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****Research Article****

Human–Machine Communication in Fantasy Realms: Artificial Intelligence, Narrative Reciprocity, And Ludic Interaction in Baldur’s Gate 3*

Ertuğrul SÜNGÜ**

Abstract

This study explores the intersection of Artificial Intelligence (AI), Communication Studies, and Video Game Studies through Baldur’s Gate 3 (Larian Studios, 2023). Drawing on the Human–Machine Communication (HMC) framework (Guzman and Lewis, 2019), it reconceptualizes AI not as an autonomous generative system but as a designed communicative interface that mediates expression, simulates agency, and co-constructs meaning with players within the boundaries of narrative design. Through close reading and thematic analysis, the research examines how non-playable characters (NPCs) such as Shadowheart, Astarion, and Gale participate in relational, ethical, and affective negotiations that shape the player’s perception of intelligence, empathy, and responsiveness. These exchanges though scripted and algorithmically constrained, produce a convincing illusion of interactivity and emotional reciprocity, reflecting the game’s intricate dialogue systems and approval-based mechanics. Incorporating Bogost’s concept of procedural rhetoric, the study argues that meaning is communicated not only through written dialogue but also through systemic design elements, such as rule-based feedback, branching structures, and affective reward loops that rhetorically perform intelligence. By linking computational design to performative communication, Baldur’s Gate 3 exemplifies how AI-inspired systems function as co-creative agents within expressive media, where technological design becomes an instrument of narrative persuasion and emotional engagement. Ultimately, the study contributes to broader discussions of human–machine relationality by framing AI as both a communicative construct and an aesthetic device.

Keywords: Artificial intelligence, Baldur’s Gate 3, digital game studies, video games, role-playing games, NPCs, procedural rhetoric

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****Araştırma Makalesi*******Fantastik Diyarların İnsan–Makine İletişimi: Baldur’s Gate 3’te Yapay Zeka, Anlamsal Karşılıklılık Ve Ludik Etkileşim******Ertuğrul SÖNGÜ******Öz**

Bu çalışma, Baldur’s Gate 3 (Larian Studios, 2023) örneği üzerinden Yapay Zekâ (YZ), İletişim Çalışmaları ve Oyun Çalışmaları’nın kesişim alanını incelemektedir. Guzman ve Lewis’in (2019) İnsan–Makine İletişimi (HMC) çerçevesinden hareketle, YZ yalnızca teknik bir üretim aracı ya da otonom bir sistem olarak değil; ifade biçimlerini aracılık eden, ajansı simüle eden ve oyuncularla birlikte anlamı, duyguyu ve anlatıyı yeniden kuran tasarımsal bir iletişim arayüzü olarak yeniden kavramsallaştırılmaktadır. Yakın okuma ve tematik analiz yöntemleriyle yürütülen araştırma, Shadowheart, Astarion ve Gale gibi oynanabilir olmayan karakterlerin (NPC) zekâ, empati ve yanıt verebilirlik algısını biçimlendiren ilişkisel, etik ve duygulanımsal müzakerelere nasıl katıldığını ele almaktadır. Önceden yazılmış ve algoritmik olarak sınırlandırılmış bu etkileşimler, karmaşık diyalog sistemleri, onay temelli mekanikler ve dallanan anlatı yapıları aracılığıyla etkileşim ve duygusal karşılıklılık yanılısaması üretmektedir. Bogost’un “prosedürel retorik” kavramını merkeze alan çalışma, anlamın yalnızca sözel diyaloglar üzerinden değil; kural temelli geri bildirim, duygulanımsal ödül döngüleri ve oyun mekaniği gibi sistemsel unsurlar aracılığıyla da üretildiğini ileri sürmektedir. Baldur’s Gate 3, hesaplamalı tasarım ile performatif iletişimi ilişkilendirerek, YZ odaklı sistemlerin anlatsal ikna, duygusal katılım ve oyuncu deneyiminin eş-yaratıcı unsurları olarak nasıl işlev gördüğünü göstermektedir. Sonuç olarak, çalışma YZ’yi hem iletişimsel bir kurgu hem de estetik bir araç olarak konumlandırarak insan–makine ilişkisine dair çağdaş tartışmalara katkı sunmaktadır.

Anahtar Kelime: Yapay zekâ, Baldur’s Gate 3, oyun çalışmaları, video oyunları, rol yapma oyunları, NPC, prosedürel retorik

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Human–Machine Communication in Fantasy Realms: Artificial Intelligence, Narrative Reciprocity, And Ludic Interaction in Baldur’s Gate 3

Introduction

The intertwined histories of Dungeons & Dragons (D&D) and the Forgotten Realms transcend mere archival relevance within the tabletop role-playing game tradition; rather, they persist as epistemological infrastructures that continue to structure digital interactivity and narrative immersion in contemporary media forms. Nowhere is this continuity more pronounced than in Baldur’s Gate 3, a game that does not merely simulate its tabletop predecessor but recursively reactivates its ontological architectures—mechanics, world-building, and character ethos—within a computational framework. While the term “artificial intelligence” is frequently employed in discussions of digital games, it is crucial to clarify that the AI in Baldur’s Gate 3 does not operate as a generative or autonomous system in the manner of large language models like ChatGPT. Instead, the game’s non-playable characters (NPCs) rely on highly sophisticated, pre-authored branching dialogue structures and conditional scripting designed by human writers. These systems do not “think” or generate new language on their own; rather, they simulate responsiveness through carefully crafted decision trees, which create the illusion of adaptivity and agency.

Baldur’s Gate 3 distinguishes itself within the lineage of Dungeons & Dragons-based digital games through its highly complex, branching interaction design, which gives the impression of adaptive intelligence without actual generative autonomy. This makes it not only a technical evolution but also a paradigmatic shift in how narrative agency is distributed between human and machine actors. Developed with fidelity to the rule systems and narratological textures of the D&D 5th Edition, the game embeds the player within a historically sedimented diegetic world, one that draws not only from the codified mechanics of play but from decades of transmedia storytelling anchored in the Forgotten Realms mythos.

Within the conceptual horizon of Human–Machine Communication (HMC) (Guzman and Lewis, 2019), the game’s AI-driven non-playable characters (NPCs)

function as designed rhetorical agents that structure communicative interaction through branching dialogue and conditional response systems. These algorithmic interlocutors articulate dialogic structures that are contingent upon player choices, enmeshed in a referential web of lore-based memory and performative continuity. Characters and locations such as the legendary Elminster or the eponymous city of Baldur's Gate which first codified in the *Forgotten Realms Campaign Set* (James and James, 2006) serve not merely as narrative set pieces but as semiotic anchors grounding the player's interactive labor within a transhistorical discourse community.

