

Special issue on best papers from the “BPM 2012” workshops

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Published online: 10 January 2015
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Business Process Management (BPM) (Dumas et al. 2013) investigates how organizations function and can be improved on the basis of their business processes. The starting point for BPM is that organizational performance is a function of process performance. Thus, BPM proposes a set of methods, techniques and tools to discover, analyze, implement, monitor and control business processes, with the ultimate goal of improving these processes. Most importantly, BPM is not just an organizational management discipline. BPM also studies how technology, and particularly information technology, can effectively support the process improvement effort.

In the past two decades the field of BPM has been the focus of extensive research, which spans an increasingly growing scope and advances technology in various directions. The main international forum for state-of-the-art research in this field is the International Conference on Business Process Management, or “BPM” for short—an annual meeting of the academic community which commenced in 2003 and has over time gained a strong interest from the professional community too. The main conference is accompanied by a plethora of workshops, each dedicated to a focused area within BPM, where innovative yet typically less mature research is presented and discussed. The workshops are usually devoted to contemporary topics, facilitating exchange of ideas and advancement of research around these topics.

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“BPM 2012”, which took place in September 2012 in Tallinn, Estonia, featured 13 workshops on a variety of topics. These include core BPM topics such as “Business Process Design” and “Business Process Intelligence”, as well as more recent or emerging topics, such as “Adaptive Case Management and Other Non-Workflow Approaches to BPM”, “Business Process Management and Social Software”, “Data- and Artifact-centric BPM”, “Process Model Collections”, “Empirical Research in Business Process Management”, “Event-Driven Business Process Management”, “Reuse in Business Process Management”, “Security in Business Processes”, and “Theory and Applications of Process Visualization”. In addition, two workshops were dedicated to BPM in specific application domains: “Process-Aware Logistics Systems” and “Process-oriented Information Systems in Healthcare”.

Following the successful workshops, this special issue collects the extended versions of selected papers from the “BPM 2012” workshops. We invited authors of the two best papers from each workshop to this special issue. After a rigorous reviewing process, we selected five excellent papers for publication, which contribute advancements on the use of BPM information technology. These papers display substantial improvements on top of the original workshop papers (at least 40 % of new content), and were only accepted after reaching a level of maturity that is proper of a quality journal publication. Hereafter, we briefly introduce each of these papers.

Along the business process lifecycle, operations processes need to be monitored. The paper by Koetter and Kochanowski, whose initial version was presented at the “Event-driven Business Process Management” workshop, advances the development of real-time process monitoring capabilities. It presents a model-driven approach for developing a monitoring infrastructure based on events. Special attention is devoted to modeling Key Performance Indicators and transforming this model to event rules, which can be used for monitoring the process at run time.

A different way of monitoring, although not necessarily at run time, is conformance checking. Conformance checking has attracted much attention in recent years as it has many business applications and possible contributions. The paper by Adriansyah, Munoz-Gama, Carmona, van Dongen and van der Aalst, whose initial version was presented at the “Business Process Intelligence” workshop, advances the conformance checking area. It does so by proposing a method for measuring the precision of process models, given their event log. While different process models can be constructed by different mining techniques based on the same log, the proposed measurement method enables selecting a model which most accurately describes the log behavior without allowing additional behavior. The approach is designed to deal with incomplete and noisy logs, which are common in real applications.

As the use of process models becomes common and mature, large organizations often build and maintain large collections of process models that should be reused or adapted as need arises. The repositories hosting these collections require specific capabilities besides the typical features of a data repository, such as model analysis, composition, similarity assessment, and more. The workshop on “Process Model Collections”, where the initial version of the paper by Breuker, Delfmann, Dietrich

and Steinhorst was presented, is devoted to these issues. Specifically, this paper addresses a problem stemming from the development of many of the above-mentioned capabilities to fit a specific modeling language or a specific software environment. The paper presents a graph-based approach intended to make model analysis a generic and standard task, applicable to process model collections captured in various languages.

In contrast, the paper by Pryss, Mundbrod, Langer and Reichert, tackles a practical problem occurring in healthcare processes. The paper is an extension of an initial version presented at the “Adaptive Case Management” workshop. Addressing the specific needs of the medical ward rounds, it develops capabilities that integrate process support, task management and access to patient records from mobile devices. Such capabilities advance the general area of agile processes and Adaptive Case Management and can be applied to other situations and processes beyond the healthcare domain.

Finally, the paper by Claes, Vanderfeesten, Pinggera, Reijers, Weber and Poels, whose initial version was presented at the workshop of Theory and Applications of Process Visualization, aims at advancing the development of process modeling environments and training. Following a stream of research on the process of creating process models by humans, the paper presents a way of visualizing the different steps taken by a modeler while constructing a process model. This visualization facilitates research and development of theory, tools and training methods for improving the quality of process models.

This collection of papers demonstrates the diversity of the BPM field and we believe it will attract the readers of ISEB to the growing body of research in this dynamic field.

Reference

- Dumas M, La Rosa M, Mendling J, Reijers HA (2013) Fundamentals of business process management. Springer, Berlin