



DELISTED CTV APPS REPORT

Q1.2023

An analysis of delisted apps across the Roku and Amazon Fire TV app stores



Delisted Apps



TABLE OF CONTENTS

Key Stats	3-5
Programmatic Ads analysis	6-11
Roku and Amazon Fire TV Analysis	12-16
Transparency Analysis	17-21
Country of Registry Analysis	22-25
Category Analysis	26-30
List Top 10 Apps by Store	31-33
Methodology and disclaimer.....	32-35

App Delistings

An app is considered delisted if the app and its store ID existed in an app store in one month but was removed in the following month. Delisted apps are calculated at the month granularity level, i.e. all the app removals are grouped together according to the month they occurred. Delisted apps do not reflect the initiator of the delisting action, i.e. Roku, Amazon, or the app developer. Also, if an app is delisted in a given month but is later added back to the store, it will be counted as delisted only until the month it was added back.

App Delistings in Amazon Fire TV

CTV apps marked as delisted for Fire TV no longer have the following condition in their site information “working on Fire TV.” In this context, delisted means that the CTV app is no longer available: (i) via the Fire TV app store, or (ii) for Fire TV generally.

KEY STATS: DELISTED CTV APPS IN Q1 2023

ROKU + AMAZON FIRE TV CTV APP STORES; AS MEASURED BY PIXALATE



2k+ delisted apps across Roku (1.9k+) and Amazon Fire TV (28) in Q1 2023.



59% YoY increase in **delisted from Roku** (+476% QoQ) and **49% YoY** decrease in **Amazon Fire TV** (-39% QoQ)



\$3.3MM+ estimated ad spend on **delisted apps** in Q1 2023 in Roku (no Fire TV apps with ads were delisted)



\$992k+ estimated ad spend on delisted apps across **Education and Kids & Family** categories in Q1 2023 in Roku store



46% of delisted apps in Roku across **Education and Kids & Family** categories in Q1 2023.



25% of delisted apps had no identifiable country of registry in Q1 2023, while 46% were registered in the U.S.



54%

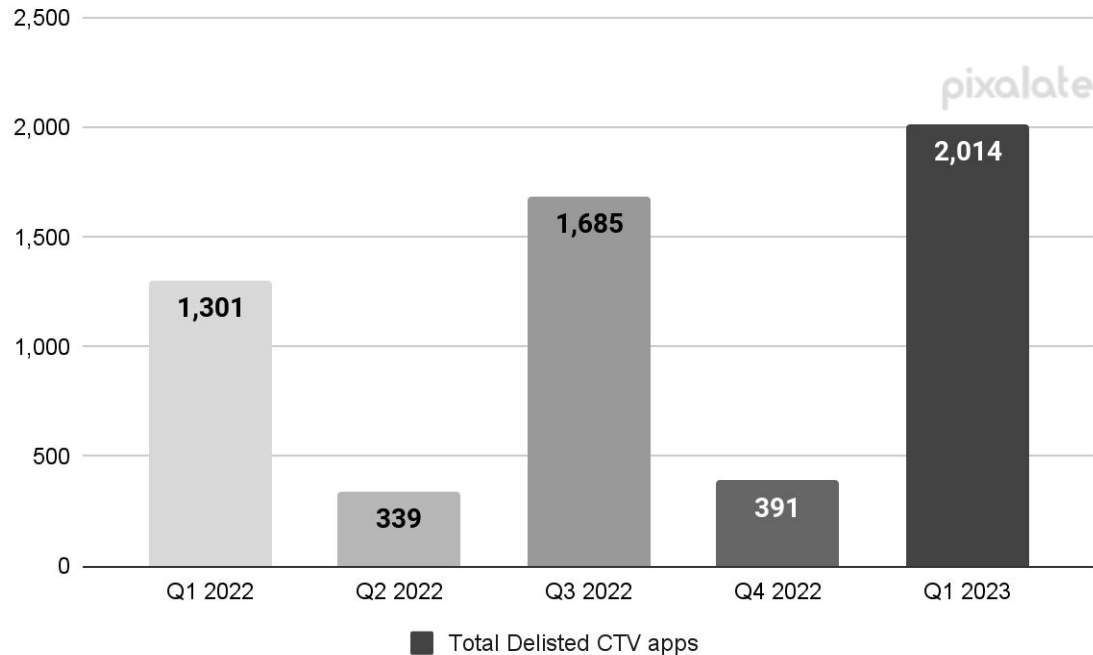
YoY change in delisted apps across the Roku and Amazon Fire TV stores, from Q1 2022 to Q1 2023, according to Pivalate's data.



Want to see all the apps? Schedule a demo: pival.at/demo

2k+ CTV APPS DELISTED ACROSS ROKU, FIRE TV IN Q1 2023

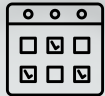
ROKU + AMAZON FIRE TV CTV APP STORES COMBINED; QUARTERLY DATA 2022-2023; AS MEASURED BY PIXALATE





<1%

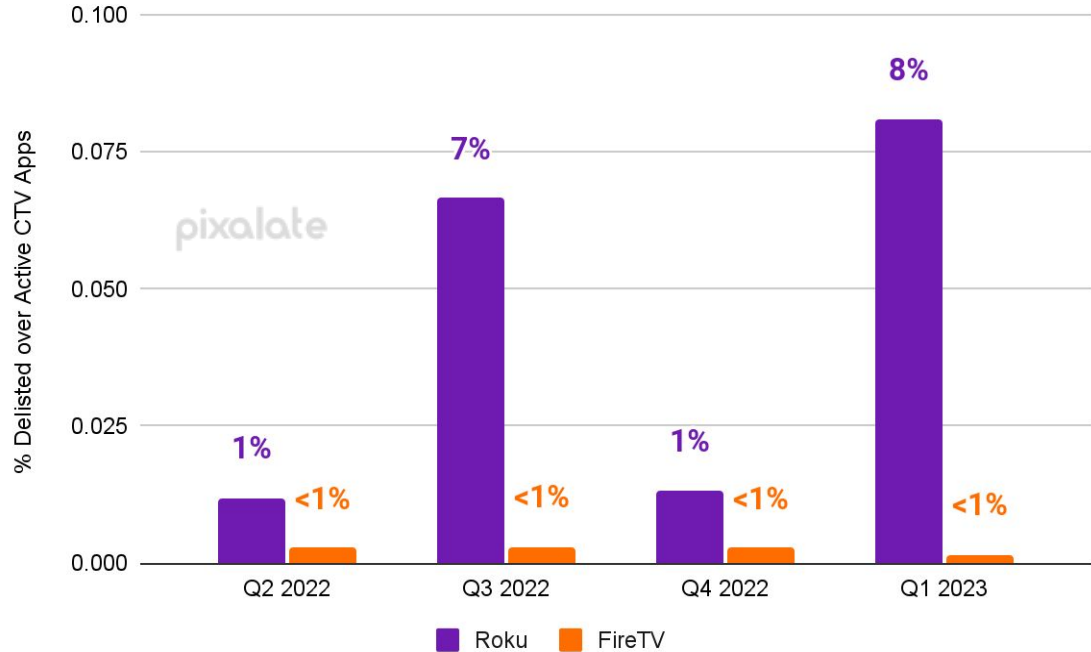
of apps in the Amazon Fire TV store were delisted in Q1 2023, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

8% OF CTV APPS WERE DELISTED FROM ROKU IN Q1 2023

ROKU + AMAZON FIRE TV CTV APP STORES; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE





