Game Challenges and Difficulty Levels: Lessons Learned From RPGs

Barbaros Bostan
National University of Singapore

Sertaç Öğüt
Marmara University

Abstract

Maximizing player enjoyment in computer games is one of the most popular issues in game design. Different components of game fun have been determined by researchers in the past, but this article will focus on game challenges, difficulty levels, and their effects on player enjoyment. Various different genres exist in the computer gaming world, but it is important to note that roleplaying games provide diverse gaming challenges uniformly in their structure and require special attention in terms of player enjoyment. This study will focus on lessons learned from computer roleplaying games (CRPGs), giving examples from the best practices of the industry.

In accordance with the framework of two interconnected gaming and simulation communities (Klabbers, 2008), this article focuses more on the analytical sciences that use games for developing and testing theories, aiming to determine basic principles for designing game challenges by defining how each relevant issue is addressed on the selected RPGs and how they should be addressed by game designers to maximize player enjoyment. Different character development systems will be delineated, elements of character creation and progression in AD&D games will be examined in comparison with another contemporary gaming system. Advantages and disadvantages of different techniques used in adjusting game challenges will be discussed, the nature of the difficulty curve will be analyzed from a cognitive science perspective and an ideal difficulty curve for game comparisons will be proposed.

Introduction

A computer game is a contest with rules to determine a winner based on results in a quantifiable outcome. From *Pac-Man* to persistent multiplayer worlds of the 21st century, video games have evolved considerably and various different genres emerged. The personal computer revolution was the trigger of the paradigm shift towards interactive media but one question remained the same: Why do people play games? Crawford (1982) defined six motivations for playing games as: learning, fantasy/exploring nose-thumbing, proving oneself, social lubrication and exercise. People play games to learn through enjoyment, to fulfil a fantasy, to explore something/somewhere in safety, to exercise, to get in touch with other people and to prove them within this new territory. Educational games or simulations might be designed for other purposes but if a computer game is designed for entertainment use only, enjoyment is a unique criterion of success.

The cognitive complexity of enjoyment in a computer arises from the fact that being inside a virtual world is an activity of selective attention and a neuropsychological process that originates from filtering and organizing artificial sensory information of the virtual world. Enjoyment is thus defined as a complex construct with physiological, affective and cognitive dimensions, and is the core of entertainment media (Vorderer, Klimmt & Ritterfeld, 2004). Current theories about the individuals' motivation to use entertainment products for enjoyment, such as the mood management theory (Zillmann 1988a, 1988b) or the effective disposition theory (Zillmann, 1994;1996), are not suitable for analysing interactive and immersive forms of entertainment such as computer games, since they

assume the user to be passive witness of ongoing events. According to the self-determination theory, which has also been applied to computer gaming by Ryan, Rigby & Przybylski (2006), behaviours that satisfy the need for competence, the need for autonomy and the need for relatedness are said to be motivating and enjoyable (Ryan & Deci, 2000). The need for competence is closely related with game challenges and difficulty levels.

In this sense, one of the most important goals of designers is to maximize the enjoyment of players with diverse motivations for game playing. Although there is currently no accepted model of player enjoyment in games, various studies with different heuristics on game fun have been conducted by researchers (Malone, 1981; Read, MacFarlane & Casey, 2002; Lazzaro, 2004). An extensive research into what makes experiences enjoyable has been conducted by Csikszentmihalyi (1990) and based on this study, Sweetser and Wyeth (2005) proposed a model of enjoyment named as GameFlow. Many different variables such as socialization, curiosity, fantasy, engagement, concentration, etc. have been defined by these studies, but it is beyond the scope of this article to analyze these variables in detail since this study analyzes game challenges and difficulty levels in terms of player enjoyment, and focuses on computer roleplaying games (RPGs).

There are also a number of important considerations when designing and evaluating computer games. According to Bekker et al.(2004), a successful computer game considers both the initial and extended use, and thus it is easy to learn (initial use) and hard to master (extended use). Players are intrinsically motivated to place themselves in situations that increase their pleasure and in a given situation; and optimal experience requires a balance between the perceived challenges and the skills of the user (Csikszentmihalyi, 1990). A recent study has found that the experiential state of flow/deep enjoyment is achieved when the level of skills and challenge as perceived by the gamer is higher than the subjective mean and when skills are perceived to be much higher than the level of challenges (Chen et al., 2006). Enjoyment and fun are also important parts of the learning process. Enjoyment and fun can motivate learners to engage in activities with which they have little or no previous experience, increase their willingness to learn and promote the desire for recurrence for the experience (Prensky, 2001), but the critical issue is to achieve a delicate balance between challenges and skills.

