ABANDONED MOBILE APPS REPORT

Q2.2022

An analysis of abandoned apps across the Google and Apple app stores





TABLE OF CONTENTS

Key Stats	3-9
By App Store Analysis	10-13
Transparency Analysis	14-16
Country of Registry Analysis	17-23
App Store Category Analysis	24-26
Likely Child-Directed App Analysis 2	27-28
List Top 10 Apps by Store	29-31
Methodology and disclaimer	32-35

Abandoned Apps

Pixalate uses the date in which the app was last updated to determine the degree of apparent abandonment. For high-level data points, we consider an app to have a heightened risk of "abandonment" if it has **not been updated in at least two years** (as of the end of Q2 2022). However, this report also provides data showing different levels of apparent abandonment in six-month increments, up to apps that have not been updated in over five years.

Why is this important?

Outdated and abandoned applications are a potential security risk: vulnerabilities lurking in their code bases and dependencies may be discovered and go unpatched, leaving end-users at risk of attack.

KEY STATS: ABANDONED APPS IN Q2 2022

AS OF THE END OF Q2 2022: AS MEASURED BY PIXALATE



1.6M+ abandoned apps in Q2 2022.

Apple's number decreased (-29%) but Google's increased (+16%)



Apps registered in **Russia and China** are the **most likely to be abandoned** (42%) on the Google Play Store*



More abandoned apps (32%) than apps updated in the last 6 months (30%)



14k abandoned apps transmitted geo location in ad bid stream



306k+ "super abandoned" apps last updated 5+ years ago. 840k apps last updated 3+ years ago



37% of likely child-directed apps are abandoned (81k in Google, and 75k in Apple)



^{*} Among countries that rank in the top 12 based on total # of apps available for download

-29%

decrease in abandoned apps in the Apple App Store in Q2 vs. Q1 2022, according to Pixalate's data.

+16%

increase in abandoned apps in the Google Play Store in Q2 vs. Q1 2022, according to Pixalate's data.

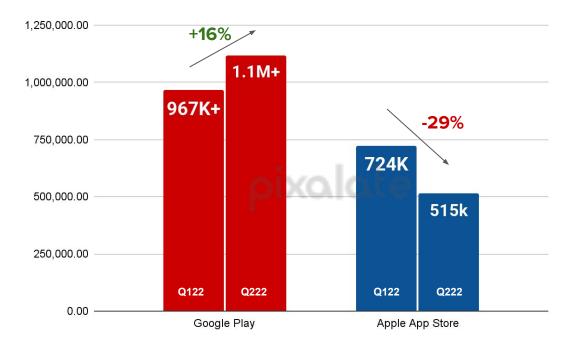


Want more app data? Schedule a demo: pixal.at/demo

Q2 2022: 1.6M+ ABANDONED APPS ACROSS GOOGLE, APPLE

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate



An app is considered "abandoned" if it has been 2+ years since its latest update



Q2 2022: MORE ABANDONED APPS (32%+) THAN RECENTLY UPDATED APPS (31%)

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate

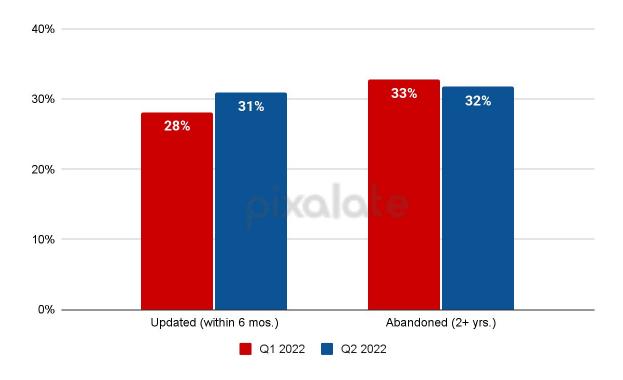
32%

Percentage of abandoned apps in Q2, slight decrease from 33% in Q1 2022, according to Pixalate's data.