Earlier D&D games such as *Icewind Dale* and *Baldur's Gate II* operated within relatively fixed dialogue trees, offering limited reactivity and little continuity in character development across sessions. In contrast, BG3 uses complex conditional logic to track behavioral consistencies, conversational tone, and ethical stances and adjusts dialogue branches accordingly. This transformation marks a shift from linear scripting to a carefully constructed illusion of procedural narrative negotiation; an illusion that, while not technically autonomous, effectively positions NPCs as dynamic co-authors in the storytelling process. In this context, the realistic gestures, facial expressions, and vocal intonations of the NPCs support the illusion of communicative continuity and the rhizomatic structure of dialogue. This shift is not solely technological but ontological—marking a transition from scripted storytelling to relational world-building created by designed responsiveness of artificial intelligence.

At this juncture, Ian Bogost's concept of "procedural rhetoric" (2007) becomes particularly relevant. Bogost argues that games convey meaning not only through narrative text but through their underlying rule systems and mechanics. In Baldur's Gate 3, communicative meaning is likewise produced not just in dialogue, but in systems such as companion approval, morality tracking, and branching consequences. These procedural structures work in tandem with dialogue systems to construct a convincing illusion of agency and responsiveness, thereby deepening the player's interpretive engagement.

Moreover, the multiplayer modalities of Baldur's Gate 3, combined with its simulated adaptive narrative scaffolding, foreground the social dimension of play as a mode of collaborative authorship. Here, the game operates not merely as a digital re-enactment of tabletop traditions but as a performative ecology—one that sustains

historical legacies while recontextualizing them through emergent narrative and procedural systems (Bailey et al., 2006; Gee, 2003). In this sense, the game's architecture reveals not only the persistent influence of role-playing conventions, but also the evolving role of artificial intelligence as a communicative design tool within contemporary game design.

This study aims to explore how *designed AI systems* in *Baldur's Gate 3* contribute to meaning-making through dialogic interaction and procedural structures, foregrounding a shift from predetermined narrative delivery to relational storytelling *simulated through design rather than generated autonomously*. The research addresses the epistemological and aesthetic significance of this shift, framing digital games not only as technical artefacts but as emergent art forms. Accordingly, this paper investigates the implications of such human-machine interaction in redefining authorship, ethics, and narrative complexity in contemporary ludic approaches.

Aim and Methodology

This study is based on a qualitative approach using observation-based discourse and content analysis through close reading of the game and critical literature review. The aim of this study is to explore how AI-like design systems integrated within video games—particularly through sophisticated examples like *Baldur's Gate 3*—reconfigure communication paradigms, facilitating the co-construction of meaning and shaping social interactions in gaming environments. By doing so, this research seeks to extend the theoretical frameworks of Human-Machine Communication (HMC) and transactional communication models to better capture the nuanced, dynamic, and multimodal interactions between human players and designed game agents. Through close reading and thematic analysis, the study investigates how these designed interactions foster new forms of communicative agency, collaborative meaning-making, and player engagement, while also contributing to broader conversations about the pedagogical and social dimensions of video game-based learning environments.

As established in the introduction, the NPCs analyzed in this study are not autonomous agents that generate dialogue in real time but operate through pre-authored dialogue trees and conditional scripting. The analysis therefore focuses on

how these designed interaction structures simulate responsiveness and communicative agency during gameplay. This simulation creates a powerful illusion of agency, enabling players to perceive NPCs as adaptive interlocutors even though their behaviors are the result of deliberate design decisions rather than generative computation.

This study adopts an interdisciplinary approach, synthesizing insights from Artificial Intelligence (AI), Communication Studies, and Video Game Studies to investigate the evolving landscape of human-machine interactions within gaming contexts. It aims to highlight how algorithmically scripted systems challenge and extend traditional communication paradigms by serving as both mediator and communicator. The research is grounded in the Human-Machine Communication (HMC) framework, which recognizes AI as an active agent in communication processes, rather than a passive conduit (Guzman and Lewis, 2019). This theoretical shift challenges traditional human-centered paradigms and opens new avenues for understanding AI's agency and its role in meaning-making within video games (Gunkel, 2012; Sundar and Lee, 2022). Communication scholars argue that as AI systems become increasingly integrated into everyday discourse, they must be considered legitimate participants in communicative acts (Natale, 2021).

Methodologically, the study is qualitative in nature and utilizes both interpretive and thematic techniques. The study employs close reading as a primary interpretive strategy, a practice rooted in literary and cultural studies (Greenham, 2018). Close reading enables a deep examination of the nuanced and multimodal interactions between players and NPCs, including how these scripted agents engage in dynamic narrative exchanges, decision-making, and player engagement (Edwards et al., 2016: 635-638). This approach underscores the semiotic and relational dimensions of in-game interactions, aligning with the historical evolution of close reading from literary studies into broader contexts of media and communication (Herrnstein Smith, 2016). Thematic analysis, as proposed by Braun and Clarke (2006), complements close reading by identifying emergent themes in AI-mediated but designer-authored interactions, including collaborative negotiation, impression management, and the interplay between human and machine agency (Endacott and Leonardi, 2022). These methodological tools enable the identification of patterns across narrative branches,

player choices, and character interactions, offering a replicable and theoretically grounded framework.

In addition to these methods, this study also incorporates the analytical lens of procedural rhetoric (Bogost, 2007), which examines how meaning is produced through the rules, mechanics, and systems of a game rather than solely through its textual or narrative components. This approach allows for a more holistic understanding of communication in *Baldur's Gate 3* by recognizing how systems like companion approval/disapproval, morality tracking, and branching consequences shape the rhetorical experience of interaction. These procedural elements function in tandem with dialogue structures, together forming the illusion of an adaptive communicative agent.

The video game *Baldur's Gate 3* (Larian Studios, 2023) exemplifies this methodological framework due to its highly sophisticated branching systems and conditional scripting, which has deeply impact on communication and narrative engagement. The scope of the study is limited to selected interactions and character arcs involving major NPCs such as Astarion, Shadowheart, and Gale, to provide in-depth examples of human-machine dialogic relationships. Although these interactions are not generated autonomously, their conditional complexity produces a strong perception of dynamic responsiveness and conversational agency during gameplay.

