Introduction to the Multimedia Semantics Issue

The Fourth Special Workshop on Multimedia Semantics (WMS'06) was held in Chania, Crete, Greece on June 19-21, 2006. Organized by the Technical University of Crete, Kettering University (Flint, Michigan, USA), and the Institute of Mathematics and Informatics (Sofia, Bulgaria), this workshop continued the tradition of standard paper presentations in the field of multimedia semantics, together with intense discussions of researcher position statements. Topics represented included multimedia annotation, multimedia authoring, multimedia ontologies, experiential computing, emergent semantics, personalization, and knowledge representation. Researchers from Austria, France, Germany, Greece, Israel, Italy, Japan, United Kingdom, and the United States participated.

This issue of the Journal of Digital Information Management contains some of the papers presented at this workshop, as will the next issue.

The first paper in this issue, Semantic, Constraint & Preference Based Authoring of Multi-topic Multimedia Presentations, by C. Tsinaraki, A. Perego, P. Polydoros, A. Syntzanaki, A. Martin, and S. Christodoulakis, presents an approach to semi-automatically generate virtual multimedia presentations from previously annotated multimedia objects, stored in MPEG 7/21 repositories.

The second paper, GraphOnto: OWL-Based Ontology Management and Multimedia Annotation in the DS-MIRF Framework, by P. Polydoros, C. Tsinaraki and S. Christodoulakis, describes a software component that supports, by enabling information hiding, the construction of both upper and domain OWL ontologies for resources stored in multimedia repositories.

The third paper, User Interactions with Multimedia Repositories using Natural Language Interfaces: an Architectural Framework and its Implementation, by A. Karanastasi, A. Zotos, and S. Christodoulakis, presents an architectural framework for constructing and using natural language interfaces to multimedia repositories. This approach utilizes user profiles to modulate the disambiguation overhead.

The fourth paper, Some Issues in the Art Image Database System, by P.L. Stanchev, D. Green, Jr., and B. Dimitrov, examines the uniqueness of art image databases among other multimedia repositories. Various techniques for enhanced retrieval performance in this environment are devised and illustrated.

The fifth, and final, paper in this issue, Design and Evaluation of Semantic Similarity Measures for Concepts Stemming from the Same or Different Ontologies, by E.G.M. Petrakis, G. Varelas, A. Hliaoutakis, and P. Raftopoulou, discusses the notion of semantic similarity of terms and concepts, via various ontology mappings. Comparing concepts utilizing mappings to the same ontology or to different ontologies are presenting, using WordNet and MeSH.

The next issue of the Journal of Digital Information Management contains some more of the papers presented at the Fourth Special Workshop on Multimedia Semantics (WMS'06), held in Chania, Crete, Greece on June 19-21, 2006.

The first paper, Analysis of the Data Quality of Audio Descriptions of Environmental Sounds, by D. Mitrovic, M. Zeppelzauer, and H. Eidenberger, analyzes in detail the efficacy of the various audio features present in MPEG-7.

The second paper, Emergent Semantics in Personalized Multimedia Content, by A. Scherp, S. Boll, and H. Cremer, further develops the notion of constructing virtual multimedia presentations. They develop a framework which exploits these virtual presentations, by showing how, from the use of these presentations, semantics can emerge which enrich the virtual multimedia presentation construction for all users.

The third paper, Contextualizing Multimedia Semantics Towards Personalised eLearning, by E. Eze, T. Ishaya, and D. Wood, presents a framework for the use of multimedia information in learning environments.

The fourth paper, Multimedia Knowledge Representation for Automatic Annotation of Broadcast TV Archives, by M. Montagnuolo and A. Messina, propose a new framework architecture, based on a novel classification and representation scheme, for multimedia annotation.

The fifth, and final, paper, Domain Knowledge Based Queries for Multimedia Data Retrieval, by S. Hammiche, B. Lopez, S. Benbernou, M.-S. Hacid, and A. Vakali, develops a multimedia retrieval system using low-level MPEG-7 features in conjunction with more conceptual concepts, which are linked together.

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