

The Double Screen in Retrogaming: Memory Device between *Anemoia* and Memory Trigger

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This article examines retrogaming as a cultural practice at the intersection of memory, nostalgia and digital media, focusing on the concept of dual-screen gaming. Defined as the integration of a playable retro video game within a host video game via a secondary in-game screen, the dual screen is conceived as a hybrid memory device that connects different temporal and playful levels within a single experience. The article builds on previous research by the same authors on the double screen, extending its theoretical framework with the introduction of a memory-oriented perspective. Drawing on the notion of games within games (Seiwald 2019), the proposal argues that embedded retro games not only highlight the ‘playfulness’ of the medium, but also serve as devices for activating memory. Through the analysis of selected case studies, the article proposes memory as a new analytical category, distinguishing between memory triggers, linked to autobiographical nostalgia, and *anemoia*, a mediated form of nostalgia for a past not directly experienced. The findings show how the dual-screen setup transforms memory into a playable experience, allowing players to access, reinterpret and inhabit the past. The article thus presents an updated conceptualization of the dual-screen setup, redefining its role within contemporary gaming culture.

Key words: nostalgia, double screens, retrogaming, memory trigger, *anemoia*, videogames, game studies.

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1. Media, imaginaries, and identity: retrogaming as a cultural ecosystem of nostalgia

Video game studies have progressively established themselves as a field of research characterized by multi-disciplinary approaches, in which video games are understood not only as technological artifacts or commercial products, but also as social practices capable of shaping imaginaries, relationships, and identity processes. Alongside research focused on individual titles, modes of consumption, and gaming cultures, a theoretical perspective has consolidated that places nostalgia

at the center of meaning-making within the medium. As Fred Davis observes, nostalgia does not constitute a private or occasional emotion, but rather a collective phenomenon deeply intertwined with fundamental sociological themes such as identity, emotions, life trajectories, cultural change, and social processes (Jacobsen 2025: 27). Consequently, the sociological dimension of video games intersects with broader cultural processes. Espen Aarseth (2001) emphasizes that the video game medium is capable of merging aesthetic experience and social

interaction in ways that traditional mass media – such as theatre, cinema, television, and literature – have never fully achieved. The video game imaginary, composed of possible worlds, digital myths, and recurring archetypes, thus constitutes a symbolic space that shapes how we think about the past, interpret the present, and imagine the future. As Timothy Morton (2000) argues, imaginary is not merely a symbolic repertoire, but a performative force capable of shaping desires and subjectivities. In this sense, video games can be read as “videoworlds” (Boccia Artieri – Ceccherelli 2008), that is, as social laboratories in which transformations of relationships, communicative practices, and identities become observable.

Within the contemporary cultural industry, video games are deeply embedded in the dynamics of nostalgia. Fred Davis (2023) argues that nostalgia originates in the media, circulates through the media, and often takes media products themselves as its object. When considered through a temporal lens, video games can thus function as a genuine “digital time machine” (Wulf et al. 2018), fostering emotional engagement with the past through what they reproduce, reconstruct, or reinvent. Kappes and Menke (2025) define media nostalgia as a “creative impulse generated by the media”, distinguishing three fundamental dimensions: content (what is represented), artifacts (the material supports through which content is preserved), and apparatuses (the technologies that enable access) (ibid.). Alongside this media-driven nostalgia lies mediated nostalgia, in which the medium acts as a trigger for personal memories not directly related to its content (Bowman – Wulf 2023). Video games embody both dynamics: on the one hand, they possess an objective historical past, ranging from early experiments in the 1950s to arcade culture in the 1970s and the aesthetic and linguistic consolidation of the 1980s and 1990s; on the other hand, they activate a subjective biographical past, in which personal memories are reinterpreted in light of the present (Davis 2023: 58). Nostalgia thus emerges at the intersection of the history of the medium and the history of the player. These cultural, material, and historical dimensions are further intertwined with the psychological component of nostalgia, which affects emotional well-being and the sense of self-continuity. Research in social and media psychology has shown that returning to games associated with

significant phases of life can reinforce feelings of belonging, stability, and identity coherence (Kappes – Menke 2025: 124). Fred Davis (2023) considers nostalgia a crucial mechanism for the construction and renegotiation of identity, particularly during transitional phases of the life course – such as the shift from childhood to adolescence or from adolescence to adulthood – when individuals are prompted to reassess their sense of self. Cultural objects from the past thus function as symbolic anchors, offering both emotional reassurance and narrative continuity. According to Jacobsen (2025), nostalgia supports both personal and generational continuity, helps individuals to process moments of crisis, and provides an affective refuge when the future appears uncertain or overwhelming.

