How streaming has affected the growth of competitive gaming

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Suoratoisto ja elektroninen kilpapelaaminen ovat molemmat tällä hetkellä erittäin suosittuja ilmiöitä maailmalla. Tämän opinnäytetyön tavoitteena on tutkia miten suoratoisto on vaikuttanut kilpapelaamisen kasvuun.

Opinnäytetyössä käydään läpi kilpapelaamisen historiaa, suoratoiston tuomia mahdollisuuksia kilpapelaamiselle sekä näiden kahden yhteistyötä. Tätä yhteisytötä tullaan avaamaan tutkimalla siinä toimivia olevia osa-alueita

Tässä työssä keskitytään suoratoiston vaikutuksiin kilpapelaamisen kasvussa. Tätä kasvua tarkastellaan kolmen statistiikan avulla. Nämä statistiikat ovat katsojaluvut, turnauksien palkinto potit ja osallistujamäärät. Samalla työssä analysoidaan suoratoiston tuomia lisäyksiä kilpapeli turnauksiin.

Sähköposti haastatteluja tullaan pitämään kilpapelaamisen kanssa työskentelevien henkilöiden ja organisaatioiden kanssa sekä itse pelaajien kanssa tullaan käymään keskustelua.

Opinnäytetyön tutkimuksen aikana huomattiin yhteys kilpapelaamisen räjähdysmäisen kasvun sekä suoratoiston käytön välillä. Suoratoiston avulla informaatiota ja materiaalia on erittäin helppo saada tuotua kilpapelaamisen ystäville ympäri maailman.

Tämä helppo saatavuus helpottaa uusien ihmisten tutustumista kilpapelaamisen maailmaan. Ja kun uusia ihmisiä saadaan innostumaan kilpapelaamisesta, itse kilpapelaamisen maailma kasvaa seuraksena.

Kilpapelaamisen massiivinen kasvu vuosien varrella on luonut itselleen erittäin valoisan tulevaisuuden. Kilpapeliturnaksien suoratoisto lähetyksien laatu ei myöskään näytä vielä lopettavan kasvuaan lähiaikoina. Tulee olemaan kiinnostavaa nähdä miten paljon kilpapelaaminen tulee vielä kasvamaan tulevina vuosina.

Asiasanat Elektroninen urheilu, suoratoisto, kasvu, ammattipelaaminen

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Streaming and competitive gaming are both popular topics currently around the world. The aim of this thesis is to study how streaming has affected the growth of competitive gaming.

In this thesis we look into competitive gaming's history, what opportunities streaming has brought to competitive gaming and the co-operation between these two. This thesis will try to gain insight on how this co-operation works by looking into the various components that take part in the process.

This study will focus on what affects streaming has had on the growth of competitive gaming. This growth will be analyzed with three different statistics. These statistics are viewership, tournament prize pools and attendee numbers. The tools and opportunities streaming has brought to the table for competitive gaming will also be looked into.

Email interviews will be done with people working in the competitive gaming scene and a small conversation with the actual players will be held.

During the research for this thesis a connection between the large growth of competitive gaming and streaming was seen. With streaming it is easy to produce information and materials to the fans of competitive gaming all around the world.

This ease of accessibility makes it easier for new people to get familiar with the world of competitive gaming. And with new people getting interested the competitive gaming scene will continue to grow.

The recent growth in competitive gaming has given the scene a promising future ahead. The continuingly increasing quality of tournament streams also doesn't seem to be stopping any time soon. It will be interesting to see how much the competitive gaming will continue to grow in the next few years.

Keywords
Competitive gaming, streaming, growth, esports, professional gaming

Glossary

Live-Stream = Live broadcast of an event on the internet

Streamer = Person who streams

Spectator mode = A mode where you can watch a game as a third party spectator. Usually provides improved viewing abilities compared to a normal player view

Stream layout = The view that a stream viewer sees

Stream overlay = Additional overlay that is usually placed on top of the gameplay footage in streams, used to provide more information.

Broadcasting Software = Software that allows you to broadcast and record gameplay

Capture device = Hardware that allow you to capture and stream gameplay from console/computer

VOD = Video on Demand, a systems that allow the user to watch/listen to content when they want

Twitch = One of the biggest video game streaming sites

BO5 = Best out of five. A game format where the player with the better score out of 5 games win.

MLG = Major League Gaming, an eSports organization

ESL = Electronic Sports League, an eSports company

Concurrent views = Tells the amount of viewers watching a broadcast at the same time

Total views = Tells the amount of viewers the stream has had since the start of the current broadcast

FPS = First Person Shooter, a game genre

MOBA = Multiplayer Online Battle Arena, a game genre

CS:GO = Counter Strike: Global Offensive, a popular first person shooter

EVO = Evolution Championship Series one of the biggest fighting game tournament series

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1   Introduction

Competitive gaming has slowly but steadily become a more and more known term to many people around the world. Gaming, the hobby of many people, has found its success in the competitive environment. Working together with streaming platforms such as Twitch, it has become a worldwide phenomenon which doesn't seem to be stopping any time soon.

In this thesis I will be looking into the partnership between streaming and competitive gaming. The focus will be on the tools and options streaming has brought to the table for competitive gaming. The main goal of this thesis is to give the reader an understanding how streaming works and how it has helped competitive gaming as a whole. As competitive gaming is relatively new concept to many people this thesis will also go into the basics of competitive gaming, providing basic info on the major points and games played.

The main research methods used in this thesis will be comparing statistics from large tournaments throughout the years in order to see the changes. An email interview will also be conducted with various organizations that are working in the competitive gaming scene.

English was chosen as the language for this thesis instead of Finnish for a couple of reasons. The main reason being the fact that the main language in the scene is English. Most of the conversations and terminologies are done in English even in other countries. Native language commentaries have started to rise in some countries but they are still usually English based. The second reason was in order to get this thesis out to a larger amount of people to see and understand. As the main language overall is English it would be easier to take part in the conversations that are happening if this thesis was done in English.

2   Competitive gaming

Gaming has always had an aspect of competition between players. In the beginning players competed for high scores in the arcades, then they brought the games home and now they compete against millions of people online and offline.

2.1   The start of competitive gaming

Competitive gaming, also known as eSports, has been considered to have started in the year 1972. On October 19th that year a competitive video gaming tournament was held in Stanford University. The event was called "Intergalactic Spacewar Olympics", and it had five players playing a game called Spacewar! in both team competition and five-man free for all. (Good 19.10.2012)

2.2   Pre modern era

After this the competitive gaming scene took small steps towards popularity. Events such as the Nintendo World Championships held in 1990 where players competed against each other in three different Nintendo Entertainment System games for the highest score helped to boost the popularity of competitive gaming. (Smith 13.5.2015)

The other factor bolstering the competitive gaming scene in the 90s were the major advances in internet technology. Due to the advances of technology PCs started to become more and more accessible to people. This also meant that the video game industry started to get more and more momentum. Some of the most loved multiplayer games such as id Software's Quake were created during these times. During the late 1990s competitive gaming also saw the rise of gaming leagues such as Cyberathlete Professional League (Cyberathlete Professional League 2017) and Professional Gamers League.