Applying close reading to *Baldur's Gate 3* allows for an in-depth analysis of how NPCs engage in interactive storytelling and persuasion tactics, for example, through branching dialogues and pre-programmed yet adaptive-seeming responses that shift according to player choices (Xu, 2018). Thematic analysis enables the identification of patterns in how players experience agency, trust, and immersion in these interactions, offering a lens through which to study the role of designed AI systems in shaping social presence and collaboration in gameplay (Banas et al., 2022; Sundar and Lee, 2022). Furthermore, *Baldur's Gate 3* challenges linear communication paradigms by blurring the line between human and machine agency (Dehnert and Mongeau, 2022). The game's procedural structures—such as approval systems, choice-based consequences, and morality feedback— foster meaningful social practices, supporting the development of communication and collaboration skills in

line with research by Bailey et al. (2006). These designed systems thus provide a compelling context to explore how non-generative but communicatively rich agents both mediate and transform player experiences, contributing to the evolving field of Human–Machine Communication.

Although the study does not employ empirical data collection from players, it adopts a rigorous textual and ludic analysis methodology that supports theoretical generalization and analytical depth. This methodology also aligns with broader research that positions video games as powerful spaces for cultivating social, collaborative, and communication skills (Bailey et al., 2006; Gee, 2003). *Baldur's Gate 3*, through its cooperative multiplayer mechanics and simulated adaptive interactions, reinforces these affordances by creating rich social contexts for players to negotiate and share meaning (Prensky, 2003; Jonassen et al., 1993). The constructivist and cognitive paradigms in educational communication highlight how these active, social learning environments encourage deeper cognitive engagement and reflective learning (Herrington and Oliver, 2000).

By combining close reading and thematic analysis with HMC, procedural rhetoric, and communication theory frameworks, this study aims to provide a theoretically robust and repeatable analytical approach. It also extends to other video games that are similarly leverage scripted but communicatively rich systems that offering a theoretically informed lens for future scholarship in AI, Communication Studies, and Game Studies.

The Evolution of Artificial Intelligence In Video Game History

The evolution of artificial intelligence (AI) in video games is a dynamic intersection of computational innovation, creative design, and player interactivity. From rule-based systems in arcade games to generative machine learning models in open-world environments, AI has transformed how games are developed, experienced, and understood. Each stage in this evolution reflects not only technological advancement but also a growing understanding of how intelligent behavior can enhance narrative immersion and user engagement (Rana, Bhardwaj and Singh, 2018: 2-3).

The origins of AI in gaming lie in simple rule-based systems designed to mimic intelligent behavior through deterministic models. Classic games like *Space Invaders*

and Pac-Man employed Finite State Machines (FSMs) to govern enemy movements and player response patterns (Rana, Bhardwaj, and Singh, 2018: 3). These early implementations, though limited in scope, formed the basis for future AI complexity by introducing cause-effect logic and predictable behavioral loops (Lopez Rivero, Beato, and Cortiñas Vázquez, 2022: 106). The 1990s and early 2000s brought a surge of new techniques such as pathfinding (e.g., A*), behavior trees, and decision trees. These models formed the core of early isometric RPGs like *Baldur's Gate II* (2000), *Icewind Dale* (2000), and *Neverwinter Nights* (2002), where non-player characters followed pre-determined dialogue trees and combat routines based on limited situational variables. These methods enabled game agents to move realistically within dynamic environments and react to player behavior with greater flexibility (Filipović, 2023: 61). However, these systems still lacked relational depth. In titles like *Icewind Dale* and *Neverwinter Nights*, companions exhibited no long-term behavioral memory; interactions reset with each encounter, revealing the limitations of state-dependent scripting. In strategy games like *Warcraft III* and *Age of Empires*, AI could adapt to enemy movements and manage multiple units in real time an early example of dynamic computational design applied to real-time decision-making (Lopez Rivero et al., 2022: 107). For example, enemy units could change formation, retreat when losing resources, or attack vulnerable targets based on pre-defined rules. However, these decisions were mostly limited to tactical combat behavior and did not alter narrative interaction or character dialogue. In *Baldur's Gate 3*, by contrast, dynamic computation design extends beyond battlefield logic into social encounters. A single dialogue choice may lead to different outcomes depending on dice rolls, character skills, party composition, or previous player decisions. While earlier strategy games demonstrated real-time responsiveness through unit management, BG3 applies similar computational principles to role-play and conversation systems, creating the impression that interactions evolve dynamically rather than simply following fixed dialogue branches.

A critical breakthrough in AI's evolution was the incorporation of machine learning, particularly reinforcement learning and evolutionary algorithms. These models enabled systems to adapt based on player behavior and environmental feedback, introducing a degree of unpredictability into gameplay (Simpson, 2018: 25). The 'Nemesis System' in *Shadow of Mordor* exemplifies adaptive learning,

where orc characters evolve and develop based on repeated player interactions (Jorapur, 2024: 55). This system, though not purely generative, reflects a departure from rigid script-based design (Jorapur, 2024: 57).

Procedural content generation (PCG) marks another significant frontier in AI's gaming integration. Through neural networks and GANs (Generative Adversarial Networks), games like *No Man's Sky* construct expansive universes with unique biomes, planetary features, and behavioral ecosystems (Filipović, 2023: 58). These procedural techniques increase replayability while decreasing manual design workload. As Arsenault explains in his study 'Video Game Genre, Evolution and Innovation' (2023), proceduralism has also helped define hybrid genres that rely heavily on AI-curated player experiences. Meanwhile, AI plays a critical role in player personalization through systems that adjust difficulty levels, dialogue trees, and environmental cues. Dynamic difficulty adjustment (DDA), widely used in titles like *Left 4 Dead*, tailors the game experience to a player's skill and emotional state (Yannakakis, 2012: 14; Bonn, 2023: 15). Such models rely on real-time player data to predict satisfaction and frustration levels, optimizing engagement.

Dialogue and story have also benefitted from AI-driven expansion. Unlike earlier RPGs rooted in the D&D framework such as *Icewind Dale* and *Neverwinter Nights* — where dialogue followed static branches — recent advances in NLP have enabled truly emergent conversational systems. Natural Language Processing (NLP) now allows players to interact with in-game characters using conversational syntax. Games like *AI Dungeon* employ GPT-based systems to generate fluid, responsive storylines shaped by player input (Northwood, 2023: 41560). These dynamic storytelling systems transform narrative into a transactional, emergent phenomenon, wherein AI not only reacts but co-creates with the user. Another field where AI proves vital is development efficiency. AI-enhanced engines like Unity ML-Agents and Unreal's MetaHuman framework streamline character generation and environment testing, leading to more robust pre-release environments (Lopez Rivero et al., 2022). In practice, AI supports automated playtesting, bug detection, and optimization for various player conditions in which a paradigm shifts from reactive development to proactive refinement.

