Preventing Toxic Behaviour through Game Mechanics

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Abstract

Toxic Behaviour, the phenomena where a person behaves in a way meant to intimidate or belittle another person, is an influential issue spreading across the virtual spaces that is online gaming communities.

In this thesis we explore the possible correlations between Toxic Behaviour and game mechanics in online multi-player games by analyzing League of Legends (Riot Games, 2009), one of the most prominent online games currently dominating the market (Statista, 2014).

We have analysed the game using a contemporary design framework used in the game industry accompanied by an ethnographical field study of the regular player base of League of Legends we have determined the most common reasons behind why these players tend to engage in Toxic Behaviour and if those reasons are connected to the game’s mechanics. Finally, we conceptualize plausible solutions based on our findings that hypothetically could decrease the amount of toxic player’s continuing engagement in Toxic Behaviour.

Keywords: Game Design, Game Mechanics, Social Studies, Game Communities, League of Legends, MDA, Toxic Behaviour
Terms

**AFK**
An abbreviation of “Away from keyboard”, which means that the player is absent and unable to make any input or answer to another player in the game for the moment.

**(To) Ban**
To become forcibly excluded from a community or from playing a game. The causes of becoming banned is regularly because of violation of the Community Rules, Cheating or from breaking the game’s code of conduct.

**Bot**
An in-game avatar that is playing the game with other players but is controlled by a computer program rather than the hands of another human.

**Gameplay**
Gameplay is a term used to define the way players interact with a certain video- or computer game. It is further characterized as the way the game is played, including the rules, the plot, the objectives and how to conquer them, as well as a player's overall experience (Janssen, n/d).

**Gamer**
A person that plays games on a regular basis. This includes non-digital games, but in this thesis we will mostly refer to a person that plays online multiplayer games often.

**Map**
Refers to a level inside the game.

**MoBA**
Multiplayer Online Battle Arena

**Multi-player Game**
Refers to a game which requires or has a mode where more than one player can play the game.

**Online Gaming**
Refers to playing a game which requires access to a server that has connection to the internet for a player to be able to play.
**Post-Mortem**
The documentation of a game project, written after it has been finished, to get an overview of the entire process as a whole and discuss what went wrong and how the mistakes made could have been prevented or done better for future projects.

**Real Life or In Real Life (IRL)**
In real life indicates in the physical world, ergo, not internet, virtual- or any fictional world.

**Real Time**
Refers to something that is not pre-rendered, aka something that the computer renders at the same time it is being shown. For example, all games are rendered in Real Time since the computer has to re-render every frame per second.

**Buff**
Gaming slang for something that increases the power of a game element either permanently or temporarily.
1 Introduction

Today, it is not uncommon to come across the term “Toxic Behaviour” when being on the topic of online gaming. This expression has spread expeditiously among those considered part of the gaming culture and has become nearly customary to be brought up whenever the topic of online gaming is in the centre of discussion. It is an influential issue that, in the moment of writing, is being extensively discussed by players, in Champions Played by the most Toxic Players (2014) as an example, and game developers such as Adam Orth and Jon Hicks (2014) in: Toxic game community could drive developers to suicide warns Adam Orth. Similarly, journalists raise their voice as well such as Dennis Scimeca (2013) in Using science to reform toxic player behavior in League of Legends in which he debates the Toxic Behaviour issue.

The term “Toxic Behaviour” was coined in recent years and can be applied to any kind of relationship between two beings. It is usually used in reference to someone acting “unsupportive, draining, unrewarding, stifling, unsatisfying and often unequal” according to an article concerning toxic friendship by Heather Hatfield, Toxic Friendships: Do You Have One? (2006). In online gaming, Toxic Behaviour tend to include behaviours like unjustified rage, threatening, racial and/or sexual insults and harassment directed towards both new and experienced players alike.

While Toxic Behaviour is known to be present in almost every online multi-player game at some point or another there is one genre of games in particular that are conspicuous for having dysfunctional communities. MoBA (short for Multi-player Online Battle Arena) games - spawns of the popular fan-made game modification, DotA (2005), derived from the game Warcraft 3 (Blizzard Entertainment, 2002) - such as Heroes of Newerth (S2 Games, 2010), Dota 2 (Valve Corporation, 2012) and League of Legends (Riot Games, 2009), are notorious for their issues with Toxic Behaviour infesting their in-game community.

For the company Riot Games, developers and publishers behind the League of Legends, which currently has 27 million active players (Wawro, 2014), the issues regarding Toxic Behaviour has spiralled so far out of bounds that they had to take the initiative to hire external scientists to help them figure out a solution to lessen the unacceptable behaviour plaguing their players (McWhertor, 2012).

Today, with the accelerating conquest of constant connectivity to other humans being a big part of our lives, online play and the ability to play with others from across the world has become a new standard, and almost an expectation, within the Game Industry (Entertainment Software Association, 2013). Multi-player - and in particular online - games have had a steady increase in popularity in the recent years but because of this rapid development in technology and surge of demand on the market, the social aspects have yet to keep up and conform to- this new age type of communication.
Associating social interactions with diversified video- and computer games is not in any way a recent discovery. Multi-player games dates all the way back to 1971 (and even further than that), with the popularity of “Pong” (Massachusetts Institute of Technology, 2014) where two players are pitted against each other in a virtual game of simplified tennis.

Since internet has become such a huge part of our lives (Internetworldstats.com, 2014), the presence of Toxic Behaviour and deficiency of civility within online communities is a rising problematic subject when living in a society where the majority of the population spends a vast amount of time behind a screen. This makes it all the more important to rectify bad behaviour in popular online communities as they are the ones who sets the standard of how to behave on the rest of the internet.

