

University of Alberta

**The Null Game: Feature-Specific Player Enjoyment in Massively
Multiplayer Online Role Playing Games**

by

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Abstract

Massively Multiplayer Online Role Playing Games (MMORPGs) are complex and interesting objects of study. They are quite popular among both casual and connoisseur gamers, and they are often played continuously over many years. Despite a reasonable amount of existing research on MMORPGs, no clear explanation has emerged to explain what particular game features encourage so many players to enjoy these games for so long.

In this thesis, I contend that the most important elements in the success of an MMORPG are meritocratic play and managed player efficiency (MPE). This contention is proved by examining the existing literature on player enjoyment and game design, surveying popular MMORPGs, and building and testing a simple, browser-based game that implements meritocratic play and managed player efficiency.

While existing research and my survey of popular MMORPGS provide good support for the importance of meritocratic play and MPE, participants in my study provided much stronger support by reporting particular enjoyment of game tasks that displayed the clearest meritocratic play and the best opportunities to manage player efficiency.

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Chapter 1

Introduction

To argue for the importance of studying video games is to re-tread already well-trod ground. Many papers about video games start with an explanation of why academics should be studying them. Mostly, these explanations boil down to popularity. Some scholars focus on the number of people playing online games (Dickey, 2005 and Castronova, 2005) and others on entertainment market penetration by all video games (Steinkuehler, 2006 and Dormans, 2006). In the end, they all agree that video games are important simply because lots of people are playing them. My goal in studying video games goes beyond reconfirming their popularity; I am not interested in them because they are popular, I want to figure out why they are popular.

Accordingly, I originally expected my research topic to be an exploration of “fun”, which is how I discovered that there is very little literature on what fun is, how we “have” it, and where it comes from. A great deal of the existing research on “fun” focuses on why we play. However, my reading helped me realize that I am not really interested in the reasons why people seek fun or play. I am more interested in what exactly people think is fun. I am also less interested in physical responses to fun or the cultural significance of games than I am in the kinds of things we are doing when we

say, “Hey, this is fun!” Since it is clear from the numbers of people playing them that games are enjoyable, I am particularly curious about what specific aspects of video games are fun. If they were not fun, no one would be buying them, and the video game industry would not be more profitable than the film industry (Mulligan and Patrovsky, 2003).

So, what is the draw? A few scholars have noticed that the basic building block of video games is pattern matching (Koster, 2005, Gee, 2003, and others). People spend a great deal of their lives matching patterns: comparing a sentence with internalized grammatical rules, noticing the hole in the fridge that indicates the milk is not there, etc. The inclusion of matching in a game is natural because it is such a common behaviour, but what makes it enjoyable? Scholars also argue that safety is very important to fun and that video games are enjoyable because they provide a physically safe place to role-play (Turkle, 1995, Provenzo, 1991 and many others). For example, in *Call of Duty: Modern Warfare 2* (Infinity Ward, 2009), a player can be a special forces commando saving the world from terrorism. Perhaps the player would rather be a violent criminal bent on revenge in *Grand Theft Auto IV* (Rockstar North, 2008). Video games allow players to experience this from the safety of their own couch. Although these may be contributing factors, I believe there is much more to fun than pattern-matching in a safe environment. Specifically, I will identify what I consider to be the two most important factors that make video games fun.

First, I propose that video games are fun because they operate as a merit-based system. In the real world, many people are born in possession of more reward (i.e. wealth) than can be earned in a lifetime of meritorious action, while others who work very hard and display a great deal of merit are never recognized for it. Video games, on the other hand, are strict meritocracies. If you collect one hundred coins in a game that rewards coin collection, you will always get a prize. Even if you face disadvantages such as poverty or discrimination in the real world, you will still get a prize in the game world. If you instruct your avatar to build five hundred virtual iron nails, your avatar will become measurably better at nail-building. If you built five hundred nails in real life, there is no guarantee that you would be even a little better at nail-building, let alone concretely, measurably better. Video game rewards also provide instant feedback on your merit, whereas much of your work in the real world disappears into the ether because no one notices or cares. Some time down the road you may receive a paycheck in recognition for your work, but that money will not be connected directly to any specific action. In a video game, if you pick up a coin, you get a point, and the results are displayed immediately on the screen. One of my hypotheses is therefore that this direct connection between work and reward is one of the most important things that makes games fun.

Second, I propose that Managed Player Efficiency (MPE) is another important element of fun in video games. Player efficiency is a measure of how effectively the player is playing the game. Efficient play occurs when the player quickly finishes tasks with a minimum of negative results (e.g. killing enemies without losing health, finding treasures within a time limit, etc.). Less efficient play occurs when the player is having difficulty with the game (e.g. frequent reloads, lost health, low scores, etc.). MPE is achieved by balancing player efficiency so that players of any level feel that they are always being challenged without being thwarted to a frustrating degree. Game designers have already begun implementing this idea in the form of difficulty levels (e.g. Easy, Medium, Hard, etc.), but MPE should be fluid enough to react immediately to current play. If game difficulty reacts fluidly to player ability, the game will never feel too easy or too hard, and that perfect level of challenge is an important factor in promoting prolonged gameplay. In other words, MPE makes the game more fun. MPE manifests itself in Massively Multiplayer Online Role Playing Games (MMORPGs) in a particular way. Rather than balancing the difficulty for each player, which would unbalance the game, MMORPGs provide a large and varied enough world that players can always find a location or action combination that matches their desired balance of risk and reward.

This thesis will be divided into three chapters. I will begin by reviewing previous research in Chapter 1, with a focus on applicable theories from

other disciplines as well as a summary of work by game scholars and designers. The goal of Chapter 1 is to build a theoretical explanation for what makes video games fun. In Chapter 2, I will apply this theoretical lens to five popular MOGs, *Ultima Online*, *EverQuest*, *World of Warcraft*, *HoboWars*, and *Torn City*, in an attempt to identify the most important features that make video games enjoyable, with specific focus on the features that I refer to as meritocratic play and managed player efficiency. Chapter 3 describes the study I conducted to prove my findings about the importance of meritocratic play and MPE in video games. I created a simple browser-based game, recruited fifteen participants to play it, and surveyed them about their enjoyment of the game. The aim of Chapter 3 was to answer three research questions: do meritocratic play and MPE contribute to player enjoyment, can simple games be used to study complex games, and do an ordered response scale survey and self-estimated time-on-task produce similar results?

Terminology

Before getting too deeply immersed in the reasons that people play games, I would like to define the terms I will use in my discussion. It is important to provide these definitions, before moving into the main argument because many are common words that I have appropriated for specific purposes in my argument.

Fun – Scholars from many academic fields have attempted to define the word fun. It has been defined differently in cultural studies, psychology, sociology, game studies, etc. For my purposes, fun includes escapism, relaxation, stress release, and any other factors that keep people enjoying and playing video games.

Games – In the most generic sense, games are fun activities with some structure. The word “game” can be used to describe a broad range of activities, from something as simple as tag or catch, to backgammon or chess, and to video games. However, for the purposes of this thesis, “games” will always refer to video games.

Video games – Typically described as games that have an electronically-generated visual component. This is not a very useful definition for my purposes as it leaves too much room for ambiguity and is broad enough to include pinball, bowling with automatic scoring, etc. A more useful definition, and the one I will be using, is simply a game that is played on a computer or video game console such as Nintendo GameCube, Microsoft Xbox, Sony Playstation, etc.

Players – People who play video games. In other contexts, players can refer to participants in sports or drama, but in this case, it only refers to video game players.

Avatar – The in-game representation of the player.

Gameplay – The method of interacting with a particular game as dictated by the game designer. This is a combination of the controller and how it is used, the set of possible actions the game makes available to the player, and how those actions are interpreted by the game.

Graphics – The visual representation of the game or the “video” part of video game. This is also known as visuals or graphical content. Graphics can be minimal in that they only show enough visual information for the gameplay to make sense or maximal in that they attempt to be a true and complete representation of the game world.

Content – The story, background, or theme of the game. This includes many elements that are found in other media, such as setting, characters, etc.

Player efficiency – A measure of how effective the player is at playing the game. It can also be viewed as a ratio of success to failure.

Multiplayer game – Games in which more than one player is competing and/or cooperating in the same game space. Massively multiplayer games include thousands of players in the same game space.

Avatar growth – Improvement of the player's avatar (e.g. if an avatar collects enough feathers, it is granted the ability to fly). When I say that a game has role-playing game (or RPG) elements, I mean that it features some form of avatar growth; the terms avatar growth and RPG elements are used interchangeably.

MOG – A Multiplayer Online Game. For the purposes of this paper, this definition will include massively multiplayer games with static, interactive worlds and role-playing elements, also known as MMORPGs (Massively Multiplayer Online Role Playing Games). All of the games discussed in chapter 2 are MOGs and some are MMORPGs.

Virtual world – A game space that includes many elements associated with the real world: an economy, wildlife, government, war, etc. Virtual worlds in the context of this paper are the setting for MOGs and exist without players (static), but are also affected by player actions (interactive). Worlds that are both static and interactive are also called persistent worlds.

Meritocracy / meritocratic play – A game which encourages a meritocratic feel or rewards play in a meritocratic way will be referred to as encouraging meritocratic play or providing meritocratic play.

Study Parameters

Much of the previous research on video games will not be relevant to my topic or is outside the scope of my topic. For example, computing scientists and mathematicians have provided books upon books of theory and research on game theory, but in the main, these researchers are interested in finding optimal play strategies, exploring games as mathematical problem spaces, and identifying the complex statistical interactions in games. Though these are interesting fields, I find that they do little to uncover the reasons people play games. The other fields I will only briefly touch on are Sociology and Cultural Studies. There are a few papers in these fields that are applicable to my topic, but the rest focus on questions like why particular cultures play games or how game content affects those cultures (e.g. violence, gender, class distinctions etc.). I am more interested in identifying specific game features that keep players interested.

Violence in video games is another popular topic in video game scholarship and another topic that is outside the scope of this project. There are an incredible number of papers that discuss why violent games are popular, whether playing them has negative effects on players, and many other important questions. The problem with these studies, in my view, is that they largely ignore an important truth about video games: gameplay is more important than content. It is difficult to prove this statement through

academic reference because most (though not all) academics have yet to address this issue.

Since content is usually the key component of other media, it is a fair academic assumption that the new medium of video games also depends largely on content. Unfortunately, this is also an incorrect assumption. Back in the early days of arcade games, Nelson and Carlson (1985) found that young male players chose games based on skill (or, more specifically, how easy it was to show off while playing) rather than content.

Content in video games is like typography in books or cinematography in film: important to the work, but not why you choose to read or watch it. It could be classified as an enhancing feature rather than a core or required feature. The best indication that this is true of video games is to consider how much time the video game community spends discussing game content. On the back of video game packaging, the story is usually covered in a sentence or two and the list of gameplay features takes up the rest of the space. In player forums where people discuss their favourite games, there may be one topic on favourite story moments, but there will be several topics to cover all of the gameplay discussions. Game reviews include a paragraph in the introduction on the content, but quickly move onto the controls and gameplay challenges the game offers.

The games most suited to my purpose are those that people never stop playing, a class of games generally called MMORPGs (Massively Multiplayer Online Role-Playing Games), which I shorten further to MOGs (Multiplayer Online Games). Players who enjoy MOGs continue playing them indefinitely. *Ultima Online* (Origin, 1997) still boasts more than a quarter of a million players eight years after its inception (Castronova, 2005). Playing a game for eight years was unheard of before MOGs, so there is clearly something about these games that makes them fun even over long-term, prolonged play.

Related Work

In previous attempts to understand why people play games, scholars have tackled game studies from a variety of disciplinary perspectives. Psychology researchers have applied a range of theories including cognitive theory, behaviourism, early childhood development, flow theory, and educational psychology. Economists have explored the economies of virtual worlds. Game designers have published several books that discuss their experience making games that people want to play. These designers certainly do not ignore the theories of their academic counterparts, but their writing focuses more on the lessons of their practical experience. My review of previous research revealed several areas of enquiry that illuminate factors that make games fun including: mental models, drive theory, flow theory (Psychology);

Economics; socially-focused, player-focused, and realism-focused studies; and game design.

In Psychology, a great deal of research on games has revolved around the reasons for and the results of play. There are many reasons that people play: to expend excess energy (Spencer, 1878), for cognitive exercise and development (Piaget, 1962), as a socialization tool (Mead, 1934), and many more. These studies have focused on short-term play and the motivations to begin play rather than factors that prolong play.

Cognitive psychology, on the other hand, may help us understand what encourages players to keep playing. Cognitive psychologists have examined the evolution of the mental model while playing a game. When a player encounters a game, they will form a mental strategy for success in the game. To start with, the player will use a very simple or “weak” model such as trial-and-error. As the player gains information on how the game operates, they will likely try more complex or “strong” models. Cognitive research suggests that instead of modifying manual difficulty (e.g. making enemies move more quickly), game makers should adjust the cognitive (or mental) difficulty by changing the cognitive model required to succeed. This will maintain the difficulty level so that the game does not become stale (Graham, Zheng, and Gonzalez, 2006). My own term for this is managing

player efficiency (MPE). MPE can be explained in psychological terms as a method of encouraging a fluid and flexible mental model.

Psychology also supports the importance of meritocratic play. White (1959) posits that there exists a drive toward competence which motivates humans to interact with and learn about their environment. While White does not relate this to games specifically, it is reasonable that a safe environment with concrete, measurable competence (i.e. a video game) would be the best place to express this motivation. The drive toward competence is a prime drive (like the need to eat, sleep, etc.), expressed in MOGs in terms of meritocratic play. If a game does not provide information (e.g. unlocking new weapons, gaining experience points, etc.) to show players that their competence is increasing, this drive will be frustrated, and players will look elsewhere to satisfy that urge.

The importance of maintaining an even level of difficulty, through MPE, is also supported by the theory of flow. Flow theory states that there is an optimal state where focus is perfect and time and bodily/worldly needs are ignored. This optimal state can be reached when player skill and game difficulty are well balanced. To encourage a flow state in a MOG, game tasks must be possible, they must require concentration to achieve, they must have clear goals, and feedback on those goals must be provided immediately (Csikszentmihalyi, 1990). Further study in flow theory has revealed that

while flow encourages prolonged play, it is a maximizing satisfaction task, and therefore rarely causes addiction. Tasks which are more focused on minimizing dissatisfaction are more likely to cause addiction, so it is important to ensure that game tasks encourage avatar and player growth to minimize addiction problems (Wan and Chiou, 2006).

MOGs actively encourage players to enter a flow-state by using the varied-world interpretation of MPE. While MPE can be achieved through modifying the difficulty of game challenges in reaction to the player's ability, it is most often accomplished in MOGs through a large and varied game world that provides many locations and opponents to choose from, so that players can manage their own efficiency by choosing between many risk/reward scenarios. Providing a range of challenges for players increases the likelihood that they will find an ideal challenge level, enabling them to enter a flow state.

Through analysis of virtual economies, Economics provides strong evidence for the importance of meritocratic play. Castronova identified the requirements of a successful virtual economy (and therefore a successful MOG). The game must have a player-driven economy that succeeds by putting players to work (moving economic energy from the real world to the virtual one). Player work creates products and these products drive the economy. As with flow theory, there must be increasing levels of challenge

in the game to combat the economic drive to minimize challenge (Castronova, 2003). In later work, Castronova lists the elements of an economy that promote prolonged play: consumer choice, fair reward for work, creation of unique objects that stay in the world, fair competition, risk, bargains, property, crime, chaos, and history (Castronova, 2005). These features mimic the dangers and successes of the real world and strengthen the draw of the game world's meritocracy by rewarding players fairly and consistently for time spent playing the game.

Researchers from a variety of disciplines are convinced that the only thing a MOG needs to be successful is a thriving social space. In fact, the roots of MOGs are in pen-and-paper- RPGs like *Dungeons & Dragons* (Gygax and Arneson, 1974) or *GURPS* (Jackson, 1986), which are largely social endeavours (Dormans, 2006). However, MOGs are not primarily social spaces, else they would simply be visual chat rooms. Though many players join player groups for social interaction, they also report that their real-life relationships are much more important than those in the game (Kolo and Baur, 2006).

One way MOGs increase the importance of online relationships and prolong play is to promote cooperation. To create a rich environment for cooperation, players must be uniquely identified, the world must be small enough (or resources scarce enough) that repeat encounters are likely, and information

on another player's past actions must be available (Kollock, 1996 and Steinkuehler, 2006). These features prolong play but only indirectly relate to meritocratic play and MPE by providing a reference for merit (e.g. comparing my success with others) and more options for challenge (e.g. including social goals like acquiring a certain number of friends). I categorize social aspects in the same way I categorize content: an enhancing feature rather than a core feature. However, the importance of cooperation and social pressure in prolonging play is certainly worthy of further study.