As noted in the research article *Evolution of the Video Game Market* (2020: 30)

by Wildan Ali, the increasing commercial demand for immersive experiences has driven investment into AI as a central design strategy. Publishers and developers now seek systems capable of autonomous narrative extension, hyper-realistic character animation, and psychological profiling to predict and enhance user behavior. Despite these innovations, game AI remains a distinct field from general artificial intelligence. While general AI seeks autonomy and problem-solving across domains, game AI is often engineered for 'believability' rather than rationality. As Bhardwaj et al. (2018) argue, game AI thrives on illusion—its success measured not by optimal strategy, but by the player's perception of intelligence. This transition from finite scripting to relational AI-driven storytelling in Baldur's Gate 3 signals a fundamental shift not only in technique but in philosophy: from linear narrative consumption to co-authored play where the actions of the player really matter, allowing them to fully embody and emotionally connect with their character.

In conclusion, the story of AI in video games is one of progressive complexity, increased adaptability, and co-creative engagement. Drawing from rule-based heuristics, machine learning, and neural network advancements, AI today functions not only as a design tool but also as a narrative interface that shapes how players perceive agency and interaction.

A Brief History Of Dungeons & Dragons And The Forgotten Realms

Since its creation in 1974 by Gary Gygax and Dave Arneson, Dungeons & Dragons (D&D) has become a cornerstone of tabletop role-playing games (RPGs). Its enduring success has shaped the gaming industry and fostered an expansive creative ecosystem. Simultaneously, the Forgotten Realms campaign setting, one of D&D's most beloved worlds, has evolved into a rich narrative tapestry that extends across novels, game supplements, and digital games.

Dungeons & Dragons began as a pioneering blend of miniature wargaming and improvisational storytelling. The early years (1970–1979) saw the release of Original D&D in 1974, followed by the Advanced Dungeons & Dragons (AD&D) rulesets in the late 1970s and 1980s (Appelcline, 2014a: 72). Over time, the game went through several major revisions: the 2nd Edition in 1989, the 3rd Edition in 2000, the 3.5 update in 2003, the 4th Edition in 2008, and the 5th Edition in 2014 (Appelcline,

2014b: 65). The RPG industry has been notably shaped by the d20 System introduced with D&D 3rd Edition, which expanded the open gaming license (OGL) to third-party publishers. This encouraged the emergence of a vibrant third-party ecosystem and marked a significant democratization of content creation in the gaming world (Appelcline, 2014b: 87). In the 2000s, the d20 boom and subsequent bust had a profound impact on publishers, leading to both innovation and consolidation (Appelcline, 2014c: 78).

The Forgotten Realms, created by Ed Greenwood, was officially introduced to the D&D game in 1987 with the Forgotten Realms Campaign Set (1st Edition). The setting's lush mythology, rooted in Greenwood's personal writings and campaigns, offered a more narrative-rich world compared to earlier settings like Greyhawk (James and James, 2006: 26). The Grand History of the Realms chronicles this setting's history from the ancient empires of the Days of Thunder to the present day, integrating material from decades of source books, novels, and magazines (James and James, 2006: 2-22). These detailed timelines have helped fans and scholars trace the evolution of the Realms, adding depth to its lore and fostering a dedicated fanbase that engages with the setting across multiple media forms.

As noted in *Designers & Dragons*, D&D has not only shaped the gaming landscape but also influenced broader popular culture (Appelcline, 2014c: 77). From early cartoons in the 1980s to modern adaptations like Baldur's Gate 3, D&D's intellectual property has expanded far beyond the tabletop, with game mechanics and narrative structures influencing interactive storytelling in video games and other media (Appelcline, 2014c: 85). The Forgotten Realms has become an enduring brand in fantasy media, with its geography and pantheon of gods providing a rich backdrop for countless stories. Resources like *The Forgotten Realms Atlas* (Fonstad, 1990: 32) have offered visual and cartographic insights into the setting, further cementing its status as a cornerstone of D&D world-building. The history of D&D and the Forgotten Realms is one of creativity, community, and reinvention. By building upon the game's foundational principles and expanding them through rich world-building and narrative innovation, D&D has endured as a cultural and academic touchstone within the fantasy genre and interactive storytelling.

From a communication studies perspective, Baldur's Gate 3 exemplifies the

transition from traditional sender–receiver models of communication to transactional and co-constructed interactions (Barnlund, 1970: 88). The game’s NPC interactions feel socially fluid not simply because they are AI-supported, but because dialogue unfolds in a more natural and conversational rhythm. Rather than presenting long, didactic quest briefings or dense exposition blocks that were common in earlier RPGs, *Baldur’s Gate 3* structures conversations through shorter exchanges, reactive tone shifts, and context-sensitive responses. As a result, interactions with characters like Shadowheart and Lae’zel resemble everyday social negotiation instead of static information delivery. This design aligns with the Human–Machine Communication (HMC) paradigm, where computational systems function as co-communicators shaping the flow of interaction instead of merely triggering pre-written mechanic scripts (Sundar and Lee, 2022: 379–380). In this sense, emergent social dialogue arises not from autonomous AI agency but from dynamic conversational pacing and responsive design (Guzman and Lewis, 2019: 73).

Furthermore, the game’s moral dilemmas—such as alliances with or opposition to the cult of the Absolute—echo the thematic complexities of D&D campaigns and highlight the ethical ambiguity that has been a hallmark of the Forgotten Realms setting (Appelcline, 2014c: 78; Gee, 2003: 23). These dilemmas not only showcase the rich narrative traditions of the Realms but also underscore how AI-mediated storytelling can amplify the player’s sense of agency and social presence (Xu, 2018: 4-5). By confronting players with varying quest structures and character dynamics, the game invites situation based decision-making and tactical role performance such as selecting position and adopting perspectives aligned with their character identities, turning social adaptability into an experiential and pleasurable gameplay process.

In sum, *Baldur’s Gate 3* is not merely a digital extension of D&D and the Forgotten Realms; it is a living dialogue with these worlds. It operationalizes the historical innovations and collaborative spirit documented in the uploaded essay to create a modern interactive experience that transcends traditional boundaries of storytelling, communication, and learning in digital spaces (Appelcline, 2014c: 89).

Findings

AI, communication, and the Forgotten Realms: Baldur's Gate 3 as a case study of human-machine communication

This paper explores how artificial intelligence (AI), communication studies, and video game studies converge within the dynamic environment of Baldur's Gate 3 (Larian Studios, 2023). Drawing upon the Human-Machine Communication (HMC) framework (Guzman and Lewis, 2019: 72) and methodologies of close reading and thematic analysis, the analysis reveals the communicative affordances of AI-driven non-player characters (NPCs) in interactive narratives and how these agents expand the transactional nature of communication in digital play.

