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From Spacewar! to Twitch.tv: The Influence of Competition in Video Games and the Rise of eSports

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From Spacewar! to Twitch.tv: The Influence of Competition in Video Games and the Rise of eSports

A senior thesis submitted to the History Faculty of Dominican
University of California in partial fulfillment of the
requirements of the Bachelor of Arts in History

By

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Abstract

Since their inception in the 1950s, video games have come a long way; with that advancement came more popularity, a growing demand, and an evolving culture. The first person shooter (FPS) video game genre and the competitive scene that was born out of it is an ideal case study to analyze this change over time. To understand how video games became so popular, one must examine their history: specifically, their development, impacts the games have had on society, and economic trajectories. Similar to traditional professional sports, video games experienced a cultural shift around their lucrative profit margins and unfolding professionalization of gamers as entertainers/athletes. Professional gaming started in the 1980s, where 10,000 participants competed in the Space Invaders Championship. Since then, video games evolved from being a casual past time to a career for some gamers. The resulting professional gaming community has attracted the attention of wealthy businessman, including a disproportionate number of iconic sports names, including the New York Yankees, Golden State Warriors, Magic Johnson, and Robert Kraft, who have all bought into eSports.

All of this is possible due to advancement in technology and significantly improved graphics which allows game developers to increase the amount of content and quality of their games. Without continual advancement in these areas, gamers start to lose interest, which means no economic and societal growth. For example, games released in the early 2000s such as Counter Strike, World of Warcraft, and Halo have utilized online features to allow players to compete with whoever they want from the comfort of home, making it easier than ever for gamers to hone their skills against others. Today, constant updates and new titles are now the

norm for successful video game companies; marking this particular industry and accompanying culture as a microcosm for global society at large.

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College has been a hard journey for me with many obstacles. I have always struggled with academics, and my teachers from elementary and middle school would usually doubt my capabilities and said I would be lucky to get through high school, but here I am about to graduate college.

First, I would like to acknowledge all of my previous teachers who doubted me and said I would never get to where I am now. There is no better feeling than proving people wrong, and I feel honored to be one of the few that worked hard and finished something that they started.

My next acknowledgment goes to all of my high school teachers and college professors that believed in me and helped me each step along the way. I could not have done this by myself, and I will always cherish the effort others put in to make sure I was successful.

Lastly, and most importantly, I would like to acknowledge my parents for pushing me to keep succeeding and loving me. Having the desire to prove people wrong, and the help of amazing professors, can't top the motivation and support I've received from my parents. Thank you, Mom and Dad, I love you.

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Introduction

Whether one plays them or not, video games have become a large part of our lives in the contemporary world. Militaries around the world use them for training simulations, doctors use technology that stems from video games to perform operations, and various gamers have made professional careers out of video games. Professional gaming started in the 1980s, where 10,000 participants competed in the *Space Invaders* Championship. Since the early 80s, video games evolved from a casual past time to a \$140 billion industry and a full career for some gamers.¹ The resulting professional gaming community has attracted the attention of wealthy businessmen, including a disproportionate number of iconic sports names, including the New York Yankees, Golden State Warriors, Rick Fox, Magic Johnson, and Robert Kraft, who have all bought into eSports.

The unique historiography of video games and eSports can be broken down into three parts; early development and advancement of technology, economic growth over time, and the professionalization of competitive games. To cover the early history, Patrick Crogan, author of *Gameplay Mode: War, Simulation, and Technoculture*, delves into the early history of video games and argues that video games owe their initial development to imaging and simulations designed for the United States military during the Cold War, purely out of the desire to innovate and experiment with the newly invented computer.²

In a study of the economic history, Mark J. P. Wolf uses a collection of essays from what he calls the “Golden Age of Video Games” in the 1970s, where arcade games began to take off.

¹ Kellie Ell. "Video Game Industry Is Booming with Continued Revenue." CNBC. July 20, 2018.

² Patrick Crogan, *Gameplay Mode: War, Simulation, and Technoculture*, 2011.

Gaming continued to grow until 1977, when the gaming market crashed.³ This crash was due to multiple reasons, one of which being consumers waiting for lower prices and a lack of competitive gameplay. This is a trend continues in the gaming market to this date and stands out as one looks at the economic history of video games.

On top of all of this, professional gaming is arguably the most important part of video game history, because it has the largest impact economically with game producers relying on professional players and content creators to play and market their games. T.L. Taylor, author of *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*, discusses how competitive video game play is nothing new, and goes as far back as a documentary called *King of Kong*⁴, which portrays: a *Donkey Kong* player's attempts at achieving an all-time high score; a television show called *Starcade* from the early 1980s which featured a competition amongst arcade gamers; and of course, first-person shooters that became linked via multiplayer network play in the 1990s. Small competitions such as these are what turned into tournaments with multi-million dollar prize pools and events held in the World's largest arenas for various games taking place in the early 21st century.

Very few scholars have brought attention to the modern rise of video game content creation that gets uploaded to the internet for the World to see. This content ranges from video game tutorials, gameplay, funny moments, to montages of competitive gameplay highlights. Some content creators have made jobs for themselves doing this and established video gaming as a professional career.

