

Segmenting Privacy Profiles in TAP Applets for Usable Permission Management - SWITS 2023

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1 Abstract

With the increasing popularity of IoT devices and the usage of Trigger-Action Platforms (TAPs), such as IFTTT, Zapier, and Automate, users are becoming high-level programmers in connecting and personalizing technological tools. The utilization of TAPs may introduce privacy risks that can result from their connectivity, and it is possible that users may not have a complete understanding of these potential risks. Our goal is to narrow the gap between user concerns and new smart spaces by segmenting user privacy concerns and creating privacy profiles using machine learning techniques for a usable permission management.

To achieve this goal, we propose conducting two attitudinal design testing methods to segment and derive privacy profiles. The first method involved three focus groups with 15 participants to gather qualitative data on attitudes towards TAPs and their privacy concerns. The second method involves a survey designed consistently with GDPR (Art. 13) and permissions and notifications questions. We will triangulate the quantitative and qualitative data.

We aim to expand the design space of aspects pertaining to privacy concerns in TAP applets and derive privacy profiles from permissions and notifications. We will use machine learning techniques to cluster users based on their privacy concerns and preferences and create usable permission management systems.

Our research focuses on the user experience in trigger-action platforms, with the goal of creating a secure and privacy-respecting environment that considers users' concerns, preferences, and expectations. Our study aims to contribute to the enhancement of user privacy and security in TAPs, as well as promoting a better understanding of user attitudes towards the usage of IoT devices and TAPs.