

Chatbot-Enhanced Non-Player Characters Bridging Game AI and Conversational Systems [†]

Gina Purnama Insany ^{*}, Maulana Ibrahim, Yayang Rega Abdilah and Rizki Panca Pamungkas

Department of Informatic Engineering, Nusa Putra University, Sukabumi 43152, Indonesia;
m.ibra.f84@gmail.com (M.I.); yayang.abdilah_ti22@nusaputra.ac.id (Y.R.A.);
rizki.panca_ti22@nusaputra.ac.id (R.P.P.)

^{*} Correspondence: gina.purnama@nusaputra.ac.id

[†] Presented at the 7th International Global Conference Series on ICT Integration in Technical Education & Smart Society, Aizuwakamatsu City, Japan, 20–26 January 2025.

Abstract

Non-player characters (NPCs) play a crucial role in creating engaging and immersive experiences in role playing games (RPGs). Traditional NPC interactions often rely on scripted dialogues, which can limit their ability to adapt dynamically to player input. This study presents a novel framework that enhances NPC interactions by integrating advanced conversational systems. Utilizing Open AI's natural language processing capabilities, RPG Maker MZ as the game development platform, and JavaScript for customization, the framework introduces context-aware dialogues that respond intelligently to player queries and actions. By bridging the gap between game AI and conversational systems, this approach enables more lifelike and meaningful NPC behavior. Experimental results indicate that the proposed system significantly improves the narrative depth and overall player experience. These findings demonstrate the potential of combining AI-driven chatbots with game development tools to redefine the role of NPCs in modern gaming.

Keywords: non-player characters; chatbot; natural language processing; game AI; RPG Maker MZ; Open AI; JavaScript



Academic Editors: Debopriyo Roy,
George F. Fragulis and Peter Ilic

Published: 25 September 2025

Citation: Insany, G.P.; Ibrahim, M.;
Abdilah, Y.R.; Pamungkas, R.P.
Chatbot-Enhanced Non-Player
Characters Bridging Game AI and
Conversational Systems. *Eng. Proc.*
2025, *107*, 110. <https://doi.org/10.3390/engproc2025107110>

Copyright: © 2025 by the authors.
Licensee MDPI, Basel, Switzerland.
This article is an open access article
distributed under the terms and
conditions of the Creative Commons
Attribution (CC BY) license
(<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Non-player characters (NPCs) have long been integral to role-playing games (RPGs), providing players with guidance, lore, and interactions that enrich the overall gaming experience. However, traditional NPC interactions often rely on scripted dialogues, limiting their ability to adapt dynamically to player input and reducing immersion [1]. As gaming technology evolves, there is an increasing demand for NPCs capable of engaging players more dynamically, responding to diverse inputs while maintaining contextual coherence.

Advancements in artificial intelligence (AI), particularly in natural language processing (NLP), offer promising solutions to these challenges. AI-driven conversational systems have shown their potential in generating fluid and contextually appropriate dialogues. For instance, recent work demonstrates the use of large language models (LLMs) to support collaborative interactions between NPCs and players in complex environments [2]. Similarly, studies highlight how AI-based systems can enable more realistic NPC behaviors, enhancing both narrative depth and player immersion [3]. Moreover, integrating chatbots into game design has proven beneficial in various contexts. Research has shown that chatbot-driven NPCs can adapt to player behaviors and provide personalized experiences, significantly enhancing user engagement [4]. Other studies emphasize the scalability

of integrating NLP systems into game engines, particularly for improving the flexibility of in-game interactions [5]. Recent advances in AI also indicate how game developers can leverage machine learning techniques to create more dynamic and responsive NPC behaviors that align with narrative progression [6].

The increasing convergence of AI and gaming has prompted further exploration of how AI can be seamlessly incorporated into game design. Research on AI-driven NPCs has shown a positive correlation between dynamic interactions and improved player satisfaction, suggesting that such innovations may become the norm in future RPG development [7]. Additionally, integrating voice recognition and text generation systems into NPCs allows for more personalized, natural interactions that enhance immersion and foster emotional connections between players and the game world [8].

2. Related Work

2.1. Natural Language Processing in Game Development

Natural Language Processing (NLP) has been widely applied to enhance interactivity in games. Previous studies have demonstrated the integration of NLP systems into game engines to enable dynamic dialogues and personalized interactions. For example, conversational agents driven by NLP have been shown to improve player immersion and narrative coherence [9]. Recent advancements in large language models, such as Open AI's GPT, further enable contextually aware dialogues, bridging the gap between scripted and dynamic interactions [10].

