

How Facebook tracks users on Android

(even if you don't have a Facebook account...)

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~~PRIVACY~~
~~INTERNATIONAL~~

Data brokers and credit scorers accused of GDPR breaches

Campaign group Privacy International files complaints and calls for EU investigation

TECH • PRIVACY

Privacy Activists Take On Oracle and Equifax Over Shadowy Profiling

<https://privacyinternational.org/campaigns/uncovering-hidden-data-ecosystem>

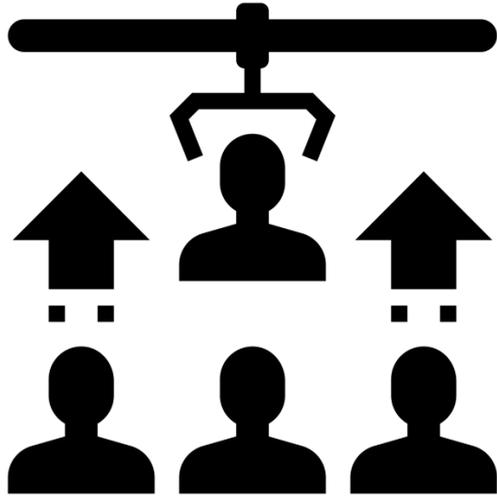
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1

42.55%

of free apps on the Google Play store could share data with Facebook*

* (Measuring third party tracker power across web and mobile: Reuben Binns, Jun Zhao, Max Van Kleek and Nigel Shadbolt 2018)

Selection criteria



Created by Eucalyp
from Noun Project

Number of downloads

Potential sensitivity of the data the app handles

Utility type apps which could give insights into user behavior

The apps we analysed* - (all between 10 and 500 million installs each)

Bible - Audio, Daily Verse, Study & Offline, Free
BMI Calculator & Weight Loss Tracker
Calorie Counter - MyFitnessPal
Candy Crush Saga
Clean Master - Antivirus, Cleaner & Booster
Dropbox
Duolingo: Learn Languages Free
Family Locator - GPS Tracker (Formally Life360)
HP ePrint
Indeed Job Search
Instant Heart Rate: HR Monitor & Pulse Checker
KAYAK Flights, Hotels & Cars
King James Bible (KJV) Free
Muslim Pro - Prayer Times, Azan, Quran & Qibla
My Talking Hank
Opera Browser
Period Tracker, My Calendar

Period Tracker Clue: Period & Ovulation Calculator
Phone Tracker By Number
Qibla Connect® Find Direction- Prayer, Azan, Quran
صلاتك Salatuk (Prayer time)
Security Master - Antivirus, VPN, AppLock, Booster
Shazam
Skater Boy
Skyscanner - Cheap Flights, Hotels and Car Rental
Speedtest by Ookla
Spotify Music
Super-Bright LED Flashlight
The Weather Channel: Local Forecast & Weather Maps
TripAdvisor Hotels Flights Restaurants Attractions
Cleaner - Boost, Clean, Space Cleaner
VK (vkontakte)
WeChat
Yelp

*Names are as they appear on the Google Play Store as of the 29th December 2018

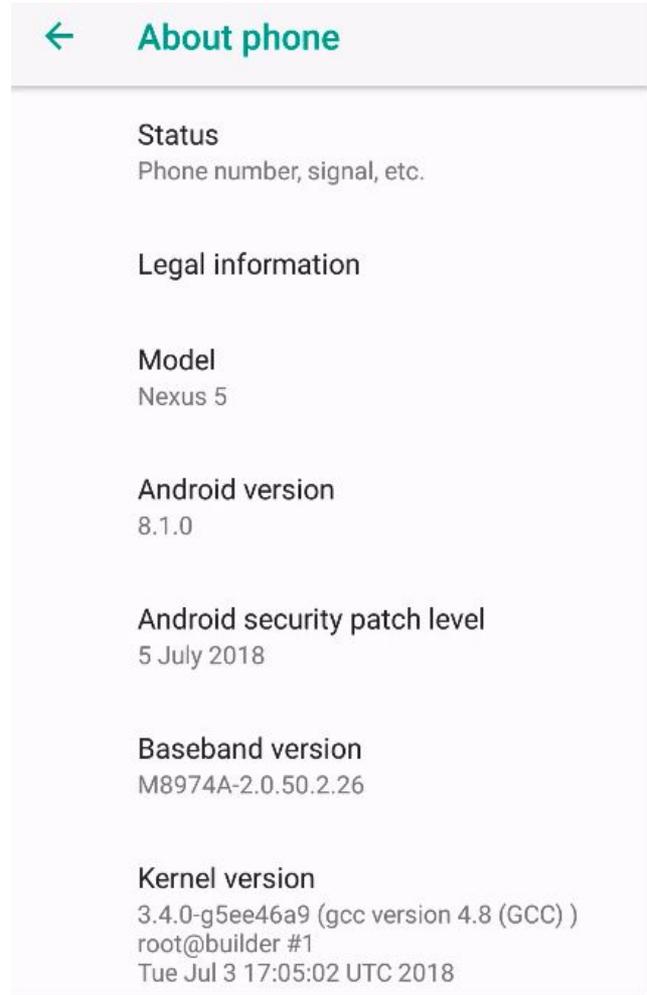
Setup for Analysis and Methodology

Nexus 5 running Android 8.1.0 (Oreo)

