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Sent: Thu, 12 Mar 2020 15:58:17 +0000 (UTC)
To: Devin Winterbottom <[REDACTED]>
Subject: Please Print
Attachments: Mobile Business Update - March 2020.pdf

DEFENDANT A	United States District Court Northern District of California
	Case No. 4:20-cv-05640-YGR
	Case Title <i>Epic Games, Inc. v. Apple, Inc.</i>
	Exhibit No. DX-3743
	Date Entered _____
	Susan Y. Soong, Clerk
	By: _____, Deputy Clerk

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Haseeb Malik
Director | Mobile Publishing | Epic Games

Exhibit
0508
Malik



FORTNITE

Mobile

Mobile Business Update - March 2020



Mobile Team @ Epic

Multiple teams across development and publishing are responsible for maintaining or growing mobile DAU

Product Management

Team Leads:

- Brian C (Director of Product)
- Jocelyn L (Sr Producer - Game)
- Jay C (Producer - Tech)

Initiatives:

- Lift early retention via Guided Tutorial and Smart Tips
- Speed Up Patching Process
- Increase count of compatible FN devices on Android
- Mobile Optimized UI/UX
- Improved Mobile Analytics

OEM + Android Partnerships

Team Leads:

- Haseeb M (Marketing Director)
- Hans S (Sr Marketing Manager)

Initiatives:

- Marketing of Epic Games App
- Direct Carrier Billing
- OEM & Carrier Distribution
- Android Portal Optimization
- Partner Marketing Opportunities

Product Marketing + Apple Partnership

Team Leads:

- Haseeb M (Marketing Director)
- Alec S (Marketing Manager)

Initiatives:

- Orchestrate GTM plans on mobile
- Partner with Apple on acquisition and reacquisition co-marketing opportunities - ex. featuring, CRM, UA
- Internal Apple escalation for patch delays and other dev issues

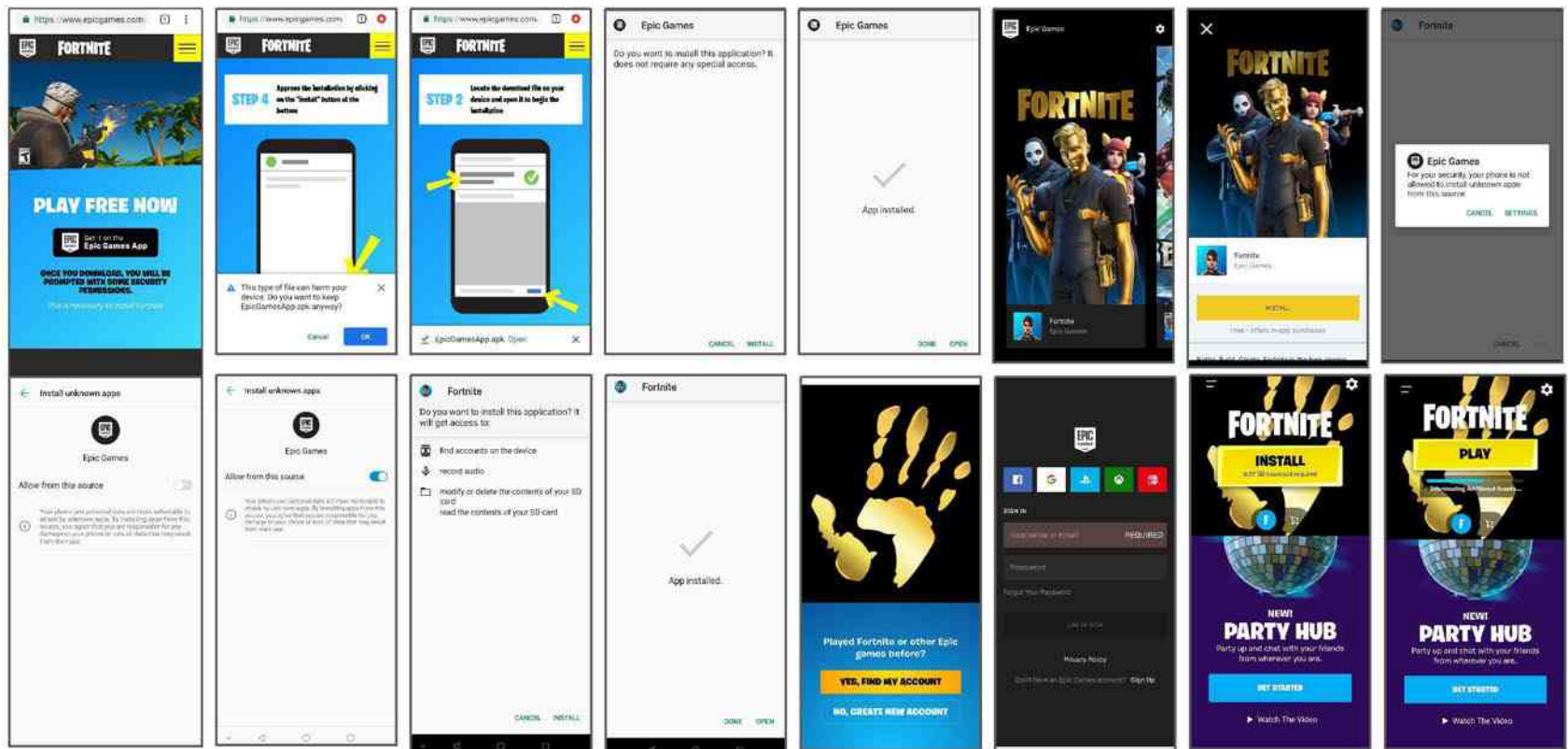
Mobile Background

- **Current Product & Player Context:**
 - Mobile drives new accounts:
 - **38%** of daily new accounts in FN came in on mobile - *(2019 Average)*
 - Mobile retention is low compared to other platforms:
 - iOS (**6%** D30) and Android (**4%** D30) run below PS4 (**16%**), XB1 (**11%**), SW (**21%**)
 - Existing console players are more likely to cross-play:
 - **40%** of mobile players have also played on non-mobile platforms
 - Approximately **15%** of mobile players go from mobile first to console
- **iOS:** Launched March 16, 2018
 - **88M** Downloads, **67M** Accounts New to Fortnite, **\$631M** in Revenue
- **Android:** Launched August 13, 2018
 - **Epic Games App:** **80M** downloads of EGA
 - **Fortnite:** **21M** Downloads, **13M** Accounts New to Fortnite, **\$47M** in Revenue

