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# 1st International Workshop on TEchnical and LEgal aspects of data pRivacy and SEcurity (TELERISE 2015)

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**Abstract**—This paper is the report on the 1st International Workshop on TEchnical and LEgal aspects of data pRivacy and SEcurity (TELERISE 2015) at the 37th International Conference on Software Engineering (ICSE 2015). TELERISE investigates privacy and security issues in data sharing from a technical and legal perspective. Keynote speech as well as selected papers presented at the event fit the topics of the workshop. This report gives the rationale of TELERISE and it provides a provisional program.

## I. INTRODUCTION

Information sharing is essential for today's business and societal transactions. Nevertheless, such a sharing should not violate the security and privacy requirements either dictated by Law to protect data subjects or by internal regulations provided both at organisation and at individual level. An effectual, rapid, and unflinching electronic data sharing among different parties, while protecting legitimate rights on these data, is a key issue with several shades. Among them, how to translate the high-level law obligations, business constraints, and users' requirements into system-level privacy policies, providing efficient and practical solutions for policy definition and enforcement.

Very often, organizations use legal contracts to regulate the terms and conditions under which they agree to share data, both inter- and intra-organization. A similar approach is followed when data is shared between an individual and an organisation. A first key problem in the digital world is that the constraints expressed in such (not digital) contracts remain inaccessible from the software infrastructure supporting the data sharing and management processes and, consequently, they cannot be automatically enforced. This is mainly because users' privacy preferences, organizations' requirements, and National/International laws, still need to be interpreted and translated (primarily by humans) into meaningful technical policies, to ensure degrees of enforcement and auditing. A second issue is that, what usually happens when end-users data are going to be processed by organisations, is that end-users are asked to accept online a series of regulatory clauses on the terms of data processing, by simply clicking on a "Review and Accept the Terms and Conditions" button, and no further controls are performed on the operations that are

actually executed on such data. Neither the users receive any information about how these data are processed or stored. Namely, the processing remains completely opaque for them.

Moreover, from the legal perspective, there exist law obligations governing information sharing according to specific categories of data being shared, e.g., personal data or data covered by IPR. As an example, the European Directive on Data Protection 95/46/EC [1], and its recent reform IP/12/46 of January 25, 2012, embraced by the legislation of different European countries, recognize the right of the individuals to consciously control the use of their personal data. Another meaningful example is represented by the category of medical data. For example, in the United States, healthcare organizations must comply, among others, with the Health Information Technology for Economic and Clinical Health Act (HITECH) [2] meaningful use (MU), that regulates security aspects of medical data sharing, and Health Insurance Portability and Accountability Act (HIPAA) [3], that, in Title II, requires, among others, the establishment of national standards for electronic health care transactions.

TELERISE carries forward innovative solutions, such as the design and implementation of new software architectures, components, and interfaces, able to fill the gap between technical and legal aspects of data privacy and data security management. The IT infrastructure supporting the privacy-preserving architecture design must guarantee the satisfaction of legal requirements, in relation to data sharing, also in heterogeneous and distributive environments, as a cloud scenario could be. Summarising, TELERISE provides a forum for researchers and engineers, in academia and industry, to foster an exchange of research results, experiences, and products in the area of secure and privacy-preserving data management, from a technical and legal perspective. The ultimate goal is to conceive new trends and ideas on designing, implementing, and evaluating solutions for privacy-preserving information sharing, with an eye to the cross-relations between ICT and regulatory aspects of data management.

## II. ORGANIZATION OF THE EVENT

An open call for papers was launched and efforts have been made to consolidate the workshop Programme Committee. The

response to the call for papers was very positive. We received a total of 16 submissions from 56 authors of 13 countries. Each paper was reviewed by at least 3 members of the Program Committee, and evaluated according to the criteria of relevance, originality, soundness, maturity and quality of presentation. Online discussions about the reviews took place in order to resolve conflict opinions after the reviews were complete. Decisions were made based on the review results as well as the outcomes of the online discussions. 11 submissions were accepted, 8 as regular papers and 3 as short papers.

