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All the game world's a stage

towards a model for asymmetric collaborative
storytelling in persistent open world MMORPGs

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Despite being a highly profitable industry, very few MMORPGs have managed to find commercial success over the past decades. One commonly identified problem is their near-exclusive reliance on social interaction as a means of attracting and retaining a sustainable player base, and their failure to achieve the network effect required to establish that appeal. This research proposes a complementary approach that leverages emergent narrative in order to diminish the genre's reliance on social interaction, specifically through the use of persistent player characters to believably populate the game world.

Introduction

When the much-hyped fifth installment in the *Grand Theft Auto* series was launched in 2013, it quickly proceeded to shatter sales records left and right, even going so far as to set six Guinness World Records in the process (Lynch 2013). What was once a pixelated top-down franchise criticized for its gratuitous violence and perceived superficiality, had grown to be a compelling narrative experience that surpassed such entertainment heavyweights as James Cameron's *Avatar* and Michael Jackson's *Thriller* to become the fastest selling entertainment product in history (McLaughlin and Thomas 2013, MacDonald 2013, Kain 2013).

This unprecedented success goes to illustrate the extent to which videogames have grown to be a force to be reckoned with, moving away from being a niche industry targeting the stereotypical teenage-boys-in-basements demographic to become a widely accepted form of mainstream entertainment. Statistics indicate that more Americans now play videogames than go to the movies; sales of virtual goods eclipse those of both music and retail books, and games themselves have moved beyond dedicated consoles to become available on a wide range of everyday devices (Marchand and Hennig-Thureau 2013).

Few titles have been so symbolic of that appeal as *World of Warcraft* (Blizzard Entertainment, 2004), the massively-multiplayer online role playing game (or MMORPG) that spawned six expansions to date and at its peak counted over 12 million paid subscribers (Holisky 2010). Launched

in 2004 to great anticipation, the game managed to dethrone then-market leader *Ultima Online* in a matter of months, and despite falling numbers in recent years has been the uncontested market leader ever since (Koster 2014). In fact, the game has grown to be among the top-grossing videogames of all time, trailing only such iconic releases as *Pac-Man*, *Street Fighter II* and *Space Invaders* (Weinberger 2015).

It should be no surprise, then, that a wide range of game producers have attempted to emulate *World of Warcraft*'s success. A large number of MMORPGs have been launched over the past decade, with many showing passing resemblance to the game whose dominance they sought to curtail (Bartle 2013). Despite such repeated attempts, however, and despite the term 'WoW-killer' having become somewhat of a buzzword at MMORPG launches, very few have managed to pose a credible threat to *World of Warcraft*'s dominance - or indeed find any kind of mainstream success.

There have been various attempts at explaining this situation, with many pointing to one specific problem as the primary culprit. Among others, De Vocht et al. 2010, Cairns et al. 2013 and Bartle 2013 observe that a major source of appeal in MMORPGs stems from the social aspect inherent to the genre, thus requiring a large amount of active players at any given moment to live up to its full potential. Herein, then, lies one of the major challenges that most new games in the genre fail to overcome: acquiring a large enough user base to provide the social interaction required to achieve such an appeal. This catch-

22, wherein a game needs to attract new players in order to attract new players, is a staple of business studies dubbed the *network effect*, and considered one of the primary reasons most MMORPGs fail to gain momentum (Bartle 2013).

Research question

This research, then, will attempt to present game creators with a way to diminish their near-exclusive reliance on social interaction in order to foster a sustainable MMORPG ecosystem, thereby significantly reducing the need for a network effect and increasing the likelihood of a game finding commercial success.

To achieve this goal, I will evaluate the feasibility of leveraging persistent player characters as a means of stimulating emergent narrative in MMORPGs. More specifically, I will propose a degree of autonomous behavior in offline avatars to complement both active player characters and non-player characters (NPCs), allowing for an immersive and vibrant game world without relying exclusively on a large base of early adopters.

The primary question I set out to answer, then, is as follows: can semi-autonomous player characters in MMORPGs be leveraged to substantially increase their narrative appeal and subsequent potential for finding commercial success?

Methodology

Due to the relative scarceness of new games being released in the genre and the confidentiality of proprietary technologies currently under development, this research will be based on a combination of textual analysis of hereto released games and academic prototypes, as well as a literature study of relevant theories and models in game studies, narratology, business studies and psychology.

First, I will look at the precise role the network effect plays in MMORPGs' ability to amass a user base, in particular by drawing parallels with the historical developments of both successful and failed online communities. Second, I will look at established theories surrounding narrative in videogames, as well as the contentious academic debate surrounding that very topic.

I will then put my findings into practice through a textual analysis of such games as *The Lord of the Rings Online*, *Dragon's Dogma* and *Age of Wushu*, focusing specifically on their approach towards a narrative appeal. I will map out the various techniques that such past games have attempted to date, and evaluate the merits, shortcomings and future potential of the multitude of solutions they provide. Based on this, I will explore the feasibility of

employing these mechanics as a means of stimulating emergent narrative in future MMORPGs.

Finally, using all the aforementioned, I will seek to conclusively determine the viability of employing a narrative appeal in MMORPGs as a means of achieving the network effect and finding commercial success.