2.3   The modern era

When the internet connections started to get better more and more people could enjoy competing against other players via the internet. One limiting factor to competitive gaming had been the accessibility. Before proper internet connections players had to get together in order to have proper competitions. But with online gaming, gamers could play against opponents around the world from their own house.

With more players playing games, the need for bigger and better competitions also rose. To answer this call, organizations such as Major League Gaming, DreamHack and Electronic Sports League started to rise in the early 2000s. These eSports organizations would be the ones providing tournaments for competitive gaming.

The growth in the second decade of 2000 has been huge, for example ESL saw their annual viewing of their productions double from 2012 to 2014 (Dave 23.10.2015). While MLG saw huge growths on their 2012 season viewership. As seen in the picture 1 below, the growth of live online viewers more than tripled compared to the previous year. These viewer managed to consume over 15 million hours of live video altogether.
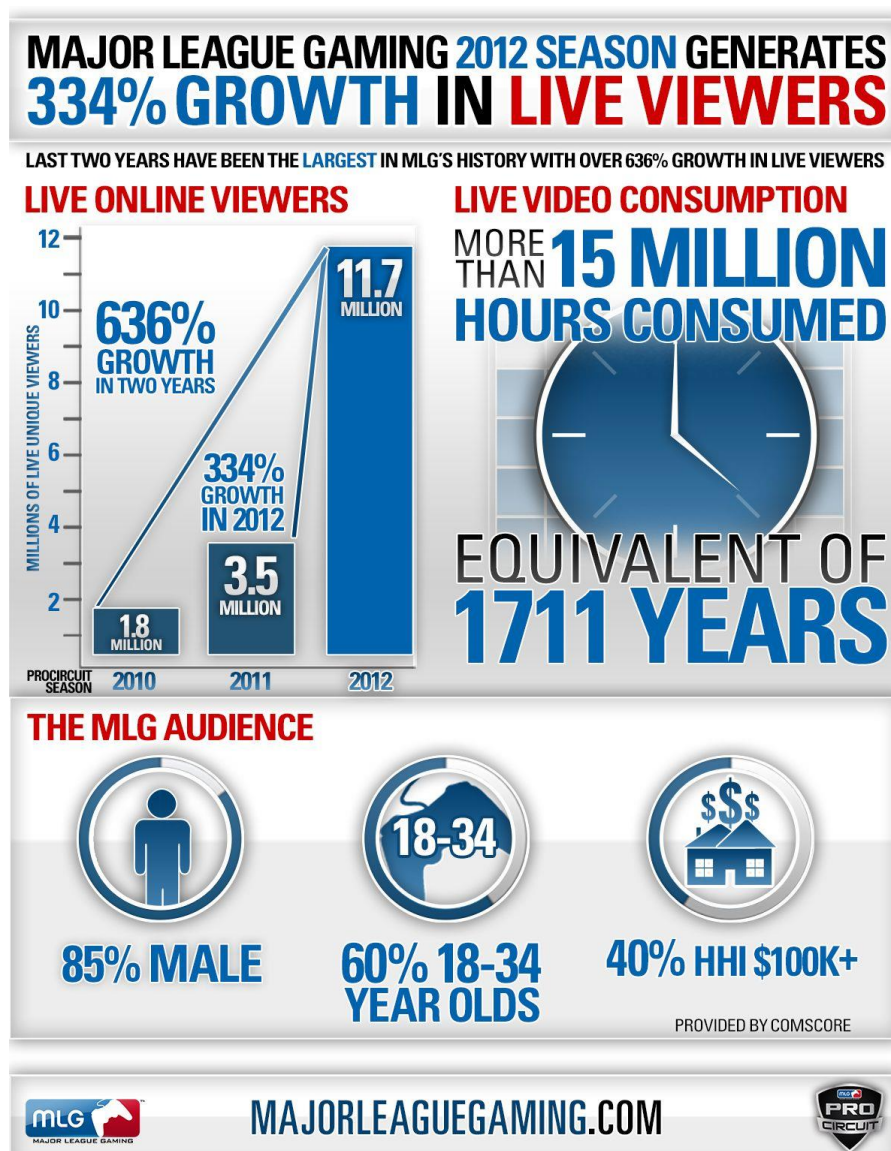
Picture 1: MLG Season 2012 statistics (MLG 2012)

Large growths in viewership numbers like these managed to prove the popularity of competitive gaming to the world. Competitive gaming had succeeded in its breakthrough to

mainstream entertainment. This paved the way for the rest of the scene to boldly move onwards.

2.4 Games of today

Nowadays there is almost an uncountable amount of games that are played competitively around the world. Out of these games, three group of game genres are seen the most in the competitive gaming scene. These three groups are: Multiplayer Online Battle Arena, First Person Shooter and Fighting Games.

2.4.1 Multiplayer Online Battle Arena (MOBA)

MOBA genre is the biggest one in the scene of competitive gaming at this point. In MOBA games you have two teams going head to head in a rush to be the first one to destroy the enemy team's base. The teams are placed onto a battlefield with their bases located in different corners. Each team usually consists of five players. Usually there are smaller objectives around the map the team can take out. These usually make it easier to advance towards the enemy base. Typically each player controls one character throughout the match. Each character has their own special abilities and skills they can use during the match. In addition to the player controlled characters there is usually AI controlled characters that either provide help or obstruct the players. During the match you can slowly power up your character by taking out opposing players or neutral objectives. Once a player falls in battle, they usually resurrect after a while and can then join back to the fight. One interesting thing about MOBA games is that they are usually free-to-play games, unlike most other competitive games.

As these games are team based, the most important quality for a player is team work. This is especially true in the competitive level. Being able to communicate between your teammates is critical when both teams clash in a big fight.

The two kings of this genre are League of Legends developed by Riot Games and Dota 2 from Valve Corporation. Both of these games have tournaments held around the year, with both of them having grand finales. The International being the big tournament of the year for Dota 2 and League of Legends World Championship for League of Legends. Both of these events gather millions of fans to enjoy the spectacles.

2.4.2   First Person Shooter (FPS)

Picture 2: Screen capture from Overwatch (Overwatch Client)

Precision and evaluation. These are the two most important things in the FPS genre to many. FPS games typically pit two teams of 5 players against each other in various objective based shootouts. FPS games, as their name implies, are shooters that have the player play with a first person view. These games usually have a large selection of game modes. Usually the goal is either to defeat all enemy players or complete an objective, like defusing a bomb while the other team tries to defend it. In the picture 2 above we have the in-game screen of Overwatch. Typically to FPS games you have a nice view of the game as if you were in it. On the left you have your own health situation and on the right your abilities and ammo count.

