ABANDONED MOBILE APPS Q4 2023:
Apple App Store

Research Report

An analysis of abandoned apps, apps with no updates in +2yrs, in the Apple App Store in Q4 2023
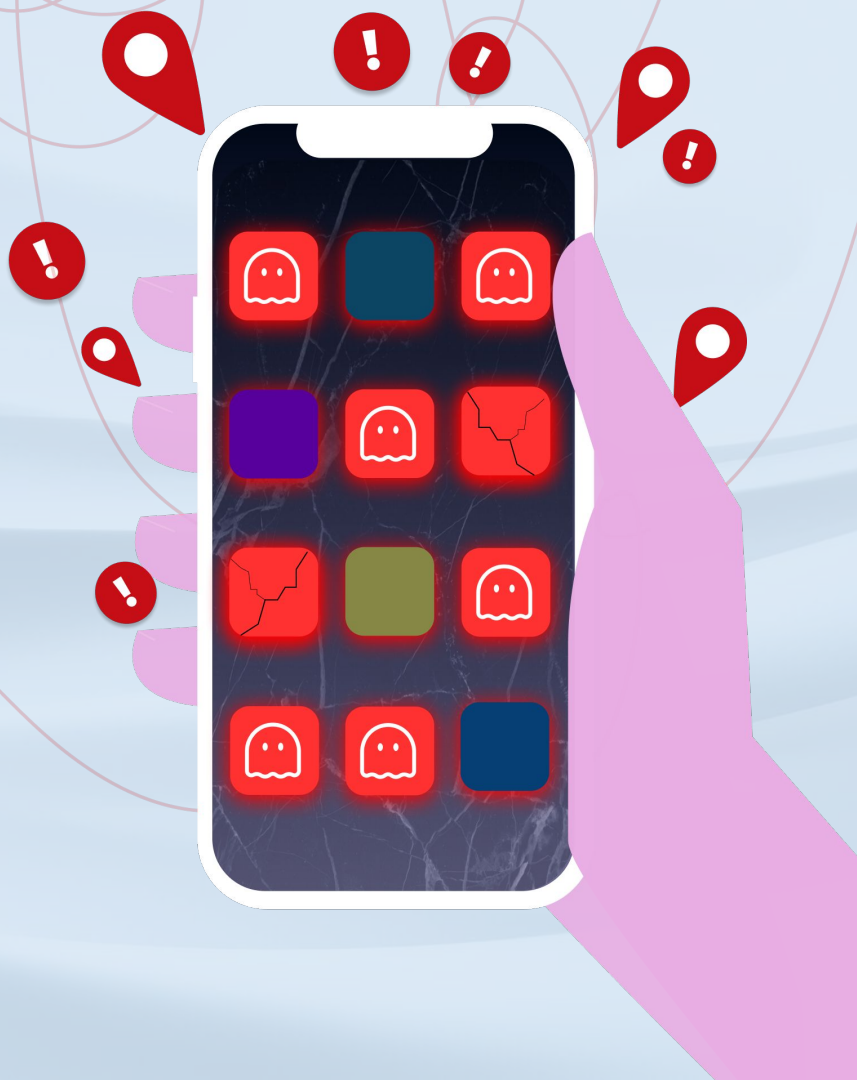
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Abandoned Apps

Pixalate uses the date in which an app was last updated to determine the degree of apparent abandonment. For high-level data points, Pixalate considers 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 Q4 2023). 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 more than four years ("super-abandoned" apps).

Why is this important?

Outdated and abandoned apps are potential privacy and data security risks because vulnerabilities may go unpatched, user data collection and transmission may continue if an app is remains installed on a user device. This may expose users to privacy risks and the ad industry to hidden compliance violations by way of outdated privacy policies, terms and conditions, or app behaviors.

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581k — **17% YoY**

Abandoned apps

Number abandoned apps (not updated in +2yrs) in the Apple app store as of the end of Q4 2023, 17% more than the prior year.

74k — **24% YoY**

Abandoned apps with ads

Total number of abandoned apps in the Apple app store with advertising (based on app-ads.txt data) increased 24% YoY.

