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Nota di contenuto	About the Authors -- Foreword -- Preface -- 1 Teamwork in Multi-Agent Environments -- 1.1 Autonomous Agents -- 1.2 Multi-Agent Environments as a Pinnacle of Interdisciplinarity -- 1.3 Why Teams of Agents? -- 1.4 The Many Flavors of Cooperation -- 1.5 Agents with Beliefs, Goals and Intentions -- 1.6 From Individuals to Groups -- 1.7 Group Attitudes -- 1.8 A Logical View on Teamwork: TEAMLOG -- 1.9 Teamwork in Times of Change -- 1.10 Our Agents are Planners -- 1.11 Temporal or Dynamic? -- 1.12 From Real-World Data to Teamwork -- 1.13 How Complex are Models of Teamwork? -- 2 Beliefs in Groups -- 2.1 Awareness is a Vital Ingredient of Teamwork -- 2.2 Perception and Beliefs -- 2.3 Language and Models for Beliefs -- 2.4 Axioms for Beliefs -- 2.5 Axioms for Knowledge -- 2.6 Relations between Knowledge and Belief -- 2.7 Levels of Agents' Awareness -- 3 Collective Intentions -- 3.1 Intentions in Practical Reasoning -- 3.2 Language and Models for Goals and Intentions -- 3.3 Goals and Intentions of Individual Agents -- 3.4 Collective Intention Constitutes a

Group -- 3.5 Definitions of Mutual and Collective Intentions -- 3.6 Collective Intention as an Infinitary Concept -- 3.7 Alternative Definitions -- 3.8 The Logic of Mutual Intention TeamLogmint is Complete -- 3.9 Related Approaches to Intentions in a Group -- 4 A Tuning Machine for Collective Commitments -- 4.1 Collective Commitment -- 4.2 The Language and Kripke Semantics -- 4.3 Building Collective Commitments -- 4.4 Tuning Collective Commitments -- 4.5 Different Notions of Collective Commitment -- 4.6 Topologies and Group Commitments -- 4.7 Summing up TeamLog: The Static Part of the Story -- 5 Reconfiguration in a Dynamic Environment -- 5.1 Dealing with Dynamics -- 5.2 The Four Stages of Teamwork -- 5.3 The Reconfiguration Method -- 5.4 Case Study of Teamwork: Theorem Proving -- 6 The Evolution of Commitments during Reconfiguration -- 6.1 A Formal View on Commitment Change -- 6.2 Individual Actions and Social Plan Expressions. 6.3 Kripke Models -- 6.4 Dynamic Description of Teamwork -- 6.5 Evolution of Commitments During Reconfiguration -- 6.6 TeamLog Summary -- 7 A Case Study in Environmental Disaster Management -- 7.1 A Bridge from Theory to Practice -- 7.2 The Case Study: Ecological Disasters -- 7.3 Global Plans -- 7.4 Adjusting the TeamLog Definitions to the Case Study -- 7.5 Conclusion -- 8 Dialogue in Teamwork -- 8.1 Dialogue as a Synthesis of Three Formalisms -- 8.2 Dialogue Theory and Dialogue Types -- 8.3 Zooming in on Vital Aspects of Dialogue -- 8.4 Information Seeking During Potential Recognition -- 8.5 Persuasion During Team Formation -- 8.6 Deliberation During Planning -- 8.7 Dialogues During Team Action -- 8.8 Discussion -- 9 Complexity of Teamlog -- 9.1 Computational Complexity -- 9.2 Logical Background -- 9.3 Complexity of TeamLogind -- 9.4 Complexity of the System TeamLog -- 9.5 Discussion and Conclusions -- A Appendix A -- A.1 Axiom Systems -- A.2 An Alternative Logical Framework for Dynamics of Teamwork: Computation Tree Logic -- Bibliography -- Index.

Sommario/riassunto

What makes teamwork tick? Cooperation matters, in daily life and in complex applications. After all, many tasks need more than a single agent to be effectively performed. Therefore, teamwork rules! Teams are social groups of agents dedicated to the fulfilment of particular persistent tasks. In modern multiagent environments, heterogeneous teams often consist of autonomous software agents, various types of robots and human beings. Teamwork in Multi-agent Systems: A Formal Approach explains teamwork rules in terms of agents' attitudes and their complex interplay. It provides the first comprehensive logical theory, TeamLog, underpinning teamwork in dynamic environments. The authors justify design choices by showing TeamLog in action. The book guides the reader through a fascinating discussion of issues essential for teamwork to be successful: . What is teamwork, and how can a logical view of it help in designing teams of agents?. What is the role of agents' awareness in an uncertain, dynamic environment?. How does collective intention constitute a team?. How are plan-based collective commitments related to team action?. How can one tune collective commitment to the team's organizational structure and its communication abilities?. What are the methodological underpinnings for teamwork in a dynamic environment?. How does a team and its attitudes adjust to changing circumstances?. How do collective intentions and collective commitments arise through dialogue?. What is the computational complexity of TeamLog?. How can one make TeamLog efficient in applications? This book is an invaluable resource for researchers and graduate students in computer science and artificial intelligence as well as for developers of multi-agent systems. Students and researchers in organizational science, in particular those

investigating teamwork, will also find this book insightful. Since the authors made an effort to introduce TeamLog as a conceptual model of teamwork, understanding most of the book requires solely a basic logical background.