The problem

The network effect

In the MMORPG genre, perhaps counterintuitively, quality alone rarely equals commercial success. *Wildstar*, *Rift* and *Warhammer Online* are just a few examples of MMORPGs that were released to favorable critical reviews, yet within a matter of years faced near-deserted game worlds if not outright discontinuation (Carter 2017, Yacoub 2011, Haas 2014). Each of these games failed to achieve what in business studies is described as a *network effect*, or the self-sustaining cycle of attracting new users by merit of having a sufficiently active user base (Farrell and Klemperer 2007). The concept has been used to describe technologies as old as the first telephone, but has recently found renewed relevance in regard to emerging social media platforms and similar online communities. In many ways, such platforms closely resemble the social dynamics present in MMORPGs, and can therefore serve to provide valuable insights into the various approaches one might take to foster a sustainable online community.

In that context, one particularly high-profile case was *Google+* (2011-present), the heavyweight, sleekly-designed social networking site that sought to render industry leader Facebook irrelevant. Not unlike the MMORPGs listed above, *Google+* was initially lauded by many critics as being superior to Facebook in terms of features and technology (Vaughan-Nichols 2011), and deemed a credible threat to the latter's dominance both by the press and within Facebook itself (Garun 2017). Ultimately, however, this would all prove for naught, primarily due to the platform's failure to attract the audience required for a sustainable network effect. *Google+*'s lack of an active user base rendered most of their supposedly superior features worthless, and the network did not prove sufficiently appealing to tempt people into switching over from Facebook. Although still formally in existence today, *Google+* failed to acquire any critical mass, and is widely considered a failed endeavor (Barr 2015).

In the same general time frame, however, *Instagram* (2010-present) proves that more successful approaches do exist. The photo-sharing application – then an independent service directly competing with Facebook – managed to gain momentum early on in its life cycle, avoiding many of

the same pitfalls that Google+ fell victim to. Specifically, it presented a value proposition that didn't rely exclusively on an existing user base, but instead offered functionalities that could be enjoyed even without a large group of social contacts present. While on the surface the app contained many of the social features that both Facebook and Google+ boasted, its vintage photo filters proved an appealing enough feature to convince a small but dedicated group of early adopters to sign up for the service regardless. This core user base, consisting for a large part of amateur photographers and lifestyle aficionados, was not deterred by the service's lack of social interaction; in fact, by the founders' own admission, many reveled in the perceived artistic merit that such exclusivity pertained (Perloth et al. 2012). More importantly, however, Instagram did not require users to exclusively dedicate their time to either Facebook or itself, instead seeking to supplement the established network on a niche level while providing advanced integration between the two.

In the MMORPG landscape, then, a virtually identical situation can be distinguished, with World of Warcraft holding the role of titan of industry whose dominance has been challenged to no avail many times over. Its design is such that combining it with a comparable MMORPG would require a near-impossible allocation of time (Tarnig et al. 2008), and even playing World of Warcraft exclusively is a dedication reserved for a relatively small segment of the gamer population. This core segment, able and willing to spend a significant amount of time and money on a single game, is colloquially referred to as the *hardcore gamer* segment of the market, standing on the opposite side of the spectrum from what might be referred to as the *casual gamer* player base (Neys et al., 2014).

Furthermore, temporal, financial and emotional investments all increase the player's loyalty to a game over time, as do the social connections that players have built up in-game. Because the hardcore gamer segment considers gaming a comparatively significant part of their personal identity, this effect is amplified even further, leading to what in business studies is referred to as high *switching costs* - or the barrier that existing users face in abandoning one title for another (Farrell and Klemperer 2007). In the case of World of Warcraft, then, these switching costs might very well be described as being prohibitively high for any competitor to pose a credible threat - especially considering the significant share of users that would be required to achieve a network effect.

That doesn't, however, mean that there are no alternative ways of growing in World of Warcraft's shadow. Instead of directly seeking to compete for the favor of this rather saturated hardcore player segment, for example, new

MMORPGs might instead aim to broaden their appeal to the somewhat more casual section of the market. By lowering the time and money investment required for a fulfilling experience, such a title could both attract a new group of players to the genre and increase the likelihood of it being played in conjunction with World of Warcraft or other competitors. Not unlike Instagram's approach, this could then allow a new title to grow undisturbed within a niche section of the market, over time increasing its appeal to the more hardcore segment as it steadily gains a user base.

The MMORPG industry

There are, of course, several complications with this approach. Before we go further into the games themselves, it is essential to gain insight into the reasoning behind many of the production choices that have directly or indirectly led to past MMORPGs being prematurely discontinued. Although creative merit is certainly a factor of importance, famed game researcher Richard Bartle argues that the majority of decisions made during the development process are primarily informed by financial and business considerations (2013). More specifically, he argues that the development of an MMORPG is an immensely expensive endeavor, more so than any other genre of videogames and most other forms of entertainment. In fact, these costs can be so drastic that production budgets often comprise a major share of the developer's equity, to the extent that a lukewarm reception could spell outright bankruptcy.