3k

Russian registered apps are abandoned

39% (3k) of apps registered in Russia are abandoned as of Q4 2023

71k — **4% YoY**

Likely child-directed apps are abandoned

# of likely child-directed apps that are abandoned (out of 149k+ total likely child-directed apps in the Apple app store)

Pixalate found 581K abandoned apps

17% increase YoY

from 496k in Q4 2022

Apps not updated in +2yrs) available to download in the Apple app store as of the end of Q4 2023
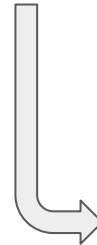
74K of those have advertising in app

24% more than the year prior

229K apps haven't been updated in 5+ years (fun fact)

3K abandoned apps share user GPS location data with advertisers

39% of abandoned apps are registered in Russia
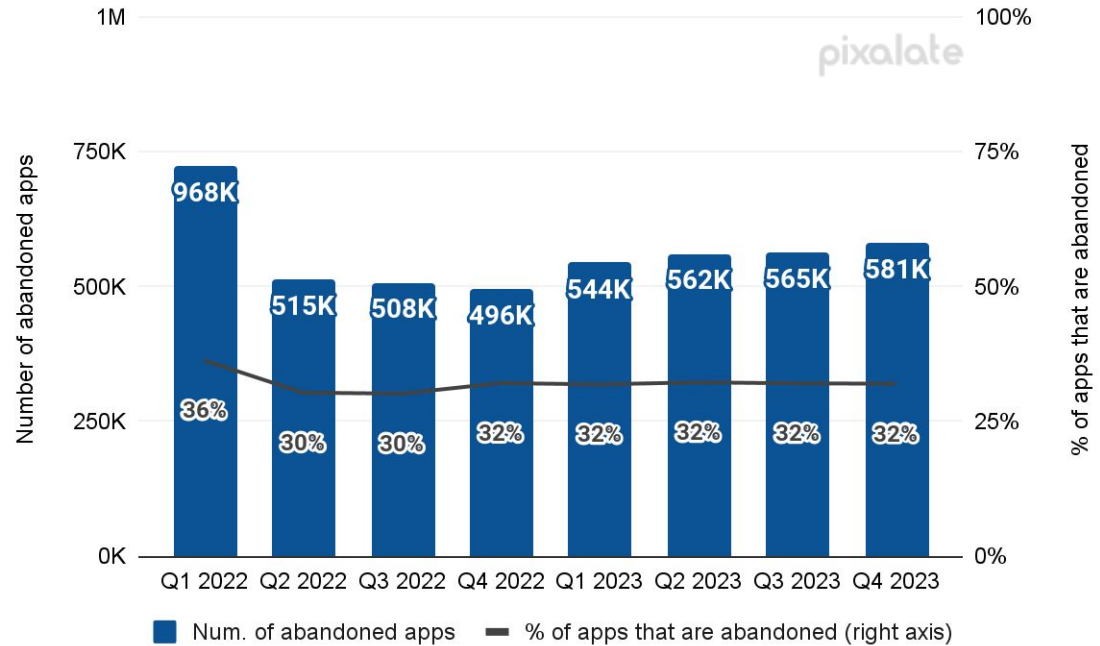
Vs.

31% of abandoned apps are registered in U.S.A.

581K ABANDONED MOBILE APPS IN THE APPLE APP STORE

APPLE APP STORE; QUARTERLY DATA FROM Q1 2022 TO Q4 2023; AS MEASURED BY PIXALATE

32%

of the apps in the Apple App Store are abandoned (have not been updated in 2+ yrs), as of Q4 2023.

17%

The total number abandoned apps in the Apple App Store increased 17% YoY (from 496k in Q4 2022 to 581k in Q4 2023).

Number of abandoned apps / % of apps that are abandoned

	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Num. of abandoned apps	968K	515K	508K	496K	544K	562K	565K	581K
% of apps that are abandoned	36%	30%	30%	32%	32%	32%	32%	32%

