Editorial Preface

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This special issue contains revised and extended versions of the top five papers presented at the 2nd Workshop on Business Process Modelling organised in Vila Velha, Brazil in October 2008, in conjunction with WebMedia 2008 (promoted by the Brazilian Computer Society). The papers included here address important topics in the application of business process modelling and management techniques and provide important feedback from the practical application of recent advances in the area.

Two papers address the topic of 'process mining', which has received increasing attention in recent years. Using a similar metaphor, one paper addresses 'excavation' of business process modelling language elements in a widely employed modelling tool in the search for precise and realistic language metamodels. Finally, two papers address methodological issues of the application of business process modelling in the early phases of information system identification and requirements analysis; both papers are grounded on real case studies in organisational settings and address stakeholder concerns as a main focus point for business process modelling.

The paper by da Cruz and Ruiz, entitled 'Conformance analysis on software development: an experience with process mining', addresses the issues regarding the correspondence between the process models and actual business process execution. The paper discusses process mining in the context of software development processes and reports an exploratory case study that takes activity records from a software maintenance project in a large software operation. In this sense, it contributes to the application of process mining in practice and provides feedback for research from real business process execution logs.

The paper by Bezerra and Wainer, 'Fraud detection in process aware systems', addresses fraud detection with a process mining approach that searches for anomalous events in logs of process-aware systems. The detection algorithm is based on the well-known α-algorithm proposed by van der Aalst and colleagues. The authors argue that such an approach is required to make *flexible* business process execution feasible in the presence of *security* requirements, detecting potential system misuse.

The paper by Santos Jr., Almeida and Pianissolla, entitled 'Uncovering the organisational modelling and business process modelling languages in the ARIS method'

employs metamodelling techniques to characterise an important fragment of the widely employed languages of the ARIS method. The effort opens-up the contents of ARIS models to model-driven engineering, enabling language evaluation, model analysis, and model transformation. The approach is based on 'excavation' of the metamodel underlying the tool and is thus guaranteed to produce a realistic and up-to-date metamodel of the languages as employed in practice.

The paper by Cardoso, Guizzardi and Almeida, entitled 'Aligning goal analysis and business process modelling: a case study in healthcare' discusses the alignment of goal analysis methods (using the Tropos methodology) and business process modelling methods (using the ARIS framework). A case study in an organisational setting reveals that aligning process models and goal models is not straightforward and requires the harmonisation of goal models and business process models, which is addressed in this paper by first classifying goals in a proposed taxonomy. The classification of goals in this taxonomy has direct implications on the establishment of the relationships between these goals and business processes that attempt to realise them.

The paper by Bittencourt and de Araujo, entitled 'Using business process models to identify expected quality for information systems' addresses the difficult issue of non-functional requirement (NFR) identification by employing business process models. In this sense, it creates an opportunity for early identification of important information systems characteristics that often left unrecognised until later stages in system development. The authors defend that the method obtains NFRs with finer granularity and greater variety when contrasted with ad hoc elicitation efforts.

In addition to the five aforementioned papers, this issue also includes two papers submitted as regular papers to this journal. The paper by Wang et al., entitled 'Ontology-dependent two-phase semantic web services discovery and its e-government implementation' addresses the problem of web services discovery with a goal-based approach. The approach is exemplified with an e-government scenario. The paper by Lu and Zhang, 'Collaborative scientific workflows supporting collaborative science', discusses the definition of the concept of collaborative scientific workflows, contributing to establish

a research agenda for this challenging application of workflow and process management technology.

We hope that readers will find the papers of this issue useful as well as inspiring for further investigation.