The 7th World Multiconference
on Systemics, Cybernetics
and Informatics

Orlando, Florida ~ USA

PROCEEDINGS

Volume I

Information Systems,
Technologies and Applications

Organized by IIIS

International Institute of Informatics and Systemics

Member of the International Federation of Systems Research IFSR

Edited by

Nagib Callaos
Anna M. Di Sciullo
Toshizumi Ohta
Te-Kai Liu
CONTENTS

VOLUME I

INFORMATION SYSTEMS, TECHNOLOGIES AND APPLICATIONS

Contents

Asymmetry Theory and Information Systems - Invited Session
Organizer: Anna Maria Di Sciullo (Canada)

Cromm, Oliver; Masagbor, Grace (Canada): "Asymmetry-Based Machine Translation of Deverbal Compounds From German to French" 1

Di Sciullo, Anna Maria; Isac, Dana; Bricaud, Anne; Champagne-Desbiens, Marguerite; Darche, Laura; Hébert, Roseline; Simon, Mara (Canada): "Asymmetry-Based Lexicon" 7

Di Sciullo, Anna Maria (Canada): "Asymmetry in Morphological Objects and Derivational Complexity" 13

Di Sciullo, Anna Maria; Achim, Marcel; Burelle, Sophie; Gabriini, Philippe; Somesfalean, Stanca (Canada): "The Asymmetric Properties of Morphological Phases, their Relevance for Information Processing" 19

Huminski, Aliaksandr (Canada): "Asymmetry in Semantics and the Electronic Lexicon" 25

Computational Modeling in Social Informatics - Invited Session
Organizer: Toshizumi Ohta (Japan)

Ishida, Kazunari; Ohta, Toshizumi (Japan): "Socio-Informatica: Developing an Integrated Platform for Multi-Agent Simulation and a Digital Library" 31

Miyazawa, Shinichiro; Okada, Isamu; Shimizu, Nobuhiko; Yokoyama, Shoichi; Ohta, Toshizumi (Japan): "Study on Evaluating Machine Translation in Cyber Commons" 36

Ohta, Toshizumi; Ishida, Kazunari; Okada, Isamu; Yamamoto, Hitoshi (Japan): "Modeling Platform for Social Informatics" 42

Okada, Isamu; Takahashi, Ichiro; Ohta, Toshizumi (Japan): "An Agent-based Model of Debt Deflation in the Japanese Economy" 48
Yamamoto, Hitoshi; Ishida, Kazunari; Ohta, Toshizumi (Japan): "Managing Online Trade by Reputation Circulation: An Agent-Based Approach to the C2C Market"

Development Methods and Methodologies

Delvai, M.; El Salloum, C.; Steininger, A. (Austria): "A Generic Real-time Debugger Architecture"


Hadjina, Nikola (Croatia): "The Mathematical Model and Analysis of Key Generation for Stream Cipher on Ethernet LANs"

Lam, Kannis W.; Dullea, James; Fu, Lixi (USA): "Using Role Groups to Design Complex Relationships"

Martinovic, Goran; Budin, Leo; Hocenski, Željko (Croatia): "Multi-Criterial Mapping Modeling in Heterogeneous Environment"

Neunteufel, Herbert (Germany): "Structural Complexity of Project Organizations"

Nunes, Renato J.; Lima, Tiago S.; Silva, Sérgio J. (Portugal): "An Agent Based Approach to Home Automation Control"

Ramos, Pedro N. (Portugal): "Extending the UML Class Diagram with Deontic Constraints"

Richards, Mina (USA): "Technology Knowledge Transfer: A Case Study of the Department of Agriculture and Livestock in El Salvador"

Shishkov, Boris; Dietz, Jan L. G. (The Netherlands): "DEMO-Based Business Engineering Building Blocks - from User Requirements to Use Case Derivation"

Wang, Xiqin *, Meng, Huadong ** (* USA, ** China): "Modeling of Interactions between Information Processing Systems"

Education and Information Systems

Byrski, Witold; Juszkiewicz, Adam (Poland): "Identification of Characteristics of Ultrasonic Sensor Used for Density Measurement in Chemical Process Aimed at Control Education"

