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Gamevironments from the perspective of an actant. ChatGPT (prompt: "gameenvironments").

10th Anniversary Issue

Gamevironments Revisited

Issue 21 (2024)

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A Ludic Litmus Test. *Sara is Missing*, Gameenvironments, and Gregory Bateson's Theory of Play

Gregory Price Grieve

Abstract

This paper introduces the Ludic Litmus Test (LLT) as a tool to determine whether digital interactions constitute a *gameenvironment* – an analytic concept recognizing video games within their cultural, social, and broader contextual significance. With the proliferation of digital media, distinguishing between a game and non-game environment is increasingly complex. The LLT scrutinizes digital interactions for ludic traits, evaluating whether they are part of a playful domain or a regular context. Using the game *Sara Is Missing* (2016) as a case study, the paper found the test to be particularly useful in assessing ludic elements when the distinction between the game's fictional narrative and real-world cues is blurred. Central to the LLT is the identification of ludic communication, which juxtaposes an overt message against a subtle metamessage, indicating that the context is playful. The LLT aims to refine the ambiguous terms *game* and *play*, preventing circular reasoning and enhancing academic discourse.

Keywords: Ludic Litmus Test, *Sara Is Missing*, Ludic Communication, Gregory Bateson, Play Frame, Metacommunication, Static Disruption, Narrative Interactivity, Magic Circle, gameenvironments

To cite this article: Grieve, G. P., 2024. A Ludic Litmus Test. *Sara is Missing*, Gameenvironments, and Gregory Bateson's Theory of Play. *Gamevironments* 21, 34-59. Available at <https://journals.suub.uni-bremen.de/>.

All statements within this
frame are untrue.

In July 2017, an incident disrupted the usual peace in my home and revealed the blurred boundaries between digital gaming and everyday life. My spouse confronted

me, upset by frequent messages from someone named Iris on my smartphone. She demanded to know who this mysterious contact was. I had to explain that Iris was not a real person but a fictional AI character, likely a cyber-ghost, from the 2016 interactive narrative game *Sara Is Missing* (2016), developed by Monsoon Lab, a Malaysian indie game studio. The game simulates a missing person investigation through the interface of a found smartphone, making it easy to confuse the game’s fictional elements with real life, as it takes over the player’s personal device. My spouse’s confusion was understandable, as the game’s immersive design intentionally blurs these lines.

This raises an important question: how can we distinguish what belongs to a game and what doesn’t when games increasingly integrate with our daily lives? This inquiry led me to develop the Ludic Litmus Test (LLT), a tool designed to assess whether a particular digital message belongs to a video game’s media landscape. The need for such a test can be seen in the work of many earlier studies. For instance, in *Beyond a Boundary*, C. L. R. James (1963) argues that cricket, far from being a mere sport, is deeply intertwined with issues of politics, race, and culture, reflecting the complexities of colonial and postcolonial societies. In *There is No Magic Circle*, Mia Consalvo (2009) challenges the notion that games exist within a strictly bounded *magic circle*, arguing that they are deeply connected to real-world contexts, including social, cultural, and economic factors that influence both the gaming experience and player behavior.

In *The Assemblage of Play*, T. L. Taylor (2009) further complicates our understanding of play by highlighting that it is shaped by a dynamic assemblage of social, material, and technological factors, which co-construct the gaming experience. She emphasizes that this assemblage includes game design, hardware, software, player communities, and broader cultural contexts, all of which interact to form the complex

ecosystem that defines play. Similarly, in *Metagaming*, Stephanie Boluk and Patrick LeMieux (2017) argue that the boundaries of games extend beyond the formal rules and structures typically recognized by game studies. They claim that *metagaming* encompasses all the activities surrounding a game – such as modding, speedrunning, and marketing – that shape how games are played and understood, emphasizing that games cannot be fully understood in isolation from broader social, economic, and cultural influences.