VirtualBox Virtual Machine running Debian Buster

MitMProxy 4.0.4

hostapd/dnsmasq/rtl8812au



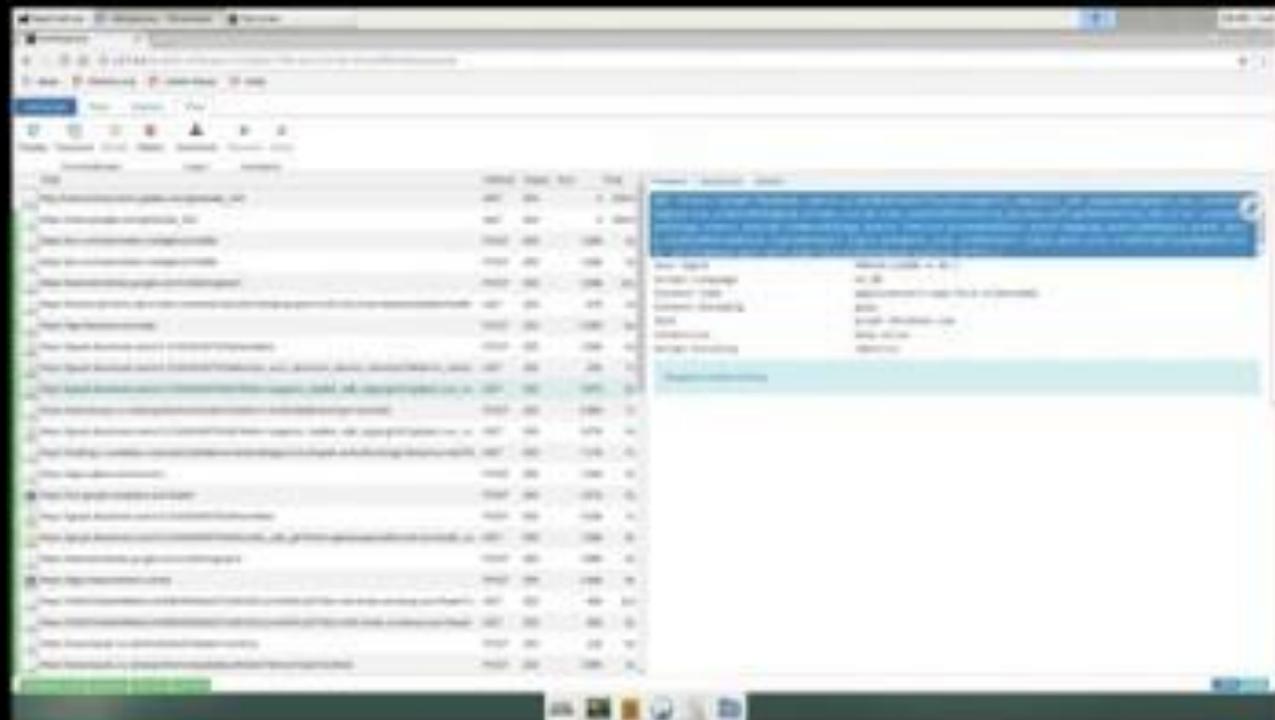
The image shows a screenshot of an Android phone's 'About phone' settings page. The page has a light gray header with a back arrow and the title 'About phone'. Below the header, there are several sections of information:

- Status**: Phone number, signal, etc.
- Legal information**
- Model**: Nexus 5
- Android version**: 8.1.0
- Android security patch level**: 5 July 2018
- Baseband version**: M8974A-2.0.50.2.26
- Kernel version**: 3.4.0-g5ee46a9 (gcc version 4.8 (GCC))
root@builder #1
Tue Jul 3 17:05:02 UTC 2018

