Creating Immersive Role-Playing Games (RPG) Experiences with Generative Artificial Intelligence(AI)-Driven Non-Player Characters (NPCs)

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Research Background

Numerous works of fiction and movies depicting the future of gaming have been reported recently, with a focus on NPCs that talk and react to the player. Research has found AI-driven NPCs is suitable for the game genre RPG.

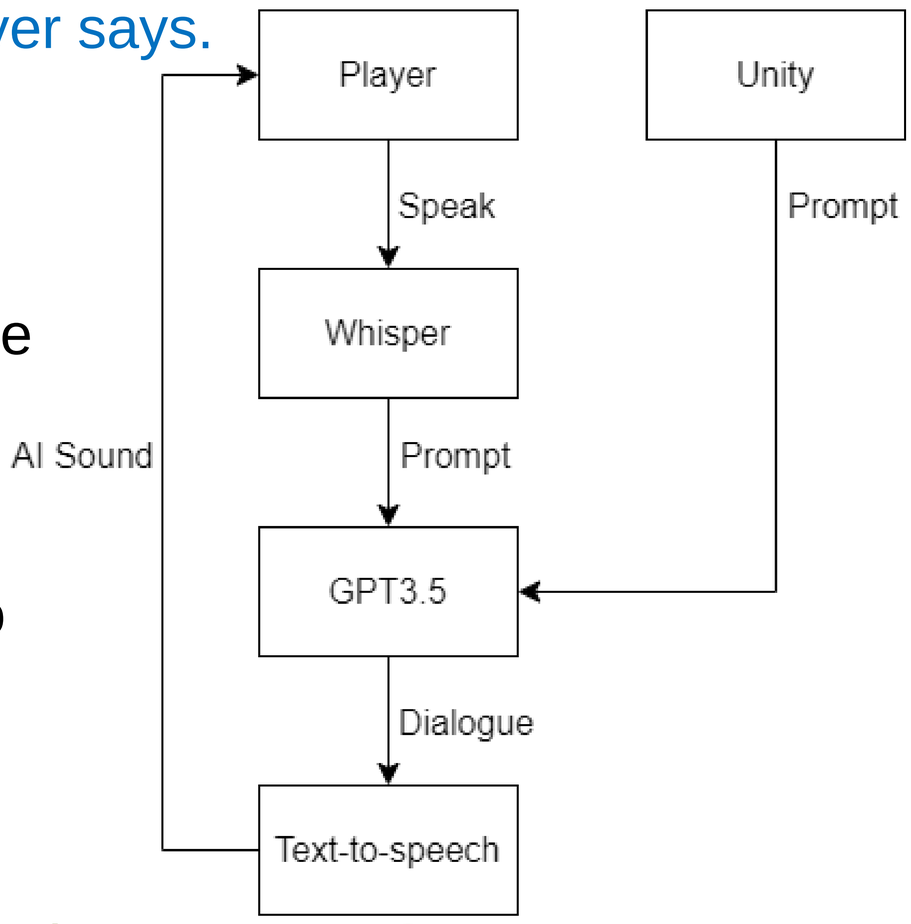
Objectives

- Design and create an immersive game featuring AI-driven NPCs.
- Players can talk with the NPCs, and the NPCs will respond.
- NPCs can remember what the player has said.
- NPCs will trigger in-game events based on what the player says.

Methodology

1. Use the 3D game engine “Unity” to create the game
2. The player speaks in the game
3. “Whisper” (Speech-to-Text program) recognizes the voice and outputs the prompt to ChatGPT 3.5
4. Output dialogue to OpenAI Text-to-Speech to create AI-generated voice to respond to the player.

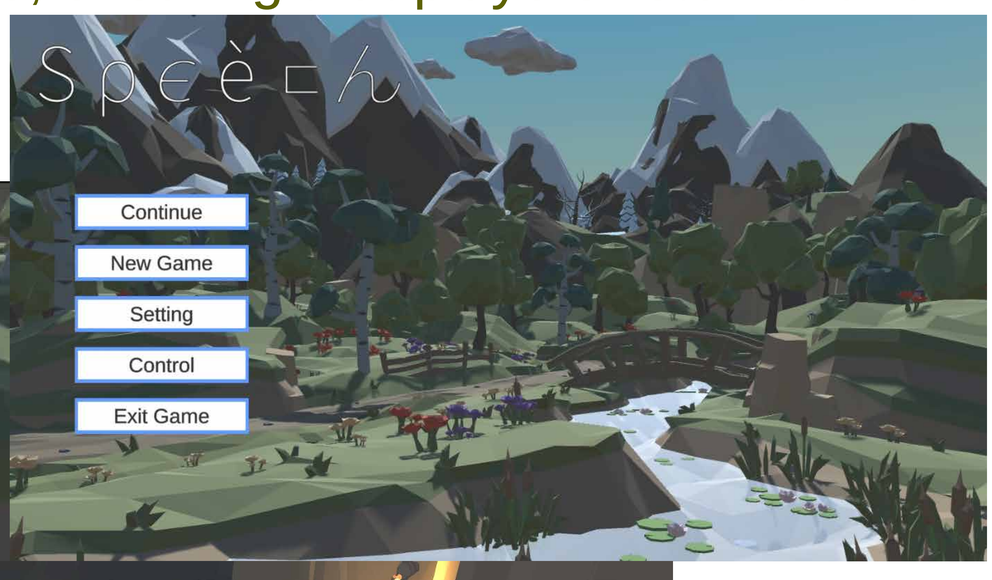
Additionally, the game system will output prompts related to the game status to ChatGPT 3.5 so as to make the NPCs more realistic.



Findings

- The RPG demonstrates that communication between the player and NPCs can enhance gameplay and player immersion experience.
- Using speech to interact with NPCs can increase the content of the game.
- Game developers can hide options behind the dialogue, ensuring that players listen to and consider the NPCs' speech.

Game Screenshots



Trailer