Similarly, in her extension of the concept of gamevironments published in this issue, Kerstin Radde-Antweiler (2024) argues that the boundary between games and reality is much more fluid in digital environments. In her critical revision, Radde-Antweiler (2024) challenges the idealized notion of a clear division between game and not-game, emphasizing that, as my own experience shows, play often spills over into everyday life. Building on this idea, the term *gamevironments* was introduced to describe the space where video games intersect with broader cultural, social, and technological ecosystems. However, this broad definition raises an important question: what *isn't* a gameenvironment? If the term encompasses everything, it risks losing its analytical precision.

While it is essential to acknowledge that games spill outside themselves, it is also crucial that one can tell what is and is not a game (Salen Tekinbaş and Zimmerman 2004). Non-gamevironments, then, must refer to elements outside these intersections – media or social activities that are not related to gaming. The Ludic Litmus Test (LLT) approach, by reinforcing the notion that games are distinct but not dichotomous, clarifies the boundaries of a gameenvironment. I acknowledge the potential critique that this approach may be seen as just another form of formalism or ludology;

however, without a clear and articulated definition of what constitutes a game, we will continue to rely on unspoken assumptions and implicit frameworks.

As an example, I apply the LLT to *Sara Is Missing*, which scores a 7/10. The game particularly stands out for its use of static interference as metacommunication, signaling to the player that they are engaging with a game, even as it deeply integrates into everyday life. To further analyze these boundaries, this study will employ *thick description* as the primary methodological approach. Developed by anthropologist Clifford Geertz (1973), thick description goes beyond merely outlining the surface elements of a game or other cultural phenomenon and instead delves into the underlying meanings, intentions, and cultural implications within the gameplay. By using this method, I aim to explain not only how *Sara Is Missing* functions as a game but also how its design choices, especially its seamless integration with the user’s phone, provide a richer understanding of the game’s cultural significance and its impact on the player’s overall experience.

Sara is Missing

Sara Is Missing exemplifies an interactive fiction and horror game designed for mobile and computer platforms.¹ Using a “found footage” approach, the game creates a realistic and engaging experience. It has been praised for its innovative storytelling, which allows players to explore pertinent themes such as identity, privacy, and the impact of technology on people’s lives, positioning the game not only as entertainment, but also as a commentary on digital culture (for reviews see Jackson 2016, Markiplier 2016, Ojogo 2017).

Using their own device, the player experiences the discovery of a lost smartphone belonging to Sara, the protagonist of the game, by navigating through her personal digital effects. As if their own phone were Sara’s lost phone, the interface allows players to piece together Sara’s fate by examining texts, emails, and other media, while interacting with IRIS (Intelligent Recognitive Iconolatry System), the game’s AI, to recover lost data, thereby revealing a suspenseful narrative.

The game creates a disconcerting atmosphere by incorporating the player’s personal device as an essential part of the experience, which blurs the boundaries between the game world and the player’s everyday life. This merging leads to a sense of unease, as the game’s simulation of ordinary interactions is strikingly similar to real-life phone usage. However, small disruptions in the simulation, which prevent it from fully mimicking reality, create an eerie sensation. The closer the game gets to replicating daily life, the more emotionally engaged the player becomes, yet even minor deviations from realism can generate a feeling of discomfort.

Gameenvironment

A gameenvironment is an analytical concept for analyzing cultural values that encompasses the interactive digital spaces of video gaming, along with the associated social interactions, cultural contexts, and technological infrastructure (Radde-Antweiler, Waltemathe and Zeiler 2014). This approach has broadened the scope of video games and cultural value research beyond the mere analysis of game content to include the wider social context in which gaming occurs. The approach goes beyond simply interpreting games as isolated pieces of content hermetically sealed within their magic circles and encourages researchers to investigate gaming and gamers as active elements within broader cultural systems.

in various ways, including games, sports, make-believe, and other forms of creative expression.

