

MACE: Deliverable JD8 - Report on training

Citation for published version (APA):

Specht, M., Börner, D., Wolpers, M., Klemke, R., Fischer, M., & Ternier, S. (2009). *MACE: Deliverable JD8 - Report on training*.

Document status and date:

Published: 02/02/2009

Document Version:

Peer reviewed version

Document license:

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- The final published version features the final layout of the paper including the volume, issue and page numbers.

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ECP 2005 EDU 038098

MACE

Deliverable JD8

Report on training

Deliverable number	D3.7, D4.5, D5.9, D6.5 (joint deliverable)
Dissemination level	Public
Delivery date	August 31, 2008
Status	v1.0
Author(s)	HUM, IUAV, FHP, KUL, FIT, IRB, OUNL



eContentplus

This project is funded under the *eContentplus* programme (OJ L 79, 24.3.2005, p. 1.), a multi-annual Community programme to make digital content in Europe more accessible, usable and exploitable.

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1 Overview

The objective of the MACE project is to **interlink repositories to provide simplified access to digital, architectural learning resources**. Gaps resulting from autonomous design, implementation, funding, and maintenance are bridged by implementing conceptual tools (ontologies, glossaries, and standards), interfaces and metadata agglomeration. Consequently, MACE will create innovative e-learning tools that help both expert users and laypeople to find, tag, acquire, use, and discuss contents from many architectural repositories that previously had limited accessibility.

Even though the MACE software is designed to be as self explanatory as possible, it offers a variety of services and tools. In this context, this document reports on **how users of MACE are trained to use MACE tools and to integrate with MACE tools**.

The document is organised as follows:

- Chapter 2 describes general training strategies and approaches and describes them briefly.
- Chapter 3 describes training plans that are prepared for certain topics
- Chapter 4 describes the user helpdesk as an online resource of self training
- Chapter 5 describes the training efforts in presence training
- Chapter 6 describes, how synchronous online training resources will be used

For detailed reference, the APPENDIX contains references to online accessible training materials and documentation

2 Training Strategy

This section describes the different training approaches that form the MACE training strategy.

MACE users are very different in nature. They vary in background, technical skills and experience, learning style. They also vary in the level of support needed and they follow different goals. Additionally, different users vary in learning style.

In order to reflect this variety, we support the following different training approaches:

- The online user helpdesk addresses users, that try to solve problems on their own. It offers training materials as well as online help resources (such as glossary and FAQ). It also offers contact form to get further help
- Presence training sessions offer guided training and presentation sessions to users who prefer to learn in an interactive classroom environment. Here, in depth sessions and hands on experiments can be performed.
- Complemented are the two above mentioned approaches with live training sessions in virtual classrooms. Equipped with video conferencing technology, the experience of a live classroom can be simulated, while VC sessions can be planned at a lower level of involvement.

2.1 Target groups identification

2.1.1 End users

End users comprise schools of Architecture, students, teachers and researchers as well as professional architects and architectural companies, when looking for contents related to the domain of Architecture, Building Technology and Construction, primarily, but not exclusively, within a learning context.

Additional groups of interest include the public sector (e.g. administration departments or town planners), students of related subjects (e.g. historians), information brokers or travel companies.

MACE end users can be subdivided according to three different points of view:

- their professional position (students, teachers, researchers, professionals)
- their purpose and goal using MACE (documenting activity or design problem solving activity)
- their position respect to MACE (independent users or affiliated users)

The professional position

The different professional figures using MACE could be:

- Students of architectural or Engineering courses using MACE to perform or deepen a Documentation Activity or using MACE to improve their design tasks
- Teachers using MACE to support their lecture preparing
- Researchers of Universities or Research Institutes searching for specific information about architecture or civil engineering
- Professionals may they be licensed architects needing information during their professional activity or local administration city planners or technicians
- Self learning users that use MACE as educational platform

The purpose of using MACE

The end users, independently of the activity they perform or the way they know MACE, will approach MACE mainly according to two different goals:

