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# The Origins and Future of Gamification

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The Origins and Future of Gamification

By

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of the Requirements for  
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## Summary

This thesis paper will explore the concept of “gamification,” or the process of adding layers of game elements to an unrelated subject or task. The idea behind gamification is to take what makes games fun for the players and apply that to other areas as means of motivating people. Some of the most known gamified applications are *Waze* and *Nike+ Run Club*, to name a few.

The paper will start with a definition of gamification and its differentiation from a game. There will then be a brief discussion on why understanding gamification is important. From there, the history of gamification, including its beginnings, rise, fall, and return, will be discussed. In particular, some of the very first instances of gamification will be highlighted, along with the major steps towards its current form. Then, the audience of gamification, and how they react to certain types and elements, will be examined and broken down into key groups. A handful of the most common game elements will be explained and put into context. Finally, some key success stories of gamification will be explored with emphasis on the reasons for their success.

The writing will conclude with some thoughts on the ethics of using gamification in certain instances. Its power as a motivational tool opens the door to a myriad of potential abuses and issues. Finally, a possible method, based on one of the success stories discussed, for using gamification in an ethical frame will be explored.

## What is Gamification?

At the core, gamification is the process of adding game elements to other pre-existing items. Merriam-Webster defines it as “the process of adding games or game like elements to something (such as a task) so as to encourage participation (verb form: to gamify).”<sup>1</sup> The idea behind gamification is to take use various proven elements of games to motivate greater involvement. It can be used to encourage desired behaviors in individuals, whether they be customers, employees, or students. Currently, application designers, business, consultants, and advertisers are using gamification to garner greater interest and returns on investment. It is a motivational tactic that taps into our competitive spirit and drive to succeed by fostering competition and offering convenient milestones. Tapping into the human psychology is a very powerful tool with great potential, for better or for worse.

One very important differentiation that must be made is between gamification, or a gamified application, process, or tool, and an actual game. For that differentiation to be made, the oft argued definition of a “game” is needed. There are many things that define a game; there are rules, players, feedback, progression, and many other pieces that make up what is understood to be a game. Additionally, people usually expect a game to be “fun,” though players of the “Dark Souls” series may think otherwise. Yet, all these pieces are not exclusive to games and could just as easily be part of gamification. So, what actually makes them different?

The key difference, and the difference that will be examined in this paper, is that a game is self-contained while gamification involves outward interaction. Bernard Suits tried to define a game by stating, “To play a game is to engage in activity directed toward bringing about a specific state of affairs, using only means permitted by specific rules, where the means permitted

by the rules are more limited in scope than they would be in the absence of the rules, and where the sole reason for accepting such limitation is to make possible such activity.”<sup>ii</sup> When playing a game, the players accept a certain set of rules and conditions. These rules may define a winner, determine how to win, how to score points or progress, and what is considered “cheating” or “illegal.” In doing so, the players enter into the “state of affairs” described by the rules and conditions. This is a setting that would not exist otherwise, and it does not interact with the outside “real” world. It is a self-contained experience where one may win or lose, enjoy it or hate it, perform well or poorly. A game is defined by the player’s interaction with the game itself, encapsulated by its rules.

This is not to say that a game cannot have an impact on the players outside of the experience. As the “history” section of this paper will show, there has been a push for “serious games” as well as gamification. These games have goals outside of the game itself, often to educate or persuade their audience. They can be powerful, artistic, and informative. At the end of the day, however, these are still games. No matter how persuaded you are by the game itself, it will never necessitate that you do something outside of it. When playing the game, even a serious game, the player interacts with only the game. They may take that experience, what they learned or felt from it, and apply it elsewhere. At that point, though, they are no longer playing the game and have moved onto changing something, of their own will, outside the game.

Gamification, on the other hand, has some requirement or purpose outside of just “playing.” It is defined by the outward interaction it encourages. This is because gamification is a means to an end; it is meant to motivate and encourage people to do something, whatever the designer of the application wants them to.<sup>iii</sup> For example, *Foursquare* requires users to go somewhere in real life and check in to the application. The user must be in a physical location to

“check in” which is a real-world requirement outside of simply using *Foursquare* on one’s phone. The application’s goal is to create a map and motivate people to verify it.

This way of separating the two still leaves some room for debate. A great discussion point would be last summer’s fad, *Pokemon Go*. It was a phone application that had users explore their locale to catch creatures from the fictional world of *Pokemon*. To participate, one had to walk around to locate these creatures, and certain landmarks in the community acted as important buildings in the application. *Pokemon Go* somewhat blurs line between the two categories. There is an argument to be made that it was gamified exploration, though in reality it was a game. This exploration is one of the rules the game employs to create its environment. The walking and movement serve to immerse, but they are not requirements. In fact, one could do quite well simply sitting in a museum. This is different from *Foursquare*, a gamified map, because *Pokemon Go*’s defining characteristic was interacting with the game’s rules and narratives, while *Foursquare*’s was to check-in at many real locations. The gamified application’s focus and key traits still center on the real world movement and travel, while the game’s focus remains on the game itself.

With the difference between the two explained, it should also be said that they are often lumped together and confused in common dialogue. The gamification movement, which will be discussed in the “history” section of this paper, has consumed many things under its wide umbrella. Proponents of gamification like to claim successes of games as part of their field, which has led to a significant amount of confusion surrounding the term. Even in some of the sources for this paper gamification and game design are used interchangeably.

Finally, a second term that will appear often, and already has, is “game elements.” Game elements, or mechanics, are techniques used by developers to make their games engaging and

keep players coming back for more. Game elements are things like point systems, rewards, detailed feedback loops, and narratives, to name a few. These are generally proven tactics that have been used in games for decades. Some major game elements will be explored in further detail later in this paper but being able to recognize some of them is very important. They are instrumental in the motivation that gamification seeks to create, and it they cannot be separated.

## Why is Understanding Gamification Important?

There are several reasons to learn about gamification as a topic. First and foremost, gamification has a lot of potential to motivate people. That is a great thing in certain instances, but a danger when put to the wrong use. Throughout this paper, there will be several examples of gamification being used in several different ways. Some are effectively harmless, such as *Chore Wars* or *Run! Zombies*, as they only serve to motivate a routine or trivial task. Others, though, such as *Sesame Credit*, the gamified obedience application made by the Chinese Government, have much larger implications.

Because of these implications, whether they are economic or serve a political agenda, it is important to recognize gamification when it is being used. These techniques form a tool kit and, like any set of tools, they cannot regulate how they are used. A screwdriver can be used to make a medical machine or a weapon, which is decided by the builder. Therefore, recognizing gamification is important because it lets you look past the tool and towards the end goal. It allows you to ask if you would perform these same tasks in a different environment. It allows you to ask if you are being motivated or manipulated.

In the “successes” section of this paper, that question of manipulation versus motivation will be raised. Many of the gamified applications that appear in this paper have potential negative impacts on the user when taken too far. The ethical use of gamification on the part of corporations and governments is a big discussion point today and will be for the foreseeable future. That will be explored to some extent, using a few successful implementations as examples.

Additionally, gamification will be important to know because it will almost certainly have a big role in the future of education.<sup>iv</sup> Game-Based Learning (GBL) and gamified education have been researched widely throughout the entire history of gamification and have shown promising results. The retention rate on information that is displayed in a fun, more interactive environment is generally much higher than traditional textbook reading.

Furthermore, GBL allows for a more personalized learning experience. Individual feedback allows the learner to know which areas they performed well in, and which others need work. It can allow for creativity in problem solving. Puzzle environments, for example, allow users to make mistakes and get the solution wrong. Taking multiple attempts to solve a logic puzzle not only makes the user more likely to remember it, but also helps them remember the logic they ultimately used to solve that puzzle. Also, GBL lets users measure their progress and determine whether they are happy with it. Overall, this type of learning is more flexible and individual-oriented, making it a great avenue for the future of learning.

As time passes, gamified learning will take over what is now done through PowerPoint presentations and online assignments. The more interactive assignments will replace the traditional right and wrong type of assignments used currently. It will motivate students to explore what they did wrong and how they can improve for the next attempt. The entertaining set up will motivate students to continue trying and progressing.

Finally, gamification has grown along with the proliferation of mobile phones and cellular technology. As of 2015, over 50% of all media is absorbed on a mobile device, and it is not unreasonable to think that number has grown since then. Because gamification works so well on mobile devices, it will probably continue to grow with them. At the least, it is an important topic because of its potential staying power on mobile platforms.

## History of Gamification

In this section of the paper, we will walk through the history of gamification as it grew into the concept we recognize now. In particular, many of the early gamified applications that helped pave the way for the successes of today will be emphasized and explored. While some of these examples have faded away, many of them still operate today and can be downloaded if you are interested in trying them.

The reason this history is important is because early successes often define the future of a movement, and gamification is no different. Two of the earliest instances included here involve an incentive scheme and a badge system, respectively. As two of those first steps and successes, they are heavily emphasized throughout the discussion of gamification and they are basically everywhere. In fact, it is nearly unheard for a gamification project to not include some iteration badges or incentivization, to the point of exhaustion.<sup>v</sup>

More importantly, we can see how even early stages of gamification take shape based on the motivation of the designer. For-profit groups often favor incentivization schemes and influencing users' purchasing decisions, for better or worse. Groups looking for some additional motivation often err to the side of badges and achievements due to their relative ease of use. Either way, the goal of the company behind the gamifying usually shines through in some way.

