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Editorial Letter for CIbSE 2019 Special Edition

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This issue of the JSERD contains seven extended and peer-reviewed papers from the XXII Ibero-American Conference on Software Engineering (CIbSE 2019), which was held in La Habana, Cuba, in April 2019.

CIbSE was conceived as a space dedicated to the dissemination of research results and activities on Software Engineering in Ibero-America. This conference is to promote high-quality scientific research in Ibero-American countries, supporting the researchers in this community in publishing and discussing their work.

CIbSE is organized in three tracks: Software Engineering Track (SET), Experimental Software Engineering Latin American Workshop (ESELAW), and Requirements Engineering Track (RET). CIBSE received 154 submissions, which were finally materialized in 60 papers.

For this special issue, we selected the best papers from each track, which were extended and reviewed in two rounds. All papers were refereed by three well-known experts in the field. The selected papers are described as follows:

The paper "Supporting a Hybrid Composition of Microservices: The EUCalipTool Platform", by Pedro Valderas, Victoria Torres, and Vicente Pelechano, presents a hybrid solution based on the choreography of business process pieces that are obtained from a previously defined description of the complete microservice composition. To support this solution, the EUCalipTool platform is presented. The authors face the challenge of defining a hybrid solution to compose microservices that combine the benefits of the choreography and orchestration approaches. https://doi.org/10.5753/jserd.2020.457

The paper "Requirements engineering base process for a quality model in Cuba", by Yoandy Lazo Alvarado, Leanet Tamayo Oro, Odannis Enamorado Pérez, and Karine Ramos, proposes a Quality Model for Software Development that contributes to raising the percentage of successful projects, in Cuban´s software development organizations, regarding the fulfillment of the agreed requirements. The solution proposal contains specific requirements and support elements (graphic and textual description of the process), divided by the three levels of maturity proposed by the model. The satisfaction of the final user was also measured by implementing Jadov techniques. https://doi.org/10.5753/jserd.2020.459

The paper "Towards a new template for the specification of requirements in semi-structured natural language", by Raúl Mazo, Carlos Andrés Jaramillo, Paola Vallejo, and Jhon Harvey Medina, addresses the problems in the specifications of the requirements of a system by means of an adaptable and extensible template for specifying requirements of different domains (application systems, software product lines, cyber-physical systems, self-adapting systems). Through action research method, we could observe that the reference template must be improved and that it is possible to improve it. The authors also found that the new template could be used in industrial cases. https://doi.org/10.5753/jserd.2020.473

The paper "Characterization of software testing practices: A replicated survey in Costa Rica", by Christian Quesada-López, Erika Hernandez-Agüero, and Marcelo Jenkins, characterizes the state of the practice based on practitioners use and perceived importance of software testing practices. To make a more in-depth analysis of the software testing practices among practitioners, the authors replicated a previous survey conducted in South America. This study shows the state of the practice in software testing in a thriving and very dynamic industry that currently employs most of our computer science professionals. The benefits are twofold: for academia, it provides us with a road map to revise our academic offer, and for practitioners it provides them with a first set of data to benchmark their practices. https://doi.org/10.5753/jserd.2019.472

In the paper "Specifying the Process Model for Systematic Reviews: An Augmented Proposal", by Pablo Becker, Luis Olsina, Denis Peppino, and Guido Tebes, the proposed Systematic Literature Review (SLR) process considers with higher rigor the principles and benefits of process modeling backing SLRs to be more systematic, repeatable and auditable for researchers and practitioners. The authors have documented the SLR process specification by using process-modeling perspectives and mainly the SPEM language. It is a recommended flow for the SLR process, since the authors are aware that in a process instantiation there might be some variation points, such as the parallelization of some tasks. https://doi.org/10.5753/jserd.2019.460

The paper "A revisited systematic literature mapping on the support of requirement patterns for the software development life cycle", by Taciana N. Kudo , Renato F. Bulcão-Neto, Alessandra A. Macedo, and Auri M. R. Vincenzi, describes a revisited systematic literature mapping (SLM) that identifies and analyzes research in order to demonstrates those benefits from the use of requirement patterns for software design, construction, testing, and maintenance. The SLM protocol includes automatic search over two additional sources of information and the application of the snowballing technique, resulting in ten primary studies for analysis and synthesis. Results indicate that there is yet an open field for research that demonstrates, through empirical evaluation and usage in practice, the pertinence of requirement patterns at software design, construction, testing, and maintenance. https://doi.org/10.5753/jserd.2019.458

The paper “The RoCS Framework to Support the Development of Autonomous Robots”, by Leonardo Ramos, Gabriel Lisboa, Guimarães Divino, Guilherme Cano Lopes, Breno Bernard Nicolau de França, Leonardo Montecchi, and Esther Luna Colombini, addresses the need to organize and modularize software for robotic systems correct functioning, making the development of software for controlling robots a complex and intricate task. Based on the well-known IBM Autonomic Computing reference architecture (known as MAPEK), this work defines a refined architecture following the robotics perspective. To explore the capabilities of the proposed refinement, the authors implemented the RoCS (Robotics and Cognitive Systems) framework for autonomous robots. https://doi.org/10.5753/jserd.2019.470

We would like to thank the authors, track chairs, and members of the program committee of each track at the conference for their effort and rigorous work done in the review process, as well as the JSERD editorial board for offering us the opportunity of preparing this special issue.

Enjoy the reading!
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