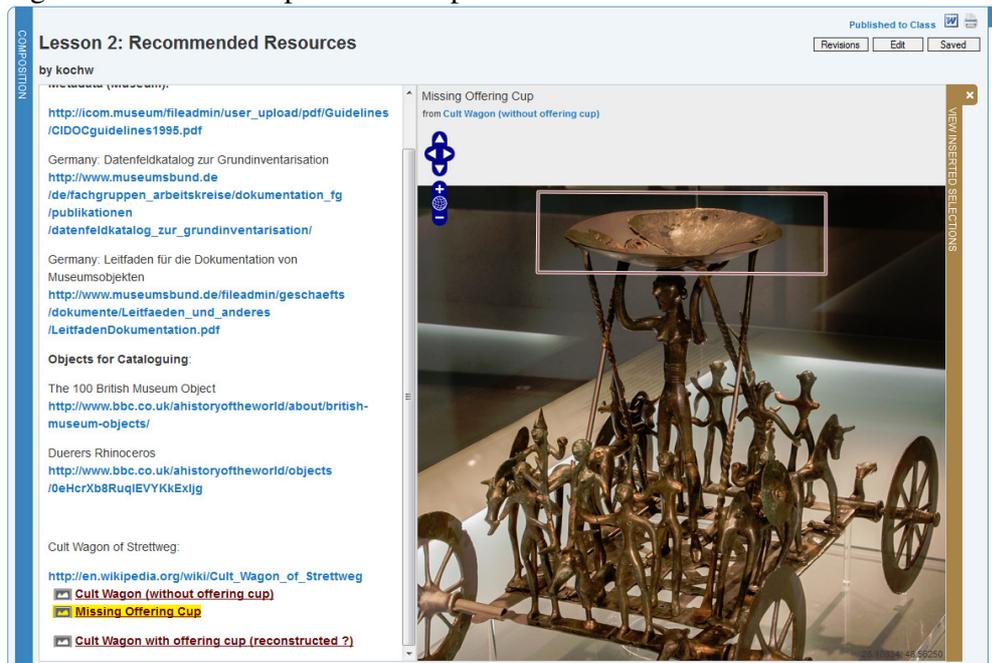
The selected images can be moved to the collection of the course or annotated before added to the collection.

Figure 7: Annotation of an image (“Selection”)



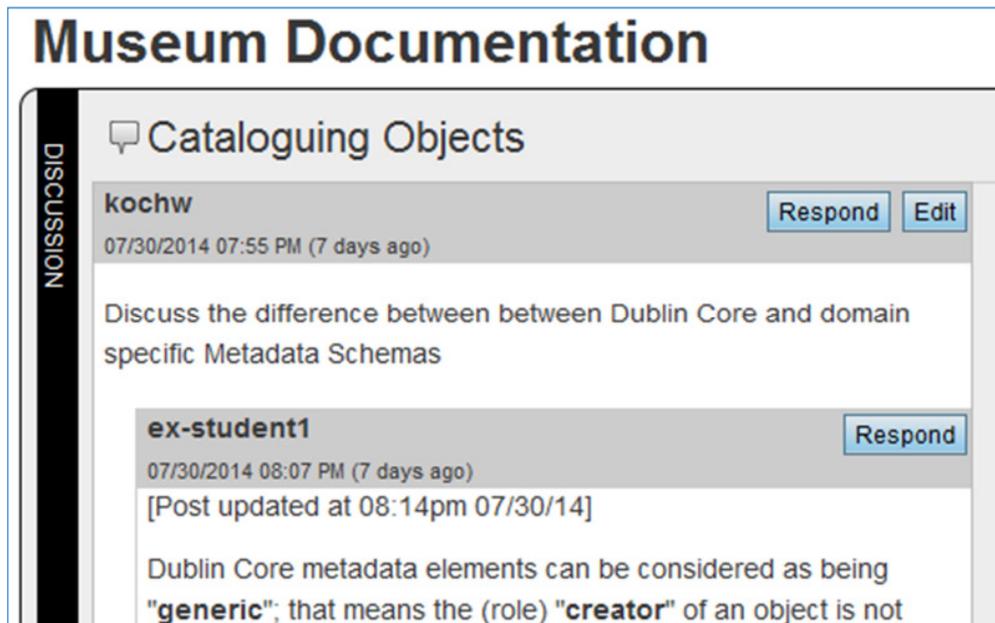
Special parts of an image can be highlighted and further discussed in a composition. Tags can be added to a “selection” as well as notes describing the highlighted part of the image.