## Earliest Instances

As a formalized and widely implemented strategy, gamification is a relatively new concept, only gaining traction in the 21<sup>st</sup> Century. However, gamification has existed for a significantly longer time than many realize. As it turns out, you do not need a computer, cell phone, or much of anything to gamify a process.

In 1896, the Sperry and Hutchinson Co. was founded by Thomas Sperry and Shelley Hutchinson. The company began in Alabama but would have a national audience as soon as 1930. The company ran a catalog from which consumers could purchase a large variety of goods. The catch was that the purchases were not done using regular money, instead using S&H (Sperry and Hutchinson) Green Stamps. The stamps were acquired by shopping at retailers that were participants in the program. Spending a certain amount of money at these retailers would reward the customer with a stamp, more money spent leading to more stamps. Once enough stamps were collected, they could be arranged into booklets and mailed into Sperry and Hutchinson to redeem items from the catalog.<sup>vi</sup>

While the S&H Green Stamps system may seem outwardly complicated, it amounted to one of the earliest loyalty reward systems. Retailers and grocery stores could sign up for the program and purchase stamps, knowing that the stamps were a big draw into their stores. Customers were enticed to spend in these specific retailers because they got a beneficial reward in the form of the stamps. Meanwhile, S&H profited from stamp sales enough to cover the distribution and prize costs. The program soared for many years as it proved to be a profitable formula for Sperry and Hutchinson.

This is an early example of gamification through loyalty programs. Many games today, especially mobile games and applications, offer rewards for remaining loyal to the game<sup>vii</sup>. Logging in everyday will reward the user with essentially “free” prizes. For example, the new game *Monster Hunter World* gives players in-game currency and crafting material everyday they access the servers. These rewards are larger on consecutive days. This again, is a win-win situation, but only if the user intended to log on every day. The user gets a reward for very little effort, while the designer knows that very few users will ever log off without interacting with the service in some other meaningful way. It also makes the users feel like they are missing out on something that is otherwise free if they simply log into the application or game, which is where the possible manipulation begins. Regardless, it is a useful way to generate sustained user traffic.

Along with S&H Green Stamps, one of the earliest known and most widely recognized uses of gamification was actually implemented by the Boy Scouts of America. In 1908, the Boy Scouts adopted their badge system<sup>viii</sup>, which have become known symbols of the organization. For those not familiar with the system, the Boy Scouts have several subject areas in which they progress over time. Mastery of one of these schools of knowledge or activities will reward the scout with a badge, which are collected over the lifetime of the scout’s career. They are worn on the scout uniform and having more of the badges is seen as an accomplishment.

This is an excellent case of gamification through a badge system. Badge systems are often used to “reward” players for interacting with the system in some way, often signifying some type of accomplishment. Users do not have any real motivation to collect the badges other than for comparative purposes. They usually do not gain anything from the badge, just the sense of accomplishment and “bragging rights” to their friends.<sup>ix</sup> While the Boy Scouts’ badges are

more meaningful in their collection, they still act as a motivational tool for scouts to collect as many as they can.

Several decades passed following the Boy Scouts' badge system before the concept of adding game elements to work was raised. In 1973, Charles Coonradt wrote a book titled *The Game of Work*.<sup>x</sup> He got the idea for the book when he noticed that productivity in the United States' workforce was slipping, yet sales of sporting equipment was surging. How was it that people paid to work together towards a common goal struggled to achieve real teamwork, while ten people with a ball on a basketball court could work together with little friction?

After examining this phenomenon, Coonradt realized a difference in feedback in the two environments. In sports and other game settings, there is constant obvious feedback through the score of the game. The goal is clear, and the effort needed to achieve the goal is apparent to all players. Meanwhile, in the workplace feedback is often inconsistent and vague. Yearly performance reviews may be the only form of feedback for some, and progress toward a goal may not be quantified at all.

Ultimately, Coonradt recommended taking the feedback loop found in sports and applying it to the work environment, which was one of the first written justifications of gamification.<sup>xi</sup> The feedback loop of sports and recreational games is a key game element that keeps people motivated. The display of a score in games allows players to know whether their current performance is satisfactory or needs to be improved. It also leads to an understanding of how one is progressing, because most people recognize a higher score as a positive outcome. While this exact feedback loop is not universally applicable, *The Game of Work* was one of the earliest articulated reasons to include game-elements in a practical setting.

Later on, in 1978, a game was created that would have a huge impact on what gamification has become today. That year Roy Trubshaw and Richard Bartle created MUD1 (first Multi-User Dungeon game). The game was text-based, and its interfaces were tough to operate, but it was the first game to spark online socialization and cooperation. It began to pave the way for online gaming as we know it today. This was a necessary step toward gamification as well, recognizing the cooperative nature of individuals in an online game setting.

Finally, in the early 1980's, the possible benefits of gaming and gamification begin to be recognized from an academic standpoint. Thomas W. Malone released several academic papers in the 80's recognizing the potential of video games. He found that the properties that make video games intrinsically motivating were not limited to just game design.<sup>xiii</sup> He outlined how these elements could be taken and applied to other areas, particularly in education. His work represents the first academic work on gamification.

## Gamification Takes Off

Despite not actually having a formal name at this point, gamification really began to hit its stride in the 1980's. Reward and loyalty programs were the first step for many companies, similar in concept to what was discussed about S&H Green Stamps. Traditional video games, through the heavy lifting of Nintendo, began to become ubiquitous in American households, and peoples gaming habits became a big topic of discussion.

In 1981, American Airlines launched AAdvantage to this end, the first frequent flyer program. Today, you may recognize this type of program as collecting airline miles, because just about every major airline has a similar program today. Not long after, Holiday Inn (1983) and National Rental Car (1987) would launch the first reward programs in their respective industries.<sup>xiii</sup> In each case, the companies benefited from the reward program by enticing customers to stay with them and away from competitors. The importance here is the proliferation of these reward programs, as the successes reported here by the companies led to other reward programs in the future. The consumer benefit to reward programs, and their influencing of spending patterns, is still up for debate.

By 1990, Nintendo had managed to put a home console in thirty percent of American households.<sup>xiv</sup> The NES's (Nintendo Entertainment System) popularity saw the gaming trend spread to millions of people. This phase of gamification's growth is like that of MUD1; it is not directly related to gamification but was a necessary preliminary step. Nintendo served to create the first generation of "gamers" or at least the first generation of kids who grew up playing video games. These gamers make up a significant segment of the group now known as millennials. The proliferation of video games had a major impact in conditioning people to accept and

appreciate these games and their various components. Part of the success of gamification has to do with our acceptance of these things.

As games became more and more popular, research and studies into the topic began to increase as well. In 1996, Richard Bartle, one of the developers behind MUD1, published a paper entitled *Who Plays MUAs* (Multi-User Adventures). The paper investigated why different people play games with a large social aspect and what they hope to get out of the experience. Bartle divided players of these types of games into four categories; Socializer, Explorer, Achiever, and Killer.<sup>xv</sup> The categories are not mutually exclusive, and in fact can have significant overlap, however they give a baseline for understanding what a user expects from a game experience. Bartle's categories and way of understanding his audience is the basis for much of modern gamification. These categories, what they mean, and how they can be utilized will be explored further in a later section.

In 2002, the Woodrow Wilson International Center of Scholars began the "Serious Games Initiative."<sup>xvi</sup> The idea was to create games that would help to educate people on matters politics, environmentalism, health, and other important subjects. This was not true gamification, as it developed games for these purposes, but nearly straddled the line between game design and gamification. Still the initiative further pushed the idea of finding productive uses for games outside entertainment.

The same year, the United States Army released the creatively named *America's Army*.<sup>xvii</sup> It fell into a very similar vein as the Serious Games Initiative, a game that was designed with a specific purpose in mind. That said, embrace by the armed forces marked another serious step toward real recognition for games in general.

## The Birth of Gamification

2002 may have been one of the most consequential years for gamification, if only because the term itself was invented at that time. Nick Pelling, a game designer who had been tasked with developing a game-like interface for ATM and vending machines, created the term gamification.<sup>xviii</sup> It was described as “deliberately ugly,” though the term quickly picked up traction.

In 2005 Bunchball was founded. Still in operation today, the company is a devoted gamification developer.<sup>xix</sup> Bunchball’s entire premise was to boost user engagement on website by adding various game elements. Its first major product, *Dunder Mifflin Infinity*, was a partner project with the television show *The Office*. It was a gamified social network, in which users would sign up as employees and be placed in a branch of Dunder Mifflin’s online company. The employees would complete tasks and challenges in coordination with the show’s episodes, which would earn them SchroteBucks, the in-game currency named after a character in the show. The SchroteBucks could be redeemed to aesthetically alter one’s in-game cubicle, which other players could visit and explore. Additionally, the branches were in competition, and the best branch at the end of the programs run would be rewarded with real world prizes for all its members.

