

Comparing Privacy Label Disclosures of Apps Published in both the App Store and Google Play Stores

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David Rodriguez, Jose M. del Alamo,
Akshath Jain & Norman Sadeh

Table of contents

01 Introduction

Why and when did privacy labels appear in Google Play and App Store?

02 Methodology

Finding the same iOS and Android apps and comparing them

03 Results

Answering our RQs by comparing iOS and Android privacy labels

04 Conclusion

Do Android and iOS privacy labels show discrepancies for the same apps?

01 Introduction

方投数据隐私政策

2022年05月20日版本

【引言】

Inicio > Ministerio > Política de privacidad y protección de ...

Política de privacidad y protección de datos



El Ministerio de Asuntos Económicos y Transformación Digital es la entidad responsable del tratamiento de los datos de carácter personal suministrados por los usuarios en los Portales Web y Sedes Electrónicas.

En conformidad con lo establecido en el Reglamento General de Protección de Datos, Reglamento (UE) 2016/679 del Parlamento Europeo y del Consejo de 27 de abril del 2016, el Ministerio se compromete al cumplimiento de su obligación de secreto con respecto a los datos de carácter personal y al deber de tratarlos con confidencialidad. A estos efectos, adoptará las medidas necesarias para evitar su alteración, pérdida, tratamiento o acceso no autorizado.

Este aviso legal es de aplicación a las páginas de los Portales Web y Sedes Electrónicas, no se garantiza en los accesos a través de enlaces con estos sitios, ni a los enlaces desde estos sitios con otras webs.

Puede dirigirse al Delegado de Protección de Datos a través de: dpd@economia.gob.es

Política de protección de datos

Recogida de datos personales

رغم الجسب على وسائل التواصل الاجتماعي
بلد الإقامة

<https://www.fineboost.cn>)、方投数据SDK、API、插件、组件、代码、工具以及不断创新研发的产品及服务，均适用本隐私政策。我们及关联公司就其向您提供的产品或服务单独设有隐私政策的，则相应产品或服务适用相应隐私政策。

SDK服务的适用范围

我们的SDK面向中国境内开发者提供服务，我们将在中国境内存储您的数据。为了避免您由于不了解您的最终用户所在国或所在地区关于数据保护相关法规政策而触犯当地的监管规定，我们强烈建议您仅在中华人民共和国大陆地区内使用方投




x

App Privacy

The developer, **Tsubasa SEKIGUCHI**, indicated that the app's privacy practices may include handling of data as described below. This information has not been verified by Apple. For more information, see the [developer's privacy policy](#).



To help you better understand the developer's responses, see [Privacy Definitions and Examples](#).

Privacy practices may vary, for example, based on the features you use or your age. [Learn More](#)

 **Data Not Linked to You**

The following data, which may be collected but is not linked to your identity, may be used for the following purposes:

Analytics

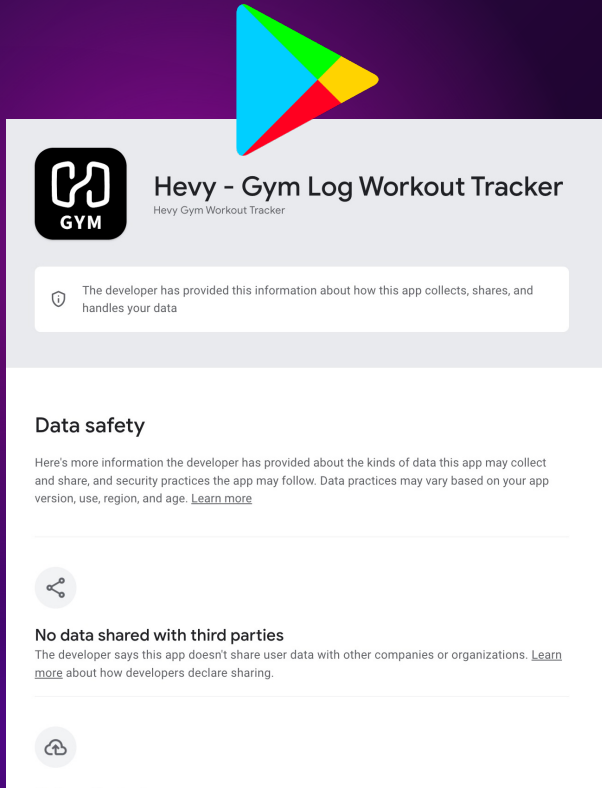
-  **Location**
Coarse Location
-  **Identifiers**
Device ID

..

