25th International Conference on Enterprise Information Systems (ICEIS 2023)

Volume 2

Prague, Czech Republic 24-26 April 2023

Editors:

Joaquim Filipe Michal Smialek Alexander Brodsky Slimane Hammoudi

ISBN: 978-1-7138-7640-3

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright \bigcirc (2023) by SCITEPRESS – Science and Technology Publications, Lda. All rights reserved.

Printed with permission by Curran Associates, Inc. (2023)

For permission requests, please contact SCITEPRESS – Science and Technology Publications, Lda. at the address below.

SCITEPRESS – Science and Technology Publications, Lda. Avenida de S. Francisco Xavier, Lote 7 Cv. C, 2900-616 Setúbal, Portugal

Phone: +351 265 520 185 Fax: +351 265520 186

info@scitepress.org

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

Email: curran@proceedings.com Web: www.proceedings.com

CONTENTS

INVITED SPEAKERS

KEVNOTE	SPEAKERS

Leveraging Digital Trace Data to Investigate and Support Human-Centered Work Processes Barbara Weber	5
On the Relation Between Gender and Software Engineering Letizia Jaccheri	7
Enterprise-Level IS Research: Challenges and Potentials of Looking Beyond Enterprise Solutions <i>Robert Winter</i>	9
Serverless Compute Fabric for Edge-Cloud Continuum: Opportunities and Challenges Stefan Nastic	15
INFORMATION SYSTEMS ANALYSIS AND SPECIFICATION	
FULL PAPERS	
Identification of Interface Related Factors Between Safety Management System and Cybersecurity Management System for Highly Automated Driving Vehicles Marzana Khatun, Florence Wagner, Rolf Jung and Michael Glaß	21
Automated Input Data Management for Discrete Event Simulation Models of Emergency Departments Juan David Mogollon, Virginie Goepp, Oscar Avila and Roland de Guio	31
On the Automatic Generation of Knowledge Connections Felipe Poggi A. Fraga, Marcus Poggi, Marco A. Casanova and Luiz André P. Paes Leme	43
Investigating Bug Report Changes in Bugzilla Felipe Emerson de Oliveira Calixto, Franklin Ramalho, Tiago Massoni and José Manoel Ferreira	55
Architecture Design Decisions in Distributed Teams: An Assessment of Tool Support Mahum Adil, Ilenia Fronza, Outi Sieve-Korte and Claus Pahl	65
Analyzing Software Architecture Documentation Models According to Agile Characteristics Leonardo Barreto and Tayana Conte	75
Characterizing Security-Related Commits of JavaScript Engines Bruno Gonçalves de Oliveira, Andre Takeshi Endo and Silvia Regina Vergilio	86

SHORT PAPERS

DTGov: Digital Transformation of Government Processes Nuno Marques and André Vasconcelos	101
A Systematic Mapping Study on Quantum Circuits Design Patterns Sergio Jiménez-Fernández, José A. Cruz-Lemus and Mario Piattini	109
Remote and Collaborative Software Development Projects: A Requirements Elicitation Exploratory Study Alexandre Grotta and Edmir Parada Vasques Prado	117
Bringing Distributed Collaborative Design and Team Collaboration to the Table: A Conceptual Framework <i>Mahum Adil, Ilenia Fronza and Claus Pahl</i>	126
Optimization of SNP Search Based on Masks Using Graphics Processing Unit Álvaro Magri Nogueira da Cruz, Vitoria Zanon Gomes, Matheus Carreira Andrade, Anderson Rici Amorim, Carlos Roberto Valêncio, Gilberto Vaughan and Geraldo Francisco Donegá Zafalon	134
Semantic Representation of Key Performance Indicators Categories for Prioritization Tarique Khan, Alex Mircoli, Domenico Potena and Claudia Diamantini	142
Expectation vs Reality: Analyzing the Competencies of Software Testing Teams Nayane Maia, Ana Carolina Oran and Bruno Gadelha	152
FAIR Data by Design: A Case of the DiVA Portal <i>Phub Namgay and Joshua C. Nwokeji</i>	160
An Ontology-based Knowledge Management Model on Information Governance Cataldo Mega	168
People Management Problems and Practices in Software Development Projects: A Systematic Literature Review Marcelo Falkowski Burkard and Lisandra Manzoni Fontoura	179
SysIoTML: A Technique for Modeling Applications in the Context of IoT Rodrigo Nascimento, Vinicius Santos, Bruno Carvalho, Jone Correia, Luis Rivero, Rodrigo Santos, Francisco Silva, Ariel Teles and Davi Viana	187
Parallelism in the Generation of Concepts Through the Formal Context Object Partitioning Using the In-Close 4 Algorithm André Alves, Luis Zarate, Henrique Freitas and Mark Song	195
Interaction Room for Cloud Migration (IR:CM): A Systematic Approach Murad Huseynli, Attila Papp, Udo Bub and Michael Chima Ogbuachi	203
Engineering of Digital Innovation in Edge Computing and Industry 4.0: An Experience Report Michael Chima Ogbuachi, Murad Huseynli and Udo Bub	211
Value Co-Creation in the IT Service Ecosystem Maryam Heidari. Geraldine Torrisi and Sebastian Binnewies	219

