

**Eighteenth Symposium  
on Usable Privacy and Security (SOUPS 2022)**  
**August 7–9, 2022**  
**Boston, MA, USA**

**Monday, August 8**

**Expertise and Learning**

<b>Replication: Stories as Informal Lessons about Security .....</b>	<b>1</b>
Katharina Pfeffer and Alexandra Mai, <i>SBA Research</i> ; Edgar Weippl, <i>University of Vienna</i> ; Emilee Rader, <i>Michigan State University</i> ; Katharina Krombholz, <i>CISPA Helmholtz Center for Information Security</i>	
<b>DualCheck: Exploiting Human Verification Tasks for Opportunistic Online Safety Microlearning .....</b>	<b>19</b>
Ryo Yoshikawa, Hideya Ochiai, and Koji Yatani, <i>The University of Tokyo</i>	
<b>Understanding Non-Experts' Security- and Privacy-Related Questions on a Q&amp;A Site .....</b>	<b>39</b>
Ayako A. Hasegawa, <i>NICT</i> ; Naomi Yamashita, <i>NTT / Kyoto University</i> ; Tatsuya Mori, <i>Waseda University / NICT / RIKEN AIP</i> ; Daisuke Inoue, <i>NICT</i> ; Mitsuaki Akiyama, <i>NTT</i>	
<b>The Nerd Factor: The Potential of S&amp;P Adepts to Serve as a Social Resource in the User's Quest for More Secure and Privacy-Preserving Behavior.....</b>	<b>57</b>
Nina Gerber, <i>Technical University of Darmstadt</i> ; Karola Marky, <i>Leibniz University Hannover and University of Glasgow</i>	
<b>"I don't know why I check this..." - Investigating Expert Users' Strategies to Detect Email Signature Spoofing Attacks.....</b>	<b>77</b>
Peter Mayer, <i>SECUSO - Security, Usability, Society, Karlsruhe Institute of Technology</i> ; Damian Poddebskiak, <i>Münster University of Applied Sciences</i> ; Konstantin Fischer and Marcus Brinkmann, <i>Ruhr University Bochum</i> ; Juraj Somorovsky, <i>Paderborn University</i> ; Angela Sasse, <i>Ruhr University Bochum</i> ; Sebastian Schinzel, <i>Münster University of Applied Sciences</i> ; Melanie Volkamer, <i>SECUSO - Security, Usability, Society, Karlsruhe Institute of Technology</i>	
<b>User Understanding of Security and Privacy Concepts</b>	
<b>Industrial practitioners' mental models of adversarial machine learning .....</b>	<b>97</b>
Lukas Bieringer, <i>QuantPi</i> ; Kathrin Grosse, <i>University of Cagliari</i> ; Michael Backes, <i>CISPA Helmholtz Center for Information Security</i> ; Battista Biggio, <i>University of Cagliari, Pluribus One</i> ; Katharina Krombholz, <i>CISPA Helmholtz Center for Information Security</i>	
<b>Replication: The Effect of Differential Privacy Communication on German Users' Comprehension and Data Sharing Attitudes .....</b>	<b>117</b>
Patrick Kühtreiber, Viktoria Pak, and Delphine Reinhardt, <i>University of Göttingen</i>	
<b>Comparing User Perceptions of Anti-Stalkerware Apps with the Technical Reality .....</b>	<b>135</b>
Matthias Fassl and Simon Anell, <i>CISPA Helmholtz Center for Information Security</i> ; Sabine Houy, <i>Umeå University</i> ; Martina Lindorfer, <i>TU Wien</i> ; Katharina Krombholz, <i>CISPA Helmholtz Center for Information Security</i>	
<b>Users' Perceptions of Chrome Compromised Credential Notification .....</b>	<b>155</b>
Yue Huang, Borke Obada-Obieh, and Konstantin Beznosov, <i>University of British Columbia</i>	
<b>Exploring User-Suitable Metaphors for Differentially Private Data Analyses .....</b>	<b>175</b>
Farzaneh Karegar and Ala Sarah Alaqa, <i>Karlstad University</i> ; Simone Fischer-Hübner, <i>Karlstad University and Chalmers University of Technology</i>	
<b>An Empirical Study of a Decentralized Identity Wallet: Usability, Security, and Perspectives on User Control....</b>	<b>195</b>
Maina Korir, <i>University of Bedfordshire</i> ; Simon Parkin, <i>TU Delft</i> ; Paul Dunphy, <i>OneSpan</i>	