Why privacy labels?

- Standardized format
- Easily readable and understandable

Obligation of Privacy Labels: December, 2020



Why privacy labels?

- Standardized format
- Easily readable and understandable

Obligation of Privacy Labels: April, 2022

Two research questions

RQ1



Does the same iOS
and Android app
disclose the
collection of
identical info?

RQ2



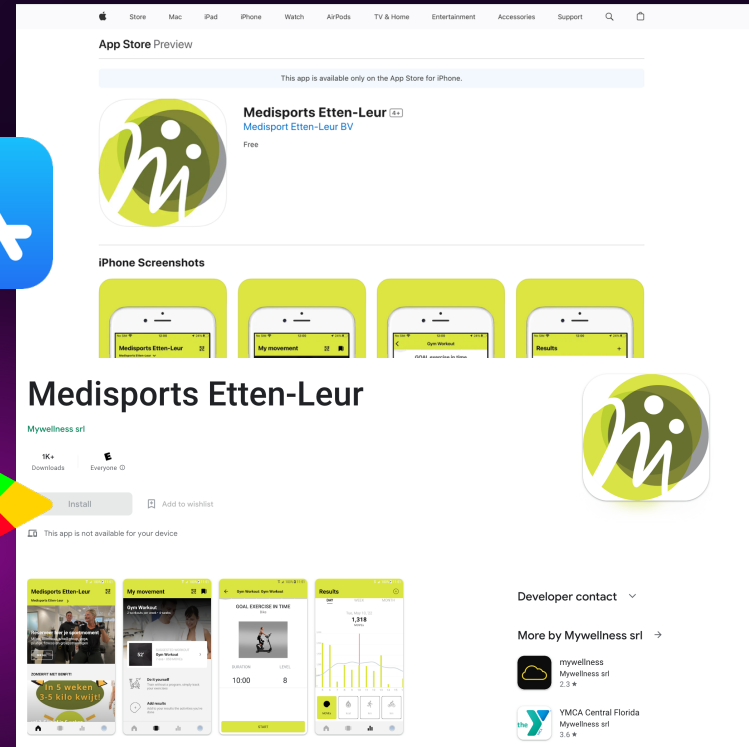
Can we trust in the
privacy labels
disclosures?

02 Methodology

Finding identical Android and iOS apps

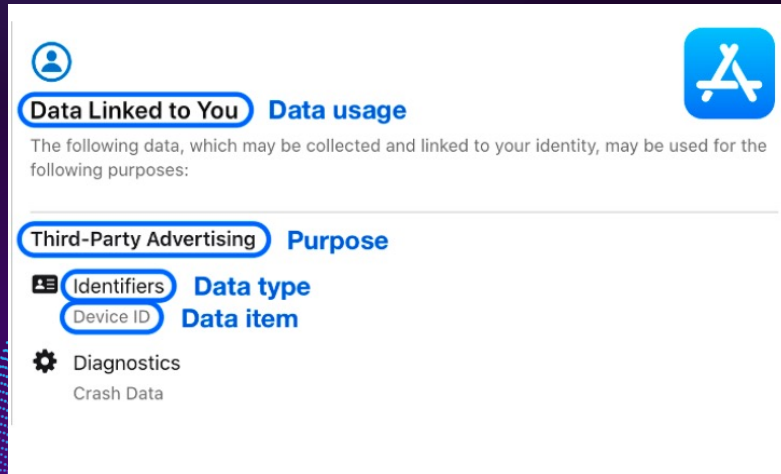
- Scraped published apps in App Store
- Searched the app name in Google Play Store search bar
- Downloaded apps' logos and compared them using SSIM
- Filter to those apps with exactly the same privacy policies

