

Weaving Services and People on the World Wide Web

Irwin King · Ricardo Baeza-Yates
Editors

Weaving Services and People on the World Wide Web



Editors

Prof. Irwin King
The Chinese University of Hong Kong
Dept. Computer Science & Engineering
Shatin, New Territories
Hong Kong, P. R. China
king@cse.cuhk.edu.hk

Prof. Ricardo Baeza-Yates
Yahoo! Research Barcelona
Ocata, 1
08003 Barcelona
1st Floor
Spain
ricardo.baeza@upf.edu

(cc) Tom Nguyen 2008

This image, which was originally posted to *Flickr*, was uploaded to Commons using **Flickr upload bot** on 21:24, 19 September 2008 (UTC) by **Joowwww** (talk).

On that date it was licensed under the license below.

This file is licensed under *Creative Commons Attribution 2.0 License*

ISBN 978-3-642-00569-5 e-ISBN 978-3-642-00570-1

DOI 10.1007/978-3-642-00570-1

Springer Dordrecht Heidelberg London New York

ACM Computing Classification (1998): H.3.3, H.3.5, H.5.3, H.4.3

Library of Congress Control Number: 2009926100

© Springer-Verlag Berlin Heidelberg 2009

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Cover design: KünkelLopka, Heidelberg

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

Ever since its inception, the Web has changed the landscape of human experiences on how we interact with one another and data through service infrastructure via various computing devices. This interweaving environment is now becoming ever more embedded into devices and systems that integrates seamlessly on how we live, in our working or leisure time.

This special volume on “Weaving Services and People on the WWW”, features some of the cutting-edge research work that were presented at the Workshop Track of the 17th International World Wide Web Conference (WWW2008) held at Beijing, China, from April 21–25, 2008. The Workshop Track received 24 proposals and after a rigorous reviewing process ten full-day workshops were selected, of which two workshops were half-day workshops. They were:

- WS1 – Web Science Workshop (WSW2008) by Wendy Hall, Nigel Shadbolt, Tim Berners-Lee, Daniel Weitzner, and James Hendler.
- WS2 – Location and the Web (LocWeb) 2008 by Susanne Boll, Christopher Jones, Eric Kansa, Puneet Kishor, Mor Naaman, Ross Purves, Arno Scharl and Erik Wilde.
- WS3 – International Workshop on Context Enabled Source and Service Selection, Integration and Adaptation (CSSIA 2008) by Ullas Nambiar and Michael Sheng.
- WS4 – Linked Data on the Web (LDW2008) by Tim Berners-Lee, Christian Bizer, Tom Heath, and Kingsley Idehen.
- WS5 – Fourth International Workshop on Adversarial Information Retrieval on the Web (AIRWeb 2008) by Dennis Fetterly, Carlos Castillo and Kumar Chellappilla.
- WS6 – Targeting and Ranking for Online Advertising by Ewa Dominowska and Vanja Josifovski.
- WS7 – MobEA VI: Personal Rich Social Media by Rittwik Jana, Daniel Appelquist, Galit Zadok, and Bin Wei.
- WS8 – Semantic Web for Health Care and Life Sciences by Huajun Chen, Kei Cheung, Michel Dumontier, Eric Prud'hommeaux, Alan Ruttenberg, Susie Stephens and Yimin Wang.

- WS9A – Workshops on Language-centric Web Applications:
 - WS9A – International Workshop on Question Answering on the Web (QAWeb2008) by Wenyin Liu, Qing Li and Xuedong Huang.
 - WS9P – NLP Challenges in the Information Explosion Era (NLPIX 2008) by Hiroshi Nakagawa, Masaru Kitsuregawa and Kentaro Torisawa.
- WS10A – Workshops on the Social Web (SW2008):
 - WS10A – Workshop on Social Web and Knowledge Management (SWKM2008) by Peter Dolog, Sebastian Schaffert, Markus Krotzsch, and Denny Vrandecic.
 - WS10P – Workshop on Social Web Search and Mining (SWSM2008) by Juanzi Li, Gui-Rong Xue, Michael R. Lyu, Jie Tang, and Zheng Chen.

