

# **Annotating web accessible DLs with the MADCOW toolbar**

Emanuele Panizzi, Roma1

## **Annotation of web-accessible Digital Libraries**

The experience of accessing Digital Library content can be enriched by the use of digital annotations. In fact, when studying DL documents, annotating it can be a means to support cognitive functions like remembering, thinking or clarifying, thus enhancing the experience of retrieving content [1]. Moreover, shared annotations support discussion and cooperative work among DL users and allow users to contribute knowledge to the Digital Library [2].

Any Digital Library document that is accessible with a browser as a web page can be annotated with the MADCOW toolbar. Annotations are stored on a server and -- being themselves also accessible as web pages -- can be annotated in turn. The multimedial nature of MADCOW allows users to annotate several types of content, such as text, images, videos and audios. Functions like creating, retrieving, filtering, searching, and linking other annotations within the DL context will be shown in the present demonstration. Usability testing in a DL environment is expected in the next months in the framework of the DELOS Task 4.10.

## **General description**

MADCOW is a browser toolbar enabling users to associate a note to any interesting portion of a web page. In fact, while navigating the web with a standard browser (MSIE or Firefox), the user can select a portion of text, an image or any other multimedia content in the page and click on the 'create-annotation' button in the MADCOW toolbar. A dialog window pops up where he can add his comment, attach any multimedia file of his choice, and chose one out of the 9 annotation types (comment, question, announcement, explanation, integration, etc.)

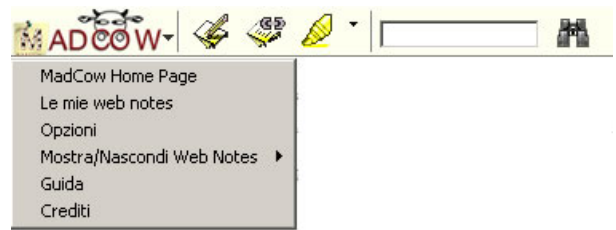
The web note is automatically saved in the MADCOW server, and can be retrieved in any further browsing session: when the user accesses again the annotated web page, he finds an icon next to the annotated part; clicking on the icon, the web note is loaded in a new browser window. The web note can be accessed also by other users, provided the author declared it as public in the 'create-annotation' window. This fosters cooperative work, as it becomes possible to start discussions about any topic, binding the web notes to the object of discussion. An annotation can be annotated in turn, allowing threads in the discussion.

## **Visual Interface and User Interaction**

The visual interface for the MADCOW Lite version is described in the following. Although this version is simpler than the full version, it offers all the main capabilities of the full system, except for the annotation of videos.

## Toolbar

The MADCOW Annotation Toolbar Lite (see Figure), placed under the browser address bar, is composed of a menu and four buttons. The menu, marked with the MADCOW name and the small arrow, contains configuration and personalization functions. The first button starting from left is the *create annotation* button. The next two buttons allows user to create a link (an annotation that consists in a hyperlink pointing to another resource), and a highlight annotation (a sort of marker to highlight a portion of text) respectively. Finally, an annotation search box is provided.

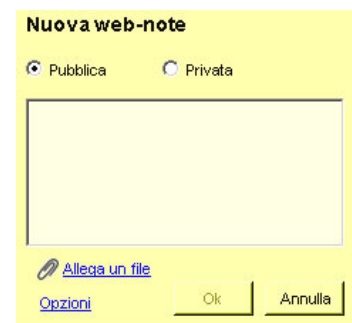


## Selection

When users browse the web and want to create an annotation on a page, they have to specify the region of the webpage to annotate and say whether they want to create a normal annotation or a link or if they want to highlight a portion of text. They can arbitrarily chose the order of execution of this two operations, in fact they can first select the text or image (by clicking and dragging the mouse) and then press the button in the MADCOW toolbar corresponding to the operation they have chosen (see below), or press the button and then select the object to be annotated (in this case, they can click on an an image to select it, and this greatly simplifies the task). In both cases, a dialog window opens up to allow inserting the note and optional attachments and to take some optional choices as described below.

## Annotation

Depending on the selected object (text or image) the user is presented with the annotate-text dialog window or with the annotate-image one. In the first case (see Figure) the user specifies annotation content and public or private visibility. The user can attach up to five files by clicking the provided link, and can remove any one of them if she changes their mind, clicking a *remove* link that appears near each file name (not showed in figure). She can also click the option link to insert a subject and to choose an annotation type out of the nine provided (comment, explanation, question, etc., see [3] for the list of types).



When the user is done, the annotation is saved on the MADCOW server (see [4] for details about storage and data transfer) and the icon corresponding to the selected type is inserted as a placeholder in the web page, as shown in Figure. The annotate-image dialog window contains also the image the user wants to annotate, and a toolbox to superimpose lines or shapes to the image in order to emphasize some parts of it. Different shapes (circle, rectangle, polygon) as well as their colour can be chosen at will. The user can also modify or delete a shape and zoom in or out.



## Link

Users can insert a link to an existing web page or internet resource, or to a local file that is then uploaded to the annotation server. Users can also type in a subject and select a type as in the annotation creation.

## Highlight

To create a highlight annotation, users simply select a portion of text and click on the highlight button or viceversa. No metadata specification is required. Highlights are always private. Users can also choose highlight colours by clicking the small arrow on the right of the marker button.

## Search

MADCOW allows users to search any public annotation created by any other user. To do this, users insert some words in the toolbar text area and then click on the rightmost button: the browser opens a new window showing results. Personal private annotations can be searched as well, in the same way.

## Web Note Access

When a new page is opened in the browser, the MADCOW toolbar automatically searches the servers for annotations of that page and, if there are any, displays their placeholders in the proper positions in the page. Users can open an annotation by simply clicking on the corresponding placeholder; a new browser window will open up and load the annotation web page (see Figure). This page is composed of two parts containing, respectively, the annotation body and the annotation metadata, with links to delete or modify the note (authors only). In the first part, the annotation content is presented as follows: for textual annotations, the comment of the user and the attached files are presented; for image annotations, the image is shown with the drawn regions superimposed, a comment and the attached files are displayed on the right of the image.



## References

- [1] P. Bottoni, R. Civica, S. Levialdi, L. Orso, E. Panizzi, and R. Trinchese. Digital library content annotation with the madcow system. In T. Catarci, S. Christodoulakis, and A. Del Bimbo, editors, Proceedings of Seventh International Workshop of the EU Network of Excellence DELOS on Audio-Visual Content and Information Visualization in Digital Libraries, pages 111–116. Centromedia, Viareggio, Italy, 2005.
- [2] Carl Lagoze, Dean B. Krafft, Sandy Payette, and Susan Jesuroga. What is a Digital Library Anymore, Anyway? Beyond Search and Access in the NSDL. *D-Lib Magazine*, vol. 11, n. 11, November 2005.
- [3] P. Bottoni, R. Civica, S. Levialdi, L. Orso, E. Panizzi, and R. Trinchese. MADCOW: a Multimedia Digital Annotation System. In M. F. Costabile, editor, Proc. Working Conference on Advanced Visual Interfaces (AVI 2004), pages 55–62. ACM Press, New York, USA, 2004.
- [4] P. Bottoni, R. Civica, S. Levialdi, L. Orso, E. Panizzi, and R. Trinchese. Storing and retrieving multimedia web notes. In S. Bhalla, editor, DNIS, volume 3433 of Lecture Notes in Computer Science, pages 119–137. Springer, 2005.