

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison

Lancaster University, UK

Takeo Kanade

Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler

University of Surrey, Guildford, UK

Jon M. Kleinberg

Cornell University, Ithaca, NY, USA

Alfred Kobsa

University of California, Irvine, CA, USA

Friedemann Mattern

ETH Zurich, Switzerland

John C. Mitchell

Stanford University, CA, USA

Moni Naor

Weizmann Institute of Science, Rehovot, Israel

Oscar Nierstrasz

University of Bern, Switzerland

C. Pandu Rangan

Indian Institute of Technology, Madras, India

Bernhard Steffen

University of Dortmund, Germany

Madhu Sudan

Massachusetts Institute of Technology, MA, USA

Demetri Terzopoulos

University of California, Los Angeles, CA, USA

Doug Tygar

University of California, Berkeley, CA, USA

Gerhard Weikum

Max-Planck Institute of Computer Science, Saarbruecken, Germany

Giuseppe Psaila Roland Wagner (Eds.)

E-Commerce and Web Technologies

9th International Conference, EC-Web 2008
Turin, Italy, September 3-4, 2008
Proceedings



Springer

Volume Editors

Giuseppe Psaila
Università degli Studi di Bergamo
Facoltà di Ingegneria
Viale Marconi 5, 24044 Dalmine (BG), Italy
E-mail: psaila@unibg.it

Roland Wagner
Johannes Kepler University Linz
Institute for Application Oriented Knowledge Processing (FAW)
Altenberger Straße 69, 4040 Linz, Austria
E-mail: rrwagner@faw.uni-linz.ac.at

Library of Congress Control Number: 2008933383

CR Subject Classification (1998): H.4, K.4.4, J.1, K.5, H.3, H.2, H.2.5, K.6.5

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

ISSN 0302-9743
ISBN-10 3-540-85716-8 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-85716-7 Springer Berlin Heidelberg New York

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, re-use of illustrations, recitation, broadcasting, reproduction on microfilms 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.

Springer is a part of Springer Science+Business Media

springer.com

© Springer-Verlag Berlin Heidelberg 2008
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 12466603 06/3180 5 4 3 2 1 0

Preface

The International Conference on E-commerce and Web Technologies (EC-Web) is a mature and well-established forum for researchers working in the area of electronic commerce and web technologies.

These are the proceedings of the ninth conference in the series, which, like previous EC-Web conferences, was co-located with DEXA, the International Conference on Database and Expert Systems Applications, which, this year, took place in Turin, Italy.

One key feature of EC-Web is its two-fold nature: it brings together both papers proposing technological solutions for e-commerce and the World Wide Web, and papers concerning the management of e-commerce, such as web marketing, the impact of e-commerce on business processes and organizations, the analysis of case studies, as well as social aspects of e-commerce (to understand the impact of e-commerce solutions on day-to-day life and the new opportunities that these behaviors open).

The technical program included 12 reviewed papers and two invited papers. Each paper was reviewed by five reviewers, in order to select only the best quality papers. The program included five sessions: “Security in E-Commerce” (with two papers), “Social Aspects of E-Commerce” (with two papers), “Business Process and EC Infrastructures” (with three papers), “Recommender Systems and E-Negotiations” (with four papers) and “Web Marketing and User Profiling” (with three papers).

We found the program interesting and we hope participants and readers feel the same. Furthermore, we hope the attendees enjoyed the conference and Turin.

June 2008

Giuseppe Psaila
Roland R. Wagner

Organization

Program Committee Chairpersons

Giuseppe Psaila University of Bergamo, Italy
Roland Wagner FAW, University of Linz, Austria

Program Committee

Marco Aiello Rijksuniversiteit Groningen, The Netherlands
Esma Aïmeur University of Montreal, CA
Damminda Alahakoon Monash University, Australia
Sergio Alonso University of Granada, Spain
Jörn Altmann Seoul National University, South Korea and Intl.
 University of Bruchsal, Germany
Manish Bhide IBM India Research Lab, India
Sami Bhiri DERI, Ireland
Sourav S. Bhowmick Nanyang Technological University, Singapore
Susanne Boll University of Oldenburg, Germany
Stephane Bressan National University of Singapore, Singapore
Julián Briz Universidad Politécnica de Madrid, Spain
Michelangelo Ceci University of Bari, Italy
Wojciech Cellary Poznan University of Economics, Poland
Francisco Chiclana De Montfort University, UK
Byron Choi Nanyang Technological University, Singapore
Jen-Yao Chung IBM Watson Research Center, USA
Emmanuel Coquery University Lyon 1, France
Arthur I. Csetenyi Budapest Corvinus University, Hungary
Alfredo Cuzzocrea University of Calabria, Italy
Radoslav Delina Technical University of Kosice, Slovakia
Alexander Delteil Orange Labs - France Télécom, France
Tommaso Di Noia Politecnico di Bari, Italy
Petr Doucek Prague University of Economics, Czech Republic
Schahram Dustdar Vienna University of Technology, Austria
Johann Eder University of Klagenfurt, Austria
Maria Jose Escalona Universidad de Sevilla, Spain
Torsten Eymann University of Bayreuth, Germany
Eduardo Fernandez Florida Atlantic University, USA
Gianluigi Ferrari University of Pisa, Italy
Elena Ferrari University of Insubria, Italy
George Feuerlicht University of Technology Sydney, Australia
Ludger Fiege Siemens, Germany