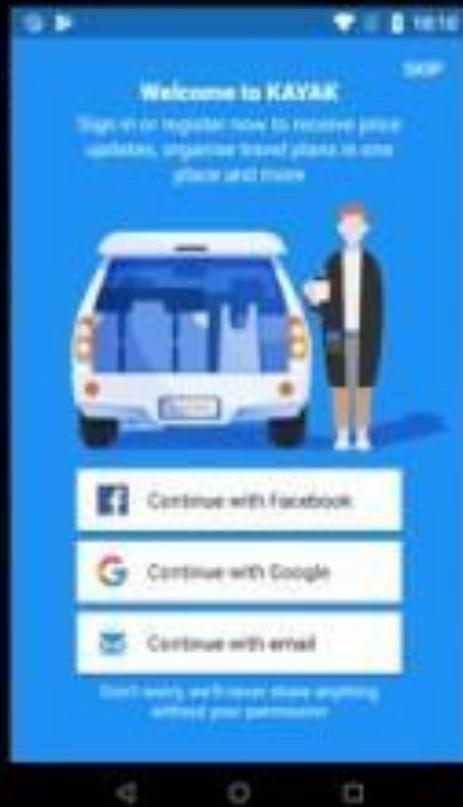
Over 61% of apps tested

automatically transfer data to
Facebook the moment a user
opens the app

Kayak Analysis



Destination	Price	Duration	Other
London	£100	1h 30m	Direct
Paris	£120	1h 45m	Direct
Amsterdam	£110	1h 40m	Direct
Brussels	£130	1h 50m	Direct
Frankfurt	£140	2h 00m	Direct
Munich	£150	2h 10m	Direct
Zurich	£160	2h 20m	Direct
Geneva	£170	2h 30m	Direct
Barcelona	£180	2h 40m	Direct
Madrid	£190	2h 50m	Direct
Rome	£200	3h 00m	Direct
Naples	£210	3h 10m	Direct
Palermo	£220	3h 20m	Direct
Catania	£230	3h 30m	Direct
Syracuse	£240	3h 40m	Direct
Messina	£250	3h 50m	Direct
Cagliari	£260	4h 00m	Direct
Alghero	£270	4h 10m	Direct
Oristano	£280	4h 20m	Direct
Sassari	£290	4h 30m	Direct
Cagliari	£300	4h 40m	Direct
Alghero	£310	4h 50m	Direct
Oristano	£320	5h 00m	Direct
Sassari	£330	5h 10m	Direct
Cagliari	£340	5h 20m	Direct
Alghero	£350	5h 30m	Direct
Oristano	£360	5h 40m	Direct
Sassari	£370	5h 50m	Direct
Cagliari	£380	6h 00m	Direct
Alghero	£390	6h 10m	Direct
Oristano	£400	6h 20m	Direct
Sassari	£410	6h 30m	Direct
Cagliari	£420	6h 40m	Direct
Alghero	£430	6h 50m	Direct
Oristano	£440	7h 00m	Direct
Sassari	£450	7h 10m	Direct
Cagliari	£460	7h 20m	Direct
Alghero	£470	7h 30m	Direct
Oristano	£480	7h 40m	Direct
Sassari	£490	7h 50m	Direct
Cagliari	£500	8h 00m	Direct
Alghero	£510	8h 10m	Direct
Oristano	£520	8h 20m	Direct
Sassari	£530	8h 30m	Direct
Cagliari	£540	8h 40m	Direct
Alghero	£550	8h 50m	Direct
Oristano	£560	9h 00m	Direct
Sassari	£570	9h 10m	Direct
Cagliari	£580	9h 20m	Direct
Alghero	£590	9h 30m	Direct
Oristano	£600	9h 40m	Direct
Sassari	£610	9h 50m	Direct
Cagliari	£620	10h 00m	Direct
Alghero	£630	10h 10m	Direct
Oristano	£640	10h 20m	Direct
Sassari	£650	10h 30m	Direct
Cagliari	£660	10h 40m	Direct
Alghero	£670	10h 50m	Direct
Oristano	£680	11h 00m	Direct
Sassari	£690	11h 10m	Direct
Cagliari	£700	11h 20m	Direct
Alghero	£710	11h 30m	Direct
Oristano	£720	11h 40m	Direct
Sassari	£730	11h 50m	Direct
Cagliari	£740	12h 00m	Direct
Alghero	£750	12h 10m	Direct
Oristano	£760	12h 20m	Direct
Sassari	£770	12h 30m	Direct
Cagliari	£780	12h 40m	Direct
Alghero	£790	12h 50m	Direct
Oristano	£800	13h 00m	Direct
Sassari	£810	13h 10m	Direct
Cagliari	£820	13h 20m	Direct
Alghero	£830	13h 30m	Direct
Oristano	£840	13h 40m	Direct
Sassari	£850	13h 50m	Direct
Cagliari	£860	14h 00m	Direct
Alghero	£870	14h 10m	Direct
Oristano	£880	14h 20m	Direct
Sassari	£890	14h 30m	Direct
Cagliari	£900	14h 40m	Direct
Alghero	£910	14h 50m	Direct
Oristano	£920	15h 00m	Direct
Sassari	£930	15h 10m	Direct
Cagliari	£940	15h 20m	Direct
Alghero	£950	15h 30m	Direct
Oristano	£960	15h 40m	Direct
Sassari	£970	15h 50m	Direct
Cagliari	£980	16h 00m	Direct
Alghero	£990	16h 10m	Direct
Oristano	£1000	16h 20m	Direct





18:08

SKIP

Welcome to KAYAK

Sign in or register now to receive price updates, organise travel plans in one place and more



Continue with Facebook



Continue with Google



Continue with email

Don't worry, we'll never share anything without your permission



Examples 1

Facebook SDK's default events data

A stereotypical example

```
Form data:
format:          json
sdk:             android
custom_events_file:
[{"_eventName": "fb_sdk_initialize", "_eventName_md5": "d470d22f237aee69843355edba5a8178", "_logTime": "1543758287", "_ui": "unknown", "_implicitlyLogged": "1", "core_lib_included": "1", "login_lib_included": "1", "share_lib_included": "1"}]
event:          CUSTOM_APP_EVENTS
advertiser id:  474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package: com.android.vending
anon id:        XZ801b9f8d395-4bdd-8396-83fe6ff66d38
application tracking enabled: true
extinfo:       ["a2", "com.vkontakte.android", "2978", "5.23", "8.1.0", "Nexus 5", "en GB", "GMT", "", "1080,1776", "3.00", "4,13,8", "Europe\\London"]
application_package_name: com.vkontakte.android
```

VK (VKontakte ВКонтакте)

```
Form data:
format:          json
sdk:             android
custom_events_file:
[{"_eventName": "fb_mobile_activate_app", "_eventName_md5": "cb7f3b6cd294afce05ece615d43ea7b9", "_logTime": "1543758341", "_ui": "AuthActivity", "session id": "532f794b-64b3-4822-b16a-09fc92fb9bbf", "fb_mobile_launch_source": "Unclassified"}]
event:          CUSTOM_APP_EVENTS
advertiser id:  474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package: com.android.vending
anon id:        XZ801b9f8d395-4bdd-8396-83fe6ff66d38
application tracking enabled: true
extinfo:       ["a2", "com.vkontakte.android", "2978", "5.23", "8.1.0", "Nexus 5", "en GB", "GMT", "", "1080,1776", "3.00", "4,13,8", "Europe\\London"]
application_package_name: com.vkontakte.android
```

```
Form data:
format:          json
sdk:             android
custom_events_file:
[{"_eventName": "fb_mobile_deactivate_app", "_eventName_md5": "92255b491a4e25b5d809edcf3665affe", "_logTime": "1543758446", "_ui": "SignIngUpActivity", "session id": "532f794b-64b3-4822-b16a-09fc92fb9bbf", "valueToSum": "104", "fb_mobile_time_between_sessions": "session quanta 0", "fb_mobile_launch_source": "Unclassified", "fb_mobile_app_interruptions": "0"}]
event:          CUSTOM_APP_EVENTS
advertiser id:  474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package: com.android.vending
anon id:        XZ801b9f8d395-4bdd-8396-83fe6ff66d38
application tracking enabled: true
extinfo:       ["a2", "com.vkontakte.android", "2978", "5.23", "8.1.0", "Nexus 5", "en GB", "GMT", "", "1080,1776", "3.00", "4,13,8", "Europe\\London"]
application_package_name: com.vkontakte.android
```