Previous player-focused studies offer mixed support of MPE and meritocratic play. For example, Wood, Griffiths, Chappell, and Davies (2004) found that players want a game to have realistic graphics and sound, configurable controls, multiplayer competition, character development and customization, exploration, and unpredictability. Players also think that the game should be easy to learn and that player and avatar skill should be easily improvable (Wood et al., 2004). Another study based on player feedback suggests that a mix of hard fun (deep strategy, difficult challenges, and hard competition), easy fun (exploration, puzzles, and novel experiences), and social interaction is ideal (Lazarro, 2004). The importance to players of multiplayer, avatar advancement control, social aspects, and allowing the players to choose their level of challenge support my argument for MPE and meritocratic play, but the demand for realistic game worlds, exploration, and chaos do not. However, I hope to prove that these features

are valid but not nearly as critical to prolonged play in MOGs as meritocratic rewards and MPE.

There are a smattering of other scholars from various disciplines whose arguments are relevant to this discussion but do not fit neatly into the previous categories. Turkle (1995) explains that virtual worlds need to be safe so that other important features like exploration, self-transcendence, and unpredictability can be enjoyed. Bowman (1982) disagrees with Wood et al. that sound and video are important, but agrees with Csikszentmihalyi that games should have immediate, unambiguous feedback. Provenzo (1991) points towards the importance of goal-oriented play matched with few negative consequences which is essentially a direct argument in support of meritocratic play with carefully applied realism. Dickey (2005) focuses on games that use engagement to prolong play. According to Dickey, engagement requires setting, compelling characters, interaction with feedback, focused goals, challenge, and social experiences. Stagnitti (2004) argues that to be fun, play situations must be internally motivated (not sanctioned or planned by others), both transcendent and reflective of reality, player controlled, focused more on the process than the product, safe, and unpredictable. Each of these scholars touch on elements of meritocratic play and MPE in their arguments about what makes games fun.

Game realism is an important aspect of meritocratic play and MPE and if carefully applied, can be used to prolong play. Castronova (through realistic economics), Csikszentmihalyi (through immersion), and Wood et al. (through graphics and sound) state that realism is a desirable game trait. Magerkurth, Engelke, and Memisoglu's research (2004) indicates that a careful balance between social and physical challenges in the game will make it feel more real and therefore promote prolonged play. Schollmeyer (2006) calls for more complexity to increase realism. When applied perfectly, meritocratic play and MPE mimic not just the real world, but the real world as it should be. A person should be able to find a job that properly mixes challenge with compensation, and their work should be compensated fairly. These are the core tenets of meritocratic play and MPE and adding realism only enhances their power to prolong play.

In other words, scholars from many disciplines agree that games should include safety, unpredictability, social elements, cooperative/competitive elements, realism, exploration, clear adjustable controls, clear goals and fair rewards, clear and instant feedback, public player and world history, self improvement, and a system to balance game difficulty with player ability. Not surprisingly, all of these things could also be found on a list called "How to improve the real world". We can therefore surmise that players will continue to play a game if it gives them something they want but cannot get

in real life. That very desire for realism reinforces the importance of MPE and meritocratic play.

Besides academics, there is another group of people that write books about how games ought to be made: game designers. The leader of the pack, Richard Bartle, was co-creator of the first virtual world, *Multi User Dungeon* (MUD, 1978)). Some current, popular games like *HoboWars* and *Torn City*, discussed in the next chapter, are no more than webpage-based interpretations of *MUD*, so Bartle's advice is particularly important to my research. One of his major contributions to game literature was to identify the four types of players: achievers, explorers, socializers and killers (Bartle, 1996). Achievers focus on game-related success, so they are always trying to reach the next milestone, beat the next monster, and find the next treasure. Explorers are interested in seeing all corners of the virtual world, experimenting with the world itself (e.g. testing the edges of a game's physics engine) and recording their findings in maps or journals. Socializers focus on human interaction through game channels, which includes role-playing and organizing player groups and events. Killers enjoy harassing other players. Bothering fellow players comes in many forms including killing them where possible, spamming them with in-game communication, stealing resources and rewards, and finding new ways to wreak havoc.

These player type categories indicate what features are required for a particular player to be drawn back to a game repeatedly. Explorers need a large and varied world, which is an aspect of MPE. Achievers require measurable rewards, which requires the game to have a meritocratic play style. Socializers and killers are trickier because their enjoyment of the game is not based on anything the game is doing, unless the game is somehow restricting or preventing their desired actions. It is therefore difficult to identify particular features of importance to these groups. Fortunately, player type categories are not rigid and combinations are the norm.

Bartle also underscores the need for balance. There are three equilibrium points that the four player types will find given certain circumstances. Killers and Achievers balance each other in an achievement-focused game world. Socializers dominate in a purely social world where Killers are foiled by rule or sanction. The third equilibrium point occurs when the pressures exerted by all player-types are balanced, though Bartle admits that this kind of balance would be difficult to achieve without advanced game design and player management features for the creators (Bartle, 2003). These equilibrium points exist and therefore, a balance can be reached where all players are happy. In fact, equilibrium points must exist in any game that allows the relevant player types to co-exist (Nash, 1950). Bartle goes on to say that since Killers have a depressing affect on all other player types, it is important to include game features that simulate Killers (like random hostile creatures) so

that their positive effects (mostly to allow the Achiever's achievements to be meaningful) are still present even if Killers are not.

Game designers are focused on the pragmatic task of gaining and keeping players, which has taught them the importance of MPE and meritocratic play. Raph Koster, creator of *Ultima Online* (arguably the first major, graphical MOG) and producer of *EverQuest* (Verant, 1999), *Star Wars Galaxies* (SOE, 2003), *EverQuest II* (SOE, 2004), and many more, argues that the following elements are necessary to keep players interested: purposeful preparation (work done before an encounter must increase chances of success), exploration, a range of challenges, player skill required to meet challenges, variable results (the same action should not always have the same result), high-level players must be discouraged from monopolizing low-level content, and failure must have a cost (Koster, 2005). These requirements reinforce the importance of MPE and meritocratic play. A varied world with differing challenges requires preparation while a meritocratic play world rewards that preparation with success. Exploration and variation of challenges and results are clearly in support of MPE.

Discouraging high level players in low level areas is a new and important aspect of meritocratic play. If a new player spends two hours in an area with content designed for new players, that player gets reasonable rewards for effort. If that same area is overrun with experienced players who consume

content at an extremely high rate leaving none for the new players, the new player's two hours will result in no gains and the meritocracy will be violated. It is also possible that the new player will not wish to continue playing the game.

The only things that game designers universally agreed on were that games should have player-owned property and safe-zones (Mulligan and Patrovsky, 2003). In terms of managing attrition (or encouraging prolonged play), they suggest carefully implemented player-generated content. Giving players the ability to affect their world will keep them coming back (Mulligan and Patrovsky, 2003). This player control can take many forms. The world can be physically changed through building houses, stores, or cities. Players can have political impact by running for mayor, creating factions, and starting or stopping wars. The economy can be affected through running a store, creating shortages, and/or surpluses. Social changes can be made via diplomatic functions, team or group creation, and faction management. Causing important, measurable change in the virtual world via any of these methods is a core tenet of meritocratic play.

The designer's perspective, gained through creating MOGs, provides a different view than the academic's perspective, gained through studying MOGs. Despite this important difference, the two groups agree in many cases. Namely, that it is important for each kind of player to find features

that satisfy their style of play and that balanced gameplay, variable difficulty, exploration, reward for effort, and player-driven content are important elements for prolonging play.

In the next chapter, I will explore features that encourage prolonged play from the player's perspective. I will evaluate the importance of meritocratic play that rewards players in a measurable way for progressing through the game, MPE that encourages players to find the game difficulty balance that they desire, clarity in gameplay and interface design, balance to allow different play styles and measures of success to flourish, and social features to encourage cooperation and competition. These groups of features will provide the framework to compare and discuss the subject of prolonged play.

Chapter 2

The Games Gamers Play

I had originally imagined this section of my thesis to be filled with the cacophonous voices of players. These voices were to come from the plethora of online community forums dedicated to MOGs. I had selected specific MOGs to focus on, and I prepared to dive into a world of interesting discussion about what is and is not fun in games. Sadly, I was disappointed. Through my survey of game forums, I discovered that players were not interested in a meaningful discussion of game features. The discussion basically broke down into the following categories: suggestions to make the game easier (in terms of time spent to achieve goals), suggestions to make the game easier (in terms of interface frustration reduction), complaints about game balance, and complaints about other players abusing game imbalance. The forums are simply too random and varied to be integrated into this project. While I am interested in discovering how the player voice compares to the academic voice on this topic, that discussion must be saved for future work.

Instead of looking to player forums to provide some context and for a player-centric perspective on what makes games fun, I will apply my expertise in this field through a heuristic inquiry. Patton (1990) describes the

heuristic method as a form of phenomenological inquiry that uses personal experience of and intense interest in the subject. Heuristics in this form can be used to study difficult populations or subjects (Patton, 1990). While synthesizing and discussing existing game research and planning, building and testing my experimental game, I have operated within the context of my game experience. I have spent twenty-five years building, reading, and playing in the world of video games, which allows me to discuss the topic as a domain expert. I have played the games used in this study for an average of two years each. The process of selecting appropriate games, discussing their history and interaction, and studying the player-, designer-, and scholar-driven features informed the development of my test game, which will be examined in the next chapter.

Choosing the games

The most logical course of action for choosing games to study was to identify the most popular MOGs, and to investigate what people enjoy so much about them. However, because MOGs are becoming more popular all the time, I could not simply choose the current top three most-played MOGs without excluding ground-breaking games that existed when MOGs were in their infancy but which were extremely popular in their time. Using Woodcock's research on active subscriptions, I selected three games that were at one time the most popular MOG: *Ultima Online* (Origin, 1997), *EverQuest* (Verant, 1999), and *World of Warcraft* (Blizzard, 2004).

I have decided not to include *Lineage* (NCSoft, 1998) or *Lineage II* (NCSoft, 2003) in my study. Both games were very popular, but they are so feature-similar to *Ultima Online* that the discussion would be redundant. It has been suggested that counting a game's active subscriptions is not a sufficient measure of its popularity (Koster, 2006 and Woodcock). Koster argues that there are many reasons why the number of active subscriptions does not correspond to the number of actual players playing a particular game: players with multiple accounts, players who have forgotten to cancel their accounts, families who play under one account, players who continually switch from one trial account to another, etc. My answer to this criticism is that there is no foolproof way to calculate the number of actual players, so counting active subscriptions is a reasonable method until something better is devised.

Due to their popularity, it is necessary to study these visually rich, big budget games. However, the group of games that I am most interested in are low budget, non-graphical MOGs, which are played in a web browser. From this category of browser-based MOGs (BB-MOGs), I have chosen to study *Torn City* (Chedburn, 2004) and *HoboWars* (andy, 2003) based on their popularity. Both games have been ranked "most popular" by Top Web Games and Apex Web Gaming for the last two years.

Game descriptions

Providing a brief description of each game is important because without some sense of the style of these games and their specific mechanics, it will be very difficult to understand the discussion that follows.

Ultima Online

Ultima Online was first released by Origin Systems in 1997. There were many precursors: *Adventure* (Crowther and Woods, 1976), *MUD* (Trubshaw and Bartle, 1978), *Neverwinter Nights* (Stormfront, 1991), etc., but *Ultima Online* was the first massively multiplayer RPG with a persistent, virtual world that became popular. Like the other games in this study, *Ultima Online* has evolved significantly since its inception. It now allows instant travel and other playable races (previously players could only play as a human). It has had several graphical overhauls and there are new worlds, new gameplay rules, etc. However, the basic concept of *Ultima Online* remains the same: the avatar has a mix of skills and attributes, which are improved through use and degrade when unused. These skills and attributes have individual and group caps (for example, each skill has a maximum value, and there is a maximum total for all of an avatar's skills). There are no levels or "experience points" since everything is done through the management of skills and attributes. For example, while chopping wood, the avatar's Lumberjacking skill will go up and its Health and Stamina attributes will also increase. If the avatar has reached its total attribute maximum, its

Mana attribute will go down as Health and Stamina go up. Similarly, if an avatar is at its maximum number of skill points, when Lumberjacking goes up, another unused skill goes down. The point of view in *Ultima Online* is third-person isometric, which essentially makes this game appear three-dimensional while it remains two-dimensional.

EverQuest

EverQuest was created by Verant Interactive in 1999. By borrowing races, classes, and more from *Dungeons & Dragons* (Gygax and Arneson, 1974) and implementing features designed to appeal to disgruntled *Ultima Online* players like opt-in player-versus-player, simplified advancement, and better social features, *EverQuest* attempted to best *Ultima Online* in all areas. In terms of player base, it certainly succeeded. Woodcock reports that *EverQuest* at its peak more than doubled *Ultima Online*'s peak active subscriptions. My personal experience is that everyone I knew who played *Ultima Online* eventually stopped and switched to *EverQuest*.

There are several possible explanations for players' preference for *EverQuest*. It provided a large, three-dimensional world. Players could choose an avatar from among many races, classes, and religions that had established strengths and weaknesses, unlike the avatars in *Ultima Online*'s more fluid skill system. There are some *Ultima Online*-style skills in *EverQuest*, but they are strictly non-combat oriented. All combat skills are

rigidly tied to character class. Thus, characters gain experience and levels through prolonged play, which translate into combat skill upgrades, new powers, greater health and larger pools of magical energy.

For avatars to improve, players must gain avatar experience through fighting battles and completing quests. When enough experience is acquired, the avatar gains an experience level. A new level means an increase in available health (meaning the avatar can take more damage before dying), access to new skills and spells, availability of new items and areas to explore, and many other things. This system of experience, leveling and rewards has its roots in pen-and-paper RPGs but is used in many modern games, including *EverQuest*, *World of Warcraft*, *HoboWars* and *Torn City*.

World of Warcraft

World of Warcraft was released in 2004 by Blizzard Entertainment. Like *EverQuest*, *World of Warcraft* learned many important lessons from games that came before, copied liberally from *Dungeons & Dragons*, and in the end, eclipsed its predecessors in popularity. At the moment, *World of Warcraft* represents the peak of MMORPG achievement with its millions of players, mainstream media coverage, celebrity players and endorsements. It continues to maintain a death grip on top spot in the market. *World of Warcraft* avatars behave very similarly to those in *EverQuest*; they improve by gaining experience points and levels within rigid class-based trajectories

accompanied by more fluid non-combat skills. *World of Warcraft* is essentially a flashier, graphically updated, more user-friendly version of *EverQuest*.

HoboWars

HoboWars is a product of HellBored Pty Ltd. and is a browser-based multiplayer online game (BB-MOG). Its release date is difficult to determine as there is no corporate record, marketing, or history of BB-MOGs. Based on the signup date of the first user (the game's creator, Andy), the game started some time in summer 2003. While it has experience points and levels, *HoboWars* departs greatly from the models of the larger, commercial games previously discussed. There are two ways for avatars to gain experience: begging and fighting. Unlike, *EverQuest* and *World of Warcraft*, there are no character classes per se, and all players can be involved in all game activities. Avatar attributes (e.g. Intelligence, Speed) can be increased through training. Most of these attributes only improve the avatar's combat effectiveness, but one, Intelligence, affects training outcomes for all other attributes and increases the amount of money gained from begging.

The most important difference between *HoboWars* and the games discussed thus far is its treatment of space and time. In *Ultima Online*, *EverQuest*, and *World of Warcraft*, avatars have no substance in the game world when the player is not present. When the player is present, the avatar appears in the

world and takes action. *HoboWars* avatars are always present in the game world and avatars may be killed even when their players are not online. More traditional MOG avatars can travel almost wherever they like (some areas are restricted to higher-level avatars), but the travel takes time as the avatar must “physically” walk to these locations or to in-game “shuttles” for faster travel (though even fast travel takes real time to accomplish). In *HoboWars*, an avatar’s location is changed simply by clicking the link for a new location and takes no real or virtual time. There are some special destinations that divide movement into a grid. The player must move through the grid one square at a time, but even then, the speed of travel is not dictated by the game but by the speed of the player’s clicks and the speed of their browser, computer, and internet connection.

Time in *HoboWars* is even more interesting. Experience-bearing actions (fighting and begging) cost “awake” points. Each avatar gets a pool that can hold one hundred awake points, which are spent by doing actions (five for fighting, ten for begging) and are recharged automatically over time (five points every fifteen minutes). When the avatar is out of awake points, it can still travel, race shopping carts, train rats, etc., but cannot fight or beg.

Further, the avatar can be either unconscious or conscious. When conscious, avatars can fight, gain more money begging, gain begging skill, and gain experience. When unconscious, avatars cannot fight, but they can beg.

Unconscious begging does not increase experience and the avatar earns 40%

less money, but it will still increase its begging skill as much as a conscious avatar would. Unconscious avatars cannot be attacked, but all avatars are automatically made conscious during the server reset every twelve hours (noon and midnight GMT). One can imagine the mad rush to log on, one minute after the reset, to try to attack and knock unconscious as many players as possible before being knocked out in turn.