All metrics as of 2/18/20. All revenue figures are measured in gross revenue

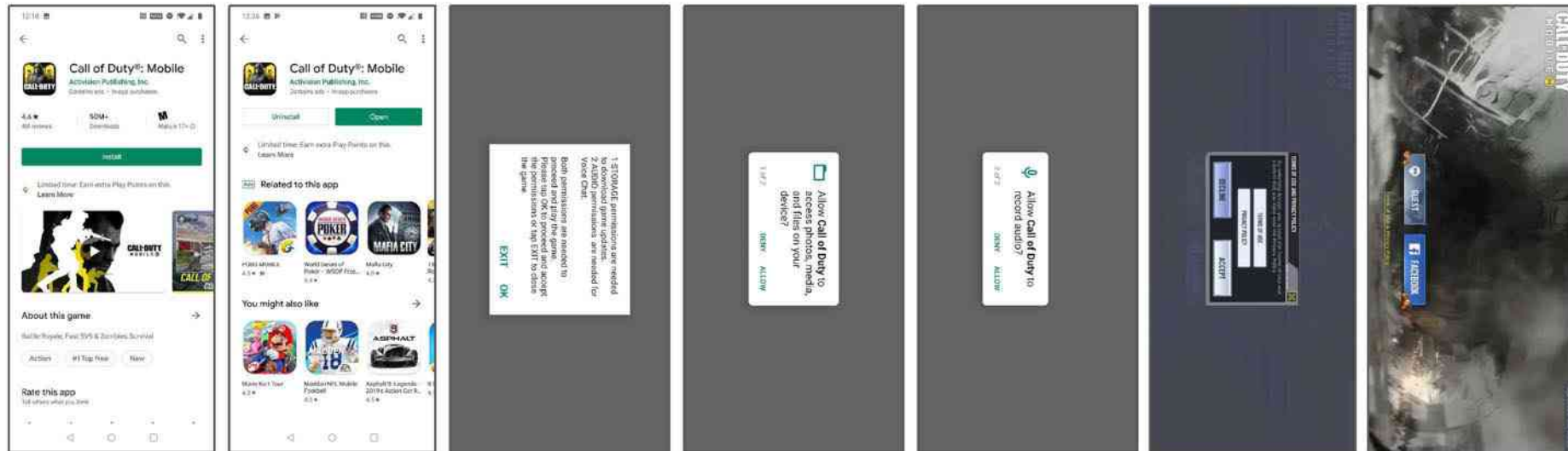
Epic Sideload Flow

- **16 steps** from Epic Games website to Fortnite Mobile Play screen (20 steps for new device, first time install, 4 additional OS level steps)
- **6.57GB** Fortnite client package size



Google Play Install Flow (Call of Duty Mobile)

- **7 steps** from Google Play Store page to CoD Mobile sign-in screen
- **1.38GB** package download size








Fortnite by Platform: Retention and Player Spend

Mobile retention is similar to PC. Android CRPI is lowest for all platforms and CPI is negative at D180.

Platform	D1	D7	D30	D120	ARPDau	ARPPU	CRPI (D180)	CPI
iOS	41%	13%	6%	3%	\$0.30	\$19.70	\$3.59	\$2.98
Android	35%	11%	4%	2%	\$0.20	\$20.10	\$1.13	\$2.78
PC	35%	11%	4%	4%	\$0.33	\$18.08	\$11.62	\$3.02
PS4	49%	26%	16%	13%	\$0.42	\$18.94	\$25.26	\$20.00
XB1	44%	21%	11%	9%	\$0.51	\$17.82	\$25.43	\$20.00
Switch	53%	28%	21%	16%	\$0.39	\$19.38	\$15.10	N/A

2020 Mobile Strike Team Initiatives Goals and Update

Initiative	Goals	Target Date	Initiative Status
1. Optimize Mobile Performance	<u>Increase D14 to D30 retention by 200 basis points:</u> <ul style="list-style-type: none"> Reduce Hitches/min on IOS/Android to less than 5 hitches/minute Reduce Missed V-Sync to <1% Reduce total install/patching time by 20% on IOS and Android Optimize memory use on 3GB devices to support Xcode 11 transition - on track for 3/31 	N/A	
2. Improve UI Interface	<u>Increase mobile retention by 300 basis points on D1 and 200 basis points on D7</u> <ul style="list-style-type: none"> Guided Tutorial (Live) Additional Metagame Tutorials (13.0) Lobby UI Refactor with 3rd Party Agency (14.0+) Mobile HUD Layout Tool (13.0) 	Target: 4/30 and later	
3. Increase Compatible Android Devices	<u>Increase addressable market share by 200 million devices:</u> <ul style="list-style-type: none"> Add device graylist to allow more Android devices to play Fortnite 	Live 3/3	
4. Improve Funnel Conversion	<u>Increase Android installs by 20%</u> <ul style="list-style-type: none"> Test of different web and button flows to improve install conversion of web traffic 	Live 3/3	
5. Mobile Partnerships	<ul style="list-style-type: none"> Pre-install Opportunity: ~260 million Android devices Direct Carrier Billing / Post-install Opportunity: 121 million Android devices Negotiate extension to keep Fortnite playable on 3GB devices - <i>completed (19% of iOS revenue secured)</i> 	OEM: 5/22 DCB: 4/7	



In Progress



Blocked

1. Optimize Mobile Performance

Key Initiatives

Initiative	Details	KPI Impact	Status
Patching Analytics Improvements	Adding stats to allow us to better understand total patch times and assess patching issues.	Reduce response time of LiveOps to patching issues during release days.	Released on 2/20. Blocked due to bugs in tracking.
Prioritized / Selective PSO Cache	Change caching priority of PSOs to reduce time player spends installing game.	Reduce install time by 3 minutes (~20% overall reduction)	Prioritized PSO released on 2/20. Selective PSO unscheduled
XCode 11 Transition	Ensure that we comply with Apple timelines to migrate to XCode 11 & retain stability on key devices (original deadline of April 1 extended to Sept - team still attempting 12.30 regardless)	Prevent memory crashes on devices that equal ~19% of all IOS revenue	Scheduled for 3/31
Pre-Patching	Begin downloading updates when a new patch is available without user input.	Reduce download time by 20% on updates.	In Tech Review
Reduce Hitches and Missed V-Syncs	Optimizing Game Thread and Render Thread that bottleneck CPU as well as additional render related optimizations	Reduce Hitches/min on IOS/Android to less than 5 hitches/minute Reduce Missed V-Sync to <1%	Unscheduled due to lack of resources

2. Improve UI Interface

We have scheduled a number of initiatives to improve mobile usability and retention

In Development

- New Item Pickup System (Target: 3/17)
- Gameplay Guided Tutorial System (Target: 4/30)
- Updated HUD Layout Tool (Target: 4/30)

On Roadmap for Future Development

- Metagame Guided Tutorial System (Target: 5/12)
- Guided Battle Royale Mode (Target: 5/26)
- Control Improvements (Default Auto Open Doors/Auto Build, etc.) (Date TBD)
- Lobby UI Refactor - 3rd party agency analysis (Date TBD)

Guided Tutorial

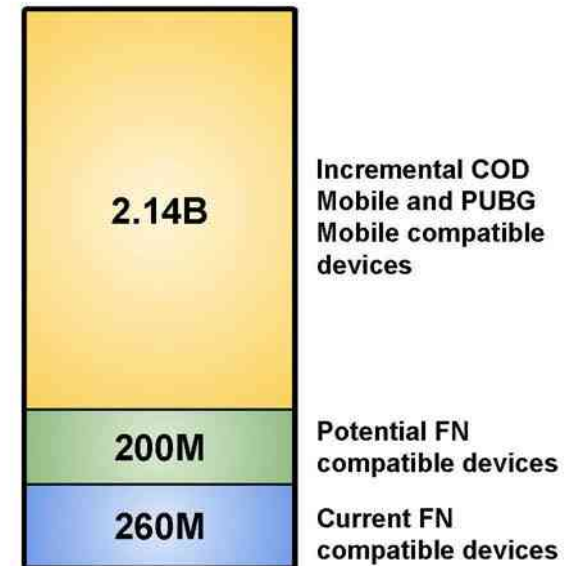


3. Increase Compatible Android Devices

To partially close the addressable installed base gap between FN Android and competitors, we are adding a “gray list” of devices that are not officially supported but can play Fortnite.

