University of Derby

School of Computing & Mathematics

A project completed as part of the requirements for the

BA (Hons) Computer Games Modelling and Animation

Entitled

Requirements of an Environment Artist When Accounting for the Needs of a Competitive Community

By

Howard Stephen Philpott

HowardPhilpott3D@gmail.com

In the years 2013 - 2014

1. Abstract

'Requirements of an Environment Artist When Accounting for the Needs of a Competitive Community' - Howard Philpott, 2013-2014.

Electronic Sports, otherwise known as 'eSports', have been growing in popularity in player numbers and spectator numbers year by year. With the rise of eSports new challenges have arisen for game developers as communities who have built around these competitive games will reject certain games from tournament play if they are not competitively viable.

A videogame's competitive viability boils down to a number of issues and level design is one of them. Currently there is an abundance of published works and credible sources for environment artists to study single player and multiplayer level design but there are very little of these focused specifically on eSports centric level design. By researching past and present literature, surveying a dedicated competitive community and interviewing a renowned level artist who has experience in this specific field I have come up with a number of requirements that environment artists must take into consideration if they intend on creating a level for an eSports focused title.

Through my research I have concluded that levels must have a strong emphasis on balanced level design. Environments must be visually clear to aid readability. Artists must either avoid the overuse of post processing effects or give the player the option to remove them through game options. Artists mustn't sacrifice strong level design for the sake of visuals. However simple or complex a level is, the player must have freedom of movement and artists must avoid the use of dynamic objects.

All of these statements have been backed by studies throughout this document and must be taken into consideration by environment artist and game developers alike if they would like their game's levels to be competitively viable for the eSports community.

2. Table of Contents

3. Table of Figures

4. Introduction

With the rise of the videogame industry, quickly becoming recognised as one of the largest entertainment industries in the world, a new sector within that industry has slowly been created by the fanatic consumers of this interactive medium. Electronic sports, or what's commonly referred to as 'eSports', have started to thrive within the wake of the success of the games industry as avid players of videogames strive to be the very best at their videogame of choice, often competing for large monetary prize pools, glory and fame. The eSports movement has become massive business not only for the videogames industry itself but also for other forms of media such as live streaming services, on demand video content providers and peripheral hardware companies.

This booming entertainment sector has created large dedicated communities which avidly follow the competitive scenes for their videogame of interest, publicly discussing subjects on community forums such as their favourite professional players & teams, changes to official rule sets of large scale tournaments and updates to the videogames themselves. Much like real sports, the fan bases of these eSports games become extremely important as their involvement and interest in the community can determine how popular the game becomes as a truly competitive eSports, not only in player numbers but in spectator numbers as well.

With these communities in place it becomes ever more important that videogame developers and publishers that want their games to become popular eSports titles are seen to be interacting with these competitive communities. Through responding to the community's wants and needs, the developers can make sure their game is competitively viable for their audience. This factor brings lots of new questions and issues for developers when it comes to almost every aspect of game design.

Whilst design issues such as multiplayer level design have been covered within multiple forms of media, I have found there is a distinct lack of published documented research into eSports centric environment design from credible sources. It's rare to see level designers, outside of these small community forums/blogs, discuss the challenges of designing equally interesting and playable environments for games with an eSports focus.

This dissertation aims to provide concrete research and documentation into what game artists (specifically level designers and environment artists) should take into consideration when developing an environment for an eSports focused title.

There are questions which need to be answered in this area. For example; what does a competitive community find important in level design for a game to be competitive? Are there certain artistic techniques we should or shouldn't avoid implementing? Are there any differences between art designs for standard game environments compared to environments with an eSports focus? Does lighting affect if a level can be competitively viable? Are visuals important when creating a successful eSports game? There are many questions that a game developer may need to know the answer to.

This is an important area to research as competitive communities can massively extend a game's life span and user base. As an example, without solid research it could be hard for a developer or art lead to justify the focus of company resources on such an area to their publishers/co-workers. The research this dissertation will provide aims to change that.

To do this, this paper will start by reviewing current relevant literature from a number of areas that can contribute to my overall conclusions and recommendations.

I will then be providing a statistical presentation of information, which data has been collected from users within a competitive community, in the form of an online survey that asks participants what is personally important to them as a gamer when it comes to environment and level design in highly competitive multiplayer videogames.

To further back the results of this research the paper will then go on to interview a highly credible figure from the multiplayer level design community Shawn Snelling. Shawn has created multiplayer levels for the game 'Counter Strike: Global Offensive' which have not only been recognised by the game's developer, Valve & Hidden Path, but also by the game's large competitive community as truly viable competitive multiplayer levels for eSports competitions.

Taking the results of both the research, survey and interview sections of this paper I shall present all my findings and discuss their relevancy. I will then go on to present my final conclusions presenting facts from all three methodologies, which could be used as a credible source for other game developers looking to expand their knowledge in the area of eSports centric environment design.

5. Review of Literature

1 Importance of Research

One of the most important aspects of researching the subject of eSports centric environment design is to look at existing professional studies and developer opinions on the subjects at hand. I went out of my way to scour for as much information regarding the important aspects which I'll be looking at during my dissertation. That information included looking at subject areas such as the meaning of eSports & competition itself, game balance & art design choices, what players want from their games and also looking at gaming communities themselves. This information is important to understanding the subject and thus using the information that this dissertation will provide in its conclusions.

2 ESports Definition

It's important to define what an eSport is. Multiplayer videogames naturally inspire competition between players, much like in real life. As humans we naturally compete. "Competition and cooperation are basic, animal urges. All higher animals are driven to compete against others partly for survival, and partly to establish their status in the community." (Schell, 2008) This quote from Jesse Schell states one of the reasons that we compete with each other as human and also highlights the fact we wish to establish ourselves within a community. This leads me on to how eSports have grown from those basic human urges.

To put it simply, eSports are multiplayer videogames that can be played competitively in tournaments. "ESport is simply an abbreviation for Electronic Sport, for the competitive playing of video games." (Tricked eSports, 2012) Through eSports players have the platform to become the best. This naturally leads to high levels of competition which in turn inspires large groups of people to become invested into not only playing a game at a high level but also watching and learning from the top players within their game's community.

"With the rise of popularity in gaming and abundant access to live streaming, it has become possible for millions of viewers from around the world to watch pro-players go head-to-head and compete for cash and trophies in live tournaments." (Activision, 2014)

The largest eSport tournament to date, The International 2013 DOTA 2 Championships hosted by Valve, had a prize pool of $2,874,381 with the winning team named 'Alliance' from Sweden receiving $1,437,190. According to an article on the Gamespot website, The International 2013 DOTA 2 Championships "peaked at a simultaneous online viewership of over 1 million gamers" (Makuch, 2013). With this mass amount of exposure, it's easy to see why eSports games have become so popular, but it's important for my study to recognise what factor makes certain games so well suited to eSports whilst others are not.

3 What Defines a Game as an eSport?

There is no single factor that defines a game as an eSport but there are many factors that must be met. Apart from the game being multiplayer (so that the game can be played competitively) there are other aspects to what defines a game as an eSports title. Alan LaFleur states in his article on what makes a good eSport title that there is no overall solid answer. He believes that whilst most people would define an eSport as a game that allows players to showcase great skill, he believes "that the best eSport is one that is constantly evolving, has a lot of viewers, a high skill ceiling, and has good support from developers" (LaFleur, 2012) From what I've seen from successful eSports titles this seems to be true and feel LaFleur has done a good job at defining this statement. All the successful games, which examples of will be covered in section 5 have these aspects in common.

4 What Defines a Successful eSport?

LaFleur also states for an eSports game to be successful it "needs support from the developer in both development of the game but also promotion of the scene. The eSport needs to have a high skill ceiling where professionals can do things that the average gamer cannot. The eSport needs to have a huge following that can drive RoI for sponsors. The eSport needs to have long-term gameplay stability; it cannot be propped up by new expansions or new releases every year." (LaFleur, 2012) He's stating that if a game developer can provide all of these things, the game has the potential to become a successful eSports title.

An important thing to note is that for a game to become successful as an eSport it must already have a solid pre-existing fan base to create its competitive eSport community from. This is why most popular eSports titles were already pre-existing franchises before they developed their status as eSports titles because they already had players who loved the game. This is backed in an article about next gen eSports on the Redbull website where it's stated that "A lot of the games that have developed good eSports features and the competitive community are ones that required multiple iterations to get that done and to build in those things." (Sillis, 2014)

It's the communities that loved these games that took them to the next level and built competitive communities around these games. "Games are something that inspire real passion in players, so it is not surprising that frequently, communities arise around games." (Schell, 2008) An eSports title is rarely ever developed from the ground up successfully. The competitive eSports focused features and rule sets are usually created by the community and then supported by the developers.

The most notable title to date which has tried to promote itself as a definitive eSport before it's launch was Ubisoft's first person shooter game named 'ShootMania: Storm' but sadly hasn't taken off as the developer had hoped as there was no pre-existing community to be interested in the game. This is verified by (Valdes, 2013) where he states that Ubisoft have never really had an FPS (First Person Shooter) with a large enough community interest to compete with popular series such as "Electronic Art's Battlefield series or Activisions's Call of Duty" He believes that if the game developer Nadeo had focused more on delivering an

exciting game than an exciting eSport it may have been more successful at building a large community of players. This is something I agree with because if your game isn't interesting not many people will want to play it, meaning the community surrounding the game will be much smaller. This backs up the notion that these games must be appealing to consumers before developing eSports features. This can be done through creating interesting themes, visuals or gameplay mechanics.

In his book (Rouse III, 2005) says that "Beyond the game not crashing and looking reasonably pretty, players have certain gameplay expectations" if these expectations are not met they will soon become frustrated and decide to stop playing the game and look for another more interesting title.

This brings up issues for the level designers and environment artists of eSports centric games that need to know how to make their work interesting enough for the player without hindering the needs of competitive players. I found this following quote which demonstrates how the Counter Strike community will reject levels (otherwise known in the CS community as 'maps') from leagues if they're not competitively viable.

"Many Counter-Strike purists are sceptical of maps with good graphics. I can't blame them. Nice-looking maps are often poorly optimized, which is an absolute game-breaker for competitive play. Nice looking maps are also often superficially designed—they rarely take into account all of the layout features that make a league map actually work. Even if a nice looking map runs well and has a nice layout, it generally makes sacrifices in readability (the ease of seeing other players in a sea of detail)." (Snelling & Garozzo, 2014)

5   Notable eSport Titles

It's important to recognise the traits of successful eSport games, and the best way to do this was to research successful titles to use as examples throughout the rest of this document.

1   StarCraft 2

StarCraft 2 is a PC strategy game created by Blizzard Entertainment and is the sequel to the original and also very successful eSport, StarCraft. The game pits 2 players against each other where the aim is to build up a base and an army to destroy the other player's base. This game is the most lucrative eSport title boasting the highest amount of prize money awarded in its entire lifespan and has been a part of more tournaments than any other eSport. According to (e-Sports Earnings, 2014) $10,737,641.55 in winnings have been awarded to professional players to date and 1340 tournaments have been held worldwide.

Blizzard Entertainment has often supported its community and always takes into consideration the professional gaming community with every balance update they release. For example in this following quote from an update change log on the StarCraft 2 website the developer talks about one of the current levels in the game. "The feedback surrounding this map is important too, we'll be extra careful in making sure the map works well and take extreme measures if a clear problem develops on this map at the pro level." (Blizzard Entertainment, 2013)

2 League of Legends

League of Legends is a MOBA (Multiplayer Online Battle Arena) game that is free to play developed by Riot. Teams of 5 players pick from a large roster of 'champions' to compete against another team of 5 players in a match to destroy the other team's Nexus. This game has a very large player base due to the game being free and highly competitive due to Riot's ongoing support for its highly active competitive community. 2013's League of Legends Season 3 World Championship (hosted by Riot) was watched by a total of 32 million viewers via the online streaming platform Twitch.tv and peaked at "8.1 million viewers watching at the same time" (Beck, 2014) and is a great example of how Riot have supported their eSports community.

