



The 14th International Conference on Virtual Systems and MultiMedia

VSMM 2008

Limassol, Cyprus
20-25 October 2008

Workshops on Digital Heritage

Workshops Chair: Denis Pitzalis

VSMM2008 Chairs:

M. Ioannides, A. Addison, A. Georgopoulos and L. Kalisperis



Terrestrial Laser Scanning for Cultural Heritage Recording

Chairs: C. Ioannidis, A. Georgopoulos

Room: Athenaeum 1

Abstract: Terrestrial laser scanning (TLS) is a well established method for the acquisition of precise and reliable 3D space information for medium to large scale applications especially concerning Cultural Heritage objects. Terrestrial laser scanning is successfully used to acquire highly detailed surface models of objects like building facades, churches and other historical buildings, statues, jewels, artifacts, etc., useful for 3D representations, reproductions and object analysis. However, the research problems like automatic registration, feature extraction and 3D modeling are still investigated.

The workshop is planned to address the needs of interested persons to get a fast break-in course in Terrestrial Laser Scanning and its use for cultural heritage recording and documentation. The essentials of TLS systems will be briefly presented and focus will be given to hands-on experience for planning and executing fieldwork and processing of the point clouds later up to the final product.

The workshop hopes to bring together scientists and researchers from various disciplines, like architects, surveyors, archaeologists, civil engineers, etc and prospective end users, who lack special knowledge and experience on TLS uses and point clouds processing. Recent developments in laser scanner data processing and the potential of the technique and future trends in 3D data processing will be practically demonstrated.

Website: <http://www.survey.ntua.gr/main/index-e.html>

Workshop Programme: Monday 20th

14:00 – 15:00	Introduction in 3D recording, Laser scanning, Point-Cloud Processing <i>C. Ioannidis, A. Valanis</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 17:30	Field Data Acquisition <i>C. Ioannidis, A. Georgopoulos, A. Valanis</i>
17:30 – 17:45	<i>Break</i>
17:45 – 19:30	Data Processing – 3D modelling <i>C. Ioannidis, A. Valanis</i>



The European Commission COINS Project

Chair: Franco Niccolucci

Room: Athenaeum 3

Abstract: The COINS project aims at providing a substantial contribution to the fight against illegal trade and theft of coins that appears to be a major part of the illegal antiques market. For this goal, state-of-art Information Technology will be used. The project will develop standardized inventories by defining a domain ontology based on CIDOC-CRM, the standard ontology for Cultural Heritage, and a multilingual thesaurus. Data management tools will be created, as well as a specialized web search tool.

The recognition of coins will be based on new algorithms of pattern recognition and image processing, in a field (classification and identification of ancient coins) as yet unexplored. The project will disseminate its results also by means of a demonstrator freely accessible on the Internet. Substantial contribution to the project will come from stakeholders, some of which are present in the partnership, which includes the Italian law enforcement organization Carabinieri and three major national museums with important coin collections.

Website: <http://www.coins-project.eu/>

Workshop Programme: Monday 20th

14:00 – 14:30	The Coins Project – An Overview <i>S. Hermon</i>
14:30 – 15:00	An Innovative Approach to Ancient Coins Image Search on the Internet <i>S. Saccenti</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:00	Algorithms for Classification and Identification of Ancient Coins <i>M. Kampel</i>
16:00 – 16:30	An Ontology for Numismatics <i>A. D'Andrea</i>
16:30 – 17:00	A Semantic Approach for Data Archiving and Retrieval of Ancient Coins Databases <i>A. Felicetti</i>

Heritage 3.0: Virtual Communities and 3D Worlds

Chairs: Maurizio Forte, Lily Diaz

Room: Athenaeum 1 and 2

Abstract: the immense and incessant growth of the digital information metabolism of Internet has created unpredictable results in a very short time: millions of people are inter-connected and able to share and construct cybernetic contents, but what type of contents? Is this overload of information really able to create new forms of learning and cultural transmission? What kind of information is transmitted to the future? What expectations can we have from the new virtual ecosystems? What we know is that this digital eco-culture creates different relations and feedback; we are moving in the era of the 3D cyberspace where we assist to the embodiment of cross cultural and multidisciplinary communities. If in the past decade, the Internet was principally based on multimedia browsing and structured contents, the new generation of Web is self-organized and reticular, made by de-structured contents and by 3D self-made cyber-spaces. Can this continuously evolving universe of information really construct communication, knowledge and culture? Every complex phenomenon needs time to be monitored and studied, so it is difficult to have an answer today.