70k fewer abandoned apps in Q2 than in Q1 2022, according to Pixalate's data



Want more app data? Schedule a demo: pixal.at/demo



LESS POPULAR APPS 2-4X MORE LIKELY TO BE 'ABANDONED'

AS OF THE END OF Q2 2022; GOOGLE PLAY STORE APPS; AS MEASURED BY PIXALATE

pixalate

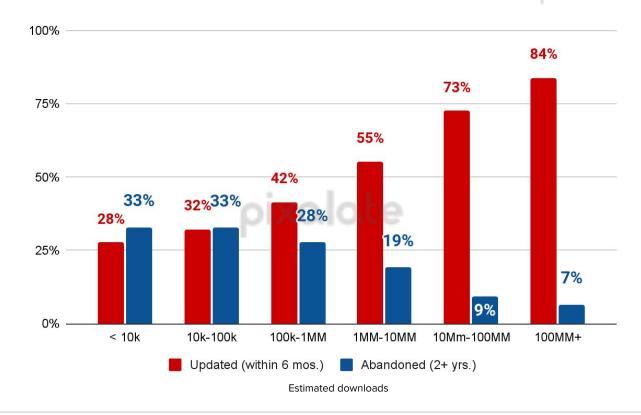
9%

of Google Play Store apps with 10MM-100MM downloads are abandoned, while 33% of apps with fewer than 10,000 estimated downloads are abandoned, according to Pixalate's data.

*Google Play Only



Want more app data? Schedule a demo: pixal.at/demo



ABANDONED APPS GOOGLE PLAY & APPLE APP STORE Q2 2022



306K+ "SUPER-ABANDONED" APPS (LAST UPDATE 5+ YEARS)

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

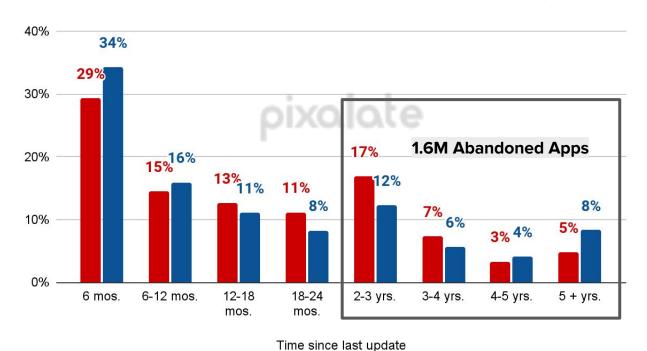
pixalate

8%

of Apple apps are "Super-Abandoned" (last update 5+ years), while that is 5% in Google Store, according to Pixalate's data.



Want more app data? Schedule a demo: pixal.at/demo





Apple App Store

Google Play



32%

There are 1.1MM (32%) abandoned apps (2+ years since last update) available for download in the Google Play Store as of Q2 2022, according to Pixalate's data

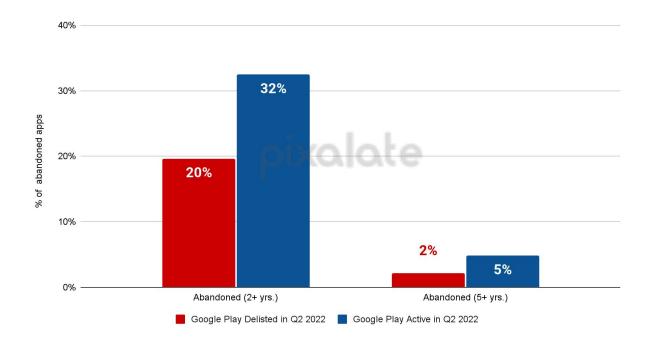


Want more app data? Schedule a demo: pixal.at/demo

GOOGLE PLAY STORE: ONLY 20% (30K+) APPS HAD BEEN ABANDONED (2y+) PRIOR TO DELISTING IN Q2

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate





30%

There are 515K (30%) abandoned apps (2+ years since last update) available for download in the Apple App Store as of Q2 2022, according to Pixalate's data

