

Contents

Keynotes

Digital Transformation at thyssenkrupp: Challenges, Strategies and Examples	3
<i>Reinhold Achatz</i>	
Information Systems for Retail Companies: Challenges in the Era of Digitization	13
<i>Reinhard Schütte</i>	

Information Systems Architecture

Understanding the Blockchain Using Enterprise Ontology	29
<i>Joost de Kruijff and Hans Weigand</i>	
Accommodating Openness Requirements in Software Platforms: A Goal-Oriented Approach.	44
<i>Mahsa H. Sadi and Eric Yu</i>	
Development of Mobile Data Collection Applications by Domain Experts: Experimental Results from a Usability Study	60
<i>Johannes Schobel, Rüdiger Pryss, Winfried Schlee, Thomas Probst, Dominic Gebhardt, Marc Schickler, and Manfred Reichert</i>	

Business Process Alignment

Checking Process Compliance on the Basis of Uncertain Event-to-Activity Mappings	79
<i>Han van der Aa, Henrik Leopold, and Hajo A. Reijers</i>	
Aligning Modeled and Observed Behavior: A Compromise Between Computation Complexity and Quality	94
<i>Boudewijn van Dongen, Josep Carmona, Thomas Chatain, and Farbod Taymouri</i>	
Multi-party Business Process Resilience By-Design: A Data-Centric Perspective.	110
<i>Pierluigi Plebani, Andrea Marrella, Massimo Mecella, Marouan Mizmizi, and Barbara Pernici</i>	

User Knowledge Discovery

Identifying Domains and Concepts in Short Texts via Partial Taxonomy and Unlabeled Data.	127
<i>Yihong Zhang, Claudia Szabo, Quan Z. Sheng, Wei Emma Zhang, and Yongrui Qin</i>	
User Interests Clustering in Business Intelligence Interactions.	144
<i>Krista Drushku, Julien Aligon, Nicolas Labroche, Patrick Marcel, Veronika Peralta, and Bruno Dumant</i>	
Analysis of Online Discussions in Support of Requirements Discovery	159
<i>Itzel Morales-Ramirez, Fitsum Meshesha Kifetew, and Anna Perini</i>	

Business Process Performance

Discovering Causal Factors Explaining Business Process Performance Variation	177
<i>Bart F.A. Hompes, Abderrahmane Maaradji, Marcello La Rosa, Marlon Dumas, Joos C.A.M. Buijs, and Wil M.P. van der Aalst</i>	
Enriching Decision Making with Data-Based Thresholds of Process-Related KPIs.	193
<i>Adela del-Río-Ortega, Félix García, Manuel Resinas, Elmar Weber, Francisco Ruiz, and Antonio Ruiz-Cortés</i>	
Characterizing Drift from Event Streams of Business Processes	210
<i>Alireza Ostovar, Abderrahmane Maaradji, Marcello La Rosa, and Arthur H.M. ter Hofstede</i>	

Big Data Exploration

Massively Distributed Environments and Closed Itemset Mining: The DCIM Approach.	231
<i>Mehdi Zitouni, Reza Akbarinia, Sadok Ben Yahia, and Florent Massegli</i>	
Uncovering the Runtime Enterprise Architecture of a Large Distributed Organisation: A Process Mining-Oriented Approach	247
<i>Robert van Langerak, Jan Martijn E.M. van der Werf, and Sjaak Brinkkemper</i>	
Summarisation and Relevance Evaluation Techniques for Big Data Exploration: The Smart Factory Case Study	264
<i>Ada Bagozi, Devis Bianchini, Valeria De Antonellis, Alessandro Marini, and Davide Ragazzi</i>	

Process Variability Management

Instance-Based Process Matching Using Event-Log Information	283
<i>Han van der Aa, Avigdor Gal, Henrik Leopold, Hajo A. Reijers, Tomer Sagi, and Roei Shraga</i>	
Analyzing Process Variants to Understand Differences in Key Performance Indices	298
<i>Nithish Pai Ballambettu, Mahima Agumbe Suresh, and R.P. Jagadeesh Chandra Bose</i>	
Discovering Hierarchical Consolidated Models from Process Families	314
<i>Nour Assy, Boudewijn F. van Dongen, and Wil M.P. van der Aalst</i>	

