Resident Evil 2 vs Dead Space

Southern Institute of Technology

IT608 Game Development 1

Kauê Reis de Assis Pereira

# Introduction

In 1989, Japanese game company Capcom released Sweet Home, a video game based on a Japanese horror movie of the same name. Just as in the movie, the game follows a small film crew through an abandoned mansion filled with monsters and about to collapse. In addition to that, the game builds an atmosphere of tension and fear by enabling the characters to die permanently, simply removing them from the narrative. That way, the game has different endings depending on which character survived. Sweet Home’s approach to horror was so effective that it prevented the game from being released in the Western hemisphere.

Although the first games using horror elements date back to the early 70s, Sweet Home is often considered the first survival horror game. And one of the main reasons for that was the influence it had on Capcom’s hit franchise, Resident Evil. The first Resident Evil game, from 1996, was when the term survival horror was first used, and along Resident Evil 2 (1998), it widely popularized the genre, strongly influencing many titles after it.

As set in Sweet Home and the Resident Evil franchise, survival horror games aim to create an atmosphere of tension and fear. To achieve that, these games place the player exposed in a survival situation against stronger enemies, usually with limited or no weapons and resources, making them feel weak and vulnerable. This is where survival horror contrasts the most against standard action games. This forces players to manage their resources and often prioritize stealth over aggressiveness when approaching enemies. Mystery and puzzle-solving are also common elements to survival horror games.

# History

## Resident Evil 2

The Resident Evil franchise, created by Capcom, has grown to become one of the best-selling video game series of all time, achieving success across multiple platforms. As mentioned before, the origins of the franchise go all the way back to 1989, when Capcom released Sweet Home. In fact, the first Resident Evil, from 1996, was initially supposed to be a remake of Sweet Home. These plans were changed due to legal limitations, but the influence of Sweet Home was maintained. Directed by Shinji Mikami, Resident Evil blended elements of horror, science fiction, and mystery, immersing players in the terrifying world of a mansion filled with zombies and bioengineered creatures.

The follow-up, Resident Evil 2, was released in 1998. Directed by Hideki Kamiya, the game achieved critical acclaim and commercial success, becoming Capcom's best-selling game on a single platform. The game had a compelling narrative, memorable characters, and atmospheric horror elements. The storyline followed the events of the first game, introducing new protagonists, Claire Redfield and Leon Scott Kennedy, who faced a viral outbreak in Raccoon City. Resident Evil 2 came to be a significant turning point for the franchise and the survival horror genre. The game would also receive a remake 21 years later.

When designing the game, Capcom made a crucial decision to establish an ongoing storyline and a central universe for the Resident Evil series, and Resident Evil 2 became a foundation for future games. This decision led to the incorporation of recurring protagonists and consistent plot elements, such as viral outbreaks and the involvement of the Umbrella Corporation.

Following Resident Evil 2, Capcom released consecutive games into the franchise, including Resident Evil 3: Nemesis (1999), Resident Evil Survivor (2000) and Resident Evil Gaiden (2001), and even a Resident Evil film series was started. However, the success of the Resident Evil franchise also inspired competitor game companies to create similar games, like Silent Hill (1999), Silent Hill 2 (2001) and System Shock 2 (1999). In fact, it also inspired Capcom in the creation of the Dino Crisis and Devil May Cry franchises.

In subsequent years, the Resident Evil franchise continued to evolve and expand. In 2005, Resident Evil 4 was very successful, but while maintaining a horror atmosphere, it was more action based than the older games, setting a standard for the following games. Resident Evil 7: Biohazard (2017) marked a return to the series' pure survival horror origins and became one of Capcom's best-selling games. In recent years, Capcom produced remakes of the classic games, including a remake of Resident Evil 2 in 2019, which was very well-received.