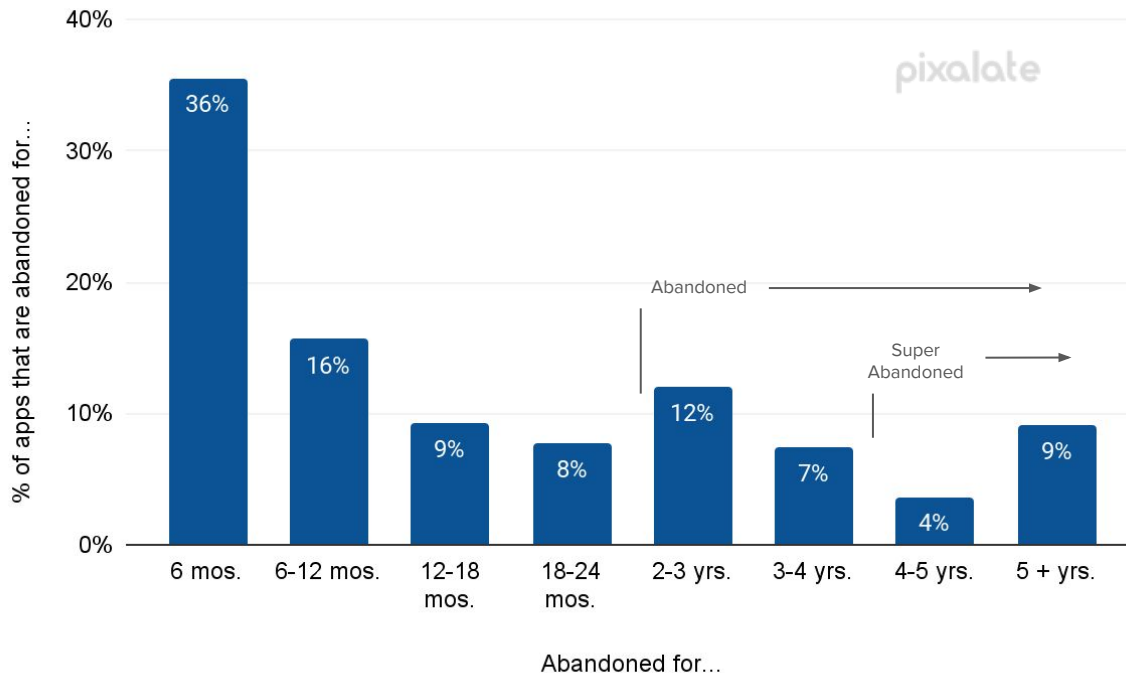■ Num. of abandoned apps — % of apps that are abandoned (right axis)

13%

% of *"Super-abandoned"* apps (not updated in +4yrs) available to download in the Apple app store as of the end of Q4, 2023, according to Pixalate's data.

229k+ "SUPER-ABANDONED" APPS (LAST UPDATE 4+ YEARS)

APPLE APP STORE; QUARTERLY DATA FROM Q1 2022 TO Q4 2023; AS MEASURED BY PIXALATE

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Abandoned →

Super Abandoned →

% of apps that are abandoned for...

Abandoned for...	%
6 mos.	36%
6-12 mos.	16%
12-18 mos.	9%
18-24 mos.	8%
2-3 yrs.	12%
3-4 yrs.	7%
4-5 yrs.	4%
5 + yrs.	9%

74K ABANDONED APPS HAVE ADVERTISING, Q4 2023

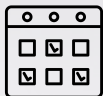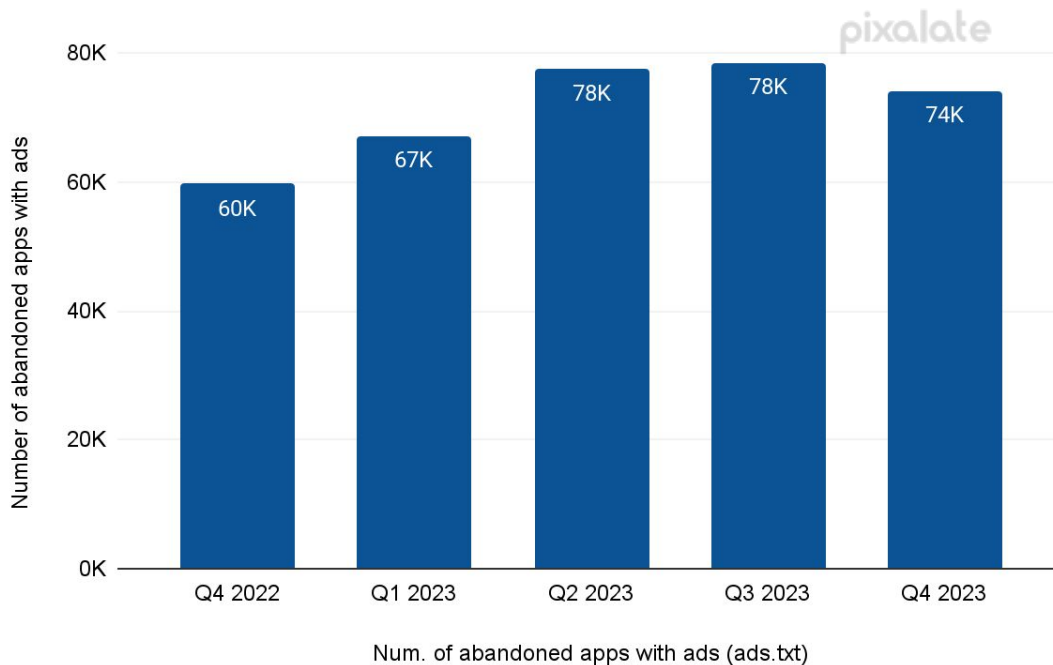**APPLE APP STORE; AS OF THE END OF Q4 2023; AS MEASURED BY PIXALATE**