3 Counter-Strike: Global Offensive

Counter-Strike is a game which has had a long standing history with Valve's latest offering 'Global Offensive' being the latest iteration in the franchise. Counter-Strike is a team based first person shooter game. Competitive Counter-Strike is played by 2 teams of 5 players who play as either the terrorist or the counter terrorist side in a 'best of 30 rounds' match. After 15 rounds the teams swap sides. To win a round either team must eliminate the opposing players or plant/defuse the bomb.

The original Counter-Strike was a great success in the eSports scene, despite not being originally developed with highly competitive gameplay in mind, boasting $9,055,616.90 in total eSports winnings and 344 Tournaments in its lifetime as an eSport (e-Sports Earnings, 2014). Now the original Counter Strike is getting dated (it was released in 1999) it is considered to not be visually appealing enough to bring in the player numbers of other games and is not supported by Valve. Because of this the community has moved over to the latest up to date revision if the game, Global Offensive.

Unlike the original Counter Strike (and later, Counter-Strike: Source), Valve have been fully supporting the competitive scene for Global Offensive with many eSports centric game features such as spectator/replay modes, competitive team matchmaking and in game cosmetic items based on professional Counter Strike teams. On the Counter-Strike website (Valve Corporation, 2013) stated they wanted to give back to the community with the proceeds of some of the eSports related cosmetic items going "towards prize purses at CS:GO community competitive events". With the combination of a highly dedicated existing community and developer support, Global Offensive is has recently become the most successful first person shooter eSport title of modern times generating $1,549,606.08 (e-Sports Earnings, 2014) in tournament prizes in the last year alone.

4 Defence of the Ancients 2 (DOTA2)

Defence of the Ancients 2 is another of Valve's heavily supported eSports titles, directly in competition with League of Legends to be the most popular MOBA game. As previously mentioned, The International 2013 DOTA 2 Championships hosted by Valve, had a prize pool of $2,874,381 and "peaked at a simultaneous online viewership of over 1 million gamers"

(Makuch, 2013). In total, DOTA2 has generated $8,568,489.16 in total prize winnings (e-Sports Earnings, 2014).

The original Defence of the Ancients was a mod for the original StarCraft which was heavily influenced and supported by its community. When Valve bought the rights to the game they set out to faithfully recreate the game on its Source engine, giving it the full developer support it deserved. In an article by (Savage, 2013) he states "6.5 million people are playing DOTA2 each month" which is an impressive number.

5   What Do These Successful Titles Have In Common?

From looking at the successful titles in section 5 we can deduce a common theme. The support between developers and their game's competitive community is crucial for building large consumer bases that will invest their time and money into the eSports scene.

This is why it's extremely crucial for developers, in all areas of game development, to listen to what their community wants/needs for a game to be competitively viable. In his level design article on the PC Gamer website (Snelling, 2013) claims "no designer can hope to know more than the most hard-core player. It's why Valve listens to their community and gets feedback on changes, etc: the players, more often than not, know best." The quote speaks for itself.

In their book about developing online games, (Mulligan & Patrovsky, 2003, p. 260) suggest that the communication among the players, community relations team, developers and the publisher needs to be carefully managed to protect the reputation of the game and the company.

6   ESports Centric Level Design & Environment Art

Level design and visual fidelity play a huge role in a games development and can greatly influence the opinion the competitive community has of your game.

This part of the literature review is broken into two sections. Section 7 will be looking at aspects of environment art regarding level design such as layout, balance and simplicity. Section 8 will be focusing on areas such as textures, lighting and particle effects.

7   Exploring eSport Centric Level Design

Level design is a very important aspect of eSports centric game design. According to (Rouse III, 2005, p. 244) if your level design doesn't allow for players to develop unique moves to counter other players tactics, all but the new players will quickly lose interest with your game. You need to provide a "palette of potential actions" to empower the players and force them to challenge each other's abilities. This showcases how it's important to have interesting and unique level designs that give players a large playbook of opportunities. In an earlier part of his book on game design theory Rouse III (2005) also states that "Players want to create their own success stories, their own methods for defeating the game, something that is uniquely theirs." (p. 10)

This can be done through adding unique areas to the level layout that offer challenges unlike any other area of the level. (Schell, 2008, p. 181) suggests that one of the most exciting and interesting choices for a player to make is whether to play it safe, and go for a small reward, or take a big risk, to try for a big reward. This should be taken into consideration when designing levels as you want to give players the choice of taking risks as it adds excitement for eSport spectators and players. As an example, this could be done by placing an advantageous item in an open area that's vulnerable to attack from the opposition, which would add an element of risk and add feelings of tension and excitement.

1   Balance in level design

Whilst it's important to create interesting player opportunities it's also important to make sure that a level's design is balanced and fair for competitive play. (Schell, 2008, p. 172) Suggests that "a quality that players universally seek in games is fairness" and one of the simplest ways to achieve this is by making a game symmetrical. He then later states symmetrical games are "particularly good systems for determining which player is the best, since all things in the game are equal but for the skill and strategy that the individual players bring to the game" (Schell, 2008, p. 173). This is backed up by (Levy & Novak, 2010, p. 110) where it's said that the secret of blockbuster multiplayer games is in the balancing of gameplay. "A balanced game is a fair one, and the perception will make players come back to it over and over again."

We can easily apply the theory of balance within level design by creating symmetrical layouts that are equal for both sides but for gameplay and visual variety this isn't always the best option. If a designer wants to make a level interesting they may choose to make a level's design asymmetrical. (Schell, 2008, p. 174) says that "pitting asymmetrical forces against each other can be interesting and thought provoking for the player" as it isn't always obvious what the best strategy will be to win the game. In a quote on their developer page, Valve state that "If you choose to make a non-symmetrical map, you have to make sure no unfair advantages are given to either team." and that "Non-symmetric maps can be very difficult and time-consuming to balance." (Valve Software, 2014).

In an eSports focused game it's important to make sure that you test the balance of your game levels not only as developers but also with the competitive community as they will provide you with valuable feedback. This is backed up by (Fullerton, 2008, p. 251) who claims when a developer taps into their audience, they will uncover a wealth of information and gain an insight into their game that nobody else can provide.

In his level design blog (Johnston, 2005), the creator of Counter-Strike's most iconic maps "De_Dust" and "De_Dust2", writes how important it is to check that any geometry a designer has created that could be exploited by a player (or team of players) for their advantage can be countered by the enemy. If you want a balanced game you must always ensure that the level design isn't biased to one side or players will disregard the level as not being viable for competitive play.

All of these publications back the idea that balance is an important aspect of successful eSports centric level design which must be taken into consideration.

2   Simplicity in Level Design

Designers need to know how much complexity eSports communities require from their level layouts. It's important to not over complicate level layouts by adding too many paths and directions for the player to get lost in. (Johnston, 2003) says that level designers can head down two paths. They either create "a very simple level or a very elaborate, complex one". It's easy to end up at one extreme or the other without realising it. This can be due to the designer having lots of clever ideas and wanting to add them all or on the other end of the scale having none at all. You need to figure out where to apply levels of complexity or reduce it otherwise the player will get "respectively a) bored and aggravated, or b) lost, confused and aggravated."

In the following equation Schell agrees with Johnston that the number of choices must not overwhelm the desires of the player but must equal them.

"•   If Choices > Desires, then the player is overwhelmed.

•   If Choices < Desires, the player is frustrated.

•   If Choices = Desires, the player has a feeling of freedom and fulfilment."

(Schell, 2008, p. 180)

Schell (2008) also believes that the player will only want a small number of meaningful choices and gives the example of "choosing to take the left or the right fork in the road is interesting – choosing to take one of 30 side roads is overwhelming".

Whilst these statements are likely true, Schell and Johnston have no recorded studies to back up their claims apart from his own experience. Schell also seems to think players would rather have a lot more simplicity than Johnston suggests. This study aims see if they are right through the community survey detailed in section 10.

3   The Element of Chance

Random design elements that aren't in the control of the players are often considered as not being a competitive trait for an eSports title and are often looked down upon by communities that require differentiation in rank through skill. (Schell, 2008, p. 183) States that "games of skill tend to be more like athletic contests" in the way that they are systems of judgement that determine which player is best". Games of chance often have a more relaxed, casual nature because the outcome of a match boils down to fate. It's important that designers avoid adding elements to their level design that can't be controlled or mastered by a player.

8   Exploring eSports Centric Environment Art

Environment art can play a large role in whether a level is accepted by a competitive community. It's also extremely important for giving an eSport title mass appeal as gamers want to be immersed in visually appealing worlds, especially when the game's community spends so much time participating in that one game. One issue which needs to be addressed is how important visuals are to a competitive player.

1   Art vs Technology

When developing a game it's often a battle between appealing visuals and optimization. In his book (Schell, 2008, p. 352) says that artists are "simultaneously empowered by and restrained by technology" whilst programmers and engineers are "similarly empowered and restrained by art". Schell paints a picture of a constant battle to decide if a game should or shouldn't push the visual boundaries through fear of being too graphically intensive for the wider audience.

Whilst this is an question that's commonly answered by casual gamers wanting the best looking game, this may question may have a different response when raised to eSports communities who may or may not value better optimization over visual fidelity. This question is a part of the rationale for this study and I aim to answer this question as a part of my methodology through a survey in section 10.

2   Textures and Readability

"Textures really are the lifeblood of a map. Simple geometry is nice, but a texture controls so much about the colour of a map, the "feel" of surfaces, and the way our eyes process an environment." In an article on the PC Gamer website about the design of 'De_Crown', a new map being made specifically for competitive play in Counter-Strike: Global Offensive, (Snelling & Garozzo, 2014) mention that textures are the "lifeblood" of a competitive map. Simple geometry is a good thing for the competitive readability (the ease of seeing an opponent within an environment) of a level but the textures have the largest influence over player readability. They also state that textures control the feel of surfaces and the way our eyes process an environment.

Similarly, (Johnston, 2003) also believes that a balance of focus between geometry and texture work must be met to achieve the best appearance for a level. He iterates the point by explaining how designers can sometimes try to get the geometry of a level perfect but use textures that are far from ideal, or use photo-realistic and perfect textures but apply them incorrectly or just badly to the geometry. This is basic knowledge for an environment artist but must not be overlooked if you want a good looking level. This is even more important with eSports focus environments as the textures are often required to be bright and clean for readability purposes.

Due to this fact, small unobtrusive texture and geometry details are the key to creating interesting worlds rather than displaying every little detail that could detract from the overall play/spectator experience. In his book, (Schell, 2008) brings up multiple points about the importance of artwork and the power of suggestive texture work. Providing players with situations they can easily fantasize about lets their imagination take wing, and all kinds of imaginary details will "quickly crystallize around one little detail that the designer has provided".

However, he goes on to say that a developer must keep in mind and make sure these small details make sense within the world. "One small inconsistency in the logic of the world and the reality of the world is lost forever" (Schell, 2008)

3   Landmarks

Landmarks are just as important to eSports centric environment art as it is to level design. Level artists must consider and implement into each area a defining point of interest within the overall environment to break up the level. This can be done by adding unique 'beauty' objects or textures that are only seen in a specific location. It's important to include not only help remind the players of their location within the world, but to also help with communication in team oriented eSports titles such as League of Legends or Counter-Strike. These areas will become landmarks for the players who will create names for each area based on each areas defining point of interest.

"Any good game space has built in landmarks, which help the players find where they are going, and also make the space interesting to look at. Landmarks are what players remember and what they talk about, for they are what make a space memorable." (Schell, 2008)

4   Lighting

Lighting not only makes maps look more believable, but provides more believable situations for the player, and opportunities for them to interact with the environment, even if it is just hiding in shadow or passing an area undetected. This can be dangerous with eSports focused environments though, as a player hiding in the dark may have a significant advantage over the enemy. "Sometimes a combination of rules creates an imbalance. Sometimes it is a combination of objects, or even a 'super' object that unbalances play. Other times it can be a combination of actions that provide an optimal strategy for players who know the trick. Whatever it is, these types of imbalances can ruin gameplay." (Fullerton, 2008) Section 71 of this paper provides information on making sure aspects such as this are balanced for competitive play.

Bad lighting could ruin an otherwise great looking environment if it ruins the flow of gameplay. This is a "common developer pitfall" as bad lighting has the potential to hinder the "player's ability to negotiate the environment" (Johnston, 2003).

