CAMERA PERSPECTIVE IN VIDEO GAMES

Alexandru MORARU

Department of Game Design, group DJ-221, Faculty of Design,
Technical University of Moldova, Chisinau, Moldova

Corresponding author: Alexandru Moraru, alexandru.moraru@dip.utm.md

Supervised by: **Liliana PROZOR-BARBALAT**, University Assistant

Abstract. *This article highlights the importance of camera perspective which plays a significant role in the way we experience video games. Perspectives in video games, whether first-person, third-person, side view, top-down, or isometric, bring uniqueness and benefits to the gaming experience. The first-person perspective provides deep immersion, allowing players to feel as if they are in the game's universe, while the third-person perspective provides a full view of the character and the game world. Side, top-down and isometric perspectives are also instrumental in creating varied gameplay experiences, each bringing their own advantages and specific genres they fit perfectly into. Side perspective provides a side view of the character and the environment. This can be beneficial in platformers and action games. The top-down perspective provides an aerial view of the entire playing field. The isometric perspective adds depth and dimension to the game environment The diversity of perspectives in video games offers players a wide range of experiences and possibilities to explore the immersive world and bring uniqueness and benefits to the gaming experience.*

Keywords: *game, perspective, experience, development, player.*

First Person Perspective

First-person video games allow players to see the world through the character's eyes, as if they are inside the game. The camera is positioned at the character's eye level, making you feel like you are the character itself (Figure 1). In first-person, the camera moves and rotates with the character, providing a more realistic and natural experience. This adds believability to the game world and enhances immersion [1]. This perspective is commonly used in shooter games, but can also be found in other genres, adding a unique gameplay experience (Figure 2). First-person games were first developed in the 1970s, with the first game being a shooter game called Maze War. This game allowed to navigate virtual mazes and interact with other players. Maze War had a significant impact on the gaming industry, paving the way for the development of first-person games and multiplayer experiences. Some of the most popular first-person games include Call of Duty, Far Cry, Mirror's Edge, Portal, Battlefield.

Fig. 1. Mirror's Edge   **Fig. 2. Portal**

Third Person Perspective

The third-person perspective is one of the most widely used perspectives in video games, being common in various genres. In this perspective, the camera is positioned behind the character, giving a panoramic view of the character and the surrounding environment (Figure 3). The advantage of this perspective over the first-person perspective is the player can see the character's movements and much of the game world. This means that you can better observe the details in the game, plan your strategy and anticipate dangers. Third-person view is often used for action games, sports games, racing games, and role-playing games [1]. For many players, this perspective is the most comfortable to play. Racing games often utilize third person to highlight the vehicle and enhance interaction with the environment (Figure 4). Some of the most popular third-person games include: Mario Kart Series, Need for Speed Series, Tomb Raider, The Legend of Zelda, Uncharted, Assassin's Creed, GTA, The Witcher 3: Wild Hunt [2].

Fig. 3. The Witcher 3: Wild Hunt   **Fig. 4. Need for Speed: Most Wanted 2005**

Side View Perspective

Side view is one of the most used perspectives in 2D video games, but 3D games still use this perspective. The side view usually starts from left to right, we can see in the games: Super Mario Bros. (1985), Sonic the Hedgehog (1991). But the game can also be started from right to left, but it is less common, an example would be Mushroom 11, (2015). The left-to-right view is most often used in games because most people are used to reading and looking in that direction [2]. Therefore, it is more natural for players to shift their focus from left to right. The side view allows the player to focus on the character and the environment around them, making it easier to navigate and make decisions (Figure 5). Side view is used for side scrolling games, fighting games (Figure 6), platformers, shooters, puzzles. Some of the most popular side view games include Super Mario Bros, Celeste, Hollow Knight, Street Fighter Series, Mortal Kombat Series.

Fig. 5. Celeste   **Fig. 6. Mortal Kombat**

Top-Down Perspective

The top-down view, also known as the bird's-eye view, is a popular perspective in video games, offering a panoramic view of the character and the environment [3]. In this perspective, the camera is tilted down to show the character and play area, and gravity cannot be viewed. The camera moves according to the player's position, providing a more dynamic experience (Figure 7). This view is often used in platform games, puzzles, card games. Snake is one of the most popular top-down games [3]. The first concept of the Snake game started in 1976. The Snake game was preloaded on Nokia phones and became an iconic title for the Nokia brand [4]. People associated the Nokia brand with this fun game, creating a significant impact on purchase decisions (Figure 8). Some of the most popular top-down view include Snake, Stardew Valley, Bastion, Civilization V.
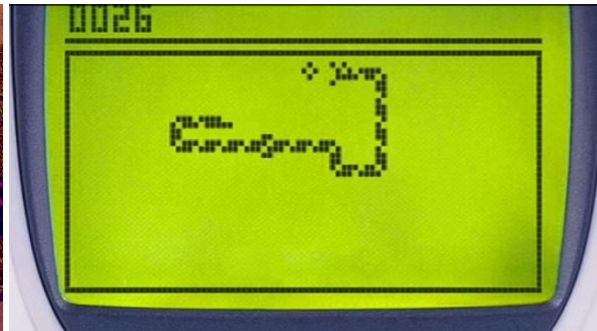

Fig. 7. Stardew Valley   **Fig. 8. Snake**

Isometric Perspective

The isometric view is like the top-down view, except that the camera is tilted about a quarter inward. This gives the effect of 3D, even though the game is 2D, and the effect of gravity can be visualized. This perspective is used in games with a large world, often in games where exploration is an important aspect [5]. Some games allow players to zoom in and out slightly to adjust the level of detail displayed (Figure 10). The diagonal view is like the way we naturally observe the world from above, making it intuitive and easy for players to understand [5]. Popular genres that often utilize the isometric view include RPGs, strategy games, and simulation games (Figure 9). Some of the most popular isometric view include Fallout 2, Age of Empires 2, Civilization VI.

Fig. 9. Fallout 2   **Fig. 10. Age of Empires 2**

Conclusion

Camera perspective plays a significant role in the way we experience video games. Each perspective offers unique advantages and disadvantages. First-person promotes a sense of immersion, while third person provides a wider view for planning and strategy. Side scrolling allows you to focus on character movement and navigation, while top-down and isometric views provide a wider overview of the environment. Perspectives in video games bring uniqueness and benefits to the gaming experience.

References:

[1] Popular camera angles used in video games. Renier Delport, 17 December 2021.

[2] Popular camera angles used in video games | Behind The Scenes (behind-the-scenes.net)

[3] A Beginner's Guide to Video Games: Perspectives. Vivek Philendra, 13 August 2021. A Beginner's Guide to Video Games: Perspectives — The SMU Journal

[4] M. Haigh-Hutchinson, Real time cameras: A guide for game designers and developers. https://docplayer.net/14999516-Fundamentals-of-real-time-camera-design-mark-haigh-hutchinson-senior-software-engineer-retro-studios-inc.html

[5] [4] The history of Snake: How the Nokia game defined a new era for the mobile industry. https://www.itsnicethat.com/features/taneli-armanto-the-history-of-snake-design-legacies-230221

[6] Isometric video games and how isometry benefits game developers. https://rocketbrush.com/blog/isometric-games-how-isometry-benefits-game-developers