Each regular paper has 30 minutes for presentation, including a discussion of 5 minutes. Authors of short papers have 20 minutes, also including 5 minutes for discussion.

#### A. Provisional Program

The program of TELERISE 2015 consists of one keynote speaker, 8 regular papers, and 3 short papers, covering the topics of the workshop. We are honoured to host Prof. Bart Preenel as keynote speaker. Prof. Preenel is full professor in the research group COSIC of the Electrical Engineering Department of the Katholieke Universiteit Leuven in Belgium. His research area is information security, mainly focused on cryptographic algorithms and protocols as well as their applications to computer and network security and mobile communications. The keynote speech is entitled *Cryptography and Information Security in the post-Snowden era* and it presents an overview of the Snowden revelations and also discusses their impact on our understanding of mass surveillance practices and the security of ICT systems.

We have grouped the accepted papers in three main classes according to their topics: Security Aspects, Legal Aspects, and Privacy Aspects. The provisional Program of the Workshop is the following:

- **Keynote Session**

- Bart Preenel. *Cryptography and Information Security in the post-Snowden era*.

- **Session 1. Security Aspects**

- Francesco Di Cerbo, Doliere Francis Some, Laurent Gomez, and Slim Trabelsi. *PPL v2.0: Uniform Data Access and Usage Control on Cloud and Mobile*
- Said Daoudagh, Francesca Lonetti, and Eda Marchetti. *Assessment of Access Control Systems Using Mutation Testing*
- Sorren Hanvey and Nestor Catano. *Identifying Transitivity Threats in Social Networks*

- **Session 2. Legal Aspects**

- Denis Butin and Daniel Le Métayer. *A Guide to End-to-End Privacy Accountability*
- Sepideh Ghanavati and Joris Hulstijn. *Impact of Legal Interpretation in Business Process Compliance*
- Marina Buzzi, Luca Ferrucci, Francesco Gennai, and Claudio Petrucci. *Introducing new technology into Italian Certified Electronic Mail: a proposal*

- **Session 3. Privacy Aspects**

- Dónal McCarthy, Paul Malone, Johannes Hange, Kenny Doyle, Eric Robson, Dylan Conway, Stepan Ivanov, Lukasz Radziwonowicz, Robert Kleinfeld, Theodoros Michalareas, Timotheos Kastrinogiannis, Nikos Stasinou, and Fenareti Lampathaki. *Personal Cloudlets: Implementing a User-Centric Datastore with Privacy Aware Access Control for Cloud-based Data Platforms*
- Hanna Farah, Daniel Amyot, and Khaled El Emam. *Common Length Name Representation: An Efficient Privacy-Preserving Scheme*
- Julia Himmel, Nikolas Siebler, Felix Laegeler, Marco Grupe, and Hanno Langweg. *Privacy Points as a Method to Support Privacy Impact Assessments (Short Paper)*
- Roberto Sanz-Requena, Alejandro Mañas-García, José Luis Cabrera-Ayala, and Gracián García-Martí. *A Cloud-based Radiological Portal for the Patients (Short Paper)*
- Daniele Sgandurra, Francesco Di Cerbo, Slim Trabelsi, Fabio Martinelli, and Emil Lupu. *Sharing Data Through Confidential Clouds: An Architectural Perspective (Short Paper)*

#### THANKS

We would like to thank the ICSE Workshops Organization Committee and collaborators for their precious help in handling all the organizational issues related to the workshop. Our next thanks go to all the authors of the submitted papers who manifested their interest in the workshop. With their participation, the First ICSE Workshop on TEchnical and LEgal aspects of data pRivacy and SEcurity (TELERISE 2015) becomes a real success and an inspiration for future workshops on this new and exciting area of research. Special thanks are finally due to Program Committee members for the high quality and objective reviews they have provided.

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#### REFERENCES

- [1] Directive 95/46/EC of the European Parliament and of Council. Official Journal of the European Union, L281/31. Last access: 19th of February, 2015. [Online]. Available: <http://goo.gl/SUuI7A>
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- [3] Health Insurance Portability and Accountability Act (HIPAA). Last access: 19th of February, 2015. [Online]. Available: <http://goo.gl/gXyeg6>