GUEST EDITORIAL: Special Collection on Software Engineering and Semantic Web Technologies – Part I

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The Software Engineering community has developed different tools, methodologies, standards and technologies to support the specification, development, and maintenance of software. Conversely, Semantic Web technologies provide a common framework that allows data to be shared and reused across application, enterprise, and community boundaries. Despite the different origin of these research areas, the overlap between them is becoming a fact as demonstrated by the number of works applying research advances from one area into the other. For example, the application of Semantic Web Technologies in Software Engineering improves the reusability, sharing and extensibility of software models. On the other hand, Semantic Web Technologies can benefit from the more mature methods and standards developed by the Software Engineering community.

The purpose of this special collection was to collect innovative and high-quality research contributions regarding the role played by the Semantic Technologies in Software Engineering and the use of methods and techniques of Software Engineering in the scope of the development of Semantic Web-based software applications. This special collection aims to explore the synergies between these technologies and give insights on the recent advances in these topics by soliciting original scientific contributions in the form of theoretical and experimental research and case studies.

This Special Collection has received a total of 25 submissions. Only 32% of the submissions could be accommodated into the Special Collection, and the publication of various interesting works had to be unfortunately rejected.

The selected contributions have been separated into two different volumes. The first volume is devoted to the application of models and metamodels in Software Engineering and Semantic Web Technologies and the improvements introduced by them. A brief description of each selected paper for this volume is presented in the following paragraphs.

In the first paper, entitled "Using Ontologies to Synchronize Change in Relational Database Systems", by Ahmed *et al*, the authors provide some significant contributions to the maintenance of databases using ontology models. They present a framework to generate ontologies from database schemas and keep them synchronized with the data sources as the domain under question evolves.

The second contribution, entitled "Modular Feature Models: Representation and Config-uration", by Bagheri *et al*, presents an approach for the maintenance and specialization of large-

scale feature models through the modularization of feature models based on the Distributed Description Logics formalism.

The third paper, "Model-driven development for adapting question answering systems to restricted domains", by Vila *et al*, proposes an approach for the adaptation of Question Answering patterns and the generation of Expected Answer Type taxonomies, which are automatically carried out in a systematic manner by using "Model-Driven Software Development"-like techniques.

Finally, the fourth contribution, "OQuaRE: a SQuaRE-based approach for evaluating the quality of ontologies", by Duque-Ramos *et al*, introduces a framework for ontology quality evaluation based on a standard for the evaluation of software quality.

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BIOGRAPHICAL NOTES

Rafael Valencia-García received his BA, MSc and PhD degrees in computer science from the University of Murcia. He is an associate professor at the Department of Informatics and Systems, University of Murcia. His main research interests are the Semantic Web, Natural Language Processing and the application of Knowledge Technologies in Software Engineering. He has published over 80 articles in journals, conferences and book chapters. He is currently the prime investigator of two national projects concerning the development and application of semantic web technologies.

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Francisco García-Sanchez received his BA, MSc and PhD degrees in computer science from the University of Murcia. He is a PhD assistant professor in the Escola Superior Tècnica d'Enginyeria (ETSE) at the University of Valencia. His research interests include Agent Technology, Service-Oriented Architectures, Cloud Computing and the Semantic Web. He has conducted a number of research stays in world-leading research institutes in Ireland, Austria, the United States and Australia, and has published over 40 articles in international journals, international and national conferences and workshops. He has led several projects concerning the development of user interfaces to Semantic Web services execution environments and ontology-based intelligent systems to assist in accessing financial data sources.

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