Computer games provide various different forms of challenges for their players. According to Feil and Scattergood (2005), standard game challenges can be classified into six groups. In time challenges, players are allowed a limited amount of time to complete a task. In a dexterity challenge, players either accomplish tasks that require physical dexterity or they are mentally challenged to make quick decisions. Endurance challenges test the players to see how far they can endure the continuous stream of obstacles/encounters before they falter. Memory/knowledge challenges require the players to know certain facts and remember them throughout the game. Cleverness/ logic challenges test the player's intelligence with puzzles. In resource control challenges, players control the usage of their limited resources to achieve gaming goals. Among the various computer game genres, roleplaying games require special attention since they offer all these forms of challenges uniformly. Quests and tasks in RPGs offer various time, memory/knowledge, and cleverness/ logic challenges; combat in a fictional world offers different dexterity and endurance challenges, and character advancement and item collection are actually resource control challenges.

Before analyzing the various dimensions of gaming challenges offered by RPGs, readers of this article should be familiar with the concept of role playing. Roleplaying games are interactive worlds where players assume the roles of fictional characters and determine their own actions based on the character they play. Players typically follow a storyline in a fictional world and interact with other player (PCs) or non-player characters (NPCs) to complete missions and achieve various goals. Users are typically rewarded for their efficiency in role playing their virtual character. As the player completes quests and overcome conflicts, his/her character advances in levels and becomes stronger. Ideally, these actions and interactions should affect the virtual world and shape the storyline accordingly.

RPGs selected for this study are three of the best practices in the gaming industry. According to the GameRankings.com[1] user vote averages, the three best RPGs released so far are *Elder Scrolls IV: Oblivion, Baldur's Gate II: Shadows of Amn*, and *Star Wars: Knights of the Old Republic*. Based on the average scores of computer gaming website reviews, the three best RPGs are *Baldur's Gate II: Shadows of Amn, Elder Scrolls IV: Oblivion*, and *Star Wars: Knights of the Old Republic*, also known as *KOTOR*. It can be seen that user vote averages and computer gaming websites point out to the same three games. It is important to note that, although hundreds of RPGs were released after *Baldur's Gate II* and *Knights of the Old Republic*, these two games are still on the top three. Remember that 8 years (for Baldur's Gate) or 5 years (for KOTOR) is a very long period in the computer gaming world. Since their success has not been surpassed by many so far, they require special attention in terms of player enjoyment. In this article, we will delineate gaming challenges and difficulty levels of these RPG, providing insights for game designers. According to the GameFlow model of Sweetser and Wyeth (2005) computer games should:

1. Provide challenges that match the players' skill levels.
2. Provide different levels of challenge for different players.
3. Provide a level of challenge that increases as the player progresses through the game .
4. Provide new challenges at an appropriate pace.

This article adds five more recommendations on game challenges to Sweetser and Wyeth's model (2005), also exploring concepts like experience-based progression, challenge rating system, skill-based progression and level scaling which have never been analyzed before in terms of gaming challenges. Lessons learned from selected computer role computer games are:

1. Challenges should be consistent with the storyline.
2. Dynamic adjustments should not restrain the sense of achievement.
3. Dynamic difficulty adjustments should be believable.
4. Difficulty curves should conform to the three skill acquisition phases (cognitive, associative and autonomous).

Further analysis of the above hypothesis requires the basic knowledge of character advancement and progression in an RPG. Gaming dynamics of the two selected RPGs, *Baldur's Gate II: Shadows of Amn* and *Star Wars: Knights of the Old Republic*, are based on the famous AD&D table-top roleplaying game. *Elder Scrolls IV: Oblivion* uses its own unique gaming system, which offers different techniques for character advancement. The rules of a role-playing game determine it's similarity to the real world and also influence player enjoyment. The next two sections will focus on leveling basics of these computer games and will provide the readers the building blocks of character progression.