Figure 8: Selection as part of a composition



A special part of a museum object which to be used for further discussion can be highlighted and integrated into a composition, e.g. as response to an assignment. Selections of video material for annotation purposes are based on the timeline.

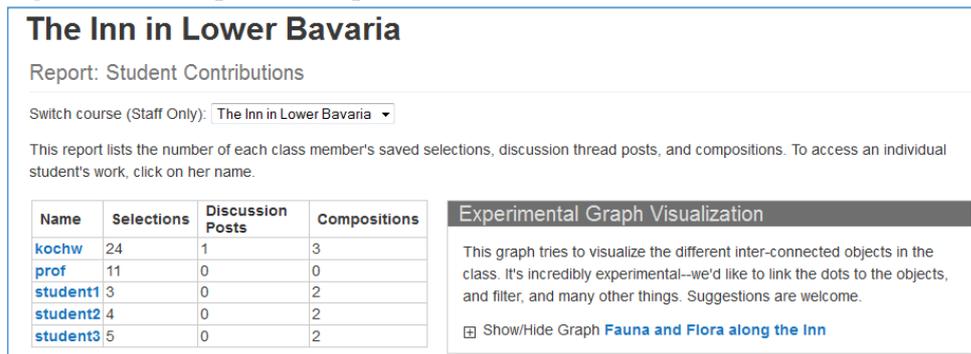
Figure 9: Discussion



Discussion for specific topics and group of students can be started and monitored by the instructor.

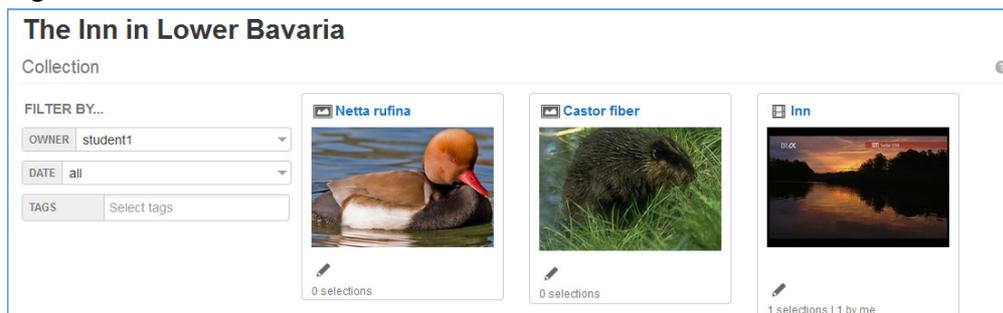
The instructor has the possibility to generate reports which show the activities of each student or a whole class.

Figure 10: Example of a Report



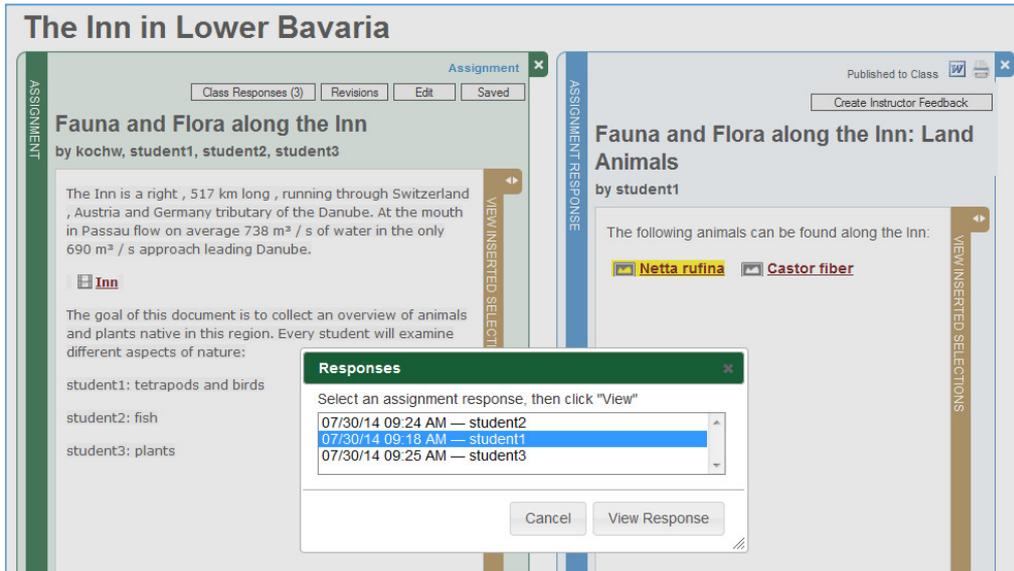
This report contains a statistic about selections (of images or videos), discussion posts and compositions of course participants.