The reason for these high costs, then, are manifold. Primarily, the production of game assets - including art, music, sound effects, animations, dialogue, voice acting and character design - constitutes a major strain on the production budget, with the relative expansiveness of MMORPG game worlds requiring a large degree of manual input by dozens of specialized workers (Neal Kelly 2008). These costs also include the various technologies that underlie such assets, including databases, network infrastructure and graphics technologies, many of which require additional investments as the game's user base expands. Furthermore, MMORPGs' inherent persistence demands recurring investments long after the game's initial development cycle, with expenses including bug fixes, bandwidth and community moderation. This, in turn, means that a large user base is required not only for the game to be appealing to the user, but also to be economically sustainable in the long run (Koster 2015).

Because of these high costs, Bartle argues, developers and publishers seek to decrease the risks when producing an MMORPG, reverting back to tried and tested methods and thereby inevitably bringing forth broad-strokes World

of Warcraft-clones (2013, 3). While this approach may indeed seem like a safe bet at first, in doing so they fail to provide any sort of distinguishing appeal that might justify the switching costs for the user, thereby all but ensuring that the hardcore player base being targeted remains essentially unmoved. Not surprisingly, the far majority of these titles go on to fail at achieving any notable degree of network effect, and eventually end up being discontinued with massive losses or even bankruptcy as a result.

Such past failures, however, can still serve to inform a valuable set of best practice guidelines that could help prevent similar fiascos in the future. Taking all of the above into consideration, for any MMORPG to succeed in challenging the dominance of major titles such as World of Warcraft, the following three goals can be considered essential to achieve:

1. hold an **initial appeal** that does not rely solely or primarily on an existing user base.
2. seek to **peacefully coexist** with other MMORPGs that the player may be involved in, specifically by not requiring an exclusive investment of time and money, and broadening the appeal beyond the hardcore player base.
3. **reduce production costs** so that fewer users are required for the game to be economically viable.

The MMORPG genre

In order to find ways to achieve these three goals, it is essential to recognize the genre's unique place in the broader videogame landscape. MMORPGs are the most common form of massively-multiplayer online games (MMOs), which are characterized by allowing a large number of players to interact with a shared world simultaneously. As opposed to both single player games and session-based multiplayer games, MMOs take place in so-called *persistent state worlds*; worlds that continue to exist regardless of whether any individual player is currently interacting with it (Bartle 2004).

As with other forms of role-playing games, players take control over a player character that represents them in the world, and have various methods of interacting both with fellow players and AI-driven non-player characters (NPCs). Self-improvement of the character, commonly through such mechanics as gaining levels, upgrading skills and acquiring better equipment, is widely considered one of the major objectives, with a variety of combat-related quests being the most common way to achieve that goal (Deuchenot et al. 2006).

Essentially, this combat can be divided into two distinct forms. So-called *player-versus-environment* (PvE) combat

refers to situations in which the player character fights computer-controlled enemies, including wild animals, monsters and outlaws. These commonly spawn in set locations grouped by level, and will respawn in the same general area shortly after being defeated by any of the players. By contrast, *player-versus-player* (PvP) combat refers to situations in which two or more player characters battle one another, a situation that is commonly bound to in-game rules so as to prevent the indiscriminate killing of novice players and other misuses of the system that negatively affect other players (Myers 2007).

This distinction is especially important because MMORPGs hold a different appeal to different kinds of players. Richard Bartle famously authored a taxonomy in which he distinguished four distinct player types, all of which need to be present in order for multiplayer online games (specifically the MMORPG's spiritual predecessor, the MUD) to maintain a sustainable ecosystem (1996). Although the taxonomy has since been criticized for its dichotomous nature, the categorizations are still commonly in use to provide a broad-strokes overview of the various types of players that inhabit an MMORPG.

Bartle proposes that players can be divided into Achievers, Socializers, Killers and Explorers, all of which derive their enjoyments from different aspects of the game. The first, Achievers, are drawn to the ability to achieve a variety of goals, including gaining levels, acquiring new equipment or essentially any other element that provides concrete measurements of their game progress. When it comes to their relation to fellow players, they enjoy the opportunity to show off their abilities, as well as the prestige of holding an elite status within the in-game universe.

Socializers, then, enjoy the social aspect of an MMO, building relationships with individual fellow player characters as well as such formalized social groups as guilds and kinships. They are commonly considered to be in the less hardcore segment of the MMORPG player base, and are less goal-oriented than any of the other player types. In addition to providing value for other Socializers, they also form an audience for Achievers to derive their status from, with their absence diminishing the game's appeal to the latter.

Killers, perhaps not surprisingly, are defined as being drawn to a more action-oriented form of gameplay, specifically one surrounding sowing death and destruction. They are generally more drawn to PvP combat than to PvE, and of all player types, they are considered the most inherently competitive. As such, they too rely to a large degree on other players for their enjoyment.

Explorers, lastly, relish in learning about the game world itself, such as by mapping its topology, meeting its inhabitants and learning about its backstory. They are put off by settings that are repetitive in nature, but can be drawn in by immersive game worlds and compelling narratives. They are the least dependent on other players for their enjoyment of a game, instead relying on the game's story world to derive their pleasure from.