Character Progression

Advanced Dungeons & Dragons

Advanced Dungeons and Dragons or AD&D is a game of imagination, as well as a game of tactics and strategy, which has set the standard for table-top fantasy role playing for more than 30 years. The core mechanic of this table-top roleplaying game is the d20 Game System, which is named after the 20-sided dice frequently used in fantasy roleplaying games. Character creation in an AD&D game starts with the determination of ability scores. Every character is composed of six abilities, which range from 3 to 18 initially: Strength, Dexterity, Constitution, Intelligence, Wisdom, and Charisma. Every ability score has a modifier ranging from -5 to +5, which is applied to a die roll when a character tries to do something related with that ability. The second step in character creation is the race selection. Racial ability score adjustments apply as bonuses or penalties to a character's

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[1]   http://www.gamerankings.com/itemrankings/simpleratings.asp (Accessed on 20th November, 2008).

ability scores. For example, Elves have a +2 Dexterity bonus but they have a -2 Constitution penalty while humans have no bonuses or penalties. Races may also determine the attack bonuses, save bonuses, hit points, skill points, feats, spells, and class features of a character.

After selecting a race and determining abilities, every character chooses a class, which is actually a profession or vocation that determines what a character is capable to do. There are 11 core classes in Players Handbook v3.5. Classes may have some prerequisites and they affect a character's hit die, saving throws, attack bonuses, skills, etc. Hit die determines the number of hit points every character gains when he/she levels up. Saving throws are dice rolls that determine whether various types of attacks are effective against a character or not. Attack bonuses affect a character's chance to hit and the damage he/she deals. Every class also has unique capabilities that are called special abilities. For example, only the Bard class has the ability to fascinate others by music or poetry.

Skills represent a variety of abilities each governed by an attribute. Skills are classified into two groups, class skills and cross-class skills. Class skills more easily progress than cross-class skills as a character advances. For example, Diplomacy is a Charisma-based skill that is usable by Bards, Clerics, Druids, Monks, Paladins, and Rogues as a class skill. Skill advancement is based on point allocation and a character spends one skill point to advance a class skill by one, whereas he spends two points to advance a cross-class skill by one. Feats are special features that either give a character a new capability or improve an already known one. Unlike skills, they are not bought with points but are selected upon character creation and every character gains another feat also at the 3rd level and three levels thereafter.

Character progression in AD&D games is governed by experience points (XP) that measure how much a character has learned during the game sessions. Gamemasters assign XPs to the characters at the end of each adventure or at the completion of each quest. Defeating monsters, learning a secret, convincing an NPC to help, casting spells, solving puzzles, etc. also account for experience points. The amount of XP awarded is dependent on the challenge. Experience rewards increase as the difficulty increases. To balance the game progression, the amount of experience needed to advance to the next level increases, encouraging players to accept tasks that are relevant with their skill levels. When the experience point of a character has reached a certain number, the character advances a level. Level advancement gives attack bonuses, save bonuses, ability bonuses, hit points, skill points, feats, spells, and class features to a character.

Roleplaying encounters are also awarded with experience points if there is some risk involved and success or failure really matters. For example, Paladins are Lawful Good aligned holy knights with the most restrictive and maybe the most difficult roleplaying options when compared to other character classes. Crusading in the name of good and order, they are often single-minded in their beliefs and utterly devoted to good. For example, imagine an adventuring party exploring a dungeon to find the mysterious disappearance of villagers nearby. When the party faces the evil NPC responsible for their disappearance and the villain is clearly more than a match for the group of players, any player would have the option of running away. But the paladin would likely rush into combat to remain true to his character. The character may get killed in the encounter but this dramatic example would result in a generous experience reward if the character survives.

Experience gained by defeating adversaries is calculated with the help of the Challenge Rating (CR) of each opponent compared to the party level. For example, Firbolgs are 10-foot-tall giants in an AD&D World which have a CR of 3. When a 2nd level character defeats a Firbolg single-handedly, he/she gets 900 experience points. But when a 7th level character defeats the same monster, he/she only gets 525 experience points, whereas an 11th level character gets none. The Challenge Rating system helps gamemasters determine the balance between the difficulty of their game sessions and player enjoyment. This ensures that players are engaged in challenging encounters during game sessions in order to advance levels.