Denenberg, Darren A.; Smith, Dana H. (USA): "An Automated, Rule-Based Student Academic Advising System: An Overview"
Gründén, Kerstin (Sweden): "A Case Study of Work-Integrated E-Learning"

Jenq, John; Cumali, Emre; Deremer, Dorothy (USA): "An On-Line Course and Homework Handling System"

Macintyre, Ross; Apps, Ann; Morris, Leigh (UK): "Exploiting Open Standards in Academic Web Services"

Pendergast, Mark O. (USA): "Strategies for Teaching Object-Oriented Systems Design to Non-Traditional Students"

Pöyry, Päivi (Finland): "Building the Information Infrastructure for a European Virtual University – The Lessons Learned in the CUBER project"

Sakimoto, Masayuki; Ito, Hideaki; Takeshita, Toru (Japan): "Equipment Procurement Management Process Re-Engineering of a Medium Scale Private University in Japan"
Kurokawa, Shinya; Yamano, Akira; Takeno, Junichi (Japan): "Dynamics of Facial Expression Caused by Change of Feeling in a Humanoid Robot"

Lind, Ann; Lind, Bertil (Sweden): "Humans and Computers as Information Systems – A Comparative Analysis"


Naumann, Stefan (Germany): "Information Systems for Virtual Communities with Ecological Focus"

Smith, Ann; Chen, Min; Webster, Mike F (UK): "Vista: A Web-based Virtual Environment for Automatically Managing and Exhibiting Imagery Data"

Takahashi, Kenichi; Ueda, Hiroaki; Miyahara, Tetsuhiro (Japan): "Dynamic Formation Change in Simulated Soccer Using Formations Obtained by Genetic Algorithms"

Information Retrieval

Flores Pulido, Leticia; López López, Aurelio (Mexico): "Color Images Retrieval employing Wavelet Transform and Centroids"

Fu, Lixi; Dullea, James; Lam, Kannis W. (USA): "Implementing Complex Relations Directly from the Entity Relationship Model"

Gargouri, Yassine; Lefebvre, Bernard; Meunier, Jean-Guy (Canada): "Ontology Maintenance using Textual Analysis"


Shi, Chenggen; Lu, Jie (Australia): "Choosing LSI Dimensions by Word Vector Linear Association Analysis"

Information Systems Development

Ceglowski, Andrzej S.; Churilov, Leonid (Australia): "Decision support for evaluation of strategic initiatives in Australian higher education"

Chandramouli, Ramaswamy (USA): "Specification and Validation of Enterprise Access Control Data for Conformance to Model and Policy Constraints"
Dang, Tran Khanh; Kling, Josef; Wagner, Roland (Austria): "Efficient Vague Joins Processing in the VQS" 278


Hübner, Michael; Phillipow, Ilka; Riebisch, Matthias (Germany): "Statistical Usage Testing Based on UML" 290

Trullols, Enric; Del Río, Joaquim; Sorribas, Jordi; Samitier, Carlos; Manuél, Antoni (Spain): "A Virtual Real Time Distributed Laboratory" 296

Information Systems Management

Bosc, Patrick; Pivert, Olivier (France): "About Flexible Possibilistic Queries Against Possibilistic Databases" 299

Hanakawa, Noriko (Japan): "A model based project simulator for instructing analysis and design techniques of software development" 305

Shaw, Hui-Yin; Sherif, Joseph S.; Girard, Michael; Perun, Vincent (USA): "Software Management and Implementation Plan For The Microwave Limb Sounder (MLS) Carried on a NASA Satellite" 311

Wei, HuaQiang; Frincke, Deborah (USA): "Risk Assessment and Cost-Effective Business Modeling for Network Security" 316

Information Systems, Technologies and Applications

Guo Hua, Zhu; Ding, Lu Zheng (China): "Modeling of Control Flow and Data Flow in MLS Workflows" 322

Møller, Charles (Denmark): "ERP II Next-Generation Extended Enterprise Resource Planning" 327

Olla, Phillip; Atkinson, Chris (UK): "The Role of Methodological Actors in Facilitating Organisational Transformation: A study of change in the wireless technology industry" 333