³ Mark Wolf, "The Video Game Industry Crash of 1977," *Before the Crash: Early Video Game History*, 2012

⁴ T.L. Taylor, "Computer Games as Professional Sport," *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*, 2012., p 36.

Video games have evolved from being gimmicky, simplistic early computer programs into lifelike and interactable simulations with many different kinds of genres. Even if a gamer does not have the skills at their preferred game to become a professional eSports player, there are still other roads that can be taken to make a professional career out of gaming, such as content creation. Websites like Twitch.tv and YouTube serve as platforms for anyone to upload or livestream content to and allows the content creator to grow. Content creators and eSports players have heavy influence on the public, allowing players and influencers alike to acquire sponsorships. Upon looking at the history of video games, it becomes clear that competition is vital to the substantial success of video games. However, the history of competition in video games is much larger than one may think, and includes; how early programmers used Cold War era computers to make simple competitive games, a few college students further developed competitive games into something more intuitive, and how video game producers marketed the new technology to the American people, ultimately turning casual gaming into a professional career for many people by the 2000s.

Level 1: Early Competitive Video Gaming

Following the development of early computer programs in the 1950s, the first animation program was created. According to Tom Sito, author of *Moving Innovation: A History of Computer Animation*, “Using an obsolete, 1950s Cold War computer, built to track a Soviet nuclear attack, graduate student Ivan Sutherland created the first true animation program. For the first time, instead of presenting a series of numbers, a computer drew lines, and the lines formed recognizable images: a bridge, a leg moving, a face winking.”⁵ This was the first step taken in computer animation, which eventually led to computer generated imagery and the graphics we see today in video games. It was not until 1962 that in MIT’s Plywood Palace, Alan Kotok and John McCarthy were tasked with creating a competitive chess program on the college’s IBM 709 computer. Kotok and McCarthy used two other smaller computers, each in separate rooms and linked via wires, to play chess with one another.⁶ Kotok and McCarthy’s work in their project was the first major step in the direction that was later taken to develop modern competitive video games that we see in eSports tournaments.

The first true, competitive video game

In the early 1960s, a crew at MIT developed various simple games for their Tixo (an early fully transistorized computer), most notably *Spacewar!* (released in 1962), which was the true first interactive video game, where, as stated by Sito, “Kotok and Bob Sanders came up with a way to make operating the game ergonomically easier. The scrounged parts from other

⁵ Tom Sito. 2013. *Moving Innovation: A History of Computer Animation*. Cambridge, Massachusetts: The MIT Press.

⁶ *Ibid.*, 102.

hardware projects and invented a separate remote controller that they wired into their primary computer's mainframe, the first joystick console."⁷ *Spacewar!* is the first true videogame ever created, though the creators never saw profit from their invention.

Nolan Bushnell and *PONG*

Receiving profit from video games became possible when Nolan Bushnell entered the scene in the early 1970s. According to Sito, "Bushnell found himself attending undergraduate classes at the University of Utah."⁸ Although the more advanced CG classes were not offered to undergraduate students, Bushnell made friends with the graduate students and was granted access to the lab.⁹ As stated in the following quote from Sito:

Trying to build a version of *Spacewar!*, Bushnell realized he couldn't build his own, \$120,000 PDP-1 mainframe to run it on. But the new solid-state transistor chips introduced in 1970 were making complex computation more manageable. Plus the PDP was a multipurpose machine, while all he wanted was enough computing power to play his game. So, using spare parts he "borrowed" from his day job at Ampex, Bushnell devised a specialized micro-computer that was capable only of running his game.¹⁰

This was another major step towards the creation of modern-day video games. Using the newly developed technology, Bushnell and Ted Dabney, a circuit board engineer from Ampex, quit their jobs to develop their own new game, titled *Computer Space*. This new title was Bushnell's first attempt at making a profit from his creations. Sito elaborates on this, "They partnered with Nutting Associates, a traditional pinball company, to create a gaudy, futuristic fiberglass box to house the monitor and circuitry and a more conventional coin box operation than a paint can. They eventually marketed fifteen hundred units. Sales of *Computer Space* topped \$3 million, but

⁷ Ibid., 103.

⁸ Ibid., 107.

⁹ Ibid.

¹⁰ Ibid., 108.

it was considered a commercial failure.”¹¹ Some possible reasons for the new unit not bringing in as much money as Bushnell had hoped could be due to the general public not understanding what *Computer Space* was, or simply unwilling to learn how to use the game because of the extensive user manual.

