

# Call-For-Papers

## Special Issue on Software Modelling

### In the International Journal of Software and Informatics

You are cordially invited to submit your research paper to a special issue on software modelling to be published in International Journal of Software and Informatics (IJSI) (URL: <http://www.ijsi.org> ). IJSI is a peer-reviewed international journal with focus on theoretical foundation and practical research of software techniques. It has an editorial board consisting of internationally well known experts.

#### 1. The theme

Software modelling is to represent software systems at a high level of abstraction in the form of models, which are often in graphic or formal notations and sometimes a combination of them. In a model, the implementation details are omitted or hidden in order to facilitate reasoning about the system being modelled, and to support human comprehension and communication between stakeholders. A large number of modelling languages and/or notations have been proposed in the past decades as a core part of software development methodologies, such as dataflow diagrams in the structured analysis and design, UML in object-oriented development, and Petri-net, finite state machine, and statechart, etc. in formal methods. With the rapid development of model-driven software development methodology, modelling plays an increasingly important role in software development. The past few years have seen a rapid growth in the research on software modelling.

Meta-modelling, which models software models, has emerged as one of the key techniques that formalise the definitions of modelling languages and the specification of various processes and transformations of models. It has also been an active research topic in the past a few years.

The theme of the journal special issue is *software modelling*. It aims at publishing papers that (a) reflect the current frontier in the research on the scientific and technology principles of software modelling and meta-modelling, and (b) report empirical studies and case studies of the current state of practice.

#### 2. The topics

The following lists some typical topics covered by the special issue (but not limited to).

- Modelling and meta-modelling languages, including
  - Both general purpose and special purpose languages, such as UML
  - The syntax, semantics and pragmatics of modelling and meta-modelling languages
  - Basic concepts and language facilities and mechanisms for modelling and meta-modelling, such as extension mechanisms, profiles, and packages, etc.

- Theories and practices of software modelling and meta-modelling in the context of various software development methodologies, such as
  - In service oriented computing, such as modelling workflow and service choreography and orchestration, etc.
  - In aspect-oriented software development
  - In agent-oriented software development
  - In agile software development
  - In component-based software development, etc.
- Techniques of software modelling and meta-modelling, including
  - Model/meta-model analysis and consistency checking
  - The validation, verification, testing of models and meta-models
  - Transformation of models and meta-models
  - Model-based software testing
- Applications of software modelling and meta-modelling in various stages of software lifecycle, including:
  - In requirements stage, e.g., modelling business logic and processes, modelling organisational structures
  - In software design, e.g., modelling software architecture and architectural styles, the modelling and specification of software design patterns, etc.
  - In implementation stage, e.g., modelling platform and language dependent features
  - In integration and testing stage, e.g., model-based software testing, modelling software configuration and deployment, etc.
  - In maintenance and evolution, e.g. the discovery of models from source code, and uses of models to support software modifications, modelling software development and evolution processes, etc.
- Software tools and development environments for Modelling and meta-modelling, including
  - Various aspects in the design, implementation and testing of modelling tools and environments
  - The integration of modelling tools with other software development tools
  - Reports on novel software tools and integrated environments that supports software modelling and model-driven methodologies
  - Reports on case studies, empirical studies and theoretical analysis of software modelling tools

### **3. Requirements of submissions**

All submissions must meet the following requirements.

- (a) The paper must be written in English.
- (b) All submissions must be typeset in the journal's format. A format template can be downloaded from the journal's website at the following URL:  
<http://www.ijsi.org>
- (c) The length of a submission should be in the range of 25 to 35 pages in the journal's format. If the length of a submission is outside this range (either longer or shorter), consent should be obtained from the guest editor.

- (d) The submission must be the authors' own original work and it must have not been formally published or submitted for the consideration of publication anywhere else.
- (e) If a submission is an extension of a workshop/conference paper, it must contain a substantial amount of new material. As a guideline, it should contain at least 30% of new material. In that case, the author must state the differences of the submission from existing publications in a cover letter, and include the workshop/conference paper(s) together with the submission for the editor to check if the extension and revision is satisfactory.

#### **4. How to submit**

All submissions must be in pdf format and uploaded to the special issue's online submission website at the following URL:

<http://www.easychair.org/conferences/?conf=ijism2011>

#### **5. Review of the papers**

All the submissions will be peer reviewed by at least two experienced active researchers in the related subject area. The review process and quality criteria will follow the journal's review process protocol and standard. The decisions on acceptance of the papers will be based on the reviewers' report on the submission.

#### **6. Important dates**

- Jan. 1, 2011: Deadline for submission;
- April 15, 2011: Notification of first round of review results;
- June. 15, 2011: Deadline for submitting revised versions;
- Sept. 1, 2011: Notification of final decision on acceptance;
- Oct. 1, 2011: Deadline for submission of the final versions;

#### **7. Contact details of the guest editor**

Please send all enquiries on the special issue to the guest editor of the special issue at the following address:

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