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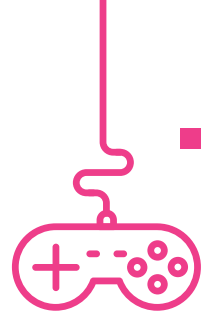

Acta Ludologica is a scientific journal in the field of games and digital games. The journal contains professional scientific reflections on digital games; it also offers academic discourses on games, especially media and digital competencies, creation, design, marketing, research, development, psychology, sociology, history and the future of digital games and game studies.

Acta Ludologica is a double-blind peer reviewed journal published twice a year. It focuses on theoretical studies, theoretical and empirical studies, research results and their implementation into practice, as well as professional publication and scientific reviews of digital games.

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Editorial

Free Spins

Game studies rarely foreground gambling, yet the two are historically inseparable. From the *Royal Game of Ur* to *Mahjong*, our oldest and most enduring games were fundamentally wager-based. Even the word "hazard" (used in the meaning of gambling in Slovak) derives from the Arabic "al-zahr" (the dice), the same object used to advance pieces in family board games or introduce chance into a *Dungeons & Dragons* session. This prehistoric concept of *alea* (chance) existed long before loot boxes, but it relies on the same biological wiring. The attention economy now exploits this evolutionary trait. The urge to refresh a notification feed mirrors the pull of a slot machine, and profitable apps have mastered the "compulsion loop" just as effectively as casinos. The goal is not to promise the user a massive win, but to ensure repetition and retention.

The mechanisms driving season passes and virtual currencies are similar to those in regulated gambling, blurring legal and ethical lines. We must ask if children should be shielded from these mechanics to prevent early-onset pathology, or if we can even distinguish between entertainment and exploitation anymore. For Gen Z, the gateway is not a smoky backroom card game; it is unregulated esports betting or a 'skin gambling' site linked to *Counter-Strike*. When streamers scream in ecstasy over a rare drop, they are performing unpaid marketing for the mechanics of chance. Gambling seems to be normalising as a component of digital culture, teaching teenagers that the only way to win is not to practice, but to pay.

In recent years, Slovakia appeared to be on the right track. We established strict legislation, banned slot machines in pubs, and implemented a register to protect vulnerable communities and people who expressed a wish to stop their addiction. However, these safeguards are dissolving. Recent legislation seems to be designed to consolidate the market under the influence of the state-owned lottery giant, effectively overruling regional bans. The state has always peddled pure chance, such as lottery tickets, the profit from which has been a part of the state budget for centuries.

However, a sharp line historically separated these random number games from sports betting, which involved a degree of analytical skill. That distinction is now collapsing as every betting service now promotes slots directly on its home page, funnelling sports fans into hard gambling. The only institutions that seem to be fully aware of this are the banks, which swiftly flag connected accounts during mortgage and loan applications. Previously, the state fought its online gambling competitors so strictly that it threatened to block specific foreign IP addresses in a move that created a censorship tool and inadvertently promoted VPN use. Now, we see a proliferation of billboards promoting slots in public spaces, often intertwined with sports promotion.

Ad-driven platforms even compound the issue. While they claim to prohibit unauthorised gambling content, they often turn a blind eye to lucrative commercials that violate their own community standards. Ironically, their algorithms can detect a copyrighted song in a fraction of a second yet remain blind to predatory campaigns with "casino" in their name, long enough for the damage to be done. As lobbying efforts to blend games, gambling, and sports intensify, the definition of "play" is at risk. Academics, industry representatives, and legislators must work together to hold the line. We need legislation capable of distinguishing between game culture eligible for state funding and harmful mechanisms that require restriction, even if they are an easy source of short-term economic gain.

This friction between commerce, psychology, and culture is not merely a subject for legislative debate but a catalyst for rigorous research. The current issue of *Acta Ludologica* reflects this complexity. While several contributions directly interrogate the mechanisms of monetisation and influence, others explore the diverse emotional and historical landscapes that define the medium. Réka Törzsök explores the utilisation of language as a tool of deception in the context of the game *Firewatch*. In their study, Erik von Wangenheim, Eduardo Napoleão, Giorgio Gilwan da Silva, Tiago Vinícius Ficagna and Anita Maria da Rocha Fernandes systematically map non-digital games for the purpose of teaching sustainability. Radoslav Baltezarević and Ivana Baltezarević examine the effect of AI-driven personalisation in in-game advertising on player engagement and purchase intentions. Hana Pravdová and Monika Cihlářová focus on the integration of historical sources into the digital game *Kingdom of Come: Deliverance*. Dinko Jukić examines the *Assassin's Creed* game franchise in terms of branding and monetisation models. Michele Varini and Nicola Costalunga analyse the game *Blasphemous* in terms of medievalism, religion, and cultural memory. Lucia Novanská Škripcová employs a case study of the game *Clair Obscur: Expedition 33* to demonstrate the issue of coping with loss and grief in games. The Game Studies section is concluded with Siheng Zhu's analysis of Chinese gacha games from the perspectives of cruel optimism and precarious intimacies.

The following section presents the collective work *Asian histories and heritages in video games*, reviewed by Mohammadreza Golshani, the psychological horror game *Milk Outside a Bag of Milk Outside a Bag of Milk*, reviewed by Samuel Draxler, and the book *Girlhood games: Gender, identity, and coming of age in video games*, reviewed by Veronika Šašalová. In conclusion, in the Add-ons section, Denis Sedlák provides a reflection on the user perspective of media ownership in relation to the issue of the physical distribution of digital games.

Unlike the uncertainty of the mechanisms described above, we trust that the following pages of the latest issue of *Acta Ludologica* offer a guaranteed return on intellectual investment.

Mgr. Michal Kabát, PhD.
Acta Ludologica's editorial team member

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Beyond the Lookout: Language as a Tool of Deception in *Firewatch*

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ABSTRACT:
Campo Santo and Panic's *Firewatch*, the critically acclaimed first-person walking and talking simulator, presents a mystery experienced through the perspective of Henry, a middle-aged man, who assumes the role of a fire lookout as an escape from his troubled domestic life. This paper examines how the plot-twist based narrative design of *Firewatch* foregrounds the deceptive dimension of language through the two protagonists' relationship dynamics. Henry's sole source of information is his supervisor, Delilah; the central game mechanic involves communication through a walkie-talkie system. The game's discursive design is not limited to dialogue, as the game environment offers high interactivity, enabling Henry and the player to uncover details about two other significant characters – Ned, a former lookout, and his son, Brian – by perusing various notes and documents. Thus, the various clues discovered during one's playtime underscore the multifaceted uses of language in both its written and spoken forms. At the same time, the varied manifestations of language during the first half of the game do not accurately foreshadow how the second half of the story unfolds, suggesting that language – at least within the world of *Firewatch* – is a medium best described as unreliable and deceptive.

KEY WORDS:
deception, digital game, discourse, *Firewatch*, intersubjectivity, language, narrativity.

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Introduction

Campo Santo and Panic's *Firewatch* (Campo Santo, 2016) is a first-person walking and talking simulator,[1] offering adventure in the form of a mystery experienced through the eyes of Henry, a middle-aged man who takes the job of fire lookout in Shoshone National Forest as a way to escape his life at home. Throughout the game, Henry relies on his supervisor, Delilah, as his main source of information, with whom he communicates through a two-way walkie-talkie system, with the player having the ability to choose from a set of responses to Delilah's questions or comments. Dialogue – spoken language –, however, is not the only way in which language appears, as the game world is also highly interactive, allowing Henry and the player to discover information about two other prominent characters – Ned, a former lookout and the previous occupant of Henry's watchtower, and his son, Brian – through various notes and documents. As it has been noted, for example by Kagen (2018), the essence of *Firewatch* lies in "offering the player a typical game world filled with clues and suspicious situations, and Henry appears to be the threatened hero who must figure out what is wrong" (para 31; cf. Kagen, 2022). The clues that can be discovered within the game world highlight the diverse uses of language as spoken and written text, as well as the ways these media of language are manifested in intra- and extradiegetic ways, allowing the narrative's central themes of isolation and loneliness

1 Remark by the author: Relying on an expression used by the developers of *Firewatch*, Kagen (2018) writes that "*Firewatch* explicitly repurposes the visual language of a First Person Shooter in order to produce a 'talking simulator'" (para. 30).

to develop. Moreover, on the level of the relationships between the characters, the use of language culminates in feelings of distrust and abandonment, enhancing the player's emotional involvement.

The analysis adopts a qualitative, interpretive approach grounded in the methods of narratological and discourse analysis as applied in digital game studies. The primary objective is to explore how *Firewatch* employs linguistic forms – both written and spoken – to structure narrative progression, mediate relationships between characters, and elicit emotional responses from the player. Following the tradition of close reading in literary and media studies, the study examines the game through its diegetic, extradiegetic, and intersubjective dimensions. Our starting point is that deception in *Firewatch* is a primarily linguistic phenomenon. Through its varied cast of characters who develop the plot in a direction that digresses from the premise set up at the beginning stages of the game, *Firewatch* suggests that language is an unreliable and deceptive medium.

The primary way in which the deceptive dimension of the different media of language becomes clear is through the development of the relationship between the two main characters, Henry and Delilah. The player controls Henry during the entirety of *Firewatch*, either through the text-based options that appear on screen at the beginning of the game or in a first-person view. In this sense, a distinctive feature of this game is that "the player is playing as Henry but is also separated from him – at once a character within the narrative and an observer outside it" (Lee, 2019). In this sense, *Firewatch* pushes the player's position as regards digital games to the extreme. Juul (2001) describes the player's position as follows: "the player inhabits a twilight zone where he/she is both an empirical subject outside the game and undertakes a role inside the game" (para. 55). There exists a strong connection between the player and Henry that gives the player the feeling that they themselves are talking to Delilah. The key to the game's success at maintaining the feel of realism, however, is that such a viewpoint necessarily entails that the extent of the player's knowledge is always limited to that of Henry's knowledge (cf. Juul, 2001). One consequence, of course, is a sense of interactivity that deeply immerses the player in the gameplay. At the same time, this also means that the emotions voiced by Henry through dialogue – him being scared, upset or suspicious of Delilah – are the same as the player is expected to experience. Thus, *Firewatch* might be said to contain elements of what Ryan (2013) terms "dramatic narrative", as "the trademark of the dramatic plot lies in its ability to create an emotional type of immersion" (p. 31) – we shall return to Ryan's analysis of the different types of narratives. According to Fyfe (2016),

> in *Firewatch*, events conspire to leave Henry underwhelmed and sad. Since the game puts players in Henry's shoes, you can see why players might feel the same. *You* [emphasis added], the game says outright in its prose prologue, *are Henry* [emphasis added]. (Fyfe, 2016, para. 5)

The analysis that follows presupposes that in *Firewatch* the player sympathises with Henry at all times, and, as a result, it is not only Henry who is deceived, but also the players themselves. At this point, the connection between the media of language and their role in the diegesis should be specified. The extradiegetic text that appears on screen at the beginning of the game prompts the player, who is not yet allowed to take control of Henry, to determine some of the details of his backstory. Textual elements are also used in intradiegetic ways and play a significant role in the story, as this is how both the player and Henry are able to navigate in the forest (using the name of the locations and other personal notes Henry adds without the player's input) and also how they are able to solve the mystery: Ned's notes and reports are part of the game's lore and as such contribute to the diegesis. Furthermore, it has been noted that "the dialogue in *Firewatch* isn't just there to just adorn or enrich the game. It *is* the game ... the heart of *Firewatch* is

conversation" (Hudson, 2016, para. 13). Dialogues between Henry and Delilah – which might be said to constitute the core game mechanic of *Firewatch* and which advance its plot[2] – enter the picture only after the text-based prologue sequence is over: this is the point in the game when spoken language begins to take precedence over its written counterpart. Similar to *Pentiment* (Obsidian Entertainment, 2022), a detective game which presents dialogue through written speech bubbles in place of spoken language (Orosz-Réti, 2025, para. 8), *Firewatch* foregrounds the relationship between linguistic medium and narrative form, albeit through a dynamic transition from textual to oral communication. If the player chooses to play with subtitles, naturally, the presence of written language becomes less subdued; however, it should be noted that this applies for the extradiegetic dimension only – the player experiences both spoken and written language, and does so simultaneously, whereas Henry is the recipient (of what Delilah says) and producer (of what he himself says) of language *solely* in its oral form. This allows us to reinterpret the previous claim about how much the player's knowledge resembles that of Henry's: diegesis-wise the player does not know more than Henry, but the player's experience of the story is more comprehensive than Henry's when it comes to the spoken and written forms of language.[3]

As this brief examination of the media of language in *Firewatch* shows, the game mechanics that are most useful for discussing the interplay of the media of language and diegesis in *Firewatch* are the dialogues that take place during Henry's time in the national forest as well as the written text that is presented via objects in the game world. The relationships between the characters of Delilah, Ned and Brian are crucial for understanding the implications of this initial observation for how language in *Firewatch* is (re)presented as an unreliable and deceptive medium. In what follows, we shall first seek to analyse Delilah's character and motivations as they are conveyed to Henry and the player through dialogue and the game's narrative design.

Spoken Language: Delilah's Deception and the Narrative Design of *Firewatch*

Taking after her Biblical namesake, Delilah frequently manipulates Henry's emotions by withholding information or giving him false leads. On the first day of Henry's new job, she admits to drinking the night Henry arrived at his lookout tower. Her behaviour is misleading, even at the beginning of the game, as on the second day she pauses her conversation with Henry to take a call with another lookout, although, unbeknownst to her, Henry is able to listen in and hears her say "no, I don't think he has any idea" (Campo Santo, 2016). The player has the option to confront her about the call, to which she responds by saying that the "call was work" and that "it's not really your [Henry's] business" (Campo Santo, 2016). The fact that after this she ignores Henry for some time – something which might happen at other points of the game as well – gives the player the impression early on that

2 Remark by the author: In this respect, *Firewatch* may be viewed as a counterpoint to games such as *Journey* (thatgamecompany, 2012), in which verbal and written communication is deliberately minimised. As Bülgözdi (2024) observes, *Journey* "removes the limitations that narration would pose on the player's perception of their surroundings" (p. 72).

3 Remark by the author: Time is also a factor for the player, who has a limited time to respond to Delilah. Domsch (2013) calls this phenomenon "timed dialogue trees" (p. 38), citing *Heavy Rain* (Quantic Dream, 2010) and *Sakura Wars* (Red Entertainment et al., 1996-2019) as examples.

she is careless with the way she handles information, is prone to mood-swings and is, in general, unreliable.[4] According to Sean Vanaman, one of the writers of *Firewatch*, in this scene, "she's just doing her job. She's just literally just talking to someone else. And the lens of what you hear it [through] 100 percent is Henry's paranoia" (Sasser, 2021, p. 43). Later, when it is revealed that someone has been tracking Henry and eavesdropping on his and Delilah's radio conversations, the player can similarly confront Delilah about her working against him. Anytime Henry mentions informing the authorities, Delilah is reluctant, even though Henry is the last person who has seen two teenage girls who have gone missing and there are clear signs that she and Henry are being stalked by someone. She cites "saving [themselves] the trouble" and lack of proof as the reasons, respectively (Campo Santo, 2016). Although Delilah appears to reluctantly comply with Henry's wishes regarding vaguely mentioning him having seen the girls, at the end of the game it is revealed that she chose to remain quiet to keep her comfortable position at work: "I filed a report that said neither of us ever talked to or saw those girls" because "[I] didn't want to be hassled" (Campo Santo, 2016). As she tells Henry, she did the same in Brian Goodwin's case: lookouts are not allowed to have their children with them, and in a report she had lied about Brian not being there with his father, Ned. Instances like these solidify her position in the narrative as that of an untrustworthy character.

While at times the good intentions behind her actions seem to be dubious, during the course of *Firewatch* Delilah *does* guide Henry: the central game mechanic involves the player pressing the keyboard shortcut necessary to access Henry's walkie-talkie, which, via the game's interface, the player is able to point at objects scattered around the in-game environment, making them the topic of conversation. It should be noted that the information Delilah provides upon interacting with objects is often crucial, such as when Henry learns from her that Brian was the owner of a backpack he comes across by coincidence. At other times, she can be consulted to gain some supplementary information about the game world. Fyfe (2016) writes that "*Firewatch* certainly rewards exploration, but its narrative rarely encourages it" (para. 13). For example, Henry can ask Delilah about a granola bar he finds in one of the first supply caches, and she says it would probably give him food poisoning – information that is, at its core, deceptive, as no such game mechanic exists. A further example is when Delilah advises Henry to take pictures of the incriminating evidence he encounters via Brian's disposable camera, introducing a new gameplay feature via the diegesis. This kind of use of UI falls under what Andrews (2010) categorises as *diegetic UI*. Ultimately, however, this has no real effect on the way the narrative unfolds and on the extradiegetic level results in the player necessarily wasting the limited amount of screenshot opportunities with which they are provided.

Even though the player can decide to alert the authorities about Henry being the last person who has come into contact with the two teenage girls, the game's linear narrative provides no real choice in the matter – in this sense, *Firewatch* resembles traditional fiction. Indeed, the game lacks the kind of player-prompted consequences that arise as a result of having more than one possible branch of story progression (Mitchell et al. [2020] categorise *Firewatch* as having non-causal game consequences): "We control [Henry's] actions and decisions only to the extent that the predetermined context and narrative allows" (Lee, 2019). The beginning of the game intercuts an interactive text narrative with

4 Remark by the author: One of the observation reports Henry can pick up uses the word "reliable" to describe both him and Delilah, even though she is anything but. In the context of the present study, this detail adds another layer of complexity: the player has no reason to assume that the reports produced by Ned are not telling the truth (Ned made them for his own personal use); however, Ned's own judgement might be flawed, making him an unreliable observer. This, then, means that Ned's unreliability is part of the larger, overarching storyline that is based on misleading the player.

non-text gameplay. During the latter, the player gains control of Henry for short periods of time, for instance helping him load his backpack into his truck and then leaving the truck at the edge of the woods. Mitchell et al. (2020) write that the player's choices during the flashback text-sequence are "likely to impact the 'present'" (para. 64), but in this specific case, the player lacks the control to make any impactful choices (Henry will always date Julia, and she will invariably be diagnosed with younger onset dementia). The player does not gain full control of Henry until the title card has appeared. Thus, a pattern is established that is to remain until the end of the game: the player can control the present time of the narrative (when Henry is a fire lookout) to *some degree*, but not the characters' past or future. Additionally, all of the events are meticulously pre-scripted in terms of the sequence in which they happen, such as when, on the second day, Delilah asks Henry to check out some illegal fireworks. To do so, Henry has to use rope to get around. Spatial limitations also become apparent to the player early on: rope, alongside overgrown foliage, is one of the ways in which the game limits which parts of the map can be accessed – areas are unlocked as the story progresses.

To gain a deeper understanding of how *Firewatch*'s narrative design intertwines with its use of language and how these aspects are related to the character of Delilah, we will analyse the game through the lens of various game studies-oriented theories of narrativity. Hidalgo (2016a) observes that "the dialog choices feel natural and impactful, but outside of when the story lets you, you lack agency" (para. 9). This tension between player freedom and authorial control is precisely what Jenkins (2004) identifies in his discussion of interactive narratives: "a mixture of enacted[5] and embedded narrative elements can allow for a balance between the flexibility of interactivity and the coherence of a preauthored narrative" (p. 127). We would like to suggest that the narrative of *Firewatch* is a prime example of the embedded narratives Jenkins (2004) describes. In embedded narratives, "the game world becomes a kind of information space, a memory palace" (p. 126), an approach which "relies on the player to ascertain a narrative via context clues, textual cues, and artifacts that are loaded with meaning" (Penabella, 2015, para. 10).[6] As this study shall argue, in the case of *Firewatch* it is precisely this encoded meaning that deceives the player, and the deception itself is significant because it occurs in the context of a mystery-solving, detective story kind of narrative. In her survey of the correlation between plot types and interactive narratives, Ryan (2013; cf. Bényei, 2000) writes that epistemic narratives (mystery stories) are

> challenging the reader to find the solution before it is given out by the narrative; in order to do so, the reader needs to sort out the clues from the accidental facts, and to submit these clues to logical operations of deduction and induction. (Ryan, 2013, p. 25)

This is what *Firewatch* players are engaging in on an extradiegetic level, while the game is also an example of how

> the classical embedded narrative would be a detective story, such as those found in adventure games, where players encounter a world of clues that have to be deciphered in order to find out about the story that has already happened. (Egenfeldt-Nielsen et al., 2024, p. 233)

As it has been previously mentioned, the core game mechanic related to language in *Firewatch* is dialogue. Specifically, the game might also be viewed as an example of what Domsch (2013) terms the "arborescent" type of dialogue tree: "every dialogue option

5 Remark by the author: Jenkins (2004) defines enacted narratives as narratives where "the story itself may be structured around the player's movement through space and the features of the environment may retard or accelerate that plot trajectory" (p. 129).

6 Remark by the author: The epistemic narratives Ryan (2013) describes function much in the same way.

chosen will disable all other options, while potentially opening up a new set of options" (pp. 39). As Domsch also notes:

> Often, dialogue choices will have less of a direct consequence on the events that result from the conversation, than on the player's (also narratively relevant) perception on the character she is playing. A dialogue tree might offer different answers leading to the same narrative result, but differing in tone and therefore characterizing the player character in different ways. (Domsch, 2013, p. 40)

In *Firewatch*, the player can generally choose from three options; however, these choices either have the same consequence on the level of the narrative, or they are referenced at a later point but do not crucially define the way events play out. For instance, the player can choose between three names to decide what to call the biggest fire of the year, and towards the end of the game Delilah will refer to the fire using that name. Thus, the player experiences a high degree of interactivity, but, more often than not, this is not translated into agency – a typical 'issue' for which walking simulators have been criticised. The player's lack of choice during gameplay is a typical characteristic of walking simulators: "the player of a walking sim is often unable to exert agency, change the story, or perform mastery … Their mechanics force a player into relative passivity" (Kagen, 2018, para. 13; cf. Kagen, 2022). Macklin and Sharp (2016) use the concept of *space of possibility* to refer to the variety or reduced number of possible actions the player has. In this way, the walking simulator genre appears to contradict how, according to Stuart (2015), people turn to digital games to have a sense of full interactive control (agency). In general, while playing digital games "the expectation of consequence is what keeps players motivated to make choices – if nothing results from my actions, or decisions for actions, why make them in the first place?" (Domsch, 2013, p. 137). As regards *Firewatch*, we cannot think of consequences in the traditional sense of something that impacts either the narrative, storyworld, or both. Yet, the player can have a satisfying game experience. As Murray (2018) points out:

> Dramatic agency is … unrelated to whether or not we can change the events of the story, since we can experience narrative anticipation and pleasure in a navigational choice, such as from one point of view to another in a story made up of fixed events. (Murray, 2018, p. 11)

The gradual development of Henry's relationship with Delilah consists of fixed events, although we always see events play out from Henry's point of view. On the second day, the discovery of the telephone line having been cut foreshadows Henry's later realisation that he and Delilah are completely alone in the wilderness and thus are reliant on each other: in a sense, he has no option but to trust Delilah if he wants to ensure his survival,[7] no matter how ambiguous her intentions seem to be – at its core, her position is that of a helper (see Ryan, 2013). The turning point of their relationship from this point of view is the conversation towards the end of the game when the player can make Delilah promise to wait for Henry; however, as part of the predetermined narrative which characterises what Juul

7 Remark by the author: After discovering Ned's notes at the government camp, Henry has a breakdown, during which he accuses Delilah of not being real, making this a climactic moment of the paranoia and existential doubt that he has been experiencing. In describing the game's ability to unnerve but provide comfort to the player at the same time, Hidalgo (2016b) observes that the reason why Henry is "an easy character to relate to" (para. 9) is that he is "just a guy, out in the woods, chattering on a radio, strikingly human" (para. 10) and that "he only panics if the player does. The woods move around him, noises come from all directions, but Henry's only as paranoid as his player" (para. 7). This study is attempting to argue for the opposite: Henry already exhibits signs of paranoia, which are then experienced by the player through taking up his perspective.

terms "progression games",[8] she leaves anyway, telling Henry that a team will meet him at the evacuation point in the North – by this stage, the player might have completely lost their trust in Delilah, and, consequently, their hope of escaping the burning forest.[9] Henry's relationship with Delilah functions in a similar way to how the player relates to the two characters of *Façade* (Procedural Arts, 2005): "while [the player's] agency allows variations in the dialogue that exposes diverse facets of Grace and Tripp's personalities, the drama unfolds according to a relatively fixed script imposed top-down by the system" (Ryan, 2013, p. 32; cf. Murray, 2018). Additionally, the player has the option of not accepting Delilah's help to unlock an alternative ending – the only instance when the story branches and when the game offers the player true freedom of choice *and* a choice with real consequences, deviating from what Kagen (2018) terms "forced-choice mechanics" (para. 15) and "narrative railroading" (para. 17). If Henry approaches but does not enter the helicopter, it takes off without him, stranding him in the burning forest and most probably leading to his death, in this way letting Henry have a final chance of his own at misleading Delilah.

The fact that the player might choose to respond encouragingly to Delilah's flirting is another way in which *Firewatch* might be viewed as a progression game. Delilah expresses interest in Henry while they witness "'what might be the biggest fire of the year'", saying that "connecting with" Henry has been "really nice" and "it'd be nice to be close to someone" (Campo Santo, 2016). Cissy Jones, the voice of Delilah, said the following in an interview about her character's role in Henry's life:

> I think Delilah can be whoever you want/need her to be. If you need a confidant, friend, potential romance, or just an ambivalent contact, and it's aided by the fact that you don't know what she looks like. It's entirely up to you and the interactions you choose to have with her. (Fyfe, 2015, para. 51)

The fact that Delilah takes a liking to Henry might be explained by their similar backstories and the unique circumstances of their jobs: both of them have left behind or fled from a significant other (in Delilah's case, her boyfriend; in Henry's case, his wife) when coming to the forest and have, for the most part, only each other for company. During their last conversation, if the player chooses the dialogue option which has Henry ask if Delilah would like to visit him after he escapes the forest fire, she says she will "maybe ... come by" but then adds "I think you should go to Julia. ... You gotta go see her" (Campo Santo, 2016), meaning that she is rejecting Henry and has, essentially, led on both Henry and the player. Despite Delilah's flirting, at the end of the game Henry "doesn't even get the consolation prize of winning Delilah, the game's princess stand-in" (Kagen, 2018, para. 2), and in this way the ending is "subvert[ing] generic expectations" (Kagen, 2018, para. 51). As this and

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8 Remark by the author:In a pure progression game, the player is simply presented with a series of challenges where all of the options and solutions have been *explicitly described in the game rules* [emphasis added]. ... In progression structures, the player is occasionally afforded some freedom to roam an environment with the only interesting experiences to be had in one direction. (Juul, 2002, p. 326)

Firewatch seems to be a perfect example of Juul's last point: although there is a story to be followed and a mystery to be solved, the player is allowed to freely roam the map of the game world, putting the story on hold without any consequences (after completing the game for the first time, a free-roam mode becomes available especially for this purpose). Since *Firewatch* does not feature any time-restricted events, this exploration-friendly game mechanic actually benefits the player, who might get lost while navigating the forest.

9 Remark by the author: This study deals with those occasions when Delilah is intentionally misleading Henry *or* telling him information that makes sense in the game world, but which has no implemented consequences, such as in the case of the granola bar and the disposable camera. One unintentional instance is when, early in the game, Henry encounters the two teenage girls. Delilah tells him that they are known for causing trouble; however, as the game progresses it becomes clear that the girls are innocent, and it is Ned who cut the telephone line. Another example is that, despite having worked as a fire lookout for years, Delilah does not know everything about the forest. She is surprised when Henry encounters a chain link fence. Several aspects of the mystery are introduced "using Delilah's ignorance of the clues" (Ben Again, 2024).

the previous examples highlight, the character of Delilah as a whole and especially the way she uses language in dialogue are one way in which the narrative of *Firewatch* misdirects the player: it builds up the possibility of a romantic relationship between the two main characters, only to, as possibly symbolised by the forest going up in flames, stifle its development at the very end. Delilah's unenthusiastic answer to Henry's proposition might suggest that she does not plan to contact him ever again (Fyfe, 2016), preferring to process the unusual experience they shared on her own. Meanwhile the disappointment we might assume Henry feels mirrors the player's own potential disappointment when witnessing this scene.

Written Language: Ned and Brian's Role in the Evasive Mystery

In his review, Hidalgo (2016a) also writes that "as a narrative, *Firewatch* is beautiful. It's twists and dark corners are a wonderful vehicle for anxiety, and provide astounding gravity to the plot" (para. 9). Hidalgo is referring to how the narrative of this game is built around a series of conspiracies that are devised and solved by the characters,[10] and, as a result, by the player.[11] The final parts of the game end up "dissolving any grand conspiratorial mystery into personal tragedy" (Lee, 2019; cf. Kagen, 2018). Put simply, "there is no conspiracy, only a sad man who probably killed his son" (Fyfe, 2016, para 24) – in Henry's words, "we found out an old lookout killed his only son and decided to become a lonely hermit" (Campo Santo, 2016) –, therefore the government conspiracy storyline within the bait and switch style plot might be understood as the anti-climax of the narrative (Fyfe, 2016). What is most important for the purposes of the present enquiry, however, is that the way *Firewatch* builds up the ending through the objects located in the game world can also be regarded as an example of the deceptive use of language. This is because the clues found during the first half of the game point towards a different kind of narrative than that which eventually unfolds, although in this case, deception is realised not primarily through the different dialogue options but rather through the interactive environment. Throughout the game, Henry discovers various notes and scientific reports, which, to him and Delilah at least, suggest that the fenced in area called Wapiti Station is the site of a project secretly run by the government; however, as one document states, in reality the place is a research station for local wildlife. The information in most of these documents about the nature of the research is vague, creating a sense of uncertainty, mistrust and suspense that adds to the game's overall atmosphere of isolation. On the other hand, upon returning to the lake, the player discovers that everything Henry and Delilah have talked about since his arrival has been transcribed word for word by Ned, meaning that they are not as lonely

10 Remark by the author: "In *Firewatch*, because the conspiracy actually is so minor, Henry and Delilah are able to work through it, grasp its dimensions and identify the rational, boring answer to each of its questions" (Fyfe, 2016, para 23).

11 Remark by the author: Remark by the author: *Firewatch* players have come up with several theories, including ones which suggest that Delilah has been more than just deceptive: she might be lying to Henry in order to cover up the evidence that she has been working with Ned all along. One example of this could be the fact that she does not want to report the missing girls not only because she does not want to risk losing her job, but also because she does not want to have the area searched in case it could disclose Ned's involvement (see S/\GI, 2016).

as they and the player first thought. Ned's transcriptions have important implications for the game's handling of the oral and written forms of language: we might suppose that in transforming spoken words into writing, Ned is exposing language to a fallacious process, in the sense that such a process invariably involves the loss of paralinguistic qualities of speech,[12] leading to loss of meaning. Additionally, one of the reports Henry finds describes him as a person is "susceptible to influence" (Campo Santo, 2016). If we regard Henry as a potential stand-in for the player,[13] the risk of being manipulated applies for the player as well: they are, at every step, being manipulated along with Henry (cf. Fyfe, 2016), because "humans are good at … finding patterns that justify their narratives" (Lee, 2019). In this case, the patterns have to do with the characters' attempt at finding the (linguistic) means to construct a narrative about a non-existent government conspiracy: once Henry informs Delilah of his findings, it is mostly at her urging that they come up with the theory of being at the centre of the government's surveillance efforts. Hence, not only Delilah's misleading assumptions, but several other diegetic aspects, too, add to *Firewatch*'s underlying theme of deception.

Besides Delilah, the player is forced to question the motives of another character, Ned. The second key relationship of the game unfolds in the background, via a retelling of past events – this is to be expected given *Firewatch*'s epistemic, pseudo-detective narrative. As Ryan (2013) notes, "the trademark of the epistemic plot is the superposition of two stories: one constituted by the events that took place in the past, and the other by the investigation that leads to their discovery" (p. 25). This also explains why any in-game mention of past events is tightly intertwined with growing feelings of paranoia for both Henry and the player. *Firewatch* poses an interesting question as regards the genre of the narrative: the pseudo-mystery is mixed with hints of humour and horror. As Henry exits the cave system that he was forced to explore in order to return to his watchtower after having dealt with the teenagers, he is blinded by a flashlight. By clicking the option to "report [the] creepy guy" (Campo Santo, 2016), the player can tell Delilah about the strange man (who turns out to be Ned). In response, Delilah quips that "'bumping into someone in the middle of nowhere is part of the fun'" (Campo Santo, 2016). "Delilah is the perfect way to break tension in this game" (Ben Again, 2024). Having returned to his tower, Henry finds his typewriter on the ground at the base of the stairs leading to his tower. The player becomes aware that Henry is being stalked; however, a note reveals that it was the teenagers who broke into his tower, not Ned. Weeks later, Henry finds a clipboard with exact quotes from conversations he has had with Delilah. There is a slight jump scare in the form of Henry being hit on the head from behind near the lake (which the player experiences from a first-person perspective), but the clipboard is gone when he comes to himself. Adding to the tension is the fact that Henry comes across a snowmobile that has been

12 Remark by the author: For an in-depth study of the paralinguistic qualities of speech, see the chapter titled "The effects of vocal cues that accompany spoken words" by Knapp et al. (2013).

13 Remark by the author: This is most visible at the end, when the character of Henry in a metaphorical way merges with the figure of the player: once Henry gets in the helicopter to escape the burning forest, the credits start rolling, enabling the player to likewise leave behind the forest and exit the game. On the other hand, it should be noted that we cannot regard Henry as an avatar for the player: the purpose of the text-based prologue is to outline his backstory, which then facilitates the player's decision making during the rest of the game (at the time of making the choices which compose Henry's backstory the player did not have much information on which to base these choices [see Mitchell et al., 2020]). When the player gains control of Henry, he is already a fully developed character. Additionally, in Fyfe's (2016) reading, rather than merging Henry and the player, in its ending scenes "*Firewatch* decoupl[es] the player from Henry … You are with Henry only as long as he distracts himself from his actual life. He grew close to Delilah and will never see her again, and the same is true of you" (para. 26). This enables Fyfe (2016) to redefine what it means for the player to continually identify with Henry's perspective: "Contrary to what *Firewatch* says in its opening, you're not Henry. Not really. Henry has his problems. They're not yours. Henry has to face them on his own. Maybe you do too" (para. 27).

ransacked for parts, and his radio call with Delilah is interrupted by someone coughing. When Delilah confesses that she lied in her report about them never having encountered the teenage girls, she is devastated that there exist transcripts of her and Henry discussing about covering it up. When Henry investigates Wapiti Station, he finds various devices related to surveillance, and as he leaves, someone sets fire to the station. The next day, while he is out in the forest at night, Delilah warns him about a man standing in his tower. Heading there, Henry finds a tape recording of him and Delilah discussing burning down the forest, framing them as the perpetrators, while the next day someone makes a call in Henry's name, claiming that Delilah knows the reason for the forest fire. Henry is forced to investigate the locked-off part of the cave after the door to it slams shut behind him: he finds a shoe, Brian's hideout and his decomposing body. At the end of the game, Ned is revealed to have been the person behind the mystery: he did everything so that Henry and Delilah would not find out about Brian's fate.

Ned's character embodies deception in three ways. Firstly, Delilah implies (depending on which option the player chooses to respond with to one of her questions) that he might have staged his own son's death to appear to be a caving accident, meaning that he took advantage of his son's trust in him. As the relationship between Ned and his son is portrayed as strained due to Ned being a bad father, this interpretation seems quite probable. The possibility of such calculated plans for murder is not the only occasion of him plotting against others, as after he knocks out Henry by the lake, Henry picks up a clipboard listing Ned's ideas, including his plan to "pit [Henry and Delilah] against each other" (Campo Santo, 2016). In Ned's hideout, a report on Henry states that he "would not be missed if removed" (Campo Santo, 2016), hinting that Ned might have been capable of killing Henry to ensure that his secret would be safe. Delilah reveals that Ned is suffering from PTSD related to his time in the military and came to the forest to escape his troubles – just like Delilah and Henry are also there to avoid (taking responsibility for) painful personal situations, and how, by the end of the game, all characters flee the scene. Ned's mental state, however, appears to be more unstable compared to that of the other two characters. Secondly, ever since Brian's death, Ned has been "holding himself in abject terror of human civilization" (Fyfe, 2016, para. 25). He has been living in isolation, hiding in the forest from the authorities, probably due to feeling ashamed of himself. This, too, could suggest being guilty of murder: if he was innocent, he would have no need to try to dodge the questioning of the authorities, although, as he tells Henry in a tape recording, "I thought about going back, having to answer questions and having to get him put into the ground, and I didn't see the point" (Campo Santo, 2016). The game leaves it to the player to decide whether they believe Ned's or Delilah's interpretation of Brian's death. Finally, from the point of view of the complete game experience, the plotline involving Ned and Brian is the true mystery. The reports Henry finds in the abandoned fenced-in research station have been written and placed there by Ned, who counted on Henry being able to figure out how to get in. As the notes in Ned's hideout explain, he used Henry and Delilah's theory of the government observing them to his own advantage, hoping this would drive them away and keep his secret safe. Ned's intent to deceive is also visible in him ruining the campsite of the teenagers and leaving a letter in their name for Henry (saying they cut the communication line to get revenge for him warning them to put out their campfire). Henry and Delilah coming up with the government surveillance theory as well as everything connected to Ned's character were all implemented by the developers as a decoy, to mislead the player.

The ending of *Firewatch* is ambiguous not only in the case of Henry and Delilah's relationship – the player is also left without definite answers when it comes to Julia's and Ned's future. The storyline involving Julia is pushed into the background, as after the prologue

it does not have an impact on the rest of the game's events. Supposing Henry gets in the helicopter, he does manage to escape; however, Ned runs off at the end of the game, and without external help, the chances of him surviving the forest fire are low. Furthermore, it is also uncertain whether the truth about the circumstances of Brian's death and the location of his body would ever reach the outside world. According to Kagen (2022), "in Walking Sims, you're cleaning up the story with your feet. And often, you're doing the memory work involved in emotionally tidying up the story of a corpse's life" (p. 11). *Firewatch*, however, is less straightforward. There is no way to use the evidence the player collects in the form of documents, tape recordings and via the disposable camera, even though the player might be expecting an official investigation at the end of the game, perhaps similar in style to the text-based prologue at the beginning of the game. Even if Ned survived, he would most likely continue to keep his knowledge of the events a secret. Fyfe (2016) writes:

> While the answers Henry finds are more mundane than he expected, he does get answers. He actually closes two missing person cases. But this mystery game doesn't end with Henry – or the player – receiving any recognition for solving the mystery. Delilah is too unsettled about her culpability in Brian's death to commend Henry for his investigative work. (Fyfe, 2016, para. 15)

Depending on how the player handles Henry's dialogue options, he can express preference for contacting the authorities about the existence of the documents showing Ned's surveillance efforts at the government compound, leaving open the possibility of him sharing what he knows and thus gaining recognition for having solved the mystery. However, this could only happen at the expense of exposing Ned (who might have murdered Brian) and Delilah (who has been, for the entirety of the game, against contacting the authorities for fear of losing her job, and, possibly, for fear of being found guilty of involvement). Henry, having newly arrived, in contrast to Delilah who has been part of the fire watch for a longer time, is less implicated in the events that took place – he is, for all intents and purposes, an outsider. Moreover, after having found Ned's hideout, he would be able to provide sufficient evidence to prove his innocence, making it likely that he would, in fact, share the details. Delilah's surprise is genuine in the scene where Henry finds Brian's body and the game has her contemplate revealing the truth: "Now I've got to decide whether I tell people that he's down there so they can retrieve the body or not. And if I do, I'm going to be asked about Ned Goodwin" (Campo Santo, 2016). Delilah's hesitation in this scene and her behaviour leading up to this point seem to suggest that once she and Henry go their separate ways, she is not planning to reveal the truth and instead will keep on being ambiguous and misleading. Her refusal to face the past and her tendency to flee once the situation gets complicated is part of the larger theme of running away from one's problems that is also present in *Firewatch*: "everyone in *Firewatch* has something to do that they aren't doing. Everyone's avoiding what's hard" (Fyfe, 2016, para. 11). Regardless, Delilah – who, in Fyfe's (2016) words, is a "complete flake" (para. 16) – might be viewed as the epitome of the way deceptive language in *Firewatch* leads to loneliness and abandonment: if it were up to her, Brian would remain lying at the bottom of the cave, his death unacknowledged.

