

Exploring users' privacy perceptions and requirements in relation to privacy-enhancing car-to-car communication systems

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Abstract. With the rapid development of wireless networks, vehicular communication systems have gained a grown interest as creating new opportunities for safer and efficient transportation. However, these systems are vulnerable to identity and location profiling attacks, hence, implementing the adequate privacy solutions is of utmost importance for the introduction of privacy-preserving smart environments in the future. At the same time, these systems employing for instance short-lived pseudonyms or are based on k-anonymity location privacy schemes, have potential privacy-utility or privacy-safety trade-offs. Therefore, we will illustrate the possible trade-offs of car-to-car communication and address them from an end user perspective. Moreover, we will also take existing systems like Waze and analyse attitudes and requirements of users in South Africa and Sweden. More specifically, we have started to conduct semi-structured interviews to analyse the privacy requirements drivers have for car-to-car communication systems and how far would they trade it off with other goals such as usability, safety, costs, etc. We will present the first results/observations of the qualitative data analysis and identify our future focus on a cultural comparison in terms of comparing privacy preferences of South African and Swedish users. This will enable us to elicit default privacy settings for privacy-enhanced car-to-car communication systems for different types of users with different cultural backgrounds.