Some apps routinely send
Facebook data that is **incredibly**
detailed and sometimes
sensitive

Examples 2

Custom data being sent by developers

```
format:                json
sdk:                   android
custom_events:
[{"_eventName": "fb_mobile_content_view", "_eventName_md5": "533c6dea25f750ee1efcd943f21df1f", "_logTime": "1543687983", "_ui": "unknown", "_session_id": "96ac6dc9-d0d4-496f-85b6-0c75b86b2d23", "_valueToSum": "663", "obfuscated_session_id": "H-5bA4a5Ta3jpwN4vbUHDHO-TF SxSSjPollRAKo9WV0cKnDDBSknGfD4yjsAW6uik", "bookingWindow": "1", "obfuscated_tracking_cookie": "JHRqu46001JsuJWaiTV7hIdBHwc", "travel_start": "12/02/2018", "fb_currency": "GBP", "brand": "kayak", "destination_airport": "NRT", "travel_end": "12/05/2018", "content_type": "Flight", "num_adults": "1", "is_logged_in": "false", "order_id": "DaGCAYiLpF", "fb_content_id": "mult", "origin_airport": "LGW", "fb_search_string": "\\flights\\LGW-TYO\\2018-12-02\\2018-12-05\\/f6f7f4e595ba8b61f070f6b81e7f69198tuser_score": "0"}]
event:                 CUSTOM_APP_EVENTS
advertiser id:         474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package:    com.android.vending
anon id:              XZdfd5f00f3271-4e82-a8ce-6ceald38b6d3
application tracking enabled: true
extinfo:              ["a2", "com.kayak.android", 1257, "69.1", "8.1.0", "Nexus 5", "en GB", "GMT", "", 1080, 1776, "3.00", 4, 13, 8, "Europe\\London"]
application_package_name: com.kayak.android
```

Kayak, Duolingo, King James Bible

```
Form data:
format:                json
sdk:                   android
custom_events_file:
[{"_eventName": "welcome", "_eventName_md5": "40be4e59b9a2a2b5dff918c0e86b3d7", "_logTime": "1543669935", "_ui": "unknown", "_session_id": "40105443-bd6a-4699-94a9-048bacf3cfd7"}]
event:                 CUSTOM_APP_EVENTS
advertiser id:         474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package:    com.android.vending
anon id:              XZ0470fe2065c7-4f8c-ad33-551e3dc056a2
application tracking enabled: true
extinfo:              ["a2", "com.duolingo", 669, "3.107.7", "8.1.0", "Nexus 5", "en ", "GMT", "", 1080, 1776, "3.00", 4, 13, 8, "Europe\\London"]
application_package_name: com.duolingo

format:                json
sdk:                   android
custom_events_file:
[{"_eventName": "ScreenView", "_eventName_md5": "fb8b1634e1404e0adf120a437033e181", "_logTime": "1543684573", "_ui": "unknown", "_session_id": "0248dec0-a9a5-441f-922a-5b9a822c5519", "_valueToSum": "1", "Screen": "Bible"}]
event:                 CUSTOM_APP_EVENTS
advertiser id:         474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package:    com.android.vending
anon id:              XZdeb698864392-4f6c-a84e-2f333afa9185
application tracking enabled: true
extinfo:              ["a2", "com.hmobile.biblekjv", 114, "2.0.5", "8.1.0", "Nexus 5", "en GB", "GMT", "", 1080, 1776, "3.00", 4, 13, 8, "Europe\\London"]
application_package_name: com.hmobile.biblekjv
```

Examples 3

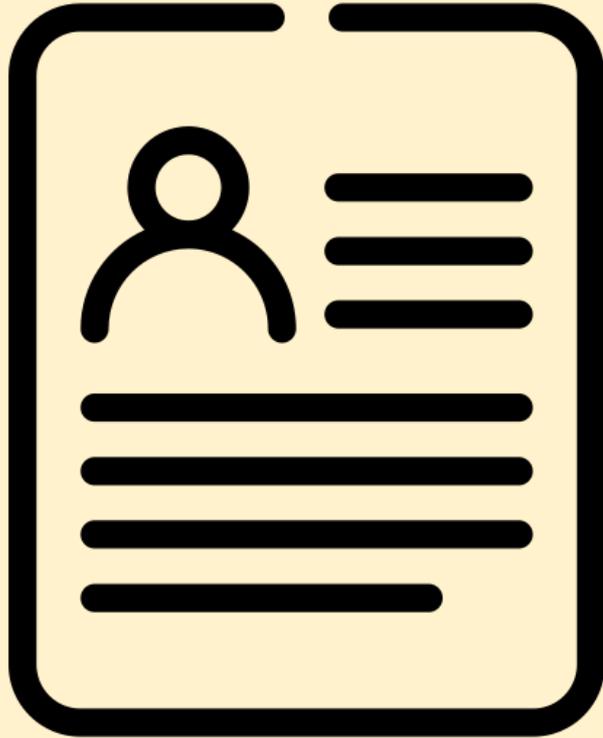
What about advertising data?