Like the MOBA games, FPS games require really good team work form all the players. Individual skills are a bit more prominent in these type of games, as your accuracy is one of the most important parts in the game. Missing one crucial shot can be lethal in these fast paced shootouts.

One of the most popular games of this genre is Counter Strike: Global Offensive, usually just shortened to CS:GO, made by Valve Corporation and Hidden Path Entertainment. Recently Overwatch, Blizzard's new FPS game, has started to gain popularity in the scene.

2.4.3 Fighting Games

Out of these three major categories, fighting game genre is the most colorful of the bunch. It holds arguably the largest roster of games that are played today. A good example of this is the Evolution Championship Series, considered to be the most prestigious fighting game tournament, which has around 9 different games that are played in the tournament. In a fighting game the players control their on-screen characters and engage in close quarter combat. Games usually consist of several rounds between the players to see which one wins the match. Each playable character usually has their own unique way they play in the game, creating a large variety of playstyles to choose from.

Traditionally the games are one-on-one fights where the goal is to do enough damage to your opponent in order to win a round. Usually each player has a life bar to indicate how much damage they can still take. Picture 3 below is taken from Street Fighter 5. As per fighting game tradition you have both yours and your opponent's health bars clearly in view at the top of the screen. At the bottom of the screen you have meters that tell how much resources you have to spend on more powerful versions of your characters abilities. This type of game screen is almost universally used in fighting games, with small variations depending the game.

Picture 3: An ongoing match in Street Fighter 5 (Arthur & Jeff 2016)

Fighting games are almost always played on video game consoles, separating itself from most of the other competitive games that are played on computers. Another thing that

differentiates fighting games from the other competitive games is that they are mostly played one-on-one. Individual talent is the most important factor for competitors. Mechanically fighting games are notorious of their high execution. Certain moves can require special inputs from the player rather than simple button presses. Some examples of fighting games that are played today include Capcom's Street Fighter 5, NetherRealm Studios' Mortal Kombat XL and HAL Laboratory's Super Smash Bros Melee.

2.5   Players and teams

In competitive gaming the players are the ones who stand out the most. These professional gamers who will play in front of millions of spectators to see who the best among the best is. Depending on the game they play, they will either play head to head in single player games or team up with teammates to compete in team versus team games.

Picture 4: Two players in the middle of a Hearthstone match (Ojala 2016)

Getting to this top level of skill is a dream of many players around the world. But by no means is it an easy task to achieve. The amount of time and effort put into the craft is not to be taken lightly. Team Liquid's League of Legends team for example practices the game for a minimum of 50 hours per week, usually playing for 8 hours a day together. In addition to this most of them play even more and spend a lot of time just discussing about the game, their strategies and other things related to the game (Jacobs 2015).

One of the charms of competitive gaming is the possibility of making a living by playing video games. For the most skilled players, this childhood dream can become a reality. Winning tournaments can lead to large sums of money. Currently the highest total amount a player has earned is approximately 2.7 million USD. This title belongs to Saahil "UNi-VeRsE" Arora (e-Sports Earnings 2017 a), a Dota 2 player currently playing in Evil Geniuses' Dota 2 team.

As competitive gaming started to pick up some major wind under its sails in the early 2000s, a lot of professional eSports organizations started to rise up. These organizations started to sponsor the top players and teams, creating large organizations with teams in many different games. With talented names under their banners, these organizations can get their own names out to the players, and by competing with others the skill levels of players will rise. In the competitive gaming scene teams like Evil Geniuses, Cloud9 and Team SoloMid are common names to hear in conversations. These teams themselves usually have multiple sponsors, who provide equipment to the players. Usually these sponsors have some connections to the gaming scene. For example one of Cloud9's sponsors is Logitech (Cloud9 2017), a company focused on PC and mobile accessories.

Picture 5: Fnatic League of Legends team ready for action (Jackson 2017)

3   Live-streaming

The Oxford Dictionary (2017) defines the verb live stream as such: "Transmit or receive live video and audio coverage of (an event) over the Internet." Live-streaming is usually just shortened to streaming in day to day life. With the proper equipment anyone can start their own streams. It isn't that unusual for games to have hundreds of streams ongoing almost daily. Most of these game streams are located either in Twitch or Youtube.

Nowadays you can go to a streaming site and gain access to hundreds of different streams for different games. This has made watching gaming tournaments a lot easier to fans of the game. It can be really hard for most to actually go to the locations where tournaments are held to watch the games on the spot. With streaming, you can enjoy the action from your own computer.

Usually for big events, the organizers will get a dedicated team to handle the streams. It can either be an internal branch of the organization or a third party company dedicated for streaming. People who handle streams are called streamers. These people are the backbone of any streams. After all, without them there would be no stream. Depending on the size of the stream, the streaming team can be from one person to a handful of people working together. The bigger the event the more people it will need to run properly. For streamers, the quality of their streams are their lifeline. A high quality stream will usually attract more viewers than a low quality one. Especially for streams of high profile events like major tournaments, quality is of utmost importance. When you are providing a live stream of your event, you want it to be smooth and enjoyable for your viewers. But there can be many things that can go wrong.

As such, the streamers are always monitoring the situation. For a good viewing experience a lot of small things need to be in sync all the time. The audio balance between in-game noise and commentator volume for example is really important. Any kind of lag in the stream is also a thing that needs to be avoided. It can ruin a viewing experience if what you see does not match with what you hear for example.

3.1   How to stream

If you wish to start streaming yourself, there are a few tools that you will need. For PC games, in addition to the game and PC, you will need a broadcasting software and an account to a live streaming site. There are a lot of different broadcasting software in the market at the moment with different prices and capabilities. Some examples are XSplit,

Gameshow and Open Broadcaster Software. There are also a lot of sites to choose as a host, like Twitch and Hitbox. After you have your tools it's important to get comfortable with them. Look through all the options, fiddle around with the settings and generally get to know how the system works. When you think you are ready, start the game, check that the broadcasting software is up and running and then start your stream.

For console games the tools and process are very much alike, only having a few extra steps. As most consoles lack the ability to stream your gameplay on their own, you will need the same things that you'd need to stream PC games. In addition to this you will need a separate capture device. These devices will let your broadcasting software to receive the gameplay footage from the console. Again, there is a large amount of options to choose when deciding the capture device. When you have all your components you can connect them together and start your broadcast.

Both the Xbox One (Xbox 2017) and Playstation 4 (Playstation 2017) are exceptions to this, as they have in built features that makes streaming your gameplay easier. Through these features you can stream your games via the console itself. In these cases you will only require your console and an account to a compatible live streaming platform. From here you can start your streaming.

The tools mentioned above are the bare minimum you will need to get started with streaming. They mainly handle the gameplay, which builds the base for a stream. From there you have a large variety of options to customize your stream to be more personal. One of the easiest way to personalize a stream is to add yourself into the mix. With a microphone you can include your own personality by talking over the gameplay. This can make it easier to communicate with your audience on the fly. If you don't want your voice to be just a disembodied noise, you can also add your own face into the mix with a webcam.