*Dunder Mifflin Infinity* was one of the first truly gamified online platforms and was definitely the first example of gamification in the online television space.<sup>xx</sup> It essentially gamified television watching and keeping up with the narrative of *The Office*. It incorporated many important game elements that have become instrumental in gamification today. For example, it had a clear narrative, a feedback loop through its currency, an aesthetically

customizable space, and a reward system both in and out of the game.<sup>xxi</sup> Possibly more important, it exemplified how social interaction in a gamified setting could drive results and teamwork. The site had over eight million visits in six weeks' time.

The same year as *Dunder Mifflin Infinity* also saw the launch of *Chore Wars*. *Chore Wars* was a gamified platform with a simple motivation; convince people to do their chores.<sup>xxii</sup> It was themed as a fantasy game, something like *World of Warcraft* or *Dungeon and Dragons*. However, instead of slaying monsters or completing dungeons for experience and gold, players had to complete chores. Each chore completed was assigned a set amount of experience points and gold coins, which let players level up and potentially buy rewards from their administrator. After redeeming a chore, the player may end up in a battle with a monster, and their success was dependent on their experience. This created a constant loop of doing chores to progress the game and grow stronger, which was particularly motivating for children and their parents. *Chore Wars* was an early step towards modern gamification, showing how motivated people could be by simple game elements like leveling up and a narrative. And, if gamification could make chores fun, what else could it convince us to do?

Following these successes, gamification began appearing in many different areas. 2009 saw the beginning of *Quest to Learn* in which a class of sixth graders were placed into a gamified learning environment, to see if it increased the children's retention of information.<sup>xxiii</sup> More groundbreaking though, was the introduction of *Foursquare*.

*Foursquare* was basically a gamified map. It gave users the ability to check into a location, which would become visible to their friends so that they could meet. However, the gamified portion of the platform offered badges and a leaderboard to users based on amount of check ins. Players could become the "mayor" of a location by checking in the most times at that

location over a given period. Players could collect badges for exploring new areas or being the mayor of multiple places. The badge system again proved to be a powerful tool to drive engagement.

*Foursquare's* impact on gamification actually lies more in its corporate application. Its immediate popularity surged for three years before ultimately tapering. The company was predicted several times to go under but survived because of an important monetization strategy.<sup>xxiv</sup> Whereas most gamification platforms gave something to the user, *Foursquare* was unique because the users were sending a lot of valuable information to *Foursquare*. The application generated one of the world's most accurate maps, based entirely on user data. Because users only signed in at locations, and the application recorded all of those sign ins, *Foursquare* had access to a map that was essentially fact-checked by its users and was frequently updated. It has made its money using this data by selling map data to other companies, such as Uber and Snapchat. Additionally, its data on foot traffic at certain locations proved valuable to marketers looking to strategically place their advertisements. Through these avenues, *Foursquare* has remained profitable despite a lower user population than some other services. However, this type of monetization does present a big pitfall for gamifying companies. How much can user data be used for? Who can it be sold to? Can users be convinced to give up data willingly if it looks like a game? Gamifying companies that are collecting data like this can fall into an ethical gray area, possibly causing more harm than good in the long run.

At the turn of the decade, gamification was truly thrust into a large spotlight. In 2010, Jane McGonigal gave her TED talk "Gaming Can Make a Better World." Without using the specific term, the talk was a ringing endorsement of gamification. The theory behind the TED talk was changing the end goal of games. She described how motivated and cohesive game

players could be in an entertaining but trivial goal. Games like World of Warcraft see fifty-person units form all the time to tackle a fictional dungeon crawl. She argued that, if gamers could be convinced, or otherwise motivated, to spend that energy on positive real-world change, that gamers could change the world. In other words, she was advocating for the gamification of social change. This theory had a hand in cementing gamification as a powerful new tool that could go beyond doing chores and keeping up with a TV show.

The following year, the first GSummit (Gamification Summit) was held in San Francisco. At the summit, Jane McGonigal's book *Reality is Broken* is released.<sup>xxv</sup> The book covers the same theory as her TED talk, going into further detail on the potential for using gamification for social change.

McGonigal falls into a group of games scholars who are generally excited about the potential of gamification. There are also plenty who do not feel it is really useful at all. For example, in 2011 Ian Bogost stated that "gamification is bullshit" at a convention at the Wharton School of University of Pennsylvania.<sup>xxvi</sup> He argues that gamification, like many consulting practices, is only popular as a type of buzz word that excites business executives that do not understand it. His argument focuses on the presentation of gamification through the movement, often cited as a cure-all for motivational needs. He makes valid claims about the uselessness of gamification for many companies, as well as the movements tendency to take credit for serious games that involve no gamification. That said, Bogost does not entirely discredit the idea that gamification can work in the right setting, he even admits to some successes. He more argues that its discussion as a cure for disengagement is short-cited and ignorant. Even if gamification is "bullshit," however, the trend continues to make waves.

2010 also saw the release of achievements on the Apple Game Center and the Fitbit.<sup>xxvii</sup> The Fitbit was, and has remained, one of the most successful uses of gamification. People's physical activity is tracked and counted as steps, which essentially act as points. Users are tasked with recording a certain number of steps each day to meet their fitness goals. Users also have the competitive aspect of comparing how many steps they have each taken that day.

In 2012, Gartner predicted that 70% of Global 2000 firms will have some form of gamified application in their organization by 2014. After officially adding gamification to their Hype Cycle in 2010, the research firm had firmly latched onto gamification.<sup>xxviii</sup> Their prediction seemed to be coming true as Amazon released GameCircle, its own tracking of leaderboards and achievements. Mozilla Open Badges was launched as well, to standardize the recognition of learning achievement.

## The “Death” of Gamification

The gamification movement continued to surge in popularity throughout the early parts of the decade. It was being adopted in different businesses and industries across the planet and could be seen everywhere. Then, rapidly, the tone of the movement shifted.<sup>xxix</sup>

In early 2014, the gamification movement was being declared as either dead or a failure. Information from the various business initiatives involving gamification were being circulated in the media and the articles were not reflecting the movement well. One notable failure involves the Hotel Chain Marriott.

Marriott released their gamified recruitment platform, *My Marriott Hotel*, in 2011. The game was meant as both a way of training their new employees and attracting future employees. The application drew comparisons to the Facebook game *Farmville*, in that the player takes the role of someone in the respective professions. *My Marriott Hotel* had players taking on the role of a hospitality manager and learning how to satisfy guests. It included a link labeled “Do It For Real” which would send the user to Marriott’s career portal.<sup>xxx</sup>

There were several flaws with Marriott’s attempt to gamify their training and recruitment.<sup>xxxi</sup> The biggest issue was that the application was focused on the company’s needs and overlooked the importance of player engagement. Marriott thought that they could use the game to identify top talent without having to go through a detailed and expensive recruiting process. The games scoring system would isolate their future recruits. However, the game aspects of it were not very interesting to most users, causing people to rapidly lose interest in playing. The game was not detailed enough to fully engage the talent Marriott was seeking, which led to its failure. *My Marriott Hotel* failed as a training application as well. The original

game only included a kitchen management segment. As one would expect, hospitality management includes more than just running a kitchen. Because of this limited scope, *My Marriott Hotel* failed to deliver real return on investment in training employees, who had to go through traditional training for the shortcomings of the application.

This is just one of many potential examples of gamification attempts that failed around that time. The cause of many of these failures was the same; trying to gamify a process without fully understanding how. When implementing gamification, it is important to understand the desired outcome and the audience of the application. Marriott missed their mark in both categories. They failed to frame the game with the desired outcome in mind, shown through the narrow scope and lack of depth in the game. It did not accurately reflect the training they needed to impart. They failed to engage their target audience by making the game shallow and boring.

The media reacted swiftly to the failures of gamification, and the trend was declared dead nearly overnight. In reality, the ideas were brought back to reality and the limitations of these tools were shown. In other words, adding a leaderboard and a point system to a problem does not fix the problem; it is not a miracle cure. This process needs to be done intelligently and with significant preparation. When rushed and not designed well, any application is destined to fail. No amount of points scored can change that.

Following the reported death of gamification, Gallup published research claiming that only 31% of American workers were truly engaged in their work. Of the disengaged majority, millennials were the largest group. Only about 29% of millennials were interested in their work.<sup>xxxii</sup> As discussed before, millennials have a large segment of gamers, and an even larger segment that have been conditioned by previous gamified applications and mobile games.

Following the research on this trend, many Human Resource departments set out to utilize gamification again.

In the years following, gamification has stabilized. It is not dead but has faded from the public eye. No longer touted as a magical remedy for user engagement, gamification has operated behind the scenes to varying degrees of success. Incentivization schemes are still everywhere and you cannot use your phone without badges being brandished like candy. It wavers between being interesting and annoying, but continues to grow and evolve today.

## Understanding the Audience of Gamification

### Bartle's Categories

As discussed before, it is very important to understand the audience of a gamified platform. People will not remain engaged in something that does not meet their expectations or is otherwise not fun. It is also important to understand yourself and your own gaming habits. By recognizing what types of games and game elements appeal to you specifically, you can better recognize how gamification is affecting you. Are you over-competitive and have to get the top spot of the leaderboard? Maybe you are a social butterfly who loves interacting with a game's community. These are all traits gamification seeks to key in on. Luckily there is a relatively simple system to start making those identifications.