I build my theory of ludic communication on the work of Gregory Bateson (1904-1980), an English anthropologist, social scientist, and cyberneticist known for his work in the fields of communication and systems theory. Play in Bateson's (1972) work serves as a key concept illustrating the importance of nonliteral communication and learning, and he emphasized its role in fostering pedagogy, interpersonal communication, and the development of complex systems. In *The Ambiguity of Play*, Brian Sutton-Smith (1997) critiques Gregory Bateson's concept of play, arguing that it overly reduces play to cognitive signaling and ignores its emotional, cultural, and developmental complexity. Sutton-Smith claims that Bateson's framework fails to account for the broader ambiguity and diversity of play. However, Bateson's focus on the *play frame* is essential for distinguishing play from non-play behavior, providing a necessary foundation for understanding play's unique nature, which can accommodate rather than conflict with the broader dimensions Sutton-Smith emphasizes.

Bateson's (1972) conception of play has three elements. First, and typical of definitions of games, he maintains that they tend to be competitive, use rules as a type of communicative glue, and tend to be fun. Second, and more interestingly for understanding a theory of gamevironments, he saw play not as a counterpart to reality, but to seriousness. He demonstrates that games are not binarily opposed to seriousness, but merely distinct, the same way that primary colors are different from one another but can be blended to create various hues. He did not see games as being frivolous and seriousness as being purposeful. For him, while play and games

are different from seriousness, they both have prosocial elements (Bateson and Bateson 1972, 53).

The third element in Bateson's (1972, 177-193) conception, which is crucial for understanding gaming, is that play is not about content, but about the structure of metacommunication. This term denotes communication about communication, where communicators reflect on the process of conveying information or messages. He saw two broad levels of communication: a simple denotative level, "the cat is on the mat," and a metalinguistic level in which the communication is about communication itself – "What is the difference between a cat and a sentence? A cat has claws at the end of its paws, while a sentence has a pause at the end of its clause" (1972, 178). He argues that a key element in the evolution of communication is when a communicator is able "to recognize that the other individual's and its own signals are only signals, which can be trusted, distributed, falsified, denied, amplified, corrected, and so forth" (ibid.).

Bateson (1972, 179) argues that the key aspect of play is when a communicator metacommunicates that a message is not serious (wink). Play thus creates a communicative paradox: "These actions in which we now engage do not denote what those actions *for which they stand* would denote" (1972, 180). He points out that threat differs from play in that play cancels out seriousness, whereas threat merely delays it. He also indicates that ritual differs from play, because while in play nothing is at stake, in ritual ultimate reality is put into play, and "the discrimination between map and territory is always liable to break down. ... [In ritual] we can recognize an attempt to deny the difference between map and territory, and to get back to the absolute innocence of [pure] communication" (Bateson 1972, 182-183).

Bateson argues that play operates as a communicative frame, which like Epimenides' paradox, signals that all statements in this frame are untrue. A frame is metacommunicative because it indicates how a message should be received (Derrida 1987, 9-13). "Every metacommunicative or metalinguistic message defines, either explicitly or implicitly, the set of messages about which it communicates" (Bateson 1972, 188). He fleshes out his hypothesis by giving the example of when dogs at play bare their teeth, giving the signal *this is a fight*, while taking a play stance and wagging their tails, signaling *this is not serious*.

For Bateson, understanding ludic communication is important, because the messages of play are not meant to be true and can denote what is nonexistent; they can convey experiences that are not real, that is, are just pretend: "Not only do the playing animals not quite mean what they are saying, but also they are usually communicating about something that does not exist" (Bateson and Bateson 1972, 182). Using the example of a spear flung at an audience member during a 3D film, he argues that play's self-contradiction allows for the conveying of experiences that are immersively felt but are never considered real. He viewed play as a form of symbolic interaction where communicators, including animals and children, could experiment with roles and engage in behaviors that contributed to their understanding of the world and social dynamics (Bateson and Bateson 1972, 14-20).