DELISTED CTV APPS - Q1 2023

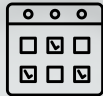
OPEN PROGRAMMATIC ADS





502%

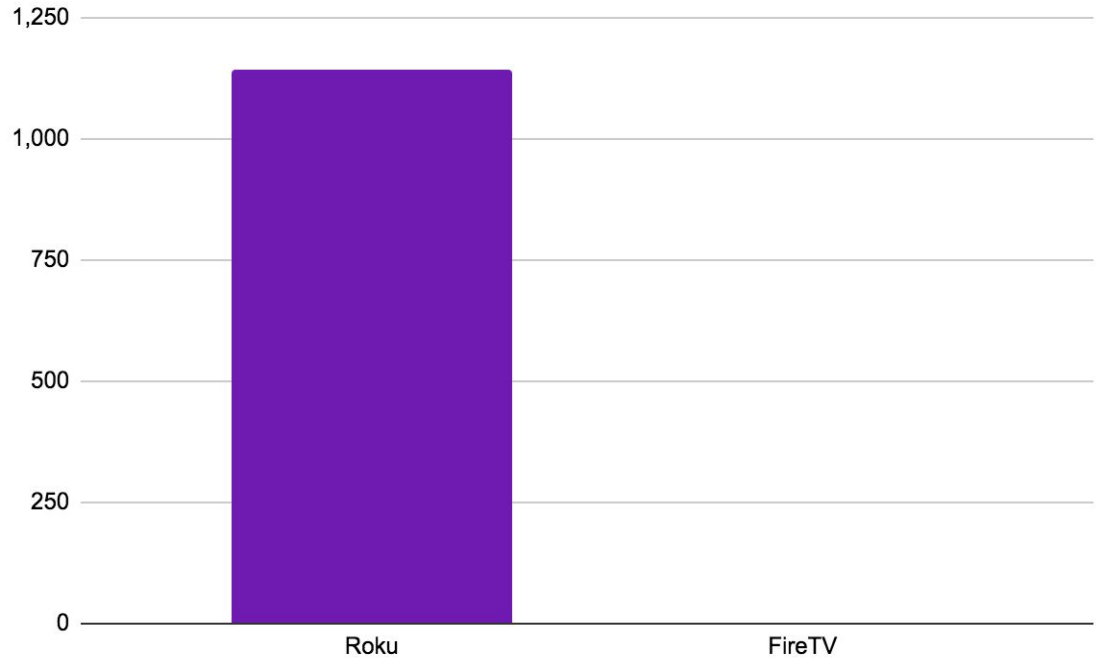
YoY change in the number of delisted apps in the Roku store that had programmatic advertising detected, from 190 in Q1 2022 to 1.1k in Q1 2023, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

1.1k+ DELISTED ROKU APPS HAD OPEN PROGRAMMATIC ADS IN Q1

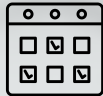
ROKU + AMAZON FIRE TV CTV APP STORES; AS OF THE END Q1 2023; AS MEASURED BY PIXALATE





0%

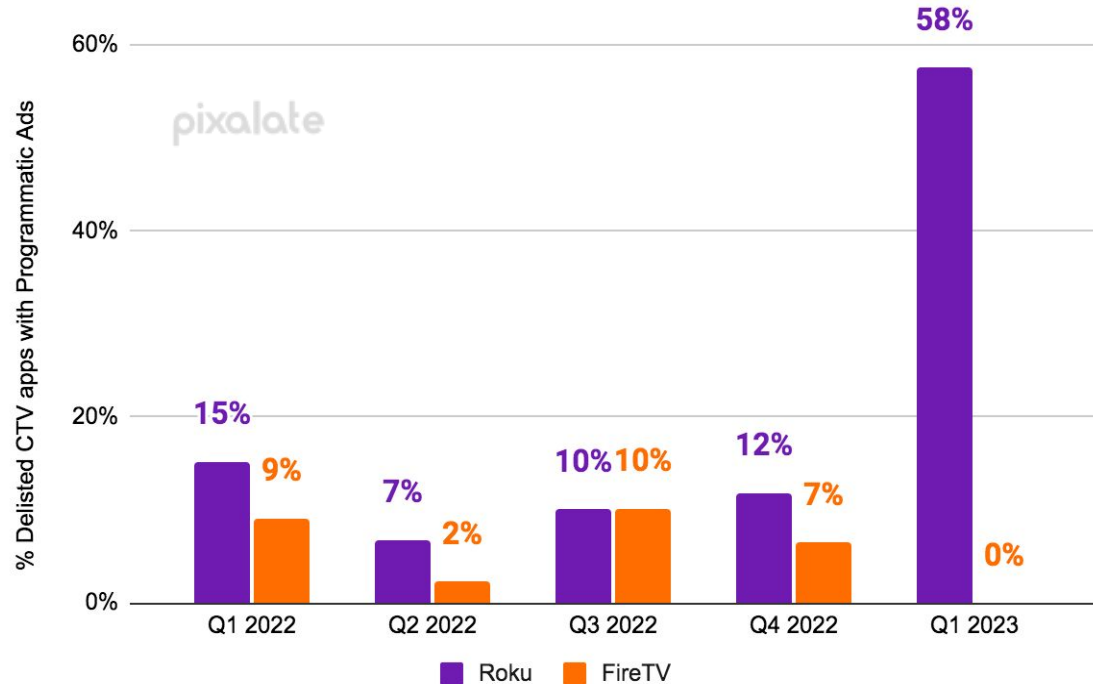
of delisted Amazon Fire TV apps had open programmatic advertising detected in Q1 2023, according to Pixelate's data.



Want to see all the apps? Schedule a demo: pixel.at/demo

ROKU: 58% OF DELISTED APPS HAD OPEN PROGRAMMATIC ADS

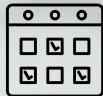
ROKU + AMAZON FIRE TV CTV APP STORES; QUARTERLY DATA 2022-2023; AS MEASURED BY PIXELATE





\$3.3MM+

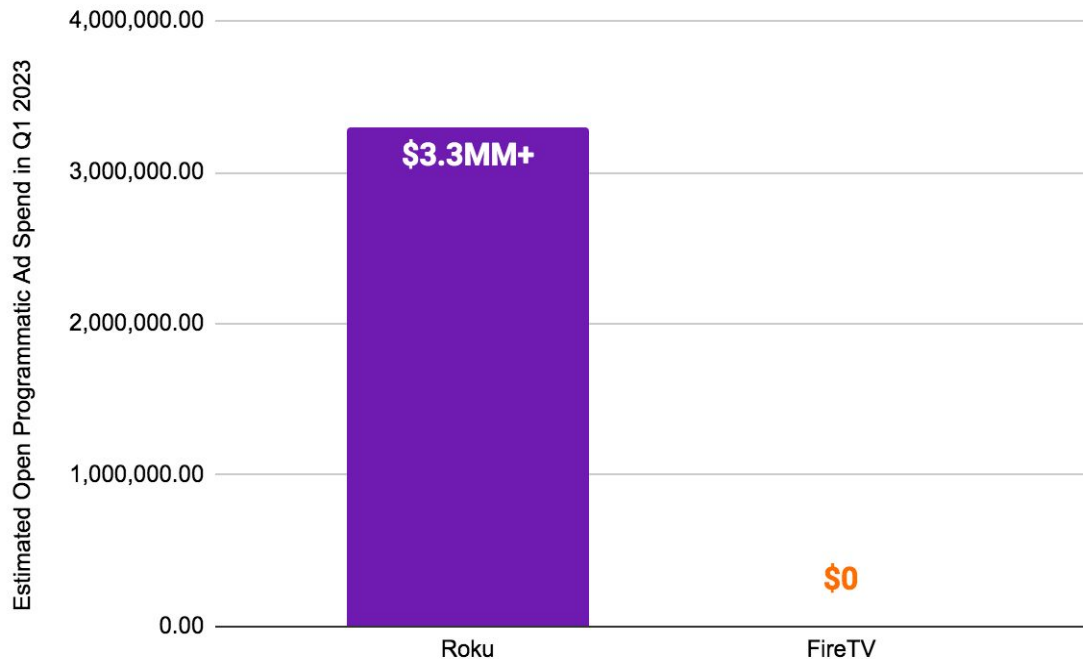
estimated open programmatic ad spend detected on delisted CTV apps in Q1 2023 across Roku (\$3.3MM+) and Amazon Fire TV (\$0), according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

ROKU: \$3.3MM+ AD SPEND IN DELISTED CTV APPS IN Q1

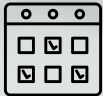
ROKU + AMAZON FIRE TV CTV APP STORES; AS OF THE END Q1 2023; AS MEASURED BY PIXALATE





