Measuring Networked Social Privacy

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Abstract

Much privacy research focuses on concerns about data protection and has established metrics, such as privacy scales, for evaluating those concerns. Recent work recognizes the importance of understanding interpersonal and interactional privacy concerns in social media, but ways to measure privacy within these contexts remain unsettled. This workshop aims to cultivate an understanding of the current landscape for interpersonal privacy framework and ways to measure social privacy for networked settings. For full details, visit http://networkedprivacy2013.wordpress.com/

Author Keywords

Social Privacy, Metrics, Theory, Networked

ACM Classification Keywords

H.1.2 [Models and Principles]: User/Machine Systems – *Software* Psychology; H.5.m. [Information interfaces and presentation (e.g., HCI)]: Miscellaneous; K.4.1. [Computers and Society]: Public Policy Issues – *Privacy*.

Introduction

Privacy research has played an important role in understanding usage concerns and adoption barriers for diverse online technologies [5]. Privacy research on e-commerce, organizational IT, and website use has led to the development of many scales and frameworks for evaluating and comparing concerns about data

protection and informational privacy [3, 7, 10, 16]. See Sidebox 1 for scales used to measure this type of privacy.

Now that social media is a leading daily internet activity, privacy researchers must also be concerned with interpersonal privacy concerns. Many studies have uncovered social privacy concerns such as accessibility [15], self-presentation [14], and self-realization [12]. These findings suggest that social privacy concerns are not well captured by previous scales, which may explain why the scales have been of limited use for measuring privacy in social technologies (e.g. [4]).

A diversity of perspectives from allied disciplines including social psychology, law, and economics can inform our understanding of privacy concerns associated with social technology use [1, 2, 8, 10, 11, 16]. Recently these frameworks have been applied to specific social media technologies and contexts [6, 9, 13, 14, 17]. (Refer to Sideboxes 2 and 3 for some examples.)

The diversity of privacy frameworks results in various ways to conceptualize and empirically evaluate privacy in social media. As a result, it is difficult to compare results across studies. Even studies drawing from the same framework use study-specific measures that do not easily lend themselves to cross-study comparisons. Thus, the framework can be difficult to adapt to other studies. Developing systematic metrics, such as the scales used for data protection privacy, would allow comparing privacy concerns across populations and samples, as well as across different technologies.

Key Challenges

We invited researchers from various domains to join this multidisciplinary workshop and address a number of key challenges in achieving this research vision. Some of these challenges include:

1. *"Measuring" privacy*: How should privacy be measured? Many studies run into the "privacy paradox" which points to how privacy concerns are not correlated with actual behavior. How should studies ensure that they are capturing untainted privacy concerns? How do we connect concerns with behavior?

2. *Contextualizing privacy*: How context-specific should privacy metrics be? How can we anticipate the types of social privacy concerns that will be most salient for different audiences? What types of situational context need to be captured in order to effectively capture interpersonal privacy concerns in social media?

3. *Cross-study comparisons*: How can general privacy measures be useful across different studies? What ways can we measure whether one privacy design is more effective than another in addressing social privacy concerns? How should context be considered when comparing privacy concerns across studies?

4. *Integrating qualitative with quantitative*: What is the role of various qualitative and quantitative methods in developing metrics? How can these methods complement each other? In which situations should a particular method, tool, and/or study design be used?

5. *Integrating frameworks and metrics*: How can we draw from existing privacy frameworks to contribute to our understanding of privacy in social media? What aspects of social privacy do these

Sidebox 3. Examples of Privacy Frameworks Applied to Social Media

Lampinen et al. 2011. Collaborative Boundary Regulation

Page et al. 2012. Relationship Boundary Preservation/Norms

Stutzman et al. 2011. Context Affects Privacy Behavior

Tang et al. 2010. Motivations for Sharing Affects Privacy

Zhang et al. 2011. Dimensions: Territorial, Factual, Interactional, Psychological

frameworks do a good job of capturing? What aspects of social privacy do these frameworks neglect to capture? How can we translate these privacy frameworks into a tool for capturing privacy concerns?

These are problem areas that are best addressed through interdisciplinary perspectives about privacy. Learning from one another's experiences, including failures, lead to a better appreciation of the complexities associated with measuring networked social privacy. The outcome of this workshop is identifying critical research priorities and cultivating real partnerships between workshop attendees for tackling these research problems.

Background
The workshop builds on privacy workshops held in recent years at ACM conferences (e.g. CHI 2011, CSCW 2011, CSCW 2012). These workshops have brought together the research community working on networked privacy to discuss ways to bridge theory and design, as well as to reconcile privacy needs with the benefits of social media. Such activities have been fruitful in creating a sense of community amongst researchers from both academia and industry who are working on this topic, but also emphasized the need for further and more detailed workshops to encourage, enhance, and support collaborations. In particular, this workshop is aimed at addressing the need for a more in-depth discussion on methodological issues that have been repeatedly brought up in workshop discussions.