Such Explorers, then, are the most obvious player type to target when seeking to hold an initial appeal that is not primarily reliant on social interaction. Providing them with a compelling world and narrative to explore could help establish a core user base early on, in much the same way that Instagram relied on amateur photographers to help fill this void. The presence of such players, then, could in time draw in others from each of the remaining three types, thereby steadily establishing a healthy ecosystem and a vibrant game world.

Storytelling in videogames

Bartle himself, too, has pleaded for a greater focus on narrative appeal, stating that "today's graphical worlds are excellent at making a world *look* real, but as a consequence it's harder for them to *behave* real" (2013, 4). This sentiment is closely mirrored by Tychsen and Hitchens's dissatisfaction with current approaches, noting that mere "advances in graphics appear insufficient in expanding the core market" (2006, 1). The focus on graphical and other types of technological improvements might resonate with the existing hardcore segment of the market, but holds significantly less value when it comes to broadening the appeal towards more casual segments of the player base.

Indeed, this perspective is increasingly being adopted within the game industry itself. A trend towards narrative appeal can already be seen in recent single player games, with such blockbuster titles as *The Last of Us*, *Heavy Rain* and the aforementioned *GTA V* all being lauded for their compelling storylines and high production values (Sterling 2013, Anderson 2010, Pearson 2014). In fact, perhaps illustrative of videogames' increased acceptance as a storytelling medium, famed film actors such as Samuel L. Jackson, Emma Stone and Peter Dinklage have all contributed their talents to such narrative videogames (Gallagher 2015). Despite this, very few narratives in the MMORPG genre have managed to come even close to receiving any such recognition, with many relying primarily on long written paragraphs of backstory that fail to employ either the audiovisual or the interactive potential of the medium.

Improving on this, then, could help achieve two out of three of the essential goals mentioned previously. First, a

compelling narrative could foster a higher degree of emotional attachment in the player, increasing both attraction and retention of new players even before the game has acquired a significant player base (Tychsen and Hitchens 2005). Second, a narrative focus would likely move the game's appeal beyond an exclusively hardcore player base, "[opening] up the market by showing players that there is more to be gained from the play experience than combat" (1). The problem, however, is that such forms of narrative currently require a high degree of manual labour, thereby further worsening the pre-existing bottleneck of high development costs. For this solution to be feasible, then, it is paramount to increase the narrative appeal in such a way that it does not increase production costs, particularly by diminishing the amount of manual labour required to produce it.

Ludology vs narratology

To make matters even more complicated, not all academics agree on the role of narrative in videogames, and the topic itself is not without its share of controversy. Several media scholars believe that an increased focus on narrative will lead to a reduced quality of gameplay, and yet others have questioned the medium's ability to tell stories at all. While the full extent of that discussion falls beyond the scope of this research, the two sides of the argument can essentially be grouped into so-called *ludologists* and *narratologists*. Broadly speaking, the former argue that a game's story lies in the set of rules that the game designers construct; i.e. the range of possibilities and restrictions that the player must abide by. The latter, however, see story as the outcome of an individual player's interaction with the game, and therefore something that the creators have but a very limited degree of influence over. Most academics have since rejected that very dichotomy, with Janet Murray arguing that "[t]hose interested in both games and stories see game elements in stories and story elements in games: interpenetrating sibling categories, neither of which completely subsumes the other" (2005 4).

The entire discussion, however, is illustrative of one of the most defining elements of videogames as a narrative medium: its interactivity. As opposed to other media, such as film and literature, videogames allow the player a degree of agency, described by Murray as "the satisfying power to take meaningful action and see the results of our decisions and choices." The potential for players to choose their own story has been oft-cited as a case for the platform's storytelling potential, but has received its fair share of criticism as well. Some argue that the goals of the videogame as a game and that as a story are mutually exclusive, and improving one over the other is essentially

a zero-sum game (Costikyan 2000). Others, including influential media scholar Henry Jenkins, argue instead that narrative is essentially just another tool in the game maker's toolbox, and just like any gameplay mechanic can be employed to either positive or negative effect. The idea that narrative must necessarily counteract the appeal of gameplay, then, is rather the result of thoughtless "attempts to map traditional narrative structures onto games at the expense of an attention to their specificity as an emerging mode of entertainment" (Jenkins 2004).

Still, even lauded single-player games have suffered from a degree of *ludonarrative dissonance*, in which the gameplay logic directly counteracts the narrative the player is immersed in (Chauvin et al. 2014). Famously, the *Grand Theft Auto* franchise has repeatedly told stories of harrowing personal loss and mourning, only to be rendered almost comically ineffective by the player's subsequent ability to casually murder hundreds of innocent bystanders. Such scenarios are illustrative of the degree to which player agency can potentially complicate the creation of a compelling narrative - even more so when having to consider the thousands of players in a massively-multiplayer game world.

Types of narrative

Such considerations, however, differ between the various approaches to videogame narrative that exist today. *Linear narratives* were for a long time the standard, being highly authored much in the same way that a movie or a book is (Bills 2009). Put simply, such a narrative allows the player to work their way through a pre-written story, without having any role of significance in determining its outcome. Such an approach essentially abandons the potential for player agency in regards to the narrative, and is often characterized by relying on cutscenes or written lore to tell the bulk of the story. *Branching narratives* seek to partially resolve this issue by giving the player various paths through a decision tree to choose from, each leading to different endings or outcomes. This approach has become an increasingly common solution to the perceived limitations of linear narratives, indeed offering a higher degree of agency than its predecessor. However, such a solution still remains imperfect in regards to the extent of the player's agency, limiting their choices to what was consciously authored by the game's designers. Additionally, branching narratives are subject to an inherent trade-off, with too low a tree density leading to the player quickly becoming aware of the limitations on their freedom of choice, but too high a density requiring a very costly, if not impossible, degree of manual labor (Ochs et al. 2009).