Muslim Pro

```
COPPA: false
APPBUILD: 98609
KG_RESTRICTED: false
VALPARAMS: {"is_emu": "false", "apk_size": "15631271"}
UNITY: false
ACCESSIBILITY_ENABLED: false
APPNAME: Muslim Pro
WIDTH: -1
NUM_ADS_REQUESTED: 1
SESSION_TIME: 1543936446.001
PLACEMENT_ID: 155477247795798_2245983322078503
MAKE: LGE
REQUEST_TIME: 1543936446.194
CARRIER:
SDK_CAPABILITY: [3,4,5,7,11,16,17]
TEMPLATE_ID: 5
CLIENT_REQUEST_ID: 5ca9212d-95dc-47b7-bf3c-5b26799d32ec
DENSITY: 3.0
AD_REPORTING_CONFIG_LAST_UPDATE_TIME: 0
M_BANNER_KEY: Y29tLmJpdHntZWRpYS5hbmRyb2lkLm1lc2xpbXBbyBjb20uYW5kcm9pZC52ZW5kaW5n
SCREEN_HEIGHT: 592
SDK_VERSION: 5.1.0
PROCESS: {"process_name": "com.bitsmedia.android.muslimpro", "is_ads_process": false, "client_supports": false}
SCREEN_WIDTH: 360
ID_SOURCE:
SDK: android
OSVERS: 8.1.0
CLIENT_EVENTS:
OS: Android
ANALOG:
{"charging": "1", "available_memory": "841449472", "total_memory": "1944141824", "battery": "100.0", "free_space": "5983637504"}
PLACEMENT_TYPE: banner
ROOTED: 2
MODEL: Nexus 5
HEIGHT: 50
BUNDLE: com.bitsmedia.android.muslimpro
ASHAS: ac80a9856a49ea721cab93531dbe06e1209819f5;
LOCALE: en_GB
NETWORK_TYPE: 1
IDFA: 474364c6-e9cf-4971-8dd2-b1dc3c605450
ATTRIBUTION_ID:
APPVERS: 9.8.6
MEDIATION_SERVICE: ADMOB_14799018
INSTALLER: com.android.vending
IDFA_FLAG: 1
SESSION_ID: 2a93ed74-63ef-4276-b9fb-7013cf9816c8
```

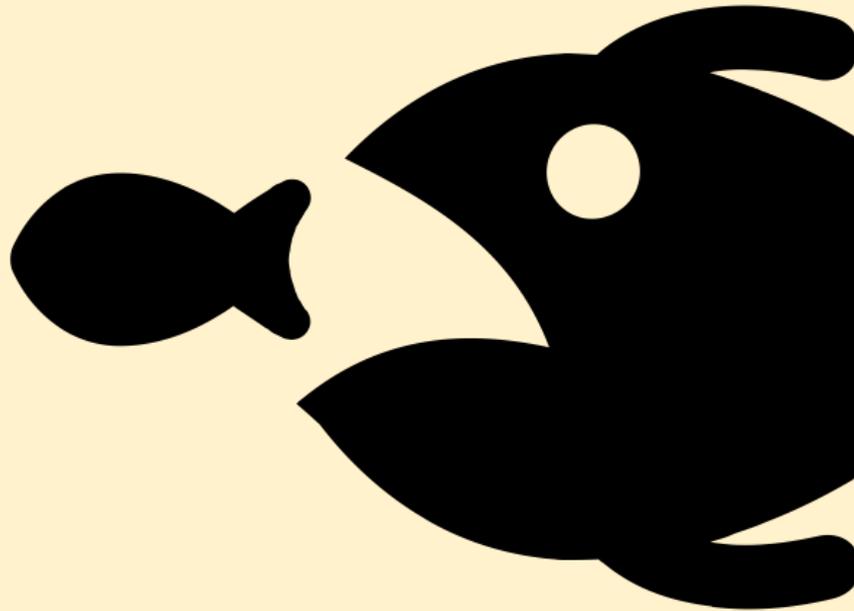
This happens **whether people**
have a Facebook account or not
and regardless of login status

WHY DOES ANY OF THIS MATTER?



"Qibla Connect"
"Period Tracker Clue"
"Indeed"
"My Talking Tom"

Created by I Create Stuff
from Noun Project

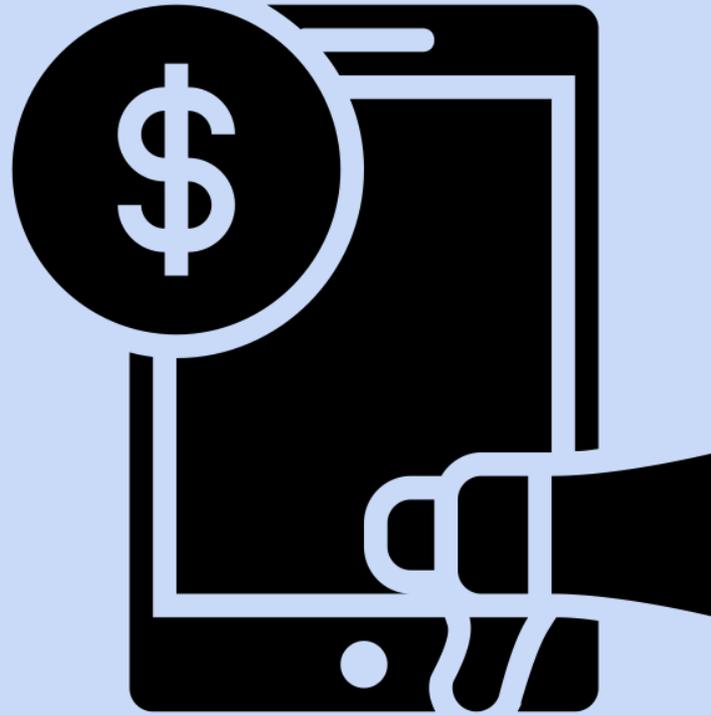


Created by Delwar Hossain
from Noun Project

2,000,000,000+

combined installs

**WHY DO SO MANY APPS SHARE DATA WITH FB (THE
SECOND THE APP OPENS)?**



Created by I Putu Kharismayadi
from Noun Project

Facebook places the sole responsibility on apps...



