Kevin Chen-Chuan Chang Wei Wang Lei Chen Clarence A. Ellis Ching-Hsien Hsu Ah Chung Tsoi Haixun Wang (Eds.)

Advances in Web and Network Technologies, and Information Management

APWeb/WAIM 2007 International Workshops: DBMAN 2007, WebETrends 2007, PAIS 2007 and ASWAN 2007 Huang Shan, China, June 2007, Proceedings



Kevin Chen-Chuan Chang Wei Wang Lei Chen Clarence A. Ellis Ching-Hsien Hsu Ah Chung Tsoi Haixun Wang (Eds.)

Advances in Web and Network Technologies, and Information Management





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Library of Congress Control Number: 2007928328

CR Subject Classification (1998): H.2-5, C.2, I.2, K.4, J.1

LNCS Sublibrary: SL 3 – Information Systems and Application, incl. Internet/Web and HCI

ISSN 0302-9743

ISBN-10 3-540-72908-9 Springer Berlin Heidelberg New York ISBN-13 978-3-540-72908-2 Springer Berlin Heidelberg New York

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Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India Printed on acid-free paper SPIN: 12073054 06/3180 5 4 3 2 1 0

APWeb/WAIM 2007 Workshop Chair's Message

As an important part of the joint APWeb/WAIM 2007 conference, continuing both conferences' traditional excellence on theoretical and practical aspects of Web-based information access and management, we were pleased to have four workshops included in this joint conference. This proceedings volume compiles, the technical papers selected for presentation at the following workshops, held at Huang Shan (Yellow Mountains), China, June 16-18, 2007.

- International Workshop on DataBase Management and Application over Networks (DBMAN 2007)
- 2. International Workshop on Emerging Trends of Web Technologies and Applications (WebETrends 2007)
- 3. International Workshop on Process Aware Information Systems (PAIS 2007)
- 4. International Workshop on Application and Security service in Web and pervAsive eNvirionments (ASWAN 2007)

These four 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 quality, novelty, and application relevance. We asked all workshops to follow a rigid paper selection process, including the procedure to ensure that any Program Committee members (including workshop Program Committee Chairs) were excluded from the paper review process of any papers they were involved in. A requirement about the overall paper acceptance ratio was also imposed on all the workshops.

I am very grateful to Jeffrey Xu Yu, Xuemin Lin, Zheng Liu, Wei Wang and many other people for their great effort in supporting the conference organization. I would like to take this opportunity to thank all workshop organizers and Program Committee members for their great effort in putting together the workshop program. I hope you enjoy these proceedings in.

June 2007

Kevin C. Chang

International Workshop on DataBase Management and Application over Networks (DBMAN 2007) Chairs' Message

With the increasing ubiquity of personal computing devices, such as mobile phones and PDAs, and the increasing deployment of sensor networks, new distributed applications are developed over networked databases posing interesting challenges. The 1st International Workshop on Database Management and Applications over Networks (DBMAN 2007) was held in Huanshan, China on June 18, 2007, in conjunction with the WAIM/APWeb 2007 conference. It aimed to bring together researchers in different fields related to database management and application over networks and to provide a forum where researchers and practitioners could share and exchange their knowledge and experience. In response to the call for papers, DBMAN attracted 105 submissions. The submissions are highly diversified, coming from Australia, China, France, Japan, Korea, New Zealand, Norway, Spain, Thailand, Taiwan and the USA, resulting in an international final program. All submissions were peer reviewed by at least two Program Committee members. The Program Committee selected 14 full papers and 14 short papers for inclusion in the proceedings. The competition was keen. with an overall acceptance rate of around 27%. The accepted papers covered a wide range of research topics and novel applications on database management over networks.

The workshops would not have been successful without the help of many organizations and individuals. First, we would like to thank the Program Committee members and external reviewers for evaluating the assigned papers in a timely and professional manner. Next, the tremendous efforts put forward by members in the Organization Committee of WAIM/APWeb in accommodating and supporting the workshops are appreciated. Of course, without support from the authors with their submissions, the workshop would not have been possible.

June 2007

Lei Chen M. Tamer Özsu

International Workshop on Emerging Trends of Web Technologies and Applications (WebETrends 2007) Chairs' Message

The 1st Workshop on Emerging Trends of Web Technologies and Applications was held in Huangshan, China, on June 16, 2007, in conjunction with AP-Web/WAIM 2007: the Ninth Asia-Pacific Web Conference (APWeb) and the Eighth International Conference on Web-Age Information Management (WAIM).

The explosive growth of the World Wide Web is revolutionizing how individuals, groups, and communities interact and influence each other. It is well recognized that the Web has transformed everyday life; however, its deepest impact in science, business, and society is still in the making. As technologies mature and communities grow, a new world that is fundamentally revolutionary is just beginning. The goal of this workshop is to bring together researchers to share visions for the future World Wide Web.