These dynamics are particularly evident in retrogaming, which represents a privileged context for observing the intersection of memory, technology, and identity. The term refers to the practice of playing video games from previous generations using hardware that is no longer produced and therefore no longer officially supported by manufacturers, such as vintage home consoles, early personal computers, and coin-operated arcade cabinets (Forster 2005; Thomasson 2023). As David Heineman (2014) notes, the phenomenon is far from recent: as early as the late 1970s, enthusiasts and collectors devoted time and energy to playing and preserving arcade, console, and computer games. However, it was primarily with the advent of the Internet and the spread of emulators that retrogaming assumed its current recognizable form, diversifying into multiple variants and becoming a codified and socially visible practice. Despite technological obsolescence, outdated hardware and software systems continue to exert a strong appeal, whether through the use of original devices or via modern reissues, emulation, or digital distribution services. In this regard, Wulf et al. (2018: 60–61) appropriately distinguish between the act of playing and collecting old games and consoles and the practice of engaging with contemporary titles that intentionally adopt a retro aesthetic in graphics and sound design. A review of the literature, however, suggests the need to expand the semantic scope of the original definition in order to capture the complex and layered nature of retrogaming. Saarikoski (2004) observes that the prefix retro implies a backward movement which, in the context of video games, encompasses emotional, aesthetic,

and functional dimensions. He proposes considering retrogaming as an emerging gaming subculture that, although initially marginal, has progressively spread, especially among adult players who intentionally preserve games and hardware otherwise destined to disappear.

Domini Paul Gee (2019) and Newman (2004) further emphasize that retrogaming practices extend beyond simply playing and collecting, including the creation of physical and digital archives and museums, as well as the integration of retro mechanics and aesthetic styles – such as pixel art – into contemporary game design. Newman (2012) also highlights the cultural and historical preservation dimension of retrogaming, which concerns not only hardware itself but also the reconstruction of gameplay experiences perceived as “authentic”. This search for authenticity, often associated with the simplicity and “purity” of gameplay, is interpreted by D. Gee (2019: 57) as a counterpoint to the complexity, visual spectacle, and increasing commercialization that characterize many contemporary video games. The term retro inherently implies a backward movement; consequently, retrogaming can be understood as a symbolic return to childhood or to ludic universes perceived as familiar and reassuring. This impulse to return recalls the original meaning of *nostos*, the desire to return home, and functions as a means of filling the gaps of memory. Following Timothy Morton (2000), retrogaming thus evokes not a factual past, but a phantasmatic, idealized past reconstructed as a simulacrum. Similarly, Bosman (2023) emphasizes the tension between perceived authenticity and the idealization of the past, defining retrogaming as the appropriation of past video game aesthetics and mechanics within contemporary productions, according to a logic that goes beyond simply replaying titles on consoles or emulators and instead reuses their “look and feel” in new works. Retrogaming thus appears as an aesthetic and ludic reactivation of the past, in which it is reworked, hybridized, and incorporated into new configurations of play. Makai (2024), in his analysis of *Arcade Paradise*, demonstrates how retrogaming does not merely reproduce aesthetic or mechanical elements but entails the construction of a “reconstructed” historical experience that incorporates economic and managerial components and reinterprets the past according to the logics of the contemporary cultural industry. The common thread uniting these theoretical

contributions is the central role of nostalgia in reinforcing the appeal of retrogaming. For many players, classic video games are linked to personal and familial memories – afternoons spent in the living room or bedroom, shared rituals with friends or siblings – as well as to broader cultural references disseminated through television series, such as *Seinfeld* or *The Big Bang Theory*, and films such as *Ralph Breaks the Internet* or *Free Guy* (Thomasson 2023). Retrogaming thus becomes a means of reactivating emotions, relationships, and biographical moments, enabling a rediscovery of the self through the past and providing an emotional anchor in the present. As Bowman and Wulf (2023: 2) observe, video games can function as “metaphorical time machines”, allowing players to return to digital worlds that remain unchanged, unlike real life. The theoretical framework proposed by Fred Davis (2023) on simple, reflective, and interpreted nostalgia provides further tools for analyzing the retro landscape. Simple nostalgia emerges in titles that romanticize past aesthetics and mechanics (Bosman 2023); reflective nostalgia characterizes games that critically engage with the memory of the medium; interpreted nostalgia appears in metatextual works that make nostalgia itself a theme. Garda (2014), drawing on Svetlana Boym (2001), further distinguishes retrogaming from the retro style of contemporary games, which creatively reinterpret the aesthetics and codes of specific decades. Nostalgia in retrogaming is therefore not merely an affective state but also a cultural, commercial, and creative strategy: returning to the past allows not only its re-experiencing but also its critical reinterpretation in the present and its projection into the future (Suominen 2008). Building on Blake’s (2002) notion of the “retrolutionary”, Suominen describes retrogaming as a way of constructing the new through tools, aesthetics, and logics derived from the past: nostalgia thus becomes a driver of innovation, a resource that makes change more accessible by combining continuity and transformation. The growth of the retrogaming market – once considered marginal – demonstrates the symbolic and commercial value of video game heritage (Heineman 2014). As Morreale (2009) observes, nostalgia becomes a commodity, and cultural producers, media, and the entertainment industry configure themselves as true “vendors of nostalgia” (p. 274). The search for the aura of the original game activates processes of technical

reproducibility, recalling Walter Benjamin (1936) and the Baudrillardian notion of simulacrum, later taken up by Guffey (2006): representations that ultimately replace reality with a hyperreal version of the past.