Conclusion

Firewatch is a game that makes effective use of the potentially deceptive nature of both spoken and written language to create a compelling narrative and an immersive gaming experience, where the player tackles a mystery by taking on the role of Henry,

a newly recruited fire lookout. The lines of dialogue between him and his supervisor, Delilah, are deceptive to a great extent, contributing to his increasing uncertainty, distrust and paranoia – emotions which not only permeate the game world, but, importantly, are also experienced by the player. Thus, Delilah is the character who best exemplifies the potential for misdirection that language carries within itself. While some of the dialogue between Henry and Delilah arises on its own, the highly interactive environment offered by the game opens up further possibilities. The government conspiracy that, in the form of various documents, is hinted at for much of the game turns out to be a false lead: instead, the real mystery is centred around a previous lookout's son, Brian, who himself suffered the consequences of falling victim to deception. His father, Ned – a former lookout Delilah is familiar with due to his having been stationed in the forest three years prior to Henry's arrival – might be viewed as a further embodiment of deception: his project involves perpetuating the existence of a government conspiracy, trying to conceal Brian's death and hiding his own presence in the forest, which for some time he manages to succeed at by manipulating Henry and Delilah.

Firewatch "is a game where you get to dictate the fate of two people who make a lot of mistakes in their past" (Ben Again, 2024); however, ultimately, the deceptive ending of the narrative is pre-determined by the writers. Firstly, Henry and Delilah can never meet in person and cannot enter a romantic relationship either. Secondly, although *Firewatch* appears to morph into a detective narrative, a fundamental aspect of the genre – that of questioning people (the witnesses or suspects), is not an option. Clues for solving the mystery, for the most part, take the form of written language. In fact, neither Henry nor Delilah ever communicate with Ned directly – the closest Henry gets is listening to a tape recording left for him by Ned while he is headed to Ned's hideout. From the signs of the teenagers' presence to Ned's stalking to Delilah's voice being carried via radio signal, communication in *Firewatch* is, if not indirect, then, on the whole, mediated through various forms of language and media. Notably, the game ends with an emphasis on written language: Delilah hints at Henry writing about his experience, but the player cannot be sure just how much Henry would reveal of the truth. Ultimately, dialogues, objects within the game world and the plotline all point towards the unreliability that may characterise language depending on the how deceptive the person producing that language intends to be.

By foregrounding deception as both a narrative device and a design principle, *Firewatch* demonstrates how language can shape player perception and agency. The game's tightly scripted illusion of choice invites players to question not only what is being said but also what is being withheld, suggesting that limited agency can itself serve a meaningful narrative function. For game designers, this highlights the potential of linguistic manipulation and constrained interactivity to evoke emotional complexity and moral ambiguity. In turn, players are prompted to reflect on their role as interpreters within a mediated world – reminding us that, in narrative games, understanding is always contingent and partial, but, even more importantly, it is shaped by the language through which it is conveyed.

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Systematic Mapping of Non-Digital Games for Teaching Sustainability

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ABSTRACT:
One of the greatest challenges for sustainability lies in society's lack of awareness. Educational games may offer an effective and engaging strategy to bridge this gap, efficiently making complex subjects accessible and driving conscious behaviour. Aiming at a systematic mapping of non-digital games that teach sustainability, the objective of this article is to provide an overview of the state of the art and the factors that influence the quality in terms of learning and player experience. We encountered 10 games on a variety of sustainability themes with diverse characteristics. Most are board games, yet they vary regarding the number of players, the duration, objectives, and mechanics. Although most of these games have been evaluated using a case study or quasi experiments, some lack scientific rigour, not using a well-defined evaluation model with small sample sizes, overlooking crucial factors. Consequently, more rigorous evaluations are necessary to assist game creators in understanding what factors improve the ability of these games to teach sustainability.

KEY WORDS:
environmental education, game design, non-digital game, sustainability.

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Introduction

In recent decades, the importance of sustainability has increased. One of the greatest challenges, besides considering integrating economy and environment, lies in general society's lack of awareness and involvement in environmentally sustainable practices (Griswold, 2017). The establishment of sustainability and sustainable development can be supported through educational actions with people learning about the principles and necessity of sustainability so that, by doing so, they can transform their habits, traditions, and choices, becoming contributors to a sustainable society (Yli-Panula et al., 2020). Consequently, it is being taught from primary school (Green & Somerville, 2014) to higher education (Du et al., 2013) as preparation for the sustainability issues they are bound to face in all aspects of the students' lives (James & Card, 2012).

One way to teach sustainability is through game-based learning with digital and non-digital educational games (Grace, 2019). According to Freitag (2012), when playing, students can explore and question rules and norms in order to obtain concepts and skills. This approach may allow for a more interesting and involved learning experience compared to traditional methods.

Educational games are increasingly common (Tobias et al., 2011). While there is a greater focus on digital games (Whitton, 2012; Naik, 2014a), non-digital games that are played with physical elements such as game boards, cards, tokens, dice, pencils, and papers, etc. (Connolly et al., 2007), can still provide numerous benefits. Non-digital games allow the players to have a greater opportunity to create social interactions, along with develop an enjoyable, motivational, retentional, and engaging experience for the player (Pratiwi et al., 2023). According to Vygotsky (1978) social interactions are also

established to reinforce their learning process. Non-digital games can also be more cost-effective, have low administrative overhead, demand few prerequisite skills, and may be easier to apply in a classroom setting (Naik, 2014b).

Thus, it may be advantageous to teach sustainability through educational games. Yet, only a few reviews of educational games for teaching this topic have been carried out. One example is the work done by Tan and Nurul-Asna (2023), examining the reasons for the increasing popularity of serious games in education and environmental engagement. Another example is Ahmadov et al. (2025), whose study explores the landscape of serious games for sustainable environmental education, while identifying game types, theoretical perspectives, and pedagogical strategies. Nonetheless, the scope of these studies includes a variety of game types, not focusing exclusively on non-digital ones.

Thus, the question on which non-digital games exist for teaching sustainability remains, including how these games have been evaluated and what factors influence the learning aspect. To answer this question, we conduct a systematic mapping of publications about the creation of non-digital games that have been developed to teach sustainability, which also reports a systematic evaluation of the games providing findings regarding the impact of the chosen design decisions.

Background

In this section we introduce concepts related to the context of this systematic mapping, related to sustainability, educational games as well as methods for the evaluation of games:

a) Sustainability

In recent years, environmental degradation has become a growing concern worldwide (Ahmed et al., 2018). Rapid economic growth is a cause of the significant misuse of resources such as land, water, air, and energy, which results in pollution (Vasquez-Coronado et al., 2024). According to the *Report of the World Commission on Environment and Development* (Secretary-General & World Commission on Environment and Development, 1987), sustainability is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This concerns many topics, such as promoting inclusive, and sustainable economic growth, ending poverty in all its forms, ensuring healthy lives, quality education, gender equality, reducing inequalities and tackling climate change, conserving, and sustainably using oceans and terrestrial ecosystems, and ensuring access to clean water, sanitation, and affordable and clean energy (Moldan et al., 2012). In order to promote sustainability, the United Nations established the Sustainable Development Goals (SDGs) comprising 17 objectives, which cover environmental, social, and economic dimensions (Sachs, 2015).

b) Educational games

Game-based learning may be an engaging and effective approach to conveying sustainability concepts. Games are defined as a fun activity with rules that involve varying levels of strategy or chance, in which players take part, cooperating or competing with knowledge or skill to reach a specified goal (Jaffe, 2019). Games are also adopted for educational purposes, designed to teach the players about a certain subject, expand and revise concepts, reinforce development, or assist them in learning a skill or seeking a change of attitude as they play (Dempsey et al., 1996; Kapp, 2012). Such games can come

in many forms with a variety of mechanics and elements, also including non-digital games (Pan et al., 2021).

Non-digital games do not employ a digital device or tool to support the playing of the game (Miller, 2021). These games are played with physical components and materials, often involving physical interaction between players or with game components (Torner, 2021). Examples include board games, card games, dice games, and live-action role-playing games.

A game is made up of many aspects that influence the experience it provides to the players, including its objective, mechanics (Sicart, 2008; Jun & Lucas, 2024), if it is cooperative or competitive (Qiao et al., 2024), and its visual design. The objective of a game is the goal the players will work towards, defining the players choices during gameplay (Salen & Zimmerman, 2003). Mechanics are the elements players must deal with for "things to happen," and they are a central part of the experience provided to the player (Salen & Zimmerman, 2003; Fabricatore, 2007; Adams & Dormans, 2012). Well-crafted mechanics are central to a game's ability to achieve its intended purpose, provide enjoyment to the player, and facilitate learning, among others (Schell, 2008).

Whether the game is cooperative or competitive also greatly impacts the game design and how its mechanics will work. According to Kohn (1992) a competitive game is one that involves winners and losers, focusing on an individual's success and an opponent's failure, whereas cooperative games require two or more participants for achieving success, and thus create interest in encouraging and assisting others.

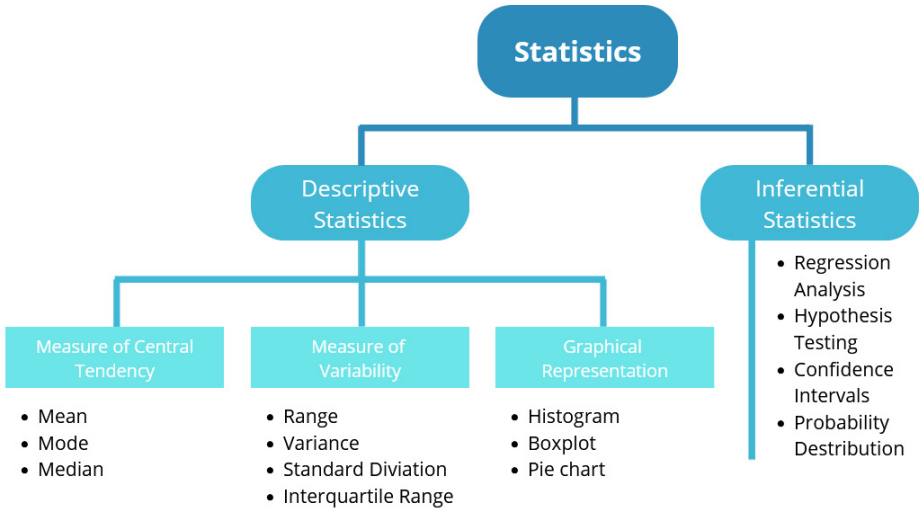
Visual design can impact gameplay, as a well-designed game makes it easy for players to quickly become comfortable with the game's mechanics, improving player engagement and immersion (Meiners et al., 2025). Thus, visual elements in board games (like colours, shapes, and environments) can contribute to aesthetic constructivism and cognitive learning, particularly in educational contexts (Chou, 2017).

c) Evaluation of games

For an educational game to succeed, however, systematic evaluation is essential for identifying precise strengths and weaknesses and guiding iterative improvement. One way to evaluate the quality of games is to conduct an empirical study using different research designs (Branch, 2009). A study is considered experimental if it includes a control group or multiple points of measurement with random assignment, while quasi-experimental studies are run without random assignment (Creswell & Creswell, 2017). Case studies do not employ control group(s), but are conducted systematically (Yin, 2009). Some studies that do not follow an explicit definition of the study are considered ad hoc.

Data can be collected using diverse methods (Creswell & Creswell, 2017), including questionnaires, observations, feedback, tests (which can be applied before [pre] and/or after the game was tested [post]), game records and/or interviews.

The collected data can be analysed through either qualitative or quantitative methods (Picture 1). Descriptive statistics provide a clear and concise overview of the data without making any inferences beyond the data itself using measures such as mean, median, mode (measures of central tendency) and range, standard deviation, variance (measures of variability) (Vetter, 2017). Inferential statistics involve using data from a sample to make conclusions, predictions, or inferences, using methods such as t-tests, ANOVA, chi-square tests, regression analysis, etc. (Loether & McTavish, 1980). Qualitative analysis of data focuses on depth of understanding rather than statistical generalization, aiming to uncover themes, patterns, meanings, and interpretations (Patton, 2015).



Picture 1: Analysis methods

Source: own processing

Definition and Execution of the Systematic Mapping

a) Definition

In order to elicit the state of the art on non-digital games for teaching sustainability regarding player experience and learning, we performed a systematic mapping following the procedure defined by Petersen et al. (2008):

- RQ: Are there non-digital games for teaching sustainability which provide a positive gaming experience while still promoting learning and what are the design characteristics that influenced these results?

In accordance with this objective, we focused on the following analysis questions (AQ):

- AQ1: Which non-digital games for teaching sustainability exist and what are their characteristics?
- AQ2: Which kind of empirical study has been executed to evaluate the game?
- AQ3: What is the reported player experience of these games and which characteristics affect this result?
- AQ4: What is the reported learning of these games and which characteristics affect this result?

Descriptive statistics provide a clear and concise overview of the data without making any inferences beyond the data itself using measures such as mean, median, mode (measures of central tendency) and range, standard deviation, variance (measures of variability) (Vetter, 2017). Inferential statistics involve using data from a sample to make conclusions, predictions, or inferences, using methods such as t-tests, ANOVA, chi-square tests, regression analysis, etc. (Loether & McTavish, 1980). Qualitative analysis of data focuses on depth of understanding rather than statistical generalization, aiming to

uncover themes, patterns, meanings, and interpretations (Patton, 2015). We included only conferences or journal articles that presented the evaluation of a non-digital educational game for teaching any aspect of sustainability. We focused on articles written in English, available via digital libraries published during the last 15 years (Table 1).

Table 1: Inclusion/exclusion criteria

	Inclusion	Exclusion
Focus	Evaluation of player experience and learning	Does not evaluate player experience and/or learning
Context	Sustainability education	Other areas (e.g. psychology, medicine, etc.)
Content	Non-digital game development and evaluation	No application nor evaluation
Publication Language	K-12 and higher education	Other educational contexts (e.g. teacher training)
Publication Language	English	Other languages, e.g. Chinese, Spanish, etc.
Type of Publication	Scientific articles in journals and conferences	Website articles, blogs, videos, well-known online repositories, academic works, and other systematic reviews/mappings

Source: own processing

We considered only articles that present substantial information regarding the analysis questions. Abstract-only or one-page articles are excluded as they do not provide sufficient information for the purpose of this study. We searched via Google Scholar, which indexes a large set of data across several different sources (Haddaway et al., 2015). Google Scholar is a powerful tool for finding specific literature and is able to identify the majority of evidence when searching specifically for known articles. In accordance with our research objective, we defined the search string by identifying core concepts: teaching, sustainability, tabletop, game.

b) Execution

The search was realized in February 2025 by the first author and revised by the co-authors. The initial search returned a total of 9,370 artifacts. Analysing the titles, abstracts, and keywords of the 100 most relevant results, regarding the inclusion/exclusion criteria, 23 potentially relevant artifacts were identified. In the second stage, we analysed the full abstract of the articles and quickly scoped the article for information on the game's evaluation. Articles without information on evaluation were excluded. As a result, 10 relevant articles were identified: Cheng et al. (2019), Dela-Cruz et al. (2024), Eisenack (2013), Ho et al. (2022), Illingworth and Wake (2019), Juan and Chao (2015), Koenigstein et al. (2020), Mergener and Kuhn (2022), Spyropoulos et al. (2022), Torralba-Burrial and Dopico (2023).[1]

c) Analysis of the results

AQ1: Although a growing number of games for teaching sustainability have been proposed, only a very small number of non-digital games, presenting also an evaluation,

1 Remark by the authors: Considering only the non-digital game, *Fishing Resources of Asturias Memory Game*, presented in the study by Torralba-Burrial and Dopico (2023).

have been published. This may be due to a larger focus on digital games and/or a lack of an evaluation of such games.

Concerning the teaching of sustainability, there is a larger focus on teaching about the impacts of and ways to combat the causes of climate change. But there exists a certain variety. For example, the *Fishing Resources of Asturias Memory Game* teaches about fishing (Torralba-Burrial & Dopico, 2023), while the game *GBGame* is about green buildings (Juan & Chao, 2015) and *Mechanical 2021* focuses on waste management (Mergener & Kuhn, 2022).

We encountered mainly board games with three exceptions, including one card game, one RPG and another one which uses elements of both RPG and board games. The number of players varies considerably, from 2 to 25 players. Yet, most games are designed to be played in small groups of 2 to 5 players. The games mostly focus on teens (10-17 years) or young adults (around 25 years old). The duration of the games varied from 10 to 20 minutes to about 4 hours.

While the games are split almost equally between cooperative and competitive games, there were slightly more cooperative games encountered. Most games developed new game mechanics around the sustainability topic chosen, while a few, such as Dela-Cruz et al. (2024) and Torralba-Burrial and Dopico (2023), created games adopting more common mechanics thematically adapted to fit the topic. Though, even then, the game objectives and mechanics were different from each other. For example, the game *Make it Green* uses a very simple mechanic of rolling dice while moving through spaces on a board and buying cards with different effects depending on the space landed (Dela-Cruz et al., 2024). Alternatively in the *Fishing Resources of Asturias Memory Game* players need to choose cards and match their pairing (Torralba-Burrial & Dopico, 2023), while in the game developed by Spyropoulos et al. (2022) players choose their character's actions as a designated game master narrates a predefined narrative.

There are a few common characteristics, such as the ability of the player to create buildings that affect the environment. For example, *KEEP COOL* lets players choose between building factories with different effects related to green gas emission (Eisenack, 2013), *Ocean Limited* allows players to build a variety of facilities with different impacts on the oceans (Koenigstein et al., 2020). Players of the game *Catan: Global Warming* must build roads and cities to be able to gain more resources (Illingworth & Wake, 2019), while the main mechanic of the game *GBGame* consists of the player building various green building technologies (Juan & Chao, 2015). Most authors did not provide access to the material. Exceptions include the game developed by Eisenack (2013), the rules of the game developed by Illingworth and Wake (2019), and the *Fishing Resources of Asturias Memory Game* by Torralba-Burrial and Dopico (2023).

Although most games are board games, the materials vary. Some games possess a board while others use cards, dice, tokens, or a combination of these. Most games use materials with good aesthetic and intuitive usability. Games, such as *Make it Green*, make good use of colour as an easy way to pass the desired message to the player. *Ocean Limited* possesses a clean, appealing design. A summary of general characteristics of non-digital games for sustainability education from the examined studies is provided in Appendix A.

AQ2: The majority ran a case study, while two did an ad hoc study and two ran a quasi-experiment (Appendix B). Of those who ran a case study there were some variations on the application, Dela-Cruz et al. (2024), Eisenack (2013), Spyropoulos et al. (2022) and Cheng et al. (2019) did a pre-test/post-test to determine and compare the level of knowledge before and after the game was played, while Koenigstein et al. (2020) and Illingworth and Wake (2019) only applied a post-test. As for the quasi-experiments, Juan and Chao (2015) divided the participants into two groups, one group was taught through the game,

while the control group spent the same amount of time being taught through a traditional lecture. On the other hand, Ho et al. (2022) divided the participants into one group playing the non-digital version, while the other one played a digital version. Two publications reported an ad hoc study: Mergener and Kuhn (2022) only reported observations made during the process of gameplay by the participants, while Torralba-Burrial and Dopico (2023) just collected and analysed the gameplay data (data of the choices made by the players during the game).

The number of participants varied significantly. Some games were evaluated by a larger number of participants, such as by Ho et al. (2022) who tested their game with 225 students or Dela-Cruz et al. (2024) whose game was played by 70 students. A few involved a smaller number of participants, such as Spyropoulos et al. (2022) with only 9 students, or Mergener and Kuhn (2022) with 8 students. Some conducted a prior test of the game with participants outside of the target audience, to test the functionality of the gameplay and accuracy of information taught, such as Dela-Cruz et al. (2024). Illingworth and Wake (2019) used a multi-stage approach to playtesting with first a small group to offer feedback that was used to improve the game, and a second group of the target audience testing the ability of the game to generate dialogue around climate change.

Different data collection methods have been used, some applying multiple methods, while others using only one (Chart 1-2). The most common approach used was questionnaires, typically applied after the gameplay, while others were sent via email. Others used observation during gameplay, while a few applied a test to assess knowledge and/or the game record (data of the choices made by players during the game).

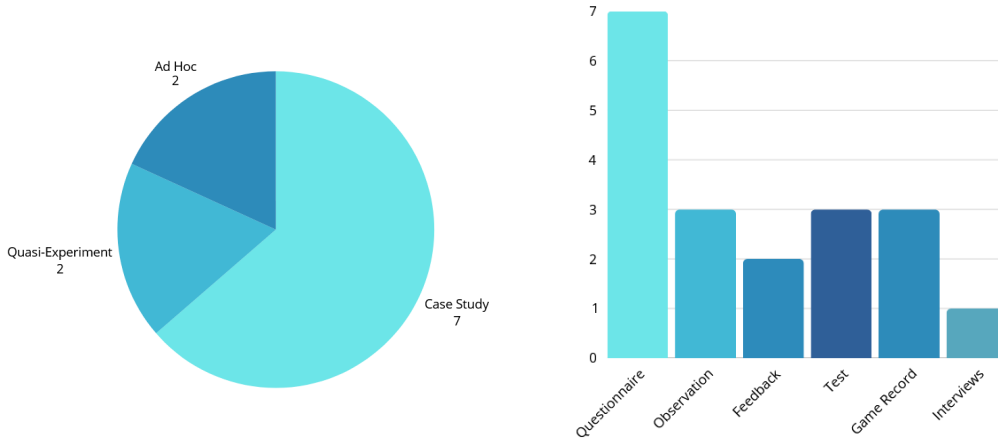


Chart 1-2: Distribution of study types (left) and data collection (right)
Source: own processing

With regards to data analysis (Chart 3), most researchers used descriptive statistics, though several used qualitative analysis of data and/or inferential statistics. Six studies applied one data analysis method, while four studies applied more than one method. The researchers who apply more than one method use them to analyse different aspects of the study, such as Cheng et al. (2019), who uses inferential statistics to analyse data related to the applied test, descriptive statistics to analyse mean and standard deviation and a qualitative analysis of data with regards to the answers of the interviews.

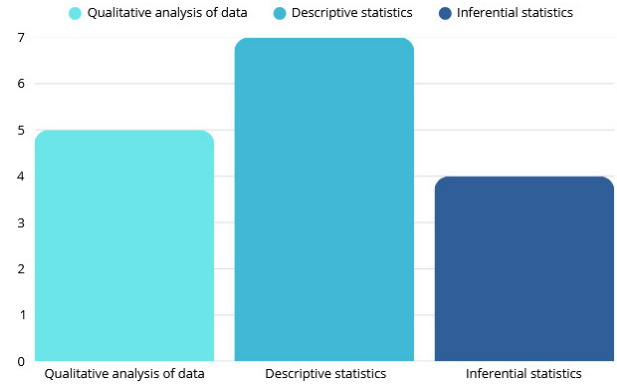


Chart 3: Distribution of data analysis methods

Source: own processing

AQ3: The evaluated characteristics vary considerably (Table 2). The most evaluated characteristic was learning. Studies also evaluated diverse characteristics related to the player experience, such as motivation, fun, social interaction, responsibility, awareness, attention, empathy, engagement, confidence, satisfaction. Quality of game material, mechanics, accuracy of information, accessibility, etc. were evaluated by very few studies.

Table 2: Evaluated characteristics

Study	Evaluated characteristics
Cheng et al. (2019)	Learning, empathy, 'game actions', responsibility, awareness
Dela-Cruz et al. (2024)	Learning, awareness, quality of game material, relevance
Eisenack (2013)	Learning, fun
Ho et al. (2022)	Learning (perception, knowledge, attitude)
Illingworth and Wake (2019)	Social interaction, accuracy of the information, accessibility
Juan and Chao (2015)	Attention, relevance, confidence, satisfaction, motivation
Koenigstein et al. (2020)	Learning, engagement, social interaction
Mergener and Kuhn (2022)	Learning, competitive/cooperative play, quality of game material, game mechanics
Spyropoulos et al. (2022)	Learning
Torralba-Burrial and Dopico (2023)	Learning, motivation

Source: own processing

Most studies evaluate more than one characteristic, with just two exceptions that focus only on learning (Chart 4). Some studies analyse many aspects of the player experience, such as Juan and Chao (2015), who evaluate attention, relevance, confidence, satisfaction and motivation. Social interaction, empathy, and awareness were each mentioned in two separate studies, highlighting the importance of social interaction, due to it being one of the main advantages of non-digital over digital games. About half of the studies evaluated the player experience through fun, satisfaction, engagement and motivation, while others focused exclusively on other aspects such as learning (and similarly, awareness). Some studies evaluated the quality of the game material, concentrating on accuracy of the information, relevance, quality of game material and game mechanics.

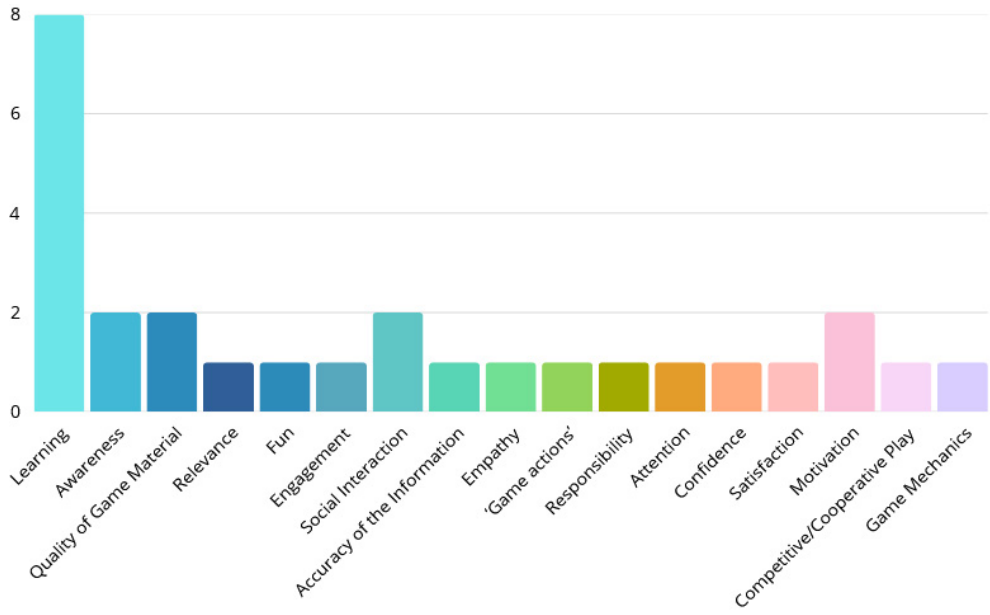


Chart 4: Distribution of evaluated characteristics

Source: own processing

Most studies tend to concentrate exclusively on covering the central aspects of their chosen theme, as this targeted approach is often necessary to avoid negatively impacting the game's playability. Several studies agree that the learning benefits are often partially subconscious, primarily helping players obtain a broad picture of otherwise scattered knowledge. Consequently, successful games should be designed for high replayability, ensuring repeated engagement that leads to a deeper understanding. A critical aspect commented upon is the link between player understanding and learning efficacy. Players must comprehend the game's mechanics to maximize the experience. Some studies utilized a preliminary briefing phase, while a comprehensive manual is deemed essential.

AQ4: With regards to the reported learning of the participants, most articles claim to have succeeded in achieving the desired result (Table 3). The only exception is Mergener and Kuhn (2022), who conclude that the objective was not achieved in its entirety, requiring critical thinking related to sustainable awareness to be better explored. The authors suggest rethinking some mechanics to emphasize the theme of sustainability during the game and introduce some dynamics to make the game more fluid.

The expected outcomes have been achieved due to a variety of approaches. Eisenack (2013) for example, passes a simplified view of the central aspects not requiring players to have prior knowledge about climate change. The result shows that the participants learn about the interactions of different scientific disciplines in analysing climate change. Illingworth and Wake (2019) focused on accessibility and the game outside the game, to generate dialogue around global warming. They created a game to be played by the widest possible audience, while trying to capitalize on the social interactions, and the ways which enabled players to move to a two-way dialogue.

Multiple games simulated real environments and role-play as a way to use active learning. Spyropoulos et al. (2022) developed an RPG that let players experience the simulated situation through engaging with the narrative. They focused on developing a less constrained game that allows the players to think more about their in-game characters

and how they would react in certain circumstances. Cheng et al. (2019) simulate real environments to teach responsibility for water resources, as well as a feedback mechanism to emphasize the value of public benefits, while developing communication to solve problems to teach empathy and negotiating thinking. *GBGame* attempts to simulate an environment of city development, *Ocean Limited* creates a simulation of the pollution and collection of resources of the ocean through the distribution of various characters that affect the ocean, and *KEEP COOL* simulates an international arena of groups of nations where negotiations, knowledge, and financial transfers play a central role.

Table 3: Reported learning

Study	Reported learning
Cheng et al. (2019)	Water Ark could enhance participants' knowledge and ability in water resources adaptation issues.
Dela-Cruz et al. (2024)	An increase in the student's level of climate change and environmental sustainability knowledge and awareness.
Eisenack (2013)	The game succeeds in providing an organized overview of pre-existing knowledge.
Ho et al. (2022)	Improved learners' perception, knowledge, and attitude regarding SDGs.
Illingworth and Wake (2019)	The game mechanics were an effective and elegant way of developing dialogue around global warming.
Juan and Chao (2015)	Effective instructional material for the improvement of students' green building knowledge.
Koenigstein et al. (2020)	The game is sufficiently realistic to teach students the cognitive and social capacities for solving real-world marine sustainability problems.
Mergener and Kuhn (2022)	The objective of the game was not achieved in its entirety; critical thinking related to sustainable awareness need to be better explored.
Spyropoulos et al. (2022)	The participants were able to better identify the stakeholders affected by a flood event.
Torralba-Burrial and Dopico (2023)	The game enables assessing students' knowledge of ocean literacy and the sustainability of fisheries.

Source: own processing

Commonly, fun is seen to be an important positive influence in learning. Juan and Chao (2015) describe their participants as having strong learning motivation, and attribute this to the game being both practical and entertaining, stimulating the players' attention and interest. Eisenack (2013) confirms that groups who enjoy playing the game would like to play again, which opens more chances to reinforce the sustainability themes.

Discussion

The results show that studies focusing on the development of non-digital games teaching sustainability have grown in the last years, but there are still fewer than on digital games (Talan et al., 2020). As in any educational context, there also seems to be a prevalence of digital games for teaching sustainability (Ahmadov et al., 2025). And, as we only considered non-digital games that have been evaluated, more non-digital games teaching sustainability may exist.

The small set of evaluated, non-digital games for teaching sustainability, was quite varied, with respect to thematic, mechanics, objective, material, and development. This illustrates that sustainability can be taught though different types of games. There were also some recurring elements, such as the ability of the player to build buildings that affect the environment. Such a similarity may be due to similar causes and solutions to sustainability problems, provoking the use of similar elements.

The game materials have been developed in accordance with the type of game, with different designs such as maps, or images of related objects as well as icons. Most of the material is colourful and visually attractive, yet it seems to lack precaution regarding accessibility. It seems that most researchers did not consider the cost of the game materials, an important constraint in the context of public-school settings. Only very few studies made the material available, impeding wider use.

The games aimed at teaching sustainability on diverse educational stages. The games for a younger audience were often less complicated, requiring less knowledge to play the game. That does not mean that games for younger audiences are less complex; they still may include many elements. The duration of gameplay varied regardless of the targeted age range. The age also did not seem to affect the choice of competitive or cooperative experience. This demonstrates that well-planned rules, provided they are not too complicated for younger audiences, are appreciated by all age groups.

Some games were based on existing ones, customizing the mechanics to the theme of sustainability. Some of them are quite close to the games by which they are inspired, such as Illingworth and Wake (2019), who adapted the pre-existing game *Catan* by only adding a few new rules, or Torralba-Burrial and Dopico (2023), who designed their game based on the famous game *Memory*.

A number of games were created with simple, familiar language that drew upon common gaming experiences. This was used to gradually introduce the specific topic terminology, allowing a broader audience to be able to enjoy and experience the game. Communication is an important aspect that some authors focused on (Illingworth & Wake, 2019; Eisenack, 2013). One strength of non-digital games is to stimulate the players to discuss the topic, using communication as one of the main mechanics (Spyropoulos et al., 2022; Ho et al., 2022).

The games achieved their teaching objectives through diverse methods. Some focused on teaching about facts (Torralba-Burrial & Dopico, 2023), while others aimed at creating a general understanding of the topic or stimulating interest (Cheng et al., 2019). This was a common strategy, but by making the teaching component too apparent, it could undermine student engagement. Therefore, balancing the learning and entertainment aspects is essential during gameplay.

Most evaluations of the games were conducted as case studies. This is a common phenomenon in the context of educational settings considering the available resources and time, still providing valuable insights. Two studies were conducted as quasi-experiments comparing the non-digital game to a digital version or another educational strategy. Yet two studies were run in an ad hoc manner without any explicit definition of the study, providing more superficial results.

The number of participants ranged from very few (8) to a considerably large audience (more than a thousand), often involving about 70-60 participants. However, Eisenack, (2013) and Koenigstein et al. (2020) did not mention the exact number of participants and Eisenack (2013) and Illingworth and Wake (2019) did not apply the game to some groups of their targeted audience, involving people outside their target audience. This may be a threat to the validity of these studies.

Diverse types of characteristics were analysed, which demonstrates that there is a lack of commonly set values to be evaluated in such research. Surprisingly, only one study

(Eisenack, 2013) evaluated fun, considering it is a fundamental part of a game, as well as on the positive effect on learning outcomes (Chan et al. 2019; Lucardie 2014; Rambli et al. 2013). Such an aspect would be expected to receive more attention from the developers, as it greatly influences the motivation of the player.

Data was collected through various methods, yet only a few analysed the reliability and validity of the data collection instrument. No standardized measurement procedures have been adopted, although several are existing in literature, such as MEEGA+ (Petri et al., 2019). Most studies use descriptive analysis and/or, in smaller number, qualitative analysis of data, and/or inferential statistics. This shows a future need for more rigorous studies using experimental design to obtain more detailed findings.

To mitigate the impact of factors that may affect the validity of our mapping, we adopted several strategies. To mitigate the threat from the omission of relevant studies, we delimited the scope of the research, considering the key concepts when creating the search string. While concentrating on Google Scholar as a major database, we acknowledge the risk that some relevant evidence present in traditional, specialized databases may not have been captured. Threats to the selection of relevant studies and data extraction were mitigated by defining a strict protocol, with the careful establishment of inclusion/exclusion and quality criteria and applying these criteria during the selection. Data extraction was performed by one author, inferred when not explicitly stated in the article and revised by the co-authors.

Conclusion

In this article, we present the state of the art on the development and evaluation of non-digital games for teaching sustainability. Considering the importance of the topic there exist surprisingly few games made for this purpose. While most of these are board games, they vary in terms of the topic, the objectives, mechanics, number of players and the duration. Most of the games were evaluated through empirical studies, yet we observed a lack of the use of well-defined evaluation models as well as scientific rigour. The set of quality characteristics evaluated also varied, and important factors related to game-based learning, such as fun, were considered only in a few studies. In addition, some of the evaluations were conducted with small sample sizes, leaving a generalization of the results questionable.

However, the findings provide indications that educational games can be a powerful tool to teach sustainability. While some patterns of the game design could be observed, such as the recurring mechanic of allowing the players actions to influence the environment and manage resources, the quality of these games does not seem to depend on one specific factor to accomplish its objective. A few key strategies yielded consistently good results by exploiting the unique advantages of non-digital games. These involved: simplifying the central aspects and integrating them into the gameplay, promoting active learning via simulations, encouraging player dialogue, and making the game easily accessible to a wide audience. Multiple games used one or more of these strategies to achieve the educational objectives while also making the game fun.

But despite these results, there is a need for further research in this area with better defined and validated evaluation models as well the development of more games for teaching sustainability to increase awareness on a broader scope.

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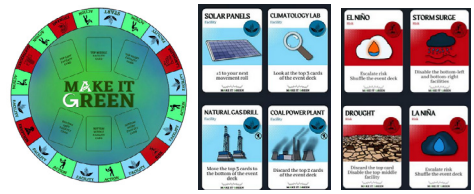
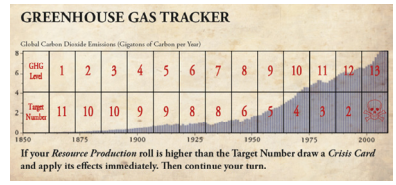
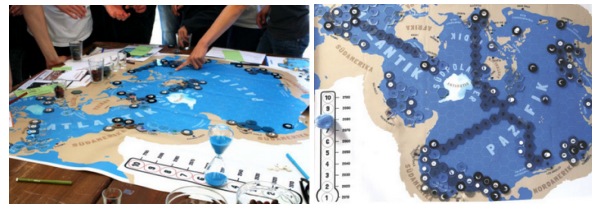
Appendix A: Overview of the General Characteristics of the Non-Digital Games for Teaching Sustainability Applied in the Examined Studies

Title	Applied in	Topic	Type	Duration (min)	Target Audience	Availability
Water Ark	Cheng et al. (2019)	Climate change (water resources)	Board game	120-150	Members of the public with above high school-level education.	N/A
Make it Green	Dela-Cruz et al. (2024)	Climate change	Board game	10 and 20	School students (Grade 7)	N/A
KEEP COOL	Eisenack (2013)	Climate change	Board game	240 or two sessions of 120-240	Students (age 10-25)	Commercial publisher
N/A	Ho et al. (2022)	Sustainable Development	Board game	80	School students (aged 10 to 17)	N/A
Catan: Global Warming	Illingworth and Wake (2019)	Climate change	Board game	190	High school students and seminar classes at universities and in higher education	Free to download, Creative Commons BY NC ND 3.0 license
GBGame	Juan and Chao (2015)	Green buildings	Board game	N/A	Vocational school students (age 17 years)	N/A
Ocean Limited	Koenigstein et al. (2020)	Ocean sustainability	Board game	90-120	Students age 14-25	N/A
Mechanical 2021	Mergener and Kuhn (2022)	Waste Management (plastic and electronic trash)	Board game, RPG	45	Children 12-13 years old	N/A
N/A	Spyropoulos et al. (2022)	Flood awareness	RPG	N/A	University Students	N/A
Fishing Resources of Asturias Memory Game	Torralba-Burrial and Dopico (2023)	Promotion of artisanal fishing	Card game	N/A	Primary education students (aged 6-12)	Online, Creative Commons License

Title	Number of Players	Mode	Objective	Mechanics
Water Ark	N/A	Competitive, possibility for cooperation	The game score is determined by the available resources and game performance, but ends if environment is destroyed	Each player chooses an organization which has its own objectives. The players use cards to reach the objectives.
Make it Green	2-6	Cooperative	Turn the game's risk tokens, which represent the climate, to green before they can turn red	Players take turns to roll the dice and move tiles on the board.

KEEP COOL	5-25	Cooperative	The player who attains their targets first wins. However, if the global temperature rises too much, all lose.	Players choose between cooperation and defection, making choices that impact the climate and their points.
N/A	2-12	Cooperative	Players need to implement the SDGs assigned to them.	Players use different types of cards to make diplomatic agreements and to gain resources.
Catan: Global Warming	3-4 (Catan numbers)	Competitive	The game ends with a "pyrrhic victory" for the player who has at least tried to mitigate the effects of pollution.	Following the standard Catan rules, but the dice roll also impacts the Greenhouse Gas Tracker. The levels of Greenhouse Gases have to be managed by players.
GBGame	2-4	Competitive	The game ends when any player sells their fourth piece of land. However, this does not imply that that player has won the game, the player with the highest final score wins the game.	Within a given budget, players can construct buildings using construction cards and function cards that allow strategic actions to implement various green building technologies.
Ocean Limited	N/A	Cooperative	Players need to gain power points by building facilities and completing a goal.	Game events influence the player's income. Players can choose different interactions that impact the game and income.
Mechanical 2021	4	Cooperative	Players need to conquer territories and promote sustainability through the construction of recycling plants.	Players must work together to complete tasks and defeat the oppressors.
N/A	Approx. 7	Cooperative	Players need to survive the flood as best they can.	Players are assigned characters acting under certain constraints. The game develops with the base narrative and the players choices.
Fishing Resources of Asturias Memory Game	N/A	Competitive	The game ends when all the cards are matched.	Standard memory game rules, but players must discuss the fish in the card to receive point.

