



WPI

IQP MBJ-1710

WPI eSports Feasibility Study

An Interactive Qualifying Project report
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BACHELOR OF SCIENCE
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by
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This report represents the work of WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, please see <http://www.wpi.edu/academics/ugradstudies/project-learning.html>.

Abstract

This report summarizes the rapid growth and worldwide impact of eSports, and outlines the organizational and physical requirements for creating a successful collegiate eSports league. It concludes by exploring the potential of an officially-recognized WPI eSports league to attract sponsorship resources and scholarships, and the prospect for WPI to become a go-to destination for prospective students interested in eSports.

Contents

1. eSports are real	1
1.1. <i>eSports and WPI</i>	2
2. Requirements for success	3
2.1. <i>Fit players</i>	3
2.1.1. Physical fitness.....	4
2.2. <i>Support organization</i>	5
2.2.1. Coach.....	5
2.2.2. Coordinator	6
2.2.3. Analyst.....	6
2.3. <i>Dedicated practice environment</i>	7
2.3.1. Other facility uses	10
3. Sponsorship opportunities	11
3.1. <i>Equipment</i>	13
3.1.1. Desktops.....	13
3.1.1.1 Motherboard	14
3.1.1.2. CPU.....	15
3.1.1.3. CPU Cooler	15
3.1.1.4. Memory.....	15
3.1.1.5. Graphics cards.....	16

3.1.1.6. Storage	16
3.1.1.7. Power supply.....	17
3.1.1.8. Optional equipment.....	17
3.1.2. Peripherals	18
3.1.3. Monitors.....	18
<i>3.2. Seating</i>	<i>19</i>
4. Conclusion	20
Works cited	21
Appendix A: About the author	23
Appendix B: Interview transcripts	25
Appendix C: IRB protocols	27
Appendix D: Sponsoring manufacturers	30

1. eSports are real

The first major digital gaming tournament was the 1980 National *Space Invaders* Super Bowl held by Atari. “Thousands of button-pushing, electronic game enthusiasts around the country flocked to enter the contest.” (*Retroist*) This watershed event sparked a gaming revolution that has come to be known as electronic sports or *eSports*.



Figure 1. Stage layout of the 2016 *League of Legends* World Championship Finals. [Source URL](#).

Over the ensuing decades, eSports have evolved from casual one-off contests to an international network of professional leagues competing for the chance to play in prestigious world-class tournaments rivalling even the largest traditional sporting events. Figure 1 shows the stage from the 2016 *League of Legends* World Championship finals, which sold out nearly

all 21,000 seats at the Staples Center in Los Angeles on 29 October. 396 million Internet viewers tuned in at some point during this 7 ½ hour event, with 43 million watching for more than an hour via Twitch, a video game streaming website. This is more than the 111 million total views reported for NFL Super Bowl LI. (*Sports Xchange*) It was broadcast worldwide in 18 languages including English, Chinese, Korean, Russian and Turkish. (Bradmore and Magus) The total prize pool of US\$6.8M for this event included US\$2M from *League of Legend* developer Riot Games, with the rest generated through in-game purchases. 40% of this prize went to the first-place winners, SK Telecom of South Korea. (Bradmore and Magus)

In recent years, collegiate eSports have also grown in popularity as both Riot Games and Blizzard (creator of *World of Warcraft* and *Overwatch*) have established collegiate tournaments offering thousands of dollars in scholarships to the winning teams.

1.1. eSports and WPI

In the fall of 2016, a group of WPI students formed a casual eSports team which earned a competitive slot in the Tespa *Overwatch* fall series. They made it all the way to the regional finals, falling just short of the team from Rutgers. Other self-formed WPI teams have participated in tournaments for *Heroes of the Storm*, *League of Legends*, *DoTA2*, *Hearthstone* and *Counter Strike: Global Offensive*.

Despite the impressive performance of WPI's teams, they lack the structured guidance and training required to reach their full potential. The absence of institutional recognition limits the visibility of these teams, potentially shutting out highly-qualified players who are unaware of their existence. These issues can be addressed by turning WPI eSports into an officially-sanctioned activity meriting the support and prestige afforded to traditional sports.

2. Requirements for success

Three factors determine the success of an eSports team: fit players, a stable, experienced support organization, and a dedicated practice facility.

2.1. Fit players

Student athletes are expected to perform well both academically and in competition. Establishing an optimum balance of coursework and practice is therefore essential.

