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Nota di contenuto	Chapter 1: Modelling an e-voting domain for the formal development of a Software Product Line -- Chapter 2: Domain-specific Developments using Rodin Theories -- Chapter 3: Integrating Domain Knowledge in Formal Requirements Engineering -- Chapter 4: Operations over Lightweight Ontologies and their Implementation -- Chapter 5: Formal Ontological Analysis for Medical Protocol -- Chapter 6: Deriving Implicit Security Requirements in Safety-Explicit Formal Development of Control Systems -- Chapter 7: Towards an Integration of Probabilistic and Knowledge-Based Data Analysis Using Probabilistic Knowledge Patterns -- Chapter 8: An Explicit Semantics for Event-B Refinements -- Chapter 9: Contextual Dependency in State-based Modelling -- Chapter 10: Configuration of complex systems -- Chapter 11: Towards Making Safety Case Arguments Explicit, Precise, and Well Founded -- Chapter 12: The Infeasibility Criterion for Assurance Cases -- Chapter 13: An Event-B development process for the distributed BIP framework -- Chapter 14: Explicit Exploration of Refinement Design in Proof-based Approach -- Chapter 15: Constructing Rigorous Sketches for Refinement-based Formal

Development.

Sommario/riassunto

This book addresses mechanisms for reducing model heterogeneity induced by the absence of explicit semantics expression in the formal techniques used to specify design models. More precisely, it highlights the advances in handling both implicit and explicit semantics in formal system developments, and discusses different contributions expressing different views and perceptions on the implicit and explicit semantics. The book is based on the discussions at the Shonan meeting on this topic held in 2016, and includes contributions from the participants summarising their perspectives on the problem and offering solutions. Divided into 5 parts: domain modelling, knowledge-based modelling, proof-based modelling, assurance cases, and refinement-based modelling, and offers inspiration for researchers and practitioners in the fields of formal methods, system and software engineering, domain knowledge modelling, requirement analysis, and explicit and implicit semantics of modelling languages.
