

Adam Wierzbicki

Trust and Fairness in Open, Distributed Systems

Studies in Computational Intelligence, Volume 298

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To my wife Malgosia, for all her love, support and patience while I wrote this book.

To my son Tomek, for reminding me that growth takes time.

To my family - without their support and help I would never have finished.

To my students and Ph.D. students, because teaching is the best way of learning.

Preface

This book is an attempt to bring closer the greater vision of the development of Social Informatics. Social Informatics can be defined as *a discipline of informatics that studies how information systems can realize social goals, use social concepts, or become sources of information about social phenomena*. All of these research directions are present in this book: fairness is a social goal; trust is a social concept; and much of this book bases on the study of traces of Internet auctions (used also to drive social simulations) that are a rich source of information about social phenomena.

The book has been written for an audience of graduate students working in the area of informatics and the social sciences, in an attempt to bridge the gap between the two disciplines. Because of this, the book avoids the use of excessive mathematical formalism, especially in Chapter 2 that attempts to summarize the theoretical basis of the two disciplines of trust and fairness management. Readers are usually directed to quoted literature for the purpose of studying mathematical proofs of the cited theorems.

Social Informatics in general, and Trust and Fairness Management in particular, can benefit from the social sciences not just for a theoretical foundation of knowledge about human behavior, but also for a wealth of empirical observations that can be used to justify design choices and motivate new methods or algorithms. For this reason, this book has attempted to emphasize the existence and meaning of such empirical research in the social sciences. Sometimes it is also possible to point out empirical studies from informatics that may be of interest to social scientists. These studies are usually based on data mining and exploration, and can result in hypotheses that may be verified by social experimentation.

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