Another important aspect of *HoboWars* is that it is a full time player-versus-player (PVP) game. Other games provide separate servers, opt-in programs, or special areas for those players that like to fight against other players. In *HoboWars*, if an avatar is awake, it can be attacked, and as I have mentioned, there are significant advantages to keeping an avatar awake. Without any complicated rules, items, or locations, the creators of *HoboWars* have provided a game where PVPers can attack absolutely anyone in the game, but where cautious players, who do not mind advancing more slowly, can still have fun.

Torn City

Torn City, created by Chedburn Networks in late 2004, is another BB-MOG. In terms of space and time, *Torn City* works very similarly to *HoboWars*. Travel is only a mouse click away and many things may be done while the player is out of time units. In *Torn City*, the time units come in two forms: energy and nerve. Energy is used to train in the gym, take classes, and fight.

Nerve is used only to complete crimes; more difficult crimes cost more nerve. Training, fighting, and successful completion of crimes all contribute to experience and experience translates into levels.

Torn City is unique among the test games in that it appears to violate rules of both meritocratic play and MPE in terms of explicit feedback. Feedback is an important component of both MPE and meritocratic play. There is an understanding that games report success and failure so that efficiency can be managed and that effort is properly compensated. *Ultima Online*, *EverQuest*, *World of Warcraft*, and *HoboWars* all provide a reasonable amount of explicit feedback. *Torn City*, on the other hand, provides mostly implicit feedback, requiring the player to pay more attention to all feedback and to combine several streams of feedback for a clearer picture of their avatar's status in the game.

For example, there is no way to know exactly how much experience an avatar has in *Torn City*. A player can tell what level their avatar is currently, but there is no way to know how close an avatar is to its next level until later in the game, and even then, the player is only told generally whether the avatar is close to the next level or not. There are other signs that experience is being gained (e.g. more crime successes, better results at the gym) but no concrete way of knowing for sure. Combining implicit feedback with harsh punishments for failure (discussed later in the MPE section),

positions *Torn City* as a game for hardcore, connoisseur or elitist gamers. Connoisseur gamers revel in games like *Torn City* because their ability to succeed despite high levels of frustration, high levels of difficulty, and low levels of context separates them from more casual gamers (for further discussion on this topic see Bouchard, 2010).

Closer study of *Ultima Online*, *EverQuest*, *World of Warcraft*, *HoboWars*, and *Torn City* reveals that although clarity, balance, and social features are somewhat valued by players, the features that contribute most to make MOGs appealing are meritocratic play and MPE. I chose the games above because they are representative of entire groups of games. I would love to be able to include more example games in this discussion, and occasionally, I will refer to other games to make specific points, but generally, I can find examples for my argument from among these five games.

Features of Interest

As I have already established, I believe that meritocratic play and managed player efficiency (MPE) are the most important contributing factors to making games fun. My review of previous game research identified three groups of features that game scholars and designers agree contribute to prolonged play. These groups of features have important interactions with meritocratic play and MPE and add valuable perspectives to the discussion. To review, scholars and designers argue for the importance of clarity,

balance, and social features in games. Clarity includes understandable, adjustable controls, explicit goals with fair rewards, and simple, instant feedback. Balance requires that different play styles or ways of interacting with the game are treated equally and different measures of success are equally rewarded. Social features are those that provide methods for players to create a virtual social world, which includes mentorship, friendship, trade, group activities, rewarding kind players and punishing unkind ones. In the following sections, I will evaluate these five features by studying how they manifest themselves in my chosen sample games.

Meritocratic Play

Meritocratic play is essentially clear, consistent, and immediate feedback paired with clear goals and fair rewards. All five of the chosen MOGs are strongly meritocratic. *Ultima Online* is probably the purest meritocratic game. Almost every action undertaken in *Ultima Online* corresponds to a skill score. The more an action is performed, the more the corresponding skill score increases, and the higher the chance of success in future actions. Increasing skill scores in *Ultima Online* also increases complementary skills, which is an uncommon result in other MOGs. For example, when fighting with a sword, avatars will improve at Swordsmanship, Tactics, and Arms Lore. Knowledge of one weapon improves overall fighting ability and makes the avatar more effective with other weapons (the Tactics skill). Further, using weapons at all teaches the avatar more about weapons generally,

including how to fix them, how to evaluate their effectiveness, and how much they might be worth (Arms Lore). This complementary skill adjustment is a meritocratic reward that is missing in *EverQuest*, *World of Warcraft*, *Torn City*, *HoboWars*, and many other games I have studied. *Ultima Online* takes meritocratic play even further than other games by allowing unused skills to atrophy.

As the MOG genre progressed from *Ultima Online* into *EverQuest* and *World of Warcraft*, game designers seemed to forget some of the lessons of the role playing game (RPG) and the multi-user dungeon (MUD) when they made combat the main thrust of the game. In *Ultima Online*, a player can choose to be a merchant, detective, or shepherd. In *EverQuest* and *World of Warcraft*, players may choose to pursue less violent paths to success, but their avatars are always, at their root, fighters. This restriction is accomplished through the use of the RPG notion of “class”. Class represents the combat-related career of the character. Class examples from *World of Warcraft* and *EverQuest* include Hunter (using trained animals and ranged weapons to fight), Mage (using magical spells to fight), and Rogue (using trickery and stealth to fight).

While players may choose to ignore the fact that their avatars are fighters, this fact is intrinsic to who they are in the game. This elevation of combat skills over non-combat skills and disregard for the connections between

skills represents an imperfect meritocracy. Meritocratic play demands that all effort be rewarded, and none of these games provide experience points or skill gains when an avatar undertakes merchant-like activities. One could argue that the reward for mercantile activities is simply in-game profit in terms of money or equipment, but it is incongruous that other activities provide both avatar improvement and monetary rewards.

HoboWars and *Torn City* also tend to adjust related skills independently, but this may be because they are much simpler than the other games I studied. In *HoboWars*, the three main activities are begging, fighting, and racing shopping carts, and it would be contextually difficult to justify a relationship between those skills. *Torn City* does a much better job of connecting and rewarding effort in multiple areas of the game. For example, avatars can get a regular job in addition to their criminal career, and statistics gained in that arena are beneficial in other areas. Working increases Endurance, Endurance improves gains in the gym, and gym training improves fighting prowess. Unfortunately, the makers of *Torn City* have elected to make these connections invisible to the user. If a player took careful note of their avatar's skill increases, a pattern would emerge, but this invisible, multi-layered abstraction is too obtuse for a player to feel reasonably rewarded for work. Here we see that *Torn City* has failed to maintain this delicate balance.

In the case of hidden experience points in *Torn City*, it is reasonable to infer or use in-game methods to determine an avatar's distance from a new level, but with complementary skills, it is very difficult to separate enhanced improvement due to related skills and simple, unassisted improvement. If the connection between these skills is not clear, the reward for increasing these skills is not clear, which violates the requirements of meritocratic play.

Meritocratic play is clearly present in all of these games, though it is certainly more explicit in some. In each game, players are rewarded with avatar improvement for time spent playing, which is a strong encouragement for prolonged play.

Managed Player Efficiency (MPE)

I propose that three of the categories identified by scholars (flexibility, unpredictability, and safety) fall under the umbrella of what I have labelled MPE. Flexibility is achieved when a game provides many play styles, each with their own strengths and weaknesses. In other words, players may choose what kind of challenge they want, not just the level of that challenge. Unpredictability and safety are the cornerstones of MPE because the whole point of MPE is that it allows players who are intolerant of unsafe or unpredictable situations to seek out safer, more predictable ones according to their preferences.

MPE in its purest form allows players to maneuver through the game while maintaining their ideal difficulty levels. This management is easiest in a single player game where relative difficulty is less relevant. In multiplayer games, it is important that each player feels they are experiencing the same difficulty and success rates as everyone else in terms of making in-game rewards valuable and meaningful. MPE manifests itself in MOGs by allowing the player to find the right mix of risk and reward for their particular play style. Graphical MOGs (*Ultima Online*, *EverQuest*, *World of Warcraft*) accomplish this compromise by providing many different places to fight.

Deciding where to go in the virtual world to gain avatar experience is a complicated decision for a player. First, players must consider their own level. Many areas of these games are off limits to all but the most experienced avatar. Players must also consider how aggressive their enemies are. Each enemy has an awareness range and an aggressiveness rating. If enemies are sufficiently aggressive, they will attack anything in their range, even if they are outmatched. Cautious players avoid zones with aggressive enemies as they can disrupt carefully planned and balanced battles. If a player plans to fight two goblins but is unexpectedly attacked by a third goblin as well, the player will most likely lose. Even in a zone with enemies that are the right level, population density, and temperament, a player must still consider how popular that zone is with other players, how close it is to

safe places and supplies, and whether the chosen method of fighting is effective against the relevant types of monsters. There will also be times when a player finds a perfect spot, only to find that the enemy the player planned to fight is immune to the prepared tactics. By creating large worlds with variable creatures, *Ultima Online*, *EverQuest*, and *World of Warcraft* provide enough places that players can always manage their own difficulty.

Non-graphical games (*HoboWars* and *Torn City*) also provide opportunities for MPE. In both games, the player may choose which opponents to fight. This parallels the opponent-choosing flexibility of the other games without the added complexity of traveling to various locations or analyzing tactics. Fighting in *HoboWars* and *Torn City* happens automatically once the opponent is chosen, so the problem of managing efficiency is reduced to opponent selection.

In *Torn City*, however, there is more opportunity to manage player efficiency when committing crimes. Success in criminal undertakings is based on crime experience or skill. There are many possible crimes to commit and they all require different amounts of nerve and crime skill. Nerve in this game equates to “energy” or a measure of how many crimes can be committed before the player must wait for a recharge. A player may attempt more difficult crimes with a low crime skill but will fail nearly all the time. Much like choosing the appropriate zone in which to fight, players must balance

their desire for the greater rewards that can be gained from executing more difficult crimes with the higher risk of penalties such as jail time and lost crime skill. A player may always choose to attempt the easiest crimes instead, but advancement will then be much slower. Players can thus maintain a balance between challenge and reward in *Torn City*, no matter their preferred difficulty level.

While *Torn City* has implemented MPE, it is an extremely punishing model. The process seems fairly simple: commit crimes, gain experience, commit harder crimes. However, there are a variety of factors that complicate things. First, there is no way to know if a crime attempt will succeed before trying it. There is no exact representation of the avatar's current ability and no exact representation of the crime's difficulty. Second, there is no way to know the quality of a successful crime. In terms of game feedback, there is little difference between a crime that was barely successful and one that was overwhelmingly successful. Third, when a crime attempt is failed, the avatar can lose many crimes-worth of experience. For example, a failed arson attempt essentially removes the crime experience of the last forty successful arsons. Further, regardless of avatar ability, a given crime's rate of success is never perfect. Even after playing the game for four years, my avatar can (and does) still fail at lower level crimes. Because *Torn City* is aimed at hardcore gamers, players consider this situation an increased challenge and an increase in the meaning of in-game rewards instead of an extremely

frustrating flaw. This lack of explicit feedback does not make it impossible for players to manage their efficiency, it simply narrows the range of successful strategies and makes all players much more cautious. As illustrated by the many *Torn City* “crime guides” available on the web, a great number of players are still playing the game—albeit, cautiously—while still finding it enjoyable enough to prolong their play.

Clarity

As noted in the literature review, scholars widely agree that clarity is an important factor in making games fun. Clear and adjustable controls, established goals with fair rewards, and instant feedback for actions all help make the interface more understandable and less obfuscated. By this definition, clarity is achieved in each of my five chosen games.

Ultima Online, *EverQuest*, and *World of Warcraft*, for example, all allow some customization of controls. They offer simple keyboard macros (e.g. Ctrl-i to open inventory) and the operating-system-like ability to open, close, move, and resize windows so that players can have exactly the information they want on screen. There are, however, many controls that cannot be customized and therefore cause some frustration. For example, right-clicking in *Ultima Online* causes an action. Since the standard interface response for right clicking is to open a context menu for more detail, this can sometimes cause a player to attack in error. Similarly, a misplaced right click in

EverQuest might cause an avatar to eat (and therefore lose) some expensive food or other powerful (but edible) item.

All three graphical MOGs also allow some degree of macroing, which is the ability to take a long string of instructions (usually keystroke combinations) and reduce them to one keystroke or one click. Browser-based games like *HoboWars* and *Torn City* on the other hand, must conform to standard browser conventions. Since avatar actions are links or html form buttons, all actions are done with left clicks. Although browser-based games can offer little in terms of macros or adjustable controls, *HoboWars* does allow customizable menu items. These items represent locations in the game, and it can be very handy to include in the menu only those locations visited often. However, a player may only pick menu items from a list of approved locations. The menu cannot include actions, and the player cannot even reorder the menu items. In other words, there is only limited flexibility in the browser-based controls, which can be frustrating.

In most cases, all five games do a good job of providing clear goals with fair rewards, but there are situations where that is not true. For example, in earlier versions of *EverQuest*, keeping track of quest progress was up to the player. Just like in old adventure games such as *King's Quest* (Sierra On-Line, 1984), players were responsible for keeping track of who to talk to, what items they should be searching for, who those items should be given to,

and in what quantities. *EverQuest* has since added a more user-friendly quest interface, but it is only available early in the game to help new players. The reason that both *EverQuest* and *Ultima Online* have not provided better clarity for quest-doers is unclear. Either this particular feature was not considered important by the game makers or it was purposefully left out to increase realism and difficulty. In either case, *World of Warcraft*'s popularity may be due in part to its inclusion of a clear quest tracker, which is available to all levels. While quest help in *HoboWars* and *Torn City* is not as robust as *World of Warcraft*, players are never left wondering what to do next.

Beyond quests, which provide concrete, short-term goals, all five games have either implied or player-directed goals. There is nothing explicitly in any of these games that says, "You must gain the next level", but many players will choose that as their goal. Since these goals are player-chosen, I would argue that they are intrinsically clear. Fair rewards are more difficult to evaluate as the makers of these games continually adjust them. A simple example is the banking system in *Torn City*. Originally, interest rates for term deposits in the *Torn City* bank were astronomically high, up to 75%. In a move to try to control in-game inflation and reduce the speed that players were acquiring money, the programmers of *Torn City* reduced the rates to a maximum of 36%. For those who were not lucky enough to make their fortunes while rates were high, the rewards for banking seem unfair, but for

any new players who are unaware of the rate history, the banking rewards seem fine, even a little generous.

All five of my chosen games provide clear feedback for the player. Each game does a fair job of providing feedback for in-game actions, but the degree to which each game provides interface-level feedback is representative of its time. The more modern the game, the better the interface feedback. In-game feedback includes skill improvement and combat messages. Skill improvement messages are simply a line of text that describes a change in a particular skill. The change can be expressed in terms of skill gained (“You have gained 24.2266 more dexterity”) or just the new total (“You now have 629.716 begging”). Combat messages report hits, misses, and damage.

All five games provide skill improvement and combat feedback but some make much better use than others of interface feedback. For example, many actions in *Ultima Online* change the mouse cursor to helpfully indicate that the next click will have a specific effect (like a targeting reticle for attacking that turns red when over a valid target). *EverQuest* is probably the least clear, as interface actions rarely provide any feedback. *World of Warcraft* is very representative of a modern application with good interface feedback: right clicking provides more information, hovering the mouse over things highlights them to show they are clickable, etc. *World of Warcraft*'s skill

improvement feedback is also clear and consistent. Both the BB-MOG games provide skill and combat feedback but are far behind in terms of interface feedback. While this can be explained by the webpage medium, both games could be improved significantly through the use of tooltips.

As already discussed, *Torn City* appears to partially ignore the need for clear feedback. It suffers from the same problems as *HoboWars* in being generally bad at interface feedback, but it does provide combat and skill improvement feedback. However, *Torn City* does not provide some important information that would make an avatar's current position more clear. All the other level-based sample games indicate how close the avatar is to the next level, and the graphical MOGs reveal an enemy's difficulty before the player decides whether or not to engage. *Torn City* does none of these things, relying on indirect indications. As previously stated, the reasons that players tolerate this are not explicit, but I believe *Torn City* is meant to appeal to more hardcore players who gain a greater sense of accomplishment from succeeding despite this higher level of difficulty.

Although clarity is related to meritocratic play because feedback and knowledge of rewards is required for players to realize they are in a merit-based system, it is separated by its concern with the quality and disposition of the game interface and its controls.

Balance

Game scholars and designers agree that players want a balance between success and failure, reward and punishment. I express this as a balance between challenge and reward. Unfortunately, balance is nearly impossible to achieve in MMORPGs. In single player games, choosing one play type over another is really a matter of the player's preference between efficiency (how quickly and easily the player wants to complete the game) and style (how important quality of play is to the player). For example, in the original *Fallout* (Black Isle Studios, 1997), players can choose to be either a gunslinger, progressing by shooting enemies and being violent or a gambler, moving through the game using dialogue and playing games of chance. Playing as a gambler takes much longer, but if the player prefers the flavour of the gambler play style over efficiency, time will not be an issue. Multiplayer role playing games have many more play style options and many more players, meaning it is much more difficult to achieve everyone's ideal balance. MMORPG game designers must be careful not to favour one play style over any other. For example, players who choose to play a healing style must be able to achieve success in the game just as easily as those who choose a pure fighting play style. For those who want to explore or socialize, "success" is easy to achieve by simply allowing players to move around the game as they like, giving them access to all social features at all experience levels. For those players who are most interested in competing against other

players (eg. Player-versus-player, collecting the best equipment, etc.), balance is a crucial component in their enjoyment of the game.