Ludic Litmus Test

Having explored the game *Sara Is Missing*, the concept of gamevironments, and the nature of ludic communication, I now apply the LLT. This test determines whether the digital communication exhibits key ludic characteristics. If it does, it indicates that such communication engages with a playful component, thereby aligning it with the

broader context of a gameenvironment. I will present the results, indicating each outcome as either *negative* or *positive*.

NEGATIVE [1] Platform

Verify whether the interaction occurs on platforms associated with play (gaming consoles, game apps, gaming websites).

Sara Is Missing was initially designed for smartphones, providing an immersive experience best suited to mobile platforms. However, it has also been made available for Windows and Mac. On mobile platforms, the game offers an authentic experience by simulating the interface of a smartphone, making the investigation feel more realistic and engaging. One of the reasons that my spouse did not know that they were looking at a game was that it was on my smartphone and looked like typical phone messages.

POSITIVE [2] Fun

Evaluate the messages for playfulness, creativity, or imaginative elements that suggest fun rather than serious communication.

Sara Is Missing is not typically evaluated for lighthearted communication, as it is a horror story that engages players in a serious narrative about a missing person. But it is *fun* to play (Jackson 2016). The game’s creative elements involve the player combing through various forms of data on a found cell phone, such as emails, messages, videos, and pictures. This gameplay mechanic is designed to provide an adventurous and immersive experience, with a presentation that includes images and video recordings to unravel the story, as well as red herrings to mislead and challenge the players. The game has been praised for its imaginative approach to storytelling,

as it uses the medium of a smartphone interface to engage players in the narrative. It could be argued that the imaginative elements are present in the game's design and the way it immerses players in the investigation, rather than in playful or fun communication.

NEGATIVE [3] Rules

Identify any set rules or game-like structures guiding the interaction, such as turn-taking or scoring systems.

Sara Is Missing does not have overt turn-taking or scoring systems, but it does operate under a set of rules and structures that are designed to create a horror mystery experience. Players interact with the game through a smartphone interface to simulate the actions one would perform on a real phone, such as typing, swiping, and selecting apps (Arceus 2017). The game's narrative is driven by the player's interaction with the phone's AI, IRIS, to uncover clues about the missing Sara by examining her emails, messages, and other data fragments. While the game has an intriguing premise and provides some jump scares and a sense of adventure, the structure of the game is quite linear, with many choices being superficial and only one significant choice near the end. This linear structure is common in narrative-driven games, where the story unfolds through player interactions with the game environment and characters.

POSITIVE [4] *Voluntary*

Confirm whether participation is voluntary, indicative of play rather than obligatory action.

In *Sara Is Missing*, players choose to engage with the game and its content, and the actions taken within the game are a form of play rather than obligatory action. In the context of this game, players voluntarily explore the content of a found phone to uncover the story of the missing owner, Sara. There is no obligation to play beyond the player’s own desire to engage with the game’s narrative and mechanics.

POSITIVE [5] *Pretend*

Look for elements that suggest a departure from real-world logic or responsibilities, akin to entering a magic circle.

In *Sara Is Missing*, players immerse themselves in an interactive narrative where they must explore the contents of a missing woman’s smartphone. This experience creates a sense of detachment from the real world as players dive into a fictional story that plays out through the device’s interface. The game’s mechanics, such as searching through messages, emails, and videos, encourage players to suspend their real-world beliefs to engage with the game’s narrative and solve its mysteries. This virtual investigation creates a magic circle where players are absorbed in the game’s reality, temporarily setting aside their actual environment and responsibilities.

POSITIVE [6] Interactivity

Detect systems that provide progress updates, rewards, or changes based on user interaction, typical of games.

Sara Is Missing uses interactive feedback mechanisms characteristic of digital gaming experiences. As players navigate through the game, they engage with a virtual smartphone interface that reacts to their actions. Progress within the game is marked by new developments in the storyline, revealed through incoming messages, emails, and app notifications, simulating real-time updates. Success in uncovering clues and advancing the story serves as a reward system, motivating players to delve deeper into the mystery. Furthermore, the game's narrative can branch out or alter in response to the players' decisions, offering a responsive gaming environment that adjusts to the choices made, thus creating a compelling and personalized experience.

