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Trust, Computing, and Society

The Internet has altered how people engage with each other in myriad ways, including offering opportunities for people to act distrustfully. This fascinating set of essays explores the question of trust in computing from technical, socio-philosophical, and design perspectives. Why has the identity of the human user been taken for granted in the design of the Internet? What difficulties ensue when it is understood that security systems can never be perfect? What role does trust have in society in general? How is trust to be understood when trying to describe activities as part of a user-requirement program? What questions of trust arise in a time when data analytics are meant to offer new insights into user behavior and when users are confronted with different sorts of digital entities? These questions and their answers are of paramount interest to computer scientists, sociologists, philosophers, and designers who confront the problem of trust.

RICHARD H.R. HARPER is Principal Researcher at Microsoft Research in Cambridge and co-manages the Socio-Digital Systems Group. His tenth book, *Texture: Human Expression in the Age of Communications Overload*, was named Book of the Year (2011) by the Association of Internet Researchers. His earlier books include the IEEE award-winning *The Myth of the Paperless Office*, co-authored with Abi Sellen, and *Inside the IMF: An Ethnography of Documents, Technology and Organisational Action*.

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Author Biographies

Bob Anderson taught in the School of Sociology at Manchester Polytechnic (now Manchester Metropolitan University) from 1974 to 1988 after which he joined Xerox to help set up the social science research group at its newly formed laboratory in Cambridge (Europarc). He became Director of Europarc in 1990, and in 1999 he moved to Sheffield Hallam University as Pro Vice Chancellor for Research and then CEO of University Campus Suffolk. Since then, Bob has held an advisory role at the Horizon Digital Economy Research Project at the University of Nottingham.

Richard Banks is principal interaction designer for Microsoft Research in Cambridge, where he leads a design team that is part of the Computer-Mediated Living group. Richard holds more than twenty patents for design work at Microsoft, is a Fellow of the Royal Society of Arts in the UK and an Honorary Professor of Design at Dundee University, and recently published *The Future of Looking Back*, a book examining issues of digital legacy.

David Clark is a Senior Research Scientist at the MIT Computer Science and Artificial Intelligence Laboratory, where he has worked since receiving his PhD there in 1973. His current research looks at redefining the architectural underpinnings of the Internet and the relation of technology and architecture to economic, societal, and policy considerations. He is past chairman of the Computer Science and Telecommunications Board of the National Academies, a member of the National Academy of Engineering and the American Academy of Arts and Sciences, and co-director of the MIT Communications Futures Program, a project for industry collaboration and coordination along the communications value chain.

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Dr. George Danezis recently joined the Computer Science department at University College London. Previously, he was a researcher at Microsoft Research Cambridge, where he worked on anonymous communications, privacy-enhancing technologies (PET), and traffic analysis. He has been a visiting Fellow at KU Leuven (Belgium) and a research associate at the University of Cambridge, where he also completed his doctoral dissertation in 2004. He sits on the PET Symposium board and regularly serves on program committees of leading conferences in the field of privacy and security.

Charles Ess (PhD, Pennsylvania State University, USA) is Associate Professor in Media Studies, Department of Media and Communication, University of Oslo, and emeritus Professor of Philosophy and Religion, Drury University (Springfield, Missouri, USA). He has held several guest professorships in Europe and Scandinavia, including Professor II in the Applied Ethics Programme, University of Trondheim (2005–2008), and, most recently, Professor MSO (med særlige opgaver), Media Studies, Aarhus University, Denmark (2009–2012). His books include *Digital Media Ethics; Trust and Virtual Worlds: Contemporary Perspectives* (with May Thorseth); *The Handbook of Internet Studies* (with Mia Consalvo); and *Digital Religion, Social Media and Culture: Perspectives, Practices and Futures* (with Pauline Cheong, Peter Fischer-Nielsen, and Stefan Gelfgren).

Richard Harper is Principal Researcher at Microsoft Research in Cambridge and co-manages the Socio-Digital Systems group. His tenth book, *Texture: Human Expression in the Age of Communications Overload* was named the Association of Internet Researchers' Book of the Year (2011). Among his earlier books was the IEEE award-winning *The Myth of the Paperless Office*, co-authored with Abi Sellen, and *Inside the IMF: An Ethnography of Documents, Technology and Organisational Action*.

Thomas Karagiannis has been a researcher in the Systems and Networking group at Microsoft Research Cambridge, looking mainly at ways to improve the performance and usability of various types of computer networks. He received the ACM SIGCOMM 2011 Honorable Mention Paper Award along with Christo Wilson, Hitesh Ballani, and Ant Rowstron. Prior to joining Microsoft Research, Thomas was with Intel Research Cambridge and the Cooperative Association for Internet Data Analysis (CAIDA), where he introduced novel methodologies for measuring and analyzing Internet traffic with a special focus on peer-to-peer file-sharing applications.

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Author Biographies

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Iacovos Kirlappos is a PhD student in the Security Science Doctoral Research Training Centre and the Department of Computer Science at University College London. His research interests include employee education in organizations, information security policy effectiveness and communication, human behavior in security, and information security management.