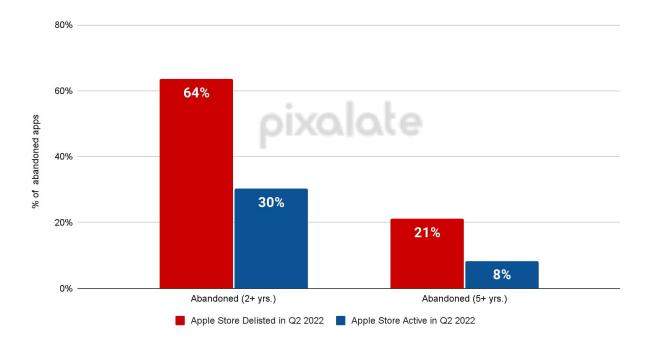


Want more app data? Schedule a demo: pixal.at/demo

APPLE STORE: 64% (280K+) APPS HAD BEEN ABANDONED (2y+) PRIOR TO DELISTING IN Q2

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate



ABANDONED APPS TRANSPARENCY ANALYSIS Q2 2022



23% OF ABANDONED APPS HAVE NO DETECTED PRIVACY POLICY

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

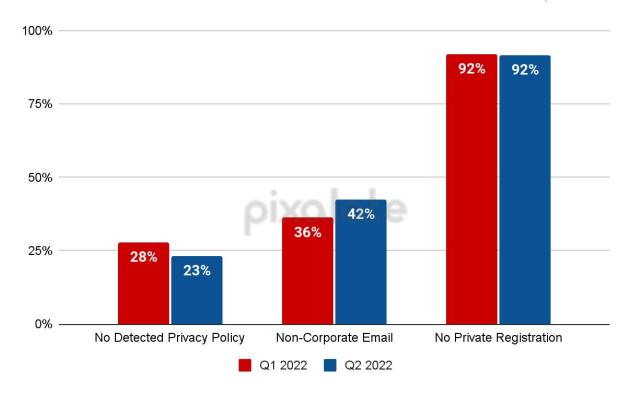
pixalate

380k+

There are 380k+ abandoned apps with undetected privacy policies as of Q2 2022 but that number has decreased since Q1



Want more app data? Schedule a demo: pixal.at/demo



6k

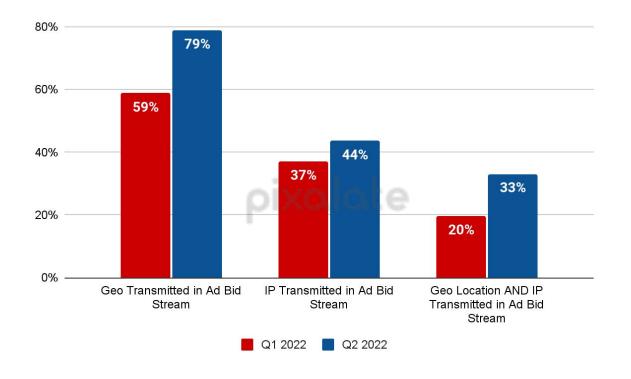
(33%) abandoned apps with ads transmitted IP address and end-user location in Ad Bid Stream, which represents an increase from 20% in Q1 to 33% (13% points) Q2 2022, according to Pixalate's data.