Richard Bartle released his research on Multi-user Adventure players in 1996. Bartle categorized his players into four groups, which roughly show how they interact with the game and other players and what they hope to get out of the game experience. The categories include Socializer, Killer, Achiever, and Explorer, divided among a four-quadrant grid. The two axes are acting vs interacting and players vs world. Bartle's player grid and an example outcome of taking the Bartle Test are included in the pictures here.<sup>xxxiii</sup>



In the sections below, the four quadrants of Bartle's grid will be explored. Each section will be explained in terms of their habits and what they might hope to get out of a game or gamified experience.<sup>xxxiv</sup> Next, some examples of the types of games these people might play and why will be discussed. Finally, some methods and game elements to include when gamifying for that group will be described.

## Socializer

The largest group of game players fall into the Socializer quadrant, which are estimated to make up about 80% of the population. According to the grid, this means that they prefer to interact rather than act and do so with other players rather than the environment. To state it simply, as the name suggests, they prefer to socialize and interact with other players. Socializers spend time chatting and working with others, usually with the goal of forming a stronger relationship and getting to know the other person. They understand that working together allows them to accomplish or create something better than doing it alone. Also, they tend to be good at roleplaying, willing to immerse themselves in a character if it increases the value of their social interaction. Socializers are not often competitive on an individual level; however, they will act competitively for a group. The sense of belonging to a team can drive their actions in this regard.

Socializers thrive in games that reward social interaction, such as most Facebook games. *Farmville*, for example, allows players to travel to others' farms and water their plants. The other person is helped by having the plants freshly watered, while the player is rewarded with new plants. Additionally, these actions are often reciprocated, which helps create the social interaction that these players crave. Socializers also find a home in Massively Multiplayer Online Role-Playing Games (MMORPG), where the large user population affords them plenty of social opportunity. These games often have dungeons and quests that are specifically designed for group encounters, with the best rewards usually requiring great teamwork and coordination. Many MMORPGs, such as *World of Warcraft*, also have built in guild systems, a type of social group that exists specifically for completing segments of the game together and each other's benefit. These cycles of player interaction and reward are very important for a Socializer.

Gamifying something for a Socializer is about finding ways to add more social opportunities.<sup>xxxv</sup> For example, creating a game out of a forum, where people are rewarded for information sharing and discussion, is a good way to engage a socializer. Socializers also enjoy decorating avatars, so a game with an avatar or a personalization tool is a good option. Generally speaking, Socializers will react positively to most gamification attempts if it has some type of mingling component. On the other hand, Socializers do not always react well to leaderboards and competitive outlets. Because of their cooperative nature, being on the top of the board is not a major concern. For similar reasons, badges and achievements are not very effective with them either.

## Explorer

The next quadrant on the grid is Explorer. Explorers favor interacting over acting and the game world over players. Simply put, they like to interact with the environment of the game itself, not the other players populating that environment. They make up 10% of gamers. As the name suggests, Explorers like to discover new things about the game they are playing. They tend to favor large detailed games to explore and experiment on, seeing what secrets they can uncover. These are the types of players that will work to fill out the entire map in open-world games or will scour their environment for Easter Eggs. Explorers also like to have a deeper understanding of the game and mechanics. For some Explorers, knowledge of the game itself and discovery go together.

Explorers can be at home in many types of game environments, only being limited by the amount there is to discover in the game. However, they are most at home in role-playing and Simulation Games. Explorers enjoy role-playing games because these usually have large interactive worlds and multiple outcomes for any given scenario. A game with multiple paths and outcomes, or one that has an open-world, presents many more avenues for exploration and discovery. Games like *Elder Scrolls V: Skyrim* can keep an Explorer entertained for weeks. They also enjoy Simulation games because of the possibilities to be found. Creating and simulating gives the Explorer a sandbox environment to try as much as they want and experiment to their heart's desire. Seeing how different object in the game interact with each other and what the result is satisfies these players' thirst for knowledge. In this case, games like *Minecraft* or *SimCity* are ideal for Explorers.

To gamify for an Explorer involves adding many details and intricacies to an application. The game elements must have enough depth for these players to not lose interest too quickly. One thing to consider is adding Easter Eggs into the application, or tiny extra details that can only be found by searching with great care. Easter Eggs have become a staple of modern game design for this reason and are often just a simple nod to a classic game or jab at a competitor. Hidden collectible objects in an application can also give them something to seek. Puzzle and logic activities keep them entertained as well. As for game elements to avoid, Explorers are often disengaged by the same things as Socializers. They fail to see the point in leaderboards and care more about their own knowledge of the application than any specific achievements. Additionally, too much required socializing may be a drawback for them, if it takes away from the time that could be spent discovering and experimenting.

## Achiever

The next quadrant is the Achiever, which favors acting over interacting and the game world over other players. Achievers like to act on the world they are inhabiting and are thought to make up roughly 10% of the game playing population. They love systems with points and levels, badges and achievements, and really anything that can be considered a status symbol. Achievers tend to be very competitive with others, especially each other, and use their various status symbols to distinguish themselves from their peers. These players will often boast of a method they found to increase their level quickly or gain ranks more efficiently. Somewhat a side-effect of constantly increasing their standing, Achievers are often more apt to “grind” in a game or do something considered tedious for their eventual gain. However, even these players will not toil away for a disproportionately low reward.

Achievers are generally not picky about their genre of game, so long as they can still accomplish something worth bragging to their friends about. Any type of game with scores that can be objectively compared will attract Achievers. Whether that be a win to loss ratio in a competitive game or having the highest score in a level, if it can be used to show rank then it will work for them. That said, games with ranked competitive modes are often a good home for Achievers. For example, popular Multiplayer Online Battle Arena (MOBA) games, such as *League of Legends* and *Smite*, place their players into ranks and tiers based on their performance in qualifying matches. Tiers make it easy for these players to determine where they currently sit and to what heights they can climb. Other games with trainable skills gain large populations of Achievers, where mastery of a skill is the ultimate reward for potentially dull training. This behavior is most evident in the MMORPG *Runescape*, where level grinding was the norm.

Creating a gamified application with Achievers in mind can mean many things. The obvious answers are leaderboards and badges. These simple grading mechanisms are a quick way to engage achievers. However, there are other ways to capture this group without ostracizing the Explorers and Socializers, who do not often like leaderboards. For example, implementing a leveling system gives Achievers a status symbol to chase that may not put off other players.<sup>xxxvi</sup> Experience toward the leveling system could even be gained through social interaction or exploration, helping to include the other groups as well. Incentivization schemes, like Airline Miles, can motivate them if the individual tasks are well defined, because these players are not afraid of repetitive tasks.<sup>xxxvii</sup> Achievers can be convinced to search for collectibles like an Explorer if there is a decent level of difficulty to doing it. One key thing to avoid with an Achiever is a vague outcome or reward for completing a task. Achievers are comfortable with tedious or menial tasks if they know what they are getting out of it. Failing to define a reward system, whether it be an actual reward or just a title or badge, will cause these users to lose interest faster than anything else.

## Killer

The last quadrant on Bartle's diagram is the Killer, a player who seeks to act on other players in the game. Killers are estimated to be the least common of the four quadrants, with less than 1% of players falling into this category. It should also be stated that Killers are not as violent and ominous as the name suggests. They are very similar in their game playing habits to Achievers in that they are very competitive and want to climb the leaderboards of whatever game they are playing. The key difference is that, along with winning, Killers want to see others lose. They strive to be the very best and impose themselves on others, never to be ignored. Interestingly enough, their hyper competitiveness often leads to them exploiting glitches or flaws in the game, especially when it can help them get a leg up on the competition. Lastly, Killers must be careful to not take their competitiveness too far, as they sometimes frustrate the other players around them.

As one might expect, Killers are most often found in games where you kill for points. Games like *Call of Duty* and *Halo* are great locales for them to compete and win against other players. However, strategy games like *Age of Empires* are very much within a Killer's domain, preferring to rush attack their opponents and dominate them militarily. Developing a strategy that will crush the majority of other players is very satisfying to these players. Overall, they lean towards directly competitive games that have some level of skill involved so that they can prove their superiority over everyone else.

Gamifying something with a Killer in mind is very difficult. The issue is not that they are necessarily hard to develop something for, but that their preferences and habits can easily ostracize the other players. Socializers and Explorers are generally not interested in the Killers

hyper competitive ways, while Achievers will become frustrated as the Killers seek to make them lose. Therefore, even a leaderboard or point system implementation can be dangerous with a Killer making the experience uncomfortable for others.

Having covered the four Bartle categories, it is important to understand that the categories are not mutually exclusive. Players fall predominantly into one of the four categories but can heavily display characteristics of another, or all four. In fact, when taking the Bartle Test, players are given percentages based on how closely they align with a given category. These are presented in descending order. For example, I am labelled as ASEK, or Achiever, Socializer, Explorer, then Killer. The percentages are 73%, 67%, 53%, and 7% respectively. This means that I display the highest amount of Achiever characteristics, but also will act as a Socializer or Explorer for significant portions of time. I very rarely act as a Killer.<sup>xxxviii</sup> Below is a sample Bartle test score, though not the exact one discussed here.