In the last couple of years, efforts have been made from several different game companies and researchers to try and stifle the reproach that is the onslaught of reports regarding Toxic Behaviour among players in online multi-player games; Riot Games being one of the most prominent with their sequential attempts within their own game, League of Legends. However, so far the discussion in relation to the emergence of Toxic Behaviour and how to remedy it has only circulated the prospect of adding new features and building around an existing game to try and counter this kind of unwanted behaviour. Like, for example, punishing players who regularly engage in Toxic Behaviour by limiting their ways of communication to others or excluding them from the game altogether.

In this thesis, we argue that the issues comes from within the game itself and can not be avoided entirely by building around it. Instead we want to explore the possibilities of flawed game design, with a focus on the mechanics, being held guilty for triggering unwanted behaviours in players and in order to determine if this is the case we will analyze a multi-player online battle arena game notorious for its toxic and unpleasant community - League of Legends.

1.2 Background

1.2.1 League of Legends Gameplay

League of Legends is a free-to-play, session-based, multiplayer online battle-arena computer game developed and published by Riot Games (Naleagueoflegends.com, 2012). It was officially launched in October 2009 and passed a million downloads during its first three months of availability (Edge-online, 2010). and has since then grown to be one of the most popular online games of today with a community of over 27 million active players playing every single day (Riot Games, 2014).
When participating in a game session of League of Legends, you play together with a team of five versus another team consisting of an equal amount of either other players or bots.

The game takes place on a single map that, when playing on Summoner’s Rift (Figure 1), has three lanes (One in the top, one in the middle and one in the bottom of the map) that connects to both teams homebase (also called “Nexus”), placed in opposite corners of each other on the map (Figure 1: Glowing in Blue and Pink). In-between these three lanes there is the Forest consisting of bushes that have the ability to hide player’s from sight of the enemies as well as stationary monsters that, once killed, will grant the player that killed it money and, depending on the monster, a buff that strengthens both the player him/herself as well as their teammates. In order for a team to win the match they have to be the first to destroy the opposing team’s Nexus, located in the heart of their homebase.

Before the match begins, each player picks a character (hereby referred to as “Champion”) that will represent him or her in the game. Each Champion has its own set of abilities, starting stats and class that diversifies it from the rest.
Alongside each lane there are four stationary Turrets that will target and attack enemy player’s if they get within a short radius of the Turret. The goal of the game is to destroy the opposing team’s Nexus but in order to accomplish that the team first have to take out at least one entire lane of Turrets in order to weaken the enemy team’s defences. However, Turrets causes heavy damage to players when directly targeted and is thus extremely dangerous to approach unprepared.

Luckily, besides four other players, each team also have Minions on their side to attack and protect nearby players from enemy Minions, Players and Turrets. Minions are allied units that spawns every 30 seconds from the friendly team’s Nexus and moves along the three lines in order to support the players either by attacking enemies or protecting the nearby players from being targeted by the Turret.

Killing an enemy minion, champion or a monster grants the player who lands the killing blow some money, which can then be spent on items, as well as experience points, both used to make the player’s Champion more powerful in order to gain an advantage over the enemy team.

An average match of League of Legends takes 30-40 minutes to play from start to finish.
1.2.2 League of Legends Intentions and Background

In 2011 Tom Cadwell (Director behind League of Legends) and Steve Snow (Producer behind League of Legends) from Riot Games were invited to hold a presentation regarding the game’s development process and quickly forthcoming success at GDC in San Francisco, California. There they mentioned their intent of making a game that appealed to the already existing, hardcore-oriented audience from the Warcraft 3 mod, Dota, that was still accessible by a more casual audience by making the game complex and reminiscent of its predecessor (Dota) for the hardcore-audience yet easy to learn and get into for the casual-audience (Brown, 2011; Merrill, 2010).

In the presentation, Tom and Steve also mention some of the revisions that was done to the game’s design that derived from the original Dota mod in order to improve the promotion of teamwork. The major changes consisting of the removal of friendly fire as well as the ability to cast their Champion's spells on other players on the same team as well as rewarding the act of killing another Champion together, as a team, by sharing some of the gold awarded and making players with less deaths more valuable than those with much, preventing players from continuously targeting a weaker Champion and/or less experienced player. However, it is never brought up how they designed the game to appeal to the more casual-oriented side of the market, besides making the game more accessible, despite being mentioned as one of League of Legend’s key features.

Since League of Legends has the reputation of having one of the most Toxic Communities around (Halloran, n/d), these changes in design have proven not to be enough in order to create a friendly environment. Riot Games have however used several methods to prevent toxicity by adding new features that are non-relatable to the in-game design and they are worth mentioning for a better understanding of this thesis.

1.3 Previous Methods to preventing Toxic Behaviour

1.3.1 Reporting

After playing a match of League of Legends a player can choose to either honour another player for their sportsmanship or report them for Toxic Behaviour. If a player chooses to report another player for Toxic Behaviour, they get to pick what kind of toxic behaviour was presented to them and is offered to give a brief explanation to go with it. The report is then sent to something called the Tribunal where the community gets to decide whether the report was valid or not and if the reported player should receive punishment for their behaviour.
1.3.2 Honour System

The Honour System of League of Legends was introduced in October, 2012 (League of Legends Wiki, 2014). There are three categories of honour which players can reward their teammates with: Friendly, Teamwork and Helpful and one that can be rewarded to their opponents called Honourable Opponent. (Honor, 2014) When a player receive enough honour consistently, you may be gifted with a ribbon that other player’s can see and supposedly shows what a great team player that player is. However, if you’re punished by the Tribunal your honour is reset to 0.
1.3.3 Tribunal

Figure 5: A typical case found in League of Legends’ Tribunal System, Ars Technica, 2013.

A judgement system that works through League of Legends’ website where repeatedly reported players gets a case built against them, showcasing their Toxic Behaviour, and allowing the community to vote whether to pardon or punish said player for their behaviour.