WPI has no shortage of students determined to excel both in the classroom and on the playing field. The author of this report offers himself as an example. I play for the second-best *Gigantic* team in the world, and am rated among the top 15 players in North America and the top 50 in the world. So far, I have also managed to maintain a grade point average of **X.X**. Every day, I face the challenge of finding time to complete a full load of course assignments while getting the practice I need to improve my game performance.

Jeffery Wu is the coordinator of the University of Toronto's *Overwatch* team. His school has begun to take an interest in eSports, but has not yet made a significant investment in resources or recognition for players. In an email interview, Wu wrote, "In terms of academics, it has been difficult. Managing a team, moderating a group, and hosting events takes a lot of free time and commitment. As a result, my school grades have definitely gone down." Even though the balance has been tough, Wu believes that he can do a better job of balancing next year now that he knows what he is getting into. (Appendix B)

Overall, Wu believes being a part of a team has been a good experience for him. However, as a manager, he does not share the need to practice for hours a day like his team members. The lack of support from the school has been much more taxing on them. Team captain Ronald Ly notes that “There is little to no sympathy or support from the institution for students [wanting] to pursue eSport-related interests or careers.” (Appendix B) Such sentiments do not serve players or their schools well.

2.1.1. Physical fitness

eSports players require elevated physical fitness to perform at a competitive level. Just as quarterbacks stretch before a football game in order to prevent muscle and tendon injuries, eSports athletes need to stretch and work out the tendons and muscles in their hands, arms and shoulders to prevent injuries such as arthritis, tendonitis and carpal tunnel syndrome (CPS). In addition, they must strengthen their backs and maintain good posture while playing in order to prevent even more serious injuries such as scoliosis.

In an interview with *Rush Hour Daily*, Dr. Daniel Polatsch, co-director of the New York Hand and Wrist Center, noted that “Tendons that receive proper nutrition are less likely to have problems ... Weightlifting and cardiovascular exercises help keep us more limber and reduce the likelihood of repetitive stress syndromes.” (Ionica)

eSports-related injuries are not only a potential career-ender for competitors, but also a risk to academic performance, as pain treatments can significantly impact coursework. This underscores the need for a strong support structure incorporating expert medical guidance for students involved in eSports.

2.2. Support organization

2.2.1. Coach

Coaches are an essential part of an eSports team's support organization. Like their counterparts in traditional sports, they are the ones calling the shots, and serve as the interface between a team and its school. At the beginning of each collegiate season, the coach is responsible for holding tryouts and selecting the best combination of players. They are also tasked with scheduling and directing both in-game and out-of-game practice, including workouts and video reviews. These responsibilities require deep expertise with the game. Most eSports coaches are therefore drawn from the ranks of professional players.

In some aspects, the duties of an eSports coach differ from those seen in traditional sports. For example, many eSports do not allow coaches onstage during play, as there are no breaks or "half-times" when instruction and encouragement can be given to the players. Communications with their team must occur before, between and after games.

Coaches are good for teams because they free players from the necessity of making critical decisions that require objectivity. Ronald Ly believes that even though his experience this year was somewhat negative, adding a coach to his team would greatly improve his experience and make college more fun. (Appendix B)

2.2.2. Coordinator

Coordinators schedule all of the tournaments (both online and live) in which their team(s) will compete. Professional team coordinators are also responsible for publicity, interviews and travel arrangements. In colleges with multiple teams, having a single coordinator for all teams makes it easier to avoid scheduling conflicts.

2.2.3. Analyst

Analysts provide essential support for coaches and teams. They act as an extra pair of eyes, closely studying the videos of practice sessions and matches to identify the strengths and weaknesses of each game. An analyst must have deep knowledge of the mechanics of the game, with the ability to recognize opportunities for improvement and communicate them effectively to the coach and team. Depending on the scope of the competitive schedule, a single analyst may be able to serve multiple teams.



Figure 2. Robert Morris University's IBuyPower Gaming Arena. Constructed in 2014, this arena was the first of its kind, and is now used by all ten of RMU's collegiate eSports teams. [Source URL](#).

2.3. Dedicated practice environment

Having a dedicated practice space is extremely important. Physically and psychologically, it separates the place where students work from the place where they play.