Central to this investigation is the acknowledgment that AI in games like Baldur's Gate 3 is not a mere technological feature but a transformative actor within an ongoing, co-constructed dialogue between players and the game world (Sundar and Lee, 2022: .381). In line with Julian Togelius' assertion that "games and AI for games help us understand intelligence" (Togelius, 2019: xvi), the adaptive behaviors and dynamic storytelling of AI-controlled characters in Baldur's Gate 3 illuminate how digital agents can become credible social actors, mediating meaning in ways that transcend traditional game design (Yannakakis and Togelius, 2018: 17).

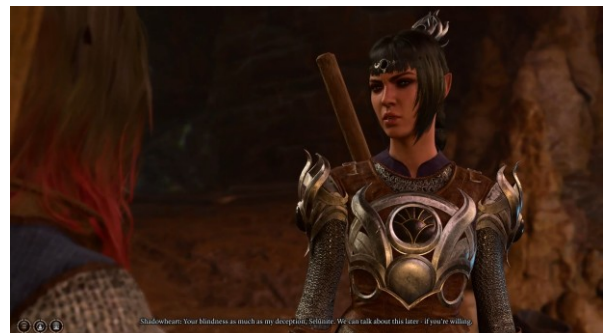
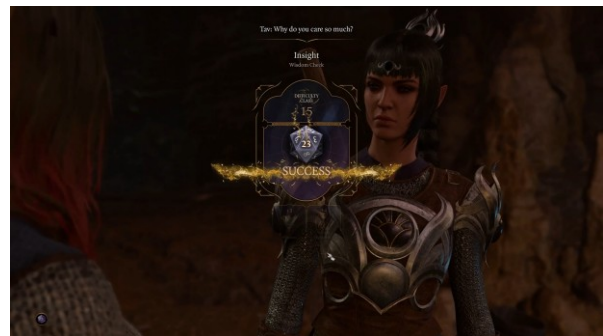
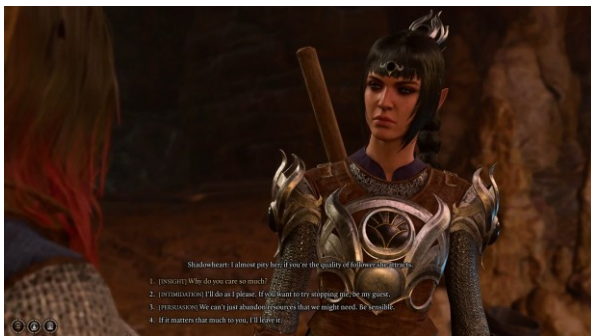
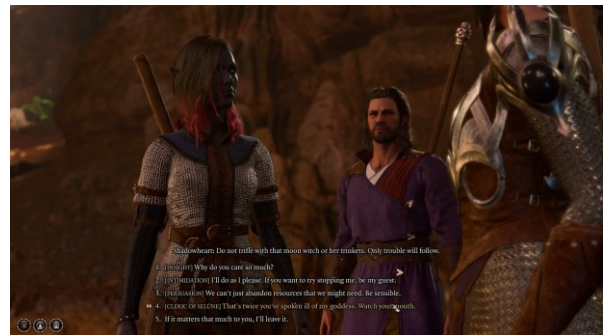
The Forgotten Realms—Dungeons & Dragons' most enduring and richly detailed campaign setting—provides an essential backdrop for understanding these dynamics. As documented by James and James (2006: 11-13), the Forgotten Realms is a world imbued with intricate lore and cultural complexity, making it an ideal site for AI-driven interaction. In Baldur's Gate 3, this setting is not static; it is performed through dynamic exchanges, moral dilemmas, and evolving relationships with AI-driven characters such as Shadowheart and Astarion. These interactions mirror the transactional models of communication proposed by Barnlund (1970: 2-11), wherein meaning is co-constructed through ongoing feedback loops between the human and AI agents.

Human-machine communication and Baldur's Gate 3

The Human-Machine Communication (HMC) framework, as articulated by Guzman and Lewis (2019), reframes traditional understandings of communication by

recognizing AI not as an autonomous cognitive entity but as a designed communicative interface that simulates agency and participates in the co-construction of meaning. In Baldur's Gate 3, this theoretical perspective is vividly illustrated through the pre-scripted yet responsive interactions between human players and non-player characters (NPCs) whose behaviors are carefully authored through conditional dialogue trees rather than generated in real time.

For example, during early interactions with Shadowheart who is a complex cleric character with ambiguous loyalty and moral alignment, the game's rule-based dialogue system adapts to the player's choices, creating the illusion of dynamic responsiveness. When players express empathy or skepticism toward her secretive behavior, Shadowheart's responses range from guarded defensiveness to tentative trust, highlighting the simulated transactional nature of these exchanges (Barnlund, 1970: 85).





Figures 1-8: Early Shadowheart Interaction Sequence (Act 1)

Early Shadowheart dialogue sequence (Act 1) illustrating how pre-authored, rule-based dialogue structures create the illusion of dynamic responsiveness in *Baldur's Gate 3*. Across the sequence, player choices expressing empathy or skepticism toward Shadowheart's secretive behavior prompt shifts in conversational tone, ranging from guarded defensiveness to tentative trust. The progression demonstrates how simulated transactional exchanges are produced through branching dialogue rather than autonomous AI decision-making.

During a pivotal moment in Shadowheart's personal quest, if the player chooses to spare a wounded enemy instead of executing them — as she initially demands — her immediate reaction reflects disapproval. However, if similar acts of mercy are repeated, her dialogue later adapts to express doubt about her own beliefs. This long-form feedback loop illustrates how pre-authored dialogue systems can emulate ongoing negotiation and co-constructed meaning, even without generative AI.



Figure 9 – Shadowheart questioning her goddess’s demands, highlighting internal conflict shaped through branching dialogue.

Moreover, Baldur’s Gate 3’s designed agency extends this dynamic by incorporating branching narrative structures that respond to player decisions and moral stances. In scenarios involving the mind flayer parasite, the dialogue system appears to adjust narrative consequences based on whether the player embraces or rejects the tadpole’s powers. For instance, should the player choose to wield the parasite’s abilities to dominate enemies in combat, NPCs like Gale express wariness and moral disapproval, while others such as Lae’zel regard this power as a necessary strength. These shifting conversational tones reflect the game’s programmed feedback loops, aligning with Togelius’ (2019: 32) argument that games provide fertile grounds for exploring AI as a designed communicative actor rather than a truly autonomous agent.