SSIM - Structural Similarity Index Measure



Privacy labels mapping

	iOS Label	Android Label
Data practice	Data Linked to You	Data collected
	Data Not Linked to You	
	Sensitive Info	Race and ethnicity Political or religious

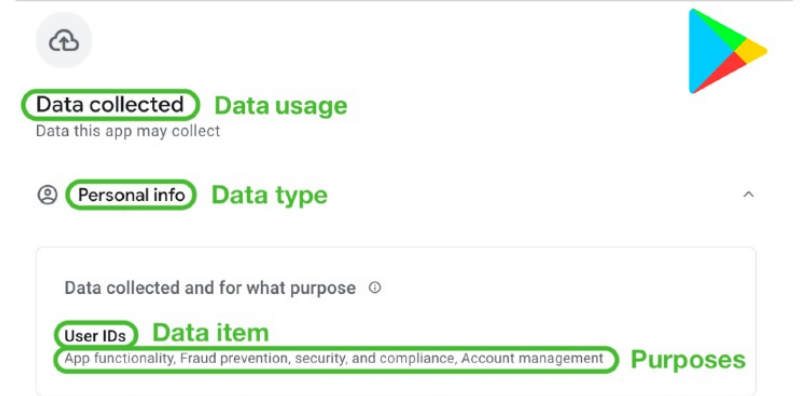


Data Linked to You **Data usage**

The following data, which may be collected and linked to your identity, may be used for the following purposes:

Third-Party Advertising **Purpose**

- Identifiers** **Data type**
 - Device ID **Data item**
- Diagnostics
 - Crash Data



