

# ISGC 2024 workshop

Application of ChatGPT in the  
Role play Game of Modeled  
United Nations

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# Outline

- Introduction
- Related Work
- MUN Game Design
- Research Design
- Expected Result
- Development
- Future Plan



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# Introduction



# Introduction

- AI has affected education broadly and significantly.
- The massive database and powerful natural language processing (NLP) ability of ChatGPT.
- The integration of ChatGPT in a Modeled United Nations (MUN) game.
- Help students in strategies or decision-making(issues), AI competence, collaboration and communication skills.





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Related work



# Related Work



# Related Work, ChatGPT

- The rapid development of NLP transforms education.
- Students can interact with ChatGPT for personalized learning.
- Applied in educational question-answering systems for tailored answers.
- A learning companion or consultant for students.
- Assists in problem-solving and decision-making, especially for global issues.



# Related Work





# Related Work, Modeled United Nations

- Students participate in MUN to improve their speaking, negotiation, bravery, and problem-solving skills.
- A deeper understanding of global affairs.
- In MUN, students will act as ambassadors to discuss international issues.
- Enhance students' learning through setting up conflicts and resolving them with negotiations and conferences.



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# MUN Game Design





# Game Design


- This study was designed in the form of MUN
- Three global issues about ocean will be discussed.
- Students will use our AI consultant (Alissue) to retrieve information or possible resolutions.
- Students would form problem-solving directions from the responses of ChatGPT.



# Game Design, Relation Chart

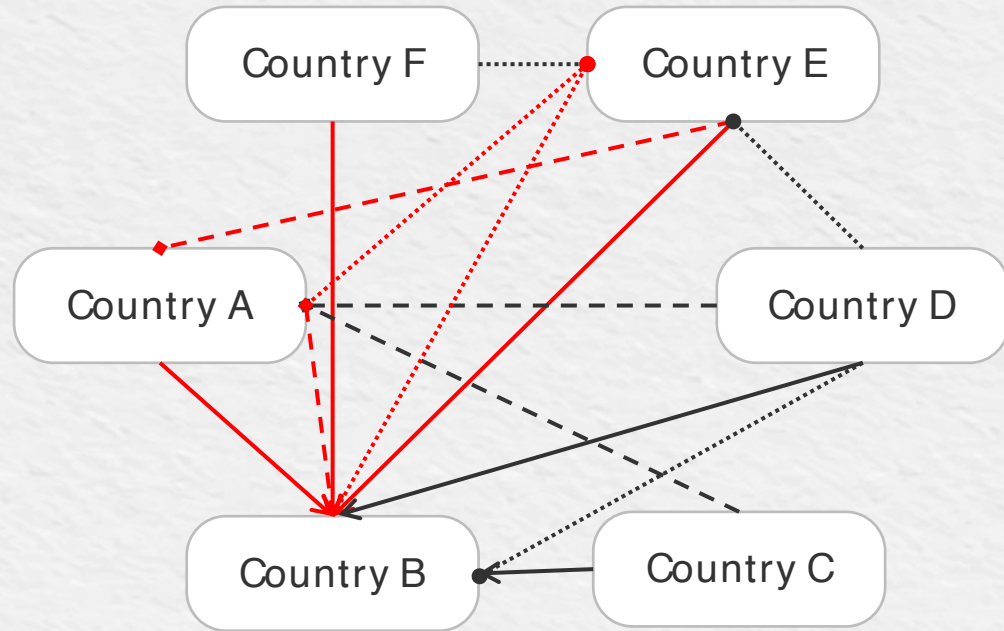
Ocean Pollution: 

Ocean Economy: 

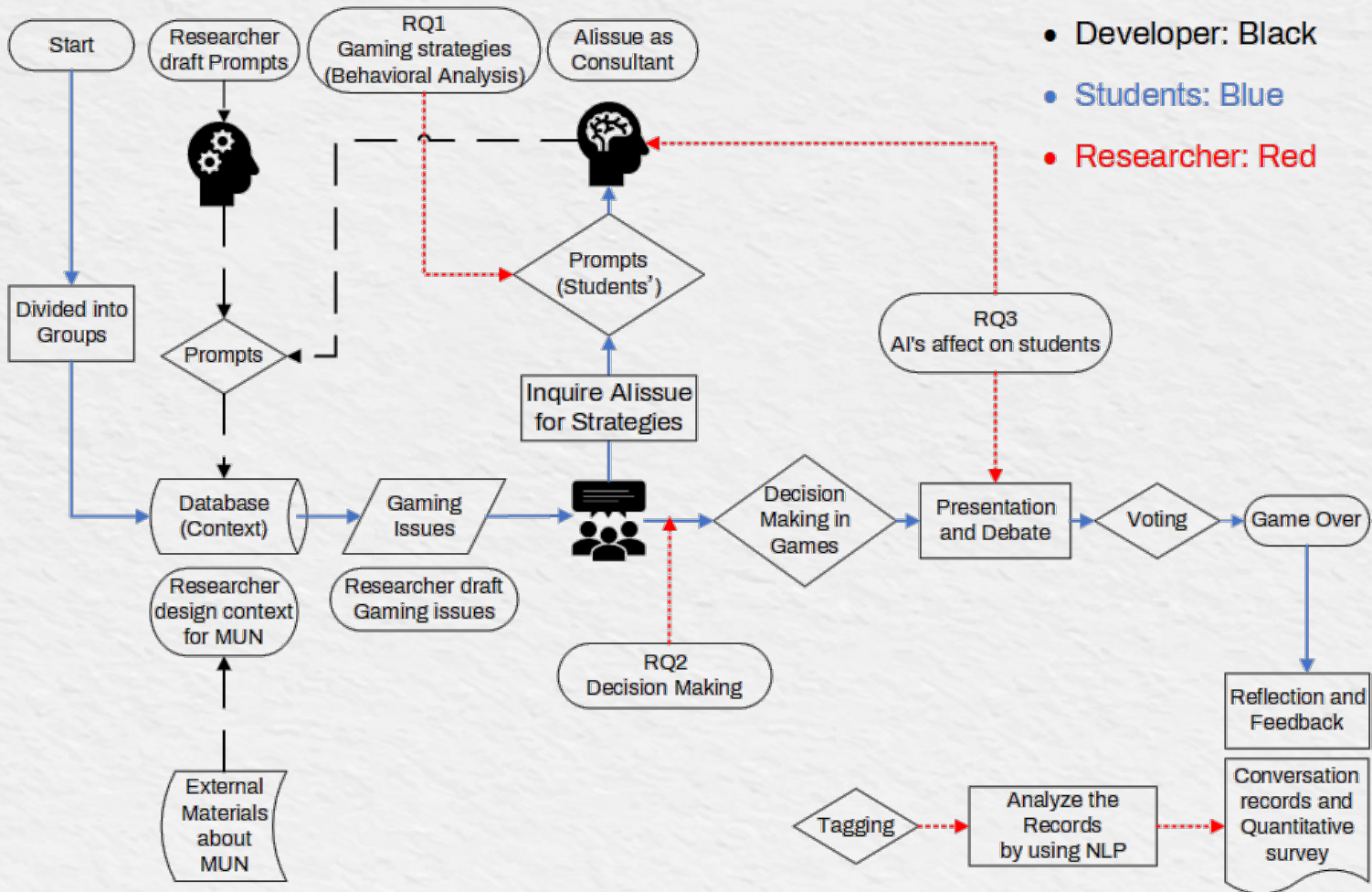
Ocean Resource: 