#### **The Bartle Test of Gamer Psychology**

##### **You are 73% Achiever**

What Bartle says:

♦ Achievers regard points-gathering and rising in levels as their main goal, and all is ultimately subserviant to this. Exploration is necessary only to find new sources of treasure, or improved ways of wringing points from it. Socialising is a relaxing method of discovering what other players know about the business of accumulating points, that their knowledge can be applied to the task of gaining riches. Killing is only necessary to eliminate rivals or people who get in the way, or to gain vast amounts of points (if points are awarded for killing other players).

You are also:

**67% Socialiser**

**60% Explorer**

**0% Killer**

This result may be abbreviated as ASEK

Because the categories are not exclusive, a sound strategy can sometimes be to gamify to the secondary trait of some audience members. For example, if you have a group of eight potential users, you might have 5 Socializers, 2 Achievers, and an Explorer. Upon further examination, it may be that the Achievers and Explorer have Socializer as their second highest characterization. This would allow the application to be gamified based predominantly on

Socializer tendencies, with maybe some smaller concessions to the other groups worked into it.

This is a good way to get around the issues presented by Killers as well.

## Game Elements

While understanding the audience of the gamified application is important, it is equally important to understand how to design the gamification and what it seeks to accomplish. Similar to understanding your own preferences, it is important to know what game elements resonate with your style and approach. Again, this allows you to better recognize when the game pieces may be getting in the way of the underlying motive of this application.

Also, in most instances, simply adding layers of different game elements does not add much value to the user experience. A poor user experience will further translate to bad results and usually a failure of the project itself. If one wants to improve something via gamification, it is important to establish what the issues with the base product are and if they can be improved prior to just trying gamification.

With this in mind, one of the keys to improving the gamified user experience is to utilize the right game features at the right time. There are cases where certain mechanics are extremely effective, and other times when the element can have the opposite outcome.<sup>xxxix</sup> In order to implement the proper elements, it is vital to actually appreciate what they do.

In this section, a handful of game elements will be described and explored.<sup>xl</sup> Examples of these mechanics at work will be provided when appropriate, along with a discussion of when and where they would be most useful.

## Epic Meaning

Epic Meaning may be the most important of the elements discussed, to the point that calling it a “game” element is a bit restrictive. Epic Meaning is not isolated to just games and gamification but is something that is present all over society. It is often described as the greater purpose behind people’s actions or how something contributes to the greater good.<sup>xli</sup> In terms of gamification, Epic Meaning can be thought of as an “overall outcome.” What would a user of this application get out of the experience? Why would someone want to do this gamified task in the first place? Could something greater be achieved if thousands of people used this?

It is always important to grasp the Epic Meaning when gamifying.<sup>xlii</sup> If one does not understand the goal of the project, then how can it be prioritized in development? Fully understanding this gives the rest of the gamification process direction and guidance. Also, it is important to communicate this to the users of a gamified platform. Without knowing why they are doing something, people are less likely to follow through with it. Even a perfectly developed and otherwise fun application may fail if people can not see the purpose behind it.

A simple example of Epic Meaning that we are exposed to often is the database of *Wikipedia*. Articles and entries on the site are contributed by the public, people writing them in their free time. Contributors do not get paid or recognized. Why would someone use a limited resource such as time to write something that they will receive nothing for? The answer behind that is *Wikipedia’s* Epic Meaning; creating an accessible database of knowledge that is easily updated. The sharing knowledge and creation of such a large database of it goes beyond one person’s article.

The Epic Meaning does not always have to be a grand or complicated outcome. The purpose of many gamified platform is to educate the users on a topic. Others are simply to motivate. For example, the previously discussed *Chore Wars* exists to encourage people to do their chores. It is not necessarily “epic” in scope but making people more productive can have epic consequences. The meanings behind motivation and education would rarely be questioned. In other cases, Epic Meaning may be more ambiguous. Imagine a social application for the entire employee network of a company like *McDonald's* (or a similarly large company). What might that be trying to accomplish? Are they trying to build a sense of community, share tips and tricks between employees, or even establish a new workplace culture? When the desired effect is bigger than the individual using the platform, it is imperative to communicate what that goal is.

As a final word on the topic, when gamifying, the Epic Meaning should not be to entertain. If the true purpose behind a project entertainment, then what you are creating is a game. Fun is meant to be a component of gamification, a good way to distract from something that people may otherwise lack motivation to do. Fun is not meant to be the end goal of gamification, but a useful tool to achieve a greater outcome. You can add other elements to make a task more fun than it originally was, but real gamification keeps the original task at the heart of the project.

## Narrative

When reading a book, you could save yourself a lot of time by simply jumping to the last page or chapter and only reading that. The reason we avoid doing so is that missing all those chapters leading up to the end ruins the whole experience. All the previous chapters come together with the conclusion to create a true narrative. It is the story included in an experience, including plot, setting, and characters.

A narrative is powerful tool because, like a good book, readers become engrossed in the narrative and want to learn what happens to the characters or the world.<sup>xliii</sup> Video games capitalize further on the effect of a narrative by preventing players from skipping the difficult or emotional parts, solidifying their ties to the story. A narrative that progresses over time using the application can give people a reason to return. Cliffhangers in the plot can keep people excited for the next chance to progress and character development can help the users grow attached to the story, and subsequently the application. A strong narrative can even make people forget the task they were performing.

Implementing a narrative is a great idea with tasks that are fairly repetitive or mundane. An interesting gamified example of this is the mobile application *Zombies, Run!* It entertains runners by telling them a story of post-apocalyptic world overrun with zombies. Despite the cliché, it enhances the running experience by telling a story with the player character who literally runs from zombies in order to gather supplies in the wastes. The player does running loops to gather supplies before returning to a safe area. The player feels involved in the narrative as his or her run in game mirrors, and distracts from, the run in real-life. Occasionally the

application even spices up the run by telling the player they are being closely chased, urging them to run faster for a brief period.

The power of the narrative here is two-fold. Its storytelling is paced in such a way that it can actually make a person want to run longer than if they had just decided to run a set distance.<sup>xliv</sup> Finishing the story segment, and escaping from the horde, is powerful motivation to keep going for an extra few minutes. Additionally, interest in the story of your runner and the world they inhabit can make people want to run again. *Chore Wars* achieves a similar effect by laying a fantasy tale over the completion of chores. Of course, for this to work, the narrative must be strong enough bring people back.

On the other hand, including a narrative in certain circumstances could be a negative thing. It may hinder people's ability to jump into a group activity if key plot points have already been delivered. Group activities, where the narrative cannot be restarted, can create the effect of walking into a movie halfway through. Additionally, the narrative may come off as childish or inappropriate if applied to a task that should be taken seriously. For example, *Pokémon Go* used landmarks to tether its in-game locations. While a sound idea, having five people yelling about Pikachu next to a church hosting a funeral can lead to some uncomfortable situations.

## Progress and Feedback

The Zeigarnik Effect is the proper name for a common phenomenon; the need for closure.<sup>xlv</sup> It is the psychological need to finish something that has been started. The original study involved participants being asked to complete a series of puzzles and tasks, some of which were interrupted. After the completion of the tasks, the participants were interviewed. The study showed that participants were 90% more effective at remembering the details of the tasks that were interrupted. A later study also confirmed that, if given the opportunity, participants would willingly return to the interrupted task to finish it.

Basically, this effect means two things. First, people remember and think about things that they were not able to finish. Second, people will try to complete a task that was interrupted or uncompleted. Understanding these tendencies allows designers to capitalize on them and bring people back to their applications. This leads to one of the most important game elements: progression.

Most games have some form of progression tracking. When you launch the game, it may say it is “58% complete” or have a progress bar showing up half full. Others are organized into levels or chapters, where the number remaining is communicated to the player. Regardless of how it is communicated, relaying this information to the users is a great way to engage the Zeigarnik Effect and keep them invested. Most people would not want to leave an interesting or fun game incomplete, especially when the game is telling them how close they are to the finish.<sup>xlvi</sup>

Progression tracking is actually just a portion of the game element known as feedback, which is one of the most important elements in any game or gamified project. Most games

contain what is referred to as a feedback loop. The loop is usually simple. The player performs some task, such as playing through a level, and the game gives them feedback on their performance. The feedback can be delivered in a letter grade, a point system, stars, or any other method that is easy for the player to grasp. It also may be communicated in terms as simple as passing or failing. For example, if you do not complete the level, the feedback is that you need to do better next time to progress. If the player does well, they are expected to replicate that success and may gain access to new areas, abilities, or items. If the player does poorly, they are expected to improve, and they may be deprived of story progression or some other reward. From here, the loop resets as the player moves onto the next level or step, potentially equipped with new powers. The next loop is often expected to be more difficult, though this is not universal. Games generally go through constant feedback loops in order to help the player improve and work through the game.

A great example of a feedback loop is in the sport of volleyball. One player serves, then the players start to volley back and forth following the rules of the game. When one team outperforms the other, or one makes a mistake, a point is awarded to the better performing team. The point acts as feedback. The team that won the point knows that they played well and should continue what they had been doing. The other team knows that they made a mistake somewhere and aims to improve for the next volley. We then restart the loop, as the teams perform the serve and volley actions repeatedly, learning what works and what does not. When the loop has been completed enough times, the game is decided, and one team is rewarded with a victory. While the feedback loop in video games is often more complicated because of leveling up and item rewards, this example illustrates the general idea of a feedback loop.