-40%

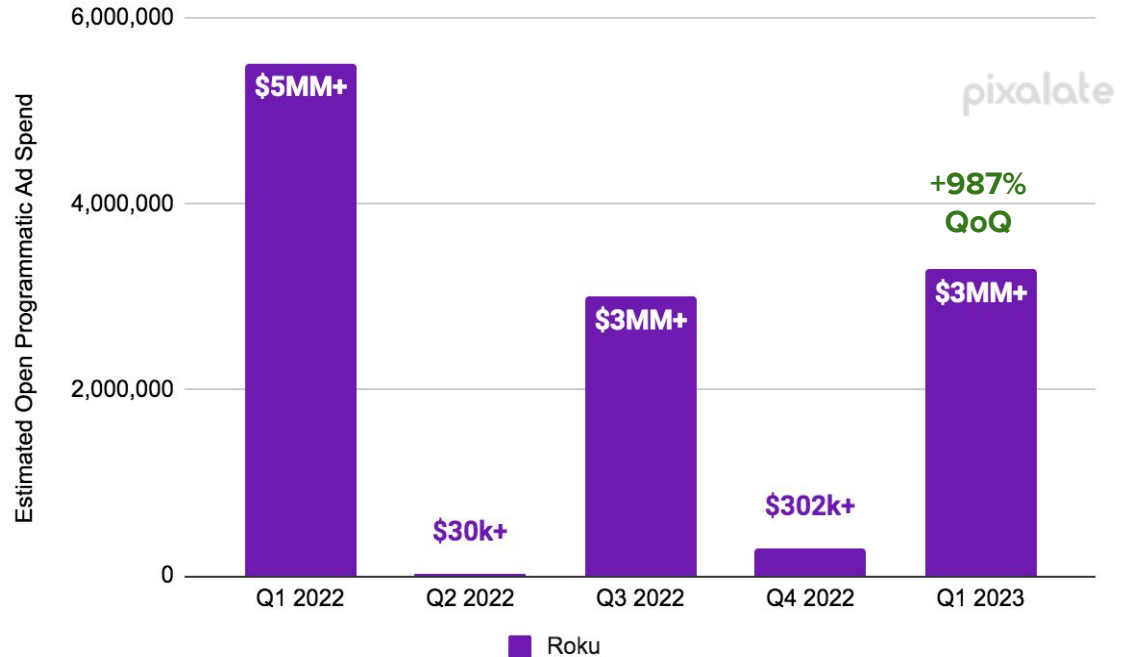
YoY change in estimated open programmatic ad spend detected on delisted Roku CTV apps from Q1 2022 to Q1 2023, according to Pixalate's data



Want to see all the apps? Schedule a demo: pixal.at/demo

ROKU: \$8.8MM+ AD SPEND ON DELISTED CTV APPS IN 2022

ROKU CTV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE





\$0

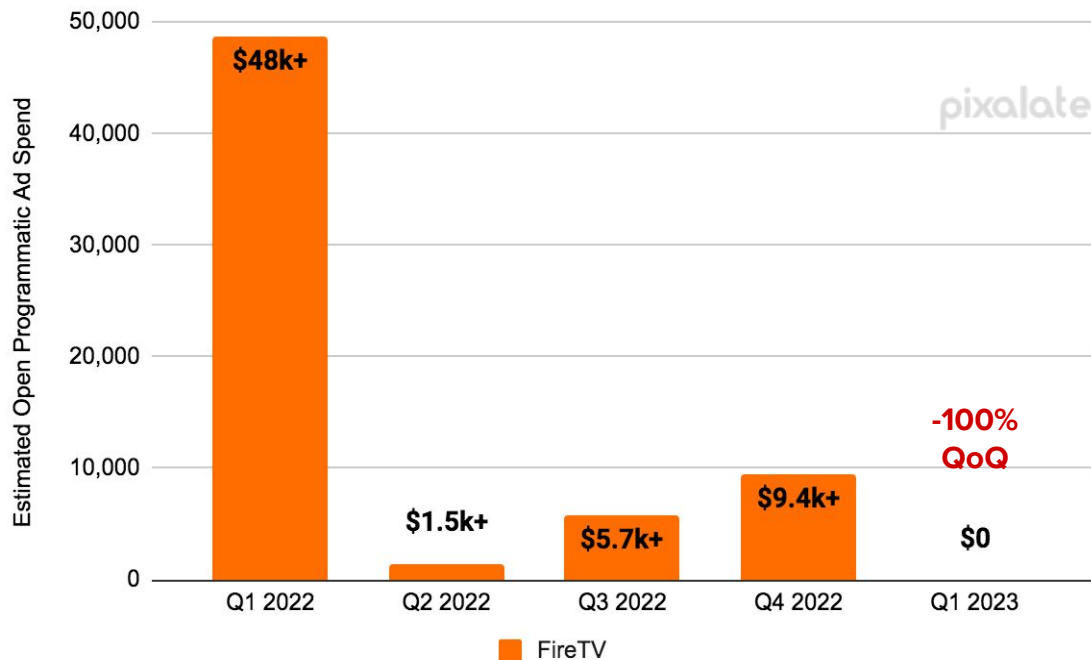
no estimated open programmatic ad spend detected on delisted Amazon Fire TV apps in Q1 2023, down from \$48k during Q1 2022, according to Pixalate's data



Want to see all the apps? Schedule a demo: pixal.at/demo

AMAZON FIRE TV: NO AD SPEND IN DELISTED CTV APPS IN Q1

AMAZON FIRE TV CTV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE





DELISTED CTV APPS: Q1 2023 **ROKU AND AMAZON FIRE TV**





54%

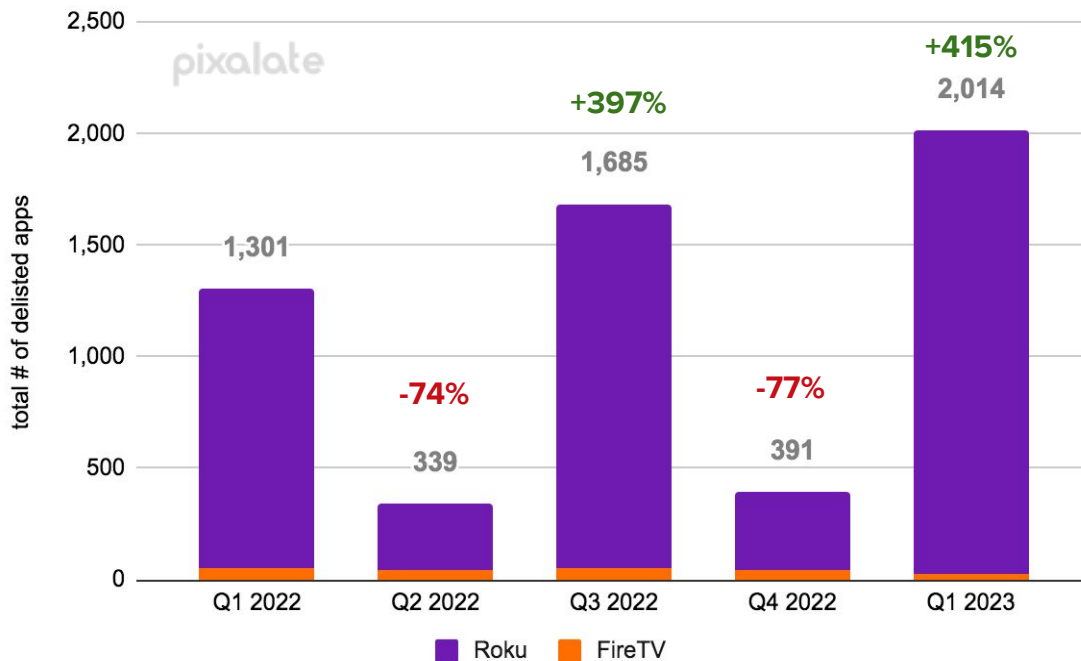
YoY change in delisted apps across the Roku and Amazon Fire TV stores, from 1.3k+ in Q1 2022 to 2k+ in Q1 2023, according to Pixelate's data.



