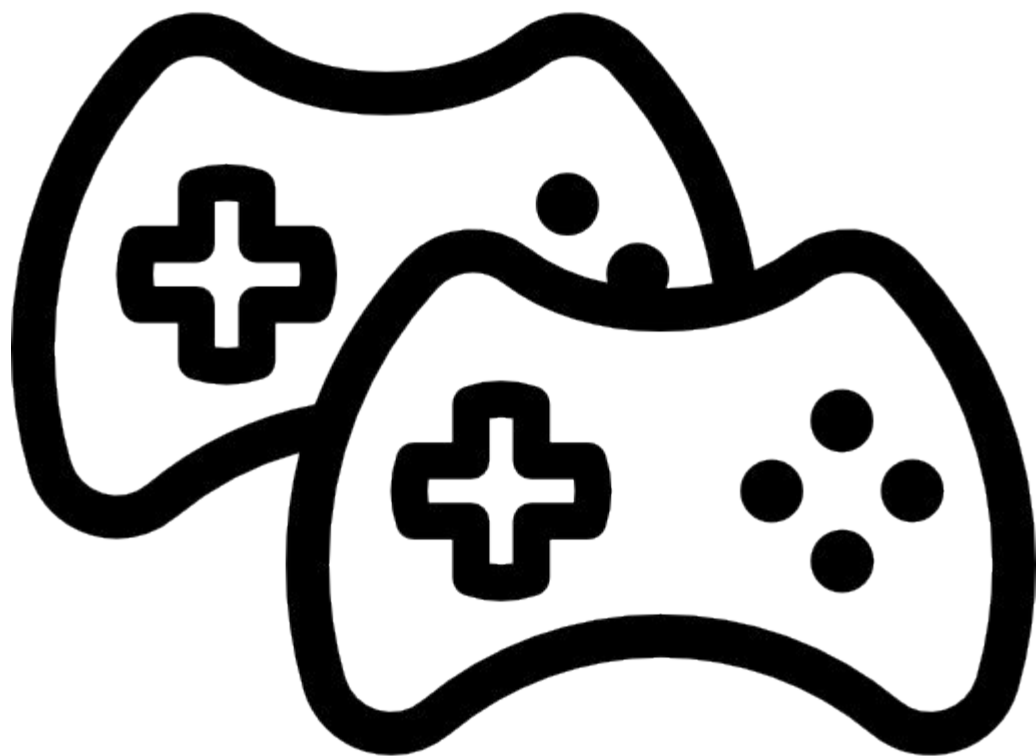




ITEC Stockholm
14 May 2019



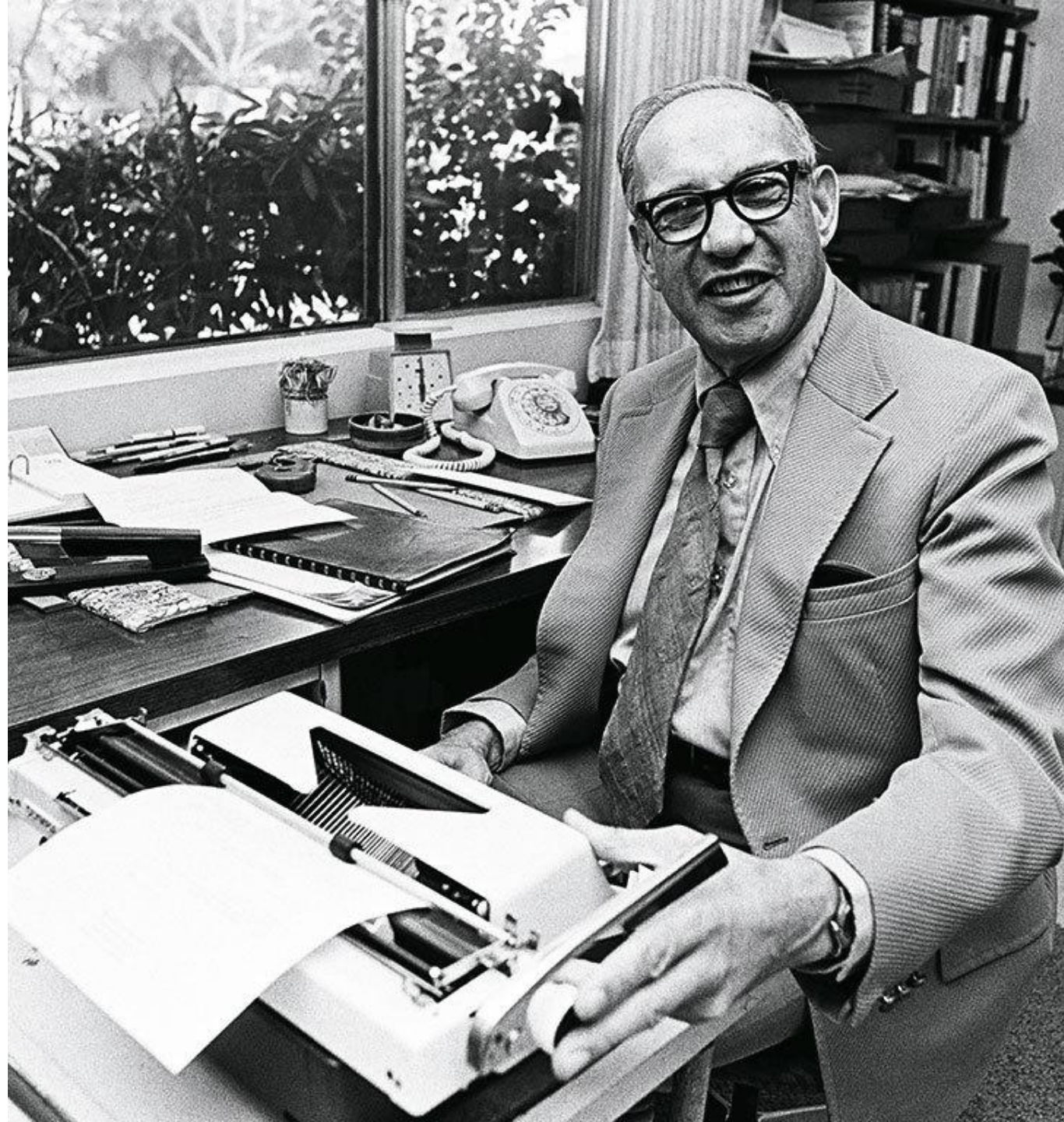
Learning from the Latest Generation of Online Games?