24%

The total number of abandoned apps with ads in the Apple app store increased 24% YoY (from 60k in Q4 2022 to 74k in Q4 2023)

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

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Number of abandoned apps with ads

80K	
60K	
40K	
20K	
0K	

Q4 2022 — 60K
Q1 2023 — 67K
Q2 2023 — 78K
Q3 2023 — 78K
Q4 2023 — 74K

Num. of abandoned apps with ads (ads.txt)

2%

% of global monthly open programmatic ad spend associated with abandoned apps (not updated in +2yrs.) as of Q4, 2023 in the Apple app store, according to Pixalate's data.
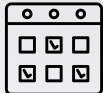
Want more data?
Schedule a demo:
pixal.at/demo

$4.3MM ESTIMATED MONTHLY AD SPEND ON ABANDONED APPS

APPLE APP STORE; AS OF THE END OF Q4 2023; AS MEASURED BY PIXALATE

98%

$230MM
Estimated Ad Spend associated with **non-abandoned apps**

2%

$4.3MM
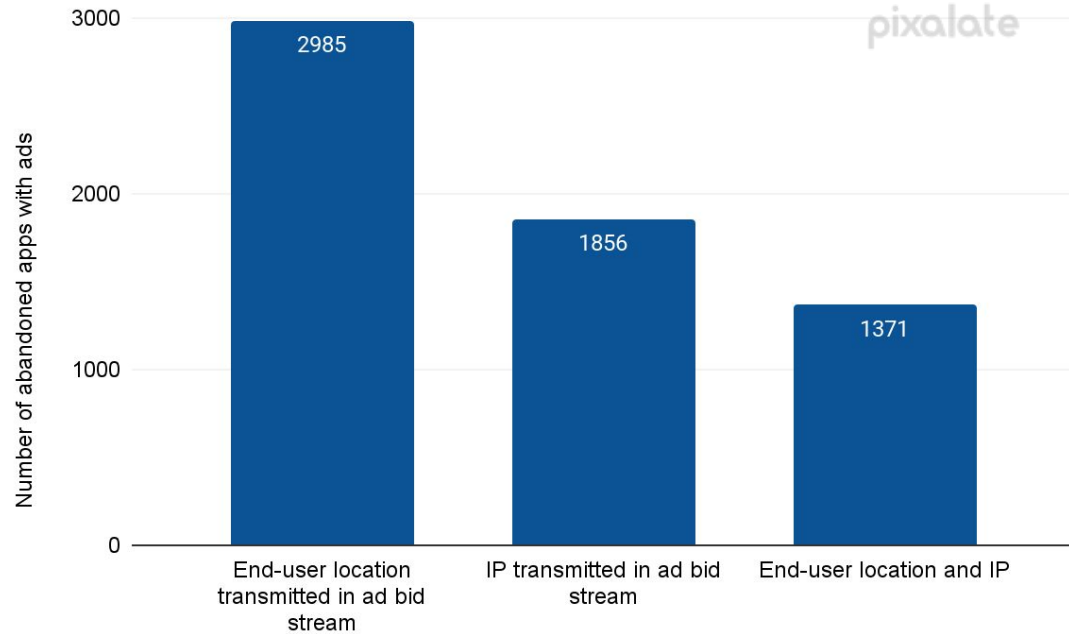Estimated Ad Spend associated with **abandoned apps**
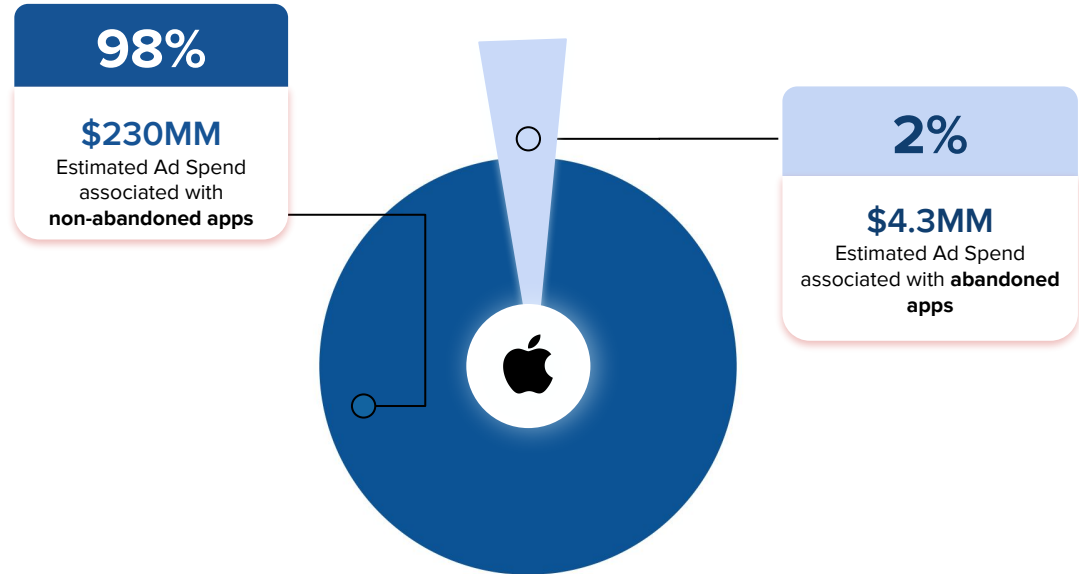
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1.4k

