



CSC3094 PROJECT PRESENTATION

Evaluating AI Generated NPC Interaction

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01

THE PROBLEM

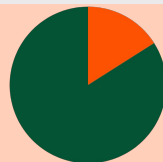
Integrating AI into Player Interactions



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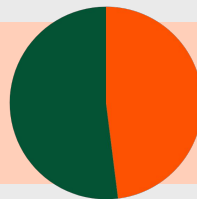
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84%



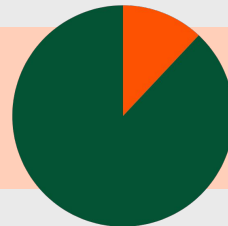
Of gamers feel that NPCs are an important addition to gameplay.

52%



Of gamers would like to see less repetitive NPC dialogue.

88%



Of gamers think advanced AI will make a game more immersive & improve gameplay experience.



INTERVIEWS

SETUP

- Ten 1-on-1 interviews.
- Varying ability.
- Ten questions per interview.



QUESTIONS

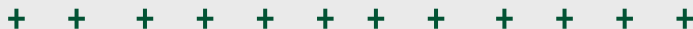
- Early ice breakers.
- Then more engaging and relevant questions regarding AI.

EXAMPLE QUESTIONS

- What do you think are the limitations of current video game AI?
- Can you describe a video game where you have seen particularly impressive AI, and what made it stand out to you?

RESPONSES

- Strongly correlated with the Inworld report.



THE PROBLEM

WHAT CAN WE LEARN?

- Players like NPCs.
- Players want more believable AI interactions within games.
- Current AI implementation methods are too rigid and scripted.
- AI implementation methods need to be more adaptable and responsive to player actions and choices.





02

AIM & GOALS

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AIM & GOALS



THE AIM

To produce a small game that implements NPCs that can interact with the player in a reactive and coherent manner.

Compare how players perceive this method of interaction over traditional methods.

Evaluate viability.



GOALS

Research and identify methods used for NPC dialogue interaction currently.

Gather high quality primary data through surveys or interviews.

Research and understand how AI dialogue generation systems work.

Implement a traditional style of NPC interaction & one implementing AI-generated dialogue

Collect qualitative data from participants who play the game.





03

SOLUTION



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SOLUTION



RESEARCH FINDINGS

Traditional NPC interaction uses techniques such as dialogue trees.

Open & Closed domain AI chat systems.

Natural Language Processing (NLP) focuses on enabling computers to understand, interpret and generate human language.



TECH STACK

Unity Game Engine.

Python NLP libraries using PythonNET.

spaCy library.

OpenAI's ChatGPT.



THE GAME

A small "whodunnit" murder mystery style game set in a medieval castle.

Player is tasked with finding the killer of the King.

They must solve the mystery by interacting with NPC characters to uncover clues.



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04

PROGRESS

Demo Videos



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05

PROJECT FUTURE

Next steps

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WHERE NEXT?

MOVING NLP TO UNITY

Incorporate the NLP AI into a game environment within Unity.

Take user input and respond to player.

OBTAIN USER FEEDBACK

Hand the game over to users for their input.

BUILD OUT THE GAME

Add the basic core story the player can complete.

Use a mixture of dialogue tree and NLP AI characters.

ANALYSIS & EVALUATION

Review the user feedback.

Conclude whether it is advantageous incorporate such a system into a video game.



THANK YOU

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