Title	Game Assets
Water Ark	
Make it Green	

KEEP COOL	
N/A	
Catan: Global Warming	
GBGame	
Ocean Limited	
Mechanical 2021	
N/A	N/A
Fishing Resources of Asturias Memory Game	

Appendix B: Characteristics of Empirical Studies Conducted

Study	Type of Study	Number and Type of Participants	Data Collection Method	Data Analysis Method
Cheng et al. (2019)	Case Study (pre-text, post-test)	21 students (age from 18 to 20) years from an urban university in Taiwan.	Open-ended test, a five-point Likert scale questionnaire, game-action questionnaire and game record and random sample interviews	Inferential statistics (t test, effect size, correlation Pearson). Descriptive statistics was applied to find the mean and standard deviation. Qualitative analysis of data of interview answers
Dela-Cruz et al. (2024) Eisenack (2013)	Case study (post-test)	5 educators, 3 science specialists, 1 specialist in environmental sustainability and 2 game designers.	Questionnaire with four-point Likert Scale	Descriptive statistics (Mean)
	Case study (pre-text/ post-test)	70 Grade 7 students	Pre-environmental awareness assessment and pre-test; gameplay satisfaction survey, post- environmental awareness, and post-test	Inferential statistics (Test-Retest Reliability (Pearson's r, Spearman's rho, Cronbach's a), Shapiro-Wilk test and Levene's test. Applied Wilcoxon Signed Rank test) Descriptive statistics was applied to find the mean and standard deviation
Ho et al. (2022)	Case Study (pre-text/ post-test)	School students (age 15-18), and German university students (age 20-30) (Exact quantity NI).	Participant observation and facilitation experience. Qualitative email questionnaires	Qualitative analysis of data
Illingworth and Wake (2019)	Quasi-Experiment (non-digital game vs digital game group)	225 Taiwanese students aged 10 to 17 years	Questionnaire with five-point Likert Scale	Inferential statistics (paired sample t-test). Descriptive statistics was applied to find the mean and standard deviation
Juan and Chao (2015)	Case Study (post-test)	105 players of whom 65 participated in formal post-game surveys. Participants included members of the Manchester Game Studies Network and staff and students at Manchester Metropolitan University, and a variety of scientists at the European Geoscience Union 2018 General Assembly.	Open answers questionnaire	Descriptive statistics (sum and percentage)

Koenigstein et al. (2020)	Quasi-Experiment	72 vocational school students majoring in architecture (average age of 17 years old)	Motivation questionnaire modified from Keller's IMMS. Test to assess the learning effect of the game, a 20 multiple-choice question and two open-ended (calculation) questions	Inferential statistics of questionnaire reliability (Cronbach's α). Descriptive statistics was applied to find the mean and standard deviation. Inferential statistics for comparing the results of the two groups tests using a one-way ANOVA. Regression analysis to cross-validate the results.
Mergener and Kuhn (2022)	Case Study (post-test)	Young adults aged 14-25 from the German Baltic and North Sea coasts (Exact quantity NI)	Collected observations of player behaviour from game supervisors, oral and written player feedback, and teacher feedback and recorded results of the test games.	Qualitative analysis of data
Spyropoulos et al. (2022)	Ad Hoc	8 Brazilian school students (age 12 to 13)	Observation	Qualitative analysis of data
Torralba-Burrial and Dopico (2023)	Case study (pre-text/ post-test)	Nine university students in Crete (age 20–23).	Questionnaire	Descriptive statistics
Cheng et al. (2019)	Ad Hoc	More than a thousand Spanish primary education students (aged 6–12)	The answers of the students during the games and the comments they made about the fisheries and their sustainability, in a non-standardized way	Qualitative analysis of data

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The Effect of AI-Driven Personalisation in In-Game Advertising on Player Engagement and Purchase Intentions

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ABSTRACT:
In-game advertising has really taken off as one of the most exciting areas in the gaming world, especially with the help of artificial intelligence and player data that personalise ad content to individual preferences. When ads are relevant and blend seamlessly into the experience, they can greatly enhance player engagement and create a positive impression of brands, boosting their chances of making a sale. Navigating the world of data privacy and technology certainly presents its challenges, but we can rise above them by emphasizing transparent advertising and strong data protection strategies. This paper explores cutting-edge research to understand how artificial intelligence-driven personalisation in in-game advertising affects player engagement and consumer behaviour, all while maintaining a seamless user experience. It also highlights key ethical and regulatory concerns, particularly around data usage. According to the findings, making in-game advertising effective in the future hinges on adaptive personalisation, user control, and a commitment to privacy regulations.

KEY WORDS:
artificial intelligence, artificial intelligence-driven personalisation, digital games, in-game advertising, player engagement, purchase intentions.

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Introduction

The rise in the popularity of digital games can be attributed in large part to the availability of platforms and technologies for game delivery (Baltezarević & Baltezarević, 2018). Through digital games, businesses may reach a certain demographic, encourage engagement, and subtly convey messages (Tuten & Solomon, 2013). Game developers are able to make profit from their inventions by selling ad space inside their games. While advertisements are displayed in different ways, they all seek to grab the viewer's attention without interfering with the player's gameplay. With a 12% increase in purchase intent, in-game advertising (hereinafter referred to as IGA) is a popular choice for marketing campaigns (Shrestha, 2024).

Traditional marketing strategies are losing ground to digital ones. Nevertheless, strategies need to be well-thought-out and innovative, as only then will they be able to help companies stand out from the competitors in the current competitive market and elicit the right response from customers (Baltezarević et al., 2023). The games bridge the gap between individuals of different ages and interests; because of this diversity, advertisers can reach a large number of potential clients. Usually not skippable, in-game ads are a smooth part of the gaming experience. Because of the interactive nature of the games, players can focus on the constantly present advertisement. Ads can target particular consumers because games typically have predefined audiences. More effective advertising and a higher return on investment (ROI) are the outcomes of precise targeting options (Ptyonetim, 2024).

Nowadays, IGA is commonly utilised on a variety of gaming platforms, including consoles, PCs, and mobile devices. It provides services to a number of industries, including automotive and fast-moving consumer goods (FMCG), that use IGA to test novel marketing strategies and target certain demographics. The IGA industry is dominated by North America and Asia-Pacific due to their substantial gaming populations and high levels of digital ad spending. Additionally, as more people play mobile games, emerging economies like Brazil and India are seeing an increase in the market share of IGA ("In-game advertising market", 2023).

Providing a highly personalised gaming experience is one of AI's most revolutionary features in digital games. As more gamers seek out customised content, AI's ability to personalise gameplay, increase engagement, and enhance retention is becoming ever more significant (Ünal, 2025). By 2025, the worldwide IGA market is expected to generate over 125 billion USD. China will generate the most income globally, with an anticipated total of over 52 billion USD in 2025. IGA is increasingly being recognised globally as a key strategy for companies trying to reach younger customers who are interested in digital entertainment ("In-game advertising – worldwide", 2025).

However, there may be issues with consumer protection and regulations when AI is used in IGA. Transparency is a key problem, as is the case with many AI policies. The Federal Trade Commission (FTC) and other regulatory agencies stress the importance of unambiguous disclosures in advertising. The FTC has released guidelines (FTC AI Guidance) warning against overstated or unsupported AI claims and emphasising that dishonest behaviour may result in enforcement actions. In order to preserve consumer trust and comply with regulations, companies must make sure AI-generated content is accurate (AI-generated ads must not deceive consumers) and that any AI involvement in content generation is sufficiently disclosed (Palfreyman, 2025).

Nevertheless, AI-driven security features also aid in safeguarding player information and money transactions. Deep learning (DL) models examine player behaviour and financial transactions to check for indications of account takeovers, phishing, or illegal access. An abrupt shift in a player's behaviour, like logging in from an unfamiliar place or spending money in an odd way, can be immediately addressed by the AI. In those circumstances, the account might be temporarily blocked or require additional authentication. These flexible security solutions ensure that user data is safeguarded during marketing and gaming while also complying with privacy rules. Mobile game marketers now have strong capabilities to protect financial interests and preserve a reliable experience for players in the realm of mobile gaming, thanks to advanced fraud detection and security powered by AI (Playablemaker, n.d.). This study is examining how AI-driven personalisation in IGA affects player engagement and their purchasing intentions. It aims to answer these important questions:

- RQ1: How is player engagement influenced by AI-driven personalisation?
- RQ2: How significantly does personalised IGA shape players' purchase intentions and brand perceptions?
- RQ3: Which forms of personalised in-game ads (such as rewarded videos, contextual billboards, and dynamic offers) are most effective in driving player engagement and purchase intent?

This study takes a qualitative, literature-based approach to its methodology. Rather than offering new empirical findings, it synthesizes and critically assesses existing scholarly and industry sources related to artificial intelligence-driven personalisation in in-game advertising (IGA), player engagement, and purchase intentions. The aim is to outline the current state of knowledge, identify key trends, and emphasize theoretical and practical

insights that have emerged from previous research. By performing a thematic analysis of secondary data, this study responds to the proposed research questions (RQ1–RQ3) by incorporating diverse perspectives from academic journals, industry reports, and real-world case studies. This strategy not only enhances the theoretical framework of the study but also provides a structured overview of the latest developments in the field.

In-Game Advertising: Definition and Conceptualization

The term IGA describes the positioning of brands in gaming environments, usually as billboards, posters, or sponsor signage in racing and sports games (Chang et al., 2010). A more modern definition of IGA states that it includes integrating advertising content into already-existing digital games, including banners, product placements, content sponsorships, interstitial ads, and video ads (Welden et al., 2025).

Digital games can incorporate self-/cross-promotion in a variety of ways, with varying degrees of explicitness and integration. Examples include the straightforward placement of the company logo within the gaming context, as well as references based on associations with text, graphics, and the motivations of game developers and their games in magazines, posters, secret rooms, and in-game arcade machines (Mago, 2016). IGA first appeared in the computer game *Adventureland* (Adams, 1978) in 1978, and it was subsequently made commercially available in 1991. It contained a self-promotional ad for *Pirate Adventure* (Adventure International, 1979), the sequel (Tassi, 2011). Many people point (e.g. Marolf, 2007) to the Japanese arcade version of *Pole Position* (Namco, 1982) as one of the first games with commercial IGA. However, this format has undergone significant change, particularly in the last few years, as a result of digital games like *Fortnite* (Epic Games, 2017) in 2017 (De-la-Vara-López & De-Marchis, 2024). Recently, IGA shifted from basic static formats, like billboards and banners, to more lively, interactive, and tailored ads that adjust to the player's situation and behaviour. This change has been driven by enhancements in network connectivity, real-time ad delivery technologies, and cutting-edge data analytics, enabling advertisers to modify ads even after a game is launched and reach specific audiences more effectively (Gopinath, 2025). *Pokémon Go* (Niantic, 2016) has really made a splash by transforming real-life Starbucks locations into exciting in-game hotspots, which players call "PokéStops" and "Gyms". This clever move connects the physical world with fun digital rewards. Similarly, to enhance its visibility during gaming events, *League of Legends* (Riot Games, 2009) has partnered with Mastercard to showcase their branding on banners and billboards at esports venues, blending the digital and real worlds (Mahler, 2025). Likewise, Red Bull's promotions, such as "Red Bull Rampage", serve as another great example; while they are indeed sponsored content, they provide a more engaging experience instead of just plain billboard ads (Mathies, 2018).

Four types of in-game advertising can be distinguished: associative, illustrative, demonstrative and value placement. Associative advertising involves ancillary visual and aural components (such as billboards) and is straightforward product placement. Illustrative entails engagement without a close examination of the brand or product. Key characteristics of the product or brand are interacted with by the player in the demonstrative type. Value placement is the most advanced kind of advertising integration in digital games

(Klein, 2009). Integrating branded content into a game's setting is at the heart of value placement in IGA. The primary focus is to guarantee that it does not disrupt the gameplay and feels like a natural addition to the gaming experience for players. This type of advertising is viewed as an essential component of the gaming journey, enhancing overall enjoyment. It boosts brand visibility, encourages user interaction, and can even affect buying decisions, making it a promising route for advertisers (Figas, 2025). Generally speaking, a digital game will only use a few numbers of distinct forms of in-game advertising; the most popular and frequent type is associative in-game advertising (Mago & Knapcová, 2015).

These days, IGA strategies fall into three primary categories:

1. In-Game (either directly, indirectly, or by some other means, the advertisement is incorporated into the game).
2. Around the Game (although not being in the game environment, the advertisement is an element of the gaming community).
3. Away from the Game (gaming-related pursuits, eSports, or streaming companies' purchase of ads) (Palla, 2023a).

IGA should not be mistaken for digital game product placement in order to prevent confusion. For example, it would be incorrect to attribute to product placement the protagonist's ability to interact with others or to wear an aesthetically pleasing item that could distort their image, such as a Spiderman costume (Aliagas et al., 2021). It is crucial to differentiate between IGA and product placement, even if it can be difficult to distinguish between the two at times. A common strategy in digital games is product placement, which lets consumers interact with things in real-world situations and implies support when a fictional character or celebrity uses the product (Kuhn et al., 2004). Digital games created by marketers for users to play, typically for free, are known as advergames. They typically offer immediate prizes, are brief, and are simple to play (Redondo, 2012). While advergames are games created specially to promote a company or product, IGA entails inserting ads within already-existing, non-advertising games (Terlutter & Capella, 2013).

According to studies, IGA may be quite effective, and the fact that both men and women are altering their media habits makes it clear that digital games have potential as a marketing medium (Herrewijn & Poels, 2014). A sizable population of digital game players is the target market for IGA. Different gaming genres and age groups may find these advertisements appealing. The audience for games, particularly mobile games, is expanding quickly and includes players of all ages and backgrounds. For instance, millennials (ages 23 to 36) are the most active group of mobile gamers, while Gen Xers (ages 37 to 55) are the second-largest group. Playing digital games is equally common among Generation Z (16-22 years old). Indeed, IGA allow marketers to reach almost any audience in a fun and engaging setting without detracting from the user experience (Ptyonetim, 2024).

It is projected that the IGA market would increase at a compound annual growth rate (CAGR) of over 14%, or over USD 6 billion, between 2023 and 2028. Many significant factors have a direct impact on the market's growth and tendencies. The exponential rise in the number of gamers worldwide contributes to the demand for immersive experiences. Additionally, the expanding partnerships between marketers and digital game developers have resulted in innovative approaches to dynamic IGA that increase player engagement and open up new revenue opportunities. The business is being further stimulated by the increasing popularity of mobile gaming. These patterns highlight the industry's dynamic nature and the importance of creativity and adaptability in meeting shifting consumer demands and market trends ("In-game advertising (IGA)", 2025).

Among the AdTech companies that specialise in IGA, the following stand out and deserve to be mentioned: Through IGA, advertisers can reach a wide range of people thanks

to Bidstack (Great Britain). The company priorities an uninterrupted gaming experience. Israel's Anzu.io is an IGA platform that incorporates non-intrusive advertisements into gaming. To improve client viewability, the company takes advantage of real-time data and programmable technologies. A programmatic trading desk based in France called Gamned! provides multichannel programmatic campaigns. Finally, approximately 3 billion personalised advertisements are delivered each month by the Canadian company RapidFire (Figas, 2025).

Through a unique and engaging brand introduction, in-game advertisements can help increase brand recognition. IGA gives marketers the ability to monitor a range of metrics, which aids in campaign optimisation and enhances outcomes. In-game ads have the potential to improve user perceptions of brands and foster a favourable experience. Furthermore, in-game ads that are imaginative and captivating aid in the brand's ability to more successfully influence users (Ptyonetim, 2024). The partnership between *Fortnite* and Air Jordans is one of the most effective examples of IGA. Bloomberg claims that the collaboration included two new, limited-edition skins (downloadable character variations that consumers can purchase), wearing Air Force 1s in a range of colours, such as the Chicago Bulls' black and red and the Los Angeles Lakers' purple and yellow. It advertised a brand-new racing game option in *Fortnite* dubbed "Downtown Drop". These temporary promotions gave partners access to an advertising platform with almost 250 million registered users while also keeping the game interesting (Palla, 2023b). In collaboration with iion, LEGO employed in-game banner advertisements to engage its two target demographics: collectors who are adults and youngsters. A range of COPPA-compliant digital games were used by LEGO to display ads in order to reach an audience that overlapped with its core supporters and gamers. Featuring a variety of LEGO sets to increase product awareness, the ad improved resonance with its diversified audience and achieved a 94.76% viewability rate ("In-game advertising examples", 2024). GumGum x Frameplay, a recent in-game campaign for the Hershey brand, dramatically improved ad recall for the OH HENRY! candy bar. Frameplay supported the OH HENRY! creative for the Hershey brand in a variety of contextually appropriate game genres, such as simulation, sports, and casual games. With nearly +16 points more mobile ad recall and +18 points more respondents who enjoy OH HENRY! candy bar recall, the campaign for the brand surpassed industry standards and demonstrated greater engagement and persuasiveness to the target audiences (Palla, 2023b).

AI technologies that monitor and analyse user behaviour in virtual environments can create personalised content that subtly shapes emotions, thought processes, and decision-making (Pashentsev & Sebekin, 2023).

As IGA continues to expand, AI technologies have become essential, providing real-time personalisation, context-aware messaging, and dynamic placements. This development is expected to lead to a more engaging and complex user experience, which is a big step away from the usual static ads we are all familiar with. It can be said that IGA has evolved into a strategic avenue for brand marketing, as well as a source of revenue. The following sections discusses how AI is reshaping and advancing this field through personalised ad experiences, with the potential to revolutionize user engagement and customer behaviour.

The Significance of Artificial Intelligence in Personalised In-Game Advertising

The extensive consumer data may be used by advertisers to guide their decisions and develop closed-loop marketing strategies as the gaming industry undergoes ongoing change. Gamers' behaviour reveals criteria that should be taken into consideration by both game developers and advertisers. Insights from consumer data can assist in addressing crucial questions such as the most popular game features, retention problems or indicators, areas where new in-game features can boost profitability, and which game genres to target when advertising a specific product category (Pyschny, 2022). Even in the education sector, the power of AI-driven personalisation is evident: if AI is integrated into digital game-based learning (DGBL), learning is more likely to adapt dynamically to each student's performance (Baltezarević & Baltezarević, 2025).

AI-driven personalisation on gaming websites takes the form of many visible behaviours that might influence how consumers interact with the content. For example, the platform might offer a bonus when a certain algorithm detects that a player is about to log off or that the player has just gone through a losing streak. The offer is frequently delivered quickly through personalised messages, free credits, or time-limited promotions that give users a financial incentive to use the platform again. However, bonus offers can change based on the particular combination of time, value, and content, as well as the distinct behavioural profile linked to each user, thanks to AI algorithms (Mihai et al., 2025).

Interstitial advertisements, or pop-ups that appear in between gaming sessions or levels, plus content sponsorship, are other components of IGA strategies. Character customisation in multiplayer games is one example, usually accomplished through the purchase of items or skins (Welden et al., 2025).

By anticipating which incentives or promos players might find most appealing, AI-driven systems might improve the efficacy of in-game offers and notifications. AI can provide precise recommendations by examining a player's past purchases and gameplay. For instance, it can provide a package offer based on previous purchases or a special discount on an item that is frequently purchased. Gamers can view fewer messages that do not interest them thanks to this focused strategy. According to industry sources, push notifications that are personalised with AI can increase click-through rates by as much as 40% when compared to non-personalised messages (Playablemaker, n.d.).

Dynamic ad placement takes segmentation to the next level by customising ads in real time. It uses smart predictive analysis techniques such as collaborative filtering and reinforcement learning. The aim here is to figure out which ad content or offer will resonate best with a specific group or even individual. It bases its predictions on recent actions, such as in-game purchases or the player's current level or location in the game. For instance, collaborative filtering can recommend products or bundles by examining the behaviour of users who share similarities with you. Meanwhile, reinforcement learning plays a role in determining the best times and options for ads, which can greatly enhance engagement and conversions. These techniques not only make ads more relevant but also help steer clear of the common issues that come with generic or poorly timed ads (Wu, 2023).

In order to allow new players to enjoy the game uninterrupted, developers frequently display banner and rewarded video ads first. They usually increase the frequency of interstitial advertisements later on. Based on how players interact with advertisements, developers can even customise the ad experience. For instance, they might display fewer interstitial ads to certain players if they observe that they engage with rewarded ads more frequently. Gamers on mobile devices are growing increasingly intolerant of aggressive IGA. While excessive IGA may yield short-term benefits, it is a surefire way to fail in the long run. Aggressive advertising tactics have the potential to irritate users, which can result in a large number of unfavourable reviews and significant uninstall rates ("In-game mobile advertising", 2024).

For example, *Fortnite* brings personalised advertising to life through exciting in-game events and unique cosmetic items that cater to players' tastes and previous purchases. The game's AI keeps an eye on how players engage and tailors offers, like limited-time skins or emotes, to match each player's individual style. This strategy not only ramps up microtransaction sales but also improves the overall gaming experience. It is a clear demonstration of how AI-driven personalisation can shape consumer behaviour by generating a sense of urgency and exclusivity, which ultimately increases the chances of purchases in the gaming world.

The gathering and analysis of user data is necessary for personalised advertising, and incorporating AI into the mix may make data privacy issues worse. Following data protection rules is essential. Examples of these laws are the General Data Protection Regulation (GDPR) in the EU and the California Consumer Privacy Act (CCPA) in the US. To protect user information, businesses must get express consent before collecting data, offer clear opt-out procedures, and make sure strong data security measures are in place. Significant fines and harm to one's reputation may arise from breaking these regulations, particularly in Europe (Palfreyman, 2025).

The ability of AI for developing ongoing, personalised influence campaigns can "far exceed human potential" and launch "continuous psychological-propaganda operations" that are always active (Proroković & Parezanović, 2023, p. 13). This insight reflects IGA's concerns about AI-driven personalisation, where algorithmic decision-making could ensure constant targeted exposures, ultimately enhancing player engagement and buying behaviour. Finding a balance between personalisation and privacy will be necessary in the near future as AI continues to impact IGA. Improving user engagement but also ensuring ethical use of data are priority challenges that the industry needs to address.

Understanding Player Engagement in the Framework of AI-Driven In-Game Advertising (IGA)

IGA is a growing segment of the gaming industry that focuses on players who are totally immersed in their games. Effectiveness, however, may be hampered by obstacles like incompatible devices and limited game compatibility. Advertisers search for methods to seamlessly integrate promotions into digital gaming experiences in order to maximise user engagement. As computers and players devices continue to evolve, there is a great

chance to monetise gameplay and enhance player experiences through targeted and non-disruptive ad placements ("In-game advertising (IGA)", 2025).

To effectively benefit from this opportunity, it is critical to understand the multiple nature of player engagement, which includes emotional, cognitive, and behavioural factors that determine how players interact with both the game and in-game ads (Syrjälä et al., 2020). According to the theory of engagement in interactive media, it is really important to place ads in a way that flows seamlessly with the game. When ads enhance the user experience, they not only boost retention but also improve how players perceive the game ("Growth in mobile gaming", 2025).

Customer engagement refers to the interactions and connections between companies and consumers, with a focus on building relationships, providing bespoke experiences, and nurturing loyalty through a variety of channels (Singha & Mukthar, 2024). Consumer engagement is crucial for gaming because it boosts many important areas, including product development, marketing opportunities, and monetisation (Rutz et al., 2019). Recent investigations into monetization within creative sectors reveal how digital revenue models can influence user behaviour and the design of digital game content. This perspective enriches our understanding of the media effects related to monetization (Pravdová et al., 2023). This insight is especially relevant in the context of in-game advertising, where monetization strategies significantly affect player experience and engagement. For instance, rewarded ads that pop up right after a player completes a level can effectively extend gaming sessions and provide a rewarding feeling, all while ensuring that gameplay remains uninterrupted (Melucci, 2017).

In addition to making money from in-app purchases, app developers can improve user experience to increase engagement by rewarding video viewing or providing pertinent content through in-game ads (Shrestha, 2024). This advertising strategy incentivises players by rewarding them for viewing full-screen advertisements. Users can unlock new levels, more lives, cash, and other in-game benefits after completing a 15-30 second video advertisement. Players are increasingly choosing rewarded video advertisements over in-app purchases. Further evidence of the efficacy of incentivised video advertising in increasing user engagement comes from the fact that 62% of developers say their implementation has improved user retention (Ahmad, 2024). According to Tapjoy's "Maximum impact report", if a user interacts with just one ad in the first week, their chances of staying engaged with the app after 30 days jump by four times ("Maximum impact report", 2017).

With an overall score of 78 out of 100 based on metrics including ad viewability, ad perception, and engagement, in-game video was found to be the most successful ad format. An immersion score of 64 and an impression score of 90 resulted from this direct engagement (Rees, 2023).

Case studies reveal that when players can choose their preferred ad formats and the frequency of those ads is kept in check, it not only reduces fatigue but also maintains high retention and enhances long-term satisfaction ("Advertising and user", 2023). 75% of businesses utilising AI for marketing have reported higher levels of customer engagement, according to a McKinsey analysis. Ads targeting optimisation and content generation automation are just two examples of how AI is changing how companies interact with customers and gauge the success of their marketing campaigns ("How AI is driving", 2025). AI, which is the same technology that enables visual-linguistic question answering and automatically captions images with text, can assist in revealing the relationships between advertisements and context (Hou et al., 2017), thereby increasing the efficacy of advertising.

According to studies, consumers assess the efforts made by advertisers to influence them rather than passively absorbing advertisements (Hirschman & Thompson, 1997). This is illustrated by the Persuasion Knowledge Model (PKM), which Friestad and Wright developed. It makes the assumption that targets, such as consumers, will employ strategies to respond to and defend against persuasion attempts when they are exposed to persuasive information produced by the persuasive agents (Friestad & Wright, 1994).

Maximizing user satisfaction and monetization opportunities hinges on understanding player engagement in the realm of AI-driven IGA. When ads are contextually relevant, personalised to individual players, and integrated smoothly into the gameplay, they can enhance the overall gaming experience rather than diminish it. The advancement of AI technologies will greatly enhance ad placement, player targeting, and engagement measurement, creating a more engaging and user-friendly advertising landscape.

Purchase Intentions and Consumer Behaviour in the Context of AI-Personalised In-Game Advertising

Advertising may have an impact on consumers' perceptions, which may influence their desire to buy the advertised goods. The favourable attitude that consumers have towards the product or brand that is shown in the advertisement is another indication of their purchase intentions or positive brand behaviour (Punyatoya, 2015). According to eMarketer, around 75% of users will watch an advertisement in return for money or in-app purchases (Dillon, 2021).

Recent studies have revealed that the interactive features of IGA play a vital role in shaping brand perception and driving purchase intentions. This is particularly true when there's a strong connection between the game and the product. When these engaging ads tap into our emotions and intellect, customers are much more likely to follow through with a purchase (Fuad & Yaprak, 2025). According to a Gameloft study (Rees, 2023), viewers of advertisements longer than 15 seconds are 23% more likely to buy the product being promoted, whereas viewers of shorter adverts are just 14% more likely to do so. Additionally, advertisements lasting more than 15 seconds increased brand image (11% versus 9%), consideration (9% versus 6%), and awareness (10% versus 1% for shorter ads). A "symbiotic relationship between the campaign's creative and its context" (para. 3) is identified in the report. When both are used well, the emotion they evoke can result in the development of a 'moment' that can foster a deep bond between audiences and brands.

According to Mehrabian and Russell's (1974) Stimulus-Organism-Response (S-O-R) paradigm, an organism's (person's) internal sensations or behaviour are initiated by external stimuli. These internal stimuli processing, which includes perceptions and interpretations of the surroundings that affect a person's emotions and choices, can be conscious or unconscious. This impact also sets off a feeling that prompts a reaction. By applying the S-O-R theoretical framework, researchers uncovered that brand attitude acts as a mediator for the positive impacts of advertisement congruity, interactivity, and low

intrusiveness on purchase intention. Essentially, this indicates that AI-personalised ads work best when they are seen as relevant and unobtrusive (Anubha & Jain, 2024). Furthermore, interactivity in IGA has been shown to dramatically increase players' propensity to make a purchase. This is particularly true when people perceive a significant connection between the game environment and the advertised goods, as well as a heightened sense of presence (Hussain et al., 2022).

By closely monitoring each player's actions and previous purchases, AI personalises in-game deals and packages. Following its prediction of the most intriguing upgrades or products for a player, the system displays time-limited, targeted promos or exclusive offers. These strategies have been demonstrated to favourably affect players' inclinations to make purchases. The AI gains knowledge from each player's interaction with these offers and modifies future recommendations and timing to enhance outcomes. By doing this, AI is used to maintain a vibrant and healthy in-game economy. Offers that align with players' interests are displayed to them, sustaining consistent revenue generation while preserving player confidence and game fairness (Playablemaker, n.d.).

In accordance with research on online personalisation, users were more likely to make a purchase when presented with time-sensitive offers that corresponded with their behavioural profiles. This suggests that the same kind of factors might be influencing choices in games too (Mihai et al., 2025). Additionally, studies using flow theory among Gen Z gamers demonstrate that when combined with immersive IGA formats, enjoyment, focused attention, and telepresence are favourable predictors of purchase intention (Jalil & Arif, 2022).

Purchase intentions have shown to be greatly affected by AI personalisation in IGA. Advertisements need to be subtle, relevant to the context, and emotionally engaging. When brands merge behavioural data with immersive and interactive advertising experiences, they can successfully turn interest into action and build lasting relationships with consumers. Adaptive, non-disruptive personalisation must be further refined to meet players' evolving needs and enhance their gaming experience.

Discussion and Conclusion

Digital environments for digital games are becoming more and more immersive and powerful, which has been greatly contributed to by AI, which has emerged as the new heart of shaping and improving IGA. The integration of AI into digital gaming ecosystems has not only changed the way ads are delivered but also transformed the very nature of user interaction and engagement. Real-time data analysis is achievable with the help of AI, thus enabling dynamic adaptation of content and hyper-targeted marketing strategies. In this way, ads can be fluidly adapted to the individual preferences, emotional states, and behaviour of the players. AI-driven IGA (when implemented effectively) can become a dynamic, engaging, and seamless method for connecting marketing professionals with players (while not interrupting the gaming experience).

This progress has many implications. Marketers and game developers can really take advantage of the increased monetisation opportunities that come from strategically placing ads in virtual environments. Whether billboards, branded in-game items, or award-winning video content, having that advertising space can significantly enhance revenue streams. This is particularly relevant as the fatigue of being constantly bombarded with traditional ads continues to grow and thus causes the opposite effect. Gamers, nowadays, increasingly expect personalised experiences with added value. Also, user

dissatisfaction can occur when ads are poorly integrated or too aggressive. While great progress has been made in reducing intrusiveness through more seamless and interactive formats, finding the balance between irritation and engagement remains a central challenge.

To directly address the research questions we raised earlier in this paper, the review uncovers several key insights. To start with, AI-driven personalised advertising in games is making a big impact on user engagement. It delivers ads that are not only super relevant but also aware of the context, which really boosts the gaming experience and monetization potential. The behavioural effects of these tailored ads are obvious, they encourage higher purchase intentions and enhance brand recall, especially when they are integrated smoothly and customised to fit players' preferences and skill levels. In conclusion, the review sheds light on crucial ethical and regulatory issues, emphasising the importance of transparency, compliance with data privacy laws, and giving players the power to manage their advertising experiences. This is essential for fostering trust and promoting long-term engagement. By bringing together existing research, this study deepens our understanding of the varied role AI plays in in-game advertising and provides insightful directions for future research and industry practices.

AI's application in IGA has a big impact on how customers behave and interact with brands. Ads that are personalised and interactive, crafted to align with the the interests, context, and skill levels of players, have been found to greatly enhance brand recall and encourage purchasing decisions. Yet, the same strategies that enable this level of precision targeting also raise important regulatory and ethical issues. Developers and marketers must comply with ever-tougher data protection laws (including the CCPA and GDPR), which demand responsible data handling, transparency, and user permission. Failure to comply with the regulations not only results in legal penalties but can also undermine user confidence and thus damage the brand's reputation.

Future directions in AI-driven IGA, from a design and strategy standpoint, are likely to prioritise three key areas: adaptive personalisation, ethical innovation, and how much control players have over decisions that affect gameplay and the game's narrative. AI is paving the way for more accurate behavioural segmentation and the delivery of contextual ads, which will enhance ad relevance and minimise disruptions. By giving users more control over their ad experiences, like letting them choose their favourite ad formats or decide how often they see ads, we can really enhance their satisfaction and build long-term loyalty.

As AI-powered personalisation and neuromarketing strategies continue to evolve at a breakneck pace, we're starting to see a variety of ethical challenges emerge in the world of in-game advertising. These challenges often focus on the use of emotional triggers, biometric responses, and behavioural cues, which can easily cross the line from acceptable advertising into manipulation (Goncalves et al., 2024). This situation prompts crucial discussions about informed consent, personal autonomy, and the dangers of preying on vulnerable users (Alsharif et al., 2025). It's essential for future research to look into ethical frameworks and regulatory measures that promote transparency, offer meaningful opt-out choices, and ensure responsible data practices.

Moreover, it is becoming increasingly crucial to use AI in advertising in an ethical manner. Maintaining user trust hinges on being open about how personal data is handled and having solid feedback systems in place. As the gaming industry continues to change, it's becoming increasingly important for digital game developers to collaborate closely with marketing and AI professionals. Aligning monetisation strategies with players' genuine experiences is key. For marketers, this means stepping away from outdated, static messages and embracing livelier, context-aware interactions that respect the gaming

atmosphere. The challenge, however, is to create ads that feel like a natural part of the digital gaming experience rather than an interruption.

In summary, AI-driven personalised advertising in digital games is a revolutionary advancement in digital marketing and interactive entertainment. If personalised advertising is executed thoughtfully, it can truly resonate with consumers while keeping their gaming experience smooth. As the industry continues to advance, its effectiveness will be shaped by not just technological innovations but also by ethical considerations, a focus on user-centred design, and compliance with regulations. In the future, IGA plans to integrate technology, creativity, and responsibility even more effectively, creating engaging personalised advertising experiences in the vibrant world of digital play.

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From Chronicles to Quests: Integrating Historical Sources into the Digital Games *Kingdom Come: Deliverance*

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ABSTRACT:
This study examines how Warhorse Studios achieves a balance between historical accuracy and an engaging gaming experience in the *Kingdom Come: Deliverance* series. The aim of the research is to identify key aspects that have managed to maintain the highest degree of verifiable authenticity in game development, reveal areas where significant compromises have been made to enhance playability, and describe how narrative design integrates the aesthetic and interactive aspects of the game world. The methodology combines selected methods of logical analysis, a qualitative method using semi-structured interviews with developers, and the study and analysis of expert sources focused on historical games. The study shows that Warhorse projects emphasize in-depth research of historical sources, from topography and urbanism to sacred buildings and ethical and cultural patterns of everyday life, with consultations with internal and external historians. At the same time, it demonstrates that certain game mechanics, such as fast travel, visual guidance of the player, and simplification of dialogues and clothing details, are necessary for smooth and intuitive interaction. By incorporating fictional stories into the gaps in historical records, the narrative design shows how factual boundaries can be preserved while offering dynamic player freedom.

KEY WORDS:
accuracy, authenticity, digital games, *Kingdom Come: Deliverance*, ludoforming, medievalism.

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Introduction

In the field of historical digital game development, we often encounter a dissonance in the goals of creators. On the one hand, there is a desire to achieve a faithful and detailed reconstruction of the past, while on the other hand, they are limited by the need to create an entertaining and financially successful product. Strictly adhering to historically accurate elements or complex political or cultural contexts can be incomprehensible or monotonous for players, while excessive action elements or fiction can compromise authenticity. A successful designer must therefore find a delicate balance between historical verifiability and an engaging gaming experience, so that the game not only educates but also entertains and delivers the expected commercial success. This dissonance can result in the reduction of complex social, political, or cultural phenomena to simplified mechanics, which increase the level of interactive enjoyment but undermine the authenticity of the period setting. The role of the designer and producer is therefore to balance the accuracy of historical representation with the attractiveness of the game mechanics and narrative. The goal is for the final product to ensure not only educational value and credibility, but also commercial success and emotional engagement for a broad player base.

The narrative and conceptual setting of games in historical periods has proven to be a successful approach in various game series. For example, the *Sid Meier's Civilization* series (MicroProse et al., 1991-2025) captures key events in evolution, while

the *Assassin's Creed* series (Ubisoft Montreal et al., 2007-2025) incorporates modes such as "discovery tours" into its games ("Assassin's Creed Discovery Tour", n.d.). These highlight the historical aspect of the game and add an educational character to a game that is not primarily educational. However, these are still elements that are only added value in worlds with many fantasy mechanics that distort the audience's perception and ideas about historical phenomena. Such games use selective authenticity, which mixes historical representation with audience expectations. Zimmermann (2021), in the context of historical digital games, points out the essential difference between accuracy and authenticity. According to him, it is the feeling of authenticity that ultimately decides whether a player accepts a game as an authentic representation of a given period. Accuracy is only a means of increasing the likelihood of a feeling of authenticity (Zimmermann, 2021). Game design with selective authenticity focuses primarily on feeling and experience rather than strict accuracy, choosing which historical elements to use and which to omit (Salvati & Bullinger, 2013).

However, in addition to game series with fantasy elements, there are also games that strive to preserve the accuracy of cultural realities as much as possible. Ambitious projects include games from the Czech studio Warhorse Studios – *Kingdom Come: Deliverance* (Warhorse Studios, 2018; hereinafter referred to as KCD1) from 2018 and its sequel *Kingdom Come: Deliverance II* (Warhorse Studios, 2025; hereinafter referred to as KCD2) from 2025. The game developers are known for distancing themselves from fantasy elements, which has been a characteristic feature of their marketing since the launch of their Kickstarter crowdfunding campaign for the first game.[1] In addition to raising additional funds for development, the campaign also allowed for market research and gauging the interest of a potential future audience in a historically accurate game set in the Czech Kingdom at the beginning of the 15th century:

> Our investor is strong and capable of funding the complete development of our project. But he does not follow the game industry very closely and needs proof that publishers and marketers are wrong about our game – that you are indeed interested in a mature, medieval RPG that emphasizes freedom and authenticity. And so we stand, as a studio, at a crossroads. Either those naysayers are right, and there truly is no desire for the game we are making, or we are right. Either way, we think Kickstarter is a great way to find out. (Warhorse Studios, n.d., para 6)

For investors and creators, making historically accurate games is a risky move because of their smaller fan base. According to Houghton and Alvestad (2021), authenticity and accuracy in representing the Middle Ages in media works face several limitations. The first is that creators' ability to create historical replicas is limited by the need to create an entertaining and often profitable product. Creators are also limited by constraints arising from genre conventions, media format, and audience expectations. According to data from 2025, up to 65% of players of KCD2 on Steam also played *The Witcher 3: Wild Hunt* (CD Projekt Red, 2015), more than 50% also played *Cyberpunk 2077* (CD Projekt Red, 2020) and *Elden Ring* (FromSoftware, 2022). Almost 49% of players also played KCD1, 46% played *Baldur's Gate* (Larian Studios, 2023), and almost 38% played *The Elder Scrolls V: Skyrim* (Bethesda Game Studios, 2011) (Elliott, 2025). The survey shows that a large proportion of players are experienced fantasy gamers, and therefore the absence of fantasy elements may have reduced interest in the game among the target audience.

1 Remark by the authors: One of the distinctive features of the game highlighted in the campaign is the antithesis: "Dungeons & no Dragons" (Warhorse Studios, n.d.), which refers to the well-known fantasy tabletop RPG *Dungeons & Dragons*.

The campaign's goal, which was to confirm the audience's interest in the game by raising 300,000 GBP, was achieved by the authors within 36 hours ("Kampaň na Kickstarteru", 2014). Both games were commercial successes, with KCD2 aspiring to the prestigious Game of the Year award (Grantham, 2025). A comparison of the sales of fantasy titles and KCD2 shows that historical games still do not achieve the same sales as fantasy games (Elliott, 2025). Nevertheless, they find their audience and compete with top games in prestigious world awards, such as the aforementioned Game of the Year. Communications Director at Warhorse Studios, Stolz-Zwilling, states in an interview that although the game remains as authentic as possible, some aspects have to be exaggerated or simplified in order to tell the story (Osborne, 2025). The aim of this study is to identify which aspects of the game show the highest degree of accuracy, which aspects had to be modified in order to maintain entertainment value, and how the narrative design, which forms the link between the aesthetic-visual and interactive parts of the game, was approached. The methodology combines selected methods of logical analysis, the study and analysis of academic sources focused on historical games, and a qualitative method using a semi-structured interview with Martina Daněk,[2] a quest designer at Warhorse Studios, who has worked since 2020 on the game KCD2.

