Communications in Computer and Information Science 111

Miltiadis D. Lytras Patricia Ordonez De Pablos Adrian Ziderman Alan Roulstone Hermann Maurer Jonathan B. Imber (Eds.)

Knowledge Management, Information Systems, E-Learning, and Sustainability Research

Third World Summit on the Knowledge Society WSKS 2010 Corfu, Greece, September 22-24, 2010 Proceedings, Part I



Volume Editors

Miltiadis D. Lytras The American College of Greece Aghia Paraskevi, Athens, Greece

E-mail: mlytras@acg.edu

Patricia Ordonez De Pablos University of Oviedo, Spain E-mail: patriop@uniovi.es

Adrian Ziderman

Bar-Ilan University, Ramat Gan, Israel

E-mail: zidera37@bezegint.net

Alan Roulstone

De Montfort University, Leicester, UK

E-mail: aroulstone@dmu.ac.uk

Hermann Maurer

Graz University of Technology, Austria E-mail: hmaurer@iicm.tu-graz.ac.at

Jonathan B. Imber

Wellesley College, Wellesley, MA, USA

E-mail: jimber@wellesley.edu

Library of Congress Control Number: Applied for

CR Subject Classification (1998): J.1, K.5.2, H.4, H.3, H.5, K.4

ISSN 1865-0929

ISBN-10 3-642-16317-3 Springer Berlin Heidelberg New York ISBN-13 978-3-642-16317-3 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

© Springer-Verlag Berlin Heidelberg 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

It is a great pleasure to share with you the Springer *CCIS* 111 proceedings of the Third World Summit on the Knowledge Society—WSKS 2010—that was organized by the International Scientific Council for the Knowledge Society, and supported by the Open Research Society, NGO, (http://www.open-knowledge-society.org) and the *International Journal of the Knowledge Society Research*, (http://www.igi-global.com/ijksr), and took place in Aquis Corfu Holiday Palace Hotel, on Corfu island, Greece, September 22–24, 2010.

The Third World Summit on the Knowledge Society (WSKS 2010) was an international scientific event devoted to promoting the dialogue on the main aspects of the knowledge society towards a better world for all. The multidimensional economic and social crisis of the last couple years brings to the fore the need to discuss in depth new policies and strategies for a human-centric developmental process in the global context.

This annual summit brings together key stakeholders of knowledge society development worldwide, from academia, industry, government, policy makers, and active citizens to look at the impact and prospects of it information technology, and the knowledge-based era it is creating, on key facets of living, working, learning, innovating, and collaborating in today's hyper-complex world.

The summit provides a distinct, unique forum for cross-disciplinary fertilization of research, favoring the dissemination of research into new scientific ideas relevant to international research agendas as the EU (FP7), OECD or UNESCO. We put in the center of our focus the key aspects of a new sustainable deal for a bold response to the multidimensional crisis of our times.

Eleven general pillars provide the constitutional elements of the summit:

- Pillar 1. Information Technologies—Knowledge Management Systems—E-business and Business, Organizational and Inter-organizational Information Systems for the Knowledge Society
- Pillar 2. Knowledge, Learning, Education, Learning Technologies and E-learning for the Knowledge Society
- Pillar 3. Social and Humanistic Computing for the Knowledge Society—Emerging Technologies for Society and Humanity
- Pillar 4. Culture and Cultural Heritage—Technology for Culture Management— Management of Tourism and Entertainment—Tourism Networks in the Knowledge Society
- Pillar 5. E-Government and e-Democracy in the Knowledge Society
- Pillar 6. Innovation, Sustainable Development, and Strategic Management for the Knowledge Society
- Pillar 7. Service Science, Management, Engineering, and Technology

- Pillar 8. Intellectual and Human Capital Development in the Knowledge Society
- Pillar 9. Advanced Applications for Environmental Protection and Green Economy Management
- Pillar 10. Future Prospects for the Knowledge Society: From Foresight Studies to Projects and Public Policies
- Pillar 11. Technologies and Business Models for the Creative Industries

In the Third World Summit on the Knowledge Society, six main tracks and three workshops were organized. This *CCIS* volume summarizes excellent, full research articles that were selected after a double-blind review process from 245 submissions, contributed by 412 co-authors.