However, this was not the end for Bushnell. In fact, it was just the beginning. In 1972, “Bushnell and Dabney broke off with Nutting Associates and adopted a new look and a new name.”¹² This new company name was Atari, and it would forever change the future of video games. Bushnell and his newly found Atari company had accepted a major contract from General Electric to construct an arcade game based on ping-pong. Alan Alcorn, a former engineer from Ampex, had been recently been hired by Bushnell and was tasked with creating this new ping-pong arcade game. Sito mentions in the following quote:

Alcorn came up with *PONG*. It’s a simple, real-time ping-pong game, black and white, that Alcorn ran through a seventy-five-dollar Hitachi black-and-white television set he bought at a Payless discount store. Instead of a thick pack of printed instructions, all it said on the cabinet was, “Avoid missing ball for high score.” You could play PONG with one hand while holding a beer in the other.¹³

PONG was the first of its kind. It was simple, and the public had not seen anything like it before. As a means of introducing the World to his new game, Bushnell installed the new *PONG* prototype into a bar near the Atari headquarters in Sunnyvale, California. Nick Montfort and Ian Bogost, authors of *Racing the Beam: The Atari Video Computer System*, state, “The game encourages continued play and rematches—it promotes “coin drop,” a measure of the rate at

¹¹ Ibid.

¹² Ibid.

¹³ Ibid., 110.

which a machine takes in cash.”¹⁴ Second, the game encourages players to remain in the bar, ordering more food and drink. It is important to the history of video games that they bring their persuasive powers to bear within specific architectural spaces, enticing players to enter and remain within certain places.”¹⁵ This strategy helped not only benefit the bar’s business, but Bushnell’s as well. *Computer Space* and pinball machines already resided in the bar. However, with the addition of *PONG*, the bar was quickly overwhelmed by customers wanting to play the new game.

Introduction of home consoles

Additionally, Sito mentions, “Within four years of *PONG*’s introduction, Atari went from its little \$750 investment to a \$2 billion “wonder company.”¹⁶ With the growth in popularity, it did not take long for Bushnell and Atari to take the next step in advancing the development of *PONG*. In 1975, Atari released a new, home version of *PONG*. This home version, according to Bogost and Montfort, “boasted considerable technical advances over the Odyssey, including an integrated circuit that contained most of the game’s logic on a single chip, on-screen scoring, and digital sound. The device connected to the television directly, but was small enough to store out of the way when not in use.”¹⁷ Just like the release of the initial *PONG* machine in 1972, the public had seen nothing on the same scale as the home version of the video game, otherwise known as the Atari Video Computer System. Atari had agreed to terms with Sears to allow them

¹⁴ Nick Montfort, and Ian Bogost. 2009. *Racing the Beam: The Atari Video Computer System*. Platform Studies. Cambridge, Mass: The MIT Press. p 9.

¹⁵ Ibid.

¹⁶ Tom Sito. 2013. *Moving Innovation: A History of Computer Animation*. Cambridge, Massachusetts: The MIT Press. p 10.

¹⁷ Nick Montfort, and Ian Bogost. 2009. *Racing the Beam: The Atari Video Computer System*. Platform Studies. Cambridge, Mass: The MIT Press. p 10.

to exclusively sell their product, and the department store had ordered 150,000 units.¹⁸ Sears, at the time, was one of the most popular retailers for electronics.

¹⁸ Ibid.

Level 2: The Crash

Multiple companies, such as SEGA and Fairchild Semiconductor International, quickly attempted to replicate the sudden popularity that *PONG* had accumulated. They initially developed their own versions of the game to try and get in on the profits. There were seventy-five *PONG*-like products available by the second half of 1976, being produced by the millions for cheaper prices than the original *PONG*.¹⁹ This was in part due to Atari having not put a copyright claim on their game, so there was very little that Bushnell could do. Even though multiple versions of *PONG* were distributed across the United States from dozens of different companies, Bushnell and Atari set a new standard for home gaming that would set the stage for years to come.

In *Before the Crash: Early Video Game History*, editor Mark J. P. Wolf assembles various essays that examine what he calls “the 1970s golden age of video games”, an era often overlooked due to a lack of availability, hardly any competitive gameplay and perceived “primitiveness” of the technology.²⁰ After *PONG*, initially released in 1972, the home video game system took off and the consumer market was born. But, in 1974, the gaming industry experienced its first crash. Video games were up against the nascent home computer industry and handheld games, which, combined with a surge of new, less competitive games entering the market while consumers waited for better and cheaper products to hit the market, causing the fragile gaming market to crash.²¹ To get a better understanding of the collapse, editorial director of *Popular Electronics*, Arthur P. Salsberg stated in “TV Electronics Games Grow Up”, that:

¹⁹ Ibid., 11.

²⁰ Mark Wolf, “The Video Game Industry Crash of 1977,” *Before the Crash: Early Video Game History*, 2012, p 81.

²¹ Ibid., 82.