The first chapter presents the theoretical foundations of historical game development. In four subchapters, we walk through the process of creating both *Kingdom Come: Deliverance* games. The first subchapter looks at historical game development at Warhorse Studios. The next three focus on authenticity in individual parts of both *Kingdom Come: Deliverance* games: visual, interactive, and narrative.

Authentic Historical Game Design

The process of incorporating historical facts into the game world is referred to by Bazile (2022), as "historiographical game design" (HVG) (p. 859). Unlike selective authenticity, which combines historical facts with audience expectations that are not always accurate, the HVG model is characterized by prioritizing historical objectives over purely gaming or entertainment elements. In practice, this means reorganizing power relations within the creative and decision-making process, in which the historian becomes the decision-maker. In addition to management and strategic decision-making, historians ensure that historical and ludic mediation are mutually aligned, thereby preventing conflicts between historical accuracy and playability (Bazile, 2022). The involvement of historians in the game development process is an established and legitimate practice used by some big companies, e.g. Ubisoft. In some other cases, *histgameconsulting*, as Mochocki and Kot (2024) refer to the process of historical consultation for digital games, involves external collaboration only for fact-checking purposes. In other more unique cases, it may involve internal involvement and the employment of a historian.

The educational potential of historical games has also deepened cooperation between academia and game developers (Mochocki & Kot, 2024). Historical accuracy in the *Kingdom Come Deliverance* games is based also on the creators' interest in researching

2 Remark by the authors: As part of the creative process, she created quests, devised the circumstances in which the quests take place and wrote dialogue between characters. We would like to thank the respondent for her helpfulness, willingness to share her experiences, and time spent on the interview, which enriched the content of this work with valuable practical insights.

and studying historical sources to ensure accuracy, while also verifying and consulting reconstructed elements with historians and specialized experts (Pilous, 2018). To this end, Chapman refers to developers who create meanings about the past through digital games as "developer-historians" (Chapman, 2016, p. 15). This thesis is also confirmed by historian Petr Čornej,[3] who stated in a documentary film about the creation of KCD1 that he did not believe in the project at first and considered it more of a lucrative commercial project that would ultimately only scratch the surface. However, he was ultimately intrigued by the setting in the Hussite period and the creators' knowledge of the details available at the time. According to him, some of them were so deeply immersed in the subject matter that they knew details that he himself had overlooked (Vortex, 2025).

Despite the similarities with the work of historians in presenting history, Chapman (2016) points to obvious differences between developer-historians and professional historians. He sees them in the differences in goals and interests, in adherence to professional standards, and in job responsibilities. The combination of development and the complex historical research required to create a historically authentic game world has revealed the existence of time and personnel constraints. According to Bittner, game designer at Warhorse Studios, a professional historian has years to devote to researching a very narrow topic. This could be, for example, researching patterns on pottery from the period 1400-1415 in a specific area. However, the developers had to complete everything in a much shorter time frame with far fewer people. Despite these limitations, he considers the game to be historically very valuable: "I dare to say there is no more historical accurate game on the market and it's the closest you can get into the 15th century" (Domingo, 2024, para 6).

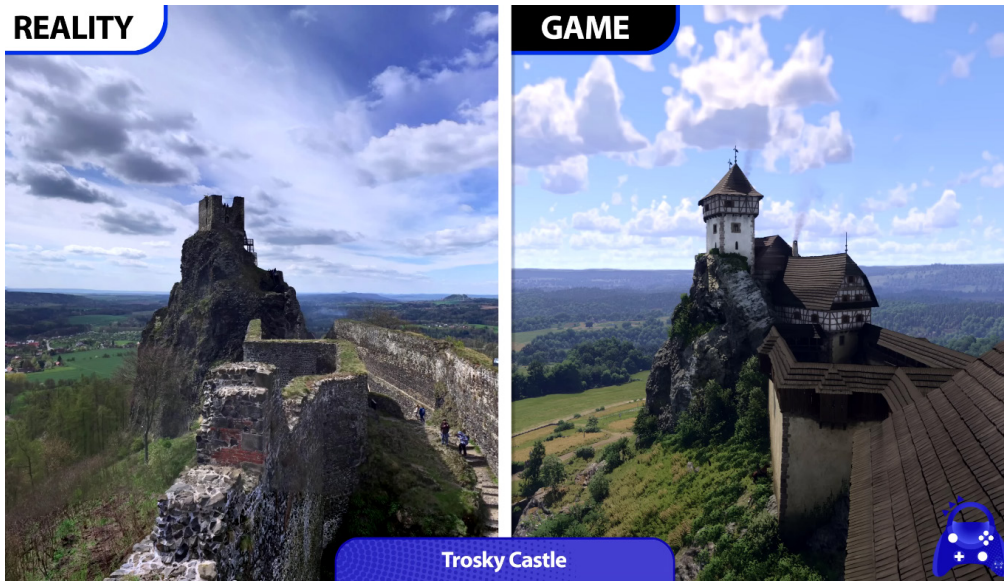
As part of the preparation of the game environment, it was necessary to carry out extensive research focused on the historically accurate depiction of real-life locations. Given that the game is set in an authentic geographical and historical context, the research had to cover a wide range of aspects. It included the topography of the region, the historical development of individual settlements, including their founding and ownership, as well as the approximate number of inhabitants, which was crucial for designing the size and structure of settlements, e.g. the number of houses. Church buildings were also taken into account – their location, significance, and whether local residents attended services in their own village or travelled to more distant churches. All these factors influenced the narrative and visual layout of the game world.

The placement of *Kingdom Come: Deliverance* games in a historical real environment can be described as a process that Aarseth (2019) refers to as *ludoforming*. In his more detailed definition, he describes it as a specific phenomenon that is not entirely identical to simulation, remediation, or adaptation. It is a game-motivated modification of spaces in which the landscape is "recreated" or changed to better serve the game's objectives. This creates a game topology that may not be faithful to the original but must be functional in the game context. Ludoforming creates a paradox where players know the history of a place better than its present.

Many of the real places that served as models for locations in the game are adapting in the real world to the increased tourism brought about by both games. For example, at Trosky Castle, the administrators have prepared boards with QR codes for visitors at

3 Remark by the authors: Petr Čornej is a Czech historian and professor emeritus at Charles University in Prague, specializing in late medieval history, particularly the Hussite period and historiography. He has published several academic publications and textbooks for secondary schools, for example *Tajemství českých kronik* [The secrets of Czech chronicles] (Čornej, 1987), *Historie českých zemí. Ilustrované dějiny* [History of the Czech lands. Illustrated history] (Čornej, 1999), *České dějiny. Výpravná historie českých zemí* [Czech history: An epic history of the Czech lands] (Čornej, 2012), *Spory o Jana Žižku 1424-2024* [Disputes over Jan Žižka 1424-2024] (Čornej, 2023) and others.

various locations, where they can compare the current location with its digital game version in the past (Klimša, 2025). According to Pýcha and Váňa (2024), this game space is better known than the actual physical space that serves as a template for the game. At the same time, this virtual space accelerates the understanding of history in public space. A demonstrative example of how real-space-based ludoforming contributes to this understanding of history is the participatory creation by players on social networks, e.g. in the form of comparisons (Picture 1).



Picture 1: Comparison between real and in-game visualizations of Trosky Castle
Source: the authors' screenshot from the video by ElAnalistaDeBits (2025)

Given that many game titles allow interactivity with historical realities or create a deeper bond with the player through immersion, they are rightly referred to by some authors as virtual museums (cf. Politopoulos et al., 2019; Vandewalle, 2023). As Peterson et al. (2021) point out, digital games display historical artifacts in detailed visual and textual form and go beyond passive demonstration by allowing the player to actively manipulate the realia of the historical environment typical of that historical period. Unlike other media, simulation in digital games provides space for experimentation and hermeneutic verification of the functionality of artifacts, promoting a deeper understanding of the characteristics of people, places, and circumstances. Accurate rendering of cultural realities can thus serve as an important mediator of history, especially for younger generations. This approach is also confirmed in the document by the historian Čornej, according to whom accurate depictions based on real foundations, where historical facts are not distorted and developers follow trends in research on the 15th century, can be one of the ways to bring historical periods closer to young people (Vortex, 2025).

Warhorse's Research for Authentic Historical Game Design

As Daněk stated, historical research related to the development was extensive and comprehensive. It included examining chronicles of settlements, records of what was built and when, other historical sources, and professional literature, e.g. by Čornej. All of this knowledge inspired the creators in how to build the world and focus on practical questions: "How will these people behave? How will they dress? What exactly will they have in their homes and how will their homes be furnished in terms of personal property? How many clothes will there be in a chest and will there be anything else in the chests besides clothes?" (M. Daněk, personal communication, May 29, 2025).

The town of Kuttenberg was a specific chapter of the research. It was necessary to respect its historical appearance from the period after the siege, which meant incorporating elements of partial damage to the urban structure. Particular emphasis was also placed on the composition of the town council – the so-called Kuttenberg Council of Consuls (M. Daněk, personal communication, May 29, 2025).

The developers had to find out who sat on the council at the time, what positions they held, what their names were, and, if possible, how old they were, so that the developers would know whether to portray them as young men or, conversely, as dignified older gentlemen. The research of historical facts was therefore very thorough, and where the creators had verifiable sources, they tried to use them as much as possible and as faithfully as possible to reality (M. Daněk, personal communication, May 29, 2025). The historical research was led by Nowak, an in-house historian at Warhorse Studios who has been involved in the development since the first game. Daněk (personal communication, May 29, 2025) states that Joanna Nowak supervised the development and accuracy throughout the entire process. At the same time, the designers approached their internal historian with their ideas in advance to avoid later corrections, and if something needed to be adjusted for the sake of playability, they discussed how this could be done.

The credits for KCD1 include 30 experts and organizations that participated in or assisted with historical research, including internal historian Nowak. The second iteration includes up to 47 consultants and experts who participated to ensure accuracy in the game. However, according to Bittner, research alone is not enough to create a game, and the challenge lies in using historical knowledge and shaping it into a playable and immersive world, which may require a compromise between accuracy and entertainment (Osborne, 2025). When asked whether anything had been changed in favour of playability, which had received negative feedback from historians, Daněk replied (personal communication, May 29, 2025) that many people appreciated the creators' thorough attention to even seemingly minor details in their historical research, as well as the fact that all elements in the game were based on facts.

In cases where something appeared in the game that might surprise a casual player unfamiliar with the period, they were able to demonstrate that it was historically possible and justified. One example is the character of Jan Hus, with several players asking what he was actually doing in medieval Bohemia and why he would be interested in this environment, given that the majority of the population was Christian and he himself professed a different faith. It might seem unlikely, but the creators researched the situation and confirmed that it fits into the historical context. Similarly, many were surprised to see

characters with different sexual orientations in the game. Although this was considered taboo at the time, it does not mean that such people did not exist. Quite the contrary. They were present and accordingly found ways to live, albeit often in secret. The creators again backed up these facts with historical sources. If anyone objected that such behaviour would have been immediately exposed and punished, research showed that the reality was often more complex. Overall, the creators received mostly positive reactions, and the respondent does not recall any criticism from historians. On the contrary, they received feedback such as, "It's great that you included this and backed it up with thorough research" (M. Daněk, personal communication, May 29, 2025).

Visual and Aesthetic Authenticity of the Game World

Of the individual parts of games, the visual and aesthetic part is the first that players encounter. As Schell (2020) points out, emphasizing the role of aesthetics in the creation of digital games, developers do not create designs solely for game mechanics, but also for the overall experience. The goal is to create a world with a certain atmosphere that is difficult to describe but is based on how visuals, sounds, music, and game mechanics complement each other. A game with this balance can make the game world feel solid, believable, and spectacular.

Setting the game in a historical period allows for the creation of imaginary barriers that clearly define the sources of inspiration for obvious cultural elements such as architecture, clothing, armour, weapons and combat methods, fauna and flora, social hierarchy, heraldry, ways of spending time, crafts, and others, as well as intangible elements and symbols of culture. The more precise the time frame, the more specific the requirements for the created elements. According to Joanna Nowak, the design of the visual elements was preceded by preliminary research focused on contemporary production processes: "We designed not only the aesthetic elements of the medieval world but also paid close attention to how things were made in the past: what materials were used, and the types of construction methods, techniques, colours, and overall craftsmanship" (Osborne, 2025, para. 9).

The authors focused on various important details that resulted from the availability of materials and colours, or manufacturing processes. However, in terms of game design, the creators sometimes had to compromise on these details. Daněk cites as an example the use of certain materials that ensure sufficient visual variability of characters in the village environment. Player navigation in the game world must be smooth and natural, and in some situations, it is necessary for the game to clearly indicate which character the player should look for, for example through a description such as "wearing a red coat". However, according to historical sources, such clothing would not have been common at the time, as red dye was a costly commodity and villagers would not have worn such a coat during a normal working day (M. Daněk, personal communication, May 29, 2025). Despite minor concessions to playability, however, the designers had to pay attention to detail. According to Bittner, the more details a designer adds that are not authentic, the more players begin to sense inaccuracy, even if they do not know exactly what is not accurate (Osborne, 2025).

According to Bogost and Klainbaum (2006), what makes the environment authentic in some game titles is a more complex understanding of place. This is not based solely on the physical attributes of places such as specific buildings or streets, but also on the inclusion of cultural codes and popular symbols. As Champion (2011) elaborates, this more complex understanding can be described through the concept of "sense of place", which refers to the player's embodied and cognitive perception of being situated within a coherent and meaningful environment. A convincing sense of place is not achieved merely through visual realism or architectural accuracy, but through the interplay of spatial design, player interaction, and cultural meaning. It emerges when the environment responds to the player's actions, when spatial cues and social dynamics evoke an awareness that a location is not merely a backdrop, but a living and culturally grounded world. In historical games, this sense of place connects visual authenticity with procedural and narrative design: the player's ability to move, act, and be recognized within a space reflects how the game models historical experience and cultural belonging.

However, this part of the creation must also be complemented by intangible cultural elements. For example, the reactions of non-playable characters in the game to the appearance of the player's character. Through non-playable characters, the game world reacts to the character's current clothing and determines the player's social status based on it. This intangible aspect reflects the charisma mechanic, which is determined by the hero's reputation and clothing. Charisma plays an important role in situations where the player needs to convince someone or advance to a certain location, for example, if the player cannot attend a wedding until they find decent clothes. According to Daněk, this is also a tool to occasionally force the player to change the character's clothing. However, it is still the player's decision, so it is only sporadic coercion (M. Daněk, personal communication, May 29, 2025).

Interaction Authenticity

Interactivity is a unique means of understanding artifacts and context that digital games enable. Digital games allow for immersive interaction with the past in ways that other modern media do not, and they largely immerse players in their medieval and medievalist worlds (Peterson et al., 2021). According to Lind (2022), for players, authenticity is much more about how the gameplay matches the player's expectations than whether it matches the original reality. The audience's expectations are not only directed at the reconstructed historical message itself, which may be subject to tropes and stereotypes about the period, but also at the medium that conveys it. As Houghton (2018) points out, the interactive nature of games means that the authorship of a game is never the monopoly of its designers. The authorship of games, as well as other media content, must be viewed from two perspectives. Through the prism of the author, who creates their work intentionally and is the only one capable of interpreting it and giving it meaning; at the same time, the work is always interpreted and given meaning in each individual act of reception by the player, regardless of what the author intended to say at the moment of creation (Heinemann, 2021). According to Daněk, Warhorse developers wanted to allow players to customize their characters. She further explains that in KCD2 players can choose whether their character will be evil, an outcast, a murderer who robs everyone, or a good Christian who helps everyone. The game world responds to this but cannot prohibit the player in any way. If the player comes up with anything, the world should allow them to do so, even at the cost of the consequences of their actions (M. Daněk, personal communication, May 29, 2025).

Games evoke expectations of entertainment in recipients, which is ensured by a sense of immersion. This is often based primarily on the visuality of the game environment, objects, or characters. However, the confrontation with the possibilities of action within the game structured by its mechanics reveals that representation extends beyond visual or narrative means. Game mechanics themselves serve as models that interpret and simulate aspects of the past through systems of rules, affordances, and constraints. As McCall (2023) argues, historical games make procedural arguments about history: they do not merely depict the past but invite players to engage with historical processes and decisions through play. Similarly, Bódi (2022) emphasizes that the ludic agency afforded to the player determines how history is experienced and understood. The player's capacity to act is embedded within a framework of designed limitations that reflect particular interpretations of social order, morality, or power. In this sense, the mechanics perform a representational function by shaping the player's understanding of what actions were possible, acceptable, or consequential in the depicted world. These perspectives suggest that in historical digital games, mechanics are not neutral instruments of play but act as representational devices that embody specific viewpoints on history. Entertainment and historical representation therefore coexist not in opposition, but in the procedural logic of play itself. The player's engagement with the game world is thus mediated by both the rules of play and the technical affordances of the medium, which together define how the past can be experienced, simplified, or transformed into interactive form.

In the case of *Kingdom Come Deliverance* games, we can find several examples where the limitations were not only entertainment value, but also the technological limitations of the medium. Nowak states that the biggest compromises in the game are time and space, which are two fundamental components that give us the feeling of being present in the game. According to her, time must always be altered in games because they contain accelerated elements such as fast travel[4] or skipping the sleep mechanic (Bloody Heart of Europe – History Podcast, 2025). Waschka, who collaborated on the design of fencing in KCD1, cites a strike from a guard position as an example of such a technological limitation, which in reality can be read by an opponent from micro-movements. This reading is not possible through the screen, so the game designers adapted the gameplay so that both the player and the attackers have to react to a technique before it is executed. This also allowed for the addition of special blocks and combos linked to the timing of movements (Vančo, 2024). These necessary design modifications illustrate how mechanical and technological constraints become part of the game's representational logic. The resulting systems not only enable playability but also model the sensory and physical mediation of medieval combat, turning practical limitations into procedural expressions of historical experience.

Narrative Authenticity

History in narrative form faces the greatest obstacles to interpretation. It is in this regard that authors agree on the subjectivity of history, which is more a process of 'shaping' the past into something meaningful, a process that depends on the data selected and how that data is assembled (Elliott, 2017). They can be shaped by the personal opinions,

4 Remark by the authors: Game worlds, especially those with open worlds, may contain locations that are too far apart due to the size of the map. One solution is fast travel, which allows you to select a point on the map and teleport there almost instantly. These are usually points that the player has already visited (Dhule, 2022).

perspectives, imagination, and interests of their creators and historians. The staging of the past in popular media and even in modern museums is completely different from academic history, as these popular representations are designed to evoke emotional responses from the audience in order to exploit the gaming public imagination (Heinemann, 2021).

Although academic research or popular interpretations of events in any format can provide credible versions of events, they can never reliably reconstruct the past. "It is impossible to recreate the past as our knowledge is inevitably incomplete. Sources do not survive; those that do distort events to suit the goals of their authors" (Houghton & Alvestad, 2021, p. 3). At the same time, however, the incompleteness of historical evidence and information allows media content creators to cross the boundaries of reality and, in line with their goals, fill in the gaps in the facts with creative fiction. Such is the case with the inclusion of character Jan Žižka in the narrative of KCD2. Capwell, a historian and weapons expert, said in an interview with Jewitt that, as with many medieval figures, there are gaps in the historical facts surrounding Žižka. This is particularly true of what we know and do not know about his life in the first decade of the 15th century. According to Capwell, he lived a life similar to that of Robin Hood, as a bandit and a kind of mercenary, which the game's creators used to fabricate a story without compromising historical accuracy:

> So it's really clever of the game to put its story into that gap in the historical record. That's when kind of historical fiction is at its best. When it's totally working within what we know, but it's trying to move towards we don't know. Trying to reveal something, put some light into the dark parts of the past. You know they don't have to worry about contravening the historical record. They have quite a lot of freedom to tell a story in the game because this is a period in his life when not a lot is known. (EXP, 2025)

Žižka's way of life has been documented by several historians, but the reason for the loss of his first eye during his youth remains unknown (Čornej, 2019). The creators of the game KCD2 decided to fill this gap. Bittner says that historians have the privilege of saying "I don't know" but when creating the world of a digital game, you cannot say that (Osborne, 2025). The game uses this absence of information as space for fiction. This is not information that is essential to the story, but rather space for the creative development of the historical narrative. Even if the real cause is unknown, its inclusion in a digital game can distort the perception of the characters' lives. However, there is no clear evidence to rule out such fabrication.

According to Sweeting (2019), the unique way in which digital games engage players in history is a potential strength. At the same time, however, it can weaken the understanding of history, because games inherently require player input, and their presence and activities in the game must be taken into account in the historical narrative. Therefore, large fictional stories are interwoven with broad historical narratives to make this possible (Sweeting, 2019). According to Daněk, it was also essential in the reconstruction to show how people thought at the time, what troubled them, and how this was linked to religion, which played an important role in their lives. The developers' intention was to show that people often faced similar problems to those we face today (M. Daněk, personal communication, May 29, 2025). At the same time, historical stories are limited by historical facts, which had to be taken into account when creating the game story. An example is a part of the game KCD1 where the player can enter a monastery. A historian pointed out to the design team that in 1403, it would not have been possible for anyone other than a monk to enter the building. Therefore, the design team had to come up with reasonable excuses or reasons why the player could enter the monastery (Iwaniuk, 2016).

The reception of messages is also influenced by the use of language in historical narratives. According to Bhat et al. (2023), the language used can influence how events are perceived and understood. According to Daněk, the language in the game required special attention. *Kingdom Come: Deliverance* games use common Czech, as many people would not understand the Old Czech used at the time. One option was to add subtitles in modern Czech or use Old Czech words in modern Czech, which would have sounded artificial. With the exception of members of the clergy and high nobility, the characters do not speak formally. At the same time, the developers chose to include a number of vulgarisms as part of the dialogue. When creating the dialogues, the developers also had warning lists of words and expressions that come from modern English and cannot be used for that period (M. Daněk, personal communication, May 29, 2025).

Language carries connotations and implications that can influence the understanding of events and suggest superiority over other cultures and societies. The language used to describe marginalized communities can also reinforce stereotypes and marginalize their experiences (Bhat et al., 2023). KCD2 reconstructs medieval Bohemia not only through the perspective of Czech developers but also by depicting a multicultural and multiethnic environment. While the dominant cultural framework of the game reflects Czech national identity, its narrative and worldbuilding also represent minority groups such as Jewish, Roma, and German communities.

Loban (2023) points out that game representations of cultures often offer simplified, essentialized ideas that do not reflect a deeper understanding or worldview of the community being depicted. Such misrepresentations can lead to stereotypes, damage relationships with communities, and lose the opportunity to draw on authentic cultural narratives. Therefore, it is important for developers to find ways to respectfully and deeply integrate cultural perspectives into their games. Therefore Loban (2023) proposes three approaches to incorporating culture into game design in order to integrate cultural perspectives into games in a deeper and more respectful way: community participation, cultural immersion and rigorous research. All three models are also used by Warhorse Studio. As Martina Daněk states, in addition to extensive research, the developers consulted with external experts on specific topics or themes. They had consultants for the Jewish community, Yiddish[5] and their traditions, consultants for the Roma community, as well as several external language experts (M. Daněk, personal communication, May 29, 2025).

Conclusion

The games in the *Kingdom Come: Deliverance* series are a prime example of game design in which historical accuracy and playability complement each other, albeit sometimes with compromises. Analysis has shown that the highest degree of factual accuracy is achieved in elements that required direct research and consultation with specialists, such as the topographical and urban details of the region, including the partially destroyed fortifications of Kutná Hora, the architectural design of sacred buildings, and the specifics of dwellings and interior furnishings (M. Daněk, personal communication, May 29, 2025). On the other hand, compromises proved necessary in areas that would otherwise have significantly slowed down or unnecessarily complicated interaction, such as accelerated

5 Remark by the authors: A West Germanic language with Hebrew and Slavic elements used by the Jewish population in the US, Canada, Latin America, Central and Eastern Europe, Russia, and Israel ("Jidiš", n.d.).

travel, visual highlighting of characters for effective player navigation, and simplified dialogue trees (Osborne, 2025). Similarly, the creators also focused on intangible aspects of culture such as social customs associated with religion, such as church ceremonies, the reputation and charisma of characters, the behaviour of rural populations, and the existence of minorities and people with different sexual orientations, which are often overlooked in games (Vortex, 2025; Salvati & Bullinger, 2013).

Story inserts, such as the fictionalization of Žižka in a period for which there are no direct sources, illustrate that developers are able to fill gaps in historical records with meaningful fiction that respects factual limits while expanding narrative possibilities (EXP, 2025; Čornej, 2019). The approach of Warhorse Studios, referred to by Aarseth (2019) as ludoforming, shows that the spatial and cultural transformation of real and historical places into game topologies can lead to a paradox in which players experience and understand a given space more deeply than in ordinary reality (Pýcha & Váňa, 2024). The potential use of KCD1 and KCD2 games is therefore not limited to the commercial segment, but thanks to their authenticity, they can serve as interactive tools in museum exhibitions, digital textbooks, and tourist guides (Klimša, 2025).

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Assassin's Creed: From Leap of Faith to Brand Value

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ABSTRACT:
This study researches the concept of branding in *Assassin's Creed* games and monetisation models. By analysing the profitability matrix, the *Assassin's Creed* franchise consistently achieves financial results. The synergy between brand image, monetisation, and profitability has reinforced the digital game's position in the gaming industry, ensuring its enduring success. Both qualitative and quantitative methods were used. The paper uses Kapferer's brand identity model and Keller's CBBE model as central analytic tools for an in-depth understanding. The analysis shows a correlation between game reviews and revenues but suggests further analysis to identify other factors influencing revenues, such as DLCs and brand image. Regression analysis results indicate a moderate positive correlation (Multiple R = 0.477) between the median reviews and revenues, while ANOVA suggests no statistically significant relationship ($p > 0.05$). A strong positive correlation ($r = 0.809$) was found between the number of game versions, including DLCs, and total revenues. Mathematical models quantify the percentage price increase, added value, brand loyalty index, total revenues, and the probability of choosing a particular game version. A conceptual framework of the utility function is proposed. The paper presents the brand relationship, particularly from the aspect of brand identity and brand image.

KEY WORDS:
Assassin's Creed, brand image, digital game, monetisation, profitability matrix, revenue.

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Introduction

According to Macák (2024a), digital game production encompasses the most profitable segment of the media industry. The digital game *Assassin's Creed* (Ubisoft Montreal, 2007) appeared in 2007, and from the first introduction of its secret assassins to the present day, it represents one of the most famous franchises. What was specific, the very essence of the game, stems from attractive graphics, gameplay, stealth, and an interesting story. It was a game that combined various elements of Caillois' (2001) game theory such as agon, mimicry, and ilinx. The game gained iconic status among players due to its popularity and recognisability (Mago, 2018), not necessarily because of its lasting value. The *Assassin's Creed* (Ubisoft Montreal et al., 2007-2025) series can be analysed through two dimensions: cultural and marketing.

Assassin's Creed (hereinafter referred to as AC) is more than just a digital game. It is a pop culture phenomenon (Bučková, 2019) that over time has transformed into a cultural object (Griswold, 2013) and ultimately became a brand. If we consider the series as a franchise, then AC is the brand, and all its sequels can be seen as brand extensions. However, the publisher Ubisoft itself represents a corporate brand. Additionally, protagonists like Altaïr Ibn-La'Ahad, Bayek of Siwa, Ezio Auditore da Firenze, or Edward Kenway can be seen as brands. By understanding the brand in this way, we broaden the interpretation of the brand to various aspects and show how well the AC franchise is designed. This

visibility and symbolism represent brand strength, which in this study is considered as brand value. Such a brand carries certain social and cultural meanings.

The study explores the phenomenon of the AC franchise from the perspectives of achieved revenue and brand image. It compares the impact of reviews from three gaming portals and shows correlations between influential advocates and consumers based on median values. The premise is that game reviews/game criticism (Pravdová & Cihlářová, 2023) serve as indicators of a game's popularity and examines their relationship with sales. The aim of the study is to explain and present the AC franchise in the context of monetising digital games. Additionally, the study aims to provide an in-depth insight into the AC brand and present a conceptual model for monetising digital games. The reference in the title to the *leap of faith* is also a trademark of the game, representing a metaphor for analysing how challenging this leap into the haystack is in Keller's (2013) CBBE context.

Methodology

The study applies methodological triangulation combining qualitative and quantitative methods to analyse the factors contributing to the success of the AC franchise. Qualitative methods used include comparative analysis, logical analysis, and marketing analysis, relying on brand theories by Kapferer (2008) and Keller (2013). Methods of analysis, interpretation, explanation, and description were utilized. Quantitative methods involve regression analysis, linear correlation coefficient, and analysis of variance (ANOVA). Additionally, mathematical analyses of percentage price increase and game selection probability enrich this methodology. This integrated approach enables detailed investigation of the impact of different game versions, DLCs, and other factors on revenue and brand loyalty (Zichermann & Linder, 2010; Keller, 2013), providing deep insights into monetisation strategies and marketing aspects of the franchise.

The aim of this study is to explain and analyse the AC franchise in the context of digital game monetisation. According to Pravdová et al. (2023), the monetisation of media content is a scholarly problem. The goal is to provide an in-depth insight into the AC brand and a conceptual model of digital game monetisation. To achieve this goal, the research includes a comparison of the impact of reviews from three leading gaming portals (IGN, GameSpot, and HCL), as well as an analysis of the correlations between influential advocates and consumers. In this analysis, only the primary titles were considered, thus the various spin-off games were excluded. The games were selected chronologically to show brand evolution and monetisation. *Assassin's Creed Rogue* (Ubisoft Sofia, 2014) and *Assassin's Creed Unity* (Ubisoft Montreal, 2014) further highlight market impact, as they were released simultaneously on different platforms.[1] Therefore, spin-offs like *Assassin's Creed III: Liberation* (Ubisoft Sofia, 2012) and *Assassin's Creed Chronicles* (ClimaxStudios, 2015-2016) were excluded due to limited scope and editions. This allows for a better understanding of their contribution to game sales. The premise is that reviews and criticisms are significant (Bogost, 2015) in shaping players' attitudes towards the intention to purchase the game, and consequently, that they correlate with sales revenue. From this, two research questions arise:

- RQ1: How do game reviews impact sales revenue?
- RQ2: How do different game versions shape the brand perception?

1 Remark by the author: At the time of writing, *Assassin's Creed Shadows* (Ubisoft Quebec, 2025) had not yet been released, and is therefore not included, although it follows the strategy of extended editions and DLCs.

From Petite Madeleine to Brand Symbol

The first digital game in the AC series was released in 2007 and quickly became one of the most successful franchises in the digital game industry. The game won various awards such as for animation, graphics, best action game, and editor's choice awards. From the very beginning, different editions such as platinum, director's cut, and greatest hits were released, and this trend gradually increased in future sequels with additional collector's editions (Table 1). Ubisoft introduced different versions of the game starting with *Assassin's Creed II* (Ubisoft Montreal, 2009), such as collector's edition, gold edition, and ultimate edition, and with the *Assassin's Creed III*'s (Ubisoft Montreal, 2012) "Join or Die" version, they included figurines, confirming the growing popularity of the AC franchise and consumers' willingness to purchase such editions. In other words, the AC franchise has shown potential for microtransactions in the form of downloadable content (DLC) from the very beginning. The AC series reached over 230 million copies (Clement, 2025).

Table 1: Different versions of the game (extended offer)

Digital Game	Editions
Assassin's Creed	Standard Edition, Director's Cut Edition
Assassin's Creed II	Standard Edition, Deluxe Edition, Complete Edition, Game of the Year Edition
Assassin's Creed: Brotherhood	Standard Edition, Collector's Edition, Da Vinci Edition
Assassin's Creed Revelations	Standard Edition, Collector's Edition, Gold Edition
Assassin's Creed III	Standard Edition, Join or Die Edition, Freedom Edition, Gold Edition
Assassin's Creed IV: Black Flag	Standard Edition, Deluxe Edition, Skull Edition, Buccaneer Edition
Assassin's Creed Rogue	Standard Edition, Collector's Edition
Assassin's Creed Unity	Standard Edition, Gold Edition, Bastille Edition, Notre Dame Edition
Assassin's Creed Syndicate	Standard Edition, Gold Edition, Charing Cross Edition, Rooks Edition
Assassin's Creed Origins	Standard Edition, Deluxe Edition, Gold Edition, Gods Edition, Dawn of the Creed Edition
Assassin's Creed Odyssey	Standard Edition, Deluxe Edition, Gold Edition, Ultimate Edition, Spartan Edition, Pantheon Edition
Assassin's Creed Valhalla	Standard Edition, Gold Edition, Ultimate Edition, Collector's Edition, Ragnarök Edition
Assassin's Creed Mirage	Standard Edition, Deluxe Edition, Collector's Edition

Source: own processing

When we compare the prices of the *Assassin's Creed Odyssey* (Ubisoft Quebec, 2018) standard version (59.99 USD), Deluxe (79.99 USD), Gold (99.99 USD), and Ultimate (119.99 USD), it is evident that each version brings an increase in price, specifically by 33%, 67%, and 100% compared to the standard game. The price increase for different versions indicates a monetisation strategy through the sale of additional content such as expansions, new missions, and exclusive items (see Mago, 2022). This allows the company to generate additional revenue from players who desire a more complete experience.

Similarly, Pravdová et al. (2023) mention this in the context of second-degree price discrimination. Ubisoft uses price discrimination to maximize profit. Additionally, this strategy enables earnings from different market segments. From the players' perspective, the addition of expansions, additional missions, maps, brochures, and collector's figurines increases the loyalty of the AC brand's fan community.

By offering multiple versions of the game, Ubisoft maximizes revenue by providing various levels of content and benefits. The Deluxe version (+33%) typically includes DLC. The Gold version (+67%) often includes a season pass, and the Ultimate version (+100%) includes everything from the Gold version plus additional bonuses. This strategy relies on the perception of value: players who want a basic experience will be satisfied with the standard version (Pravdová et al., 2023), while fans will be willing to pay more for additional value. Therefore, we can conclude that the monetisation strategy of *Assassin's Creed Odyssey* not only reflects the unique needs of consumers but also uses the concept of added value to create appeal for more the expensive versions. The greater the brand loyalty, the higher the expectations of players and their willingness to invest in premium versions. Those connected to the brand want to have the complete experience, regardless of the higher price, as it brings them a sense of satisfaction and belonging to the community of passionate fans (Saldanha et al., 2023).

a) *Genius loci* in *Assassin's Creed*

In her study, Radošinská (2018) views the AC series as a kind of tourist guide. In other words, the AC franchise enables the creation of the "gamer-tourist" category (Radošinská, 2018) as a micro-segmentation of consumers. This is, among other things, one of the elements of the AC brand identity. Over the years, the series has evolved, exploring different historical periods, famous personalities from art, literature, history, philosophy, and politics. The series is known for introducing innovative gameplay mechanics, which it has adapted, implemented, or discarded in other games over time. However, despite criticisms, the game has remained true to its core brand identity elements, such as map synchronization, parallel reality, story, hood, and hidden blade.

The AC series has a unique ludological concept. The game begins in the present where genetic memories of avatars are recreated through the Animus device, allowing players to enter the past to uncover hidden information. This creates the feeling of a game within a game. Each game in the AC series is set in a different period, such as the Italian Renaissance, Ancient Greece, the French Revolution, the Viking Age, and so on. In this sense, the game allows for unlimited reinterpretation of history and opens the possibility of visiting different epochs and periods in the context of culture, history, and politics (Boutonnet, 2016; Cole, 2022). In this way, the series creates a niche of a certain period through interaction with historical and cultural figures.

The uniqueness of the AC franchise stems from its adventurous, *mythical structure* (Barthes, 2009), in which players explore different areas, cultures, cities, and periods. This particularly applies to famous individuals such as Leonardo da Vinci, George Washington, Napoleon Bonaparte, Charles Dickens, Socrates, and so on. According to Radošinská (2018), the AC franchise represents a kind of tourist destination for city branding. This can be expanded with the concept of genius loci (Vecco, 2020), or the term *spirit of place*, which serves as a concept related to place, the spirit of place, and the protection of the place's identity. This is one of the protective elements of the AC brand identity (Kapferer, 2008), which can be most simply described as users' feelings, attitudes, and beliefs associated with the place. And it is precisely this spirit of place that connects the AC franchise through the cities of Venice, Paris, London, Athens, and beyond, in the sense of branding countries like Italy, Greece, Egypt, and the USA (Table 2).

Table 2: The genius loci of AC series

Digital Game	Year of Release	Cities	Time Period
Assassin's Creed	2007	Jerusalem	12th century
Assassin's Creed II	2009	Florence, Venice	15th century
Assassin's Creed: Brotherhood	2010	Rome	16th century
Assassin's Creed Revelations	2011	Constantinople	16th century
Assassin's Creed III	2012	Boston, New York	18th century
Assassin's Creed IV: Black Flag	2013	Havana, Nassau, Kingston	18th century
Assassin's Creed Rogue	2014	New York, North Atlantic	18th century
Assassin's Creed Unity	2014	Paris	18th century
Assassin's Creed Syndicate	2015	London	19th century
Assassin's Creed Origins	2017	Alexandria, Memphis, Thebes	1st century BC
Assassin's Creed Odyssey	2018	Athens, Sparta, Corinth	5th century BC
Assassin's Creed Valhalla	2020	Winchester, York, London	9th century
Assassin's Creed Mirage	2023	Baghdad	9th century

Source: own processing

b) Expected value of *Assassin's Creed*

Added value plays a crucial role for consumers, such as season passes and exclusive content. When we examine the Customer-Based Brand Equity (CBBE) model according to Keller's theory (2013), we see an inverted pyramid model. At the top of the pyramid (brand resonance) is the most expensive game, and alongside it, the most loyal players who have a strong connection with the brand. Similarly, at the bottom of the pyramid (brand recognition) is the basic version of the game, which serves as the starting point for brand recognition and creating a relationship with the consumer. According to Keller (2013), at the top of the CBBE model is brand relationship, which represents active loyalty. Keller (2013) states that: "Brand resonance describes the nature of the relationship between customers and a brand, as well as the extent to which customers feel a deep, emotional connection and are 'in sync' with the brand" (p. 120). This connection often results in strong brand loyalty and commitment.

Brand recognition (brand salience) is at the base level of the CBBE pyramid, where consumers recognize the brand but do not have a deep connection with it. The standard version of the game (59.99 USD) serves as an entry point for new players who are not emotionally attached to the series. The second level, brand meaning, consists of brand performance and brand imagery, which represent the functional benefits and aesthetic appeal of the brand. The Deluxe version (+33%) adds value through additional content and greater appeal, attracting players in the mid-segment. The third level includes brand judgments and brand feelings, which reflect consumers' rational assessments and emotional connection. The Gold version (+67%) targets loyal fans who already have positive impressions of the game's quality, DLC, and season pass. At the top of the pyramid is brand resonance, where the most loyal consumers have a deep emotional connection and sense of belonging to the community. The Ultimate version (+100%) attracts the most loyal players who want all the benefits and exclusive additions, not just for the content, but for the feeling of belonging to an elite group within the gaming community.

