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IFIP – The International Federation for Information Processing

IFIP was founded in 1960 under the auspices of UNESCO, following the First World Computer Congress held in Paris the previous year. An umbrella organization for societies working in information processing, IFIP's aim is two-fold: to support information processing within its member countries and to encourage technology transfer to developing nations. As its mission statement clearly states,

IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is also rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

Any national society whose primary activity is about information processing may apply to become a full member of IFIP, although full membership is restricted to one society per country. Full members are entitled to vote at the annual General Assembly, National societies preferring a less committed involvement may apply for associate or corresponding membership. Associate members enjoy the same benefits as full members, but without voting rights. Corresponding members are not represented in IFIP bodies. Affiliated membership is open to non-national societies, and individual and honorary membership schemes are also offered.

Jan Camenisch · Simone Fischer-Hübner
Marit Hansen (Eds.)

Privacy and Identity Management for the Future Internet in the Age of Globalisation

9th IFIP WG 9.2, 9.5, 9.6/11.7, 11.4, 11.6/SIG 9.2.2
International Summer School
Patras, Greece, September 7–12, 2014
Revised Selected Papers

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Preface

New technologies such as social media, cloud computing, big data, and ubiquitous and ambient technologies operate on a global scale, their use not only touches the countries where they originate (in many cases, the USA), but individuals and groups around the globe. The recent revelations regarding the surveillance practices further prove that personal data is communicated, collected, and processed on a global scale. Privacy and identity management issues have hence become global issues requiring the attention of multiple disciplines, both technical (computer science, cryptography) and non-technical (law, ethics, social sciences, philosophy), and the need to look beyond national borders.

Now, how can the individuals' privacy rights be achieved effectively in a globalizing information society in which both states and private enterprises exhibit great data hunger? What technologies, frameworks, and tools do we need to gain, regain, and maintain informational self-determination and lifelong privacy? Do we have to advance the concepts of privacy and identity management in this quickly evolving world?

These questions and many others were addressed by the IFIP Summer School 2014 on Privacy and Identity Management for the Future Internet in the Age of Globalization. The Summer School organization was a joint effort of IFIP (International Federation for Information Processing, Working Groups 9.2, 9.5, 9.6/11.7, 11.4, 11.6, Special Interest Group 9.2.2), the University of Patras, Kritiki, and the EU research projects ABC4Trust, A4Cloud, AU2EU, PRISMS, and FutureID.

The aim of the IFIP Summer School is traditionally manifold: to increase the research community in privacy and identity management, to further research, and to enable the update of privacy-enhancing technologies. To address this, the school has invited a number of keynote speakers and held sessions with contributed papers and workshops dedicated to the discussion of particular topics.

This time, the summer school was honored to have keynote presentations by Rehab Alnemr, Kim Cameron, Michael Friedewald, Zoi Kolitsi, George Metakides, Marit Hansen, Joachim Meyer, Gregory Neven, Christine O'Keefe, Bart Preneel, Nadya Purtova, Kai Rannenber, Marc van Lieshout, and Aimee van Wynsberghe. Thank you all for your great talks!

Complementing the keynotes, the summer school featured a number of parallel workshop sessions. Eleven of these were dedicated to the presentation and discussion of the papers selected from the submissions. In addition to this, there were a number of other workshops where topics were discussed.

The ABC4Trust project arranged for four workshop sessions discussing different aspects of attributed-based credentials supporting privacy (Privacy-ABCs). The first workshop session focused on new application scenarios and storage devices for credentials such as mobile devices and smart cards. The second one discussed the practical use of inspection and revocation in the context of anonymous credentials. The third workshop session was concerned with data protection and privacy requirements as well as the legal context for Privacy-ABCs. In the fourth session, the participants could get

their hands on the Privacy-ABCs: it was explained how to download and install the code available from the ABC4Trust repository and how to build applications on top of it.

The A4Cloud project gave a tutorial on accountability metrics and tools that have been developed within the A4Cloud project.

Finally, a Smart Society Project workshop was held on ethical aspects, privacy risks, and technical privacy solutions in relation to Peer Profiling in Collective Adaptive Systems.

This book contains the thoroughly refereed post-conference proceedings of the summer school. In particular, it contains revised papers selected from numerous submissions. In the first round, submitted papers were reviewed and selected for presentation at the summer school. Most of these papers were revised based on the comments and discussions at the summer school and have undergone a second thorough round of review (by 2 to 5 reviewers), selection, and revision to be included in the present proceedings.

In addition to these papers, the proceedings contain four keynote papers: “Privacy and Security Perceptions of European Citizens: A Test of the Trade-off Model” by Michael Friedewald, Marc van Lieshout, Sven Rung, Merel Ooms, and Jelmer Ypma, “Towards an Engineering Model of Privacy-Related Decisions” by Joachim Meyer, “Privacy and Confidentiality in Service Science and Big Data Analytics” by Christine O’Keefe, and “ABC4Trust: Protecting Privacy in Identity Management by Bringing Privacy-ABCs into Real-life” by Ahmad Sabouri and Kai Rannenber.

Finally, the Program Committee Chairs selected the paper entitled “Event Invitations in Decentralized Online Social Networks: Formalization and Protocol Design” by Guillermo Rodríguez-Cano et al. for the Best Student Paper Award. Congratulations Guillermo!

We express our gratitude to the numerous people who made the summer school such a success: all the authors who submitted papers, the keynote speakers, the participants, and, last but clearly not least, the members of the organizing and the Program and Steering Committees as well as the additional reviewers. In particular, we owe special thanks to the Local Organizers from the University of Patras, Panagiota Panagopoulou, Vasia Liagkou, and Yannis Stamatiou, for their great hospitality and support.

Thank you!

March 2015

Jan Camenisch
Simone Fischer-Hübner
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