

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

TU Dortmund University, Germany

Madhu Sudan

Microsoft Research, Cambridge, 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

Maria A. Wimmer Jean-Loup Chappelet
Marijn Janssen Hans J. Scholl (Eds.)

Electronic Government

9th IFIP WG 8.5 International Conference, EGOV 2010
Lausanne, Switzerland, August 29 - September 2, 2010
Proceedings

Volume Editors

Maria A. Wimmer

University of Koblenz-Landau, Institute for IS Research

Universitätsstr. 1, 56070 Koblenz, Germany

E-mail: wimmer@uni-koblenz.de

Jean-Loup Chappelet

IDHEAP Swiss Graduate School of Public Administration

1015 Lausanne, Switzerland

E-mail: jean-loup.chappelet@idheap.unil.ch

Marijn Janssen

Delft University of Technology, Faculty of Technology,

Policy, and Management

Jaffalaan 5, 2628 BX Delft, The Netherlands

E-mail: m.f.w.h.a.janssen@tudelft.nl

Hans J. Scholl

University of Washington, The Information School

Mary Gates Hall, Seattle, WA 98195-2840, USA

E-mail: jscholl@uw.edu

Library of Congress Control Number: 2010932132

CR Subject Classification (1998): C.2, J.1, H.4, K.4.2, H.3, H.2

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

ISSN 0302-9743

ISBN-10 3-642-14798-4 Springer Berlin Heidelberg New York

ISBN-13 978-3-642-14798-2 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.com

© IFIP International Federation for Information Processing 2010

Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper 06/3180

Preface

For almost a decade the International Federation for Information Processing Working Group 8.5 (Information Systems in Public Administration), or IFIP WG 8.5, has organized the EGOV series of conferences, which has solidly established itself as one of three core conferences in the research domain of e-Government, e-Governance, and e-Participation. Until last year, EGOV was hosted within the DEXA cluster of conferences. For the first time in 2010, the IFIP WG 8.5 organized the conference on its own, which was also reflected in the slight name change to IFIP EGOV 2010.

Like its predecessors, the IFIP EGOV 2010 conference attracted scholars from around the world as a venue of high reputation. In 2010, the conference brought together scholars and practitioners from four continents and 40 countries.

Like in 2009, IFIP EGOV was co-located with ePart, the International Conference on eParticipation. ePart aims at presenting advances in both social and technological scientific domains, seeking to demonstrate new concepts, methods, and styles of eParticipation. ePart is closely aligned with the IFIP EGOV conference. The chairs of both conferences maintain close links and are committed to co-locating the two events in the years to come, which intentionally allows for exchange and cross-fertilization between the two communities.

The IFIP EGOV 2010 Call for Papers attracted 111 paper submissions, which included 81 full research papers and 30 work-in-progress papers on ongoing research as well as project and case descriptions, and 9 workshop and panel proposals. Among the 81 full research paper submissions, 36 papers (empirical and conceptual) were accepted for Springer's LNCS proceedings. These papers have been clustered under the following headings:

- Foundations
- Transformation
- Evaluation
- Adoption and diffusion
- Citizen Perspectives and Social Inclusion
- Infrastructure
- Business Process Modelling

As in past years, Trauner Druck, Linz/Austria, published accepted work-in-progress papers and workshop and panel abstracts in a complementary proceedings volume. This year, the volume covers approx. 45 paper contributions and 7 workshop and panel abstracts from both conferences, IFIP EGOV and ePart.

Also in 2010 and per the recommendation of the Paper Awards Committee, led by Committee Chair Ralf Klischewski of GUC, Cairo/Egypt, the IFIP EGOV 2010 Organizing Committee granted outstanding paper awards in three distinct categories:

- The most interdisciplinary and innovative research contribution
- The most compelling critical research reflection
- The most promising practical concept

The winners in each category were announced in the award ceremony at the conference dinner, which is a highlight of each IFIP EGOV conference.

Many people make large events like this conference happen. We thank the 98 members of the IFIP EGOV 2010 Program Committee and dozens of additional reviewers for their great efforts in reviewing the submitted papers. Olivier Glassey of IDHEAP was a major contributor who tirelessly organized and managed the zillions of details locally. Andreas Jeworutzki of the University of Koblenz-Landau (Germany) supported us in the administrative management of the review process and in compiling the proceedings of IFIP EGOV 2010.

