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Enterprise, Business-Process and Information Systems Modeling

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Paris
France

Wided Guédria
Luxembourg Institute of Science and Technology
Esch-sur-Alzette
Luxembourg

Palash Bera
Saint Louis University
St. Louis, MO
USA

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Preface

This book contains the proceedings of two long-running events held along with the CAiSE conferences relating to the areas of enterprise, business-process and information systems modeling: the 18th International Conference on Business Process Modeling, Development and Support (BPMDS 2017) and the 22nd International Conference on Evaluation and Modeling Methods for Systems Analysis and Development (EMMSAD 2017). The two working conferences are introduced below.

BPMDS 2017

The topics addressed by the BPMDS series, in conjunction with CAiSE (Conference on Advanced Information Systems Engineering), are focused on business processes and their IT support. This is one of the keystones of information systems theory beyond short-lived fashions. The continued interest in this topic on behalf of the information systems community is reflected by the success of the past BPMDS events and by their promotion from a workshop to a working conference.

The BPMDS series produced 17 events from 1998 to 2016. From 2011, BPMDS has become a two-day working conference attached to CAiSE. The basic principles of the BPMDS series are:

1. BPMDS serves as a meeting place for researchers and practitioners in the areas of business development and business applications (software) development.
2. The aim of the event is mainly discussions, rather than presentations.
3. Each event has a theme that is mandatory for idea papers.
4. Each event's results are, usually, published in a special issue of an international journal.

The goals, format, and history of BPMDS can be found on the website: http://www.bpmds.org/.

BPMDS solicits papers related to business process modeling, development, and support (BPMDS) using quality, relevance, originality, and applicability as main selection criteria. As a working conference, BPMDS 2017 aims to attract *full research papers* describing mature research, *experience reports* related to using BPMDS in practice, and visionary *idea papers*. To encourage new and emerging challenges and research directions in the area of business process modeling, development and support, BPMDS has a unique focus theme every year. Papers submitted as idea papers are required to be of relevance to the focus theme, thus providing a mass of new ideas around a relatively narrow but emerging research area. Full research papers and experience reports do not necessarily need to be directly connected to this theme.

The focus theme for BPMDS 2017 idea papers was "Enabling Business Transformation by Business Process Modeling, Development and Support." For the 18th edition of the BPMDS conference, we invited interested authors to engage during the two days of BPMDS 2017 in Essen, and to take part in a deep discussion with all participants about the challenges of business transformation in the digitally connected world and the ways business process modeling, development and support may provide capabilities to deal with those challenges. The challenges result, among others, from the impacts of the ubiquity of the actors, social networks, new business models, the co-existence of flexibility, exception handling, context awareness, and personalization requirements together with other compliance and quality requirements.

Practitioners are producing business process models, researchers are studying and producing business process models, and they are also producing new modeling languages when they consider that existing ones are not sufficient. What is beyond? Which kind of analyses can we make using these process models? How can we complete and enhance these process models with annotations, with data coming from everywhere out of the immediate process environment? How can the understanding we gain by working on these models in a sandbox help or facilitate the undergoing business transformation?

BPMDS 2017 received 24 submissions from 18 countries (Algeria, Australia, Austria, Egypt, France, Germany, Hungary, Italy, Luxembourg, The Netherlands, New Zealand, Russia, Singapore, Spain, Sweden, Switzerland, UK, USA). The management of paper submission and reviews was supported by the EasyChair conference system. Each paper received four reviews from the members of the international Program Committee. Eventually, 11 high-quality full papers were selected; among them one experience report and one idea paper. The accepted papers cover a wide spectrum of issues related to business process development, modeling, and support. They are organized under the following section headings:

- Non-functional Considerations in Business Processes
- New Challenges in Business Process Modeling and Support
- Testing Business Processes
- Business Process Model Comprehension
- An Experience Report on Teaching Business Process Modeling

We wish to thank all the people who submitted papers to BPMDS 2017 for having shared their work with us, as well as the members of the BPMDS 2017 Program Committee, who made a remarkable effort in reviewing submissions. We also thank the organizers of CAiSE 2017 for their help with the organization of the event, and IFIP WG8.1 for the support.

April 2017

Selmin Nurcan
Jens Gulden

EMMSAD 2017

The field of information and software systems development has resulted in a rich heritage of modeling methods and notations (e.g., ER, ORM, UML, ArchiMate, EPC, BPMN, DEMO). This canon of methods and notations continues to be enriched with extensions, refinements, and even new languages, to deal with new challenges. Even with some attempts to standardize, new modeling methods are constantly being introduced, especially in order to deal with emerging trends such as compliance and regulations, cloud computing, big data, business analytics, the Internet of Things, etc. These ongoing changes significantly impact the way information and software systems, enterprises, and business processes are being analyzed and designed in practice.

Evaluation of modeling methods contributes to the knowledge and understanding of their strengths and weaknesses. This knowledge may guide researchers toward the development of the next generation of modeling methods and help practitioners select the modeling methods most appropriate to their needs. A variety of empirical and non-empirical evaluation approaches can be found in the literature: feature comparison, meta-modeling, metrics, paradigmatic analyses, contingency identification, ontological evaluation, surveys, laboratory and field experiments, case studies, and action research. Yet, there is a paucity of such research in the literature.

The EMMSAD conference focuses on evaluating, as well as exploring and enhancing, modeling methods and techniques for the development of information and software systems, enterprises, and business processes. The objective of the EMMSAD conference series is to provide a forum for researchers and practitioners interested in evaluation and modeling methods for systems development to meet and exchange research ideas and results. It also provides the participants with an opportunity to present their research papers and experience reports, and to take part in open discussions. More details can be found at http://www.emmsad.org/.

EMMSAD 2017 received 25 submissions from 18 countries (Australia, Austria, Bosnia and Herzegovina, Canada, France, Germany, Hungary, Israel, Italy, Luxembourg, Morocco, Norway, Portugal, Sweden, Tunisia, USA, UAE, UK). The management of the paper submission and reviews was supported by the EasyChair conference system. Each paper received four reviews. Eventually, 11 high-quality papers were selected: nine full papers and two short papers. The accepted papers cover a wide spectrum of issues related to modeling languages and meta-modeling, the process of modeling, integration of models, evaluation and comparison of modeling languages, techniques and tools, and empirical studies of conceptual modeling. The accepted papers are organized into four sections:

- Evaluation and Comparison of Modeling Languages and Methods
- Modeling Approaches to Support Decision-Making
- Behavioral Specification and Business Process Modeling
- Modeling Languages and Methods in Evolving Context

We wish to thank the EMMSAD 2017 authors for having shared their work with us, as well as the members of the EMMSAD 2017 Program Committee for their valuable reviews. We also thank the organizers of CAiSE 2017 for their help with the organization of the event, IFIP WG8.1 for the support, and Sérgio Guerreiro for his help during the review and decision phases.

April 2017

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