2017 11th International Conference on Research Challenges in Information Science (RCIS 2017)

Brighton, United Kingdom
10-12 May 2017

IEEE

IEEE Catalog Number: CFP1740D-POD
ISBN: 978-1-5090-5477-0

Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1740D-POD
ISBN (Print-On-Demand):	978-1-5090-5477-0
ISBN (Online):	978-1-5090-5476-3
ISSN:	2151-1349

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Keynotes

Adaptive Information Security and Privacy 17
Bashar Nuseibeh

Research Methods and Examples of Empirical Research in Information Security 18
Edgar Weippl

Conceptual Modelling: how to do it right? 19
Monique Snoeck

Session 1: Business Process Management

A Modeling Framework for Business Process Reengineering Using Big Data Analytics and A Goal-Orientation 21
Grace Park, Lawrence Chung, Latifur Khan and Sooyong Park

CEFOP: A method for the Continual Evolution of Organisational Processes 33
Ornela Cela, Agnes Front and Dominique Rieu

Modeling Contextualized Flexible Cloud Workflow Services: An MDE based approach 44
Yosra Lassoued and Selmin Nurcan

Session 2: Compliance and Regulation

What can Information Systems do for Regulators? A Review of the State-of-Practice in Canada 57
Okhaide Akhigbe, Daniel Amyot, Gregory Richards and John Mylopoulos

A Tool-Supported Compliance Process for Software Systems 66
Priscila Engiel, Julio Leite and John Mylopolous

A Definition of Information Security Classification in Cybersecurity Context 77
Guillaume Collard, Guilaine Talens, Eric Disson and Stéphane Ducroquet

Session 3: Conceptual Modelling

A Metamodel and Code Generation Approach for Symmetric Unary Associations 84
Cesar Gonzalez-Perez and Patricia Martin-Rodilla

From User Goals to Process-based Service Compositions: a Flexible Semantic-based Approach 95
Isabelle Mirbel

Re-framing "The AMN": A case study eliciting and modelling a System of Systems using the Afghan Mission Network 103
Duncan Ki-Aries, Shamal Faily, Huseyin Dogan and Christopher Williams

Session 4: Fraud Detection and Management

The dbMark: A Benchmarking System for Watermarking Methods for Relational Databases 110
Stavros Kyriakopoulos, Theodoros Tzouramanis and Yannis Manolopoulos

TRAWL: Protection against rogue sites for the masses 120
Antonia Nisioti, Mohammad Heydari, Alexios Mylonas, Vasilios Katos and Vahid Heydari Fami Tafreshi

Representing, Reasoning and Predicting Fraud using Fraud Plans 128
John Kingston

Session 5: Knowledge Discovery and Data

Wikipedia-Based Extraction of Key Information from Resumes 135
Mohammad Ghufran, Nacéra Bennacer and Gianluca Quercini

Context-Based Web Service Discovery Framework with QoS Considerations 146
Sara Samir, Alsayed Algergawy and Amany Sarhan

Traffic Flow Measurement of a Public Transport System through automated Web Observation 156
Alexander Gröflin, Mario Weber, Martin Guggisberg and Helmar Burkhart

Session 6: Privacy

Securing Digital Identities in the Cloud by Selecting an Apposite Federated Identity Management from SAML, OAuth and OpenID Connect 163
Nitin Naik and Paul Jenkins

Privacy Proof in the Cloud 175
Veerle Jessen and Hans Weigand

Supporting the Design of Privacy-Aware Business Processes via Privacy Process Patterns . 187
Vasiliki Diamantopoulou, Nikolaos Argyropoulos, Christos Kalloniatis and Stefanos Gritzalis

Session 7: Recommendation Systems

A Research Paper Recommender System Using a Dynamic Normalized Tree of Concepts Model for User Modelling 200
Modhi Al Alshaikh, Gulden Uchyigit and Roger Evans

Towards an Ethical Recommendation Framework 211
Dimitris Paraschakis

Expert suggestion for conference program committees 221
Hong Diep Tran, Guillaume Cabanac and Gilles Hubert

Session 8: Requirements Engineering

Formal Semantics and Analysis Tasks for ME-MAP Models 234
Azzam Maraee and Arnon Sturm

A Participative Method for Knowledge Elicitation in collaborative innovation projects 244
Fatemeh Movahedian, Agnès Front, Dominique Rieu, Armelle Farastier, Christelle Grandvallet, Franck Pourroy and Guy Prudhomme

Gamification Solutions for Software Acceptance: A Comparative Study of Requirements Engineering and Organizational Behavior Techniques 255
Luca Piras, Elda Paja, Roberta Cuel, Diego Ponte, Paolo Giorgini and John Mylopoulos

Session 9: Semantics and Ontology

LogMap+: Relational data enrichment and linked data resources matching 267
Slavko Žitnik, Marko Bajec and Dejan Lavbič