	Fortnite Mobile	Call of Duty Mobile	PUBG Mobile
Android Min-Spec	Android 8.0+, 64 Bit, 3GB RAM, Adreno 530+, Mali G71-MP20, Mali G72 MP12+	Android 5.0+, 2GB RAM (<i>Unofficially: Snapdragon 625+, Adreno 506+ GPU</i>)	Android 5.0+, 2GB RAM
Estimated WW Device Coverage	260M Devices	2.6B Devices	2.6B Devices

Total Android Devices



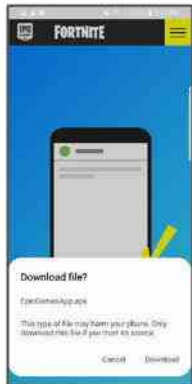
Source: IDC Mobile Tracker

4. Improve Funnel Conversion

Install Funnel on Web suffers from drop-offs from possible side loading friction and high min-spec check on Android

Android Funnel drop-off

Clicked Download
on Web



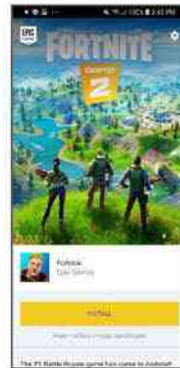
37%
drop-off

Opened Epic
Games App



40%
drop-off

Passed FN Min
Spec Check



2%
drop-off

Party Hub
Installed



6%
drop-off

FN Installed



Key Initiatives for 2020

- Improve tracking of install funnel on web
- Enable graylist devices to install Fortnite on Galaxy Store
- Optimize web flow to reduce drop-off points

5. Mobile Partnerships: Android & Apple

Strategic partnerships on Android help supplement acquisition as a result of sideloading and min spec challenges, while Apple focuses on amplifying key beats and continuing to support existing devices

Android Acquisition

Increase Epic Games app availability and improve install flow w/ OEM partners

- [Test launching with OnePlus May 2020](#)
- Background install on all eligible devices in addition to pre-installs on new flagships, optimized install flow removing prohibitive prompts (Unknown Sources)
Pre-install Opportunity: ~260 million Android devices

Establish additional strategic partnerships

- Current coverage with Samsung, Huawei, Sony, LG: 84.8%
- Add Xiaomi, OnePlus, Vivo, Lenovo and Oppo for ~95%.

Android Expansion & Monetization

Add Carrier Partnerships

- Direct Carrier Billing pilot program currently scheduled to launch April 2020 with Fortumo as official Merchant of Record
 - Carrier Billing at 95/5 R/S = Co-Marketing rights / Fortnite IP usage
 - Post-installs / Software updates = In-game content + discounted currency promotions
- Launch partners include Hutchison, Telefonica & Verizon.
Estimated post-install opportunity ~121 million Android devices

Apple Publishing

Distribution

- Negotiate exceptions and support that allow Fortnite to continue serving existing iOS players (iOS Dec Rev: 47% 2GB devices, 19% select 3GB devices)

Co-Marketing

- Drive re/acquisition by amplifying key beats (ex: Season launch, RMTs, IP integrations, new mobile features)
- Promote regional initiatives to drive engagement (ex: Carnaval, Ramadan)

APPENDIX

2020 Mobile Revenue and Marketing Forecast

2020 Revenue Forecast	2019	2020	+/-	2020 YTD	Vs. Forecast
iOS	\$254M	\$183M	-28%	\$29M	+9%
Android	\$25M	\$26M	+4%	\$4M	+9%
Total Mobile	\$279M	\$209M	-25%	\$33M	+9%
Total Revenue Forecast	\$3,705M	\$3,072M	-17%	\$484M	+9%
% of Total Revenue	8%	7%	N/A	7%	N/A
2020 Marketing Budget Forecast	2019	2020	+/-	2020 YTD	Vs. Forecast
iOS	\$36M	\$22M	-41%	\$702K	+50%
Android	\$3.6M	\$3.1M	-14%	\$258K	+11%
Total Mobile	\$39.6M	\$25.1M	-36.6%	\$960K	+37%
Total Marketing Budget	\$529M	\$309M	-42%	\$14M	+11%
% of Total Marketing Budget	7%	8%	N/A	6.8%	N/A

Optimize Mobile Performance

Download and Patching Process remains a challenge on mobile due to Fortnite Download Size relative to competitors

	Fortnite	PUBG	COD: Mobile
Initial IPA Download Size	199MB	2.4GB	1.8GB
Initial IPA Download Time ¹	22s	3m 50s	3m
Final Download Size	8.23GB	2.53GB	1.83GB
First Load/Patch Time ¹	14m 24s	6s	33s
Days Between Patch: Last 90 Days ²	7.5	9	15
Sign In Time ^{1,4}	22s ³	10s	5s

Key Insights:

- Competitor IPAs are substantially bigger, reducing the size of additional downloads after players get in game
- FN's final download size is much bigger, causing first load to take longer than any download step of any competitor






1: All games were tested once as fresh installs on 12/11/2019 on iPhone X over the EPIC-SECURE network in CRIV.

2: COD: Mobile was released 10/1.

3: 1m 30s including BP video for FTUE

4: Does not include 'optimization' step.

2020 Mobile Strike Team Initiatives Overview

Initiative	Initiative Health	Upcoming Work	Risks	Goals
Optimize Mobile Performance		<ul style="list-style-type: none"> Improved patching analytics Prioritized Pipeline State Object Caching Pre-patching updates when available without player initiated actions In-Game Performance Improvements Add opt out / opt in flow for High-Res MIPs 	<ul style="list-style-type: none"> Limited engineering resources prevent us from making a headway on high impact work Multiple high priority SH randomize team and delay work currently in flight 	<ul style="list-style-type: none"> Reduces Hitches/min on IOS/Android to less than 5 Reduce Missed V-Sync to <1% Reduce total install/patching time by 20% on IOS and Android Increase D14 to D30 retention by 200 basis points
Improve UI Interface		<ul style="list-style-type: none"> Enhancements to Guided Tutorial for Mobile Front End Tutorial for Mobile Build Custom HUD Layout Tool for Mobile Mobile Centric UI/UX optimizations 	<ul style="list-style-type: none"> UI work often gets deprioritized due to higher priority work No dedicated UI resources to assist with design 	<ul style="list-style-type: none"> Increase mobile retention by 300 basis points on D1 and 200 basis points on D7
Increasing Compatible Android Devices		<ul style="list-style-type: none"> Set up "gray list" of devices that will be allowed to install FN, even if they are not officially supported 	<ul style="list-style-type: none"> Loss of IOS 2GB memory entitlement would cause us to lose ~50% of IOS device compatibility Limited opportunities to reduce min-spec further without significantly degrading game performance 	<ul style="list-style-type: none"> Increase addressable market share by 150 million devices
Increase Funnel Conversion		<ul style="list-style-type: none"> Improve tracking of install funnel on web Enable graylist devices to install Fortnite on Galaxy Store Optimize web flow to reduce drop-off points 	<ul style="list-style-type: none"> Funnel data for Samsung flow has been unreliable. Until we can fully resolve this issue, Samsung funnel data cannot be relied on. 	<ul style="list-style-type: none"> End to end tracking of installs from web traffic through Samsung and Epic install flow. Increase Android installs by 50%
Mobile Partnerships		<ul style="list-style-type: none"> Launch optimized install flow and new distribution mechanic with OnePlus on 4/15 Once OP test is complete, measure results and package installation work to be implemented by all other partners Launch pilot Carrier Billing program with Hutch and Telefonica in select EU markets Apple GDC meeting on reacquisition tactics and competitive data 	<ul style="list-style-type: none"> Dev work by EGS & Installer team not prioritized above other tasks Potential DCB partners have required financial revenue information to proceed with required commercial terms, which Epic can't provide 	<ul style="list-style-type: none"> DCB Opportunity (total Android users on Hutch, Telefonica or Verizon networks in pilot markets): 121 million Pre/post-install Opportunity: (total supported Android devices currently in use per FOTA updates from existing OEM partners): ~250 million