5   Post Processing

ESports communities seem to dislike demanding visual effects such as particle effects, fog and dust particles due to the performance hit it can have on lower spec gaming machines. Levels are "criticized for the abusive fog and dust particles and the excess of props" by competitive communities (Winther, 2012). This is an area that will be questioned to the community in this papers survey in section 10 as I aim to discover if this is fact or a generalized opinion of the author.

6   Dynamic Objects

Dynamic objects, as in physical objects that can be moved by the player by colliding or interacting with them, can be disliked by competitive players. If not implemented carefully they can add a random element to the gameplay which is an attribute that players regard as

non-competitive as stated in section 73. One of Johnston's (Johnston, 2003) pet hates is how some designers insist on placing obstacles right in front of the player's movement path. He proceeds to say how it can annoy the player when colliding with physics objects causes the player to get pushed in an unexpected direction or stops their movement entirely. If an environment artist can optimise their object models and collision to improve a level's reliability they must make sure to do so or competitive players will become frustrated.

Before developers were involved with the eSports scene for Counter-Strike, in prior versions to Global Offensive players would create their own 'competitive versions' of maps purely to remove annoying an unnecessary physics objects as maps with these objects were not seen as competitively viable. Until Valve listened to their competitive community leagues such as ESEA (Electronic Sports Entertainment Association) and ESL (Electronic Sports League) did not implement the official developer created maps into the competitive map pool for competitions and would use community edited maps (ESEA, 2013). This proves developers should really consider the placement and properties of every object within a level or the game communities and eSports leagues will reject your work as not viable for competitive play.

9   Literature Review Summary

After researching and documenting all these different areas of importance within eSports centric level design and environment art I've been able to see where there are gaps in the current state of published research in the area.

As a relatively new and exciting sector to the games industry, eSports is still in its infancy compared to the games industry as a whole. As a result of this, I have found a lot of the information that has been published regarding the requirements of environment artists when accounting for the needs of competitive communities, are the opinions of developers through their own personal experiences. For example both Schell and Johnston who feature heavily throughout my literature review give a fantastic insight into certain development issues but their words are not often backed up with concrete research and often rely on personal observations.

The really useful information that would help developers make informed decisions regarding eSports centric environment design are the opinions of competitive players and the small number of successful level designers in this field. The problem is that these opinions are either tucked away in dedicated gaming forums, which are in no way a credible source, or not even posted publicly at all.

This paper aims to target these groups of people who can give valuable insight into what competitive communities want as a whole and how developers should accommodate their designs and artwork to better suit the needs of these players.

Issues raised by the literature review that need to be either answered or confirmed through concrete results to help developers make informed decisions include:

- Do competitive communities really value visually clean environments?

- Would they not prefer environments to have more visual detail to add the realism of the environment?

- Are competitive players deterred by games with lots of special effects such as fog and particle effects?

- Do the visuals/graphics of a game really matter to competitive players?

- Are dynamic objects as bad for competitive viability as the literature review makes them out to be?

- Do competitive players like or dislike complexity within level designs? Do they prefer larger or smaller environments?

- Would the issue of a level not being competitively viable put off from players playing it?

These are the main questions and rationale for performing the following study.

6. Methodology

To answer the questions raised and to solidify the undeveloped research areas of this study from my literature review, this paper will take you through two forms of methodologies to provide information from the viewpoints of both a large competitive community and an experienced environment artist with experience creating successful competitively viable environment artwork and level designs.

Section 10 will provide an in-depth description of the method used to conduct research into what eSports communities want from designers.

Section 11 will also provide an in depth description of the method used to gather information from a proved environment artist with work experience in the field.

10 Competitive Community Survey

To answer the questions following on from the literature review's summary; I decided that a good way of answering them would be by asking a dedicated competitive community to participate in a study for this paper. This was done by creating a 100 participant survey for competitive players to participate in.

I decided to target the Counter-Strike community as their dependency on competitively viable design is higher than in most other eSports due to the first person perspective of the game. The questions never stated CS: GO specifically though and could be applied to any eSport.

Knowing this, the survey link was posted on the home of the largest competitive Counter-Strike community, the Global Offensive sub-reddit, on the internet forum 'Reddit'. The reasoning for posting on this website is that it's home to a very large Counter Strike community, that has a wide demographic of players, from casual players who play for fun to professional players that earn a salary playing the game. I knew I could get a varied and fair response to my survey from people who truly understood the nuances of competitive gaming.
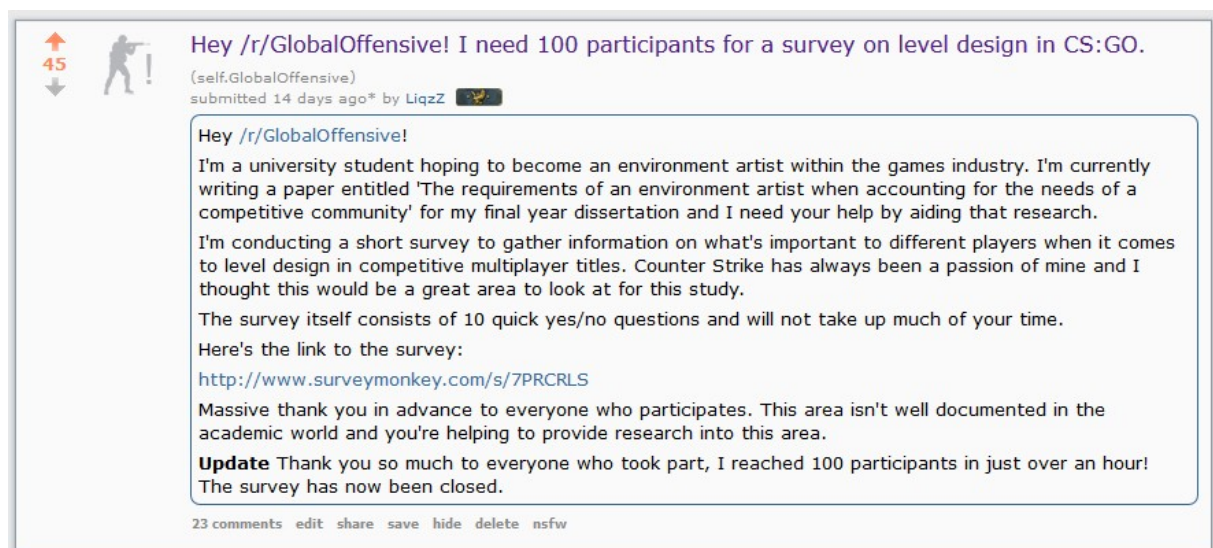

Figure 1: Screenshot of the original survey posting on /r/GlobalOffensive

The study was created and hosted on the survey website, Survey Monkey. All participants were provided with digital informed consent.

1   Survey Questions

The survey asked 10 simple questions. Here is a breakdown of the questions and a rationale for each.

*"**Question 1:** As a gamer, do you consider your play style to be casual or hard core?"*

The participants were given the option of answering either "Casual, I play for fun" or "Hard core, I play to win". The rationale for this question was to see what percentage of the community actually considered themselves to play to win rather than just playing casually for fun.

*"**Question 2:** Do you have any experience playing in competitive eSports leagues/tournaments?"*

The participants were given the option of answering either "Yes" or "No". The rationale for this question was to see what percent of the participants play the game competitively.

*"**Question 3:** Have you ever spectated an eSports tournament/event in person or online through a streaming service such as Twitch?"*

The participants were given the option of answering either "Yes" or "No". The rationale for this question was to see what percentage of the participants have spectated an eSports tournament which would help determine the percentage of players which have experience of watching competitive play, even if they haven't played in leagues or tournaments themselves.

*"**Question 4:** When playing multiplayer games with 3D environments (e.g. levels/maps) which type of environment would you prefer to play in?"*

The participants were given the option of answering either "A visually detailed environment" or "A visually clear environment". The rationale for this question was to see if players preferred clear and open environments or detailed environment.

If the result was to show a higher percentage of player's preferred clear environments this would back the statements originally made in the literature review in section 82.

*"**Question 5:** When playing multiplayer games with 3D environments do you prefer to have visual elements such as fog/particle effects in the level or not?"*

The participants were given the option of answering either "Yes, I prefer to have these types of visual effects" or "No, I prefer to not have these types of visual effects". The rationale for this question was to see if players disliked these graphic intensive effects as stated in the literature review in section 85.

If the result was to show a higher percentage of player's preferred clear environments this would back the statements originally made in the literature review.

*"**Question 6:** If you had to choose between a game that has up to date graphics but not so good level design or a game with outdated graphics but good level design, which would you pick?*

The participants were given the option of answering either "Up to date graphics but not so good level design" or "Outdated graphics but good level design". The rationale for this question was to see how important a competitive community really considers a game's visuals and if good level design can make up for outdated graphics.

*"**Question 7:** Do you prefer multiplayer games to have lots of dynamic objects that the players can move around the level or do you prefer the levels to have mostly static objects?"*

The participants were given the option of answering either "I prefer levels that contain lots of dynamic objects" or "I prefer levels that contain mostly static objects". The rationale for this question was to see if competitive players do or do not like having dynamic objects incorporated into a multiplayer level.

If the result was to show a higher percentage of players disliked dynamic objects it would back the statements originally made in the literature review in section 86.

*"**Question 8:** Do you prefer multiplayer levels with lots of complex interlinking pathways or levels with only a few main pathways?"*

The participants were given the option of answering either "Multiple of pathways" or "Only a few main pathways". The rationale for this question was to see if players preferred to play in levels with complex or simple layouts.

If the result was to show a higher percentage of players preferred simpler layouts then that would back what was said in the literature review in section 72.

*"**Question 9:** In multiplayer games do you prefer large sprawling levels or smaller more focused levels?"*

The participants were given the option of answering either "Multiple of pathways" or "Only a few main pathways". The rationale for this question was an extension of the rationale for question 8 to see if players preferred smaller levels or larger levels (and how much complexity is wanted)

*"**Question 10:** Would you avoid playing a multiplayer level if you thought its design wasn't viable for competition and high levels of play?"*

The participants were given the option of answering either "Yes" or "No". The rationale for this question was to back up what was said in the literature review summary (section 9) about players rejecting levels if developers don't consider the needs of their competitive community and design levels to be competitively viable for eSports competition and high levels of play.

After reaching the required number of 100 participants within the hour the survey closed itself from public access. The results from the survey can be seen in section 7.

11 Interview with Shawn Snelling

It's important to consider the developers point of view as well as the players. You can give level designers information about what the players want but it's no use without knowing how to apply that knowledge to their work.

This is where this section of the paper will help as with an interview with a level designer who has created and fully art worked eSports centric environments for Counter Strike: Global Offensive. Shawn Snelling's work was recognised by the community and taken into the competitive 'map pool' (pool of competitively viable levels for competitive play) and then later taken on by Valve and added to the game official map rotation as DLC (downloadable content). Given his credentials he was a perfect candidate for this paper.

Firstly Snelling was contacted through email to ask if he would like to be involved. After agreeing, an informed consent form attached with a 15 question interview form was sent through to Snelling. The form was completed and then sent back for review.

1 Interview Questions

Here is a breakdown of all the questions and a rationale for why each question benefits this study.

*"**Question 1:** Have you ever come across any obvious differences between art designs for standard game environments compared to environments with a multiplayer focus (specifically multiplayer games with a strong eSports community). If so, what are some of the main differences?"*

This question was asked to help distinguish differences for developers between standard and eSports focus environments. This question aims to provoke a helpful answer to be used as a resource for environment artists who may have worked on environments for standard videogames but never for an eSports centric title.

*"**Question 2:** How important do you think visuals are to creating a successful multiplayer level?"*

This question was asked to add to the opinions of those stated in the literature review in section 81 and to compare and contrast with the results of the survey in the final discussion.

*"**Question 3:** Has working on eSports focused environments changed your workflow as an environment artist in any way? (For example, more testing or more pre-planning?) If so, please provide examples."*

This question aims to provide a helpful answer to be used as a resource for environment artists who may be worried about changes to their design workflow if they were to work on an eSports centric environment.

*"**Question 4:** Have you ever received feedback from players that has forced you to drastically redesign your level or aspects of the art design? Please provide examples."*

This question was asked to reinforce the notion of the importance of community feedback and play testing covered in section 4 of the literature review.