Retrogaming thus manifests in multiple forms: on the one hand, it allows players to relive past experiences through “immutable and preserved” data that seem to promise a return (Fenty 2008); on the other hand, it reworks themes, iconographies, and styles according to the logic of remix culture (Lughi 2023). It is in this liminal zone – between nostalgia, remediation, and derivative digital imaginaries – that many contemporary practices of rewriting the video game past take shape. Retrogaming cannot be reduced either to a recreational activity centered on simply replaying past titles or to a practice of collecting or digital archaeology (Parikka 2019). Rather, it constitutes a genuine cultural ecosystem in which memory, technology, market forces, fandom, and preservation practices converge. Collecting and preserving video games, consoles, and other gaming devices represent a significant motivation for many enthusiasts, who contribute to safeguarding video game heritage for historical, aesthetic, or cultural reasons. Alongside physical preservation, emulation makes otherwise lost titles accessible, giving rise to a form of retrogaming with an archival function. This approach is shared by dedicated institutions and museums, such as the GAMM Game Museum (formerly Vigamus) in Rome and the *elettroLudica Museo dell'intrattenimento elettronico*, which treat video games as cultural artifacts. At the same time, a participatory culture emerges around classic games, consisting of events, fairs, forums, exhibitions, and creative practices. Fans do not merely celebrate the past, but reactivate it through remixes, mods, fan art, amateur productions, and new creations inspired by historical titles, much like in other media domains. In this regard, it is useful to distinguish between recreational and cultural practices of retrogaming. Recreational practices are endogenous to the world of play and directly concern the use of hardware and software: they include the use of original consoles and cartridges to preserve authenticity, plug-and-play devices that emulate old consoles (such as NES Classic or Atari Flashback), software emulation through programs such as MAME, hybrid consoles like Analogue Pocket or Retron 3 HD, and the proliferation of numerous retro

consoles produced by small companies, often situated in a legal “grey area”. This same domain also includes remakes and reboots, in which classic titles are recreated or reinterpreted with updated aesthetics and mechanics – such as Alex Kidd in Miracle World DX or Wonder Boy III: The Dragon’s Trap – as well as homebrew productions and demakes, which respectively develop new games for old consoles or adapt modern titles to legacy platforms (e.g., Halo 2600 for Atari). Finally, the influence of the past persists in contemporary retro-style games that reinterpret classic graphics and gameplay, such as *Evoland* (1 and 2) or *Minecraft*. Cultural practices, by contrast, are exogenous to hardware and software and develop within the social and institutional contexts surrounding gaming. These include events and fairs dedicated to classic gaming, featuring tournaments, concerts, and meetings with developers and fans; the aforementioned museums; and arcade venues, which Makai (2024) interprets as sites of cultural heritage where the imaginary of the 1980s and 1990s – as well as contemporary titles presented in arcade format – continues to be experienced. Online communities, blogs, forums, social media groups, and live streaming channels also constitute exogenous cultural practices, albeit situated in digital environments. Within these spaces, content creators and fans keep the memory and imaginary of retrogaming alive, forming the active audience that, as Henry Jenkins (2008) argues, lies at the core of media industry dynamics.

1.1 Collective memory in retrogaming

The nostalgic experience associated with retrogaming does not concern only those who directly lived through the era of retro video games, but also involves younger generations. Generation Z, in particular, develops forms of mediated nostalgia through emulators, reissues, and digital platforms that make a ludic heritage accessible which would otherwise lie outside their biographical experience. The video game past is therefore not simply recovered, but rather encountered, filtered, and reinterpreted in light of contemporary sensibilities. This dynamic can be understood through what recent studies define as *anemoia*, that is, a form of nostalgia for a time not directly experienced but reconstructed through cultural and digital mediations (Mathew 2025). In the case of Post-Millennials, such nostalgia does not arise from