<u>Elder Scrolls IV: Oblivion</u>

Character creation in *Elder Scrolls IV: Oblivion* also starts with the determination of ability scores. Eight basic attributes of *Oblivion* are: Agility, Endurance, Intelligence, Luck, Personality, Speed, Strength, and Willpower. Each time a character levels up; he/she has an opportunity to permanently increase the value of three attributes, up to the maximum value of 100. Race and gender selection directly affects a character's attributes and gives some skill bonuses. Race also determines character's attributes, affects movement speed, gives initial bonuses to skills and offers some unique racial special abilities. Female characters have higher Personality or Willpower and lower Strength or Endurance. Such a distinction between male and female characters is rarely seen in computer roleplaying games and these gender adjustments are often criticized in game forums.

Players can choose from 21 different classes or can create their own customized character class. Custom class creation is divided into three phases: choosing a specialty, selecting two favorite attributes, and choosing seven major skills. Specialization in *Oblivion* has three options: combat, magic and stealth. Each specialty gives +5 points bonus to relative skills. Each of the two favorite attributes gets a +5 bonus and the seven major skills start the game with a +20 modifier. Another unique feature of *Oblivion* is the birth-signs. The game offers thirteen possible birth-signs, each of which bestows a special ability. Some provide constant-effect attribute bonuses; some provide constant-effect magic point bonuses; some others provide powers, which can be used once per day.

Character progression in *Oblivion* is completely different from the AD&D system. Leveling in Oblivion is based upon the usage of skills. Advances in major skills determine when a character's level increases. This feature makes character creation difficult and the selection of major skills more problematic. Whenever the major skills of a character improve by a total of 10 points, he/she levels up. It does not matter how many quests a character has completed and how well he/she has roleplayed his character; if the character uses his/her skills frequently, he/she will eventually increase in level. Although this perspective may seem to contradict with the basics of an RPG, roleplaying choices of a character still affect the storyline, even if they do not affect character progression. Also keep in mind that only seven skills affect a character's progression; all the other skills offered by the game are meaningless in terms of leveling up.

Oblivion also incorporates trainers into its virtual world. Each of these NPCs is specialized in some skills and charges the players some amount of fee for his/her services. Player can increase their skills, thus their character level, by spending money on these training sessions. RPGs usually do not allow levels to be bought by their players, but *Oblivion* grants this opportunity that is inconsistent with the spirit of roleplaying. If a character can increase in levels without doing any quests, only by using certain skills and spending money on trainers, the significance of roleplaying a character is lost. Other RPGs also use trainers in their game worlds but these NPCs only offer the acquisition of a new skill or a new level of skill (novice, master, etc.) and leave the progression into the player's hands.

Balancing the Experience

<u>Difficulty Level Adjustments</u>

Gaming experience begins with tasks or missions that should have clear goals and provide immediate feedback. These goals should be both challenging and achievable, thus giving rise to various conflicts and challenges. Too much challenging goals will not be achievable, and easily achieved goals will not be challenging. Designers should keep in mind that gaming experiences are subjective by nature and the perceived difficulty level of game challenges varies between players. Some players will lack the enthusiasm to engage with too difficult or too easy missions, while some others will classify them as not enjoyable. Since there is also a great degree of variation among players with respect to skill levels, reflex speeds, hand-eye coordination, tolerance for frustration, and motivation, difficulty

levels of computer games should be adjustable (Bailey & Katchabaw, 2005) to provide the optimal experience for as many players as possible.

When determining the difficulty level of game challenges, the first thing designers should keep in mind are the various different player styles defined by Salen and Zimmerman (2003), Mulligan and Patrovsky (2003), and Bartle (2003). Four sample groups of players defined by these studies are: Explorers, Socializers, Killers and Achievers. Explorers aim to investigate every corner of the virtual world, Socializers prefer to converse and roleplay with their fellow gamers, and Killers gain satisfaction from causing distress to other players. For example, if difficulty is solely measured in terms of numerical values such as levels, attack bonuses, defense bonuses and hit points, varying difficulty levels throughout the game will not affect the gaming experience of Explorers and Socializers; these are often more suitable for Achievers who focus on game-related goals, such as gaining levels and collecting treasures. Miller (2004) and Rouse (2004) also emphasize the need to balance the game challenges for all player types to provide the best level of satisfaction without frustrating them.