Andy Fawkes

Disruption

**“If you want
something new, you
have to stop doing
something old”**

**Peter Drucker
1909-2005**



Overview

- **Some Current Online Gaming Developments:**
 - Fortnite
 - Apex Legends
 - Rec Room
 - Cross Platform Play
 - Smart Game Objects
 - Google Stadia
 - Other Technology Drivers
- **So What for the Training & Simulation Community?**

Fortnite



Fortnite Battle Royale





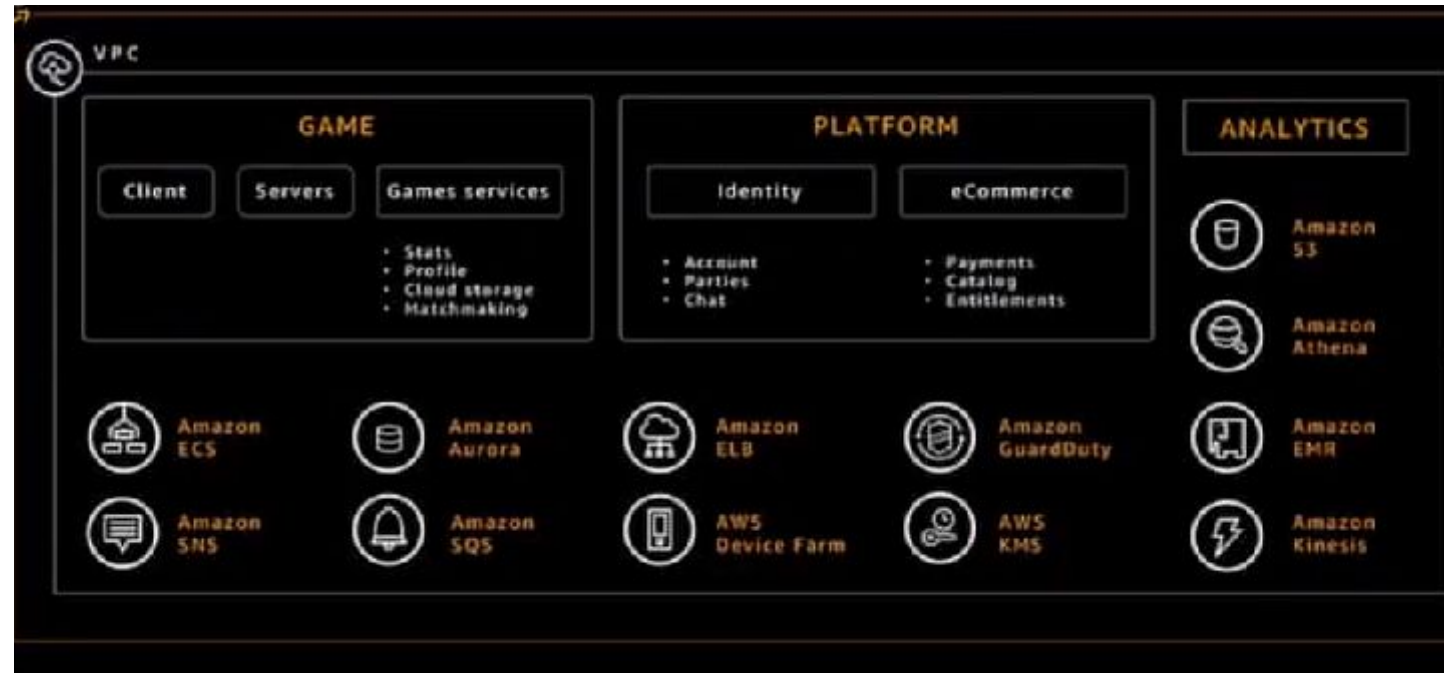
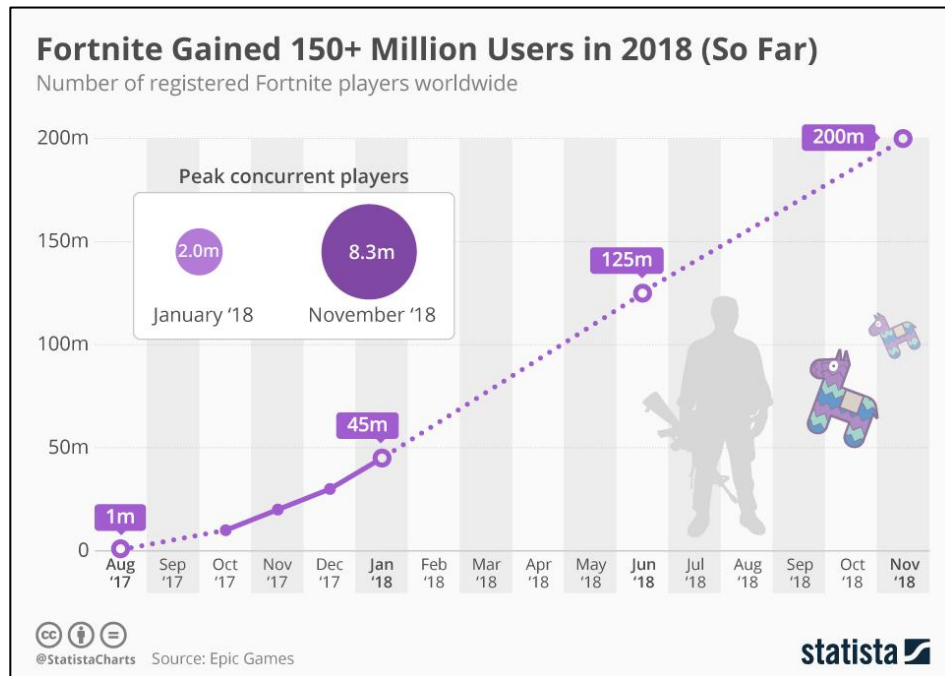
Fortnite Battle Royale (Released Mar 17)