We are very happy because in this volume you will find high-quality research that summarizes sound propositions for advanced systems towards the knowledge society.

I would like to thank the more than 400 co-authors from 45 countries for their submissions the Program Committee members and their subreviewers for the thoroughness of their reviews, and the colleagues in the Open Research Society for the great support they offered in the organization of the event in corfu.

We are honored with the support and encouragement of the editors-in-chief of the six-ISI SCI/SSCI-listed journals that agreed to publish special issues from extended versions of papers presented in the summit:

International Journal of Manpower

http://info.emeraldinsight.com/products/journals/journals.htm?PHPSESSID=tefp40i8epkijs6fgk752rnlt4&id=ijm

Special issue: Human Resources Management and Emerging Technologies: Manpower Primer for the Knowledge Society

International Journal of Engineering Education

http://www.ijee.dit.ie/

Special issue: New Learning and Teaching Approaches for Computer

Engineering Education in the Knowledge Society

Society Journal

http://www.springer.com/social+sciences/journal/12115

Special issue: Knowledge Society

Service Industries Journal

http://www.tandf.co.uk/journals/titles/02642069.asp

Special issue: Services Management and Services Science for the Knowledge Society

Disability and Society

http://www.tandf.co.uk/journals/carfax/09687599.html

A great thank you also to Alfred Hofmann and Leonie Kunz at Springer DE for the excellent support in all the phases of *CCIS* 111 and 112, proceedings development.

Last but not least my Thank you to the staff and members of the Open Research Society, for their through efforts in all the phases of the summit's organization and in realizing the joint vision to promote a better world for all—based on knowledge and learning.

We need a better therefore world and we contribute with our sound voices to the agenda, policies and actions. We can invite you to join your voice with ours and all together shape a new deal for our world: education, sustainable development, health, opportunities for well being, culture, collaboration, peace, democracy, technology for all.

Looking forward to see you in the fourth event of the series, for which you can find more information at: http://know-summit.org.

With 25 special issues already agreed for WSKS 2011, and six main tracks, we want to ask for your involvement and we would be happy to see you joining us.

Thank—Efharisto Poli—on behalf of the Program and Organizing Committee.

July 2010

Miltiadis D. Lytras

Organization

WSKS 2010 was organized by the International Scientific Council for the Knowledge Society, and supported by the Open Research Society, NGO, (http://www.open-knowledge-society.org) and the International Journal of the Knowledge Society Research, (http://www.igi-global.com/ijksr).

Executive Committee

General Chair of WSKS 2010

Miltiadis D. Lytras

Research Professor, The American College of Greece, Deree College, Greece

President, Open Research Society, NGO

Miltiadis D. Lytras is the President and Founder of the Open Research Society, NGO. His research focuses on the semantic Web, knowledge management and e-learning, with more than 100 publications in these areas. He has co-edited/co-edits, 25 special issues in international journals (e.g., IEEE Transaction on Knowledge and Data Engineering, IEEE Internet Computing, IEEE Transactions on Education, Computers in Human Behavior, Interactive Learning Environments, Journal of Knowledge Management, Journal of Computer Assisted Learning, etc.,) and has authored/[co-]edited 25 books (e.g., Open Source for Knowledge and Learning Management, Ubiquitous and Pervasive Knowledge Management, Intelligent Learning Infrastructures for Knowledge Intensive Organizations, Semantic Web Based Information Systems, China Information Technology Handbook, Real World Applications of Semantic Web and Ontologies, Web 2.0: The Business Model, etc.,). He is the founder and officer of the Semantic Web and Information Systems Special Interest Group in the Association for Information Systems (http://www.sigsemis.org). He serves as the (Co) Editor-in-Chief of 12 international journals (e.g., International Journal of Knowledge and Learning, International Journal of Technology Enhanced Learning, International Journal on Social and Humanistic Computing, International Journal on Semantic Web and Information Systems, International Journal on Digital Culture and Electronic Tourism, International Journal of Electronic Democracy, International Journal of Electronic Banking, International Journal of Electronic Trade etc.,) while he is associate editor or editorial board member with seven more.