As seen, the expected value for the consumer is essentially an idea of how the brand will meet their needs and desires, i.e. how it will fulfil their expectations. This means that the expected value is the assumption based on which players choose and purchase the AC game they believe will provide them with the greatest value. In this sense, the expected value is the result of a compromise between perceived value and perceived cost. Naturally, the perceived benefit, such as gameplay, graphics, and story, must be greater than the perceived cost. Therefore, the expected value relates to the CBBE model, particularly with the second level (brand performance and brand imagery) as it leads to loyalty. The following clearly quantifies the connection between the CBBE pyramid and brand loyalty. The relative increase in price for each version of the game compared to the standard version is presented as

$$R_i = \left(\frac{(P_i - P_{standard})}{P_{standard}} \right) * 100$$

where R_i is rate of price increase for different versions (Deluxe, Gold, Ultimate), P_i is price and $P_{standard}$ is the price of the standard edition of the game. Example for Ultimate version:

$$R_{Ultimate} = \left(\frac{(119.99 - 59.99)}{59.99} \right) * 100 = 100\%$$

Added value (V_i), i.e. the absolute difference in the price of the game version compared to the basic version:

$$V_i = P_i - P_{standard}$$

Example for Gold version:

$$V_{Gold} = 99.99 - 59.99 = 40\,USD$$

The brand loyalty index is proportional to the percentage increase in price (R_i):

$$L_i \propto R_i$$

For example:

- Deluxe version: $L_{Deluxe} = 33$
- Gold version: $L_{Gold} = 67$
- Ultimate version: $L_{Ultimate} = 100$

In other words, the higher the price increase (the more money players pay), the higher their brand loyalty is considered. We represent the revenue (R_{total}) if we know the number of copies sold of each game version according to the model:

$$R_{total} = \sum (P_i * N_i)$$

The probability that a customer will buy a certain version of the game (Pr_i) is calculated as the ratio of sales of that version to the total number of copies sold:

$$Pr_i = \frac{N_i}{N_{total}}$$

If we observe the relative frequency of events (i) where it can be interpreted as the probability (Pr_i) that a customer will choose a version of the digital game, it is based on the idea that each number of copies (N_i) sold for a particular version of the game represents a share of the total number of copies sold (N_{total}). In this sense, we can assume the following number of copies sold in the context of the relative popularity of each game version with the overall share of sales. It is important to note that the model assumes that the prices of different game versions remain stable and do not consider possible fluctuations caused by seasonal discounts, promotions, or pricing strategy changes on digital platforms like PlayStation Store. Also, the model ignores the possibility that the same game versions have different prices in different regions (e.g. North America, Europe, or Asia) and instead uses prices in US dollars from the PlayStation Store as a standard. Therefore, if we use as a notation for probability (Pr_i) the calculation example looks like this: ($N_{standard}$) = 3000, and (N_{total}) = 5200, namely:

$$Pr_i = \frac{3000}{5200} \approx 0.5769 \text{ (57.69\% probability)}$$

If 3000 copies of the standard *Assassin's Creed Odyssey* version were sold, i.e. 3000 / 5200, or ≈ 0.5769 (57.69% probability), and for the Deluxe version, the assumption is that 1000 copies were sold, i.e. 1000 / 5200, or ≈ 0.1923 (19.23% probability). In this sense, the Gold version accounts for 700 copies of the game, i.e. 700 / 5200, or ≈ 0.1346 (13.46% probability), and the Ultimate version, we assume 500 copies were sold, i.e. 500 / 5200, or ≈ 0.0962 (9.62% probability). If the total sales of all the game's versions amounted to 1.1 billion USD, we can use this data to further analyse and verify the revenue distribution by version. Below, we present the hypothetical revenue distribution for *Assassin's Creed Odyssey* (Chart 1), based on the probability of selling different versions of the game. As shown in the previous calculation example, we observe the relative frequency of events (i) which can be interpreted as the probability (Pr_i) that a customer will choose a particular game version. The starting point of this analysis is the idea that each number of copies sold (N_i) for a particular game version represents a share of the total number of copies sold (N_{total})

Based on the assumed percentage probabilities for different versions of the game, we can estimate the revenue from each version. The standard version would generate total revenue of 634,590,000 USD (57%), the Deluxe version 211,530,000 USD (19%), the Gold version 148,060,000 USD (13%), and the Ultimate version 105,820,000 USD (9%). This demonstrates how the CBBE pyramid reflects brand perception and customer loyalty, from initial awareness (standard version) to the highest levels of loyalty (Ultimate version). Ubisoft utilizes a value gradient model, where higher game versions (Deluxe, Gold, and Ultimate) offer added value that attracts different customer segments and maximizes overall revenue. The relative frequency of sales is used to analyse the probability of choosing different versions of the game, thus illustrating consumer preferences and monetisation potential. The revenue distribution for different game versions shows that the standard version accounts for the largest share (57%), while more luxurious versions generate the remaining revenue from fewer customers.

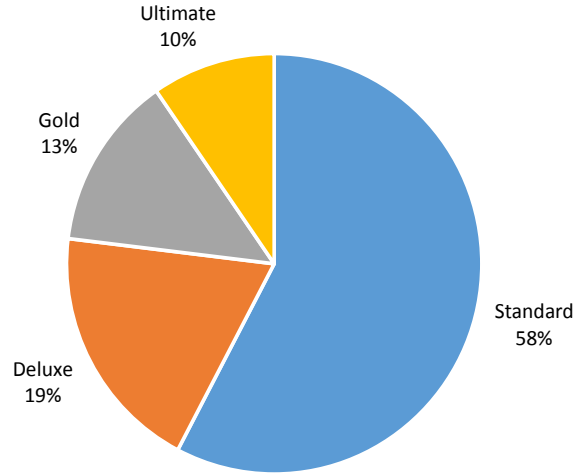

Chart 1: Hypothetical revenue distribution

Source: own processing

c) Perceived value and player trust

When observing the AC franchise from the perspective of criticism and reviews, we can conclude that the games have been well-received (Table 3), particularly in a diachronic context. Most games in the series, from the initial game to later releases, show an increasing trend in quality, as seen in the review median. Additionally, *Assassin's Creed Origins* (Ubisoft Montreal, 2017) and *Assassin's Creed Odyssey* show a growth trend that can be attributed to innovations such as the introduction of RPG elements. On the other hand, synchronic analysis shows that there are fluctuations between different reviewers, as seen in the example of *Assassin's Creed Syndicate* (Ubisoft Quebec, 2015) and *Assassin's Creed Mirage* (Ubisoft Bordeaux, 2023). The importance of criticism and reviews (Bogost, 2015; Pravdová & Cihlářová, 2023) has further confirmed the authenticity of the gaming community as authoritative. However, despite the uniformity or approximate match of criticism and reviews, since the appearance of *Assassin's Creed Rogue* and *Assassin's Creed Unity*, the series has received lower ratings despite the game being well-promoted from a marketing aspect.

Table 3 chronologically presents the AC franchise with its sequels, as well as three gaming portals with their critiques, reviews, and medians. According to the study by Pravdová and Cihlářová (2023), the importance of reviews in the context of gaming culture and in the context of literary criticism and journalism is necessary as part of the cultural discourse. First, thanks to game reviews, consumers receive essential information about the game, its story, gameplay, and graphics, based on which they make purchasing decisions. According to Bogost (2015), criticism is important in the world of digital games because it reveals the Janus-faced nature of games: the functional and formal aspects. Additionally, a game review is inherently dual as it also impacts developers in terms of game improvement. This means that game reviews arise from the construct of trust. If a game is well-reviewed, players are more inclined to believe that the game is indeed good, leading us to conclude that the role of reviewers is somewhat like that of advocates and promoters of the game. Although reviews and critiques can spark certain discussions on social networks such as forums (Jukić, 2023), which reflect the influence of the community, their importance is unquestionable. The same applies to user expectations, who, based on game trailers or short gameplay videos on YouTube, can make judgments about purchasing or express positive impressions (Jukić, 2024a).

Table 3: Annual reviews and median ratings of Assassin's Creed

Year	Digital Game	IGN	GameSpot	HCL	Median
2007	*Assassin's Creed*	7.5/10	9/10	8.3/10	8.3
2009	*Assassin's Creed II*	8.9/10	9/10	9.3/10	9.0
2010	*Assassin's Creed: Brotherhood*	8/10	8.5/10	8.9/10	8.5
2011	*Assassin's Creed Revelations*	8.5/10	8/10	8.3/10	8.3
2012	*Assassin's Creed III*	8.5/10	8.5/10	8.6/10	8.5
2013	*Assassin's Creed IV: Black Flag*	8.5/10	9/10	8.7/10	8.7
2014	*Assassin's Creed Rogue*	6.8/10	6/10	6.9/10	6.8
2014	*Assassin's Creed Unity*	7.8/10	7/10	7.7/10	7.7
2015	*Assassin's Creed Syndicate*	8.2/10	9/10	8/10	8.2
2017	*Assassin's Creed Origins*	9/10	7/10	9/10	9.0
2018	*Assassin's Creed Odyssey*	9.2/10	8/10	8.5/10	8.5
2020	*Assassin's Creed Valhalla*	8/10	8/10	7.8/10	8.0
2023	*Assassin's Creed Mirage*	8/10	6/10	8/10	8.0

Source: own processing

According to Statista, the AC series has generated approximately 230 million-unit sales, making it one of the most popular game franchises globally (Clement, 2025). As of 2023, it is Ubisoft's most popular franchise with over 200 million units sold (Paxton, 2023). Estimates were based on data collected from various sources, including Ubisoft's financial reports, analytical reports, and industry news. The total revenue was divided by the total number of units sold, resulting in an average revenue per unit of approximately 49.50 USD. In the first two years after the release of the first AC game, over 8 million copies were sold, generating 300 million USD in revenue (Chart 2). The PlayStation version lacked trophy support, unlike the PC and Xbox versions. According to Jukić (2024b), adding trophies and DLCs can be a monetisation opportunity, especially for trophy hunters. *Assassin's Creed II* introduced new gameplay mechanics, multiplayer modes, and DLC missions. *Assassin's Creed IV: Black Flag* (Ubisoft Montreal, 2013) achieved maximum sales with 15 million copies sold and 1.2 billion USD in revenue by offering an immersive pirate world. *Assassin's Creed Origins* implemented RPG elements such as levelling systems, and *Assassin's Creed Odyssey* expanded RPG features with dialogue options.

If we compare the revenue from the sales of the first instalment of AC, which amounted to 300 million USD, with the revenue from the sales of the second instalment, which amounted to 900 million USD, and its sequels *Assassin's Creed: Brotherhood* (Ubisoft Montreal, 2010) with 800 million USD and *Assassin's Creed Revelations* (Ubisoft Montreal, 2011) with 600 million USD, the total revenue of the second instalment amounts to 2.3 billion USD. In other words, the revenue from the sales of the first and second instalments of the franchise, without sequels, has increased by 200%. Therefore, the AC franchise can generate significant revenue through its sequels and DLC. The total revenue is 10.4 billion USD, suggesting that the franchise shows consistent revenue growth with several peaks, such as *Assassin's Creed IV: Black Flag*, with revenue of 1.2 billion USD, *Assassin's Creed Odyssey* with revenue of 1.1 billion USD, and *Assassin's Creed Valhalla* (Ubisoft Montreal, 2020) with revenue of 1.2 billion USD.

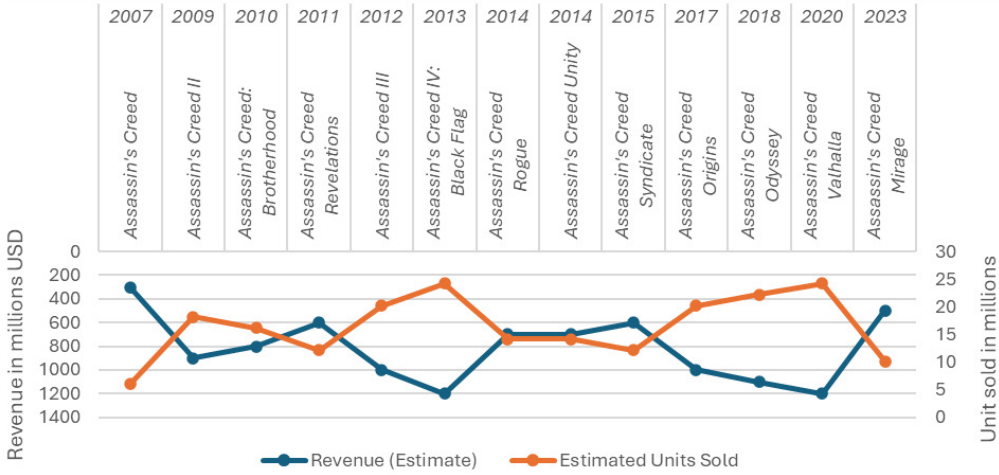

Chart 2: Estimates of game revenue and sales

Source: own processing

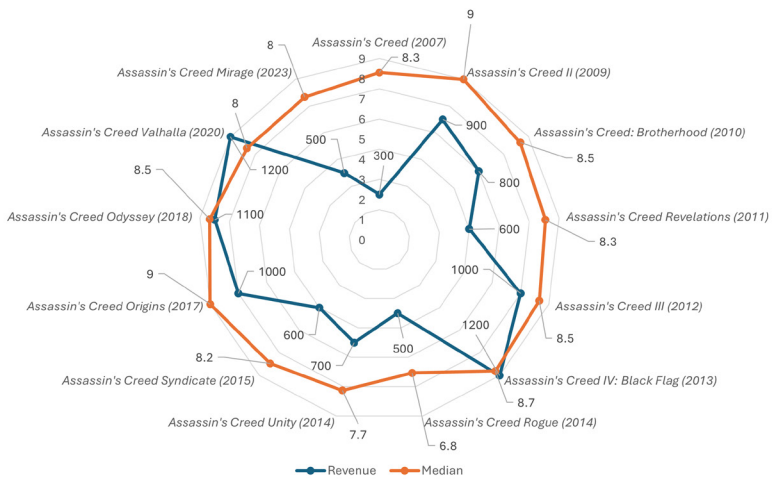

Chart 3: Relationship between revenue and median game review

Source: own processing

Reviews and critiques of digital games are an integral part of the discourse of gaming culture and the broader popular culture (Chen, 2013), representing a community of users who evaluate and valorise games (Bogost, 2015). Reviews on platforms such as IGN, GameSpot, and HCL can significantly influence the perception of a game among players, which can directly impact sales revenue. When observing games from the AC series, it is noticeable that games with higher median reviews often achieved higher revenue compared to those that received mixed or lower ratings. Although reviews are only one of the factors influencing sales (Chart 3), they can significantly shape the opinion of the community on forums and social networks, which further influences purchasing decisions

d) Brand identity as a cultural icon

According to Kapferer (2008), brand identity is understood as a hexagonal prism, which includes the dimensions of physical characteristics, personality, relationship, culture, reflection, and self-image. These dimensions provide a framework for in-depth

analysis of the AC brand identity through its games, gameplay, and marketing strategies. From the aspect of physical characteristics, AC is recognized for its visual aesthetics and gameplay elements such as the hidden blade, hood, Animus, and map synchronization. In terms of brand personality, the AC franchise reflects a personality that combines mystery and historical authenticity with an adventurous spirit. It is also a segment of immersion between the player and the avatar, as players connect with the character. Games are an expressive medium (Bogost, 2007). The concept of genius loci clearly shows how historical locations and famous personalities strengthen the brand's cultural dimension (Table 2). The game itself, as a cultural object or "shared significance" (Griswold, 2013, p. 13), represents a higher form of popular culture where the popularity of the game, film, book, and board games is reflected.

The dimension of reflection relates to the perception of the brand in the eyes of its consumers. Players see themselves as assassins, adventurers, and historians. In other words, the game reflects players' desires for adventure and discovering the unknown. In this sense, players view the AC series to fulfil their adventurous desires. Through the AC series, players connect with the idea of exploring the unknown, delving into history, and taking on heroic roles. Immersive mechanics, such as dialogue options and character customization, allow players to project their own image onto the brand.

The relationship between the AC brand and players is based on the continuous delivery of quality content through DLCs, season passes, and microtransactions. However, to further enrich the understanding of these dimensions (Bučková, 2015), they can relate to Caillois' (2001) theoretical categories of game elements: agon (competition), mimicry (imitation/role-playing), and ilinx (vertigo through sensory experience). Table 4 shows the connection between Kapferer's (2008) brand identity dimensions and Caillois' (2001) game elements, with examples from the AC franchise. Thanks to ilinx and agon, the AC brand becomes more than a traditional media form as it provides players with excitement akin to the vertigo of parkour and action. This interactive nature contributes to the brand becoming part of players' everyday culture. The brand identity of AC transcends the boundaries of video games and enters the realm of a cultural icon thanks to deeply rooted historical contexts, immersive experiences, and the ability of players to identify with the brand's values. Mimicry is a key element of the AC brand identity, as the game allows players to assume the identity of assassins in different historical contexts. Characters like Ezio, Bayek, or Kassandra give players the opportunity to identify with heroism, moral dilemmas, and an adventurous spirit.

Table 4: Identity dimensions and game elements

Identity Dimension	Game Element	Example
Physique	Agon	Hidden blade, parkour, map synchronization
Personality	Mimicry	Assassins
Culture	Mimicry	Historical locations, NPC
Reflection	Agon	Stealth, combat
Self-Image	Ilinx	Parkour, leap of faith
Relationship	Agon and Ilinx	DLCs, season passes

Source: own processing

Bogost (2007) mentions the concept of the "vividness spectrum" (p. 45), which refers to the liveliness and detail of virtual worlds that enhance player immersion. When

comparing the AC series, it can be concluded that, along with procedural rhetoric, the vividness spectrum is used to create compelling stories and worlds where players can feel the authenticity of historical periods, such as ancient Greece or Victorian England. This also means that two key facts are achieved in this way: the player's experience is enhanced through immersion, and a place is created for monetisation strategy in the form of DLCs based on desirable content. This approach avoids ethically questionable monetisation practices (King & Delfabbro, 2019). In other words, the vividness spectrum and DLCs together work to increase player immersion and create a richer, more detailed world within the game, making the gaming experience even more attractive and authentic.

Results

In summary and considering the details, a research question (RQ1) arises: How do game reviews impact sales revenue? This means to what extent and in what way do reviews of digital games, as part of the discourse of gaming culture and broader popular culture, affect game sales revenue? In other words, how do game reviews correlate with the revenue of the AC franchise? As seen in Chart 2, games with higher median reviews do not necessarily achieve higher revenue, suggesting that other key factors also influence the financial success of games (Table 5).

Table 5: Regression analysis

Regression Statistics	
Multiple R	0.477384
R Square	0.227896
Adjusted R Square	0.157704
Standard Error	2.68E+08
Observations	13

Source: own processing

Regression analysis shows a moderate positive correlation between the median review score and revenue (Multiple R = 0.477), but only 22.8% of the revenue variability can be explained by review scores (R^2 = 0.228). These results suggest that reviews have an impact on revenue, but that impact is not absolute, and they are not sufficient on their own to predict sales revenue.

Table 6: ANOVA of revenue and reviews

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.32E+17	2.32E+17	3.246777	0.099005
Residual	11	7.88E+17	7.16E+16		
Total	*12*	*1.02E+18*			

Source: own processing

The results of the analysis of variance (ANOVA) indicate that there is no statistically significant correlation between the median review score and digital game revenue from the AC series (Table 6). The p-value (0.099) is greater than the usual significance level ($p > 0.05$), which means we cannot reject the hypothesis that there is no relationship between these variables. The results of the regression analysis show that there is a moderate positive correlation between the median review score and revenue. In other words, review scores are not the only factor affecting revenue (Table 7), and other key factors also play a role.

Table 7: Regression statistics

	Coeffi-cients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-1.2E+09	1.1E+09	-1.07202	0.306667	-3.6E+09	1.24E+09	-3.6E+09	1.24E+09
Median	2.4E+08	1.33E+08	1.801881	0.099005	-5.3E+07	5.32E+08	-5.3E+07	5.32E+08

Source: own processing

Based on the analysis of Pearson's correlation coefficient ($r = 0.809128688$), which examines the relationship between the revenue of the AC franchise and different versions of the game, including DLCs, the following conclusions can be drawn. First, there is a significant relationship between the increase in the number of game versions and revenue, indicating a strong positive correlation. Second, different game versions and DLCs increase player engagement and interest in the game, thereby increasing value for players. Third, the continuous release of new game versions and DLCs contributes to the long-term sustainability of the franchise.

Furthermore, planning and developing different versions of the game and DLCs can maximize revenue and attract a broader audience, emphasizing the strategic importance of these versions. Finally, versions with collectible figurines and exclusive items attract specific groups of players and collectors, significantly contributing to the overall franchise revenue. These conclusions highlight the importance of diverse game versions and additional content in increasing revenue and maintaining player interest in the AC franchise (Chart 4).

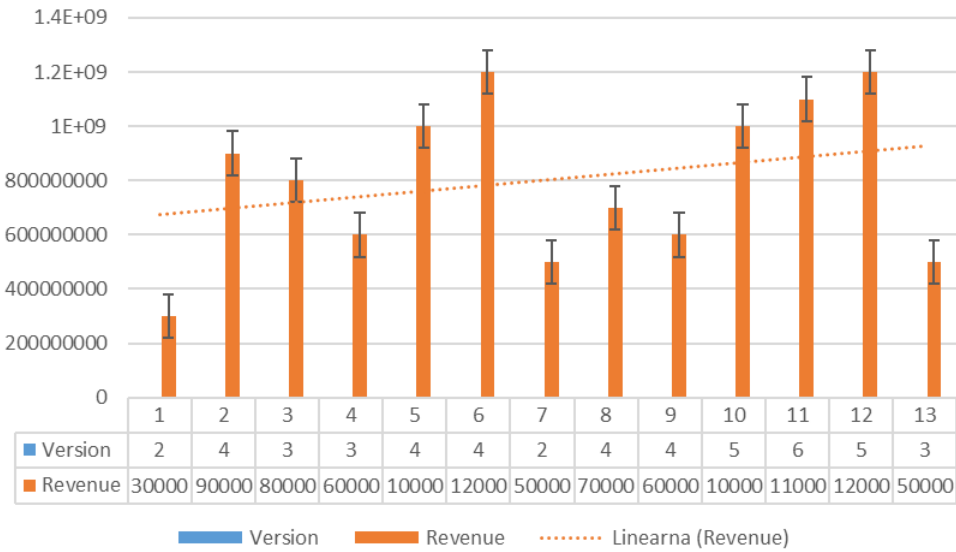

Chart 4: Relationship between revenue and different game versions

Source: own processing

The monetisation of the AC franchise uses multiple models to generate revenue. Although DLCs play a significant role, there are other forms of monetisation that Ubisoft uses in its marketing strategy. According to the monetisation models (Pravdová et al., 2023), various strategies stand out. First, there are premium models where players pay upfront for the game. In this sense, we can also observe the paymium model because, after purchasing the base game, players have the option to buy additional content, such as DLCs, expansions, and mission packs. Then, there are special edition versions of the games that include exclusive content, such as collectible figurines, art books, and other bonuses. Finally, the monetisation strategy of the AC franchise includes the season pass model, as this option allows players to purchase all future DLCs at a lower price.

In this sense, the utility model allows for a quantitative analysis of these factors. For example, the monetisation model is analysed using the games *Assassin's Creed Valhalla* and *Assassin's Creed Origins*. The focus is specifically on player utility and how varied factors influence their willingness to spend money within the game. To accurately model player utility, we define the following variables: (p) is the price of digital products or services within the game; (m) is the margin or profit that the game publisher earns; (T) is the time or effort that the player invests in the game; (I) is the disposable income that the player has available for spending within the game; (S) is the player's satisfaction; (E) is the player's level of engagement; (V_p) is the perceived value of digital products. The purchase value (V) can be expressed as a utility function (U) that includes the variables:

$$V = U(p, m, T, I, S, E, V_p)$$

We assume that the utility (U) increases with higher satisfaction (S), engagement (E), and perceived value (V_p), while it decreases with higher price (p) and cost (T). Additionally, utility increases with higher disposable income (I) and decreases with higher margin (m). One possible form of the utility function is

$$U = \alpha \cdot \frac{S \cdot E \cdot V_p}{p + T} + \beta \cdot I - \gamma \cdot m$$

where α,β,γ are coefficients that determine the relative importance of each factor. The model shows that utility increases with higher player satisfaction (S), engagement (E), and perceived value (V_p), while it decreases with higher price (p) and effort (T). Additionally, utility increases with a higher available amount of money (I) and decreases with higher margin (m). Therefore, it is concluded that based on the monetisation model and utility function, an increased perception of value (V_p) can motivate players to spend more, even if prices are higher. Furthermore, lower prices (p) and lower effort requirements (T) can increase utility, which can boost overall revenue. This model allows publishers to quantitatively analyse and optimize their monetisation strategies to maximize player satisfaction and spending.

Based on the above, a monetisation strategy matrix is presented using the AC franchise as an example (Table 8), which, for easier illustration, is observed in the context of *Assassin's Creed Origins*. From the player's (consumer's) perspective, the advantages of DLCs provide access to added content, missions, and thus extend the gaming experience. Additionally, the use of skins and cosmetic items affects player customization and aesthetic satisfaction. Similarly, the ability to open boxes creates a sense of excitement in obtaining special items. However, DLCs can be perceived negatively (Tomić, 2018) as they prevent players from having an expanded experience without additional payment and create frustration due to randomly generated loot boxes. From the producer's perspective,

DLCs represent an increase in long-term game revenue after its release. This allows for a continuous inflow of revenue even after the initial game sale (Tomić, 2018). Moreover, loot boxes present a high revenue potential due to the excitement and randomness of opening reward boxes (Armintor, 2024). Additionally, there are drawbacks arising from regulations and legal challenges in some regions due to the perception that loot boxes encourage gambling (King & Delfabbro, 2019).

Table 8: Monetisation strategy matrix

Producers / Players	Advantages for players	Disadvantages for players
Advantages for producers	DLC: Long-term revenue, Skins & Cosmetics: High revenue, Loot Boxes: High revenue	DLC: Added content, extended gameplay, Skins & Cosmetics: Character customization, Loot Boxes: Excitement, rare items
Disadvantages for producers	DLC: Continuous content development, Skins & Cosmetics: Potential dissatisfaction, Loot Boxes: Regulatory challenges	DLC: Additional costs, Skins & Cosmetics: High costs, Loot Boxes: Costs and dissatisfaction due to randomness

Source: own processing

The monetisation of the AC franchise involves balancing different models to maximize revenue while maintaining a positive player experience. As seen in Table 7, DLCs, skins and cosmetic items, and loot boxes contribute to various aspects of revenue and player engagement. Today, DLCs are a standard form of monetisation for premium games (Macák, 2024b). However, producers must be aware of challenges such as high development costs and regulatory issues and must carefully manage player expectations to maintain their long-term interest and satisfaction. In other words, microtransactions like boosters, weapons, armour, and skins, if well-integrated into the game and not disrupting the core gameplay experience, can positively impact players' emotions.

Discussion and Conclusion

The primary objective of the research was to examine how game reviews and various game versions shape the perception of value and revenues of the AC franchise. In this context, two key research questions were analysed: RQ1) the impact of reviews on sales revenue; and RQ2) perceived value and brand image. The results of the regression analysis revealed a moderate positive correlation between the median of reviews and revenue (Multiple R = 0.477), while only 22.8% of the variability in revenue could be explained by review ratings (R^2 = 0.228). In contrast, the results of the ANOVA analysis did not indicate a statistically significant relationship between reviews and revenue (p = 0.099), further confirming that review scores are not a sufficient predictor of revenue. These findings highlight the complexity of factors influencing the financial success of the franchise, emphasizing the importance of additional elements such as the diversification of game versions, season passes, and DLCs. Furthermore, the analysis of Pearson's correlation coefficient (r = 0.809) indicated a significant positive relationship between different game versions and overall revenue, validating the hypothesis that additional content and premium versions increase player value and ensure long-term profitability. This aligns with the theoretical frameworks of digital game monetisation (Tomić, 2018; Pravdová et al., 2023).

Furthermore, the study presented a monetisation strategy matrix, illustrating the balance between advantages and disadvantages for both players and developers. DLCs

enable extended gameplay, thereby increasing player satisfaction, yet simultaneously hint at potential threats and weaknesses, such as pricing and the additional content offered. This underscores the necessity of understanding the brand's core identity and aligning the promotion and creation of DLCs with the game's storyline. For instance, if DLCs consist primarily of cosmetic packages, their impact on the overall game perception and brand image may remain minimal. However, the introduction of pay-to-win packages, which constitute a significant portion of the additional content, such as exclusive weapons, armour, or other enhancements that accelerate in-game progression, increases the likelihood of negative impressions of the brand. Therefore, it is crucial that the game adheres to its fundamental vision and brand identity, ensuring that DLCs do not contradict these principles.

The study proposed a mathematical model of expected value that quantifies the impact of price, engagement, and perceived value on players' consumer behaviour. This approach provides publishers with concrete tools to optimize monetisation strategies, achieving a balance between profitability and player satisfaction. Additionally, the mathematical model of utility, which also incorporates variables such as price, engagement, and perceived value, enables a quantitative analysis of player spending. This model assists publishers in understanding the factors that motivate players to make additional investments, ensuring a balance between revenue and maintaining player satisfaction. In essence, the utility model offers insights into player behaviour explaining the motivations behind their spending choices, and the expected value model emphasizes predicting outcomes related to strategic decisions, projecting the financial impacts of such choices.

The findings of the research offer practical insights for digital game publishers. The conclusions indicate that different game versions, such as Deluxe, Gold, and Ultimate editions, contribute to long-term revenue growth. Microtransactions should be integrated carefully to avoid disrupting the core gameplay experience. The results suggest that the success of the AC franchise is rooted in a holistic approach to monetisation, encompassing innovative content, brand strengthening, brand value, and meeting the diverse needs of different types of players. Simultaneously, findings indicating that reviews are not a dominant factor in predicting revenue highlight the complexity of player behaviour and the importance of additional elements such as diversification of offerings and perception of added value. Ubisoft, for example, employs a brand-within-a-brand model, often offering players the option to purchase or unlock characters from previous AC instalments or themed outfits as hommage through microtransactions. This represents a form of self-promotion and cross-promotion, as discussed by Mago (2016), wherein digital games create their own self-referential world and character. Philosophically, this aligns with the concept of a supporting brand, where an avatar becomes so iconic that it defines an entire series, as seen with the Ezio trilogy. Similarly, elements like Easter eggs (Mago, 2019) are another example of hidden in-game rewards, often presented as symbols, logos, or representations of the brand image. These features serve dual purposes: enhancing the player experience through discovery and reinforcing the franchise's identity.

Despite its contributions, the study acknowledges several limitations. Firstly, the use of the median as a measure of central tendency constrains the analysis to a simplified overview of general sentiment, without delving deeper into the variation in scores among reviewers. The divergence observed across platforms, such as IGN, GameSpot, and HCL suggests the potential for exploring differences in review criteria. Secondly, the research did not account for seasonal price fluctuations or regional sales variations, which could have enriched the analysis further. Thirdly, the role of gaming communities, forums, and social media was not considered, even though these factors could significantly influence the perceived value of a game and purchase decisions. Lastly, the utility model assumes

a linear relationship between variables such as price, engagement, and perceived value. However, real-world relationships are often nonlinear or conditioned by external factors, which introduces a potential gap in accurately capturing player behaviour dynamics.

Future research should encompass a deeper temporal analysis that tracks revenue dynamics across various stages of a game's lifecycle, from launch to long-term revenue generated through DLCs. Such an approach would provide insights into the evolution of monetisation strategies and their sustained effectiveness over time. Additionally, future studies could integrate sentiment analysis of reviews, including text analysis of comments on social media platforms and gaming forums.

Finally, let us deconstruct the metaphor from the title of this study. AC symbolises a merge of culture and marketing. From the leap of faith as an adventurous game, it has evolved into a global brand. AC carries brand weight. The leap into the hay, as an act of trust, is a universal message that resonates beyond the virtual world. It is an act that transcends playing the game. It is the existence of the player. It is an immersion into the belief that "nothing is true, everything is permitted".

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Sorrowful Be the Heart, Penitent One: Medievalism, Religion, and Cultural Memory in *Blasphemous*

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ABSTRACT:

This essay analyses *Blasphemous*, a Spanish independent digital game that recontextualises Catholic iconography and medievalist visual cultures in pixel-art form and ritualised play. Drawing on Andalusian Catholic traditions, the game constructs a symbolic world characterised by the figurations of guilt, penance, and redemption. Taking on sacred and profane models, social imaginaries, and myth, the study delves into how *Blasphemous* combines theology and mechanics to create a digitally bodied penance. Methodologically, the research brings visual semiotic analysis, digital game analysis, and visual ethnography together in an attempt to see how sacred space, relics, and ritual forms function narratively and interactively. The analysis suggests how *Blasphemous* constructs a form of ludic theology that enacts spiritual suffering by repetition, cycles of death and resurrection, and acts of confession. It also comments on the fact that the high cultural specificity of the game coexists with its global popularity, and it echoes larger conflicts between authenticity and access within the global independent game industry. In recontextualising religious and historical symbolism for a contemporary gaming public, Blasphemous shows that independent games are media for narrative experimentation, cultural commemoration, and symbolic recuperation in the digital age.

KEY WORDS:

Catholic iconography, cultural memory, digital game analysis, ludic theology, medievalism, religion, ritual.

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Introduction

Over the past several years, independent digital games have emerged as a significant site of aesthetic innovation, cultural critique, and narrative experimentation within digital media (Anthropy, 2012; Juul, 2019; Ruffino, 2018). Partially free from many of the commercial demands that shape mainstream production, indie designers ever more frequently employ digital games as spaces of personal expression and cultural critique. Sometimes, indie production even becomes the only "space of resistance" for creatives who want to convey their idea of what a digital game should (or can) be, in open contrast to the logic of the gaming market. Among these, *Blasphemous* (The Game Kitchen, 2019) stands out for its singular use of Spanish Catholic iconography, medieval visual aesthetics, and metaphysical invocations of guilt, suffering, and redemption. Inhabiting a barren, dark and gothic world (Anyó, 2023) filled with ecclesiastical imagery and penitential discipline, *Blasphemous* offers players a narrative game which is as much theological as it is ludic.

Blasphemous is a metroidvania game – an action-adventure subgenre characterised by non-linear exploration and a direct-action and narrative event progression system. The most representative titles in the genre, and those also responsible for bestowing upon it its name, are *Metroid* (Nintendo, 1986) and *Castlevania* (Konami, 1986). Aesthetically, *Blasphemous* take its cue from the pixel art style graphics typical of 8- and 16-bit console

games, while faithfully reproducing the defining features of the metroidvania genre. These include a single, interconnected map with initially inaccessible (and hidden) sections, the necessity of acquiring key items or triggering specific events to advance both exploration and narrative progression, the presence of bosses and sub-bosses, role-playing features that allow the enhancement of the protagonist's attributes and abilities to access more challenging areas, and a set of limited core actions – two-dimensional movement, jumping, sliding, and offensive manoeuvres – that can be expanded and refined as the game progresses. The title also features multiple alternative endings, a hallmark of the genre in terms of design complexity.

Set in the tormented land of Cvstodia, *Blasphemous* presents a world suspended between faith and damnation, where divine miracles and human sins coexist in a perpetual cycle of suffering and expiation. The setting is reminiscent of a dark reinterpretation of early modern Andalusia, its architecture and iconography recalling the excesses of Baroque religiosity and the penitential rituals of Spanish Catholicism. The landscape is populated by flagellants, martyrs, and grotesque relics, each embodying a form of devotion distorted by the weight of collective guilt. The player inhabits the role of the Penitent One, the last survivor of the "Silent Sorrow" massacre, condemned to wander through Cvstodia in an endless act of contrition. Armed with the sword Mea Culpa – itself a living embodiment of pain and suffering – the Penitent One journey is both a physical and spiritual pilgrimage, structured in cycles of death, rebirth, and purification. The narrative, conveyed through cryptic dialogues, environmental clues, and relic-driven storytelling, resists linear interpretation. Instead, it invites the player to reconstruct a theology of pain and redemption through fragments of lore and ritual performance. In order to do this, the game reimagines the act of play as a symbolic liturgy, in which atonement is wrought not through revelation but through persistence and repetition – an aesthetic and moral meditation on the intersections of faith, corporeality, and memory.

Blasphemous was developed by The Game Kitchen and published by Team 17 Digital. The game, first announced in 2017, was officially released in 2019 across all major consoles and online gaming platforms. Its sequel, *Blasphemous II* (The Game Kitchen, 2023), was launched in 2023. The Game Kitchen is an independent development studio based in Seville, with an additional office in Tenerife, Spain. The studio's portfolio also includes *The Last Door* (The Game Kitchen, 2013), *Ninja Gaiden: Ragebound* (The Game Kitchen, 2025a), and *The Stone of Madness* (The Game Kitchen, 2025b).

Based on the observation made about the game's setting, the visual style of *Blasphemous* is deliberately Andalusian-centric, drawing heavily from the historical, religious, and artistic heritage of the region. The developers have purposefully and self-consciously constructed the visual narrative using Catholic and Baroque iconographic tropes, an overt allusion to southern Spanish cultural identity. Through this, they have articulated an aesthetic strategy aimed at exporting local cultural imaginaries beyond national borders (Ros Velasco et al., 2022). In partial continuity with this transnational orientation, the game was originally dubbed in English and only later, in 2020, in Spanish, despite the developers' initial preference for the latter. Financial constraints in production compelled the team to emphasise voice acting with a broader international appeal.

This study addresses *Blasphemous* as a cultural artefact mobilising medievalist and religious tropes to create an emotionally resonant (Rosa, 2019) and symbolically rich game world. It marshals interdisciplinary scholarship in game studies, cultural memory, and the sociology of religion to explore how the game repurposes sacred tropes for a global audience of consumers, while still being inflected with the cultural peculiarities of Spanish Catholic traditions. The study considers how *Blasphemous* participates in wider trends of neo-medievalism (Ortenberg West-Harling, 2009; Price, 2024) and post-secular

digital culture (Garner, 2021; Bosman, 2019), in which the sacred and profane are renegotiated through interactive media.

Taking a cue from Durkheim (2016) and Castoriadis' (1987) theories, the study argues that *Blasphemous* is set in a symbolic space where religious tradition is both honoured and distorted. The study suggests that the game serves as a cultural memory space, wherein collective identity is negotiated in aesthetic representation as well as ritualised play. In this, the study is contributing to an increasing amount of research on how digital games not only portray but also affect contemporary ideas of belief, history, and identity (Love, 2010; Fernández-Vara, 2019; Costalunga & Varini, 2025).

Methodologically, the study adopts a hybrid approach, combining visual semiotic analysis, digital game analysis (Aarseth, 2003; Consalvo & Dutton, 2006; Fernández-Vara, 2019), and ethnographic observations. The study addresses the game's design choices – mechanics, art direction, and narrative structure – not just as storytelling devices but as expressions of a broader socio-symbolic imaginary. Lastly, this research situates *Blasphemous* within the growing discourse on indie game authorship, cultural innovation, and the digital reworking of sacred traditions.

Literature Review

a) Indie games and narrative innovation

The independent games movement has provided a space for experimental storytelling, cultural specificity, and artistic ownership in the market of digital games. Whereas AAA games favour market-tested formulas and cinematic spectacle, independent games tend to prioritise personal, political, or culturally specific narratives (Anthropy, 2012; Parker, 2013). These include games, among others, such as *Undertale* (Fox, 2015), *Papers, Please* (3909 LLC, 2013), and *Blasphemous*, that embody the full potential of this movement: they showcase idiosyncratic narrative voices, unusual art styles, and unconventional mechanics that challenge traditional notions of game design (Juul, 2019; Ruffino, 2018). These games thus enable forms of expression that would otherwise not be possible, or not with the same level of attraction to the market. By introducing innovative interactive mechanics and non-linear narrative styles, they offer unique experiences in comparison to mainstream traditional titles (Lee, 2014), while fostering and encouraging imagination and reflection processes by involving active player participation (Hayes, 2020).

The term *indie auteur* has become synonymous with the study of this movement (Oliva, 2021). Drawn from post-structuralist definitions of authorship in film and criticism, indie developers are coming to be regarded as curators of personal and cultural significance, whose games are expressions of individual and shared identity (Keogh, 2015; Garda & Grabarczyk, 2016). *Blasphemous*, developed by Spanish game developer The Game Kitchen, is a good case in point: its art direction draws on the cultural background of the studio, namely the aesthetic and theological traditions of Andalusian Catholicism. Parker (2013) argues that independent games prefer subjectivity and situated experience, offering not just entertainment to players but also scope for affective investment and critical reflection.

b) Neo-medievalism and cultural memory

Medievalism in contemporary popular culture is less historical representation than cultural myth creation (Eco, 1986; Pugh & Weisl, 2012; Emery & Utz, 2014). In video games, neo-medieval appearances are often employed to create immersive worlds that mediate

and negotiate modern anxieties regarding morality, violence, and the sacred (Ortenberg West-Harling, 2009). While other games employ a generic medieval fantasy setting, *Blasphemous* is notable for its commitment to localised historical specificity, drawing on Spanish iconography, Baroque Christian piety, Andalusian culture, Semana Santa customs, and Catholic martyrdom traditions (Venegas Ramos & Gutiérrez-Manjón, 2021).