*"**Question 5:** How does lighting play a role in your environment design? Do you think lighting can affect gameplay at high levels of play?"*

This question was asked to add to the opinions of those stated in the literature review in section 84 and to compare and contrast with the results of the survey within the final discussion. This question was also designed to provide a useful answer for other developers interested in how the use of lighting can change between standard game environments and eSports focused environments.

*"**Question 6:** Have you ever felt your abilities as an artist have been held back when working on a level due to the requirements or preferences of the audience of your work?"*

This question was asked purely to address any concerns artists may have about their artistic abilities being held back because of some of the restrictions of competitive viability.

*"**Question 7:** In your experience, have visuals ever had an impact on gameplay? If so, please provide examples.*

The aim of this question was to provide information into how the visuals of a level can in turn impact the overall gameplay of a title. As this question is made to be open ended it could be compared or contrasted with any sub-section in section 8 depending on Snelling's answer.

*"**Question 8:** If you had to pick your personal favourite map out of the ones you have produced for Counter Strike, which one would it be and why?"*

This question was asked purely out of interest to see if an eSports focused environment would or would not be his favourite piece of work.

*"**Question 9:** Which of your maps for Counter Strike do you feel is the competitive community's favourite? Why do you think it's had so much success within the community?"*

This question was asked to try a gauge what he as a developer thinks the competitive Counter-Strike community finds so important about his level designs.

*"**Question 10:** What aspects of multiplayer game design do you think are required for a game to become a successful eSports title?*

The rationale for this question was to gain an insight into what he feels are the most definitive aspects of eSports focused game design. His answer may or may not backup the claims made in section 3 and 4 of the literature review.

*"**Question 11:** Have you ever taken into consideration the 'spectator experience' when designing levels, for example have you ever made artistic/design choices to help aid eSports spectators?"*

This question is designed to approach the idea of making sure a level is not only viable for competitive play but also for spectators of eSports tournaments who want to see all the action.

*"**Question 12:** Has the community ever responded badly to a design or artistic decision you've made? If so, please provide an example. If not, what choices do you feel would*

displease a dedicated competitive community if you chose to incorporate them into your work?"

This question was aimed to help create a definitive "do's and don'ts" list to help developers not make mistakes in the development process.

*"**Question 13:** Are there any definitive "dos and don'ts" when creating levels with an eSports focus?"*

The rationale for this question is the same as question 12.

*"**Question 14:** Do you feel post processing and dynamic effects (e.g. particle effects/fog) incorporated into environments are detrimental to players who want to play at the highest level? Has this ever conflicted with your artistic vision?"*

By asking what Snelling thought about dynamic effects in environment design, I hoped to gain more of an insight to help discuss the issues raised in section 85 of the literature review.

*"**Question 15**: Do you have any final notes which you feel could help participate to this study? What do you think is the future for eSports focused level design?"*

I asked this question to help add some interesting flair to my overall conclusions about the future of eSports related environment art in section 10.

7. Survey Results

Here are the results from the competitive community survey detailed in section 10.

12 Survey Result 01

Out of a total of 100 participants;

- 1 participant skipped the question
- 79 participants considered themselves as hard-core players
- 20 participants considered themselves as casual players

Figure 3: Results of survey question 2

Out of a total of 100 participants;

- 1 participant skipped the question
- 45 participants said they had played in a competitive leagues/tournaments
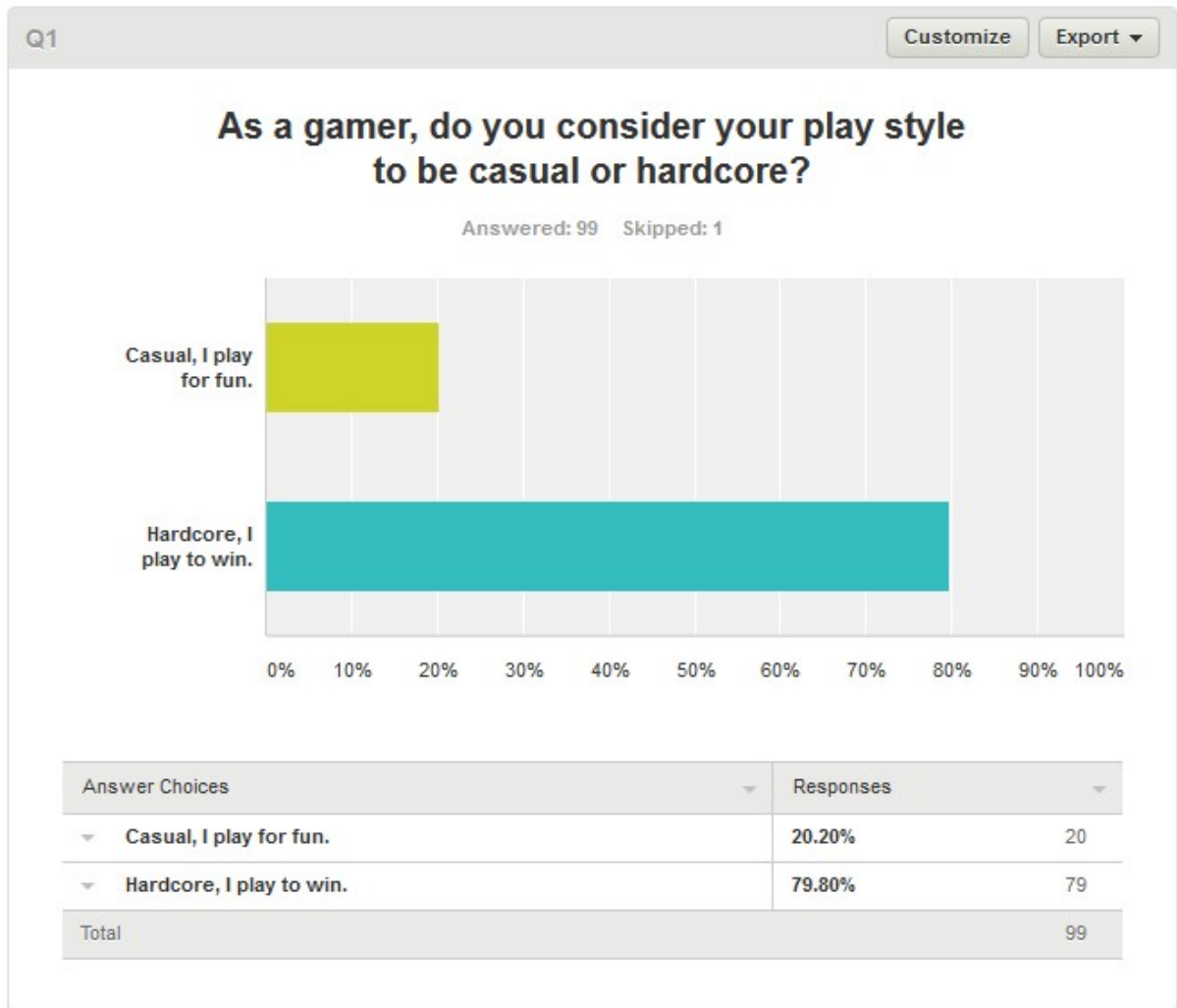- 54 participants said they had not played in a competitive leagues/tournaments

Figure 4: Results of survey question 3

Out of a total of 100 participants;

- 4 participants skipped the question
- 94 participants said they had watched an eSports tournament/event
- 2 participants said they had watched an eSports tournament/event

When playing multiplayer games with 3D environments (eg levels/maps) which type of environment would you prefer to play in?

Answered: 99   Skipped: 1

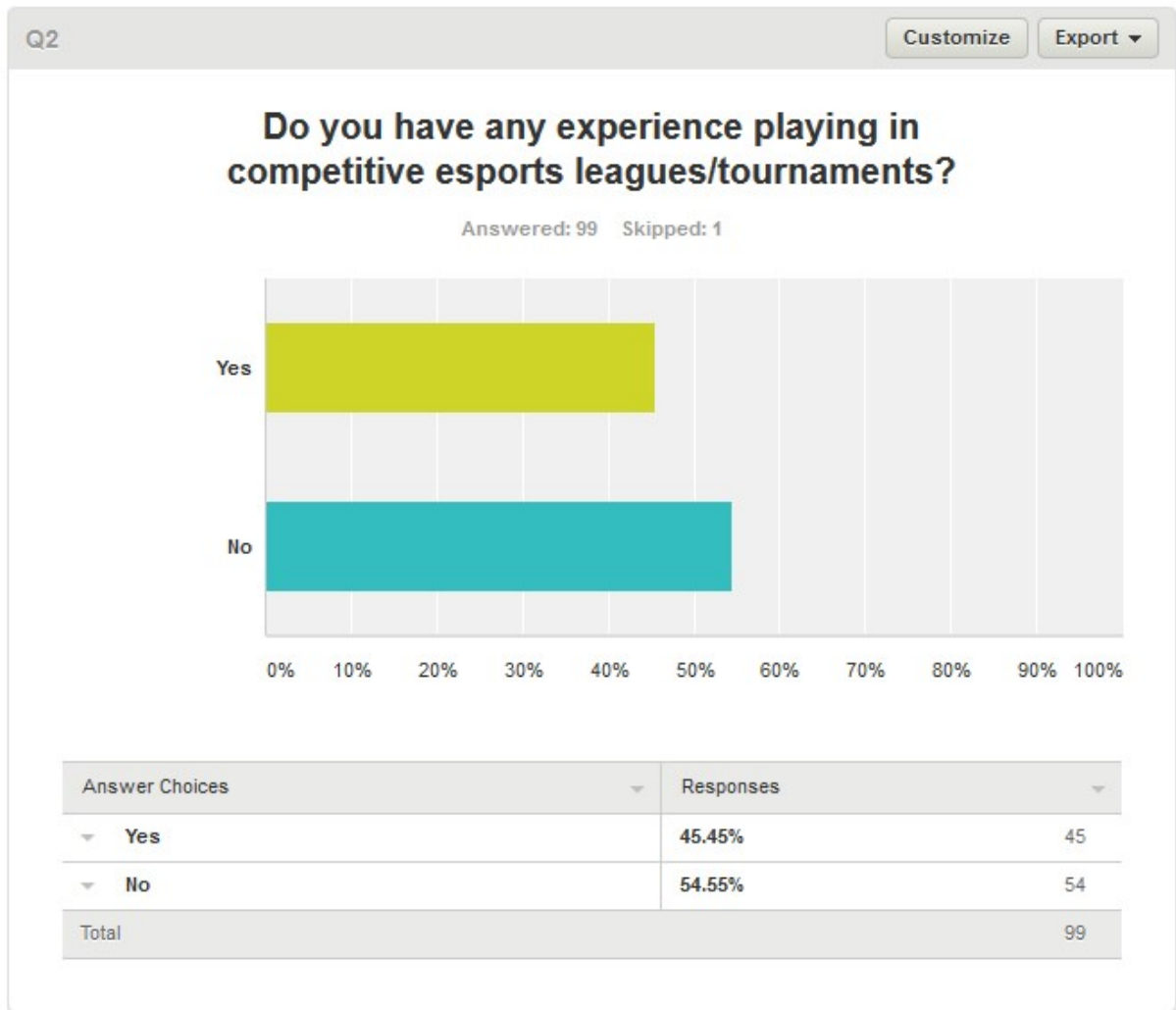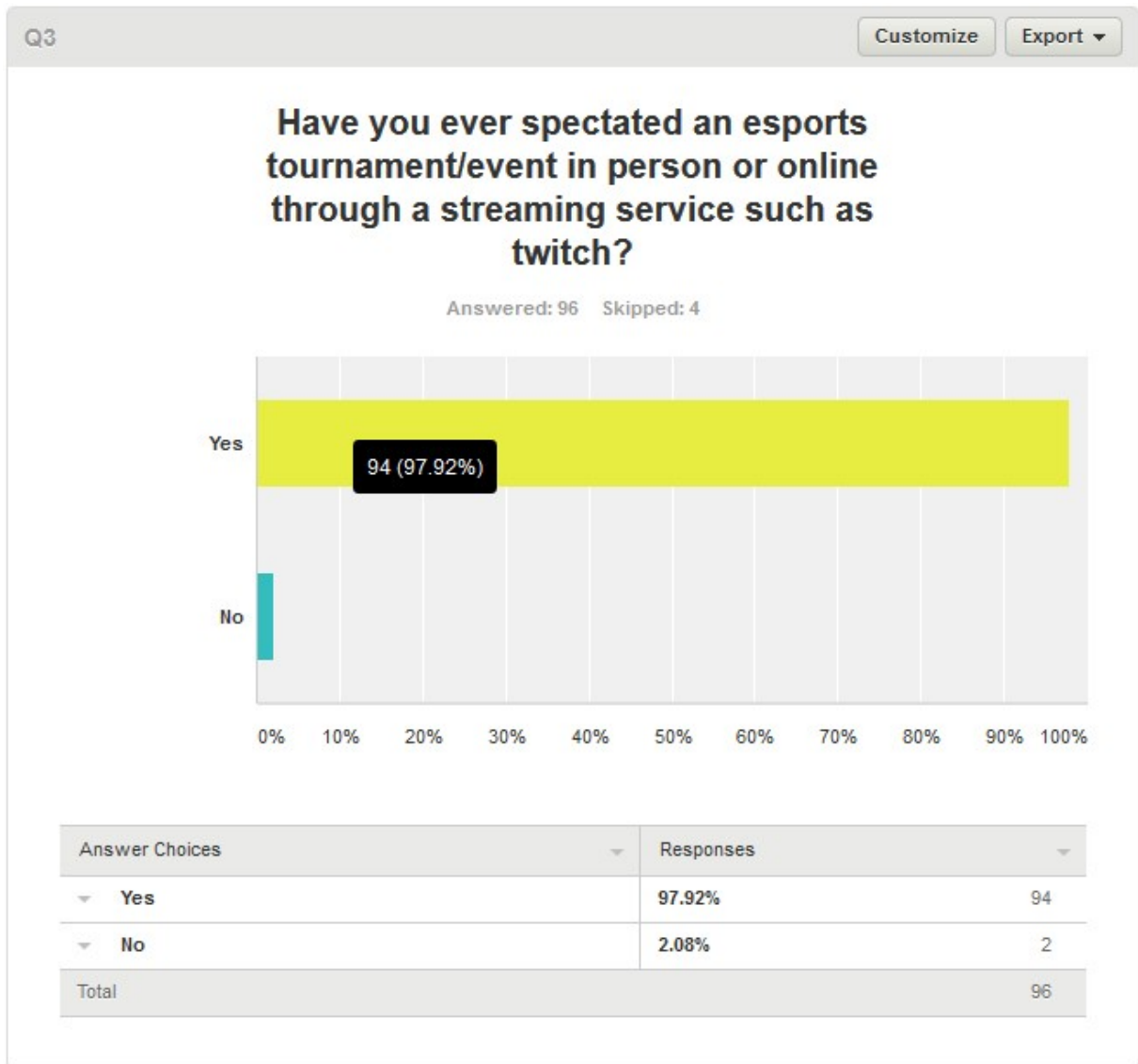| Answer Choices		Responses	
▾ A visually detailed environment		23.23%	23
▾ A visually clear environment		76.77%	76
Total			99