Ideally, balance would ensure that all play styles provide an equal chance for success, but because of the complexity of MMORPGs, this is nearly impossible. With the number of possible items, classes, skills, attributes, and spells available to a single avatar, it is impossible to predict how successful a particular combination of these things will be. Unfortunately, what this means is that game makers often resort to a series of “nerfs” and “buffs” to ensure that the most and least successful play styles are shifted regularly. For example, if druids are the most powerful and warriors are the weakest class at a given time, the makers of *EverQuest* will update the game to weaken (or “nerf”) the druids and strengthen (or “buff”) the warriors. This ensures that most people feel the game is balanced—that is, everyone but druids. *EverQuest* and *World of Warcraft* have tried to get around this problem, which is thorniest in class-based games, by offering methods of tweaking play style within a class. For example, a priest would normally be confined to healing, but with the “Alternative Advancement” option in *EverQuest* or “Talents” in *World of Warcraft*, a club-wielding priest or an attack-spell priest are also possibilities. Players can even “re-spec” or choose another play style (within the priest class) if they no longer like it. The classless games like *Ultima Online*, *Torn City*, and *HoboWars* provide the option to completely change play style at any time.

There is a subtle difference between balance and MPE. MPE requires that players be able to find a level of challenge that suits their needs. Balance requires that the range of challenge available is similar for all play styles. Balancing play styles is a fiendishly difficult task, which is why the best that game makers can hope for is a culture of players prepared to accept an approximate, fluid balance. Balance also intertwines with meritocratic play because both are necessary to ensure a feeling of fairness in the game.

Social Features

In studying the selected games for the features called for by game designers and scholars, social features represent the greatest discrepancy between theory and practice. It is clear in all five games that the inclusion of social elements is for the purpose of communication (e.g. making it easier for players to interact in a variety of social and geographical situations) and organization (e.g. making it easier for players to work in groups and act like communities). Sadly, games are still missing the most important factor in building communities and finding reasons to talk to one another: a system of holding players responsible for their actions. I do not mean player prisons or denying access to services for offenders (which have both been tried), but rather some way of keeping track of each other. For example in *HoboWars*, players may change their avatar's name at any time. Their unique user number stays the same, but it is quite long, and would be time-consuming

and frustrating to memorize. Opposing players can go back on a trade, borrow money and not repay it, or make any number of other negative actions, then change their names and do it all again. Something as easy as allowing players to choose how others are identified would solve this problem. To alleviate this problem in *HoboWars* for example, a player could be listed as Actual Name (Id Number) “Nickname”. Nickname would be set by the viewer and could be things like “gives free training” or “easy to steal from”.

Communication in *Ultima Online* is likely the most “realistic” of all the tested games, since converser avatars have to be quite close to one another to be “heard”. Both *EverQuest* and *World of Warcraft* increased the potential for social interaction by allowing private, distance-independent messaging, shouting (wider “hearing” range), area-wide and world-wide communication, and group and guild-specific chat. *HoboWars* and *Torn City* provide in-game email, guild-only forums, game-wide forums, and chat. Because chat was not always available in *HoboWars* and *Torn City*, the communities of both BB-MOGs have created their own out-of-game chat and messaging groups, which even include a few internet relay chat (IRC) channels for internet old-timers.

In terms of promoting meaningful social interaction, the five games of study are a very mixed bag. Although resources are usually scarce enough to

encourage repeat encounters with other players, none of the games provide enough meaningful player history to allow the community to hold players responsible for their actions. For example, *Ultima Online* has a simple method of identifying wrong-doers by colouring their name tags (which appear over the avatar's head) red to indicate a criminal. However, this is not a rich source of information. Something as simple as an errant click or an unfortunately-timed server hiccup could cause a player to be unjustly labelled a criminal. Similarly, in *World of Warcraft*, when players create an avatar, they must choose to be identified as Alliance (the good guys) or Horde (the bad guys). A player with a Horde avatar might be very kind and fair to all other players, while players with Alliance avatars might go out of their way to hurt other players in their own faction. Beyond word of mouth, there is no way to know this information about another player.

If game designers and scholars alike have identified the need for these social features in games, why have they not been implemented? The programming challenges would not be significant. There are two possible explanations for this: the game makers may feel that role playing should cover these features (i.e. players should be responsible for recording their own statistics regarding other players) or the game makers have difficulty understanding social players and therefore ignore them. In any case, well-implemented social features can help create a community that keeps players coming back, even when other aspects of the game have been exhausted, and they are

therefore very important features of MOGs. Social features can be indirectly connected to MPE in that good player histories provide better information for choosing an appropriate opponent in player-versus-player situations. However, the main purpose for including social features in a game is to encourage cooperation and competition, which are very enjoyable within the safety and rewards of a meritocratic game.

Summary of Sample Games

In each of the sample games, the feature requirements identified by game designers and scholars are at least partially fulfilled. *Ultima Online*, *EverQuest*, *World of Warcraft*, *HoboWars*, and *Torn City* are popular games because they include these features, which encourage prolonged play. As I have established, these games do not contain perfect implementations of clarity, balance, or advanced social features, but they do provide reasonable implementations of meritocratic play and MPE. The consistent presence of meritocratic play and MPE in these popular games is strong evidence in support of my hypothesis because game features should reflect the will of the player as interpreted by the game makers, since game makers need to attract players to make money. The same logic suggests that all the features in a popular game are intended to encourage prolonged play. However, this may not always be the case. For example, a game might include features that encourage addiction and gambling tendencies such as *EverQuest's* crafting system, which relies on a random, slot machine-style system of reward.

These features can make a game popular but do not provide a positive, enduring play experience, and may partially explain why *World of Warcraft*, which uses a system of predictable rewards in crafting, has become more popular than *EverQuest*. In the end, studying these MOGs gave me insight into what features contribute to prolonged play, but the evidence cannot necessarily be considered conclusive. It became clear to me that the only way to determine the importance—or “fun rating”—of certain features was to build a game myself and test it.

Chapter 3

Purpose of Study

The purpose of this user study is to make a preliminary attempt to answer three questions:

1) Do two specific MMORPG features, meritocratic play and managed player efficiency, significantly contribute to player enjoyment?

The previous chapters have indicated that there are several features of MMORPGs that contribute to player enjoyment including clarity, game balance, and social features. The features that I believe to be most important, however, are mostly overlooked by other game scholars. I refer to them as meritocratic play and managed player efficiency (MPE). I have designed a simple BB-MMORPG that requires players to complete tasks with varying levels of meritocratic play and MPE features. My study participants played my game and then filled out a survey to determine whether these features improved player enjoyment. Tasks are described in more detail below.

2) Can a simplified game make predictions about more complex games?

MMORPGs are a very popular genre not only for players, but for game scholars as well. The trouble is that MMORPGs are expensive to build and

maintain. Further, many of the most popular MMORPGs are owned by large, private companies who are reluctant to allow researchers access to their game data. However, if study results for a very simple, browser-based, text-heavy game can be applied to larger, more graphically intense games, researchers need not spend money or time creating overly complex games to obtain valid academic results.

3) Does a 7-point ordered response scale for self-reported enjoyment produce similar results to time estimation for a browser-based online role playing game?

Subjective duration assessment or self-estimated time-on-task (SETOT) is a methodology that has been applied to user interfaces (Czerwinski et al., 2001), but has not yet been applied to browser-based MMORPGs.

Theoretically, players will overestimate the time it takes to complete boring, annoying, or failed tasks and underestimate the time it takes to complete more enjoyable or successfully completed tasks. In other words, players will indicate their enjoyment of a task by underestimating how long they took to complete it. This time estimation measure of player enjoyment should parallel the results of an ordered response scale enjoyment survey.

Game Conception

In order to test my theories about features that keep MOG players coming back to a particular game, I created a very simple, browser-based, single player game. The design of the game is a simplified version of an adventure game with light RPG elements. It differs from traditional adventure games in that there is no textual interaction, no inventory, and no puzzles. The RPG elements are simply skill ratings that improve through use. The game is patterned after the two BB-MOGs I studied, *Torn City* and *HoboWars*, in which avatars have “energy” that is expended when actions are performed. Players must wait for real world time to pass to regain energy. It is important to note that it was not possible for my online role playing game to be massively multiplayer. For obvious reasons, it was not feasible to get thousands of players to play the game and provide feedback, but fifteen players were enough for at least preliminary findings.

Much like building an interface to test ideas about how people process information, building a game was the most straightforward way to test my theories about games. Building the game also forced me to continually reformulate my research questions. I was able to tweak questions when the programming was difficult and tweak the game when the questions were unclear. Developing the game also reinforced the notion that games are an extremely complex medium. I often removed features from the development list because they would complicate the feedback about more important

features. For example, while working on the rope building task, I had to choose whether to visually represent the rope-building progress with some kind of progress bar or just inform the player with a textual description (e.g. “You have now finished 10 feet of the 15 feet of rope you need”). I had to choose one or the other because the rope task was meant to measure the enjoyment gained from constant, measured feedback. My suspicion was that players would stop reading the text pretty quickly when they realized that it was repetitive and often provided very little new information. If this occurred, the textual feedback would not be read and any data I received about measured feedback would be unreliable.

On the other hand, graphical elements are purposefully absent from this game, so I worried that providing even a small graphical representation of this feedback would be like giving the player water in the desert. This thirst for graphics might cause misleading results since task enjoyment results could be a response to the graphics rather than the measured feedback. What helped me to make the decision was differentiating between virtual world graphics (for flash and immersion) and user interface graphics. There were dozens of similar decisions that I had to make while planning and executing the game and the study.

Programming

Because my focus was on a simplified game, I was able to avoid a great deal of time-consuming programming. The game has a non-branching story with one graphical and four audio elements. I favoured speed of development over elegance of code, which leaves me with a finished game that would be difficult to expand, but the advantage was that I was able to conceive of, build, and bug-fix an entire game very quickly.

Subject selection

To acquire participants, I chose the snowball sampling method. While it can be proven that true snowball sampling can yield a random enough sample to apply results to a larger population (Goodman, 1961), I was unable to maintain a consistent k (the number of people added by each person should remain constant). Therefore, I will be unable to draw firm conclusions about game players as a whole. Fortunately, snowball or relational sampling did assist me in finding fifteen people with a variety of game-playing experiences. I was able to find the 15 participants I required. Although a small number, this sample size suited my purposes to conduct a preliminary study to inform future research.

Procedure and Data Gathering Tools

Participants were first given a consent form (Appendix E) to read. The consent form provided a quick overview of the study and the participant's

proposed role. I used digital consent rather than a signature to help ensure anonymity and to simplify paperwork.

After agreeing to participate, participants started playing the game. The game is made up of a series of tasks with which the player interacts. Some of the tasks must be completed and some are optional.

Tasks

The tasks were designed in two groups of three tasks. Each group is intended to test one major idea in three ways. For supplementary information on the tasks, please see the accompanying document “Tasks (for players)” (Appendix B).

Task 1: Testing the meritocratic features

As I have discussed, real world work often goes unrewarded in the real world or else the reward is greatly separated from the work. In many video games, avatar actions have measurable results (like scores), but they do not improve the avatar itself. In MMORPGs, avatars become measurably, concretely better at the tasks they undertake as the game progresses. To test the importance of this feature to a player’s enjoyment, the subject’s avatar was given three subtasks in this section; each subtask has a different level of improvement feedback.

Task 1.1: Bar wiggling (random feedback)

To escape the prison the avatar finds itself in at the beginning of the game, bars in the cell window must be wiggled free. After ten wiggles, each bar-wiggling action has a random chance of pulling the bar out. Feedback consists of comments like “You think the bar is a little looser now”. Using coloured text, feedback also indicates whether the result of each wiggle is good (green), bad (red), or indifferent (grey). Not only is the chance of removing the bar random, the colour and nature of the feedback is completely unconnected with the success or failure of the action.

Task 1.2: Rope building (constant feedback)

To assist in escaping, the avatar must build a rope using available straw. Each rope-making action results in a message that reports the length of the rope and the increase in the avatar’s rope-making ability. Feedback consists of statements like “Your rope is 3 feet longer! Your rope-making skill has improved by 1 point”. Further, there is a progress bar to visually represent both the current length and required length of the rope.

Task 1.3: Wall climbing (no feedback)

With enough rope and an open window, the player must still climb to safety. Fortunately, there is enough room in the cell to practice climbing. The player is provided no feedback on the avatar’s climbing ability. While there is text to explain that an action has been completed, the text does not reveal

positive or negative results of the action; it simply reports that the avatar has practiced. Each practice invisibly improves the avatar's climbing skill.

Task 2: Testing the Managed Player Efficiency (MPE)

In many games, the level of difficulty increases at a standard rate throughout the game. If that rate is too fast or too slow for a particular player, there is little that can be done to correct it, and that player will be frustrated throughout the game. Further, these games often rely solely on player improvement to progress, meaning that the player must improve at playing the game to continue. This kind of player improvement model can create problems for physically or mentally challenged players, players who do not play regularly, or players who simply do not have the time or ability to improve at a rate and to a level arbitrarily decided by the game developers. Attempts have been made to address this problem with game difficulty adjustment sliders (e.g. players may be able to adjust the cleverness of enemy AI on a sliding scale) and difficulty levels (e.g. playing a game on Casual versus Hardcore settings), but the best solution would be a game that adjusts to the player's level to provide an interesting challenge at all times.

MMORPGs provide an elegant, two-part solution to this problem: avatar rather than player improvement is most important to progression and players can choose from a large world and a wide variety of things to do to find whatever level of challenge they desire. To test the importance of this

feature in terms of player enjoyment, the participant's avatar will be given a choice of several subtasks, each with a different balance of risk versus reward.

Task 2.1: Farming Kulse

Players grow a no-risk, low-reward crop that takes a long time to finish. It is impossible to fail at this task, but the rewards are very small.

Task 2.2: Farming Chigga

Players grow a more delicate crop that has high chances of failure but provides significant rewards. While the chances of growing a successful crop are small, the player would only need five or six successful Chigga crops to finish the game. This task also provides no real failure. The player may lose crops, but since crops cost nothing to start with, the player has only lost potential reward and not actual reward.

Task 2.3: Tickling

This task is the closest simulation of existing MOGs. There are four locations in which to tickle, all of which offer a different level of difficulty and reward. There are various people at each location to tickle and each person provides a different level of difficulty and reward. Players must first decide where to tickle and then which individual person to tickle based on their

preferred level of difficulty and reward. Failure in this task results in loss of rewards already earned.

Demographics

At the conclusion of the game, participants were asked to complete a short demographics questionnaire (Appendix D). The purpose of the questionnaire was to provide some context for the players' answers. Questions were about the participants' gender, education, game experience, and internet experience.

Enjoyment Assessment Survey

After the demographics questionnaire, participants were asked to complete a detailed questionnaire describing their play experience (Appendix C). The questionnaire can be divided into three sections: assessment of the tasks, assessment of non-task features, and assessment of overall impact. The task assessment section of the questionnaire asked participants to evaluate each task in terms of “annoying” versus “enjoyable” and “challenging” versus “frustrating”. Non-task feature assessment included questions on game feedback, graphical and audio elements, and avatar representation. The overall impact assessment dealt with game difficulty and pacing, skill requirements, desire to continue playing the game, and impact factor. As a whole, this questionnaire was designed to evaluate the importance of meritocratic play and MPE features. In order to capture both quantitative and

qualitative data, questions were in both seven-point, ordered response scale and open-ended format. I chose to combine written response with the ordered response to provide a broader view of participant enjoyment.

While the projected sample size could have yielded statistically significant results, I chose not to perform statistical analysis for this study. My main reason for this is that both the game and the study are in very preliminary stages, which means they are both likely to change greatly in future research. A combination of quantitative ordered response scale questions, qualitative written questions, and discussions with the participants was the best approach for this stage of my study.

Self-Estimated Time-on-Task (SETOT)

When the first group of tasks (1.1 bar wiggling, 1.2 rope building, 1.3 wall climbing) were finished, players were asked to estimate how long they had spent completing each task. Because the tasks in the second group could all be done at the same time, only three tasks could be tested individually like this. However, because each task in the first group was specifically designed to take the same amount of time, the results should be richer. Once players had finished the game, they were also asked how long they thought they had been playing the game from beginning to end.

Results

1. Demographic survey results:

The purpose of the demographics questionnaire was to provide some context for the other results. For example, if all of the participants were hardcore MOG players, the results would not have been broadly suggestive.