WSKS 2010 Co-chairs

Patricia Ordonez De Pablos

University of Oviedo, Spain patriop@uniovi.es

Adrian Ziderman

Editor, International Journal of Manpower Wolfson Professor Emeritus Economics Department Bar-Ilan University Ramat Gan 52900, Israel Homepage:

http: www.biu.ac.il/soc/ec/ziderman/ziderman.htm zidera37@bezeqint.net

Alan Roulstone

Professor of Applied Social Sciences
Executive Editor-Disability and Society
Faculty of Health and Life Sciences
De Montfort University
Portland Building 0.12
Gateway
Leicester
LE1 9BH
Office 0116 207 8632
Home Office 0191 516 9744
aroulstone@dmu.ac.uk

Hermann MAURER

Professor of Informatics, Graz University of Technology, Inffeldgasse 16c, A- 8010 Graz/ Austria, Chair of the IS of the Academia Europaea, www.ae-info.org
Ph. +43-316- 873 5612 Personal Website: www.iicm.edu/maurer hmaurer@iicm.tu-graz.ac.at

Jonathan B. Imber

Jean Glasscock Professor of Sociology Department of Sociology Wellesley College Wellesley, MA 02481 Director, Program in American Studies Editor-in-Chief, Society Magazine Office: 781-283-2139 FAX: 781-283-3662 www.societymagazine.org jimber@wellesley.edu

Program Chairs

Miltiadis D. Lytras American College of Greece, Greece
Ambjorn Naeve Royal Institute of Technology, Sweden

Patricia Ordonez De Pablos University of Oviedo Spain

Knowledge Management and E-Learning Symposium Chair

Miguel Angel Sicilia University of Alcala, Spain

Publicity Chair

Ekaterini Pitsa Open Research Society, Greece

Exhibition Chair

Efstathia Pitsa University of Cambridge, UK

Program and Scientific Committee Members

Senior Advisors –

World Summit on the Knowledge Society / IJ of Knowledge Society Research Council

Horatiu Dragomirescu Bucharest University of Economics, Romania

Michel Grundstein Paris Dauphine University, France
Ott Michela National Research Council, Italy
Matthew K. O. Lee University of Hong Kong, Hong Kong

Ravi S. Sharma Nanyang Technological University, Singapore

Toyohide Watanabe Nagoya University, Japan

Carel S. De Beer University of Pretoria, South Africa

Sean Siqueira Federal University of the State of Rio de Janeiro,

Brazil

Saad Haj Bakry King Saud University, Saudi Arabia

Nitham Hindi Oatar University, Oatar

Maria Braz Technical University of Lisbon, Portugal Przemysław Kazienko Wrocław University of Technology, Poland

José María Moreno-Jiménez University of Zaragoza, Spain
Marco Temperini Sapienza University of Rome, Italy
Michal Žemlička Charles University, Czech Republic

International Review Board

Marie-Hélène Abel Turón Alberto

Adriano Albuquerque Luis Alvarez Sabucedo Heli Aramo-Immonen Patricia Almeida

José Enrique Armendáriz-Iñigo Özlem (Gökkurt) Bayram

Ana Maria Beltran Pavani

Sambit Bhattacharya

John Biggam

Constanta Nicoleta Bodea

Philip Bonanno
Helen Bond
Maria Braz
Miguel A. Brito
Berta Buttarazzi
Carlos Cabañero-Pisa
Adolfo J. Cangas
Nicola Capuano
Antonella Carbonaro
Abdullah Çavuşoğlu
Wenwu Chang