A third form, *emergent narrative*, is a form of gameplay-centric narrative that has been conceptualized extensively in the past, but has played a mostly experimental role in videogames to date. In essence, the story is *procedurally generated* rather than manually crafted, meaning it is generated throughout the game by a writer-defined algorithm.

Theoretically, this means the story continuously reacts to player actions and behavior, and unfolds organically and effortlessly as a result. Gameplay, then, becomes an essential part of how the player experiences the story, rather than living more or less independently in between cutscenes or long paragraphs of written lore. The implicit promise, here, is that instead of forcing the player to follow a static plot, an emergent narrative hands the reins to the person playing the game, thereby truly putting them at the center of the story.

Despite still being a relatively niche approach, the implications of such emergent narratives have been widely explored in contemporary academics. For one, Chauvin et al. establish five primary characteristics that such a narrative possesses, identified as coherence, agency, possibility space, uncertainty and co-authoring (2014). The first, *coherence*, refers to a world no longer existing merely for the benefit of the individual player, but as a simulation holding an unprecedented degree of autonomy. Its design follows a set of basic and consistent principles that are uniform across the world, offering the player the possibility to make their own choices. A door, for example, might adhere to the universal logic that it can potentially be opened, thereby stimulating a sense of exploration in the player (2). While that may not sound like a revolutionary idea, it is common for doors in linear games to be static objects or even mere textures so as to guide the player through the game, offering no logical narrative explanation and therefore leading to a degree of ludonarrative dissonance. Such strong coherence, in turn, increases the player's sense of *agency*, allowing them to employ their narrative understanding to better understand the game mechanics, thereby greatly enhancing their ability to make meaningful decisions.

The *possibility space*, in turn, refers to the framework of rules and limitations within which the player can act in the game. Chauvin et al. argue that "[e]mergent games simulate complex and consistent worlds by way of many interrelated subsystems to create large possibility spaces" (2014 2). This number of possible outcomes is far larger than what may have been manually crafted in a branching narrative, allowing the player the feeling that the world reacts naturally to their behavior. This *uncertainty* over the precise outcome of actions increases the player's

immersion in the game, forcing them to rely on their understanding of narrative logic rather than exposed game mechanics.

An emergent narrative, then, can be said to be *co-authored*; the result of both the game creator's definition of the possibility space and the player's subsequent decision therein. Rather than the player's gameplay choices directly counteracting the game's narrative, their agency is now a prerequisite for the story to progress.

Narrative in MMORPGs

Many of these characteristics, then, seem particularly well-suited for the MMORPG environment. World building has historically been a major aspect of the genre, due in large part to inherent genre traits such as the large amount of simultaneous characters online and a focus on travel and exploration through an open world. Although the player is theoretically free to travel to most locations in this world, it is common for some unseen guidance to be afforded to the player. Through such mechanics as starting locations, quest progression and the presence of high-level foes, players are often presented with a natural path to follow as their character's level and abilities grow, thereby somewhat limiting their possibility space.

One of the primary ways in which the game's narrative can be conveyed, then, is through the world's *visual identity* (Afrić 2007). Aspects of cultures, races, religions and lore can all to a large degree be communicated by visual means, such as through buildings, equipment, monuments and landscapes. This is especially powerful for titles that are set in established fictional universes, such as *The Lord of the Rings Online* and *Star Wars: Battlefront*, where such visual cues can build upon the player's established knowledge of the world's inhabitants and conventions. All these elements add to what is called the *unifying consistency* of the game world (Kryziwinska 2008), increasing the player's intuitive understanding of the world's coherence and thereby increasing their sense of immersion.

Such visual identity, however, is not restricted to the physical game world alone, but is also communicated through the characters that inhabit it. While the Middle-Earth portrayed in *The Lord of the Rings Online* (Turbine, Inc. 2007) certainly does have elements unique to the established Tolkien universe, it might still have in many ways resembled a generic medieval game world if not for the countless elves, hobbits and dwarves that roam the streets.

In characters, then, this visual identity can be expressed through such outward signals as physical features, clothing and equipment. The actions they perform, too, can be a

meaningful expression of their background, including through various forms of combat, crafting and exploration. In fact, this specific form of expression does not just appear in scripted behavior, such as with manually created NPCs, but also appears emergently as they do in the behavior of fellow player characters. In the example of *The Lord of the Rings Online*, to name one, player characters of the elf race hold stats that are beneficial to ranged combat, leading to the far majority of elf players choosing archery as their preferred style of combat. Similarly, dwarves receive traits that benefit close-range melee combat and blacksmithing, again nudging player characters in line with the conventions of the Tolkien universe.

