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Titolo	The handbook of formal methods in human-computer interaction // edited by Benjamin Weyers, Judy Bowen, Alan Dix, Philippe Palanque
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Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XIV, 575 p. 205 illus., 133 illus. in color.)
Collana	Human-Computer Interaction Series, , 1571-5035
Disciplina	004.0151
Soggetti	User interfaces (Computer systems) Software engineering Mathematical logic User Interfaces and Human Computer Interaction Software Engineering Mathematical Logic and Formal Languages
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Foreword -- Part I: Introduction -- State of the Art in Formal Methods in HCI -- Topics of formal methods in HCI -- Trends and Gaps -- Case Studies -- Part II: Modeling, Execution and Simulation -- Visual and Formal Modeling of Modularized and Executable User Interface Models -- Combining Models for Interactive System Modelling -- Activity Modelling for Low-Intention Interaction -- Modelling the User Physigrams – Modeling Physical Device Characteristics Interaction -- Formal Description of Adaptive Interactive Systems based on Executable User Interface Models -- Part II:Analysis, Validation and Verification -- Learning Safe Interactions and Full-Control -- Reasoning About Interactive Systems in Dynamic Situations of Use Enhanced Operator Function Model (EOFM): A Task Analytic Modeling Formalism for Including Human -- Behavior in the Verification of Complex Systems -- The Specification and Analysis of Use Properties of a Nuclear -- Control System -- Formal Analysis of Multiple Coordinated HMI Systems -- Part IV: Future Opportunities and Developments -- Domain-Specific Modelling for Human-Computer Interaction -- Exploiting Action Theory

as a Framework for Analysis and Design of Formal Methods  
Approaches: Application to the CIRCUS Integrated Development  
Environment -- A Public Tool Suite for Modelling Interactive  
Applications -- Formal Modeling of App-Ensembles -- Dealing with  
Faults during Operations: Beyond Classical Use of Formal Methods. .

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Sommario/riassunto

This book provides a comprehensive collection of methods and approaches for using formal methods within Human-Computer Interaction (HCI) research, the use of which is a prerequisite for usability and user-experience (UX) when engineering interactive systems. World-leading researchers present methods, tools and techniques to design and develop reliable interactive systems, offering an extensive discussion of the current state-of-the-art with case studies which highlight relevant scenarios and topics in HCI as well as a presenting current trends and gaps in research and future opportunities and developments within this emerging field. The Handbook of Formal Methods in Human Computer Interaction is intended for HCI researchers and engineers of interactive systems interested in facilitating formal methods into their research or practical work.

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