Information Systems Transformation and Evolution

Survival in Schema Evolution: Putting the Lives of Survivor and Dead Tables in Counterpoint	333
<i>Panos Vassiliadis and Apostolos V. Zarras</i>	
On the Similarity of Process Change Operations	348
<i>Georg Kaes and Stefanie Rinderle-Ma</i>	
Agile Transformation Success Factors: A Practitioner's Survey	364
<i>Amadeu Silveira Campanelli, Dairton Bassi, and Fernando Silva Parreiras</i>	
Crossing the Boundaries – Agile Methods in Large-Scale, Plan-Driven Organizations: A Case Study from the Financial Services Industry	380
<i>Sina Katharina Weiss and Philipp Brune</i>	

Business Process Modeling Readability

Structural Descriptions of Process Models Based on Goal-Oriented Unfolding	397
<i>Chen Qian, Lijie Wen, Jianmin Wang, Akhil Kumar, and Haoran Li</i>	
Aligning Textual and Graphical Descriptions of Processes Through ILP Techniques	413
<i>Josep Sànchez-Ferreres, Josep Carmona, and Lluís Padró</i>	
Use Cases for Understanding Business Process Models	428
<i>Banu Aysolmaz and Hajo A. Reijers</i>	

Business Process Adaptation

Predictive Business Process Monitoring Considering Reliability Estimates . . .	445
<i>Andreas Metzger and Felix Föcker</i>	

Leveraging Game-Tree Search for Robust Process Enactment 461
Yingzhi Gou, Aditya Ghose, and Hoa Khanh Dam

Predictive Business Process Monitoring with LSTM Neural Networks 477
Niek Tax, Ilya Verenich, Marcello La Rosa, and Marlon Dumas

Data Mining

Searching Linked Data with a Twist of Serendipity 495
*Jeronimo S.A. Eichler, Marco A. Casanova, Antonio L. Furtado,
Livia Ruback, Luiz André P. Paes Leme, Giseli Rabello Lopes,
Bernardo Pereira Nunes, Alessandra Raffaetà, and Chiara Renso*

Extraction of Embedded Queries via Static Analysis of Host Code 511
*Petros Manousis, Apostolos Zarras, Panos Vassiliadis,
and George Papastefanatos*

Table Identification and Reconstruction in Spreadsheets 527
Elvis Koci, Maik Thiele, Oscar Romero, and Wolfgang Lehner

Process Discovery

Data-Driven Process Discovery - Revealing Conditional Infrequent
Behavior from Event Logs 545
*Felix Mannhardt, Massimiliano de Leoni, Hajo A. Reijers,
and Wil M.P. van der Aalst*

An Approach for Incorporating Expert Knowledge in Trace Clustering 561
*Pieter De Koninck, Klaas Nelissen, Bart Baesens,
Seppe vanden Broucke, Monique Snoeck, and Jochen De Weerd*

Mining Business Process Stages from Event Logs 577
*Hoang Nguyen, Marlon Dumas, Arthur H.M. ter Hofstede,
Marcello La Rosa, and Fabrizio Maria Maggi*

Business Process Modeling Notation

Visual Modeling of Instance-Spanning Constraints in Process-Aware
Information Systems 597
Manuel Gall and Stefanie Rinderle-Ma

Linking Data and BPMN Processes to Achieve Executable Models 612
*Giuseppe De Giacomo, Xavier Oriol, Montserrat Estañol,
and Ernest Teniente*

Discovery of Fuzzy DMN Decision Models from Event Logs. 629
 Ekaterina Bazhenova, Stephan Haarmann, Sven Ihde, Andreas Solti,
 and Mathias Weske

Author Index 649

Advanced Information Systems Engineering
29th International Conference, CAiSE 2017, Essen,
Germany, June 12-16, 2017, Proceedings
Dubois, E.; Pohl, K. (Eds.)
2017, XXI, 650 p. 215 illus., Softcover
ISBN: 978-3-319-59535-1