Two schools have recently taken this idea to heart, creating spaces where anyone can go and play games. In 2014, Robert Morris University became the first school to open a dedicated eSports arena, available to students 24 hours a day. (Kopetman, Mims) Figure 2 shows the interior of their facility. Despite its impromptu and somewhat cramped layout, this space is utilized by all ten of their collegiate eSport teams for practice, scrimmages, and VOD

(video on demand) review. All PCs are on individual desks that can be rolled around and rearranged as needed.

The RMU arena is maintained with resources donated by iBuyPower, a company specializing in the assembly of custom high-end gaming computers. Other sponsors include DxRacer, manufacturers of special gaming chairs; Asus, which provides the monitors; and pwnitwear, which manufactures the personalized jerseys worn by players during live tournaments.



Figure 3 Original concept art for the UCI Zot Zone. [Source URL](#).

The University of California at Irvine (UCI) also supports its eSports teams with a dedicated facility (Figure 3). Like its counterpart at RMU, UCI's Zot Zone is sponsored by iBuyPower, with additional support from Vertagear (seating), Logitech (peripherals) and Oomba (event logistics). Opened in September 2016, the Zot Zone operates like the "PC Bangs" common in South Korea, charging players an hourly fee for access to the high-end equipment.



Figure 4. Finalized concept art for UCI's Zot Zone, showing its customizable lighting system. [Source URL](#).

The \$250K facility boasts a number of significant functional and cosmetic improvements over its predecessor. The area is divided into five distinct spaces (Figure 4). A general gaming area contains 45 PCs available for anyone to use, each offering a wide variety of games in many genres, not all of them competitive multiplayer.

In front of the general area is the main stage. This is the practice space for four of UCI's five eSports teams, providing them with the opportunity to practice on an actual stage, and also serving as the host location for live competitive events. A console gaming area along the back wall offers a place for students to access a variety of console-based games. It also serves as the practice location for UCI's *Super Smash Brothers* team.

One corner of the Zot Zone (visible in Figure 4, far right) houses a video review area. The fogged glass separating this space from the rest of the facility is both attractive and functional, as it allows teams to review game footage and discuss strategies in private.

Figure 4 also highlights Zot Zone’s advanced lighting system, which utilizes indirect illumination to reduce eyestrain. The color scheme can be customized to match different event themes.

The Zot Zone is open from noon to midnight Monday through Saturday, and is operated by two full-time and 26 part-time staff who are “hard at work to continue equipping our arena with the newest technology and to create the ultimate collegiate gaming experience.”(UCI ESports Arena) This state-of-the-art facility offers UCI students access to high-end gaming equipment few could afford to own themselves, while generating the revenue required to maintain and monitor the facility.

2.3.1. Other facility uses

The powerful PCs required for dedicated eSports facilities are as valuable for academic and research purposes as they are for gaming. The ability to develop applications involving high-end virtual/augmented reality, cryptology and artificial intelligence is of critical importance to several disciplines. Such development requires PC hardware considerably more advanced than the generic workstations found in typical computer labs.

eSports PCs, with their overclocked processors and state-of-the-art graphics cards, are ideally suited for such purposes. Appropriate scheduling would allow an eSports facility to serve as a high-end PC lab during normal class hours, transforming into a revenue-generating gaming space for evenings and weekends.



Figure 5. UCI's Zot Zone in actual use. Note the uniformity and customization of the equipment. [Source URL](#).

3. Sponsorship opportunities

All of the equipment in the facility is UCI-branded, as shown in Figure 5. This uniformity enhances the sense of pride and community among players.

Team jerseys are another means to this end. They are as important to eSports as they are to traditional sports, identifying and bonding team members while serving as a potent branding opportunity for the sponsoring school.



Figure 6. Bjergsen's jersey for Team Solo Mid, manufactured by MetaThreads. [Source URL](#).

Figure 6 shows a the back of the jersey worn by Søren Bjerg ("Bjergsen") for Team SoloMid, one of the largest eSports organizations in the world. Note the lack of a number. Unlike traditional sports teams with dozens of members, eSports teams employ only six to eight players. Consequently, team jerseys typically display each player's in-game name, leaving plenty of space on the back and shoulders for sponsor advertising. This accommodates the requirements of leagues which disallow anything but the team logo on the front of the jersey. Although exact figures are confidential, sponsors such as Logitech and HTC are known to provide gear and funding worth millions of dollars in return for such product placement.

