2012 Sixth International Conference on Research Challenges in Information Science

(RCIS 2012)

Valencia, Spain
16-18 May 2012
# Table of Contents

## Session 1: Ontologies and Data Warehouse

- **Ontologies as a Solution for Simultaneously Integrating and Reconciliating Data Sources**
  - Abdelghani Bakhtouchi, Ladjel Bellatreche, Stéphane Jeannot and Yamine Ait Ameur
  - Page 1

- **Transforming multidimensional models into OWL-DL ontologies**
  - Nicolas Prat, Jacky Akoka and Isabelle Comyn-Wattiau
  - Page 13

- **A Data Warehouse Logical Design Method Based on the Alignment with Business Processes**
  - Jacques Simonin, Sébastien Bigaret and Julie Gourmelen
  - Page 25

- **A First Step for Building a Document Warehouse: Unification of XML Documents**
  - Ines Ben Messaoud, Jamel Feki and Gilles Zurfluh
  - Page 37

- **Process-based Compliance: Probabilities**
  - Margit Schwab
  - Page 43

- **A Quality Based Approach for the Analysis and Design of Business Process Models**
  - Sarah Ayad
  - Page 49

- **Knowledge Service Model for Business Process Design**
  - Ludmila Penicina
  - Page 54

## Session 2: Information Search, Extraction and Mining

- **How to Extract Frequent Links with Frequent Itemsets in Social Networks?**
  - Erick Stattner and Martine Collard
  - Page 60

- **Challenges to building a platform for a breast cancer risk score**
  - Emilien Gauthier, Laurent Brisson, Philippe Lenca, Françoise Clavel-Chapelon and Stéphane Ragusa
  - Page 70

- **A Multi-level Hierarchical Index Structure for Supporting Efficient Similarity Search on Tag Sets**
  - Jia-Ling Koh, Nonhlanhla Shongwe and Chung-Wen Cho
  - Page 80

- **Handling Behavioral Semantics in Persistent Meta-Modeling Systems**
  - Youness Bazhar
  - Page 92

- **Building CMS-based Web Applications Using a Model-driven Approach**
  - Feliu Trias
  - Page 98

- **Interactive Use of Inductive Approach for Analyzing and Developing Conceptual Structures**
  - Ilze Birzniece
  - Page 104

## Session 3: Security and Trust

- **Extracting Security Requirements from Relevant Laws and Regulations**
  - Fatemeh Zarrabi Jorshari, Haralambos Mouratidis and Shareeful Islam
  - Page 110

- **A Comparative Review of i*-based and Use Case-based Security Modelling Initiatives**
  - Olawande Daramola, Yushan Pan, Peter Karpati and Guttorm Sindre
  - Page 119

- **Dealing with Trust and Control A Meta-Model for Trustworthy Information Systems Development**
  - Michalis Pavlidis, Haralambos Mouratidis, Shareeful Islam and Paul Kearney
  - Page 131

## Session 4: Information Systems and Services

- **Applying Transdisciplinarity Principles in the Information Services Co-creation Process**
  - Jolita Ralyte
  - Page 140

- **A Quality Model for Analysing Web Service Monitoring Tools**
  - Page 151
Oscar Cabrera and Xavier Franch
An engineering method for context-aware and reactive systems 163
Ansem Ben Cheikh, Agnès Front, Jean Pierre Giraudin and Stéphane Coulondre
Map-TBS: Map process enactment traces and analysis 175
Charlotte Hug, Rébécca Deneckère and Camille Salinesi
Evaluating Scalable Matching Tools: a quality-oriented approach 181
Claudia Gutiérrez Rodríguez and Sana Sellami
Wiki-Genome: A model-driven genome data management environment 187
Ana María Martínez Ferrandis
Human Genome Conceptual Modeling: An ontological framework for the design and implementation of Genomic Information Systems 193
Ainoha Martín Mayordomo
Design and Development of a Genomic Information System to Manage Breast Cancer Data 199
Verónica Burriel Coll
An Agile Model-driven Approach for Simplifying the Development of Genetic Analysis Tools 205
Maria Jose Villanueva