Figure 5: Results of survey question 4

Out of a total of 100 participants;

- 1 participant skipped the question
- 23 participants said they would prefer a visually detailed environment
- 76 participants said they would prefer a visually clear environment

Q5   Customize   Export ▾

When playing multiplayer games with 3D environments do you prefer to have visual elements such as fog/particle effects in the level or not?

Answered: 99   Skipped: 1

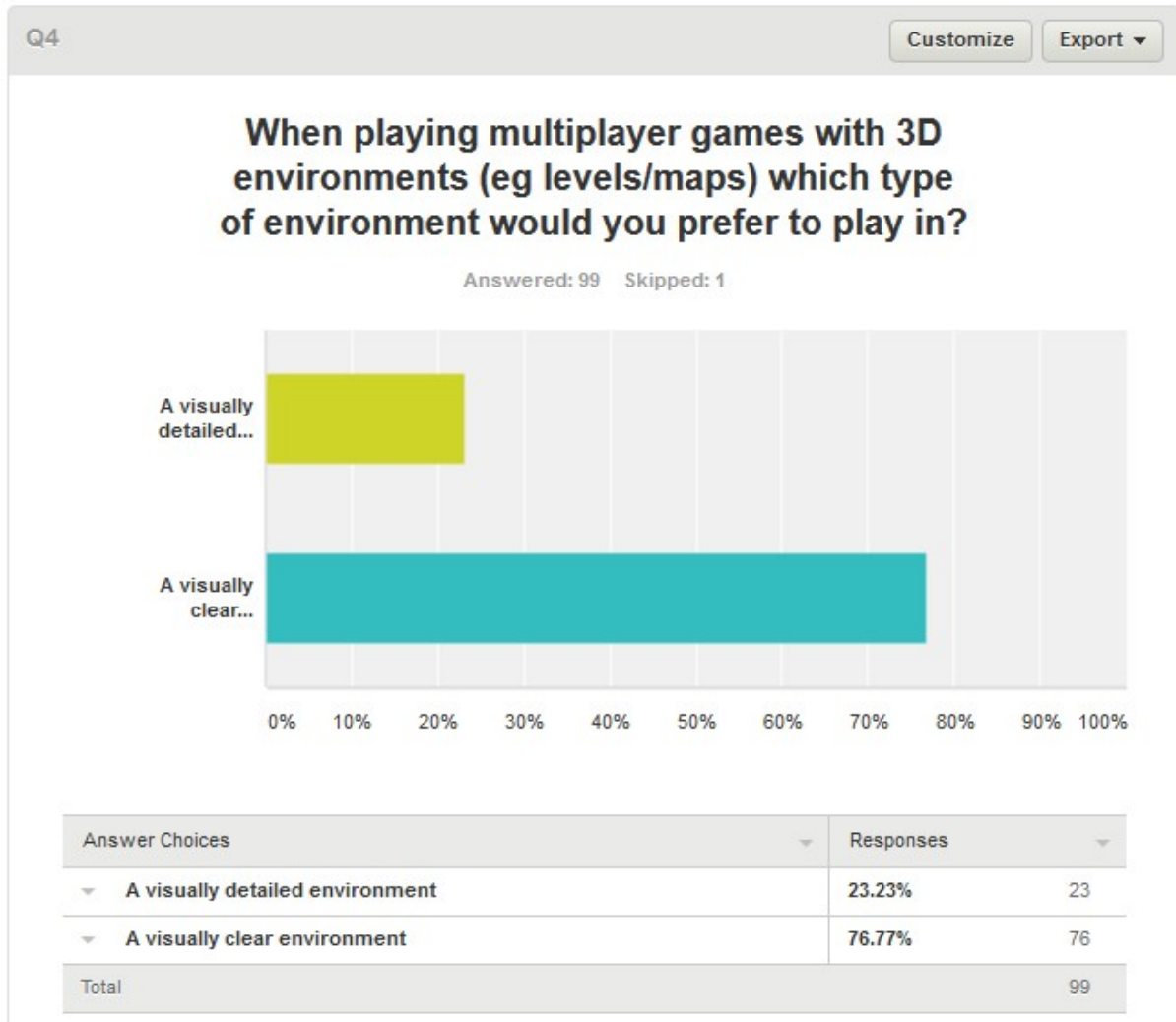| Answer Choices	Responses	
▾ Yes, I prefer to have these types of visual effects	15.15%	15
▾ No, I prefer to not have these types of visual effects	84.85%	84
Total		99

Figure 6: Results of survey question 5

Out of a total of 100 participants;

- 1 participant skipped the question
- 15 participants said they would prefer visual effects such as fog/particle effects
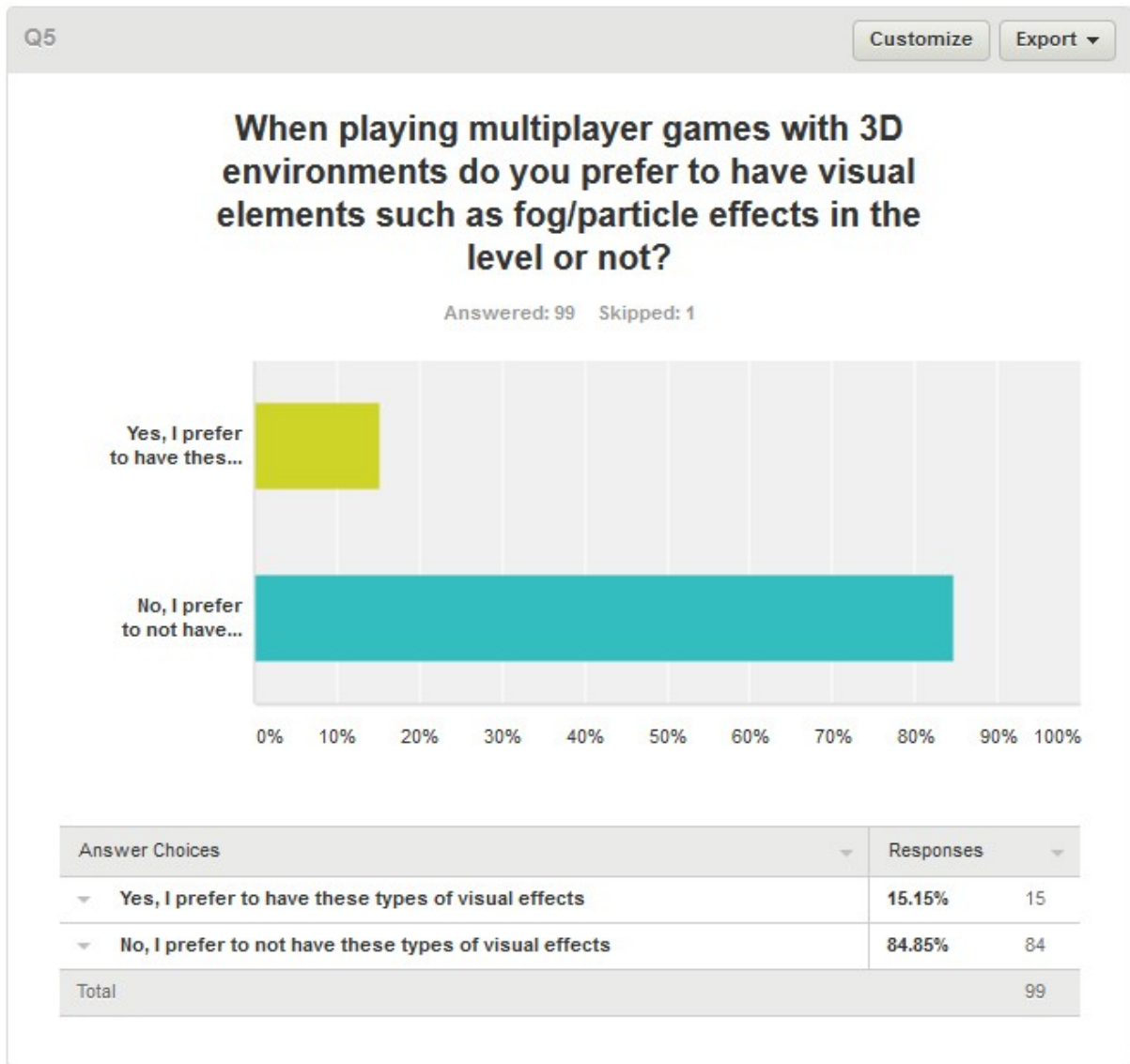- 84 participants said they would not prefer visual effects such as fog/particle effects

Figure 7: Results of survey question 6

Out of a total of 100 participants;

- 1 participant skipped the question
- 9 participants said they would prefer up to date graphics over good level design
- 90 participants said they would prefer outdated graphics but good level design

Do you prefer multiplayer games to have lots of dynamic objects that the players can move around the level or do you prefer the levels to have mostly static objects?