One of the benefits of a game's feedback is that it is immediate. The players know right away whether they did well or not. Providing immediate criticism, good or bad, allows users to know how to improve. This is a powerful element to add through gamification and was one of the key reasons gamification was originally brought to the workplace. Because employees often only get critiqued directly in annual, semi-annual, or monthly reviews, it is hard to know whether one is performing well on a day-to-day basis. Gamification can help lessen this issue by installing a feedback loop.

Educational platforms also benefit greatly from quick feedback and progression tracking. Students can understand how close they are to completing a lesson or module if it is relayed through a simple progress bar. They can understand better the pacing of the lessons, and how long it may take to complete. Additionally, feedback may be implemented through quizzes at the end of the module, where the student may be told to retry if they perform poorly. The quick feedback gives students a better grasp of where they currently stand, what sections they are strong in, and others they might have to study more before a real exam.

Most gamified applications include a feedback loop in some fashion, such as *Foursquare* increasing the user's score for reporting a location properly. There are few instances where feedback would have a negative effect, though there are bad methods of communicating that feedback. For example, if a task requires the user to be thorough and not rush, then a progress meter may be a poor choice. If the Zeigarnik Effect kicks in and they attempt to rush to the end, it may cause mistakes to be made. In this case, the criticism should be delivered more as a measurement of correctness or lack of errors. Feedback and progress should be shown in a way that achieves the desired results and improvements in the users.

## Achievements, Badges, and Leaderboards

These three game elements are being grouped together due to their similarity.

Achievements and badges, in particular, are remarkably similar and the distinction may depend on the platform. The difference is that badges are often given for interacting with the system, such as logging in everyday for a week, whereas achievements are given for accomplishing something in the system, such as finishing a task in a set amount of time. In both cases, they are given to a player for doing something, often with unique stipulations.<sup>xlvi</sup> Meanwhile, leaderboards show a user's ranking in comparison to the other users. The top of the leaderboard is the best player or has the highest score, and the leaderboard may be broken into several different categories.

The reason they are all so similar is that they can all be used to measure progress in a comparative way. In other words, they are all ways for users to determine whether they are performing better or worse than each other. The player who has the most achievements or badges can look and determine that he or she is doing better than others. The person at the top of the leaderboard confidently knows that they are the top user at that time. Generally, these game elements inspire competition between users.<sup>xlvi</sup>

Examples of these mechanics are pervasive. Just about every application that wants to start implementing gamification goes straight for these elements, because they are very easy to add both before and after launch. Developers can include them with very little concessions made to the players and little alterations to the core performance. Basically, they just measure if someone did something or if they did it well enough. The badge or leaderboard place is changed, and people can compare themselves, though nothing really changes in the grander scheme of the

interface. For example, *Snapchat* retroactively added badges to their application. It tracks some specific metrics, like amounts of snaps sent or screenshots taken, and now denotes how long people have continuously messaged each other. People can compare how long their “snap streaks” are, but the core experience did not have to be altered at all.

These kinds of game elements are a quick way to increase user engagement through competition. With applications like *Snapchat*, where the competition is ultimately harmless, achievements and badges can quickly give people something to compete over which will drive their use of the service. Leaderboards are more preferred when competition can be part of the goal, such as in *Chore Wars*.

These competitive choices, however, can often cause more harm than good. Anytime a gamified application is used in what should be a cooperative setting, these items are damaging. For example, think of a leaderboard where a particular user is in the middle of the pack. That person may be jealous of the people above him or her and often uninterested with those further down the board. If placed into a group, they may want to sabotage those above them, while they may be angry about being held back by group members below them. While these may be extreme circumstances, as one would hope people can be less petty, it still is a potential disaster.

## Success Stories

Throughout the years, Gamification has had many ups and downs, successes and failures. As with any new development or trend, many try to jump in without fully grasping the theory behind it, which can lead to failure. Others wait and watch, and only enter the market when they have an effective product. In this section, a handful of successful gamified applications and their game elements will be examined. Most importantly, they will be discussed with a specific focus on what makes them successful.

When reading through this section, please keep in mind everything that has been discussed thus far. While many of these applications are designed to benefit the user, some have potential ethical pitfalls or are just manipulation outright. The ethical implications of these successes will be discussed in greater detail in the next section, but keep in mind what is going on in each case.

One gamified application that has been incredibly successful is *Waze*.<sup>xlix</sup> The service is basically an enhanced GPS, similar to *Apple Maps* or *Google Maps*. The key difference is how *Waze* users (Wazers) interact with each other and the map to form a community. When driving, they can request directions to their destinations. Like any GPS, *Waze* plots a path and displays it for the user. From here though, the experience changes. The application keeps tabs on the movement of the car. If it is moving slowly or not at all, the user will be asked what is causing the issue. Wazers can report traffic jams and accidents as they drive, which allow the map to constantly update. That data is used to inform others of potential hold ups on their commute and will look for ways to avoid the issue. Basically, by taking advantage of their Wazers, *Waze* maintains an accurate map with real-time traffic information.

One of the best things *Waze* has done is never lose sight of its own Epic Meaning.<sup>1</sup> The application set out to improve the map data and maintain a real-time map. It has accomplished that easily. It delivers an improved user experience by knowing where traffic jams are before its competitors and factoring that data into its direction. Additionally, it has fostered a sense of community with its Wazers. Users feel part of a greater project by helping others with their traveling needs and reporting traffic issues. Wazers can show appreciation by thanking the reporter of an accident, which fosters a sense of appreciation and further community. That sense of community keeps being coming back, even when they do not need directions to their destination. Finally, *Waze* has safely implementing a scoring system that does not detract from the experience. Wazers increase their score by reporting more issues, and that score can be viewed by other users. In this case, those with the highest scores are the most active users in the community. Their score reflects that they have essentially helped the most people, which is a reassuring high score to have.

Another popular gamified application is *Nike+ Run Club*.<sup>li</sup> It focuses on gamifying running and physical activity, helping its users get and stay in shape. The service takes advantage of many different game elements to deliver a well-rounded experience that can be sculpted to the user's individual needs. It offers narrated runs to motivate the runner and tracks users' performance. It encourages them to use the service more often by encouraging them to be active again. It plays music based on the user's *Spotify* or *Apple Music* playlists. Basically, *Nike+ Run Club* is a very inclusive fitness application.

Similar to *Waze*, *Nike+ Run Club* succeeds by focusing on what it delivers to its users. It motivates them to run at the core of the experience. To help expand on that, it uses achievements and leaderboards to establish competition, both internally and with friends. It inspires internal

competition by awarding the user with achievements for beating their own previous records, further pushing their fitness goals. Meanwhile, the leaderboard allows for comparison between users and friends, which can inspire friendly competition. It also fosters a sense of community for its users. Runners encourage each other, can race, and share their progress with the *Nike+ Run Club* community. The intelligent use of friendly competition within the community makes this application a success.

Additionally, many of the applications that were discussed in previous sections should be mentioned as successes. *Dunder Mifflin Infinity*, for example, gamified keeping up with a television series. It attracted a lot of attention to the show and gave dedicated fans an outlet to enjoy between new episodes. It created a social space for fans to interact and compete between departments, which were similar to more established games' guild systems. The service is no longer available, as its end coincided with the series finale, but it was still an interesting experiment. The amount of partner applications for other television shows speak to this service's impact.

*Foursquare* has faded from popularity but managed to monetize in a way we are seeing more and more social media companies do today. Its use of user data to keep itself profitable made it one of the first players in a market that would later boom. It, of course, gathered that data by gamifying the act of meeting up with friends and identifying locations. *Foursquare's* incredibly accurate map data, completely generated by users, marks it unique success from a data-driven perspective. Whether the collection of this data was actually beneficial to users is a different discussion.

In other spaces, gamification has flown under the radar. For example, fantasy sports (football being the most popular) have essentially gamified watching sports. Users, or watchers,

select the players that will form their team for that week, and the teams score is reflective of those players' performance that week. It provides watchers a reason to watch teams that they are not necessarily fans of, if they have a fantasy player on that team. Similarly, one could argue that the Achievement and Trophy systems of Microsoft and Sony have gamified game-playing. In other words, they have created a system that goes above just playing a single game and actually gamifies trying different games. These achievements (not Microsoft specific) can be used to compare players' mastery over the entire library of games they own and make a competition out of playing a wide variety of titles. The *Apple Store* and *Google Play Store* have also followed suit.

There is also an example from the United States Marines.<sup>lii</sup> After extensive studies on the habits of soldiers, it was discovered that soldiers often purposely miss their targets. Firing in the close vicinity was often enough to scare off the enemies and solve the immediate problem. In response, General "Mad Dog" Mattis, the current Secretary of Defense, installed a gamification system which awarded points for killing an enemy. The effectiveness of it speaks volumes of gamification's potential to motivate, highlighting the importance of understanding the intentions behind said motivation.

Finally, we have the most harrowing case of gamification. Recently, the government of China released their own gamified application entitled *Sesame Credit*.<sup>liii</sup> The idea behind it is to gamify dedication to the state and it looks very similar to a credit score reading. Those who post online with positive opinions on the government receive a higher score, while those who talk about unrest or sensitive topics, such as Tiananmen Square, have their score lowered.