Mobile Tech and Feature Roadmap

Initiative	Details	KPI Impact	Status
Prioritized/Selective PSO Cache	Change caching priority of PSOs to reduce time player spends installing game.	Reduce install time by 2 minutes (~30% overall reduction)	Scheduled for 12.10
XCode 11 Transition	Ensure that we comply with Apple timelines to migrate to XCode 11 & retain stability on key devices	Prevent memory crashes on devices that equal ~19% of all iOS revenue	Scheduled for 12.20
Patching Analytics Improvements	Adding stats to allow us to better understand total patch times and assess patching issues.	Reduce response time of LiveOps to patching issues during release days.	Released with 12.0
Pre-Patching	Begin downloading updates when a new patch is available without user input.	Reduce download time by 25% on updates.	In Tech Review
Guided Tutorial Improvements	Continue to enhance guided tutorial to improve onboarding experience and D1-D7 Retention	Improve D1 retention by 200 basis points Improve D7 retention by 100 basis points	In Design*
Smart Tips Updates	Add to existing Smart Tips system to improve player comprehension of gameplay mechanics	Improve D14 retention by 150 basis points Improve D30 retention by 100 basis points	In Design*
Guided BR Mode	New game mode that extends beyond tutorial and teaches BR specific mechanics to new players	Improve D1 retention by 150 basis points Improve D7 retention by 100 basis points Increase BR games played/day by 5%	In Design*
4v4 Bots	New onboarding game mode on mobile similar to COD: Mobile that allows players to familiarize themselves with gameplay in limited scale setting	Improve D1 retention by 100 basis points Improve D7 retention by 50 basis points Improve player kills/game ratio by 10%	In Design*
UI/UX Hit List of Player Facing Improvements	A suite of UX/UI improvements based on User Research that will improve the overall usability of the mobile game	Improve D1 retention by 200 basis points Improve D14 retention by 150 basis points Improve D30 retention by 100 basis points	In Design*

* Pending review and approval from Jason West

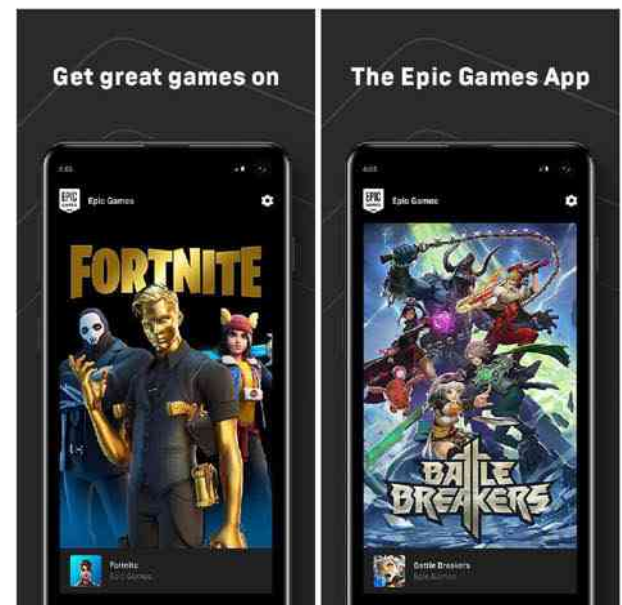
Epic Games App Overview



What it is: The Fortnite Installer adapted and rebranded as the Epic Games App, with the goal of becoming the Epic Games Store on Mobile and hosting multiple third-party mobile games

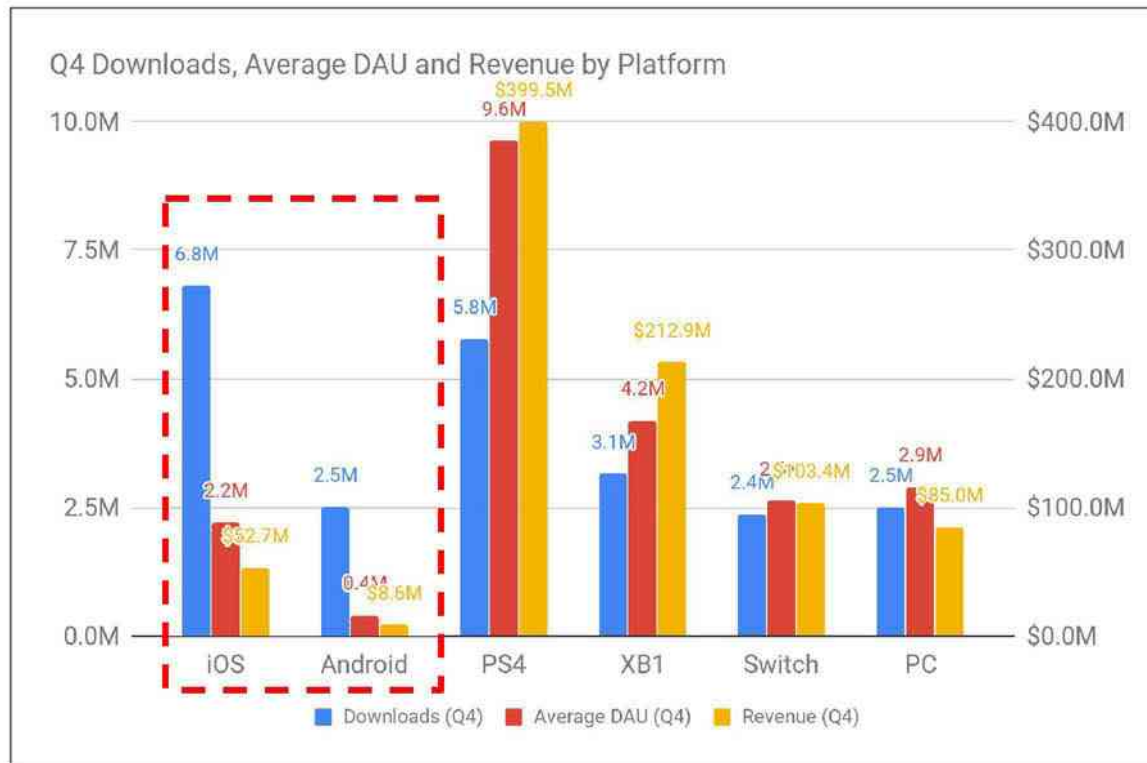
Distribution: App is currently available for download via APK at EpicGames.com and preinstalls on select mobile devices through OEM partnership agreements