Carlos Flavian	University of Zaragoza, Spain
Farshad Fotouhi	Wayne State University, USA
Eduard Cristóbal Fransi	University of Lleida, Spain
Yongjian Fu	Cleveland State University, USA
Walid Gaaloul	DERI, Ireland
Stephane Gagnon	Université du Québec en Outaouais (UQO), Canada
Jing Gao	University of South Australia, Australia
Piotr Gawrysiak	Supermedia, Poland
Peter Geczy	AIST - National Institute of Advanced Industrial Science and Technology, Japan
Chanan Glezer	Ben Gurion University, Israel
Claude Godart	University of Nancy & INRIA, France
Adnene Guabtni	University of New South Wales, Australia
Mohand-Said Hacid	University Lyon 1, France
G. Harindranath	Royal Holloway, University of London, UK
About Ella Hassanian	Kuwait University, Kuwait
Josef Herget	University of Chur, Switzerland
Enrique Herrera-Viedma	University of Granada, Spain
Yigal Hoffner	IBM Zurich Research Lab., Switzerland
Birgit Hofreiter	University of Technology, Sidney, Australia
Christian Huemer	Vienna University of Technology, Austria
Michael C. Jaeger	Berlin University of Technology, Germany
Fabian Kaiser	Stuttgart University, Germany
Dimka Karastoyanova	University of Stuttgart, Germany
Gregory E. Kersten	Concordia University Montreal, Canada
Hiroyuki Kitagawa	University of Tsukuba, Japan
Jan Klas	University of Economics, Prague, Czech Republic
Gabriele Kotsis	Johannes Kepler University Linz, Austria
Sandeep Krishnamurthy	University of Washington, USA
Anton Lavrin	Technical University of Kosice, Slovakia
Juhnyoung Lee	IBM Watson Research Center, USA
Joerg Leukel	University of Hohenheim, Germany
Philipp Liegl	Technical University of Vienna, Austria
Leszek T. Lilien	Western Michigan University, USA
Antonio Gabriel Lopez	University of Jaen, Spain
Heiko Ludwig	IBM Watson Research Center, USA
Olivera Marjanovic	University of Sydney, Australia
Mário Marques Freire	University of Beira Interior, Portugal
Luis Martínez Lopez	University of Jaen, Spain
Massimo Mecella	University of Rome La Sapienza, Italy
Ralph Mietzner	University of Stuttgart, Germany
Bamshad Mobasher	DePaul University, USA
Carlos Molina-Jimenez	University of Newcastle upon Tyne, UK
Gero Muehl	TU Berlin, Germany
Guenter Mueller	University of Freiburg, Germany
Mieczyslaw Muraszkiwicz	Warsaw University of Technology, Poland