The workshop solicted papers in a wide range of fields with a focus on emerging Web technologies and applications. We welcome innovative ideas from traditional topics such as Web wrapping, Internet crawling, search engine optimization, current hot areas such as Wiki, blogosphere, social network, as well as promising future directions such as Web services and the Semantic Web. Our aim is to promote the awareness of the potential impact of the Web, discuss research directions and agendas, share experience and insights, and build a joint community across disciplines for creating enabling technologies for the future Web.

The workshop received 40 submissions from many countries and regions. All submissions were peer reviewed by at least two Program Committee members. The Program Committee selected 12 full papers for inclusion in the proceedings.

We are grateful to members of the Program Committee who contributed their expertise and ensured the high quality of the reviewing process. We are thankful to the Workshop Chair Kevin Chang and the PC Chair Jeffrey Xu Yu for their support.

June 2007

Haixun Wang Chang-shing Perng

International Workshop on Process Aware Information Systems (PAIS 2007) Chairs' Message

A process-aware information system (PAIS) is a software system that manages and executes operational processes involving people, applications, and/or information sources on the basis of an explicit imbedded process model. The model is typically instantiated many times, and every instance is typically handled in a predefined way. Thus this definition shows that a typical text editor is not process aware, and likewise a typical e-mail client is not process aware. In both of these examples, the software is performing a task, but is not aware that the task is part of a process. Note that the explicit representation of process allows automated enactment, automated verification, and automated redesign, all of which can lead to increased organizational efficiency. The strength and the challenge of PAISs are within the CSCW domain where PAISs are used by groups of people to support communication, coordination, and collaboration. Even today, after years of research and development, PAISs are plagued with problems and pitfalls intertwined with their benefits. These problems are frequently elusive and complex due to the fact that "PAISs are first and foremost people systems," Conclusively, we were able to address some of the people issues and frameworks for research in this domain through the workshop, as we expected.

Although the workshop was the first in the series, we received a reasonable number of submissions, 60 papers from about 20 regions and countries. All submissions were peer reviewed by at least two or three Program Committee members and five external reviewers. After a rigorous review process, the Program Committee selected 8 full papers and 11 short papers among the 60 submissions. The acceptance rates of full paper and short paper submissions are 13.3% and 18.3%, respectively. Also, the accepted papers covered a wide range of research topics and novel applications related to PAISs.

We are grateful to the Kyonggi University and the University of Colorado at Boulder for sponsoring the workshop and would like to express thanks to the research members of the CTRL/CTRG research groups for developing the workshop's Web site and review-processing system. We would also like to thank all authors who submitted papers and all the participants in the workshop program. We are especially grateful to members of the Program Committee who contributed their expertise and ensured the high quality of the reviewing process. We are thankful to the APWeb/WAIM organizers for their support and local arrangement.

June 2007

International Workshop on Application and Security Service in Web and Pervasive Environments (ASWAN 2007) Program Chairs' Message

We are proud to present the proceedings of the 2007 International Workshop on Application and Security Service in Web and Pervasive Environments, held at HuangShan, China during June 16–18, 2007.

Web and pervasive environments (WPE) are emerging rapidly as an exciting new paradigm including ubiquitous, Web, grid, and peer-to-peer computing to provide computing and communication services any time and anywhere. In order to realize their advantages, security services and applications need to be suitable for WPE. ASWAN 2007 was intended to foster the dissemination of state-of-the-art research in the area of secure WPE including security models, security systems and application services, and novel security applications associated with its utilization. The aim of ASWAN 2007 was to be the premier event on security theories and practical applications, focusing on all aspects of Web and pervasive environments and providing a high-profile, leading-edge forum for researchers and engineers alike to present their latest research.

In order to guarantee high-quality proceedings, we put extensive effort into reviewing the scientific papers. We received 61 papers from Korea, China, Hong Kong, Taiwan and the USA, representing more than 50 universities or institutions. All submissions were peer reviewed by two to three Program or Technical Committee members or external reviewers. It was extremely difficult to select the presentations for the workshop because there were so many excellent and interesting ones. In order to allocate as many papers as possible and keep the high quality of the workshop, we decided to accept 16 papers for oral presentations. We believe all of these papers and topics will not only provide novel ideas, new results, work in progress and state-of-the-art techniques in this field, but will also stimulate future research activities.

This workshop would not have been possible without the support of many people to make it a success. First of all, we would like to thank the Steering Committee Chair, Laurence T. Yang, and Jong Hyuk Park for nourishing the workshop and guiding its course. We thank the Program Committee members for their excellent job in reviewing the submissions and thus guaranteeing the quality of the workshop under a very tight schedule. We are also indebted to the members of the Organizing Committee. Particularly, we thank Byoung-Soo Koh, Jian Yang, Xiaofeng Meng, Yang Xiao and Yutaka Kidawara for their devotions

X Preface

and efforts to make this workshop a real success. Finally, we would like to take this opportunity to thank all the authors and participants for their contributions, which made ASWAN 2007 a grand success.

June 2007

Laurence T. Yang Sajal K. Das Eung Nam Ko Ching-Hsien Hsu Djamal Benslimane Young Yong Kim

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