After the completion of the conference, we invited authors from the top 20% of the presented papers from selected workshops to resubmit their work with a minimum of 30% extended material from their original workshop manuscripts to be considered for this volume. After a second-round of reviews and selection, 14 manuscripts were accepted including a selected number of workshop organizers who prepared an overview of their workshop. These papers are presented here to highlight the state of the art being done in the World Wide Web community.

Although the Workshop Track covered a wide range of interests, this volume highlights two of these emerging topics that we believe are important and will continue to play an ever increasing role in the future development of the Web. They are Web Services and Social Computing.

The first ten chapters are dedicated to Web Services. They range from semantic services for Web communities and Wikipedia to aggregation policies for RSS services. In addition, we highlight the mobile services and location-based services as they are becoming more important and relevant on the Web. In particular, Chaps. 5–7 focus specifically on Web services for mobile users by examining personalized services and user interface issues, while Chaps. 8–10 underscore the importance of location-based services by presenting ways to process vernacular places and regions from Web sources.

The remaining six chapters deal with issues in Social Computing. The first chapter presents a survey of topics related to knowledge management on the social web, while other chapters address topics ranging from security issues in trusted network, collaborative tagging, ranking strategies in folksonomies, to studies on behavior editing patterns in wikis.

The work within this volume represents the tip of an iceberg of the many exciting advancements on the WWW. It is our hope that these chapters will stimulate new discussions and generate original ideas that will make these technologies even more integrated into our social tapestry.

The volume editors would like to thank the authors for their contributions, the WWW2008 Workshop Track Program Committee members for their professionalism in selecting the workshops, and the first- and second-round reviewers for their

expertise to improve the manuscripts. Moreover, we are grateful to Springer for the opportunity to publish this volume and their wonderful editorial support. Lastly, thanks to Mr. Kam Tong Chan for his administrative assistance in organizing the book.

Hong Kong, P. R. China
Barcelona, Spain
January 2009

Irwin King
Ricardo Baeza-Yates

Contents

Part I Web Services

Classification of Automated Search Traffic	3
Greg Buehrer, Jack W. Stokes, Kumar Chellapilla and John C. Platt	
Semantic Services for Wikipedia	27
Haofen Wang, Thomas Penin, Linyun Fu, Qiaoling Liu, Guirong Xue and Yong Yu	
Context-based Semantic Mediation in Web Service Communities	49
Michael Mrissa, Stefan Dietze, Philippe Thiran, Chirine Ghedira, Djamal Benslimane and Zakaria Maamar	
An Effective Aggregation Policy for RSS Services	67
Jae Hwi Kim, Sang Ho Lee and Young Geun Han	
Evolution of the Mobile Web	85
Rittwik Jana and Daniel Appelquist	
Personalized Service Creation and Provision for the Mobile Web	99
Quan Z. Sheng, Jian Yu, José M. del Álamo and Paolo Falcarin	
Selecting the Best Mobile Information Service with Natural Language User Input	123
Qiangze Feng, Hongwei Qi and Toshikazu Fukushima	
Location Concepts for the Web	147
Martin Kofahl and Erik Wilde	
Ad Hoc Determination of Geographic Regions for Concept@Location Queries	169
Andreas Henrich and Volker Lüdecke	

Acquisition of Vernacular Place Names from Web Sources	195
Florian A. Twaroch, Christopher B. Jones and Alia I. Abdelmoty	

Part II Social Computing

Social Web and Knowledge Management	217
Peter Dolog, Markus Krötzsch, Sebastian Schaffert and Denny Vrandečić	
Setting Access Permission through Transitive Relationship in Web-based Social Networks	229
Dan Hong and Vincent Y. Shen	
Multiple Interests of Users in Collaborative Tagging Systems	255
Ching-man Au Yeung, Nicholas Gibbins and Nigel Shadbolt	
On the Effect of Group Structures on Ranking Strategies in Folksonomies	275
Fabian Abel, Nicola Henze, Daniel Krause and Matthias Kriesell	
Resolving Person Names in Web People Search	301
Krisztian Balog, Leif Azzopardi and Maarten de Rijke	
Studies on Editing Patterns in Large-Scale Wikis	325
Philip Boulain, Nigel Shadbolt and Nicholas Gibbins	
Index	351