Challenges: Awareness, availability, install flow, understanding of what it is, limited content offering, differing game package sizes, product ownership, existing OEM agreements and established terms



Fortnite by Platform: Q4 Installs, DAU, Revenue

Mobile (iOS in particular) is a big source of new players but DAU and revenue trails all other platforms

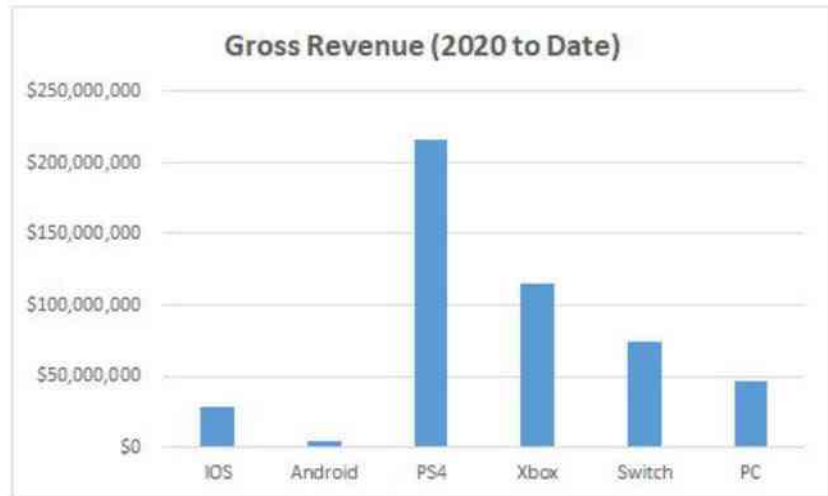
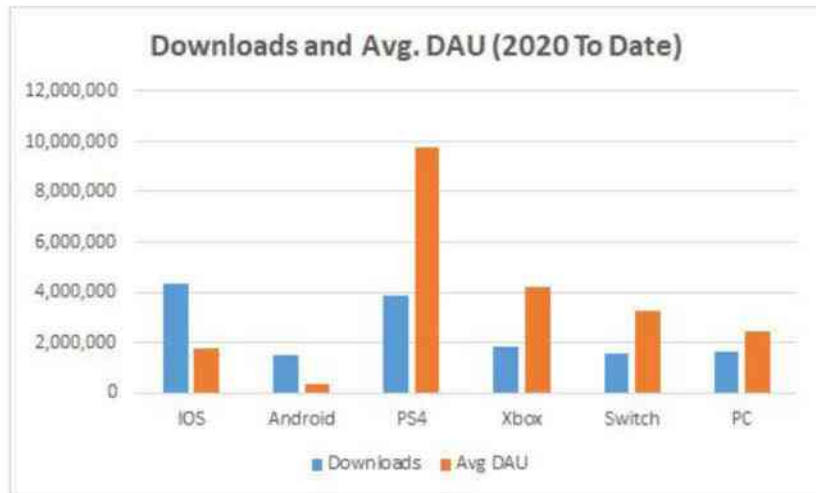


In Q4 Mobile accounted for:

- **40.3%** of new to network downloads of Fortnite
- **13.8%** of MAU
- **9.9%** of DAU
- **7.1%** of Revenue

Fortnite by Platform: 2020 to Date Installs, DAU, Revenue

Mobile continues to drive 40% of New to Network installs in 2020, while contributing 7% of revenue



- Mobile revenue currently tracking at 10% ahead of plan for 2020

Fortnite Mobile Performance Overview

Platform	Downloads (LTD)	Gross Revenue (LTD)	DAU (Q4 Avg)	MAU (Q4 Avg)
Mobile	105M	\$659M	2.6M	9.8M
iOS	85M	\$614M	2.2M	7.7M
Android	20M	\$45M	400K	2.1M
Console (XBOX, PS4, Switch)	140M	\$8.29B	20.7M	52.2M
PC	77M	\$1.07B	2.9M	9M
<i>Totals</i>	<i>322M</i>	<i>\$10.02B</i>	<i>26.2M</i>	<i>71M</i>

- Mobile represents the following of the totals
 - **33%** of downloads
 - **13.80%** of MAU
 - **9.92%** of DAU
 - **6.58%** of revenue

Fortnite Mobile Performance Overview

Platform	Downloads (Q4)	Gross Revenue (Q4)	DAU (Q4 Avg)	MAU (Q4 Avg)
Mobile	9.3M	\$61.5M	2.6M	9.8M
iOS	6.8M	\$52.7M	2.2M	7.7M
Android	2.5M	\$8.6M	400K	2.1M
Console (XBOX, PS4, Switch)	11.3M	\$717M	20.7M	52.2M
PC	2.5M	\$85M	2.9M	9M
Totals	23.1M	\$863.5M	26.2M	71M

- In Q4 Mobile accounted for:
 - **40.3%** of new to network downloads of Fortnite
 - **13.8%** of MAU
 - **9.9%** of DAU
 - **7.1%** of Revenue

Mobile Partnerships: Android

Current OEM Partnerships Scorecard

Manufacturer	Samsung	Huawei	Sony	LG	Totals
Start date	August 9, 2018	January 22, 2019	March 1, 2019	April 1, 2019	---
Contract Length	Three years	One year (contract expired)	Two years	One year	---
Preinstall Agreements	- App stub in Game Launcher on Galaxy Note 9, S10, Note 10, linking to Galaxy Store install flow - Preinstall on designated Unlocked Galaxy S10 Series in Europe	Preinstall on +1 screen and in app tray on HONOR View20 and HONOR 20 / 20 Pro devices	Preinstall on +1 screen, in app tray and available within Game Enhancer on all Xperia 1 & 5 devices	Preinstall on +1 screen and in app tray on LG V50 Dual Screen (Korea + Global)) devices	---
Preinstall Commitments	No contractual commitment from Samsung	Contractual obligation: 5M Preinstalls	Verbal Target: 3M Preinstalls	Verbal Target: 1M Preinstalls	9M
Preinstall Results to date	19,095,546 "App Stub Installs" (in Game Launcher) 10M "Preinstalls" (Galaxy S10 EU)	234K	1M	600K	30.9M
App Portal Agreements	Fortnite Installer available within Galaxy Store on all supported devices	Fortnite Installer available within Huawei App Gallery	N/A	N/A	---
App Portal Install Results to date	16M	2M	N/A	N/A	18M
Outfit Redemption Results	4M	108K	N/A	N/A	4.1M
Revenue Split	FN: 88/12 Non-FN: 95/5	FN: 100/0	FN: 100/0	FN: 100/0	---

Mobile Partnerships: Android

Partnership Terms

Technical Requirements to work with Epic Games moving forward...