## **Privacy and Security Tools**

<b>Usability and Security of Trusted Platform Module (TPM) Library APIs .....</b>	<b>213</b>
Siddharth Prakash Rao and Gabriela Limonta, <i>Nokia Bell Labs</i> ; Janne Lindqvist, <i>Aalto University</i>	
<b>Increasing security without decreasing usability: A comparison of various verifiable voting systems .....</b>	<b>233</b>
Melanie Volkamer, <i>Karlsruhe Institute of Technology</i> ; Oksana Kulyk, <i>IT University Copenhagen</i> ; Jonas Ludwig and Niklas Fuhrberg, <i>Karlsruhe Institute of Technology</i>	
<b>Presenting Suspicious Details in User-Facing E-mail Headers Does Not Improve Phishing Detection.....</b>	<b>253</b>
Sarah Zheng and Ingolf Becker, <i>UCL</i>	
<b>Evaluating the Usability of Privacy Choice Mechanisms .....</b>	<b>273</b>
Hana Habib and Lorrie Faith Cranor, <i>Carnegie Mellon University</i>	
<b>Detecting iPhone Security Compromise in Simulated Stalking Scenarios: Strategies and Obstacles.....</b>	<b>291</b>
Andrea Gallardo, Hanseul Kim, Tianying Li, Lujo Bauer, and Lorrie Cranor, <i>Carnegie Mellon University</i>	

## **Tuesday, August 9**

### **Methods**

<b>If You Can't Get Them to the Lab: Evaluating a Virtual Study Environment with Security Information Workers... .</b>	<b>313</b>
Nicolas Huaman, Alexander Krause, and Dominik Wermke, <i>CISPA Helmholtz Center for Information Security</i> ; Jan H. Klemmer and Christian Stransky, <i>Leibniz University Hannover</i> ; Yasemin Acar, <i>George Washington University</i> ; Sascha Fahl, <i>CISPA Helmholtz Center for Information Security</i>	
<b>Is it a concern or a preference? An investigation into the ability of privacy scales to capture and distinguish granular privacy constructs.....</b>	<b>331</b>
Jessica Colnago, <i>Google</i> ; Lorrie Faith Cranor and Alessandro Acquisti, <i>Carnegie Mellon University</i> ; Kate Hazel Stanton, <i>University of Pittsburgh</i>	
<b>On recruiting and retaining users for security-sensitive longitudinal measurement panels .....</b>	<b>347</b>
Akira Yamada, <i>KDDI Research, Inc. and National Institute of Information and Communications Technology</i> ; Kyle Crichton, <i>Carnegie Mellon University</i> ; Yukiko Sawaya, <i>KDDI Research, Inc.</i> ; Jin-Dong Dong and Sarah Pearman, <i>Carnegie Mellon University</i> ; Ayumu Kubota, <i>KDDI Research, Inc.</i> ; Nicolas Christin, <i>Carnegie Mellon University</i>	
<b>Replication: How Well Do My Results Generalize Now? The External Validity of Online Privacy and Security Surveys .....</b>	<b>367</b>
Jenny Tang, <i>Wellesley College</i> ; Eleanor Birrell, <i>Pomona College</i> ; Ada Lerner, <i>Northeastern University</i>	

### **Understanding Specific User Populations and Behaviors**

<b>Aunties, Strangers, and the FBI: Online Privacy Concerns and Experiences of Muslim-American Women.....</b>	<b>387</b>
Tanisha Afnan and Yixin Zou, <i>University of Michigan School of Information</i> ; Maryam Mustafa, <i>Lahore University of Management Sciences</i> ; Mustafa Naseem and Florian Schaub, <i>University of Michigan School of Information</i>	
<b>An open door may tempt a saint: Examining situational and individual determinants of privacy-invading behavior ..</b>	<b>407</b>
Markus Langer, <i>Saarland University</i> ; Rudolf Siegel and Michael Schilling, <i>CISPA Helmholtz Center for Information Security</i> ; Tim Hunsicker and Cornelius J. König, <i>Saarland University</i>	
<b>Investigating How University Students in the United States Encounter and Deal With Misinformation in Private WhatsApp Chats During COVID-19 .....</b>	<b>427</b>
K. J. Kevin Feng, <i>Princeton University</i> ; Kevin Song, Kejing Li, Oishee Chakrabarti, and Marshini Chetty, <i>University of Chicago</i>	
<b>Anti-Privacy and Anti-Security Advice on TikTok: Case Studies of Technology-Enabled Surveillance and Control in Intimate Partner and Parent-Child Relationships .....</b>	<b>447</b>
Miranda Wei, Eric Zeng, Tadayoshi Kohno, and Franziska Roesner, <i>Paul G. Allen School of Computer Science &amp; Engineering, University of Washington</i>	
<b>“Fast, Easy, Convenient.” Studying Adoption and Perception of Digital Covid Certificates .....</b>	<b>463</b>
Franziska Herbert, Marvin Kowalewski, Theodor Schnitzler, and Leona Lassak, <i>Ruhr University Bochum</i> ; Markus Dürmuth, <i>Leibniz University Hannover</i>	