Fortunately, the demographic information was fairly well distributed.

The players in my study were all between 20 and 39 with the majority being between 20 and 29 (Table 1.1). The gender identification distribution was very even with a slight tendency toward male (Table 1.2). All but one respondent had post-secondary education and their degrees were from a variety of fields. The majority of participants were enrolled in graduate school in the Arts or Sciences (Tables 1.3.1 and 1.3.2). Internet usage was high and varied and included a smattering of MOG playing (Tables 1.4, 1.5, and 1.6). All but one of the players had played an MMORPG more than once and almost half had played many times (Table 1.8). MMORPGs played by the participants included *World of Warcraft*, *EverQuest*, *Torn City*, *iMafia* (PlayMesh, 2009: an iPhone-based game that functions much like a BB-MOG), *Travian* (Travian Games, 2004: a massively multiplayer, browser-based, real-time strategy game with some role-playing elements), as well as a few other video games (Table 1.7). Studied players also reported that game popularity was not a very important factor in their decision to play a game (Table 1.9).

In addition to the above, I included two longer answer questions about the reasons players start and continue to play games. Participants mentioned many factors that made them want to play a game including fun, competition, challenge, graphics, sound, reasonable controls, good interface, interesting story, sexuality, satisfying experiences, re-playability, achievable goals, and sensible progress maintenance (saving progress from session to session). Participants said they were drawn to continue a game if it has a continuing story, undiscovered content, humour, and gameplay mechanics that are still challenging.

Table 1.1 Age results

	under 20	20-29	30-39	40-49	50-59	60+
Age of player	-	10	5	-	-	-

Table 1.2 Gender results

	Male	2	3	4	5	6	Female
Gender identification	1	4	1	1	1	3	1

Table 1.3.1 Education results 1

	Highschool	2 year degree	4 year degree	Masters	PhD
Length of education	1	3	3	8	-

Table 1.3.2 Education results 2

	Arts	Science	Health	Engineering
Focus of education (multiples allowed)	6	6	2	3

Table 1.4 Internet usage

	0-5	5-15	15 or more
Hours per week	-	3	12

Table 1.5 Internet interests

Subjects of internet use	Number of responses
Surfing	15
Research	15
Games	14
Social Networking	12
News	14
Web comics	7
Podcasts or similar	13
Blogs	14
Other (work)	5
Other (forums)	2
Other (pornography)	2

Table 1.6 MMORPG experience

	Never	Once	A couple of times	Many times
MMORPG play frequency	1	-	8	6

Table 1.7 MMORPGs played

Games identified	Number of appearances
Travian	5
World of Warcraft	4
Torn City	3
EverQuest	3
iMafia	2
Asheron's Call	1
Dark Age of Camelot	1
Diablo	1
Eve Online	1
Lineage	1
Star Wars Galaxies	1

Table 1.8 Video game experience

	Regularly	2	3	4	5	6	Rarely
Frequency of video game play	4	2	3	1	5	-	-

Table 1.9 Video game popularity

	Not Important	2	3	4	5	6	Very Important
Importance of popularity in game choice	5	3	3	2	-	2	-

2. Merit-based task results

2.1 Ordered response scale results

The first set of tasks in my game tested the importance of feedback and merit-based play. Players were given no feedback (wall climbing task), random feedback (bar wiggling task), and clear consistent feedback (rope building task) in three separate tasks. In the questionnaire, players were asked to rate their experience on two scales: “annoying” to “enjoyable” and “challenging” to “frustrating”. On the annoying to enjoyable scale, all tasks tended toward annoying, but players found the bar wiggling task (random feedback) to be slightly less annoying than the other tasks. Rope building (consistent feedback) was the most annoying, but it still tended more toward neutral than annoying. On the “challenging” to “frustrating” scale, all tasks tended toward frustrating with the wall climbing task (no feedback) being the least frustrating.

Table 2.1 Merit-based tasks

Tasks	Annoying	2	3	4	5	6	Enjoyable
Bar wiggling	2	3	3	3	2	2	-
Rope building	-	7	3	3	2	-	-
Wall climbing	3	1	6	1	4	-	-
	Challenging	2	3	4	5	6	Frustrating
Bar wiggling	-	2	-	5	2	4	2
Rope making	-	-	1	10	2	2	-
Wall climbing	-	-	3	3	3	2	3

2.2 Written results and subject discussion

Players were asked to describe their experiences in each task. Comments were split regarding the bar wiggling task (random feedback). Some respondents reduced the experience to “button mashing” while others identified bar wiggling as “the most game-like task” in terms of the random or “mysterious” nature of the feedback. Discussion about the rope building task (consistent feedback) described it as better than the other tasks but only in negative terms like “less annoying” and “less frustrating”. All comments about the wall climbing task (no feedback) were very negative with particular note of time and visual indications like “less time consuming than bar wiggling” and “lack of interesting feedback was annoying”.

Interestingly, in discussion with participants and in their written answers, they reported most positively about the rope task (consistent feedback), then

the bar task (random feedback), then the wall task (no feedback). Everyone agreed that wall climbing was the least enjoyable and most annoying, but there was more disagreement on the top two. Some felt the predetermined nature of the rope task was the best thing about it while others felt it was the worst.

2.3 SETOT results

For merit-based tasks, participants generally underestimated their time-on-task. Bar wiggling was most underestimated; estimates were wrong by almost 30 seconds. While many of the time-on-task estimations (ETOTs) are in the range of 20 to 30 seconds shorter than the actual time-on-task (ATOT), there are a few of outlying responses that balance out in the average, but skew the standard deviation (24.5). The time spent on rope climbing was also consistently underestimated by an average of 7 seconds under ATOT, but that underestimation seems more accurate with a standard deviation of 5.4. Wall climbing was the only task for which players overestimated their average time-on-task (0.2 seconds).

The wall result is somewhat misleading because the average indicates that the estimates were more accurate, but they were not. Wall climbing was the only task where subjects overestimated consistently, but by coincidence, players who overestimated did so with approximately the same inaccuracy as those that underestimated. This strange balance is indicated in the

standard deviation (17.8). Further, you would expect task order to be significant, but it was not. Estimations did not improve even though participants knew that they would be expected to estimate further. I suspected that players would become more bored as they progressed, so estimated times would increase from the first task they selected to the last but that was not the case.

Table 2.3 SETOT for merit-based tasks

Average time on task (in seconds)	Estimated	Actual	Difference	Standard Deviation
Bar wiggling	47	74	-27	24.5
Rope making	27	34	-7	5.4
Wall climbing	75.5	75.3	0.2	17.8

3. Managed Player Efficiency-based task results

3.1 Ordered response scale results

For the first time in the game, the second group of tasks allowed players to pick from several tasks and switch between tasks at their own discretion. Each task provided different risks and rewards. The tickling task provided the most options by offering four levels of difficulty within the same task. For this section of the questionnaire, I used the same scales: “annoying” to “enjoyable” and “challenging” to “frustrating”. Farming kulse provided the least reward but presented no risk. The only risk in the game is losing gold

the player is saving to escape the village, and kulse farming did not result in any losses of that nature. Players felt that kulse farming was a little enjoyable and that it was a tiny bit more challenging than frustrating (the average score was 4.4). Farming chigga provided the most reward (a few successful crops would have allowed players to finish the game), but it was also the hardest to complete. Players found chigga farming to be only a little annoying and they were neutral on the scale between “challenging” and “frustrating”. Tickling was the task most similar to traditional MOGs in that there were opponents of varying difficulty, various locations in which to find these opponents, and a skill score that affected the chances of success. Players found tickling to be both enjoyable and challenging. Overall, tickling was most enjoyable, then kulse, then chigga. Tickling was also the most challenging, then chigga, then kulse. Both kulse and chigga were nearly neutral in that neither were particularly challenging or frustrating.

Table 3.1 MPE-based tasks

Tasks	Annoying	2	3	4	5	6	Enjoyable
Farming Kulse	-	-	2	1	9	1	2
Farming Chigga	4	1	4	1	1	4	-
Tickling	-	-	2	1	2	3	7
	Challenging	2	3	4	5	6	Frustrating
Farming Kulse	-	-	2	8	3	2	-
Farming Chigga	-	4	5	-	2	2	2
Tickling	7	4	3	-	1	-	-

3.2 Written results and subject discussion

Responses in the open-ended section of the survey tended to correspond to the amount of risk in each task. Kulse farming involved the least risk (and least reward), and the comments identified it as the most “moderate”, “reliable”, and “dependable” source of income while it was also considered the most boring or “frustratingly slow”. Farming chigga had the highest risk of failure (but the highest reward), and most players expressed their frustration with the difficulty of the task. Many players were so frustrated that they commented explicitly on the lack of balance between success and failure in this particular task: “stated 20% failure and actually failed every time... I think I tried it 3 times” and “Not enough balance between success and failure”. In terms of risk versus reward, the tickling task was purposefully placed in between chigga and kulse. Tickling also included

location and tickling target options where players could fine-tune their own risk-reward balance. Player responses indicated that they detected the difference in difficulty, appreciated the range of options, and enjoyed the tickling task. Players did not comment on their boredom or the fairness of the results, but instead specifically mentioned their engagement with this task. The tickling task was “humourous and engaging” and provided “MORE AGENCY” than other tasks.

3.3 SETOT results:

Because the MPE-focused tasks did not have defined end points and players were allowed to switch between tasks at will, these tasks do not have SETOT results. Any SETOT results for this section will be part of the overall SETOT where players were asked to estimate how long they had played the whole game.

4. Task-based reflection results

At the end of the task-based section of the survey, I explained the purpose of each set of tasks and then asked the players to reassess their specific reactions to the game aspects that interest me most. For the merit-based tasks, I pointed out the difference in feedback for the three tasks, and I asked the participants which form of feedback they enjoyed most. Nearly all identified the rope building task as their favourite and their reason was the indication of progress. They appreciated the “definite measure of success”

and “a sense of forward motion”. For the MPE-based tasks, I described the varied risk versus reward balance in the three tasks and asked which task they felt had the best balance. All players felt that tickling provided the best compromise, but their reasons for this preference were varied and non-specific. Tickling was described as the “most fun” and the “more interesting” of the three tasks, but players seemed unable to explicitly connect the risk/reward balance with their enjoyment.

5. Full game SETOT results

The second set of tasks were not completed in any specific order and players were not required to complete a single task before trying others. This made it difficult to assess the second half of the game in SETOT terms. I felt that estimating the first three tasks was not enough, so I asked the participants to guess how long they had played the whole game. All fifteen players underestimated the time required to play the game as a whole. In fact, most players guessed that they had played the game for 64% of the time they had actually played. On average, players thought that the game had taken 15 minutes less than it actually did, and the closest estimation was five minutes short of the actual time played.

Table 5 SETOT for the entire game

	Estimated	Actual	Difference
Average time on task (in minutes)	27	42	-15

6. Non-task feature enjoyment results

In this section of the questionnaire, players were asked how other specific features affected their enjoyment of the game. The features chosen for this part of the questionnaire are those most often discussed in game literature and are not related to meritocratic play or MPE: narrative, avatar involvement, graphical and audio elements. The responses were collected in an ordered response scale from “enjoyed the game much less” to “enjoyed the game much more” as a result of the given feature. When asked about the lack of narrative, the response was quite even. Most enjoyed the game slightly less, but a few enjoyed the game much more. Excluding a traditional avatar made no difference to most players. However, for those few that really missed the avatar, it made a significant difference to their enjoyment rating, making the average slightly less enjoyable. The lack of graphical elements seemed to make little difference to the players on average, though there were a few players that enjoyed the game much more as a result. Participants were almost universally neutral toward the small number of audio elements in the game.

These more general questions were followed by a mix of specific game-improvement questions. I added the more specific questions after I had completed programming and found some interface problems with the game. The first of these followup questions was meant to discover whether the inclusion of limited narrative elements made a significant difference to the player's enjoyment. The vast majority of players found that even the minimal contextual notes and humorous feedback they got made a significant impact on player enjoyment. Because the rope task included two kinds of feedback (textual and graphical), I wanted to examine the visual part of the feedback further by asking how, specifically, the rope progress indicator affected player enjoyment. Almost universally, players enjoyed the game much more as a result of the graphical feedback (the rope improvement bar).

Table 6.1 Non-task feature enjoyment

Absent elements impact on enjoyment	Enjoy less	2	3	4	5	6	Enjoy more
Narrative elements	-	2	4	6	1	1	1
Avatar elements	3	-	2	9	1	-	-
Graphical elements	1	-	2	7	-	3	2
Audio elements	-	-	3	9	2	1	-
Specific element followup questions							
Included narrative	1	-	-	-	-	5	9
Visual rope indicator	1	-	-	-	-	4	10

The last two questions in this section dealt with the specific problem of moving the action link around on the screen. In conception, the action link was to remain in a stable position throughout the game so that players could find it quickly and easily. However, some lines of feedback text were longer than others and that occasionally bumped the action link down a line or two, moving it out of position. The following two questions identify the impact of simple interface errors on the player's enjoyment of the game. The answers to these questions can be used to infer how players react to the use of interface elements to increase play difficulty. The first question positions the movement of the action link not as an error but as a purposeful "feature". On a scale of "annoying" to "enjoyable", all players agreed that this "feature" was annoying. The followup question specifically asks players to evaluate

predictable locations for action links on a scale from “less important” to “more important”. Again, players were unified in their agreement that having a stable place for action links is very important.

Table 6.2 Importance of action link stability

	Annoying	2	3	4	5	6	Enjoyable
Moving action link feature	12	3	-	-	-	-	-

	Less important	2	3	4	5	6	More important
Stable action links	-	-	-	-	1	2	12

7. Overall game assessment results:

The goal of this part of the questionnaire was to capture a more holistic view of the participant’s game experience, especially in terms of prolonging play. While previous questions dealt with specific game tasks or features, these questions assess how the combination of tasks affected the player’s desire to play. The first question went straight to the heart of my research. I simply asked whether players would be motivated to continue playing the game if there was more to play. Participants responded that they were motivated on average with only two respondents identifying less than neutral motivation. The next question asked about the player’s motivation to play the game (as

is) five or more times. In this case, the scores were much lower; responses averaged just below neutral motivation.

The questionnaire also asked the participants what degree of game changes, on a scale of “minor changes” to “major changes”, would increase their motivation to play the game more. In retrospect, I realize that this would be a very difficult question to answer, even for experienced game programmers. Fortunately, it was paired with a longer answer question that allowed players to describe the changes they would require. Numerically, players indicated that slightly major changes would be required, but their written responses suggested that a few small, reasonable improvements would significantly increase their desire to play the game. Most written comments expressed a desire for a richer experience with more play options. The participants asked for “more choices for things to do”, “more diversity of types of tasks”, and more detail in existing options (e.g. “[tasks should be] more in-depth” and “let me hire some people to do the farming”).

Players were also asked how often they would play if they continued to play the game, on a scale from “very rarely” to “very often”. The results were very mixed. While the average was slightly often, each choice (except very rarely and slightly rarely) was selected an equal number of times (three each).

Table 7.1 Overall: Continued play

	Not motivated	2	3	4	5	6	Very motivated
Motivation to continue playing	-	-	1	1	3	5	5
Motivation to play more than 5 times	1	4	3	2	3	2	-
	Minor	2	3	4	5	6	Major
Changes required to increase motivation	-	-	2	2	6	5	-
	Very rarely	2	3	4	5	6	Very often
Frequency of continued play	-	3	-	3	3	3	3

The next group of questions dealt with the pace of play in the game. First, players were asked to classify the pace in terms of slow to fast. On average, they indicated that it was neither slow nor fast. Then they were asked about the affect on their enjoyment if game pace was slowed to allow only a few actions per day. Normally, a BB-MOG would only allow an action or two per day, instead of just an hour of clicking in one sitting. I tried, again, to give the players some idea of how the game might actually look if it were modified for long-term play, stating that there would be more action options but fewer actions per day. I asked if this would result in a less or more

enjoyable game. Players reported that it would make the game slightly more enjoyable.

Table 7.2 Overall: Pace of play

	Slow	2	3	4	5	6	Fast
Pace of play	-	3	5	1	3	3	-
	Less	2	3	4	5	6	More
Player enjoyment if pace of play decreased	-	-	1	4	5	5	-

The next series of questions were about the difficulty of the game. On a scale of “very easy” to “very hard”, players reported that the game was slightly easy. Players estimated that they would become comfortable with the game very quickly, and that they were near their final level of competence. When asked to provide a level of ability required for the game, players reported that slightly low competence was required.