The host of IFIP EGOV 2010 was the Swiss Graduate School of Public Administration (IDHEAP) in the University of Lausanne/Switzerland. IDHEAP is an institution of postgraduate education that prepares students for senior functions in Switzerland's public administrations. IDHEAP is a renowned institution accredited on national and international levels. Leading in interdisciplinary research, IDHEAP provides advice and expertise to administrations, political leaders, and the national government of Switzerland. Finally, the City of Lausanne, capital of the Swiss canton Vaud, is situated on the shores of Lac Lemman (Lake Geneva) in the middle of a wine region and provides a formidable site for holding IFIP EGOV 2010. The city's long and at times turbulent history beginning with Celtic and Roman settlements has created a rich heritage and a cultural setting with numerous sites of interest. Lausanne is also the headquarters of the International Olympic Committee (IOC), which officially recognizes the city as its Capitale Olympique. It was a great pleasure to hold IFIP EGOV 2010 at such a special place.

August/September 2010

Maria A. Wimmer
Jean-Loup Chappelet
Marijn Janssen
Hans J. (Jochen) Scholl

Organization

Executive Committee

Maria A. Wimmer	University of Koblenz-Landau, Germany
Jean-Loup Chappelet	IDHEAP, University of Lausanne, Switzerland
Marijn Janssen	Delft University of Technology, The Netherlands
Jochen Scholl	University of Washington, USA

Program Committee

Ashraf Hassan Abdelwahab	Deputy to the Minister of State for Administrative Development, Egypt
Suha AlAwadhi	Kuwait University, Kuwait
Vincenzo Ambriola	University of Pisa, Italy
Rex Arendsen	University of Twente, The Netherlands
Yigal Arens	Digital Government Research Center, USA
Karin Axelsson	Linköping University and Örebro University, Sweden
Molnar Balint	Corvinus University, Hungary
Frank Bannister	Trinity College Dublin, Ireland
Karine Barzilai-Nahon	University of Washington, USA
Victor Bekkers	Erasmus University Rotterdam, The Netherlands
Lasse Berntzen	Vestfold University College, Norway
John Bertot	University of Maryland, College Park, USA
Melanie Bicking	University of Koblenz-Landau, Germany
Dana Maria Boldeanu	Bucharest Academy of Economic Studies and University Politehnica of Bucharest, Romania
Bojan Cestnik	Temida d.o.o., Slovenia
Jean-Loup Chappelet	IDHEAP, Switzerland
Yannis Charalabidis	National Technical University of Athens, Greece
Sergey Chernyshenko	Dnipropetrovsk National University, Ukraine
Wichian Chutimaskul	King Mongkut's University of Technology Thonburi, Thailand
Flavio Corradini	University of Camerino, Italy
Jim Davies	University of Oxford, UK
Sharon Dawes	University at Albany, USA

VIII Organization

Rahul De	Indian Institute of Management Bangalore, India
Marco de Marco	Catholic University of Milan, Italy
Elsa Estevez	UNU Macao, China
Enrico Ferro	Istituto Superiore Mario Boella (ISMB), Italy
Leif S. Flak	University of Agder, Norway
Iván Futó	Corvinus University of Budapest, Advisor for E-Government, Hungary
Andreas Gábor	Budapest University of Economic Sciences and Public Administration, Hungary
Rimantas Gatautis	Kaunas University of Technology, Lithuania
José Ramón Gil-García	Centro de Investigación y Docencia Económicas (CIDE), Mexico
Olivier Glassey	IDHEAP, Switzerland
Dimitris Gouscos	University of Athens, Greece
Åke Grönlund	Örebro University, Sweden
Luis Guijarro-Coloma	University of Valencia, Spain
M.P. Gupta	Indian Institute of Technology Delhi, India
Jan Pries Heje	Roskilde University, Denmark
Helle Zinner Henriksen	Copenhagen Business School, Denmark
Zahir Irani	Brunel University, UK
Tomasz Janowski	United Nations University IIST, Macau, China
Arild Jansen	University of Oslo, Norway
Marijn Janssen	Delft University of Technology, The Netherlands
Luiz Antonio Joia	Brazilian School of Public and Business Administration, Getulio Vargas Foundation, Brazil
Ralf Klischewski	German University in Cairo, Egypt
Trond Knudsen	Research Council, Norway
Helmut Kremer	Technical University of Munich, Germany
Herbert Kubicek	University of Bremen, Germany
Christine Leitner	Danube University Krems, Austria
Katarina Lindblad-Gidlund	Mid Sweden University, Sweden
Miriam Lips	Victoria University of Wellington, New Zealand
Euripides Loukis	University of the Aegean, Greece
Ann Macintosh	Leeds University, UK
Alexander Makarenko	Institute for Applied System Analysis at National Technical University of Ukraine (KPI), Ukraine
Josef Makolm	Federal Ministry of Finance, Austria
Gregoris Mentzas	National Technical University of Athens, Greece