Want more app data? Schedule a demo: pixal.at/demo

14k+ (79%+) ABANDONED APPS WITH ADS TRANSMIT END-USER LOCATION IN AD BID STREAM, 20% INCREASE OVER Q1 2022

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE





ABANDONED APPS COUNTRY OF REGISTRY Q2 2022





TOP 12 COUNTRIES BASED ON TOTAL APPS SHOWN IN ORDER; AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate

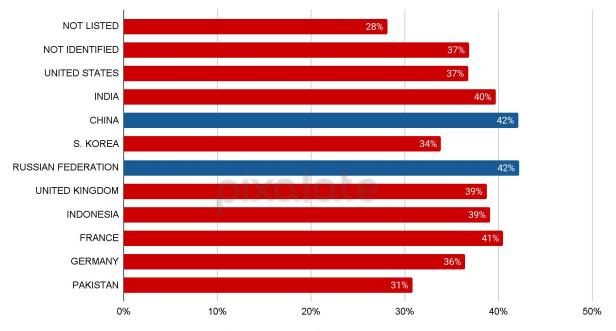


42%

Of Google Play Store apps registered in China and Russia were abandoned as of the end of Q2 2022



Want more app data? Schedule a demo: pixal.at/demo



% of abandoned apps (2+ yrs. since last update)



36%

Of Apple App Store apps registered in Russia were abandoned as of the end of Q2 2022

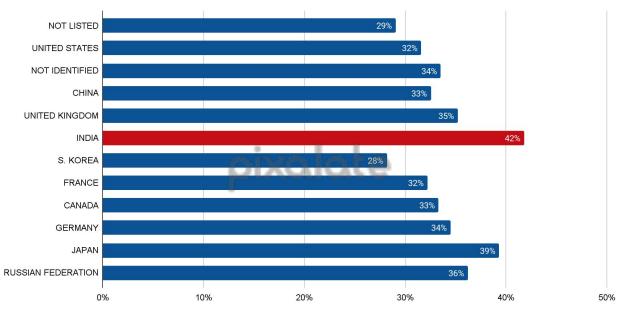


Want more app data? Schedule a demo: pixal.at/demo

APPLE: 42% OF APPS REGISTERED IN INDIA ARE ABANDONED

TOP 12 COUNTRIES BASED ON TOTAL APPS SHOWN IN ORDER; AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate



% of abandoned apps (2+ yrs. since last update)



35% OF APPS REGISTERED IN THE U.S. ARE ABANDONED

GOOGLE + APPLE APP STORES COMBINED: AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE



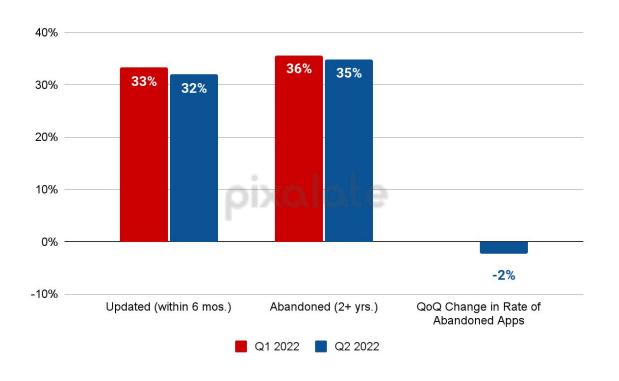


-1%

decrease in rate of abandoned U.S.-registered apps from Q1 to Q2 2022 across Google and Apple app stores combined, according to Pixalate's data



Want more app data? Schedule a demo: pixal.at/demo







-1%

decrease in rate of abandoned UK-registered apps from Q1 to Q2 2022 across Google and Apple app stores combined, according to Pixalate's data

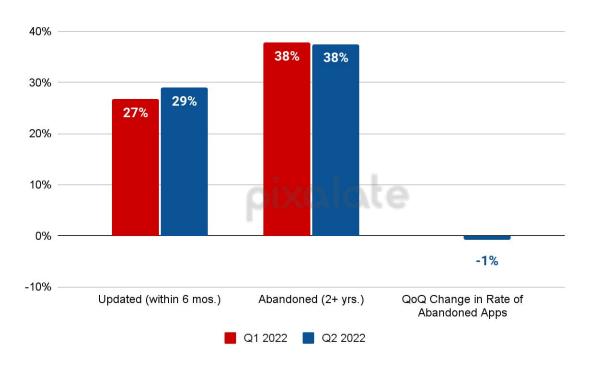


Want more app data? Schedule a demo: pixal.at/demo

38% OF APPS REGISTERED IN THE U.K. ARE ABANDONED

GOOGLE + APPLE APP STORES COMBINED; AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate







