**Editorial: Special Issue on Advanced Information Systems Engineering**

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Founded in 1989, the CAiSE conference series has established itself as the leading conference series in the field of Information Systems Engineering. The 26th International Conference on Advanced Information Systems Engineering (CAiSE 2014) was held in Thessaloniki, Greece, on the occasion of the Greek EU Presidency and the related events for young people. The conference theme “IS Engineering in Times of Crisis” was addressed in a keynote talk focusing on the governance of information systems themselves, the utility of information systems in improving public finances, and on ad-hoc IS in response to natural disasters such as hurricanes or earthquakes.

The research track of the conference received 226 submissions out of which 41 (18%) were accepted in a two-stage reviewing process. Based on paper quality as well as on the presentations at the conference, authors of a few top-ranked papers were invited to submit expanded versions of their papers for possible journal publication. After one to two additional rounds of reviewing, six of these papers were accepted for publication in this Special Issue. It is perhaps characteristic of the international character and interactions within the CAiSE community to note that the authors of these six papers come from nine countries!

Most of the papers focus on the engineering of service-oriented systems from the user and customer perspective (addressed in requirements engineering) through the process perspective all the way to technical issues of response time prediction, access control and data exchange.

The paper “An Ontological Framework for Situation-Aware Access Control of Software Services”, by Alan S. M. Kayes, Jun Han, and Alan Colman (Swinburne University, Australia), demonstrates a novel, more fine-grained policy model for access control to services driven by an analysis of the access purpose in a specified situation.

Adequate response time prediction is a key success factor for many service-oriented systems. “Queue Mining for Delay Prediction in Multi-Class Service Processes”, by Arik Senderovich, Matthias Weidlich, Avigdor Gal, Avishai Mandelbaum (Technion, Israel; Imperial College London, United Kingdom), improves existing techniques by treating service queues as first-class data citizens, thus enabling more sophisticated process mining techniques in cases where multiple kinds of service requesters with different response times must be served.

For IS Engineering, the duality of service composition and data exchange has been a frequent theme. “Automating Data Exchange in Process Choreographies”, by Andreas Meyer, Luise Pufahl, Kimon Batoulis, Dirk Fahland, Mathias Weske (Hasso Plattner Institute, Potsdam, Germany; Eindhoven University of Technology, Netherlands), offers a thoroughly model-driven approach for modeling this issue [could you reword this to be clearer?], and for generating local processes that perfectly fit an intended interaction choreography of services.

Information Systems are socio-technical systems. Therefore, above this technical level of service engineering, the business purpose of services plays a key role. Besides the classical flow-oriented business process perspective, the goal-oriented description of information systems and their services has grown in importance over the past decade. In “GoBIS: An Integrated Framework to Analyse the Goal and Business Process Perspectives in Information Systems”, Marcela Ruiz, Dolors Costal, Sergio España, Xavier Franch, and Óscar Pastor (UP Valencia and UP Barcelona, Spain) study the relationship between the two perspectives and present a formal integration of two well-known modeling languages, together with validated guidelines for the practitioners’ usage of the integrated framework.

Goal-oriented IS models have been criticized from a usability perspective, as they expose a complexity that makes it difficult to evaluate their quality and completeness with respect to the domain they are intended to capture. In “Metrics for Measuring Complexity and Completeness for Social Goal Models”, Catarina Gralha, João Araújo, and Miguel Goulão, (Universidade Nova de Lisboa, Portugal) propose metrics that measure model complexity for social goal models, together with algorithms and a toolset for computing them. The tools also detect semi-automatically aspects of incompleteness in goal-oriented models.

While many service-oriented systems are designed for the short-term satisfaction of varied and ever-changing customer demands, the resulting data are often kept for long periods of time, for purposes of accountability, data mining, or other reasons. Indeed, we know that databases typically live much longer than originally planned, often for many decades. An important empirical question for long-term IS engineering is therefore how radical the changes imposed on database systems really are and need to be, given the rapid changes in storage and communication technologies, as well as applications. A case study for the particular case of Open Source DBMS – reported in “Growing up with Stability: How Open-Source Relational Databases Evolve”, by Ioannis Skoulis, Panos Vassiliadis, Apostolos V. Zarras (Opera Helsinki/Finland, and University of Ioannina/Greece) – gives the comforting answer that at least in this sector the original promise of data independence made by the RDB inventors still seems to work reasonably well.

The editors would like to thank all authors and reviewers for accepting the pressure of timely production and evaluation of this special issues, the General Chairs of CAiSE 2014 for organizing an inspiring conference, and the Editors-in-Chief of Information Systems for their continued support.

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