An Ontology-Based Framework for Enhancing Personalized Content and Retrieval Information 276
Aroua Essayeh and Mourad Abed

Semantic Task Specification in Business Process Context 286
Hermann Kaindl, Ralph Hoch and Roman Popp

Session 10: Security

Evaluation of MUSER, a Holistic Security Requirements Analysis Framework 293
Elias Seid, Kazi Robin, Tong Li and John Mylopoulos

Cultural Exploration of Attack Vector Preferences for Self-identified Attackers 305
Char Sample, Jennifer Cowley and Steve Hutchinson

Data Fidelity: Security's Soft Underbelly 315
Char Sample, Steve Hutchinson, Tim Watson, Bil Hallaq, Carsten Maple and Jennifer Cowley

Session 11: System Design

System Design Considerations for Risk Perception 322
Andrew M'Manga, Shamal Faily, John McAlaney and Christopher Williams

Are You Ready? Towards the Engineering of Forensic-Ready Systems 328
George Grispos, Jesús García Galán, Liliana Pasquale and Bashar Nuseibeh

Guidelines for Designing a Smart and Ubiquitous Learning Environment With Respect to Cultural Heritage 334
Alaa S. A. Alkhafaji, Sanaz Fallahkhair, Mihaela Cocea and Jonathan Crellin

Session 12: Human-Computer Interaction

Extending and validating gestUI using Technical Action Research 341
Otto Parra-González, Sergio España and Jose Ignacio Panach Navarrete

The PDA-LPA Design Space for User Interface Adaptation 353
Sara Bouzit, Gaëlle Calvary, Joëlle Coutaz, Denis Chêne, Eric Petit and Jean Vanderdonckt

Visual Behaviour in Searching Information: A Preliminary Eye Tracking Study 365
Mohammad Alsaffar, Lyn Pemberton, Karina Rodriguez Echavarria and Mithileysh Sathiyanarayanan

Session 13: Social Media and Network Analysis

Community Detection in Dynamic Graphs with Missing Edges 372
Christine Largeron, Oualid Benyahia and Baptiste Jeudy

IMEXT: a method and system to extract geolocated images from Tweets Analysis of a case study 382
Chiara Francalanci, Paolo Guglielmino, Matteo Montalcini, Gabriele Scalia and Barbara Pernici

Integration of a multidimensional schema from different social media to analyze customers' opinions 391
Imen Moalla, Ahlem Nabli and Mohamed Hammami

Doctoral Consortium - 1

Cyber Security Risk Management for Health-based Critical Infrastructures 402
Myrsini Athinaiou

Online visual search behaviour, performance and satisfaction: a comparative study of English, Arabic and Chinese users 408
Mohammad Alsaffar

Supporting the Consistency in Multi-Perspective Business Process Modeling: A Mapping Approach 414
Afef Awadid

Doctoral Consortium - 2

A DSPL Approach for the Development of Context-Adaptable User Interfaces 421
Thouraya Sboui

A Framework Managing Conflicts between Security and Privacy Requirements 427
Duaa Alkubaisy

Enhancing Cross-domain Collaborative Filtering by Integrating Social Tags with Semantic Concepts into a Matrix Factorization Technique 433
Oluseyi Olarewaju

Supporting Modelers with Model Qualities and Patterns 440
Fabrice Boissier

Posters and Demos Session

Security Threat Classification for Outsourced IT Projects 447
Moneef Almutairi and Stephen Riddle

A Requirements Driven Approach to Data Warehouse Consolidation 449
Deepika Prakash and Naveen Prakash

GeIS based on Conceptual Models for the Risk Assessment of Neuroblastoma 451
Veronica Burriel Coll, José Fabián Reyes Román, Ana Heredia Casanoves, Carlos Iñiguez Jarrín and Ana León Palacio

Generating data sets as inputs of reference for Cyber security issues and industrial control systems (ICS) 453
Yvon Kermarrec, Xavier Boudvin, Gael Héno, David Brosset, Benjamin Costé and Pedro Merino Laso

Multi-level Clustering for Extracting Process-Related Information from Email Logs 455
Diana Al Jlailaty, Daniela Grigori and Khalid Belhajjame

Demonstrating Named Data Networking Integration into DataTweet IoT Architecture 457
Soumya Kanti Datta and Christian Bonnet

Two-step RDF Query Processing for Linked Data 459
Yongju Lee and Changsu Kim

Visual Privacy Management in User Centric Open Environments 461
Vasiliki Diamantopoulou and Michalis Pavlidis

Software CROWD-Sourcing 463
Nitin Naik

Tutorials

Human Machine Interaction ..... **N/A**
Hermann Kaindl

Intelligence at the Edge: Secure and Privacy Aware Consumer Centric IoT Services ..... **N/A**
Soumya Kanti Datta

Modelling Method Conceptualization within OMiLAB: The Secure Tropos Case ..... **N/A**
Dominik Bork, Michalis Pavlidis and Wilfrid Utz