

This document provides background information to the CSV dataset located in the same folder, including a description of all table columns and all codes used in the “Assigned codes” columns.

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1. Background

The data in the table is from the following study:

Jacob Leon Kröger, Jens Lindemann, and Dominik Herrmann. 2020. How do App Vendors Respond to Subject Access Requests? A Longitudinal Privacy Study on iOS and Android Apps. In The 15th International Conference on Availability, Reliability and Security (ARES 2020), August 25–28, 2020, Virtual Event, Ireland. ACM, New York, NY, USA

The paper is available open access on ACM Digital Library: <https://doi.org/10.1145/3407023.3407057>

2. Description of the table columns

Column	Description
App Vendor ID	Pseudonyms used to refer to the individual app vendors in our sample
Operating system	Platform on which the app was installed (Android or iOS)
App store category	Category describing the app's primary function or subject matter (e.g., Education, Health, or Music)
Vendor's domicile	Country or region in which the app vendor has its residence
Account registration	If/how the user account for an app was created
Request language	Language in which our requests to the app vendor were written (English or German, based on the app's default language)
Columns for round 1 (R1)	
R1: Request response duration (in days)	The number of days that passed between our request and the vendor's response
R1: Assigned codes	Codes that the authors assigned to the received request responses (the individual codes are explained in section 3 of this document)
R1: Dummy response status	Whether the vendor responded to our non-privacy related inquiry (as explained in section 5.6 of the paper)
R1: TLS encryption	Whether all R1 emails received from the vendor were transport-layer encrypted via TLS (Transport Layer Security)
Columns for round 2 (R2)	
R2: App still exists	Whether the app still existed at the time of the request
R2: User account still exists	Whether the user account created at the beginning of the study still existed at the time of the request (only applicable to the apps where a sign-up option was available, cf. column "Account registration")
R2: Request response duration (in days)	The number of days that passed between our request and the vendor's response
R2: Assigned codes	Codes that the authors assigned to the received request responses (the individual codes are explained in section 3 of this document)
R2: TLS encryption	Whether all R2 emails received from the vendor were transport-layer encrypted via TLS (Transport Layer Security)
Columns for round 3 (R3)	
R3: App still exists	Whether the app still existed at the time of the request
R3: User account still exists	Whether the user account created at the beginning of the study still existed at the time of the request (only applicable to the apps where a sign-up option was available, cf. column "Account registration")
R3: Request response duration (in days)	The number of days that passed between our request and the vendor's response
R3: Assigned codes	Codes that the authors assigned to the received request responses (the individual codes are explained in section 3 of this document)
R3: Reminder response status	Whether the vendor responded to our reminder email (as explained in section 4 of the paper)
R3: Dummy response status	Whether the vendor responded to our non-privacy related inquiry (as explained in section 5.6 of the paper)
R3: TLS encryption	Whether all R3 emails received from the vendor were transport-layer encrypted via TLS (Transport Layer Security)

3. Description of the codes used in the “Assigned codes” columns

Code	Description
Responsiveness & reachability	
UNREACHABLE	The vendor was not reachable via email (i.e., delivery failure)
NOREPLY	The vendor did not respond to our request
Response language	
de	The vendor responded in German
en	The vendor responded in English
fgn	The vendor responded in a language other than English or German
chgl	The vendor changed the language of communication from English to German or vice versa without prior announcement
Addressing of the subject access request	
data	The response contains an export of personal data
nd1	The vendor states that no matching account or data record exists in their data base
nd2	The vendor states that they only process data locally on the user’s device without having access to it
stor	From the reply it is evident that our personal data is still being stored, but the reply does not include a data export
unrel	The received response is completely unrelated to our request
Means & format of data transmission	
dt1	Personal data is sent in .csv file(s)
dt2	Personal data is sent in .html file(s)
dt3	Personal data is sent in .json file(s)
dt4	Personal data is sent in .pdf file(s)
dt5	Personal data is sent in .txt file(s)
dt6	Personal data is sent in .doc/.docx file(s)
dt7	Personal data is sent in image file(s) (.png or .jpg)
dt8	Personal data is sent as plain text in the email body
dt9	Personal data is sent by postal mail
dt10	Personal data is sent by registered postal mail
Identity Verification and Security of Transmitted Data	
authS	Data access is provided through a self-service system within the password-protected app
authID	For identity verification, we are asked to provide a copy of a utility bill, ID card, or driving license
authIN	For identity verification, we are asked to provide certain pieces of identity-related information (e.g., full name, address, birth date, customer number)
authO	Other authentication method (for details, see section 5.4 of the paper)
bfa	Personal data is disclosed to us before we have fulfilled an authentication request
pw	Download links or attached data files are protected with a password (which is received via email or telephone)
exp	The vendor states that the provided download link will expire after a few days or weeks

Technical and communication problems	
p1	Response contains only the labels of collected data (e.g., "birth date") but not actual data values (e.g. "1977-03-09")
p2	The transmitted personal data is unintelligible due to serious formatting errors or obscure data labels
p3	Vendor states that data exports can only be requested for paid subscriptions, not for free accounts
p4	Language problems or unclear communication
p5	Responsibility for privacy-related inquiries is referred back and forth within a company or between affiliated companies
p6	Malfunctioning authentication mechanism
p7	Data transmission failure (e.g., damaged files, dead download links, empty email attachments, wrong data)
Deceptive and misleading statements	
f1	The data export is not complete, i.e., some pieces of personal data stored in the app were omitted for unknown reasons
f2	The response contains a false claim that the app and/or our user account no longer exists (e.g., we are still able to install the app, we can still log in to the user account)
f3	The vendor falsely promises to contact us again within a specified time
f4	The vendor provides an implausible excuse for why the data has been deleted and/or cannot be transmitted
f5	The vendor falsely pretends to have already replied or acts as if our previous communication had not taken place
Discontinued apps and accounts	
del	The user account is deleted or deactivated in response to the subject access request
uod	The response contains an unsolicited offer to delete our user account and/or user data
dis	The vendor states that the app has been discontinued
desp	The response contains an export of personal data although the user account has been discontinued
data sharing practices	
ds1	The vendor states specifically what data is made available to which partners for what purpose
ds2	The vendor lists only a few generic reasons for data sharing
ds3	The vendor lists only potential data recipients without naming the respective purpose
ds4	The vendor lists only the categories of data being shared
ds5	The vendor refrains from providing any specifics beyond mentioning the existence of data sharing
nds	The vendor assures that no data is being shared with third parties
tra	The vendor explicitly states that tracking services are used within the app