1.3.4 Colour coded tips

At the start of the game, or in the loading screens between the lobby and the game, there will sometimes be a colour coded tip that shows tips and statistics that says that games played with good sportsmanship has a higher percentage of winning than a game littered with toxic behaviour players.
1.3.5 Ping System

To be able to communicate better with teammates Riot Games introduced a Ping System (Dhonnagain, 2013) where the players can use short commands by pressing alt or g on the keyboard, to inform the other teammates about five common circumstances:
1. Informing about an object and/or location in the game the player find of importance
2. Informing about enemy Champions are missing, questioning their whereabouts
3. Informing teammates about the communicating player’s current intentions/change of location
4. Informing teammates to be careful in certain areas
5. Informing teammates about the communicating player’s current issues and requesting assistance

This system was made due to players having difficulties typing in commands or requests in the chat to their teammates while playing simultaneously.

Even though these methods have reduced the toxicity to a certain degree, it clearly is not enough for toxicity to not be common among League of Legends players. The only method that has affected the gameplay itself is the Ping System. Therefore we will explore if the reason why players act in a Toxic manner has a correlation to the mechanics of the game and, if so, is the issue solvable simply by changing or adding more features that changes the mechanics more directly.

1.4 Theoretical Perspective

1.4.1 The MDA Framework

To be able to analyze why League of Legends players are toxic we took advantage of the MDA framework. MDA is an acronym for Mechanics, Dynamics and Aesthetics and a abbreviation of the term “The MDA Framework”.

The MDA Framework is a contemporary design methodology, founded and developed in 2004 at Game Developers Conference in San Jose (GDC, 2004) by three game industry veterans, and at the moment of writing the most commonly practiced within the industry when designing and analyzing games. The methodology was documented by Robin Hunicke (Video Game Designer and Producer), Marc LeBlanc (Game Industry-veteran) and Robert Zubek (AI-Programmer).

Figure 8: MDA Framework explained as a diagram, Elliot Maxmillian Pinkus, 2011.
The MDA Framework is built upon the theory that games are created by designers and a team of developers and, once finished, is consumed by the player. When a designer is blueprinting a game, according to the MDA Framework they will look at its construction as a set of Mechanics that generates Dynamics, which in turn generates the desired Aesthetics. The player, while consuming the finished product of the game, will perceive the same 3 components but in reverse; realizing the Aesthetics first before moving on to the Dynamics which in turn will reveal the Mechanics that created those Aesthetics. It’s important to note that the Aesthetics perceived by the player does not always conform to the Aesthetics that were originally conceptualized by the designer.

Our motive for using the MDA Framework for this thesis lies in its simplicity and easy usage when breaking down games into manageable segments that can later be analyzed in more depth.

Our hypothesis is that when a mechanic creates dynamics that conflict the intended aesthetics (Which in a multiplayer game like League of Legends might be “A feeling of collaboration with other players on the same team”), it can create frustration in a player towards other players, which in turn may cause Toxic Behaviour. E.g. if players on the same team compete for the same resources it might cause conflict between teammates concerning who is the most deserving or in need of said resource.

1.5 Motivation

This topic is a subject close to both of our hearts, since both of us have either stopped playing a game or been too afraid to join a game because of the toxic behaviour that was a part of the game community.

Being afraid of harassment in an environment that is supposed to evoke feelings of entertainment and joy, makes us see this as a very big issue that needs to be discussed and informed about to game designers all over the world.

By being both game designers and players we are able to see a game from both a designer perspective and a player perspective, making us able to study the game from many different angles.

We want to analyze and break down this matter to help game developers create a friendly environment for their players through their game mechanics, so more players can enjoy gaming and that new players do not feel frightened by joining a new Community to play the game.
2 Question Formulation

As mentioned before, Riot Games has implemented in their development of League of Legends features outside of the actual gameplay to prevent toxicity, such as being able to report players that behave in an inappropriate way. Although this has made drastic changes in toxicity levels among their players, it has been proven not to be enough for players to stop this unacceptable behaviour. Therefore, we want to examine the game’s structure to see if there are any components in the game that causes this behaviour.

The purpose of this thesis is to find out if the reason behind the toxic behaviour is caused because of the game’s mechanics, and if it is possible to stop this behaviour through changing them.

We hope by breaking the game down into mechanics, dynamics and aesthetics to analyze the game’s structure together with an ethnographical field study of the League of Legends players to find out what game mechanics that cause players to have a higher risk to engage in toxic behaviour.

The question we wanted to answer was:
- What in-game mechanics in League of Legends affect teammates to become toxic towards each other?

3 Method

In order to see if there were any plausible correlations between game mechanics and toxic behaviour we chose to use Triangulation method, which refers to the use of more than one method for information gathering. According to Bryman (2003), triangulation method refers to all “instances in which two or more research methods are employed”. In case of this study, we are using an Ethnographical Field Study of the players of League of Legends, to see when and for what reasons players engage in Toxic Behaviour, together with the MDA Framework to do a game structure analysis to connect the data from the Ethnographical study with the game’s mechanics. We hoped to, by using these two methods and with separate perspectives on the subject of toxic behaviour, find an answer to what game mechanics cause team members to become hostile towards each other.

The Ethnographical Field Study was used for analyzing the players and their behaviour, while playing the game with them. This to determine what reasons players had for starting to engage in toxic behaviour, so a comparison between the given reasons and our game structure analysis could be made. This to see if there was a connection between the game’s mechanics and dynamics to why players started to engage in toxic behaviour.
Then the MDA Framework was used for analyzing the structure of the game, chiefly its characteristic mechanics, dynamics and aesthetics. This to clearly see the connection between game mechanics that create dynamics that might be causing players to engage in toxic behaviour.

By using these methods, we compared what results the Ethnographical Field Study with the game structure analysis using the MDA Framework, to see if the Ethnographical Field Study strengthened the results the game structure analysis. We wanted these two methodologies to give us a clearer understanding of when and why toxic behaviour occurs to see if there is a possible link to the game’s mechanics.