We could define the multiuser environments of cyberspace as “mirror communities”, because every user/avatar/models-maker makes their knowledge throughout the feedback of other users/avatars, so in some way their activity is reflected in/from other activities. Moreover the user can see them self from any spatial perspective, so they are embodied in the system; this embodiment constitutes the new frontier of the informational and communicational process. Every information is surrounded by reticules of additional information, like a universe able to contain infinite sequences of other worlds. How can we define this embodiment? In the ecological thinking the learning process depends on the capacity to produce difference between organisms and ecosystems (Bateson, 1979). Therefore, is the embodiment able to produce difference?

There is a fundamental difference between traditional virtual communities and embodied communities: the first ones use mainly 2D interfaces and chatting, the second ones use 3D dynamic behaviours and interactions. Additionally, embodied communities use a principle of enaction for perceiving and constructing the information. It seems evident that embodiment depends on the level of the engagement inside the cyberspace: so, in theory, the embodied communities should learn and transmit more knowledge and in a shorter time than the traditional “chatting” communities. Unfortunately to transmit knowledge does not mean to transmit cultural information; we have a very limited understanding of how the virtual spaces created by different software and environments differ in the impact on user interactions and cultural learning. This phenomenon has developed a specific terminology: cyberspace, cyber communities, cyber culture, cyber universe, metaverse, cyber anthropology, cyber sociology, usability, user experience, and lastly, cyber archaeology. The need to create new ontologies to reflect the new state of existence can be explained from the growth of the embodied communities and from the birth of distributed forms of digital and social popularization such as the cyber games. The embodied information and the creation of cyber spaces for the archaeological and cultural consumption and communication can represent a totally innovative gateway to the simulation and reconstruction of the past.

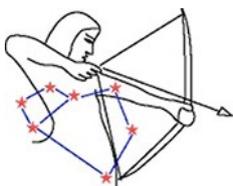
Website: <http://www.virtualheritage.net/>

Heritage 3.0: Virtual Communities and 3D Worlds

Workshop Programme: Tuesday 21th

14:00 – 14:20	Heritage 2.0: Strategies for Safeguarding a Disappearing World in the Network Age <i>Alonzo C. Addison</i>
14:20 – 14:40	3D Globally Accessed Monuments Experiment (3D-GAME): the UT Dallas-Missouri S&T effort <i>C. Aiken, M. Alfarhan, L. White, M. Abdelsalam</i>
14:40 – 15:00	Towards an Eco-Systemic and Interaction-Centered Approach in the Development of Virtual Environments for Cultural Heritage <i>E. Bonini</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:00	Virtual Reconstruction of the Finnish Pavillon at the World Fair in Paris, 1900 <i>L. Diaz</i>
16:00 – 16:30	Embodied Communities, Second Life and Cyber Archeology <i>M. Forte</i>
16:30 – 17:00	Musing the Metaverse <i>S. Hazan</i>
17:00 – 17:30	Archaeology Research and Education Network of the Mediterranean Region <i>W. Edward Johansen</i>
17:30 – 17:45	<i>Break</i>
17:45 – 18:15	Building Archaeological Landscape On-Line: Virtual Rome Web-Lab <i>S. Pescarin</i>
18:15 – 18:45	Collaborative Environments in Archeology <i>E. Pietroni</i>
18:45 – 19:15	A Holistic Approach to Cultural Heritage Documentation <i>F. Saleh</i>

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CHIRON

Chair: Sorin Hermon

Room: Athenaeum 3

Abstract: CHIRON is a Marie-Curie EU-funded project providing research training fellowships for graduates wishing to start a research career in the field of IT applications to the research, conservation, and presentation of tangible Cultural Heritage. The project will consist of a joint training program and individual research carried out by fellows within a co-ordinated framework at participating partner institution. CHIRON has a duration of four years with an overall budget of about 2 MEuros.