Table 7.3 Overall: Game difficulty

	Very easy	2	3	4	5	6	Very Hard
Game difficulty	1	1	6	3	4	-	-
	Almost at once	2	3	4	5	6	Very long time
Time required for comfort	2	10	3	-	-	-	-
	Very near	2	3	4	5	6	Very Far
Distance from final competence	1	6	5	1	-	1	1
	Low competence	2	3	4	5	6	High competence
Level of ability required	3	6	4	1	-	-	1

The last set of questions was meant to reveal the degree of personal connection players had with the game. Personal connection usually requires things like being involved with your avatar, immersive graphics and sound, or an engrossing story. The first question asked the player to predict their connection with the game after five times playing on a scale between “Someone else’s game” and “My game”. Players responded that it was a slightly “My game” game. Players characterized the theme of the game as slightly captivating on a scale from “dull” to “captivating”. Personal involvement produced by the game was rated as slightly small. Players also reported that the game had a fairly positive impact on them. When asked whether the dedication required for the game was very little or quite a lot,

players indicated that the game required slightly more than a medium amount of dedication.

Table 7.4 Overall: Personal impact

	Someone else's game	2	3	4	5	6	My game
Connection after 5 games	-	1	1	2	9	2	-
	Dull	2	3	4	5	6	Captivating
Game theme	-	1	1	2	5	6	-
	Small	2	3	4	5	6	Large
Personal involvement	3	2	5	3	1	1	-
	Negative	2	3	4	5	6	Positive
Game impact	-	1	1	1	2	2	8
	Very little	2	3	4	5	6	Quite a lot
Dedication required	-	-	1	2	7	4	1

The survey concluded with space for final comments or feedback, and the comments were generally positive with some repetition of the sentiments expressed earlier. There were some criticisms including “irritating”, “annoying” and “endless clicking”. The most commonly repeated phrase was “surprisingly fun” with a few more reserved endorsements like “an interesting game” and “shows potential”.

Discussion

1. Demographic survey discussion

My hope was to recruit participants with a range of game experience for my sample, but most of the respondents were medium to heavy gamers that spend a lot of time on the internet and are highly educated. One advantage of surveying a more experienced group of gamers is that the results can be analyzed and conclusions drawn about the preferences of connoisseur gamers. An interesting result to note is that when identifying what they liked in games, players most readily identified the classics: graphics, story, and social features. However, data from the questionnaires did not fully support their statements. For example, players somewhat enjoyed playing the game I built, despite the fact that it was low story, non-graphical, and single player. Unfortunately, no certain conclusions can be drawn on the subject of experienced versus inexperienced gamer preferences without designing a targeted experiment on the topic.

2. Merit-based task discussion

Each task provided the player with a different level of feedback in order to determine the best way to report the player's gained merit: no feedback (wall climbing), random feedback (bar wiggling), or consistent feedback (rope building). Ordered response scale analysis often consists of calculating the mean score of all responses and evaluating the significance of that score. In the case of my game, I am not interested in the standard deviation or mean,

nor in judging the effectiveness of these measures. In terms of answering my research question, I am most interested in determining what made player's rate tasks as more enjoyable and challenging than annoying and frustrating. Since the game was boiled down to the most simple expression of meritocratic play and managed player efficiency, even a moderately annoying or moderately frustrating response strongly supports my hypothesis.

The fact that rope building (consistent feedback) was the only task without any annoying or frustrating responses indicates that it was the most enjoyable task. This coincides with the qualitative results. Players' written and verbal responses supported my hypothesis that consistent, measured feedback is ideal and makes the game experience more enjoyable. Random feedback was the next most desirable and no feedback was the least desirable. The SETOT results for the merit-based tasks were less straightforward.

It should be considered a positive sign that players consistently underestimated their time-on-task for merit-based tasks. However, their estimation accuracy indicates different conclusions than the ordered response scale results. For example, bar wiggling (random feedback) was underestimated by the largest margin, but the standard deviation was about equal to the average. In other words, players enjoyed this task, but the level

of that enjoyment varied widely. The lack of deviation among responses to the rope making task may simply indicate that the visual feedback from the progress bar assisted participants to estimate the length of this task more accurately. Overall, the SETOT results for the merit-based tasks indicated that participants generally enjoyed this part of the game, but they did not help to conclusively determine which task was most fun.

3. Managed Player Efficiency-based task discussion

By comparing participant responses to the kulse growing, chigga growing, and tickle tasks, I hoped to rate the importance of managed player efficiency in video games. Both kulse and chigga growing were essentially rated neutral between challenging and frustrating. This result is strong evidence for why BB-MOGs flourish: a task that is neither challenging nor frustrating (like growing kulse in the game) is still somehow enjoyable. The mode score between challenging and frustrating for farming kulse (the simplest task) was neutral, which makes sense because it provided no risk and no difficult game mechanic to perform. However, on the “annoying” to “enjoyable” scale, the mode score is slightly enjoyable. This seems to indicate that the level of challenge in a game is not necessarily important, as long as the players feel that they can choose the level of challenge and measure their progress. The results for the tickling task are even more illuminating in terms of participants’ desire for MPE.

In order to understand the results for the tickling task, it is helpful to briefly review the tickling procedure. There are three main steps.

1) The task begins when the game provides a randomized description of the tickling target along with an indication of the target's difficulty. Based on the description, the player can search for another ticklee, move to another location, or attempt to tickle. The descriptions were as simple as this:

“You happen upon a drooling crazy curled up in a barrel and absently fondling an old boot, which seems to have some gold in it. (very hard)”

2) After the description, there is an action link that the player can click to trigger an attempt to tickle:

“Try to tickle this person”

3) Then the result of the tickle attempt is reported. Either:

“You tickled well and you were rewarded with 5 gold

Your tickling skill has gone up 0.5 and is now 8.5”

or

“Fail! Your target gets wise and tickles YOU!

You have lost 3 gold.”

This simple task averaged enjoyable and challenging and the mode scores (just less than half of respondents) were enjoyable and challenging. These are overwhelmingly positive results that strongly support the importance of meritocratic play and MPE. In this case, meritocratic play is provided by consistent feedback for both skill improvement and gold rewards. Players manage their efficiency by selecting the location for tickling and the difficulty of the ticklee.

The second MPE-based task results demonstrate how easily a minor programming miscalculation can cause serious obstacles to player enjoyment. This kind of problem is much more serious than interface glitches, plot holes, and slow frame rates. I simply made the chigga task too hard. Even those participants that successfully completed the task (there were only 2), felt that the reward was not worth their effort, despite the fact that there was no risk and no difficult game mechanic to restrict the number of actions performed. In other words, while failing at chigga farming might have been frustrating, it did not negatively affect game success, only game experience. While this error was unfortunate, it does not change the fact that players preferred the task that allowed them to manage their own efficiency.

4. Task-based reflection discussion

This section of the questionnaire gave me a chance to ask participants directly about their understanding of the effects of meritocratic play and

managed player efficiency. These questions were also intended as a backup to the SETOT and ordered response scale methods of determining player enjoyment. Again, the results were very gratifying. As predicted by my hypothesis, players identified the rope task (consistent feedback) and the tickling task (widest range of risk- versus reward-balancing options) as the tasks that contributed most to their enjoyment. Because my intentions were revealed in these questions, it is possible that players were simply trying to provide the answer they thought I was looking for, but the negativity expressed in other areas of the survey makes that unlikely. It is more likely that managed player efficiency and meritocratic play are not obvious “features” of a game. A player who had never heard the term “MPE” is unlikely to comment on the balance of challenge and reward available in a game. Difficulty in identifying these features may explain why they are not mentioned in previous studies that ask the players to report what they liked. Not only are graphics, sound, and story common to other mediums, they are explicitly visible and often expressed in game advertising or right on the game box. The importance of more hidden features like clarity, balance, meritocratic play, and managed player efficiency must be drawn out of the player (through methods like SETOT).

5. Full game SETOT discussion

The self-estimated time-on-task results for the whole game were staggering. As I have discussed above, the ordered response scale results indicated that

most people were indifferent to the game, feeling either slightly positive or slightly negative towards it. The game was purposefully designed to be simple to the point of boring, so that anything other than a soundly negative response is a strong indication that games need to do very little to encourage players to continue playing. However, the results of the whole-game time estimation were even more positive than I hoped.

SETOT is not usually used to measure extremely long tasks; it is logical that accuracy of estimation, regardless of task enjoyment, will decrease as the length of the task increases. However, even assuming that their estimate accuracy suffered due to the length of the game, participants would not have underestimated the time it took to complete the game so significantly unless they had become immersed, accessed a flow state, or were at least diverted enough to lose track of time.

The fact that players were not divested of any time-keeping devices during the game (most had watches, cell phones, and the computer clock easily accessible) lends further weight to this result. One can reasonably assume that a bored or annoyed person might glance at the clock more often than an engaged person. While the reasons for SETOTs effectiveness at judging user interfaces is not yet deeply understood, I know as both an experienced gamer and programmer that the highest compliment a player can pay a game is to lose time while playing it.

6. Non-task feature enjoyment discussion

On average, player responses in the non-task feature evaluation indicated that players were not bothered by my game's lack of traditional elements (story, graphics, etc.). In fact, their most strident responses in this section dealt with a particular interface issue. Because the descriptions of potential ticklees were random, the fluctuating number of words caused the action link to move around on the screen. It was only a slight movement up or down a line, as the ticklee descriptions were only a line or two long. This interface glitch caused my game to violate a very important rule of my own in making games: never use the interface to increase difficulty. While I might not place this rule as highly as the importance of MPE or meritocratic play, the violent player responses to this issue strongly indicate that further study is required to ascertain the full impact such interface features have on game enjoyment.

It must also be noted that my results indicate that games require some form of narrative to be enjoyable. While players were very neutral in response to a general question about the lack of story in my game, they responded more powerfully and positively when asked to evaluate the inclusion of specific narrative elements. The general question was "There was very little story in the game. Did you enjoy the game less or more as a result?" and the average response was 3.9. The specific question was "There were some narrative elements in the game (task descriptions, results, etc.). Did you enjoy the

game less or more as a result?” with an average response of 6.3. The standard deviation for these two scores (1.4 and 1.5 respectively) narrows the large difference between them a little, but it does not reduce the difference to nothing. One possible explanation for this difference is that minimalist narrative (such as the task and result descriptions in my game) reminds players of how little need there is for story in games but reminds them that it is still required. Story (as well as graphics and audio) provides context and purpose for the game, and while players who are very familiar with typical game contexts might need less indication of that context, they cannot do entirely without it.

7. Overall game assessment discussion

When considering this section’s results as a whole, there are a few noteworthy discrepancies. For example, I expected participants’ desire to continue playing my game and their desire to play it more than five times to be comparable. However, while the participants said they would like to play the game if it continued, they did not express interest in repeating the game as it is. There are several possible explanations for this result. The simplest is that the game did not feel like an MMORPG; it was single player and there was no notion of energy or action that needed to be recharged while the player waits. Farming had some waiting periods, but players were not restricted to waiting because tickling was still available and players could tickle as much as they liked. If the game has no waiting, can be finished

quickly, and does not continue, the idea of replaying that game seems strange. Another possibility is that the questions are simply different. The question that got more positive response suggested that there would be continued story and new game challenges while the other implied that the game would stay as it is. This result can be considered a fairly strong indication that players are interested in a game's story, although it is impossible in this case to separate the desire for novel game experiences with the desire to see where the story goes.

The issue of waiting and game continuation rose again in the pace of play results, and it is no less confusing here. Players indicated that the game was a little slow, but the pace of the game was limited only by the speed of their clicks. In the following question, players were asked if more action options combined with a slower pace (only a few actions per day) would make the game less or more enjoyable. It seems counterintuitive that players would want a slower game. However, there are two confounding factors. First, as players dictated the pace of the game with their clicks, they might have interpreted the question to mean the pace of progression, meaning that the time required to increase tickling skill or gold felt too slow. *World of Warcraft* has the fastest avatar progression of the games discussed in Chapter 2 and the games players identified in Table 1.7, and it is the most popular, so if players translated pace to avatar progression, speed of progression might be an important factor to consider in future games.

Second, the question regarding a slower pace included expanded features, and again, it is difficult to separate the desire for new gameplay elements from the desire to slow the pace.

Methodological improvements

There are several ways in which I would improve my methods in further studies. I would separate meritocratic play and MPE further, to ensure that their importance could be distinguished. I would improve and clarify the scaling of the enjoyment portion of the survey. In addition to an ordered response scale, I would use a system of ranked traits to determine the importance of particular features in each task. I would carefully track player actions in the game to compare with responses in the questionnaire. Finally, I would make improvements to the game itself, which would help clarify and enrich the results.

Meritocratic play and MPE were not totally independent of one another in the tasks I designed, which prevents me from concluding which is most important. While the merit-based tasks were well-separated, the MPE tasks included very meritocratic elements, especially in counting the gold earned. While it will be difficult to allow players to manage their own efficiency without rewarding their merit, I am confident that with further research I can find ways to highlight the importance of MPE on its own.

The scales I used for determining the enjoyment of the merit- and MPE-based tasks can be improved. The most important change would be to match the scales so that a response of “7” will always be a positive response. In my version of the survey, a “7” indicated that a task was enjoyable and frustrating. The reason I reversed them was to discourage respondents from just blindly checking one side of the survey. However, reversing the scales does not discourage careless participants and sometimes confuses careful ones. I would also use a more traditional Likert-style scale that opposes “very annoying” with “very enjoyable” so that the scale is wider and the interim steps can be more readily described.

While the ordered response scale provided useful results, my richest data came from asking participants to directly respond to my research questions. One way to do that using quantitative methods is to ask players to rank the importance of things in addition to the ordered response scale. For example, after completing the rope task, I would ask players to rank the visual progress bar and the consistent feedback in order of importance to their enjoyment. Another example on a larger scale would be to ask players to rank whole tasks (e.g. tickling, growing chigga, climbing walls, etc.) in order of importance to their enjoyment.

Just as tracking user actions can reveal things about interface design, richer tracking data would improve the quality of my results. The best example of

this would be comparing player responses to the merit-based tasks (rope building, wall climbing, and bar wiggling) with the order in which they completed those tasks. Did players' estimations of time-on-task improve with each completed task? Did players who chose the rope building task first enjoy it more than players who chose to complete it last? These are just the beginning of the questions that could be answered by carefully tracking each player action and comparing that to other player data.

While I have many ideas about how to improve the game for future studies, there are two improvements that I would make even if I planned to repeat this study exactly. These particular changes are within the spirit of the game, their inclusion enriches the results, and they were omitted only because they did not occur to me in time. Just as the tickling task has a tickling skill, the farming tasks should have a farming skill that is improved through use. Excluding this feature may have unfairly elevated the enjoyment of tickling over the other MPE-based tasks (farming both chigga and kulse). In the same vein, the game program must include an internal control that maintains a stated success rate. For example, some stages of growing chigga reported a 50% success rate, and if players failed twice in a row (violating the stated success rate), they would quit chigga farming and not return to it. While I am still confident that MPE is important, the exact nature of its importance would be clearer if the farming tasks were improved.

Chapter 4

Conclusions

Based on my research, I feel confident in arguing that the meritocratic play and managed player efficiency (MPE) are extremely important to player enjoyment in MMORPGs. Existing research provides tentative support for features related to meritocratic play and MPE. My survey of popular MMORPGs strengthens that support by supplying functional examples. Finally, testing of my experimental game provided convincing evidence that meritocratic play and MPE are the most important factors in fostering player enjoyment and prolonged play.

Existing work by game scholars and designers identifies many specific features that they believe contribute to player enjoyment. I grouped these features into three categories: clarity, game balance, and social features. A clear game must provide explicit goals with fair rewards and give direct, consistent feedback for game actions. Balanced games allow many paths to in-game success and engage all play styles and all player types equally. Social features provide player-created and player-valued context for in-game events and accomplishments, which enriches the importance of other features. While none of the game scholars or designers use the terms meritocratic play or MPE, which I have coined to describe what I believe to

be the most important features of any game, they are closely related to clarity, balance, and social features. Without clarity, there can be no meritocracy or MPE as players cannot see the connection between work and reward and are therefore unable to assess their own play efficiency.

Balanced gameplay allows a wider range of players to effectively manage their efficiency and increases the overall feeling of game fairness. Social features enhance meritocratic play and MPE by increasing meaning and weight for in-game actions. Although this scholarship supports my argument about the importance of meritocratic play and MPE, I need to find real examples of games that offer further evidence.

Surveying five top-rated MOGs revealed that meritocratic play and managed player efficiency are always essential aspects of enjoyable, popular games. *Ultima Online*, *EverQuest*, *World of Warcraft*, *HoboWars*, and *Torn City* all exhibited aspects of meritocratic play and MPE, although none of them are perfect examples. For example, *Torn City* does not provide meritocratic play in its crime system. Having said that, each game provided consistent reward for work and a wide variation of difficulty levels to choose from.

Unfortunately, studying games with imperfect implementations of meritocratic play and MPE did not provide conclusive evidence about the importance of these features.

In order to evaluate the true importance of meritocratic play and MPE, I built a boiled-down game that offered varying levels of each and then conducted a study to determine how much participants enjoyed each feature. The three stated purposes for conducting this experiment were:

- 1) Determine whether two specific MMORPG features, meritocratic play and managed player efficiency, significantly contribute to player enjoyment.