- As of March 2019: >250 million players and ≤ 10.8 million concurrents
- The goal is to be the last player alive out of 100 within a game area that decreases in size over time
- Objects in the game can be harvested for materials to build walls and ramps for protection, to help move, or slow down other players
- Free-to-Play but players have the option to purchase cosmetic skins, dances, and pre-released game modes for their characters.
- Average spend \$84.67 each player with game revenues >\$1 Billion
- Game constantly refreshed through “Seasons” (now Season 9)

Fortnite Hosting



- Epic Games exploits Amazon Web Services (AWS)
- Fortnite servers around the world to reduce latency
- Each month Epic collects two petabytes of data
- From 0 to 250 Million Players in 24 Months



Fortnite Cross-Platform Play



- Across PC, PS4, Xbox One, Switch, Mac & mobile
- All platforms require an Epic Games account
- Becoming friends through Epic enables cross-platform play
- Progress and purchased content travels with Epic account
- Party Finder searches for Epic Games friends across platforms

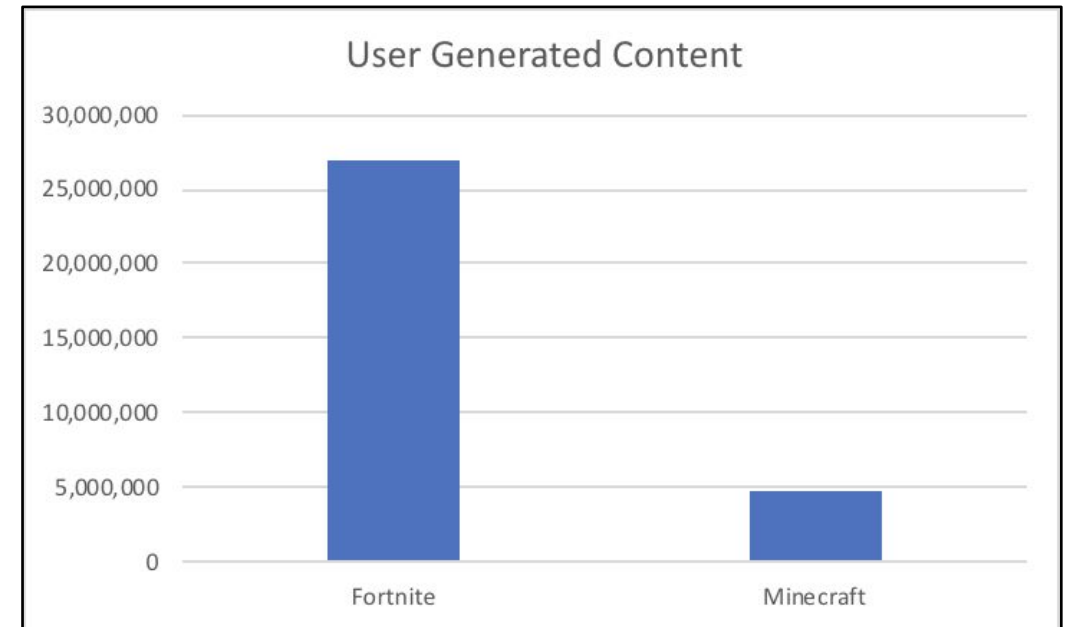
Fortnite's DJ Marshmello Concert – 2 Feb 2019