Jeremy Millard	Danish Technological Institute, Denmark
Carl Erik Moe	University of Agder, Norway
Hernan Moreno	CEPAL, Columbia
Jose Maria Moreno Jimenez	University of Zaragoza, Spain
Scott Moss	Manchester Metropolitan University, UK
Björn Niehaves	European Research Center for Information Systems, Germany
Peter Axel Nielsen	Aalborg University, Denmark
Arvo Ott	eGovernance Academy, Estonia
Theresa Pardo	Center for Technology in Government, University at Albany, USA
Vassilios Peristeras	DERI, Ireland
Rimantas Petrauskas	Law University of Lithuania, Lithuania
Florin Pop	Centre for Advanced Studies on Electronic Services, University Politehnica of Bucharest, Romania
Reinhard Posch	Rechnical University of Graz, CIO of the Federal Government, Austria
Andreja Pucihar	University of Maribor, Slovenia
Peter Reichstädter	Federal Chancellery of Austria, Austria
Nicolau Reinhard	Bern University of Applied Sciences, Switzerland
Tomas Sabol	TU Kosice, Slovakia
Øystein Sæbø	University of Agder, Norway
Hans Jochen Scholl	University of Washington, USA
Jamal Shahin	Institut for European Studies, Vrije Universiteit Brussel, Belgium
Mauricio Solar	U. Tecnica Federico Santa Maria, Chile
Maddalena Sorrentino	University of Milan, Italy
Witold Staniszkis	Rodan Systems S.A., Poland
Ivar Tallo	United Nations Institute for Training and Research, Switzerland
Efthimios Tambouris	CERTH/ITI and University of Macedonia, Greece
Yao-Hua Tan	Delft University of Technology, The Netherlands
A Min Tjoa	Technical University of Vienna, Austria
Roland Traunmüller	University of Linz, Austria
Tom M. van Engers	University of Amsterdam, The Netherlands
Mirko Vintar	University of Ljubljana, Slovenia
Vishanth Weerakoddy	Brunel University, UK
Maria A. Wimmer	University of Koblenz-Landau, Germany
Petra Wolf	Technical University of Munich, Germany
Chien-Chih Yu	National ChengChi University, Taiwan

Additional Reviewers

Dimitris Apostolou, Greece

Gaston Concha, Chile

Ciprian Dobre, Romania

Marleen Haase, Austria

Bernhard Hitpass, Chile

Herbert Leitold, Austria

Jianwei Liu, The Netherlands

Nikos Loutas, Ireland

Ulf Melin, Sweden

Ansgar Mondorf, Germany

Barbara Re, Italy

Francesca Ricciardi, Italy

Sabrina Scherer, Germany

Daniel Schmidt, Germany

Amirreza Tahamtan, Austria

Silke Weiß, Austria

Table of Contents

Foundations

Towards an Understanding of E-Government Induced Change – Drawing on Organization and Structuration Theories	1
<i>Anne Fleur van Veenstra, Marijn Janssen, and Yao-Hua Tan</i>	
Ten Years of E-Government: The ‘End of History’ and New Beginning	13
<i>Åke Grönlund</i>	
Siblings of a Different Kind: E-Government and E-Commerce	25
<i>Karine Barzilai-Nahon and Hans Jochen Scholl</i>	
Inter-organizational Information Systems and Interaction in Public vs. Private Sector – Comparing Two Cases	38
<i>Ulf Melin and Karin Axelsson</i>	
Information Strategies for Open Government: Challenges and Prospects for Deriving Public Value from Government Transparency	50
<i>Sharon S. Dawes and Natalie Helbig</i>	
Defining a Taxonomy for Research Areas on ICT for Governance and Policy Modelling	61
<i>Fenareti Lampathaki, Yannis Charalabidis, Spyros Passas, David Osimo, Melanie Bicking, Maria A. Wimmer, and Dimitris Askounis</i>	
Analyzing the Structure of the EGOV Conference Community	73
<i>Nuša Erman and Ljupčo Todorovski</i>	

Transformation

Drift or Shift? Propositions for Changing Roles of Administrations in E-Government	85
<i>Ralf Klischewski</i>	
An Institutional Perspective on the Challenges of Information Systems Innovation in Public Organisations	97
<i>Gamel O. Wiredu</i>	
Agriculture Market Information Services (AMIS) in the Least Developed Countries (LDCs): Nature, Scopes, and Challenges	109
<i>M. Sirajul Islam and Åke Grönlund</i>	