If these type of additions aren't your cup of tea, there are other less personal ways to bring more personality to a stream. Creating a customized overlay is a popular way to stand out from other streams. These overlays are usually placed on top of the gameplay and they provide extra information. This information can range from game scores to important announcements from the streamer. As these are extra things the streamer can add to their stream, they are a good way to give a personal touch to the end product. Do you want to add borders that are grandiose or minimalistic? Do you want to add a large amount of small details or only the absolutely necessary ones? These kind of additions can easily reflect the streamers personality.

3.2 For the viewers

While watching competitive gaming, one of the most important factors for the viewer is information. Normally when you play games, you generally get information about yourself, your character and you have the control of the camera. In these situations you are in control. But this is not the case when you are spectating a competitive match. As a viewer you have no control over the information you can get. As such, it is extremely important for the stream to convey as much as information to the watcher as possible. This way, they can get the most out of their enjoyment.

Team based competetive games usually have a specific spectator mode, that allows one person to watch the game as an third party who is not part of either team. These spectator modes usually gives the person visibility of all players, the ability to freely move the camera and the ability to jump from player to player for more in-depth view. As this is the viewpoint for the viewer, proper usage of it is a key for good quality. The person in charge needs to be active in following the most important parts of the ongoing game.

3.2.1 Stream layout

A stream layout is the end result a viewer sees in the stream. This is usually a combination of the game view and a specific stream overlay. Different types of games provide different amounts of information when spectated, so it is important for a stream to provide additional information. Depending on the game you can see stream overlays ranging from minimal additions to overlays that might be almost as big as the actual gameplay.

In pictures 6 and 7 we have two different views from a game of League of Legends. Picture 6 is the normal game view the player sees while playing the game, while picture 7 is taken from a match that had a stream layout. The normal gameview provides detailed information about your own character such as remaining health, abilities and such at the bottom. On the bottom right corner we have a small map of the stage and small icons of your own teammates that convey their current condition. On the small map you can see the locations of your teammates. At the top right corner there is a small stat screen showing the kill count of both teams and your own kill/death/assist ratio. Your own character is indentified by the green colored health bar on top of your character. Enemy units are colored red, while your own teammates are colored blue. An important thing to note is that the game field is covered by a perpetual fog that hides both teams from eachother. Enemies are only seeable if they are within your teams field of view.

For a player, this layout gives a lot of crucial information. You do not have that much information about your own teammates, but as a team based game that information is gained by communicating with your team. The player also has a complete control over their viewpoint, and can easily move their camera to see what is happening on the other side of the field for example. This heavy focus on what is happening to you is important to the player.

Picture 6: The normal overlay of League of Legends (League of Legends Client)

But for a spectator, this information only tells the story of the one player you happen to spectate. You can't really grasp the complete situation of the game like this. As such, streams of competitive games usually utilize a spectator mode and provide a overlay that gives out more information of the game as a whole. This kind of single player spectating view isn't completely useless though. Spectating a match like this tends to be popular for more casual streams, like when a top player is streaming his or her own gameplay outside of tournaments for example.

In picture 7 we have the stream layout for the League Of Legends 2016 World Championship games. It combines aspects of the games spectator mode and a stream overlay to deliver an informative viewing experience. Immediately it can be seen that there is much more information for the viewer than in picture 6. At the top beside the names of the teams, there is a counter for both teams on how many objectives they have taken, how much money the team collectively has and how many kill the team has. Each team has its own color code, and they correspond to the colors of their characters in the game. On the left and right side we have both team compositions and their conditions. A blackend icon means the character is dead at the moment. On the bottom left we have a

more detailed information screen of a selected character. The selected character can be changed around, but it does give less information than the normal player view. In the middle there is a group comparison on the players, showing stats like kills, deaths, what items they have and such. Also one player cam for each team that switches between the players. On the bottom right there is the same mini map that the player view has, but this map displays the location of all the characters in play. These kind of extra pieces of information give the viewer a much larger scale of understanding on what is actually happening. This is important as they do not have the same type of knowledge of what happens, like the actual players have.

Picture 7: The stream overlay for League of Legends 2016 World Championship (EpicSkillshot 2016.)

Another thing that the overlay can tell is how the tournament itself and the match that is broadcasted are proceeding. In the picture 8 below, at the very top we have a column that informs the watcher what part of the tournament this match is. In this case the match is the semifinal of the winner's side of the tournament. There is also information about how long this match is. BO5 is a shortened version of Best of 5, in other words, the player who has the better record out of 5 matches is the winner of this set. On both sides we have the players themselves in the player cameras. Below the cameras we have the current situation of this match. At this point of the game Armada the player on the left is leading 2-0 against Mango.
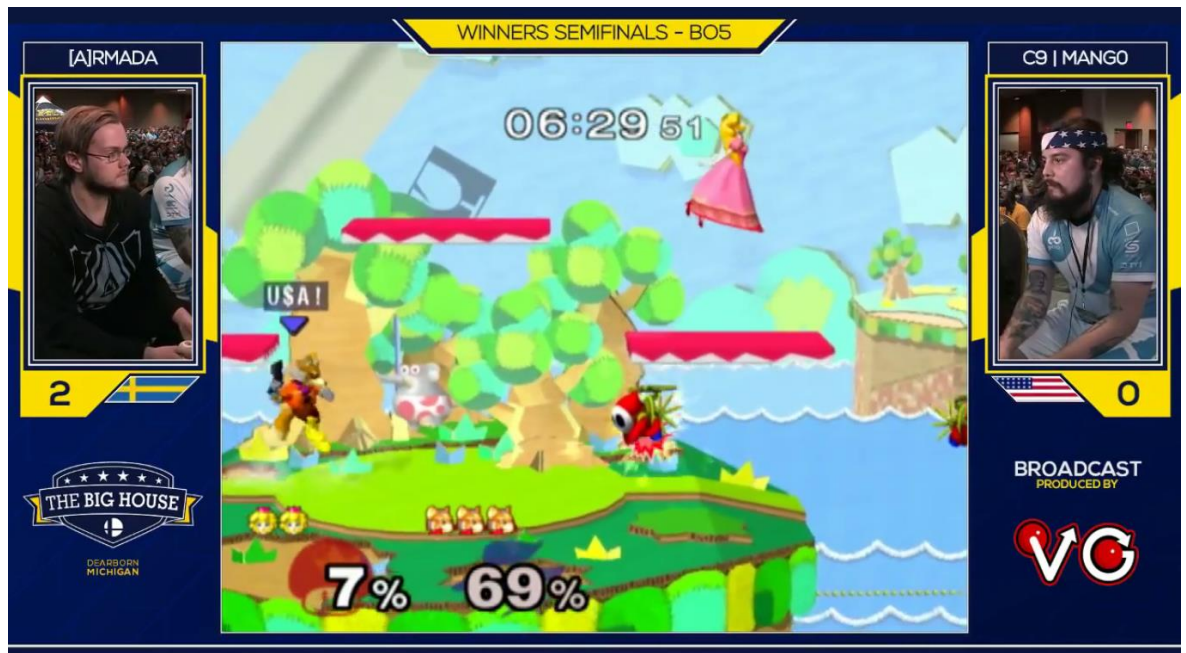
Picture 8: The stream layout for The Big House 6 Super Smash Bros Melee singles (VGBootCamp VoDs 2016)

Contextual information about the match like this is helpful in creating a feel for the game. Knowing that your favorite player is one match away from dropping out of the tournament can create excitement and different emotions from the watcher.