Gaming-related companies aren't the only firms interested in eSports, a fact demonstrated by the HTC and Geico logos appearing on the jersey in Figure 7 . Many other prominent brands, including Red Bull and Axe, have paid for such placement. Additionally, a number of corporations have either partnered with or created their own eSports teams. Just as Paris Saint Germain (PSG) sponsors one of the best soccer teams in France, Korea Telecom (KT) and South Korea Telecom (SKT), the two largest telecommunications providers of South Korea, both sponsor world-class eSports teams.

Even traditional sports teams and players are getting in on the action. Former NBA star Rick Fox owns *League of Legends* team Echo Fox. The Philadelphia 76ers formed a partnership with UK team Dignitas. Shaquille O'Neal is co-owner of the multi-team conglomerate NRG of California. The Milwaukee Bucks acquired *League of Legends* team Flyquest, and the Miami Heat is affiliated with the Misfits of Europe.

3.1. Equipment

Corporate sponsors can also play a major role in outfitting a collegiate eSports facility. Nearly all such facilities are built with the active participation of one or more sponsors.

3.1.1. Desktops

The key sponsorship opportunity for a new eSports facility is the computers used to play the games. To date, the most active collegiate sponsor of PCs is iBuyPower, who provided support for both RMU and UCI. The second-largest computer sponsor in North America is CyberPowerPC, operators of the pro eSports organization Team Solo Mid.

A desktop is the physical tower that houses all of a computer's essential parts. The interior of a typical high-end gaming PC is shown in Figure 7.

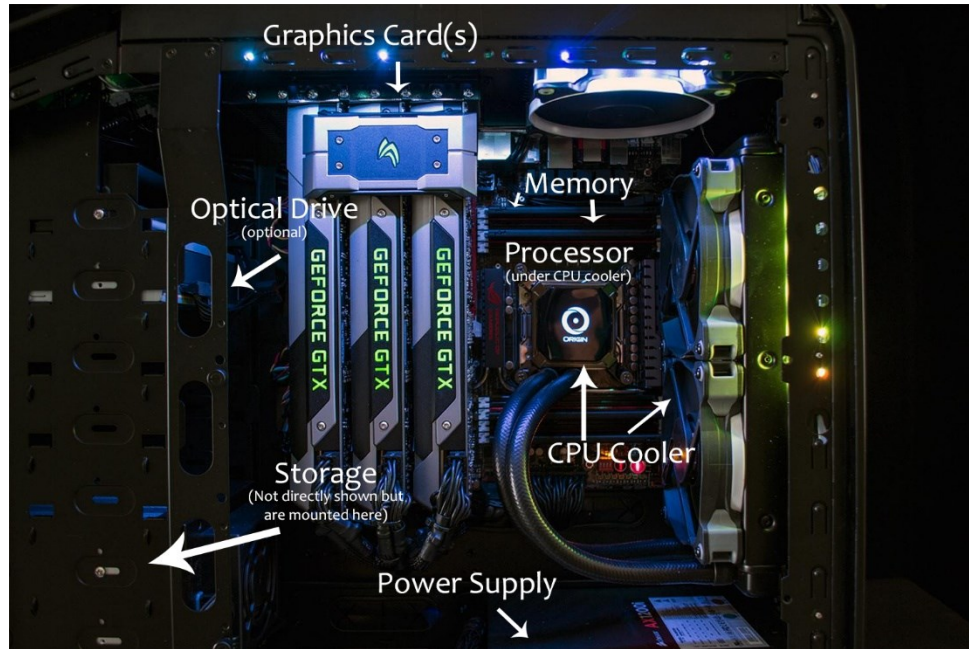


Figure 7. Interior of a typical gaming PC, with key components labeled. [Source URL](#).

3.1.1.1 Motherboard

The motherboard is the substrate to which all other components are either wired or directly mounted. It is essential to select a motherboard with specifications that meet or exceed the requirements of all expected parts, while leaving room for potential expansion. The MSI Z270 MPower Gaming Titanium (current retail US\$270) is a good example. It supports up to 64GB of DDR4 RAM and sports seven USB 3.1 ports.

3.1.1.2. CPU

The CPU (central processing unit) is the heart of the computer. Its performance is largely determined by the rate at which it is clocked, currently measured in gigahertz (GHz). Gaming computers require a CPU and motherboard capable of maintaining the maximum obtainable clock rate. The current flagship bearer is the 7th-generation Intel Core i7-7700K, released in Q1 of 2017. This 4-core, 8-thread chip sports a 8 MB internal cache, and is capable of operating at a blistering 4.2 GHz.

