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Preface

Information systems have become the backbone of all kinds of organizations today. In almost every sector – manufacturing, education, health care, government and businesses large and small – information systems are relied upon for everyday work, communication, information gathering and decision-making. Yet, the inflexibilities in current technologies and methods have also resulted in poor performance, incompatibilities and obstacles to change. As many organizations are reinventing themselves to meet the challenges of global competition and e-commerce, there is increasing pressure to develop and deploy new technologies that are flexible, robust and responsive to rapid and unexpected change.

Agent concepts hold great promise for responding to the new realities of information systems. They offer higher-level abstractions and mechanisms which address issues such as knowledge representation and reasoning, communication, coordination, cooperation among heterogeneous and autonomous parties, perception, commitments, goals, beliefs, intentions, etc., all of which need conceptual modelling. On the one hand, the concrete implementation of these concepts can lead to advanced functionalities, e.g., in inference-based query answering, transaction control, adaptive work flows, brokering and integration of disparate information sources, and automated communication processes. On the other hand, their rich representational capabilities allow for more faithful and flexible treatments of complex organizational processes, leading to more effective requirements analysis and architectural/detailed design.

The Agent Oriented Information Systems (AOIS) workshop series focusses on how agent concepts and techniques will contribute to meeting information systems needs today and tomorrow. To foster greater communication and interaction between the information systems and agents communities, the AOIS workshop is organized as a bi-conference event. It is intended to be a single “logical” event with two “physical” venues. This arrangement encourages greater participation from, and more exchange between, both communities.

AOIS 2004 was the sixth edition of the workshop. The first part was hosted on the 8th of June at CAiSE 2004 – the 16th International Conference on Advanced Information Systems Engineering – in Riga (Latvia). The second part was held on the 20th of July at AAMAS 2004 – the 3rd International Joint Conference on Autonomous Agents and Multi-agent Systems (AAMAS 2004) – in New York (USA). The workshop received in total 36 submissions, 23 of which were accepted for presentation. These papers were reviewed by at least 3 members of an international Program Committee composed of 31 researchers. The submissions followed a call for papers on all aspects of agent-oriented information systems and showed the range of results achieved in several areas, such as methodologies, applications, modelling, analysis and simulation.

This volume contains the revised versions of 14 selected papers presented at the workshop and an invited paper by Terry Halpin who gave a keynote speech at the CAiSE event. The papers are grouped into four categories: *information systems*, *analysis and modelling*, *methodologies*, and *applications*.

We believe that this carefully prepared volume will be of particular value to all readers in these key topics, describing the most recent developments in the field of agent-oriented information systems.

We thank the authors, the participants and the reviewers for making AOIS 2004 a high-quality scientific event.

March 2005

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