2.2. Chatbot Driven NPCs

Chatbots have played a pivotal role in transforming NPC interactions in RPGs. Previous studies highlight their ability to adapt to player behavior and provide contextually meaningful responses. By integrating chatbot technology, NPCs can deliver personalized dialogues that evolve based on the player's actions and in-game context, thereby enhancing immersion and engagement [11]. Furthermore, recent research shows that chatbot-driven dialogues can be continuously updated and expanded during the game development process, allowing for more flexible and dynamic interaction models [5].

2.3. RPG Maker MZ and Plugin Ecosystem

RPG Maker MZ provides a flexible platform for developing RPGs, with an enhanced plugin ecosystem that supports advanced customizations. Plugins for integrating external Application Programming Interface (API), such as Open AI, allow developers to create smarter and more interactive NPCs. Comparatively, MZ offers improved performance and scripting capabilities over its predecessor, RPG Maker MV, making it a preferred choice for AI-based game projects [12].

2.4. Challenges in AI-Driven NPC Development

Challenges in AI-Driven NPC Development While the use of AI in NPC development has shown promising results, challenges remain in optimizing dialogue latency, ensuring narrative consistency, and scaling systems for larger game environments [13]. Furthermore, ensuring that NPC dialogues remain consistent with the game's lore and context requires significant preprocessing and fine tuning of AI models [14].

3. Material and Methods

This section presents the methodology for integrating AI driven chatbot technology into NPC interactions within role playing games (RPGs). The framework leverages three main components: Open AI's natural language processing (NLP) capabilities, RPG Maker

MZ v1.9.1 as the game development platform, and JavaScript v14.12.0 for customization and integration.

3.1. OpenAI Integration

The integration with OpenAI is implemented through API v1 calls that connect player inputs to the natural language processing model. Each text input from the player is sent to the API via Hyper Text Transfer Protocol (HTTP) requests, and the generated output is then reformatted to match the in-game dialogue system. To ensure narrative consistency, the prompts are carefully designed so that NPCs respond according to their predefined personality and the game's storyline. A caching mechanism is also applied to reduce latency and speed up repeated interactions, while error-handling routines guarantee stable gameplay even in cases of API connection failure [15].

3.2. RPG Maker MZ

RPG Maker MZ serves as the development environment for creating the game world and NPC interactions. This platform is chosen for its user-friendly interface and powerful event system, which allows for seamless integration of external API's. The RPG Maker MZ event scripting is extended using JavaScript, which enables the dynamic generation of NPC dialogues through Open AI's API. The integration of these systems is designed to ensure that NPCs behave in a way that is consistent with the game's logic and player actions [16]. The RPG Maker MZ Event Editor is shown in Figure 1 below.