Schulz, Axel K-D; Johnston, Carol G.; McCrohon, Mark (Australia): "An Evaluation of the Effectiveness of Online Learning on Student Learning, Attitudes and Approaches to Study in Management Accounting at University" 339
Tsykin, Mike *; Bouhana, James ** (* Australia, ** USA): "Automated Monitoring and Reporting of Enterprise Quality of Service"

Zadeh, Jeff (USA): "The UML and Basic Building Blocks"

Management Information Systems

Bregar, Andrej; Gyökös, József; Rozman, Ivan (Slovenia): "An Alternative Sorting Procedure for Interactive Group Decision Support Based on the Pseudo-criterion Concept"

Falkowski, B.-J.; Wirtschaft, F. B. (Germany): "Scoring Systems, Default Probabilities, and Certain Neural Networks"

Järvi, Pentti; Vanharanta, Hannu; Magnusson, Camilla; Arppe, Antti (Finland): "Collocational Networks Supporting Strategic Planning of Brand Communication: Analysis of Quarterly Reports of Telecommunication Companies"

Krieger, Rolf; Kuhn, Norbert; Naumann, Stefan; Schürmann, Cordula; Sommer, Christian (Germany): "XML-based Product Catalogues, Product Classification Systems and their Suitability for Electronic Market Places"

Speyerer, Jochen K.; Zeller, Andrew J. (Germany): "Disruption Management in Supply Networks with Web Services- ad hoc Information Retrieval for Fast Impact Analysis"

Wöß, Wolfram (Austria): "Enhancing E-Business Applications in Small and Medium-Sized Enterprises with XML-based EDI"

Yan, Junwei; Ye, Yang; Wang, Jian (China): "The Evaluation System of The Enterprise Model"

Performance of Web Services - Invited Session
Organizer: Te-Kai Liu (USA)


Chiu, Kenneth (USA): "Web Services Performance: A Survey of Issues and Solutions"

Dantzig, Paul M. (USA): "Architecture and Design of High Volume Web Sites"

Govindaraju, Madhusudhan; Slominski, Aleksander (USA): "An Introduction to Design Issues for Implementing Web Services"
Iyengar, Arun; King, Richard; Ladwig, Heiko; Rouvellou, Isabelle (USA): "Performance and Service Level Considerations for Distributed Web Applications"

Silver, Gregory A.; Maduko, Angola; Jafri, Rabia; Miller, John A.; Sheth, Amit P. (USA): "Modeling and Simulation of Quality of Service for Composite Web Services"

Software Engineering

Liu, Jian; Bastani, Farokh B.; Yen, I-Ling (USA): "Code Pattern: An Approach for Component-Based Code Synthesis"

Pasculescu, Adrian *; Dascalu, Sergiu ** (* Canada, ** USA): "Strata-Based Software Construction"

Shimomura, Takao; Takahashi, Muneo; Ikeda, Kenji; Mogami, Yoshio (Japan): "An Approach to Brain-Image Oriented Programming for Web Applications"

Suvee, Davy; Vanderperren, Wim; Jonckers, Viviane (Belgium): "Towards a symbiosis between Aspect-Oriented and Component-Based Software Development"

User Interface, Human Factors and Interactive Systems

Daniel, Gareth W; Chen, Min (UK): "Interaction Control Protocols for Distributed Multi-user Multi-camera Environments"

Lin, Shin-jeng (USA): "Vacation Planning via Information Seeking over the Web"

Marton, Christine F; Kalsbeek, Katherine; Thulin, Kendra (Canada): "Evaluating the Web user interface design of a bibliographic database on women’s health"

McGlaun, Gregor; Althoff, Frank; Lang, Manfred; Rigoll, Gerhard (Germany): "Towards Multimodal Error Management: Experimental Evaluation of User Strategies in Event of Faulty Application Behavior in Automotive Environments"

Rattanawicha, Pimmanee; Esichaikul, Vatcharaporn; Gullep, Eralp (Thailand): "The Effect of Company Stature and System Properties on Consumer Trust in E-Commerce Systems: An Empirical Study"

Sakajo, Satoko; Ohi, Tadashi (Japan): "Human Factors Analysis Support System"

Stempfhuber, Maximilian *; Kim, Do-Wan **; Petrick, Marco * (* Germany, ** Korea (South)): "Cross-Cultural Issues of Visual Formalisms in User Interface Design"