number of abandoned apps that transmitted end-user location **and** user IP address in open programmatic advertising bid stream, according to Pixalate's data.

See Methodology Section for complete definitions

3K ABANDONED APPS SHARED USER LOCATION DATA IN ADVERTISING BID STREAM

APPLE APP STORE; AS OF THE END OF Q4 2023; AS MEASURED BY PIXALATE

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(Bar chart — Number of abandoned apps with ads)

Category	Value
End-user location transmitted in ad bid stream	2985
IP transmitted in ad bid stream	1856
End-user location and IP	1371

ABANDONED APPS
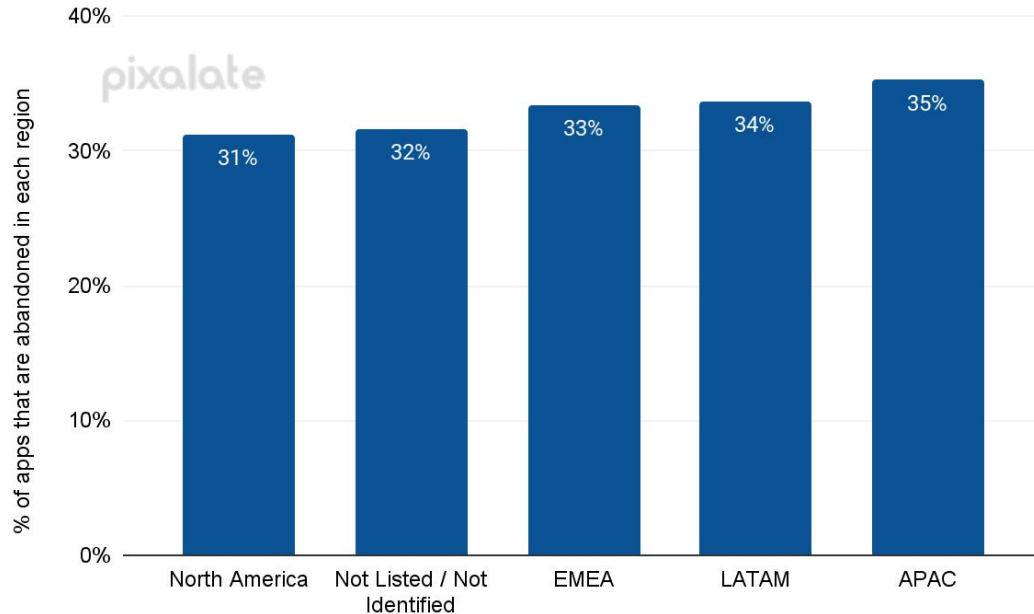## DEVELOPER COUNTRY
Q4 2023

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35%

% of apps registered in APAC are abandoned (not updated in +2yrs.) as of the end of Q4 2023, according to Pixalate's data.