An ideal roleplaying game, as its name implies, should also account for each player's background, skills, beliefs and personality, offering a complex, moving and branching storyline with many roleplaying opportunities for different characters. RPGs usually consist of a main story and optional side quests that can be done in any order. Ideally, game challenges should be consistent with the storyline. As the character advances in the main quest, its opponents should be tougher and gaming challenges should become more difficult. If the story is divided into chapters, there are usually challenging encounters at each chapter's end, known as bosses. The final encounter of the main quest should be the most difficult monster or the hardest puzzle.

Important elements of storyline are meaningful play and user freedom of choice. According to Salen and Zimmerman (2003), user freedom of choice is an important requirement of game design and meaningful play is the relationship between player's actions and system outcome. Among the selected roleplaying games, *Baldur's Gate II* and *KOTOR* offer linear quests, whereas *Elder Scrolls IV: Oblivion* incorporates a free form of play and leaves most of the choices to its players. At this point, it should not be forgotten that besides perceived challenges and skills, in-game interactions can also effect the enjoyment of gameplaying (Chen, Duh, Phuah & Lam, 2006). Even if *Baldur's Gate* and *KOTOR* offer limited freedom of choice to their players, these games owe their success to the strength of their storylines and social interaction opportunities with believable NPCs.

In terms of game challenges, linearity or non-linearity of the gaming system is not as important as the nature of quests and difficulty of encounters. Completely linear quests, where the players are told exactly what to do, such as picking up an item and bringing it back, limit the range of user interactions and would make a gaming experience less enjoyable (Sweetser & Johnson, 2004). These quests can hardly be considered as a roleplaying experience even when they provide a minimal experience reward. It is important to note that a computer game itself can be linear in nature, but the player should not feel himself linearly constrained. The player should feel himself in control of the virtual environment, but the programmers can optimize challenges accordingly without interrupting the player's subjective experience.

The first method of game optimization is the assignment of static difficulty levels. An in-game menu can offer the choice of a difficulty level but these adjustments usually affect the gaming experience dramatically, running the risk of making the game either too easy or too difficult for players. Researchers stated that pre-defined and static difficulty levels are incapable of providing a good level of challenge to keep the player interested in playing the game from the beginning to the end (Hunicke & Chapman, 2004; Gómez-Martín, Gómez-Martín, González-Calero & Díaz-Agudo, 2006; Andrade, Ramalho, Santana & Corruble, 2005). But when used with dynamic adjustments, static difficulty levels will offer players some form of control over gaming challenges and provide the opportunity to experience the virtual world in different difficulty settings.

A typical static difficulty adjustment in a recent AD&D game is the one applied in *Neverwinter Nights II* computer game where players are offered four difficult options. At "Easy" level, PCs do a minimum of 50% damage while NPCs do a maximum of 50% damage. Players are immune to or partially prone to some spells or effects that will render them out of combat, and PCs are not affected by critical hits and attacks of opportunity. At "Normal" level, PCs and NPCs damage normally but some spell effects on player characters are still minimized. PCs are still not affected by critical hits and attacks of opportunities. At "D&D Hardcore" level, PCs and NPCs damage normally, spell effects are what they are designed to be, and PCs are affected by critical hits and attacks of opportunity. At "Very Difficult" level, the only change is the damage done by NPCs, which is raised to 200% of normal damage. Both *Baldur's Gate II* and *KOTOR* offer similar static difficulty adjustments.

The game difficulty can also be adjusted dynamically to match the skills and abilities of a player. Dynamic levels of difficulty that can predict the player's actions and his likelihood of achieving current goals can increase the difficulty-level at a much finer resolution instead of applying this increase uniformly to all goals of the game (Thue & Bulitko, 2006). Reinforcement learning (Andrade, Ramalho, Santana & Corruble, 2005), probabilistic models (Hunicke & Chapman, 2004) and dynamic scripting (Spronck, Sprinkhuizen-Kuyper & Postma, 2004) are some techniques applied in the automatic adjustment of gaming challenges. Most of the research on dynamic adjustments is employed on First-Person Shooter (FPS) games, since they require minimum in-game interactions and primarily focus on taking down opponents and monsters. These dynamic adjustments may provide an enjoyable gaming experience for various types of players but they may also be frustrating if the sense of achievement is lost during the process.