NEGATIVE [7] Character Roles

Check whether users can adopt avatars or roles, signaling engagement in a fictional or game-based scenario.

Sara Is Missing does not include the traditional role-playing element of avatars or character roles that players can adopt. Instead, it places the player in the role of themselves, using the game interface to interact with the virtual environment of a found smartphone. The engagement is more akin to a first-person experience, where players act as themselves, discovering and piecing together the narrative. There is no character creation or selection process; players' actions are those of an undefined protagonist who is essentially a proxy for the player within the game's scenario. This approach aims to immerse players directly into the mystery, making the experience

personal and immediate rather than indirect through a fictional or game-based avatar.

POSITIVE [8] Narrative

Ascertain whether there is a storyline or narrative that users interact with, shaping their experience beyond mere communication.

Sara Is Missing is centered around narrative engagement, with a storyline that deeply involves the player. The entire premise of the game is built upon the user interacting with the narrative through the interface of a found smartphone. As players examine texts, emails, photographs, and videos, they uncover the events that led to the owner’s disappearance. This interaction is crucial, as it propels the story forward, with the narrative evolving based on the player’s actions and discoveries. The storyline in *Sara Is Missing* is not just a backdrop; it is the main vehicle for gameplay, offering a rich, story-driven experience that goes beyond simple communication or task completion.

POSITIVE [9] Goals and Outcomes

Determine whether there are clear objectives or goals, such as completing challenges or solving puzzles.

The game’s structure is defined by a series of goals the player must achieve to uncover the mystery behind Sara’s disappearance, and the outcomes vary depending on the player’s success in these tasks. This goal-oriented gameplay is a central aspect of *Sara Is Missing*, providing direction and purpose to the player’s interaction with the game world. *Sara Is Missing* does include clear objectives and goals that players must achieve to progress through the game. The player must find Sara. These goals often

come in the form of completing challenges or solving puzzles, such as deciphering clues, making sense of the information found on the smartphone, and deciding how to respond to messages, that can affect the outcome of the story.

7/10 <i>Sara Is Missing</i> – Ludic Litmus Test	
Platform	–
Rules	–
Voluntary	+
Fun	+
Pretend	+
Interactivity	+
Character Roles	–
Narrative	+
Goals and Outcomes	+
Metacommunication	+

Table 2: *Sara Is Missing*, when assessed through the Ludic Litmus Test that evaluates digital interactions for playful characteristics within a game environment, scored 7/10. While it lacks traditional gaming roles, it excels in narrative engagement and interactivity, using static as a metacommunicative tool that disrupts the game’s procedures and signals a fictional, ludic space within the player’s real-world smartphone interface.

Metacommunication

POSITIVE [10] Metacommunication

Determine whether there are metacommunicative messages that convey that the signal is pretend.

Here we come to what is the crux of whether *Sara Is Missing* is part of a gameenvironment. Ludic communication contains both an explicit message and an implicit metamessage suggesting that the activity is play and not to be interpreted literally. In video gaming, this results in a paradoxical communication: while the game's content might replicate real-life situations, it is framed within a context that informs the player that it is meant for play. Players recognize a video game by these communicated layers, understanding that the rules and responses they encounter are part of a game's narrative or simulation, separate from reality. Bateson exemplifies ludic communication with the playful behavior of dogs: a snarl might typically indicate aggression, but in play it is negated by a wagging tail, indicating that there is no real threat. This dual-level communication, which signals that the actions are part of a game, is crucial for grasping the nature of video games.