Frieda Charalabopoulou

Christy M.K. Cheung Ricardo Colomo-Palacios Bogdan Czejdo

Vassilios Dagdilelis Nikunj Dalal Vidoni Daniele

Filipe De Sá-Soares

Craig Deed

Guleser Kalayci Demir

Michael Derntl Jon Dornaleteche Athanasios Drigas Allyson Eamer

Anthony Edwards Marc Alier Forment Nestor Garay-Vitoria University of Technology of Compiègne, France

University of Zaragoza, Spain University of Fortaleza, Brazil University of Vigo, Spain

Tampere University of Technology, Finland

University of Aveiro, Portugal Public University of Navarra, Spain

Ankara University, Turkey

Pontifical Catholic University of Rio de Janeiro,

3razıl

Fayetteville State University, USA Glasgow Caledonian University, Scotland The Academy of Economic Studies, Romania

University of Malta, Malta Howard University, USA

Technical University of Lisbon, Portugal

University of Minho, Portugal

University of Rome Tor Vergata, Italy Open University of Catalonia, Spain

University of Almería, Spain University of Salerno, Italy University of Bologna, Italy Karabuk University, Turkey

Putuo Modern Educational Technology Center,

China

Institute for Language and Speech Processing,

Greece

Hong Kong Baptist University, Hong Kong Universidad Carlos III De Madrid, Spain Fayetteville State University, USA University of Macedonia, Greece Oklahoma State University, USA

Oklahoma State University, USA INVALSI (Italian National Institute for Educational Evaluation), Italy

University of Minho, Portugal La Trobe University, Australia Dokuz Eylul University, Turkey University of Vienna, Austria University of Valladolid, Spain NCSR Demokritos, Greece

University of Ontario Institute of Technology,

Canada

Liverpool Hope University, UK

Polytechnic University of Catalonia, Spain University of the Basque Country, Spain

Roberto García

Francisco José García-Peñalvo

Blanca García Riaza Gretchen Geng Mark Glynn

Ana Belén González Rogado

Eloy Irigoyen Gordo Francesca Grippa

Rugayah Hashim Ángel Hernández García

Saad Ines Luis Iribarne

Peiquan Jin

Min Jou Jowati Juhary

Przemyslaw Kazienko Gerassimos Kekkeris Georgiadou Keratso Kathy Kikis-Papadakis George M. Korres Kornelia Kozovska Panagiotis Kyriazopoulos

Habin Lee

Jean-Marc Lezcano Carla Limongelli

Alessandro Longheu Margarida Lucas Aristomenis Macris Giuseppe Mangioni Davide Mazza Miroslay Minovic

El-Mekawy Mohamed

Olmo Moreno Beniamino Murgante

Rita C. Nienaber Nicolae Nistor

Angela Paleologou Plácido Pinheiro Yossi Raanan Liana Razmerita Eva Rimbau-Gilabert

Lorayne Robertson

University of Lleida, Spain University of Salamanca, Spain University of Salamanca, Spain Charles Darwin University, Australia Institutes of Technology of Ireland, Ireland

University of Salamanca, Spain

University of the Basque Country, Spain

University of Salento, Italy

Universiti Teknologi Mara (UITM), Malaysia Polytechnic University of Madrid, Spain

Amiens Business School, France University of Almeria, Spain

University of Science and Technology of China,

China

National Taiwan Normal University, China National Defense University of Malaysia,

Malaysia

Wroclaw University of Technology, Poland Democtius University of Thrace, Greece

DUTH, Greece

FORTH/IACM, Greece

University of the Aegean, Greece Joint Research Center, Italy

Graduate Technological Education Institute of

Piraeus, Greece Brunel University, UK

Sogeti, France

Università degli Studi Roma Tre, Italy

University of Catania, Italy University of Aveiro, Portugal University of Piraeus, Greece University of Catania, Italy Politecnico di Milano, Italy University of Belgrade, Serbia