Even if *Oblivion* owes its success primarily to representational richness of the mediated environment and the freedom of choice it grants to players, it has often been criticized on the web forums for its dynamic difficulty adjustments. Level-scaling of *Oblivion*, which automatically adjusts the monsters and NPCs according to the current character level, keeps the encounters always at the same challenge level for the players. You may have defeated some bandits in a subterranean dungeon at level 10, but when you return to the same dungeon at level 30, the respawned bandits are as challenging as it has been when you were at level 10. This may cause the player to lose his sense of achievement and may make the gaming experience less enjoyable. It is also stated, one of the three basics of dynamic game balancing is believability (Andrade, Ramalho, Santana & Corruble, 2005). The player should not perceive that the computer is adjusting some parameters of the game. Level scaling of *Oblivion* breaks the rule of believability since afore mentioned bandits have also upgraded their weapons and armors, which can be perceived by the player.

The Difficulty Curve

Ideally, game challenges should increase when the player advances in levels. As the player becomes more proficient with the game and his/her character becomes tougher, the amount of experience or any other metric needed to advance a level should be more than the amount needed on the previous leveling up. For example, in an AD&D system, a character advances to the 2nd level when his experience total reaches 1000 XPs. To advance to the 3rd level, he needs 2000 more experience points. When he reaches 3rd level at 3000 XP total, he needs 3000 more XPs to advance to the next level. Similar techniques are applied in almost all RPGs to adjust the experience point gap for leveling up automatically. AD&D formula for leveling up is,

XP (Total) N = XP (Total) N-1 + (1000 * Current Level)

where, XP (Total) N = Experience points total for progressing into Level N.

It should be remembered that gameplaying is actually a skill acquisition process, where the player becomes more familiar with the user interface and the gaming dynamics with time. Cognitive science defines skill acquisition as the process of acquiring fluency in the use of knowledge. According to Fitts (1964) and Anderson (1982), skill acquisition in the real world

consists of three phases. The first stage is the cognitive stage, where the learner often works from instructions or an example of how the task is to be performed. The second stage is called the associative stage, where the learner makes a transition from a slow and deliberate use of knowledge to a more fluid and error-free proficiency. The third stage is the autonomous stage. Skills in this stage become automated and rapid, the learner using the skill without second thought. Gameplaying also consists of these three phases, and gaming challenges throughout the game should be consistent with these skill acquisition stages. This should also be reflected on the nature of difficulty curves.

The difficulty curve of a game is drawn with two parameters: the metric used in character progression and the character level. A linear difficulty progressing may frustrate casual gamers among early and serious gamers in later levels (Lopez, 2006). To allow both casual and serious gamers to progress without being discouraged, a convex-shaped difficulty curve is used. This ensures that the game's early levels are relatively easy and towards the game's end, levels become more difficult. This also ensures that character development is consistent with human skill acquisition phases. At the cognitive stage, challenges are relatively easy; at the associative stage, challenges are moderate in difficulty; and at the autonomous stage, challenges become more difficult.

Figure 1 below illustrates the difficulty curves of three RPGs. The AD&D difficulty curve is used by many RPGs, such as *KOTOR* series, *Baldur's Gate* series and *Neverwinter Nights* series. Besides AD&D and *Oblivion*, the third sample is given from a contemporary RPG released recently: *Two Worlds*. Since these games use different metric values for character development (for example, to advance from level 9 to level 10, a character needs 7 points in Oblivion, 45000 points in an AD&D system, 1290 points in Two Worlds), percentage of maximum obtainable experience points is used to draw the graphics. Assuming that maximum achievable point is level 100, if a character earns 20 % of the total experience points offered by the game, he/she becomes a level 36 character in Oblivion, a level 45 character in an AD&D world, and a level 57 character in Two Worlds. Thus, Oblivion offers the most difficult challenges in the early levels when compared with other two difficulty curves, but it compensates this drawback with the ability to level up by purchasing skills from trainees.
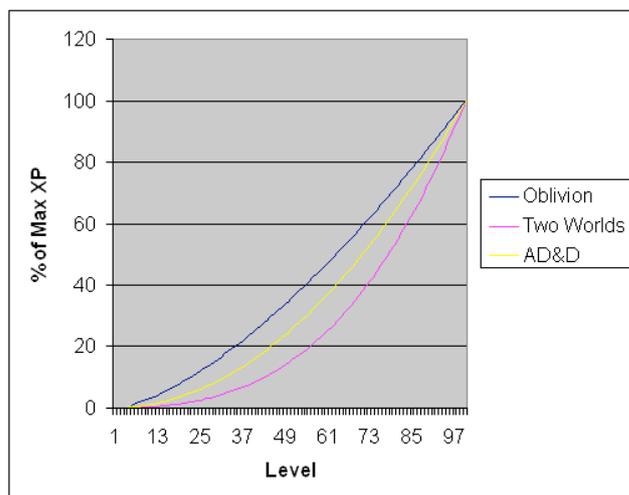