personal memory, but from a mediated imaginary composed of aesthetic fragments, technological devices, and cultural practices of the past. What emerges, then, is an active construction of video game memory linked to retrogaming, rather than a mere recovery of lived experience. At the same time, this orientation toward the past can be interpreted as a response to the condition of digital saturation that characterizes contemporary society. Having grown up in an environment dominated by constant connectivity, algorithms, and continuous flows of content, Generation Z experiences a form of cognitive and sensory overstimulation that paradoxically generates a search for slower, more tangible, and more intentional experiences (ibid.). For these reasons, retrogaming offers a form of simplification and a “return to materiality”, through aesthetics, mechanics, and rhythms of play perceived as more controllable, authentic, and humanly scaled. This process contributes to the formation of new shared memories, in which the relationship with the past does not depend exclusively on having lived it, but on the possibility of accessing it through technical devices and discursive practices. The Internet plays a central role as an infrastructure of cultural memory. Suominen (2011), for instance, argues that the web can be understood as a dynamic archive – or even an “anarchive” – capable of continuously renewing the economic and semiotic life of past media artifacts, making them available for both individual and collective recollection. Within these environments, retrogaming emerges as a profoundly communal practice. Forums, blogs, social media platforms, and digital archives do not merely preserve content, but activate processes of discursive construction of video game memory. Even seemingly minimal forms of participation – such as brief comments, lists of games, nicknames, or signatures – contribute to the formation of a diffuse historical discourse in which individual experiences and collective narratives intertwine (ibid.).

A central element is represented by “memory triggers”: images, descriptions, emulators, content, and devices that stimulate recollection and facilitate the reactivation of ludic experience. However, memory does not emerge automatically; it also requires practices of participation and narration that transform individual experience into shared heritage. For this reason, Suominen identifies three main discursive modes through which the history of

video games is constructed: a historical discourse, which organizes the past chronologically; a heritage discourse, centered on the preservation of artifacts; and a retrospective discourse, focused on the personal, emotional, and relational experience of play. These three modes demonstrate how the relational dimension of retrogaming often assumes an intergenerational character. Many parents, in fact, introduce their children to the games of their own childhood, transforming video games into a medium of affective and narrative continuity between generations. Bowman and Wulf (2023), for example, show that 77 % of parents play with their children, frequently choosing titles from their own past. A significant case they report describes a young player using an old save file belonging to his father in *The Legend of Zelda: Ocarina of Time*, thereby transforming gameplay into a form of emotional inheritance. Taken together, these dynamics show that contemporary retrogaming is not merely an individual nostalgic practice, but a mediated social and cultural phenomenon in which digital communities, technological devices, and discursive practices contribute to redefining the relationship between past, memory, and identity. In this sense, nostalgia does not simply evoke the past, but becomes a tool through which younger generations negotiate authenticity, belonging, and meaning within a context shaped by the pervasiveness of digital technologies.

2. Double Screen in Contemporary Retrogaming

By analyzing retrogaming practices in both virtual and physical environments, this study has identified a specific mode of engagement that differs from those discussed so far. This mode is characterized by two fundamental elements:

- the presence, within a primary “host” video game, of a secondary retro-style game that can be played either partially or in its entirety;
- access to this embedded game through a second screen that is represented and visible within the virtual space.

The conceptualization of this double screen is grounded in *second screen* theory. Within a context shaped by media convergence (Jenkins 2008) and remediation (Bolter – Grusin 1999), it has become increasingly common to interact with multiple media contents across different devices. In the television domain, for instance,

second screen practices involve viewers engaging with related content through two physical screens (such as a TV and a smartphone or tablet). In video games, double-screen dynamics emerge in modes such as multiplayer, whether through shared screens or individual displays, producing differentiated experiences for each player. The concept of the double screen has been particularly related to the notion of *games within games* developed by Regina Seiwald (2019), according to which the inclusion of a game within another creates a layering of fictional levels (interlacing fictional levels) that makes the ludic and artificial nature of the medium visible. However, whereas Seiwald primarily analyzes such structures in terms of self-reflexivity and the foregrounding of game-ness, the double screen introduces an additional dimension: it not only renders the game visible as a constructed artifact, but also activates a temporal relationship with the past, transforming the embedded retrogame into a device of memory.

Another relevant reference is the notion of game within the game: the presence of minigames – often digitalized versions of analog games such as poker, chess, or checkers – which, although autonomous and independent from the main narrative and core gameplay, are accessed through the player’s “digital prosthesis” (Franchini 2004), namely the avatar. Examples include poker in *Red Dead Redemption*, *Gwent* in *The Witcher 3: Wild Hunt*, the dice game *Orlog* in *Assassin’s Creed Valhalla*, motorcycle races in *Final Fantasy VII*, beach volleyball tournaments in *Tekken 3*, or dance challenges in the *Yakuza* series. However, access to these minigames does not occur through an internal second screen, nor do they constitute actual retro games; therefore, they do not fall within the specific form of retrogaming analyzed in this study. Drawing on the work of Regina Seiwald (2019), the double screen can instead be interpreted as a specific form of *mise en abyme*, in which the embedded game reflects and doubles the ludic nature of the host game. In the case of retrogaming, however, this reflection is not only structural but also temporal: the second level does not merely refer to the game as a form, but to a historical phase of the medium, thereby activating dynamics of nostalgia, *anemoia*, and mediated memory.