Olli Lagerspetz is Senior Lecturer of Philosophy at Åbo Akademi University, Åbo, Finland. His work has focused mainly on moral philosophy, Wittgenstein, and the philosophy of the mind. Lagerspetz is the author of *Trust: The Tacit Demand* and a Swedish book on the concepts of dirt and cleanliness (Smuts: En bok om världen, vårt hem).

William Odom is a PhD candidate in the Human-Computer Interaction Institute at Carnegie Mellon University. With a background spanning design, informatics, and anthropology, William is interested in designing innovative ways for people to engage with their digital possessions in their everyday lives. He was previously a Fulbright Scholar in Australia, and his work has won best paper awards at the Computer-Human Interaction (CHI), Designing Interactive Systems (DIS), and Ubiquitous Computing (UbiComp) conferences.

M. Angela Sasse is the Professor of Human-Centered Technology in the Department of Computer Science at University College London. A usability researcher by training, Angela started researching human behavior in human-centered security, privacy, identity, and trust in the 1990s, and she now heads the Research Institute for Cyber Security and Information Security Research Group at UCL. She is a member of the British Computer Society and the British Psychological Society.

Wes Sharrock is Professor of Sociology in what is now the Sociology Discipline Area at Manchester University, where he joined the staff in 1966. Over his career, Wes has led the development of ethnomethodology in the UK and is a widely acknowledged interpreter of Wittgenstein's philosophy. His many books include *Brain, Mind and Human Behaviour* (co-authored with J. Coulter); *The Philosophy of Social Research* (with J. Hughes); and *Working for Profit* (with Bob Anderson and John Hughes).

Dr. Thomas W. Simpson is University Lecturer in Philosophy and Public Policy at the Blavatnik School of Government, University of Oxford, and a Senior Research Fellow at Wadham College. He was educated at Cambridge

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(BA, MPhil, PhD), where he was also a Research Fellow at Sidney Sussex College. Between earning degrees, he served as an officer with the Royal Marines Commandos. His research is focused on trust, both its theory and practical applications. His work in applied ethics hitherto has been principally on the ethics of information and computing technologies, and of war.

Rod Watson is Professeur de Sociologie in the Department of Sciences Economiques et Sociales at Telecom ParisTech, France. He has published extensively in the sphere of ethnomethodology, conversation analysis, and analytic sociology. His interests include textual analysis, and he published *Analysing Practical and Professional Texts: A Naturalistic Approach* in 2009. He received a sectional Distinguished Publication Award from the American Sociological Association for an earlier article on trust (2009) on which his contribution here draws considerably.

Acknowledgments

All books are completed with forbearance by colleagues and friends. Edited collections are completed with the willing compliance of contributors. In this case, the former, this was true on the part of my colleagues in the Socio-Digital Systems group at Microsoft Cambridge. While this collection was being compiled, my contributions to their activities were diminished. Whether those activities were better because of this is for them to judge. More widely, my role at Microsoft Research Cambridge diminished equally – whether for better or worse is again not for me to say. Because friends and family, meanwhile, seem to treat my distraction as normal, they can hardly be said to show forbearance, but only tolerance. On the subject of compliance, I must thank all the contributors, who, in various ways, had to oblige my cajoling and pestering. A particular achievement has been to get them all to acknowledge the differences in the views of the other contributors, differences that are not so much about evidence as about starting places: “interdisciplinarity” is a modish formula these days, but what has been sought here – and what I chased the contributors for – was not the blurring and merging of their views with half-baked views of other disciplines, but clear, apposite articulations of their own. The result is this book: a collection of dialogues from different points of view.

The motivation for this – quixotic though it might be – derived from explorations outside the usual domain of my research; that is, in the subfield of computer science known as human computer interaction. Current debates across the gamut of social sciences led me to inquire into the current thinking on the nature of ideas-in-action in philosophy because here, I imagined, I would find some root and stock examination of central ideas in many of these debates. PhDs were funded and collaborations with various philosophy departments initiated. One such work led to a workshop titled “Trust and Cloud Computing” at Corpus Christi College in Cambridge. This was wonderfully organized by Tom Simpson. What came out of that event was the discovery that many

philosophers are more or less out of touch with the changing landscape of computer-mediated living. This is not to diminish the excellent work of a handful of philosophers who cannot be so accused. One can think of the books and collections of Floridi, for instance, and of works by Charles Ess and his collaborators, too. There are others of course. This book derives in part from an attempt both to focus the attention of other philosophers who have not followed in the wake of these mentioned and to direct attention to how the world actually is as a lived phenomenon – that is, massively connected in and through the Internet and its supporting infrastructures, among other things. As it does this, so it also brings together others, from different disciplines – sociologists, designers, anthropologists, and others – to support and engage in this attempt at learning; to inform not just the all too often laggardly world of philosophy but to foster dialogues across disciplines and across other divides that don't so easily scale onto academic divides. The resulting chapters display, I think, a remarkable diversity as well as a compendium of points of view on trust, computing, and society that cannot be found anywhere else.

On a more logistical level, I would like to thank the Cambridge University Press New York office for encouragement and tolerance in the preparation of the collection – particularly Ada Brunstein and Lauren Cowles and an anonymous but hugely supportive copy editor. Specific acknowledgments are in the footnotes for the chapters.