Editorial Preface:

Special issue on context–aware and mobile multimedia databases and services

It is expected in the near future that the number of created digital multimedia content will rise dramatically. Multimedia metadata is currently the only way to cope with problems like semantic-based information retrieval or organization of content, and provides means to specify adaptation and delivery constraints and rules. In parallel, the integration of accurate hand-held positioning within mobile phones, PDAs, portable computer and the like has brought location-based services directly to individuals, transforming the way we work, travel or play. Therefore, the context has become an important element to be considered in mobile applications and scenarios. Its usage provides new hints for search, delivery and consumption to individual user's situations.

The papers in this special issue present new and innovative ideas on analysis, indexing and retrieval, and multimedia semantics when considering context and location-based information mobile environments.

The paper by Timo Ojala entitled "Case studies on context-aware mobile multimedia services" explores the design, implementation and evaluation of context-aware mobile multimedia services by presenting six actual and challenging case studies on different application domains. The case studies highlight the opportunities that mobile devices equipped with wireless data transmission provide for context-aware and ubiquitous computing.

The paper by Christian Timmerer et al. entitled "A Survey on Delivery Context Description Formats – A Comparison and Mapping Model" describe a mapping model among content descriptions formats. In particular, the paper focuses on the whole delivery context (i.e., terminal capabilities, network characteristics, user preferences, etc.) and investigated the two most prominent state-of-the-art description schemes, namely User Agent Profile (UAProf) and Usage Environment Description (UED).

The paper by Omar Choudary et al. entitled "Evaluation of Multimedia Features in Mobile Guide Applications" presents an interesting and complete user study for mobile guide applications by comparing the commercial Google Maps and Nokia Maps. In particular the authors identify missing multimedia features in the utilized commercial applications.

The paper by Anna Carreras et al. entitled "A MPEG-Based Architecture for Generic Distributed Multimedia Scenarios" presents a new standards-based architecture for a complex and generic distributed multimedia scenario, which combines content search and retrieval, DRM, and context-based content adaptation together.

The paper by Albert Hofmann et al. entitled "MPEG-7 and MPEG-4 LASeR for Authoring Interactive Mobile TV Services" presents the porTiVity system which provides strong authoring tools for mobile interactive content allowing attaching interactivity to moving objects in a TV program. In particular, the authors describe automatic and semi-automatic annotation tools that create content descriptions represented as MPEG-7 documents.

The paper by Harald Kosch et al. "Content-Based Image Retrieval Systems - Reviewing and Benchmarking" developed a new benchmarking system for CBIR-systems based on how accurate the system could match ideal (ground truth) results. It reconsiders the systems of the older report of by Veltkamp and Tanase and proposes in addition for a selection of existing CBIR-systems a quantitative comparison.

We hope this special issue motivates researchers to take the next step beyond building models to implementing, evaluating, comparing, and extend proposed approaches. Many people helped us that this issue becomes a reality. We would first like to gratefully acknowledge and sincerely thank all the reviewers for their timely and insightful valuable comments and criticism of the manuscripts that greatly improved the quality of the final versions. Of course, thanks are due to the authors, who provided excellent articles and timely revisions. Finally, we are grateful to the editors of the JDIM for their trust in us, their efforts, patience, and editorial work during the production of this special issue.

Enjoy the reading of the six articles.

Guest Editors:

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Vincent Charvillat (Université de Toulouse - IRIT/ENSEEIHT, France)
Richard Chbeir (Université de Bourgogne - Dijon, France)
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