Building on the concepts discussed and the empirical cases identified, Guerra and Addeo (2025) argue that

the double-screen retrogaming experience can be defined through a set of recurring characteristics:

- the simultaneous presence of an exogenous (real) screen and an endogenous (virtual) screen;
- the coexistence of a host video game and an embedded game accessible within it;
- the retro identity of the embedded game, or its clear adherence to retrogaming aesthetics and logics (graphics, style, gameplay);
- the visible transition between the two screens, made explicit through visual devices such as fades, changes in framing, or camera movements;
- the mediation of the digital prosthesis, which functions as an interface between the player and the second screen.

The internal screen does not replace the primary one, but complements it, continuing to exist even after the gameplay session: the virtual device (console, arcade cabinet, computer) remains an integral part of the game environment. This process leads to a double extension of the digital prosthesis: the avatar of the host game extends into the avatar of the embedded retrogame. The transition from one game to another also corresponds to a shift from a contemporary imaginary to one belonging to the past, in which nostalgia operates as an activating device. The intertwining of these two levels produces a “derived” digital imaginary (Lughi 2023), yet one endowed with its own internal coherence. As Alberto Abruzzese (2001) emphasizes, the social imaginary is not merely a collection of ideas, but a mediated construction in which collective memory selects elements of the past in order to preserve the coherence of the imaginary in the present. In the case studies identified, the embedded video game from the past is consistent with the host game, thereby reinforcing its overall identity. This specific double-screen configuration, together with the characteristics described, renders it a hybrid medium: it moves across different media levels, integrates distinct temporalities, functions as an interface between different media, and activates new practices of play, memory, and imagination. What emerges is a form of internal remediation: the player interacts with a media object situated within the virtual world (such as a console or an arcade cabinet), which in turn refers to a collective ludic memory.

From the perspective of cultural convergence, the double screen does not merely reproduce past media, but reorganizes them into new practices in which playing simultaneously becomes an act of memory, rewriting, and affective participation. For the player, the double screen takes the form of a nostalgic performance, drawing on

the imaginary not merely as a passive representation of the past, but as an active and performative dimension (Morton 2000). The following table, adapted from Guerra and Addeo (2025), presents the video games identified as exemplary cases of this new retrogaming experience (Table 1).

Table 1 – Videogames with retrogaming experience (Source: authors' own elaboration)

Host Videogame	Embedded Retrogames	Type of Embedding	Narrative Relevance	Ludic Relevance	Nostalgia Type
Space Quest 3 (1989)	Astro-Chicken (inspired by Lunan Lander, 1979)	Third-party	Relevant	Relevant	Reflective
Day of Tentacle (1993)	Maniac Mansion (1987)	First-party	Not Relevant	Not Relevant	Reflective
Shenmue (1999)	Hang-on (1985)	First-party	Not Relevant	Relevant	Simple
Shenmue 2 (2001)	-Hang-on -After Burner -Space harrier -Out run ('80 style)	First-party	Not Relevant	Relevant	Simple
Animal Crossing (2001)	Giochi NES ('80 style)	First-party	Not Relevant	Relevant	Simple
GTA San Andreas (2004)	Let's Get Ready to Bumble (Anni '80)	Third-party	Not Relevant	Relevant	Simple
Serie Yakuza (2005-2024)	Game SEGA ('80 style)	First-party	Not Relevant	Relevant	Simple
CoD: Black Ops (2010)	Zork (1980)	Third-party	Not Relevant	Not Relevant	Interpreted
Starcraft II: Wings of Liberty (2010)	The Lost Vikings (1992)	First-party	Not Relevant	Not Relevant	Simple
GTA 5 online (2013)	Arcade sala giochi ('80 style)	Third-party	Not Relevant	Relevant	Simple
Wolfenstein: The New Order (2014)	Wolfenstein 3D (1992)	First-party	Not Relevant	Not Relevant	Simple
Fallout 4 (2015)	-Red Menace -Zeta Invaders -Atomic Command -GrognaK & The Ruby Ruins ('80 style)	Third-party	Not Relevant	Not Relevant	Simple
Homefront: The Revolution (2016)	Time Splitter 2 (2002)	Third-party	Not Relevant	Not Relevant	Interpreted
Uncharted 4 (2016)	Crash Bandicoot (1996)	First-party	Relevant	Not Relevant	Reflective
Stardew Valley (2016)	-Journey of the Prairie -King Junimo Kart (Stile retro Anni '80-'90)	Third-party	Not Relevant	Relevant	Simple
Night in the woods (2017)	Demontower ('80 style)	Third-party	Relevant	Relevant	Reflective
Judgement (2018)	Sala giochi SEGA (Anni '80)	First-party	Not Relevant	Relevant	Simple
Cyberpunk 2077 (2020)	Roach Race ('80 style)	First-party	Not Relevant	Relevant	Simple
	-Trauma Drama -Arasaka Tower 3D ('80 style)	Third-party			Simple

