Editorial

Welcome to the first 2003 issue of the Software and System Modeling (SoSyM) journal. The year 2002 saw the successful launch of the first SoSyM issue and the publication of a second issue. The feedback that we have received from the readership on these first two issues has been very encouraging, and indicates that there is strong interest in quality work on software and system modeling. Practicioners as well as researchers have recognized the need for such a focused journal. For example, we received the following statement from Dines Bjørner, Technical University of Denmark:

> The "Software and Systems Modeling" Journal puts probing light on current and upcoming development techniques – thereby helping the practising and professional software engineer decide on most appropriate development approaches.

The SoSyM editors will continue to work on positioning the journal as a premier source of high quality papers on modelling IT based systems.

The editors are particularly delighted, that the papers published so far are stimulating further discussion and feedback. As one result, the editors are considering the creation of a "readers column" in which readers can respond to issues raised in published articles.

The quality of the published papers is indicative of the outstanding work done by the reviewers, the members of the Editorial Board and, of course, the paper authors. We will publish a list of reviewers once a year in a SoSyM issue and on the SoSyM website.

This issue contains a special section with revised versions of the best papers presented at the workshop *Modellierung 2002*, which was organized by Martin Glinz and Günther Müller-Luschnat in Tutzing, Germany. These papers showcase some of the innovative and high quality work that researchers in the modeling community are undertaking. The editors have done a highly commendable job on compiling and supervising the reviews and revisions of the papers in this special section. We would like to take this opportunity to thank Martin and Günther for their outstanding work.

This issue also contains a paper from Esperanza Marcos, Belén Vela, and José María Cavero: *A methodological approach for object-relational database design using UML.* In this article the authors describe an approach to using the UML as a notation to model the design of object-relational databases. A key contribution is the set of guidelines for mapping UML conceptual schemas to object-relational schemata controlled by appropriate stereotypes.

General information about the aims and scope of SoSyM

SoSyM is a quarterly journal that focuses on theoretical and practical aspects of software and system modeling languages, methods and techniques. The aim of the journal is to publish high-quality work in these areas. Of particular interest are papers that investigate theoretical underpinnings of modeling languages and model-based analysis and testing techniques, rigorously analyze modeling experiences, present the results of experiments concerned with the validation of modeling techniques and notations, and present scalable modeling techniques and methods that facilitate rigorous and economical development of software. The journal targets researchers, system and software developers, and students that have a vested interest in results generated by high-quality research into model-based development techniques.

Recent interest in modeling notations and techniques has resulted in a rapidly growing body of research work that clearly can benefit from a journal that focuses on system and software modeling. The journal is unique in

its emphasis on research results that can have a significant and immediate impact on the current state of the practice, and research that lays firm foundations for the development of more sophisticated model-based development techniques. The aim is to provide researchers as well as tool vendors and standardization committees with insights that can lead to better modeling languages and techniques, and provide software and system developers with a deeper understanding of modeling languages and techniques that can lead to more effective application. The composition of the editorial board reflects the intent that papers published in the journal appeal to developers in industry and government agencies, and to researchers and educators.

The journal's title reflects the intent to include papers on software modeling as well as papers that take a system view of software development. Software is often developed in the context of larger encompassing systems. An encompassing system could be a business system in which the software automates some aspects of a work-flow, or an embedded system in which software interfaces with hardware. Modeling relevant aspects of an encompassing system and its relationships with the software allows one to analyze and understand behaviors that emerge as a result of the interactions between the software and its environment. Papers that discuss how concepts from models of non-software based systems (e.g. economic and living systems) can be used to enhance modeling of software systems are also within the scope of SoSyM.

The types of modeling notations and methods that are within the scope of the journal are not restricted. Authors are strongly encouraged to submit high quality work pertaining any kind of modeling and specification notations (e.g., B, Larch, LOTOS, Maude, MSCs, Petri-Nets, SDL, UML, or Z), and functional and other non-OO software and system modeling techniques and methods.

Topic areas

We invite authors to submit papers that discuss and analyze concerns and experiences pertaining to software and system modeling languages, techniques, tools, practices, principles and other facets. This includes domain independent as well as domain specific techniques. The following are some of the topic areas that are of special interest:

- Methodological issues
- Development of modeling standards
- Formal syntax and semantics of modeling languages
- Rigorous model-based analysis
- Model composition and transformation
- Relationships between models
- Relationships between models, code and environment
- Metamodeling techniques
- Measuring quality of models
- Modeling support for aspect-oriented development
- Ontological approaches to model engineering
- Domain specific modeling
- Generating test and code artifacts from models
- Modeling tests
- Model development tool environments
- Case studies and experience reports with significant lessons learned
- Comparative analyses of modeling languages and techniques
- Scientific assessment of modeling practices

Further information about SoSyM

A low-traffic mailing group for SoSyM announcements has been created on the internet. Anyone can subscribe, but only the SoSyM Editors are allowed to post to the group (four times a year). If you are interested in receiving SoSyM-related news you may subscribe through our website.

`http://www.sosym.org/`

For further details and updated information on the submission and review process please also see our website.

Sincerely,

Robert France, Bernhard Rumpe
Sosym Editors-In-Chief