Region uses the developer country of registration

APPS REGISTERED IN NORTH AMERICA ABANDONED AT THE LOWEST RATE OF ANY REGION

**APPLE APP STORE; AS OF THE END OF Q4 2023; AS MEASURED BY PIXALATE**

Bar chart — % of apps that are abandoned in each region:
- North America: 31%
- Not Listed / Not Identified: 32%
- EMEA: 33%
- LATAM: 34%
- APAC: 35%

31%

% of apps registered in the US that are abandoned as of the end of Q4 2023, according to Pixalate's data.

Country *uses the developer country of registration*

39% OF RUSSIAN REGISTERED APPS ARE ABANDONED

APPLE APP STORE; AS OF THE END OF Q4 2023; AS MEASURED BY PIXALATE
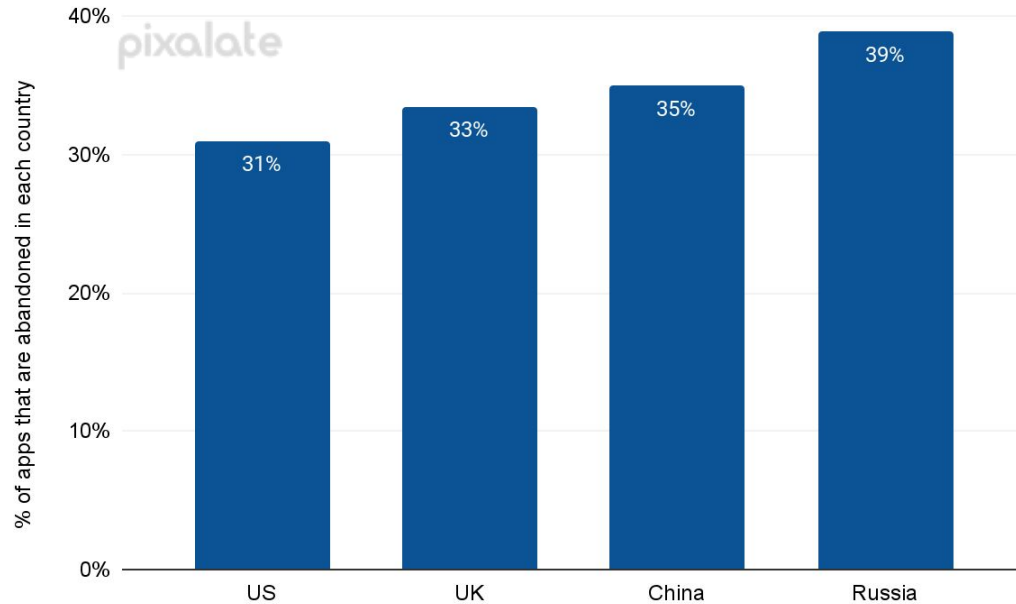
ABANDONED APPS
LIKELY CHILD-DIRECTED
Q4 2023