HUMAN-COMPUTER INTERACTION

FULL PAPERS

Performance Analysis for Upper Limb Rehabilitation in Non-Immersive and Immersive Scenarios Vanesa Herrera, Ana Reyes-Guzmán, David Vallejo, José Castro-Schez, Dorothy N. Monekosso, Carlos González-Morcillo and Javier Albusac	231
Comprehensive Differentiation of Partitional Clusterings Lars Schütz, Korinna Bade and Andreas Nürnberger	243
The Usability of Hidden Functional Elements in Mobile User Interfaces Mubashar Munir and Pietro Murano	256
Engagement, Participation, and Liveness: Understanding Audience Interaction in Technology-Based Events Genildo Gomes, Tayana Conte, Thais Castro and Bruno Gadelha	264
Unobtrusive Integration of Data Quality in Interactive Explorative Data Analysis Michael Behringer, Pascal Hirmer, Alejandro Villanueva, Jannis Rapp and Bernhard Mitschang	276
SHORT PAPERS	
Process Mining and Perceived Privacy Violations: A Pilot-Study Evelyn Zuidema-Tempel, Faiza Allah Bukhsh, Robin Effing and Jos van Hillegersberg	289
Factors Affecting Employees' Acceptance of Blockchain in the Higher Education Institutions Mohammed Alhumayzi, Luciano Batista and Vladlena Benson	297
An Experience in the Gather.town: Factors That Promote Immersion in Systems for the Metaverse <i>Jose Carlos Duarte, Leonardo Marques, Bruno Gadelha and Tayana Conte</i>	304
Supporting Small Businesses and Local Economies Through Virtual Reality Shopping and Artificial Intelligence: A Position Paper Rubén Grande, Santiago Sánchez-Sobrino, David Vallejo, José Jesús Castro-Schez and Javier A. Albusac	312
Hypermediation Functionalities in Digital Platforms for Collaborative and Social Interaction Eliza R. Oliveira, Oksana Tymoshchuck, Eveline R. Sacramento, André C. Branco, Daniel Carvalho, Luis Pedro, Maria Antunes, Ana Almeida and Fernando Ramos	320
A Problem Analysis in Game-Based Student Response System from UX Elements Perspective Brendo Campos, Jose Carlos Duarte, Genildo Gomes, Leonardo Marques, Bruno Gadelha and Tayana Conte	328
UXNator: A Tool for Recommending UX Evaluation Methods Solano Oliveira, Alexandre Cristo, Miguel Geovane, André Xavier, Roseno Silva, Sabrina Rocha, Leonardo Marques, Genildo Gomes, Bruno Gadelha and Tayana Conte	336