Similarly, dialogues with characters like Astarion, the enigmatic vampire spawn, offer further illustration of HMC principles. Astarion’s interactions evolve based on player empathy or suspicion; he teases or deflects when confronted with his vampiric hunger

but grows candid if the player demonstrates understanding or shared moral ambiguity. This illustrates the illusion of agency and relational dimension of HMC — the NPCs’ rhetorical strategies are scripted to adjust to the human player’s communicative stance, creating an evolving social dialogue that simulates emergent conversation.

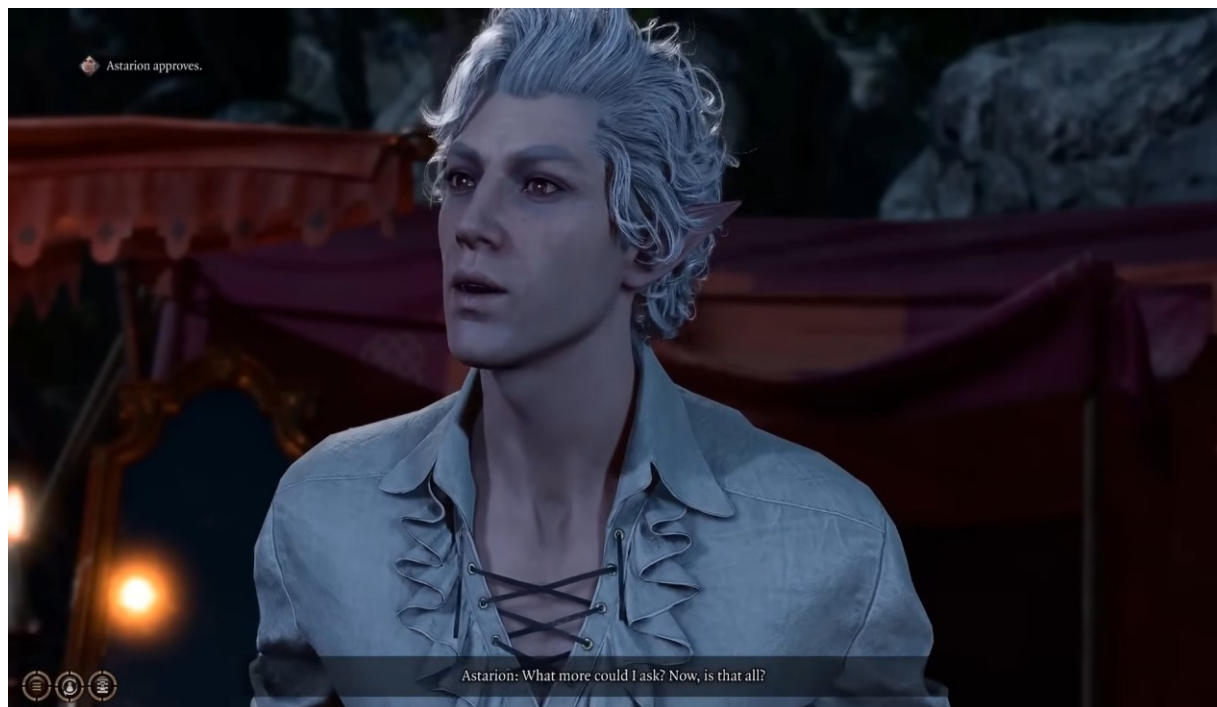
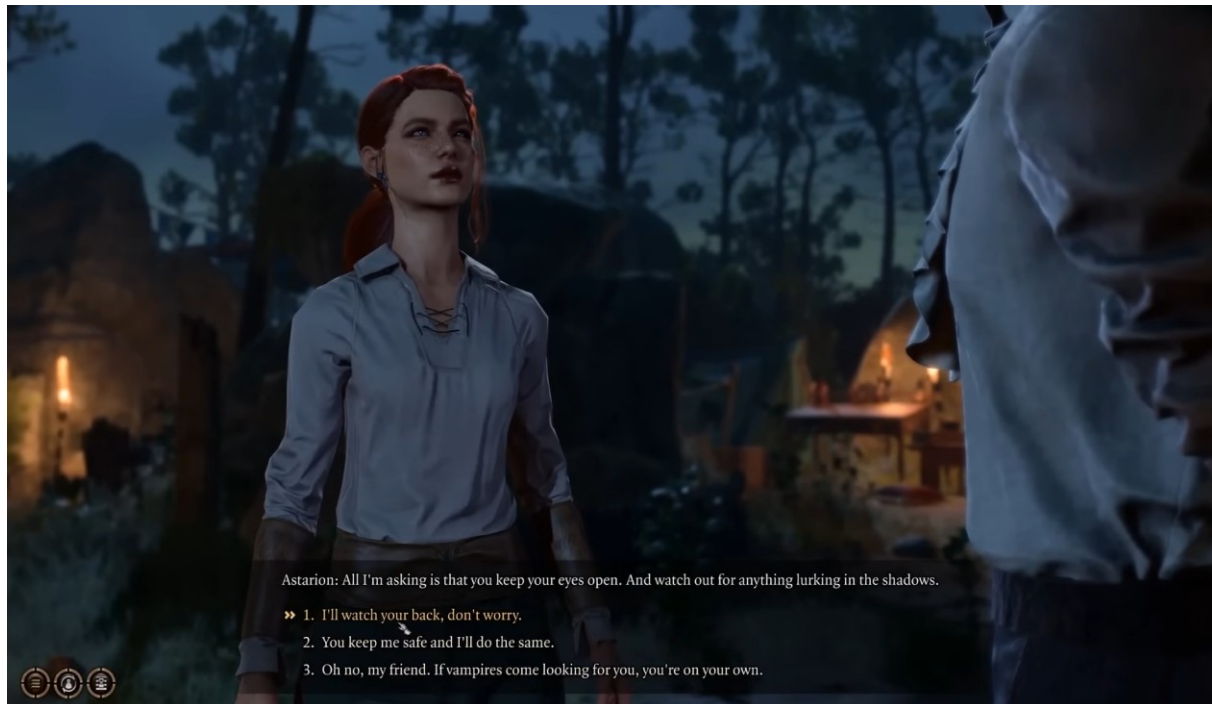


Figure 10-11 Astarion approving the player’s empathetic actions and becoming more open in dialogue

Close reading and in-game dialogue

Applying close reading, a methodology derived from literary and cultural studies (Greenham, 2018; Herrnstein Smith, 2016), to these scripted interactions reveal how Baldur's Gate 3's dialogue systems operate as designed rhetorical spaces rather than spontaneous conversations. By attending closely to language, tone, and non-verbal cues, the analysis exposes how pre-authored dialogue trees simulate sites of narrative and moral negotiation.