Community-Based E-Government: Libraries as E-Government Partners and Providers 121
John Carlo Bertot

Civil Servants' Internet Skills: Are They Ready for E-Government? 132
Alexander van Deursen and Jan van Dijk

Channel Choice and Source Choice of Entrepreneurs in a Public Organizational Context: The Dutch Case 144
Jurjen Jansen, Lidwien van de Wijngaert, and Willem Pieterse

Evaluation

Measuring and Benchmarking the Back-end of E-Government. A Participative Self-assessment Approach 156
Marijn Janssen

Assessing Emerging ICT-Enabled Governance Models in European Cities: Results from a Mapping Survey 168
Gianluca Misuraca, Enrico Ferro, and Brunella Caroleo

Designing and Evaluating Dashboards for Multi-agency Crisis Preparation: A Living Lab 180
Nitesh Bharosa, Marijn Janssen, Sebastiaan Meijer, and Fritjof Brave

Automatic Generation of Roadmap for E-Government Implementation 192
Mauricio Solar, Daniel Pantoja, and Gonzalo Valdés

Adoption and Diffusion

Success of Government E-Service Delivery: Does Satisfaction Matter? ... 204
Parmita Saha, Atanu Nath, and Esmail Salehi-Sangari

Emerging Barriers in E-Government Implementation 216
Spyros Angelopoulos, Fotis Kitsios, Petros Kofakis, and Thanos Papadopoulos

Rituals in E-Government Implementation: An Analysis of Failure 226
Rahul De' and Sandeep Sarkar

E-Governance - A Challenge for the Regional Sustainable Development in Romania 238
Mihaela Mureşan

Citizen Perspective and Social Inclusion

Towards a Roadmap for User Involvement in E-Government Service Development	251
<i>Jesper Holgersson, Eva Söderström, Fredrik Karlsson, and Karin Hedström</i>	
ICT Diffusion in an Aging Society: A Scenario Analysis	263
<i>Enrico Ferro, Brunella Caroleo, Marco Cantamessa, and Maurizio Leo</i>	
What is the Issue with Internet Acceptance among Elderly Citizens? Theory Development and Policy Recommendations for Inclusive E-Government	275
<i>Bjoern Niehaves and Ralf Plattfaut</i>	
Design of an Open Social E-Service for Assisted Living	289
<i>Gustaf Juell-Skielse and Petia Wohed</i>	

Infrastructure

How to Develop an Open and Flexible Information Infrastructure for the Public Sector?	301
<i>Erik Hornnes, Arild Jansen, and Øivind Langeland</i>	
Interoperability in Public Sector: How Use of a Lightweight Approach Can Reduce the Gap between Plans and Reality	315
<i>Svein Ølnes</i>	
Dynamic Public Service Mediation	327
<i>Wout Hofman and Mark van Staalduinen</i>	
Enabling Interoperability of Government Data Catalogues	339
<i>Fadi Maali, Richard Cyganiak, and Vassilios Peristeras</i>	
Knowledge Sharing in E-Collaboration	351
<i>Neil Ireson and Gregoire Burel</i>	
Digital Certificate Management for Document Workflows in E-Government Services	363
<i>Florin Pop, Ciprian Dobre, Decebal Popescu, Vlad Ciobanu, and Valentin Cristea</i>	
Software Reuse in Local Public Bodies: Lessons Learned in Tuscany	375
<i>Vincenzo Ambriola and Giovanni A. Cignoni</i>	

Business Process Modelling

From Bureaucratic to Quasi-Market Environments: On the Co-evolution of Public Sector Business Process Management	387
<i>Bjoern Niehaves and Ralf Plattfaut</i>	
Process and Data-Oriented Approach for Bundling Corporate Reporting Duties to Public Authorities – A Case Study on the Example of Waste Management Reporting	400
<i>Armin Sharafi, Petra Wolf, and Helmut Krcmar</i>	
Toward a Formal Approach to Process Bundling in Public Administrations	412
<i>Marlen Jurisch, Petra Wolf, and Helmut Krcmar</i>	
Designing Quality Business Processes for E-Government Digital Services	424
<i>Flavio Corradini, Damiano Falcioni, Andrea Polini, Alberto Polzonetti, and Barbara Re</i>	

Erratum

Digital Certificate Management for Document Workflows in E-Government Services	E1
<i>Florin Pop, Ciprian Dobre, Decebal Popescu, Vlad Ciobanu, and Valentin Cristea</i>	
Author Index	437