

Preface

This volume contains the papers presented at the two 2016 editions of the Coordination, Organization, Institutions and Norms in Agent Systems workshop series. These are the revised, selected papers from COIN@AAMAS, held in Singapore in May 2016 and COIN@ECAI, held in The Hague, The Netherlands in August 2016.

From these workshops, nine papers were invited to be considered for the annual post-proceedings volume, of which this is the 12th edition. Each submission went through two rounds of reviews: the first for the workshop presentation and the second for the post-proceedings, with continuity of reviewers between workshop and proceedings to ensure that first-round revisions were appropriately implemented. Subsequently, all nine papers were accepted.

Three themes emerged from the papers this year, namely social issues, teams, and rights and values, which are the headings under which we introduce the contributions.

Social Issues

The four papers in this section focus on the security of personal data, support for self-care for individuals with chronic conditions, analysis of the risk of information leakage in social networks, and an analysis of issues arising in the design of on-line environments whose participants are human and software:

1. Towards a Distributed Data-Sharing Economy (Cauvin et al.) addresses the problem of how users can describe fine-grained data access policies in a distributed environment, with the help of a reference architecture and demonstration of how that protects against several standard attacks.
2. Modelling Patient-Centric Healthcare Using Socially Intelligent Systems: The AVICENA Experience (Gómez-Sebastià et al.) outlines how intelligent support systems can be conceived to assist individuals with cognitive impairments in following their daily medication regimes, by taking account not only of regulation but also the social circumstances of the human actors.
3. ‘How Did They Know?’ – Model-Checking for Analysis of Information Leakage in Social Networks (Dennis et al.) uses formal models of digital crowds to establish probabilistic models of the propagation of information across intersecting social networks, and hence the risk of such information reaching unintended recipients.
4. A Manifesto for Conscientious Design of Hybrid Online Social Systems (Noriega et al.) considers a broad range of issues that might impact upon the design and construction of effective systems for collective action, where the actors are a blend of humans and software, by emphasizing the need to underpin designs with the ethical and social values of the participants.

Teams

The two papers in this section consider different aspects of team work: which kinds of knowledge sharing best contribute to effective team performance and how to organize a team to function effectively in different kinds of scenarios.

1. Communication and Shared Mental Models for Teams Performing Interdependent Tasks (Singh et al.)¹ examines the effect of communicating intentions and beliefs on team performance, establishing that the former matter more the higher the level of interdependence, and the latter for the converse.
2. An Empirical Approach for Relating Environmental Patterns with Agent Team Compositions (Franco et al.) presents an experimental evaluation of team organizational structures in the context of an Agents on Mars scenario, showing how taking account of domain-specific and topological features leads to team performance improvements.

Rights and Values

The three papers in this section examine complementary issues that influence the effective design of normative systems, namely, how to detect opportunism so that it may be discouraged, how the values of individuals influence (collective) decision-making processes, and how rights and powers relate to value and conflict resolution in nested organizational structures.

1. Monitoring Opportunism in Multi-Agent Systems (Luo et al.) takes the view that opportunism is undesirable and should be punished through enforcement, leading to the problem of how to determine whether an action is opportunistic, and a logical framework that allows the specification of approaches to monitoring actions for this kind of violation.
2. The Role of Values (Pigmans et al.) suggests that improved understanding of stakeholder values, and through the conceptual model advanced here, of their relationship to norms and consequent actions, can offer benefits to the decision-making process.
3. On the Minimal Recognition of Rights in Holonic Institutions (Pitt et al.) begins an exploration of the problems arising from the embedding of one organization in another, using the principles from Ostrom's framework for common-pool resource institutions. The authors put forward an axiomatic specification of nested organizations as a basis for the computational investigation of rights and powers in such hierarchical structures.

¹ This paper has appeared previously in the volume of best workshop papers from AAMAS 2016 as: Singh R., Sonenberg L., Miller T. (2016) Communication and Shared Mental Models for Teams Performing Interdependent Tasks. In: Osman N., Sierra C. (eds) AAMAS 2016 Workshops. LNCS (LNAI), vol. 10002, pp. 163–179. Springer International Publishing AG (2016). doi [10.1007/978-3-319-46882-2_10](https://doi.org/10.1007/978-3-319-46882-2_10)

In conclusion, we gratefully acknowledge the Programme Committees for the workshops, who are listed after this preface, and likewise the COIN Steering Committee.

July 2017

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Coordination, Organizations, Institutions, and Norms in
Agent Systems XII

COIN 2016 International Workshops, COIN@AAMAS,
Singapore, Singapore, May 9, 2016, COIN@ECAI, The
Hague, The Netherlands, August 30, 2016, Revised
Selected Papers

Cranefield, S.; Mahmoud, S.; Padget, J.; Rocha, A.P.
(Eds.)

2017, XIII, 171 p. 43 illus., Softcover

ISBN: 978-3-319-66594-8