The amount of information these extra overlays and spectator modes give depends on the game and broadcaster. Some games like League of Legends fully utilize a spectator mode with a lot of information displayed, while games like Street Fighter offer next to no extra information to the viewers. Another factor to the end result of a streams overlay is how the streamer decides to customize the overlay. Traditionally the more information the game itself provides the less the streamer needs to add into the overlay themselves. This can be seen if you compare pictures 7 and 8. In picture 8 the game itself has no special spectator mode, no extra information is given to the viewer. In this case, all the extra info surrounding the gameplay is added by the streamer. The borders, the score board and the player cameras are all customized components in the overlay.

On the other hand in picture 7 the gameplay is watched from a spectator mode. Almost all of the information the viewer sees is straight from this spectator mode. Only the team names at the top, the player cameras and the tournament banner are additional components.

3.2.2 Commentators

Picture 9: League of Legends 2016 Mid-Season Invitational Play-by-Play commentators (Magus 2016)

The stream layouts and visuals paint the frame for the ongoing action. While it does provide necessary information, actually following it and the gameplay can get overwhelming during intense situations. Also, the amount of information they give out is limited. They cannot tell you how the teams have performed overall, they can't inform you of the intricate details of what is actually happening. We need the other part of the whole that gives you information. Enter the commentators. These masters of the game and microphone are here to fill you in on the action. Knowledge of the game is the most important aspect for these people. As such, they are usually either old pro players or people who have played the game for a long time. Their main job is to keep analyzing the situation in the game and providing insight to the viewers. Many of the multitude of viewers of competitive gaming have a certain amount of understanding of the game, but many of the moves and strategies the pro players pull can go past the viewers. In these situations it is the commentator's job to fill in what actually happened, why this choice was good or why it was bad. This is especially relevant in getting more people to understand how the game works. Many newcomers to the game are drawn to watch their own game at the top level.

Commentators can be roughly split into two categories, color commentators and play by play commentators. Play by play commentators are, as their name implies, the ones who go by what is actually happening in the match at the moment. Bringing out the actions the players make during the game, and informing why they do what they do. A good insight to the game and the ability to clearly articulate what is happening are key attributes for these commentators. They are also known as the main commentator, and usually they are the primary speakers of the broadcast. Color commentators on the other hand usually bring in the statistics and background information about the players. What are their past record

against other teams, how well one team has played during this season and things like that are their main contribution to the broadcast. Analysis on the strategies of the players is also an important factor they bring in. As such, they can be seen as the ones who build the storyline between competitors. Stories about two rival teams that have gone neck to neck during this season or tales about an up-and-coming new player in the scene are usually told by the color commentators.

3.2.3   Life of the stream footage

After a competitive tournament has been finished and the live broadcast has ended, the video material created still has a huge life ahead of it. Most streaming platforms such as Twitch and Hitbox automatically record the live broadcasts into a VOD archive. These archives hold the entirety of the broadcast, ready to be watched on a later day. As these VODs contain all that was streamed on one session, they usually last multiple hours. VODs can be a good way to catch up on what has happened during the tournament. For example, if you miss out on the first day of the tournament, you can watch the day one broadcast before the next day starts if the VOD is available. With the ability to reel the recording, watching only the parts you like is easy. The streamer can manage the availability of their VODs and might even delete past events. Platforms such as Twitch also do not hold these records indefinitely, with broadcasts either being stored for 14 day for regular broadcasters and 60 days for turbo subscribers and partners. As such, these VODs are usually used during the tournament or a bit after the tournament has ended.

Since the VODs aren't indefinitely stored, most streamers will upload the recordings into video sharing websites such as Youtube, for more publicity. In most cases, the VODs will be cut into smaller segments for easier viewing. Making each match its own video is the most popular option, as this makes it easier for viewers to find what they want. Since this requires editing of the VODs, usually there is a small delay after the tournament until the videos end up uploaded for viewing. Recently streamers have started to instantly upload matches during live broadcasts. As such the match that just ended on the live stream can be uploaded to Youtube in a matter of minutes.

Options like these make it really easy for fans to enjoy watching competitive gaming. If you miss a big tournament because you couldn't watch it live, you can just watch it later as your leisure. Or if you want to watch that exciting grand finale of a tournament that happened a few months ago, you can find it online. Making content be more available is an easy way of attracting new people to your scene, while also letting older people relive their experiences. A good example of how well these videos can do is the Fnatic vs Tele-

com T1 K team match from the League of Legends All-Star 2014 Invitational tournament. It has around 1.9 million views on Youtube at the moment. (EpicSkillshot 2014) These kind of numbers give proof to the fact that people want to watch this kind of content, even after the event has ended.

In most cases the fans are the ones who watch these videos, but they are certainly not the only ones. The players themselves can gain a lot from these too. The first application of these is to improve your own gameplay. While playing games on a competitive level, it can be easy to get so focused in the game that you might not see everything. Sitting down and analyzing your own games is a big part of getting better. When you watch your own gameplay from a spectator's seat, you can see habits and things you do that you might've not realized during the game. Realize you have a certain flaw in one specific thing? Now you can work on fixing. For team based games, this is doubly important, as it lets you hone your team play and strategies too. The other benefit of watching past games is getting knowledge about your opponents. By watching replays you can get a general feel of how your opponents play the game. Small things they do, how do they react in certain situations and such can be learned this way. Especially if you do not have the luxury of playing against them that often. Almost every pro player has their own subtle ways of playing the same game, so getting to see how they play is a really big advantage. Maybe you realize this one guy has a habit of doing the same thing over and over again, or a weakness you could capitalize on. As these are replays of the past, you cannot just blindly work based on them, they have most likely realized the things you've seen and are working to fix them. Also remember, this can be done to you too.

For marketing purposes, past broadcasts and match videos can also be good materials to work with. This is mostly seen in trailer videos for upcoming tournaments and events. Gathering some amazing and exciting moments from past tournaments and compiling them into a trailer to generate excitement for an upcoming event is a common practice. For individuals, these videos are a good way to show off their talent. Be it a pro player, a commentator or even a streamer, having actual material about your talents is always a good thing. Getting material of your own scene out to the public eye is also one of the main points of these re-watch options. With these videos you can raise awareness of your own scene, this can make it easier for new players to join.

