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DSML'08
Domain-Specific Modeling Languages

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Preface

In recent years, computer science produced a multitude of modeling languages. They are used to describe, analyze, and understand systems, components, problems, and solution algorithms. Systems in domains distant from computer science base upon concepts that are substantially different from the implementation technology. The main problem is to relate domain-specific concepts and technical details in a sound and conceivable manner.

Domain-specific modeling languages (DSMLs) are considered as one solution for this problem. They provide all domain-relevant concepts, which are based on adequate formalisms and models. Supported by corresponding tools, domain experts are able to create, analyze, and refine models with knowledge from their domain. By creating such tools and languages, experienced modelers enable domain experts to unambiguously express domain-specific concepts on a formal basis.

In the field of model-driven development (MDD), the design of a DSML is seen as a modeling task: The DSML is described by a language model written in a formal language-modeling language; Tools support the development of domain-specific tools as well as the enhancements of language, tools, and models.

The workshop Domain-Specific Modeling Languages (DSML?08) co-located with the Modellierung 2008 provided a forum for researchers and practitioners. We received eight submissions out of which we selected five for inclusion in the digital and printed proceedings. The accepted papers span from pure research to experience reports.

Garcia presents an architecture for synchronizing multiple views of software models, which allows for using DSMLs in a multi-view design environment. In this architecture, bidirectional transformations between an integrated model and multiple views are described declaratively.

Sadilek and Weißleder argue for systematic, automated testing of metamodels, which define the abstract syntax of DSMLs. The authors present a method for testing metamodels that is based on giving exemplary metamodel instances.

Wimmer, Schauerhuber, Strommer, Flandorfer, and Kappel present a model browser implemented with Web 2.0 technologies. Ajax technology is used to present ECore metamodels graphically within regular browsers.

Pilarski and Knauss analyze the possibilities to combine the advantages of graphical and tabular representations of use-cases. The paper presents common concepts between the two representations and transformations between them.

Cramer, Klassen, and Kastens describe their experiences with designing a DSML for controlling robots in industrial production. By emphasizing the evaluation stage of the DSML, they demonstrate how a DSML can iteratively be developed while involving its later users.

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