This is in alignment with trends in the *new medievalism* (Hsy, 2021), where the Middle Ages are reappropriated in order to articulate cultural identity in the present days. These representations are common acts of collective remembering (Assmann, 2011), negotiating past and present through symbolic reinterpretation. Cultural memory for Ricoeur (2004) is not merely archival, but productive and reproductive: it reconfigures history in the form of narratives responding to contemporary circumstances and concerns. *Blasphemous* is thus a space for the reimagining of religious heritage in a secularised, globalised media economy.

c) The sacred, the profane, and the digital

The sacred-profane divide, a central concern of religious sociology, is the fulcrum of *Blasphemous*'s narrative and aesthetic development. Drawing from Durkheim (2016), Thompson (1993), and digital religion studies (Waltemathe, 2014; Campbell, 2023), this study considers how *Blasphemous* reconstitutes sacred iconography as an interactive narrative. While the game inverts ecclesiastical institutions – through grotesque iconography, distorted clergy, and obfuscated theology – it also invites reverence through ritual, penance, and martyrdom mechanics. The penance that the characters in the game have internalised and that guides them in their narrative reflects the disproportionate punishments of Catholic mythology (León, 2019).

Cornelius Castoriadis's theory of the social imaginary provides one productive framework for interpreting this double movement of respect and critique. Castoriadis (1987) argued that societies are founded in shared symbolic universes that mark the borders of meaning and identity. *Blasphemous* engages this imaginary by reworking the visual lexicon of Spanish Catholicism into a digital mythos, open to global viewers but rooted in local affect and memory (Ivy, 1995; Strauss, 2006).

Also, as Barthes (1972) suggests in his theory of mythologies, cultural signs have a tendency to operate at multiple levels simultaneously – denotative, connotative, and ideological. The game's motifs of blood, torture, and redemption are not merely aesthetic conceits but mythic structures that convey greater anxieties about guilt, trauma, and spiritual aspiration. In this sense, *Blasphemous* belongs to what Bosman (2019) has termed the *sacred digital*, a space wherein religious tropes are renegotiated in the procedural and aesthetic discursive reasoning of games.

Methodology

This research employs a qualitative, interdisciplinary methodology combining semiotic analysis, game analysis, and visual ethnography to study the ways that *Blasphemous* remakes religious and medievalist imagery into an interactive, narrative-driven digital product. Collectively, these methods produce a multi-layered approach that aims not merely to be sensitive to the visual and symbolic content of the game but also to its procedural structure and affective bond to the player.

a) Visual semiotic analysis

Semiotic analysis informs comprehension of the rich visual language of the game. Following in Barthes' (1972) footsteps, this approach speaks about how meaning is constructed through the use of signs, symbols, and mythologies incorporated into *Blasphemous*'s visual universe. Particular attention is paid to recurring visual tropes – such as blood, martyrdom, church buildings, relics, and the stylised depiction of religious icons – and how these items suggest broader cultural associations. As Huppatz (2011) outlines, semiotic analysis in contemporary media studies allows us to interpret not just surface pictures but also the ideological and affective meanings contained in them.

The pixel-art aesthetic of the game, while evoking retro style, is utilised here to convey semantically rich content. The representation of self-lashing penitence, hooded procession, and ghoulish religious figures, therefore, not only requires analysis as stylisation but also as a visual critique of religious tradition and transformation. This is something that semiotic analysis can allow in order to uncover a rich symbolic infrastructure matching Barthes's (1972) definition of myth as "a second-order semiological system" (p. 114).

b) Digital game analysis

The study also employs digital game studies to examine the interplay between game mechanics, narrative design, and player experience. Drawing on Bogost (2010) and Juul (2011), the contention is that games express meaning not only through representational content but also by employing systems, rules, and interactivity. *Blasphemous* utilises peculiar ludic structures – including the cycle of death and resurrection, accumulating and cleansing guilt, and enabling confession shrines – that are procedural metaphors for penance, redemption, and pilgrimage. Death, in particular, has an important (gameplay and narrative) presence, haunting the avatar-player throughout the game (Ros Velasco et al., 2022). In fact, through the continuous play-death cycle, the avatar's quest for atonement resonates with the player's goal of (playful) game completion.

By analysing how these mechanics simulate theological and ritualistic experiences, the research links gameplay and religious embodiment. Trapped in Cvstodia's hostile world, searching for narrative fragments through exploration, and dying repeatedly becomes a metaphorical reproduction of a spiritual journey and sacrifice. These elements of the game are compared to more general analyses of affect, embodiment, and agency in religiously themed games (Grieve & Campbell, 2014; Fernández-Vara, 2019).

c) Visual ethnography and cultural contextualisation

In order to situate the game in its cultural and historical context, the methodology adopts visual ethnography as outlined by Pink (2004). In contrast to traditional ethnography based on face-to-face fieldwork, visual ethnography allows the examination of visual and symbolic systems found in media artefacts as cultural texts. The methodology is ideally suited to *Blasphemous*, which, as already mentioned, appropriates heavily from Spanish Catholic material culture, with references to Semana Santa (Holy Week), religious relics, and Baroque ecclesiastical imagery.

Working from the theory of Pink, the research looks at the way visual codes function within their sociohistorical setting and how they are read and emotionally invested in by the player. What this process enables is a culturally grounded reading of the iconography of the game that takes into account both its Andalusian origins and its reworking for a transnational indie player base.

Results of the Game *Blasphemous* Analysis

a) Visual symbolism and semiotics

The world of *Blasphemous* is saturated to excess with religious imagery that goads towards a reading broader than aesthetic exploitation. Its pixellated realm draws from a particularly Spanish Catholic visual vocabulary and leverages reference to Semana Santa iconography (Keller & Kinkade, 2014), Baroque sacred painting, and the architecture of penitential piety. Semiotically, these signs become pieces of evidence in what Barthes (1972) calls a second-order mythological system – symbols which have ideological meaning inscribed within cultural memory.

Perhaps the strongest of the recurring motifs is that of martyrdom, achieved through bodies that combine holiness and physical agony. Saints appear in brutal forms: pierced, burned, twisted, or caged in spiked reliquaries. This foregrounding of bodily agony brings to mind the visceral realism of Spanish Golden Age religious sculpture – most specifically that of artists like Pedro de Mena and Juan de Mesa – where suffering is the vehicle of transcendence. Here, though, the pain indications take on double meanings. They evoke awe and revulsion, highlighting what Bosman (2019) refers to as the *sacred grotesque*, a combination of sacred symbolism and bodily monstrosity in the digital sacred.

The Penitent One himself is also a visual text: his enormous, cone-shaped helmet explicitly references the capirotes worn in Semana Santa parades. These hoods in formal practice are markers of anonymity, humility, and penitence. In-game, the helmet is nevertheless both a burden and a weapon – a component of the character's unstated self and perpetual gesture of his guilt. For Barthes, myth corrupts meaning insofar as history is interpreted into nature; *Blasphemous* does this maxim in reverse. In dissolving the distinction between religious symbols and their construct, *Blasphemous* highlights how spiritual signs are political and cultural constructs too.

The buildings themselves also reinforce this symbolic net. Cathedrals are half-burned down; sanctuaries are swimming in blood; altars (Prie Dieu) are checkpoints. They are not fixed set pieces but "symbolic spaces" that tell the tale of a fallen theocratic society. The profanation of sacred architecture is part of broader assaults on institutional religion and is also consistent with the game's general ambivalence concerning religious authority.

Another of the key icons is the reliquary, a traditional Catholicism vessel for containing the physical remains of saints. Relics in *Blasphemous* resemble a thorn, a splintered bone, or a vial of blood. But these relics are not filled with Godly energy but with reflective memories. Rather than being channels for divine intervention, they are mnemonic devices that write narratives of trauma and guilt into play. This subversion of the relic is an action that imitates Barthes' deconstruction of myth: the exposure of ideological investments in supposedly sacred things.

Finally, colour and light are used symbolically during the game. Muted, funereal colouring – thoroughly shrouded in greys, browns, and dark reds – harmonises with the emotional gravity of penance and death. Infrequent but intentional flashings of gold or white identify moments of divine intervention or revelation. Colour shifts function semiotically to divide the holy from the unholy, maintaining visual discourse in accordance with theological distinction (Durkheim, 2016).

In general, *Blasphemous* constructs a symbolic world where visual motifs are not only ornamenting but also narrating. They articulate a shared imaginary – that is, a set of collective symbols and emotional resonances (Castoriadis, 1987; Strauss, 2006;

Adams et al., 2015) through which cultural identity and belief are visually and narratively expressed. In this sense, the game's imagery does not "speak" metaphorically, but rather communicates symbolically through recurring forms that structure meaning within the player's interpretative framework created at the intersection of religion, violence, memory, and cultural identity. With their deformation and ritualistic repetition, the game enacts the vulnerability of meaning in sacred systems and invites players into a world where redemption is always on the brink of collapse.

b) Ritual, mechanics, and ludic embodiment

While the visual symbolism of *Blasphemous* is firmly based in Catholic and medievalist iconographies, it is at the level of mechanics and player interaction that the game carries out a more profound theological and affective structuring. The game appropriates traditional religious conceptions – penance, sacrifice, redemption – into ritualised gameplay activities that commit the player cognitively and embodiedly, based on the procedural rhetoric of suffering and atonement (Bogost, 2010).

At the heart of this *ludic theology* is the death-rebirth cycle, a ubiquitous mechanic across Soulslike game but one that finds new meaning in *Blasphemous*. With each death, the player-character expels a piece of guilt, a mechanic that must be ritually circumnavigated either by returning to the site of death or through acts of absolution at a confession shrine. This layout evokes the Catholic doctrines of original sin and sacramental penance, rendering the player's failure narrative and ritual. Unlike death in games where failure is simply a setback, *Blasphemous* links all failure to a moral blemish – a persistent flaw that must be cleansed through work and expiation.

The game's confession shrines are homologues to sacred places wherein the unclean is suspended temporarily. Such sites allow the player to cleanse accumulated guilt, gain narrative content, and reflect upon sin. As Schnell and Pali (2013) also argue in their pilgrimage and ritual monograph, such habitual action generates meaning through the repetition of ritual and existential orientation. In this sense, then, the confession shrines are not just save points – they are sacraments in the game's ludic form.

Other mechanics double down on this affective economy of suffering and transcendence. The player collects relics and rosary beads, both of which enhance abilities but also weigh the body with diegetic traumas and martyrs' histories. Even traversal mechanics – such as self-flagellation-inspired wall climbing or kneeling to trigger altars – require the player to enact ritual gestures of submission, aligning motion with meaning.

The protagonist, The Penitent One, being voiceless, further contributes to creating an atmosphere of religious contemplation. There is no more than non-verbal action, prayer, and coded text used for communication, and the player – despite the game's action nature – is pushed toward a more contemplative, introspective mode of play. This is not merely an imitation of monastic silent culture but also game design practice using negative space – in audio, in movement, in story – to generate gravitas and contemplation (Fernández-Vara, 2019).

Most strikingly, these systems not only represent religious practice, but also mimic it. Adopting a synthesis of Bogost's (2010) procedural rhetoric, *Blasphemous* constructs a theological grammar in code: a system where sin, penance, and grace are not merely witnessed but enacted by rule-based systems. That is where its difference from iconographic games lies. Its message is not just delivered – it is acted out.

Furthermore, the mechanics put the player into the role of an active penitent, rather than a spectator or heroic figure. The player suffers, labours, and sacrifices alongside the character. Play is therefore an act of passage, echoing the liminal modes of pilgrimage in Turner's (1969) anthropological model: leaving protection behind, trial, symbolic

dying, and final reintegration (or transcendence). In this framework, *Blasphemous* offers not only an adventure but a virtual rite of purification. Its overall difficulty, and the numerous deaths caused by even the slightest mistake, are well (and slyly) justified by this narrative-symbolic context, while the player is forcibly immersed in it.

Overall, the game mechanics of *Blasphemous* inscribe Catholic metaphysical and liturgical theory into ritualistic play. In so doing, the game constructs a sense of ludic embodiment, wherein religious subject matter is not merely represented but sensed. Such procedural inscription of pain and penance confers on the game a unique space of post-secular engagement, whereby timeless spiritual thought is met through recent ludic media.

c) Localisation and the global indie market

Blasphemous is a great example of how deeply ingrained cultural content can be successfully adapted into an internationally relevant indie title. Even though its look, narrative, and structural themes take directly from Andalusian Catholicism and Spanish memory, the game has been a huge international hit and success – both in critical and commercial reception. It is this accomplishment which exemplifies one of the fundamental tensions of contemporary indie production: balancing true cultural specificity and broad translatability within globalised media economies (Parker, 2013; Albarran, 2023).

As Ruffino (2018) argues, independent games operate through a "politics of presence" (p. 107), where a game's identity is created just as much by its cultural provenance as by its position in the global market. *Blasphemous* performs a double move: it foregrounds a specific, excluded religious-aesthetic tradition – based in Spanish penitential Catholicism – while simultaneously positioning that tradition within a genre (Metroidvania [Oliveira et al., 2020]) and visual style (pixel art [Kopf & Lischinski, 2011]) that are legible to a mass gaming public.

This intentional opacity and the control of this same opacity – offering another cultural frame without fully expounding or diluting it – is a strategy of what Casetti (2015) calls transcultural negotiation. Many terms in the game – like "Cvstodia", "The Miracle", "guilt", "flagellation", etc. – are not defined through lore exposition but are met through context and visual-symbolic experience. This aligns with Aarseth's (1997) ergodic theory of literature in which meaning is not delivered but revealed through engagement and struggle.

Yet, this strategy does not alienate players unfamiliar with Spanish religious history. Rather, it constructs what Juul (2019) refers to as "unstable meaning structures" (p. 162-163), wherein interpretative ambiguity is an inherent feature of the narrative experience. Thus, *Blasphemous* invites international players into a culturally intensive imaginary without reducing its content to essentialist or exoticist cliches. The digital game voids the trap of "cultural tokenism" so common in global media by being respectful and serious in its engagement with its religious subject, even if it distorts it on an aesthetic and storytelling level.

Moreover, the localisation choices of the game – maintaining some of the Spanish names, using liturgical and archaic English for international releases, and preserving references to real religious practices – reflect a non-neutrality in the approach to localisation. O'Hagan and Mangiron (2013) argue that localisation is always cultural, ideological, and aesthetic, not merely linguistic. The success of *Blasphemous* comes from the fact that it avoids "flattening" its symbolic world for the international public, but rather from its ability to leave the player with some responsibility in interpreting strange materials through playing and affect.

This is a distinctive kind of strategy compared to the more anglicised neo-medievalisms in *Dark Souls* (FromSoftware, 2011) or *The Elder Scrolls V: Skyrim* (Bethesda Game Studios, 2011), the tendency of which is to universalise medieval tropes within generic fantasy settings, probably also due to market choices or the cultural distance of the development teams from narrative material of reference. *Blasphemous*, on the other hand, roots its world in some very specific histories of suffering, ritual, and Catholic visual culture and then applies indie game design philosophy to them in order to produce a hybrid narrative form: both particular and translatable, devotional and gruesome, nostalgic and hermetically written.

Under indie game authorship, *Blasphemous* is thus what Galloway (2006) describes as *cultural interface* – a place of meeting between narrative code and cultural code, between localised remembrance and global mediation. The game is not just entertainment, but a cultural envoy, situating the southern Spanish rituals, anxieties, and pictorial traditions into dialogue with a multicultural, global player community. This was probably mainly due to the fidelity of the source narrative and iconographic material and, most likely, to the spatial-cultural "closeness" and passion made possible by the indie nature of the project.

Discussion

The foregoing analysis demonstrates that *Blasphemous* is more than a stylistic homage to old games or a dark fantasy platformer, but rather a culturally situated work of narrative innovation that mobilises religious symbolism, ritual structure, and regional aesthetics in a globally readable fashion. Its hybridisation of theological themes and interactive mechanisms breaks through established genre forms and offers a potent illustration of what happens when collective memory is reimagined through digital means.

At the heart of *Blasphemous* is a trade between piety and critique, and between sacred tradition and profane transgression. In its grotesque yet respectful, distorted yet emotionally resonant use of Catholic iconography, the game performs what scholars have called a *double gesture* (Goldstein, 2005): it defiles the symbolic power of religious institutions while upholding the emotional significance of spiritual practice. This twofold articulation addresses Hughey's (1979) reading of Weber and Durkheim in which secularisation is not the elimination of the sacred but its transfer to new symbolic orders.

While Durkheim's theories were developed to analyse real societies, they remain heuristically valuable for the study of fictional and ludic systems. Digital games construct symbolic universes governed by norms, boundaries, and rituals, which regulate player behaviour in ways comparable to social structures. This Durkheimian lens can thus be extended to digital environments, which – although simulated – generate genuine forms of collective meaning and moral order. In this sense, it argues that the internet and other mediated spaces reconfigure the social imagination into new, digitally instantiated communities that retain the symbolic density of traditional societies (Blommaert, 2018).

Within this framework, the boundaries and ritualised actions that define gameplay echo the processes of social regulation. Games can be described as "self-referential systems" in which meaning arises precisely from their internal constraints and ritual control of boundaries (Harviainen, 2012, p. 508). These ritual structures enable games to model collective behaviour and moral codes in procedural form. Similarly, therefore, video games can "work like rituals" by generating temporary sacred spaces that organise symbolic actions and emotions (Wagner, 2014, p. 18).

The religious or mythical dimension of this structure highlights how digital gaming can function as a "religious act" in its repetition, devotion, and suspension of disbelief (Bosman, 2019, p. 4). It situates this symbolic practice within a ludic habitus, linking the dispositions learned by the player and their previous experiences to their continued participation in rule-based systems (Jaćević, 2022).

Through this lens, Durkheim's reflections on ritual and the division between the sacred and the profane can shed light on the procedural and affective dimension of games such as *Blasphemous*, where interactive systems enact moral order and shared symbolic meaning rather than merely representing them.

On this interpretation, *Blasphemous* is a post-secular object (Smith, 2012) – a digital game which addresses the secular media economy but re-invests in the symbolic power of religious forms. The gameplay systems of the game do not merely point to sacrifice and penance, but enact them through ritualised gameplay, generating a ludic theology where the player ritually suffers, confesses, and endures. This framework is consonant with Bogost's (2010) concept of procedural rhetoric – games that argue through systems rather than symbols – and discloses the potential of interactive media to enable belief and instantiate moral structures.

Second, the cultural particularity of the game resists the homogenisation traditionally attributed to global media. Rather than universalising its medievalism in a generic world of fantasy, *Blasphemous* objects to a regionalised, localised authorship based on Andalusian aesthetics and religious practices. This objection to the cultural anchorage is part of the broader indie ethos – a rejection of mass-market pressures for individual, situated, and oftentimes marginal narratives (Anthropy, 2012; Ruffino, 2018). The role of The Game Kitchen as a Spanish indie game studio is crucial here: they not only draw upon cultural heritage but also perform it in a new technological and narrative idiom.

In this case, the game serves as a space of cultural translation, not by erasing local differences for the global market, but by trusting the player to meet and engage with non-familiar symbolic worlds. It is a strategy that places *Blasphemous* within the context of what can be defined as a *conjunctural analysis* (Jefferson, 2021) – a game that emerges at the intersection of tradition, technology, and transnational media flows. Its combination of devotional visuals, corporeal gameplay, and independent creation is a performance of the potential of digital games to be repositories of cultural memory, not preservation but reinvention.

Lastly, *Blasphemous* invites us to reflect on the cultural and narrative potential of games. It demonstrates how games can be made into ritual spaces, symbol repositories of inheritance, and negotiation grounds of culture. By doing so, it creates a model of indie game authorship that is not only personal or aesthetic, but also historical, political, and religious.

Conclusion

This study examined *Blasphemous* as an example of innovation in symbolism and narrative in indie game design, drawing attention to its unique combination of Spanish Catholic iconography, neo-medieval aesthetics, and interactive ritual. Through the application of visual semiotic analysis, digital game analysis, and visual ethnography, the study aims to demonstrate how *Blasphemous* reworks culturally specific religious traditions into an engaging digital experience that resonates with global audiences.

The key findings include the identification of a ludic theology – a game mechanical design approach that replicates sacramental and ritual practices such as guilt, penance, and absolution. Rather than simply representing religious themes, these mechanics allow players to embody them, performing spiritual tropes through procedural logic systems. This game design reshapes religious experience as a practice rather than a belief, and it compels us to think through the affective and ritual dimensions of digital interaction.

Visually, the game constructs a mythopoetic space wherein sacred and profane combine in divine and grotesque hybrids. Through the use of martyrdom, reliquaries, ecclesiastical architecture, and symbolic suffering, it illustrates how games can be archives of cultural memory, reusing religious iconography to produce not only aesthetic nostalgia, but also critical reformulation of historical identity.

Furthermore, the success of *Blasphemous* as a Spanish indie game demonstrates that games deeply rooted in culture can access international and global markets without compromising their specificity. The game manages to achieve a balance between cultural specificity and global accessibility, validating the role of indie game authorship as a mediator of localised memory and transnational storytelling. All this in (global) market conditions that rarely leaves little room for highly creative production.

While existing research has addressed religion in games largely from representational or narrative perspectives (Bosman, 2019; Garner, 2021), this study moves the argument ahead by introducing the concept of ludic theology – a perspective that interprets procedural gameplay as a ritual performance that occurs when games become ritual, that is, when players enact repetitive symbolic patterns within a delimited system of rules and meanings (Riley, 2005).

Ludic theology therefore accounts for the ability of games to express theological reflection in and through the game itself, rather than solely through explicit narration or doctrine and dogma. Theology is enacted instead of represented: the player performs ritualised actions – penance, repetition, and renewal – that convey spiritual concepts into interactive experience. Drawing upon an idea of play as a form of ritual (Huizinga, 1955) and on a conception of theology imagined as performative practice (Milbank, 2006), ludic theology highlights how digital games can render belief and metaphysical inquiry into embodied, procedural forms of reflection.

Furthermore, by situating *Blasphemous* within the specific cultural matrix of Andalusian Catholicism, the study aims to show how indie games can serve as a vector for regional memory and post-secular engagement in a globalised world. Video games have increasingly turned into sites of cultural memory, while their narratives and aesthetics are engaged in the negotiation of local identity within a global market (Hammar, 2019). The dual focus – ludic theology and cultural localisation – is the central contribution of the present research. By engaging intensely with questions of tradition, faith, identity, and creativity, *Blasphemous* challenges hegemonic paradigms both in religious representation and in game design. It attests that digital games are not merely entertainment products but also cultural texts, ritual spaces, and theoretical provocations. Since game studies as a field continues to emerge, subsequent research might follow up with comparable culturally located indie games, observe player reception of religious mechanics, or conduct comparative studies across religious traditions in digital media.

Overall, *Blasphemous* offers an example of how indie games can revive cultural memory, represent symbolic structures in gameplay, and continuously negotiate identity, beliefs, and authorship amidst a post-secular, globalised media landscape.

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Coping with Loss and Grief in Games: A Case Study of *Clair Obscur: Expedition 33*

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ABSTRACT:
This study examines the evolving representation of grief following the death of a loved one in digital games, focusing on the case study of *Clair Obscur: Expedition 33*. While earlier media often simplified and stereotyped grief, recent digital narratives offer more nuanced portrayals. Drawing on psychological models like the Coping Circumplex Model by Stanisławski and Dimensions of Coping Responses by Moos and Holahan, the paper analyses the coping strategies of four key characters, each embodying distinct ways of processing traumatic loss. The analysis highlights a progressive unfolding of grief within a complex, layered narrative that blends real and fictional worlds. *Clair Obscur: Expedition 33* challenges traditional media stereotypes, with reversed gender roles in parental coping and contrasting narrative endings that emphasize either pathological withdrawal or acceptance and reunion. This research demonstrates how digital games provide unique narrative depth and interactivity, enabling players to engage empathetically with multifaceted emotional experiences. The study contributes to media studies and game studies by showing the potential of digital games as a medium for realistic, complex representations of human emotions, highlighting the importance of thoughtful narrative design in portraying coping strategies and grief.

KEY WORDS:
coping strategies, digital games, emotion representation, grief, narrative.

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Introduction

Media representation of grief after the death of a loved one has undergone significant developments in recent decades. Whereas in the earlier phases of the portrayal of this theme we can refer primarily to the simplification and sometimes trivialization and stereotyping of grief, the media content of recent years has made significant advances in this domain.

Grief following the death of a loved one is a significant topic in psychology, with many theoretical approaches. The grieving process is often described through Attachment Theory (Bowlby, 1989), the Five Stages of Grief (Kübler-Ross & Kessler, 2005), or the concept of Continuing Bonds (Klass et al., 1996). In particular, the Five Stages of Grief (denial, anger, bargaining, depression, acceptance) are often used in media content as a narrative model for the development of a character who experiences the loss of a loved one. However, as the authors of all the aforementioned theories say, grief is not a single emotion that is linear in nature. This is also why its media portrayal is quite challenging, and even more so when grief involves multiple people, such as all members of a family, as we will discuss in this article.

In order to understand the media portrayal of family bereavement, it is essential to distinguish between natural grief and traumatic loss (trauma). Grief represents a normal response to loss, whereas trauma involves a shocking event that significantly disrupts the sense of security and fragments memories. As Sullender (2010) states,

> Bereavement and trauma are interwoven and interrelated. All trauma includes some element of loss and grief, but not all bereavements are traumatic. Trauma introduces another emotional element or highlights one emotional element among the many associated with bereavement. That emotional element is anxiety or fear. (Sullender, 2010, p. 196).

In the case of family tragedies where the loss is associated with a violent or sudden event – such as a fire, car accident or violence – there may be traumatic grief that goes beyond the standard stages of grief. Granek (2014) says this is an extreme pathologization of grief and is also called complicated grief.

These psychological concepts have also found their place in media studies and the development of audiovisual productions, where they serve as narrative tools to portray grieving characters. Trauma studies are therefore not limited to psychology and psychiatry but also have a firm place in the humanities and culture (Whitehead, 2004). However, most academic texts on media portrayals of trauma and grief focus primarily on society-wide events such as wars or terrorist attacks, which traumatize not only the participants but also, secondarily, a wider audience (Meek, 2010; Kaplan, 2005).

Representations of grief in the media can sometimes be trivialized or stereotyped as a result of time and format constraints, commercial pressures, established genre conventions, and audience expectations that favour easily readable emotional shortcuts. At the same time, however, the specific form and depth of the depiction of mourning always depends on the creators' goals, cultural context, narrative structure, and aesthetic decisions of the work in question. In this text, I therefore leave media outside of digital games as a general context and focus on the specifics of interactive storytelling, where game mechanics and player participation create specific conditions for depicting and experiencing grief. These same production and reception dynamics can likewise operate within games themselves, risking similar simplifications of complex affect; in the adjacent case of mental illness, there is evidence that such dynamics do manifest, with up to 75% of portrayals in digital games described as negative and stereotypical (Buday et al., 2022).

Digital games as a medium for depicting complex human challenges and emotions, as well as trauma and grief, present a special case. On the one hand, "games offer unique technological affordances for portraying trauma, inaccessible to non-interactive media" (Kuznetsova, 2017, p. iii). On the other hand, they can reinforce simplified and stereotypical views of trauma and coping (Ng, 2019). In recent years, however, the positive potential of games has also become more apparent: Eum and Doh (2023) argue that digital games can have a therapeutic effect and provide positive interaction with memories instead of passive grieving. Meaning-making is a key process in doing so, where games facilitate positive reappraisal of traumatic experiences.

In summary, there are two dominant ways of looking at grief and associated themes in digital games, namely ludic and narrative. In the ludic conception, the player can experience grief as if it were their own, through game mechanics that grief, or elements of it, can simulate. These include e.g. the inability to temporarily control an avatar, unexpected changes to game controls, etc. Suitable examples of this type are *Hellblade: Senua's Sacrifice* (Ninja Theory, 2017), *Inside* (Playdead, 2016) or *A Plague Tale: Innocence* (Asobo Studio, 2019). In narrative, grief is part of the story, but we can debate whether this is a simplistic depiction of grief that may contribute to the aforementioned stereotyping and trivialisation, or a thoughtful to sophisticated depiction of grief that allows the player to not only feel the emotion, but also to empathise with the character experiencing the grief. Suitable examples of this type are *Gris* (Nomada Studio, 2018), *The Last of Us* (Naughty Dog, 2013), *Martha is Dead* (LKA, 2022), and last but not least, as we will attempt to prove later in this text, *Clair Obscur: Expedition 33* (Sandfall Interactive, 2025a).

Methodology

The research material for this article is the digital game *Clair Obscur: Expedition 33*, or rather its characters and especially coping strategies involving the loss of a family member. The game was released on April 24, 2025, for Microsoft Windows, PlayStation and Xbox. At the time of writing this article, it is therefore a new game, which has not yet been covered academically in any article or publication. In terms of genres, the game could be classified as an RPG with both action and adventure game elements. We choose this research material for several reasons: 1.) The game is new and therefore provides the most up-to-date perspective on the issue of updating the topic of portrayal of grief in the media; 2.) The game is successful, as evidenced by the 3.3 million copies sold within a month of its release (Sandfall Interactive, 2025b), but also by the many positive reviews, both from review sites (Clair Obscur: Expedition 33 & Sandfall Interactive, 2025) and from the players themselves. Nearly 3.5 months after release, the game has an 'overwhelmingly positive' rating on Steam from 101,542 players by August 2025 ("Clair Obscur", n.d.), with the game often being described as a serious contender and possible future Game of the Year winner for 2025; 3.) As it is primarily an RPG, it provides a narrative-heavy experience that easily allows the audience to 'empathise' with the characters and experience the story with them, or through their eyes.

The ambition of the research is to explore how the individual characters who are members of the Dessendre family *in Clair Obscur: Expedition 33* cope with a traumatic event – a death in the family. The intention is to highlight the different coping strategies for dealing with loss and trauma and the different internal processing of grief in each of the characters. The reason for the selection of this theme is that it is a major plot point that runs throughout the narrative and is a major source of conflict between the characters.

Given the characteristics of the object of study, we apply qualitative research methods, namely a combination of thematic and narrative analysis. Thematic analysis will focus mainly on the themes of grief and trauma as consequences of the death of a family member. We use narrative analysis purposefully, as the coping strategies of the characters cannot be discussed without describing their behaviour during the storyline. However, we will describe the narrative chronologically and not as it unfolds during the course of the game, as the game operates with many flashbacks and multiple intertwined storylines.

To identify coping strategies of characters, we use the Coping Circumplex Model (Stanisławski, 2019). The CCM is a model based on two main dimensions, which are problem coping and emotion coping. Their combinations and opposites, such as problem solving (P+) versus problem avoidance (P-), emotion regulation (E+) versus emotion suppression (E-) together form the eight styles of the Coping Circumplex Model: "Problem solving (P+), problem avoidance (P-), positive emotional coping (E+), negative emotional coping (E-), efficiency (P+ E+), helplessness (P- E-), preoccupation with the problem (P+ E-), and hedonic disengagement (P- E+)" (Stanisławski, 2019, p. 4). In addition to this model, we also use the Dimensions of Coping Responses (Moos & Holahan, 2003), which define four basic types of coping responses based on a combination of focus of coping and method of coping: "cognitive approach, behavioral approach, cognitive avoidance, and behavioral avoidance" (Moos & Holahan, 2003, p. 1391). Although these theoretical models are primarily used in psychology to classify coping structures with stress, we would like to suggest that they are a useful tool for identifying the coping strategies of each character in the analysed material, as each character represents a different way of coping with a tragic event. The research categories are:

a. *Characters and narrative*. In this category, we are primarily aiming to present the complex issues, relationships and dynamics between the members of the Dessendre family (Alicia, Aline, Renoir, Clea, Verso). We deliberately ignore the many minor characters who, while they do complete the narrative or move it forward, are not part of the Dessendre family (or are just part of the fictional world of the Canvas, such as Gustave, Lune, Sciel, Monoco, Esquie, etc.).
b. *Coping strategies*. In this section, we attempt to categorize the different types of coping with trauma and grief by the different characters, to point out their differences, but also the media stereotypes (mainly related to parenting) that the father and mother of the family represent. Due to the nature of the research category, we intentionally exclude the character Verso and analyse only the remaining family members – Alicia, Aline, Renoir, Clea. For these characters, we will first briefly describe their behaviour, or rather their reactions to loss and the ways in which they cope with grief, as they represent different strategies. Based on their emotional reactions throughout the story, we will classify them into the appropriate category under the concepts of CCM and Coping Responses.

Results

a) Category: Characters and narrative

For the clarity of the following section, we will first summarise the characters appearing in the game and assign to each of them their alter egos/painted versions, summarising their back story and their main characteristics. These are the characters that are part of the Dessendre family, which is the main object of research:

- Alicia Dessendre / Maelle / Painted Alicia – the younger daughter, the main protagonist of the narrative. In the imaginary world, she forgets her identity, does not recognize the members of her real family or herself. Alter ego Maelle is brave, listens to her inner voice, has deep inner connections with the other characters. The real character Alicia, on the other hand, is fearful, hiding from the world because of her physical disfigurement from a fire. There are three versions of this character in the narrative – Maelle, the alter ego in the fictional world, Alicia, the real character, and Painted Alicia, created in the Canvas by her mother Aline.
- Verso Dessendre / Verso – the son, who died in the real world in a fire in which he tried to save his sister Alicia. In the fictional world, there is only a projection/image of him, created out of grief by his mother. The imaginary world is originally his child creation. Verso is fearless and friendly, but an identity crisis emerges after learning the reality. He also appears in the fictional world as a version of the child, but in this one he has only a supplementary function and does not interfere with the plot.
- Clea Dessendre – the elder daughter, she is only a marginal character in the narrative, appearing minimally. Unlike the other members of her family, she despises the fictional world and tries to live in the real one, in which she seeks revenge on the perpetrators of the fire that destroyed her family. In the fictional world, she tries to help her father, albeit in unorthodox ways, to return her mother and Alicia to the real world.
- Renoir Dessendre / Curator / Painted Renoir – the father of the family, in most of the narrative he appears as Painted Renoir – the antagonist, a creation of Aline, who is responsible for the deaths of many characters in the fictional world. In reality, however, he only wishes to save his collapsing family and return them to the real world, putting an end to the imaginary world. His alter ego Curator does not speak, but is a supporting

character to the main protagonists. There are a total of three versions of Renoir in the narrative – the Curator, the real Renoir, who is good-hearted and means well for his family, and the Painted Renoir, who was created by Aline and is the antagonist.

- Aline Dessendre / Paintress – the mother of the family, who has gone mad with grief from her son's death and lives in an imaginary world in which she created her son's projection. From the beginning of the story, her alter ego Paintress is portrayed as the main antagonist of the story.

The narrative consists of two storylines that do not unfold chronologically, but intersect in the plot and are revealed to the player sequentially as the motivations behind the actions of each character and their relationships. To simplify the narrative, we describe the story chronologically rather than as it unfolds in the game, to avoid many flashbacks and the gradual revelation of the characters' backgrounds. At the same time, we omit many subplots and conflicts, as the aim is not to present the story in its entirety.

The story is set in a fictional world that is inspired by Paris. The Dessendre family is a family of painters and consists of parents Aline and Renoir, and children Clea, Verso and Alicia. The parents lead the children to painting, their canvases are alive, and it is possible to enter them as if entering an imaginary world. After a conflict with the Writers, who cause a fire in the Dessendre family home, son Verso dies in an attempt to save Alicia, who is left disfigured. Mother Aline, out of grief, enters Verso's Canvas, as she does not want to give up her last memory of her son. In the Canvas (in an imaginary world), she creates copies of her family members, including the dead Verso, and constructs a copy of her real world – the city of Lumière (again inspired by Paris). As she spends too much time in the Canvas and her real life is practically non-existent, Renoir, and later Clea and Alicia, enter the Canvas after her, in an attempt to help the mother overcome her grief and bring her back to reality by force – the destruction of the imaginary world. Mother Aline adopts the form of her alter ego, The Paintress. When Alicia enters the Canvas, she is overwhelmed by Aline's power and forgets about her real life, becoming the alter ego Maelle.

A separate story takes place in the fictional world of Canvas. The premise is that every year the Gommage occurs – all the citizens of the city of Lumière die at the age drawn by the Paintress on the Monolith, with this age decreasing every year. Each year, a group of volunteers embark on an expedition to stop the Paintress. In the current year, Maelle is also joining the expedition. After the ship lands, most of the expeditioners are slaughtered by the local creatures and an older man (Painted Renoir), but in the background Maelle can be seen being rescued by an unknown man (Verso). The surviving members of the expedition reunite gradually and look for a way to accomplish the goal of their mission. They find Maelle in a lavish house (a copy of Dessendre's family home) in the presence of the Curator (Renoir's alter ego) and set out on their expedition.

During this journey, Maelle has several nightmares and visions in which she sees Verso, Painted Alicia and Painted Renoir, but these images and their dialogues make no sense to her as she does not recognize any of the characters. The next time she encounters Painted Renoir, he kills Gustave (Maelle's best friend and father figure), and Maelle experiences another vision in which she overhears Renoir and Aline talking about her arrival in the Canvas. Verso enters the situation and his conversation with Painted Renoir shows obvious tension and disapproval. Verso then joins the rest of the expedition, with their goal no longer just to destroy the Paintress, but also Painted Renoir. As the expedition progresses, they arrive at a replica of the Dessendre house, where they encounter the Paintress, Painted Alicia, and Painted Renoir, and after the duel, Maelle has another vision in which Painted Alicia shows her the burning house. However, the house subsequently disappears, and the group proceeds to follow the journey to the Paintress.

At Monolith, where the Paintress resides, they encounter the Painted Renoir again and, with the help of the Curator, destroy him. The encounter with the Paintress that follows is full of twists and turns. The Paintress is confused and does not know what is reality and what is illusion, thinking that the members of the expedition are Renoir's creation to banish her from the Canvas. She attacks them, but in the last phase of the fight she stops attacking and tries to protect the members of the expedition. In the end, she dies in Verso's arms, by Maelle's hand.

After the expedition returns to the city of Lumière, Verso reads a letter from Painted Alicia, in which she describes two versions of the family – the Painted and the real version. For the first time, however, she describes the creator of the Gommage (the death of all the citizens of Lumière at a certain age) as Renoir/Curator, not the Paintress, who is at least trying to warn the citizens when she can no longer protect them. The purpose of Renoir's action is to control Aline's oldest creations, since she no longer has such control over them. Therefore, after the Paintress' death, there is no one left to protect the citizens, and the Gommage of all the residents occurs. Only Verso and Maelle/Alicia, who has remembered her origins and family relationships, survive. For Verso, there arises an identity crisis as he is just an imaginary creation with the memories of the real Verso, who is dead. They meet the Curator, who transforms into the real Renoir, praises Alicia/Maelle for getting Aline away from the Canvas, and makes clear his intention of destroying the Canvas. Maelle/Alicia disagrees with his decision, and after Renoir's efforts to make the Canvas an inhospitable place and to kill Verso, Alicia/Maelle realizes her power to paint, and thus to bring life back to the characters in the painting, and together they flee the town.

Alicia/Maelle paints back the members of the expedition, and gradually all the members of the previous expeditions, to help them in their fight against Renoir. Together they return to the capital as a last resort to save the imaginary world – Canvas, which Alicia/Maelle wants to stay in, not to be destroyed. At the end of their journey, they are met by Renoir, who tries to explain to Alicia/Maelle why she cannot stay in the Canvas. The latter, however, disagrees and decides to fight him. During the fight, Aline comes to help the expedition. After the defeat, Renoir tries to show Alicia/Maelle his everyday reality in which Aline has gone mad with grief and points out the complete breakdown of the family due to grief and living in the Canvas, calling the family members living corpses. Eventually, he leaves the Canvas and allows Alicia/Maelle to stay in it for a while longer, even though she has come to this result by lying. The twist comes with Verso, who, upon seeing a grieving Aline, realizes that he is the source of all the conflict and that if Alicia/Maelle stays in the Canvas, she will perish in it. He challenges her to a duel for the future of the Canvas. At this point, the narrative splits into two possible endings to the narrative:

- *"A Life to Paint"*: If Alicia/Maelle wins, Verso begs her to erase him, because he does not want that kind of life. She disagrees, and a cutscene follows, set several years later, which features all the members of the expedition (even the originally dead ones that Alicia brought back to life). In it, Verso plays the piano in front of the theatre, but it is clear from the scene that he does not want to and is forced to do so. The last scene shows Alicia/Maelle going mad and losing herself in the Canvas, she is in control of the Canvas and her intention is to live her whole life in it.
- *"A Life to Love"*: If Verso wins, Alicia/Maelle fades out of the Canvas and gradually all the characters die as well. However, what follows is a real-world scene in which the Dessendre family reunites at Verso's grave and displays inner peace and acceptance of their loss. In the last scene, Alicia sees the members of the expedition in front of her as they wave and gradually disappear.

b) Category: Coping strategies

Each of the family members is a different representation of coping with family trauma, causing internal conflicts between them. We could argue that the source of the conflicts is inherently the absence of empathy, because although some members (e.g. Renoir) try to show others his reality and thus justify his actions, there is no understanding of his motives among the other members. The coping strategies of the members of the Dessendre family could be simplistically divided into rational (Renoir, Clea) and emotional (Aline, Alicia). However, emotions and coping with loss, trauma, and grief (even if only of characters in the fictional narrative of a digital game) are not so easily defined. To complete the analysis, we thus use a combination of two approaches from psychology, namely the Coping Circumplex Model (Stanisławski, 2019) and Dimensions of Coping Responses (Moos & Holahan, 2003). In the following section, we use almost entirely the real names of the characters as they exist in the real world to avoid unnecessary complications in the text.