Data collected **Data usage**

Data this app may collect

Personal info **Data type**

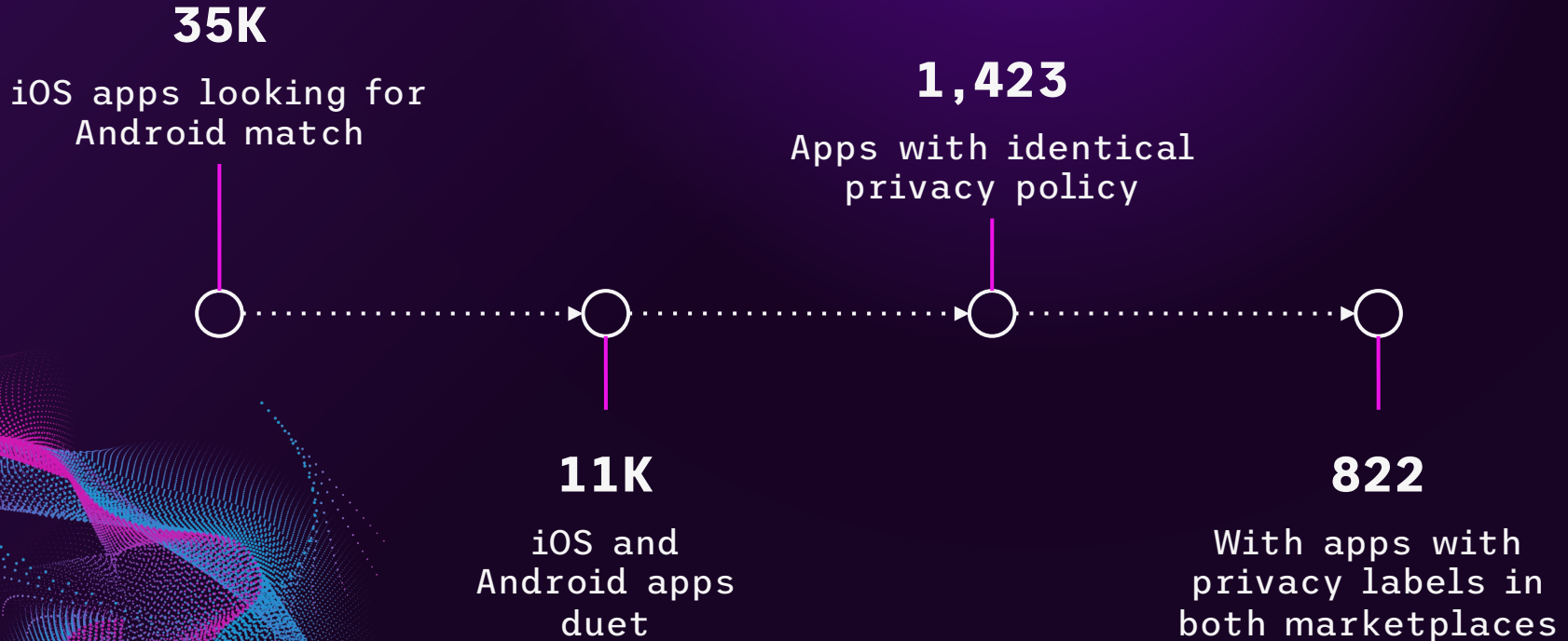
Data collected and for what purpose

- User IDs** **Data item**
 - App functionality, Fraud prevention, security, and compliance, Account management **Purposes**

Health	Health info
Fitness	Fitness info

03 Results

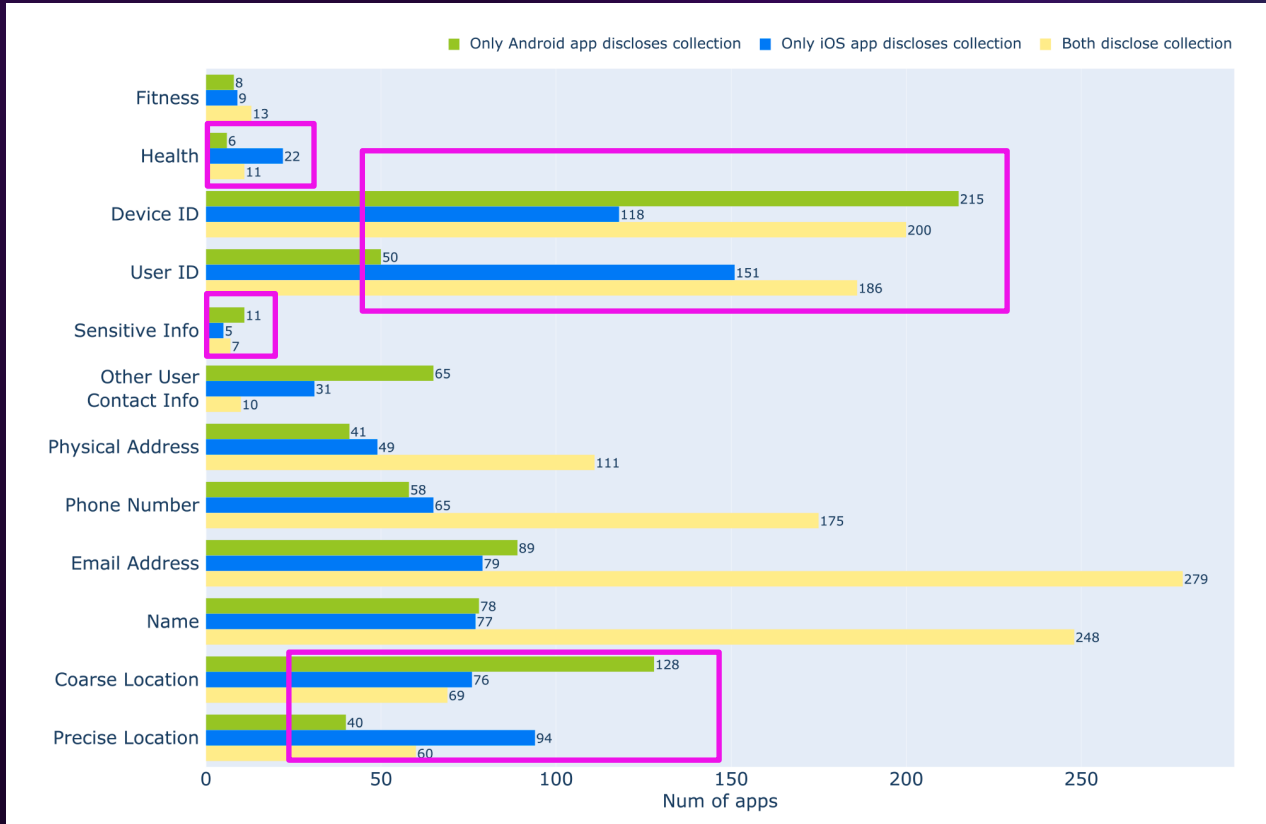
Experiment numbers



Comparison between the number of Android (green) and iOS (blue) apps declaring the collection of each data type



