Eighth *ACM* Workshop on Digital Identity Management (DIM 2013): Identity at the Crossroads

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ABSTRACT
The Workshop Digital Identity Management has evolved during the last decade as one of the most interesting events on identity management issues. Starting from a community with a background mainly in computer science, it has developed towards an interdisciplinary workshop where a lively interactive community discusses identity topics from technical, sociological, economical, legal, psychological and many more angles. The goal of this workshop is to share the latest findings, identify key challenges, inspire debates, and foster collaboration between industries and academia towards interoperable identity service infrastructures.

Categories and Subject Descriptors
K.4.1 [**Computers and Society**]: Public Policy Issues – *privacy*; K.4.4 [**Computers and Society**]: Electronic Commerce – *security*; K.6.5 [**Management of Computing and Information Systems**]: Security and Protection – *authentication, unauthorized access*; D.4.6 [**Operating Systems**]: Security and Protection – *access controls, authentication, cryptographic controls*; E.3 [**Data**]: Data Encryption; J.4 [**Social and Behavioral Sciences**]: Psychology, Sociology; H.5.2 [**Information Interfaces and Presentation**]: User Interfaces – *evaluation/methodology*.

Keywords
Identity, Identity Management, eID, Privacy, Security.

1. INTRODUCTION
"Identity at the crossroads" is the main theme of DIM 2013. Whereas identity management has become a standard method for authentication in the digital world, many of its facets that are dealt with in research and in practice are still not well understood. Particularly interesting are discussions which solutions are optimal for different areas of application, how we can promote positive aspects for individuals and society while preventing negative effects, and how we can transfer research results into practice.

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At the same time, the environment of our digital lives and of identity management systems is rapidly changing:

We have seen the Internet going mobile and social: In October 2012 the number of smartphones in use on this planet exceeded 1 billion and is projected to double by 2015 [1]. The global social network platform Facebook has passed the 1 billion user mark as well [2].

We notice adoptions of identity federation systems and other digital identity platforms, either enabling single sign-on for multiple applications such as in Google Accounts or reaching out to third-party applications such as in Facebook Connect.

Recently, we have perceived tremendous improvements in identity management technologies (see e.g. [3,4]), in particular when it comes to the maturity of attribute-based credential systems, the cryptography ensuring security and privacy properties, and other privacy-preserving or privacy-enhancing technologies (PETs).

We observe governments all over Europe and, indeed, all over the planet to propose eID solutions that partially support privacy mechanisms and frequently allow the government-issued identity credentials to be tied into an identity federation ecosystem.

We witness advances in technology and operating environments such as social networks, mobile devices, smartphones, tablets as well as upcoming smart TVs, wearable computing (e.g. Google Glass, iWatch) that start to impact social habits and individuals' behavior. The direct experience of new technology is flanked by news reports on incidents, mostly on privacy violations and surveillance. Both lead to questions what impact on society these new technologies will have.

Identity is at the crossroads. It is an open question how identity technology will affect societies – societies that are affected by mobile computing and social network services, by data processing in the cloud and almost comprehensive monitoring, user tracking and big data analysis by stakeholders such as the advertisement industry on the one side and national secret services on the other side, or by emerging technologies such as ubiquitous computing or cyber-physical systems where new user interfaces have to be considered. Will identity technologies make the users' lives easier or will they put their privacy at risk?

We believe that the ACM Digital Identity Management workshop series needs to address these issues in all their breadth, covering foundational technologies such as cryptography and integration with eID systems, over investigating technology and architecture challenges to be resolved to exploring the social impact of identity management. With the year's workshop we have covered these areas, constituting a program with experts from different fields of identity.

2. WORKSHOP FORMAT

The DIM 2013 workshop will be a full-day event, starting with a keynote by Claudia Díaz, KU Leuven, on privacy-enhancing technologies and their role in the identity management world. Four sessions are constituted by accepted full and short papers, covering a range between cryptographic foundations and socio-psychological findings. In the afternoon, a panel will start with questions concerning eIDs and their actual development from different perspectives. All participants are invited to join with statements on shaping the future of identity – be it by tackling research topics or by deploying solutions for better identity management.

3. WORKSHOP CONTRIBUTIONS

We clustered the accepted contributions of eight full papers and three short papers into four groups. Right after the invited keynote on privacy-enhancing technologies, the session on "Cryptographic Methods" will continue the elaboration of components that can support privacy and security features of identity management systems: *'Universally Composable Adaptive Oblivious Transfer (with Access Control) from Standard Assumptions'*, *'A Secure Channel for Attribute-Based Credentials'*, and *'UbiKiMa: Ubiquitous Authentication Using a Smartphone, Migrating from Passwords to Strong Cryptography'*.

The second session will focus on "Human Factors and Socio-Economic Aspects". It consists of three contributions that center around acceptance and employment of identity-related functionality by users: *'A Comparison of Users' Perceptions of and Willingness to Use Google, Facebook, and Google+ Single-Sign-On Functionality'*, *'Taboos and Desires of the UK Public for Identity Management in the Future; General Findings from Two Survey Games'*, and *'Probing Identity Management – Preliminary Findings'*.

Switching back to more technically oriented contributions, the third session will deal with "Security Considerations", e.g. by showing possible attacks and counter-measures or other improvements of existing systems. The three contributions are: *'Geo-Location Based QR-Code Authentication Scheme to Defeat Active Real-Time Phishing Attack'*, *'Towards Standardizing Trusted Evidence of Identity'*, and *'Reachability Analysis for Role-Based Administration of Attributes'*.

The last session of the workshop on "eIDs and Identity Management" mixes the disciplines the contributions come from. After the presentation of a technical approach for an eID architecture in *'Options for Integrating eID and SAML'* the perspective of citizens is highlighted by the contribution *'Federated Identity to Access e-Government Services – Are Citizens Ready for This?'* The findings of both papers will be taken up in the concluding panel on the future of eIDs and identity management.

4. WORKSHOP ORGANIZATION

The workshop organization would not have been feasible without the help of many individuals. We are thankful to the members of our steering committee and our program committee as well as the publicity chair Budi Arief, Newcastle University, UK.

Steering Committee

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- Abhilasha Bhargav-Spanzel, Intel, USA
- Thomas Groß, Newcastle University, UK
- Kenji Takahashi, NTT Innovation Institute Inc., USA

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