Still, such visual identity in characters is a tool that remains underemployed, facing several inherent limitations. Most notably, contrary to the game world in which they operate, player characters are not generally persistent, disappearing into nothingness whenever the player logs out. The world, then, becomes what Tychsen and Hitchens refer to as a *ghost world*, or a world that will remain essentially unchanged whether the player operates in it or not (2006 2). Because of this, the player cannot permanently or meaningfully affect it, and as such has a rather unsatisfying lack of agency.

Furthermore, even players that are online simultaneously may be separated from one another, due in large part to the closely intertwined mechanics of *instancing* and *phasing*. In the former, players are divided among several instances of crowded in-game locations such as cities and battle sites, only appearing to the fellow players that they have arbitrarily been grouped together with. This is partially done for technological reasons, so as to diminish the number of players to be rendered simultaneously, as well as to prevent unmanageably large crowds that might break immersion or even render gameplay impossible. Phasing, similarly, groups players according to their progress in the game, only displaying fellow players within a certain range of their own level. While there are both technological and gameplay benefits to this mechanic, the experience of constantly being precisely as powerful as everyone else holds great potential for ludonarrative dissonance.

In addition to such limitations, fellow players also have the potential to be problematic. In a massively-multiplayer online environment, player characters are not only the main character to their own stories, but also supporting characters in everybody else's. As such, any kind of behavior that breaks with the conventions of the game world can be highly immersion-breaking, potentially shattering the unifying consistency of the game world and thereby diminishing the game's narrative appeal. Obvious

examples are the intentional harassment of players for non-game related reasons, but even something as innocent as talking about a real-life football game might serve to break the player's immersion.

Furthermore, MMORPG plots consist for a major part out of relatively simple modular quests, which from a narrative perspective are widely considered to be rather bland and repetitive. Indeed, Bartle argues that the far majority of PvE quests essentially revolve around the same seven basic structures, among them the killing of a certain number of enemies, collecting a certain amount of loot and speaking to a specific character (2016). Many such quests lead to so-called *grinding* behavior, or the repeated performance of the exact same task to painstakingly improve the character's skills. Not surprisingly, such quests contribute very little in terms of offering a compelling narrative experience, and narrow the audience down to the more hardcore segment of players willing to put in such time and effort.

Bartle notes that a primary reason for the pervasiveness of such quests is the sheer amount of effort it takes to handcraft compelling quests, and the subsequent production costs associated with that process. Although it is common for certain systems to be in place to ensure a degree of variation, including a change of the area, characters and foes involved, these generally fall short in hiding their similarities, thereby diminishing the player's capability for any meaningful degree of agency.

Leveraging player characters

Previous approaches

In the past, MMORPG titles have sought to address these challenges through various different approaches. In terms of the lack of character persistence, one experimental step into a solution can be observed as early as in *Ultimate Online* (Origin Systems, 1997), the first major MMORPG to find a degree of mainstream success. The game famously requires players to either set up camp or find a tavern before logging off, and allows other players to loot them if they fail to do so. In doing so, *Ultima Online* ensured the player was made explicitly aware of the game world as it existed after they had logged off, transforming the narrative from one revolving around their character to a coherent world that the player character was but one of many actors in. Although in itself a fairly inconspicuous mechanic with a relatively minor narrative impact, it does pave the way for similar approaches introduced further down the road.

A perhaps more impactful take on this approach can be found in the much more recent martial arts action

MMORPG *Age of Wushu* (Snail, 2013), which allows players to let their characters perform odd jobs in various establishments throughout the game world while offline. In doing so, their characters train relevant secondary skills, as well as gaining a small amount of in-game currency for their labour. During such time, however, player characters are vulnerable to being kidnapped by fellow players, who can then sell them into employ and cause them to lose part of the money earned while offline.



Figure 1: offline players performing menial tasks in *Age of Wushu*

Although still a relatively simple and small-scale solution, the offline play mechanic contributes to the narrative in a variety of ways. In terms of world building, players performing various in-game tasks add to the world's visual identity, populating the different venues with an ever-varying cast of employees performing menial tasks. Plot-wise, much like *Ultima Online*, it forces players to take into account the game world when they log off, and gives online players the opportunity to asymmetrically interact with offline players. In doing so, it diminishes the need for a network effect, requiring a smaller active player base to increase the narrative possibility space and make the game feel populated. At the same time, by allowing players to use their offline time somewhat efficiently, the game lowers the pressure on players to invest in the game full-time through grinding behavior, thus making it easier to combine with other MMORPGs as well as opening up to the market towards more casual players.

That being said, there are still a few considerable limitations to *Age of Wulin's* approach. Specifically, the odd job that your character performs is dependent on the location you log off in, with the task representative of the venue rather than the characters. As such, the activities do not in fact represent your background, class or skillset, and could in theory have just as well been taken on by a generic NPC. Additionally, due to the game's relatively limited character customization options, the characters still offer very little in terms of outward visual identity.

Other approaches have sought to establish a more prominent position for player characters. Although not itself an MMORPG, *Dragon's Dogma* (Capcom, 2012) presented a somewhat similar mechanic, allowing players to recruit other player's *pawns*, or party members, whose skills can then be employed to complement their own. These pawns will then not only fight alongside the player, but also comment on the game world, give advice in battle and assist when attempting to fulfill a quest.