The sale of home TV electronic games peaked during the Christmas season of 1976, followed by a severe decline in 1977. Was the estimated 3-million video games sold in '76 just a passing fancy of the American public? Obviously not, since manufacturers are now producing with the expectation that 1977 sales will easily be twice those of 1976. And nonvideo electronic games will certainly make their mark this year, too.²²

Video games did not sell as well as predicted during the first half of '77 for multiple reasons: Christmas does not last all year; reduced prices on games discouraged many retailers, who placed them on the back shelves; programmable games are just around the corner and there are two companies already marketing them—Fairchild, who can't seem to keep up with consumer demands at \$170 per game system, plus cartridges; Title development was rushed in this time period, and competitive play wasn't considered by developers as much as it had been in *PONG*'s creation.²³

The crash was seemingly due to a lack of interest in the technology. Salsberg's editorial that was released in September 1977 was likely written before the crash because he did not mention the Atari Video Computer System. The Atari was renamed to the Atari 2600 and would eventually outsell every system released prior to it. Systems sold at this time worth mentioning are, but not limited to: Magnavox's Odyssey, Ping-O-Tronic, TV Tennis Electrotennis, Coleco Telstar Series and Gameroom Tele-Pong. Despite the apparent lack of interest in video games, Wolf proposes this theory:

The crash certainly was not due to any lack of interest in technology. The American public's fascination with technology received a boost in 1977: the first space shuttle, the Enterprise (changed from the Constitution to the name of the Star Trek starship after a write-in campaign) was undergoing flight tests during the summer, lasers were used for the first time to initiate fusion reactions, the VHS-format videotape was introduced in July, and Star Wars (1977) was playing in theaters and wowing audiences with its

²² Arthur P. Salsburg, "TV Electronics Games Grow Up," *Popular Electronics*, September 1977, 4.

²³ *Ibid.*

numerous fictional technological marvels, including a video game–like technology for a holographic chess set with animated pieces.²⁴

Wolf’s argument does not mention the video games themselves, and instead references advancements in other forms of technology. Many video game titles were very similar to *PONG*, and the repetitiveness of incessantly moving the virtual paddle up and down the screen along with the constant beeping noises may have been a turnoff for customers.

Perhaps another argument can be made that video games need a constant flow of refreshing content and bringing in more competition for consumers to enjoy. Evidence that supports this argument would be additional downloadable content (DLC) for video games that is released by developers to keep consumers interested in their products for an extended period of time. DLC has become a standard feature for contemporary video games and is an effective way for video game developers to accumulate extra money.

²⁴ Mark Wolf, “The Video Game Industry Crash of 1977,” *Before the Crash: Early Video Game History*, 2012, p 87.

Level 3: The Birth of eSports

Something that helped Atari increase its popularity and climb out of the video game crash was allowing third party developers to make games for the system. This move encouraged small game company startups, such as Activision. Due to this new move, *Space Invaders* came to the Atari 2600 in 1978 and became its first hit cartridge game. Amazingly, *Space Invaders* had grossed more than \$3.8 billion and had a net profit of \$450 million by 1982, making it the highest selling videogame of its time.²⁵

With the introduction of *Space Invaders* came something unique to competitive video games, and something that would change the way the world sees video games in today's world. Due to the rapidly growing popularity of *Space Invaders*, Atari hosted the first ever large-scale video game competition in 1980. According to an article in *Electronic Games* from 1982, the 1980 *Space Invaders* championship housed over 10,000 participants from all around the United States, making it not only the largest video game competition at the time, but also the first eSports event.²⁶ This event validated video games as a mainstream hobby in the United States.

As popularity of video games rose, so did the competitive gaming community. T.L. Taylor's book *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*, covers the history of how video games went from a casual past time to a professional career for some people. Taylor discusses how competitive video game play is nothing new, and goes as far back as the documentary *King of Kong*, which portrays a Donkey Kong player's attempts at achieving an all-time high score; a television show called *Starcade* from the early 1980s which

²⁵ Dusty Hansen. *Game On! Video Game History From Pong and Pac-Man to Mario, Minecraft and More*. MacMillan Publishing Group, LLC. p. 11.

²⁶ "Players Guide To Electronic Science Fiction Games," March 1982, *Electronic Games*. p 35.

featured a competition amongst arcade gamers; and of course, first-person shooters that became linked via multiplayer network play in the 1990s. All of this culminated in a relatively new development in the world of gaming, professional play, with star players, team owners, tournaments, and sponsorships. Professional gaming has become so popular, that, “In South Korea, spectators watching computer games can outnumber those watching traditional sports such as baseball.”²⁷ This rise in video game popularity in the late 1980s and early 1990s helped gaming businesses grow, and in turn, allowed for more rapid growth in advancement in the games produced, all thanks to a noticeable spike in popularity due to eSports.

Introduction of online gaming

Competitive gaming saw a significant rise in popularity with advancements in online play. Thanks to the power of the internet, playing with others from around the World was now possible from the comfort of one’s home. Online play was mostly viable on a personal computer (PC), though the online gaming community was small because of the expensive prices of a PC capable of playing video games. Some PCs in the 1990s cost more than \$1000. An even larger jump when online play was drastically improved for home consoles in the early 2000s with the Playstation 2 (PS2) by Sony and Xbox by Microsoft. IGN (Imagine Games Network) released an article stating:

id Software had previously achieved notoriety with FPS games Wolfenstein and Doom, but Quake blew the lid on the genre with a number of great advancements, not least of which was Quakeworld. The original Quake game was designed for local multiplayer. Dial-up online connections or even broadband at the time were not good quality, with higher delays in transferring game data between machines (ping time) and low-quality transfer; and because of this id wrote an update that extended the game online. It was the first FPS game that properly made this transition; some earlier games used other less

²⁷ T.L. Taylor, “Computer Games as Professional Sport,” *Raising the Stakes: E-Sports and the Professionalization of Computer Gaming*, 2012., p 36.

widespread network protocols and were difficult to set up. Quakeworld, by contrast, was simple – you just chose a server from a list displayed in the game, and joined in. If there were no servers you could set up your own and invite others to come and join you.²⁸

Not many people could afford a PC that can run video games efficiently and the PS2 and Xbox both released with a price tag of \$299 on their respective launch dates, meaning that consumers now had an affordable option for playing a wide variety of new competitive video games.