Red: Objection

Black: Non-objection







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# Research Design



# Research Design

- Explore interactions and cooperation between students and AI in the MUN game.
- Collecting video recordings conversation records.
- Quantitative survey to record students' feelings and thoughts.
- Evaluate and analyze the growth of the students' AI competence abilities.





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# Expected Results





# Expected Results

This study is designed to help students learn how to discuss with AI and internalize knowledge to help them make decisions through the process of the MUN game.

ChatGPT can provide students valuable information and advices to help them have a better understanding of the issues during the game as a teammate or consultant.



# Expected Results

Students can learn knowledge and multiple perspectives from Alissue to think about the various possibilities of the issues through their interactions with ChatGPT.

These learning experience and skills can help students to gain advantages in the game and have benefits for students learning in the future.



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# Development



# Development, Test

- We chose to Use GPT-4 for our experiment to design Alissue.
- To simulate what kind of responses we might get, I created a GPTs which acts as a Harry Potter expert.
- The GPTs can generate tailored response for different situations and scenarios that I designed for it.





# Development, Corpus Progress

The background story and conflict issues in the study are designed and written by me with the help of ChatGPT.

More context will be added continually to our corpus.

- Background Design: Around 2000 words (expect for 4000 words or more)
- Stories about international issues: Around 6600 words (expect for 8000-10000 words or more)



# Development, Prompts

- Clear description
- Tailored contexts
- Instructions about how to answer
- An interaction behavioral code table

An issue can give users as many as possible solutions for the discussed issues in various situations (different countries).



# Development, Behavioral Table

Code	Interaction Behavior	Description
A	Deception	Misleading others, concealing the truth
B	Inducement	Enticing others with beneficial gain
C	Cooperation	Intersection due to common goals
D	Expression of Goodwill	Showing goodwill
E	Discussion	Discussing possible solutions
F	Suggestion/Sharing	Sharing experiences
G	Inquiry	Asking about possible actions



# Development, Behavioral Table

Code	Interaction Behavior	Description
I	Coercion	Forcing the other to take action involuntarily
J	Command	Expressing requests or advice
K	Dogmatism	Insisting on one's own views
L	Emotional Blackmail	Using emotions and feelings to control
M	Perfunctory	Being insincere, superficially complying
H	Criticism	Emphasizing the drawbacks of something





# Development, Gains

I have learned a lot from designing the study, research process and storylines.

- Used proper prompts and gave enough learning materials for the GPTs.
- Realized the factors that affects decision-making.
- AI can offer multiple decision-making tools.
- Strengthen the context for training Alissue.



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# Future Plan



# Future Plan, Story Embellishments



# Future Plan, Story Embellishments

- Enrich the background settings and context for the story.
- Add some possible solutions or strategy for corpus.
- Use other AI tools to broaden the story background setting and the contents of the issues (like Gemini, Bard, etc.)
- Adjust the prompts to test for the best response.





# Future Plan, Possible RQs

1. Analyze students' gaming strategies (Behavioral Analysis).
2. Compare the decision-making factors.
3. How does AI affect students during the game?



# Future Plan, Possible Problems

Q1: What kind of questions that the students will ask?

A1: Maybe ask the AI first or test Alissue before to simulate the situation.

Q2: How to analyze the records after the game?

A2: Maybe use tagging in NLP to identify the students' emotions or behavior in the activity.



# Future Plan, Possible Problems

Q3: How does students interact with Alissue?

A3: Each groups will have one GPT-4 account.

Q4: How to guide students to ask properly? (AI Literacy)

A4: Offer some example questions first for them to modify.

Q5: How to grade studentş performance in MUN activity?

A5: Students can evaluate for each others.



Thank  
You!