4 Growth in numbers

The last decade has been a very positive journey for competitive gaming. It has seen a large increase in almost every aspect, be it in media coverage, tournament scale or such. For this thesis I wanted to focus on three key aspects that can be analyzed to see how the competitive gaming scene has developed in the recent years. These three statistics will be stream viewership, price pools and tournament participant numbers. Out of these three, the stream viewership statistics will be the most important, as this thesis is primarily focusing on how streaming has affected the growth of competitive gaming. In this section I will focus on the bigger tournaments like League of Legends World Championships, Dota 2's The International and the Evolution Championship Series.

4.1 Viewership

One of the ways to gauge the popularity of a tournament is to check how many people tuned in to watch it. With plenty of sites tracking down the online viewership amount of tournaments and the fact that most, if not all, organizations release their viewership amounts after the event is done makes it easy to gain information on them. Usually these numbers are the most important ones, but still a lot of people end up watching tournaments on the venue itself.

The biggest tournaments nowadays end up reaching millions of online viewers all around the world. The games that usually have the biggest audiences are games from the MOBA genre. Games like League of Legends and Dota 2 are generally the games that attract the most viewers on their events.

For example the League of Legends Championships in 2011 managed to get 1.69 million viewers in total during the three day event, with the final match had an estimated amount of 210,000 unique viewers alone (Funk 2011). Compared to this, the League of Legends Worlds 2015 had a total of 334 million views in total during its four days, and the final match had an estimated amount of 36 million unique views. (Magus 2015) The total amount of views has risen by over 200 times in 4 years.

On the other hand Dota 2's The International 4 held in 2014 had more than 20 million viewers for the event and had a peak concurrent viewers of more than 2 million according to Valve. (Michael McWhertor a 29.7.2014) Compared to this, only the finals of The International 6 had almost 5.8 million viewers. (TrackDota 2017)

For the fighting game department, viewership growth has been also on the rise. The Evolution Championship Series, also known as EVO, is the premier tournament for the fighting game community. Throughout the years it has been steadily growing its online viewership base. EVO 2013 boasted nearly 1.7 million unique views during the weekend it was held. This was almost 50% more than during the previous year. Ultimate Marvel Vs. Capcom had the max concurrent views of 144,848 for the tournament. (Aziz 2013) EVO 2015 ended up having 3,888,620 unique views during the tournament. The peak amount for concurrent views was 248,000. (Twitch 2015) In two years the viewership numbers have almost doubled in both unique and peak concurrent views.

DreamHack, a hugely popular digital festival, is also a big player in the competitive gaming scene. The event itself deals with everything you can do with your computers, digital entertainment and the culture. One of its branches is competitive gaming. In their multitude of events, the competitive gaming streams enjoy a fair deal of watchers. DreamHack Winter 2013 had in total over 13 million views for all its streams. (DreamHack 2013) DreamHack Cluj-Napoca, a CS:GO tournament, had a record breaking amount of viewers with more than 25 million unique views. At its peak it had nearly 1 million concurrent views. (DreamHack 2015)

While the majority of views to events like these come from the online viewers, by no means are they only limited to them. People who actually watch the tournaments at the event itself are numerous. The audience numbers have grown so large that it isn't an odd thing to see large sports arenas to be used as the venue. For example, an ESL Dota 2 tournament in Seattle managed to have more than 11,000 spectators watching the tournament live in the city's basketball arena (Wingfield 2014). Similarly the finals for League of Legends World Championship 2015 was held in the Mercedes-Benz Arena. The arena was filled with cheering fans as can be seen in the picture 10 below.

Picture 10: View of the League of Legends World Championship 2015 (Kollar 2015)

TV channels have also started to pick up the pace, with live broadcasts of gaming events becoming more and more common. In the fighting game community EVO 2016 had the honor of being the first EVO that was broadcasted live on ESPN. The finals of the tournament were broadcasted live on ESPN2 and it averaged a 201,000 viewers on it. (Dozsa 2016)

4.2 Prize pools
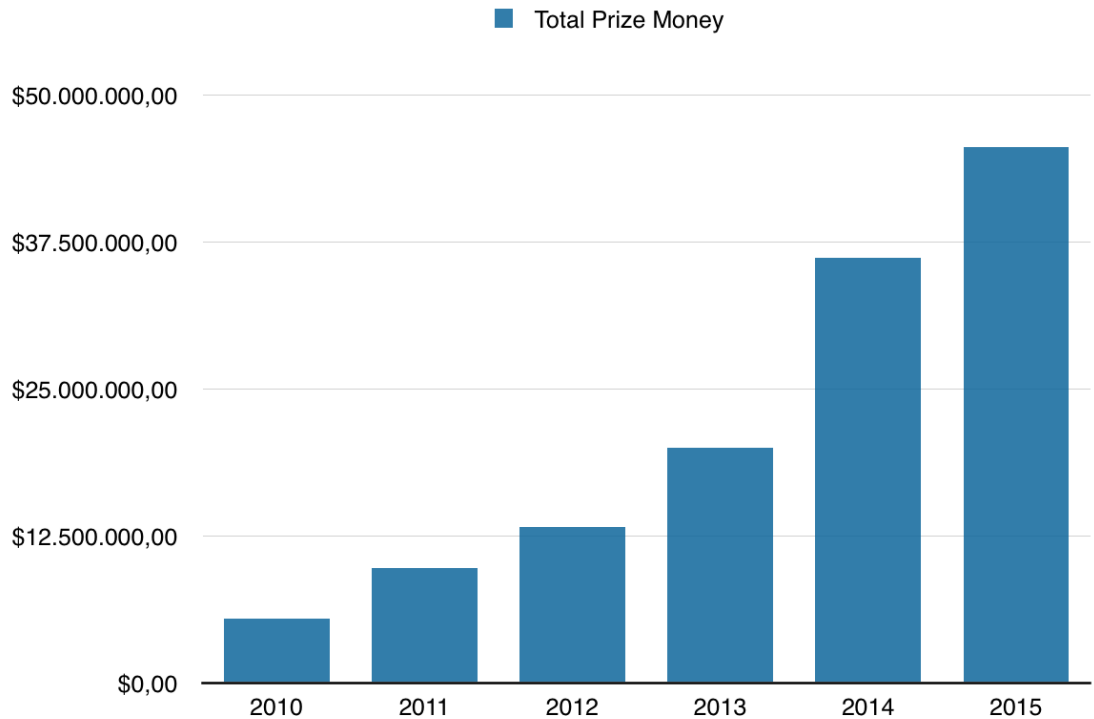
Picture 11: The rise of price monies for competitions (Bräutigam 2015)

Another one of the main ways to gauge how "prestigious" a tournament would be to see how much money the tournament has in its prize pool. The more money a player or a team can make, the more interested people will be to try to get that money to themselves. The total amount of money on the line for competitive gaming has been rising steadily as can be seen from picture 11. The biggest tournaments end up having millions of dollars on the line.

