

Preface

At this time it is hardly necessary anymore to argue the importance of agent technology. Besides numerous conferences and workshops on specific aspects of agent technology there are also many companies that are exploring its exploitation possibilities. In the light of these developments and in order to foster the transfer of agent technology from research labs to the business, the EU has funded a "network of excellence" devoted to agent technology. This network of excellence, called AgentLink (<http://www.agentlink.org/>), aims at bringing together research groups from different countries and industrial developers. The ultimate goal is to create synergy among the different projects and groups to improve the competence of European industry and the excellence of academia. As mechanisms to achieve this goal, AgentLink organises educational activities (summer schools), builds agent related literature repositories, and facilitates collaborations between member nodes. One of the main activities in respect of the last point are the regular meetings of "Special Interest Groups" (SIGs). At this moment six SIG's are functioning, ranging from agent based social simulation to intelligent agents for telecommunications applications and telematics.

The current book combines two results from the activities of the SIG on "Agent Mediated Electronic Commerce". This SIG gathers the main research groups and industrial partners interested in the use of agent technology in electronic commerce.

In the first place the book contains a roadmap of research and current technological developments in the area of agent mediated electronic commerce. This roadmap is a direct result of the discussions between the participants in the meetings conducted by this SIG. Probably the most interesting part of this roadmap is the (joint) perspective on future developments in this area for research in Europe. This perspective is built on the foundation of current research and development in Europe.

The book also contains a number of papers that fill in parts of this roadmap in a European context. Some of these papers describe significant current developments in this area while other papers indicate some clear directions for future research. Together they compose an interesting overview of the area as it stands in Europe at this moment. We have structured the book around four themes: Negotiation, Markets, User Preferences and Security.

The book contains four papers around negotiation. The paper of A. Lomuscio, M. Wooldridge and N. Jennings gives a classification scheme for negotiation and thus can function as a framework in which different research topics on negotiation can be placed. The paper of J.-L. Koning discusses one such issue, namely the designing and testing of negotiation protocols. Also the paper of S. Paurobally and J. Cunningham treats the specification of negotiation protocols (using an alternative specification mechanism). In the paper of E. Oliveira and A. Rocha the features of agents that are partaking in a negotiation are discussed.

The section on Markets also contains four papers. The paper of F. Dignum discusses the general advantages of using agents in electronic markets and draws some conclusions about desirable properties of agents that operate on these markets. The papers of M. Viamonte et.al. and M. Esteva et.al. both give formal descriptions of electronic market places. The last paper in this section, by M. Vetter and S. Pitsch, describes an actual market place, CASBA, that supports flexible trading using agents.

The section on user preferences contains one paper on the user preference modeling itself (by M. Dastani et.al.). Besides this paper there is also a paper describing how agents can be used to build adaptive web stores, by L. Ardissono et.al. This section concludes with a paper from M. Torrens et.al. which uses techniques from constraint satisfaction in order to build scalable catalogs.

The last section of this book contains only one paper on the topic of security. In this paper V. Roth and V. Conan describe how encrypted Java archives can be used to ensure security for mobile agents.

Hopefully this book will be an inspiration for researchers and will encourage them to take up the challenges indicated in the papers and for practitioners to start using some of the technology described in their new systems.

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