## Dead Space

10 years after Resident Evil 2, the survival horror genre was at a low point. “The genre was facing a downturn, with 2008 giving us the much anticipated yet disappointing Silent Hill: Homecoming alongside the equally disheartening Alone in the Dark reboot. Then, one year later in 2009, we’d see the release of Resident Evil 5, which took a slight downturn in quality for the series and was somewhat of a letdown after (…) Resident Evil 4” (Mason, 2021). Resident Evil 4, released in 2005, had been one of the few good exceptions around that time, becoming a beloved classic. The game was heavily influential, and maybe the best example of games that borrowed from it is Dead Space.

Dead Space is a sci-fi themed survival horror game released in 2008, by Eletronic Arts Redwood Shores. In 2005, after “working on licensed properties like The Simpsons and James Bond for more than fifteen years” (McWhertor, 2009), EA Redwood Shores developers wanted to make something original, and their initial idea was a third System Shock. However, when Resident Evil 4 came out they liked it so much that they started implementing many of its features in their new project, thus transforming what could have been System Shock 3 into what became Dead Space. Even System Shock’s first-person camera was ditched in favor of the third-person over the shoulder camera popularized by Resident Evil 4. The developers of EA Redwood Shores never hidden the influence from Capcom’s game: "We were so hyped about Resident Evil 4 and we got obsessed with improving the mechanics," said Ben Wanat (2017, as cited in Paget, 2017), one of the designers of Dead Space.

That being said, EA Redwood Shores “truly wanted to develop a first-rate survival horror game” (Paget, 2017), and their plan was never to simply copy another game’s formula. Instead, they contributed with their own share of innovation, presenting a set of fresh new mechanics and removing the standard HUD, displaying information like health and ammo in the character’s suit and gear. The game follows “an engineer named Isaac Clarke as he goes from simply trying to fix the communication systems on a mining ship, to having to fight back an alien infestation that has "ravaged" his ship's crew” (Dobson, 2016). also successfully offered more action without sacrificing the tension and survival horror atmosphere.

Dead Space went on to become a beloved classic, but the number of sales wasn’t impressive, with less than half a million copies sold at the end of 2008, though it did reach two million later.

Following the success of Dead Space, EA Redwood Shores changed their name to Visceral Games, and under that name they developed two sequels to Dead Space. However, the sequels shifted away from the survival horror roots of the same game, giving more power to the player and acting more like standard action games. In January 2023, A remake of the original Dead Space was released, and was very acclaimed for updating the graphics for modern standards and doing minor tweaks while recreating the core of the original game with fidelity.

# Hardware Limitations

## Resident Evil 2

Resident Evil 2 was released in 1998 for the Sony PlayStation, which limited processing power helped shape the game. It used 32-bit technology, which means it had 32 bits of data to work with at a time. These hardware constraints forced developers to adopt creative techniques to make the most of the available resources.

For example, it was challenging for the Sony’s console to render fully 3D environments in real-time while maintaining a smooth gameplay. This led Capcom to use fixed camera angles, which allowed developers to pre-render backgrounds and characters, reducing the strain on the hardware. This allowed for much more detailed backgrounds and became a defining feature of the early survival horror genre for the sense of tension, claustrophobia and fear of the unknown lurking just off-screen.

Another impact of the PlayStation’s hardware constraints on Resident Evil 2 was the low-resolution textures, especially when compared to today’s standards. To alleviate this the developers used lighting strategically, creating a dark ambience that also added to the overall horror experience.

Resource management was another feature influenced by hardware limitations, as large inventories would be more demanding on the available memory and processing power. But limited ammunition, health items, and other resources added to the sense of vulnerability and the need for strategy.

Dead Space

10 years later Dead Space came out, and gaming hardware had evolved considerably in that period. The PlayStation was already on its third generation, which was part of the considered "next gen" consoles. They used 64-bit technology, meaning much more data processing at once. The advancements were very noticeable in terms of graphics and processing power and opened many new possibilities for the developers to explore.

The Dead Space developers successfully took advantage of these advanced hardware capabilities. The graphics were realistic, and lighting, shadows, and particle effects were used to great effect, and all of that contributed significantly to the game's horror atmosphere. Dead Space also makes use of a third-person over the shoulder camera, as the game did not have the hardware restraints that pushed Resident Evil 2 into using the fixed camera angles. And just like Resident Evil 2’s camera, the over the shoulder camera also contributes to the horror experience, but in its own way. This camera has the advantages of the standard third-person, while also “minimizing the issue of screen obstruction” (Sabbagh, 2015). Through that perspective the player can also see clearly ahead and cannot see behind it, as opposed to the fixed camera angle where the player could partially see in both directions, depending on its placement relative to the camera.