For example, in conversations with Wyll — the so-called “Blade of Frontiers” — close reading uncovers how his programmed heroic rhetoric contrasts with moments of scripted vulnerability when the player probes deeper into his motivations. This duality of tone, shifting from boastful proclamations to confessional admissions, demonstrates the illusion of interpersonal complexity embedded within the game's dialogue system.

Similarly, during moments of moral decisions such as whether to spare or sacrifice a goblin prisoner — the game's language frames these branching choices not merely as mechanical gameplay options but as designed ethical performances. Through these shifts, Baldur's Gate 3 does not present genuine emergent dialogue but rather curates interpretive experiences that invite players to read, infer, and negotiate meaning within a controlled narrative structure.

Branching dialogue trees and multimodal texts in Baldur's Gate 3

The branching dialogue structures in Baldur's Gate 3 function as far more than narrative delivery systems — they operate as procedurally rhetorical mechanisms (Bogost, 2007) that simulate co-constructed meaning between players and designed characters. These dialogue trees, while meticulously pre-authored, create the illusion of emergent conversation by triggering conditional responses based on accumulated player decisions (Togelius, 2019; Yannakakis and Togelius, 2018). Rather than representing genuine improvisation, they reflect the designed potential space within which player agency can operate.

For instance, in an early encounter with the goblin leaders — Minthara, Priestess Gut, and Dror Ragzlin — the player can choose to negotiate, deceive, or confront these NPCs. Each branch activates a different set of pre-scripted narrative

outcomes, recursively altering the state of the game world and the player's relational dynamics with companions (Guzman and Lewis, 2019: 83). Choosing to side with Minthara against the tieflings, for example, leads to the destruction of the Emerald Grove and prompts scripted reactions from companions: Wyll's departure is coded as a moral boundary, while Shadowheart's alignment with the player's pragmatism represents a designed ideological shift. These reactions are not autonomous decisions by AI agents but deliberate narrative mechanisms that model social consequences within the logic of the game's system.

The branching architecture also exemplifies Bogost's (2007) notion of procedural rhetoric — the idea that meaning in games emerges through rules and systemic constraints rather than dialogue alone. The game's narrative structures "argue" through possibility spaces (Sicart, 2008), where consequences, approval systems, and companion loyalty metrics become rhetorical tools in themselves.

These branching dialogues function as multimodal texts where meaning is co-constructed not only through language but also through intonation, facial animation, and bodily gesture (Greenham, 2018: 18). The spoken language of designed characters is layered with non-verbal signifiers — such as Shadowheart's shifting gaze or Astarion's calculated smile — that cue the player's interpretation. For example, during a confession of vampiric hunger, Astarion's faltering voice and averted gaze contradict his earlier confident tone, producing a designed dissonance that deepens the interpretive experience. This interaction is not evidence of sentient responsiveness but rather the result of carefully orchestrated narrative design intended to mimic human-like communicative nuance.

Such multimodal layering reinforces transactional communication theory (Barnlund, 1970), wherein meaning emerges from the interaction of multiple semiotic channels rather than words alone. A striking example occurs in the mind flayer encounter during the crash site opening scene. Here, the system combines seductive language, hypnotic vocal cadence, and sinuous body movements to communicate both temptation and threat. These elements operate in concert as part of a designed rhetorical performance, compelling players to negotiate meaning across linguistic, visual, and affective registers.

Crucially, these interactions illustrate that what might appear as adaptive AI dialogue is in fact an authored illusion of agency. The game's narrative engine uses conditional scripting to recalibrate tone and rhetorical stance in response to player input (Togelius, 2019: 21; Guzman and Lewis, 2019: 75). Violent or deceptive player choices, for instance, trigger cautionary or disapproving dialogue from companions such as Gale, while repeated acts of empathy unlock warmer, more confessional responses from Wyll (Larian Studios, 2023). Even subtle emotional reactions — such as Karlach's quiet resignation if the player abandons her — are the product of deliberate design choices meant to simulate emotional authenticity rather than reflect genuine computational agency.

Ultimately, the branching dialogue trees, multimodal texts, and adaptive scripting of Baldur's Gate 3 do not represent instances of autonomous intelligence but rather illustrate how carefully authored design structures can simulate agency and produce the illusion of dynamic interaction. These systems function as sophisticated communicative interfaces: while the underlying logic remains fully scripted, their conditional responsiveness and procedural complexity enable players to experience exchanges as relational, adaptive, and socially meaningful. In this sense, the game exemplifies what Bogost (2007) terms procedural rhetoric—the capacity of rules and mechanics themselves to make arguments and construct meaning. The synergy of player choice, pre-authored branching design, and multimodal feedback demonstrates how digital games can perform agency without possessing it, inviting players into co-constructed narratives that emerge from the interplay between human interpretation and algorithmic structure rather than from autonomous machine cognition.

Procedural Rhetoric and the Illusion of Agency

While the responsive dialogue systems and adaptive scripting in Baldur's Gate 3 may initially appear to reflect autonomous decision-making by artificial intelligence, a closer examination reveals that they are the product of carefully authored procedural design rather than generative cognition. As Bogost (2007) argues, games communicate meaning not solely through narrative content but through the logic of their underlying rules — a concept he terms procedural rhetoric. In this framework, the persuasive power of a game emerges from the arguments embedded within its

mechanics and systemic constraints rather than from spontaneous machine agency. In Baldur's Gate 3, branching dialogues, approval metrics, and consequence-based feedback loops function as rhetorical devices that articulate values such as loyalty, morality, and trust. The apparent "agency" of characters like Astarion or Shadowheart is thus less a product of autonomous reasoning than a simulation of agency — a performative illusion meticulously constructed through conditional scripting and layered design choices.

This illusion operates as a form of communicative strategy, inviting players to engage in ethical negotiation and emotional interpretation despite the absence of genuine machine intent. For instance, when Shadowheart's approval rises or falls in response to a player's moral decisions, the system is not demonstrating independent judgment but rather encoding a rhetorical argument about the consequences of those actions. Similarly, the cascading outcomes of siding with or betraying factions like the tieflings or goblins are less about emergent machine learning than about procedural structures designed to communicate the weight of choice. These mechanics transform gameplay into a space of rhetorical performance, where players must interpret and respond to arguments expressed through systems rather than sentences. In this way, Baldur's Gate 3 exemplifies how designed agency — the intentional construction of responsive behaviors — can produce a convincing social dynamic while remaining firmly within the domain of authored, rule-based communication.