Want to see all the apps? Schedule a demo: pixelate.at/demo

+415% QoQ INCREASE IN DELISTED CTV APPS IN Q1 2023

ROKU + AMAZON FIRE TV CTV APP STORES; QUARTERLY DATA 2022 - 2023 ; AS MEASURED BY PIXELATE

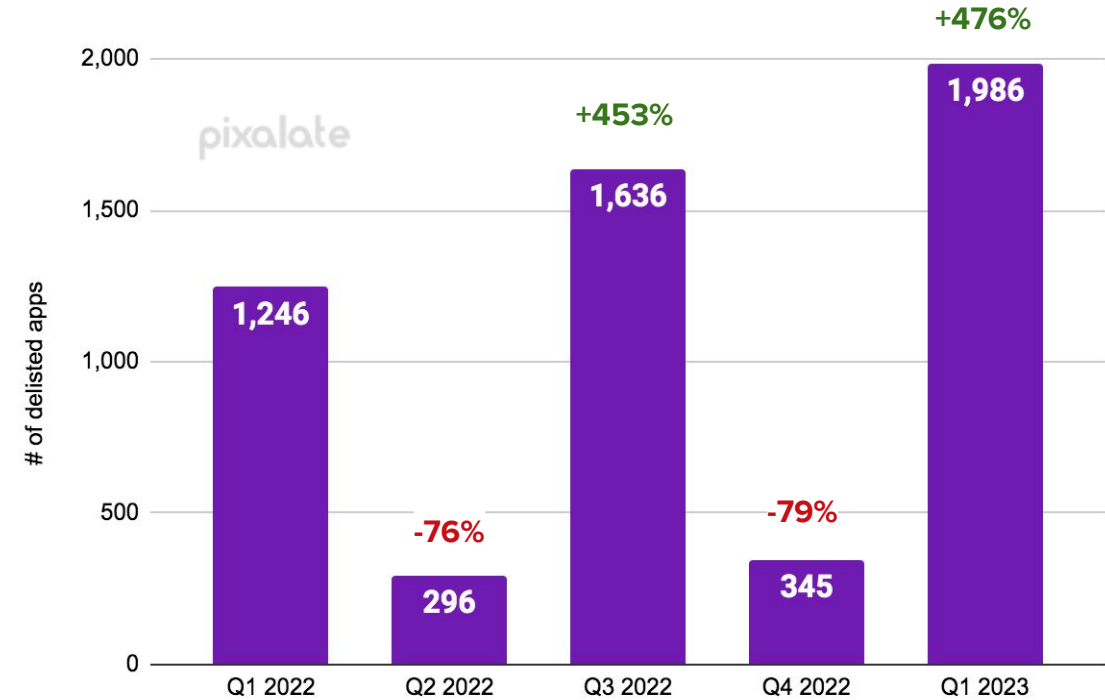


Values in % represent QoQ change in the total number of delisted apps



476% QoQ INCREASE IN # OF APPS DELISTED FROM ROKU

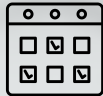
ROKU CTV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE



Values in % represent quarterly change rate in the total number of delisted apps

59%

YoY increase in the number of apps delisted from Roku in Q1 2023 - up from 1.2k+ in Q1 2022, according to Pixalate's data.

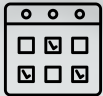


Want to see all the apps? Schedule a demo: pixal.at/demo



-49%

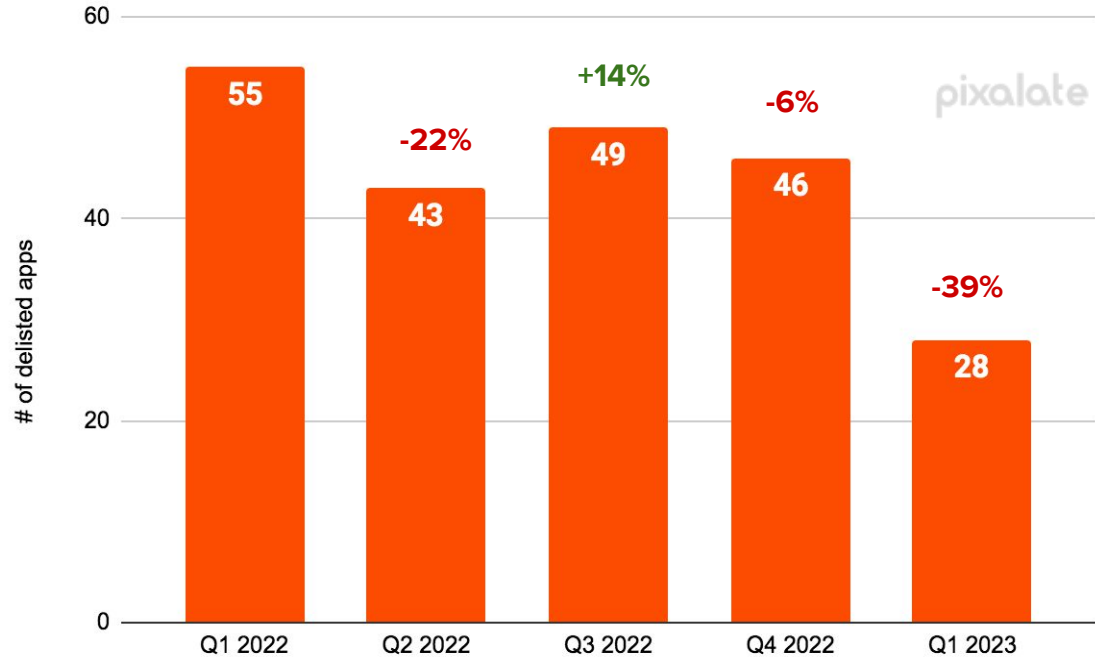
YoY decrease in the number of apps delisted from Amazon Fire TV in Q1 2023 - down from 55 in Q1 2022, according to Pivalate's data.



Want to see all the apps? Schedule a demo: pival.at/demo

-39% QoQ DECREASE IN # OF APPS DELISTED FROM FIRE TV

AMAZON FIRE TV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIVALATE



Values in % represent quarterly change rate in the total number of delisted apps





10%

of delisted apps were available to download through Roku for less than 1 year before they were delisted, according to Pivalate's data.

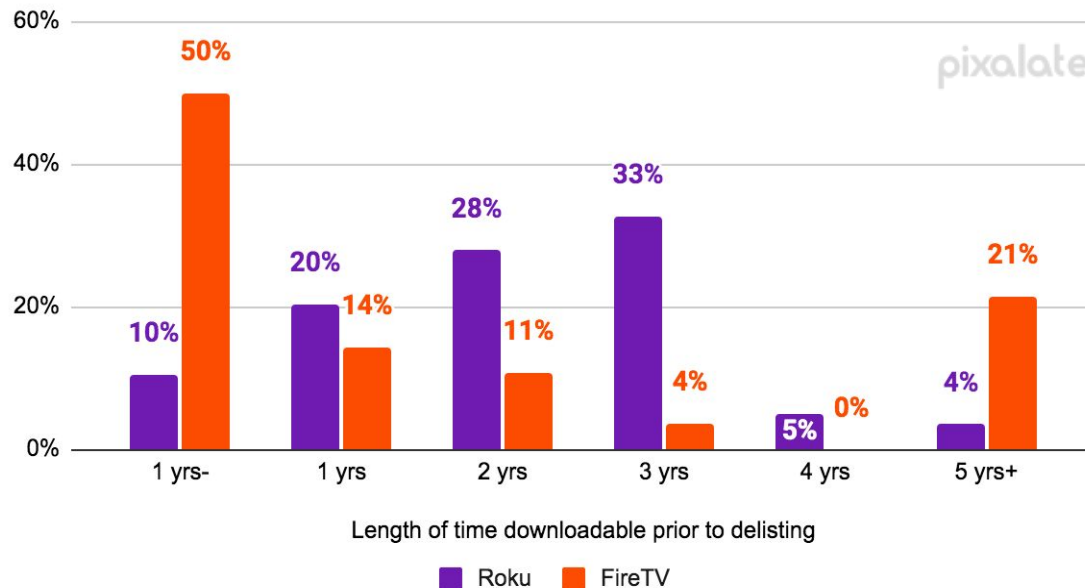
**App Age: the difference between app delisted date and creation date.*



Want to see all the apps? Schedule a demo: pival.at/demo

50% OF FIRE TV DELISTED APPS WERE DOWNLOADABLE FOR LESS THAN 1 YEAR

ROKU + AMAZON FIRE TV CTV APP STORES; AS OF THE END OF Q1 2023; AS MEASURED BY PIVALATE



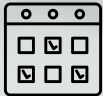


DELISTED CTV APPS: Q1 2023 **TRANSPARENCY ANALYSIS BY STORE**



155

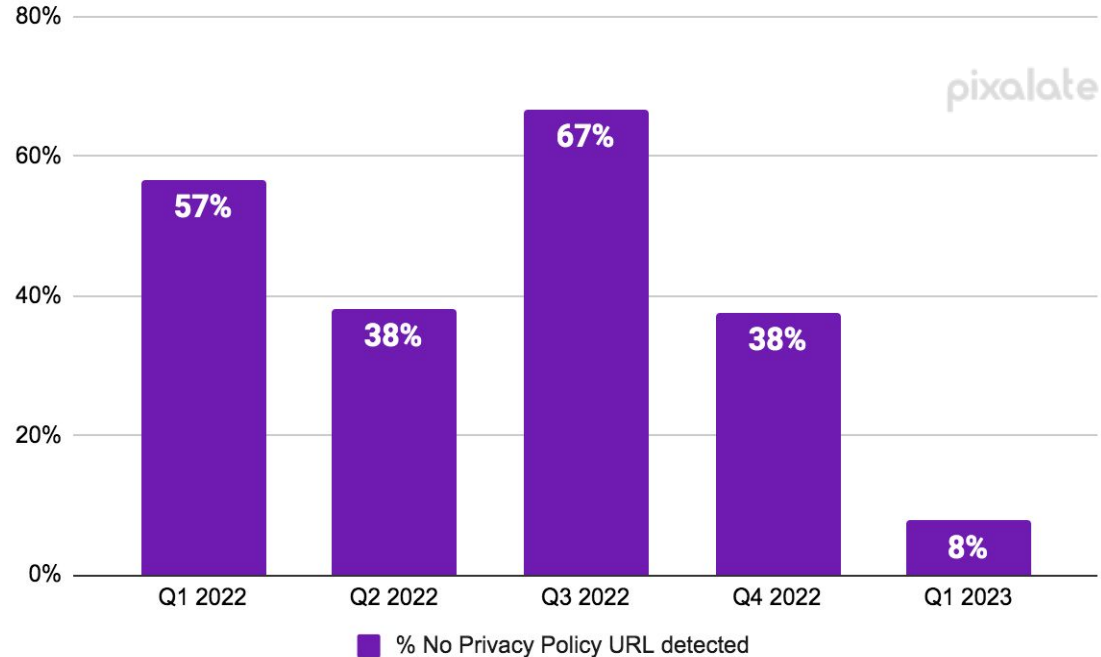
CTV apps delisted from Roku in Q1 2023 had no detected privacy policy URL, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