Session 5: Data Provenance and Data Querying
Watsawee Sansrimahachai, Mark Weal and Luc Moreau
XSLT Streamability Analysis with Recursive Schemas 223
Pavel Labath
QSQL2: Query Language Support for Logic-Based Similarity Conditions on Probabilistic Databases 229
Sebastian Lehrack, Sascha Saretz and Ingo Schmitt
Condition Learning from User Preferences 241
Ingo Schmitt and David Zellhöfer
Using Configuration Management and Product Line Software Paradigms to Support the Experimentation Process in Software Engineering 252
Edison Gonzalo Espinosa Gallardo
Modeling intentionality as an opening to the world 258
Yves Chaumette

Session 6: Requirements Engineering
Systematic derivation of conceptual models from requirements models: a controlled experiment 264
Sergio España, Marcela Ruiz and Arturo González
Decision-Making Method Family MADISE: Validation within the Requirements Engineering Domain 276
Elena Kornyshova and Rébecca Deneckère
Cloud Computing Security Requirements: a Systematic Review 286
Iliana Iankoulova and Maya Daneva
Reuse of Spatial Concerns Based on Aspectual Requirements Analysis Patterns 293
Sara Silva, João Araújo, Armanda Rodrigues, Matías Urbieta, Ana Moreira, Silvia Gordillo and Gustavo Rossi
Session 7: User-Centered Approaches
Usigesture: an Environment for Integrating Pen-based Interaction in User Interface Development 299
François Beuvens and Jean Vanderdonckt
Modelling and Developing Distributed User Interfaces based on Distribution Graph 311
Jérémy Melchior, Jean Vanderdonckt and Peter Van Roy
Conceptual Meta-Environment for Deaf Children Literacy Challenge How to Design Effective Artifacts for Bilingualism Construction 321
Cayley Guimarães, Diego Roberto Antunes, Laura García, André Guedes and Sueli Fernandes

Session 8: Ontologies, Conceptual Modeling and Interoperability
Applying a Foundational Ontology to Analyze Means-End Links in the i* Framework 333
Renata S.S. Guizzardi, Xavier Franch and Giancarlo Guizzardi
Interoperability for Model-Driven Development: Current State and Future Challenges 344
Giovanni Giachetti, Francisco Valverde and Beatriz Marín
A Conceptual Modelling Language for the Humanities and Social Sciences 354
Cesar Gonzalez-Perez
A Unifying Framework for the Definition of Syntactic Measures over Conceptual Schema Diagrams 360
Dolors Costal and Xavier Franch
Toward a Knowledge Management Approach Based on an Ontology and Case-based Reasoning (CBR) Application to Railroad Accidents 370
Ahmed Maalel, Lassad Mejri, Habib Hadj-Mabrouk and Henda Ben Ghezela

Posters and Demos Session
Diagen: A model-based bioinformatic tool for genetic analysis 376
Maria Jose Villanueva, Ana Rosa Guzmán, Francisco Valverde and Ana M. Levin
Generating Multi-objective Optimized Configurable Business Process Models 378
Andrés Jiménez-Ramírez, Irene Barba, Carmelo Del Valle and Barbara Weber
Simulation of Energy Social Smart Grid using Assemblage Theory and Simplicial Complex Tool 380
Eddie Soulier, Philippe Calvez and Florie Bugeaud
Persistence in Data Warehousing 382
Thorsten Winsemann and Veit Köppen
Web 2.0 Patterns: A Model-driven Engineering Approach 384
Ana Rosa Guzmán, Victoria López, Francisco Valverde and Jose Ignacio Panach
The Role of Software in Cultural Heritage Issues: Types, User Needs and Design Guidelines based on Principles of Interaction 386
Patricia Martín-Rodilla
Towards Automated Education Demand-Offer Information Monitoring: the Information Extraction 388
Peteris Rudzajs