SPECIAL COLLECTION: PRIVACY

The explosion of computer, networking and mobile technologies has invigorated threats to individual privacy. Both public and private sectors now have the capacity not only to collect and store extraordinary amounts of personal data, but also to monitor and record people's activities. Many emerging applications require anonymity for their successful execution, including electronic voting, anonymous e-mail, e-commerce and private information retrieval.

Consequently, privacy is receiving significant consideration from both law makers and the technical security community. In August 2008, The Australian Law Reform Commission released its 2,700 page report entitled *For Your Information: Australian Privacy Law and Practice*, which recommends some 295 changes to Australian privacy laws and practices in order to cater for advances in technology including "supercomputers, the internet, mobile phones, digital cameras, e-commerce, sophisticated surveillance devices and social networking websites".

This Special Collection consists of extended and/or reworked versions of selected papers presented at the Australasian Information Security Workshop (Privacy Enhancing Technologies) 2007, and at the Australasian Information Security Conference 2008. These two conferences received a total of 50 submissions, 21 of which were accepted and presented. We invited the authors of the top 50% conference papers to extend their work and submit it for publication in the JRPIT Special Collection on Privacy and Cryptography. We conducted another refereeing process, and out of the ten submissions received we accepted four high quality papers for the Special Collection on Privacy and four for the Special Collection on Security.

It has been argued recently that control over an individual's privacy must be handed back to the individual. In other words, it is individuals who should specify and enforce their own privacy preferences. The first two papers contribute to this emerging research direction.

In "A Privacy-Enhancing Architecture for Databases", Kirsten Wahlstrom and Gerald Quirchmayr propose a database architecture which supports dynamic individual privacy preferences as well as disclosure constraints required by law or any other interested party. This architecture extends to secondary use of data, and Knowledge Discovery and Data Mining.

"Controlling Inference: Avoiding *P*-level Reduction during Analysis" by Adepele Williams and Ken Barker proposes a hierarchical model for privacy preserving data collection which allows individuals to provide data at the privacy level of their choice. Furthermore, the authors define a breach of privacy termed "*P*-level reduction" and propose techniques for alleviating this privacy breach.

The emerging area of e-passports is the topic of the paper entitled "Security Analysis of Australian and E.U. E-passport Implementation" by Vijayakrishnan Pasupathinathan, Josef Pieprzyk and Huaxiong Wang. The authors identify a set of security and privacy goals for e-passport protocols and perform a formal security analysis of the current Australian e-passport implementation and of the European Union proposal for Extended Access Control against these security goals. The analysis shows that both systems fail to adequately address a number of security and privacy issues that are deemed central to an e-passport system.

In modern network communications, providing confidentiality and integrity is no longer sufficient. "Anonymous Communication in Multi-hop Wireless Networks" by Volker Fusenig, Dagmara Spiewak, and Thomas Engel deals with the area of anonymous communication and proposes a protocol that offers anonymity and unlinkability in multi-hop wireless networks without introducing excessive computational and message overhead.

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in words of our authors, "have been very useful in improving the clarity and quality" of the papers. Last but not least, we thank the authors for their quality submissions.

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