The primary focus was to analyze League of Legends game mechanics, their generated aesthetics and core gameplay. We limited our observations to game mechanics, player behaviour and the toxic behaviour that emerges within a game session and chose to ignore everything outside of that (Lobby, Log-in Screens, Audiovisual design, etc).

3.1 Ethnographical Field Study

To understand when and why players engage in toxic behaviour, we chose to do an ethnographic fieldwork study previously used by Gabrielle Garner (2013) in the study of game production. In practice, we were engaging in play sessions with other players by playing 25 matches each in League of Legends on the Nordic and Nordic East server, with a total of 50 matches. This helped us understanding exactly when and why toxic behaviour within the team might occur to see if our game structure analysis of what game mechanics that make players engage in toxic behaviour was correct.

During our play with League of Legends Players we took notes and wrote down when players said something toxic and what reason they might have to engage in Toxic Behaviour during the match. To determine what reason the player had to engage in toxic behaviour, we asked the player why he/she became angry, if not already told. If no answer was given, we assumed the reason for becoming angry was linked with the most recent player action that caused a negative effect on the team, such as player death.

To make sure our answers were not affected by being emotionally invested in the game while playing, videos of all matches played were recorded along with notes on what time teammates engaged in toxic behaviour. The recordings were watched afterwards to make sure all data are rightly judged.

For this thesis, we assumed that the players we encountered during our study were playing on a level according to their own skill level and we did not take into account the possibility of an originally high level player creating a new account in order to play with newer, less experienced players.
We also disregarded factors such as: Players having a bad day/being in a bad mood prior to the game session, Players suffering of social disabilities, Players suffering of mental or physical disorders, Age-differences, Players originating from different cultures and ethnicity, Male and Female players/Player gender ratio, any game mode other than “Summoner’s Rift”/PVP/Field of Justice and differences between server regions.

Since we contained of one experienced and one inexperienced League of Legend player, the Results will show a median between new and experienced players.

3.1.1 Rules for Our Ethnographical Field Study

To not influence the players behaviour to have either a negative or a positive attitude, we sat up rules to get a result without ourselves affecting the players as little as possible.

We chose not to:

- Intentionally provoke toxic behaviour
  Example: “If you didn’t play so bad, we might win”

- Personally attack another player
  Example: “You suck!”

- Only reply positively to positive behaviour
  Example: Player A: “Good job!”
  Us: “Thanks, you too!”

3.2 Game Structure Analysis using the MDA Framework

To then analyze League of Legends and its structure, we choose to use the MDA Framework to break the game down into three core components: Mechanics, Dynamics and Aesthetics.

This method works explicitly well when wanting to see what reaction players get from the mechanics of a game, because of its clear outcome from the mechanics, which creates dynamics that finally gives the game certain aesthetics. We hoped to find dynamics or aesthetics that lead us or other players to feel any kind of feelings that might lead to toxicity, such as anger, unhappiness or hopelessness. This to be able to identify what game mechanics might be causing these feelings.

By using this method we also were able to see the game from both a player perspective and a designer perspective, making it even easier to clarify what mechanics might have impact on the player’s behaviour. When using this method we first analyzed the game through the perspective of a Player, but with the mindset of a Developer. As Players, we identified the perceived aesthetics first. We then proceeded to look at the game as Developers, and we were
be able to identify the mechanics that caused said aesthetics, and saw the correlation between them by the dynamics in-between.

[While we have not had the opportunity to speak with the Riot Games, the developers of League of Legends per se, we have been watching their presentation of their Post Mortem at GDC, in order to get some deeper insight of the process behind some of the design choices made for the game.]

3.3 Triangulation Method

To make a connection between the two methods, we categorized our Ethnographical data into different sections that we compared to our Game Structure Analysis. The data was divided into two categories: Attitude during Match and Reason for Toxic Behaviour.

Attitude during match was divided into two subcategories: Positive or Neutral Attitude and Negative attitude. The negative attitude required one teammate to personally attack another player at the same team once. The Positive or Neutral Attitude required a teammate to either say something positive to another teammate, or a match where no team members directly targeted another team member for a personal attack. This was to see how common it was for player to engage in Toxic Behaviour, and therefore see how severe the toxicity problem is.

The Reason for Toxic Behaviour was divided into five different subcategories. These categories were determined by what reasons players mentioned for their Toxic Behaviour. If a player engaged in Toxic Behaviour but did not mention the reason behind, we would ask that player why he/she engaged in negative behaviour. If no answer were given, we would assume the Toxic Behaviour would come from the most recent player action that had negative impact on the team.

To link the data between the Game Structure Analysis and the Ethnographical Field Study, we studied the reasons why players engaged in Toxic Behaviour and then sought for any game mechanics we had found during the game structure analysis that had dynamics that would cause the same reaction the player who became toxic had.

Example: Player becomes angry because he wanted a kill someone else on the team took. Reward of getting kills is money. The player most likely would have wanted that money. What game mechanics have dynamics that create anger for not getting money?
4 Results

In this chapter, the results of the Ethnographical Field Study of League of Legends player’s behaviour during a match will be presented together. The Game Structure Analysis and the connection between the Ethnographical results will be presented in the Analysis.

4.1 Ethnographic Field Study Results

The Ethnographical Field Study results will show and describe what attitude players had during the matches and for what reasons players started to engage in Toxic Behaviour. These will later be linked to the Game Structure Analysis to compare the game’s mechanics to the player’s reasons to toxicity.

4.1.1 Overall Statistics

During the 50 matches that were played, 70% had negative or toxic behaviour. The remaining 30% had Neutral or Positive behaviour. This means about three out of four matches will have negative or Toxic Behaviour when playing League of Legends.