Created by H Alberto Gongora
from Noun Project

“If you use our pixels or SDKs, you further represent and warrant that you have provided robust and sufficiently prominent notice to users regarding the Customer Data collection [...] In jurisdictions that require informed consent for storing and accessing cookies or other information on an end user’s device (such as but not limited to the European Union), you must ensure, in a verifiable manner, that an end user provides the necessary consent before you use Facebook Business Tools to enable us to store and access cookies or other information on the end user’s device.” (emphasis added)

Facebook Business Tool Terms

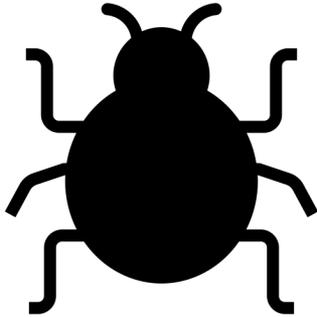
It's the default implementation of the SDK....



“When you use the Facebook SDK, some events in your app are automatically logged and collected for Facebook Analytics unless you disable automatic event logging.”

Facebook Analytics [Quickstart Guide for Android](#)

**...and developers have
been filing bug reports
about the SDK since
May...**



Created by anbilero adaleru
from Noun Project

““When integrating the Facebook login SDK into android we realized, that when initializing the SDK a request is sent to the Graph API server, which includes an App-ID and an Advertising ID. Unfortunately this isn't compliant with the GDPR Guidelines, because the users haven't yet agreed to the privacy terms when starting the app. This is also the case , when the automatic events are deactivated. At the moment we have to avoid the problem with a workaround, which however leads to crashes. [...] Please help us as soon as possible, as otherwise we are not allowed or able to use the Facebook SDK to login into our Android app.” ”
(July 24, 2018)

(Accessed: 1 December 2018).

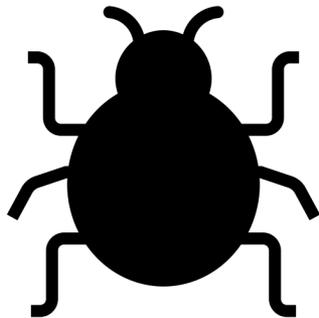
... and Facebook released
a feature that delays
automatic event data
sharing in June.



“Prior to our introduction of the “delay” option, developers had the ability to disable transmission of automatic event logging data, **except for a signal that the SDK had been initialized.** Following the June change to our SDK, we also removed the signal that the SDK was initialized for developers that disabled automatic event logging.” (emphasis added).

Facebook via email to Privacy International, 28 December 2018

**...and developers
continued to file bug
reports.**



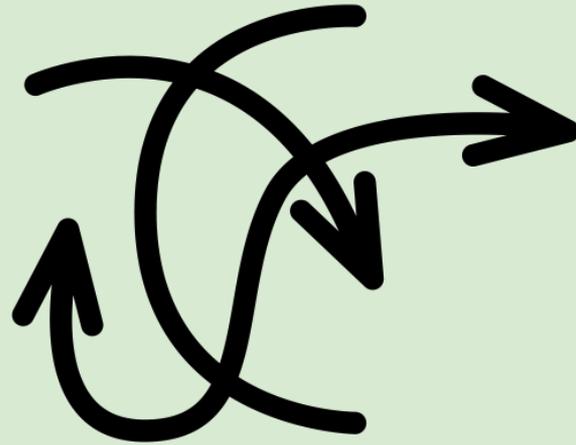
Created by anbilero adaleru
from Noun Project

“The voluntary feature that we released on June 28, 2018 for the Android SDK worked as we described at the time of launch. Following the launch, we received feedback from developers and made changes to (1) expand the information that we did not collect during the delay period, and (2) make the delay functionality available in our Unity SDK, which is separate from the Android SDK.” (emphasis added).

Facebook via email to Privacy International, 28 December 2018

IS THIS EVEN LEGAL?

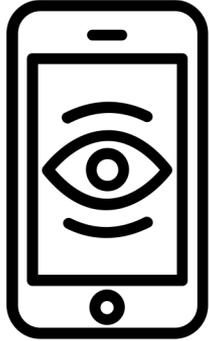
responsibility



Created by Marie Van den Broeck
from Noun Project

WHAT SHOULD ANDROID DEVELOPERS DO?

Up your privacy game.



Created by Gregor Cresnar
from Noun Project

Comply with relevant laws

Don't transmit data that doesn't need to be transmitted (data minimisation)

Give people genuine choice!

.....

Rethink third-party tracking.



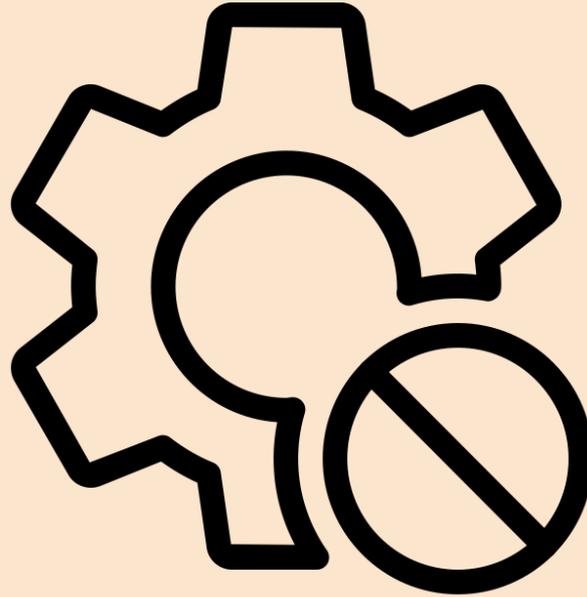
Created by Smalllike
from Noun Project

Third parties seek to place all legal responsibility on app developers and providers.

Use SDKs selectively - and in a matter that's transparent towards users.