- Documentation activity, a work that can be held by students, teachers, researchers, or other users (as for example professionals or self learning users) approaching MACE to obtain information about history, geographical locations, typologies, techniques and general documentation in the world of architecture, to deepen descriptive aspects, documentation and technical knowledge, but without any design-applied goal
- Design Problem Solving activity, a work usually performed by the designer, may he be a student or a professional, active in sectors as architecture, city plan and civil engineering design

According to the different approaches, also the use of the widgets will be different. Documentation Activity work will privilege the use of simple search, timeline and map widgets. Design Problem solving activity work will privilege browsing contents by classification widget and filtered search, but also the use of the “real world object” functionalities.

User’s relation to MACE

The modalities for end users to discover MACE are several: directly through the web via searching engine or via federated repositories, through dissemination activities, through communities etc... For the training point of view we can essentially divide the end users according to two categories:

- Independent users, using MACE spontaneously without direct contact with the MACE Consortium
- Associated users, using MACE because involved in the project. Associated users are all the expert taggers that use the enrichment tool to index a critical mass of learning objects (L.O.), the teachers involved in MACE that will use it to perform their lectures, the students that will be involved in the experimentation phase and in the evaluating procedure.

According to the category the training activity will be different: self learning through helpdesk for independent users, while training sessions will be held for the involved users may they be students, teachers or expert taggers.

2.1.2 Students as end users

Associated end users, in the experimentation phase and in the evaluating procedure, will be students enrolled in:

- (A) regular courses and Masters at Universities of Engineering
- (B) regular courses at the Universities of Architecture

These courses are:

A) University of Engineering

Engineering (I Level) – Bachelor of Science in Industrial Engineering

- Course:
 - Fundamentals about Building Design

Engineering (II Level) – Master of Science in Structural and Construction Engineering

- Courses:
 - Quality Management
 - Economic and Financial Management in Construction

B) University of Architecture

Architecture (I Level) - Bachelor of Science

- Course:
 - Architectural and Urban Design

Architecture (I Level) - Bachelor of Science in Building Production Architecture

- Course:
 - Computer Assisted Design for Technology Application to Components

Architecture (I Level) - Bachelor of Science in Built Environment Architecture

- Course:
 - 3D Parametric CAD

Architecture (II Level) - Master of Science

- Courses:
 - Laboratory of Construction
 - Architecture Computer Assisted Technological Design
 - 3D Parametric CAD

Architecture (II Level) - Master of Science in Sustainable Architecture of Large Buildings and Urban Design

- Course:

➤ Digital Drawing for Architectural Design

2.1.3 Expert indexers

The group of MACE experts indexers provides L.O. metadata enhancements through a tagging activity. This activity is performed through a dedicated enriching interface using controlled vocabularies.

The group is composed by domain experts in the following fields:

- *Architectural Design*, concerning architecture as a complex applied discipline, which, involving different knowledge may they be connected to the poetic-artistic side (ideas, cultural and social message of a project) or to the technical one (functionality, living wellness, building ease), faces the reasons of conceptual conceiving and of practical construction. Architectural design as a synthesis of different levels of competence and ability: urban scale and building scale design; detailed technology, artisan and industrial design
- *Building Technology*, concerning the fundamental competencies of technological design in architecture, with the goal of enabling description and control of the design solutions at technological level (materials, components, regulations, performance analysis, technological sections and nodes), highlighting their impact on design strategies
- *Construction Management*, concerning the construction process, which is naturally uncertain, non-repeatable and nomadic, extremely complex from an organisational and technical point of view in its variability and in the intensity of the relationships between the operators and their materials

These domain experts are architects or civil engineers working in Universities or research institutes. The professional figures of the expert indexers are:

- Professors, researchers and associated researchers
- Technicians
- Degree candidates in their final years

2.1.4 Managers of external content resources

MACE aims to provide a framework enabling the creation of a tightly integrated comprehensive online digital content base, which should constitute a welcomed facilitating tool during educational practices in the field of Architecture, Building Technology and Construction.