Compared to standard NPC party members, this approach has several advantages. Rather than having been painstakingly crafted by the game's creator, these characters have grown organically through another player's interaction within the possibility space of the game, acquiring equipment and skills that fit seamlessly within the coherence of the world. This both makes for a diverse and believable cast of characters that strengthen the game's unifying consistency, as well as reducing the need for the game's creators to handcraft NPCs.



Figure 2: *pawns* in *Dragon's Dogma* provide a high degree of visual identity, increasing the unifying consistency of the game world

Despite this, many aspects of *Dragon Dogma's* approach might be considered far from perfect. Even if the pawns have been created by a fellow player, that influence is limited to their skills and outward appearance only. It does not, in fact, influence their disposition, with personalities being more or less uniform across all pawns. Although quick to comment on the game world and the player's actions, the content of these comments does not generally convey any personal opinions particular to that character, and therefore does little in the way of narrative character building. In fact, according to the in-game lore, pawns are essentially spirit-like creatures that can be summoned from another dimension, and diegetically did not exist in the real world until the moment the player recruits them. As such, there is little to no narrative reference to their having been created by a fellow player, nor any discernible diversity in terms of personality or character history.

Lastly, in a similar approach, *Phantasy Star Online 2* (Sega, 2012) allows players to recruit their friends' player

characters to their party, who will then essentially act as NPCs and assist the player in their progress. As opposed to both *Age of Wulin* and *Dragon's Dogma*, the game does allow some of the characters' respective personalities to shine through. In this approach, players manually choose the settings for their character's behavior, which will then be reflected whenever their player character is recruited by their friends. Among others, they can choose from a collection of pre-set character traits that will define how they act within a group, including such traits as *hero's spirit*, *intellectual*, *reserved* and *show-off*. Additionally, they can choose various modifiers for their behavior, defining the type of enemies they prefer to attack, the kind of reaction they have to other people's deaths, and the kind of offensive strategies they employ. Last, they can set automatic phrases that their character will utter in specific situations, including such states as gratefulness or injury.

One major problem, however, is the fact that players manually pick such traits and modifiers from a menu, rather than them being decided emergently based on their gameplay. Due to this approach, players can potentially choose for their characters to behave entirely different than their play style would have warranted, thus greatly diminishing their character's unifying consistency and breaking immersion.

Possible solutions

Such approaches, then, might perhaps be best seen as experimental first steps towards a more comprehensive model for asymmetric collaborative storytelling in persistent open world MMORPGs. Many of their shortcomings appear to be the result of creative choice or budget constraints, rather than insurmountable technological limitations. Indeed, various approaches have been proposed in the past that might greatly help fulfill their narrative potential.

In her 2009 article "Emotional Attachments for Story Construction in Virtual Game Worlds", Mirjam Palosaari Eladhari proposes a framework that would track player actions and decisions while online, and proceed to use this information to build a model of that character's personality. Such a system could potentially track a broad range of game states, including the player's quest outcomes; relationships to other characters; preferred style of combat and a wide variety of other factors. In doing so, Palosaari Eladhari actively seeks to leverage the narrative potential of virtual game worlds such as those in MMORPGs, thereby "[allowing] participants to construct their own appropriate narratives" (1).

One proposed solution is a semi-autonomous agent architecture based around the so-called *Five Factor Model* of

personalities; a behavioral framework that contains a person's personalities within the five factors of openness, conscientiousness, extraversion, agreeableness and neuroticism. This approach would allow "emotional output from the individual [player character] and to process events and objects in the [player character]'s surroundings in emotional terms. In other words, such a system would not only objectively track the various game states as they occur throughout the game, but also the character's individual emotional responses to them. Although beyond the scope of the first prototype, Palosaari Eladhari argues that such a system would "in the ideal case, have meaning for players since the sentiments are directly based on the interactions of the [player characters]." Contrary to the system employed in Phantasy Star Online 2, these personalities would thus be informed emergently through the character's interaction with the world, without requiring additional manual input from the player himself.

Such a solution would be a valuable first step towards a more compelling narrative, and would indeed solve several of the problems faced by the current approaches. Coming back to the approach in Age of Wulin, tasks performed by offline player characters could then be based on their personality rather than their location, allowing the population to hold a significantly more vibrant and diverse visual identity and thereby strengthening the world's unifying consistency. In fact, the development of semi-autonomous avatars might enhance their visual identity even further, allowing for both online and offline player characters to react appropriately to the world around them. Such reactions, for example, might be shown through such powerful visual cues as body language and character animations, with Vinayagamoorthy et al. arguing that "nonverbal; behavioural cues are often used to either project a personality trait such as dominance, or unconsciously provide cues to the individuals' persona" (2006, 7). This, in turn, could once more greatly improve the character's unifying consistency, and thereby the player's capability for intuitive understanding of the game world and immersion in the narrative.

Still, such an approach would be but a first step towards a truly immersive and narratively consistent game world. While the physical presence of such characters would indeed enhance the narrative in terms of world building, their value on the level of character development remains limited as long as the player cannot meaningfully interact with them.