Doom Eternal (2020)	Doom (1993) Doom II (1994)	First-party	Not Relevant	Not Relevant	Simple
Lost Judgement (2021)	-Sala giochi SEGA -SEGA Master System ('80 style)	First-party	Not Relevant	Relevant	Simple
Arcade Paradise (2022)	35 giochi arcade ('70, '80 and '90 style)	Third-party	Relevant	Relevant	Interpreted
Street Fighter 6 (2023)	-Street Fighter II -Final Fight -Vulgus -Puzzle fighter 2 ('80 and '90 style)	First-party	Not Relevant	Not Relevant	Simple

The *host game* refers to the primary video game within which one or more retrogames – here defined as embedded games – are incorporated. This distinction aligns with the observations previously made by Regina Seiwald, who differentiates between embedded games with or without an impact on the macrogame. However, in the cases analyzed here, the double screen introduces an additional function: even when the retrogame is not relevant to progression, it may nonetheless be central at the level of memory and nostalgic experience, acting as a trigger or as a device of *anemoia*. Furthermore, an additional distinction developed in this study concerns the difference between titles originally produced in earlier periods and those created contemporaneously through graphics, mechanics, or in-game devices (such as arcade cabinets or retro consoles), explicitly evoke the aesthetics and design logics of the past. Embedded retrogames are classified as *Embedded First-Party* when they were originally created by the same developer as the host game, and as *Embedded Third-Party* when they are inspired by historical titles produced by other developers, often for copyright-related reasons. From a ludic and narrative perspective, the integration of retrogames may assume varying degrees of relevance within the host game. In some cases, it is significant, directly affecting narrative development or gameplay dynamics; in others, it remains marginal, configuring itself as an optional and autonomous experience that does not influence the overall progression of the game. With regard to the nostalgic dimension, the analysis draws on the typology proposed by Fred Davis (2023), which distinguishes three levels of nostalgia. Simple nostalgia

manifests when embedded retrogames aim to recreate or evoke the past “as it was”, often through an idealized representation. Reflective nostalgia emerges when such elements offer a more conscious or critical engagement with the past and its imaginary. Finally, interpreted nostalgia occurs when embedded retrogaming does not merely evoke the past but stimulates reflection on the very meaning of nostalgia, transforming it into a cultural and critical language in its own right.

The concept of the double screen can be further interpreted and refined as a specific device for activating memory within the video game experience. Drawing on Suominen’s notion of *memory triggers*, it can be observed that images, interfaces, emulators, and digital content function as stimuli capable of activating processes of individual and collective recollection; in the case of the double screen, however, this mechanism assumes a more structured and embedded form. Unlike external triggers – such as forums, archives, or online content – the double screen integrates the past directly into the ludic space, transforming memory into a playable experience. The embedded retrogame does not merely evoke an imaginary but renders it accessible through direct interaction, thus configuring itself as a genuine memory trigger designed at the level of game design. In this sense, the double screen can be understood as a device of internal remediation that not only represents the past but reactivates it performatively. This function becomes even more significant when considered in relation to the practices of younger generations. For players who directly experienced the era of retro video games, the double screen activates forms

of nostalgia grounded in biographical memory. By contrast, for younger generations, it operates as a device for accessing a past not personally lived, contributing to the construction of experiences that can be associated with the phenomenon of *anemoia*, that is, a mediated and imagined nostalgia. The double screen facilitates the experiential simulation of the past, allowing players to “inhabit” different temporalities within the same ludic space. It thus emerges as an interface between memory and the imaginary, capable of linking lived and mediated experience, nostalgia and *anemoia*. This dynamic highlights how contemporary retrogaming is not merely a phenomenon of recovery, but a cultural device through which the past is continuously renegotiated, reinterpreted, and made playable in the present.

2.1 The Double Screen as a device for evoking nostalgia and triggering memories

The embedded retrogames analyzed can be further classified according to their *mode of memory*. Some function as *memory triggers*, activating biographical nostalgia in players who are familiar with the original games; others operate as devices of *anemoia*, enabling access to a past not directly experienced; while a third group occupies an intermediate position, configuring itself as hybrid devices whose nostalgic effect depends on the player’s generational and experiential background (*hybrid*). Accordingly, the table of case studies (Table 1) has been revised through the introduction of a new analytical dimension, defined as memory mode, which allows for a more in-depth understanding of the functioning of embedded retrogaming beyond the categories previously considered (Table 2).