Dota 2 has had a rather interesting way of dealing with the prize pool of their biggest tournaments, The Internationals. Valve, the games developer, provides the tournament prize pool with 1.6 million dollars out of their own bag. For the first two tournaments, International 2011 and 2012, this was the entirety of the prize pool. But starting from 2013 they added a crowdfunding to the price pool. 25% of all in-game Battle Pass purchases go directly into the prize pool. This way the community can support the tournament by buying things for themselves. (Savov 2016) This kind of crowdfunding proved to work spectacularly. The 2013 International ended up having a prize pool of nearly 3 million. Year after year the prize pool continued to grow, by 2014 it was already over 10 million. The sixth International boasts the single highest known prize pool for a competitive gaming tournament with a prize pool of over 20 million USD. (E-Sports Earnings 2017 b)

The other MOBA juggernaut League of Legends also has quite the large prize pools for its largest tournament, the World Championships. The 2013 Worlds had a total prize pool of $2,050,000. The prize pool for both 2014 and 2015 World Championships was $2,130,000. For the 2016 World Championship we saw a more than double the amount of the previous year with a price pool of $5,070,000. (E-Sports Earnings 2017 c) The reason for this large jump between the Worlds 2015 and 2016 prize pool was due to them adapting a crowdfunding similar to Dota 2. Certain purchases in the game added a percentage to the final prize pool. The original prize pool was $2,000,000. (Lolesports 2016)

For games like League of Legends and Dota 2 the major tournaments are backed up by the companies who created the game. This is one of the reason why these tournaments end up with such staggering amounts of prize money. But this is not the only way to amass a prize pool for your tournament. In some cases, the amount of tournament participants will directly affect the price pools for the tournament. In these cases, each participant will pay a certain fee to enter a tournament, which then gets added to the total price pool. This way can create a positive loop of people getting interested about a tournament who then enter the tournament and make the price money get bigger. For smaller tournaments this can be the way the whole prize pool is collected. For bigger tournaments there can also be extra pot bonuses added to the prize pool. These usually come from various different sources, like from the tournament organizers or sponsors. An example of this would be the 2016 smash tournament UGC Smash Open that had a pot bonus of $40,000. (UGC 2017) The complete prize pool for this tournament was $46,800.00. (E-Sports Earnings 2017 d).

4.3   Tournament participants

The last statistic used is the amount of people actually participating in the tournaments. The growth of participants is generally easier to see in single player games. For the bigger tournaments in the MOBA genre for example you usually always have the same amount of teams participating in the tournaments.

The EVO tournament held in 2015 managed to gather over 10 000 entrants all together between its nine games. (Walker 2015) The 2016 tournament managed to overcome this amount with its staggering over 14 000 entrants divided to its nine games. (McWhertor 2016) These kind of numbers are even more amazing, when you realize that entrants to a single game are more numerous than the total amount of entrants the tournament has had in the past. For example, the total amount of participants for EVO 2012 was around 3500

people (Walker 2012), while Street Fighter 5 had more than 5000 entrants. (McWhertor 2016)

Another juggernaut tournament on the fighting game scene is the Community Effort Orlando also known as CEO. During the years since its start from 2010 it has seen a steady rise in participation numbers. On its first year CEO gathered over 350 participants. This number has been rising year after year. CEO 2011 had almost 1000 people attending, tripling the numbers from CEO 2010. CEO 2015 on the other hand had more than 4000 people taking part in the quest for glory in multiple fighting games. (CEO Gaming 2017)

5   Research methods

In addition to the research and comparison of statistics for competitive gaming tournament I decided to include some insight to the growth the competitive gaming scene has had for this past decade. As such I wanted to get some information from the actual people running the things behind the scenes. People like tournament organizers and streamers should have their own perspectives to this topic and getting to hear them out would be wonderful. Finding out if they've had the same ideas on what has happened to the scene to get such explosive growths in popularity. Thus I decided to use two different methods for this part: an email interview to the forces working towards the growth of the competitive scene and a more in-depth forum conversation with the actual players.

5.1   Email interview

For this thesis one of my goals was to gain insight on the viewpoint and experiences of the actual people who work within the competitive scene. How do the tournament organizers, streamers and eSports teams see this scene? What do they think of the journey this scene has had until now? Compared to the competitors and the fans, these people have a vastly different viewpoint to this whole thing. For this goal, I decided that e-mail interview would be the most suitable option. Considering how these parties work around the world and the time frame for this thesis it was the only doable option. The interview I used can be found as the attachment 1.

Before I started to write out the actual interview, I contacted a number of different organizations to check if there would be any interest on this kind of discussion. After receiving a few positive replies, I started to work on the interview itself. At the start I thought I'd do two different kind of interviews, one that focused on the experiences of the organization in question and one dedicated for streamers. I wanted to keep them separated, as some of the organizations I was planning on interviewing might not actually handle the streams for their events themselves. After a while, I ended up combining the two interviews into one. There was mainly two reasons for this. The first one was simplicity. It'd be easier to control the data if I only had one interview to work with. Also this would mean I only would have to send one interview per organization. The second and more important reason was to see the same thing form two perspectives. Even if the tournament organizers themselves do not handle the streaming of their event, they still do have their own ideas and

demands they want of the stream. This difference in perspective would provide most likely some good information.

When finished the final version of the interview had a total of 14 questions. 10 of the questions focused on the experiences of the organization about the rise of competitive gaming. How long they had been in the scene? What do they think were the key factors in the growth of competitive gaming? The remaining four questions focused on the streaming aspect of competitive gaming. These were primarily focused towards streamers. The interview can be found as an attachment to this thesis.

With the interview complete, I started to contact different organizations. I sent out the interviews around the middle of October. In total I contacted 9 different organizations. Two of them were dedicated streamers while the rest were eSports organizations. In the end, I did not manage to conclude any interviews with the organizations I contacted. Some of the organizations I managed to get a hold of unfortunately did not have the time to take part in these interviews while I got no answers from the rest. As this had become one of the main points of focus in my plans for this thesis the lack of responses really discouraged

Looking back on this whole process, there are a few things that I could have done better. The first thing would be the timing. I decided that the deadline for the possible answers would be the start of December. This was mostly so that I would have enough time to go through the answers and analyze them. Considering I sent out the interviews around the middle of October. This gives around eight weeks of time for the interviewees to answer me back. I could have started to contact the organizations earlier. Especially since many of the organizations I contacted are major organizations. Giving more time to collect the answers could also improve the probability of the organizations actually answering back.

The interview itself and the way it was done could've also been done differently. The questions can be seen as a bit open ended and maybe a bit too broad. Many of the questions could end up taking a long time to answer. Streamlining the questions could've helped in this case, as it would make answering easier. Another way could have been to focus on one topic in the interview. The extra questions regarding streaming could have been off-putting for some. Deciding one topic could've made it easier for the interviewees to focus on the task at hand. Focusing only on one demographic would've been an option also. For this interview I decided to ask both esports organizations and streamers. Considering the focus of this thesis, choosing to only interview streamers and people working on streams could have worked better.