Ludic communication is complex and varied, taking shape in several interconnected forms. It includes the exchange between players and both player-controlled and non-player characters within the game, involving dialogue, teamwork, and rivalry, all influenced by the game's storyline and rules. Communication among players goes beyond the game's framework, involving talk about tactics, shared experiences, and the community's social interactions. The interaction of the player with the game system represents another layer, where the player's actions influence and are influenced by the game's structure and mechanics. Beyond this, metacommunication

occurs outside the immediate scope of playing, as gamers discuss and critique the game's construction, narrative, and its wider cultural significance.

Key to my analysis is that ludic communication focuses not on the content but on the structure of a signal where the primary denoted message is identified as play by a secondary implied message. Although there are conventional ways in which ludic communications signal that they are play, these are not uniform. Methodologically, each instance of ludic communication should be evaluated individually. Recognizing the playful aspect of a gameenvironment cannot be done with a one-size-fits-all method. Instead, each case should be examined using *thick description*, a qualitative research technique that involves a detailed, contextual analysis of a social phenomenon to grasp its meanings and cultural value (Grieve 2016, 31-32).

To give an example of such thick description, I analyze how *Sara Is Missing* employs static as a signal on the audiovisual, narrative, and procedural levels. In *Sara Is Missing*, the use of representations of static serves as an aesthetic cue to players that they are engaged in a game. Static refers to disturbances or noise in audio and visual media that interrupt the signal's quality. The term *static* has historical roots going back to the early days of radio and TV in the 20th century and even to the telegraph in the 19th century (Inglis 1990, Russell 2010, Medoff and Kaye 2021). The word initially described a state of equilibrium.ⁱⁱⁱ In the context of electricity, however, it denotes an electric charge that is stationary, unlike the moving charges in an electric current.^{iv} When the telegraph was in use, these stationary charges would cause glitches in the transmission of messages, which were then described as *static*.

Static in *Sara Is Missing* is not mere noise, however, but an *aesthetics of disruption*, that goes beyond static's technical beginnings and uses it as an artistic tool. In the

game, static takes on narrative importance, denoting the entry of the unforeseen and the supernatural, and also a ludic aspect, by connoting the limits of the gameenvironment.

First, *Sara Is Missing* incorporates static disruptions on the phone's interface to suggest that what is represented should not be taken literally. This contributes to the game's suspense and also serves as a metacommunicative cue to players that they are engaged in an act of play, making the unraveling of these disruptions part of the immersive experience. For example, when interacting with the game's AI, audio static intentionally obscures messages, challenging players to discern important information or clues regarding Sara's disappearance. Similarly, visual static in video clips and photographs hides critical details, prompting players to scrutinize the imagery for concealed clues. This visual static not only poses a playful challenge, but also signifies to players that they are within a game environment where part of the gameplay is to decode and interpret such distorted information.

The second level pertains to the narrative aspect of video games, which involves the way stories are told within a gameenvironment. Video game narratives differ from traditional, linear storytelling by being interactive: players can influence the direction and outcome of the story through their decisions and actions (Murray 1997). This interactivity results in a unique storytelling approach that blends plot and character development with the player's ability to influence the narrative, leading to personalized and absorbing story experiences that respond to each player's choices.

Sara Is Missing's narrative static indicates a sudden interruption or interference in the flow of the player's choices and the evolving narrative, potentially breaking immersion or player agency. In the game narrative, static emerges as a type of ludic

communication when players encounter inconsistent or jarring details within the game’s media on Sara’s smartphone. This narrative static interrupts the normal progression of the story, invoking a gameplay mechanic that prompts players to unravel complex narrative threads and echoes the game’s overarching quest to uncover concealed truths within a digital context. For instance, coming across video clips or photographs that present perplexing or unsettling scenes connected to Sara’s vanishing acts as narrative static. The explicit message here is the disruption to the visual continuity and the overarching theme caused by these incongruent media elements. Often, these elements, which include images or videos at odds with the established storyline, seem out of place or mismatched. The implied metacommunication fulfills a ludic function by hinting that the game’s narrative is crafted to be enigmatic and full of surprises, inviting players to engage in deep analysis and entertain different interpretations. This enriches the gaming experience, deepening the atmosphere of intrigue and anticipation. The game thereby nudges players to delve into the narrative with an inquisitive mindset, prepared to explore and reveal the hidden depths of the story.

