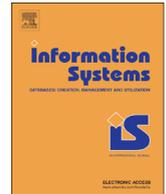




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Editorial



The BPM conference series started in 2003 and developed into a prestigious forum for researchers and practitioners in the field of Business Process Management (BPM). This Special Issue contains extended versions of a selection of the best papers of the 11th International Conference on Business Process Management, which was held in Beijing, China, in 2013. The selected papers have a strong focus on process mining with a total of three contributions that can be attributed to this important sub-discipline of BPM. But the Special Issue also gives space to more emerging topics, such as event stream processing and case management, which go beyond traditional BPM approaches typically centered on imperative process modeling formalisms. In the following, we provide a brief overview of the selected papers.

The paper entitled *Slice, Mine and Dice: Complexity-Aware Automated Discovery of Business Process Models* (Luciano García-Bañuelos, Marlon Dumas, Marcello La Rosa, Jochen De Weerd and Chathura C. Ekanayake) constitutes a contribution to the area of process mining. In particular, the paper suggests a novel process discovery technique that is able to deal with large and spaghetti-like process models. The technique has been developed as a two-way divide-and-conquer algorithm for process discovery that, on the one hand, splits the log by variants and, on the other hand, splits it hierarchically using sub-processes' extraction. An evaluation of the proposed technique using real-life logs shows that the complexity of the discovered models is considerably smaller compared to that of existing techniques.

The paper *Conformance Checking in the Large: Partitioning and Topology* (Jorge Munoz-Gama, Josep Carmona and Wil M.P. van der Aalst) constitutes another contribution that can be attributed to the field of process mining. More precisely, the paper deals with conformance checking in the large and shows how to decompose large processes into sub-processes that can be analyzed more easily. The decomposition not only yields benefits regarding the efficiency of the mining process, but it also helps analysts in localizing faster possible conformance problems.

Bridging Abstraction Layers in Process Mining by automated Matching of Events and Activities (Thomas Baier, Jan Mendling and Mathias Weske) is a contribution of process mining. The paper addresses the problem of different levels of abstraction when comparing events and modeled business activities. Unlike existing approaches to event log abstraction the paper proposes to consider domain knowledge extracted from existing process documentations for automatically matching events and activities.

The paper *Event Stream Processing Units in Business Processes* (Stefan Appel, Pascal Kleber, Sebastian Frischbier, Tobias Freudenreich and Alejandro Buchmann) constitutes a contribution in the emerging area of event stream processing. While huge amounts of event stream data are produced by the Internet of Things and Cyber Physical Systems, and events are well-known concepts in business processes, an effective abstraction for integrating events into business processes was still missing. To overcome this gap, the paper proposes an abstraction mechanism called Event Stream Processing Units (SPUs) and discusses requirements for SPUs, an extension of BPMN to model SPUs, and a run-time infrastructure for their execution.

Splitting GSM Schemas: A Framework for Outsourcing of Declarative Artifact Systems (Rik Eshuis, Richard Hull, Yutian Sun and Roman Vaculín) is a theoretical contribution in the area of case management, an emerging paradigm for Business Process Management. More specifically, the paper deals with the outsourcing of portions of case management models represented as Guard-Stage-Milestone schemas. The proposed framework allows splitting and restructuring GSM schemas while preserving the semantics of the original schema. In addition, it supports locking protocols that define how distributed parties should operate. As a main outcome of this paper GSM engines for executing the subschemas can be reused.

We believe that these five papers represent an outstanding snapshot of today's BPM landscape, the maturity it has reached, and its trends. We would like to thank the authors for their meticulous and high-quality work as well as all the other people who contributed to this Special

Issue, particularly the reviewers for their tremendous and competent work.

Guest Editors

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