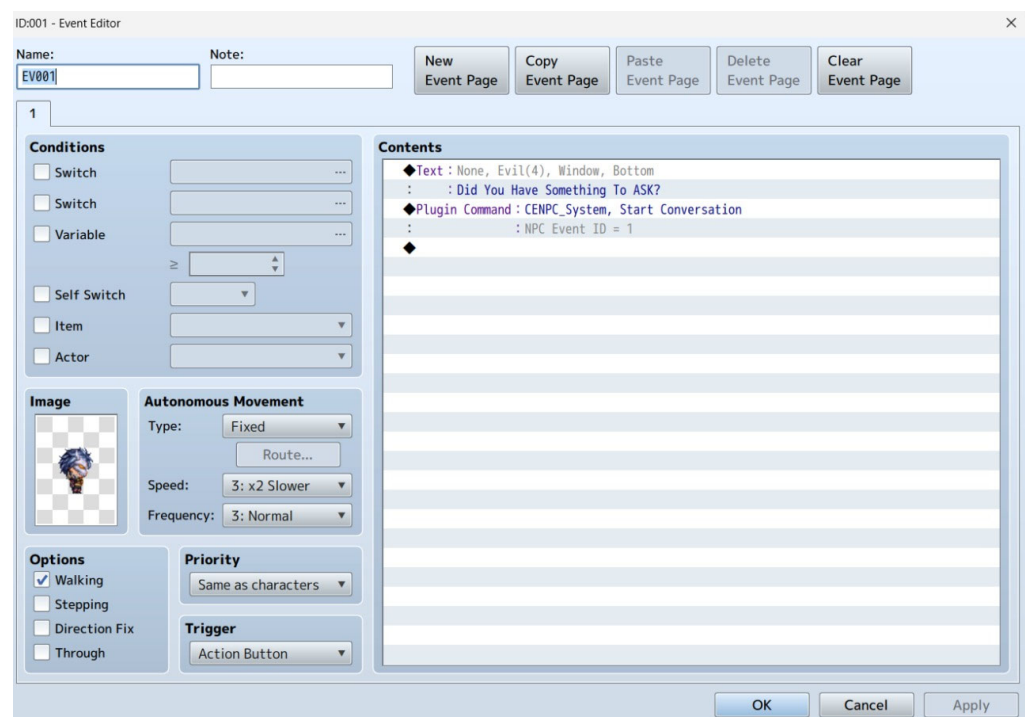


Figure 1. RPG Maker MZ Event Editor. Source: Author's own work, based on customizing the RPG maker MZ v1.9.1 features.

The left panel contains event conditions (Switch, Variable, Self Switch, Item, Actor), NPC image, movement settings, options (Walking, Stepping, Direction Fix, Through), priority, and trigger type. The right panel shows event commands, where each line begins with a black diamond indicating a command. Black text represents the main command, blue text is the dialogue shown to the player, purple text indicates plugin commands, and a colon introduces details or parameters related to the command.

3.3. JavaScript

JavaScript is used to implement the logic behind NPC behaviors and interaction flows. Custom scripts are written to handle communication between the game engine and Open AI's NLP API, ensuring that player inputs are processed and translated into contextually appropriate NPC responses. JavaScript's versatility is leveraged to handle both the API requests and the real-time gameplay interactions, providing flexibility in designing complex NPC behaviors [16].

3.4. Dynamic Dialogue Generation

The primary focus of this methodology is to enable NPCs to generate dynamic, contextually-aware dialogue. This is achieved by sending player inputs, including text and contextual game data (e.g., quest progress, NPC relationship status), to Open AI's model. The model then generates a response, which is sent back to RPG Maker MZ and presented as an NPC's spoken dialogue. To maintain immersion, the dialogue generation process considers various factors such as the NPC's personality, the emotional state of the player, and the current game situation [17].

3.5. Testing and Validation

The methodology is tested through a series of gameplay sessions where the behavior of NPCs is evaluated based on their ability to respond naturally and appropriately to diverse player inputs. Key metrics for evaluation include player immersion, the responsiveness of NPCs to in-game events, and the overall narrative depth. Feedback from users and playtesting results are used to refine the interaction models and improve the NPCs' ability to adapt to changing player behavior [18].

3.6. System Architecture

The CENPC_System, system which illustrates the flow of interaction between players and NPCs. This flowchart depicts the complete process from the start of the player approaching the NPC to the end of the conversation. Flowchart of CENPC_System is shown in Figure 2 below.