The third level relates to the concept of procedure in video games, which suggests that a key part of a game’s communication lies in its rules and processes that dictate how it is played (Salen Tekinbaş and Zimmerman 2004, 33). These systems of procedures serve not only as the basis for interaction within the game, but also as a means to embed messages and themes (Bogost 2007). Analyzing a game’s procedural framework can reveal deeper meanings and the capacity for expression inherent in the video game format.

Procedural static in video games refers to interruptions or disruptions in the game’s rule-based procedures and processes, which potentially affect gameplay and the

conveyance of messages and themes. In *Sara Is Missing*, static serves as a form of interactive play and a deliberate disruption during the player’s interactions with the AI assistant, IRIS. Players communicate with IRIS by typing in commands and posing questions, and sometimes, in response to sensitive inquiries about Sara’s disappearance, IRIS replies with simulated static. This static acts as a gameplay element that deliberately interrupts the flow of communication, serving two purposes. Firstly, it suggests that IRIS, as an AI, is purposefully adding playful obstacles to the interaction, which introduces a level of challenge and complexity to the dialogue. This aspect of the game suggests a playful engagement between the AI and the player, contributing to the mystery and suspense of the interaction. Secondly, the static underlines the game’s central narrative of unraveling the mystery surrounding Sara’s disappearance, hinting at secrets and dangers hidden within the smartphone. By incorporating this feature, the game not only heightens the narrative tension, but also reminds players of their active role in a story where the lines between everyday life and fiction are purposefully obscured.

Conclusion

My spouse was confused about the messages from IRIS on my phone because it was unclear whether they were part of a gameenvironment. Analyzing the game *Sara Is Missing* is key to critically revising a gameenvironment approach, because it answers the question of what the relation is between ludic communication and everyday life. Radde-Antweiler, Waltemathe, and Zeiler’s (2014) foundational work introduced the gameenvironment concept, which has significantly deepened people’s appreciation of video games as cultural artifacts that reflect and influence society. As researchers progress into the second decade of applying a gameenvironment approach, however, it is paramount to establish clear criteria for what counts as the object of study. Not all

digital communication can be part of a gameenvironment. If one does not have a clear understanding, a gameenvironment analytic lens becomes operationally impracticable.

To avoid misinterpretations like those experienced between my spouse and me, researchers must precisely define what qualifies as a gameenvironment. This paper has introduced the LLT as a tool to discern whether digital interactions constitute a gameenvironment. The LLT uses ten criteria to scrutinize digital interactions for ludic traits, evaluating whether they are part of a playful domain or a regular context. Using *Sara Is Missing* as a case study, which scored 7/10, the test is particularly useful in assessing ludic elements when the distinction between the game’s fictional narrative and everyday cues is blurred.

This investigation reevaluates gameenvironments in the light of ludic communication, inspired by Bateson’s theories, emphasizing the transformative power of play in shaping game dynamics. Bateson’s concept of play as metacommunication, illustrated by the dual signals of playing dogs, underpins the necessity of recognizing in-game actions as symbolic rather than literal. *Sara Is Missing* exemplifies this with its use of static, not just as interference, but as a narrative tool that invites players to discover and interpret, thus enriching the gaming experience and offering a dynamic narrative shaped by player choices.

This paper’s exploration of ludic communication within gameenvironments advocates for a nuanced approach to game analysis, ensuring that the nuances of digital play are captured in their entirety. It has delved into the playful aspects of gameenvironments through a detailed analysis of the game *Sara Is Missing*, showing how static serves as a cue for ludic metacommunication. This cue signals to players that the game’s representations are not literal and invites them to search for

Jackson, G., 2016. A horror game about finding a stranger's phone. *Kotaku*, [blog] 22 November. Available at <https://kotaku.com/a-horror-game-about-finding-a-strangers-phone-1789275686>, accessed 27 November 2024.

