

# The MIT Press Forthcoming

## THE ART OF AGENT-ORIENTED MODELING

Leon Sterling  
and Kuldar Taveter

“In *The Art of Agent-Oriented Modeling* readers will find an answer: a thorough description of all the ideas behind agent-oriented software engineering and a new approach to modeling that can fit many different methodologies. A student or a professional will be guided, with a maieutic approach, to learn the art of modeling through many complete examples. Far from being a painful set of definitions and procedures, it will be a pleasure to read it.”

– MAURIZIO MARTELLI,  
UNIVERSITÀ DI GENOVA

“Agents are being used as the building blocks not only for complex systems requiring distributed intelligence, but also for conventional software systems. This book will teach students and practitioners how to use agents as a basis for modeling and then implementing such systems. It will be a required textbook for my students learning about multiagent systems, services, and large-scale simulations.”

– MICHAEL HUHNS,  
DIRECTOR, CENTER FOR INFORMATION  
TECHNOLOGY, CHAIR, COMPUTER SCIENCE  
AND ENGINEERING, UNIVERSITY OF  
SOUTH CAROLINA

Today, when computing is pervasive and deployed over a range of devices by a multiplicity of users, we need to develop computer software to interact with both the ever-increasing complexity of the technical world and the growing fluidity of social organizations. *The Art of Agent-Oriented Modeling* presents a new conceptual model for developing software systems that are open, intelligent, and adaptive. It describes an approach for modeling complex systems that consist of people, devices, and software agents in a changing environment (sometimes known as distributed sociotechnical systems). The authors take an agent-oriented view, as opposed to the more common object-oriented approach. Thinking in terms of agents (which they define as the human and man-made components of a system), they argue, can change the way people think of software and the tasks it can perform.

The book offers an integrated and coherent set of concepts and models, presenting the models at three levels of abstraction corresponding to a motivation layer (where the purpose, goals, and requirements of the system are described), a design layer, and an implementation layer. It compares platforms by implementing the same models in four different languages; compares methodologies by using a common example; includes extensive case studies; and offers exercises suitable for either class use or independent study.

Leon S. Sterling is Director of eResearch and Chair of Software Innovation and Engineering at the University of Melbourne. He is the coauthor of *The Art of ProLog* (second edition, MIT Press, 1994) and the editor of *The Practice of ProLog* (MIT Press, 1990). Kuldar Taveter is Professor and Chair of Software Engineering in the Department of Informatics at Tallinn University of Technology, Estonia.

INTELLIGENT ROBOTICS AND AUTONOMOUS AGENTS SERIES

Forthcoming: August 2009

7 x 9, 408 pp., 141 illus., \$38 cloth • 978-0-262-01311-6

Visit our website for more information about this and other MIT Press titles at <http://mitpress.mit.edu>