An extensive set of online architectural databases and content repositories with different focuses of interest, collected from teaching practice, student work, encounters at conferences, personal recommendations and online exploration, have been studied and grouped according to common characteristics relevant when evaluating the usefulness and complementariness of their content during educational practices in the field, as well as its quality. A selection thereof has then been made, including not only educational and e-learning repositories, but also sites with

architectural archives, project sites and sites with technical and professional content, such as material or construction knowledge.

Repository owners come from different fields.

- Universities often have collections of architectural data from education and research:
 - teachers can create repositories of student work, e.g. project files from design studio assignments, photographs of maquettes, presentations created by the students
 - teachers can also build up repositories of learning material, including course syllabi, tutorials, exemplary photographs and drawings or 3D models
 - researchers on the other hand, will often build up databases of reference material for a particular field of interest, such as social housing projects, digitized historical documents or publications in a particular research field
- Commercial companies or firms will often create repositories with product or service information, such as descriptions of their systems, to be used by prescribing architects, engineers or contractors as well as information providers in form of bibliographic databases. They might make this information free or non-free, depending on their main source of income (sales of products or sales of services/information)
- Individual architects and offices will create project repositories, describing the realisations and designs of the firm, including descriptions, pictures and drawings
- Special interest groups can create repositories of almost any type of content, being it the collection of information about projects, architects or building technology. There are also many repositories which are relevant for architects, designers or students as reference information, such as sites with 3D models, pictures, software resources or digitized journals

2.1.5 Consumers and Accessors of MACE Services

Apart from setting up services that allow for offering contents to MACE, external parties (repositories, search portals, learning management systems, etc) can also benefit from the metadata that is available in MACE. This can be done at two different levels of granularity:

1. MACE web services constitute an API through which an external party can query or manipulate the MACE metadata. By using these services, the MACE functionality can be integrated in a loosely coupled way into an external application. This requires software developers to generate local stubs that enable external applications to connect to the MACE web services. The SOAP framework, on which MACE builds, provides means to automatically generate this code.
2. Through the use of deployable widgets, various MACE tools can easily be integrated into external web sites. These widgets include metadata manipulation tools which allow for editing contextual, geographic and

classification metadata but also tools for querying the MACE central repository in various ways. Communication with these widgets occurs through http and html and therefore requires little effort to integrate into an existing web site. Behind the curtains these tools communicate with the MACE web services. Another advantage of using these widgets is the abdication of software development skills, as integration can be done by a website designer.

3 Training plans

The MACE consortium develops training plans in order to educate the different target groups in a way suitable for their specific training need.

3.1 How to use the MACE tools?

In joint deliverable D7.1 & D7.3 (Infrastructure & Toolset Prototype) the most relevant MACE tools and how they interrelate is described. Additionally, the functionality and use of the tools is described there.

Generally, the MACE tools are designed with respect to usability. The interaction with the MACE tools is self-explanatory and easy.

However, training plans for the users of the MACE tools differ for the main target groups:

- **End users.** This group of users uses the MACE toolset in order to find, retrieve, access, and reuse information accessible through MACE and the connected repositories. This user group is anonymous, potentially large and perceives MACE as “yet another search engine”. This user group must therefore be addressed by easy to understand and easy to use tools without any need for special training. We believe, that with the design of the MACE tools, this is given. In addition to that, providing online help tools (tutorials, online documentation, glossary, FAQ) available through the MACE helpdesk are the preferred way of training this user group
- **Expert taggers.** These users not only interact with the MACE tools – they influence the contents accessible through MACE and they affect the quality of these contents. Beside the technical use of the tagging tool, background information is necessary. Therefore, we provide the necessary training using presence training sessions in addition to the aforementioned online help tools. See section 5 for detailed information about presence training sessions

3.2 How to integrate a repository in MACE?

External contents to be integrated into the MACE content base are located in different proprietary online repositories and databases, all developed using different technologies and methodologies, and each making use of a particular metadata set to describe its content. Hence, two actions have been necessary to provide the intended integrated view of the content base: (a) the creation of a common content description schema, as to make uniform the information known about the different contents, and (b) the creation of an infrastructure allowing harvesting of those local descriptions (metadata) to a central store, where it can be used and manipulated by the MACE services.