10.7m Online Players Watched Live Concert



User Generated Video

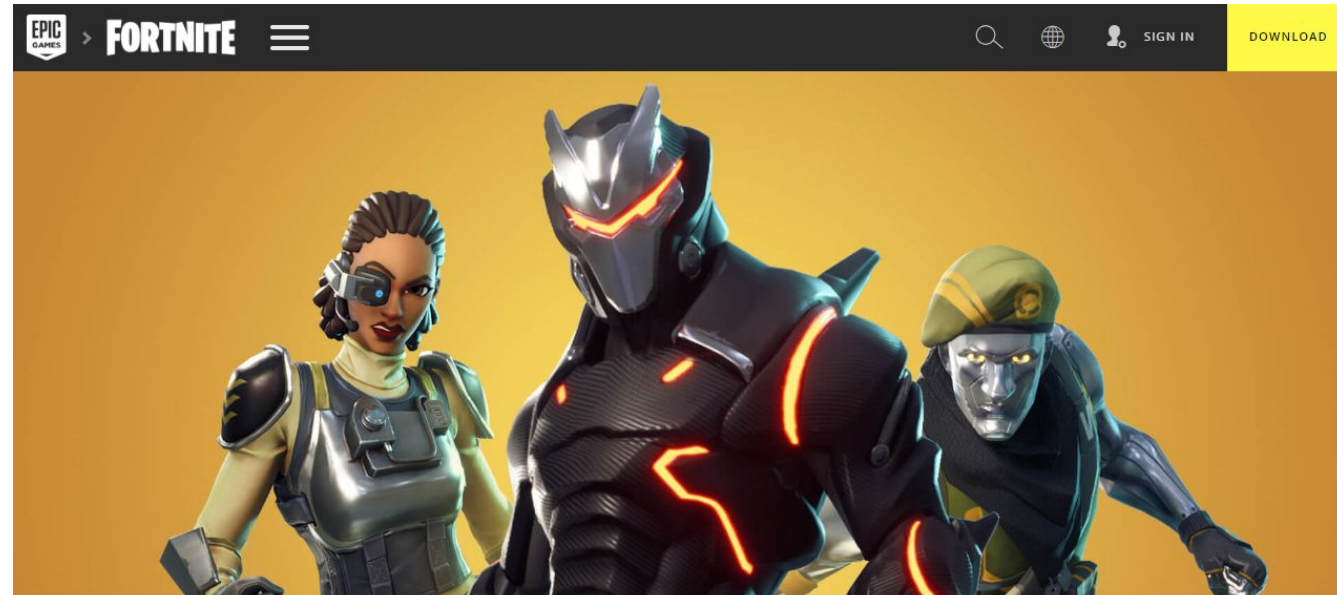
- Over 26M videos referencing Fortnite were published across YouTube, Twitch, Instagram, Twitter, and Facebook, and viewed over 89bn times in 2018
- The second most popular livestream game Minecraft, generated 4.7M videos with 35.8B views



Tubular Labs

Fortnite Battle Royale - eSports

- The global eSports industry is \$905m (2018/Newzoo)
- Top Fortnite player “Bizzle” - Earnings \$322k (Oct 18)
- On 14 Mar 18, a game of Fortnite pulled in 630,000 concurrent viewers on Twitch TV



EPIC GAMES WILL PROVIDE \$100,000,000 FOR FORTNITE ESPORTS TOURNAMENT PRIZE POOLS IN THE FIRST YEAR OF COMPETITIVE PLAY

5.21.2018

Fortnite Generations



Poll of parents of 8- to 17-year-olds/teens

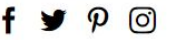
Percent of respondents who:	Parents	Teens
 Say their child has/they have played <i>Fortnite</i> during class time at school.	2%	27%
 Are at least moderately concerned with the level of violence in <i>Fortnite</i>.	28%	7%
 Say playing <i>Fortnite</i> helps their child/them keep up with friends?	28%	50%
 Say playing <i>Fortnite</i> helps their child/them learn teamwork?	26%	50%
 Say playing <i>Fortnite</i> has helped their child/them bond with a sibling?	16%	39%

39% of Dads & 18% Mums Play

New Media Dynamics

METRO

NEWS... BUT NOT AS YOU KNOW IT



135.6M
SHARES

NEWS SPORT ENTERTAINMENT SOAPS LIFESTYLE VIDEO MORE

TRENDING

SHOWBIZ TV FILM MUSIC GAMING

Netflix says its biggest rival is Fortnite



GameCentral Friday 18 Jan 2019 2:13 pm



Fortnite – Netflix's nemesis

As **Netflix's** revenues jump by more than a quarter the entertainment giant has said they compete more with **Fortnite** than HBO.

Prince Harry thinks 'Fortnite' is so addictive it should be banned



Prince Harry, Duke of Sussex is presented with a hand carved rattle for his future child by the Worshipful Company of Turners. A much better activity than 'Fortnite,' in his eyes.

IMAGE: GEOFF PUGH - WPA POOL / GETTY IMAGES

BY KELLEN BECK

APR 04, 2019

Prince Harry has made himself very clear: he does not like *Fortnite*.

Prince Harry expressed his utter distaste for *Fortnite*, one of the most popular games in the world right now, at an event at a west London YMCA, [BBC reported](#) Thursday. He went so far so to say he thinks the game shouldn't be allowed in the UK, where his family lives in a

NEWS

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Fortnite is now even being blamed for divorce