-4%

decrease in rate of abandoned China-registered apps from Q1 to Q2 2022 across Google and Apple app stores combined, according to Pixalate's data

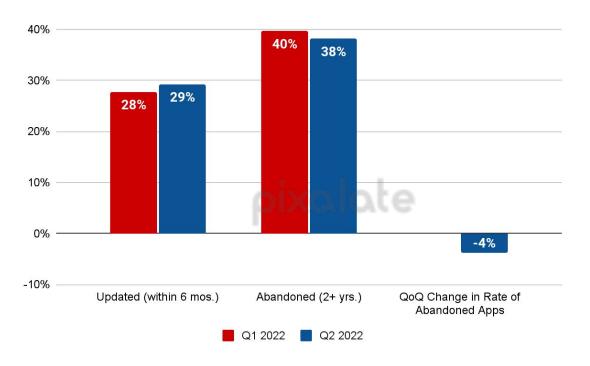


Want more app data? Schedule a demo: pixal.at/demo

38% OF APPS REGISTERED IN CHINA ARE ABANDONED

GOOGLE + APPLE APP STORES COMBINED; AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate







GOOGLE + APPLE APP STORES COMBINED; AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE



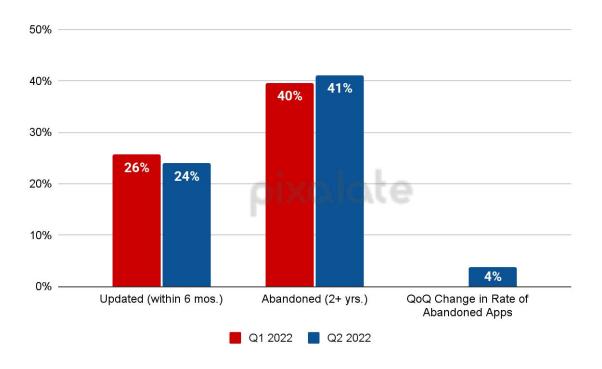


4%

increase in rate of abandoned Russian-registered apps from Q1 to Q2 2022 across Google and Apple app stores combined, according to Pixalate's data



Want more app data? Schedule a demo: pixal.at/demo



ABANDONED APPS - Q2 2022 APP STORE CATEGORIES





Shopping, Food and Entertainment

The least-abandoned categories in Google Store, according to Pixalate's data.

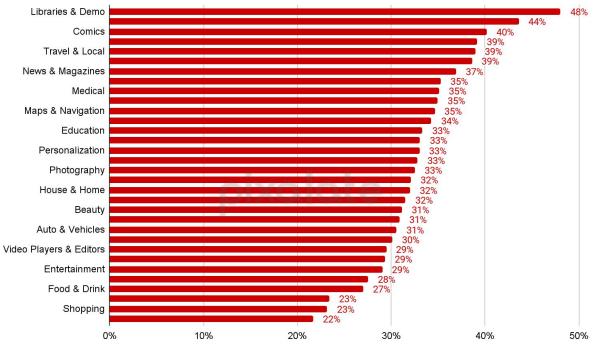


Want more app data? Schedule a demo: pixal.at/demo

GOOGLE STORE: LIBRARIES, COMICS & TRAVEL MOST-ABANDONED CATEGORIES

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate



% of abandoned apps (2+ yrs. since last update)





Graphics, Developer Tools, and Finance

The least-abandoned categories in Apple Store, according to Pixalate's data.