Contributors

Alia I. Abdelmoty Cardiff University, UK, a.i.abdelmoty@cs.cf.ac.uk

Fabian Abel IVS – Semantic Web Group, Leibniz University Hannover, Appelstr. 4, D-30167 Hannover, Germany, abel@kbs.uni-hannover.de

Daniel Appelquist Vodafone Group, daniel.appelquist@vodafone.com

Ching-man Au Yeung Intelligence, Agents, Multimedia Group, School of Electronics and Computer Science, University of Southampton, Southampton, SO17 1BJ, UK, fcmay06r@ecs.soton.ac.uk

Leif Azzopardi DCS, University of Glasgow, UK, leif@dcs.gla.ac.uk

Krisztian Balog ISLA, University of Amsterdam, The Netherlands, kbalog@science.uva.nl

Djamal Benslimane LIRIS laboratory, Lyon 1 University, France, dbenslim@liris.cnrs.fr

Philip Boulain Intelligence, Agents, Multimedia Group, School of Electronics and Computer Science, University of Southampton, Southampton SO17 1BJ, UK, prb@ecs.soton.ac.uk

Greg Buehrer Microsoft Corp, 1 Microsoft Way, Redmond, WA 98052, buehrer@microsoft.com

Kumar Chellapilla Microsoft Corp, 1 Microsoft Way, Redmond, WA 98052, kumarc@microsoft.com

Maarten de Rijke ISLA, University of Amsterdam, The Netherlands, mdr@science.uva.nl

José M. del Álamo Departamento de Ingeniería de Sistemas Telemáticos, Universidad Politécnica de Madrid, Spain, jmdela@dit.upm.es

Stefan Dietze Knowledge Media Institute, The Open University, Milton Keynes, UK, s.dietze@open.ac.uk

Peter Dolog Aalborg University, Computer Science Department, Selma Lagerlöfs Vej 300 DK-9220 Aalborg, Denmark, dolog@cs.aau.dk

Paolo Falcarin Department of Control and Computing Engineering, Politecnico di Torino, Italy, paolo.falcarin@polito.it

Qiangze Feng NEC Laboratories, China, 14/F, Bldg. A, Innovation Plaza, Tsinghua Science Park, Beijing 100084, China, fengqiangze@research.nec.com.cn

Linyun Fu Department of Computer Science & Engineering, Shanghai Jiao Tong University, Shanghai, 200240, China, fulinyun@apex.sjtu.edu.cn

Toshikazu Fukushima NEC Laboratories, China, 14/F, Bldg. A, Innovation Plaza, Tsinghua Science Park, Beijing 100084, China, fukushima@research.nec.com.cn

Chirine Ghedira LIRIS laboratory, Lyon 1 University, France, cghedira@liris.cnrs.fr

Nicholas Gibbins Intelligence, Agents, Multimedia Group, School of Electronics and Computer Science, University of Southampton, Southampton, SO17 1BJ, UK, nmg@ecs.soton.ac.uk

Young Geun Han School of Computing, Soongsil University, Seoul, Korea, younggeun@gmail.com

Andreas Henrich University of Bamberg, Germany, andreas.henrich@uni-bamberg.de

Nicola Henze IVS – Semantic Web Group, Leibniz University Hannover, Appelstr. 4, D-30167 Hannover, Germany, henze@kbs.uni-hannover.de

Dan Hong Department of Computer Science and Engineering, Hong Kong University of Science and Technology, Hong Kong, csdhong@cse.ust.hk