Prior to the release of the PS2 and Xbox, titles on PC such as *StarCraft*, published in 1998 by Blizzard Entertainment, implemented a foundation for future titles to base themselves off of. According to Veli-Matti Karhulahti, a professor at the University of Turku in Finland, “The real-time strategy title *StarCraft* is usually considered as the first major eSport.”²⁹ *StarCraft* became a notable platform for competitive gaming because of the option for a player-versus-player (PvP) mode that had built in competitions. Karhulahti mentions, “Among other factors of its success, Blizzard Entertainment chose to distribute *StarCraft* with a feature called “spawning”, which allowed the player-versus-player mode to be played by multiple players with a single retail copy.”³⁰ With the built in contests for PvP mode and the spawning feature, competitive play became more accessible for anyone interested in *StarCraft*.

On top of *StarCraft*'s success, various first-person shooter games such as *Quake*, *Unreal Tournament*, and *Counter-Strike* were also on the rise, though *Counter-Strike* was the next important game from this era, taking shooter games to a new level. *Counter Strike* was released as a modification, or “mod”, for the game *Half-Life* (developed in 1998 by Valve Corporation) in

²⁸ Staff, IGN. "The History of Online Shooters." IGN. January 07, 2010.
<https://www.ign.com/articles/2010/01/07/the-history-of-online-shooters>.

²⁹ Veli-Matti Karhulahti. 2017. “Reconsidering Esport: Economics and Executive Ownership.” *Physical Culture and Sport: Studies and Research*, no. 1: 43.

³⁰ Ibid.

1999 by Minh Le and Jess Cliffe.³¹ A modification for a video game is a hacked add-on, capable of whatever the hackers designed it to do, that can be installed through the use of third party software. Valve Corporation hired the creators of the mod and officially published *Counter Strike* in 2000. Since then, Valve has released three more versions of *Counter-Strike*. According to Zorine Te from Gamespot, “In a time when first-person shooters such as *Unreal Tournament* and *Quake* were popular, Counter-Strike stood out for its slower-paced combat and emphasis on teamwork.”³² Because of this emphasis on teamwork and realistic feeling military tactics, *Counter-Strike* continued to grow in popularity. Steamspy, a website used to keep track of sales from the Steam³³ software distribution service shows that *Counter-Strike*’s first version has sold 11.36 million copies on PC alone.³⁴ In an interview with Minh Le, conducted by Zorine Te, he mentions, “We started to see more games that emulated *Counter-Strike*’s style of gameplay. They focused on realistic, slower paced fighting. After *Counter-Strike* became a hit, we saw games like *Call of Duty* and *Medal of Honor*. Games that were steeped in realism started to become more popular.”³⁵ This would shape a trend in competitive shooter games for years to come.

***Halo 2* and Major League Gaming**

Microsoft and Sony excelled where others failed, managing to create gaming systems that were affordable, connected online, and had an extensive library of games to choose from. With the release of these new systems, competitive gaming exploded. For example, the release of *Halo*

³¹ Ibid., 45.

³² Zorine Te.. "Dust to Dust: The History of Counter-Strike." GameSpot. May 26, 2014.

³³ Steam is a digital video game distributor that is commonly used by people who play video games on a PC.

³⁴ "Search Counter-Strike -." SteamSpy.

³⁵Zorine Te. "Dust to Dust: The History of Counter-Strike." GameSpot. May 26, 2014.

2, the sequel to the first game of Microsoft's popular first-person shooter series *Halo* in 2004, granted gamers the ability to play with anyone in the world from the comfort of their home with Microsoft's Xbox Live service. The review crew from *Electronic Gaming Monthly* (Ziff Davis, Inc) released a holiday issue prior to the release of *Halo 2*, which mentions, "The best-looking and best-playing console shooter ever comes with the most impressive list of modes, options, and extras... ever?"³⁶ What Valve achieved with *Counter-Strike* was beginning to branch out to other franchises, and with further advancements of technology, was becoming more readily available. *Electronic Gaming Monthly* continues with, "With the addition of downloadable content to periodically freshen *Halo 2*'s online experience, it's safe to say this game is the pinnacle of Xbox Live for the foreseeable future."³⁷ This statement would prove to come true, as Microsoft announced at the 2007 Game Developers Conference that since Xbox Live's birth in 2002, "Gamers have spent over 2.3 billion hours on the network playing games online with their friends around the world. This is equal to 95 million days of gaming or over 260,000 years. With our top title, *Halo 2*, which is being played on both the Xbox and Xbox 360 (Xbox's successor), gamers have spent over 710 million hours playing online with over a half a billion games played."³⁸ With a large online player base and plenty of competition, gamers were able to get in more practice against tougher opponents, in turn increasing the skill gap in video games.