Although this approach keeps changes to participating providers minimal, some work is still necessary to allow for a resource to become part of the MACE content base, namely (a) its local conceptual content description needs to be translated into the MACE description schema, and (b) the repository/DB must become a OAI-PMH¹ data provider by implementing this harvesting protocol and disseminating through it its translated content description as XML-bound MACE metadata instances. The consortium's training effort targeted to content resource managers, hence, will be oriented to enable them to perform these tasks with autonomy, as well during as after the end of the project.

In this direction, deliverable D7.5 (API specification for the integration of additional contents into the MACE infrastructure), publicly available on the MACE website, documents the complete process of inclusion of an external resource as MACE content provider:

1. Mapping the local metadata set to the MACE application profile
2. Setting up an OAI-PMH target from which the MACE system can harvest the mapped metadata
3. Adding the capability to export usage metadata, which will be collected by MACE and used as part of the content's associated information helping to its integration in the global base
4. Enabling the integration of the MACE Bookmarklet in the user's browser to allow him/her to tag contents directly on the web page displaying them
5. Setting up an agreement on the granted user rights of the resource's local metadata and content preview, for MACE and its users

The consortium intends to make this documentation clearer and more complete from the experience of helping external resources to integrate.

As an example, the appropriate use of the MACE classification system is importantly linked to the understanding of its origin, as described in the Analysis Framework (D2.1). Hence, a summarized version of this text would support the conceptual understanding of the MACE classification.

Additionally, it is suggested to make a fully documented glossary available exported from the Protégé system, by not only providing synonyms and translations of the terms, but also short textual descriptions; it might be possible to derive explanatory information about the classification terms from the original sources (architectural standard classification systems).

The actual use of the classification system can be most easily illustrated with the developed classification browser on the MACE portal page and the enrichment tool

¹ The Open Archives Initiative Protocol for Metadata Harvesting: <http://www.openarchives.org/pmh/>

(only for expert taggers). The use of this widget can be demonstrated through a video-tutorial with examples of local metadata mapping and content enrichment.

We also plan hands-on workshops to help developers with the practical implementation of an OAI-PMH target. They'll be organized on request when a sufficient number of providers is interested.

Personalized support in any of the tasks of the integration process is contemplated during the project's run-time.

In all cases, the MACE Helpdesk represents the first contact point for access to documentation, tutorials and request for support or hands-on training

4 Online HelpDesk

The online helpdesk is part of the MACE website. It is the first access point for training materials and helps users to:

- Get a first overview
- Find online help resources (FAQ, Glossary)
- Find online training resources (tutorials)
- Get additional support using the contact form

The helpdesk is organised along different sections, each of which addresses specific user needs:

4.1 About MACE

This section briefly introduces MACE formally and ideally. It states the legal aspects of MACE and motivates, why users should get involved with MACE and which benefit they may expect.

4.2 FAQ

The FAQ is a resource of hands on practical questions and answers. It is organised along typical questions a MACE user might be confronted with. The FAQ will contain sections for end users, content providers, and system integrators. Currently, the sections for end users and content providers are available.

For end users, the FAQ answers the following questions:

- Who are MACE users?
- What can I do in MACE?
- Which content repositories are connected?
- Do I need to register?
- What can I do with the content?
- How can I contribute?
- How does MACE support multilinguality?
- Is MACE related to other software initiatives?
- And to other educational projects and networks?
- What will become of MACE after the project finishes?

- What is the MACE Bookmarklet?