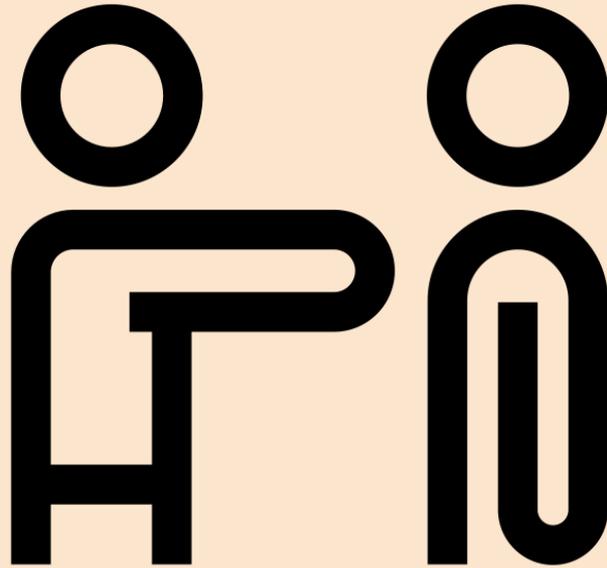
WHAT SHOULD FACEBOOK (AND GOOGLE) DO?

Privacy by design and by default

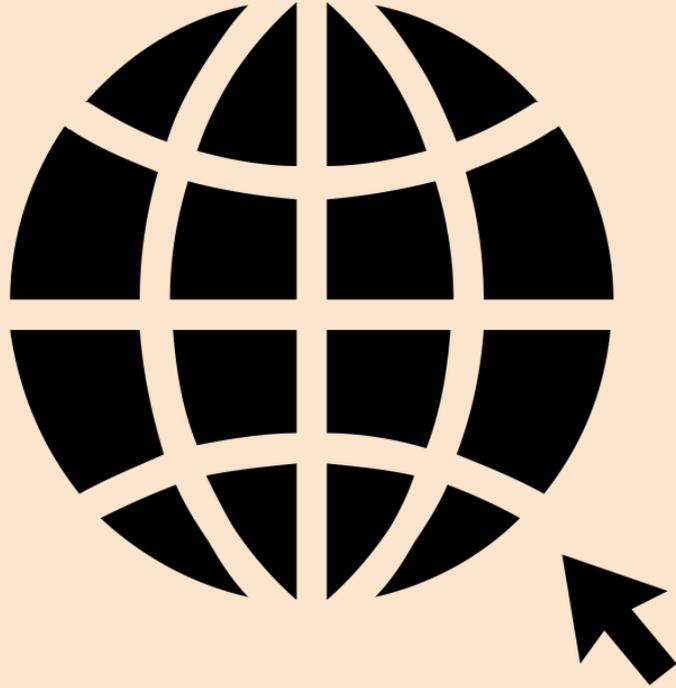


Created by icon 54
from Noun Project

“...but other companies also track people”



Created by Symbolon
from Noun Project



We need to reclaim
the internet

Created by Aisyah
from Noun Project

WHAT CAN YOU DO?

Well technically....

Device settings

(1) Opt out of ad personalization

(2) Reset the Google ad ID

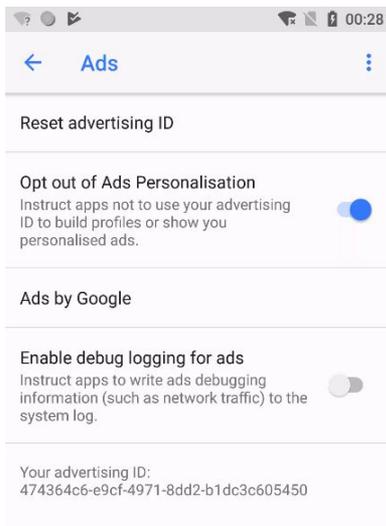
European Interactive Digital Advertising Alliance

Offers cookie-based opt-outs.....



Example 4

What about with
personalisation
disabled



Advertising Personalization Enabled

Opt-in, the
(Default state)

```
Form data:
format:                json
sdk:                   android
custom_events_file:
[{"eventName":"origin_selected","eventName_md5":"b883a259b3e22dcafe6cd97872e5692","logTime":1543790183,"ui":"unknown","session_id":"9582dd9a-7d17-4b1e-8f2e-3eb88369c542","origin_city_name":"London","origin_iata":"LOND","origin_name":"London"}]
event:                 CUSTOM APP EVENTS
advertiser id:         474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: true
installer package:    com.android.vending
anon id:               XZ91d69838980-4d1a-8e41-d6c21362b0b5
application tracking enabled: true
extinfo:               ["a2","net.skyscanner.android.main",1811261925,"5.57","8.1.0","Nexus 5","en GB","GMT","",1080,1776,"3.00",4,13,6,"Europe\\London"]
application_package_name: net.skyscanner.android.main
```