The workshop will see the participation of CHIRON fellows, who will present their research achievements and CHIRON host coordinators, who, together with all participants, will discuss lessons learned from the project and perspectives for the future.

Website: <http://www.chiron-training.org/>

Workshop Programme: Tuesday 21th

15:30 – 15:50	Museum, Communities and Web 2.0 <i>L. B. Shahani</i>
15:50 – 16:10	Visibility of Chalcolithic Mortuary Sites in the Southern Levant: GIS Perspectives <i>P. Ronzino, I. Gilead, P. Fabian</i>
16:10 – 16:30	The Good, the Bad and the Ugly: The Wild West of On-line Coin Sales <i>M. Sifnioti</i>
16:30 – 16:50	Augmented Objects – See the Artifacts, Feel the Replica <i>T. Weise</i>
16:50 – 17:10	Automated Hand Animation for Museum Applications <i>H. Hame</i>
17:10 – 17:30	Online access to digital collections <i>I. Gill Fuentetaja</i>

Digitizing the Past and the Present for the Future: Double-Click on the Cultural Heritage Content: Challenges and Solutions

Chairs: Maria Daphne, Achilleas Demetriades

Abstract: In the recent years substantial progress has been achieved in the digitization of Cultural Heritage and the provision of access to objects held by memory institutions. Nevertheless, the successful development of ICT technologies cannot conceal that barriers to the full unfolding of large-scale, inclusive cultural content digitization, still exist. While the process of technology take-up throughout the various types of organisations and memory institutions is still open-ended and organisational tasks remain, the cultural and legal arena will continue to be a source for challenges regarding novel solutions.

Digitizing the Cultural Heritage treasures on a European -and not only- level provides the need for concrete actions regarding users and content, economic sustainability, technological development and tools and digital memory preservation. Challenges are also visible in fragmentation, multilinguality, the configuration of knowledge realms, enhanced re-usability of content and suitable application levels that relate to heritage institutions' and users' demands in an effective manner. Additionally tensions between universal access to Cultural Heritage online and the varying copyright and other issues seem to constitute an important impediment to the progress of this undertaking; the crucial question is: Could all those obstacles be surmounted or not?

The round table will endeavor to provide answers and for this purpose will bring together international experts in content technologies for Cultural Heritage to further development at the interface of cultural institutions and leading edge technology. What this event will strive for is a worldwide collaboration in this area, the establishment of channels of cooperation and bridges of communication between the various disciplines involved in Cultural Heritage. It is clear that the aim is to digitize the present and the past, to make it wide accessible and to preserve it for the future create in a "Hi-tech" history.

Workshop Thursday 23th Round Table Discussion; Starting at 14:00

Recording for Posterity: Digital Tools for Documenting Heritage Places

Chair: Mario Santana

Room: Athenaeum 1

Abstract: Heritage information plays an essential role in the adequate preparation, implementation and monitoring of conservation strategies. Good decisions in conservation are based on timely, relevant and sufficient information recording and site analysis play an important role in understanding the significance of heritage places. Yet there exist significant “gaps” between what heritage users need and what technology users provide, as identified by the RecorDIM initiative (a joint effort of the Getty Conservation Institute and CIPA concluded in 2007). To address these gaps often apparent in the poor quality and relevance of documentation in conservation this workshop will present the processes and technologies of digital heritage documentation followed by illustrated case studies of the tools at work.