As mentioned before, for a match to count as one with negative attitude one teammate had to directly insult another teammate. When a teammate insulted a player on the same team, that player often kept insulting the same or other players on the team. It also lead to other players engaging in Toxic Behaviour, often spreading to one or two more players insulting the team.

![Pie chart of Overall Attitude during Matches](image)

Figure 9: Pie chart of Overall Attitude during Matches, provided by authors, 2014.
4.1.2 Reasons for Toxic Behaviour

During the Ethnographical Field Study, we took noticed some differences between New- and Experienced players. Toxic Behaviour was present in both low- and high-levelled matches, but new players did not engage in it as often as experienced players and when they did, the insults were not as frequent in comparison.

We concluded that this was because new players lacked experience in the game, as well as proper knowledge about the functionality of all of the mechanics, and thus had a more difficult time pinpointing why they were frustrated. The data presented below will therefore only be from matches where the reason why players became angry were clear to lower the chances of false assumptions. We divided the reasons into different categories, and these were:

- Making a mistake that resulted in death
- Lack of teamwork
- Stealing kill
- Not sticking to class and Player went AFK

Making a mistake that resulted in death
This was the most common reason why people engaged in toxic behaviour. The insults such as “noob” and “report this player” were mostly used in connection to this reason. Players often personally attacked the player who died as well, calling them things such as “retard” or “fucking tard”. The players who received these kinds of attacks often responded by insulting them back.

Lack of teamwork
The second most common reason why people engaged in toxic behaviour was because of the lack of teamwork. Compared to making a mistake resulting in death players who got angry in this category often explained their anger.
Example: “why didn’t you help me? i’ll never help top again”

Very often, their anger came from not using the ping system to warn teammates of an missing enemy, or not helping out when in need of help. Another reason was if a player wanted to attack the enemy team but the teammates did not agree and therefore did not help the teammate out. This often resulted in the teammate, who requested the help of the others, dying which in turn led to another team member to engage in Toxic Behaviour because of the player’s death.

Stealing kill
Kill stealing was a fairly common reason for anger and it required a teammate to become angry with another player on the game team for killing an enemy that player intended to kill. Players being angry for this reason often claimed they needed the kill more than the person
who killed the enemy. This reason for anger was always related to what class the teammate who killed the enemy was playing.

**Not sticking to class and Player went AFK**
The reasons not sticking to class and player went AFK were not as common as the other categories. Most players who got angry because of a player not sticking to class noticed a player had bought an item that was not recommended to the class they were playing, or that a team member was doing an action not associated with their class, such as killing enemy monsters.

The reason Player went AFK required a teammate to become angry with another player on the same team for not playing the game until the end or until surrender. Players who went AFK often did so because they thought the team had no way to defeat the enemy team, because of the team doing poorly against the enemy team earlier in the game.

![Reason for Toxic Behaviour](image)

Figure 10: Pie chart of Reason for Toxic Behaviour, provided by authors, 2014.

**4.1.3 Differences between New Players and Experienced Players**

As mentioned above, we noticed some differences between new and experienced players during our ethnographic study. The most distinguishable contrast between new- and experienced player was the experienced value put on teamwork and, ultimately, winning the game. Experienced players showed much less tolerance for mistakes and lack of team play and, while new players were more quiet and laid back, experienced players more often than not found it more necessary to express their frustrations openly and in details, to their own team members and the enemy team as well.
As a consequence to this, Experienced players tended to communicate more often with team members and enemy players alike (even though the majority of their discourse consisted of presenting their personal displeasure towards someone else, bragging about their own successful progression to the enemy team or cracking jokes at another player’s expense). This was not as common among new players as they were not as familiar with the mechanics or knowing which strategies were the most optimal for the situation; while new players still showed symptoms of Toxic Behaviour, they did not give as much reason to why they were angry and did not seem to quite understand where the frustration originated.

When new players did express their displeasure with a situation it was usually related to a specific Champion not playing good enough or miscommunication regarding their position in the game rather than actions that weakened their own team and/or strengthened the enemies’ (like dying repeatedly to a perpetual Champion or purchasing the wrong kind of items) which among Experienced players was the more common reason behind recurring Toxic Behaviour.

4.2 Ethnographical Field Study and Game Structure Analysis Triangulation Results

By using the MDA Framework to do a Game Structure Analysis we quickly discovered three Aesthetics that caused negative feelings in the players while playing the game. These were decided by the general mood and/or feel that both us and other players received while playing the game, and we categorized them into three core Aesthetics:

1. Competitiveness
2. Individualism
3. High Stakes

The Aesthetic Competitiveness arose by the player’s motivation to win the game. During our Ethnographical Field Study, we noticed that Competitiveness was most prominent among players whenever their own team was close to winning the match or a situation occurred that caused a setback to their chances of winning. The most common setback was related to dying to an enemy player, picking the wrong champion or money/item issues(taking the kill from another player that needed it more or equipping the less optimal items onto your own champion), all of which was common reasons for the emergence of Toxic Behaviour.

Competitiveness, as an Aesthetic, is caused by the mechanics “Items and Kills” for its granted tactical advancement and strategy as well as the balance-issue that is the “Length of the match” because of the time investment forced from the players.

The Aesthetic Individualism arose by the player’s own need to grow stronger as an individual rather than as a team. During our Ethnographical Field Study, we noticed that Individualism was most prominent among players when killing enemies, buying items and selecting which champion to play in the beginning of the match.
Individualism, as an Aesthetic, is caused by the mechanics “Items and Kills” for its powerful effect on individual player’s growth in strength, “Champion Select” for its wide variety of characters to choose from and the importance of choosing the most appropriate class as well as the balance-issue “Amount of Players” because of its limited amount and weight of importance put on each and every player in the team.