3.1.1.3. CPU Cooler

High-end processors like the i7-7700K generate more heat than a 90-watt incandescent light bulb. Cooling is required to insure that the chip remains within its safe operating range to prevent fires or system damage caused by overheating. While most processors are equipped with stock cooling hardware, an upgraded cooling system will perform better and often run quieter. Units manufactured by Master and Noctua are popular options, but almost any model that fits on the motherboard is adequate.

3.1.1.4. Memory

The CPU reads data from RAM (random access memory) much faster than data stored on hard drives or other storage peripherals. The RAM selected for a PC must operate at a speed compatible with the motherboard and processor. The i7-7700K CPU supports DDR4 RAM at speeds up to 2400MHz, currently the fastest available.

The amount of RAM available is also important. Current gaming PCs require at least 16 GB of RAM. RAM is sold on “sticks” containing some multiple of 4 GB capacity. Most motherboards offer four RAM slots, so 16 GB can be obtained by installing four 4 GB sticks (4 x

4 Gb) or a pair of 8 Gb sticks (2 x 8 Gb). The 2 x 8 GB option is preferable because it allows for future expansion. The HyperX Savage sticks manufactured by Kingston are the RAM of choice for many professional teams.

3.1.1.5. Graphics cards

Graphics cards are the most critical components of a gaming computer, and also the most expensive. They largely establish the speed and quality of image rendering, and therefore the subjective responsiveness of the game experience.

Graphics cards for gaming contain dedicated GPUs (graphics processing units) as well as dedicated video RAM which augment the main CPU and RAM of the computer. The architecture and clock speed of the GPU and amount of video RAM determine the performance of the card. While a single card is adequate to run most current games, some users install two (internally linked) for maximum performance.

AMD and NVIDIA are the leading providers of high-end graphics hardware for gaming. Both companies license their technology to third-party manufacturers, such as EVGA and Asus. Many gamers favor cards based on NVIDIA's GTX 1080ti architecture (currently about US\$700), which have the advantage of being compatible with most virtual reality headsets.

3.1.1.6. Storage

All computers require persistent storage for programs and data. There are currently two storage options, the familiar hard disk drives (HDDs) and newer solid state drives (SSDs). SSDs have no moving parts and are considerably faster than HDDs, but the total capacity per drive is lower, and the cost per gigabyte is significantly higher.

Many users make the tradeoff of installing an SSD as their primary boot drive, with one or more HDDs added for secondary storage. A reasonably future-proof configuration would employ a 1TB SSD (such as the Samsung 850-Evo) and a 4 TB HDD (such as the Western Digital Black series).

3.1.1.7. Power supply

All components of a desktop are served by a single power supply unit. Key considerations for this important component are maximum capacity and efficiency. To insure high reliability and expandability, it is prudent to select a supply with at least 25% more capacity than the system is expected to require.

Power supplies for gaming PCs exhibit a typical efficiency rating of at least 80% under full load (“80 plus”). The most advanced supplies (such as Seasonic’s Titanium) achieve efficiencies exceeding 90%, but at premium cost.

3.1.1.8. Optional equipment

Optional parts can be added to a computer to make it more personal or add extra functionality. Among these are optical drives, case fans, and lights.

An optical drive allows software and drives to be installed via a disk, and also allows access to media recorded on CD, DVD or Blu-ray. Computer cases with an external drive bay make it possible to access such drives conveniently.

Interior lighting is not strictly necessary, but makes it easier to see inside the case for basic maintenance, and also provides an attractive display. Some cases, such as the NZXT Phantom 820, come equipped with programmable RGB lighting systems.

3.1.2. Peripherals

Peripherals (keyboards, mice and headsets) offer another opportunity for corporate investment. The dominant company in this area at both the collegiate and professional level is Logitech, which currently sponsors 34 different teams across 13 organizations. The peripherals at both RMU and UCI are sponsored by Logitech. Their competitor Corsair is also actively involved in this space.

3.1.3. Monitors

The monitors used in competitive eSports gameplay are critically important. The “high definition” 1920 x 1080 @ 60 Hz monitors used with typical home and lab PCs are barely adequate for this purpose. Collegiate and professional players prefer monitors with four times as much resolution (4096 x 2160) coupled with much higher refresh rates (144 Hz).