Ochs et al., then, further expand on the notion of affording characters a degree of autonomy (2009). Indeed, they argue that a character's behavior should strive to

adhere to two dimensions of consistency, and that failing to do so would diminish both their credibility and the player's subsequent immersion. First, their behavior should be *consistent with past behavior*, meaning that there are no sudden and repeated divergences in their personality, and that their behavior is in line with their previous experiences. This is, by and large, the same principle that was lacking in Phantasy Star Online 2's approach to offline player characters. Second, they argue they should be *consistent with the current environment*, meaning that the characters must react in a believable way to events happening in the environment – particularly the player character's actions.

To achieve this, then, they propose to not only keep track of a character's emotions, but also of the emergent social relationships between the various characters that inhabit the game world. Characters that have previously cooperated, then, might react entirely differently to one another's presence than characters who have had repeated adversarial relations in the past. Narratively speaking, populating the world with characters that have complex relationships to one another would not only add increased coherence to their behavior, but indeed allow a player's action to resonate throughout the game world long after they log off.

The last hurdle, then, would be to leverage such increased world building and character development to the level of plot. As stated before, MMORPGs often suffer from dime-in-a-dozen modular quests, for a large part related to the high production costs of manually crafting such quests. Even in a game world populated with believable characters and complex relationships, relying on grinding behavior for progress might greatly counteract its ability to achieve any of the three essential goals defined earlier in this research.

Doran and Porberry, then, have explored the possibilities for procedural generation of such quests, arguing that by using an individual character as a seed, a sequence of subtasks can be generated that lead to a large amount of narratively compelling quests (2015). Although not explicitly developed in relation to characters with emergent personalities or relationships, the effectiveness of such a system would be greatly increased when used in conjunction with an ever-changing set of highly varied seed characters.

The system they propose, then, would use a character's unique characteristics to generate quests based on their wants, needs and traits. Such quests hold great narrative potential, allowing the player to work their way through a storyline that is highly representative of the state of the

game world and its inhabitants. Fulfilling these quests, then, would alter the states and relationships of both the quest-giver and the other characters involved, leading to the constant introduction of new content into the game at no further manual effort to the game's creators (1).

If these three approaches were to be used in conjunction, one single player could be granted an unprecedented level of agency within an extremely large possibility space. One player would be able to make meaningful decisions that would ripple through the game world long after they log off, thereby greatly diminishing the risk of the game becoming a ghost world and making for an ever-changing and vibrant game world. Even with only a small amount of players present at any given time, such a scenario would lead to what might be called a narrative feedback loop, capable of fulfilling all three essential goals at once: providing the initial appeal of a vibrant game world; diminishing the time commitment required from the players; and a greatly reduced need for handcrafted narratives by the game's creators.

Conclusion

Feasibility of emergent narrative in MMORPGs Achieving mainstream success with the launch of a new MMORPG is a complicated endeavor, but there is no reason to believe that it is inherently futile. To date, no title has managed to sufficiently stimulate emergent narrative to significantly decrease a game's dependence on social interaction, but various models have been proposed that could potentially resolve most of their shortcomings. It is likely that together they could make great strides towards achieving all three of the essential goals that have been identified in this research, and thereby help new MMORPGs find commercial success.

Many of the mechanics proposed here have in the past been proven to be technologically feasible, and have been adopted either on a small scale in retail games or experimentally in academic prototypes. As such, the successful leveraging of offline player characters is dependent upon the further improvement of such technologies in the future, as well as the willingness of game producers to venture out into the adoption of such innovations. Due to the long development cycles and the relative scarceness of new games being released in the

genre, the implementation of such a system would realistically fall in the mid-to-long-range time frame.

Still, with the right implementation, semi-autonomous player characters do indeed hold great potential as a means of substantially increasing the narrative appeal of MMORPGs. Additionally, given that this solution would help achieve all of the three essential goals outlined in this research, it can be concluded that such an approach would hold a significant benefit to the game's commercial chances in the highly competitive MMORPG market. Future research

Furthermore, many additional approaches exist that fall beyond the scope of this research, but potentially hold great promise to further improve the narrative appeal of MMORPGs. Specifically, systems have been proposed that could dynamically generate dialogue in line with the player's personality, potentially providing a new way to express various character traits as well as further diminishing the requirement for manual labor on the game creator's side (Tychsen and Smith 2008, Ryan et al. 2016, Lessard 2016). Such a system might also hold the promise of diminishing immersion-breaking behavior on the part of other online players, thereby further ensuring consistency with the current environment and addressing an additional hurdle in creating compelling MMORPG narratives. Delving even further, experimental ventures into dynamic voice generation have been carried out in the past, which in combination with such dialogue generation could greatly reduce the production costs of recording human voice acting (Rozak 2007, Fusco 2017).

Final considerations

It should be stressed once more that this research is not a call to replace the social appeal of the MMORPG genre with a narrative one, nor does it underrate the crucial importance of fellow online player characters. Instead, this proposal serves specifically to enhance the early stages of an MMORPG's life cycle, and is to be used in conjunction with the many tried and tested MMORPG design philosophies that exist today.

In conclusion, the leveraging of offline player characters to stimulate emergent narratives in MMORPGs is a feasible approach that holds great potential, and a topic that warrants further exploration both from within the game industry and the academic community.

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