Master

Lösung von Konflikten zwischen Sicherheits-, Datenminimierungs- und Fairness-Requirements

Resolving Conflicts between Security, Data-minimization and Fairness Requirements

Motivation

Requirements are inherently prone to conflicts. Data protection requirements such security, data-minimization and fairness requirements are no exception. Conflicts need to be detected and resolved early during the business process modeling to avoid difficulties of detecting conflicts in later stages of system development. Failure to recognize and resolve conflicts will confuse the stakeholders during the system design and implementation, and may lead to a failure system.

In a previous work, we proposed a BPMN-based data protection engineering framework that supports the detection of conflicts between the specified requirements in the BPMN models based on a catalog of domain-independent anti-patterns. A limitation is that our approach is currently does not support the resolution of conflicts. Although a fully automated process would be appreciated, the resolution of conflicts may require human intervention, a further challenging task that involves reasoning on the privacy impact of different solution strategies.

In this master thesis you will pursue the following research question:

- How conflicts between security, data-minimization and fairness requirements can be (semi-)automatically resolved?

Knowledge required to carry out the work: Java
Helpful knowledge: Code generation, e.g. with XText, model-based software development with Ecore

Organisatorisches

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