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An Analysis of How First-Person Shooting Games Retain Players of All Skill Levels

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Abstract: In the context of computer games, especially FPS games, which are popular in the world today, famous FPS games, such as Apex, give people a lot of fun, and at the same time, the popularity of the game also brings good economic profits to the game company. The most critical condition for a game to be loved is that the game design is reasonable; this design will cover all aspects of the game and ultimately win the recognition of players. On this premise, it's important to explore the design of FPS games and how they can be enjoyed by players of all levels. This paper analyzes the influence of various design factors in FPS games on players of different levels. The paper demonstrates the pros and cons behind the game's gameplay, character or weapon design through a horizontal comparison, and combines it with relevant literature to prove this point. It may help games analyze the elements and design strategies that make it easier to retain players of all levels. The conclusion is that gameplay design, character characterization, and skill & weapon design are all important factors that influence players, while balance is also important.

Keywords: Game Design, Gameplay, Player, FPS Competitive Games, Flow

1. Introduction

As a new entertainment and social means, computer games have a wide audience in today's world, and as one of the most famous game types, FPS (first-person shooter) game is also popular among people. According to Michael Hassall's report, on February 11, 2023, CS:GO broke through with the highest number of online players, with a total of 1,320,219 players online and playing games at the same time [1]. Although FPS games are often welcomed by players and have a positive impact in different fields, because they are competitive games, there are certain requirements for players' shooting skills and talents. According to the Flow theory, if a player's skills do not match the challenges they face, they will lose interest in the game, become bored, or even give up the game. Flow theory defines a person's state of immersion. According to Mihaly Cziksentmihalyi's theory, when a person's ability (or skill) reaches a certain level of balance with the challenges he or she faces, he or she will be more likely to focus and even enter "Flow", which is described as the most extreme state of immersion. Although this kind of extreme immersion may not happen all the time in the game, having the player in a state that approximates Flow, or even reaches Flow, will still greatly help the game reach its target group and regular users, which in turn will benefit the game's development. As an FPS game, its rule is to use firearms (or similar weapons) to engage in combat, which constitutes almost the most important and basic gameplay. Basically, FPS games' design can be broken down

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into several broad categories: gameplay design, character design, and weapon design. How should designers weigh these elements when designing a game like this, and how can they make it work? This will be the main research question of this paper. By studying the design and strategies among different games, game designers can avoid potential design pitfalls or erroneous approaches, enabling them to create a better FPS game.

2. Literature Review

There are many studies on FPS games that are not limited to the gameplay itself. Some papers analyzing the relationship between games and the human body, such as Kuikkaniemi et al., demonstrated the relationship between FPS games and biofeedback through physiological measurements and controlled experiments [2]. At the same time, there are also studies on the relationship between FPS and sound effects and pictures. For example, Lennart E. Nacke et al. used sound as a variable experiment to demonstrate the relationship between sound and FPS games. This makes it clear how important the sound factor is to the FPS and even gives the player additional emotional and psychological factors [3]. Similar research, such as the work conducted by Rodrigo Vicencio-Moreira et al., has designed a testing method based primarily on player skills to assist game developers. In addition, they have also affirmed that successful balance is as crucial as specific operations [4]. Based on flow theory and other existing papers, this article will summarize different design approaches and discuss their merits and drawbacks.

3. Flow Theory

It is essential to understand the concept of flow theory. The term "flow" describes a state of intense concentration, initially defined by Mihaly Csikszentmihalyi in "Flow – The Psychology of Optimal Experience." According to him, "During flow, attention is freely invested to achieve a person's goals because there is no disorder to strengthen out or no threat for the self to defend against." [5] In the context of gaming, when players are sufficiently focused, they can enter a similar state, which provides them with a sense of immersion. This heightened focus allows players to concentrate more effectively on achieving objectives, thereby fostering a sense of accomplishment. However, achieving this state requires certain conditions. Specifically, for a player to enter a flow state, the difficulty of the game and the player's skill level need to be appropriately matched. If this balance is disrupted, it becomes challenging for the player to enter the flow state. Therefore, it is evident that flow is crucial for both a game and its players. It forms the foundation for the enjoyment of a game, representing balance and artistry in design.

4. Gameplay Design

Although the basic gameplay of FPS competitive games is roughly the same, the game producers have plenty of room to play based on the basic rules and have designed various gameplay. As a result, different game modes of today's FPS games have been formed. The balanced confrontation mode is the most classic. The two sides fight with the same number of people. These battles basically have a goal (such as planting/preventing the planting of bombs). The opposite is the battle royale mode, which requires several players to cooperate to defeat other players and obtain the highest possible ranking by means of looting materials and formulating strategies.

