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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.

Marit Hansen Jaap-Henk Hoepman
Ronald Leenes Diane Whitehouse (Eds.)

Privacy and Identity Management for Emerging Services and Technologies

8th IFIP WG 9.2, 9.5, 9.6/11.7, 11.4, 11.6
International Summer School
Nijmegen, The Netherlands, June 17-21, 2013
Revised Selected Papers

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Preface

Current technological trends such as Web 2.0, mobile applications, cloud computing, big data analysis, and sensor technologies lead to the gathering and processing of more and more personal information. In such a situation, the privacy of individuals is at stake. In 2012, several legislative initiatives that may foster better privacy protection were introduced or proposed, among them the United States' Consumer Privacy Bill of Rights, Australia's Privacy Amendment (Enhancing Privacy Protection) Bill, and the European Data Protection Regulation that promotes "data protection by design" and "data protection by default." In addition, the European Commission proclaimed 2013 as the European Year of Citizens and encouraged public debate about the rights associated with European citizenship. In this context, how can individuals' rights to privacy be achieved in an effective way considering the rapid and far-reaching changes stemming from emerging information and communication technologies and services? What frameworks and tools are needed to gain, regain, and maintain self-determination of the dissemination and use of information, and of lifelong privacy? These were the crucial questions raised at the 8th International Summer School on Privacy and Identity Management for Emerging Services and Technologies.

During June 17–21, 2013, the International Federation for Information Processing (IFIP) working groups 9.2 (Social Accountability and Computing), 9.5 (Virtuality and Society), 9.6/11.7 (IT Misuse and the Law), 11.4 (Network Security), and 11.6 (Identity Management) held a summer school in Berg en Dal in The Netherlands. Its focus was on privacy and identity management for emerging services and technologies.

The 2013 summer school was again a successful event. Some 70 people attended, of whom the vast majority were young researchers. While the youngest had recently graduated with a bachelor's degree, another had been awarded his PhD just one month before the school took place. The school hosted student participants from 14 countries: Belgium, Denmark, Estonia, France, Germany, Greece, The Netherlands, Norway, Slovenia, Sweden, Switzerland, the UK, as well as Canada and India.

The aim of this series of eight IFIP summer schools has been to encourage young academic and industry participants to share their own ideas about privacy and identity management and related issues in a rigorous and academic manner, and to build up collegial relationships with others. Over the years, the schools have been introducing participants to the various legal, organizational, and social implications of information technology through a continuing process of informed discussion.

Following the school's holistic approach, contributions that combined technical, social, ethical, or legal perspectives were especially solicited. As in previous

years, a diverse group of participants – ranging from young doctoral students to leading researchers in the field from academia, industry, and government – responded and engaged in discussions, dialogues, and debates in an informal and supportive setting. The interdisciplinary, and international, emphasis of the summer school enabled a broad understanding of the issues in both social and technical spheres.

Each day of the school started with morning introductory lectures by invited speakers, followed by parallel workshops and seminars in the afternoons. The workshops were targeted at optimizing student involvement and giving the most effective feedback possible to the contributors. Intensive discussions were initiated between PhD students and established researchers from different disciplines. The workshops consisted of short presentations based on the contributions submitted by the participating students, followed by active discussions.

Thirty student presentations were given. Prize winner of the best student submission was Paulan Korenhof of Tilburg University’s law school in The Netherlands, who received the award for both her paper and her presentation. She explored the notions of erasure and “the right to be forgotten” in her paper entitled “Forgetting Bits and Pieces”, which is included in this volume.

Eleven thought-provoking and challenging keynote talks were given. On the social science and economics side, Alessandro Acquisti (CMU), Colin Bennett (University of Victoria), and David Lyon (Queen’s University) paid visits from North America. From a more technical perspective, talks were given by Jan Camenisch (IBM Zürich), Simone Fischer-Hübner (Karlstad University), Yannis Stamatiou (University of Patras), and Rodica Tirtea (ENISA). Further presentations on wider, provocative, topics were given by Eleni Kosta (TILT), Bart Jacobs (RU Nijmegen), Siani Pearson (HP Labs), and Caspar Bowden (independent advocate for privacy rights).

These proceedings include a range of both keynote papers and submitted papers, accepted by the Program Committee and presented at the Summer School. However, not all of the papers presented at the summer school have been included in this volume. The volume’s 19 papers are grouped into several sections. Six keynote papers are in a section that covers the global dramatic changes, including legislative developments, that society is facing today. Privacy and identity management are explored in specific settings, such as the corporate context, civic society, and education, and using particular technologies such as cloud computing. Thirteen other papers examine the challenges to privacy, security, and identity; ways of preserving privacy; identity and identity management; and the particular challenges presented by social media: they are laid out in four separate sections.

The papers in this volume were subject to a two-step review process. In the first step, contributions for presentation at the summer school were selected based on reviews by the Summer School Program Committee of submitted short papers. The second step took place after the summer school, when the authors all had the opportunity to revise their papers in light of the discussions held

at the school itself and to resubmit them. These were again evaluated, each by three reviewers according to a common set of quality criteria.

Several projects, including European co-financed projects, contributed to the summer school on which this book of proceedings is based. Among them, ABC4Trust, the Cloud Accountability project (A4Cloud), DigIDeas, FutureID, and PRISMS.

We would like to thank all the members of the Program Committee, the additional reviewers, the members of the Organizing Committee, and the school's speakers, especially the keynote speakers, for their input. Without their dedication and contributions, this summer school would not have been possible. Last but by no means least, we owe a particular vote of thanks to the school's kind hosts from the Privacy & Identity Lab (PI.lab), which is a collaboration between Radboud University, Tilburg University, TNO, and SIDN.nl, and to IFIP for its support.

January 2014

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