Domain-Specific Modeling: Enabling Full Code Generation

Steven Kelly, Juha-Pekka Tolvanen

DESCRIPTION

"[The authors] are pioneers. . . . Few in our industry have their breadth of knowledge and experience."

—From the Foreword by Dave Thomas, Bedarra Labs

Domain-Specific Modeling (DSM) is the latest approach to software development, promising to greatly increase the speed and ease of software creation. Early adopters of DSM have been enjoying productivity increases of 500–1000% in production for over a decade. This book introduces DSM and offers examples from various fields to illustrate to experienced developers how DSM can improve software development in their teams.

Two authorities in the field explain what DSM is, why it works, and how to successfully create and use a DSM solution to improve productivity and quality. Divided into four parts, the book covers: background and motivation; fundamentals; in-depth examples; and creating DSM solutions. There is an emphasis throughout the book on practical guidelines for implementing DSM, including how to identify the necessary language constructs, how to generate full code from models, and how to provide tool support for a new DSM language. The example cases described in the book are available the book’s Website, www.dsmbook.com, along with, an evaluation copy of the MetaEdit+ tool (for Windows, Mac OS X, and Linux), which allows readers to examine and try out the modeling languages and code generators.
Domain-Specific Modeling is an essential reference for lead developers, software engineers, architects, methodologists, and technical managers who want to learn how to create a DSM solution and successfully put it into practice.

ABOUT THE AUTHOR

Steven Kelly, PhD, is the CTO of MetaCase and cofounder of the DSM Forum. He has over fifteen years of experience in building metamodeling environments and acting as a consultant on their use in DSM. As architect and lead developer of MetaEdit+, MetaCase's DSM tool, he has seen it win or become a finalist for awards from Byte, SD Times, the Innosuomi Prize for innovation awarded by the Finnish president, and the Jolt Excellence Awards. Ever-present on the OOPSLA DSM workshop program committee, he co-organized the first workshop in 2001.

Juha-Pekka Tolvanen, PhD, is the CEO of MetaCase. He has been involved in model-driven approaches, metamodeling, and DSM languages and tools since 1991. He has acted as a consultant worldwide on modeling language development and has written over sixty articles for software development magazines and conferences. Dr. Tolvanen started the OOPSLA workshops on DSM in 2001 and has been on the organizing committee since. As cofounder of the DSM Forum, he plays a leading role in the shift toward model-driven software development.

SERIES

Wiley - IEEE

For additional product details, please visit https://www.wiley.com/en-us