ONLY 8% OF DELISTED ROKU APPS HAD NO PRIVACY POLICY URL DETECTED AS OF Q1 2023

ROKU CTV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE





7

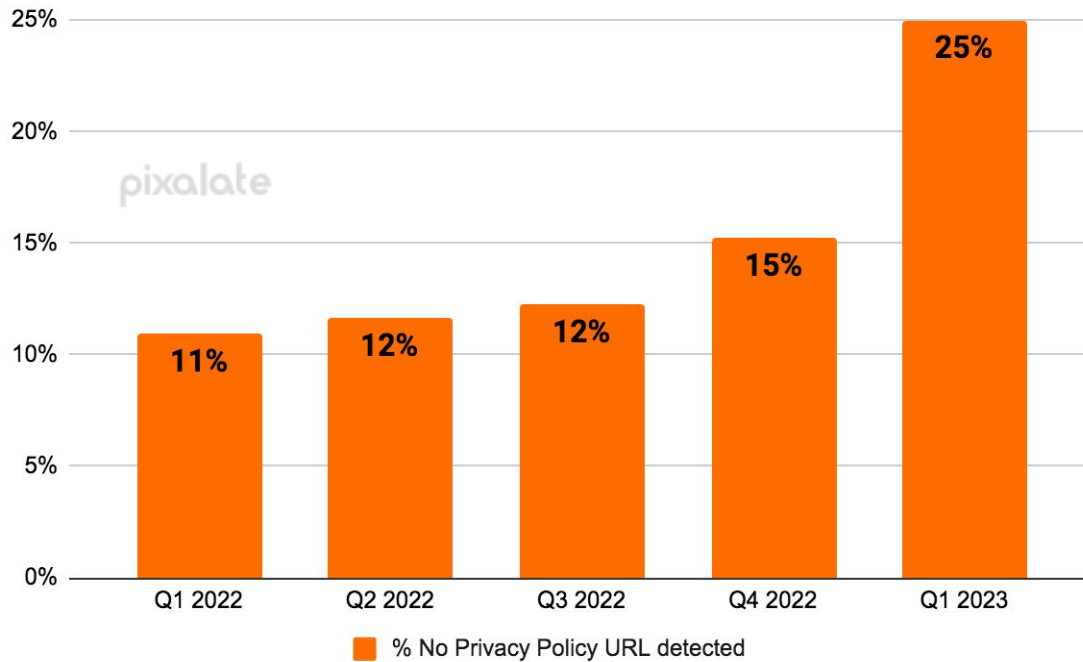
apps delisted from Amazon Fire TV in Q1 2023 had no detected privacy policy URL, according to Pixalate's data



Want to see all the apps? Schedule a demo: pixal.at/demo

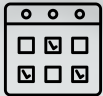
25% OF DELISTED FIRE TV APPS HAD NO PRIVACY POLICY URL DETECTED AS OF Q1 2023

ROKU CTV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE



100%

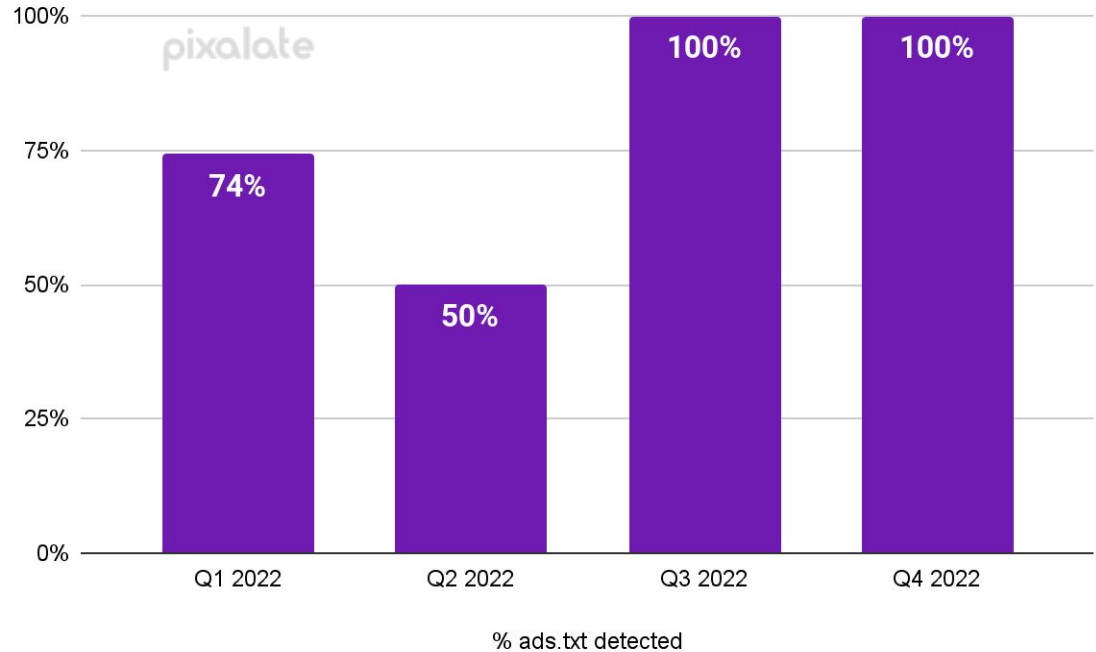
Every Roku app that was delisted in Q4 2022 and had programmatic ads also had an app-ads.txt file, according to Pixelate's data - up from 50-75% in H1 2022.



Want to see all the apps? Schedule a demo: pixel.at/demo

100% OF DELISTED ROKU APPS WITH ADS HAD APP-ADS.TXT

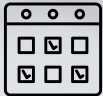
ROKU CTV APP STORE; QUARTERLY DATA 2022; AS MEASURED BY PIXELATE





x%

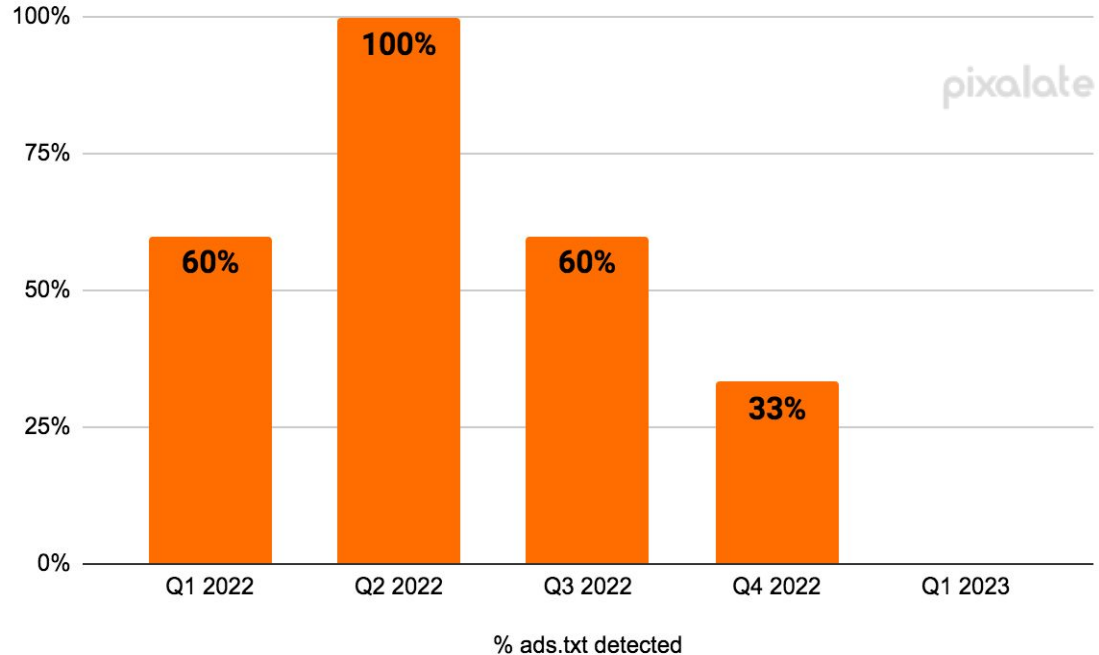
Only x% of Amazon Fire TV apps with programmatic ads that were delisted in Q4 2022 had an app-ads.txt file, according to Pixalate's data - the lowest mark of the year.