17 September 2018

f Share



FORTNITE

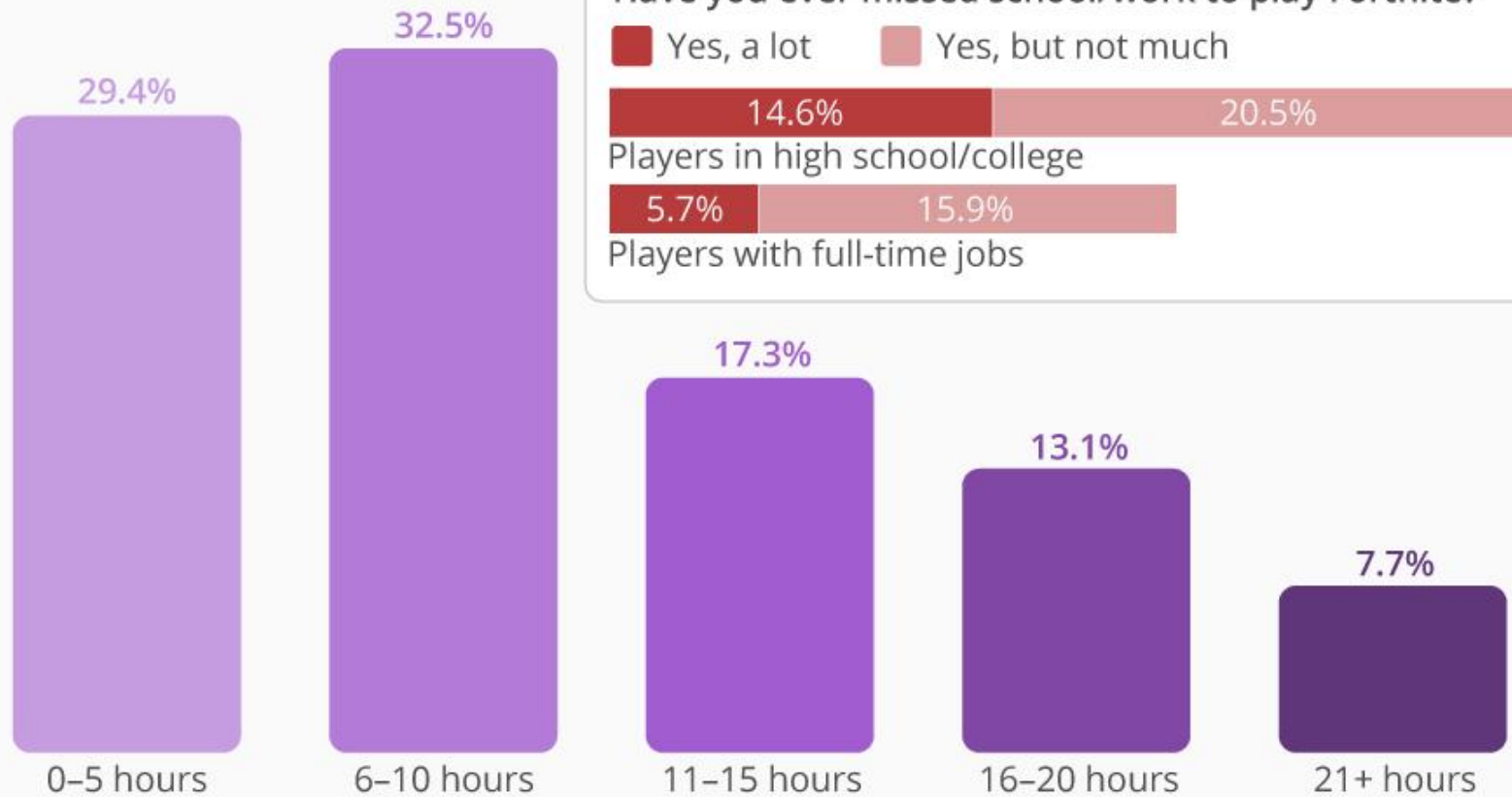
Fortnite has been blamed for violence, students missing school and now apparently divorce.

The survival video game's been cited in a number of recent break-ups, according to a new survey.

People do Play a Lot

Fortnite – The All-Consuming Gaming Hype

Self-reported weekly time Fortnite players in the U.S. spend playing the game

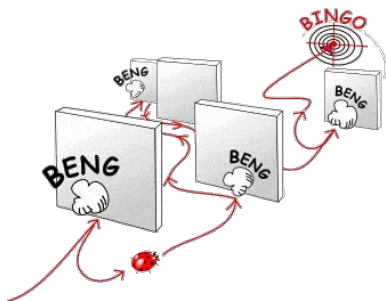


Fortnite Battle Royale - Addictive?



Random Rewards

- Random “loot” or “variable-ratio schedule”, like a slot machine
- The hope of finding something desirable paired with occasional reward is exciting
- The gap between high- and low-skill players is also reduced making the game less punishing and more difficult to dominate



Finding Order in Chaos

- The instinctive need to find order in chaos
- Players must build a mental model of the game’s mechanics building their intuitive judgement
- If their intuition leads to success this is pleasurable whilst unexpected failure leads to a need to learn and play more



Social Status

- The need to signal social status
- Impressing other players through “skins” or visual customisations of player’s avatars or weapons, that are also restricted to “Seasons”, signalling success, much like in Fashion