Meritocratic play and MPE are essential components of player enjoyment in MMORPGs. Even experienced gamers enjoyed playing my game, which was no more than a simple expression of meritocratic play and managed player efficiency. The success of my game therefore makes me confident in my assertion that both meritocratic play and MPE are more important than many of the features advocated by game scholars and designers. Further, the popularity of the tickling task suggests that MPE is more important than meritocratic play, but as discussed, the two are difficult to separate, and it could be their combination that caused such a spike in enjoyment for tickling.

Of course, my results also indicate that managed player efficiency and meritocratic play alone do not make the best games. For example, meritocratic play must be balanced between realism and annoyance. In my game, if growing kulse took several months of real time, it would probably

be too realistic and therefore too annoying. However, each game has a different feel and pace, so there are no hard and fast rules for applying the right amount of realism. Nonetheless, as games are, at heart, an abstraction of real life, it is important to moderate the influence of realism to maintain separation from reality and to therefore allow games to be fun.

2) Can a strongly simplified game make predictions about more complex games?

Since my game was a single-player, non-graphical, browser-based online role playing game, I cannot safely claim that my findings are directly applicable to the hugely popular, graphical marvels that inhabit the Massively Multiplayer Online Role Playing Game landscape. However, I can say that a simple, text-driven, browser-based online role playing game can still be enjoyable even for players who have played bigger, more complex games. The fact that my minimalist game was not simply a bore to players is very encouraging, and it suggests that further research could more strongly connect what works in simple games to what works in more complex games.

3) Does a 7-point ordered response scale for self-reported enjoyment produce similar results to time estimation for a browser-based online role playing game?

I compared three types of user responses: written comments and discussion, ordered response scale, and self-estimated time-on-task. In the merit-based tasks (rope building, bar wiggling, and wall climbing), all three methodologies yielded different results. In other sections, the three methods agreed that all of the tasks were a little frustrating and a little annoying. However, the self-estimated time-on-task for the game as a whole indicated that the game was enjoyable, and when examining both the quantitative and qualitative results for the whole game, they pointed in that direction also. Considering the average accuracy of players' self estimations and the fact that including a linear regression will enrich the data, SETOT can be an effective tool in evaluating game enjoyment as long as tasks can be separated adequately and as long as complementary methods are also used.

Throughout this thesis, I have argued that many features usually considered essential to video game enjoyment (e.g. graphic and story) are merely icing on the game cake, while game mechanics, meritocratic play and MPE are the cake itself. I believe that my experiment supports my argument that meritocratic play and MPE are extremely important in encouraging prolonged play in MOGs. This explains why non-graphical MOGs like *HoboWars* and *Torn City* are so popular. Although they may not boast all of the bells and whistles of *World of Warcraft*, for example, they have a devoted player base, who are motivated to continue playing over prolonged periods of time.

In the end, this project has answered some fundamental research questions for me and suggested that I am not wrong for doubting the conclusions of other game scholars and developers on the subject of fun in video games. Many other scholars believe that games need context and immersion to be enjoyable. My game had neither and was still fun. Most scholars also believe that MMORPGS must have social aspects to attract players. My game had no social aspects. Clearly, such elements are not as essential as they have traditionally been believed to be. My game shows that testing rapidly developed, prototype-style games can be an effective way to prove or disprove our notions about games, and it is my hope that future research will rely more heavily on these methods.

References

Bibliography

Apex Web Gaming (2009). *Top Games, This Week's Rankings*. Retrieved

from

<http://apexwebgaming.com/all/this-week> on March 20, 2009.

Bartle, R.A. (1996). Diamond, Spade, Heart, Club: Players Who Suit MUDs.

Journal of MUD Research, Volume 1, Issue 1. Retrieved on April 15,

2007 from

<http://www.brandeis.edu/pubs/jove/HTML/v1/bartle.html>.

Bartle, R.A. (2003). *Designing Virtual Worlds*. Berkeley, CA: New Riders.

Bouchard, M. (2010, February). "Triple Threat: The three reasons your mom

won't play Call of Duty with you". Presented at HuCon 2010: Current

Graduate Research in Humanities Computing, Edmonton, AB.

Bowman, R. F. (1982). A "Pac-Man" theory of motivation: Tactile

implications for classroom instruction. *Educational Technology*,

Volume 22, Issue 9 (pp 14-17). Englewood Cliffs, NJ: Educational

Technology Publications.

Castronova, E. (2003). On Virtual Economies. *Game Studies*, Volume 3, Issue 2. Retrieved on January 30, 2007 from <http://www.gamestudies.org/0302/castronova/>.

Castronova, E. (2005). *Synthetic Worlds: The Business and Culture of Online Games*. Chicago, IL: University of Chicago Press.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. New York: Harper and Row.

Czerwinski, M., Horvitz, E., and Cutrell, E. (2001). *Subjective Duration Assessment: An Implicit Probe for Software Usability*. Retrieved on January 16, 2009 <http://research.microsoft.com/en-us/um/people/cutrell/ihtmhci-sda.pdf>.

Dickey, M.D. (2005). Brave new (Interactive) worlds: A review of the design affordances and constraints of two 3D virtual worlds as interactive learning environments. *Interactive Learning Environments*, Volume 13, Number 1-2 (pp 121-137). Philadelphia: Routledge.

Dormans, J. (2006). On the Roll of the Die: A brief ludologic study of pen-and-paper roleplaying games and their rules. *Game Studies*, Volume 6,

Number 1. Retrieved on January 10, 2007 from <http://gamestudies.org/0601/articles/dormans>.

Gee, J.P. (2003). *What Video Games Have to Teach Us About Learning and Literacy*. New York: Palgrave Macmillan.

Goodman, L. A. (1961). Snowball Sampling. *The Annals of Mathematical Statistics*, Volume 32, Number 1 (pp 148-170). Beachwood, OH: Institute of Mathematical Statistics.

Graham, J., Zheng, L., and Gonzalez, C. (2006). A Cognitive Approach to Game Usability and Design: Mental Model Development in Novice Real-Time Strategy Gamers. *CyberPsychology & Behaviour*, Volume 9, Issue 3 (pp 361-366). New York: Mary Ann Liebert, Inc..

Kollock, P. (1996). "Design Principles for Online Communities." Presented at the Harvard Conference on the Internet and Society. Retrieved January 12, 2007 from <http://www.sscnet.ucla.edu/soc/faculty/kollock/papers/design.htm>.

Kolo, C. and Baur, T. (2006). Living a Virtual Life: Social Dynamics of Online Gaming. *Game Studies*, Volume 4, Number 1. Retrieved on January 25, 2007 from <http://www.gamestudies.org/0401/kolo/>.

Koster, R. (2005). *A Theory of Fun for Game Design*. Scottsdale, AZ: Paraglyph Press.

Koster, R. (2006). *Measuring MMO's*. Retrieved from <http://www.raphkoster.com/2006/06/01/measuring-mmos/> on April 15, 2007.

Lazzaro, N. (2004). *Why We Play Games: Four Keys to More Emotion Without Story. Player Experience Research and Design for Mass Market Interactive Entertainment*. Oakland, CA: XEODesign Inc..

Likert, R. (1932). A Technique for the Measurement of Attitudes. *Archives of Psychology*, Volume 140 (pp 1-55). New York: Johnson Associates.

Magerkurth, C., Engelke, T., and Memisoglu, M. (2004). Augmenting the Virtual Domain with Physical and Social Elements: Towards a Paradigm Shift in Computer Entertainment Technology. *ACM Transactions on Computers in Entertainment*, Volume 2, Number 4. New York: ACM Press.

Mead, G. H. (1934). *Mind, self, and society*. Chicago, IL: University of Chicago Press.

- Mulligan, J. and Patrovsky, B.** (2003). *Developing Online Games: An Insider's Guide*. Berkeley, CA: New Riders.
- Nash, J. (1950).** "Equilibrium Points in N-Person Games." *Proceedings of the National Academy of Sciences*. Retrieved January 15, 2007 from <http://www.pnas.org/cgi/reprint/36/1/48.pdf>.
- Nelson, T. M. and Carlson, D. R.** (1985). Determining factors in choice of arcade games and their consequences upon young male players. *Journal of Applied Psychology*, Volume 15 (pp 124-139). Washington: APA.
- Patton, M.** (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage Publications.
- Piaget, J.** (1962). *Play dreams and imitation in childhood*. (C. Gattegno, C. Hodgson & F. M. Translators). New York: W. W. Norton.
- Provenzo, E. F.** (1991). *Video kids: Making sense of Nintendo*. Cambridge, MA: Harvard University Press.

Schollmeyer, J. (2006). Games Get Serious. *Bulletin of the Atomic Scientists*, Volume 62, Issue 4 (pp 34-39). Chicago, IL: Bulletin of the Atomic Scientists.

Spencer, H. (Ed.). (1878). *The Principles of Psychology*, Volume 2. New York, NY: A. Appleton.

Stagnitti, K. (2004). Understanding play: The implications for play assessment. *Australian Occupational Therapy Journal*, Volume 51, Issue 1 (pp3-12). Oxford: Blackwell.

Steinkuehler, C. (2006). Massively Multiplayer Online Video Gaming as Participation in a Discourse. *Mind, Culture, and Activity*, Volume 13, Issue 1 (pp 38-52). Mahwah, NJ: Lawrence Erlbaum Associates.

Top Web Games (2009). Top Web Games, Last Week's Results. Retrieved from <http://www.topwebgames.com/default.asp> on March 20, 2009.

Turkle, S. (1995). *Life on the screen: Identity in the age of the internet*. New York: Simon & Schuster.

Timmer, J. (2009). *Science gleans 60TB of behavior data from Everquest 2 logs*. Retrieved from <http://arstechnica.com/science/news/2009/02/>

aaas-60tb-of-behavioral-data-the-everquest-2-server-logs.ars on April
15, 2007.

Wan, C. and Chiou, W. (2006). Psychological Motives and Online Games
Addiction: A Test of Flow Theory and Humanistic Needs Theory for
Taiwanese Adolescents. *CyberPsychology & Behaviour*, Volume 9,
Issue 3 (pp 317-324). New York: Mary Ann Liebert, Inc..

Wood, R., Griffiths, M., Chappell, D., and Davies, M. (2004). The
Structural Characteristics of Video Games: A Psycho-Structural
Analysis. *CyberPsychology & Behaviour*, Volume 7, Issue 1 (pp 1-10).
New York: Mary Ann Liebert, Inc..

Woodcock, B. S. *An Analysis of MMOG Subscription Growth* [Data charts].
Retrieved from <http://mmogchart.com/charts/> on March 3, 2010.

Ludography

The style guide I used for the bibliography (<http://owl.english.purdue.edu/owl/resource/560/01/>) was insufficient for my purposes, so I have supplemented the electronic resources style to include:

Developer (earliest date of release). Game title [game type]. Location:
Publisher.

andy (2003). HoboWars [Browser-based MMORPG]. HellBored Party Ltd.

Black Isle Studios (1997). Fallout [Computer role playing game]. Beverly Hills: Interplay

Blizzard Entertainment (2004). World of Warcraft [Client-based MMORPG].
Paris: Vivendi Universal.

Chedburn (2004). Torn City [Browser-based MMORPG]. Chedburn Network.

Crowther, W. (1976). Adventure [Text-based adventure game].

Gygax, G. and Arneson, D. (1974). Dungeons & Dragons [Fantasy role playing system]. Lake Geneva, WI: TSR.

Infinity Ward (2009). Call of Duty: Modern Warfare 2 [Console first person shooter game]. Santa Monica, CA: Activision.

Jackson, S. (1986). Generic Universal Role Playing System [Setting-neutral role playing system]. Austin, TX: Steve Jackson Games.

NCSOft (1998). Lineage [Client-based MMORPG]. Seoul, South Korea:

NCSOft.

NCSOft (2003). Lineage II: The Chaotic Chronicle [Client-based MMORPG].

Seoul, South Korea: NCSOft.

Origin Systems (1997). Ultima Online [Client-based MMORPG]. Redwood

City, CA: Electronic Arts.

PlayMesh (2009). iMafia [iPhone-based MMORPG]. PlayMesh.

Rockstar North (2008). Grand Theft Auto IV [Console sandbox action

game]. New York: Rockstar Games.

Sierra On-Line (1984). King's Quest [Command-based, graphical adventure

game]. Armonk, New York: IBM.

Sony Online Entertainment (2003). Star Wars Galaxies: An Empire Divided

[Client-based MMORPG]. San Francisco, CA: LucasArts.

Sony Online Entertainment (2004). EverQuest II [Client-based MMORPG].

San Diego, CA: Sony Online Entertainment.

Stormfront Studios (1991). Neverwinter Nights [Client-based MORPG].

Sunnyvale, CA: Strategic Simulations Inc..

Travian Games GmbH (2004). Travian [Browser-based MMORTS]. Munich,

Germany: Travian Games GmbH.

Trubshaw, R. and Bartle, R. (1978). Multi User Dungeon (MUD).

Verant Interactive (1999). Everquest [Client-based MMORPG]. San Diego,

CA: Sony Online Entertainment.

Appendices

Appendix A: Summary of Project

Purpose

The purpose of this project is to make a preliminary attempt to answer three questions:

1) Do two specific MMORPG features contribute to player enjoyment?

My thesis research has indicated that there are several features of MMORPGs that contribute to player enjoyment. The most interesting to me are a meritocratic world and managed player efficiency. I have designed a set of tasks which explore these features, and participants will fill out a survey to determine if these features improved player enjoyment. Tasks are described in more detail below.

2) Can a strongly simplified game make predictions about more complex games?

MMORPGs are a very popular genre not only for players, but for academics as well. The trouble is that MMORPGs are large and expensive to build and maintain. Further, many of the most popular games are owned by large, private companies who are reluctant to allow researchers access to their

game data. However, if a very simple, browser-based, text-heavy game can be indicative of larger, more graphically intense games, researchers need not spend money or time creating overly complex games to get valid academic results.

3) Does a 7-point Likert scale for self-reported enjoyment produce similar results to time estimation?

Self-estimated time-on-task is a methodology that has been applied to user interfaces, but has not yet been applied to browser-based MMORPGs.

Theoretically, players will overestimate the time it took to complete boring or annoying tasks and underestimate the time it took to complete enjoyable tasks. This assessment of player enjoyment should parallel the results of a simple enjoyment survey expressed with the Likert scale. More detail on these methodologies below.

Tasks

These tasks come in 2 groups of three tasks. Each group is intended to test one major idea in three ways. For supplementary information on the exact tasks, please read the accompanying Tasks (for players) document.

Task 1: Meritocracy

In the real world, work often goes unrewarded, or the reward is far separated from the work. In many video games, avatar actions have measurable results (like scores), but they don't improve the avatar itself in measureable ways. In MMORPGs, avatars become measurably, concretely better at the tasks they undertake as the game progresses. For example, if your avatar makes 1000 pots, at the end, they may be 10% better at pot-making, and the pots they make in the future will be better made and might hold more. To test this feature, the subject's avatar will be given three subtasks; each have a different level of improvement feedback.

Task 1.1: Bar wiggling (random feedback)

After ten wiggles, each bar-wiggling action has a random chance of pulling the bar out. Feedback will consist of things like "You think the bar is a little looser now".

Task 1.2: Rope building (constant feedback)

Each rope-making action results in a message that reports the length of the rope and the increase in the avatar's rope-making ability. Feedback consists of things like "Your rope is 3 inches longer! Your rope-making skill has improved by 1 point"

Task 1.3: Wall climbing (no feedback)

The player is provided no feedback on the avatar's climbing ability.

Invisibly, the avatar's climbing skill does improve.

Task 2: Managed Player Efficiency

In many games, the level of difficulty increases at a standard rate throughout the game. If that rate is too fast or too slow, there is little that can be done to correct it. Further, these games often rely solely on player improvement to progress, meaning that the player must improve at playing the game to continue. This can create problems for physically or mentally challenged players, players who don't play regularly, or simply players who don't have the time or ability to improve at a rate and to a level arbitrarily decided by the game developers. Attempts have been made to address this problem with game difficulty adjustment sliders (players can adjust the cleverness enemy AI on a sliding scale for example) and difficulty levels (playing a game on Casual or Hardcore), but what the player really needs is a game that adjusts to provide an interesting challenge at all times. MMORPGs have a fairly elegant, two-part solution to this problem: avatar improvement rather than player improvement is most important to progression and players have a large world and a wide variety of things to do which can provide them with whatever level of challenge they are interested in. To test this feature, the subject's avatar will be given a choice of several subtasks, each with a different level of difficulty.

Task 2.1: Farming (Easy)

You work in fields growing safe, cheap crops.

Low risk, low reward, measured success.

Task 2.2: Farming (Moderate-Easy)

You work in fields growing riskier crops (illegal, delicate, etc.).

Moderate risk, moderate reward, low random chance of big success.

Task 2.3: Pickpocket (Variable)

You work as a pickpocket in various neighbourhoods. Each neighbourhood provides different risks and rewards.

Variable risk (all higher than farming), variable reward (all higher than farming), high random chance of big success.