Advertising Personalization Disabled

Opt-out

```
Form data:
format:                json
sdk:                   android
custom_events_file:
[{"eventName":"origin_selected","eventName_md5":"b883a259b3e22dcafe6cd97872e5692","logTime":1544574571,"ui":"unknown","session_id":"7b0174ff-d21f-4877-9a71-64fbda0987e1","origin_city_name":"London","origin_iata":"LOND","origin_name":"London"}, {"eventName":"destination_selected","eventName_md5":"cd48f17164b8286eeb6fdd866ecc8ca","logTime":1544574580,"ui":"unknown","session_id":"7b0174ff-d21f-4877-9a71-64fbda0987e1","destination_city_name":"Tokyo","destination_iata":"TYOA","destination_name":"Tokyo"}, {"eventName":"flight_search","eventName_md5":"d5521a518f2b76694cc27dd453c90120","logTime":1544574582,"ui":"unknown","session_id":"7b0174ff-d21f-4877-9a71-64fbda0987e1","airport_from_iata_flight_search":"","airport_from_name_flight_search":"","airport_from_city_name_flight_search":"London","date_to_flight_search":"2018-12-24","origin_iata_flight_search":"LOND","date_from_flight_search":"2018-12-17","airport_to_iata_flight_search":"","airport_to_name_flight_search":"","airport_to_city_name_flight_search":"Tokyo","destination_iata_flight_search":"TYOA"}, {"eventName":"Search","eventName_md5":"13348442cc6a27032d2b4aa28b75a5d3","logTime":1544574582,"ui":"unknown","session_id":"7b0174ff-d21f-4877-9a71-64fbda0987e1","fb_destination_airport":"TYOA","fb_returning_departure_date":"2018-12-24","fb_description":"Flight","fb_content_type":"flight","fb_origin_airport":"LOND","fb_travel_class":"economy","fb_departing_departure_date":"2018-12-17","fb_num_adults":"1"}]
event:                 CUSTOM APP EVENTS
advertiser id:         474364c6-e9cf-4971-8dd2-b1dc3c605450
advertiser tracking enabled: false
installer package:    com.android.vending
anon id:               XZ2625c992-f7b7568-a4ab-6201af500733
application tracking enabled: true
extinfo:               ["a2","net.skyscanner.android.main",1811261925,"5.57","8.1.0","Nexus 5","en GB","GMT","",1080,1776,"3.00",4,13,5,"Europe\\London"]
application_package_name: net.skyscanner.android.main
```

So you can't opt out but you can...

Block

Block graph.facebook.com using tools like AFWall+ or NetGuard

You can not install apps that use the Facebook SDK

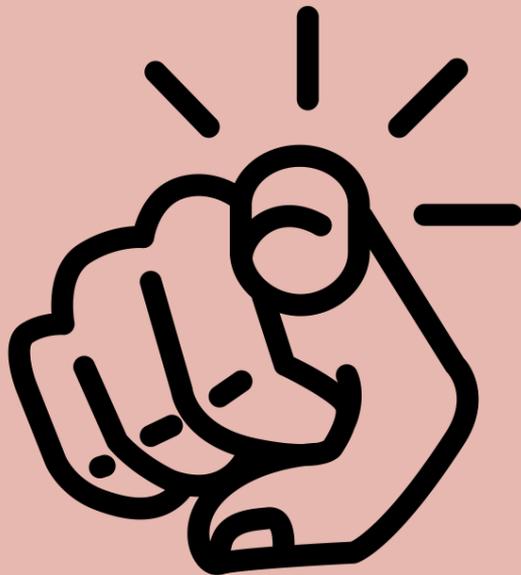
Minimise

You could segregate your data

Reset your advertising ID and opt-out of ad-personalisation

...but why should you have to?

Replicate our research!!



Created by BomSymbols
from Noun Project

Investigating Apps interactions with Facebook on Android

Privacy International has been investigating the proliferation of data tracking, brokerage and exchange between many tech companies, both as their primary business as well as value added services.

Facebook routinely tracks users, non-users and logged-out users outside its platform through Facebook Business Tools. App developers share data with Facebook through the Facebook Software Development Kit (SDK), a set of software development tools that help developers build apps for a specific operating system. Using the free and open source software tool called "mitmproxy", an interactive HTTPS proxy, Privacy International has analyzed the data that a number of Android apps transmit to Facebook through the Facebook SDK.

On this page, you will find the full report that PI have released covering this topic and all the relevant documentation of our analysis.

Search by App Name

The name can either be partial or full

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App Analysis

Calorie Counter - MyFitnessPal

App Analysis

Duolingo: Learn Languages Free

App Analysis

Family Locator - GPS Tracker

App Analysis

Indeed Job Search

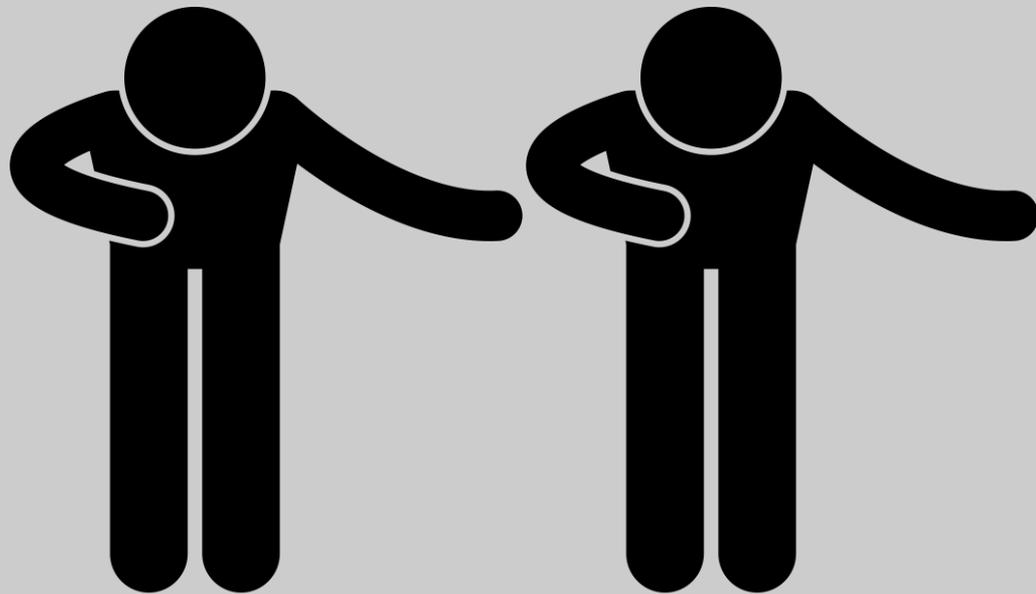
App Analysis

Instant Heart Rate: HR Monitor & Pulse Checker

App Analysis

KAYAK Flights, Hotels & Cars

Questions?



Created by Gan Khoo Lay
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Further questions: EDRi stand in the about:freedom assembly opposite the exploits bar