

Preface

The present volume of Springer's "Lecture Notes in Artificial Intelligence" focuses on the challenge of balancing between the two extremes of pure reactivity and in-depth social deliberation in the context of multi-agent systems. Finding a balance between these two extremes will lead to an overall behavior of the individual agents and of the multi-agent system that meets the demands of the environment but also the demand for high-quality problem solving results. This book collects selected and revised papers from "Balancing Reactivity and Social Deliberation in Multi-Agent Systems" – a workshop held at the 14th European Conference on Artificial Intelligence (ECAI 2000) – and additional papers from renowned researchers in the field. All the papers contained in this book have undergone at least one complete phase of reviewing and correction with typically three reviews, the large majority of them have been through two phases. In the first phase, papers were reviewed by members of the advisory committee, in the second phase, papers were peer-reviewed among the authors with additional comments from members of the advisory committee.

Although several contributions to this book stem from members of the RoboCup community and as such also deal with related topics, this is not a book on RoboCup. The target of "Balancing Reactivity and Social Deliberation in MAS" is to make a first step towards the main target of RoboCup: to transfer insights gained from a real or artificial gaming environment and to develop generic multi-agent systems techniques, such that they can be applied to other application domains. All the contributing authors have managed to meet this demand as you will see when taking a closer look at their contributions.

The workshop at ECAI 2000 has turned out to be only a starting point for this kind of research. The same holds for the present book. Nevertheless, the problem is evident, in particular in robotics and collaborative problem solving with resource bounds. Some contributions of this volume start at different points on the spectrum between the two observed extremes and try to make their way towards the other extreme stopping at the right point. Others propose integrated frameworks that can cover the full range of reactive and socially deliberative behavior. Though all of the contributions show success in dealing with our main problem they also underline the need for further research. With our collection of contributions we hope to have laid a sound foundation for this future work.

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Markus Hannebauer

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