Discussion

The integration of artificial intelligence (AI) within Baldur's Gate 3 represents a paradigmatic shift in the communicative dynamics of digital play, illuminating new trajectories at the intersection of Communication Studies, Game Studies, and AI research. Through the application of the Human–Machine Communication (HMC) framework (Guzman and Lewis, 2019), the game emerges not merely as a storytelling engine, but as a transactional communication environment wherein non-playable characters (NPCs) —though not autonomous or generative agents— serve as designed rhetorical actors that co-construct meaning with players by simulating agency and responsiveness through complex dialogue trees and condition-based systems (Sundar and Lee, 2022).

This study's use of close reading and thematic analysis reveals how these systems, rather than being driven by generative AI, operate as carefully crafted communicative architectures designed to simulate interactional depth. Characters like Astarion and Shadowheart do not compose language independently, yet their branching dialogue and behavioral variability create a compelling illusion of communicative agency that players respond to as if it were genuine. Their tone, gesture, and dialogue adapt to the player's decisions, reinforcing the concept of simulated AI agency as an interactive subject rather than a passive object (Yannakakis and Togelius, 2018). The game's branching dialogues and multimodal texts further demonstrate the affordances of designed AI systems to shape moral discourse and emotional engagement in digital environments (Gunkel, 2012; Greenham, 2018).

At this juncture, it becomes essential to frame these communicative phenomena not only through HMC but also through the lens of procedural rhetoric (Bogost, 2007). Bogost argues that games "make arguments" not only through text or dialogue but through the rules, mechanics, and systems that structure player experience. In this sense, communication in Baldur's Gate 3 is not confined to verbal exchanges; it is embedded within the very logic of the game's systems. Mechanics such as companion approval/disapproval, alignment shifts, choice-based consequences, and the branching outcomes of moral decisions all operate as procedural statements—forms of rhetoric that guide, challenge, or negotiate meaning through gameplay itself. These mechanics communicate ethical positions and social dynamics in ways that complement and extend the dialogic exchanges between players and NPC.

From this perspective, Baldur's Gate 3's communicative power arises not only from the illusion of adaptive dialogue but from the interplay between scripted narrative and procedural systems. For instance, a companion's decision to leave the party after a morally questionable choice does not involve new AI-generated dialogue; it is the outcome of a rule-based system communicating disapproval through procedural consequence. Similarly, the accumulation of approval points is not merely a mechanic for tracking affinity—it is a rhetorical structure that communicates the shifting dynamics of trust, ideology, and relational negotiation between human and non-human agents. This convergence of narrative and rule-

based communication illustrates the dual-layered nature of meaning-making in games, where what is “said” through dialogue and what is “done” through systems together form a more complete communicative act.

When contextualized within the broader history of AI in video games—from finite-state machines in Pac-Man to the adaptive Nemesis system in *Shadow of Mordor* (Simpson, 2018; Bhardwaj et al., 2018)—*Baldur’s Gate 3* represents a culmination of decades-long evolution. It leverages the illusion of adaptivity and procedural consequences to simulate complex social interaction and rhetorical negotiation (Northwood, 2023). It exemplifies a mature convergence of dynamic storytelling, player modeling, and designed communicative systems (Filipović, 2023).

From a communication perspective, this convergence reflects a shift from Shannon and Weaver’s (1949) sender–receiver model to Barnlund’s (1970) transactional communication model, where meaning is continuously constructed through interactive loops. However, in this case, those loops are not the result of autonomous machine cognition but of pre-designed branching logic and procedural rules that simulate conversational reciprocity. NPCs become perceived interlocutors, influencing not only the outcome of play but also the player’s interpretive labor and emotional investment (Dehnert and Mongeau, 2022; Natale, 2021).

Moreover, *Baldur’s Gate 3* does not exist in isolation but is rooted in the rich narrative legacy of *Dungeons & Dragons* and the *Forgotten Realms* (James and James, 2006), translating its collaborative storytelling ethos into the digital domain. This historical and cultural lineage is critical in understanding how AI—or more precisely, AI-inspired design—augments rather than replaces human creativity. The human authorship behind these systems remains central; what changes is how that authorship is mediated and experienced through algorithmic structures that mimic agency and responsiveness. In this sense, the game’s systems serve as partners in co-creative processes rather than deterministic algorithms (Bonn, 2023).

Conclusion

This study examined how *Baldur’s Gate 3*, through its integration of complex branching systems, conditional scripting, and AI-inspired design, reshapes the communicative dynamics between players and machines. Drawing from the Human–

Machine Communication (HMC) framework and transactional communication theory, the analysis highlights how non-playable characters (NPCs) in the game function not as autonomous artificial intelligences but as carefully designed rhetorical constructs that engage players in relational and ethical exchanges. These constructs simulate responsiveness and agency, enabling players to interpret them as communicative partners even though their behaviors are the result of human-authored scripts and procedural design rather than generative computation.

The findings underscore the game's potential as a site for studying the complexities of interactive meaning-making, where player agency and designed system responsiveness operate in unity. Rather than suggesting that machines in this context “think” or “generate” meaning independently, the study shows how their perceived agency is a product of deliberate design decisions aimed at fostering relational engagement and narrative immersion. This reconfiguration invites us to consider agency in games not as a binary property of autonomous systems, but as a gradient of perception—crafted through narrative design, branching dialogue, and procedural consequence.

Integrating Bogost’s concept of procedural rhetoric into this framework further enriches our understanding of communication in games. It demonstrates that meaning is not produced solely through textual dialogue but also through systemic elements such as rule enforcement, companion approval mechanics, and consequence structures that shape player behavior and ethical reasoning. These procedural systems “speak” to players in ways that parallel, complement, and sometimes even outweigh verbal communication, revealing the multilayered nature of meaning-making in ludic environments.

By situating Baldur’s Gate 3 within the broader trajectory of AI development in games and the legacy of collaborative storytelling rooted in Dungeons & Dragons, this study offers a contribution to interdisciplinary discussions on digital game narratives, communicative agency, and the social functions of AI-inspired systems. It emphasizes that the most compelling forms of machine agency in games often arise not from autonomy but from intentional design that leverages human creativity to construct the illusion of interaction, dialogue, and co-authorship.

Ultimately, this paper argues that games like Baldur's Gate 3 invite us to reconsider the boundaries of communication—blurring the line between programmed behavior and perceived intention, between authored code and emergent meaning. They offer fertile ground not only for entertainment but for critical inquiry into how we engage with non-human agents, how design mediates our perception of those agents, and how these engagements, in turn, shape the stories we tell and the selves we become.

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