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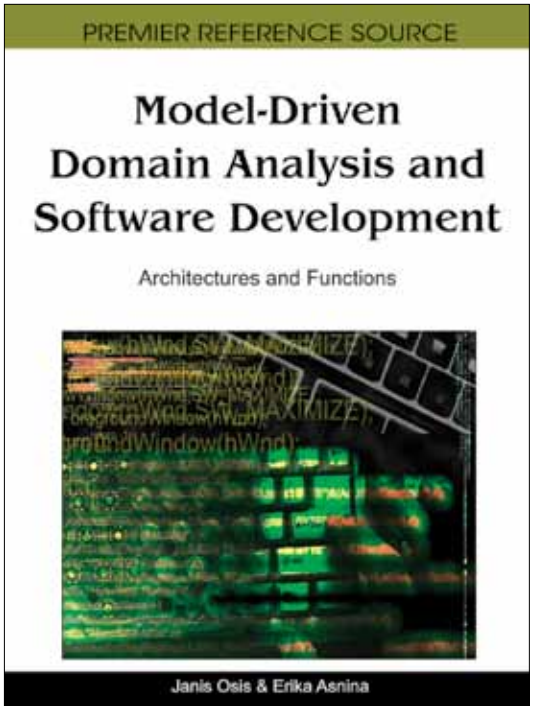
Model-Driven Domain Analysis and Software Development: Architectures and Functions



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Erika Asnina (Riga Technical University, Latvia)

Software developers use different techniques for identification and specification of a domain's characteristics and requirements for a planned application. The importance of this step cannot be understated as it is impossible to be highly efficient with a weak beginning, even with a strong end of the software development life cycle.

Model-Driven Domain Analysis and Software Development: Architectures and Functions displays how to effectively map and respond to the real-world challenges and purposes which software must solve. The implications can be far-reaching and apply to domains such as mechatronic, embedded and high risk systems, where failure could cost human lives. It is also important for complex business systems, wherein failures could lead to huge financial losses. This book forms an essential reference for developers and researchers by providing both cases and theories to ensure a strong and suitable domain analysis to support all other efforts when creating and applying software solutions.

Topics Covered:

- Concurrent Model Driven Automation Engineering
- Improving Software Development Productivity
- Domain-Driven Approach for Enterprise Development
- Software Product Lines
- Architecture-Centric Development
- Requirements-driven Reuse of Software Design Models
- Architecture-Centric Development of Java
- Model-driven Testing and Domain Analysis
- Model-Driven Performance Evaluation
- Distributed Real-time and Embedded Systems

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Janis Osis graduated from Latvian University cum lauda and received diploma of Electrical engineering in electrical systems (1953). Dr. Osis in automatics from Kaunas Technological University, Lithuania (1961), Dr. Osis in system analysis from Latvian Academy of Sciences (1972). Since 1965, his research interests are topological modeling of complex systems with applications in technical and medical diagnostics. Recent fields of interest are object-oriented system analysis, modeling and design, formal methods of software engineering, software development within the framework of MDA by means of topological functioning model. His work experience includes teacher and researcher positions - at University of Latvia: an assistant, Faculty of Mechanics; Riga Technical University: a lecturer, Faculty of Energetic; a docent and a dean, Faculty of Automatics and Computer Engineering; a professor, Faculty of Computer Science and Information Technology since 2001. The list of publications contains more than 250 titles including 15 books. He is an honorary member of Latvian Academy of Sciences and a member of the International Editorial Board of the journal Automatic Control and Computer Sciences, Allerton Press, Inc.

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