Rittwik Jana AT&T Labs Research, Bldg 103, Rm B229, 180 Park Ave, Florham Park, NJ, 07932, USA, rjana@research.att.com

Christopher B. Jones Cardiff University, UK, c.b.jones@cs.cf.ac.uk

Jae Hwi Kim School of Computing, Soongsil University, Seoul, Korea, oasisdle@gmail.com

Martin Kofahl University Rostock, Geodesy and Geoinformatics, Germany, m.kofahl@gmx.de

Daniel Krause IVS – Semantic Web Group, Leibniz University Hannover, Appelstr. 4, D-30167 Hannover, Germany, krause@kbs.uni-hannover.de

Matthias Kriesell Department of Mathematics, University of Hamburg, Bundesstraße 55 D-20146 Hamburg, Germany, kriesell@math.uni-hamburg.de

Markus Krötzsch Institute AIFB, Universität Karlsruhe D-76128 Karlsruhe, Germany, mak@aifb.uni-karlsruhe.de

Sang Ho Lee School of Computing, Soongsil University, Seoul, Korea, shlee199@gmail.com

Qiaoling Liu Department of Computer Science & Engineering, Shanghai Jiao Tong University, Shanghai, 200240, China, lql@apex.sjtu.edu.cn

Volker Lüdecke University of Bamberg, Germany,
volker.luedecke@uni-bamberg.de

Zakaria Maamar College of Information Technology, Zayed University, UAE,
zakaria.maamar@zu.ac.ae

Michael Mrissa PReCISE Research Center, University of Namur, Belgium,
mmrissa@fundp.ac.be

Thomas Penin Department of Computer Science & Engineering, Shanghai Jiao Tong University, Shanghai, 200240, China, tpenin@apex.sjtu.edu.cn

John C. Platt Microsoft Corp, 1 Microsoft Way, Redmond, WA 98052,
jplatt@microsoft.com

Hongwei Qi NEC Laboratories, China, 14/F, Bldg. A, Innovation Plaza, Tsinghua Science Park, Beijing 100084, China, qihongwei@research.nec.com.cn

Sebastian Schaffert Salzburg Research Forschungsgesellschaft, Knowledge Based Information Systems, Jakob-Haringer Strasse 5/II, A-5020 Salzburg, Austria, sebastian.schaffert@salzburgresearch.at

Nigel Shadbolt Intelligence, Agents, Multimedia Group, School of Electronics and Computer Science, University of Southampton, Southampton, SO17 1BJ, UK, nrsg@ecs.soton.ac.uk

Vincent Y. Shen Department of Computer Science and Engineering, Hong Kong University of Science and Technology, Hong Kong, shen@cse.ust.hk

Quan Z. Sheng School of Computer Science, The University of Adelaide, Australia, qsheng@cs.adelaide.edu.au

Jack W. Stokes Microsoft Corp, 1 Microsoft Way, Redmond, WA 98052,
jstokes@microsoft.com

Philippe Thiran PReCISE Research Center, University of Namur and Louvain School of Management, Belgium, pthiran@fundp.ac.be

Florian A. Twaroch Cardiff University, UK, f.a.twaroch@cs.cf.ac.uk

Denny Vrandečić Institute AIFB, Universität Karlsruhe D-76128 Karlsruhe, Germany, dvr@aifb.uni-karlsruhe.de

Haofen Wang Department of Computer Science & Engineering, Shanghai Jiao Tong University, Shanghai, 200240, China, fwhfcarter@apex.sjtu.edu.cn

Erik Wilde School of Information, UC Berkeley, Berkeley, CA, USA,
dret@berkeley.edu

Guirong Xue Department of Computer Science & Engineering, Shanghai Jiao Tong University, Shanghai, 200240, China, grxue@apex.sjtu.edu.cn

Yong Yu Department of Computer Science & Engineering, Shanghai Jiao Tong University, Shanghai, 200240, China, yyug@apex.sjtu.edu.cn

Jian Yu School of Computer Science, The University of Adelaide, Australia, jyu01@adelaide.edu.au