I would not say that this research method was useless though. Even if I received no answers, the process of creating the interview helped me to streamline certain aspects of this thesis. The added focus on the viewpoint of the people who work within the competitive scene started from this interview. This also helped me to bolster my knowledge about streaming itself, as I ended up checking out more specific details about the subject due to this interview.

5.2   Forum conversations

As another way to gain more viewpoints to this thesis would be to ask the actual people who play competitive games and watch the tournament streams. As there is such a large amount of people surrounding the competitive gaming scene, I decided to focus on the actual fans. After all, they are the main consumers of the streams. In order to keep the sampling manageable, the first decision would be to focus on a certain game and its audience.

For this I decided to focus on the Super Smash Bros series and its fan base. At the moment the series has two games that are widely played in competitive tournaments. These are Super Smash Bros. Melee and Super Smash Bros. for Wii U. Considering the options for actually gathering information, it was decided that it'd be the best to focus on one specific forum for this. Thankfully this game has a focused forum in the form of Smashboards. The idea was to start a conversation regarding the game and its overall situation and history in the competitive gaming scene. How the streams of the game work? How the tournament experience is for the fans? From this conversation I could get an idea how the players and fans enjoy it.

In the end, this research method was scrapped. As I started working on my thesis, my idea for it was closer to the competitive gaming scene and streaming as a whole. During the brainstorming I ended up focusing more on the streaming aspect. As such this kind of addition to the thesis started to go out of the area of focus. With the email interviewing being more on the area what I wanted to focus on.

6 Conclusion

Even though competitive gaming originates from way back to the 1970s it has only recently started to gain more and more following and public interest. Looking at the rate viewership numbers for this sport are rising, it can be said that competitive gaming is still growing in the eyes of the mainstream.

With live streaming coming into the picture around the early 2000s competitive gaming started to gain more and more popularity and recognition around the world. Tournaments could almost only be enjoyed if you were at the event itself in person. Now, you can watch and enjoy a wide variety of tournaments live from your own house.

This ease of availability is the biggest contribution that streaming has given to competitive gaming. By making it easier for people to watch the content provided by large events and tournaments streaming has brought the once a rather niche scene to the eyes of the masses. With this competitive gaming can charm more and more people to their own craft and competition. And the more new people they can gather via the streams the more the competitive gaming scene will grow. This positive loop can be seen in the large growths competitive gaming has had in almost all of the statistics from online viewership's to tournament participation numbers. No doubt we will continue to see the same type of growth in the years to come.

The availability of high end competitive gaming content has also made it easier for people to get involved in these competitive scenes. Today you can follow your own favorite games and competitive teams easier than ever. Check out and support tournaments near and far from you, find out events close to you and participate yourself. With the growth of competitive gaming we have even more new stars rising to struggle for the titles of the best of the best in gaming. That dream you might've had about playing games competitively for a living is ever closer to your reach.

Right now competitive gaming is booming all around the world. With increasing amount of exposure in various media outlets and channels the roads to even greater heights are being opened to the collective. With viewership and prize pools records being broken year after year it is easy to vision competitive gaming taking even more of a foothold on mainstream entertainment. And the rise doesn't seem to be stopping any day soon.

As far as this thesis goes, I could see this being used in some way as a part of similar themed theses. Both main aspects of this thesis, competitive gaming and streaming, are

such vast topics that they could produce a multitude of reports. I've mainly scratched the main aspect for how streaming has affected competitive gaming. Areas like stream viewership numbers in correlation of events on its own could easily be looked more into. The overall state of competitive gaming could also work as its own topic also. And the whole business behind streaming content is so large it provides a lot of areas you could focus on. Hopefully this inspires others who are interested in these topics to start their own reports.

As a whole, this thesis was incredibly interesting, entertaining and sometimes frustrating experience. When I started to consider topics for this thesis I was really at a loss first. I really didn't have any ideas for a topic I really wanted to do. I had thought of doing something related to the competitive gaming scene but the more I thought about it the more I got discouraged. The topic didn't really seem to fit to the idea I had about what would suit a thesis. In the end I submitted this as the thesis topic and it got approved. I was really committed to this thesis since the topic is near and dear to my heart. So getting the chance to write about it like this was the best case scenario. This did have its flaws too, as I had quite a lot of knowledge on the topic I tended to write about things that really weren't relevant to the topic.

All things considered I did manage to do all the preparations quite well in my own opinion for this thesis. I had rather lenient timetables for all the areas needed for this. At the start I even managed to keep up with my plans timewise. The biggest problem I had throughout this thesis was my own writing habits. The way I write longer reports tends to be a bit messy and haphazard from time to time. I had a multitude of documents with different bits and pieces written about certain areas here and there. For myself this way of doing things feels natural, but to other it might not. I also encountered a few situations where either I just couldn't get the words from my mind to the paper as I wanted or I just couldn't come up with any coherent sentences. As such I ended up getting way behind the schedule. A big outside factor that brought be trouble was the entire interview. The fact that I didn't get any responses from any of the organizations I contacted really hit me hard, especially since I had already gotten a few groups interested about answering me regarding this. I really lost motivation to write this thesis for a while to be honest. But in the end I did get over it and continued on.

On the technical side of writing this thesis the biggest problem to me was the whole referencing part. Especially due to my way of writing I really didn't really focus on it too much at the start. I wrote down where I got the info in small notes at first, but when it came down to actually doing it properly I struggled a lot. For future projects I really need to fix this habit.

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Attachments

Attachment 1. Email interview

1. First things first, please introduce yourself/your organization.

2. What types of games do you mostly work with?

3. How long have you been part of the competitive gaming scene?

4. In your opinion, how important has streaming been for competitive gaming's popularity?

5. What have been major milestones throughout the years for streaming competitive gaming?

6. Overall, what do you think have been the most important aspects for competitive gaming to gain such popularity it has now?

7. Considering your own position, how has your own growth been, as a part of the competitive gaming scene? Any highlights you'd like to share?

8. How has this popularity affected your own productions? Has the extra amount of publicity given you more drive to strive, or has it maybe given you more pressure?

9. What do you think of the future of competitive gaming? How will it proceed from here? Are there any specific things you'd like to see improved or such?

10. Where do you see yourself/your organization in the future? What kind of plans and improvements do you have for the future?

11. If I wanted to start streaming, for example local tournaments, what would I need in order to get started? Any tips for beginners?

12. Considering most of the things a streamer does aren't seen by the viewer or players, what goes into handling a stream for big events? Can you give a rundown of what happens "behind the scenes" during events?

13. What are the most important aspects for a streamer?

14. What are the most important aspects for a professional stream?

Thank you for taking part of this interview.