Both Zowie and Asus manufacture 4K/144 Hz monitors that are widely used by professional and collegiate eSports facilities. Another popular supplier is Acer, which offers monitors with unique technical benefits at somewhat higher prices.



Figure 8. The custom NeedforSeat Gaming chair created for Ohio State University. [Source URL](#).

3.2. Seating

Quality seating is also crucial to competitive play. Four gaming chair manufacturers are providing sponsorship for this critical component of eSports facilities. The two largest in North America are DxRacer and NeedforSeat. Both companies make extremely comfortable gaming chairs that can be custom-branded, as shown in Figure 8.

4. Conclusion

The collegiate *League of Legends* finals held at the Penny Arcade Expo (PAX) in Boston, MA on the weekend of March 10, 2017 filled every available seat of the Boston Convention Center, as well as most of the standing area. Many of these spectators were Boston-area high school students contemplating careers in game development, computer science, robotics and other tech-related fields. The players at these tournaments act as high-visibility representatives of their school, and represent an extraordinary branding opportunity.

WPI's reputation as a leading regional technical institute makes it a natural hub for eSports activity in the Northeast. We already have world-class players eager to form officially-recognized teams and compete for the rapidly-growing pool of sponsorship opportunities and scholarships. Just as WPI's vigorous investment in the FIRST program made us a leader in STEM education and robotics, a strategic investment in eSports facilities and support staff has the potential to make WPI the go-to choice for prospective students and future eSports heroes.

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Appendix A: About the author

I began playing club soccer when I was 4 years old. I have since won 2 club State Championships, 3 back-to-back High School State Championships, and was part of the New Hampshire Olympic Development Program state team every year I was eligible.

I also started skiing around the age of 6. I began racing in high school, and won a State Championship during my junior year. In my sophomore year, I also began competitively swimming, and continued to both ski and swim throughout high school.

I began playing single-player video games such as Mario and Pokémon when I was in elementary school. I fell out of touch during middle-school because my parents didn't approve of video games. However, in my sophomore year of high school, a friend introduced me to a game called *League of Legends*. I wasn't very good, but I enjoyed playing with my friends and improving on my own. The next year I went with that same group of friends to my first Penny Arcade Expo (PAX East) in Boston. It was there that I had my eyes opened to the full world of video games, and discovered my love for development. While at PAX, I discovered a game called *Gigantic*, and signed up to be a part of the closed testing.

My parents didn't understand why I found video games so interesting, and believed that I was wasting my time. I remember getting told off and yelled at when I played too much for their taste. Nevertheless, I continued to practice, and eventually became a part of the core testing group for *Gigantic*. I spoke to the developers on a regular basis, and found myself becoming part of a large community of eGamers.

In January of 2016 I was given the opportunity to join a competitive *Gigantic* team, eventually called Vanguard. I began practicing with the team and perfecting my play. Meanwhile, my family's interest in eSports began to grow. For my birthday, my parents offered to fly out as a family to the 2016 North American *League of Legends* Championship Series Spring Finals, held at the Mandalay Bay resort in Las Vegas. It was at this event that my family finally grasped the energy and joy I got by watching and playing competitive eSports. Like me, they were hooked.

I am now in charge of Vanguard, and I continue practicing towards becoming the best. My family is now highly supportive of everything eSports, and they all play together on a regular basis. It has been a huge bonding experience for my family, and something I recommend to help physically-separated families remain connected via the internet.

Appendix B: Interview transcripts

Jeffery Wu

What is your background as a competitive gamer?

I have very little background as a competitive gamer, though I have always been a fan of casual gaming, as well as watching professional gaming and eSports up to 9 years ago. The most competitive I've gone in gaming is participating at local Smash Bros. or Hearthstone tournaments, but my main role in competitive eSports at UofT is managing and coordinating our collegiate Overwatch team.

When you were selecting a university was eSports at all a factor? If not how did you get involved in the eSports scene at UofT?

My past experiences with eSports had nothing to do with selecting a university/college, though I was always interested in being involved with an eSports/gaming club as a hobby/past time. I got involved when University of Toronto's eSports club was looking to expand into Overwatch. Being a vital part of our Tespa Overwatch Summer Series team, my friend Luke and I applied to be the head executives of the Overwatch branch of University of Toronto eSports. We have been working with University of Toronto eSports since September.