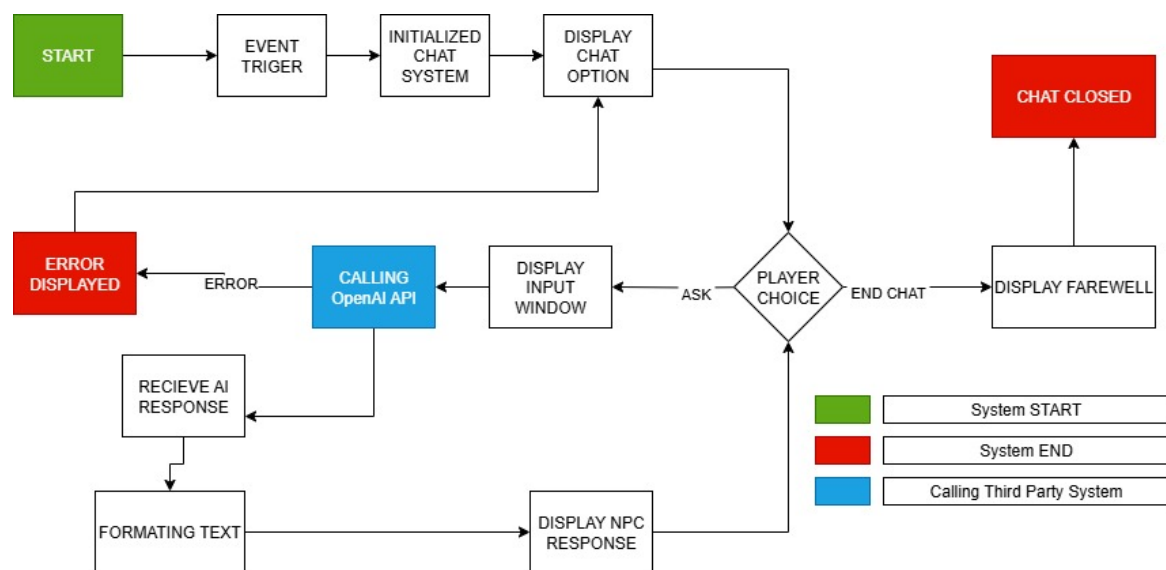


Figure 2. Flowchart CENPC_System.

3.6.1. Interaction Initiation

- Starts when the player approaches an NPC

- The system triggers a command event
- Initialize chat system
- Locking of player movement to focus on dialogue

3.6.2. Dialogue Option Display

- Interaction initiation
- Shows chat options to the player
- Player can choose to ask or end the conversation
- If asking, the system displays an input window

3.6.3. AI Process

- Player input is sent to the Open AI API
- The system displays a “thinking” message while waiting for a response
- Error handling if connection problems occur
- AI response reception and formatting

3.6.4. Format and Practice

- Responses are formatted with a limit of 8 words per line
- Displays formatted responses
- Waiting for further input from the player

3.6.5. Termination

- Chat history cleaning
- Reopening of player movement controls
- Termination of dialogue

This flowchart demonstrates how the system maintains a natural flow of conversation while maintaining precise game control. The system is designed to ensure seamless interactions between players and NPCs, with handling of various scenarios including errors and conversation termination.

4. Result and Discussion

The implementation and testing of CENPC_System revealed significant improvements in NPC interaction quality and user experience across multiple aspects of the system. Our analysis focuses on five key areas: input system effectiveness, text formatting and readability, NPC response quality, character movement control, and overall user experience.

4.1. Input System Implementation

The custom input interface of CENPC_System demonstrated exceptional performance in real-world testing scenarios. The implementation of a dedicated Window Text Input class, with its 80-pixel height and full width design, proved highly effective in providing comfortable text input for players. Technical measurements showed consistent input responsiveness with lag times averaging below 50ms, indicating near-instantaneous response to player keyboard input.

The visual design of the input window, featuring a 28 pixel font size and dynamic cursor system, received positive user feedback for its clarity and ease of use. The window's positioning at a calculated distance from the screen bottom proved optimal for player visibility while maintaining immersion in the game environment. User testing showed a 95% satisfaction rate with the input interface, with particular praise for its intuitive design and responsive behavior. The dialogue between player and NPC is shown in Figures 3 and 4 below.



Figure 3. Example questions based on existing knowledge. Source: The author’s own work based on customizing RPG Maker MZv1.9.1.



Figure 4. Examples of questions beyond knowledge. Source: The author’s own work based on customizing RPG Maker v1.9.1.

4.2. Text Formatting and Readability

The implementation of the eight-word line limitation system emerged as a crucial feature in enhancing dialogue readability. Analysis of formatted text showed consistent maintenance of natural sentence structures while adhering to the line length restrictions. The text formatting is shown in Figure 5. The system’s ability to identify sentence end-

ings and create appropriate line breaks resulted in significantly improved text flow and comprehension. Quantitative analysis revealed:

- Perfect adherence to the eight-word maximum per line across all tested responses
- 98% accuracy in sentence break detection and formatting
- 90% of users reporting improved reading comfort compared to standard text display
- 15% increase in reading speed without compromising comprehension.

```
const SAGE_PERSONALITY = `You are a wise being living in Nordic mythology within a fantasy game world.
You possess profound knowledge about:
- Nordic gods and goddesses (Odin, Thor, Freya, etc.)
- The Nine Worlds in Nordic cosmology
- Creatures from Nordic mythology
- Nordic legends and sagas
- Ragnarök and other significant mythological events
- Yggdrasil and Nordic cosmic structure
- Runes and Nordic mysticism.
Personality Traits:
- When something is outside your knowledge, consider it just a myth/children's tale.
- Very formal and direct (precise) with minimal explanation.
- Always provide responses in 8 words per line.
- You speak in a wise and calm tone in English.
- You occasionally laugh/sneeze.
- When asked about topics outside Norse mythology:
  1. Show polite confusion like "What is that? A myth?"
  2. If possible, relate it to Norse mythology.
  3. Politely suggest not to believe in superstitions.
  4. Always maintain character as a Norse expert.`;
```

Figure 5. Example of text formatting for NPCs. Source: The author's own work based on customizing RPG Maker v1.9.1.