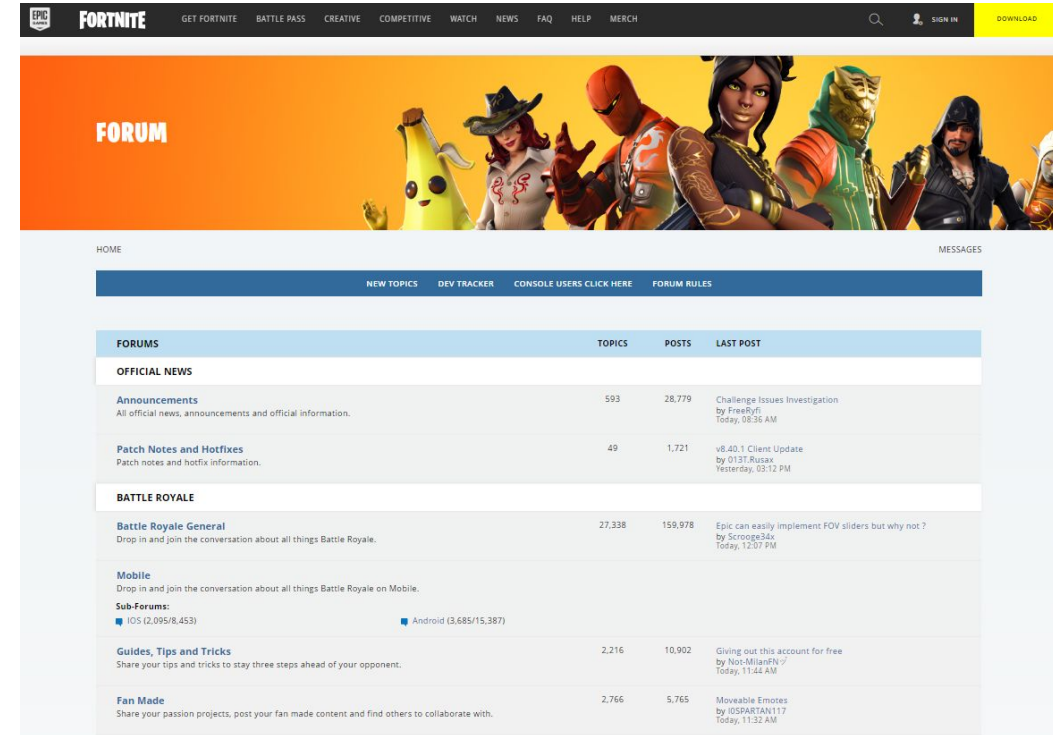
Games as Social Networks



03.11.19

More than a game, Fortnite is emerging as the best new social network

The wild popularity of the shooter game is a reminder that socializing is way more fun when you're actually doing something with your friends.

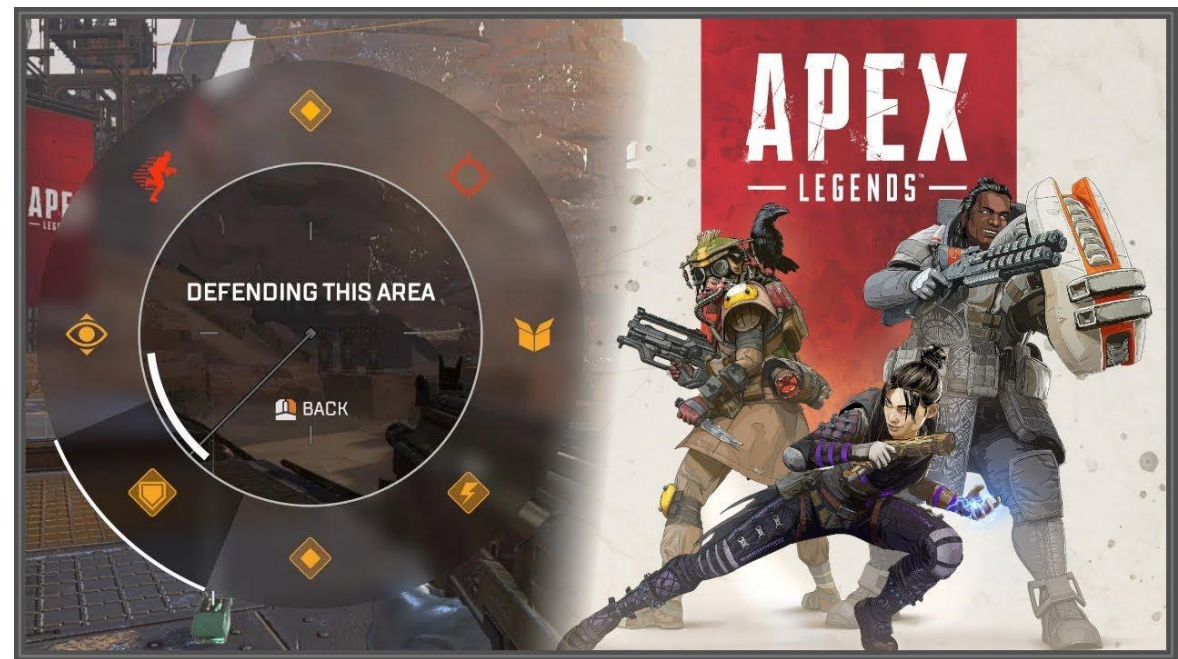


Apex Legends



Apex Legends (Team-Based Battle Royale)

- Released 4 February 2019, Free-to-Play
- 50 Million Players Joined in One Month
- Earning \$92 million in revenue across all platforms
- A novel ping system allows teammates to mark supplies, locations, and enemies



Apex Legends

- Google Cloud Based
- With no pre-launch marketing it reaches:
 - 1m Players in 8 Hours
 - 10m in 3 Days
 - 50m in 1 Month

Google Cloud

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CUSTOMERS

How Google Cloud helped Multiplay power a record-breaking Apex Legends launch



Sunil Rayan
Google Cloud for Games
Managing Director

March 18, 2019

Try GCP
Get \$300 free credit to spend over 12 months.