Want to see all the apps? Schedule a demo: pixal.at/demo

NO DELISTED AMAZON FIRE TV APPS HAVE ADS

AMAZON FIRE TV APP STORE; QUARTERLY DATA 2022 - 2023; AS MEASURED BY PIXALATE





DELISTED CTV APPS - Q1 2023

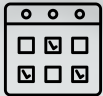
COUNTRY OF REGISTRY





75%

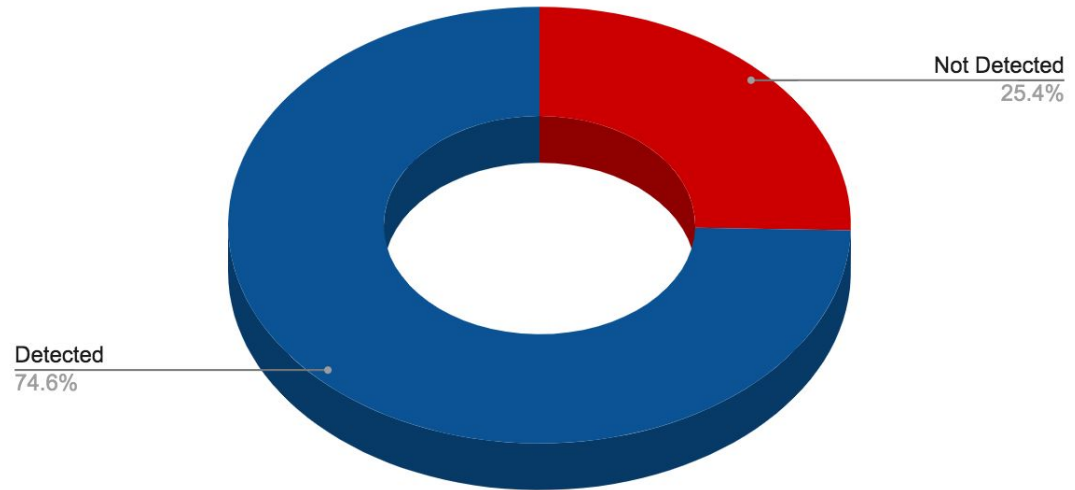
The app country of registry was known on 75% of delisted Roku and Amazon Fire TV apps in Q1 2023, according to Pivalate's data.



Want to see all the apps? Schedule a demo: pival.at/demo

25% OF DELISTED CTV APPS HAD NO IDENTIFIED COUNTRY OF REGISTRY

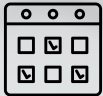
ROKU + AMAZON FIRE TV CTV APP STORES COMBINED; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE





25%

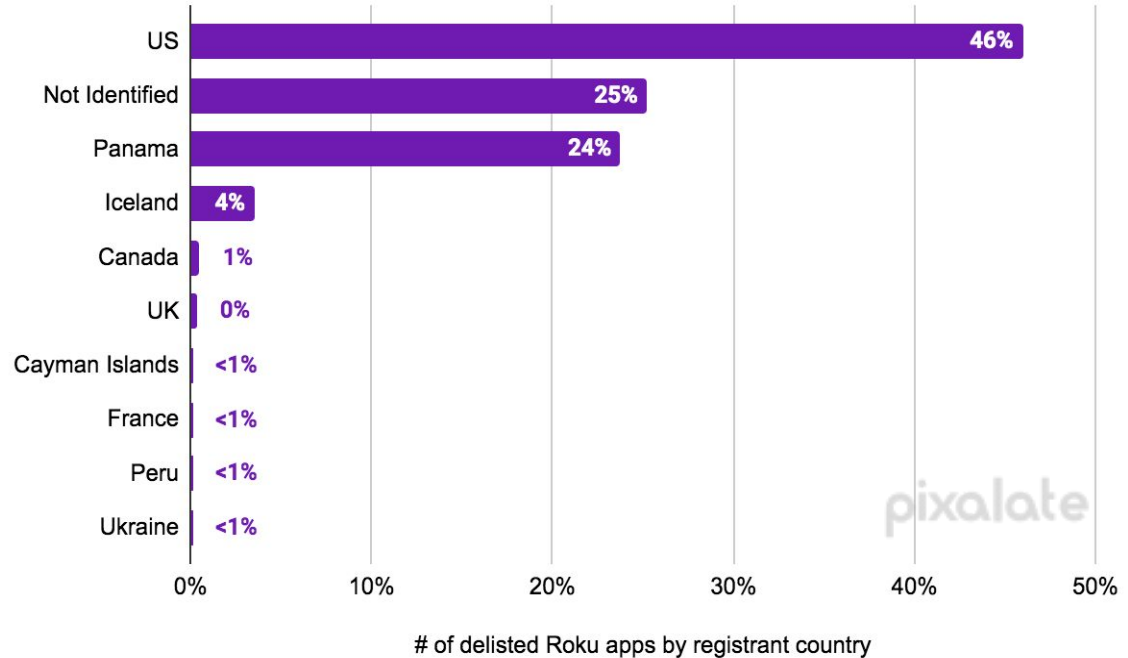
of apps delisted from Roku in Q1 2023 had no listed or no identified country of registry, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

ROKU: 46% DELISTED APPS WERE REGISTERED IN THE US

ROKU CTV APP STORE; TOP 10 COUNTRIES BY NUMBER OF DELISTED APPS ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE



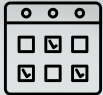
pixalate





36%

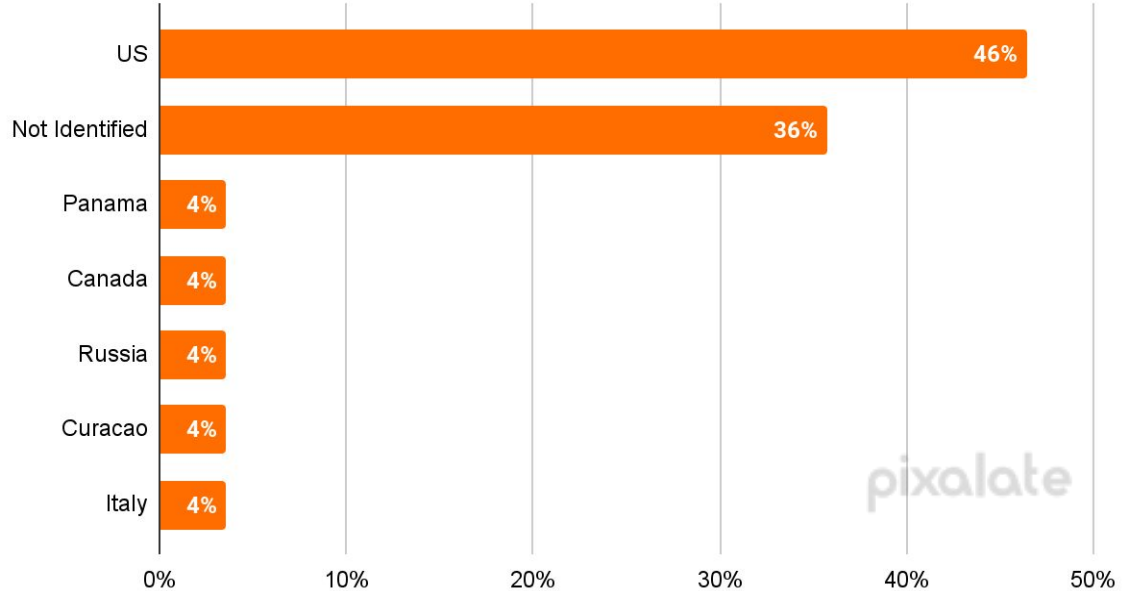
of delisted apps from Amazon Fire TV in Q1 2023 had no listed or no identified country of registry, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

AMAZON: 46% OF DELISTED APPS WERE REGISTERED IN THE US

AMAZON FIRE TV APP STORE; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE



of delisted FireTV apps by registrant country

pixalate





DELISTED CTV APPS - Q1 2023 CATEGORIES

Special Focus:
Education, Kids & Family CTV apps



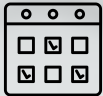


46%

of delisted Roku apps were in either the Education or Kids & Family categories in Q1 2023, according to Pixelate's data.

