

Co-located with MODELS 2011

Integrating Verification and Validation in MDE

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Models are purposeful abstractions of any artifact at an arbitrary abstraction level. They can serve several purposes and bear several advantages. For instance, they allow humans to understand complex systems, to validate requirements expressed as a formal model, or to generate big parts of system implementations or tests. Obviously, this can result in reduced system engineering effort. As a consequence, the usage of models, model transformations, and code generation is becoming more and more important for industrial applications. Model-Driven Engineering (MDE) is a development methodology that is based on models, meta-models, and model transformations - it is one of the most important representatives for the application of models. Currently there is growing tool support for models, (domain-specific) graphical or textual modeling languages, model transformations, and code generation. The constant pace at which scientific and industrial development of MDE-related techniques moves forward shows that MDE is still quickly changing and that new approaches and corresponding issues arise frequently. Most important, there is crucial need for validation and verification (V&V) techniques in the context of MDE. The other way round, MDE is used to support many V&V activities like, e.g., model-based testing.

The workshop on model-driven engineering, verification, and validation (MoDeVva) in 2011 has the objective to offer a forum for researchers and practitioners who are working on V&V and MDE. The main goals of the workshop are to identify, discuss, and elaborate mutual impacts of MDE and V&V.

The major questions about MDE and V&V concern possible overlappings and mutual benefits for both techniques: How can MDE improve V&V and how can V&V leverage the techniques around MDE? Does a model, meta-model, or model transformation express what the user wanted to express? Are these artifacts correct with respect to security, time, and other constraints? How to model such non-functional aspects? How can product-related artifacts like product lines be modeled and tested? How can models or modeling languages (meta-models) support V&V, e.g. in model-based testing? What modeling languages or model transformations did perform best in real life applications (experience report)? Can V&V support the whole software engineering process from initial (informal) requirements via several model transformations to source code?

In order to discuss these and further similar questions, we would like to invite submissions related to the following topics:

- V&V techniques for MDE activities, e.g. V&V of (meta-)modeling, model transformations, code generation, visualization, etc.
- V&V at the level of the (meta-)model: techniques for validating a (meta-) model or generating test cases for (meta-)models, including simulation, model-checking, model-based testing, etc.
- Impact analysis of model changes on V&V, i.e.: What is the result of a change in a (meta-) model on the previous results of V&V?
- V&V techniques supporting refinement, abstraction, transformation, and structuring
- Case studies and experience

As a final note, model transformations are increasingly becoming a central tool in MDE, despite the fact that the study of their properties is just beginning as we realized during MoDeVva 2009 and 2010. As in MoDeVva 2010, in this edition we particularly encourage submissions on model transformations and associated validation and verification techniques.

Publication

Submitted papers can be either short (4 pages) or long papers (8 pages) in the ACM format. Short papers are aimed at discussing innovative ideas while long papers are aimed at presenting more mature and evaluated research. As in previous years, accepted workshop papers will in principle be published in the ACM or IEEE Digital Libraries. The two best papers will be published in the Satellite Event Proceedings (LNCS) of the MODELS conference.

Workshop Format

MoDeVva 2011 will include paper presentations and discussions. We anticipate an enjoyable and exciting event where all participants will leave with answers or well-founded doubts ;)

Important Dates

Submission: July 18th, 2011
Notification to authors: August 29th, 2011
Final version: October 3rd, 2011
Workshop: October 17th, 2011