Workshop Programme: Thursday 23rd

15:30 – 15:45	Principles for Adequate Heritage Documentation <i>M. Santana</i>
15:45 – 16:15	Heritage Recording: Sensors to information repositories <i>A. Addison</i>
16:15 – 16:30	Heritage Recording Using Image-Based Techniques <i>J. L. Lerma</i>
16:30 – 16:45	Spatial Information Systems: A Practical Tool to Share and Distribute Knowledge about Cultural Heritage <i>F. Rinaudo</i>
16:45 – 17:00	Emerging Heritage Recording Tools <i>B. Van Genechten</i>
17:00 – 17:30	Roundtable Discussion <i>M. Santana, A. Addison</i>



European Union Projects MICHAEL/MINERVA

Chair: Sara di Giorgio

Abstract: The workshop is intended to provide an inside view of the results produced by MINERVA and MICHAEL initiatives, with regards to all the projects carried out since 2002 under the coordination of the Italian Ministry of Cultural Heritage and Activities and involving the Ministries of Culture of all the EU Member States.

Namely, the results of MINERVA and MICHAEL projects will be presented:

MINERVA, MINERVA, MINERVA+, MICHAEL and MICHAEL+

Websites: <http://www.minervaeurope.org>

<http://www.michael-culture.org/>

Workshop Programme: Thursday 23rd

14:00 – 14:15	General Presentation of the Framework Projects and Overview of the Results Achieved
14:15 – 14:30	Q&A
14:30 – 15:00	MINERVA Guidelines for Digital Cultural Content Creation: Interoperability and Quality of the Digital Resources and Services
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:30	MINERVA Tools for Quality, Usability and Accessibility of Cultural Web Applications - Museo&Web
16:30 – 17:00	MINERVA Handbook on Cultural Web User Interaction
17:10 – 17:30	Q&A
17:30 – 17:45	<i>Break</i>
17:45 – 18:15	Introduction to the MICHAEL Technical Architecture and Interoperability Standards
18:15 – 18:45	Introduction to MICHAEL Data Model and MICHAEL Dublin Core Application Profile
18:45 – 19:00	Q&A
19:00 – 19:20	Demonstration and Practical Use of the MICHAEL Services
19:20 – 19:30	Conclusions

Multilingual and Multimedia Access to Cultural Heritage Digital Objects: the MultiMatch Solution



Chair: Pasquale Savino (*ISTI-CNR, Italy*)

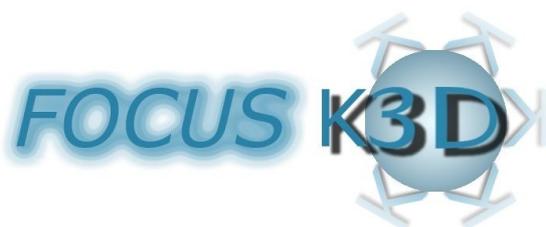
Abstract: Cultural heritage content is everywhere in the Web, in traditional environments such as libraries, museums, galleries and audiovisual archives, and also in popular magazines and newspapers, in multiple languages and multiple media. The aim of the MultiMATCH project is to enable users to explore and interact with online accessible cultural heritage content, across media types and language boundaries.

The workshop will present the most recent results of the MultiMatch project emphasizing the solutions adopted to address specific user needs. The approach followed to support interoperability between the different sources of Cultural Heritage information, and the use of the MultiMatch system in different applicative settings will be discussed. The final version of the MultiMatch system prototype will be demonstrated to show the functionality provided to support multilingual search and browsing of CH objects and multimedia retrieval. The workshop will also offer the opportunity to discuss future trends in the field of multilingual and multimedia access to cultural heritage digital objects.