Can you take a wild guess how many players a new multiplayer game typically attracts in its first day of availability? Would you say thousands, tens of thousands or even hundreds of thousands?

Without any pre-launch marketing or promotional pushes, the free-to-play battle royale game *Apex Legends*, from Respawn Entertainment, reached a whopping one million unique players during the first eight hours of its debut on Monday, February 4, 2019. In the first 72 hours after its initial launch, *Apex Legends* reached 10-million players and has now reached 50 million unique players after just one month.



Rec Room



Rec Room

- VR-Based social spaces and multiplayer games, including first-person shooters & cooperative role-playing games
- Provides in-game tools for user-generated maps and games
- Cross-Platform



Cross-Platform Play

**HOW WOULD YOU LIKE
TO PLAY?**



PLAYSTATION



XBOX



SWITCH



PC/MAC



MOBILE

What is Cross-Platform Play?

- An online video game that allows players using different game hardware such as Consoles, PCs, Mobiles etc to play with each other simultaneously
- Cross-Platform games generally use standard TCP/IP-based communications between players' clients, or between a client and a game server, compensating for the differences between hardware platforms
- The term is related to but distinct from cross-platform development, which uses software languages and tools to enable deployment of software on multiple platforms



A Little History

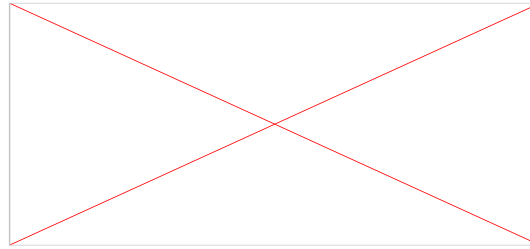
- 2002
 - PlayStation 2 & PC cross-platform play enabled for Final Fantasy 11
- 2012
 - PS3 and PS Vita support cross-platform play
- 2016
 - Microsoft announce cross-network play for Xbox One & Windows 10
- 2018
 - Sony announce cross-platform beyond Sony ecosystem (Fortnite)
- 2019
 - >200 games support cross-platform play

Why Cross-Platform Play?

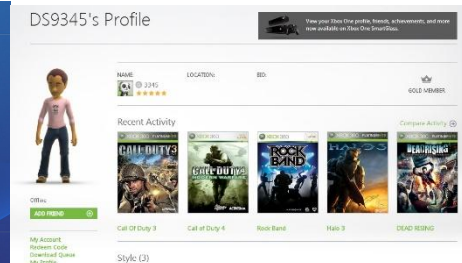
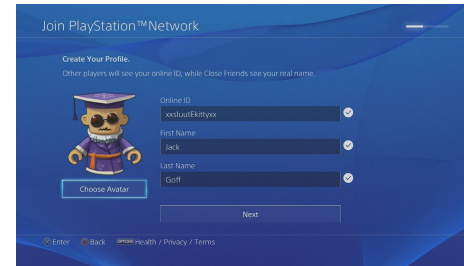
- **Game Developers**
 - Can keep game's player base large over a period of time providing ongoing sources of income
- **Console Providers**
 - Increases attractiveness of console
- **Gamers**
 - Can more easily play with friends and increases usefulness of console/PC

Cross-Platform Play Challenges

- **Gameplay**
 - Fair Fight



- **Technical**
 - Matchmaking
 - Security



- **Business**
 - Strategic Planning



Epic Games SDK “Any engine. Any store. Any platform.”

Towards a unified, cross-platform social experience - 2019

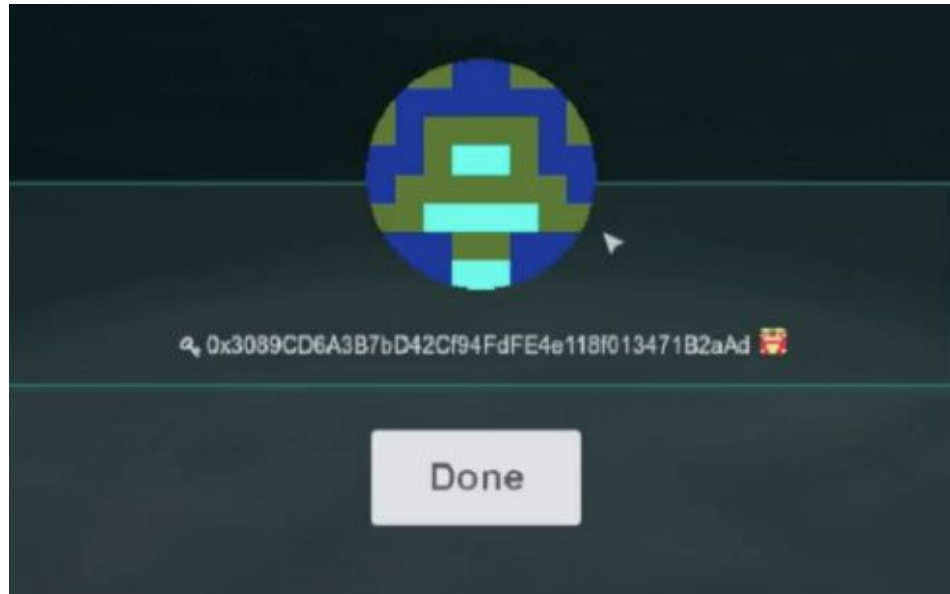
- **Game analytics**
- **Ticketing system**
- **Player reports**
- **Player data storage**
- **Achievements, leaderboards & stats**
- **Communications**
- **Parties**
- **Common Overlay**
- **Matchmaking**
- **Player identity**
- **Player inventory**