The artificial intelligence in Dead Space was also well enhanced when compared to Resident Evil 2. Not only is there a wide variety of enemies, each type with its own powers and weaknesses, but their behavior is also a selling point. The Necromorphs can flank, ambush and adapt to the player's actions. This elevated the level of tension and fear, as players could never know how they would respond to their tactics, making the game more challenging and unpredictable.

One of the features of Resident Evil 2 that remained in Dead Space was the resource management. Even though Dead Space had enough memory and processing capacity available to provide large inventories to players, it would make the player more powerful and ease the sense of vulnerability. Instead, the players do have the possibility to collect more items than in Resident Evil 2 if playing effectively but are limited to carrying only four guns at once.

And guns are another point of evolution in Dead Space when compared to Resident Evil 2. The game has a much larger set of guns, each one with its strengths. For example, some guns are better for crowd control, some for precision and some for damage.

The more advanced hardware also allowed the Dead Space developers to implement a more sophisticated combat mechanic based on dismembering the enemies, which was innovative and is one Dead Space’s best features, but could be frustrating without precise aiming and detailed graphics. This mechanic will be analyzed further on the next section.

# Gameplay and Mechanics

## Resident Evil 2

Resident Evil 2 set the standard for survival horror game mechanics in the late 90’s. The already mentioned fixed camera angles played a vital role in the game’s look and feel, restricting players’ visibility. Combined with that, the game utilized tank controls, a control scheme that intentionally limited player movement, adding even more to the feeling of vulnerability and forcing players to move cautiously.

Another main mechanic in Resident Evil 2 was resource management. Items like ammo and health were scarce. That way, players had to use their resources strategically, thinking when and how to engage enemies, or use health items, as every bullet and first aid spray counted.

The combat mechanics in Capcom’s game were not too complex, but the resource management factor asked for precise shots to conserve ammunition. These mechanics also match with the game’s camera system, as pointed out by Stack (2022): “The fixed camera forces the player to position themselves in such a way as to maximize the damage output of their weapons. For example, Leon's shotgun has the ability to headshot multiple zombies with a single bullet. However, Leon must allow the enemies to surround him and risk-taking damage in order to take advantage of the weapon's blast radius”.

In Resident Evil 2 it is also not possible to shoot while walking. That means if a the player is being chased by a zombie, he has to choose between running away or risk and shoot the zombie, hoping he dies before reaching the player. This was kept in some of the future games of the franchise, including Resident Evil 4, because it adds a lot to the survival horror concept of making the player feel weak and vulnerable.

The game had players backtracking through its different rooms and environments, avoiding or killing zombies and collecting items. Besides ammunition and health items, there were other collectibles like files and maps, used to solve mysteries and puzzles to advance in the game.

Resident Evil 2 had 2 playable characters, Claire and Leon, that had to be chosen at the beginning of the campaign. Each character had its own story, each progressed in a linear path, taking players through predetermined scenarios. This linearity allowed for a structured narrative and heightened tension as players advanced through the story.

## Dead Space

In most action games, shooting enemies in the head or body is the best way to kill them. Not in Dead Space. The Necromorphs do not take much damage when hit in the body or head. To fight them, the best strategy their limbs. This presents a fresh and innovative combat mechanic, where the player has to shoot the enemies legs to make them stop walking, or their arms to prevent them to use it to attack.

This also gave more possibilities for character design, and a wide variety of Necromorphs species was implemented. For example, some types of Necomorphs can retract their limbs while not attacking, so the players won’t be able to shoot it, and some others will move their limbs constantly to make it harder to hit.