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48% OF LIKELY CHILD-DIRECTED APPS ARE ABANDONED

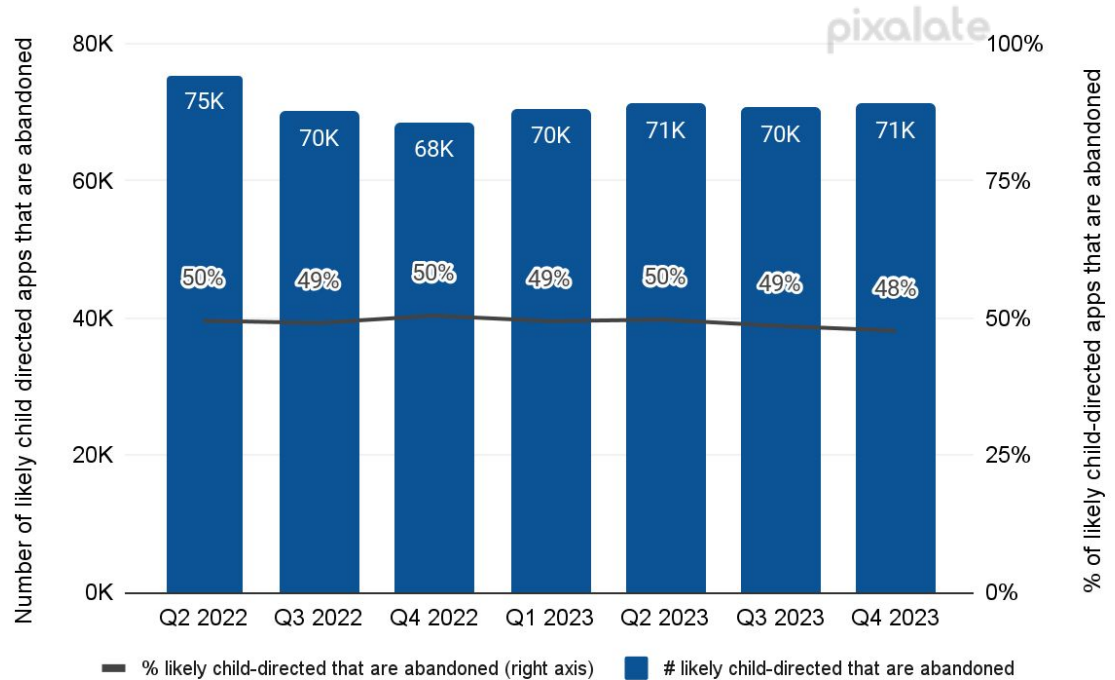APPLE APP STORE; AS OF THE END OF Q4 2023; AS MEASURED BY PIXALATE

71k

of likely child-directed apps that are abandoned (out of 149k total likely child-directed apps available to download in the Apple app store), according to Pixalate's data

4%

The total likely child-directed apps that are abandoned available to download in the Apple app store increased 4% YoY (from 68k in Q4 2022 to 71k in Q4 2023)

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Number of likely child directed apps that are abandoned / **% of likely child-directed apps that are abandoned**

	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
# abandoned	75K	70K	68K	70K	71K	70K	71K
% abandoned	50%	49%	50%	49%	50%	49%	48%

— % likely child-directed that are abandoned (right axis)   ■ # likely child-directed that are abandoned

METHODOLOGY & DISCLAIMER

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METHODOLOGY & DISCLAIMER

General

Pixalate's data science and analyst team analyzed apps from the Apple App Store from Q1 2022 to Q4 2023. Data is derived from crawls of the respective app stores performed by Pixalate or one of Pixalate's third party licensors.

Abandoned Apps

Pixalate uses the date of release of the current app version to determine the degree of apparent abandonment. For high-level data points, Pixalate considers 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 Q4 2023). 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 Q4 2023. "Active" means the app was available for download.

Ads.txt

The ads.txt initiative from the IAB Tech Lab was launched with a mission to "Increase transparency in the programmatic advertising ecosystem" by allowing publishers and other traffic rights owners "to publicly declare the companies they authorize to sell their digital inventory" with a primary goal of reducing app misrepresentation, or "spoofing."

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.

Estimated Ad Spend

Pixalate calculates estimated monthly programmatic ad spend through statistical models that incorporate programmatic monthly active users (MAU), the average session duration per user, the average CPM for the category of a given app, and ad density. It is expressed in USD.

METHODOLOGY & DISCLAIMER

Likely Child-Directed Apps

Pixalate uses automated processing derived from a combination of signals to determine if an app is likely to be child-directed, as defined under the Children's Online Privacy Protection Act (COPPA). This includes 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 reviews of its Trust & Safety Advisory Board, reasonably conducted in-line with the express provisions of COPPA and guidelines of the Federal Trade Commission See our full methodology for more.

Transmits IPv4/IPv6 Internet Protocol (IP) Address in ad bid stream

Pixalate examines the traffic associated with an app and determines if either an IPv4 or IPv6 address is being transmitted through the advertising pipeline

Transmits Location in ad bid stream

Pixalate examines the traffic associated with an app and determines if the end-users' GPS coordinates are being transmitted through the advertising pipeline that exposes granular information about the user's location.

DISCLAIMER

The content of this report reflects Pixalate's opinions with respect to the factors that Pixalate believes can 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 guarantees.

Pixalate is sharing this data not to impugn the standing or reputation of any entity, person or app, but, instead, to report findings and trends pertaining to the time period studied.

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 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 CTV advertising.

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