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EDITORIAL

Many changes are taking place in recent years in the context of Web Engineering, due to the rise of bigdata technologies and the massive explosion of the use of data on the Internet. For this reason, it is key to carry out a process of adaptation for the exploitation both of these new Big Data and Web technologies, and of the impact of cloud computing services on the exploitation of such data. All these changes mean that, on the researchers' side, the current state of Web technology is raised, as well as the technological challenges that will allow practitioners to develop solutions to existing problems in society. In this same line, new challenges appear to address problems in the Model-driven Web Engineering (MDWE) context that are necessary to cope with all phases; starting with analysis and ending with deployment or maintenance of Web systems. In this context, the analysis of Web systems becomes increasingly complex due to the heterogeneous and large volume of information that is generated daily. Therefore, not only the analysis is affected since, critically, the estimation of the resources needed to deploy this type of solutions is also affected and there is an uncertainty that hinders deployment and production.

This special issue is oriented to discussing on advanced techniques, new challenges, current state-of-art and experiences of MDWE applied to the Web information system development and deployment in the Era of Big Data. The topic of this special edition deals with new challenges and advances in *Web Engineering Technologies in the Era of BigData*. Thus, some proposals that can allow a greater capacity of adaptation to this changing environment, as a result of the fast progression of the Era of Big Data, are shown.

Robles Luna Et Al present a joint work between academia and industry, in which the authors conduct a survey involving hundreds of engineers from different companies all over the world, and by statistical analysis, present the current problems of MDWE approaches in scale. This kind of approaches have become an attractive research and technology solution for Web systems development. However, for more than 20 years of improvement, the industry has not adopted them due to the mismatch between technical versus research requirements. The paper *Chalenges for the Adoption of Model-Driven Web Engineering Aproaches in Indusitry* provides a set of guidelines to improve MDWE approaches so as to convert them into viable industry solutions. Consequently, after carrying out the surveys and given the possibility of improving some of the phases of the MDWE approaches with the proposals presented in this paper, it can be confirmed that the acceptance and margin for improvement of this paradigm can be quite broad.

Additionally, Enríquez Et Al present how the development of Web applications may be one of the most widespread implementations at present due to the large number of advantages they provide, such as multiplatform, speed of access or not requiring extremely powerful hardware, among others. The fact of being developing a huge amount of Web applications makes a large volume of information be generated daily. Particularly, the entity reconciliation (ER) problem occurs in the process of managing all this information. It deals with identifying objects referring to the same real-world entity. The paper *MARIA: A Process to Model Entity Reconciliation Problems* proposes to give a solution to this problem through a Web perspective based on the Model-Driven Engineering (MDE) paradigm. To this end, the Navigational Development Techniques (NDT) methodology, that provides a formal and

complete set of processes that bring support to the software lifecycle management, has been taken as a reference and it has been extended by adding new activities, artifacts and documents to cover the ER problem. All these elements are defined by a process named Model-Driven Entity ReconcilIAtion (MaRIA), that can be integrated into any software development methodology and allows defining the ER problem from the early stages of the development. Moreover, this proposal has been validated in a real-world case study that has helped companies to reduce costs when a software product that must give a solution to an ER problem has to be developed.

Finally, Preciado Et Al offer an approach to calculate and estimate the total cost of incorporating cloud computing infrastructures to Web applications in deployment and production phases. The scientific community offers several methodologies with the aim to evaluate the most suitable infrastructure at these stages to reduce costs while covering Service Level Agreement (SLA) constraints. Furthermore, MDWE is taking advantages of code generation from Design level. The paper *An Approach for Guesstimating the Deployment Cost in Cloud Infrastructures at Design Phase in Web Engerring* shows the first stage towards achieving an approach to estimate production costs in cloud computing infrastructures at design phase, choosing the right one for the job. This paper carries out a process for defining the variables of the analysis, measuring the time needed in each different combination obtained, validating the confidence of results obtained and finally, applying them to an a illustrative example that may exemplify the proposal in practical terms.

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Guest Editor