Table 2 – Videogames with retrogaming experience (updated version with memory mode)
(Source: authors’ own elaboration)

Host Videogame	Embedded Retrogames	Type of Embedding	Narrative Relevance	Ludic Relevance	Nostalgia Type	Memory Mode
Space Quest 3 (1989)	Astro-Chicken (inspired by Lunan Lander, 1979)	Third-party	Relevant	Relevant	Reflective	Hybrid
Day of Tentacle (1993)	Maniac Mansion (1987)	First-party	Not Relevant	Not Relevant	Reflective	Memory Trigger
Shenmue (1999)	Hang-on (1985)	First-party	Not Relevant	Relevant	Simple	Hybrid
Shenmue 2 (2001)	-Hang-on -After Burner -Space harrier -Out run ('80 style)	First-party	Not Relevant	Relevant	Simple	Hybrid
Animal Crossing (2001)	NES games ('80 style)	First-party	Not Relevant	Relevant	Simple	<i>Anemoia</i>
GTA San Andreas (2004)	Let’s Get Ready to Bumble (Anni '80)	Third-party	Not Relevant	Relevant	Simple	<i>Anemoia</i>
Serie Yakuza (2005-2024)	Arcade room SEGA ('80 style)	First-party	Not Relevant	Relevant	Simple	Hybrid
CoD: Black Ops (2010)	Zork (1980)	Third-party	Not Relevant	Not Relevant	Interpreted	Memory Trigger
Starcraft II: Wings of Liberty (2010)	The Lost Vikings (1992)	First-party	Not Relevant	Not Relevant	Simple	Memory Trigger
GTA 5 online (2013)	Arcade sala giochi ('80 style)	Third-party	Not Relevant	Relevant	Simple	<i>Anemoia</i>

Wolfenstein: The New Order (2014)	Wolfenstein 3D (1992)	First-party	Not Relevant	Not Relevant	Simple	Memory Trigger
Fallout 4 (2015)	-Red Menace -Zeta Invaders -Atomic Command -Grogak & The Ruby Ruins ('80 style)	Third-party	Not Relevant	Not Relevant	Simple	<i>Anemoia</i>
Homefront: The Revolution (2016)	Time Splitter 2 (2002)	Third-party	Not Relevant	Not Relevant	Interpreted	Memory Trigger
Uncharted 4 (2016)	Crash Bandicoot (1996)	First-party	Relevant	Not Relevant	Reflective	Memory Trigger
Stardew Valley (2016)	-Journey of the Prairie -King Junimo Kart (Stile retro Anni '80-'90)	Third-party	Not Relevant	Relevant	Simple	<i>Anemoia</i>
Night in the woods (2017)	Demontower ('80 style)	Third-party	Relevant	Relevant	Reflective	Hybrid
Judgement (2018)	Arcade room SEGA (Anni '80)	First-party	Not Relevant	Relevant	Simple	Hybrid
Cyberpunk 2077 (2020)	Roach Race ('80 style)	First-party	Not Relevant	Relevant	Simple	<i>Anemoia</i>
	-Trauma Drama -Arasaka Tower 3D ('80 style)	Third-party			Simple	<i>Anemoia</i>
Doom Eternal (2020)	Doom (1993) Doom II (1994)	First-party	Not Relevant	Not Relevant	Simple	Memory Trigger
Lost Judgement (2021)	-Arcade room SEGA -SEGA Master System ('80 style)	First-party	Not Relevant	Relevant	Simple	Hybrid
Arcade Paradise (2022)	35 giochi arcade ('70, '80 and '90 style)	Third-party	Relevant	Relevant	Interpreted	Hybrid
Street Fighter 6 (2023)	-Street Fighter II -Final Fight -Vulgus -Puzzle fighter 2 ('80 and '90 style)	First-party	Not Relevant	Not Relevant	Simple	Hybrid

Embedded first-party titles – namely those developed by the same studios responsible for the host game – clearly predominate. This tendency suggests a greater degree of creative control and an explicit intention to valorize the company's own ludic heritage, using nostalgia as a resource for brand identity. The embedded retrogame thus represents not merely a reference to the past, but can be interpreted as an intentional device for memory activation, designed to evoke specific imaginaries linked to the history of the medium. Third-party retrogames, while present, tend to evoke retro aesthetics

without faithfully reproducing existing titles, a strategy likely related to the desire to avoid copyright issues. However, as Wulf and Baldwin (2020) argue, nostalgia can be elicited through stylistic fragments or elements of a franchise without requiring an exact replication of the original work. This idea resonates with the observation of Chirchiano (2016), according to which the adaptation of past narratives into new imaginaries represents a recurring model in media culture: even when a text is not directly reproduced, its presence re-emerges through recombination, reinterpretation, and creative reworking

that keep its memory alive. In this way, even more indirect forms of retrogaming can function as “memory triggers”, activating processes of recognition and recollection independently of philological fidelity.