Content providers find these questions answered by the FAQ:

- What contents are accepted?
- How do I contribute?
- What do I get out of joining?
- What do I need to change in my repository?
- Will it take much time/effort?
- How much help will I get?
- Is there a cost involved?
- Do I have specific obligations?
- Will I retain ownership over my content?
- What about the ownership of my metadata?
- How much execution time will MACE take from my repository?
- My repository is not yet on line. Can I still join?
- Are there any technologic requirements my repository must fulfill?
- What happens if I decide to change my content structure?
- The MACE metadata schema
- How can I map my metadata definition onto the MACE schema?
- What should I do when the MACE schema is updated?
- How are my contents identified within MACE?
- What is OAI-PMH?
- What is CAM?

4.3 Glossary

MACE users typically stem from the architectural domain. They will usually not be familiar with terms from the IT and e-learning domains.

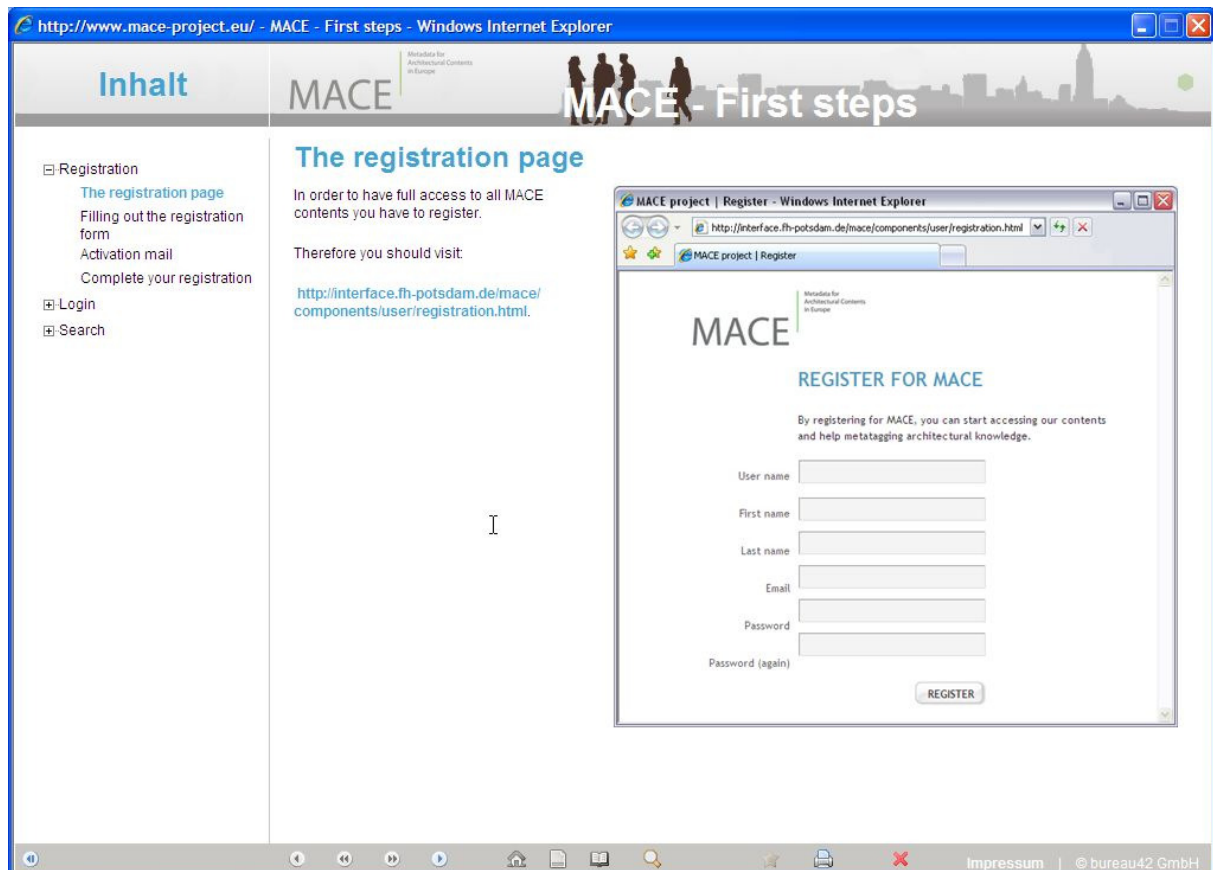
The glossary is a resource of term definitions and explanations, that aims to provide background information.

