CALL FOR PAPERS

Special Issue
on
Model-Based Systems Engineering for Next-Generation Enterprise Information Systems

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Submission deadline: June 15th, 2015
and interfaces. They facilitate context-aware applications, capable to respond to the environment's stimuli and then, to adapt themselves and thus diminish the environmental impact to the running system.

- **Formal models.** Lack of ontological commitment is one of the main obstacles for validation of the designs modeled by the today's system modeling languages and notations. However, despite the strong foundation defined in nineties, ontology languages are not yet used as the tools for system modeling.

- **Ontology-driven systems.** To which extent current Semantic Web languages are mature to facilitate ontology-driven systems? Are there reasoning performance issues, especially for formal ontologies, or other issues? Are there ontology engineering methodologies to overcome these issues?

- **Design-for-interoperability.** Interoperability is often defined as “a property of a product or system, whose interfaces are completely understood, to work with other products or systems, present or future, without any restricted access or implementation”. Being the inherent property of NG EIS, the interoperability will significantly affect its design and architecture. Which are these effects?

- **Models validation.** Typically, the models of EISs are extensively large and it is very difficult to query or browse them. More important, in general, there exist no tools for their analysis, e.g. in terms of consistency checking, dependability and completeness.

- **Formal models of the business logic.** Formal modeling languages are successfully used to model the information artifacts of one EIS. However, there exist very few works which deal with formal modeling of business logic. Formal Specification Techniques (FST) (e.g. Z, B, Alloy) are used in the past to address some aspects of the above problem, but with limited integration with widely used formalisms (such as UML, SysUML) and hence, limited impact.

- **Model-to-model transformations.** Despite many works in the topic, the foundation for specifying model-to-model transformations is not yet built. The model transformations are one of the main facilitators of the systems interoperability - the inherent property of the NG EIS, thus extremely important.

- **Model-to-model mapping.** Model-to-model mapping deals with semantics representation and knowledge engineering, with a constraint dealt by the inherently multi-disciplinary vision of the design of an information system. The models mapping are one of the important pillars of the systems interoperability.

- **CPS and IoT applications models.** Cyber Physical Systems and IoT applications introduced new abstractions to EIS modeling and design. How these abstractions work with the existing system modeling and engineering tools and techniques?

- **Demonstration of MBSE approaches in specific domains.** Are there evidences of the successful domain or cross-domain applications of the MBSE approaches for information systems that exhibit some of the properties of NG EIS?

Besides the specific topics listed above, the Special issue will also consider other papers of the high quality, with contributions that are moving forward the boundaries of knowledge of the Model-Based System Engineering area.

**Tentative schedule**

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<td>Submission of extended abstracts</td>
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**Submission procedure**

Submission of an extended abstract (max 2 pages): The abstract main text should have the following structure:

- **Specific topic/s of the Issue addressed by the paper.**
- **Purpose:** Theoretical background, motivating issues, research questions, objectives and/or hypotheses.
- **Design/method/approach:** How are the objectives achieved? Describe the method and approaches adopted to answer to the research question or pursue the objectives.
- **Findings:** Presentation and discussion of the achieved or expected results.
- **Relevance/contribution:** Highlight achieved or expected original contribution to the theory, and/or practice

Please send this abstract, as soon as possible, to both Guest editors, by email.

Submission of full papers: only those extended abstracts which adhere to the scope of the Issue and have a satisfactory description of the single requested items will be accepted for full paper submission. The full papers will be then subjected to a double blind review (or to a second round of review if necessary). The full paper version shall follow the Journal author's guidelines and will be submitted to the to the journal website (http://www.editorialmanager.com/iseb/) indicating the following article type: “S.I.: Model-based engineering for next-generation EIS”. 