James, C. L. R., 1963. *Beyond a boundary: 50th anniversary edition*. Reprint 2013. Durham: Duke University Press.

Markplier, 2016. *CREEPIEST GAME EVER | Sara is Missing*, [YouTube video] 18 November. Available at https://youtu.be/LvxjfOGFo6I?si=aGyHJq1_t_KmfPNV, accessed 27 November 2024.

Medoff, N. J. and Kaye, B. K., 2021. *Now media: The evolution of electronic communication*. New York: Routledge.

Murray, J. H., 1997. *Hamlet on the Holodeck: The future of narrative in cyberspace*. Cambridge: MIT Press.

Ojogo, 2017. *Sara is Missing* mobile horror game review. *OnRPG*, [blog] 11 July. Available at <https://www.onrpg.com/news/editorial/sara-is-missing-mobile-horror-game-review/>, accessed 27 November 2024.

Priestley, J., 1794. *The history and present state of electricity, with original experiments*. London: J. Johnson and F. and C. Rivington.

Radde-Antweiler, K., Waltmathe, M. and Zeiler, X., 2014. Video gaming, Let's Plays, and religion: The relevance of researching gameenvironments. *gamevironments* 1, 1-36.

Available at <http://nbn-resolving.de/urn:nbn:de:gbv:46-00104169-12>, accessed 2 December 2024.

Radde-Antweiler, K., 2024. Gamevironments as an analytical lens for studying gaming and culture: A critical revision. *Gamevironments* 21, 1-33. DOI: <https://doi.org/10.48783/gameviron.v21i21.269>.

Russell, N. W., ed. 2010. *Media, technology, and society: Theories of media evolution*. Ann Arbor: University of Michigan Press.

Salen Tekinbaş, K. and Zimmerman, E., 2004. *Rules of play: Game design fundamentals*. Cambridge: MIT Press.

Sara is Missing, 2016. [video game] (iOS) Monsoon Lab, Kaigan Games.

Sutton-Smith, B., 1997. *The ambiguity of play*. Cambridge: Harvard University Press.

Taylor, T. L., 2009. The assemblage of play. *Games and Culture* 4(4), 331-339. DOI: <https://doi.org/10.1177/1555412009343576>.

ⁱ I played through the game and my analysis was also aided by a walkthrough (jacksepticeye 2016).

ⁱⁱ I borrow the concept of *entanglement* from quantum physics, where it refers to pairs of particles whose interactions are so closely linked that the state of one cannot be independently described without considering the other. Instead, the particles must be understood collectively, as a connected system. In the study of human life worlds, *entanglement* refers to the intricate web of social, cultural, and economic elements that impact human actions and the structure of society. It is the duty of researchers explore these entanglements to better understand the interplay between agents and social formations and the influence of these factors on other social phenomena (see Grieve 2016, 18-19, and Einstein, Poldolsky and Rosen 1935, 777).

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- iii The term *static* has its linguistic origins in ancient Greek, specifically from the Greek word *statikos*, which means *at rest* or *pertaining to the balance of forces*. In classical physics, this term was employed to describe the branch known as *statics*, which deals with objects in a state of rest and the equilibrium of forces. Over time, as scientific and technological developments unfolded, *static* became interconnected with various fields and contexts.
 - iv Static electricity is termed *static* because it refers to the build-up of electric charge on a surface that isn't moving or changing position compared to other surfaces. *Static* means that the charge is fixed in one place – it doesn't flow like it would in a current. This type of electricity is different from *current electricity*, where the charge flows through a conductor, like in a circuit. The term *static* highlights the absence of movement in the electric charge that accumulates, which can cause visible phenomena such as sparking, electric shocks, and the drawing together or pushing apart of materials (see Curtis 1921, Priestley 1794).