Among them, "Blast Mode" is the most challenging mode. Players have only one chance, one life, and must clear the enemy or complete their only mission within the specified time. This mode is therefore the most challenging but also the fairest, so it is used by most games. However, while this mode is a great challenge for many hardcore players, it can be seen as a disaster for less skilled players. A matchup with limited numbers and map size means that everyone needs to make a difference, or

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the entire team will be put at a disadvantage. The inability to be resurrected and the short TTK (Time to kill) time may also make some players feel less involved, because the time they spend participating in the game is much less than the time they spend watching other teammates, and at the same time they cannot bring enough contribution to the team. It also puts them under psychological pressure, so they are challenged well above their skill level. Relatively speaking, the mode that can be resurrected is more inclusive for players. The resurrection mechanism and a relatively long-term goal can give players more space to play and make mistakes. Therefore, this can reduce the pressure faced by poor players to a certain extent. Apex's deathmatch mode is one such example; however, such a game mode has flaws. As a long game, assuming a player meets a teammate he does not want to meet (because of a low game level, a dispute, etc.), there may be an early exit from the game midway, or some players have a negative attitude and are always unwilling to contribute to the team. Once the above two situations happen, it will bring additional challenges to other players that should not appear, which means that they will be in an asymmetric confrontation for a long time. It is also very likely to create a vicious circle; that is, more and more players will leave, and the remaining players will face more unfair situations. In the deathmatch mode of APEX, this kind of imbalance often occurs. This obviously does not help the players form a state of flow.

Therefore, although a variety of game modes can retain players to a certain extent, design details and stability, are equally important. Otherwise, these modes will not only fail to increase the interest of players with poor skills but will cause more players to leave the game.

Another very dangerous thing is that unreasonable changes to the rules of the game can also cause players to face additional challenges and may make them lose the courage to try. For example, APEX's qualifying changed the bonus point rule, which caused players to score far less points for kills than their ranking points, which made many players reluctant to play against other players. Instead, they choose a negative avoidance strategy to gain more points, because rushing to attack may lead to no gains, or even reduced points. According to the Justification of effort, when the risk is greater than the player expected, people will no longer be willing to take a risk to get the benefit, because it is very likely that they will lose what they already have.

It is worth mentioning that, aside from the inherent design of gameplay itself, an achievement system may be indispensable for a game. Despite the fact that many games have faced criticism from players due to achievements being excessively difficult to attain, it cannot be denied that the achievement system is a primary means for players to experience a sense of accomplishment. As mentioned earlier, this sense of accomplishment is precisely what can be obtained through the concept of Flow. Therefore, when players encounter an achievement system that aligns with their skill level, the process of achieving these milestones becomes a highly focused endeavor for them, potentially leading to the attainment of a Flow state. Furthermore, beyond the achievement system, elements like "headshots" in games, serving as kill effects, also act as a form of "reward" in obtaining a sense of accomplishment. According to Brad J. Bushman's article, players are more likely to repeat behaviors that result in rewards [6]. Thus, appropriate kill feedback effects can give players clear objectives and, as a result, keep them engaged.

5. Skill/Character Design

Character design is also an important part of the game. According to the Experience-taking theory proposed by Kaufman, G. F., & Libby, L. K., a comprehensive and vivid character design can allow players to find common, then generate love and even empathy [7]. The emotion of love is sometimes the reason why players continue to play the game (although some players may not necessarily play well sometime), because they expect to have more connections with the characters, and at the same time, they care about the future of the characters themselves and how they develop as much as they care about the people around them.

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The design of a character's story and background is closely intertwined with the concept of flow. Although they may not directly correlate with a player's gaming proficiency or mastery of a character, successful character and world design can enhance player immersion. SCHNEIDER, Edward F, and others have expressed similar viewpoints in their papers. Through their research, they have demonstrated that many players enjoy narratives as it contributes to their enjoyment of gameplay, allowing them to immerse themselves in virtual environments [8]. Interestingly, this immersion can serve as an auxiliary condition for achieving flow.

Both APEX and Valorant games have sufficient game world settings and character designs, which actually give players a platform to understand the characters and further produce the above-mentioned effects. At the same time, although it is weakened in FPS games compared with a pure storytelling game, the experience of playing with characters and fighting can also become part of the empathy between players and characters. However, it should be noted that players who stay based on liking the character may also leave because the game designer changes the character design, which includes the strength of the game character in the game. Therefore, the successful design of characters is one of the important factors in retaining players.