Currently, the glossary comprises nine term definitions and will continuously grow.

4.4 Tutorials

For in depth training of selected aspects, MACE will offer a set of tutorials, that will be put online in the tutorials section.

Currently, a first step-by-step tutorial for basic end user features (registration, login, search) is available. Further tutorials will be produced.



Screenshot of the MACE end user tutorial

To simplify the follow-up development of further tutorials, a common design template has been developed that is used in combination with the e-learning authoring tool author42 (available at no cost to the consortium by consorcial partner Humance).

4.5 Contact form

For all questions, that can not directly be addressed on the website, a contact form has been set up. It allows users to directly ask questions to the MACE team. By self classification, user questions can easily be directed to the correct contact person.

5 Presence training sessions

At different occasions, MACE tools are presented to a live audience. Wherever possible these presentations are framed with live training sessions, where MACE tools and their usage are demonstrated, explained, and trained.

5.1 Developer workshops for connecting repositories

KUL also participates in the MELT project. In this project, two workshops¹ have been organized to provide a hands-on session on accessing the MELT infrastructure. During these two-days events, developers were taught how to set up an OAI-PMH interface (day 1) and how to connect to the MELT SQL interface (day 2). On these events, each developer was guided in creating the interface for his own repository, reusing software libraries for the different technologies as much as possible. Note that although these events were targeted towards the MELT audience, we have welcomed MACE participants on both events.

MACE will organize a workshop with a similar plot, if several (3 or more) repositories would be interested in additional training on setting up an OAI-PMH target. If that is the case, most of the work can be performed in a single day of work as follows:

- Before the workshop, participants will be asked to read through the documentation on OAI-PMH and the LOM application profile for disseminating MACE metadata records
- During the workshop, participants will be guided in setting up a basic OAI-PMH target that disseminates LOM records. The main focus of this day is on bringing the various software systems together and to work towards a minimal implementation that can be extended and perfected later
- After the workshop, we will urge participants to finish the code and deploy it on their repositories. Next, we will use the MACE validation framework as a feedback mechanism. With this infrastructure we will validate the OAI-PMH framework, check whether the metadata that is disseminated validates against all rules specified in the MACE application profile and communicate the results to the developers

It is imperative to have experienced developers available and workshop participants are suggested to bring a laptop with a fully working shadow copy of their system, possibly with a subset of the actual records.

¹ <http://www.cs.kuleuven.be/~hmdb/SqiOaiMelt/agenda.php>,
http://info.melt-project.eu/www/en/pub/melt_project/news/lre_developers_workshop_.htm

5.2 Protégé introduction at MACE GA

To simplify the maintenance of the MACE vocabulary we decided to use an ontology management software. After discussions about the requirements with the expert taggers and the developers of the MACE front end services which need access to the vocabulary (e.g. the web based MACE content enrichment tool) we decided to use Protégé. Protégé is a free, open source ontology editor, developed at Stanford Medical Informatics, Stanford University. For further details about Protégé please see <http://protege.stanford.edu/>

As the system was running we wrote a tutorial which is continuously updated and extended. The latest version of this tutorial can be found here: http://wiki.mace-project.eu/index.php5/Technology#Vocabulary_Service_-_How_to_use_Proteg.C3._GUI

Additionally we had discussions with the users via Skype, chat and email about how to use Protégé and how to extend the functionalities in a proper way.

At the MACE GA we had a presentation about the representation of the vocabulary in Protégé and the usage of the Protégé tool. Thereafter we illustrated the usage of Protégé in a live demonstration. Here we had the chance to directly resolve problems with the handling of Protégé and could gather feedback about the main problems to change the user interface in a proper way or to extend the written tutorial.