Self-estimated Time-On-Task

Czerwinski, Horvitz and Cutrell introduced a metric that connects a subject's estimation of the time spent on a task with the difficulty of the task. They found that participants overestimated the time spent on difficult (or failed) tasks and underestimated the time spent on successfully completed tasks.

Despite the fact that Czerwinski et al. were focused on user interfaces, task difficulty, and task interruption, I propose that the basic principle applies to feature-specific enjoyment also. Participants will underestimate the duration

of enjoyable game tasks and overestimate boring or annoying ones. This methodology will work in parallel to the questionnaires.

At the conclusion of each sub-task, subjects will be asked to estimate how much time they spent on each task.

Questionnaires

I developed a questionnaire (Appendix C) to assess the perceived enjoyment of the game tasks. When the tasks are completed, each participant will be asked to complete the short survey. The purpose of the questionnaire is to determine which tasks are most enjoyable to the player in hopes of determining which features are most important and if a simple game can still be enjoyable. Structuring the questions to balance annoyance and enjoyment will also let me understand if we are minimizing dissatisfaction (less desirable for long term enjoyment) or maximizing satisfaction (more desirable for long term enjoyment).

The questions will take this form:

1) Did you find the bar wiggling task more annoying or more enjoyable?

1.....7

annoying

enjoyable

2) Did you find the bar wiggling task more challenging or more frustrating?

1.....7

challenging

frustrating

3) Please describe your experience while working on this task. Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

Demographics

Participants will be asked to fill in a detailed demographic survey. The main purpose of the survey is identify previous game experiences. The full demographic survey is attached as Appendix D.

Participant Population and Selection Methodology

I will seek approximately fifteen participants using the Snowball Sampling method. Participants will be mostly graduate students with some MMORPG experience, but participants will not be selected on this basis.

Appendix B: Tasks (for players)

This is the description of the tasks as they will appear to the players in the game.

Task 1: Escape from prison

You wake up one morning and find yourself in prison. You don't recall how you arrived here or why you've been imprisoned. Based on the fact that your clothes are in good shape, and you are relatively clean, you surmise that you have not been here long, and in fact you used to be somewhere that had bath facilities and some access to clean your clothes. You also notice that you are relatively healthy, a state that will change the longer you are in prison. Your cell is about 5 feet square; walls and ceiling are all solid stone. There are three things in the cell. 1) A deeply set, barred window through which you can see a vast desert. 2) A pile of straw, presumably to sleep on. 3) A solid metal door with no handles, windows, slots, or even hinges. What do you do?

Option 1.1: Bar wiggling

The only escape from prison is through a barred window. There are no tools to cut the bars, and you are not strong enough to bend them. However, the bars move when wiggled.

Option 1.2: Rope building

The barred window is very high above the ground. The only way to survive is the descent to the ground to use a rope to climb down safely. Fortunately, the straw in the cell can be woven to make rope.

Option 1.3: Wall climbing

Even with a rope, the climb down will be long and difficult. Because the cell is so small, it is difficult, though not impossible, to practice climbing.

Task 2: Escape from town

As you make your way down the rope, you see that you are not in a trackless desert, but there is a walled town at the base of the prison tower. When you reach the wall, you are told that you'll never survive alone in the desert without any clothes or supplies. To continue, you'll need a dagger (for protection), a loose robe, a head covering, good desert boots, a camel, and lots of water. To acquire these items, you must undertake a number of jobs, each with varying risks and rewards.

Option 2.1: Farming kulse

You work in fields that growing kulse, a desert friendly barley that is cheap and grows slowly but is very hardy.

Option 2.2: Farming chigga

You work in fields growing chigga, an illegal narcotic which is very delicate and often dies without warning (including through government raids), but is very profitable.

Option 2.3: Pickpocket

You work as a pickpocket in various neighbourhoods. The Docks provides many opportunities to rob drunk sailors, but they rarely have much money on them. The Market is very busy and offers many opportunities for the young cutpurse, and there are a few rich shoppers about, but there are a few city guards keeping the peace. The Merchant's Quarter is quieter and features more guards, but many people on the street are wealthy. The Palace is very well patrolled and has very few people wandering the streets but any success here will result in huge rewards.

The End

Once you have acquired all of the gold you need, you set off into the desert. You hope to find answers to your first questions when you awoke in prison: who am I, why was I put in prison, and what do I do now?

Appendix C: Enjoyment Questionnaire

Please fill in this questionnaire as completely as possible.

On a scale from annoying to enjoyable, where would you place the bar wiggling task?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale from challenging to frustrating, where would you place the bar wiggling task?

1	2	3	4	5	6	7
Challenging			Frustrating			

Please describe your experience while working on the bar wiggling task.

Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

On a scale from annoying to enjoyable, where would you place the rope building task?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale from challenging to frustrating, where would you place the rope building task?

1	2	3	4	5	6	7
Challenging			Frustrating			

Please describe your experience while working on the rope building task.

Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

On a scale from annoying to enjoyable, where would you place the wall climbing task?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale from challenging to frustrating, where would you place the wall climbing task?

1	2	3	4	5	6	7
Challenging			Frustrating			

Please describe your experience while working on the wall climbing task.

Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

On a scale from annoying to enjoyable, where would you place the farming kulse task?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale from challenging to frustrating, where would you place the farming kulse task?

1	2	3	4	5	6	7
Challenging			Frustrating			

Please describe your experience while working on the farming kulse task.

Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

On a scale from annoying to enjoyable, where would you place the farming chigga task?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale from challenging to frustrating, where would you place the farming chigga task?

1	2	3	4	5	6	7
Challenging			Frustrating			

Please describe your experience while working on the farming chigga task.
Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

On a scale from annoying to enjoyable, where would you place the tickling task?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale from challenging to frustrating, where would you place the tickling task?

1	2	3	4	5	6	7
Challenging			Frustrating			

Please describe your experience while working on the tickling task. Any format your comments take (words, points, sentences, paragraphs, etc.) will be useful.

The first three tasks (bar wiggling, rope building, and wall climbing) were designed to test feedback. Bar wiggling provided some random feedback. Rope building provided constant, measured feedback. Wall climbing provided no feedback. Which task's feedback did you enjoy the most and why?

The second three tasks (farming kulse, farming chigga, and tickling) were designed to test risk/reward balance. Farming kulse was the safest, but provided the fewest rewards. Farming chigga was the riskiest, but it provided the best rewards. Tickling allowed you to manage your own risk and reward based on your location. Which task provided the best risk/reward balance and why?

There was very little story in the game. Did you enjoy the game less or more as a result?

(A middle choice indicates that this feature made little or no difference)

1	2	3	4	5	6	7
Less			More			

You were given little opportunity to customize your character (like choosing a name). Did you enjoy the game less or more as a result?

(A middle choice indicates that this feature made little or no difference)

1	2	3	4	5	6	7
Less			More			

There were very few graphical elements in the game. Did you enjoy the game less or more as a result?

(A middle choice indicates that this feature made little or no difference)

1	2	3	4	5	6	7
Less			More			

There was a progress bar in the rope making task. Did you enjoy the task less or more as a result?

(A middle choice indicates that this feature made little or no difference)

1	2	3	4	5	6	7
Less			More			

There were some narrative elements in the game (task descriptions, results, etc.). Did you enjoy the game less or more as a result?

1	2	3	4	5	6	7
Less			More			

In some situations, the location of the action link was moved so that you had to click in a different place than previous actions. For example, during the tickling task, some descriptions of possible ticklees were long enough to move the "Try to tickle this person" link. This would have required you to move your mouse to click the same link. On a scale of annoying to enjoyable, where would you place this feature?

1	2	3	4	5	6	7
Annoying			Enjoyable			

On a scale of less important to more important, how important is it that actions are in a predictable location and can be clicked easily?

1	2	3	4	5	6	7
Less important			More important			

There were very few audio elements in the game. Did you enjoy the game less or more as a result?

(A middle choice indicates that this feature made little or no difference)

1	2	3	4	5	6	7
Less			More			

If this game continued with an adventure in the desert or with you as ruler of this nation, how motivated would you be to continue playing the game?

1	2	3	4	5	6	7
Not motivated at all			Very motivated			

If you would play this game, how often would you play it?

(Assuming that the game continued)

1	2	3	4	5	6	7
Very rarely			Very often			

How would you classify the pace of play in this game?

1	2	3	4	5	6	7
Slow			Fast			

For the purposes of this experiment, I was forced to accelerate the ideal speed of play for this game style. Ideally, this sort of game would provide more action options and fewer actions could be performed per day. Would these changes make the game less or more enjoyable?

1	2	3	4	5	6	7
Less			More			

How would you rate your motivation to play this game more than 5 times?

(Assuming that the game continued)

1	2	3	4	5	6	7
Not motivated at all			Very motivated			

What kind of changes would be required to increase your motivation to play this game more than 5 times?

1	2	3	4	5	6	7
Minor			Major			

Please identify some of these changes:

How would you assess the difficulty of this game?

1	2	3	4	5	6	7
Very easy			Very hard			

How long would you estimate it would take you to become comfortable with this game?

1	2	3	4	5	6	7
Almost at once			Very long time			

How far are you from your final level of competence in this game?

1	2	3	4	5	6	7
Very near			Very far			

What level of ability is required for this game?

1	2	3	4	5	6	7
Low competence			High competence			

Try to assess your connection to the game. If you played this game 5 times, you would think:

1	2	3	4	5	6	7
This is someone else's game			This is my game			

The theme of this game is

1	2	3	4	5	6	7
Dull			Captivating			

The amount of personal involvement this game produces is

1	2	3	4	5	6	7
Small			Large			

How does this game impact you?

1	2	3	4	5	6	7
Negative			Positive			

What level of dedication does this game require?

1	2	3	4	5	6	7
Very little			Quite a lot			

If you have any final questions, comments or other kinds of feedback, please include them here:

Appendix D: Demographics

What is your age in years?

Less than 20

20 to 29

30 to 39

40 to 49

50 to 59

60+

What gender do you most identify with?

1	2	3	4	5	6	7
Male						Female

What is your educational background?

(Check all that apply)

Some highschool

Highschool diploma

Some college/university

2-years or less diploma/certificate

4-year bachelors degree

Some graduate school

Masters degree

Doctoral degree

If you have some post-secondary education, what was your field of study?

(Check all that apply)

Fine Arts (music, painting, etc.)

Arts (English, History, etc.)

Science (Biology, Chemistry, etc.)

Engineering (Civil, Mechanical, etc.)

Health (Medical, Nursing, etc.)

Other

On average, how many hours per week do you spend on the internet?

0-5 hours

5-15 hours

15 or more hours

What kinds of things do you do on the internet?

(Check all that apply)

Surfing

Research

Playing games

Social networking

News

Web comics

Podcasts or similar

Blogs

Other

Have you played any Massively Multiplayer Online Role Playing Games
(like World of Warcraft)?

Never

Once

A couple of times

Many times

Please list any MMORPGs you have played:

Do you play video games

1	2	3	4	5	6	7
Regularly						Rarely

When deciding what game to play, how important is the game's popularity?

1	2	3	4	5	6	7
Not important						Very important

Please list any factors that make you want to play a game

Please list any factors that make you continue playing a game

Appendix E: Consent Form

Purpose

You are invited to participate in a research study entitled Feature-Specific Enjoyment in Browser-Based MMORPGs being conducted by me, Matthew Bouchard, of the Department of Humanities Computing, University of Alberta, with the support of my supervisor, Stan Ruecker. This study is part of my Masters thesis involving the prolonged play of Massively Multiplayer Online Role-Playing Games (MMORPGs). The tasks you will be asked to perform, the questionnaire you will be asked to complete, and the informal discussion are designed to discover whether specific features contribute toward the enjoyment of browser-based MMORPGs.

Your participation

Your participation involves completing some tasks that will be similar to navigating a webpage, filling out a short questionnaire about it, and then having an informal discussion with the moderator regarding your experiences while taking part in this study. The process should take between half an hour and an hour.

Your rights

Your decision to participate in this study is entirely voluntary and you may decide at any time to withdraw from the study. If you choose to withdraw from the study, your answers will be disregarded from any analysis. Your

responses will remain confidential, and your name will not appear on the response materials or be associated with your responses in any way. Only researchers associated with the project will have access to the data. The results of this study will potentially be presented at scholarly conferences or published in professional journals, but even if your comments are used, your identity will never be disclosed. The materials collected in the interview will be retained digitally on a secured external hard drive in a locked filing cabinet for 5 years, following which they will be destroyed.

Benefits and risks

This research is intended to understand the particular draw of MMORPGs and further to identify which features of such games are most important to player enjoyment. There are no foreseeable risks to this study. If you should have any questions or concerns about this study, please contact Matthew Bouchard at mpb@ualberta.ca.

Contact information

If you have any questions or comments on the study, or if you wish a clarification of your rights as a research participant, you can contact Matthew Bouchard, Stan Ruecker, or the Human Research Ethics Committee at the number and address below.

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492-4224
Signature

Please sign below to indicate that you have read and understood the nature and purpose of the study. Your signature acknowledges the receipt of a copy of the consent form as well as indicates your willingness to participate in this study.

NAME (please print)

Signature_____

Date_____

Appendix F: Debriefing Form

Purpose

The purpose of this study is to examine if particular features of browser-based Massively Multiplayer Online Role-Playing Games (BB-MMORPGs) contribute to player enjoyment. Player enjoyment is just a fancy phrase that really means fun. There are a couple of reasons why I am interested in the study of fun in MMORPGs, particularly browser-based ones. First, MMORPGs are special games because of the length of time that people play them. Players spend several days straight playing these games, at the cost of food, sleep, work, and even bathroom breaks. Not only are players playing for a long time in the short term, but over the longer term as well. Ultima Online (Origin, 1997) has been around for more than ten years, and there are still many players playing. Though it's impossible to tell for sure, anecdotally, many of those still playing have been doing so since the beginning. Ten years is a long time to play one game. Even if all of the current players are new, when was the last time you played a game made in 1997? Second, scholars studying games have posited that immersion is very important to the enjoyment of games (Murray, 1997) and graphics are very important to immersion (Wood et al., 2004). BB-MMORPGs don't aim for immersion, nor are they particularly graphical, but they still manage to be fun and attract players. This study was designed to test some features of these games to discover if they contribute to the overall fun of the game.

The first set of tasks (Escape from prison) were focused on feedback. The research here isn't too clear. Addiction research says that random feedback (like in a slot machine) should be the one you want to play, but that doesn't mean it will be the most enjoyable. Flow and immersion research suggest that regular, immediate feedback is the winner. No feedback should be the least popular, but it persists in many popular games.

The second set of tasks (Escape from town) were focused on managed player efficiency. This is a principle of game design that I'm attempting to give name to. Basically, the idea is that the game should adjust to a level of challenge appropriate for the user. The current expression of that in MMORPGs is allowing the player to find a level of risk and reward that they find enjoyable. In this set of tasks, you were provided with a range of options so that you could find the right activity at the right time for you.

I employed two methodologies to try to gauge your enjoyment: duration assessment and a survey. Over both sets of tasks, I asked you to estimate the time it took you to accomplish each task. There is a methodology called Subjective Duration Assessment which is used to determine the difficulty of interface tasks (and hence the quality of the interface) by having people guess how long each task took (Czerwinski et al., 2007). The basic principle is that if you enjoyed the task, your estimate will be low, and if you disliked the task, you will overestimate the time it took. This measure of enjoyment

will work in parallel with the surveys you filled out after completing each set of tasks. The surveys were designed to get a more traditional reading on how much you enjoyed the tasks.

If I can discover what it is about these games that makes them fun, I hope to advise makers of educational games who are having trouble combining learning with fun. Many non-players feel that MMORPGs must be tedious and boring, much like going to school can be. If I can apply these lessons of fun to learning, teachers will have to drag their students away from school.

I hope you enjoyed your session as that was part of the point! Thank you very much for participating in this study. I would like to remind you that everything that was discussed today will remain confidential. As you already know, I am the only one who will have access to the information you provided me with and I have also signed a confidentiality agreement indicating that I will not disclose this information. If you have any questions at any time, about the study or just general questions related to the issues we explored here, contact me, Matthew Bouchard. If you wish, I can also provide you with a copy of the research report when it is available.

References

Origin Systems (1997). *Ultima Online* [Client-based MMORPG]. Redwood City, CA: Electronic Arts.

Murray, J. (1997). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*.

New York: The Free Press.

Wood, R., Griffiths, M., Chappell, D., and Davies, M. (2004). The Structural Characteristics of Video Games: A Psycho-Structural Analysis. *CyberPsychology & Behaviour*, Volume 7, Issue 1 (pp 1-10). New York: Mary Ann Liebert, Inc..

Czerwinski, M., Horvitz, E., and Cutrell, E. (2001). *Subjective Duration Assessment: An Implicit Probe for Software Usability*. Retrieved on January 16, 2009 <http://research.microsoft.com/en-us/um/people/cutrell/ihtmci-sda.pdf>.

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