How has being a part of the eSports community effected your experience as a student?

In terms of academics, it has been difficult. Managing a team, moderating a group, and hosting events takes a lot of free time and commitment. As a result, my school grades have definitely gone down, though it was also my first time trying to balance both my work in academics and in our eSports club. However I have learned a lot from this experience and I do 100% believe that it is possible to run a club and have good grades at the same time, which is something I'll (hopefully) be able to do next year! Overall, being so involved did make my school year harder but the payoff of being responsible for creating a community, as well as having first hand experience with such a large organization, my involvement is definitely worth it, and ultimately I have no regrets.

Ronald Ly

How has being a player effected your experience as a student?

Negatively. Balancing all of my academic responsibilities on top of the ones expected from me as part of the team was very difficult at times. There is little to no sympathy or support from the institution for students wanted to pursue eSport related interests or careers.

How have official team coaches made an impact on your development as an individual player and member of a team?

We did not have any formal coaching structure. Just an advisor of sorts. Later in the team's life we have made better effort to incorporate a coach, and I think it would be very helpful of we had a dedicated one earlier.

Appendix C: IRB protocols

Purpose of Study and Study Protocol

Title: MBJ IQP-1710 eSports Feasibility Study

IQP Advisor: Brian Moriarty, IMGD Professor of Practice

1. Purpose of study

This IQP will investigate the practical and administrative logistics required to start an official eSports league at WPI.

2. Study protocol

Three publicly-recognized eSports authorities (Steve Arhancet, Ferris Ganzman and Matthew Muallem) and two publicly-recognized eSports athletes (Jeffery Wu and Ronald Ly) will be contacted via email, explained the purpose of the IQP report and invited to voluntarily respond to a list of short questions, with the explicit understanding that their identities will be associated with any of their responses included in the final report.

Consenting respondents will be sent interview questions tailored for each participant (see below). Key quotations from gathered responses will be incorporated into the body of the report. Complete transcripts of the questions and interview responses will be included as appendices in the report.

All participants will be given an opportunity to review and approve their quotations and transcripts before publication of the report.

2a. Steve Arhancet questions

- How have you been involved in the development of collegiate eSports programs?
- What is the importance of separating and balancing work and life?
- How important is a strong support staff to the growth of a team?
- When looking to pick up a team for a new game, what does the organization look for in terms of professionalism?
- When starting a new program, what should be the primary logistical focus of the school? Finding dedicated space? Coaching staff? Sponsorships? Or something else?
- What does a tech school have to gain by creating an official eSports program?

2b. Ferris Ganzman questions

- What is your role as coach of a collegiate eSports team?
- How do coaches help players. both individually and as a team, in a collegiate eSports environment?
- In your experience, what is the proper balance of practice (and other team activities), coursework and social life for collegiate eSports athletes?
- What balance of solo and team practice do you recommend for players?
- How important is it to have a dedicated practice space where the team can practice/scrim all in one place?

2c. Matthew Muallem questions

- What is your role as a game analyst in the collegiate eSports environment?
- How does your role differ from that of a coach in terms of responsibilities and required knowledge of the game?
- How does your preparation for a match differ from that expected of a player or coach?

2d. Jefferey Wu questions

- What is your background as a competitive gamer?
- When you were selecting a university to attend, was eSports a factor? If not, how did you get involved in the eSports scene at UofT?
- How has being a part of the eSports community affected your experience as a student?

2e. Ronald Ly

- How has being a player effected your experience as a student?
- How have official team coaches made an impact on your development as an individual player and member of a team?

3. Hazardous materials/special diets

No hazardous materials or special diets are involved in this study.

Appendix D: Sponsoring manufacturers

Computers

iBuyPower: <https://www.ibuypower.com/>

CyberPowerPC: <http://www.cyberpowerpc.com/>

Monitors

Zowie: <http://zowie.benq.com/>

Asus: <https://rog.asus.com/>

Acer: <https://www.acer.com/ac/en/US/content/acer-gaming>

Peripherals

Logitech: <http://gaming.logitech.com/en-us>

Corsair: <http://www.corsair.com/en-us>

Chairs

DxRacer: <https://www.dxracer.com/us/en-us/>

NEEDforSEAT: <http://www.needforseatusa.com/>

Jerseys

MetaThreads: <https://metathreads.com/>