Guest Editors' Introduction

Privacy and Security by Design

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Privacy by Design (PbD) was developed to address the need to treat privacy concerns as design requirements when developing technology, rather than trying to retrofit privacy controls after technology is built. Dr. Ann Cavoukian developed the Privacy by Design framework in 1995 which achieved international acceptance when the 2010 International Conference of Data Protection Authorities and Privacy Commissioners unanimously passed a resolution recognizing Privacy by Design as an essential component of fundamental privacy protection. Further, in May 2018, the EU's General Data Protection Regulation (GDPR) enshrined Privacy by Design into legislation. So successful has this concept been that it has now extended to security, with Security by Design (SbD, aka Secure by Design) principles now firmly entrenched as a best practice.

As a society, we have never before created as much data as we do today. We have never had as many technological opportunities to leverage that data. As a society, we have the opportunity to use data to improve business, social and health outcomes, and to help organizations and individuals connect in more profound ways than were ever before possible. However, there are significant risks to the collection and use of such vast amounts of data. Consumers are increasingly concerned about their privacy and security as they engage with increasingly "smart" devices. If we are not able to demonstrate to consumers that they can confidently share their data in the digital ecosystem, these opportunities will be lost. We are at a tipping point, where consumer trust is dependent on how we develop products or processes that ensure that consumer privacy is protected. One way to earn, build and maintain such consumer trust is through embracing sound principles such as Privacy and Security by Design.

This special issue intends to cover articles addressing a range of topics associated with both Privacy-by-Design (PbD) and Secure/Security-by-Design (SbD). These articles will highlight the importance of implementing PbD and SbD within an organization and how PbD and SbD can greatly enhance customer trust within their organizations This special issue consists of the articles which were selected based on rigorous review and are briefly introduced here.

The article titled “Understanding How to Implement Privacy by Design, One Step at a Time” by Ann Cavoukian presents a simplified discussion of practically implementing PbD from the perspective of the 7 fundamental principles of PbD.

The article titled “Engineering a Culture of Privacy” by Peter B. Kosmala presents a comprehensive view of the origin of Privacy by Design (PbD) leading to its required integration as a culture that every engineer must embrace in order to achieve success in data driven businesses.

The article titled “Designing for Consumer Trust in a Data-powered World” by Cristina Onosé presents insights into the privacy mindset of consumers: it addresses the roles that individuals, government and industry all must embrace; and, it outlines a principles-based approach that organizations can use to achieve both privacy assurance and product success.

We would like to thank the contributing authors for their excellent contributions. We would also like to thank the reviewers for their help in reviewing the articles. Finally, we would like to thank TELUS Communications for their generous support to sponsor this issue, which is greatly appreciated.

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