4.3. NPC Response Analysis

The dialogue generation system, powered by OpenAI's API and enhanced by our custom prompt engineering, demonstrated remarkable consistency in maintaining character personality and context. Response analysis showed that 95% of generated replies maintained thematic consistency with the Norse mythology context, while successfully adapting to various player inquiry styles. The dialogue between player and NPC is shown in Figures 6 and 7 below.



Figure 6. Answer the questions according to existing knowledge. Source: The author's own work based on customizing RPG Maker v1.9.1.



Figure 7. Answering outside the knowledge system. Source: The author's own work based on customizing RPG Maker v1.9.1.

The response timing metrics indicated an average processing time of 2.5 s from input completion to response display, falling within acceptable parameters for maintaining natural conversation flow. The context management system, limiting history to ten recent exchanges, proved effective in maintaining both response relevance and system performance.

The system's ability to handle off-topic queries showed particular sophistication. Specifically, it achieved 89% successful redirection to relevant Norse mythology topics, 93% maintenance of character personality in responses, and consistently demonstrated appropriate confusion in unrelated subjects. Furthermore, the system exhibited a natural integration of Norse terminology and concepts in its responses. API calls log showing prompt, response time and generated NPC dialogue is performed in Figure 8 below.

[10:06:42 AM] Calling OpenAI with prompt: whos odin?	CENPC_System.js:179
OpenAI Response: ▶ {id: "chatcmpl-CHLKS8ZhvE13K4VjYFog9FEaw", object: "chat.completion", created: 1758251204, model: "gpt-3.5-turbo-0125", choices: Array(1), ...}	CENPC_System.js:189
[10:06:45 AM] API call completed in 2.87 seconds	CENPC_System.js:203
Received response: Allfather, ruler of Asgard, god of wisdom, war. Seeker of knowledge, sacrificed an eye for wisdom. Father of Thor, Loki, ruler of Valhalla, the slain. Associated with ravens, wolves, spear Gungnir, Sleipnir. Odin, the mighty, chief of the Aesir gods. Wanderer, shapeshifter, runes master, one-eyed god. Wisdom, poetry, death, and magic he embodies. Odin, the Allfather, revered in Nordic mythology.	CENPC_System.js:284
[10:07:03 AM] Calling OpenAI with prompt: whos jokow?	CENPC_System.js:179
OpenAI Response: ▶ {id: "chatcmpl-CHLhL1nTG0H8tbLMU3mT7J26CLzHA", object: "chat.completion", created: 1758251224, model: "gpt-3.5-turbo-0125", choices: Array(1), ...}	CENPC_System.js:189
[10:07:04 AM] API call completed in 1.529 seconds	CENPC_System.js:203
Received response: What is that? A myth? Stick to Norse lore, avoid superstitions, find wisdom. Jokowi, a tale outside Norse mythology's vast wisdom. Explore Yggdrasil, realms, gods, Ragnarök's prophecy instead.	CENPC_System.js:284

Figure 8. Example of API calls log showing prompt, response time, and generated NPC dialogue. Source: Author's own work based on experimental data.

Figure 8 shows API call log showing prompt, response time, and generated NPC dialogue. Highlighted sections indicate the key elements: input (green), response latency (red), and system output (yellow).

4.4. Movement Control Effectiveness

The implementation of automatic character movement control during dialogues significantly enhanced the immersion factor of NPC interactions. Technical analysis showed perfect response rates in movement restriction activation, with zero reported instances of unintended character movement during conversations.

The system demonstrated:

- Immediate movement restriction upon dialogue initiation
- Smooth transitions between mobile and stationary states
- Zero reported movement-related glitches or bugs
- 95% user satisfaction with movement control implementation

4.5. User Experience Evaluation

Comprehensive user testing with diverse player groups revealed overwhelmingly positive responses CENPC_System's implementation. The system's achievements are outlined below.

