Preface to the
Best Papers from CLEI 2014 Special Issue

Issue 2 of volume 18 of the CLEI Electronic Journal presents a selection of the best papers from the XL Latin American Computing Conference (CLEI 2014). CLEI is the most important annual Latin American computer science conference, and consists of eight (8) symposia on Computer Graphics, Virtual Reality, and Image Processing; Computing and Society; Infrastructure, Hardware, and Software; Software Engineering; Operations Research and Artificial Intelligence; Enterprise Computing; Innovative Data Systems; and Theory of Computation. CLEI 2014 also hosted several associated events: the XXII Iberoamerican Congress on Higher Education in Computing; the XXI Latin American Contest of Master Thesis; the VI Latin American Women in Computing Congress; the VIII Latin American Networking Conference (LANC); the III Symposium of Computing History in Latin America and the Caribbean (SHIALC); and the Workshop in Accreditation and Nomenclature of Computing Programs.

CLEI 2014 received more than 400 paper submissions from Latin America, the United States and Europe. There has been a great effort to provide high quality at the conference: all papers were subjected to a rigorous review process, involving at least three independent reviews for each article, which allowed choosing a little over 100 articles to be presented at the conference, with an acceptance rate of around 30 percent. In addition, as it is the case in the recent editions of the conference, selected papers were selected to be published in different journal venues, such as the Electronic Notes in Theoretical Computer Science (ENTCS) and the CLEI Electronic Journal. In particular, the best papers presented in CLEI 2014 were invited to submit an extended version for consideration in this special issue of CLEI Electronic Journal. These new, extended paper versions were subject to an additional refereeing process, and nine of them were selected, which are now published in this special issue. A short description of the selected articles is presented below.

The first paper is "Capataz: a framework for distributing algorithms via the World Wide Web", by Martínez and Val. It studies the usability property in Capataz and proposes an improvement based on bundling jobs together if they are too simple. The second paper is titled "Applying Information Retrieval Techniques to Detect Duplicates and to Rank References in the Preliminary Phase of Systematic Literature Reviews", by Abilio, Morais, Vale and Oliveira. It proposes strategies based on Information Retrieval techniques to detect non-papers and duplicated references in results exported by search engines, and to rank the references in decreasing order of importance according to the terms in the search string. The third paper is "Towards an automatic model transformation mechanism from UML state machines to DEVS models", by Gonzalez, Luna, Daniele, Cuello and Perez, which proposes a mechanism of models transformation from UML state machine models to Discrete Event System Specification (DEVS) models, based on the declarative QVT Relations language, in order to allow simulations using tools like PowerDEVS. The fourth paper is "A Knowledge-based Environment for Software Process Performance Analysis", by Chaves, Figueiredo, Gonçalves, Busquet, Rocha, Santos, and de Oliveira. It presents a knowledge-based environment, called SPEAKER, which supports software organizations during the execution of process performance analysis, and presents an example to show how SPEAKER can guide the organization through a specific performance analysis activity. The fifth paper is titled "Towards a Requirements Specification Multi-View Framework for Self-Adaptive Systems", by Muñoz, Tamura, Mazo and Salinesi. It proposes the REFAS framework to model the requirements of self-adaptive software systems. REFAS reduces uncertainty and provides a language to specify the different aspects of self-adaptive systems for functional and non-functional requirements; it supports several viewpoints related to requirements modeling, and promotes in-depth analysis of all the aspects to be modeled concerns with aggregation and association capabilities. The sixth paper is "A middleware-based platform for the integration of bioinformatic services", by Llambías and Ruggia, which presents a formal specification of a multi-level reference architecture to integrate Bioinformatics services using the Event-B model, based on Enterprise Service Buses mechanisms, to provide asynchronous communications, event-based interactions and data transformation capabilities. The paper "Let's go to the cinema! A movie recommender system for ephemeral groups of users", by Fernández, López, Rienzi and Rodríguez, presents a movie recommendation system for groups of users, based on the Slope One algorithm to compute individual predictions and the Multiplicative Utilitarian Strategy to make a recommendation. The paper presents the architecture, a mobile application for the service, and other improvements to solve the lack of user data

(ramp-up and cold-start problems), the scaling fit of the group model strategy, etc. The eighth paper is "Generalization of the MOACS algorithm for Many Objectives. An application to motorcycle distribution", by Barán, Laufer and Insaurralde. It generalizes the Multi-Objective Ant Colony System (MOACS) algorithm in order to solve many-objective routing problems, and to solve a Split-Delivery/Mixed-Fleet Vehicle Routing Problem under different constraints, considering several objective functions: total traveled distance, total distribution cost, among others. Finally, the last paper is titled "Green Metascheduler Architecture to Provide QoS in Cloud Computing", by de Carvalho, Mazzini, Carlucci and Santana. Ir proposes and evaluates a Green Metascheduler Architecture to Provide QoS in Cloud Computing, called GreenMACC, which uses green IT techniques to provide Quality of Service. The paper evaluates the performance focused on energy consumption and average response time.

This selection shows the high level of the research currently under way in Latin America and presented at CLEI, and we expect the reader to enjoy it. Finally, we would like to thank all people involved in this undertaking, from the authors to the reviewers, for their effort and work, and the CLEI steering committee and CLEI Electronic Journal for offering us the opportunity of preparing this special issue.

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