Additionally we had discussions in smaller rounds at the MACE GA about the requirements which the Protégé web services should meet. Thereafter we wrote a description of the web services and prepared a java class library and an example java file to facilitate the access of the vocabulary via the web services. The description and further links can be found here: http://wiki.mace-project.eu/index.php5/Web_Services#Vocabulary_Service

The support of the users takes place via Skype and email when problems with the system or questions about the maintenance of the vocabulary arise.

5.3 Usage of indexing interface

We had two dedicated presence training sessions for the indexing interfaces. However, as the EnrichmentTool has been one of the first and most basic interfaces, most introductions and tutorials have been given via electronic ways, both in asymmetrical communication (e-mail, Wiki-pages), as well as in live sessions (Skype and Flashmeeting conferences). Furthermore, we had a beta-testing with a walkthrough on how to use the application, where the containing detailed instructions helped a lot to teach the experts.

At the consortium meeting before the MACE review at FHP, Potsdam we had half a day of a hands-on training session with direct feedback possibilities. Most of the attending architecture and engineering experts already had seen and many were

beta-tester of previous versions of the EnrichmentTool, and thus were familiar with the basic interface and its interaction possibilities.

The objective of this session was two-fold: To become more experienced with the tool, and to gather immediate, oral feedback from the participants.

The group, led by one of the interface designers, collaboratively formed multiple fine-grained and detailed examples, to see how tasks from the afore developed user scenarios can be achieved. These real-world examples jointly were shaped by the experts, and directly entered in the interface, to show how to best use the EnrichmentTool and its search, classification, and enriching interfaces.

In early December there has been an interface workshop with architects and interface designers at IUAV, Venice. Main goal of this workshop was to gather and track requirements for the user interfaces. At this point the tools have been used intensively, so the feedback was based on experience, and more detailed and concrete. Among others the new version of the EnrichmentTool and preliminary versions of the ClassificationWidget have been presented and discussed. (Further topics were how to use the indexing terms to show relations between the contents, and how to integrate classification with other metadata, such as on a map.)

We are planning to present the indexing interfaces in a classroom environment. This currently is in an early stage, but as the results from previous questionnaires and workshops were positive, we are convinced the existing tutorials and manuals are good and [adequate](#) to be used as basic source material.

5.4 MACE conference at “La Biennale di Architettura 2008” in Venice

Within the context of MACE a two-day international conference, entitled “Online Repositories in Architecture”, is organised in Venice during the period of “La Biennale di Architettura 2008” on 20-21 September by EAAE (European Association for Architectural Education) and Collaboratorio (Italy) from the MACE project partnership.

The Venice conference offers the opportunity to make MACE known to a wider public and, mostly, to summon educators, researchers, students, archivists, IT practitioners, and managers of major European architectural portals in order to share knowledge and experience, to convey approaches and research, to promote conceptual and technological tools, to search for common or integrated visions.

Conference participants will also learn how to tag, classify, find, retrieve, use and make available digital architectural contents, scattered over different websites, databases, and digital archives on the Internet.

The conference is structured around a series of 20 presentations of selected papers, complemented with round table debates, outlined in three sessions on the following topics:

1. “Education: Teaching Architecture in the Digital Age”
2. “Digital Architectural Archives: Preservation, Dissemination and Use”
3. “An European Network of Architectural Contents”

5.4.1 “Education: Teaching Architecture in the Digital Age”

To a larger and larger extent learning objects become available via electronic means, in regular teaching environments as well as in learning modes besides and after graduation. Knowledge is out of date in five years time and grows so fast that regular teaching in school can not cope with this knowledge boom in a comprehensive way. Therefore academic teaching evolves into teaching of principles, methods, and attitudes, into a state of mind allowing lifelong learning (LLL). Subjects for LLL are produced by universities, practice, and industry. They are disseminated via conferences, short courses and more and more via e-learning formulas as has been the case in a lot of universities since many years.

Today materials for e-learning – called learning objects – are prepared by specialists, somewhere on earth, disseminated via electronic communication means and shared amongst distant users. E-repositories play a role of growing importance in this context and this session of the conference focuses on the role of e-repositories in LLL in architecture.