Alicia is a representation of forgetting, denial, and emotional disconnection from oneself in response to a tragic event. It is important to add, however, that due to the 'fragmentation' of the character into several versions, we witness multiple types of coping with grief. The real Alicia appears only marginally in most of the narrative, and when she does, her grief is more internal. She tries to help everyone but does not know how. Her amnesia of tragic events does not primarily happen as a result of grief (it is a combination of entering the Canvas and Aline's power), but we could argue that it is a direct metaphor for this state, when she is reborn as Maelle and forgets about reality. She only gradually learns about the tragic background of her story and the world in which she finds herself through other characters. Interestingly, all the characters to whom she has a deep emotional attachment are not real and exist only in the fictional world of the Canvas (Gustave, Sciel, Lune, Monoco, Esquie, Verso), which metaphorically demonstrates her emotional distance from her real family. Her reaction to the death of her brother and the state of her family could be described as a traumatic reaction. The reason may also be survivor's guilt, as she was indirectly responsible for the fire that caused Verso's death.

Alicia fits into Problem Avoidance (P-) in CCM – she avoids the problem (loss), she completely disconnects emotionally, thus the E dimension is not positive or negative, rather she has no emotions in this state resulting from the death of Verso. With her transformation in the narrative, as she learns of her true background and abilities, she transitions into Efficiency (P+ E+) – actively using her abilities, trying to save the world of the Canvas and her family, believing in the possibility of a solution, and having hope. However, in the ending "A Life to Paint", in which Alicia stays in Canvas, we could talk about a transformation into Hedonic Disengagement (P- E+). In Coping Responses, we might speak of cognitive avoidance in her case, as her emotional disconnection is effectively a resignation to the traumatic event.

Aline is a representation of the surrender to absolute grief, she hardly lives in the real world, she simply survives. She has escaped into the fictional world of the Canvas, which contains the last memory of her dead son. In her case, the painting serves as a token, a last emotional link. In order to begin her journey of healing and coming to terms with her loss, she must get rid of the Canvas, even if she cannot do so herself. Her husband, Renoir, has been trying to get her out of the Canvas for a long time, by force and/or trickery and deceit. Aline is so absorbed by the Canvas that when she meets Verso in it, she considers him to be merely a trick of Renoir's to deceive her. Several scenes in the storyline clearly indicate that the marital relationship between Aline and Renoir before Verso's death was unconflicted, one might even say idealistic, happy and fulfilled. After death, even in the fictional world of the Canvas, it is full of conflict and hatred. Aline cannot see past her grief

nor appreciate Renoir's efforts to help her; she sees everything as an attack on her. She considers her grief as the only correct response, she puts her real family in second place and does not care about them. Aline's coping with reality could be described as traumatic grief – she is emotionally overwhelmed and escapes into fantasy. Both grief (painful attachment to her son) and elements of trauma (she remains 'trapped' in suffering without moving forward) are present. In terms of stereotypes, we might call her a hyperprotective mother, but only in relation to her son. The other two daughters are, we might say, indifferent to her. Aline's portrayal of Alicia in Canvas (Painted Alicia) makes her grief explicit – Alicia looks like a ghost, as though she was the one who died instead of Verso, pointing to unresolved resentment. Aline in the Painted version – the Paintress – assumes the stereotype of the silent parent, she merely witnesses the actions of the Painted Renoir, she does not interfere with him in any way. This inactivity partly confirms the stereotypical concept of female passivity.

Aline in CCM represents Helplessness (P- E-) – she avoids solving the problem, she has created a fictional reality, she maintains positive emotions through the world of the Canvas (later in the narrative, these emotions change into negative ones towards all those who are trying to get her out of there and return her to real life). Her focus is not on dealing with the problem, but on suppressing it completely, just as she suppresses her emotions. She therefore avoids not only the problem (P-), but also her emotions (E-). In Coping Responses, we can speak of behavioural avoidance as she actively creates a new world around herself to replace the loss.

Renoir represents the acceptance of a tragic event. Despite being overwhelmed by grief, he tries to focus on what is important – the remaining family members and their psychological well-being. We can assess that he is the linking element of the family, which he keeps first in his list of priorities. He is willing to sacrifice anything to bring his family back together and overcome the family trauma/grief together. At a certain point we encounter the stereotypical predispositions typically attributed to fathers in media representations, such as the silent father. Renoir breaks out of this stereotype, and it is he who becomes the bearer of family values and family cohesion. He tries to be a good husband and save his wife, a good father and protect his daughters, he is willing to overlook his daughter Alicia's lies in order to make her happy. We could interpret that to reflect adaptive grief – he regulates his own pain and focuses on keeping the family together. In terms of stereotypes, Painted Renoir takes on the stereotype of the overprotective parent who is willing to kill to protect his (fictional) family. Thus, there is a marked clash between the stereotypes of the real Renoir and Painted Renoir, but in both cases he fulfils the stereotype of an active man (oriented toward action or destruction), in contrast to his passive wife.

In CCM, Renoir exemplifies Efficiency (P+ E+) – he actively tries to deal with the problem of his family falling apart due to loss (which he succeeds in doing in the ending of "A Life to Love"), in terms of emotions, the positive ones are predominant – he is hopeful of change. In Coping Responses he presents a cognitive approach as he acts mainly logically and tries to transform the situation into a positive one.

Clea represents repression of emotions and emotional insensitivity. Despite being affected by her brother's death, she considers herself the only rational part of the family. Unable to understand the deep emotional experience of others, she prefers to focus her emotions on her version of problem-solving, which is revenge on those who caused Verso's death. She clearly demonstrates political awareness and steps into a leadership role among the Painters and takes on the family's tasks in the real life. She despises the way her parents are coping with the loss of their son; in some scenes, it seems as if she despises painting itself. Despite representing other coping strategies, she sides with her father through her actions, as he is the only one in which she sees any semblance of

rationality in an effort to change the current state of the family. However, it should be added that she does not care whether Aline returns from the Canvas or not. Her main intention is to resolve the situation as soon as possible, by any means and with any outcome. Her cold rationality is also the reason why she despises others, literally saying, "Grief is no excuse. We're all grieving", thereby justifying her actions. Just as she shows a dismissive attitude towards Aline, she also shows it towards Alicia. She displays a cognitive processing of grief, while suppressing emotional expressions.

Clea in CCM embodies Preoccupation (P+ E-) – she tries to find a rational solution to the problem (even if it is irrational revenge) but suppresses her emotions. In Coping Responses, we refer to a behavioural approach as she is trying to take concrete actions (problem solving) that are within her current capabilities.

Table 1: Overview of the Clair Obscur: Expedition 33's character coping strategies

Character	Manifestations in the game	CCM	Coping responses
Alicia	Dissociative amnesia, reincarnation of trauma into another identity, emotional disconnection	Problem Avoidance (P-), later in the narrative Efficiency (P+ E+), in "A Life to Paint" ending Hedonic Disengagement (P- E+)	Cognitive avoidance coping
Aline	Rumination, living in memories of son, social escape, illusions	Helplessness (P- E-)	Behavioural avoidance coping
Renoir	Trying to process grief in an integrated way, keeping the family together, dampening conflict	Efficiency (P+ E+)	Cognitive approach coping
Clea	Cold rationality, hypercontrol, plan revenge on the guilty	Preoccupation (P+ E-)	Behavioural approach coping

Source: own processing

As we can see, each of the characters copes with the loss differently and experiences their grief in a different way. While for some characters we can speak of a 'normal' experience of grief, for others it borders on trauma, or traumatic grief. Interestingly, each character represents a different type within both the CCM and the Dimensions of Coping Responses, which creates both dynamics and conflicts between them. As individuals' coping strategies are person-specific, their varied representation in the media as well as the possible impacts on the surroundings are more than appropriate.

It is also interesting to note that Aline and Renoir are at opposite ends of the CCM model. While Renoir tries to solve the problem and regulates his emotions, Aline avoids the problem and does not regulate her emotions in any way. Sisters Alicia and Clea also present different approaches, but not necessarily contradictory ones. Alicia first avoids the problem and then moves on to solving it and actively regulating her emotions, while Clea tries to solve the problem from the outset, but without emotions or with negative emotions.

Conclusion

In the analysed material, the game *Clair Obscur: Expedition 33*, several actualisations form in terms of the representation of grief and coping strategies. In the theoretical part of this paper, we mentioned that the narrative representation of grief in some media

contents simplifies this process to an extreme degree or uses it as a 'spicing up' of the plot or the characters. In this case, neither trivialisation nor sensationalisation occurs, as the grief motive in the family is only revealed to the player in the later parts of the narrative. At the same time, it is only after this revelation, and effectively at the end of the game, that the realization comes that the individual members of the Dessendre family are metaphors for different coping strategies for grief, as we have pointed out using CCM and Coping Responses. All of these expressions take place in the fictional universe of the Canvas, which is intertwined with the real world. However, the real world is only marginally present. At the same time, we would argue that Canvas itself is a metaphor for grief, or rather the emotional state that the grieving person enters. The reason for this assertion is that this is the place where all members of the Dessendre family meet, and it becomes a 'battlefield' for their emotions, where they fight with themselves, but also with each other at the same time.

We could attribute a similar interpretation to the contrast between real death and death in Canvas. Paintress tries to warn the inhabitants and prepare them for their own death, which, thanks to this knowledge, is peaceful and allows the inhabitants of Lumière to live their lives to the fullest and say goodbye to their loved ones at the end. This seems to be in direct contrast to how Aline lost her son – tragically and unexpectedly. In this interpretation, Canvas helps her cope with her loss.

Given the extent of the game, and thus the narrative itself, which is only gradually revealed to the player, the game offers sufficient opportunity to portray the authenticity of the characters' emotions. Individual characters become representative of these emotions, which we can associate with psychological concepts of coping strategies and grief coping. However, this is not a trivialized representation – given the complexity of the narrative, which shifts between the real characters, their projections of the real self in Canvas, the painted versions of them created by Aline, the presence of purely fictional supporting characters in Canvas, and so on. The game's distinct strength, therefore, is that grief is neither easy nor immediate, but is revealed in successive layers, which facilitates an authentic experience and prevents the trivialisation of the grieving process.

Interesting in terms of the narrative construction of the characters is how much they fulfil some of the psychological attributes we discussed in the theoretical section (Kübler-Ross & Kessler, 2005; Klass et al., 1996). The characters go through different stages of grief processing, but they also return to it, they do not proceed linearly between stages, and at the same time each character goes at his or her own apparent 'pace' and is in a different stage. From this comes the relationship between mother Aline and daughters Alicia and Clea, which is complicated as she effectively ignores her daughters and wallows in grief for her son. The distancing of parents from living children at the expense of a dead child is also described by Rubin in the case of wounded families. He states that the relationship with the deceased is so overpowering that the parents lose their relationship with the other children as well (Rubin, 1996), thus this is a realistic construct.

We would conclude that the portrayal of grief is realistic and is not used for dramatic effect. The findings show that the different characters represent different coping strategies for dealing with loss: Alicia escapes into fantasy and creates a new identity, Aline freezes in the past and displaces the present, Renoir represents an attempt to functionally overcome grief for the benefit of the family, while Clea reacts actively to the point of aggression. These variations allow the player to experience the variety and ambiguity of grief in a family setting.

There is also considerable actualisation in terms of the stereotypisation of individual characters and their experiences. Father Renoir and mother Aline effectively exchange media stereotypes – Renoir becomes the pillar of the family, fighting to save it,

while the mother mentally detaches herself from the family and distances herself from the real world, disrupting the binary gender patterns from earlier depictions of grief. This gender bias in the form of mourning and grief processing, as described by Martin and Doka (2000), is that grieving women tend to be more receptive to support from those around them because they tend to experience their grief more openly. Men, on the other hand, tend to withdraw and seek distractions. However, these authors and many others (Thompson, 1997; Robb, 2025) add that this is the result of social norms and constructs, or gender-structured patterns, and therefore evolves over time (Corr et al., 2009). In this light, the game disrupts some gendered expectations even as it reproduces others, and the analysis proceeds from this mixed pattern rather than from a claim of outright subversion.

A form of updating also occurs in the shape of the story's two possible endings – "A Life to Paint", that is, Alicia's staying in Canvas, represents a form of abandonment of herself, one could argue even a willing madness. It is thus a kind of extreme form of pathologizing grief, as described by Granek (2014). On the opposite side stands the ending of "A Life to Love", which ends with the destruction of Canvas and the reunion of the family. However, we do not observe any idealized or romanticized version, quite the opposite. The family does reunite at the grave of the dead Verso, but the whole scene remains realistic – the characters must let go of the constructed, idealized existence and face the loss of loved ones directly. No deus ex machina, no miraculous reunion – just an acceptance that the only way forward is through acceptance of reality and love for one another. In Alicia's case, also an imaginary farewell to fictional characters.

The media representation of grief and its portrayal is evolving, not only in terms of complexity, but also in the handling of the topic. The media characters in the analysed game *Clair Obscur: Expedition 33* are not uniform and flat, but through their construction and place in the narrative, they allow the player to experience their emotions along with them. The theme of grief in the family is also not a primary one and is only effectively revealed in the second half of the game (although it should be added that the player encounters death and grief in the first few minutes of the game through fictional characters. From the player's perspective, the game begins with Gustav's arrival to Gommage, where he witnesses the death of many friends and mourns them. Later, the player experiences the surprising death of Gustav himself, mourned by Maelle, etc.).

Unlike film and TV series standards, where grief is either a dramatic climax or a visual backdrop, the game provides a space to follow the experience of grief in a long and nuanced way, which matches the actual variability of grief. The study thus contributes to an understanding of how complex human emotions can be captured through the medium of digital games. Of course, the chosen methodology also brings with it some limitations, notably the absence of analysis of aesthetics or audio design, which could further the understanding of the topic. Given the nature and theme of the research, we have also omitted supporting characters who are not part of the Dessendre family, but who contribute to the development of the narrative and all of whom are in some type of relationship with one of the characters analysed. Thus, further research could also systematically analyse the role of side characters or compare the representation of grief in games of other genres, or track player receptions and the possible therapeutic effect of these digital narratives – for those who come after.

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Cruel Optimism and Precarious Intimacies: Player Activism, Fan Service, and the Character Economy in Chinese Gacha Games

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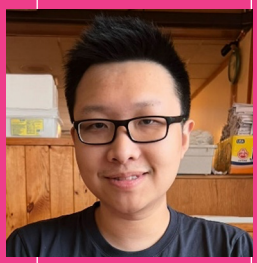

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ABSTRACT:
Anime-style ACG gacha games revolve around a character economy that blends commodified collectibles with intimate fan attachments. This study analyses Chinese gacha game communities as a primary site for understanding how these affective bonds shape fan expectations, modes of participation, and forms of player activism. We argue that affective investments empower deep engagement and co-creative labour, yet also bind players into exploitative cycles of hope and disappointment, producing a precarious intimacy between players and their favoured characters – an intensely felt attachment continually leveraged by game monetization systems. Drawing on Berlant's concept of cruel optimism and Allison's theorization of precarity, we examine how gendered expectations, fan service, and the so-called "You No. 1" movement have fuelled recent conflicts between Chinese players and developers. Methodologically, the study combines media analysis and digital ethnography of Chinese online spaces (Weibo, BiliBili, NGA, and forums) from 2020-2024, alongside developer communications and update notes. And by foregrounding the perspectives and practices of Chinese gacha communities, the research shows how fandom-driven activism increasingly shapes game content and how players negotiate – and contest – the structural tensions within the character economy.

KEY WORDS:
affect theory, Chinese game industry, cruel optimism, digital games, fan activism, fan service, gacha, otaku culture, precarity, You No. 1.

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Introduction

At the core of anime-style ACG (anime, comics, and games) gacha games is a character economy – a system where collectible characters function both as gameplay assets and as objects of emotional attachment and commodified desire. Unlike traditional digital games that prioritize skill-based progression or fixed narratives, gacha games centre play around acquiring beloved characters. Players are encouraged to form affective bonds with virtual characters (Galbraith, 2019; Azuma, 2009), fostering a sense of personal agency and investment through character interaction and customization. Yet access to these characters is constrained by chance-based monetization: players must spend real or virtual currency on randomized *gacha* pulls, making character acquisition both uncertain and financially driven. As Woods (2024) observes, such systems embed players within affective assemblages in which value is produced relationally through desire, anticipation, and the emotional charge of obtaining a coveted character. Such dual structure of deep emotional engagement and lottery-like reward has proven extraordinarily profitable – for example, the gacha RPG *Genshin Impact* (miHoYo, 2020) grossed roughly 2 billion USD in player spending during its first year alone (Byers, 2021). At the same time, the character economy's mix of affect and monetization generates tension within player communities, as fans grapple with feelings of both attachment and exploitation. Developers have leveraged the allure of collectible characters to achieve massive commercial success, but they

also face growing scrutiny from players who feel their emotional labour and loyalty are being manipulated for profit (Ahmed, 2004). The result is a fraught dynamic in which gacha game players oscillate between devotion and discontent, highlighting a structural paradox at the heart of this game model.

This article explores the structural contradictions underpinning the gacha-game character economy and the intensification of player activism in contemporary Chinese gacha-game communities. In these contexts, organized forms of player resistance have become increasingly common in response to developer decisions deemed incompatible with established fandom norms. The discussion focuses on disputes surrounding industry attempts to broaden the appeal of gacha titles through more inclusive character designs and narrative strategies – efforts that directly challenge longstanding otaku conventions. As developers incorporate more diverse storylines or add male characters to previously female-centric rosters in the hope of expanding their audience, segments of the predominantly male otaku player base have protested that these changes undermine the core appeal of ACG gacha gaming. Some vocal fans insist that the unique *moe* (Japanese term for adorable or idealized) intimacy of collecting and bonding with cute female characters is diluted by such inclusivity (Galbraith, 2019; Azuma, 2009). In Chinese forums and on social media, some players use the slogan: "If there's a male character, I won't play".[1] This phrase – initially circulated as a blunt expression of resistance – was later abbreviated into the colloquial English-like expression "You No. 1", which fans adopted both for convenience and as a marker of player-driven activism. Adherents of this movement vow to boycott gacha games that deviate from an all-female formula, insisting that only pure 'waifu collector' experiences count. Their stance reflects a broader tension between local otaku consumer culture and the industry's globalizing ambitions. The rise of "You No. 1" thus reveals conflicts between player desires, narrative worlds, and monetization strategies in the current globalized game market.

In examining this phenomenon, we draw on a combination of media analysis and digital ethnography. We analysed online discourse in Chinese gacha-game communities – across forums, chat servers, Weibo, BiliBili, and other social media platforms – from 2020 to 2024, alongside developer communications, patch notes, update logs, and event announcements from major titles. Three case studies – *Genshin Impact*, *Girls' Frontline 2: Exilium* (MICA Team, 2023), and *Snowbreak: Containment Zone* (Amazing Seasun Games, 2023) – were selected for their analytic value in elucidating the inclusivity–fanbase tension. *Genshin Impact* serves as a globalized model whose diverse roster prompted sustained discussion about gender representation; *Girls' Frontline 2: Exilium* extends a long-standing all-female franchise and illustrates how sequels encounter evolving audience expectations; and *Snowbreak: Containment Zone* provides a contemporary example in which release-stage design decisions were demonstrably revised in response to coordinated player activism. And through qualitative comparison of these cases, we trace how decisions regarding character roster composition and narrative thematics have evolved as developers attempt to reconcile market-expansion goals with the expectations of a niche, otaku-oriented core audience. These examples show how competing pressures – namely, broadening market appeal versus maintaining established fan-service conventions – have increasingly shaped the development trajectories of gacha titles. In several instances, studios have retracted or adjusted inclusive content following concentrated community opposition, whereas others have maintained more diverse narrative directions despite substantial criticism. Such dynamics illustrate how design and monetization strategies are continually negotiated, influenced by both corporate imperatives and community-driven responses (Woods, 2022).

1 Remark by the author: The author's translation from Chinese: 有男不玩 [Yǒu nán bù wán].

Ultimately, we argue that the character-centric design of gacha games has given rise to a participatory ecosystem in which passionate Chinese players actively negotiate and even shape the evolution of game content. By engaging with theories of affective economies and digital labour, we situate these practices in a wider scholarly context: players' emotional investments in characters become a form of value-creating labour for the industry (Ahmed, 2004), even as players themselves grow increasingly aware of this and seek greater say in how that value is used. And by drawing on Berlant's (2011) concept of *cruel optimism* and Allison's (2013) notion of *precarity*, we further contend that players' hopeful attachments to these games – attachments that promise satisfaction yet often led to frustration – drive both their intense loyalty and their capacity for backlash. In what follows, we firstly review relevant literature on ACG gacha games and fan culture, then outline our theoretical framework, before turning to an analysis of three case studies that illustrate these dynamics in action. We conclude by discussing the implications of fan-driven co-production for the future of the Chinese and global games industries.

ACG Gacha Games in Cultural Context

To understand the evolving dynamics of ACG gacha games, it is essential to define this genre in its cultural context. In China, anime-style gacha games are often literally referred to as 'two-dimensional games',[2] reflecting their roots in anime, comics, and games subculture. These titles blend anime-inspired aesthetics with gacha monetization mechanics. Importantly, the "G" in ACG did not initially denote "games" in a broad sense but referred more specifically to gal games – the *bishōjo*-oriented romance and visual novel titles that constituted a formative component of otaku media culture. As Saitō (2021) observes, gal games played a particularly influential role, functioning as "a driving force of globalizing media culture coming from Japan" (p. 1). This visual-narrative framework has since influenced a wider range of game genres. Elements associated with the visual novel tradition – anime-style character design, romance-oriented narrative cues, and otaku-targeted sensibilities – have migrated into action games, RPGs, and, more recently, mobile gacha titles. In this expanded context, the "G" in ACG has come to encompass digital games that adopt this shared aesthetic and narrative grammar, reflecting the increasingly hybridized identity of the category.

Through interactive dialogue choices, players guide branching narratives toward different relationship outcomes. The formula proved compelling to a generation of otaku fans (Zhu, 2020). Crucially, gal games established the notion that fictional characters could be the primary draw for players – the emotional attachment to characters became a selling point. The business model of gal games blurred the line between narrative and marketing, paving the way for Gacha's character-centric economy. In many gal games, although players appear to shape the story through their choices, the design often nudges them toward specific routes, effectively using narrative interactivity as a mechanism to sell characters and the experiences they offer. As a result, the player's emotional investment is carefully guided by the developers' commercial objectives. Gacha games would later adopt and greatly expand such a model of monetizing character attachment. Japanese cultural critics have long noted that otaku consumption revolves around desire for

2 Remark by the author: In Chinese: 二次元游戏 [èr cìyuán yóuxì].

fictional characters, especially the moe female archetypes (Saitō, 2011). Gal games gave players a sense of *ownership* over beloved characters through story conquest; ACG gacha titles mechanized this process by introducing random character lotteries (gacha draws) that require currency. The ritual of spending to obtain a coveted character materializes the otaku desire to interact with and collect these virtual personas. In this way, the gal game's character-centric monetization framework evolved into an even more lucrative system in gacha games, redefining the relationship between players, narratives, and characters.

Fan Service and Broadening Audiences

Early ACG gacha games leaned heavily on fan service to sustain player engagement. In this context, *fan service* refers to overtly sexualized character designs, suggestive interactions, and otaku-centric tropes designed to cater to predominantly male otaku tastes. Classic Chinese Titles like *Azur Lane* (Shanghai Manjuu & Xiamen Yongshi, 2017) and *Girls' Frontline* (MICA Team, 2016) exemplified this approach, featuring anthropomorphized warships or firearms depicted as alluring anime girls. Characters were often drawn with exaggerated, provocative aesthetics meant to appeal to the *male gaze*. While casual players sometimes found such sexualization unappealing, many otaku fans cited these elements as a primary attraction and poured significant money into collecting their favourite characters. Some games went so far as to let players 'marry' their virtual waifus through in-game wedding systems, complete with bridal costumes, virtual rings, and special ceremony scenes. Notably, *Azur Lane* even hosted a live VR wedding event in 2018, where participants could virtually exchange vows with their chosen character in a real chapel. These experiences vividly produced forms of immersion that fostered quasi-real affective engagement, reinforcing affective bonds that could rationalize intense play and spending. However, reliance on erotic fan service carried drawbacks. In broader gaming communities, fan service often took on a derogatory connotation, marking these games as niche interests. More critically, such content drew scrutiny from Chinese authorities: sexualized depictions in games occupy a grey zone under China's censorship regime, making titles with overt fan service vulnerable to regulation or bans. By 2019, the ACG gacha genre was poised for transformation as developers sought new ways to broaden appeal without incurring regulatory or reputational costs.

That year, the Chinese-developed title *Arknights* (Hypergryph, 2019) made a significant divergence from the traditional otaku-only gacha game model. *Arknights* combined polished tower-defence gameplay with an immersive sci-fi narrative, attracting a broader spectrum of gamers, including more hardcore strategy fans. Equally significant were its character designs: the game featured a balanced roster of male and female characters and deliberately avoided the hyper-sexualized aesthetic prevalent in earlier titles. Female characters in *Arknights* wore relatively practical outfits suited to their roles as special-ops fighters – a sharp departure from the skimpy costumes typical of the genre. This design shift prompted discussions in otaku circles about whether a gacha game could succeed without relying on standard fan-service expectations. Initial scepticism soon diminished as *Arknights* quickly demonstrated strong commercial traction; industry analysis notes that the game achieved significant early momentum and became Hypergryph's breakout hit, rapidly establishing itself as a major title in the tower-defence and gacha market (Dion, 2023). Its success has also popularized a new phrase, "hardcore without pandering to

otaku",[3] suggesting that a gacha game could achieve mainstream appeal without indulging in the usual otaku fan-service formula. Within online forums, some fans even began to tout *Arknights* players as more 'cultured' or sophisticated compared to those enjoying the overt fan service of other games. Still, discourse around this phrase remained largely within the otaku community's frame of reference. It was not until the arrival of *Genshin Impact* in late 2020 that ACG gacha gaming fully expanded beyond the traditional otaku niche into broader mainstream recognition.

Released in September 2020 by miHoYo, *Genshin Impact* marked the genre's breakout into the worldwide gaming mainstream. The game secured a position among the highest-grossing digital games worldwide, with industry analytics reported that the title surpassed 3 billion USD in global mobile revenue within its first two years (Chapple, 2022). There are several intersecting factors have been identified as contributing to this commercial trajectory. The game launched during the COVID-19 pandemic, a period marked by increased global demand for at-home entertainment and digitally mediated leisure. At the same time, *Genshin Impact* distinguished itself from earlier mobile gacha titles through its unusually high production values: a fully explorable 3D open world, real-time action combat, and audiovisual fidelity more commonly associated with console RPGs. This technical and aesthetic ambition broadened expectations of what mobile gacha games could offer. Equally significant was the game's inclusive approach to character design and narrative. Departing from the demographic narrowness typical of earlier otaku-oriented gacha titles, *Genshin Impact* introduced a diverse roster of male and female characters embedded within an expansive transregional narrative world. This design philosophy enabled the game to appeal simultaneously to otaku communities, casual players, and international audiences. Within Chinese gaming communities, players began informally categorizing *Genshin Impact* and its successors as "ACG gacha games for general audiences"[4] – a category that contrasts with the historically niche, otaku-focused lineage from which the genre emerged.

While this inclusive model demonstrated substantial commercial success in expanding the player base, it also introduced new tensions. By trying to appeal to everyone, these games inevitably faced conflicts between subcommunities. Long-time otaku players accustomed to the insular, fan-service-rich style of earlier ACG games suddenly found themselves sharing the space with newcomers – including female players and global audiences – who had different preferences and sensitivities. Although debates about play styles, character design, and the game's long-term direction may have circulated in fan spaces from early on, they often remained muted amid the broader acclaim surrounding the game's success. However, the 2021 controversy involving the character Shenhe (discussed below) marked a decisive shift: it drew together these previously scattered concerns and transformed them into a visible dispute over demographic orientation and design priorities. The conflicts that unfolded in its aftermath intensified dissatisfaction among otaku players, and they established the discursive groundwork for the "You No. 1" backlash movement that would emerge in 2023-2024.

3 Remark by the author: The author's translation from Chinese: 硬核不媚宅 [Yìng hé bù mèi zhái].
4 Remark by the author: The author's translation from Chinese: 一般向二游 [Yībān xiàng èr yóu].

Cruel Optimism, Precarity, and Fan Attachments

Otaku fan communities have traditionally operated within self-contained niches, cultivating what insiders commonly refer to as "enclose oneself in one's own paradise".[5] This ethos refers to enjoying one's hobby within a closed circle of like-minded peers. Scholars of subculture note that such semi-private enclaves allow fans to pursue their specific interests without outside interference or judgement (Azuma, 2009; McRobbie & Garber, 2006). Within these bounded spaces, different fan subgroups can coexist relatively peacefully by respecting each other's autonomy and content preferences. Crucially, each subgroup's niche interests are catered to without compromise, reinforcing a strong sense of ownership and intimacy around the content.

The advent of broadly inclusive gacha games disrupts such enclave equilibrium. By blending content designed for multiple demographics into a single title, developers aim to maximize their audience – but they also create a structural paradox. In trying to simultaneously satisfy multiple demographic groups, the game's content risks becoming overly generalized or diluted, potentially compromising the distinct aesthetic or narrative features that resonate strongly with specific subcultural audiences. Storylines and character designs may be toned down or balanced to be broadly acceptable, rather than wholeheartedly embracing tropes beloved by a specific cultural group. While this approach broadens initial appeal, it can leave dedicated subcommunities feeling only partially satisfied. If one faction of players perceives that the game is catering too much to another group's tastes – or if content violates the unwritten expectations valued by a subcommunity – the relative stability among subgroups can deteriorate. Conflict among player subgroups emerges; long-time otaku players may clash with newer mainstream fans, with opposing groups accusing one another of undermining the integrity or identity of the game. Developers, for their part, often respond with silence or neutrality, hoping to avoid taking sides. But non-intervention can permit discontent to further intensify. In sum, inclusive gacha games can become sites of extremely heightened tension: uneasy compromises accumulate grievances among fans until a spark ignites open conflict, threatening both the community's cohesion and the game's long-term success.

By late 2023, these ongoing tensions in the ACG gacha scene had coalesced into what became known as the "You No. 1" movement. The phrase itself originated from a single player's offhand comment in 2019, but it struck a chord with a subset of hardcore male otaku players and gradually evolved into a unifying slogan. Adherents of "You No. 1" argue that the introduction of male characters into formerly all-female gacha rosters fundamentally undermines the very appeal of these games. For these fans, part of the gacha fantasy is immersion in a narrative space centred around stylized, idealized female characters – a 'waifu collection' aesthetic valued by this player demographic that playable male characters disrupt. Devotees openly vow to quit or boycott any gacha game that features male characters (beyond perhaps a token non-playable role for narrative purposes). They are often unwilling to invest time or money in developing male units, viewing such characters as unwanted content unless they are absolutely overpowered for gameplay. By early 2024, "You No. 1" had transformed into a prominent campaign within Chinese gacha gaming circles. For its proponents, it became a banner of resistance against the broadening content strategies of developers; for others in the community, it was a source

5 Remark by the author: The author's translation from Chinese: 圈地自萌 [Quān dì zì méng].

of intense debate, with critics accusing the movement's supporters of clinging to regressive tastes or selfishly limiting creative diversity. Regardless of perspective, the rise of "You No. 1" signalled a new phase of fan–developer relations in this genre. Discontented players transitioned from isolated expressions of dissatisfaction to coordinated collective action and strategic demands.

To analyse why players maintain such fervent attachments and how these attachments can turn into collective action, we turn to affect theory. Berlant's (2011) concept of cruel optimism is particularly illuminating here. Cruel optimism refers to a situation in which an individual remains attached to a desired object or outcome even when that attachment is an obstacle to their well-being. In the context of gacha games, players develop optimistic attachments to the game and its characters – the hope that collecting the next character or preserving their ideal all-girl fantasy will bring them happiness or fulfilment. This optimism is 'cruel' to the extent that the very structure of gacha games (with exploitative monetization, or developers who might alter content in unwanted ways) continually frustrates the realization of that happiness. Fans in the "You No. 1" movement exemplify cruel optimism: they are deeply attached to the promise that their beloved game will remain a 'paradise' of virtual companionship, and this attachment persists even as updates or changes threaten to disappoint them. Their optimism that the game can deliver perfect satisfaction leads them to fight vehemently to prevent any content that might compromise the fantasy. In effect, they endure (and even perpetuate) a cycle of desire and disappointment, remaining tethered to a game that can both delight and betray them.

Allison's (2013) notion of precarity provides a complementary lens, situating these affective investments in a broader socio-economic context. Allison uses precarity to describe the unstable, insecure conditions of life and labour in late-capitalist societies, particularly among youth in Japan who turn to fantasy, hobby communities, and affective bonds as coping mechanisms. Chinese otaku players similarly live in a fast-changing, competitive environment; many are young men facing intense academic or job pressures and uncertain futures. The virtual relationships offered by gacha games – the sense of being needed by, and connected to, a cast of caring anime characters – can provide an emotional safe haven amid real-world precarity. This helps explain why the stakes feel so high for core fans: a game's shift in content can threaten not just a trivial pastime, but a key source of comfort and identity in their precarious lives. The "You No. 1" adherents' insistence on maintaining an idealized game world (free of unwelcome elements) reflects the fragility of the hope they place in these fantasy spaces. Their situation is precarious in two senses: economically (as consumers continually spending discretionary income on digital goods) and emotionally (as their happiness is closely tied to a commercial product subject to change that may change or demand more spending). Thus, when developers introduce content that jars the fantasy – say, a male love rival or a plotline that diminishes the player's centrality – it threatens an affective lifeline for these fans. Their extreme reactions (boycotts, public outrage) can be seen as a response to that threat, an attempt to reassert control over one stable corner of their world.

In addition to these affective and social dimensions, the dynamics at play can be understood through the lens of affective economies and digital labour. Ahmed (2004) argues that emotions can circulate and accumulate value – in this case, players' feelings of love and loyalty toward characters become a form of capital that game companies monetize. Fans perform emotional labour by investing time, creativity, and passion into the game (through fan art, community building, feedback, etc.), effectively co-creating cultural and economic value. Scholars of games and participatory culture likewise note that players often function simultaneously as consumers, evangelists, and unofficial content creators (Banks, 2013; Kücklich, 2009). This blurring of consumption and production

means players increasingly see themselves as stakeholders in the game's success and direction. When their affective labour is felt to be betrayed or devalued by developers' decisions, it fuels a sense of injustice. The rise of player activism in gacha games – from organized hashtag campaigns to coordinated review-bombing and spending strikes – exemplifies how empowered fan labour can pressure companies. Fans strategically mobilize the cultural and economic value they co-produce to exert influence over creative and development decisions. The "You No. 1" movement's efficacy, as we will see, hinged on collective economic action by players who understood their power as the paying, emotionally invested audience. In short, gacha game players' cruel optimistic attachments and their precarious stake in game worlds drove them to act as co-creators and enforcers of the experience they were promised. Using this theoretical lens, we now turn to three case studies that illustrate how these conflicts have unfolded in practice and how player communities have negotiated power with developers.

To explore how fan–developer tensions manifest, we examine three recent cases from the Chinese ACG gacha game scene. Each case spotlights a different stage of the inclusivity-versus-fanbase conflict and the escalating assertiveness of player activism. The first case, *Genshin Impact*, shows how attempts to introduce diverse content led to internal community clashes in a global hit game, foreshadowing more organized resistance. The second case, *Girls' Frontline 2: Exilium*, involves a long-awaited sequel that sparked fierce backlash by seemingly betraying the emotional bonds of its core players; it exemplifies the cycle of fan disappointment and partial developer concession. The third case, *Snowbreak: Containment Zone*, demonstrates the most extreme outcome: facing fan uproar, developers undertook a radical overhaul of the game to cater to otaku preferences, marking a significant moment for the "You No. 1" movement. Together, these cases trace a trajectory from early warning signs of conflict to a point where fan communities could directly reshape a game's content through collective action.

Genshin Impact's Struggle to Maintain Community Balance

Not long after *Genshin Impact*'s meteoric launch, a controversy in early 2021 revealed the challenges of keeping its diverse fan base satisfied. The flashpoint was the reveal of a new female character named Shenhe, whose character design featured a dramatically revealing outfit. Many female players in the community took issue with Shenhe's appearance, arguing that it over-sexualized the character in a way that clashed with her lore as an ancient, dignified adeptus. On Chinese social media, critical posts about Shenhe went viral. Some users questioned why an enlightened immortal would be depicted in what they perceived as lingerie-like attire, while others argued that her design appeared stylistically inconsistent – celestial in the upper body but reminiscent of a nightclub performer in the lower half.[6] These fans contended that *Genshin Impact*'s designers had crafted Shenhe more for the titillation of male players than for coherence with her character concept. Fuelled by such sentiments, a group of mostly women players mass-reported miHoYo's

6 Remark by the author: This is a paraphrase of widely circulated Weibo comments made on November 21, 2021. Individual posts could not be cited due to the social network's ephemerality. The original thread was deleted.

official Weibo post unveiling Shenhe, calling for a more sensible design. The post was briefly taken down by the platform – an unusual event likely triggered by the volume of reports – forcing the developers to re-publish it later. Although miHoYo ultimately did not redesign Shenhe, the company appeared to take steps aimed at addressing community concerns about overly sexualized content. Within weeks, the China server received an update providing optional, less-revealing costume skins for several existing female characters, a move officially attributed to government guidelines but widely interpreted as at least partly influenced by recent fan feedback.

The Shenhe incident, however, also provoked a fierce counter-reaction from Genshin's traditionalist male fan segment. On forums and BiliBili, some men vented that the outraged female players were feminist extremists or malicious agitators bent on censoring anime-style content. To these critics, the fact that miHoYo even acknowledged complaints about Shenhe's design, evidenced by the temporary post removal and the addition of conservative costume options – was a worrying sign that the developers might capitulate to what they saw as an external moral agenda. They feared the game's core appeal to its male audience was under threat. In response, a number of male players began coalescing around a hardline stance: they vowed not to tolerate any perceived pandering to "politically correct" critiques. This posture echoed the nascent "You No. 1" ethos of "if content is not tailored to us, we won't play". In hindsight, the Shenhe controversy was an early indicator of the gendered rift forming within *Genshin Impact*'s community. It crystallized the fears of one side (losing beloved fan-service elements) against the frustrations of the other (feeling objectified by game content). Although the conflict eventually died down, it set the stage for more organized action. In the aftermath, the "You No. 1" slogan began surfacing more frequently in discussions among disgruntled male fans, anticipating the fully-fledged movement that would erupt in subsequent years.