249

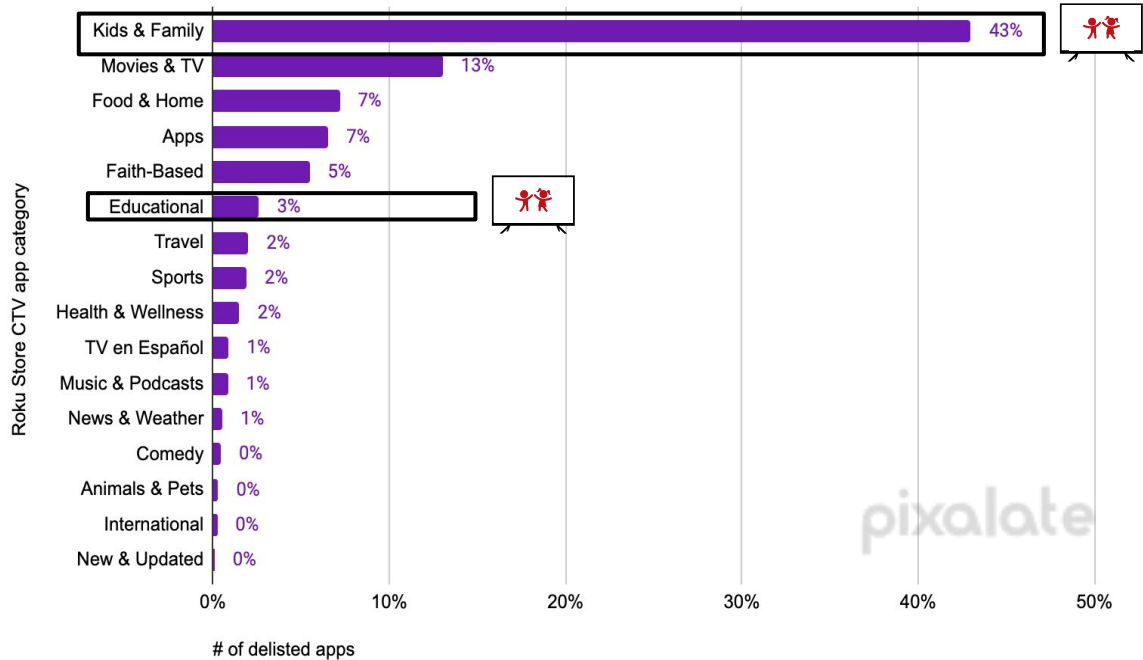
of delisted Roku apps had "Screensaver" or "Wallpaper" in title, according to Pixelate's data.



Want to see all the apps? Schedule a demo: pixelate.at/demo

ROKU: 43% OF DELISTED APPS IN KIDS & FAMILY CATEGORY

ROKU CTV APP STORE; BY PRIMARY CATEGORY ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXELATE



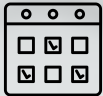
92%

of delisted Roku apps in Kids & Family category belong to the following developers:

OKKO (377)

Okko Group (18)

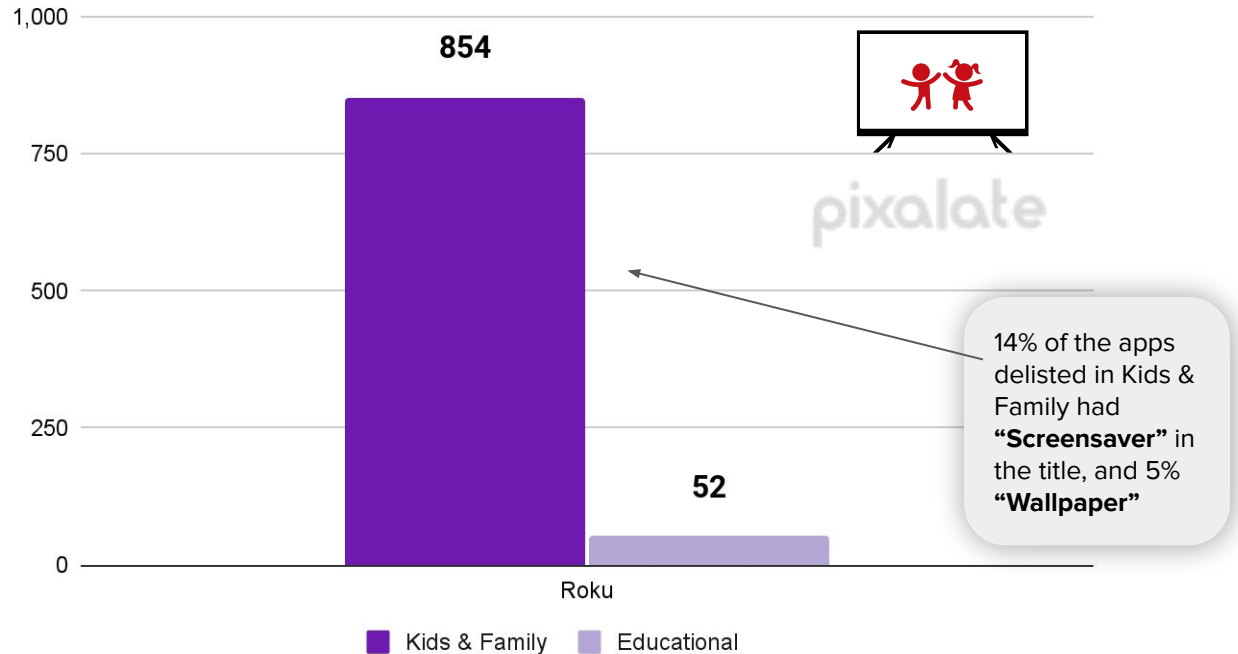
VlogBox, Inc. (393)



Want to see all the apps? Schedule a demo: pixal.at/demo

ROKU: 854 OF DELISTED APPS IN KIDS & FAMILY CATEGORY

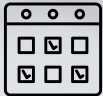
ROKU CTV APP STORE; KIDS & FAMILY AND EDUCATIONAL CATEGORIES; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE





\$992k+

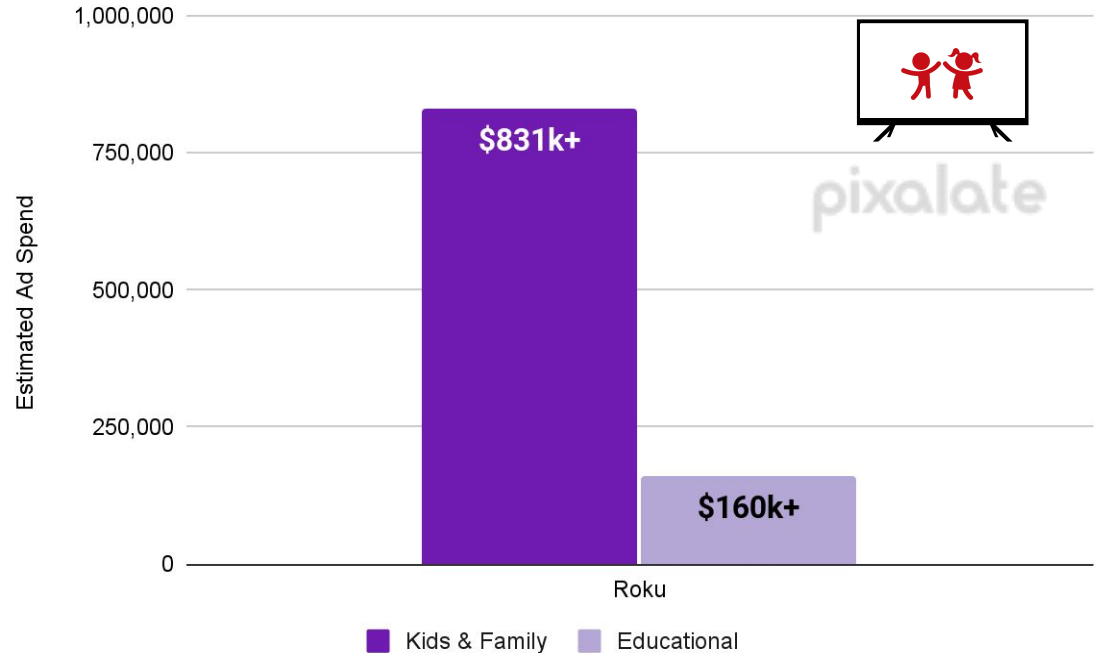
Estimated ad spend in delisted apps in Kids & Family and Educational categories combined, as of the end of Q1 2023, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