Answered: 99   Skipped: 1

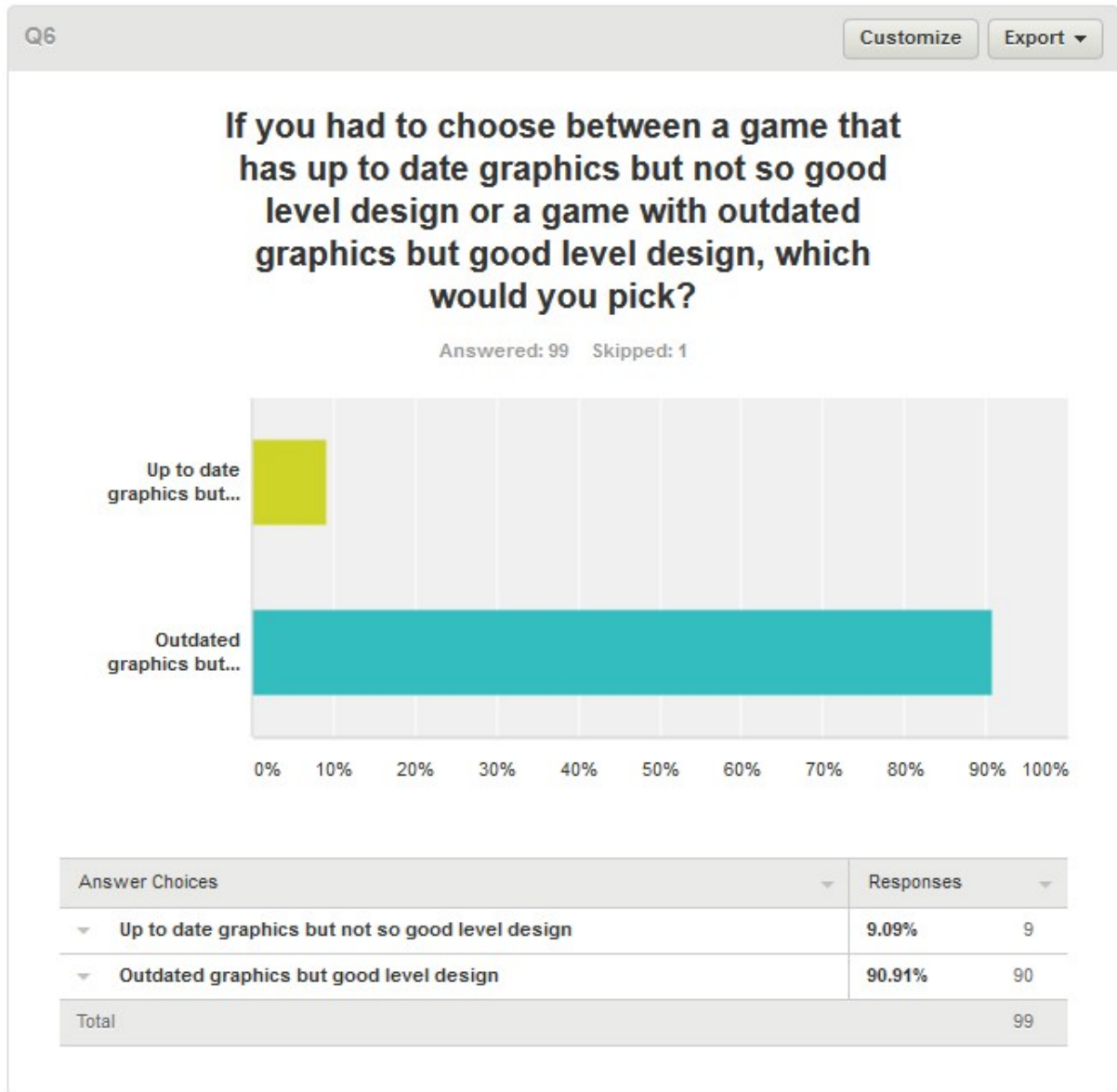| Answer Choices	Responses	
▾ I prefer levels that contain lots of dynamic objects	35.35%	35
▾ I prefer levels that contain mostly static objects	64.65%	64
Total		99

Figure 8: Results of survey question 7

Out of a total of 100 participants;

- 1 participant skipped the question
- 35 participants said they would prefer levels to have dynamic objects
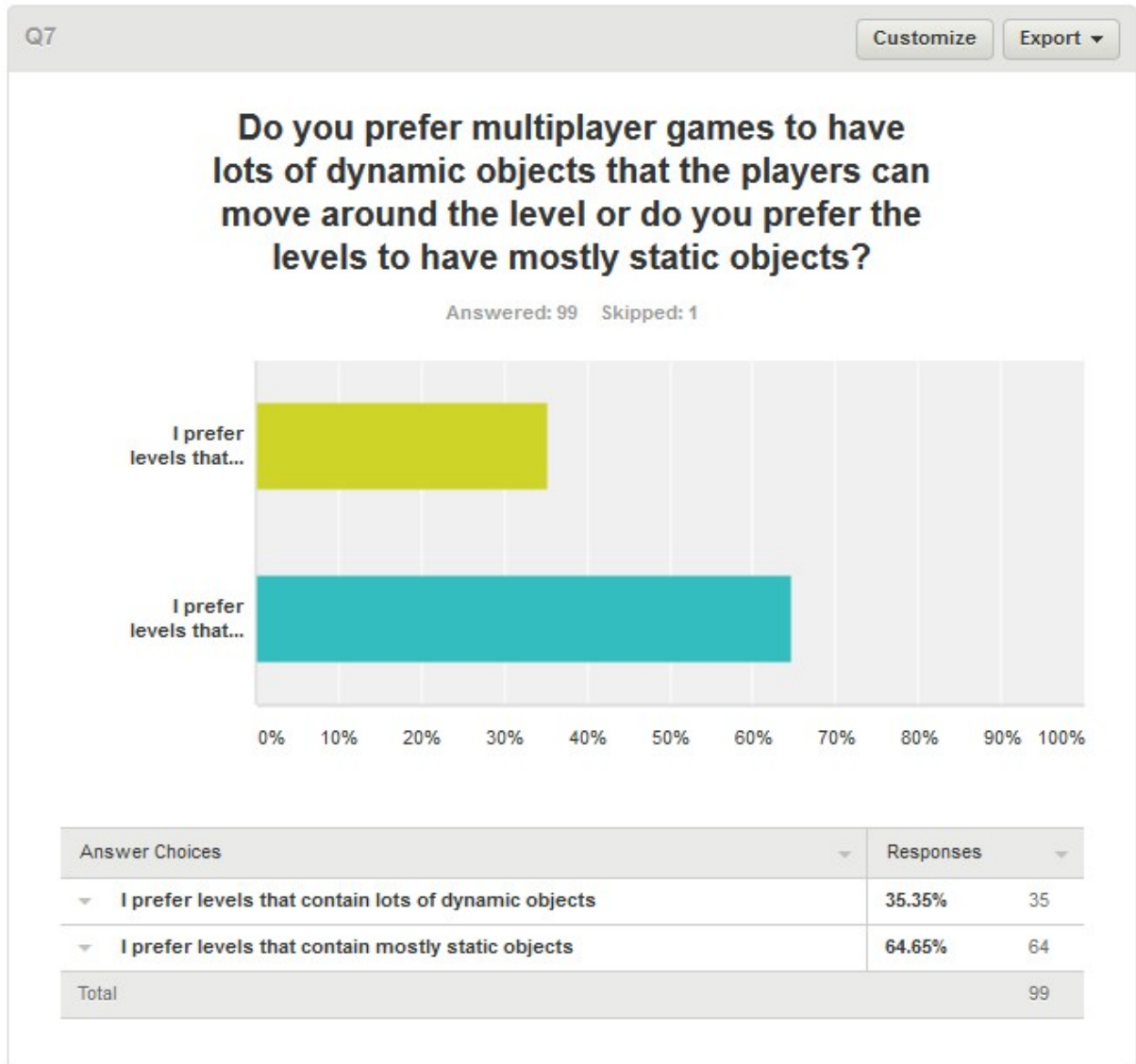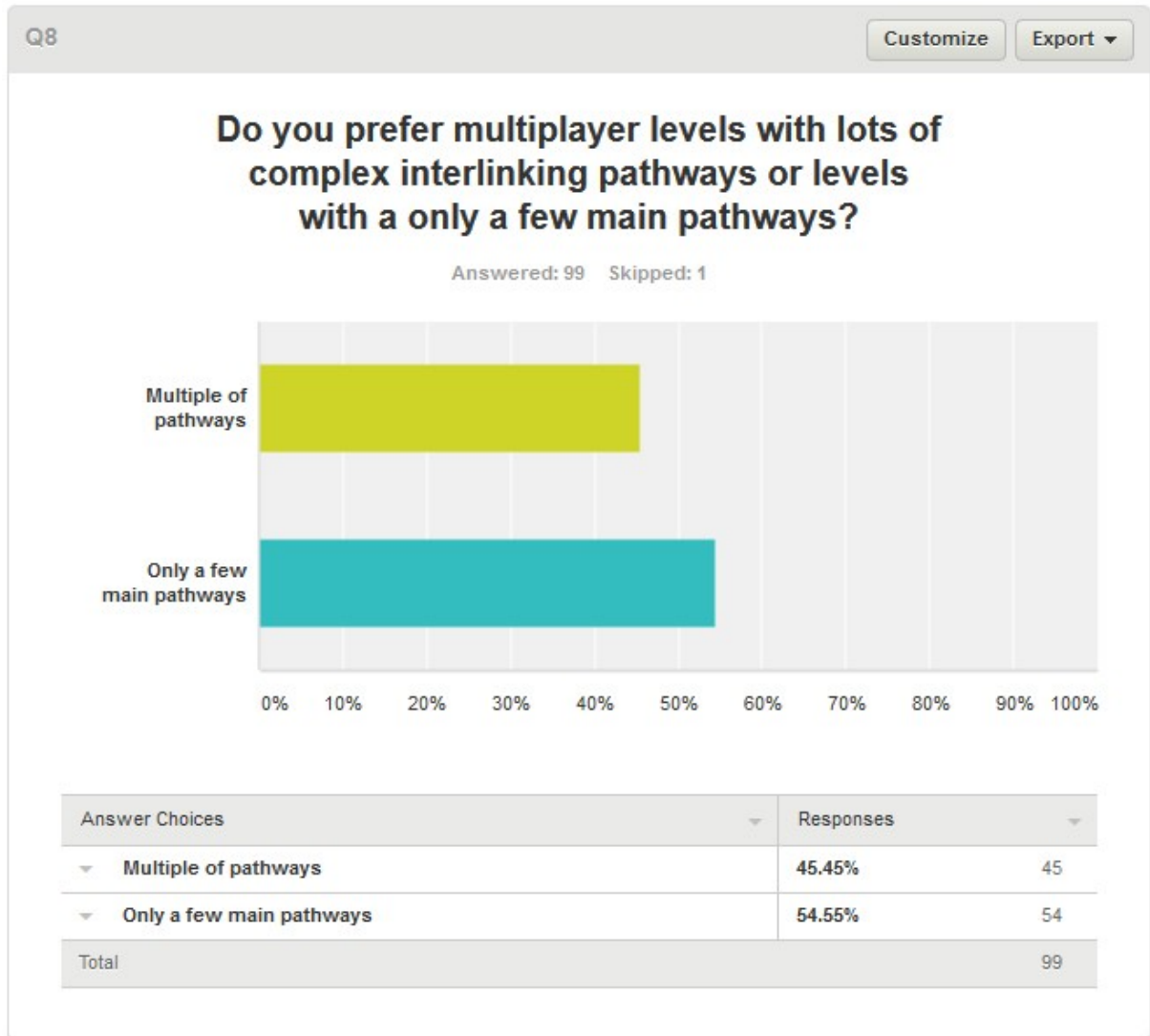- 64 participants said they would prefer levels to be mostly static

Figure 9: Results of survey question 8

Out of a total of 100 participants;

- 1 participant skipped the question
- 45 participants said they would prefer multiple pathways
- 54 participants said they would prefer only a few main pathways

Figure 10: Results of survey question 9

Out of a total of 100 participants;