The design of character skills and abilities is even more important than the character image itself. In addition to making the game more interesting, it also allows players to change their responsibilities. Some players no longer need to focus on gunfights, which they are not good at, but choose to support other teammates behind the battlefield. The cypher in Valorant, is an example, a hero who needs to arrange traps and cameras to obtain the enemy's position. When players play such a character, they do not need to shoot frequently, but guard a fixed area. In the same way, aggressive characters can satisfy the needs of aggressive players [9]. In short, characters with different positioning and designs can reduce challenges by satisfying different players.

6. Weapon Design

Weapon design is as important as characters. In addition to allowing different players to use different weapons according to their preferences, this actually makes the player's responsibilities further differentiated. For example, if players need to attack frequently in Apex, they may give priority to submachine guns, and players who cover teammates may need to choose a sniper rifle as fire support.

However, the balance of weapons is also very important. If a weapon is too strong, this will lead to player selection biased towards consistency. At the same time, overly strong weapons will also increase the challenges faced by players, and even change the game experience of some players who are already in the Flow state.

A charge rifle as one of the weapons in Apex would be a typical example, which is due to its unique attack mode. Its attack is divided into two stages: the first is a laser with sustained damage; at the end, the laser will add a higher damage attack; and there is totally no ballistic drop, which means players who are playing it don’t need to have very good aiming skills. From this point of view, it seems like this kind of design is very "friendly,” especially for novice players. However, reality is more variable than ideal. For players with poor marksmanship skills, the design of the Charge Rifle does not serve to "improve" their shooting abilities. It can only allow them to make a "contribution" in a rather minimal way. However, the outcome often merely leaves them still unable to enjoy the game because the contribution is too insignificant. Damage ranging from 2 to 10 points, in the context of a health pool set at 100 HP, has little impact. Simultaneously, the optional and negligible damage can disrupt the flow state of other players because this kind of damage, compared to substantial contributions, is more like interference.

From this perspective, in the process of designing weapons, player factors must be taken into consideration, especially given the inherent premise of "varying player skill levels." The configuration of weapons must be aligned with the variable "players" and adjusted promptly. As

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Alexander Jaffe pointed out, the diversity of players is a primary source of depth in games [10]. Therefore, in the game design process, it is necessary to quantify and analyze player levels and performance, making adjustments accordingly. This is essential for creating a flow experience for players of different skill levels.

7. Skill & Weapons Balance

The balance between firearms and characters is equally important. In somehow, the skills of the characters in the game are also "weapons", although they are limited by times, cooldowns, etc.; they are also not the primary means of output in the game as in moba games. However, because of the versatility of skills, they sometimes even change the role of the battle situation, which makes skills an important variable. In order to compete with "skills", players, in addition to the same use of skills, also use weapons to counter. For example, weapons can be used to dismantle walls built by enemies using skills; sniper rifles can be used to kill a character that has the ability to recover in advance; or weapons can be used to force suppression or even destruction when the opponent has a powerful skill. When players look back at these examples, they will notice that the essence of FPS player confrontation is, in a sense, also skill versus weapon confrontation. For example, in Valorant, deadlock's bunker skills require players to use more than half of the ammunition of the assault rifle to destroy, which will actually affect the player to a great extent. It forces the player to change tactics, which can buy more time for the side that releases the skill. The shortage of bullets is "fatal" to the player; of course, choosing to "fight" the wall with a weapon is a choice, but the cost will follow for an entire turn. Fortunately, melee attacks can also deal damage to walls, while shifting planting places or other agents' displacements can be used against walls, so this is not a matter of balance but rather a means of encouraging gameplay and tactical innovation.

However, although some skills are designed to force the player to change tactics, too strong a skill can make the player less dependent on the weapon or even greatly reduce the power of the weapon, and vice versa. Imagine if the player's weapon dealt more damage to the wall in the example above; then the meaning of the wall would be greatly reduced, and if the wall was designed to be indestructible or made so high that the player could not leap over it, then it would represent a dead end for the player.

8. Conclusion

The gameplay, weapons, and character design all contribute to the game's vitality and make use of different design ideas to appeal to different levels of players. Constantly trying to innovate is good for the game and for the player. However, it is important to pay attention to detail and balance in the design process; otherwise, it will drive many players away, and the game design should be different for different levels of player design to form different challenges. This helps the player form a flow state. At the same time, this article has shortcomings. Due to the limited space, this article cannot cover all the famous FPS games, so it is one-sided. Future research will make a more comprehensive comparison and analysis.

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