Preinstall Placement	<ul style="list-style-type: none">- Epic Games app availability on all new devices
OTA updates	<ul style="list-style-type: none">- Capacity to reach all “legacy” devices with post-install via over the air software updates
Deep linking	<ul style="list-style-type: none">- Ability to deep link to optimized flow, not sideload flow
Whitelisting / System Privilege	<ul style="list-style-type: none">- Removal of:<ul style="list-style-type: none">- APK damaging device prompt- Sources unknown
DCB Integration (Carriers)	<ul style="list-style-type: none">- API integration under Epic approved DCB merchant of record

Mobile Partnerships: Android

Additional strategic OEM partnerships (if technical requirements are met)

Targeted 2020 OEM Partners	Samsung	Huawei	Sony	Xiaomi	OnePlus	LG	Vivo	Lenovo	OPPO	Total
Status	In Contract	On Hold	In Contract	Made Contact	In Draft Phase	In Contract	In Conversation	Made contact	In Conversation	---
Terms	3 Years (Ending Aug 8, 2021)	1 Year (Ended Dec 31, 2019)	2 Years (Ending Feb 28, 2021)	N/A	N/A	1 Year (Ending March 30, 2020)	N/A	N/A	N/A	---
Meets required technical terms	Yes	No	No	No	Yes	No	TBD	TBD	TBD	---
Total Supported (Fortnite) Device Market Share (excl. China)*	56%	22%	4%	4%	3.1%	2.8%	1.4%	1.1%	TBD	94.4%

*Based on IDC sales data from Q3/2015-Q2/2019

Mobile Partnerships: Android

DCB + Carrier Partnerships Pilot Program

Telecom Group	Hutchison	Telefonica	Verizon
Carriers	- Three - Wind Tre	- O2 - Movistar	Verizon
Countries	Phase 1: UK, Italy Phase 2: Sweden, Denmark, Ireland, Austria	Phase 1: Spain, Phase 2: Germany, UK	USA
Opportunity (total Android users on networks in established DCB markets)	34M	40M	47M
Commercial Terms	95/5 (+Up to 3% in bad debt)	95/5 (+Up to 3% in bad debt)	95/5 (+Up to 3% in bad debt)
Co-Marketing (IP usage, events, promotions)	YES	YES	YES
Target Partnership Announcement Date	Q2 Timeframe	Q2 Timeframe	September Timeframe

Mobile Partnerships: Android

Current status of Huawei partnership

Standing Huawei restrictions have not changed. Huawei remains subject to export restrictions. In 2019, Epic filed an application with the US Department of Commerce requesting permission to resume certain collaboration with Huawei relating to Android-OS mobile phones. Commerce has not yet responded with a decision regarding whether to grant or deny Epic's application. There is no current timeline for this for this response.

Current business terms:

Epic CANNOT:

- Discuss or provide access to technical info, technical support, or technical instructions
 - Examples of things Epic CANNOT discuss/provide: performance metrics; product specifications; hardware/software testing feedback; fraud prevention software solutions
 - Exception: Epic can repeat technical info that is already publicly available on the internet free-of-charge (e.g., facts posted on Epic's public FN FAQ site)
- Provide versions of software that are not publicly downloadable free of charge
 - Examples of things Epic CANNOT provide: sending Huawei a version of the Installer APK that is not identical to a version available online for free download by the public
 - Examples of things Epic CAN provide: Installer APK version downloadable for free from Epic's website; Unreal Engine version downloadable for free from GitHub
- Provide other electronic materials that contain non-public technical info, technical support, or technical instructions (similar to first bullet above)
- Provide or return physical materials to Huawei
 - Examples of things Epic CANNOT provide: Huawei test handsets; flash drives

Epic CAN (unless the discussions cross into one of the categories above):

- Discuss general business terms of promotions
 - Examples of things Epic CAN discuss: desired pre-install numbers; device-exclusive FN skins
- Discuss promotional materials
 - Examples of things Epic CAN discuss: art; ads
- Repeat or direct Huawei to the location of technical info that is already publicly available on the internet free-of-charge

Revenue by First Seen Platform %

Revenue by First Seen Platform %

Lapsed: All

From Ad: All

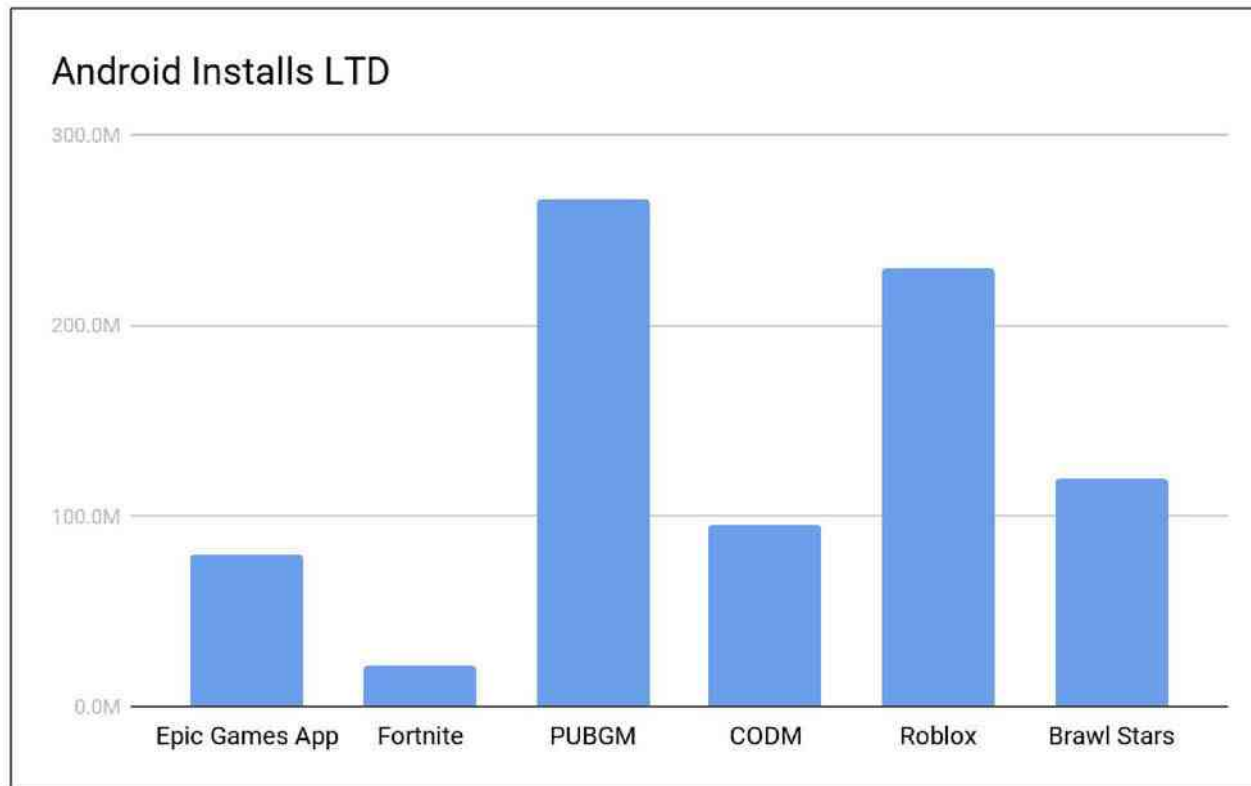
First Seen Platform: PS4, XBOXONE, SWITCH and 3 more

Platform Purchased: PS4, XBOXONE, SWITCH and 3 more

First Seen Pla..	Platform Purchased					
	PS4	XBOXONE	SWITCH	PC	IOS	ANDROID
PS4	94.2%	0.9%	0.5%	2.0%	2.1%	0.4%
XBOXONE	1.6%	93.8%	0.5%	1.8%	2.1%	0.3%
SWITCH	4.4%	4.2%	87.7%	1.6%	1.8%	0.2%
IOS	24.1%	16.4%	3.8%	6.8%	48.5%	0.5%
PC	10.3%	6.8%	2.1%	74.2%	5.2%	1.4%
ANDROID	34.8%	18.9%	4.8%	14.6%	5.3%	21.6%
Grand Total	47.4%	25.9%	10.3%	9.0%	6.6%	0.7%

