Privacy Boosts: Benevolent Educational Interventions for Data Subjects' Privacy Behaviour

Bachelor's Thesis

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Context

In the workplace, data on employees are used in various ways, e.g. to improve work processes, ensure compliance, or manage teams. Many potentially beneficial uses for such work-process-related data exist for employers and employees alike. However, data collection and analysis constitute a threat to employees' privacy by putting them under constant potential surveillance and enabling misuse. Consequently, when deploying data analytic tools, one has to strike a balance between seizing data's potential and meaningful privacy protecting.

One approach to enabling privacy protection is providing data subjects with control over their data that is used. However, a well-established problem in research is that data subjects have a low privacy literacy and that their privacy behaviour is in strong opposition to the alleged relevance privacy plays for them [1]. In order to alleviate this lack of competences, this thesis aims to develop low-key educational interventions, so called *boosts*, to sustainably establish actionable privacy knowledge, which is transferable to several contexts. The pet peeve of the boost strategy is the assumptions that data subjects are willing to be educated and apply the acquired knowledge. However, it avoids an exhaustive training data subjects might neither have the time for nor interest in, while at the same time empowering users with competences they need for an informed (dis)consent to data sharing according to users' *own* preferences [7, 5, 3]. The idea is to avoid *nudging* as manipulation of data subjects choice without them noticing it and at the same time to enable a nuanced privacy management, which might counteract a general rejection of all data usages, which prevents seizing the legitimate potential of data analytic [2, 4, 6].

Goal

The goal of this thesis is to research and implement privacy boosting strategies and to evaluate their impact on data subjects' voluntary data sharing behaviour in the workplace. The central question, which is further refined in the course of this thesis, is: *"How is the employees' data sharing behaviour and their felt control impacted by privacy boosts?"*

Theoretical Research Boosts are conceptualised in contexts such as financial decisions and understanding health statistics. There is also a lot of theoretical distinction between nudging and boosting as well as their impact on empowerment and people's agency [2, 4, 6]. However, practical research on deploying boosts in privacy education is sparse [7]. This thesis, therefore, researches existing literature on privacy education and condenses the accumulated insights into privacy boosts, for example, in form of decision trees, heuristics, procedural routines.

Implementation A web-based project management tool for the empirical evaluation is implemented. This tool collects data of its users, which should be accessible via an API for third-party workplace tools to enable the usage of the data for their own purposes (e.g. search for experts within the company, work scheduling, determination of appropriate training). A simple interface in which users can set their privacy preferences for in relation to this data is also implemented. The previously designed privacy boosts are integrated into this interface in such a way that they can be switched off for evaluation purposes.

Evaluation During the evaluation study participants are asked to create an account as part of an onboarding process. In the course of the account creation users are asked to select their privacy preferences. In order to evaluate the effectiveness of the privacy boosts, a comparative case study is conducted. Two versions of the tool - (1) with boosts (2) neutral design - are deployed for two different groups of participants. The selected privacy preferences of the two user groups are assessed and insights regarding data sharing are concluded. Short qualitative follow-up interviews assess users' feeling of control and empowerment when setting their data sharing preferences.

Working Plan

1. Theoretical research (e.g. about boost theory, privacy education etc.)
2. Designing privacy boosts.
3. Implementing a project-management tool with a data base of personal data, a possibility to set privacy preferences including the provision privacy boosts, and an API for data access, which provides access to the personal data.
4. Evaluate the effectiveness of the designed privacy boosts in a case study.

Deliverables

- Source code of the implementation including informative in-code comments and comprehensive set-up instructions.
- A list of the designed privacy boosts in the appendix.
- Final thesis report written in conformance with TUM guidelines.

References

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