With regard to narrative relevance, most embedded retrogames function as optional components: they enrich *anemoia* without substantially influencing the storyline. However, in the few cases where integration is narratively significant, the retrogame becomes an active element in character development or world-building, indicating a deeper intersection between secondary content and the main storyline. In such instances, the double screen does not merely evoke the past, but integrates it into the narrative, transforming it into a shared experience between characters and player. A significant example is the scene in *Uncharted 4: A Thief's End* in which Nathan Drake and Elena Fisher decide who will do the dishes by competing in *Crash Bandicoot*. The transition to the PlayStation is constructed through a precise directorial choice: a camera movement highlights the activation of the console – complete with its iconic logo and startup sound – before focusing on the television in their home. Although only a brief sequence of a *Crash Bandicoot* level is playable, the retrogame assumes narrative relevance because it is intertwined with the characters' relationship and shared history. In this case, the double screen functions as a memory trigger that stages the past both as a cultural reference and as an active element in narrative construction. From a ludic perspective, integration is more diversified: many embedded retrogames, even when marginal in narrative terms, provide rewards, upgrades, or advantages that enrich the overall gameplay experience. This demonstrates how such retrogames function not only as nostalgic references but also as engagement mechanisms that encourage exploration and continuity of play. The double screen can therefore be interpreted as a ludic memory trigger, that is, as a device that not only evokes the past but renders it operationally relevant within gameplay dynamics. An exemplary case is *Astro-Chicken* in *Space Quest III*, one of the earliest instances in which an embedded retrogame is structurally essential for narrative progression. Only by achieving a sufficiently high score does the player receive a coded message containing crucial information needed to save two key characters; without this interaction, completing

the game becomes impossible. *Astro-Chicken* thus operates simultaneously as a narrative device and a ludic challenge, as well as one of the earliest examples of a strong integration between memory and gameplay, in which the retrogame is not ancillary but structural. The opposite case is *Day of the Tentacle*, which incorporates the fully playable *Maniac Mansion*. Here, interaction with the virtual Commodore 64 has no impact on either narrative or gameplay progression. Its function is primarily that of a nostalgic homage, closer to an Easter egg than to a structurally integrated element. Despite its functional irrelevance, this example – together with *Astro-Chicken* – represents a historically significant reference point in the development of double-screen practices. In this case, the double screen operates as a pure nostalgic trigger, oriented primarily toward evocation and recognition.

With regard to the type of nostalgia, simple nostalgia predominates, centered on an affectionate and idealized evocation of the past. By contrast, cases of reflective or interpreted nostalgia are relatively rare, suggesting that embedded retrogaming is often designed to elicit immediate emotional resonance rather than to stimulate critical reflection. However, this immediacy can also be reinterpreted in light of contemporary Generation Z practices: in many cases, the embedded retrogame does not activate lived memories alone, but produces forms of mediated nostalgia associated with the phenomenon of *anemoia*, in which the past is experienced as an accessible imaginary rather than as a biographical experience. A notable exception is *Arcade Paradise*, which adopts nostalgia in an explicitly interpretive manner. The player assumes the role of a young individual in the 1990s who transforms a small laundromat into an arcade. The protagonist's personal development intertwines with the revival of arcade culture, making nostalgia not only an aesthetic reference but also a thematic and critical resource. In this case, the double screen expands to become a total environment, transforming retrogaming from an embedded element into the structural core of the experience. If, for Regina Seiwald, games within games function as self-reflexive devices that make explicit the fictional nature of video games, in the case of the double screen they also operate as mnemonic devices, capable of activating memories, imaginaries, and differentiated temporalities within the ludic experience.

Conclusions

Revisiting a metaphor by Marshall McLuhan, retrogaming emerges as a cultural practice that moves forward while looking in the rear-view mirror (Davis 2023): a form that innovates by drawing on what it preserves. The centrality of nostalgia in this process highlights the deep interrelation between memory, the imaginary, gameplay experience, and remediation. The double screen can therefore be understood as an evolution of games within games structures: not merely a device of ludic reflexivity, but an interface between fictional and temporal levels, capable of connecting gameplay, memory, and the imaginary. In this sense, the double screen functions as a device that translates memory into playable experience, bringing together nostalgia, *anemoia*, and memory triggers within the same ludic space. This updated study aims to extend an ongoing line of research that, through further theoretical and empirical investigations, seeks to conceptualize the double screen as a distinct form of retrogaming within the broader video game ecosystem. By expanding the number of case studies, it will be possible to analyze more precisely its ludic and narrative potential and to better understand its role as a device capable not

only of evoking the past, but of activating it and making it experientially accessible to players across different generations. From this perspective, several relevant implications for the contemporary video game industry emerge. On the one hand, the double screen can be employed by game developers as a design tool to enhance the nostalgic dimension, moving beyond superficial references toward experiences that activate memory and the imaginary in a structured way. On the other hand, it opens up new possibilities at both the narrative and metanarrative levels, enabling the integration of different temporal layers within the same ludic space and fostering forms of storytelling that place past and present in dialogue. Finally, from a research standpoint, a further development concerns the construction of a broader and more systematic mapping of double-screen cases in contemporary video games. An extended and comparative analysis could help identify recurring patterns, generational differences, and cultural variations, thereby contributing to a more precise definition of the role of embedded retrogaming as both a cultural device and an emerging practice within the field of game studies.

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