Figure 11: Student contribution to a course collection



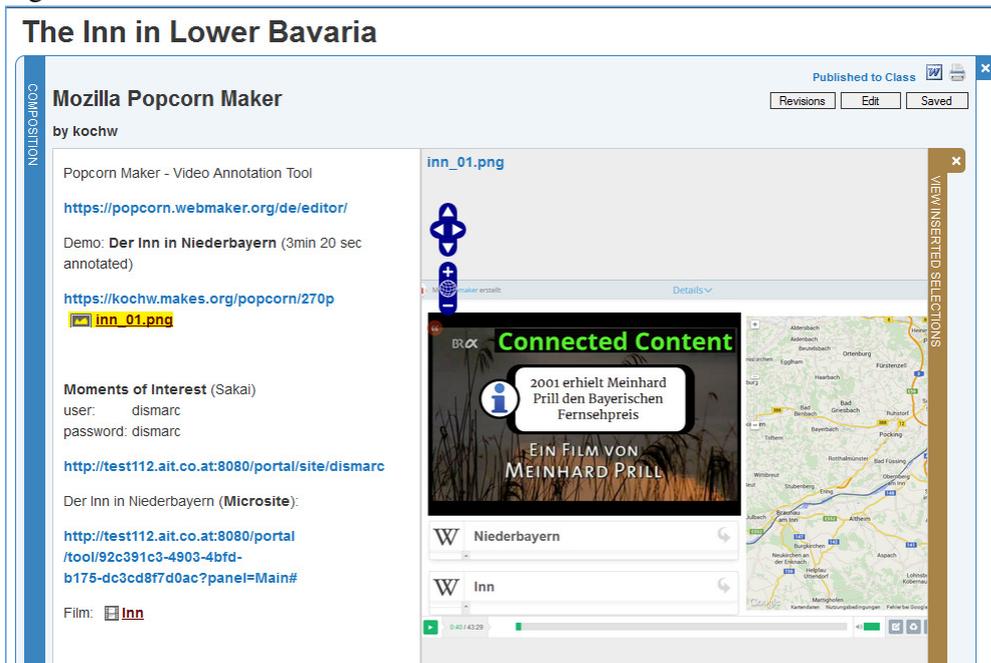
Images provided by a student having used the bookmarklet feature.

Figure 12: Assignment



From another course, describing the landscape, fauna and flora along the river inn this assignment was taken. The figure also includes the response (composition) of a student.

Figure 13:



The course "The Inn in Lower Bavaria" is based on a broadcast which provided the mainstream of this course. At the end of the course the students produced a remix by adding selected material gained during the course.

2. Integration and further development

For the preparation of “massive interactive” courses mediathread provides an integration platform which allows the addition of tools, data bases, VREs (Virtual Research Environments), MultiMedia Tools, video servers, and so on dedicated to the theme and the concepts of a course. By these means particular interest of students can be recognized. These systems can also be used to prepare, manage and supervise a project as well as providing a knowledge base for instructors and students. As future expansion of this toolset the integration of second screen facilities during the work in the classroom will be investigated. In the full paper we will discuss these new technologies for the enterprise usage with their specific requirements.

New technologies for e-learning must be guided by a strategic focus on strengthening the competitive position of an enterprise by increasing the competency level of its workforce. Maturity models provides such a base and contribute to the alignment of the employment of new technologies with the overall goals becoming a knowledge based enterprise and a learning organization.