Security and Privacy Perceptions of Third-Party Application Access for Google Accounts

David G. Balash, Xiaoyuan Wu, and Miles Grant,
The George Washington University; Irwin Reyes, *Two Six Technologies;*
Adam J. Aviv, *The George Washington University*

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A   Artifact Appendix

A.1   Abstract

In our paper we explore how users consider security and privacy in light of third-party API access to their Google accounts given the disclosure and control mechanisms currently available. First, we surveyed n = 432 participants to recall the last times they used Google SSO or authorized a third-party app access to their Google account data. We then invited n = 214 participants from the first survey to return for a follow-up survey. As part of this second survey, participants installed a browser extension that parsed entries in their Google account's "Apps with access to your account" dashboard. In our archive we make available functional artifacts that can be used to reproduce our qualitative and quantitative study results. The artifact includes the custom survey and browser extension software we developed for this study along with detailed instructions on how to deploy this software. A single PC, Mac, or Linux machine should be sufficient hardware. Software requirements include Docker, RStudio, and a Chrome or Firefox web browser. The artifact can be evaluated by running the survey software in a docker container, loading the browser extension in a web browser, running the R-programming files, and evaluating the qualitative coding results.

A.2   Artifact check-list (meta-information)

- **Data set:**
  Provided in the survey-data folder of the GitHub archive.
- **Run-time environment:**
  Docker, R-Studio
- **Hardware:**
  a single PC, Mac, or Linux machine.
- **How much disk space required (approximately)?:**
  100 MB
- **How much time is needed to prepare workflow (approximately)?:**
  2 hours
- **How much time is needed to complete experiments (approximately)?:**
  4 hours
- **Publicly available (explicitly provide evolving version reference)?:**
  https://github.com/gwusec/
  api-privacy-archive-usenix22/
- **Archived (explicitly provide DOI or stable reference)?:**
  https://github.com/gwusec/
  api-privacy-archive-usenix22/tree/
  116104e7112b311ccf0567b58aebaf3f13ee3a50

A.3   Description

This archive contains the software developed for this API privacy research, and the data obtained from an online survey conducted during our study. The archive includes qualitative open coding analysis of open-ended survey results, as well as the r-scripts used to processes the quantitative results. We have included all of the software that we created to deploy the online survey, and the code for a custom browser extension that we built that works along with the survey. We have provided instructions for running this software in a docker container.

A.3.1   How to access

The artifact can be accessed at the following URL:
https://github.com/gwusec/
api-privacy-archive-usenix22/tree/
116104e7112b311ccf0567b58aebaf3f13ee3a50

Please read the provided README.md file for full details: https://github.com/gwusec/api-privacy-archive-usenix22/blob/116104e7112b311ccf0567b58aebaf3f13ee3a50/README.md

A.3.2   Hardware dependencies

A single PC, Mac, or Linux machine should be sufficient hardware.

A.3.3   Software dependencies

Software requirements: Docker, RStudio, Chrome or Firefox web browser.

A.3.4   Data sets

https://github.com/gwusec/
api-privacy-archive-usenix22/tree/
116104e7112b311ccf0567b58aebaf3f13ee3a50/survey-data

A.4   Installation

https://github.com/gwusec/
api-privacy-archive-usenix22/blob/
116104e7112b311ccf0567b58aebaf3f13ee3a50/survey/
README.md

A.5   Experiment workflow

We created and deployed two online surveys. We collected the data from the surveys and used qualitative open coding to analyse the qualitative results, and R-programming to analyse the quantitative results. Both the qualitative spreadsheets and R scripts are provided, along with the raw data from the surveys.

A.6   Evaluation and expected results

The key results of the paper are the online survey result data and the detailed analysis of this data. The software that we developed allowed us to collect this data and this software can be validated. The figures and regression analysis as described in the paper is our next key results, and those can be validated using the raw data along with the provided R-scripts.

A.7 Experiment customization

A.8 Notes

A.9 Version

Based on the LaTeX template for Artifact Evaluation V20220119.