Website: <http://www.multimatch.org/>

Workshop Programme: Thursday 23rd

15:30 – 15:50	Introduction <i>P. Savino (ISTI-CNR, Italy)</i>
15:50 – 16:15	User Requirements in the Cultural Heritage Domain <i>S. Habibi Minelli (Alinari 24 Ore S.p.A, Italy)</i>
16:15 – 16:45	Metadata in the Cultural Heritage Domain <i>J. Oomen (Netherlands Institute for Sound and Vision, The Netherlands)</i>
16:45 – 17:10	Presentation of the MultiMatch System <i>F. Debole (ISTI-CNR, Italy)</i>
17:10 – 17:30	Demo <i>JM. Cigarran Recueroo (UNED, Spain)</i>
17:30 – 17:45	<i>Break</i>
17:45 – 18:10	User Feedbacks <i>R. Aniello, R. Mazza, (WIND, Italy), R. Carrasco (Biblioteca Virtual Miguel de Cervantes, Spain)</i>
18:10 – 19:20	Invited Speakers <i>Antonella Fresa (IMAGINATION), Kate Fernie, Giuliana De Francesco (MICHAEL), Rob Davies (Europeana and EuropeanaLocal)</i>
19:20 – 19:30	Conclusion of the Workshop <i>Pasquale Savino (ISTI-CNR, Italy)</i>



FOCUS K3D: Promoting Semantic 3D Media

Chairs: Manolis Vavalis, Marios Pitikakis

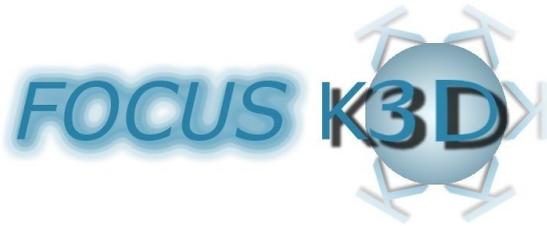
Room: Athenaeum 3

Abstract: FOCUS K3D is an EU-funded Coordination Action that aims to exchange and disseminate novel ideas and techniques in the emerging research field of semantic 3D media. The project also focuses on identifying current issues on knowledge intensive 3D media, trace future research and technological directions, and establish new partnerships to promote innovative projects addressing a highly multi-disciplinary community, both from academia and industry: scientists not only in CG but in all the disciplines that make strong use of 3D modelling and simulation; professional developers of tools for 3D content creation and management; publishers/dealers of 3D repositories on line; creators of digital 3D content.

3D content is widely recognized as the upcoming wave of digital media and it is pushing a major technological revolution in the way we see and navigate the Internet. Beside the impact on entertainment and 3D web, the ease of producing and/or collecting data in digital form has caused a gradual shift of paradigm in various applied and scientific fields: from physical prototypes and experience to virtual prototypes and simulation. This shift has an enormous impact on a number of industrial and scientific sectors, where 3D media are essential knowledge carriers and represent a huge economic factor in many content sectors.

Thanks to the technological advances, we have plenty of tools for visualizing, streaming and interacting with 3D objects, even in much unspecialized web contexts (e.g., SecondLife). Conversely, tools for coding, extracting and sharing the semantic content of 3D media are still far from being satisfactory. Automatic classification of 3D databases, automatic 3D content annotation and content-based retrieval have raised many new research lines that represent nowadays some of the key topics in Computer Graphics and Vision research. At the same time, knowledge technologies, such as structured metadata, ontologies and reasoners, have proven to be extremely useful to support a stable and standardized approach to content sharing, and the development of these techniques for 3D content and knowledge intensive scenarios is still at its infancy.

Website: <http://www.focusk3d.eu/>



FOCUS K3D: Promoting Semantic 3D Media

Workshop Programme: Friday 24th

14:00 – 14:30	From Geometric to Semantic 3D Content: The FOCUS K3D Initiative <i>B. Falcidieno</i>
14:30 – 15:00	Semantic Characterization of 3D Shapes <i>M. Spagnuolo</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:00	Digital Heritage through Knowledge Management of 3D Artifacts <i>M. Vavalis</i>
16:00 – 16:30	A Semantic Based Framework for Managing, Searching and Retrieving 3D Resources <i>M. Pitikakis</i>
16:30 – 17:30	Round Table Discussion