<b>"As soon as it's a risk, I want to require MFA": How Administrators Configure Risk-based Authentication .....</b>	<b>483</b>
Philipp Markert and Theodor Schnitzler, <i>Ruhr University Bochum</i> ; Maximilian Golla, <i>Max Planck Institute for Security and Privacy</i> ; Markus Dürmuth, <i>Leibniz University Hannover</i>	

## **Passwords and Authentication**

<b>Let's Hash: Helping Developers with Password Security .....</b>	<b>503</b>
Lisa Geierhaas and Anna-Marie Ortloff, <i>University of Bonn</i> ; Matthew Smith, <i>University of Bonn, FKIE Fraunhofer</i> ; Alena Naiakshina, <i>Ruhr University Bochum</i>	

<b>Exploring User Authentication with Windows Hello in a Small Business Environment.....</b>	<b>523</b>
Florian M. Farke, Leona Lassak, and Jannis Pinter, <i>Ruhr University Bochum</i> ; Markus Dürmuth, <i>Leibniz University Hannover</i>	

<b>Improving Password Generation Through the Design of a Password Composition Policy Description Language ..</b>	<b>541</b>
Anuj Gautam, Shan Lalani, and Scott Ruoti, <i>The University of Tennessee</i>	

<b>Password policies of most top websites fail to follow best practices.....</b>	<b>561</b>
Kevin Lee, Sten Sjöberg, and Arvind Narayanan, <i>Department of Computer Science and Center for Information Technology Policy, Princeton University</i>	

<b>Do Password Managers Nudge Secure (Random) Passwords? .....</b>	<b>581</b>
Samira Zibaei, Dinah Rinoa Malapaya, Benjamin Mercier, Amirali Salehi-Abari, and Julie Thorpe, <i>Ontario Tech University</i>	

<b>Let The Right One In: Attestation as a Usable CAPTCHA Alternative.....</b>	<b>599</b>
Tara Whalen, Thibault Meunier, and Mrudula Kodali, <i>Cloudflare Inc.</i> ; Alex Davidson, <i>Brave</i> ; Marwan Fayed and Armando Faz-Hernández, <i>Cloudflare Inc.</i> ; Watson Ladd, <i>Sealance Corp.</i> ; Deepak Maram, <i>Cornell Tech</i> ; Nick Sullivan, Benedikt Christoph Wolters, Maxime Guerreiro, and Andrew Galloni, <i>Cloudflare Inc.</i>	

## **IoT and Ubiquitous Computing**

<b>Being Hacked: Understanding Victims' Experiences of IoT Hacking.....</b>	<b>613</b>
Asreen Rostami, <i>RISE Research Institutes of Sweden &amp; Stockholm University</i> ; Minna Vigren, <i>Stockholm University</i> ; Shahid Raza, <i>RISE Research Institutes of Sweden</i> ; Barry Brown, <i>Stockholm University &amp; Department of Computer Science, University of Copenhagen</i>	

<b>Runtime Permissions for Privacy in Proactive Intelligent Assistants .....</b>	<b>633</b>
Nathan Malkin and David Wagner, <i>University of California, Berkeley</i> ; Serge Egelman, <i>University of California, Berkeley &amp; International Computer Science Institute</i>	

<b>Normative and Non-Social Beliefs about Sensor Data: Implications for Collective Privacy Management.....</b>	<b>653</b>
Emilee Rader, <i>Michigan State University</i>	

<b>Sharing without Scaring: Enabling Smartphones to Become Aware of Temporary Sharing.....</b>	<b>671</b>
Jiayi Chen and Urs Hengartner, <i>University of Waterloo</i> ; Hassan Khan, <i>University of Guelph</i>	

<b>Balancing Power Dynamics in Smart Homes: Nannies' Perspectives on How Cameras Reflect and Affect Relationships .....</b>	<b>687</b>
Julia Bernd, <i>International Computer Science Institute</i> ; Ruba Abu-Salma, <i>King's College London</i> ; Junghyun Choy and Alisa Frik, <i>International Computer Science Institute</i>	