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Sverker Janson (Eds.)

Agent-Mediated Electronic Commerce

Designing Trading Agents and Mechanisms

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Preface

As use of automated agent trading, online auctions and other forms of agent-mediated electronic commerce is gaining prominence in everyday economic activities, interest in further advancing these technologies is also continuing to grow. The present volume presents a snapshot of research on Designing Trading Agents and Mechanisms for Agent-Mediated Electronic Commerce. The book has been built around a collection of articles initially presented at two highly respected international workshops held in the summer of 2005:

- The 2005 workshop on Agent-Mediated Electronic Commerce VII: Designing Mechanisms and Systems (AMEC VII, 2005) collocated with the AAMAS 2005 conference held in Utrecht, The Netherlands, in July 2005. AMEC 2005 was the seventh in a series of international workshops on research at the intersection between computer science, operations research, artificial intelligence, distributed systems, and economics, including game theory. Research presented at this workshop has traditionally addressed a mix of both theoretical and practical issues, looking at behavioral and organizational dimensions of agent-mediated electronic commerce as well as at complex computational, information and system-level challenges. An extended version of an article originally presented at AMEC2004 has also been included.
- The 2005 workshop on Trading Agent Design and Analysis (TADA 2005), collocated one week later with the International Joint Conference on Artificial Intelligence (IJCAI 2005) in Edinburgh, Scotland. The TADA workshop was the third of its kind and focused more specifically on trading agent technologies and mechanism design. This includes discussions of agent architectures and decision-making algorithms along with theoretical analyses and empirical evaluations of agent strategies in different trading contexts. The workshop also serves as the primary discussion forum for the Trading Agent Competition (TAC) research community. TAC is an annual tournament that currently revolves around two different trading scenarios: a scenario that focuses on trading for flight reservations, hotel bookings and tickets at special events ("TAC Travel") and a scenario that models trading for consumer orders and component procurement in a PC assembly supply chain ("TAC Supply Chain Management" or "TAC-SCM"). Participants in the competition develop software agents that compete against one another through several rounds. The rounds, enabled by game servers at SICS (www.sics.se/tac), span several weeks and feature hundreds of games pitting different groups of agents against one another. The competition, which over the years has attracted the participation of several hundred researchers, has grown to become a major catalyst for automated trading and agent-mediated e-commerce research.

We hope that this book will be both a useful resource and a source of inspiration for researchers, students, and practitioners in agent-mediated electronic commerce and trading agents.

Han La Poutré
Norman Sadeh
Sverker Janson

Short Bios

Han La Poutré is research group leader at CWI in Amsterdam (The Netherlands), heading the theme group "Computational Intelligence and Multi-agent Games." He also is a full professor of "e-Business and Computer Science" at the Department of Information Systems at Eindhoven University of Technology. Both in 1999 and 2005, his research group was rated excellent in the six-yearly evaluation of the CWI by NWO (the Netherlands Organization for Scientific Research). Han served as Co-chair of the AMEC-VII workshop.

Norman Sadeh is an Associate Professor in the School of Computer Science at Carnegie Mellon University (CMU), where among other things he founded and directs the e-Supply Chain Management Laboratory. He is also the original proposer of the Supply Chain Trading Agent Competition (TAC- SCM), which over the years has been refined under a collaboration between CMUs e-Supply Chain Management Laboratory, SICS and the University of Minnesota. Norman served as Co-chair of the AMEC-VII workshop.

Sverker Janson is director of the Intelligent Systems Laboratory at SICS, Swedish Institute of Computer Science. He is co-designer of the original 2003 TAC SCM game, with Raghu Arunachalam, Norman Sadeh, Joakim Eriksson, and Niclas Finne. His lab designed and developed the game servers and agentware for TAC, TAC Travel and TAC SCM, and operates the competition since 2002. Sverker served as Chair of the TADA 2005 workshop.

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