Royal Institute of Technology (KTH), Sweden

Modelo University, Mexico University of Basilicata, Italy

University of South Africa, South Africa Ludwig-Maximilians University Munich,

Germany

University of Ioannina, Greece University of Fortaleza, Brazil College of Management, Israel

Copenhagen Business School, Denmark Open University of Catalonia, Spain

University of Ontario Institute of Technology,

Canada

XIV Organization

Marco Ronchetti Elisabet Ruiz-Dotras

Lazar Rusu

Luis Alvarez Sabucedo

Saqib Saeed Irene Samanta

Jesús David Sánchez De Pablo

González Del Campo

Juan M. Santos Akila Sarirete Fabio Sartori

Chaudhary Imran Sarwar

Filippo Sciarrone Giustina Secundo Enric Serradell-Lopez

Khurram Shahzad Ravi S. Sharma Elizabeth Sherly

Sean Siqueira

Pedro Soto-Acosta Vladimir Stantchev

Dušan Starčević Nouha Taifi Antonio Trigo

Giuseppe Vadalà

Kin Choong Yow

Università Di Trento, Italy

Open University of Catalonia, Spain Stockholm University, Sweden University of Vigo, Spain

University of Vigo, Spani University of Siegem, Germany

Graduate Technological Education Institute of

Piraeus, Greece

University of Castilla-La Mancha, Spain

University of Vigo, Spain Effat University, Saudi Arabia University of Milan-Bicocca, Italy Creative Researcher, Pakistan

Università degli Studi Roma Tre, Italy

University of Salento, Italy

Open University of Catalonia, Spain

Royal Institute of Technology (KTH), Sweden Nanyang Technological University, Singapore Indian Institute of Information Technology and

Management-Kerala, India

Federal University of the State of Rio de Janeiro,

Brazil

University of Murcia, Spain

Berlin Institute of Technology, Germany

University of Belgrade, Serbia University of Salento, Italy

ISCAC, Portugal

University of Bergamo, Italy

Nanyang Technological University, Singapore

Table of Contents - Part I

Field	1
Ricardo Colomo-Palacios, Fernando Cabezas-Isla, Ángel García-Crespo, and Pedro Soto-Acosta	
Ontology-Based Modelling of Ocean Satellite Images	8
Use of the Question and Test Specification to Define Adaptive Test	13
A Survey on Ontology Metrics	22
The Impact of Team Project on Students' Learning: An Analysis of a Global IT Management Course	28
LONS: Learning Object Negotiation System	41
Knowledge Services for Knowledge Workers	51
Towards an Ontology for the Description of Learning Resources on Disaster Risk Reduction	60
Designing an Instrument to Measure the QoS of a Spanish Virtual Store	75
The Applications of Mindfulness with Students of Secondary School: Results on the Academic Performance, Self-concept and Anxiety	83
An Infrastructure Approach for the Evaluation of E-Learning	98

Metadata and Ontologies in Learning Resources Design	105
Open Integrated Personal Learning Environment: Towards a New Conception of the ICT-Based Learning Processes	115
An Assessment of Node Classification Accuracy in Social Networks Using Label-Dependent Feature Extraction	125
Improving Web Search and Navigation Using Summarization Process $Antonella\ Carbonaro$	131
PRIOR-WK&E: Social Software for Policy Making in the Knowledge Society	139
Learning Assessment Using Wikis: Integrated or LMS Independent? Marc Alier Forment, Xavier De Pedro, Maria Jose Casañ, Jordi Piguillem, and Nikolas Galanis	150
How to Analyze Company Using Social Network?	159
Teacher, What Do You Mean by "Creativity"? An Italian Survey on the Use of ICT to Foster Student Creativity	165
Turisbook: Social Network of Tourism with Geographical Information	172
Sustaining Tunisian SMEs' Competitiveness in the Knowledge Society	180
An Approach to Metadata Generation for Learning Objects Victor Menendez D., Alfredo Zapata G., Christian Vidal C., Alejandra Segura N., and Manuel Prieto M.	190
Web-Based Learning Information System for Web 3.0	196

316

with Better Grades....