According to multiple cognitive researchers:

Gaming skill forms from both deeply ingrained individualized habits due to time pressure, and sustained and intense practice that can result in bursts of improvement. For studious gamers, they may seek to practice patterns of routines, which build muscle memory for time-sensitive situations. For casual gamers, they may be satisfied in

³⁶ "Halo 2." *Electronic Gaming Monthly* (Ziff Davis, Inc.), no. 186 (December 2, 2004): 128–31.

³⁷ Ibid.

³⁸ Alex Zaharov-Reutt. "Xbox LIVE: 6 Million Users and Counting - Thumbs Nose at PS3, Wii." *Wayback Machine*, ITWire, 7 Mar. 2007.

knowing that they are likely to be gaining skill at a faster rate per match than someone who plays more intensely.³⁹

It's important to note that casual players do not improve their own skill at a specific game faster than players who spend significantly more time on a game than them. The research mentions that "casual gamers" are likely going to gain skill at a faster rate per match, than studious gamers that put far more hours into the game, therefore improving their skill more than the casual player in a longer time span. The way studious gamers develop their skill was greatly improved by the addition of online play, as it allowed for more matches with more players whenever it is convenient. One no longer needed a family room filled with friends to practice a game.

In 2002, the same year as Xbox Live's launch, Major League Gaming (MLG) was founded by Michael Sepso and Sundance DiGiovanni. According to MLG's company profile:

Major League Gaming is a digital network to promote eSports globally through premier competition and to deliver premium gaming content to viewers anytime, anywhere through its global streaming platform. It operates MLG.tv, an online broadcast network for professional level competitive gaming; the MLG Pro Circuit, the longest-running eSports league in North America; and GameBattles, the largest cross platform online gaming tournament system with 9 million registered users across the globe.⁴⁰

DiGiovanni and Sepso saw the potential competitive gaming had for entertainment value and acted on the opportunity to turn it into something bigger. At first, tournaments were small, but this later changed in 2006 when the first televised console gaming league was featured on USA Network, a popular cable channel. In 2006, Madeleine Brand, a contributor to National Public Radio Inc. interviewed DiGiovanni about bringing video game competitions to live television.

³⁹ Jeff Huang, Eddie Yan, Gifford Cheung, Nachiappan Nagappan, and Thomas Zimmermann. "Master Maker: Understanding Gaming Skill Through Practice and Habit From Gameplay Behavior." *Topics in Cognitive Science* 9, no. 2 (2017): 437-66.

⁴⁰ Crunchbase. <https://www.crunchbase.com/organization/major-league-gaming#section-overview>.

When DiGiovanni was asked why he wanted to bring MLG to live television, he responded with, “We’re looking at it the way NASCAR, the NFL, or any other sport or competitive kind of a tournament series would look at it, which is we need to capture the competitions.”⁴¹ The game featured at this event was *Halo 2*, though several more titles also found their place on the MLG Pro Circuit, such as *Gears of War*, *Tom Clancy’s Rainbow Six: Vegas*, and *Call of Duty 4*. All of these titles share the same violent, realistic, shooter-style foundation as *Counter-Strike*.

South Korea and video games

Of course, console video games were not the only televised games. In fact, PC games such as *StarCraft*, were being aired on Korean television stations even before MLG took the stage in the United States in 2006. South Korea had developed their own video game culture similarly to how the United States did, and competitive gaming grew incredibly popular as the technology improved. An argument can be made that Korea embraces professional gaming culture more quickly and extensively than the United States did, especially during the early 2000s. South Korea has many clubs dedicated to video games, otherwise known as “PC bangs”. PC bangs, similar to internet cafes, are arcades equipped with high end PCs that are capable of playing any of the latest games while utilizing the best graphics capabilities available. The PC bang functionally granted everyone with a few dollars access to online competitive gaming due to it being expensive. According to Paul Mozer from *The New York Times*:

StarCraft, a game released by Blizzard Entertainment in 1998, quickly became a mainstay of South Korea’s professional gaming leagues. With investment and organizational help from Blizzard itself, professional tournaments quickly outgrew the cramped PC bangs, first moving to hotel ballrooms and eventually stadiums. In 2004, the final of the *StarCraft* pro league attracted 100,000 fans to Gwangalli Beach in the southern beach city of Busan.⁴²

⁴¹ Madeleine Brand. "USA Network to Air Video Gaming Competitions." *National Public Radio*. April 24, 2006.

⁴² Paul Mozer. "For South Korea, eSports Is National Pastime." *The New York Times*. October 19, 2014.

South Korea takes eSports seriously enough so that their own government created a body called the Korean eSports Association (KeSPA) in 2000. KeSPA is in charge of managing competitive eSports in South Korea, is a member of the Korean Olympic Committee and the International eSports Federation.