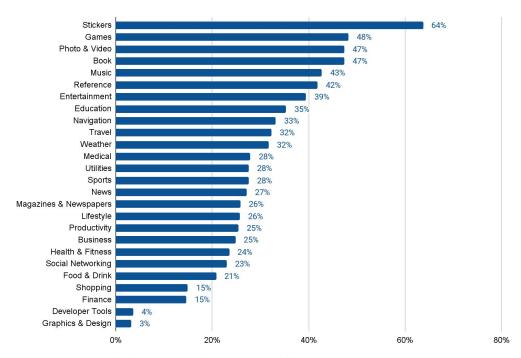


Want more app data? Schedule a demo: pixal.at/demo

APPLE STORE: STICKERS, GAMES & PHOTO/VIDEO MOST-ABANDONED CATEGORIES

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

pixalate



% of abandoned apps (2+ yrs. since last update)



ABANDONED APPS - Q2 2022 LIKELY CHILD-DIRECTED APPS



APPLE: 50% OF LIKELY-CHILD DIRECTED APPS ARE ABANDONED

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

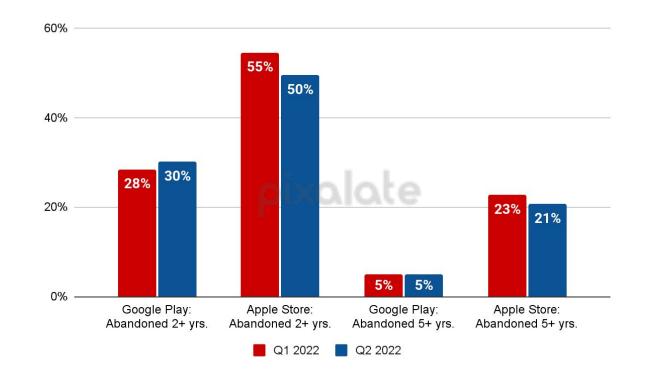
pixalate

45k+

Likely-child directed apps are "super-abandoned", meaning no update in 5+ years, as of the end of Q222. That number was 37k in Q122, according to Pixalate's data.



Want more app data? Schedule a demo: pixal.at/demo



ABANDONED APPS - Q2 2022 TOP 10 LIST BY STORE



GOOGLE STORE: TOP 10 ABANDONED APPS (by downloads)

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE



App Id	Title		Downloads	Developer	Release Current Version
com.dsi.ant.service.socket	ANT Radio Service		1000,000,000	ANT+	2020-06-15
com.dsi.ant.plugins.antplus	ANT+ Plugins Service	•\$⁺	1000,000,000	ANT+	2020-06-25
com.samsung.knox.securefolder	Secure Folder	P	1000,000,000	Samsung Electronics Co., Ltd.	2018-01-30
com.sec.android.app.launcher	Samsung One UI Home	ŝ	1000,000,000	Samsung Electronics Co., Ltd.	2019-09-15
com.huawei.hwid	Huawei Mobile Services	HUAWEI	500,000,000	Huawei Internet Services	2020-05-14
com.huawei.phoneservice	HiCare	2	500,000,000	Huawei Internet Services	2020-03-10
com.huawei.android.thememanager	Themes		500,000,000	Huawei Technologies Co., Ltd.	2020-03-31
com.huawei.himovie.overseas	HUAWEI Video	>	500,000,000	Huawei Internet Services	2020-03-24
air.com.hypah.io.slither	slither.io	2.	500,000,000	Lowtech Studios	2019-12-20
com.sec.pcw	Samsung Link (Terminated)	0	500,000,000	Samsung Electronics Co., Ltd.	2016-11-06

APPLE STORE: TOP 10 ABANDONED APPS (by user ratings)