Another highlight of Dead Space in that aspect is the use of a diegetic heads-up display. Instead of displaying a green bar and some numbers representing the player’s health and ammo, like most games, Dead Space actually does not have any information attached to the camera. However, the information usually contained in game HUDs are still displayed, but they are all integrated into the game world. For example, “Isaac's Resource Integration Gear (RIG) suit displays his health along the spine (…). The RIG's health system works on a segment and color scheme, with more segments being added as Isaac gains more hit points. The colors are easier to discern. An aqua blue spine means that Isaac is above 75% health, green denotes he is over 50%, yellow shows when he is below 50%, and a continuously blinking red means that he is below 25%”. Additionally, the ammunition counter is displayed as a hologram projected on the gun itself, and information that needed to be listed, like inventory, are projected as a hologram in front of the character. And having the inventory open, for example, won’t stop the enemies from attacking the character, because it is only an in-game tool being used by the character, so the game is not paused. This works very well with survival horror because it makes the player feel unsafe all the time. And because there is nothing on screen that doesn’t belong to the game world, the game becomes more immersive and believable, which is fundamental for inducing fear.

Dead Space borrowed the third-person over the shoulder camera from Resident Evil 4, which provides a closer and more immersive view of the world, improving situational awareness and aiming precision. Because of the diegetic HUD, developers fixed the camera behind the player, making it impossible to turn the camera without turning the character. This way, the information displayed in the character’s suit and weapon are always visible to the player.

The game also presented some environment-based mechanics, like zero gravity and zero oxygen rooms. In zero gravity environments the character can jump to and walk on walls or ceiling, although it isn’t possible to float around freely, what was introduced only in the sequels.

# Sound Design

## Resident Evil 2

Sound plays a big role in survival horror, and that is one of the points in which these two games contrast the most. Resident Evil 2 used several recycled sound effects, which was a common practice in games at the time. What that means is that these sounds could have been used (and still can be used in the future) in other projects. For example, one of the sound effects in the game, that was used for doors opening, was actually used everywhere from films like Tomorrow Never Dies (1997), Tomorrowland (2005), The Core (2003) and Universal Soldier (1992), TV series like Mad TV (1995), Shining Time Station (1989) and ICarly (2007) and animated series like The Venture Bros (2003) and Scooby-Doo and Guess Who? (2019). And that is only one of the many sound effects used in the game.This means that it's very likely that players have heard some of these sounds before, and even subconsciously, the sound tends to bring back memories of something external to the game. This may seem like a small detail, but it can reduce the game's immersion.

Another low point of the sound was the voice acting, which was very criticized for having a low quality and being overly dramatic.

But the game also made good use of sounds, and one highlight is the use of audio cues to let the player know when enemies are close. This is essential because it balances the lack of visibility provided by the fixed cameras.

## Dead Space

Dead Space in the other hand, used original sound effects, like sound of fruits being cut to play over Necromorphs being dismemberment. They also used animals sound to create most of the Necromorphs sounds. Although for the Lurker, a baby-mutant-zombie looking Necromorph, they used actual baby sounds mixed with animal sounds.

They also put effort into creating random variations in the background music. “The team (…) wrote some software (…) (that) would play separate small sounds, gradually changing their pitch and volume as they panned around Dead Space’s 3D environments. The effect worked beautifully, ensuring that every moment of Dead Space’s ambient backgrounds was different no matter how long a person explored, or how many times they replayed a section” (Reeves, 2009).

The game also uses audio cues, with each type of enemy having its distinct sound. However, in the zero oxygen environments the sound is muffled, and players can barely hear the enemies, creating a distinct experience from the rest of the game.

# Conclusion

It’s safe to say that there wouldn’t be Dead Space without Resident Evil 2. Capcom’s game set a pathway to survival horrors that came after, and the developers did a great job working around the limitations of that era. It managed to input fear and tension into the players while presenting very limited graphics, which is a big challenge.

Ten years later, Dead Space used the Resident Evil formula and presented new mechanics that couldn’t be done before. The dismemberment system and diegetic heads-up display were game changers and are, even fifteen years later, still to be beaten. Both games became all-time classics, and both helped shape the survival horror genre, each one on its own way.

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