Dirk Neumann	University of Karlsruhe, Germany
Wee-Keong Ng	Nanyang Tech. University, Singapore
Ota Novotny	Prague University of Economics, Czech Republic
Anne-Marie Oostveen	Oxford Internet Institute, UK
Rolf Oppliger	eSECURITY Technologies, Switzerland
Stefano Paraboschi	University of Bergamo, Italy
Jan Paralic	Technical University of Kosice, Slovakia
Oscar Pastor	Valencia University of Technology, Spain
Vicente Pelechano	Technical University of Valencia, Spain
Günther Pernul	University of Regensburg, Germany
Ilija Petrov	Technische Universität Darmstadt, Germany
Ivana Podnar Zarko	FER, University of Zagreb, Croatia
Birgit Proell	Johannes Kepler University Linz, Austria
Gerald Quirchmayr	University of Vienna, Austria
Azzurra Ragone	University of Michigan, USA
Indrakshi Ray	Colorado State University, USA
Werner Retschitzegger	Johannes Kepler University Linz, Austria
Inmaculada Rodríguez-Ardura	Universitat Oberta de Catalunya, Spain
Michele Ruta	Politecnico di Bari, Italy
Henryk Rybinski	Warsaw University of Technology, Poland
Jarogniew Rykowski	Poznan University of Economics, Poland
Tomas Sabol	Technical University of Kosice, Slovakia
Paolo Salvaneschi	University of Bergamo, Italy
Farzad Sanati	University of Technology, Sydney, Australia
Nandlal L. Sarda	Indian Institute of Tech. Bombay, India
Yucel Saygin	Sabanci University, Turkey
Thorsten Scheibler	University of Stuttgart, Germany
Eusebio Scornavacca	Victoria University of Wellington, New Zealand
Steffen Staab	University of Koblenz, Germany
Jens Strueker	University of Freiburg, Germany
Aixin Sun	Nanyang Technological University, Singapore
Junichi Suzuki	University of Massachusetts, Boston, USA
Roger M. Tagg	University of South Australia, Australia
Samir Tata	GET/INT CNRS Samovar, France
Stephanie Teufel	University of Fribourg, Switzerland
Tobias Unger	Stuttgart University, Germany
Bartel Van de Walle	Tilburg University, The Netherlands
Willem Jan van den Heuvel	Tilburg University, The Netherlands
Krishnamurthy Vidyasankar	Memorial University, St. John's, Canada
Emilija Vuksanovic	University of Kragujevac, Serbia
Hannes Werthner	Technical University of Vienna, Austria
Branimir Wetzstein	University of Stuttgart, Germany
Janusz Wielki	Opole University of Technology, Poland
Marco Zapletal	Technical University of Vienna, Austria

Acknowledgement

The work was supported by the PRIN 2006 program of the Italian Ministry of Research, within the project “Basi di dati crittografate” (2006099978)

External Reviewers

Gabriela Vulcu
Nathalie Aquino
Ignacio Panach
Beatriz Marín
Giovanni Giachetti
Sergio España
Francisco Valverde
Nelly C. Fernández
Ludwig Fuchs
Christian Broser
Manuel Resinas

Table of Contents

Session 1 – Security in E-Commerce

Secure Communication between Web Browsers and NFC Targets by the Example of an e-Ticketing System	1
<i>Gerald Madlmayr, Peter Kleebauer, Josef Langer, and Josef Scharinger</i>	

A Light Number-Generation Scheme for Feasible and Secure Credit-Card-Payment Solutions	11
<i>Francesco Buccafurri and Gianluca Lax</i>	

Session 2 – Social Aspects of E-Commerce

Online Privacy: Measuring Individuals' Concerns (Invited Paper)	21
<i>Maria Moloney and Frank Bannister</i>	

Analysing the Key Factors of Web Design: A Heuristic Evaluation	31
<i>Carlos Flavián, Raquel Gurrea, and Carlos Orús</i>	

Session 3 – Business Process and EC Infrastructures

Service Architecture Design for E-Businesses: A Pattern-Based Approach (Invited Paper)	41
<i>Veronica Gacitua-Decar and Claus Pahl</i>	

An Event-Based Model for the Management of Choreographed Services	51
<i>Liliana Ardissono, Roberto Furnari, Anna Goy, Giovanna Petrone, and Marino Segnan</i>	

A Matchmaking Architecture to Support Innovation by Fostering Supply and Demand of Venture Capital	61
<i>Mario Benassi, Tommaso Di Noia, and Alessandro Marino</i>	

Session 4 – Recommender Systems and E-Negotiations

Using Expressive Dialogues and Gradient Information to Improve Trade-Offs in Bilateral Negotiations	71
<i>Ivan Marsa-Maestre, Miguel A. Lopez-Carmona, Juan R. Velasco, and Bernardo Alarcos</i>	

Towards an Interdisciplinary Framework for Automated Negotiation	81
<i>Fernando Lopes, A.Q. Novais, and Helder Coelho</i>	
Bargaining Power in Electronic Negotiations: A Bilateral Negotiation Mechanism	92
<i>Ricardo Buettner and Stefan Kirn</i>	
Solution Architecture for Visitor Segmentation and Recommendation Generation in Real Time	102
<i>Philip Limbeck and Josef Schiefer</i>	
Session 5 – Web Marketing and User Profiling	
Effects of Cultural Background on Internet Buying Behaviour: Towards a Virtual Global Village?	114
<i>Efthymios Constantinides, Carlota Lorenzo, Miguel Ángel Gómez-Borja, and Peter Geurts</i>	
Evolutionary Prediction of Online Keywords Bidding	124
<i>Liwen Hou, Liping Wang, and Jinggang Yang</i>	
Web Behaviormetric User Profiling Concept	134
<i>Peter Géczy, Noriaki Izumi, Shotaro Akaho, and Kôiti Hasida</i>	
Author Index	145