Archives Infrastructure: Infrastructure for Digitized Cultural Content in Europe

Chair: Romana Krizova

Room: Athenaeum 1

Abstract: This workshop will describe progress and explore best practice and prospects for the creation of an infrastructure and common standards for the delivery of services at regional, national and European level based on digitised cultural heritage. In addition to presenting central actions in the development of the Europeana prototype service, the workshop will also refer to the infrastructural work of a series of new projects funded under eContentplus such as EDLocal, European Film Gateway, Athena, APE and Arrow Following this, cases of successful end-user service provision based on emerging infrastructure will be presented and discussed, such as national cultural portals and other innovative developments, including the potential for deployment of Semantic Web, Web 2.0 and social networking approaches in cultural sector services. There will also be discussion of techniques for institutional management of digital cultural assets at institutional and aggregator levels. The workshop will identify ways in which cross-domain interoperability are being attained and identify aspects which require further attention. The audience for the workshop is intended to be policy makers and management level practitioners in the cultural heritage sector with some technical overview: it is not specifically aimed at a detailed technical level.

Website: <http://www.europeanalocal.eu/>



Archives Infrastructure: Infrastructure for Digitized Cultural Content in Europe

Workshop Programme: Friday 24th

14:00 – 14:20	Europeana and EDLocal: An Introduction to Key Infrastructure Components <i>Rob Davies</i>
14:20 – 14:40	The role of National and Regional Aggregators <i>M. Werla</i>
14:40 – 15:00	CulturaItalia: the Italian Culture Portal <i>Sara Di Giorgio</i>
15:00 – 15:30	<i>Coffee break</i>
15:30 – 15:50	Building Cultural Portals – Good Practice <i>T. Siegmann</i>
15:50 – 16:10	Economic Aspects of Digitisation and Sharing of Cultural Heritage Repositories in Connection to National Strategies <i>R. Křížová</i>
16:10 – 16:30	Portal of culture – the digital information system <i>E. Krissak</i>
16:30 – 16:50	Building Cultural Portals – Good Practice <i>BnF, France</i>
16:50 – 17:10	Building Cultural Portals - Good Practice <i>M. Karvonen</i>
17:10 – 17:30	Creating Innovative On-Line Services Based on Distributed Content Aggregations <i>B. O. Dahl</i>
17:30 – 17:50	<i>Break</i>
17:50 – 18:10	People's Network Discover Service <i>N. Poole</i>
18:10 – 18:30	The Way Forward in Cyprus <i>F. Niccolucci, M. Ioannides</i>
18:30 – 19:00	Panel Discussion

Licensing, Metadata and the Use / Reuse of Digital Heritage

Chairs: Eric C. Kansa, Sarah Witcher Kansa

Room: Athenaeum 2

Abstract: Creative Commons licenses are seeing increasing use in scholarly communication, including applications in the heritage sector. While Creative Commons offers a range of licensing choices, some of them may not be optimal for encouraging scholarly, instructional or artistic reuse of digital heritage content. Furthermore, these licenses are based on copyright and there are important policy questions around whether or not any form of copyright protection is appropriate for certain types of cultural heritage content. In some circumstances, the public domain may actually be a more appropriate place for heritage content. In this vein, the new Science Commons Open Data Protocol is an intriguing direction that deserves consideration from a policy perspective, particularly where the primary aim is to maximize the exposure and reuse of content.

Along with these licensing questions, this workshop will also address important technical metadata and data standard issues. We will discuss licensing metadata as well as various data formats that enhance the portability of content, easing its use across multiple applications. The Open Context data publication system will be referenced to discuss implementation strategies around licensing, metadata and data portability.

This workshop will appeal to creators of digital cultural heritage content, policy makers, educators and members of the community interested in creative works based on world heritage. Participants will be encouraged to engage in lively exchanges around the above topics.

Website: <http://www.alexandriaarchive.org/>

Workshop Programme: Friday 24th

14:00 – 15:00	The Landscape of “Openness”?
15:00 – 15:30	<i>Coffee break</i>
15:30 – 16:30	Incentives and Options for Sharing Cultural Heritage
16:30 – 17:30	Openness and its Discontents: Current and Future Directions for Cultural Heritage On-Line
17:30 – 17:50	<i>Break</i>