Patrícia Almeida, José Joaquim Teixeira-Dias, Mariana Martinho, and Chinthaka Balasooriya

Semantically Enriched Tools for the Knowledge Society: Case of Project Management and Presentation	322
Application of Scientific Approaches for Evaluation of Quality of Learning Objects in eQNet Project	329
Empowering the Design and the Sharing of Learning Plans by Means of Net Technologies: The IAMEL System	336
Survey on Intelligent Assistance for Workplace Learning in Software Engineering	343
V-NIP Ceaser: Video Stabilization System	350
Using Wikis to Learn Computer Programming	357
The Enterprise 2.0 Concept: Challenges on Data and Information Security	363
Development of a Sensor Network System for Industrial Technology Education	369
A Study of Successful and Unsuccessful Online Learning Environment Experiences	37
Assistance System for Disabled People: A Robot Controlled by Blinking and Wireless Link	38:
Security System Technologies Applied to Ambient Assisted Living Juan J. Villacorta, Lara del Val, M ^a Isabel Jimenez, and Alberto Izquierdo	389
E-Commerce Sites: Use Intention by Brazilian Users	395

Table of Contents – Part I	XIX
Instructional Leadership and Schools Effectiveness	401
Conversation Threads Hidden within Email Server Logs	407
Mobile System to Guide Blind People in a Well-Known Environment Luis M. Domene, José A. Piedra, and Manuel Cantón	414
Indexing Moving Objects: A Real Time Approach	421
The Study in Group: A Case	427
A Criticism on the Bologna's Learning Strategies	432
Retracted: Application of Top-Down Approach for Evaluation of Quality of Learning Objects	437
Exploring Learning through Audience Interaction in Virtual Reality Dome Theaters	444
Students' Everyday Use of Web 2.0 Collaboration Tools and Use within Moodle	449
Enhancing Collaborative Learning through Group Intelligence Software	453
A Queuing Theory and Systems Modeling Course Based on Unified Modeling Language (UML)	460
'The Lived Experience of Climate Change': An Interdisciplinary and Competence-Based Masters Track Using Open Educational Resources and Virtual Mobility	465
Student Performance in Online Project Management Courses: A Data Mining Approach Constanta-Nicoleta Bodea, Vasile Bodea, and Radu Mogos	470

XX

Table of Contents – Part I	XXI
Accelerated Modular Multiplication Algorithm of Large Word Length Numbers with a Fixed Module	573
Check Sum Optimization for Transmission and Storage of Digital Information	582
A Web-Based Learning Information System Resource and Knowledge Management	591
Erratum	
Application of Top-Down Approach for Evaluation of Quality of Learning Objects	E1
Author Index	601

Table of Contents – Part II

A Study of Emotions in Requirements Engineering	1
Subcultures in Large Companies: An Exploratory Analysis	8
Woodfuels Prosperity towards a More Sustainable Energy Production	19
A European Languages Virtual Network Proposal	26
Financial Constrains for Innovative Firms: The Role of Size, Industry and ICT Uses as Determinants of Firms' Financial Structure	34
Operational Strategy of Demand Buses, Using Self-Organizing Map Toyohide Watanabe and Kentaro Uesugi	46
Extending TAM to Understand E-Governance Adoption by Teachers in Greece	57
How Do ICT Uses and New Human Resources Practices Affect SMES' Efficiency?	69
Building a Web-Based Knowledge Repository on Climate Change to Support Environmental Communities	79
Crucial Barriers of Knowledge Society	85
Sustainable Innovation Strategies in Education: OLPC Case Studies in Ethiopia and Uruguay	94