The Aesthetic High Stakes arose by the punishment dealt to the entire team by the mistake of a single player. During our Ethnographical Field Study, we noticed that High Stakes was most prominent among players when one or more team member went AFK or when playing with another player experimenting with a character or set of items they were previously unfamiliar with or considered unfitting by the other players.

High Stakes, as an Aesthetic, is caused by the balance-issue that is the “Amount of Players” because of the importance of teamwork and each player performing their role well in order to win the match.

5 Analysis

5.1 Game Structure Analysis on League of Legends

To see if there was a connection between the Ethnographical Field Study’s results and League of Legends game mechanics, we did a Game Structure Analysis, where we used the MDA Framework and began to break the game down by looking at it from a player’s perspective to recognize the game’s Aesthetics. We then switched to a developer’s perspective to see the game through its mechanics. This to finally determine what dynamics that causes situations that were similar to the Ethnographical Field Study’s Results of what reason players became angry.

The three core Aesthetics we noticed that had big impact on how players behaved in-game were the following:

- The game’s focus on winning (Competitiveness)
  All players were very motivated to win the game and became upset when near losing or losing important battles during the game that had impact on the outcome of the match.
- The game's dependency on an individual getting stronger, even though working as a team is required to actually win the game. (Individualism)
  All players were highly motivated to become stronger as an individual, sometimes becoming angry when being prevented from doing so.
• The strong impact of each action that player’s make and their effect on both teams. *(High Stakes)*

Players felt mistakes were highly punishable and therefore got angry whenever a teammate made a mistake.

These three core Aesthetics are key to understanding why the game is so abundant with toxicity among its player base. To understand these Aesthetics we began to define what mechanics, as well as generated dynamics, that causes the players to feel this way. The primary mechanics that caused dynamics that caused similar reasons of anger as the players in the Ethnographical Field Study Results showed were four: Items and Kills, Amount of Players, The Length of a Match and Enforcement to Stay in Match and Selection of Champions.

5.1.1 Items and Kills --> Individualism and Competitiveness

Purchasing items to get stronger, and killing minions/monsters/champions in order to get money to purchase items are two mechanics that go hand in hand and are, consequentially, the major cause for negative attitude and eliciting toxic behaviour during a match.

In League of Legends each player acquires their own amount of money that builds up over time, but the major income comes from killing monsters and minions situated along the map as well as enemy Champions. If more than one player assists in killing an enemy Champion, everyone gets a share of the gold, but it is the player who deals the killing blow that gets the biggest cut as well as the glory.

The money gained can then be used to purchase a wide variety of items to extensively strengthen the player’s Champion abilities, making it a big reward for the player. This creates the dynamic of rivalry among players, since the way to making your player stronger is highly dependant on the amount of gold the player has, causing reasons such as stealing a kill to become angry with another teammate. It also creates the dynamic of making some players wanting to kill an enemy Champion so much they take too big risks and end up dying themselves.

This can be summarized into a feedback loop:
The opposing effect of this dynamic is also making players scared of making too risky actions. Since the primary way of making your Champion stronger is by killing an enemy Champion or enemy monsters, players know dying is very punishable.

By dying the enemy team gets both gold to buy items, and more experience to become stronger. For a player on the other team, the only way to catch up is to kill monsters/minions or another Champion after spawning again after its death.

The enhancement a Champion gets through items is a big part of the game and has great impact on the progression of the match since buying the wrong item can bear severe consequences on the outcome. For instance, if a Champion that is heavily focused on taking damage buys an item that does attack damage, the team will not have the strategy of charging in to the enemy team, since the Champion who are supposed to take damage, is not able to take as much damage as it is supposed to.

Because of the importance of items along with the fact that everyone gathers money from the same sources, it creates the Aesthetics Competitiveness among team members as well as Individualism as the player's are actively working towards strengthening their own Champions rather than strengthening the team as whole.

The sheer amount of items and the, at times, fast pacing of the game gives new players little to no room to experiment without risking to upset their team members which in turn creates the Aesthetic High Stakes.

### 5.1.2 Amount of Players -> Individualism and High Stakes

We noticed that the amount of players, which is not a mechanic in itself but rather a balance issue also played a role in player behaviour.
Since League of Legends is played by two teams of only five with the enemy team consisting of either players or bots, each player have huge value to the game. And because of how the map is designed into three lanes that needs to be covered by five people, it is also necessary for players to group themselves into squads with most likely one or two holding their ground on their own. This means that players might need to fight two against one and, with the limited amount of players, the importance of knowing how to play their own Champion properly as well as knowledge about the possible abilities and tactics that the enemy Champions might throw at them becomes greater.

Dying repeatedly because a player is unable to hold their post or lacks knowledge and/or experience with certain Champions (both their own and their enemies) can sabotage the chances of winning the game greatly for the rest of the team.

Because of this, the player's focus is mostly directed towards themselves and their own Champion rather than the rest of the team that contributes, to the Aesthetics Individualism as well as High Stakes.

5.1.3 The Length of a Match and Enforcement to Stay in Match -> Competitiveness

Another balance issue that also enhanced the Aesthetic Competitiveness was the length of the match.

The estimated average length of a single match in League of Legends is 20-60 minutes long and after entering a game, the player is forced to stay in that match until it is finished. If the player would choose to leave the game anyway (The only way to do so by shutting the game down completely and waiting until that match is finished) s/he might receive a time penalty, preventing that player from joining a new game for a short while, for quitting the game in the middle of a match. This also applies to when a player is forcefully disconnected from the game by, for example, losing internet connection or experiencing a blackout.

Because of this, the player has no choice but to devote those 20-60 minutes of their time to the game, regardless of outcome. This creates the Dynamic that each match is important to the player because they want their time to be well-spent, which in the end leads to the Aesthetic Competitiveness.