À

AS OF THE END OF Q2 2022; AS MEASURED BY PIXALATE

App Id	Title	User Ratings	Developer	Release Current Version
915061235	iTunes Store	715244	Apple Inc.	2019-01-11
510461758	Bike Race: Free Style Games	540767	Top Free Games	2019-12-09
883338188	Evernote Scannable	364476	Evernote	2020-06-22
1093402481	Color·多彩手帐-多彩日记本	322107	Hainan Daily headlines Technology Co., Ltd	2018-01-09
561416817	Clumsy Ninja	319933	NaturalMotion Games Limited	2018-05-24
1455330046	Archery Go - Bow&Arrow King	280744	Solo X Technology Limited	2019-12-06
546821797	Photo Editor-	249133	Axiem Systems	2019-01-07
1402499966	<u>Bumper.io</u>	197280	Voodoo	2020-02-26
1440430680	Gacha Life	182293	Lunime Inc.	2019-06-24
1048786895	SportsSignUp Play	Sports Signup 147521	Sports Illustrated Play LLC	2019-12-05

METHODOLOGY & DISCLAIMER



METHODOLOGY

General

Pixalate's data science and analyst team analyzed apps and app developers from the Google Play Store and Apple App Store available to download during Q2 2022 (April 1 through June 30, 2022).

Pixalate uses the date of release of the current app version to determine the degree of apparent abandonment. For high-level data points, we consider an app to have a heightened risk of "abandonment" if it has not been updated in at least two years (as of the end of Q2 2022). However, this report also provides data showing different levels of apparent abandonment in six-month increments, up to apps that have not been updated in over five years. Updated apps are defined as those apps that have been updated within the last six months, and were active during Q2 2022.

Country of Registration

The country of registration for a given app is determined only if a) the app has a physical address published in its app store page, or otherwise b) from the registrant physical address of the publisher domain listed in the app store page excluding privately registered ones. If none is available, the physical address associated with an app cannot be determined. Sometimes, the same developer may list different countries of registration for different apps.

Downloads and user ratings

Top 10 lists referred to within this report are determined based on the published number of downloads (Google Play Store) or user ratings (Apple App Store); Apple Store does not provide download values; data derived from crawls of the respective app stores performed by Pixalate or one of Pixalate's third party licensors.

METHODOLOGY (CONT.)

Likely Child-Directed Apps

Pixalate uses automated processing derived from a combination of signals (which at times is coupled with human intervention) to determine if an app is likely to be child-directed, including the app's category, sub-category, content rating, and contextual signals (specifically, child-related keywords in app's title or the app's description). Pixalate also leverages manual app review by the Pixalate Trust & Safety Advisory Board. See our full methodology for more.



31

DISCLAIMER

The content of this report reflects Pixalate's opinions with respect to the factors Pixalate believes may be useful to the digital media industry. Any data shared is grounded in Pixalate's proprietary technology and analytics, which Pixalate is continuously evaluating and updating. Any references to outside sources should not be construed as endorsements. Pixalate's opinions are just that, opinions, which means that they are neither facts nor quarantees.

The mere fact an app does not appear to have been updated in a certain period of time does not necessarily mean that such app's publisher has abandoned the app, or is otherwise violating any policy, best practice, or regulation. Instead, we are merely noting the apparent inactivity and rendering an opinion that this apparent absence of updates may be suggestive of heightened risks to end users and other data subjects.

Pixalate is sharing this data not to impugn the standing or reputation of any entity, person or app, but, instead, to render opinions and report trends pertaining to apps available for download via the official Apple App Store and Google Play Store.

Apple and the Apple logo are trademarks of Apple Inc. Android and Google Play are trademarks of Google LLC. "Android robot" by Google LLC is licensed under CC BY 3.0.

32

ABOUT PIXALATE

Pixalate is the market-leading fraud protection, privacy, and compliance analytics platform for Connected TV (CTV) and Mobile Advertising. We work 24/7 to guard your reputation and grow your media value. Pixalate offers the only system of coordinated solutions across display, app, video, and OTT/CTV for better detection and elimination of ad fraud. Pixalate is an MRC-accredited service for the detection and filtration of sophisticated invalid traffic (SIVT) across desktop and mobile web, mobile in-app, and OTT/CTV advertising. www.pixalate.com



Stay Connected



twitter.com/pixalateinc



linkedin.com/company/pixalate/



facebook.com/pixalate

THANK YOU!



info@pixalate.com



pixalate.com