ENTERPRISE ARCHITECTURE

FULL PAPERS

The Digital Transformation of Corporate Entrepreneurship: The Role of Digital Skills and Digital Champions Stefano D'Angelo, Antonio Ghezzi, Angelo Cavallo, Andrea Rangone and Giulia Murani	349
Towards a Transition Matrix-Based Concept Drift Approach: Experiments on the Detection Task Antonio Carlos Meira Neto, Rafael Gaspar de Sousa, Marcelo Fantinato and Sarajane Marques Peres	361
The Analysis of Data-Flow and Control-Flow in Workflow Processes Using Maude Oana Otilia Captarencu	373
A Next-Generation Digital Procurement Workspace Focusing on Information Integration, Automation, Analytics, and Sustainability Jan-David Stütz, Oliver Karras, Allard Oelen and Sören Auer	385
The Impact of Blockchain on Business Model: A Literature Review Giacomo Vella, Luca Gastaldi and Antonio Ghezzi	397
Scenario-Based Model Checking of Declarative Process Models Nicolai Schützenmeier, Martin Käppel, Myriel Fichtner and Stefan Jablonski	406
The Future of Commerce: Linking Modern Retailing Characteristics with Cloud Computing Capabilities Christian Daase, Matthias Volk, Daniel Staegemann and Klaus Turowski	418
Recommender Systems in Business Process Management: A Systematic Literature Review Sebastian Petter and Stefan Jablonski	431
SHORT PAPERS	
Towards a Better Evaluation of Disaster Management Solutions Ovidiu Noran and Peter Bernus	445
Modelling of Advanced Dependencies Between the Start and the End of Activities in Business Processes Thomas Bauer	457
Towards a Multi-Level Model of Enterprise Architecture Modeling Notations Ahmed Hussein and Simon Hacks	466
A Recommender Plug-in for Enterprise Architecture Models Sashikanth Raavikanti, Simon Hacks and Sotirios Katsikeas	47 4
Exploring the Role of Technological Change in the Relationship Between Strategic Innovation and Business Model Innovation: Evidence from a Cross-Industry Multiple Case Study Antonio Ghezzi, Jacopo Manotti, Andrea Rangone and Raffaello Balocco	481
Digital Transformation of Public Services from the Perception of ICT Practitioners in a Startup-Based Environment George Marsicano, Edna Dias Canedo, Glauco V. Pedrosa, Cristiane S. Ramos and Rejane M. da C. Figueiredo	490
Experimentation in Corporate Entrepreneurship: An Exploratory Multiple Case Study Stefano D'Angelo, Antonio Ghezzi, Angelo Cavallo, Andrea Rangone and Salvatore Annunziata	498

Effectual Behavior and Corporate Entrepreneurship in the Digital Age Stefano D'Angelo, Antonio Ghezzi, Angelo Cavallo, Andrea Rangone and Luca Marchetti	506
Digital Corporate Entrepreneurship: How Digital Technologies Are Reshaping Entrepreneurship in Incumbents	514
Stefano D'Angelo, Antonio Ghezzi, Angelo Cavallo, Andrea Rangone and Maria Gatti	
A Systematic Literature Review on the Business Implications of 5G Mattia Magnaghi, Antonio Ghezzi and Andrea Rangone	522
Digital Maturity Models for SMEs: A Systematic Literature Review Niccolò Ulderico Re, Antonio Ghezzi, Raffaello Balocco and Andrea Rangone	530
Modelling Digital Maturity for SMEs Niccolò Ulderico Re, Antonio Ghezzi, Raffaello Balocco and Andrea Rangone	538
Emerging Technologies as Enabler of Sustainable Business Model Innovation: Evidence from Space Tech New Ventures <i>Jacopo Manotti, Antonio Ghezzi, Andrea Rangone and Raffaello Balocco</i>	546
Towards a Reference Architecture for a Business Continuity <i>Rūta Pirta-Dreimane and Jānis Grabis</i>	553
Towards a Governance Framework for Data Platform Ecosystems in the Construction Industry Samaneh Bagheri	566
Introduction to BASE Enterprise Architecture Framework for Holistic Strategic Alignment of the Complex Enterprise Ivka Ivas	575
A Situating Method for Improving the Utility of Information Products Anders W. Tell	589
Improving Czech Digital Government Based on Quantified Maturity Model of Enterprise Architecture Martin Rod and Jiri Vomlel	600
Towards Agile IT/Business Alignment at BizDevOps Guillermo Fuentes-Quijada, Francisco Ruiz-González and Angélica Caro	608
A Practical Method to Plan Co-Evolution of Business and Information Technology Sara Nodehi, Tim Huygh, Laury Bollen and Joost Visser	615
A Process for Evaluating the Prudence of Enterprise Architecture Debts Ada Slupczynski, Peter Alexander and Horst Lichter	623
IT Service Well-Being: A Service Ecosystem Approach Maryam Heidari, Geraldine Torrisi and Sebastian Binnewies	631
A Literature Review of Evaluation Approaches for Cyber-Physical Production Systems Hector Hostos, Oscar Avila and Virginie Goepp	642
BPM in the Era of Industry 4.0: A Bibliometric Analysis Hadjer Khider, Slimane Hammoudi, Abdelkrim Meziane and Alfredo Cuzzocrea	651
Towards an Ontology to Enforce Enterprise Architecture Mining Carlos Roberto Pinheiro, Sérgio Guerreiro and Henrique São Mamede	660

An Exploratory of Factors Influencing of Digital Technology Adoption in That Maritime Industry:	
Perspective of Thai Shipowners	669
Atcharaporn Janmethakulwat and Bundit Thanasopon	
AUTHOR INDEX	679