In comparison to other online multi-player games such as, for example, Team Fortress 2(Valve Corporation, 2007) where the average length of a match is the same but players have the available option to leave and join a match as s/he pleases without any after-effects. A match in League of Legends demands a much higher dose of emotional investment from the player that in turn increases the experienced necessity to win, alternatively, have a good game.
5.1.4 Selection of Champions -> Individualism

This mechanic takes place before the game has started, but had very big impact on both the game and player behaviour.

League of Legends have six different classes; Assassin, Fighter, Mage, Support, Tank and Marksman, that are available for the player to choose a character from.

Each class have different mechanics (read: abilities) depending on Class and the individual Champion itself and is each very different to play and have different ways to approach the game with.
Example: The class "Tank" is focused on being able to sustain a lot of damage in order to protect their teammates by taking the hit while "Assassins" are more focused on taking the enemy by surprise and killing them quickly (Usually with the enemies health already being reduced by other teammates.)

This creates many different dynamics and relationships between all five players, leading to the possibilities of different strategies depending on what types of classes there are in a team. And this also enhances the Aesthetic of individualism, making each player feel the play a big role for the team’s strategy and chances of winning.

Now with the Aesthetics: Competitiveness, Individualism and High Stakes, and the Mechanics: Items and Kills, Amount of Players, Length of a Match and Enforcement to stay in Match and Selection of Champions set, we compared the above mentioned dynamics to what reasons players became angry in our Ethnographical Field Study to see if there was any connection between them. This comparative approach is reflected in the triangulation method used in our thesis.

5.2 Ethnographic Field Study and Game Structure Triangulation Analysis

As mentioned earlier in the Results, there were five categories of reasons for players to engage in Toxic Behaviour. To clearly determine if the game’s mechanics have an influence on player behaviour, we compared the reasons for becoming angry with the dynamics the game mechanics created a connection between them. The game's mechanics did support players to feel emotions that could lead to Toxic Behaviour, and these will presented down below.

5.2.1 Making a mistake resulting in death

As mention earlier, making a mistake that resulted in death was the most common reason for a player to engage in Toxic Behaviour. This shows that the mechanics of Items and Kills are a big part of why players become angry, because the dynamic of those mechanics are to make the character stronger, which also leads to the chance of dying more easily if an enemy player
is remarkably stronger than each player on the friendly team. The players knew dying was a very big and obvious punishment, and therefore more quickly engaged in Toxic Behaviour when a teammate died.

5.2.2 Lack of teamwork

Anger because of the Lack of Teamwork often was caused because teammates did not use the ping system, especially to tell other players an enemy was missing, or when a teammate wanted the team to attack but the rest of the team not agreeing.

These two situations often resulted in death, which again shows how important it is for the team to not assist the enemy team in getting stronger. When a teammate wanted the team to attack the enemy team, but the rest of the team didn’t agree the reason for the other players to not help the teammate was because they thought the actions they were doing were more rewarding to their own Champion, and that helping the teammate would be too big of a risk.

This caused by the mechanics Amount of Players and Selection of Champion. Since The Amount of Players are so low, dying also have the dynamics of lowering the chance to stand an enemy attack. This is neither beneficial to the team or the player, so therefore players do not want to take risks that involve dying unless they are sure they are able to get a reward from it. The Selection of Champion’s mechanics has both beneficial and restricting. The beneficial dynamics are that there are more strategies to use both to attack and defend. The restricting dynamics are that not all Champions are able to help another teammate without dying or taking a too big of a risk, when in need of help (depending on what situation). These dynamics and mechanics did lead to players becoming toxic, and also often disappointed in the team.

5.2.3 Stealing Kill and Not Sticking to Class

Stealing a Kill made, as mention earlier, players toxic towards a player that they thought needed an enemy kill less than they did. This was always in connection to what type of class the player who got the kill was playing. The mechanics that support this reason to Toxic Behaviour are Items and Kills, Selection of Champion and Amount of Players. Because the only remarkable reward, the dynamic, a player can get is by getting Items by Kills, a lot of players only goal is to kill as many enemy Champions as possible.

Because the Amount of Players are so few, each player has to choose a class that together creates a variety of abilities and skills, so that they, as mentioned before can defend and attack more easily. This also means not all classes are as much in the need of money. And the reason “Stealing Kill” was always a player playing a non-supporting Champion becoming toxic towards a teammate that played a supporting class, that does not need money to kill enemy Champions. Not Sticking to Class had the players to become toxic for the very same dynamics.

5.2.4 Player went AFK

For players who became toxic because of a teammate going AFK, the dynamic that caused this anger was the mechanics of Amount of Players, Length of the Match and Enforcement to Stay in Match as well as Selection of Champion. The Amount of players are already vital to
the game when the players are five, reducing one lowers the chances of strategies to defend or attack the enemy team remarkably. And since the player are forced to stay in the match, even though the chances of winning are very low, the players turned toxic. This has also to do with the Length of the match, since the dynamic of that mechanics is to heighten the emotional investment in each match.

6 Discussion

6.1 Used Methods and Materials

For our analysis, we used the MDA Framework to segment the game into Mechanics, Dynamics and Aesthetics. Through this thesis we have only brought up those we found relevant to Toxic Behaviour and delved further into why we found those to be relevant.

While there are more extensive game analysis frameworks than the MDA available for analysing a game’s design as a whole, we found MDA to work well for our purposes since we only wished to focus on game mechanics and their effect on the players. This analysis along with our ethnographical field study where we observed the player’s behaviours through playing along with them was a functional combination that helped us in identifying what factors caused frustration in players and why that irritation oftentimes got directed towards someone else.

During our ethnographical field study, we played 50 matches each, separated into playing with high- and low level players. By doing this we found that frustration was prevalent regardless of previous experience with the game and had identical causes even though it was most prominent among higher levelled players.