\$831k+ AD SPEND IN DELISTED APPS IN KIDS & FAMILY CATEGORY

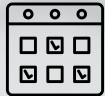
ROKU CTV APP STORE; KIDS & FAMILY AND EDUCATIONAL CATEGORIES ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE





4%

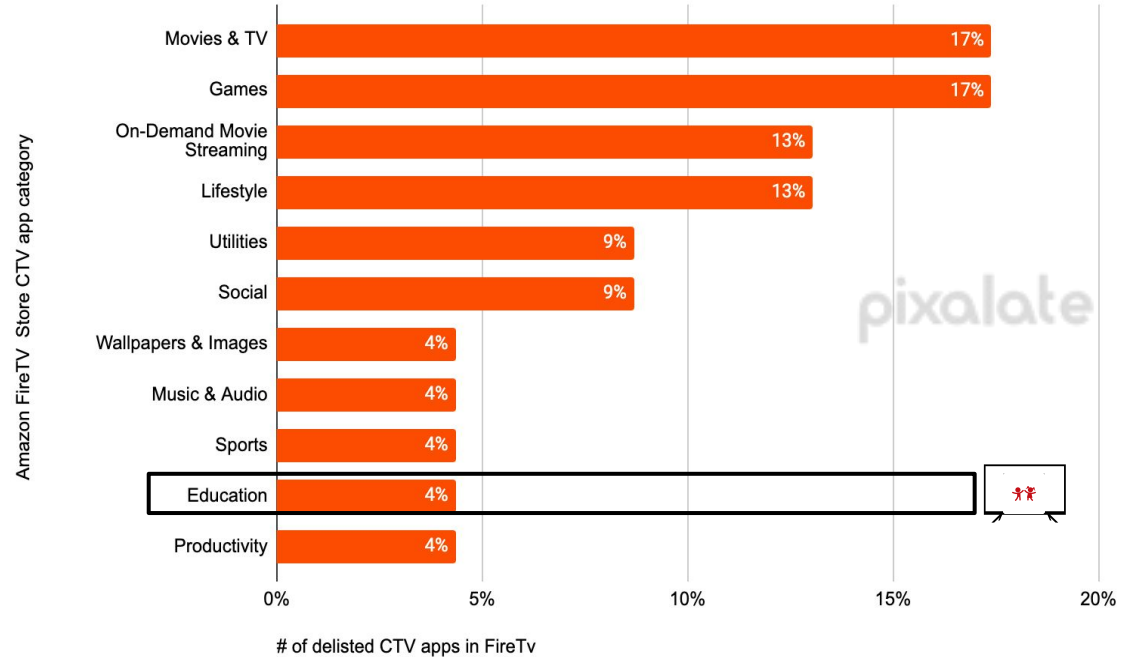
of delisted Amazon Fire TV apps were in the Education category in Q4 2022, according to Pixalate's data.



Want to see all the apps? Schedule a demo: pixal.at/demo

FIRE TV: MOVIES, AND GAMES TOP 3 IN DELISTED APPS

AMAZON FIRE TV APP STORE; BY PRIMARY CATEGORY ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE



DELISTED CTV APPS - Q1 2023

TOP 10 DEVELOPERS





ROKU STORE: TOP 10 DEVELOPERS BY DELISTED APPS



ROKU CTV APP STORE; BY NUMBER OF DELISTED APPS ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE

Rank	Developer Name	# of Delisted Apps	# of Remaining Apps	# of Screensaver Apps	% Total Delisted
1	VlogBox, Inc.	664	66	130	33%
2	OKKO	411	9	84	21%
3	Glewed TV	126	81	0	6%
4	Pharoscode	97	0	4	5%
5	Wize Digital d.o.o.	64	0	0	3%
6	OleksaCode	51	1	15	3%
7	Megadilla	39	0	0	2%
8	Subsplash	38	1822	0	2%
9	Plexpeer	35	0	0	2%
10	ClipMeUp	30	0	0	2%





AMAZON FIRE TV STORE: TOP 10 DEVELOPERS BY DELISTED APPS



AMAZON FIRE TV APP STORE; BY NUMBER OF DELISTED APPS ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE

Rank	Developer Name	# of Delisted Apps	# of Remaining Apps	# of Screensaver Apps	% Total Delisted
1	PixelGameDev	2	0	0	7%
2	http://phlox.com.ua/	2	0	0	7%
3	Castify	2	80	0	7%
4	Ape Apps	2	49	0	7%
5	Zito West Holding LLC	1	0	0	4%
6	WATCHi!	1	0	0	4%
7	Vimeo, Inc	1	0	0	4%
8	ThanhVT	1	0	0	4%
9	RHStv	1	0	0	4%
10	Radiant Technologies	1	0	0	4%



DELISTED CTV APPS - Q1 2023

TOP 10 LIST BY STORE















ROKU STORE: TOP 10 DELISTED APPS (by user ratings)



ROKU CTV APP STORE; BY USER RATINGS ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE

Store	App ID	Title		User Ratings	Developer
Roku	69091	4K Spotlight		30283	Roku
Roku	143105	VRV		16168	Crunchyroll, Inc.
Roku	160252	Pantaya - Streaming Movies and Series in Spanish		12762	Mucho Movies Inc
Roku	578589	Sakura		5780	OKKO
Roku	241827	DUST		5301	Gunpowder & Sky
Roku	556173	Minecraft Games		4895	Glewed TV
Roku	158763	RT		4295	RT
Roku	568624	Deep Space Collection		4280	OKKO
Roku	260451	Life in 4K		4219	Oceanside Media, LLC
Roku	573998	Christmas tree collection		4076	OKKO





AMAZON FIRE TV STORE: TOP 10 DELISTED APPS (by user ratings)



AMAZON FIRE TV APP STORE; BY USER RATINGS ; AS OF THE END OF Q1 2023; AS MEASURED BY PIXALATE

Store	App ID	Title	User Ratings	Developer
firetv	B00HSCHET8	Vimeo	13256	Vimeo, Inc
firetv	B09JKFX32X	Planet Marathi	661	Planet Marathi Seller Services Pvt. Ltd.
firetv	B01M7O1IB0	My Colony	404	Ape Apps
firetv	B084C57FBL	WATCH IT	344	WATCHIT!
firetv	B0B7WL5DWS	TV Brasil - Online Guide	199	Delta741
firetv	B079MFQCXD	Colonial Tycoon	162	Ape Apps
firetv	B089B3LTX3	ZitoTV2Go	156	Zito West Holding LLC
firetv	B08XWRCPYQ	Cariflix	25	Cariflix
firetv	B09CYV4SDQ	Simple HTTP Server	18	http://phlox.com.ua/
firetv	B01M26RWEQ	LOOK Digital Signage Player	15	Look LTD





METHODOLOGY & DISCLAIMER

METHODOLOGY

General

Pixalate's data science and analyst team analyzed apps delisted (removed) from the Roku and Amazon Fire TV app stores to compile this research. The research contained herein represents data collected by Pixalate from January 1, 2023 through March 31, 2023.

Delisted Apps

An app is considered delisted if the app and its store ID existed in an app store in one month but was removed in the following month. Delisted apps are calculated at the month granularity level, i.e. all the app removals are grouped together according to the month they occurred. Delisted apps do not reflect the initiator of the delisting action, i.e. Roku, Amazon, or the app developer. Also, if an app is delisted in a given month but is later added back to the store, it will be counted as delisted only until the month it was added back.

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. If none is available, the physical address associated with an app cannot be determined.

METHODOLOGY

“Apps with ads” and app-ads.txt.

In the context of this report, an app is considered to be an “app with ads” if Picalate detected programmatic ad impressions on the app. 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.”

Estimated Ad Spend

Picalate calculates estimated programmatic ad spend through statistical models that incorporate app popularity, average CPM, and other, proprietary signals. It is expressed in USD.

URL to Privacy Policy

An app is considered to have a detectable URL to privacy policy if crawls of the Roku or Amazon Fire TV app stores from Picalate or one of Picalate’s third party licensors found proof of a URL to privacy policy. Otherwise, the app is considered to have either no or an undetected URL to Privacy Policy - i.e, “missing URL.”

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 guarantees.

It is important to also note that the mere fact that an app has been delisted, has no detected privacy policy, has no detected terms of service, is privately registered, is registered under a non-corporate email, or does not have app-ads.txt, does not necessarily mean that such app, or its publisher, is actually exploiting data. Instead, Pixalate is merely rendering an opinion that these facts may be suggestive of heightened risks to data subjects.

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



Delisted Apps

