How Usable Are iOS App Privacy Labels?

Shikun Zhang, Yuanyuan Feng, Yaxing Yao, Lorrie Faith Cranor, Norman Sadeh
Paper published at PETS 2022

Method

- Semi-structured remote interviews with 24 iPhone users
- Participants shared their iPhone screens as they reviewed two iOS app privacy labels and answered our questions

Perceptions

- Most unaware of labels
- Most found labels useful
- Most stated intention to use labels
- Many would not trust the labels
- Some mistakenly assumed Apple is responsible for the labels
- The majority believed (wrongly) that Apple had reviewed or verified the labels
- About half mistakenly assumed label included all usage
- About half confused about linear label structure

Misunderstandings

Confusing Terminology
- "Tracking" is overloaded
- Confusion around "data (not) linked to you"
- Entangled and overlapping definitions
- Unfamiliar terms for frequently used data types

Vague Language
- Scope of "browsing history" and "search history" is unclear
- "Other" category is not conducive to trust
- Scope of "User content": emails, texts, photos, or videos

Chipotle Compact Label

Data Not Linked to You
The following data may be collected but it is not linked to your identity:
- Purchases
- Location
- User Content
- Financial Info
- Contact Info
- Usage Data
- Diagnostics

Tracking means sharing with advertisers?

DoorDash Compact Label

Data Used to Track You
The following data may be used to track you across apps and websites owned by other companies:
- Purchases
- Contact Info
- Usage Data
- Location
- Identifiers

Data Linked to You
The following data may be collected and linked to your identity:
- Purchases
- Location
- Contacts
- Search History
- Identifiers
- Diagnostics
- Financial Info
- Contact Info
- User Content
- Browsing History
- Usage Data
- Other Data

DoorDash Label

App Privacy

The developer, DoorDash, Inc., 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

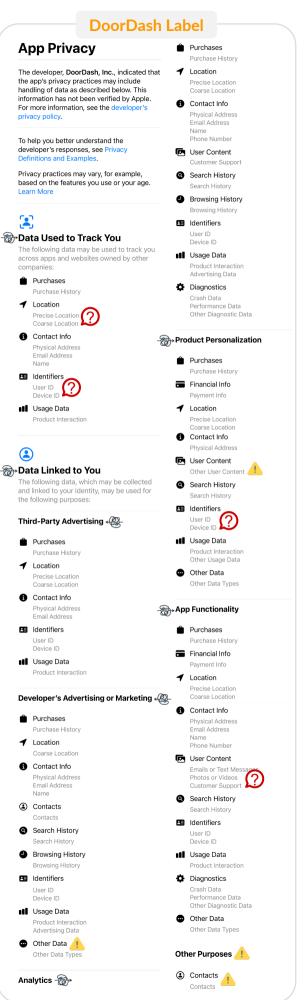**Data Used to Track You**
The following data may be used to track you across apps and websites owned by other companies:
- Purchases — Purchase History
- Location — Precise Location, Coarse Location
- Contact Info — Physical Address, Email Address, Name
- Identifiers — User ID, Device ID
- Usage Data — Product Interaction

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

Third-Party Advertising
- Purchases — Purchase History
- Location — Precise Location, Coarse Location
- Contact Info — Physical Address, Email Address
- Identifiers — User ID, Device ID
- Usage Data — Product Interaction

Developer's Advertising or Marketing
- Purchases — Purchase History
- Location — Coarse Location
- Contact Info — Physical Address, Email Address, Name
- Contacts — Contacts
- Search History — Search History
- Browsing History — Browsing History
- Identifiers — User ID, Device ID
- Usage Data — Product Interaction, Advertising Data
- Other Data — Other Data Types

Analytics
- Purchases — Purchase History
- Location — Precise Location, Coarse Location
- Contact Info — Physical Address, Email Address, Name, Phone Number
- User Content — Customer Support
- Search History — Search History
- Browsing History — Browsing History
- Identifiers — User ID, Device ID
- Usage Data — Product Interaction, Advertising Data
- Diagnostics — Crash Data, Performance Data, Other Diagnostic Data

Product Personalization
- Purchases — Purchase History
- Financial Info — Payment Info
- Location — Precise Location, Coarse Location
- Contact Info — Physical Address
- User Content — Other User Content
- Search History — Search History
- Identifiers — User ID, Device ID
- Usage Data — Product Interaction, Other Usage Data
- Other Data — Other Data Types

App Functionality
- Purchases — Purchase History
- Financial Info — Payment Info
- Location — Precise Location, Coarse Location
- Contact Info — Physical Address, Email Address, Name, Phone Number
- User Content — Emails or Text Messages, Photos or Videos, Customer Support
- Search History — Search History
- Identifiers — User ID, Device ID
- Usage Data — Product Interaction
- Diagnostics — Crash Data, Performance Data, Other Diagnostic Data
- Other Data — Other Data Types

Other Purposes
- Contacts — Contacts

Suggested Improvements

Easy access to definitions and contextualized examples of data collected

Such as form of payment, payment card number, or bank account number. If an app uses a payment service and the payment information is entered outside the app, the information will not appear in this section.
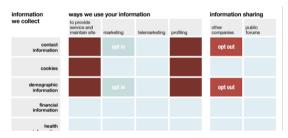
- Financial Info — Payment Info

Add corresponding controls

Tracking ●

Better structure for data and purposes

information we collect	ways we use your information				information sharing	
	to provide service and maintain site	marketing	telemarketing	profiling	other companies	public forums
contact information		opt in				opt out
cookies						
demographic information		opt in				opt out
financial information						
health						

Access to additional information

- Data retention
- Data recipients
- Contact us
- Privacy implications

Recommendations

- Help users comprehend complex app privacy practices
- Improve privacy labels' salience
- Promote privacy labels' role in app privacy management
- Reduce user burden in app privacy management

CyLab — Carnegie Mellon University Security and Privacy Institute

USABLE PRIVACY.ORG — the usable privacy policy project