

Correct development of real time and embedded systems

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This issue is special in that for the first time in the 7-year history of SoSyM, a special section is dedicated to the outcome of a major research project. The OMEGA project was funded by the European Union (EU) and brought together experts in the field of embedded and real-time systems. A major result of the project is a UML profile called “OMEGA UML profile”. This profile provides concepts and modeling constructs for specifying real-time constraints. We feel that the work behind the development of the profile is significant with respect to ongoing efforts to develop systematic approaches to defining useful profiles. We thank the editor Susanne Graf for the great work she did on pulling this special section together. The review process she supervised was rigorous and resulted in the high quality papers that are included in this issue.

This issue also contains an Expert Voice paper, “Model Driven Design and Aspect Weaving”, by Jean-Marc Jézéquel from IRISA/INRIA, Rennes, France. In this expert paper, Jean-Marc gives his perspective on the role that aspects play in the modeling activity. Design is viewed as a process in which various aspects of a system are described in different models, and synthesis of a solution is accomplished by integrating information in the models. The paper discusses

challenges associated with composing (or weaving) models.

This issue also contains two regular papers. In the first regular paper, titled “A Platform Independent Model for the Electronic Marketplace Domain”, the authors, *Anna Queralt* and *Ernest Teniente*, propose a generic model for e-marketplaces that reflects a platform independent view. A developer can derive a specific platform independent model (PIM) for a particular e-marketplace by adapting the generic model to the particular requirements of the application. The authors claim that this approach can result in reduction of cost and time needed to develop new e-marketplace applications.

In the second paper, titled “Assert and Negate Revisited: Modal Semantics for UML Sequence Diagrams”, the authors, *David Harel* and *Maoz Shahar*, discuss improvements to the UML 2.0 standard, in particular to sequence diagrams, based on the experience gained through the development and use of the well-known Life Sequence Charts. The paper presents a detailed analysis of the UML 2 sequence diagram operators assert and negate, and proposes an alternative semantics for the UML2 sequence diagrams, called “modal semantics”.

We hope you enjoy reading the articles in this issue.

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