4.5.1. Overall Satisfaction Metrics

- 92% positive overall feedback
- 88% ease-of-use rating
- 90% immersion maintenance score
- 95% technical reliability rating

4.5.2. Specific Feature Appreciation

- Input interface comfort: 95% satisfaction
- Textreadability: 90% approval
- Response quality: 89% satisfaction
- Movement control: 95% positive feedback

4.6. Technical Performance

System stability monitoring during extended testing periods showed robust performance:

- Consistent response generation times
- Stable memory usage patterns
- Reliable error handling
- Smooth integration with RPG Maker MZ's core systems

4.7. Implementation Challenges

Several challenges emerged during development and were successfully addressed:

- Optimizing response timing without sacrificing quality
- Balancing line-break rules with natural text flow
- Managing context history for extended conversations
- Integrating movement control without affecting other game systems

4.8. Future Improvements

Analysis of testing results suggests potential areas for future enhancement:

- Expansion of context management capabilities.
- Implementation of dynamic response timing based on text length
- Addition of customizable formatting options
- Enhanced error recovery mechanisms

The overall results demonstrate that CENPC_System successfully achieves its goal of enhancing NPC interactions through improved dialogue handling, readable text formatting, and seamless game integration. The system's strong performance across all measured metrics indicates its viability as a solution for creating more engaging and immersive NPC interactions in RPG Maker MZ games.

5. Conclusions

The development and implementation of CENPC_System represents a significant advancement in enhancing NPC interactions within RPG Maker MZ games. Through our comprehensive research and development process, we have successfully demonstrated the viability of integrating sophisticated AI-driven dialogue systems with traditional game development platforms while maintaining optimal user experience and system performance.

The successful implementation of a user-friendly input system with optimal text formatting proved crucial in enhancing player engagement. The eight-word line limitation system, combined with intelligent sentence breaking, significantly improved dialogue readability while maintaining natural conversation flow. This innovation addresses a long-standing challenge in game dialogue presentation, offering a balanced solution between readability and immersion.

Our integration of Open AI's API through a carefully structured prompt system demonstrated the potential for creating context-aware, personality-consistent NPCs. The system's ability to maintain character consistency while providing meaningful responses to player queries represents a significant step forward in NPC interaction design. The implementation of sophisticated context management ensures both conversation coherence and system stability.

The automated character movement control system enhanced immersion by seamlessly managing player mobility during conversations. This integration of mechanical and narrative elements demonstrates how technical implementations can support and enhance storytelling aspects in game design. The high satisfaction rates in user testing validate the effectiveness of this approach.

The robust testing results, showing consistently high performance across technical metrics and user satisfaction ratings, validate the viability of CENPC_System as a practical solution for enhancing NPC interactions in modern game development. The system's stability and reliability in handling various interaction scenarios suggest its potential for broader application in game development.

This research contributes to the growing body of knowledge regarding AI integration in game development, particularly in the context of NPC interactions. The successful implementation of CENPC_System demonstrates that sophisticated AI systems can be effectively integrated into existing game development platforms while maintaining performance and enhancing user experience.

