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Talk Title: The Golden xCOMPASS: The Compass You Need to Navigate through the App-Privacy Universe!

Presenter Short Bio: Rahmadi Trimananda is a cybersecurity researcher, focusing on privacy, at Comcast Cyber Security and Privacy Research. Previously, he was a research scientist at UC Irvine and the ProperData Center (https://properdata.eng.uci.edu/) – an NSF SaTC Frontiers Center whose goal is to "Protect Personal Data on the Internet". He obtained his Ph.D. from UC Irvine in Computer Engineering. In the past, he was affiliated with other Fortune 500 major tech companies, such as Intel, Xilinx (now part of AMD), and Microsoft. In general, his research interests are in the intersection of hardware, software, and policy, with emphasis on security, privacy, and safety, especially for Internet of Things (IoT). He has published numerous research articles, including papers published in top conferences in security, privacy, systems, and software engineering. He was a recipient of the Caspar Bowden Award for Outstanding Research in Privacy Enhancing Technologies (runner-up), the ACM IMC Best Paper Award, the Indonesian Ministry of Communication and Information Technology Scholarship Award, and the Broadcom Foundation Fellowship Award. He is an IEEE Senior Member. For more information, please visit his personal site: https://rtrimana.github.io/.

Short Talk Abstract: Privacy Threat Modeling (PTM) is part of software development lifecycle (SDL) along with the increasing awareness of data privacy. Unfortunately, PTM comes with the following limitations. First, it mostly involves human experts (i.e., threat modelers) with much manual effort. Second, it is usually performed later in the SDL pipeline, during which much development work has been finished. Third, the app developer is usually not familiar with privacy principles (e.g., privacy laws) that can guide the development process. To address these problems, we created xCOMPASS, an open-sourced framework that presents a solution that does not require much expertise/training in privacy domain to identify privacy engineering requirements during PTM. xCOMPASS presents a lightweight questionnaire (i.e., yes-no questions), identifies privacy requirements based on the answers, and maps the requirements to privacy principles (e.g., privacy laws) and mitigation strategies (e.g., de-identification). To the best of our knowledge, xCOMPASS is a state-of-the-art solution. To conclude, we will also outline and discuss remaining challenges, open problems, and future work in this space.