The Semi-opened Infrastructure Model (SopIM): A Frame to Set Up an Organizational Learning Process	105
Competitive Learning in Electric Circuit Theory Using MOODLE Ramón J. Durán Barroso, Alfonso Bahillo, Patricia Fernández, Noemí Merayo, Ignacio de Miguel, Juan Carlos Aguado, Rubén M. Lorenzo, and Evaristo J. Abril Domi	113
Theory and Practice Meets in Industrial Process Design - Educational Perspective	123
Support Tool in the Diagnosis of Major Depressive Disorder	136
Business-IT Alignment in Trade Facilitation: A Case Study	146
Analyzing IT Service Delivery in an ISP from Nicaragua	155
An Analysis of the Use of Social Software and Its Impact on Organizational Processes	166
Investigating Student Satisfaction from Environmental and Architectural Design Elements of 3D Educational Facilities within 3D Virtual Worlds	175
Perceived Compatibility and the Adoption of B2C E-Commerce by Non-buyers	186
Support Tool in the Diagnosis of Sales Price of Dental Plans	193
Ontology-Based Gap Analysis for Technology Selection: A Knowledge Management Framework for the Support of Equipment Purchasing Processes	201

Table of Contents – Part II

XXV

System of Indicators in the Innovation Management: Business	226
Intelligence Applied to Tourism	336
An Overview on Transports and ITS	343
Aggregation Procedure Based on Majority Principle for Collective Identification of Firm's Crucial Knowledge	346
Customer Relationship Management Systems – Why Many Large Companies Do Not Have Them?	353
Is Accessibility an Issue in the Knowledge Society? Modern Web Applications in the Light of Accessibility	359
Structure of the Brazilian Sign Language (Libras) for Computational Tools: Citizenship and Social Inclusion	365
Organizational Knowledge Capitalization Based on Product Patterns and Web 2.0 Technology	371
Applying a Methodological Approach to the Development of a Natural Interaction System	381
A Review of Chief Information Officer' Main Skills Luis Portela, Roberto Carvalho, João Varajão, and Luis Magalhães	387
Using Financial Ratios to Select Companies for Tax Auditing: A Preliminary Study	393
Semiotic Analysis of Brazilian E-Commerce Signs	399

Clean Plate Movement and Empowerment of Civil Leadership for Developing Sustainable Life Style	405
Knowledge Base Methods of Obtaining Preference of Dental Patients Chi-Chang Chang, Ya-Hsin Li, Yi-Fen Chen, and Kuo-Hsiung Liao	412
Managing Research Portfolios in the Knowledge Enterprise: A University Spin-Out Case Study	418
Geogebra for Solving Problems of Physics	424
Simulation – Concepts and Applications	429
Measuring Administrative Burdens of e-Government Services for Rural SMEs	435
Guidelines for Implementing Change: A Case Study	443
Don't Break the Memory Line: Social Memory, Digital Storytelling and Local Communities	453
Compositional Effects in Italian Primary Schools: An Exploratory Analysis of INVALSI SNV Data and Suggestions for Further Research	460
Engaging Students in Higher Education through Mobile Learning	471
Convergence of Culture and ICTs: E-Culture	488
Accelerated Modular Multiplication Algorithm of Large Word Length Numbers with a Fixed Module	497
An Introduction to Videoconference Video Traffic	506

XXVIII Table of Contents – Part II

Teaching a Foreign Language to Deaf People via Vodcasting & Web 2.0	514
Tools	
Athanasios Drigas, John Vrettaros, Alexandors Tagoulis, and	
Dimitris Kouremenos	
Characterization of Texture in Images by Using a Cellular Automata	
Approach	522
Saturnino Leguizamón, Moisés Espínola, Rosa Ayala,	
Luis Iribarne, and Massimo Menenti	
Author Index	535
Tradical Index	000