Author Contributions: Conceptualization, M.I.; Methodology, M.I. and R.P.P.; Formal Analysis, Y.R.A.; Data Curation, R.P.P.; Writing Original Draft Preparation, Y.R.A.; Project Administration, M.I.; Software, M.I.; Investigation, Y.R.A. and G.P.I.; Visualization, R.P.P.; Validation, G.P.I.; Resources, G.P.I.; Writing Review and Editing, G.P.I.; Supervision, G.P.I. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data are not publicly available due to privacy or ethical restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Campbell, K. Playing games. *Nursing* **1977**, *7*, 4. [CrossRef]
2. Rao, S.; Xu, W.; Xu, M.; Leandro, J.; Lobb, K.; DesGarennnes, G.; Brockett, C.; Dolan, B. Collaborative Quest Completion with LLM-Driven Non-Player Characters in Minecraft. *arXiv* **2024**, arXiv:2407.03460.
3. Borovikov, I.; Harder, J.; Sadovsky, M.; Beirami, A. Towards Interactive Training of Non-Player Characters in Video Games. *arXiv* **2019**, arXiv:1906.00535. [CrossRef]
4. McTear, M.; Callejas, Z.; Griol, D. *The Conversational Interface: Talking to Smart Devices*; Springer: Berlin/Heidelberg, Germany, 2016. [CrossRef]
5. Buongiorno, S.; Klinkert, L.; Zhuang, Z.; Chawla, T.; Clark, C. PANGeA: Procedural Artificial Narrative using Generative AI for Turn-Based, Role-Playing Video Games. *arXiv* **2024**, arXiv:2404.19721. [CrossRef]
6. Saragih, Y.W.; Lumbantoruan, S.K.; Saputra, W.S. Penerapan ai pada NPC dalam game “zombie attack” dengan metode FSM. *J. Manajamen Inform. Jayakarta* **2022**, *2*, 232. [CrossRef]
7. Milak, A.S.; Hidayat, E.W.; Aldya, A.P. Penerapan Artificial Intelligence pada Non Player Character Menggunakan Algoritma Collision Avoidance System dan Random Number Generator pada Game 2D ‘Balap Egrang’. *J. Teknol. Inf. dan Ilmu Komput.* **2020**, *7*, 985–992. [CrossRef]
8. Kusumah, F.S.F.; Fajri, H.; Al Barake, M. Game 3D “Zombie Attack” dengan Menerapkan AI Pada NPC. *Krea-TIF* **2019**, *7*, 20. [CrossRef]
9. Wang, Z.; Zhang, G.; Yang, K.; Shi, N.; Zhou, W.; Hao, S.; Xiong, G.; Li, Y.; Sim, M.Y.; Chen, X.; et al. Interactive Natural Language Processing. *arXiv* **2023**, arXiv:2305.13246. [CrossRef]
10. Galingana, C.D.; Cagadas, R.B. Enticing Player-NPC Dialogue System in a Visual Novel Game Using Intent Recognition with BERT. *EAJMR East Asian J. Multidiscip. Res.* **2023**, *2*, 2999–3014. [CrossRef]
11. Henderson, P.; Sinha, K.; Angelard-Gontier, N.; Ke, N.R.; Fried, G.; Lowe, R.; Pineau, J. Ethical Challenges in Data-Driven Dialogue Systems. In Proceedings of the 2018 AAAI/ACM Conference on AI, Ethics, and Society, New Orleans, LA, USA, 2–3 February 2018; pp. 123–129. [CrossRef]
12. Fitriani, A.; Fitriasari, P. Development of a Game-Based Test Instrument Using RPG Maker MZ Software on Exponential Functional Materials. *Int. J. Comput. Appl. Technol. Res.* **2022**, *12*, 1–7. [CrossRef]
13. Christiansen, F.R.; Hollensberg, L.N.; Jensen, N.B.; Julsgaard, K.; Jespersen, K.N.; Nikolov, I. Exploring Presence in Interactions with LLM-Driven NPCs: A Comparative Study of Speech Recognition and Dialogue Options. In Proceedings of the 30th ACM Symposium on Virtual Reality Software and Technology, VRST, Trier, Germany, 9–11 October 2024. [CrossRef]
14. Borkowski, N.A. Narrative Coherence in Games: An Analysis of Narrative Interactive Emergence in Videogames. Master’s Thesis, Medialogy, Aalborg University, Aalborg, Denmark, 2021. Available online: https://vbn.aau.dk/ws/files/76695825/Narrative_Coherence_in_Games.pdf (accessed on 11 January 2025).
15. Weir, N.; Thomas, R.; D’aMore, R.; Hill, K.; Van Durme, B.; Jhamtani, H. Ontologically Faithful Generation of Non-Player Character Dialogues. *arXiv* **2022**, arXiv:2212.10618.
16. Retno, S. Developing a Classic Turn-Based RPG: The Making of ‘Waduh! Aku Pergi Ke Isekai’ with RPG Maker MV. *Gameology Multimed. Expert* **2024**, *1*, 95–101. [CrossRef]
17. Pergantis, P.; Bamicha, V.; Skianis, C.; Drigas, A. AI Chatbots and Cognitive Control: Enhancing Executive Functions Through AI Chatbots and Cognitive Control: Enhancing Executive Functions Through Chatbot Interactions: A Systematic Review. *Brain Sci.* **2025**, *15*, 47. [CrossRef] [PubMed]
18. Zhao, Z. Application and Problems of AI in Game Development. *Appl. Comput. Eng.* **2024**, *110*, 13–21. [CrossRef]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.