Toxic Behaviour in online communities is a vast subject and it is important to note that this thesis barely scratches the surface of the causes to why it occurs. If time and resources would have allowed, we could have gone into further details about the psychology behind the behaviour like how humans behave differently on the internet than when talking to someone face-to-face or how group dynamics and online communities works in a more generalized way.

6.2 Mechanics that would decrease Toxic Behaviour

As we’ve established, one of the biggest parts to why people engage in toxic behaviour is because the players in a team compete for resources within the team. To change this players could instead share the gold evenly within the team when someone dies. This would decrease
players getting angry about stealing kills, but it would also make each player in the team less valuable unless the classes were changed too.

Another solution would be that players could actively choose to give money to another Champion that is in greater need of money. This would also lessen the rage about kill stealing, but instead killing an enemy Champion would not have the same joy, since it does not really matter who kills it. However, this would increase teamwork within the team and it would also lead to new strategies in the game. Having the option to share gold with teammates would not affect that part of the game, it would only affect the tactics in the game and balance between items.

Since the length of the match and not having the ability to quit affects both how devoted the players are and how likely they are to engage in toxic behaviour, adding a feature that let players decide when to leave or having the ability to jump into a game where someone left could reduce toxicity.

If making players jump in and out of games would interfere too much with the flow of the game, having the ability to kick only players that has been AFK for a set amount of minutes, and having a new players join to take their place, might lessen the feeling of wasting time but it would also decrease the devotion towards each game. This, of course, would affect players in many different ways. The positive side of the change would be the decrease of toxicity, but it would also bring players to become less competitive.

6.2.1 Other Mechanics that would decrease Toxicity

One of the methods Riot Games have used earlier is the Honour System that as described earlier, makes players able to give a judgement of a player. The player cannot give himself or herself this kind of honour. This is a nice idea to change player behaviour to become more friendly and supportive, but it is used very poorly in the game, since the only reward is giving the player a visible badge on the side of their Champion before a match starts. Instead, this could be used as a resource to buy game content. This would make the badges to actually serve a function people want, since they are given a reward for their good behaviour, and give players more of an incentive to strive towards collecting them.

Since all players are well aware there are a lot to learn when playing League of Legends and that a lot of their new players start playing because they have a friend that can mentor them, having a built in mentorship for new players forum would help new players a lot.
7 Conclusion

Throughout this thesis we have analyzed one of the leading online multi-player games currently on the market, League of Legends, because of its notoriety of inhabiting players plagued with Toxic Behaviour and explored the possible correlations between this sort of unwanted behaviour to the mechanics of the game. We wanted to answer the question “What in-game mechanics in League of Legends make players become toxic towards each other?”

In order to discover plausible correlations between game mechanics and Toxic Behaviour, we analyzed League of Legends and broke its gameplay design down into decipherable segments by using the MDA Framework. Using this information, we then performed an ethnographic study on the game’s active player base in order to find plausible links between those mechanics and the most common reasons as to why Toxic Behaviour occurred in the game.

We claim the findings of three core Aesthetics, caused by game mechanics as well as some balancing issues, which contributed to agitation among team members which in turn often lead to the emergence of Toxic Behaviour: Competitiveness (The game’s focus on winning), Individualism (The game’s dependency on an individual getting stronger, even though working as a team is required to actually win the game) and High Stakes (The strong impact of each action that player’s make and their effect on both teams.) The mechanics, alternatively balancing issues that was the culprits of producing these Aesthetics was: Items and Kills, The Amount of Players, The Length of the Match and Champion Selection, with Items and Kills having the strongest impact on the player’s behaviours and most common cause for conflict.

After our research and analysis, we then proceed to deliberate about possible, hypothetical solutions, which are based on the mechanics of League of Legends but are applicable to multi-player online games in general, for encouraging good behaviour rather than only focusing on punishing the bad.

7.1 Future Work
Future studies are needed to understand better how humans react and interact with each other on the internet and how they are affected by the disconnection from physical contact. For example, by studying the Online Disinhibition Effect and how it affects player’s behaviour towards other players as well as how group dynamics affect human behaviour when working together towards a similar goal. We believe both of these subjects to be highly relevant to pinpoint the more exact cause for the emergence of Toxic Behaviour in online games in general.

8 Bibliography


9 Figures

Figure 1: Overview of League of Legends map, Summoner’s Rift. Mikkel Viager (2013). Available at: http://blog.mivia.dk/start-playing-league-of-legends-3-simple-steps/ (Retrieved: 14 Apr. 2014).

Figure 2: Minions attacking one of the enemy team’s Turret, Examiner.com, (2009). Available at: http://www.examiner.com/article/pax-2009-league-of-legends-hands-on (Retrieved: 8 June. 2014)


Figure 4: League of Legends’ Honour System, options available when honouring a teammate, (Schramm, 2013). Available at: http://www.joystiq.com/2012/10/01/league-of-legends-honor-system-is-now-live/ (Retrieved: 8 June. 2014)


Figure 6: In-game tips at the start of a match in League of Legends advising players not to harass teammates (Reddit, 2013). Available at: http://www.reddit.com/r/leagueoflegends/comments/12ebwa/this_tip_is_one_of_the_best_things_to_happen_in/ (Retrieved: 8 June. 2014)

Figure 7: Options available when using the Ping System in League of Legends in order to communicate with teammates (Bloodispower Forum, 2013). Available at: http://bloodispower.com/forums/showthread.php?1304-Learning-to-LoL-30-Tips-for-Novices-Intermediates-Experts-amp-Smart-Ping (Retrieved: 8 June. 2014)

Figure 8: MDA Framework explained as a diagram (Elliot Maxmillian Pinkus, 2011).

Figure 9: Pie chart of Overall Attitude during Matches, provided by authors, 2014.

Figure 10: Pie chart of Reason for Toxic Behaviour, provided by authors, 2014.

Figure 11: Money/Killing feedback-loop in League of Legends, provided by authors, 2014.