Girls' Frontline 2: Exilium: A Repeated Dilemma

Another flashpoint arrived in late 2023 with the beta test of *Girls' Frontline 2: Exilium*, the sequel to a highly popular bishōjo gacha shooter. Fans of the original *Girls' Frontline* had long cherished its all-female cast of combat androids (T-Dolls) and the player's role as their Commander – complete with a marriage system that let players marry their favourite T-Dolls. Anticipation for *Girls' Frontline 2: Exilium* was high, and many long-time players hoped the sequel would return to the classic ACG gacha formula and avoid the mixed-gender trend exemplified by *Genshin*. Those hopes were soon dashed. *Girls' Frontline 2: Exilium*'s closed beta in October 2023 suffered from numerous bugs and some tedious gameplay, but most jarring was its narrative overhaul. The story leaped ten years beyond the original and removed the player from their position of authority. The beloved Commander role was now a disgraced former officer in exile; the PMC company the Commander led had disbanded, and the famed T-Dolls – the characters that players had bonded with – were scattered across various factions pursuing their own missions.

This drastic shift not only distanced players from the characters they had grown attached to, but effectively erased the emotional bonds and history carried over from *Girls' Frontline*. Many veteran fans found the new setup alienating: rather than reuniting with their favourite T-Dolls as trusted comrades, players were confronted with a world in which those characters barely remembered or acknowledged the Commander. The breaking

point came when data-miners uncovered an unreleased story segment hidden in the beta files. This side-story featured one of the most beloved heroines featured in the first *Girls' Frontline* game, QBZ-95 (nicknamed Daiyan), on a mission alongside a new male character named Raymond. In the narrative, Raymond is a troubled outsider plotting revenge; over the course of the mission, Daiyan empathizes with him and dissuades him from violence. Their interactions were surprisingly intimate, implying a deep personal bond. At the story's end, Raymond gives Daiyan a family heirloom and tells her he hopes she remembers him. Crucially, the player's Commander was absent throughout this episode – still in exile during these events. Daiyan does not even mention the Commander, despite players having had the option to 'marry' her in the first game. For long-time fans who had invested emotionally (and financially) in Daiyan as their virtual partner, this was devastating: watching their cherished T-Doll develop apparent romantic feelings for a random male NPC – and act as if the Commander never existed – felt like a profound betrayal of the bond formed in the first game.

News of the leaked "Daiyan × Raymond" storyline ignited a firestorm on Chinese gaming forums. Beta players, already sceptical due to the game's other issues, were furious that the sequel seemed to abandon the fan-service relationship ethos of its predecessor. The hashtag of the "You No. 1" movement surged in the game's discussion threads, with players loudly vowing to boycott *Girls' Frontline 2: Exilium* if the content remained. After about a week of escalating outrage, the team finally released a brief update on their blog. They insisted that the leaked storyline was unconfirmed beta content and not representative of the final game, promising to revise the narrative for release. These vague assurances failed to calm the community; many players distrusted the response, suspecting it was an attempt to downplay a real storyline.

When *Girls' Frontline 2: Exilium* officially launched later in 2023, players discovered that the contentious story segment had indeed been altered – but not in ways that fully satisfied the fanbase. The character Raymond was removed and replaced by a female character in the event, and the player's Commander avatar was written into a minor role. Yet the core plot remained mostly intact. In the revised ending, the Commander finally speaks with Daiyan, inviting her to escape with him – only to have Daiyan stay behind. To many fans, this felt like another slight: the outcome still denied players the heartfelt reunion or closure they craved, and it reinforced the sense that developers had ignored player sentiment and were merely patching over the issue. Feeling disillusioned, a large portion of the veteran player base quit the game within weeks. *Girls' Frontline 2: Exilium*'s retention plummeted as word spread that it had failed to deliver the experience veterans wanted. Many departing fans became early adopters of the "You No. 1" campaign, citing *Girls' Frontline 2: Exilium* as proof that developers were sacrificing otaku-oriented content in misguided attempts to broaden appeal. This case underscored that earlier lessons had gone unheeded, and it emboldened core fans to double down on demands that developers keep their promises to the loyal base.

Snowbreak: Containment Zone and Fan Movement

Perhaps the most dramatic instance of the "You No. 1" movement's influence was seen in the trajectory of *Snowbreak: Containment Zone*. This sci-fi shooter gacha, released in mid-2023 by Amazing Seasun Games, initially attempted to follow *Genshin Impact*'s

inclusive approach – until its predominantly male otaku player base pushed back. During *Snowbreak: Containment Zone*'s final closed beta, the introduction of a single male playable character into an otherwise all-female roster triggered immediate backlash. On gaming forums, some players argued that adding a male character disrupted the all-girl atmosphere they associated with a waifu-oriented title and undermined what they considered the proper identity of the game.[7] By contrast, an isolated comment on social media noted that adding a male character might diversify the game's narrative and appeal to female players, but this perspective was drowned out by the dominant reaction. Players adopted the rallying cry "You No. 1" and collectively threatened to abandon the game unless the male character was removed. In an unprecedented move, the developers capitulated even before launch: they announced on the game's official Weibo that the contentious male character would be removed from the final release. Many players expressed astonishment at how swiftly the developers responded to community pressure, with some remarking that the deletion signalled an unusual level of attentiveness to otaku concerns.[8] Despite this last-minute concession, *Snowbreak: Containment Zone* launched in July 2023 to a lukewarm reception. The pre-release controversy had already damaged its prospects – negative word-of-mouth from the beta uproar dampened what should have been a strong niche launch. Early feedback criticized *Snowbreak: Containment Zone*'s art style for lacking the colourful anime charm of typical ACG titles; others found the gameplay progression unrewarding and the gacha monetization stingy. Under normal circumstances, a gacha game that flounders at launch rarely recovers its momentum. But instead of letting *Snowbreak: Containment Zone* fade, the developers adopted a radical strategy: they decided to transform the game entirely to win back the otaku faithful. Over the next months, Amazing Seasun Games undertook sweeping changes. First, they purged virtually all male presence from the game's world. Even minor male NPCs (officers, quest-givers, etc.) were removed or replaced with female counterparts. The narrative was tweaked so that the player was surrounded exclusively by a female squad at all times. In parallel, the studio doubled down on *kanojo-kei* (girlfriend-style) fan-service elements to enhance the romantic appeal. Dialogue from the heroine characters – initially stoic – was rewritten to be more affectionate toward the (implicitly male) player-protagonist. For example, one formerly formal teammate began using a pet name for the player and expressing worry for his well-being, emphasizing personal attachment. The art team also added more provocative costume skins: one heroine's bulky space suit was redesigned into a sleek form-fitting outfit that accentuated her figure (a clear play for fan service). In public developer communications, *Snowbreak: Containment Zone*'s lead designer emphasized that the team intended to avoid content that players consistently reported as unwelcome or undesirable. According to summaries posted by players, the designer stated that elements widely criticized across platforms would not be included in future updates.[9] By early 2024, *Snowbreak: Containment Zone* had effectively reinvented itself as the very thing "You No. 1" advocates had demanded: a pure waifu collector experience devoid of unwelcome male characters or distracting storylines.

7 Remark by the author: This is a paraphrase of widely circulated players' comments posted on BiliBili on May 20, 2023. Individual posts could not be cited due to the social network's ephemerality and limited accessibility.

8 Remark by the author: This is a paraphrase of players' comments on BiliBili following official announcement made on May 28, 2023. Individual posts could not be cited due to social network's ephemerality and limited accessibility.

9 Remark by the author: This is a paraphrase of player-recorded summaries (posted on January 16, 2024) of a developer promises during official livestream. Original posts and recordings could not be cited due to ephemerality and accessibility constraints.

Equally important was *Snowbreak: Containment Zone*'s change in attitude toward its community. The developers became markedly transparent and responsive. Throughout early 2024 they actively solicited player feedback on forums and Weibo, asking fans which character outfits or events they wanted most. Community managers hosted livestream Q&As and replied directly to popular user posts. Such degree of transparency is relatively uncommon within the gaming industry, where development teams typically maintain a measured distance from their player base. In *Snowbreak: Containment Zone*'s case, however, the studio's unusually direct communication soon attracted attention from both players and gaming media. A report by the Chinese outlet 17173 News ("The game", 2024) indicates that the developers publicly acknowledged player dissatisfaction during a period of heightened community controversy, framing their response as an attempt to engage more sincerely with ongoing concerns. After months (or years) of feeling ignored by other companies, many otaku players were surprised and impressed to see developers so eager to listen. Gradually, the narrative around *Snowbreak: Containment Zone* shifted from one of disappointment to one of admiration for the team's commitment to its fans. From the players' perspective, the significant strategic revision of *Snowbreak: Containment Zone* validated the power of their collective voice.

By mid-2024, after the developers executed their sweeping changes, the tone of player commentary shifted to triumphalism. The same forums that had been filled with anger were now celebrating victory. One commenter from 17173 News in China wrote that *Snowbreak: Containment Zone*'s team had embraced a philosophy of 'users (players) above all' (Zhengjing, 2025, para. 17), making it the first major studio to fully submit to otaku fan demands and turn a struggling game's fortunes around. The results were immediate. As word spread that the game had "gone full waifu" and developers were actively courting the otaku audience, players who had quit began to return out of curiosity or renewed enthusiasm. Industry reports suggest that *Snowbreak: Containment Zone* experienced a marked commercial recovery throughout 2024. As summarized by the game-industry outlet Gamelook ("Guo Weiwei praises", 2025), the title's annual revenue exceeded 1 billion RMB, with domestic revenue increasing approximately seventeen-fold relative to 2023. Although the report does not provide granular month-to-month data, these year-end financial indicators nevertheless point to a sustained upward trajectory in the game's market performance. Commentators marvelled that a title on the brink of failure had engineered an unexpected commercial recovery. Crucially, this turnaround was not achieved through luck or a viral fad, but came about by deliberately catering to a dedicated subculture. Otaku players responded by opening their wallets: many who had been on a spending strike resumed purchases to support the now-otaku-friendly game. In effect, Amazing Seasun Games demonstrated that listening to fans and giving them exactly what they want could resurrect a flailing gacha game – a lesson that sent shockwaves through the industry. In an April 2024 Chinese game industry roundtable, an executive argued that there has not been a successful purely male-targeted 'waifu game' (Dongdong, 2024, para. 38), justifying reluctance to invest in niche products. *Snowbreak: Containment Zone*'s comeback provided a counterexample too stark to ignore.

Conclusion

The cases examined above demonstrate how Chinese gacha-game communities have become increasingly influential actors in shaping the development trajectories of contemporary ACG titles. In the post-*Genshin Impact* era, collective player discourse

and organized activism exert measurable influence on design, marketing, and narrative choices. Through social media coordination, forum debates, and spending-based interventions, players actively negotiate what kinds of characters, aesthetics, and representational frameworks these games should adopt. Developers, aware of the potential consequences of sustained backlash or coordinated boycotts, are less able to disregard the demands of highly invested constituencies.

At the same time, the rise of such participatory dynamics introduces significant challenges concerning voice, representation, and creative authority. Fan communities are internally heterogeneous, and not all segments possess equal visibility, cohesion, or rhetorical force. As a result, the expectations of a dominant subset – such as the male otaku players associated with the "You No. 1" movement – may disproportionately shape design outcomes at the expense of alternative player groups. Efforts to cultivate broader inclusivity or diversify character rosters can be constrained when studios prioritize the demands of the most vocal or economically influential demographic. This dynamic risks producing a self-reinforcing cycle in which the preferences of one group become increasingly entrenched, while others disengage or become marginalized.

These developments exemplify the ambivalent nature of participatory culture in the gacha-game ecosystem. On one hand, players are no longer passive consumers but co-constructors of game worlds; their affective investments, creative labour, and communal practices generate substantial cultural and economic value. Concepts such as Ahmed's affective economies and work on digital labour highlight how emotional attachments circulate as a form of capital that developers both rely on and strategically cultivate. On the other hand, as Berlant's notion of cruel optimism suggests, the very attachments that empower players also bind them to structures that may repeatedly disappoint them. Many fans maintain steadfast hopes for an idealized game world – even when commercial imperatives, regulatory pressures, or market-expansion strategies make such expectations untenable. Their affective commitments drive engagement but also fuel disillusionment and collective resistance when redesigns undermine the fantasies they hold dear. Allison's account of precarity further illuminates why these conflicts carry such emotional weight. For many young Chinese otaku players, gacha games serve not only as entertainment but as affective refuges amid broader uncertainties in work, education, and social life. When content changes threaten this sense of stability, the resulting tensions extend beyond questions of taste and become bound to broader struggles over identity, comfort, and control. The intensity of fan reactions – including spending strikes, public critiques, and organized campaigns – reflects the precarious attachments that structure participation in these game worlds.

Taken together, these dynamics indicate that fan-driven co-production, though uneven and often contentious, is becoming an increasingly prominent feature of the Chinese gacha-game industry. The cases of *Genshin Impact*, *Girls' Frontline 2: Exilium*, and *Snowbreak* illustrate a spectrum of outcomes: from internal conflict within a globally mainstream title, to contested shifts in a long-standing female-centric franchise, to substantial revisions enacted in response to player mobilization. These patterns underscore a persistent tension in the contemporary gacha market: balancing expansive, inclusive design ambitions with the specialized desires of dedicated otaku subcultures. As Chinese studios continue to develop for both domestic and global audiences, understanding how these competing pressures shape creative and commercial decisions will remain crucial. What is clear is that Chinese gacha players – through their emotional labour, economic power, and collective organization – have asserted a new form of agency over the games they inhabit, positioning themselves as central participants in the genre's ongoing evolution.

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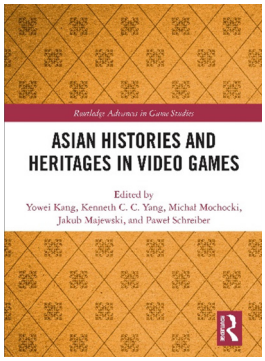

ASIAN HISTORIES AND HERITAGES IN VIDEO GAMES

Kang, Y., Yang, K. C. C., Mochocki, M., Majewski, J., & Schreiber, P. (Eds.). (2024). *Asian histories and heritages in video games*. Routledge. https://doi.org/10.4324/9781003461319.

Mohammadreza Golshani

With the recent renewed interest in non-western game studies, particularly with fields such as regional game studies attracting attention, *Asian histories and heritages in video games* is a timely collection of eleven scholarly articles elaborating on various issues in the field. The articles range from themes that explore politics, ideologies, colonialism, ethnicities, and identity, to more contemporary forms of gaming such as e-sport, AR mobile gaming, and gamification. Not unlike the diverse collection of authors, the editors also bring an exciting mix of various countries, degrees, and affiliations, ranging from backgrounds in communication and media studies – Yowei Kang, Kenneth C. C. Yang, and Jakub Majewski – to literary, cultural and religious studies – Michał Mochocki and Paweł Schreiber. The collection has been handpicked, and all are united by the game studies angle. Each chapter raises interesting research questions and uses various methodologies. While some require expertise in mathematics and computer science, such as understanding statistical data and percentage calculations from the reader, some others rely on interviews and close readings of the source material. The book can benefit a broad spectrum of readers from expert digital game researchers to teachers and historians who are interested in gamification and new methods of teaching in the field of serious gaming. It follows a logical path based on the trajectory of the most central discussions around digital games over the last two decades, highlighting four different aspects of discourse: political and ideological narrative, postcolonial and cultural identity, gaming and societal commentary, digital games as educational and historical tools.

The intersections of ideologies, nationalism, and political narrative are the main focus of several chapters. For instance, the second chapter authored by Süngü and Çatak, compares two Turkish games developed in different political eras, using interviews with the directors to assess how political themes are reflected in the design and storytelling. Similarly, the seventh chapter, written by McKernan and Pourtaher, conducts a narrative analysis of US media to identify the ideological discourses about Iran's past and present. While these studies use different methodologies, ranging from qualitative interviews to discourse analysis and player engagement, their findings are accessible to game studies scholars from different academic backgrounds including humanities, and offer practical approaches for future research. The conclusion reached in each study is also well-supported and justified.

Postcolonial and cultural identity is another theme elaborated on through several chapters. The study by Scheiding, on the Japanese game *Atelier Ryza: Ever Darkness & the Secret Hideout* (Gust, 2019), uses postcolonial game studies and collective memory theory to analyse how the game uses allegories in its fantasy setting, and represents exploitative historical narratives of Japan. The Taiwanese study on the game *Detention* (Red Candle Games, 2017), by the two of the editors of the book, Kang and Yang, applies a text mining technique to analyse player discussions. The method used concludes in a numerical chart, representing the most common words in the local player's feedback.

While some readers might find the technical aspects challenging to follow, the conclusion at the end of the articles helps to clarify the findings and makes an attempt to prevent confusion within the numerical data. The study on Indonesian eSport, authored by Jiwandono, also takes a unique approach. The authors conducted interviews with industry stakeholders to analyse how the evolving role of mobile esport contributes to Indonesian cultural and national identity.

The ninth chapter of the book explores how the TV series *Squid Game* (Ji-yeon & Dong-hyuk, 2021-present) and its digital game adaptation can be a tool to highlight contemporary economic anxieties and social inequality. The chapter, authored by two of the volume's editors, Yang and Kang, uses text-mining techniques on YouTube gameplay digital comments. By filtering keywords associated with fear, anxiety, and competition, the authors present a numerical chart. The research is unique due to the subject of its study being a transmedia franchise and the origin of it being South Korea.

The last two chapters of the book explore the realm of serious gaming. Chen's chapter researches AR mobile games that are designed for understanding Singapore's immigration history. Volunteers played an AR game and shared their feedback. While the conclusion suggests that AR games can enhance historical empathy, due to the small sample size, as of yet, it remains a suggestion based on a singular case study. The final chapter, written by Liu and Zhang, explores the intersection between digital gaming and cultural education. It analyses how digital game-based learning can engage learners with China's historical and cultural heritage. Focusing on the importance of the balance of entertainment with educational objectives, different game design elements that build up to pedagogical strategies are highlighted, and the potential of the systems to fill the gap between traditional education and modern technology is analysed.

Asian histories and heritages in video games is a great contribution to the emerging field of Asian game studies, which has been underrepresented in the English academic scene, particularly outside of Japanese games. The book consolidates various research and provides a comprehensive starting point for scholars interested in this geographical area. Moreover, it positions Asian game studies within the broader global context, acknowledging that local histories are intertwined with international affairs. This approach is appreciated as it moves beyond isolated regional studies to show how themes like colonialism, political influence, and cultural exchange manifest in games across different Asian nations and their interactions with the West. A notable benefit of this publication is its direct call for more localised research from Asia to be translated and made available in English, and to prevent its inaccessibility to the wider academic community. The book makes an effort to showcase the richness and variety of regional perspectives by presenting studies from countries such as Iran, Turkey, and Singapore, and tries to foster a more inclusive academic dialogue in the field. This volume goes beyond the presentation of existing research and identifies significant gaps within game studies concerning Asia. I find this self-reflecting approach as a strength, as it not only encourages further research but also guides future academia in these areas. By introducing a wide array of methodologies, the book highlights its inclusivity, and this methodological pluralism provides researchers with various tools and approaches for analysing games, history, and heritage, making the volume highly practical for scholars across various disciplines.

However, a potential shortcoming is that the book presents a collection of diverse case studies and perspectives rather than a unified narrative or a complete bibliometric analysis. Additionally, while the diversity of methodologies is a strength, some chapters might present technical challenges for readers outside specific disciplines, as certain articles require expertise in mathematics and computer science. This methodological depth in these examples could be preventing full comprehension for a broad interdisciplinary reader.

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MILK OUTSIDE A BAG OF MILK OUTSIDE A BAG OF MILK

Kryukov, N. (2021). *Milk Outside a Bag of Milk Outside a Bag of Milk* [Digital game]. N. Kryukov.

Samuel Draxler

The game entitled *Milk Outside a Bag of Milk Outside a Bag of Milk* was released on December 16, 2021, by a small team centralised around the head developer Nikita Kryukov. The game is a sequel title, and it is set in the aftermath of its predecessor, known as *Milk Inside a Bag of Milk Inside a Bag of Milk* (Kryukov, 2020). In the initial game, the player assumes the role of the inner voice of the main character, who is referred to in the community as 'the Girl' or 'Milk-chan' (without any official name), in this text called the Girl.

The primary objective of the first game is to proceed to a supermarket and purchase milk. This simple task is made complicated by her insecurities and mental illnesses. Within the narrative, the protagonist, known as the Girl, encounters individuals who are depicted as monsters, and there is a pervasive presence of abstract beings who are observing her. Consequently, it becomes necessary to instil in her the belief that she did not witness any of these events. Should an attempt be made to do so in a degrading manner, it is inevitable that the game will reach one of its conclusions (Shellding, 2022), with the result that the Girl will experience a mental breakdown and say, "Looks like 'Player' doesn't help me at all". It is evident that the only method of achieving the true ending is to be compassionate and by extension, compel her to perform specific actions.

A preliminary analysis of the visual components of the game and the interaction between the character, referred to as the Girl, and the player, suggests that the character may be suffering from brief psychotic disorder or schizophrenia, as defined by the American Psychiatric Association. The potential inclusion of bipolar disorder within the character's context is also a possibility (American Psychiatric Association, 2013). It should be noted that the theme of mental health is not unique within the horror gaming genre. Examples of such games include *Night in the Woods* (Infinite Fall, 2017), which focuses on depression among the younger generation, and *Hellblade: Senua's Sacrifice* (Ninja Theory, 2017), an attempt to depict schizophrenia in the most authentic way (Licardi, 2023). This 'trend' is also gaining traction within the AAA scene, as evidenced by, for instance, by the game *Silent Hill 2* (Bloober Team, 2024).

As the game is relatively brief, it is challenging to ascertain with certainty which mental disorders the character is afflicted with. The symptoms that can be observed in the first instance are as follows: hallucinations, delusions and disorganised speech, which are prevalent in both definitions.

Hallucinations manifest themselves as both visual and auditory phenomena, with visual hallucinations typically depicted as abstract images, such as hallways within a supermarket, or as grotesque monsters that defy rational comprehension. With regard to the auditory hallucinations, the player serves as the optimal instance of this phenomenon, given that communication is established with the character through multiple choice windows. In relation to the concept of delusion, the Girl engages in a cognitive exercise in which she imagines herself to be immersed in a visual novel, on a quest to purchase a bag

of milk. This is an intelligent explanation as to why the player is engaging with this particular genre of game, and this trope is also evident in the subsequent instalment. The final symptom to be observed in the initial game is that of the Girl's disorganised speech. This behaviour manifests itself most notably in instances where the player attempts to compel the character to engage in actions that cause her discomfort.

As previously mentioned, the game features two distinct endings, namely "Not this time" and "Milk bought". "Not this time" concludes with an unfavourable resolution, which is attained through the deterioration of the female protagonist, or by interrogating the possibility of her hallucinations, employing questions such as: "Has it ever occurred to you that it's all just in your head?" Alternatively, the player must select three disrespectful responses to direct towards the female character. The second ending, entitled "Milk bought", is considered a satisfactory conclusion and is recognised as a legitimate instalment in the official canon. In order to reach this particular conclusion, it is necessary for the player to demonstrate consideration towards the female character and ensure that she acquires the milk. The narrative concludes with the Girl successfully procuring the milk and returning home, where she is greeted by her mother. The mother asks the Girl whether she has purchased the milk and whether her new medicine is effective, to which the Girl answers in the affirmative. The mother then sends her to bed, thus bringing the game to a conclusion.

The first game is a relatively brief experience, lasting between thirty minutes and one hour, characterised by a substantial presence of abstract imagery and narrative incoherences. While this would typically be considered unfavourable, it is effective in terms of the game's setting, thereby enhancing its credibility. This could be one of the reasons why the game has received such a high number of positive reviews on Steam, with over 13,500 reviews and a 96% approval rating as at November 2025.

Milk Outside a Bag of Milk Outside a Bag of Milk was created by a larger team than the first instalment. Following the securing of budget from the prequel, significant enhancements were made to the audiovisual components of the game. These enhancements included the introduction of full animated cutscenes, numerous soundtracks, and more mainstream graphics. The second instalment commences a short time prior to the conclusion of the initial game, with the protagonist's mother yelling at the Girl and inquiring about her consumption of the milk, while concurrently pressing her finger against the Girl's arm. This immediately prompts the player to contemplate the distinction between reality and fiction, as this sequence did not occur in the preceding game's culmination. Evidence suggests that the subject is lactose intolerant, thereby providing a more profound interpretation of the scene and the first game in its entirety. The subsequent scene is set before a sink and a mirror, with a variety of medications dispersed throughout the scene. The drugs are not visible, but their colour and shape are partially described. It can be hypothesised that thiothixene is one of the substances. It is a pharmaceutical product used in the treatment of psychotic disorders and schizophrenia. Another potential medication could be a sleeping pill, although the specific identity of the drug in question remains unknown at this time. It is important to note that there are numerous other pills that we are currently unable to identify. This suggests that the Girl is currently undergoing clinical treatment. This finding may suggest that the patient's condition persists beyond the duration of a single month of brief psychotic disorder.

Following the scene with the sink, the Girl elects to engage in conversation with the player. It is evident that this game is not entirely akin to the first iteration. The first game was of the visual novel genre, and the second is of the point-and-click adventure genre. The objective of the game is to locate the thoughts of the girl, which are dispersed throughout her room. Upon inspection of each element within the game, there is an opportunity to

gain further insight into the subject known as the Girl. The following timeline details the sequence of events that transpired: the onset of auditory and visual hallucinations, the abusive behaviour of her father, and the administration of milk to the Girl. Within the context of this series, the term *milk* can be interpreted as a metaphor for physical and psychological abuse, signifying the transmission of trauma across generations. The symptoms exhibited by the subject in the second game appear to be indicative of schizophrenia, with a concurrent possibility of bipolar disorder, as evidenced by the marked fluctuations in mood experienced during gameplay between the two games.

Following the identification of her thoughts, the Girl can fall asleep, resulting in one of five possible endings. These are, in no specific order, termed "Shop ending", "Phone ending", "Room and field ending", "Mirror ending" and "Stairs ending". Each ending is characterised by its abstract nature and capacity for interpretation. For instance, the "Shop ending" depicts a scene in which the protagonist, and a boy named Treska proceed towards a shop with the intention of procuring milk. Treska may be a representation of herself, and the Girl may be a representation of the players in this ending. In all instances, the outcome is the same. Following the dream sequence, which constitutes of the various endings, the protagonist, the Girl, awakens in a state of tears, her gaze fixed upon a void in the sky. The title proved to be a one-of-a-kind experience, as evidenced by its reception in the marketplace, which saw it garner reviews that surpassed those of its immediate predecessor. The subject received a total of 7,000 reviews, of which 97% have been positive. The two games demonstrate the psychological challenges faced by some individuals. Digital games, such as this game series, have the potential to exert a positive influence on society, as they can be employed to disseminate awareness regarding psychological traumas and diseases.

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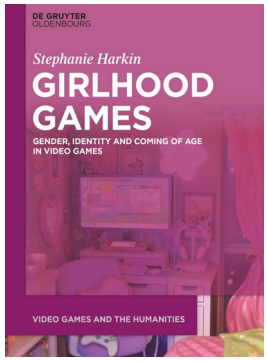

GIRLHOOD GAMES: GENDER, IDENTITY, AND COMING OF AGE IN VIDEO GAMES

Harkin, S. (2025). *Girlhood games: Gender, identity, and coming of age in video games*. De Gruyter Oldenbourg. https://doi.org/10.1515/9783111560939

Veronika Šašalová

What are girlhood games? It is very likely that if the book were titled 'pink games', it would not be difficult to imagine an entire market segment, from brightly coloured consoles to digital games 'about girls for girls' themselves. Even more broad casual games, with wider target audiences more diverse in age and gender, would still be clearly distinguishable from the rebellious boy culture full of heroic figures, hacking and modding. Harkin shows us how little we associate girlhood with digital games, despite the fact that young women have been at the centre of attention for major AAA games in recent years.

The book moves the thinking about girls and women as gamers, creators, consumers, and characters forward to more modern levels. The introduction presents a condensed feminist and digital-game theoretical background. It effectively sets the tone for the rest of the book, as the introduction simply and objectively points out the major cultural shortcomings, without the reader feeling that they are reading a repeated indictment of game culture, just as it does not put women in the position of victims. Many examples from the current market (from indie to AAA production) also show that the author is very well versed in contemporary production. The introduction, which is divided into six subchapters, provides well-presented information for anyone who would like to understand the connection of games to the context of postfeminism and popular feminism, and also explains the basic feminist background of how representation and power work in game culture.

Chapter two presents the starting framework for the entire book, and an understanding of girlhood and girlhood games. The categorization of individual elements also shows the depth of what can be seen within games and the market, namely girls in games, girls' games, and girlhood games. While girls' games are a market clearly directed at girls, which is also the subject of production and subsequent marketing strategies, girlhood games "are mostly characterised by their thematic content. They feature girl protagonists and adolescent or coming-of-age themes, meaning they address, in different ways, social obstacles and identity trials" (p. 7). The author connects this type of games with the frequent coming-of-age narrative, also known as *bildungsroman* stories, which are stories focused mainly on the personal growth of the heroes. The entire chapter thus presents an excursion into girls' games (pink games), through which the foundations of the formation of stories about girlhood are shown, which paradoxically find reuse in modern games – even games that do not have strong gender coding like *Mass Effect* (Bioware, 2007-2021) or *Dragon Age* (Bioware, 2009-2024). The chapter naturally arrives at the development of casual games and their importance within gaming culture, which has broken the masculine coding of games. The most beneficial part can be considered the subchapter "Girlhood beyond girls' games", which shows how the features of girls' and girlhood games spread to products that were not considered 'pink', such as *King's Quest IV: The Perils of Rosella* (Sierra On-Line, 1988) or

The Legend of Kyrandia: Book Two – Hand of Fate (Westwood Studios, 1993), both of which were well-known on the market, so they cannot be considered marginal works that did not reach wider audiences.

The following chapters are akin to separate case studies, each focusing on single series: *Oxenfree* (Night School Studio, 2016-2023), *Life is Strange* (Dontnod Entertainment & Deck Nine, 2015-2024), *The Last of Us* (Naughty Dog, 2013-2024) and the independent games *Secret Little Haven* (Hummingwarp Interactive, 2018) and *Lost Memories Dot Net* (starmaidgames & Aaron, 2017). By the end of the book, it becomes clear that the selected material carries various overlaps, and that the search for girlhood could probably be built on repeating categories, which would create a rather interesting coherence. In this case, each game seems to have its own theoretical basis and elements that girlhood games can contain, which could have been explored throughout all of the selected digital games – *Oxenfree* as a new *bildungsroman* story, *Life is Strange* as an exploration of nostalgia, *The Last of Us* as a modern story of Little Red Riding Hood in a horror setting, and the last two games through the reinterpretation of 90s gaming culture and Web 1.0 era. Although each analysis represents a standalone, but still topical segment, the chapter that explores *The Last of Us* is probably the most thematically inconsistent with the rest of the book. The interpretation of *The Last of Us* as a modernization of the Little Red Riding Hood seems a bit forced. When a modern work alludes to a classic story, the reference is usually not hidden. The author sees the game as a metaphor to Little Red Riding Hood, but the drawn connections wane towards overinterpretation, as it does not follow the values of the original tale:

> Ellie in Part II comes to resemble this monstrous figure, hence my repositioning of her role to the wolf. It is important here to note however, that Ellie's vengeance is not in response to a sexual violation of her body, but rather to the brutal torture and murder of her father-figure Joel. (p. 114)

Similarly, an assignment to the horror genre or an explanation of the functioning of traditional fairy tales was not necessary, as many aspects to which it appeals could be assigned to the post-apocalyptic genre or speculative fiction, which have their roots in fairy tales themselves, like all fantasy genres.

The selection of the first three games clearly represents titles that have high production value, have gained considerable fan attention, and their marketing is not clearly targeted at women; all the while the heroines display a very fluid and queer identity. All stories can fit the bildungsroman genre. *Secret Little Haven* and *Lost Memories Dot Net* represent the opposite side of the spectrum in independent creation and show how women project themselves into the medium of digital games. From the author's perspective, both games have a strong connection to the DIY culture of Riot grrrls, and both the feminist and gamer fascination with the Internet as a driving force of creativity. Finally, various types of creativity – from taking pictures, to playing the guitar or writing – have proven to be part of girlhood in each game. The last two games in particular also allow us to see the contradiction between what gaming culture means to many girls and how they are perceived inside gaming culture.

Each chapter offers a high-quality standalone analysis, but there is a certain connection missing, which even the conclusion does not draw to a desirable extent. Despite its few shortcomings, the book is a welcome and refreshing look at female identity in games and beyond. It manages to clearly and aptly work with many problematic intersections when women do not meet traditional femininity – whether in games themselves, through acceptance in gaming communities, to female streamers who do not adhere to feminine standards. It also represents a bridge between traditional feminism and postfeminism, where we no longer have to perceive the inclination towards femininity as unprogressive.

The entire book also forgoes the problematic of visual depictions of the body, and rather focuses on questions of identity in and of itself. This positions the entire work as forward thinking, avoiding the so often repeated questions of how females are portrayed in games and focusing on who females are in digital games and gaming culture. Despite a few minor shortcomings, the book provides significant insight into modern feminist views of digital games, and positions women and girls not as a secondary market for masculine-oriented products, but as an integral and inherent part of gaming culture.

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Media Ownership from a User Perspective: Let's Get Physical

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Coming out of the 1990s, physical media production and distribution reached its defining peak. Sony Corporation took over the mass production of the compact disc media in the early 1980s, right after co-founding new technologies, standards and protocols originally based on an optical laser disc technology developed by Philips & Co (Peek, 2010).

The first commercially published audio CD album was Billy Joel's (2014) *52nd Street* – released on October 1, 1982, in Japan. On the same day, Sony also launched their first official CD-player audio system to the public (Święcicki, 2021). Not even Sony with their CDP-101 could prepare the consumers for the innovative expansion of entertainment to come later in the 1990s. Before CDs became dominant, the primary medium for electronic interaction, computation and storage was the cartridge. Cartridges are closely connected to both eras, the genesis of digital game distribution in the early days of Magnavox Odyssey in the 1970s, and later, the digital game outburst led by Nintendo's gaming consoles – Famicom in Japan and the Nintendo Entertainment System in other regions. The impact in the West was significant, namely in the United States – following Atari's game release of *E.T. the Extra-Terrestrial* (Atari, 1982) accompanied by an economy fallout, injuring the whole western market (Mago, 2020). The gaming industry was back on its tracks with additional innovative momentum thanks to Nintendo's leading strategy.

The medium carrying data and additional computational power – the NES cartridge, was now manufactured and mass produced. 8-bit games with heavier focus on narrative or action themes became the standard. A circuit board carried a program ROM, where the game program (or what we know as *game data* in today's computation) resided. There was also an additional RAM to extend memory capacity, even a battery-packed chip dedicated to the storage of player's save data (Copetti, 2025a).

Later, on December 3, 1994, Sony released their first official gaming console – the Sony PlayStation. The central component of their new technological platform was its media unit. Sony introduced support for the CD format which expanded many technical capabilities of said gaming platform. Disc-based focus continued throughout the early 2000s, with DVDs as the new formfactor among many competitors, with CDs still holding up in the realm of smaller games. Even Nintendo temporarily adopted disc media during the Wii and Wii U era, having their own optical disc variation for both respectively.

The physical games market remained competitive, largely controlled by the companies behind Blu-ray technology. Sony and Pioneer, amongst others, co-created the Blu-ray Disc Association. The Blu-ray format can store much more data than previous media formats. It quickly became the home for high-definition video and digital games, with Sony's new console – PlayStation 3 – leading the market. Games were now read directly from disc drives: DVDs on Xbox 360 and Blu-rays on PlayStation 3. Slow discs read speeds carried an inventible complication for the future of physical media consumption. Since most seventh-generation gaming consoles included a pre-installed hard drive (except for Nintendo Wii's 512 MB of flash memory) (Copetti, 2025b), a progression towards streamlined data readability from a console's HDD was expected.

We experienced the beginning of a new standard. Direction-changing steps came later, bringing a new paradigm of media consumption. First was PlayStation 3, with improvement of loading speed with certain games, the console allowed for a partial game installation on the hard drive to improve loading speeds. Microsoft's Xbox 360 let users fully back up their physical games on the console's storage, and load-times decreased significantly. Digital game disc still needed to be in the optical mechanic drive, as a confirmation to the operating system to boot up installed files and startup a game.

The next important influence during the seventh generation was the commercial introduction of online storefronts. Xbox 360 offered a service named Xbox Live, offering two different subscriptions models. Xbox Live Silver membership (default, free) and

Xbox Live Gold (premium, paid) which extended standard features with an online multiplayer capability. However, PlayStation Network provided online multiplayer for free, during the whole PlayStation 3 lifecycle, adding a subscription service named PlayStation Plus much later. Monthly-based subscription models experienced a rivalry – offering free games, extra discounts and other premium features.

During the process of integration, consoles' graphical user interfaces became fully integrated with the storefronts and media applications. The term *gaming console* turned towards a new concept – *entertainment system*. Adding support for broadcasting services such as Last.fm on Xbox 360 in 2009 marked the continuation of platform development. Starting earlier (in November 2005) with Xbox Live Arcade, a selection of smaller games was open for digital purchase. Later, followed by the opening of the market in limited PSN titles via PlayStation Network, the AAA market was coming close to the final destination of media distribution – online licencing.

Starting in the early 2010's, the logistics for complete online distribution were in place. Platform providers offered many AAA titles and indie games on either Xbox Live or PlayStation Network. Users, at this point, were already buying the digital licences of games, now linked with the account owner, accessing their own digital library. Digital game licences, gained through the premium subscription system, were the symptom of a new digital-based era where owning means renting (Pravdová et al., 2023). Gamers could only access these titles if they were an active member of a premium service, just as we see today with the Xbox Game Pass. The described problem was part of a much larger discourse around the concept of digital licence ownership vs. physical media ownership. Since the Digital Rights Management (DRM) owner could revoke the licence at any time, the preservation of digital games was traded for the convenience and expansion of market share.

At the time of publishing this reflection, which will be distributed both digitally and physically in the current volume of *Acta Ludologica*, the foundational economic principles for the distribution of digital games are still in play – demand and supply for both physical game enthusiasts and digital-only consumers. Currently, other factors in play seem to discourage the lively passion of many.

One of the most contemporary is a new digital-physical hybrid cartridge format by Nintendo. The official launch of Nintendo Switch 2 in July 2025 marked a new retail trend in the development of retail games distribution. Consumers were already familiar with poor physical game boxes, with only a download code inside from the original Nintendo Switch's lifecycle. Game-key cards now act as the licence subject, the same way physical games usually do. Unlike digital distribution tied to a user account, the game-key card can be borrowed or resold without any digital rights violation. The problem for many lies in the nature of data accessibility. Said format does not store the game itself; it only works as an affirmation for the server to download the game file onto the console's internal hard drive or an external microSD card.

Whilst creating problems for game preservation, customer satisfaction and collector interest, the trend is yet to be stabilized. Nintendo still offers most of their first-party games on a 64 GB cartridge. The Sony PlayStation 5 arrived with its two latest iterations, presenting the slim model on November 2023, and the pro variant in the same month of 2024. A controversial change came in the way that the disc reading unit was handled. For the first time in Sony's gaming history, the mechanical drive was sold separately, with the exception of the PlayStation 5 Slim Bundle.

Yet, Sony continues with their long-lasting support for physical game distribution, counting regular premium products or extended versions (complete editions) with all DLCs in the form of new releases. Players can still access most of the games via installation

from disc onto the gaming platform, without continuous connection to the internet (apart from updates). One-time internet installation and verification is needed in the case of external media drive for both PlayStation 5 Slim and PlayStation 5 Pro models, respectively.

Even though the physical formfactor seems to be in decline, there is still enough opportunity for collecting purposes. People can build their physical game collections for years of gaming to come. The good news is that backwards compatibility for both PlayStation 5 and Nintendo Switch 2 fully work for eighth-generation titles. In the case of Nintendo's new hardware, collectors can buy the original Switch version of the game for archival purposes. Some releases offer a free upgrade to the Switch 2 version, yet some are locked behind a paywall.

There is a tendency for physical media to return, which is already happening with movies and music. We have seen the case with vinyl records in the 2010s, now CDs are regaining popularity (as a contra-cultural standpoint to streaming platforms). The world of digital games has yet to wait for such reemergence. Even if we lose certain aspects of popular culture to the market, there is always a space for an antithesis to dominant power structures, which we can utilize for media preservation, appreciation and enjoyment.

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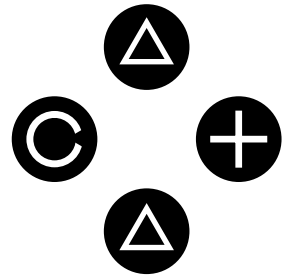

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