Institut für Verteilte Systeme
Institute of Distributed Systems

ulm university universität ulm

A Tool Support for Privacy-Threat Countermeasure Selection

Master's Thesis

30 CP

Privacy engineering and particularly privacy threat modelling have gained a lot of attention in the recent years. Many methodologies have been proposed to model privacy threats.

Such methodologies provide only limited support to selection of proper countermeasures to elicited threats. We proposed to rely on privacy patterns as recipes for solutions to privacy threats. We analyzed those patterns with respect to their properties [1], and also proposed a decision tree approach to support their selection.

Your task in this thesis work is to enhance our solution trees and implement a tool to support the deployment of the developed trees. The enhancement may include investigating how selecting a pattern affects selecting another pattern, i.e., the relationship among patterns, and how the best suited pattern for a certain threat can be selected. A ranking approach for the patterns can be investigated.

Related work on the tool-support side includes LINDDUN Go [2], the OWASP threat dragon tool [3], and the commonly used Microsoft threat modelling tool which is used for security [4].

[1] Al-Momani et al., "Land of the Lost: Privacy Patterns' Forgotten Properties" ACM SAC PDP 2021

[2] https://www.linddun.org

[3] https://owasp.org/www-project-threat-dragon/

[4] https://docs.microsoft.com/en-us/azure/security/develop/threat-modeling-tool

This thesis is ideal for you if you want to gain more insights into privacy engineering and privacy patterns. You are expected to have a good understanding of privacy by design and privacy strategies.

Ala'a Al-Momani | alaa.al-momani@uni-ulm.de | O27-3209

If you are interested or you need additional details, feel free to contact me or drop by for a non-binding chat.