Level 4: Twitch.tv and YouTube

As eSports and competition continued to rise in popularity in the mid-2000s, other gamers found new ways to make professional careers for themselves using websites like YouTube and Twitch.tv. YouTube, founded in 2005, is a well-known website that allows anyone to upload videos that they make to the internet for anyone in the world to see. YouTube offers a wide variety of content, including a wide selection of gaming content to view. However, not all of this content is based around competitive gaming. Some gaming content creators have accumulated a large subscriber count by uploading funny moments that take place in the video games they play, or tips and tricks that newer players can watch to help them learn about the game more quickly. Those are just a few examples from the many types of videos YouTube's video game content creators have to offer. A perfect example of someone who has changed the way the world sees gaming is Felix Arvid Ulf Kjellberg, better known as PewDiePie. Kjellberg began to make gaming videos in 2010, where he focused on recording himself playing through action and horror games. Viewers of his content would find Kjellberg's reactions to be funny, and he quickly spiked in popularity. In 2015, ESPN senior writer Wayne Drehs mentions, "But whether they're laughing or cringing, people are watching -- 37,161,479 people, to be exact. That's where the count stood on his exponentially growing legion of YouTube subscribers as of 10 a.m. ET on June 11, easily the most in the site's history and more than pop stars Taylor Swift, One Direction and Sam Smith *combined*."⁴³ Even to this date, at the time this paper is being written, Kjellberg has 90,538,098 subscribers, almost triple the number Drehs recorded in 2015, and all of this started with one man behind a webcam making videos of himself casually playing

⁴³ Wayne Drehs. "How PewDiePie Gamed the World." ESPN. June 11, 2015.

video games. Even though PewDiePie isn't considered a competitive gamer, his popularity started in an online community on YouTube where videos of competitive gameplay were abundant. PewDiePie introduced something new and unique, causing his channel to quickly grow the way it did.

Live streaming

Twitch.tv is a website that, unlike YouTube, focuses solely on video games. Instead of pre-recording oneself and uploading the video for others to watch, Twitch users broadcast themselves playing video games live to an audience. Twitch.tv, formerly known as Justin.tv, was founded in 2007 by Justin Khan and Emmett Shear, and the website was divided into many different content categories. However, the video game content has grown exceptionally fast, and became the most popular section on the website.⁴⁴ Upon its creation, Twitch quickly became a hot spot for the competitive gaming community, and MLG events were broadcasted to Twitch more often than on live television. In 2013, David Ewalt, contributor at *Forbes* stated, "Live streams of people playing video games began to take over the site, and in June 2011 Justin.tv spun off Twitch into its own company."⁴⁵ Since then, Twitch has become the go-to website for anyone wanting to watch live footage of video games being played. Ewalt adds, "Twitch is focused on live game content and the booming eSports scene. The site has become most famous for hosting live games--as many as 10,000 video streams at any given time, ranging from professional tournaments to ordinary people playing games at home."⁴⁶ This relates to how YouTube has content creators that don't focus on competitive gaming at all, but are still

⁴⁴Matthew Lynley. "Live-streaming Site Justin.tv Buffing up for E-sports Channels." VentureBeat. March 10, 2011.

⁴⁵David Ewalt. "The ESPN Of Video Games." *Forbes*. June 16, 2014.

⁴⁶Ibid.

successful. Many Twitch live streamers gain a following because of their personality and ability to entertain an audience, rather than a display of top-notch gameplay. However, Twitch.tv has its own version of PewDiePie, and his name is Tyler Blevins, otherwise known as Ninja. As mentioned by Ali Montag from *CNBC*, “At 26, professional gamer Tyler 'Ninja' Blevins has seen enormous success: He's the most popular streamer on Twitch, and he recently broke the site's record for the most concurrent viewers by playing with rapper Drake.”⁴⁷ Unlike Kjellberg, who's well known for playing a variety of different games, Blevins acquired the majority of his following while playing the game *Fortnite*, a shooter game that's free to play, and only charges for cosmetic items that can be used within the game. *Fortnite* has a unique twist to it that previous popular titles, such as *Counter-Strike*, *Call of Duty*, and *Halo* do not have - a “battle royale” mode. Battle royale, in *Fortnite*'s case, is one hundred players in one match, and every player fends for themselves. The last player alive at the end of the match is the winner. This creates a very tense atmosphere in the game itself and Ninja's followers love to watch each match unfold. Battle royale gameplay is has become very popular since 2017, and many other titles such as *Apex Legends* and *Realm Royale*, were created to try and compete with *Fortnite*. Montag adds, “Ninja makes \$3.50 per paid subscriber (a subscription on Twitch costs \$4.99 a month) streaming *Fortnite*, which, with 160,000 subscribers according to *Forbes*⁴⁸, equals about \$560,000 per month. And that's before including his YouTube ad revenue or the “donations” viewers can give Twitch content creators, numbers which Blevins declined to disclose.”⁴⁹

Donations are commonly given to streamers by their viewers as a way of showing gratitude and

⁴⁷ Ali Montag.. "This 26-year-old Went from Working at a Fast Food Joint to Making \$500,000 a Month off Video Games." *CNBC*. March 20, 2018.