Smart Game Objects



Smart Game Objects

- For any object in a game, its data is stored and read off a blockchain
- Users own and can change an object's attributes through winning challenges, purchases, modifications etc
- The data is stored externally to the game and can be owned (or sold) long term and potentially passed across games



Smart Contract on Ethereum



Same Colour Green Appears in Game D-PARC

Google Stadia



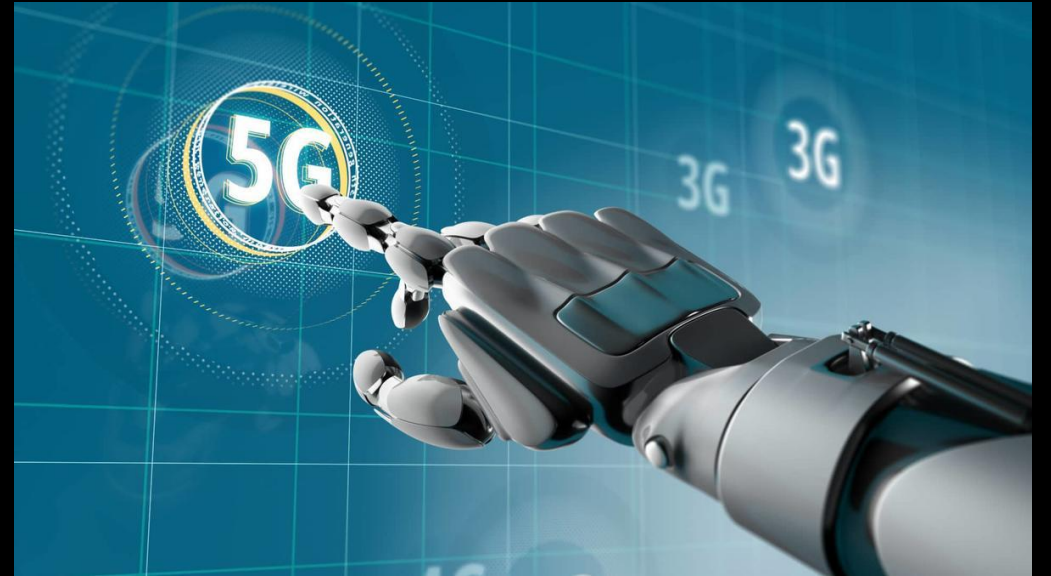
Google Stadia

- Platform-Agnostic Cloud Gaming Service Launching Late 2019
- Streaming Games at up to 4K resolution/HDR at 60FPS
- “State Share” Integration with YouTube allows Viewers to Launch a Game using the Same Save State as the Streamer



Stadia GDC 2019 Gaming Announcement

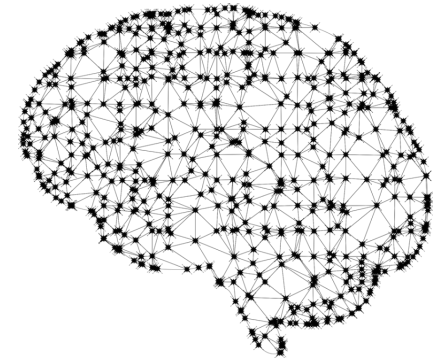
Related Technologies



Other Technology Drivers

AI

- Already closely linked to Gaming
- Game levels that Automatically Change to fit the Skill level of the Player
- Better Codify Human Attributes of Vision, Speech, & Sentiment leading to new forms of Interaction
- More Cost Effective, Faster Game Design & Production
- Improved AI-Driven Characters & Effects
- Improved Player Analytics



5G

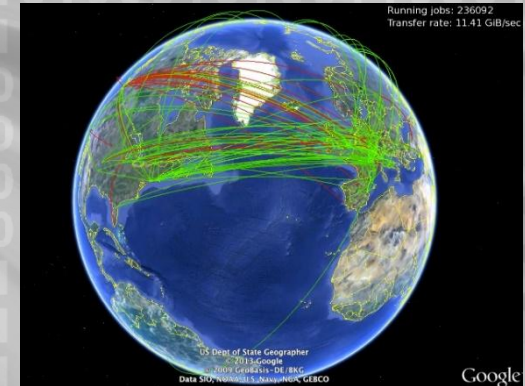
- More Mobility, Less Reliance on Fixed Infrastructure
- Greater Exploitation of the Cloud
- Enhanced Capability for VR/AR, Reducing Local Headset/Processor Burden



Towards a Metaverse?



Metaverse



a virtual shared space that converges with actual reality

So What for the Training and Simulation Community?



New Priorities?

- **Simulation as the Core of a Training Ecosystem**
 - Sharing & Discovery
 - Matchmaking & Social
 - At the Point of Need Across Hardware & Geographically
 - Consistent User Interfaces Across Training Systems
- **Drive Towards Cloud/Hybrid Cloud**
- **Exploit Data, Analytics & AI across the Enterprise**
- **New Methods of Communication to Enhance Human Interoperability (& perhaps with Autonomous Systems)**
- **Track Cultural and Recruitment Implications**
- **Learn how Technology & Convergence in Gaming are Forcing Innovation & Industry Competitiveness, to Influence your Requirements**

Disruption

What is the Training & Simulation Community Going to Stop Doing to Exploit the Latest Gaming Trends?