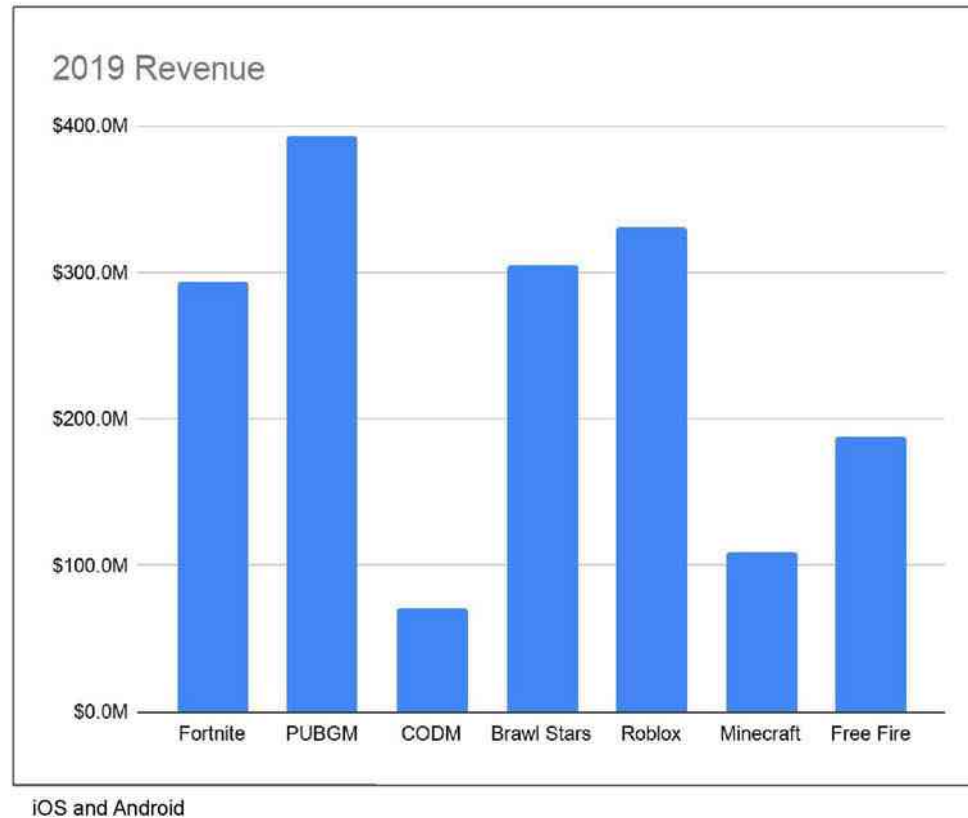
Android Discoverability

Despite lower min-spec, Epic Games App distribution is still significantly lower than competitors



Mobile Competitors - 2019 Revenue

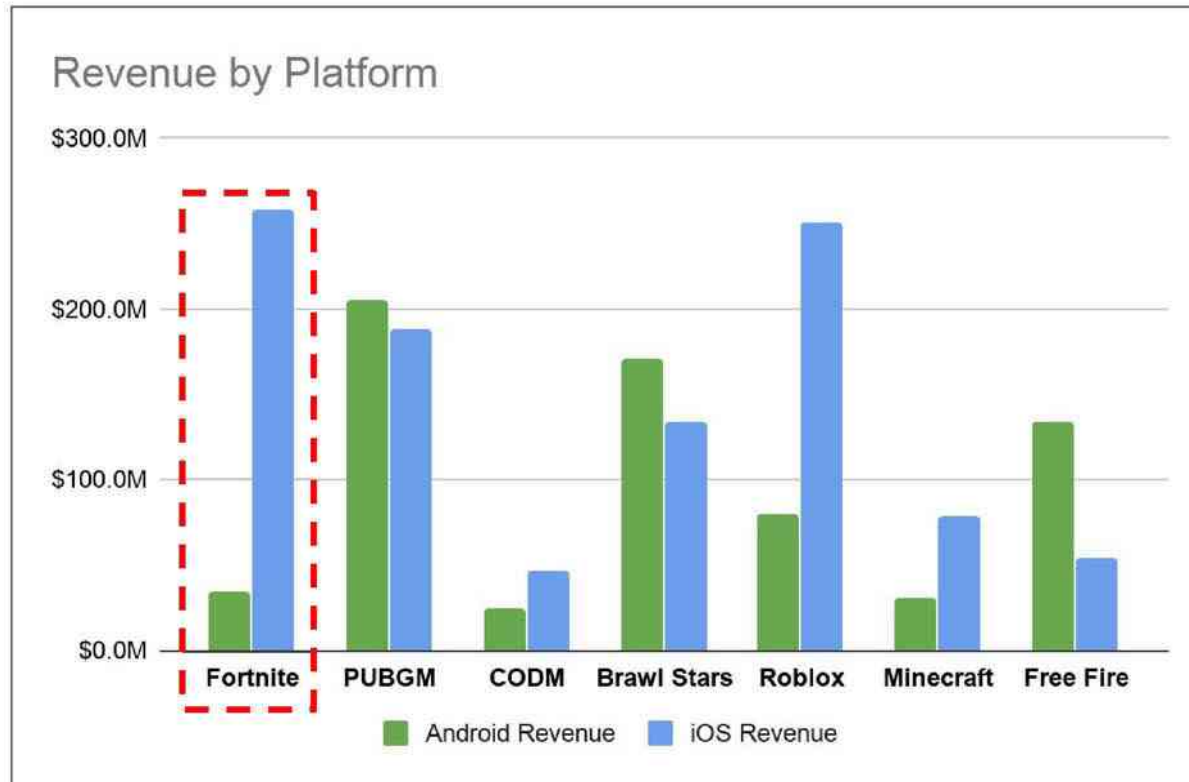
Fortnite revenue vs. the competition



SOURCE: Fortnite actuals; Comps from App Annie, excluding regional SKUs (ex: PUBG Japan) and any data from China in non-regional SKUs

Mobile Competitors - 2019 Revenue

Despite best in class iOS revenue, Fortnite's Android revenue trails key comps



Caveat: CODM launched late Sept 2019

SOURCE: Fortnite actuals; Comps from App Annie, excluding regional SKUs (ex: PUBGM Japan) and any data from China in non-regional SKUs