Activities
This two-day workshop facilitates an understanding of diverse privacy perspectives, in-depth discussion and identification of research priorities, and collaborations

on real research project plans. Because privacy researchers come from diverse disciplines, and because measuring privacy is a feat likely to require interdisciplinary work, we see this workshop as a unique opportunity to bring people together and seed that collaboration. To accomplish this, the workshop involves several activities:

- Presentation and discussion of participants' work
- Guest speakers who are actively working in the area of networked social privacy measurement
- Bringing the abstract down to the concrete: Fast and furious scale development challenge (in teams) with real deployment and results analysis during the workshop. This will include a brief introduction to deployment & analysis tools and resources.
- Small and large group discussions to identify key research priorities.
- Developing real project plans to address these priorities (seeding further collaboration)

Accepted Papers
We are delighted with the high quality of workshop submissions. Authors from the following workshop papers were accepted to attend the workshop. Papers are available on the workshop website: http://networkedprivacy2013.wordpress.com/

Andreas Poller, Andreas Kramm, Petra Ilyes. *Designing Privacy-aware Online Social Networks – A reflective socio-technical approach.*

Bart P. Knijnenburg. *On the Dimensionality of Information Disclosure Behavior in Social Networks.*

Eden Litt. *You've Got Mad Skillz: Exploring the Role of Privacy Skills and Knowledge in Social Media Use.*

Jessica Vitak. *Measuring Privacy in Online Spaces: A Social Science Approach.*

Na Wang, Heng Xu, Jens Grossklags. *Translating IUIPC into Design: The Case of Third-Party Applications on Facebook.*

Pamela Wisniewski, Heather Richter Lipford. *Between Nuance and Rigor: Contextualizing and Measuring SNS Desired Privacy Level.*

Patrick Gage Kelley, Manya Sleeper, Justin Cranshaw. *Conducting Research on Twitter: A Call for Guidelines and Metrics.*

Ralf De Wolf, Jo Pierson. *Researching Social Privacy: Moving Beyond the Current Practices on Online Social Networks*

Sam McNeilly, Luke Hutton, Tristan Henderson. *Understanding Ethical Concerns in Social Media Privacy Studies.*

Sameer Patil, Tijana Gonja. *Synthesizing Findings of Privacy Studies Using Meta-Analysis.*

Sameer Patil, Roman Schlegel, Apu Kapadia, Adam J. Lee. *LocasaESM: A Tool for Experience Sampling via Smartphones.*

Stacy Blasiola. *What Friends Are For: How Network Ties Enable Invasive Third Party Applications on Facebook.*

Xinru Page. *Contextual Integrity and Preserving Relationship Boundaries in Location-Sharing Social Media.*

Workshop Organizers
Xinru Page is a PhD Candidate in the Department of Informatics, School of Information and Computer Sciences at University of California, Irvine. Her dissertation focuses on privacy and adoption/non-adoption of social media, with emphasis on location-sharing social media. Formerly she led interaction design and was a product manager for B2B information risk solutions in industry.

Karen Tang is a Postdoctoral Fellow in the School of Information and Computer Sciences at the University of California, Irvine. She received her Ph.D. from Carnegie Mellon University, where her dissertation focused on usable privacy mechanisms for social location sharing. Her interests are broadly in how to design social systems that support privacy-sensitive sharing.

Fred Stutzman is a Visiting Assistant Professor at the University of North Carolina School of Information and Library Science. Previously, he was a Postdoctoral Fellow at Carnegie Mellon University. His research explores the motivations and outcomes of privacy use in social media, and the design of privacy interventions.

Airi Lampinen is a PhD Candidate in the Department of Social Research, University of Helsinki, and a researcher at Helsinki Institute for Information Technology HIIT. Her dissertation focuses on the practices users of social media have for boundary regulation in terms of identity work and self-presentation.

Workshop Program Committee
Our program committee consists of the following individuals: Kelly Caine (Clemson U), Coye Cheshire (UC Berkeley), Woodrow Hartzog (Samford), Jen King (UC Berkeley), Lorraine Kisselburgh (Purdue), Bart Knijnenburg (UC Irvine), Alfred Kobsa (UC Irvine), Cliff Lampe (University of Michigan), Asko Lehmuskallio (HIIT), Vilma Lehtinen (HIIT), Heather Lipford (UNC

Charlotte), Deirdre Mulligan (UC Berkeley), David H. Nguyen (Nokia Research), Sameer Patil (Indiana U), Olli Pitkänen (HIIT), Jessica Staddon (Google), Jennifer Thom (IBM Research), Janice Tsai (Microsoft), Yang Wang (Syracuse U), Pamela Wisniewski (Pennsylvania State), Heng Xu (Pennsylvania State), Michael Zimmer (UW-Milwaukee).

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