The Venice conference offers the opportunity to discuss experiences and research either on the following topics or related ones:

- Teaching and learning architecture using e-learning tools and/or digital resources
- Teaching and learning attitudes triggered by digital environments
- E-repositories for e-learning and life long learning purposes: how to structure their contents
- Tools to navigate e-repositories
- Tools for e-learning purposes
- Use cases on e-learning architectural environment

5.4.2 “Digital Architectural Archives: Preservation, Dissemination and Use”

There are two kinds of digital archives, spontaneous archives, provided by contemporary architectural firms which use computers throughout the whole design process, and the former paper archives, which have gradually being transferred to

digital media in order to preserve them and to enhance their diffusion. Both archives may provide useful first-hand information that has to be improved and opened to a large public of scholars, archivists, and professionals. Yet, spreading these archives to a general public poses some problems. In spontaneous archives, each document (presentation, 2D - 3D drawings, animations, renderings, pictures, videos, texts, etc.) has its own format, and needs a specific program to be opened; information contained in each document is frequently layered, in fact each file can contain texts, images, animations, pictures, hyperlink, etc. at the same time. Paper archives raise the following questions: the dilemma of what file format has to be used when transferring the information contained in the original paper document to the digital one; the problem on how to make the chosen file formats sustainable knowing that each year new ones blossom out.

Finally, nowadays, neither of both kinds of archives have any standard, or shared recommendation in order to classify and tag documents, nor advanced and powerful search tools capable of guiding users through a great deal of resources and information.

The Venice conference provides the opportunity to discuss either the following topics or related ones:

- Archiving standards
- Navigation tools
- Interoperability
- Multilingual and multicultural approaches
- Dissemination and use of digital archives
- IPR
- Use cases

5.4.3 “An European Network of Architectural Contents”

Websites and portals devoted to architecture and websites of professional architects have a considerable amount of resources (pictures, renderings, 2D-3D drawings, details, texts, videos animations, information) continuously updated and enriched. However this material is often disorganized, poorly structured, not properly tagged, and has no advanced and coherent search systems enabling cross-referencing among the available documents. As a lot of very interesting resources often remain inoperative and useless, lost in the abyss of (sometimes unknown) databases.

Moreover, very often, each website is an isle on the Internet that does not communicate with its brothers and sisters and remains alone with a lot of difficulties to survive, renovate, and update tools and the way contents are provided and organized.

The Venice conference is the first international meeting of architectural portals, summoning directors and/or founders of major European websites, in order to discuss all together either the following topics or related ones:

- Information architecture and knowledge organization of contents
- Which contents for what kind of people and purposes
- Interfaces, searching, and browsing tools
- Architectural portals and their goals
- User communities and web 2.0
- Interoperability
- Multilingual and multicultural approaches
- IPR
- Use cases
- Feasibility, implementations and viability of a super-network of shared e-repositories from different websites
- Implementation of virtual super-networks and impacts on the original repository

6 Online training sessions

Online training sessions using easy to use video conferencing software will be scheduled to address a wider, distributed audience. We plan to provide online training sessions in order to complement presence training sessions. As with presence training sessions, these online training sessions will be scheduled on demand and address the same topics.

A variety of tools is available at low cost (or even free) to support online sessions. Experience in using these tools is given in the MACE consortium, as weekly meetings are already scheduled using video conferencing tools.

APPENDIX

The appendix lists online accessible training resources.

- The online helpdesk is accessible at:
<http://www.mace-project.eu/helpdesk/>
- The helpdesk provides further access to FAQ, Glossary, Tutorials, Contact form
- The protégé tutorial can be found here:
http://wiki.mace-project.eu/index.php5/Technology#Vocabulary_Service_-_How_to_use_Proteg.C3.GUI
- Information about the MACE conference is online available at:
http://www.mace-project.eu/index.php?option=com_content&task=view&id=81&Itemid=94