Mobile Competitors - 2019 MAU

Fortnite's MAU is lower than the competition primarily due to Android

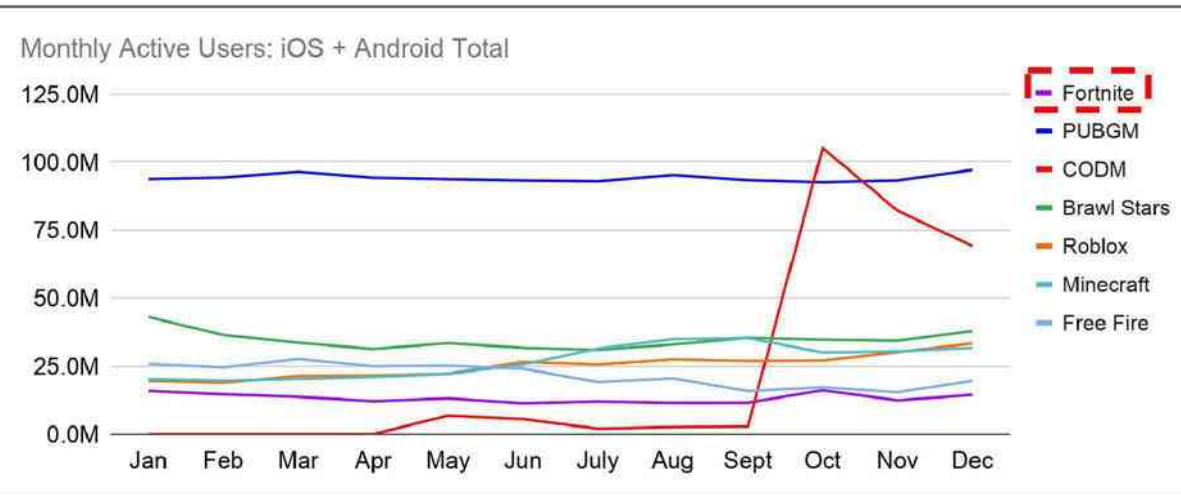
Dec MAU by Platform:

	iOS	Android	Total	% Android
Fortnite	11.1M	3.3M	14.4M	23%
PUBGM	10.7M	86.3M	97.1M	89%
CODM	20.8M	48.3M	69.1M	70%
Brawl Stars	10.8M	27.1M	37.9M	72%
Roblox	14.0M	19.3M	33.3M	58%
Minecraft	8.6M	23.1M	31.7M	73%
Free Fire	1.4M	18.2M	19.6M	93%

SOURCE: Fortnite actuals; Comps from App Annie, excluding regional SKUs (ex: PUBGM Japan) and any data from China in non-regional SKUs

Mobile Competitors - 2019 MAU

Fortnite's lower Android revenue is a function of FN Android MAU being significantly below comps



Dec MAU by Platform:

	iOS	Android	Total	% Android
Fortnite	11.1M	3.3M	14.4M	23%
PUBGM	10.7M	86.3M	97.1M	89%
CODM	20.8M	48.3M	69.1M	70%
Brawl Stars	10.8M	27.1M	37.9M	72%
Roblox	14.0M	19.3M	33.3M	58%
Minecraft	8.6M	23.1M	31.7M	73%
Free Fire	1.4M	18.2M	19.6M	93%

- Fortnite has leveled off to around **14M** MAU in 2019
- Roblox and Minecraft increased their MAU trends in Q3 and Q4
- CODM launch saw high engagement, closing the year at **69.1M** MAU
- PUBGM and CODM MAU was significantly higher than comps due to Android (89% and 70% respectively)

SOURCE: Fortnite actuals; Comps from App Annie, excluding regional SKUs (ex: PUBGM Japan) and any data from China in non-regional SKUs

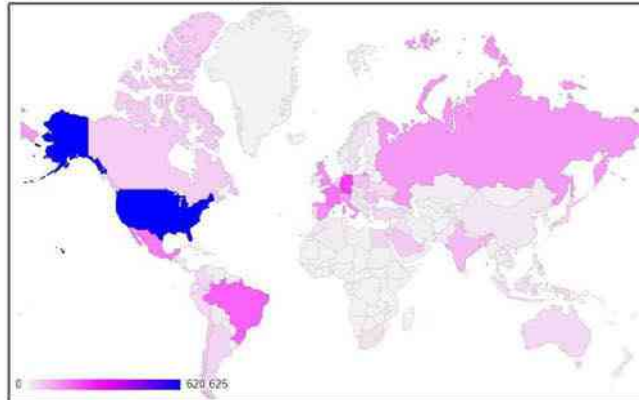
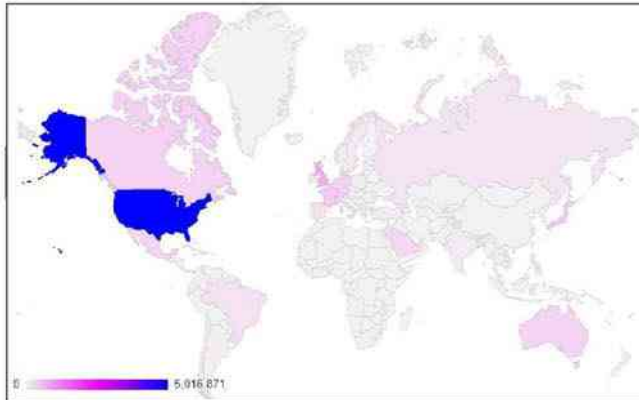
Mobile Competitors - 2019 Dec MAU by Region

84% of PUBG Mobile's Android MAU comes from emerging markets, while still outperforming FN in established geos like the US

iOS MAU

Android MAU

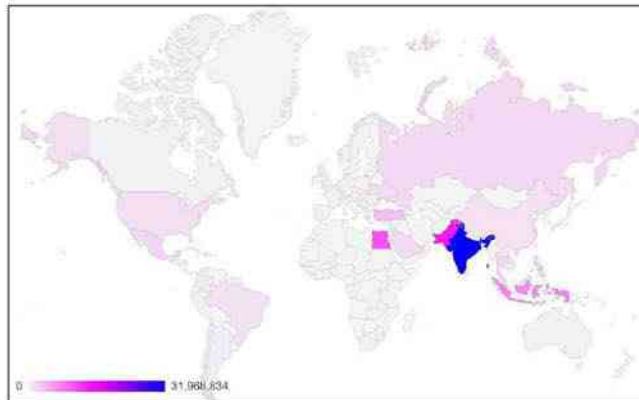
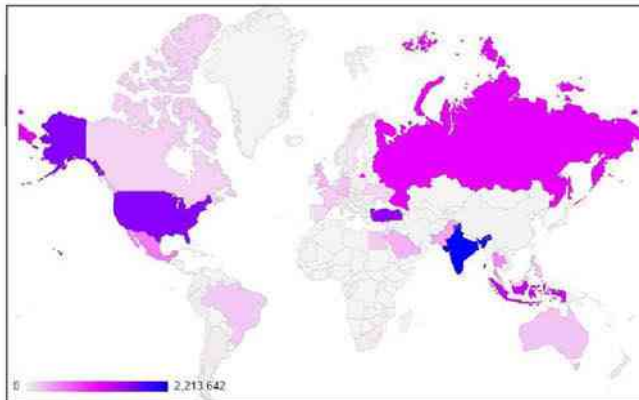
**Fortnite
Mobile**



% MAU by Continent

	FNM	PUBGM
EU	30%	10%
NA	50%	4%
SA	4%	2%
AS	12%	71%
OCE	3%	0%
AF	1%	13%

**PUBG
Mobile**



Android MAU

	FNM	PUBGM
US	0.6M	1.3M
India	0.1M	32.0M
Pakistan	0.0M	14.5M
Egypt	0.0M	10.7M
Indonesia	0.0M	7.0M
Russia	0.1M	1.6M
Germany	0.2M	0.2M

SOURCE: Fortnite actuals; Comps from App Annie, excluding regional SKUs (ex: PUBG Mobile Japan) and any data from China in non-regional SKUs