⁴⁸ Paul Tassi. "'Fortnite' Legend Ninja Talks Twitch Fame And Fortune, And The Game That Got Him There." *Forbes*. March 14, 2018.

⁴⁹ Ali Montag. "This 26-year-old Went from Working at a Fast Food Joint to Making \$500,000 a Month off Video Games." *CNBC*. March 20, 2018.

supporting the streamer financially so that they can keep producing content. However, live streaming on Twitch.tv or making videos for YouTube is not an effective way to instantly earn money, and it takes a lot of time and effort from those who chose to pursue the dream of playing video games for a living. This is largely due to the countless number of people trying to live stream at once, making it extremely hard to establish a name for oneself in the Twitch.tv or YouTube online communities.

Blevins' popularity has surged since he started streaming *Fortnite*, and Blevins has essentially become the face of Twitch.tv and *Fortnite*. Kevin Webb and Kaylee Fagan from *Business Insider* report, "On March 14, Drake joined Ninja for a *Fortnite* stream late at night, and the two broke Twitch's record for the most concurrent viewers of all time, partly thanks to Drake's advertising the marathon to his 36.9 million Twitter followers... That night, they maxed out at 635,000 concurrent viewers."⁵⁰ To provide a rough idea of how Ninja's historic livestream with Drake compared to the concurrent viewership of other cable television networks, data from Statistics Portal shows, "The leading cable networks in the United States in March 2019, by number of total day viewers. *FOX News Channel* ranked first with around 1.39 million viewers in the measured period, with *MSNBC* coming in second with around 1.03 million viewers."⁵¹ So even Ninja at his peak wasn't quite where the top cable network stations were at, but during his livestream with Drake, still averaged more than *CNN*, *History*, and the Hallmark Channel, which were at 600,000 concurrent viewers or less.⁵²

⁵⁰ Kevin Webb, and Kaylee Fagan. "This 27-year-old Makes \$500,000 Every Month Playing 'Fortnite' in His Bedroom - Here's How He Does It." *Business Insider*. January 02, 2019.

⁵¹ "Cable Networks: Number of Viewers in the U.S. 2019 | Statistic." Statista.

⁵² *Ibid.*

However, Ninja is one of thousands of people who stream to Twitch.tv, and between different people streaming, the website itself has had up to 3,987,461 people watching video.⁵³ This number includes every Twitch.tv channel and every video game being streamed on the website. The historical trend of video games becoming more and more popular suggests that a single person like Ninja surpassing the number one ranked television station in concurrent viewers, even if it's for a brief moment, is not that far-fetched.

⁵³ "Twitch Statistics & Charts." TwitchTracker. Accessed April 10, 2019. <https://twitchtracker.com/statistics>.

Conclusion

The modern video game industry owes part of its success to the rapidly growing eSports scene. Even the first true video game, *Spacewar!* had competitive play in mind during its development and saw competitive play in arcades once MIT released its arcade machine companies to redistribute. Since the inception of competitive video games like *PONG*, developers have strived to include competitive elements to their game in hopes that their product would be more appealing to customers.

With the introduction of live events such as the *Space Invaders* championship and the MLG Pro Circuit, video games saw another jump in popularity due to the news reports and televised programs that were a result of the events. This helped the video game titles being featured in the events to gain more popularity, meaning more money for the developer companies and of course, more new and improved video games. As developers made more money, advancements in technology allowed for the creation of higher end gaming systems and more graphically sophisticated titles. Home consoles with online capabilities took competitive gaming to the next level and forged it into what it is today.

Popularity for many titles further increased due to the hard work of content creators from YouTube and Twitch.tv, giving new video games more exposure to the world. A great example of a developer taking advantage of this would be with Respawn Entertainment, creators of *Apex Legends*. Upon the day of the game's release on February 4, 2019, Respawn Entertainment sponsored some of the most popular YouTube and Twitch.tv content creators to make content for their game on the first day of the game's launch. Because of this, *Apex Legends* maintained a

concurrent viewership of 657,000 on launch day.⁵⁴ As previously mentioned, 600,000 concurrent viewers would be more than *CNN*, *History*, and the Hallmark Channel. This viewership significantly helped bolster the popularity of *Apex Legends* and set it on course for success. *Apex Legends* is a battle-royale type shooter video game like *Fortnite*, that also features a free-to-play system and acquires money through offering cosmetic items within the game that costs real money. These cosmetics do not affect the gameplay and are purely there for aesthetics. This business model has been successful for both titles, as it allows anyone to download and play the game for free with any future purchases being completely optional.

Between the many video game companies competing against one another to release popular and innovative games, consoles, and other hardware, they all share the same background and similar business models that have been shaped over time, all thanks to competitive eSports. Between the competitive nature of video games that keeps consumers intrigued, and the developers of these games relying on professional gamers and content creators to promote their games, it becomes clear that video games owe their success to customers with a desire for competitive gameplay and internet content creators.

⁵⁴ Rhys Elliot. "Apex Legends Generated More Live Twitch Viewership than Fortnite in February." Newzoo.

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