- 1 participant skipped the question
- 29 participants said they would prefer large levels
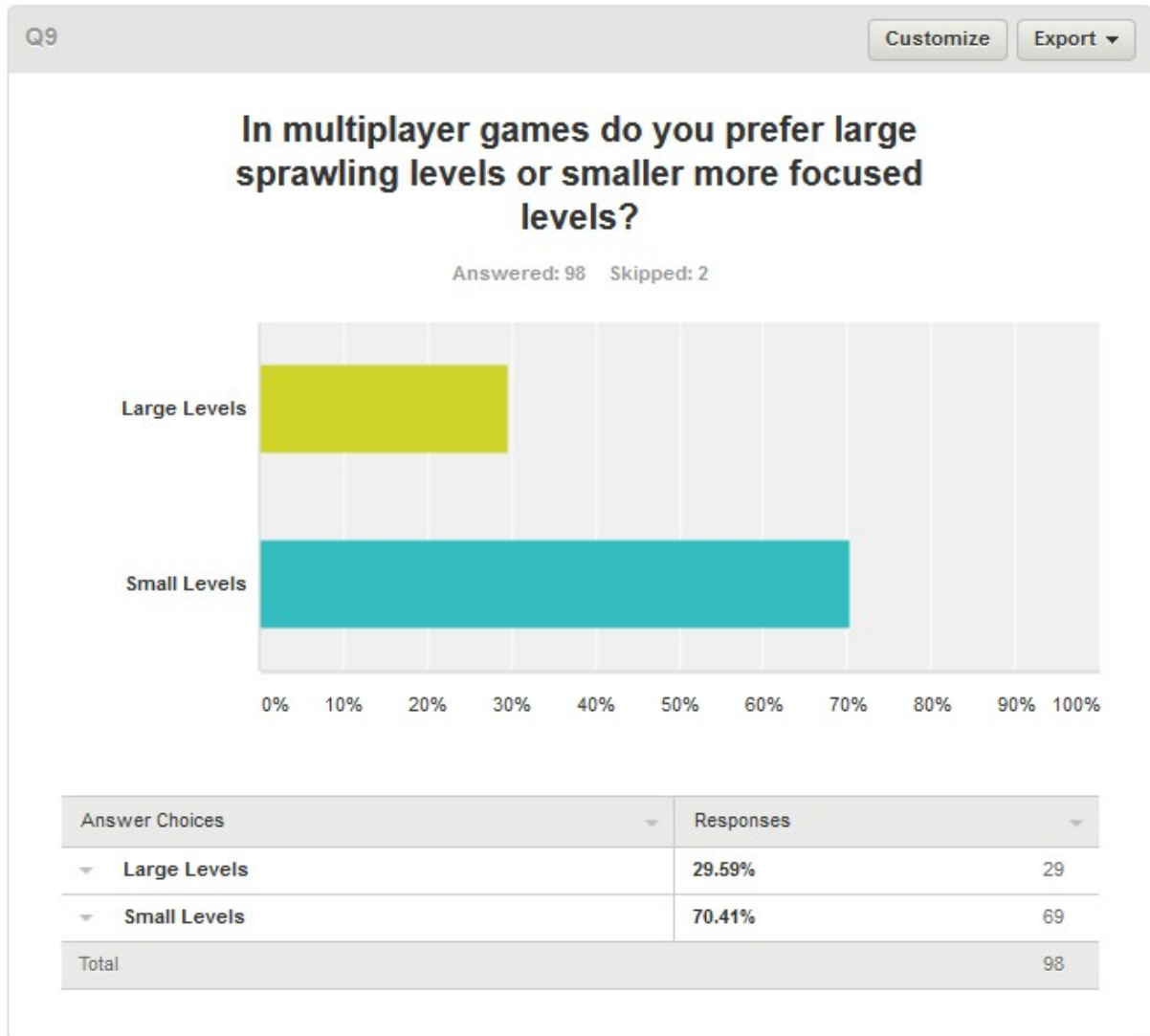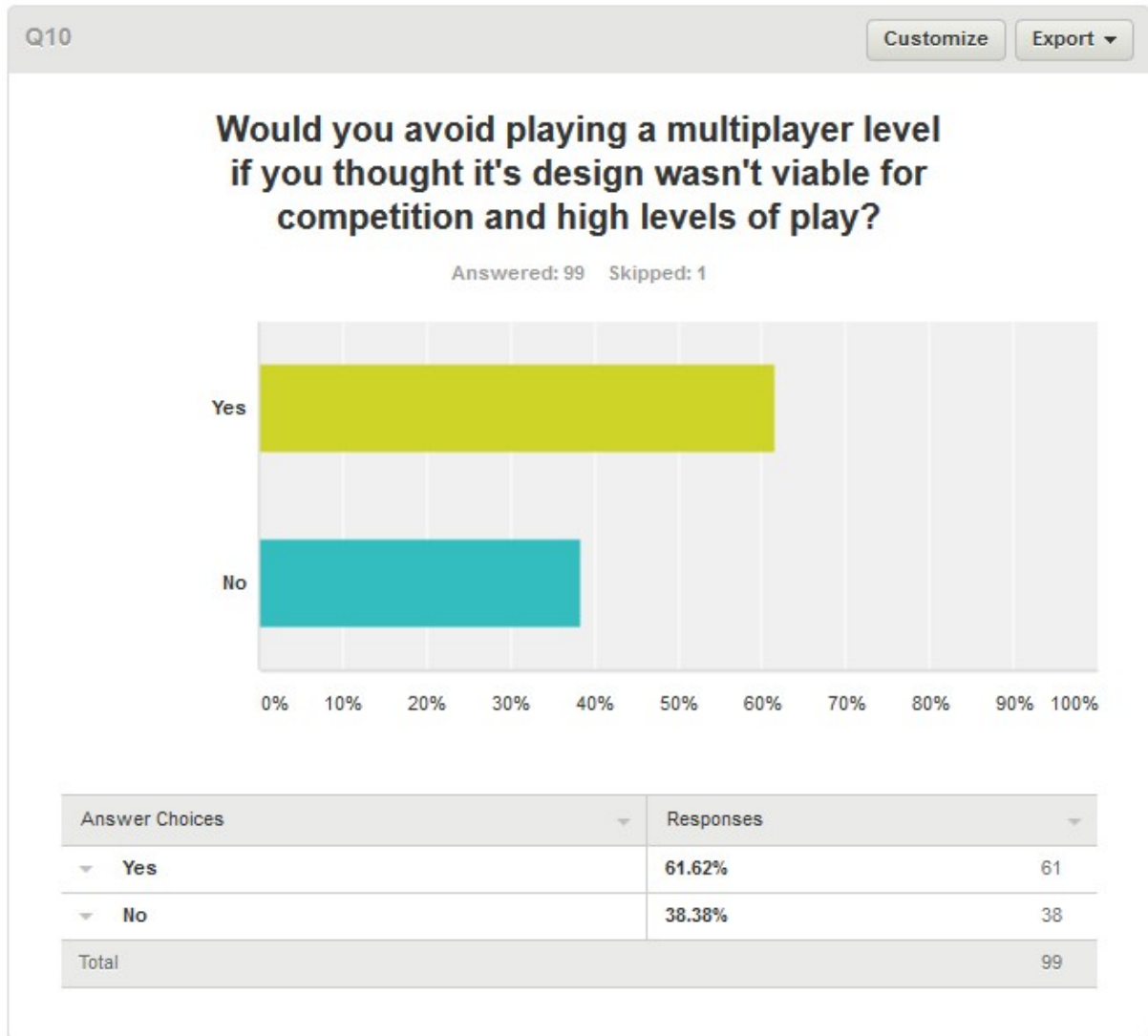- 90 participants said they would prefer small levels

Figure 11: Results of survey question 10

Out of a total of 100 participants;

- 1 participant skipped the question
- 61 participants said they would avoid playing a non-competitive level
- 38 participants said they would play a non-competitive level

8. Interview Results

Here are the results from the Interview with Shawn Snelling detailed in section 11.

22 Interview Question 01

*"**Question 1:** Have you ever come across any obvious differences between art designs for standard game environments compared to environments with a multiplayer focus (specifically multiplayer games with a strong eSports community). If so, what are some of the main differences?"*

The main difference is, in multiplayer you have to care much more about the visceral experience of playing a level. By visceral, I mean walking around has to be smooth and without encumbrance, sight lines have to be crystal clear so as not to interfere with combat, paths have to be clear and wide enough to facilitate movement. In Single-player, or less competitive games, you intentionally break those rules often for narrative or ambience reasons. (Snelling, 2014)

23 Interview Question 02

*"**Question 2:** How important do you think visuals are to creating a successful multiplayer level?"*

It depends on your audience. If they're extremely casual players, graphics are irrelevant. If they're somewhat casual, great graphics can be all that's needed. If they're closer to competitive, it gets tricky. Competence in execution begins to matter a lot more. Great playing maps with great graphics are what I aspire to for my AAA competitive audience, but it's a high standard because that comes at a cost to performance, etc. (Snelling, 2014)

24 Interview Question 03

*"**Question 3:** Has working on eSports focused environments changed your workflow as an environment artist in any way? (For example, more testing or more pre-planning?) If so, please provide examples."*

E-sports changes everything. Everything you do has to be considered, thought-out, weighed as a compromise between visuals and gameplay, visuals and performance, gameplay and design or environment concepts.

An example would be something like a jungle map. If you want to make one, you already know you're going to struggle with some things such as readability. You already know you will have to have some white wall surfaces so players can see each other, so you're already making compromises from the get-go, even though you've set out to create a jungle map. Maybe you can get creative and make the trees [whiter]. But the compromises need to be there. (Snelling, 2014)

25 Interview Question 04

"Question 4: Have you ever received feedback from players that has forced you to drastically redesign your level or aspects of the art design? Please provide examples."

Yes. Once upon a time I was working on level called Veil. It started out with the art I had at my disposal, which was sort of grungy sci-fi, but the level was a remake of a clean lab sort of environment. People wanted the clean look again, so I had to essentially remake the map again with cleaner visuals and less environmental grunge. (Snelling, 2014)

26 Interview Question 05

"Question 5: How does lighting play a role in your environment design? Do you think lighting can affect gameplay at high levels of play?"

Lighting is the most important element of level design; it has an impact which spans the entire level permanently. It absolutely affects gameplay at high levels. If you can't see your opponents well, battles which might otherwise be decided by skill are decided by guesswork. If you feel the lighting of an environment is overly harsh on your eyes, or overly dark, you won't like the environment as much as you would otherwise. (Snelling, 2014)

27 Interview Question 06

"Question 6: Have you ever felt your abilities as an artist have been held back when working on a level due to the requirements or preferences of the audience of your work?"

Not really. Player expectations typically improve visuals by unifying and consolidating your art into something far more efficient. Restraints and constraints and limitations are often useful to creativity. (Snelling, 2014)

28 Interview Question 07

"Question 7: In your experience, have visuals ever had an impact on gameplay? If so, please provide examples.

Of course. I feel like on one of my maps, Gwalior, I made the mistake of putting too much red into my ambient lighting, which was harsh ok the eyes, leading to a less favourable reception. (Snelling, 2014)

29 Interview Question 08

"Question 8: If you had to pick your personal favourite map out of the ones you have produced for Counter Strike, which one would it be and why?"

Crown. It's the most ambitious, the best executed, the most original, and the bravest in terms of design. We removed a supposedly critical element of a Counter-Strike layout, the middle route, and I think we did so without harming - perhaps even improving - the gameplay experience. (Snelling, 2014)

30 Interview Question 09

*"**Question 9:** Which of your maps for Counter Strike do you feel is the competitive community's favourite? Why do you think it's had so much success within the community?"*

Cache is currently the most popular. I think it's had the most success because people are familiar with it, it looks nice, runs well, and it doesn't ever get in players' way. It's easy and straightforward to play. (Snelling, 2014)

31 Interview Question 10

*"**Question 10:** What aspects of multiplayer game design do you think are required for a game to become a successful eSports title?*

It has to have a very high skill ceiling. Much like chess, high level opponents need to be able to crush less skilled opponents, but there need to be hidden levels of depth such that the skill gap is never a matter of chance, but instead education + practice. (Snelling, 2014)

32 Interview Question 11

*"**Question 11:** Have you ever taken into consideration the 'spectator experience' when designing levels, for example have you ever made artistic/design choices to help aid eSports spectators?"*

Not really. My concern is for the people playing the level. If I add onto that people watching the level, I might go insane. (Snelling, 2014)

33 Interview Question 12

*"**Question 12:** Has the community ever responded badly to a design or artistic decision you've made? If so, please provide an example. If not, what choices do you feel would displease a dedicated competitive community if you chose to incorporate them into your work?"*

Yeah it happens all the time. The key is responding and fixing those things. I mentioned Gwalior's red lighting. That map was a learning experience. It also had a bunch of vertical fights, which people hated. So you live and you learn, some things are too fundamental to fix, though. (Snelling, 2014)

34 Interview Question 13

*"**Question 13:** Are there any definitive "dos and don'ts" when creating levels with an eSports focus?"*

Make it readable. Make it run well. Give people room. Don't distract or annoy them. It's way simpler than people make it out to be. (Snelling, 2014)

35 Interview Question 14

"Question 14: Do you feel post processing and dynamic effects (e.g. particle effects/fog) incorporated into environments are detrimental to players who want to play at the highest level? Has this ever conflicted with your artistic vision?"

