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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 ist member countries and to encourage technology transfer to developing nations. As ist 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 less 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 in information 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 Bruno Crispo
Simone Fischer-Hübner Ronald Leenes
Giovanni Russello (Eds.)

Privacy and Identity Management for Life

7th IFIP WG 9.2, 9.6/11.7, 11.4, 11.6/PrimeLife
International Summer School
Trento, Italy, September 5-9, 2011
Revised Selected Papers

Springer

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Preface

Internet applications, such as Web 2.0 applications and cloud computing, increasingly pose privacy dilemmas. When they communicate over the Internet, individuals leave trails of personal data which may be stored for many years to come. These developments raise substantial new challenges for personal privacy at the technical, social, ethical, regulatory, and legal levels: How can privacy be protected in emerging Internet applications such as collaborative scenarios and virtual communities? What frameworks and tools could be used to gain, regain, and maintain informational self-determination and lifelong privacy?

Such questions were addressed by the 7th IFIP Summer School on Privacy and Identity Management for Emerging Internet Applications throughout a person's lifetime. This multidisciplinary summer school was held September 5–9, 2011, in Trento by the IFIP (International Federation for Information Processing) working groups 9.2, 9.6/11.7, 11.4, and 11.6 in cooperation with the PrimeLife project consortium and the projects ABC4Trust, e-Me, Endorse, NESSOS, TAS3, PETweb II, and U-PrIm (in cooperation with HumanIT).

The aim of the IFIP Summer School is traditionally manyfold: to increase the research community in privacy and identity management, to further research, and to enable the update of privacy-enhancing technology. The summer school takes a holistic approach to technology and supports interdisciplinary exchange. In particular, participants' contributions that combine technical, legal, regulatory, socio-economic, ethical, philosophical, or psychological perspectives are sought. To this end, the summer school encourages young researchers to share their own ideas about privacy and identity management, to meet and liaise with colleagues, and to present and discuss their research results with senior researchers. The summer school also brings together senior researchers from all disciplines of privacy and identity management and stimulates a holistic discussion and exchanges of ideas. In support of this, the summer school features a number of inspirational keynotes leading to discussion.

This year, we had the pleasure of keynotes by Allessandro Armando, David Chadwick, Andrea Di Nicola, Peter Gullberg, Marit Hansen, Riitta Hellman, Thomas Patrick Keenan, Eleni Kosta, Gregory Neven, Charles Raab, and Sarah Spiekerman. Thanks to all of them for their excellent presentations and for contribution to the atmosphere and success of the summer school!

Complementing the keynotes, the summer school featured 18 parallel workshops, which were dedicated to the presentation and discussion of the papers selected from the submission with five exceptions: One workshop was held as a rump session, one workshop was a tutorial on *Cryptography for Privacy* by Jan Camenisch and Gregory Neven and two workshops were open exploration and discussion of a dedicated topic: one on *Contextual Integrity: A Means to Manage Privacy* led by Katrin Borcea-Pfitzmann and Marit Hansen and one on *Addressing Ethical Issues*

Using Scenarios in European Technology Development Projects led by Aygen Kurt and Penny Duquenoy. Furthermore, onw workshop organized by Riitta Hellman discussed ICT for persons with dementia and related privacy issues.

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 discussion at the summer school and underwent a second round of review, selection, and revision to be included in the present proceedings. In addition to these papers, the proceedings contain two keynote papers: *Top 10 Mistakes in System Design from a Privacy Perspective* by Marit Hansen and *Are They Making Our Privates Public? - Emerging Risks of Governmental Open Data Initiatives* by Tom Keenan. Finally, the Program Committee Chairs selected the paper entitled *Data Protection Authorities in a Comparative Perspective* by Philip Schütz for the Best Student Paper Award. Congratulations Philip!

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 and the participants, and the Organizing Committee members. Thank you!

March 2012

Jan Camenisch
Bruno Crispo
Simone Fischer-Hübner
Ronald Leenes
Giovanni Russello

Organization

The IFIP Summer School 2011 was organized by the IFIP (International Federation for Information Processing) working groups 9.2, 9.6/11.7, 11.4, and 11.6 in cooperation with the PrimeLife project consortium and the European research projects ABC4Trust, e-Me, Endorse, NESSOS, TAS3, as well as the Norwegain PETweb II project and the Swedish U-PrIM project (in cooperation with HumanIT).

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List of Keynotes Given at the Summer School

Lifelong Privacy: The Right to be Forgotten?
Charles Raab (Edinburgh University)

Inclusive Identity Management in new Social Media
Riitta Hellman (Karde AS / Norwegian Computing Center)

Sticky Policies
David Chadwick (University of Kent)

Privacy Impact Assessments and Privacy by Design - Ways to go forward
Sarah Spiekermann (WU Vienna)

Usable Privacy-enhanced mobile Identity Management
Peter Gullberg (Gemalto)

Privacy and Security for Mobile Phones
Jean-Pierre Seifert (TU Berlin)

Privacy Protection Goals and Top 10 Mistakes in System Design from a Privacy Perspective
Marit Hansen (Vice Data Protection Commissioner/ULD)

Are They Making Our Privates Public? - Emerging Risks of Governmental Open Data Initiatives
Tom Keenan (University of Calgary)

Tracking trends: Location Tracking and Do Not Track
Eleni Kosta (KU Leuven)

Identity Thefts and Identity Managment: Criminological and Legal Aspects
Andrea De Nicola (University of Trento)

Security and Privacy of Web-based Single Sign-On Protocols: Pitfalls and Solutions
Allessandro Armando (FBK)

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