

Sound Yet Flexible Modeling: A Language Engineering Point of View

Benoit Combemale
University of Toulouse
CNRS/IRIT Laboratory
Toulouse, France
benoit.combemale@irit.fr

Abstract—Domain-Specific Languages (DSLs) are increasingly used by domain experts to handle various concerns in systems and software development. To support this trend, the Model-Driven Engineering community has developed advanced techniques for designing new DSLs. However, the widespread use of independently developed, and constantly evolving DSLs is hampered by the rigidity imposed to the language users by the DSLs and their tooling, e.g., for manipulating a model through various similar DSLs or successive versions of a given DSL. In this talk¹, I discuss a sound yet flexible model type system to support various scenarios of flexible modeling. I review different existing approaches, and highlight how they provide flexibility to language users. Finally, I conclude with a long term initiative for a full-fledged unifying approach for language reuse, aka. a Concern-Oriented Language Development (COLD), and the expected flexibility for language users.

Index Terms—Model-Driven Engineering, Modeling Language, Language Reuse, Model Typing, Model Polymorphism.

ACKNOWLEDGMENT

The author thanks Jean-Marc Jézéquel for having initiated the longstanding research on Model Typing, and Thomas Degueule for the great work during his PhD thesis to apply model typing to flexible modeling. The entire content of the presentation is based on joint work all together.

¹Slides are available at <https://www.slideshare.net/BenotCombemale/sound-yet-flexible-modeling-a-language-engineering-point-of-view>