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Preface

We are proud to present this special issue of ENTCS devoted to CLEI 2015, the XLI Latin American Computing Conference, which took place in Arequipa, Peru, during October 19-23 2015. This volume comprises a set of six selected papers, chosen from the 112 works accepted to be presented at the conference at nine different symposiums. The papers were selected by the symposium chairs, considering both the quality of the articles, as well as their relevance to the scope of ENTCS. In this issue the selected papers come from the Latin American Symposium on Theoretical Computer Science, the Latin American Symposium on Software Engineering, the Latin American Symposium on Large Scale Information Systems, and the Latin American Symposium on Operations Research and Artificial Intelligence.

The first paper presented is entitled "Evolution of a Model-driven Process Framework", and was presented by W. Pádua. This work discusses the evolution of the Praxis model-driven process framework mainly used for educational purposes, as well as the derived Praxis-Synergia framework also used in industrial settings. The author discusses the evolution of these frameworks in the past fifteen years, up to the current 4.00 version, emphasising conceptual changes in the model, their motivation and the issues which remain open for future work.

The second paper, by J. Zela Ruiz and C. Rubira, is entitled "Performance and Accuracy conflict in Monitoring Tools for Web Services: a case study". This paper addresses the need of controlling service quality levels in Web services, which are a key technology in current service-oriented systems. Quality of service includes many different attributes; two of the more important ones are the accuracy and the performance. In this work, the impact of monitoring tools is studied, finding that while the accuracy can be correctly evaluated, the performance of a service can suffer a degradation by the impact of the monitor software pieces themselves. This conflict opens the need for further work, as it becomes necessary to minimize the impact to ensure the quality levels to the users while maintaining correct performance behavior.

The third paper, "Conditional Monte Carlo with Intermediate Estimations for simulation of Markovian systems", was presented by H. Cancela, L. Murray, and G. Rubino, and tackles the subject of evaluation of dependability analysis in systems modelled by continuous Markov chains. The authors propose a new Monte Carlo

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variance reduction method, which applies random variable conditioning techniques to improve the efficiency and accuracy of Monte Carlo simulation for estimating dependability metrics.

The fourth paper, "Case-based Reasoning for Web Service Discovery and Selection", was authored by A. De Renzis, M. Garriga, A. Flores, A. Cechich, and A. Zunino. The objective of this work is to address the discovery and selection of Web services answering a required functionality. The solution proposed is based on Case-based Reasoning, and includes a specific case representation tailored to the problem, as well as three alternative similarity functions. The authors develop a conceptual framework and apply it to a dataset of real-life Web Services, achieving high precision and recall performances.

The fifth paper, "On the real-state processing of regular operations and The Sakoda-Sipser problem", was submitted by J. Montoya, and tackles the relationship between deterministic finite state automata with added abilities and their nondeterministic counterparts, trying to advance in the question of their relative expressiveness and efficiency. In particular, the authors study in more detail the task of regular expression processing, and, by introducing the new notion of real-state processing, they are able to show that there exists a deterministic model of finite automata having real-state processing of star free regular expressions; as well as other results which shed light on the difficulty of processing these expressions.

The last selected paper is entitled "A Model to Guide Dynamic Adaptation Planning in Self-Adaptive Systems" and its authors are A. Paz and H. Arboleda. This work presents a formal model, built on the principles of constraint satisfaction, to address dynamic adaptation planning for self-adaptive enterprise applications. These are systems which can automatically reconfigure themselves to take into account changes in their contexts or in user requirements. The paper also includes a detailed example, showing that the model can be applied even in the case of complex interactions between the self-adaptive application and its context.

This special issue would not have been possible without the work of the reviewers and TPC members and chairs of the CLEI 2015 conference, which evaluated and selected all of it; we thank them for their work and contribution.

We hope that all the readers will enjoy this special issue, covering a variety of subjects of current interest and offering a window into Computer Science research going on in the Latin American community.

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