Yes. It's incredibly distracting and annoying. It has only occasionally interfered with my vision, but I try not to rely on "gimmicks" like fog. (Snelling, 2014)

36 Interview Question 15

"Question 15: Do you have any final notes which you feel could help participate to this study? What do you think is the future for eSports focused level design?"

Competence is the number one factor. Talk to people playing your game at the highest level. Obtain their input. Be competent, don't be lazy or take shortcuts. (Snelling, 2014)

9. Findings & Discussion

This section will look at the results from sections 7 and 8 and compare and contrast the information gathered to help produce a final conclusion in section 10 from the culmination of research carried out throughout this paper. This section aims to discuss the findings and answer the issues raised as a part of the rationale for conducting this study.

37 Validity of the Survey Results

Looking at the survey results for questions 01 to 03 (section 12 to 14) we can determine the percentage of participants who considered themselves to be a part of, or have knowledge of, the competitive community. In question 01 we can determine that 79.8% of participants focus on playing games to win compared to 20.2% who'd rather just play for fun. In question 02, 54.55% of the participants said they had participated in some form of competitive league or tournament. In question 03, 97.92% of participants had watched a live eSports event.

Looking at these results we can determine that a large percentage of the participants are indeed either competitive players or have knowledge of the competitive scene. Knowing this allows us to say that the results of the survey are valid and should be taken into consideration as a valuable source when discussing the issues that arose as a part of the rationale of this paper.

38 The Value of Visually Clean Environments and Readability

An issue that was raised during section 82 of the literature review was the value of readability and the use of clean textures within an environment. The result from question 04 of the competitive community survey (Section 15) suggests that 76.77% of participants prefer environments to be visually clean compared to 23.23% who preferred to have visually detailed environments. This positive result backs what was said by (Johnston, 2003) and (Snelling & Garozzo, 2014) in the literature review and gives a clear indication that the competitive community values visually clean environments and readability.

This is further backed by (Snelling, 2014) in his interview (section 24) where he states that readability is an important aspect to consider during early stages of development to make sure players can easily distinguish each other within the environment. He suggests that the solution for developers would be to create whiter/lighter textures and plan this into level designs from the beginning.

39 The Value of Excluding Post Processing Effects

During the literature review in section 85 (Winther, 2012) raises the issue of post processing effects being criticized by competitive communities as being intrusive and wasting vital resources that could be better spent on the optimization and stability of the game.

In the results of competitive community survey question 05 (section 16) 84.85% of participants preferred to not have effects such as particles and fog in multiplayer game levels. Snelling (2014) States in question 14 of his interview in section 35 that this is because these effects are "distracting and annoying" for a competitive player. He suggests completely

avoiding using post processing effects in eSports centric level designs labelling elements such as fog being "gimmicks". The results from the survey can be used as evidence to back these statements.

40 Does Visual Fidelity Matter to Competitive Players?

Level artists may be used to using post processing effects and lighting techniques to enhance the visuals of their environments. This is completely understandable because artists will always their work to be visually appealing to the player. It's important though to consider what a competitive player will find important if you're producing and environment for an eSports focused game.

The result of competitive community survey question 06 (section 17) gives a solid indication that visuals are not as important to a competitive community as an artists such as (Schell, 2008) may have originally thought as 90.91% of participants prefer solid level design over up to date graphical fidelity.

However, it's important to note that elements such as lighting should still have attention paid to them as evidenced by Snelling's (2014) answer to the question on the importance of visuals in section 28 where he states that in one of his works he "made the mistake of putting too much red into [his] ambient lighting, which was harsh on the eyes, leading to a less favourable reception" (Snelling, 2014) from the competitive community.

What we can deduce from this information is that visuals are still a vital part of making a level appealing for a player but it's not absolutely crucial for an eSports focused level to have extremely high end visuals to be accepted by a competitive community.

41 The Value of Simplicity, Complexity and Scale within Level Design

In the results of the competitive community survey question 08 (section 19), 54.55% of players prefer to play on levels with only a few 'main paths' compared to 45.45% who prefer levels with lots of complex pathways. This is an interesting result as it contradicts what (Schell, 2008) said is section 72 of the literature review regarding simplicity being key in level design.

While the results suggest more competitive players do indeed prefer simplicity, it's not an overwhelming majority of the participants. The 45.45% who'd rather have complexity should not be ignored. This could either be due to players becoming bored with over simplified level design or players not understanding the effects of complex level design. Due to the limitations of my research I have not been able to discover the exact reason.

The result of the competitive community survey question 09 (section 20) shows that 70.41% of the participants prefer smaller levels over larger levels. This implies competitive players enjoy a more focused and calculated experience than expansive and oversized levels.

In question 01 of Snelling's interview he states that in eSport centric environment design "you have to care much more about the visceral experience of playing a level. By visceral, I mean walking around has to be smooth and without encumbrance, sight lines have to be crystal

clear so as not to interfere with combat, paths have to be clear and wide enough to facilitate movement." So while a level may seem "simple" in the eyes of a player, a successful level actually requires much more complex attention from designers than meets the eye.

42 Dynamic objects and Competitive Viability

In the literature review (Johnston, 2003) states in section 86 that dynamic objects are bad for competitive viability, so much so that large eSports event organisers such as ESEA and ESL exclude levels with dynamic objects from tournaments and leagues and replace them with their own dynamic object free versions of levels.

The results of the competitive community survey question 07 (section 18) show 64.65% of participants prefer levels with mostly static objects which backs up the notion that these types of objects aren't generally sort after by the competitive community. If a designer must include these types of objects they must be very considerate as to how they are applied to the level and make sure they do not interrupt gameplay.

43 The Importance of Competitive Viability

In question 10 of the competitive community survey (section 21) the results show that 61.62% of participants would not play a level if they knew that it wasn't viable for competitions and high levels of play.

This fact alone proves the importance of developers responding to the needs of the competitive community, otherwise over half of the player base of your eSports game would actively avoid playing levels that are not viable for competition. This backs up the notion that all of the findings from this study are important aspects for an environment artist to consider if they want a level they've worked on to be implemented into an eSports title.

10. Conclusion

To conclude this study this section will address the main points that have emerged from the findings and what they mean for environment artists working on levels for eSports focused videogames.

Overall I have found that making sure every aspect of level design, from deciding layouts and balancing to creating textures and lighting, must be carefully considered if a developer wants to produce a competitively viable level for their game. If an environment artist wants their work to be embraced by a competitive community they must take into consideration the following requirements;

- Levels must have a strong emphasis on balanced level design.

- Environments must be visually clear to aid readability.

- Artists must either avoid the overuse of post processing effects or give the player the option to remove them through game options.

- Never sacrifice strong level design for fantastic visuals. Players would rather play a level with strong gameplay elements than beautiful visuals.

- However simple or complex a level is, allow the player freedom of movement and avoid the use of dynamic objects that can interrupt play.

If all these aspects are taken into consideration, a level is much more likely to become accepted by the eSports community. These are the requirements of an environment artist when accounting for the needs of a competitive community.

11. Bibliography

Activision, 2014. *CallofDuty.com.* [Online]
Available at: http://www.callofduty.com/esports/about
[Accessed 3rd April 2014].

Beck, D., 2014. *LeagueofLegends.com.* [Online]
Available at: http://na.leagueoflegends.com/en/news/esports/esports-editorial/one-world-championship-32-million-viewers
[Accessed 20th Febuary 2014].

Blizzard Entertainment, 2013. *Battle.net.* [Online]
Available at: http://us.battle.net/sc2/en/blog/12070738/new-ladder-maps-for-2014-season-1-12-20-2013
[Accessed February 25th 2014].

ESEA, 2013. *ESEA League.* [Online]
Available at: http://play.esea.net/index.php?s=esports&d=comments&id=13116
[Accessed 3rd April 2014].

e-Sports Earnings, 2014. *esportsearnings.com.* [Online]
Available at: http://www.esportsearnings.com/games
[Accessed 06 March 2014].

Fullerton, T., 2008. *Game Design Workshop A Playcentric Approach to Creating Innovative Games.* 2nd ed. Burlington: Morgan Kaufmann Publishers.

Johnston, D., 2003. *David Johnston Level Design.* [Online]
Available at: http://www.johnsto.co.uk/design/common_sense
[Accessed 29th March 2014].

Johnston, D., 2003. *David Johnston Level Design.* [Online]
Available at: http://www.johnsto.co.uk/blog/72
[Accessed 30th March 2014].

Johnston, D., 2005. *David Johnston Level Design.* [Online]
Available at: http://www.johnsto.co.uk/blog/72
[Accessed 30th March 2014].

LaFleur, A., 2012. *eSports Business.* [Online]
Available at: http://esportsbusiness.com/lets-talk-about-what-makes-a-good-esport/
[Accessed 3rd December 2013].

Levy, L. & Novak, J., 2010. *Game Development Essentials: Game QA Testing.* New York: Cengage Learning.

Makuch, E., 2013. *Gamespot.* [Online]
Available at: http://www.gamespot.com/articles/the-international-hits-1-million-concurrent-

viewers/1100-6412911/
[Accessed 21st Febuary 2014].

Mulligan, J. & Patrovsky, B., 2003. *Developing Online Games: An Insiders Guide.* Indiana: New Riders Publishing.

Rouse III, R., 2005. *Game Design: Theory & Practise.* 2nd ed. Texas: Worldware Publishing.

Savage, P., 2013. *PC Gamer.* [Online]
Available at: http://www.pcgamer.com/uk/2013/12/17/dota-2-scraps-sign-ups-boasts-6-5-million-active-monthly-users/
[Accessed 17th January 2014].

Schell, J., 2008. *The Art of Game Design A Book of Lenses..* Burlington, MA: Morgan Kaufmann Publishers.

Sillis, B., 2014. *Redbull.* [Online]
Available at: http://www.redbull.com/en/esports/stories/1331639064631/what-does-next-gen-mean-for-esports. Last accessed 25th March 2014
[Accessed 1st March 2014].

Snelling, S., 2013. *CS.ingame.* [Online]
Available at: http://cs.ingame.de/interviews/fmpone-de_cache-english/.
[Accessed 22nd March 2014].

Snelling, S., 2014. *Requirement of an Environment Artist when Accounting for the Needs of a Competitive Community Interview Form* [Interview] (25th March 2014).

Snelling, S. & Garozzo, S., 2014. *Building Crown, part one: the first look at the next big Counter-Strike: GO competitive map..* [Online]
Available at: Building Crown, part one: the first look at the next big Counter-Strike: GO competitive map.
[Accessed 27th March 2014].

Tricked eSports, 2012. *Tricked.* [Online]
Available at: www.tricked.dk/about-us/what-is-esport.aspx.
[Accessed 20th Febuary 2014].

Valdes, G., 2013. *VentureBeat.* [Online]
Available at: http://venturebeat.com/2013/04/14/shootmania-storm-vies-for-the-e-sports-crown/2/
[Accessed 23rd Febuary 2014].

Valve Corporation, 2013. *counter-strike.net.* [Online]
Available at: http://blog.counter-strike.net/index.php/2013/08/7425/
[Accessed 1st February 2014].

Valve Software, 2014. *Valve Developer Community.* [Online]
Available at: https://developer.valvesoftware.com/wiki/TF2_Design_Theory
[Accessed 19th March 2014].

Winther, M., 2012. *Half Life TV.* [Online]
Available at: http://www.hltv.org/news/8069-valve-fly-in-volcano-for-map-tweaking.
[Accessed 13th March 2014].