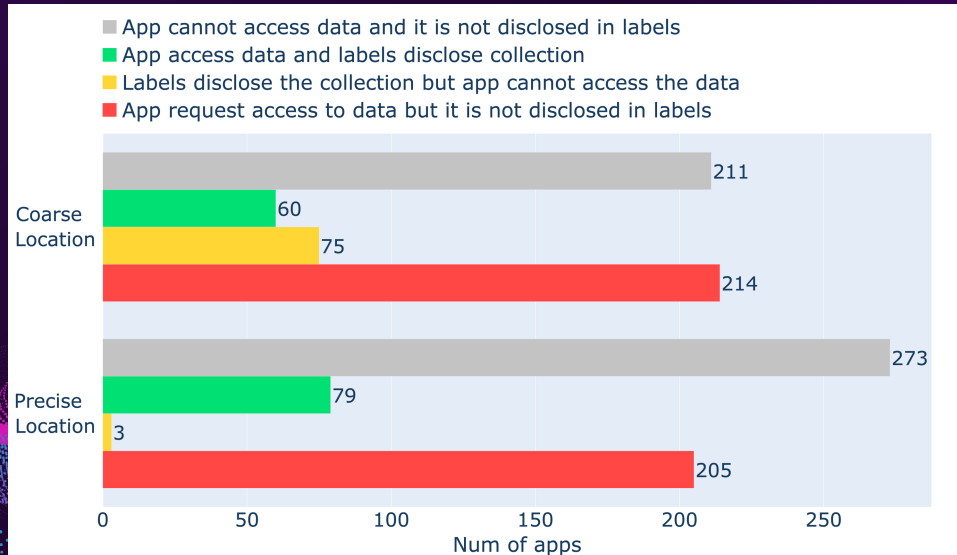
Number of apps disclosing a data item collection in the privacy labels



Comparing privacy labels and actual apps code

Access to location data

Precise and coarse location in Android apps code



- 560 apps source code downloaded and decompiled
- Android manifests checked looking for request to location
- 44.3% apps declares access to location in Manifest. But None of them disclose it in labels
- 54 apps accessing location in the code. But None of them disclose it in labels

04 Conclusion

66,5%

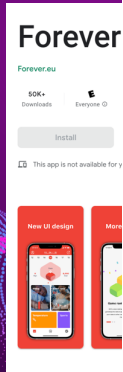
Of matching Android and iOS apps show potential
discrepancies in their labels

3,2%

Out of 503 matching Android and iOS apps that disclose collection agree in all the 12 mapped data items collected

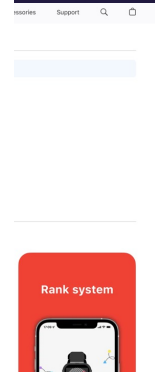
05 Lessons learnt

Discrepancies example



1. Pedometer: Count your steps, calories, active time, distance.
2. Sleep Tracker: record and analysis your sleeping.
3. Notification reminder: never miss notification on your phone.
4. Heart Rate support: measure you Heart Rate and save your log.
5. Daily tracker: track your life and exercise.
6. Supports syncing your sport data to Apple Health (HealthKit).
7. Compete on leaderboard with your friends.
8. Win badges to make sport more fun.

Your perfect daily health and sport partner.



**Disclose collection of
Health info**

**NOT Disclose collection
of Health info**

What did we learn?

- Remarkable divergences between iOS and Android labels
- Inconsistencies found in labels for the same Android and iOS apps
- Static analysis shows app behavior can be misaligned with labels disclosures

Thanks!



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