Figure 1: Difficulty curves of Oblivion, Two Worlds, AD&D

Designers should keep in mind that game challenges are determined by various factors and they cannot be explained solely with difficulty curves. The ideal form of a difficulty curve for maximum player enjoyment is known to be convex in nature, but the actual scientific formula for the ideal difficulty curve is not yet determined by researchers. By comparing difficulty curves of games, we can only conclude whether they are easier or more difficult in various stages of a game. Since AD&D is used for more than 30 years (even before computer role-playing games exist) and is the most frequently used RPG system, it can be

used as a guideline to compare difficulty levels. From this point of view, progression in *Oblivion* is more difficult than an AD&D system both at earlier and later levels. On the other hand, it is easier to progress in *Two Worlds* at all stages.

Conclusion

In order to maximize the player experience, the difficulty of a game should be uniformly adjusted, making it both challenging and enjoyable. This technique has been used successfully by Sid Meier, an American programmer and designer of some well-known computer games, such as *Civilization, Colonization*, etc. His philosophy is to always keep the pace of the game moving and to keep it fun. If designers should be able to keep the players at an optimal level of challenge and maintain player engagement throughout every stage, their games should be enjoyable. Keeping in mind the diversity of play styles and player types, computer games should provide various challenges that should be achievable, adjustable, consistent, and believable.

Game designers can adjust the difficulty of a game dynamically or they can leave the choice to players, providing static difficulty levels. These two techniques can be applied separately or jointly, but the most important design issue is to keep these adjustments believable and maintain their consistency throughout the game. Challenges should also be in harmony with the feel of the game and the pace of the storyline. Quests can be linear or nonlinear but players should be encouraged to face worthy opponents. Challenge Rating system of AD&D is a good example that acts as an auto-control mechanism, forcing the players to engage in encounters that match their skills.

Character progression in RPGs may be skill-based or experience-based, but it should be entertaining and meaningful. Skill-based progression is partially vulnerable to player abuse; for example, players in Oblivion can throw fireballs at the sky and level up due to continuous usage of a major skill although there is neither challenge nor role playing in this action. Also keep in mind that progression should conform to a difficulty curve that is not linear. Leveling up should be easier in the earlier stages and it should be more difficult towards the end of the game. The difficulty curve of AD&D system may be used as a reference for game studies but future researches on difficulty levels and game challenges will provide better insights on the nature of the difficulty curve, giving the opportunity to define the best curve for maximum player enjoyment.

Author information

Barbaros BOSTAN is a post-doc researcher at IDM Institute, Games Lab of Singapore National University. Bostan earned a BS at Electronics and Communication Engineering at Istanbul Technical University, an MBA from Yeditepe University, a Ph.D. degree at Informatics Department of Marmara University. Bostan has teaching experience in the areas of computer networks, virtual reality systems and interactive web technologies. His research areas include interactivity, presence, computer games, RPGs, virtual environments, multiplayer virtual worlds and interactive storytelling.

Sertaç ÖĞÜT is an instructor and a designer. He teaches Visual Communication and Interaction Design courses at the Communications Faculty of Marmara University Istanbul/TURKEY. He earned his BA on Communicative Informatics at the Marmara University. Ögüt completed his MA study at the Yeditepe University in Visual Communication Design. He is working on his Ph.D degree at the Informatics Department of Marmara University. Ögüt focuses on Interaction Design, New Media Studies and 3D Animation. Besides his academic carrier, he is working on several web-based game projects as an consultant.

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