Continuing the credit score analogy further, the score has a direct impact on one's life. Those with a high score have an easier time completing paperwork or getting a passport. Those

with lower scores will have restricted internet or be barred from certain employment. It can also track online purchases, which affect the score depending on whether the purchase is “useful” to the state. Importing cultural items from other nations is universally negative.

Some Chinese citizens, especially the younger generation, are using *Sesame Credit* as a competition. They compete to see who can achieve the highest scores. This is exactly the purpose of the application, so it has been “successful” in its implementation so far, though it is obviously everything *1984* feared would come to pass. This specific application, though, serves as the largest red flag in the discussion of gamification ethics, which will be explored next.

## A Discussion of Ethics and Conclusions

As one can see based on its growth and success stories, gamification can be a powerful tool when used in the correct context. It has proven to be an effective way to engage users in areas that traditional methods cannot, making things more fun, unique, competitive, and interesting. Whether it is using Epic Meaning to foster community, adding a compelling narrative, or just increasing the speed of feedback, gamification is able to increase user interest many ways. However, those same things that make it a powerful tool also make it dangerous. It can be used to manipulate and take advantage of users, all under the enticing cover of a competition or narrative. In this section, some of the applications addressed throughout the paper will be reexamined in context of an ethical implementation.

To start, it would be helpful to have an idea of what can be considered “good.” Generally, good is a relative term, and is often relative to whomever is speaking at the time. For the users, gamification might be good if it makes something more fun, helps them accomplish something, or helps them improve via feedback. For a company, good might be increased profit or brand recognition. For a military, good might be soldiers who aim at the enemy.<sup>liv</sup> For the government of China, good might be increased civil obedience.

With that relativism in mind, good here should be something that is good for the users of the application. They should gain something inherently positive from the gamification that would not have been present otherwise. That positive gain might be motivation to accomplish something difficult or it could be more tangible in the form of incentives. The gain should also not come at the loss of something else.

There are many uses of gamification that can be considered good. Applications like *Chore Wars*, while arguably manipulative, seek to add something fun to a routine task. Giving people an additional reason to take out the trash is hardly a topic for ethical debate. As stated before, motivation to do something that one would have had to do regardless can be considered a good thing, a benefit. The task has become less annoying because of the added gamification, and nothing was lost by doing so because it had to be done eventually.

Similarly, most of the gamified exercise applications, such as *Nike+ Run Club* and *Run! Zombies*, can be considered good. They are interesting ways to convince people to exercise, which is often boring or difficult for many. While there may be some level of marketing value for *Nike* as a company, the users of the application are generally benefitting from the experience. Most would not argue that exercise is a bad thing, as long as it does not go too far and cause bodily harm.

That potential marketing value, though, is where we start to see the pitfalls of gamification. What kind of data is *Nike* collecting through this application? How is it using that data? Are they selling that data to another company after collecting it? How much of your exercise habits do you want a big company to know? All these are questions that need to be asked. Again, *Nike+ Run Club* seems like is a net good for the user, and exercise habits are not the most intrusive detail to share. But while maybe exercise habits are not something too dangerous, other types of information might be.

For example, look at an application like *Foursquare*. It has already been established that *Foursquare* has stayed afloat by selling its map data. The geographic portion of that data makes for a great map that can be used to improve GPS and location technology. But what about the check-in data on individual users? Would you want a marketing company to know how often

you visited a specific restaurant or store? Would you want the government to have that same information? Lastly, would you be so willing to self-report that data if it were not framed as a competition? This pitfall, the motivated self-reporting of your actions and tendencies, can be seen as an ethical dilemma for many gamified applications

*Waze* has a similar potential for abuse as *Foursquare*. It has data on users' driving habits and can pin down their daily commute if used often enough. That data could be valuable to marketers but could be especially valuable to the government and the department of transportation. *Waze* also has the potential to prompt phone usage during driving, which is another debate in of itself.

All that said, data collection in the modern age is almost universal, and these applications should not be condemned just for that. Users should try to be more aware of what data they are sharing and monitor things they may not want to share, but generally these types of data are not very damaging anyway. Taking into account the benefits of the applications, such as quicker commuting with *Waze*, these applications still can be good for their users.

Next, there are the incentivization schemes, such as *AAdvantage*. On the surface, they seem like a good thing. Get points for using a service, which can be redeemed for rewards, sometimes even free uses of the service. The rewards vary depending on the scheme, but the overall idea stays the same. Who would not want free things because they flew enough?

The issue here is that the points are not actually free. Those flights, using *AAdvantage* as the example, cost a decent amount of money. Sure, the system is nice if you fly a lot already and just accrue the points organically, but it can lead to poor purchasing decisions in many cases. People who see that they only need a few more points to get to the next level or tier may be

tempted to purchase something just to get to said level. In the case of flights, that is not a small amount of money for just some points.

Because of this potential manipulation, it is hard to say whether incentivization schemes are actually good for the consumer. It seems like it may be a more case-by-case type of issue, but it is still a big area of concern. On one hand, consumers can get some more mileage out of their money. On the other, there is the risk of someone making a destructive decision and these companies reaped the benefits. This is certainly one area where we can see the possibility for exploitation for profit by companies and corporations.

Further into the manipulative side of gamification is *Sesame Credit*. While it does apparently give out some form of beneficial rewards to the highest scoring citizens, it is hard to argue that *Sesame Credit* does any good for the user. The beneficiary of this type of gamification is the state and it is using it to manipulate citizens blatantly. Within the confines of this paper, this is the representative of the harmful extreme.

We also have the example from General Mattis and the Marines. Here we see people being motivated to do something they are seemingly opposed to doing. The idea that gamification can be used to motivate people to kill, or kill more effectively, sounds disturbing when put on paper. The tactic was successful, but further keys in on the issue with intentions behind a gamification scheme.

Finally, we have the actual portrayal of gamification in the public eye, as raised by Bogost.<sup>lv</sup> Outside of its ethical implementation and use, there is also the issue of the “bullshit” surrounding gamification. Gamification’s proponents generally claim it to be a magical quick fix. Bogost points out, bluntly, that this portrayal is “bullshit” and that gamification is, in many

instances, just smoke and mirrors. It is a big word that few fully understand, and it comes with big promises.

While there have been enough successes mentioned here to not write gamification off, there is also an ethical dilemma in the discussion around it. Is there a good way to temper expectations and the reach a more realistic portrayal? It would appear that, since the time of writing, the attention has died down somewhat, but the issue remains. Ideally, discussions like this can help to limit those expectations. Also, as more successes and failures hit the open market, people should realize the realistic capabilities of these tools.

With all of these “goods” and “bads” in mind, how can gamification be used to promote good? What is the best, most ethical way to utilize these tools? Out of the examples thus far, I believe that *Nike+ Run Club* offers a potential blueprint. It offers a free experience to users, motivating them to run and be more active. It acts like a free personal trainer; a service people pay good money to have. The exercise is good for users’ health and can be made into a competition with friends. All around the application offers a solid amount of benefit to the users.

The reason I see it as a good ethical blueprint, though, is that it balances the good offered to users with the good offered to the company. At the end of the day, companies will not make gamified platforms if they are not getting something out of the exchange. Incentive schemes help make more money by pushing sales, while the data from other applications can be monetized in various ways. *Nike* seems mostly content to just create brand recognition through their application. It is really a good way for them to generate brand awareness and positive public opinion, offering a free application with their name and logo all over it. It also indirectly spurs sales of their athletic gear, by getting people to run more and wear out their shoes. It cannot make you buy *Nike* products though.

Using this blueprint, using gamification to promote good requires a sort of balancing act. The first step should be to create something that offers a real tangible good to the users. Motivate them to do something that is good for them, not for you (the application developer). The good for the company or group making the platform can come through in other ways. The second step should be to minimize the number of negatives that comes with the benefits. Considering and recognizing how this extra motivation or incentive could lead to destructive decisions can help avoid these issues.

Finally, regardless of what type of application you are using, be aware of what you are doing. There are plenty of people, governments, and companies that would take advantage of these tools for their own gain. Never do something for a point that you would not do otherwise. Enjoy the game elements, but do not act because of them. Hopefully, gamification is used for our own good and for entertainment, because we could all use a little dungeon crawl after our chores.

