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Web-Age Information Management

WAIM 2011 International Workshops:
WGIM 2011, XMLDM 2011, SNA 2011
Wuhan, China, September 14-16, 2011
Revised Selected Papers

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WAIM 2011 Workshop Chairs' Message

WAIM is a leading international conference for researchers, practitioners, developers and users to share and exchange cutting-edge ideas, results, experience, techniques and tools in connection with all aspects of Web data management. The conference invites original research and industrial papers on the theory, design and implementation of Web-based information systems, as well as proposals for demonstrations, tutorials and panels. Previous WAIM conferences were held in Shanghai (2000), Xian (2001), Beijing (2002), Chengdu (2003), Dalian (2004), Hangzhou (2005), Hong Kong (2006), Huangshan (2007), Zhangjiajie (2008), Suzhou (2009) and Jiuzhaigou (2010). Along with the main conference, WAIM workshops are intended to provide an international group of researchers with a forum for the discussion and exchange of research results related to the conference topics. This WAIM 2011 workshop volume comprises papers from three workshops, which were:

1. The First International Workshop on Web-Based Geographic Information Management (WGIM 2011)
2. The Third International Workshop on XML Data Management (XMLDM 2011)
3. The First International Workshop on Social Network Analysis (SNA 2011)

The contents of these three workshops were selected from a public call-for-proposals process. The workshop organizers put a tremendous amount of effort into soliciting and selecting research papers with a balance of high quality and new ideas and new applications. They also followed a vigorous review process. A total of about 20 papers were accepted. We are very grateful to the main conference organizers. We would also like to take this opportunity to thank all workshop organizers and Program Committee members for their great effort in putting together the workshop program of WAIM 2011.

September 2011

Chengfei Liu
Liwei Wang

The First International Workshop on Web-Based Geographic Information Management (WGIM 2011) Chairs' Message

The rapid development of geographic information infrastructure and increased demand for sharing useful geographic data and information through the Web, has led to a new research focus on how to manage and share geographic information on the Web efficiently and securely. New strategies, tools and systems are required to significantly improve the information sharing and guarantee an easier and quicker access of data from a variety of sources without undermining the ownership of the information. The First International Workshop on Web-Based Geographic Information Management 2011 invited developers, users and expert scientists working in this field all over the world to present their innovative research and development contributions.

We thank the WAIM 2011 organizers for their generous support. The great success of the workshop is indebted to the hard work of all Program Committee members. We also thank all the authors for their contributions.

September 2011

Xiaofang Zhou
Jingjue Jiang

The Third International Workshop on XML Data Management (XMLDM 2011) Chairs' Message

It is our great pleasure to welcome you to the proceedings of the Third International Workshop on XML Data Management (XMLDM 2011).

XML has gained lot of attention from database and Web researchers who are actively working in one or more of the emerging XML areas. XML data are self-describing, and provide a platform-independent means to describe data and therefore can transport data from one platform to another. XML documents can be mapped to one more of the existing data models such as relational and object-relational models, and XML views can be produced dynamically from the pre-existing data models. XML queries can be mapped to the queries of the underlying models and can use their optimization features. XML data integration is useful for e-commerce applications such as comparison-shopping, which requires further study in the domain of data, schema and query-based integration. XML change management is another important area that has attracted attention in the context of Web warehouses. XML has been in use in upcoming areas such as Web services, sensor and biological data management. The Third International Workshop on XML Data Management focused on the convergence of database technology with XML technology, and brought together academics, practitioners, users and vendors to discuss the use and synergy between these technologies.

XMLDM 2011 accepted six full papers from Asia, Europe, and Australia. These papers cover a variety of topics, including XML views, XML query, similarity join, XML database and so on. We hope that they will serve as a valuable starting point for many brilliant projects in XML data management.

The paper “Multidimensional Implementation of Stream AD” introduces a multidimensional implementation of the stream for path-labeling schemes. The authors show that this implementation can be extended in such a way that it supports fast searching of nodes with a content, and it is also necessary to combine two variants of the R-tree (Ordered R-tree and Signature R-tree) for an efficient implementation of the stream ADT.

The paper “Measuring XML Structured-ness with Entropy” proposes and evaluates entropy-based metrics for XML structured-ness which could measure the structural uniformity of path and subtrees, respectively. Furthermore, the authors also study the correlation of these metrics with real and synthetic data sets.

In their paper “Similarity Join on XML Based on k-Generation Set Distance,” Wang et al. put forward two new edit operations (reversing and mapping) together with related algorithms concerning similarity join based on the new

defined measure and the method of using k-generation set distance instead of edit distance when comparing similarity between trees.

In the next paper “XML Query Answering Using View,” Yao et al. study query answering using the views problem for tree pattern queries (QAV) and deal with this problem by finding an equivalent rewriting of tree pattern queries.

The paper “XIO-SLCA: Optimize SLCA for Effective Keyword Search in XML Documents” studies the problem of effective keyword search over XML documents and proposes that keyword search returns the set of smallest trees, where a tree is designated as smallest if it contains no sub-tree that also contains all keywords. After an in-depth analysis of the Indexed Lookup Eager algorithm (IL), they propose an optimized method called XIO-SLCA to improve keyword search quality which could achieve both a higher recall and precision when compared with the existing SLCA.

In “The Development of XML-Stored Procedures in XML-Enabled Databases,” Fahad Alahmari and Eric Pardede investigate how SQL-stored procedures can be developed to effectively conduct various XQuery and XPath against XML data within the enabled databases.

Making XMLDM possible has been a team effort. First of all, we would like to thank the authors and panelists for providing the content of the program. We would like to express our gratitude to the Program Committee and external reviewers, who worked very hard in reviewing papers and providing suggestions for their improvements. In particular we extend our special thanks to Linlin Zhang for maintaining the XMLDM website and for his effort in organizing the workshop.

We hope that you will find these proceedings interesting and thought-provoking.

September 2011

Jiaheng Lu
Tok Wang Ling
Ge Yu

The First International Workshop on Social Network Analysis (SNA 2011) Chairs' Message

In recent years, social network research has attracted more and more scientist and researchers, thanks to the explosion of the Web which has created and is creating social interactions. Analyzing the information underneath the social interactions, such as community detection, opinion mining, link prediction, product recommendation, expert finding, social ranking, information visualization, will benefit both information providers and information consumers in the application areas of social sciences, economics, psychology and computer sciences.

SNA 2011 aimed at bringing together researchers and practitioners interested in this area to share their perspectives, identify the challenges and opportunities, and discuss future research/application directions. The workshop provided oral presentations where researchers and practitioners could share and exchange their knowledge and experience.

September 2011

Jaideep Srivastava
Bin Liu

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