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## End Notes

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- <sup>i</sup> References the Merriam-Webster definition for “Gamification.”
- <sup>ii</sup> Bernard Suits, 1967. “*What is a Game?*” This article is used to help establish the difference between a game and gamification.
- <sup>iii</sup> Marczewski, 2013. This book offers a good introduction to Gamification as a topic, including useful definitions.
- <sup>iv</sup> GrowthEngineering, 2017. “The Future of Game-Based Learning.” The future of gamification, specifically in terms of game based learned, is discussed here.
- <sup>v</sup> Boeska, 2015. “Gamification Pitfalls: Badge Fatigue and Loyalty Backlash” This article discusses how we have used badges to the point of fatigue. Consumers are starting to even fight back against them.
- <sup>vi</sup> Kazek, 2016. Article gives a brief history of S&H Greenstamps and what happened to them.
- <sup>vii</sup> Bunchball, 2018. Article details some basic game mechanics and what they seek to accomplish.
- <sup>viii</sup> GrowthEngineering, 2017, “Count Down to Gamification.” Article lists Boy Scouts badge system as the first precursor to gamification.
- <sup>ix</sup> GrowthEngineering, 2018, “The Psychology of Badges and Motivation.” Article explains how badges serve to motivate.
- <sup>x</sup> Coonradt, *The Game of Work* was a book written by Coonradt about introducing feedback loops to practices outside of sports. The source in the bibliography links to the landing page for the book’s website and summarizes the contents.
- <sup>xi</sup> Smith, 2014. The article talks briefly about the consulting company that came from *The Game of Work* and how they view feedback loops.
- <sup>xii</sup> Malone, 1981. “Toward a Theory of Intrinsically Motivating Instruction.” One of the many articles published by Thomas Malone on the topic of Gamification, and specifically the one discussed in this paper.
- <sup>xiii</sup> Smith, 2014. Touches on all three of the new reward programs that launched in rapid succession: American Airlines, Holiday Inn, and National Car Rental.
- <sup>xiv</sup> Smith, 2014. Used for percentage of households with a Nintendo Console.
- <sup>xv</sup> Kumar, Janaki, et al, 2018. “Bartle’s Player Types for Gamification.” Article detailing Bartle’s Player Types and what they mean. It also stresses that the categories are not rigid, which is important to understanding why some people display characteristics from multiple categories.
- <sup>xvi</sup> Wilson Center. The source in the bibliography links to the “Serious Games Initiative” landing page, which explains its mission statement and gives some examples. It also has further links to some interesting games.
- <sup>xvii</sup> United States Army. The source again links to the landing page for the game.
- <sup>xviii</sup> Pelling, 2012. This source was a blog post written by Pelling several years after he coined the term “Gamification.” In it, he explains where things were headed before it became a nationally recognized trend.
- <sup>xix</sup> Bunchball, 2017. “What is Gamification?” This article on Bunchball explains gamification, but also details what Bunchball is and what they hope to accomplish.
- <sup>xx</sup> Balfour. The source listed in the bibliography is a summary of what *Dunder Mifflin Infinity* was and how it worked. It lists the site as a “gamified social network” spun off from the television show *The Office*.
- <sup>xxi</sup> Gamified UK. “52 Gamification Mechanics and Elements.” This article contains some explanations of the various elements that are listed in reference to *Dunder Mifflin Infinity*.
- <sup>xxii</sup> Lowensohn, 2007. “It’s War! (On Your Chores)” This article explains how *Chore Wars* works and what effect it has had on the staff at CNET.
- <sup>xxiii</sup> Smith, 2014. Briefly talks about *Quest to Learn* in the history of Gamification. This topic will become more relevant in the conclusions section, which talks more about gamification in education.
- <sup>xxiv</sup> Gell, 2017. “The Not-So-Surprising Survival of Fourquare.” This article details how *Foursquare* survived despite a shrinking user base. It talks a good amount of their monetization strategy and how that can be applied to other gamified platforms as well.
- <sup>xxv</sup> McGonigal, 2015. The source in the bibliography links to McGonigal’s book page, including *Reality is Broken*. The book is on the same topic as the TED Talk referenced in the previous paragraph.
- <sup>xxvi</sup> Bogost, “Why Gamification is Bullshit”. In this article, Bogost explains how gamification is basically just a buzz word that excites high level executives.
- <sup>xxvii</sup> GrowthEngineering, 2017. “The Gamification Explosion.” GrowthEngineering’s final page on the history of Gamification, it mentions the Fitbit and the Apple Game Center, which are referenced here.

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- <sup>xxviii</sup> GrowthEngineering, 2017. “The Gamification Explosion.” This article also has an explanation of Gartner adding Gamification to its Hype Cycle and why that is significant. It also references everything mentioned in the paragraph that happened that same year.
- <sup>xxix</sup> Clancy, 2014. “Looks Like this Whole Gamification Thing Is Over.” This article starts with the “death” of gamification tone that is discussed in the paper, but later moves on to talk about how it is actually thriving in other ways. It also references the Marriott failure that is relevant to the negative tone.
- <sup>xxx</sup> Lopez, 2012. “Marriott Makes Facebook Game for Recruitment.” This article starts discussing what *My Marriott Hotel* was designed to do but was written too early to dive into its failures.
- <sup>xxxii</sup> ICMR, 2015. “Beyond Resumes: Marriott Using Gamification to Recruit Top Talent in Hospitality.” This article starts to delve into what caused the issues with Marriott’s recruitment platform, specifically how it was not interesting enough to hold people’s attention over long periods.
- <sup>xxxiii</sup> GrowthEngineering, 2017. “The Gamification Explosion.” The article references that statistics listed in the paper here, from Gallup.
- <sup>xxxiv</sup> Barr. “The Bartle Test of Gamer Psychology.” The link in the bibliography goes straight to a test to determine a user’s Bartle categories. The test is very interesting, and worth the five minutes it takes to complete.
- <sup>xxxv</sup> Kumar, Janaki, et al, 2018. “Bartle's Player Types for Gamification.” And Stewart, . “Personality and Play Styles: A Unified Model.” Both of these articles delve into Bartle’s player types and the information in them will be used throughout the next four sub-sections.
- <sup>xxxvi</sup> Gamified UK. “52 Gamification Mechanics and Elements.” This article has some explanations of the suggested elements for Socializers.
- <sup>xxxvii</sup> Decoster. “8 Gamification Techniques Marketing Professionals Can't Live Without.” This article details how to use some of the elements mentioned here to improve a marketing campaign.
- <sup>xxxviii</sup> OJOO. “Playable Ads Examples: Interactive Ads and Interactive Videos” The link in this source goes to some playable ad campaigns, which are great examples of how to incentivize a gamified platform.
- <sup>xxxix</sup> Everything listed here is included in a Bartle test result. Again, taking it is recommended.
- <sup>xl</sup> Bocska, 2015. “Gamification Pitfalls: Badge Fatigue and Loyalty Backlash.” This is a good example of game elements having negative outcomes.
- <sup>xli</sup> Gamified UK. “52 Gamification Mechanics and Elements.” The elements talked about in the following sections are contained in this article, which helps give an overview of many different elements.
- <sup>xlii</sup> Chou. “The 8 Core Drives of Gamification (#1): Epic Meaning & Calling.” This article explains Epic Meaning, what it is, and how to use it. It only refers to Epic Meaning as a “greater good” type of element, which is not upheld in this paper.
- <sup>xliii</sup> GrowthEngineering, 2018. “Epic Meaning and Engagement: What the Experts Say.” This article further expounds on the idea of Epic Meaning by offering definitions from multiple sources.
- <sup>xliiii</sup> Balfour. The *Dunder Mifflin Infinity* platform took advantage of a narrative by giving users a story that supplemented the television show.
- <sup>xliiii</sup> Chou. The same article on Epic Meaning goes into some detail about narratives, how they work as a mechanic, and how they can actually communicate Epic Meaning to an extent.
- <sup>xliv</sup> Waude, 2016. “No Interruptions? How The Zeigarnik Effect Could Help You To Study Better.” This article explains what the Zeigarnik effect is and how it was discovered.
- <sup>xlvi</sup> GrowthEngineering, 2018. “The Zeigarnik Effect and Online Learning.” This article details how the Zeigarnik Effect can be utilized in an online learning scenario. It specifically talks about progressions tracking and how to use it to bring users back repeatedly, which is the goal of utilizing this effect.
- <sup>xlvii</sup> GrowthEngineering, 2018, “The Psychology of Badges and Motivation.” Article explains what badges are and how they can change people’s usage habits.
- <sup>xlviii</sup> Antin, Judd, and Elizabeth F Churchill. “Badges in Social Media: A Social Psychological Perspective.” The article here talks about the psychological effect of badges and the competitive outlook of them. People perceiving that they have achieved something functions as a very powerful tool.
- <sup>xlix</sup> Sigel, 2015. “Why Waze Is Winning – Adventures in Consumer Technology – Medium.” This article starts to detail how *Waze* has grown so quickly and maintained its success over time.
- <sup>l</sup> Myers, 2013. “How Waze Grew from Startup to Billion Dollar Google Acquisition #demo2013.” This article explains how *Waze* has grown with a vision. It contains interviews with some of the developers and key visionaries in the application’s growth, who emphasize their focus on the goal of *Waze* in the long run and not monetizing in the short term.

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<sup>li</sup> Tanasoiu, 2018. “Mobile App Success Story: Nike+ Run Club.” This article focuses on *Nike+ Run Club* and how it has succeeded. In particular, it shows what differentiates *Nike+* from other similar application in the running market.

<sup>lii</sup> Pettegrew, 2015. “Light it Up” This book details some of the technological advancements in battlefield technology and includes the use of gamification by General Mattis

<sup>liii</sup> Osborne, 2015. “China Has Made Obedience to the State a Game.” This article explains *Sesame Credit* and its success, coaxing Chinese citizens into further obedience to the state.

<sup>liv</sup> Pettegrew, 2015.

<sup>lv</sup> Bogost, 2015.