

Risk Research Ethics Approval

Project Title

Game Development with Natural Language Processing-Driven Conversational Agents to Enhance Player Engagement and Immersive Interactivity.

Record of Approval

Principal Investigator

I request an ethics peer review and confirm that I have answered all relevant questions in this checklist honestly.	X
I confirm that I will carry out the project in the ways described in this checklist. I will immediately suspend research and request new ethical approval if the project subsequently changes the information I have given in this checklist.	X
I confirm that I, and all members of my research team (if any), have read and agreed to abide by the Code of Research Ethics issued by the relevant national learned society.	X
I confirm that I, and all members of my research team (if any), have read and agreed to abide by the University’s Research Ethics, Governance and Integrity Framework.	X
I understand that I cannot begin my research until this ethics application has been approved.	X

Name: Anukul Nepal

Date:

Student's Supervisor (if applicable)

I have read this checklist and confirm that it covers all the ethical issues raised by this project fully and frankly.I also confirm that these issues have been discussed with the student and will continue to be reviewed in the course of supervision.

Name: Manoj Shrestha

Date:

Reviewer (if applicable)

Date of approval by anonymous reviewer: -

Risk Research Ethics Approval

Project Information

Project Ref	101
Full Name	Anukul Nepal
Faculty	Faculty of
Department	School of
Supervisor	Manoj Shrestha
Module Code	ST6047CEM
EFAAF Number	EFAAF
Project Title	Game Development with Natural Language Processing-Driven Conversational Agents to Enhance Player Engagement and Immersive Interactivity.
Date(s)	Date(s)
Created	Created

Project Summary

This project will explore integrating Natural Language Processing (NLP)-driven conversational agents into video games to enhance NPC interactions, improving immersion and interactivity. By understanding and learning the Game Development domain with NLP, and by using AI models like GPT and BERT and many other technologies, the study aims to develop a prototype featuring dynamic, context-aware NPC dialogues, addressing current limitations in scripted interactions and advancing AI-driven storytelling.

Names of Co-Investigators and their organisational affiliation(place of study /employer)	Manoj Shrestha , Head of academics in Softwarica College of IT and E-commerce.
Is this project externally funded?	No
Are you required to use a Professional Code of Ethical Practice appropriate to your discipline?	No
Have you read the Code?	No

Project Details

What are the aims and objectives of the project?	<p>Objectives</p> <ol style="list-style-type: none">1. Learn and understand the advancements in the game development sector, focusing on how evolving technologies have enhanced Non-Playing Characters' interactivity and immersion in modern video games.2. Examine the current state of conversational AI technologies, specifically their application in gaming, and analyze the capabilities and limitations of state-of-the-art NLP models such as GPT and BERT.3. Identify and address the key challenges of integrating conversational AI into games, including maintaining narrative coherence, ensuring real-time processing, and aligning AI-driven interactions with player expectations.4. Design and develop a 3D game prototype featuring NPCs powered by conversational AI, enabling context-aware, dynamic conversations that adapt to player interactions in real time.5. Evaluate the effectiveness of AI-driven NPC interactions in enhancing player immersion by testing the prototype with real users and gathering feedback to assess strengths and areas for improvement.6. Gather feedback from the supervisor on the thesis proposal and incorporate necessary revisions to refine the research approach, ensuring clarity and feasibility and submit a report detailing the findings, proposed solutions, and recommendations for further development.
Explain your research design	<p>The research will follow a design-based approach, incorporating both desk-based research and empirical testing. Initially, a literature review will be conducted to analyze advancements in game development, conversational AI, and the capabilities of state-of-the-art NLP models like GPT and BERT. This desk-based research will help identify key challenges and existing solutions in integrating AI-driven NPCs. Based on these insights, a 3D game prototype will be designed and developed, featuring context-aware NPC interactions. Usability</p>

	testing will be conducted with real users, gathering qualitative and quantitative data through feedback, gameplay observations, and performance metrics. The results will be analyzed to evaluate the impact of conversational AI on player immersion, with refinements made based on findings and supervisor input.	
Outline the principal methods you will use	The study will use desk-based research to review advancements in game development and conversational AI, followed by prototyping a 3D game with AI-driven NPCs. User testing will be conducted to assess NPC interactivity and immersion, with feedback analyzed to refine the approach.	
Are you proposing to use a validated scale or published research method / tool?		Yes
Does your research seek to understand, identify, analyse and/or report on information on terrorism or from terrorist organisations, require access to terrorist groups or those convicted of terrorist offences or relate to terrorism policies in other international jurisdictions?		No
Does your research seek to understand, identify, analyse and/or report on information for other activities considered illegal in the UK and/or in the country you are researching in?		No
Are you dealing with Secondary Data? (e.g. sourcing info from websites, historical documents)		Yes
Is this data publicly available?		Yes
Could an individual be identified from the data? e.g. identifiable datasets where the data has not been anonymised or there is risk of re-identifying an individual		No
Are you dealing with Primary Data involving people? (e.g. interviews, questionnaires, observations)		No

Are you dealing with personal data?		No
Please specify what personal data you will be collecting.		
Are you dealing with sensitive data (special category data)?		No
Will the Personal or Sensitive data be shared with a third party?		No
Will the Personal or Sensitive data be shared outside of the European Economic Area(EEA)?		No
Is the project solely desk based? (e.g. involving no laboratory, workshop or offcampus work or other activities which pose significant risks to researchers or participants)		Yes
Will the data collection, recruitment materials or any other project documents be in any language other than English?		No
Are there any other ethical issues or risks of harm raised by the study that have notbeen covered by previous questions?		No

DBS (Disclosure & Barring Service) formerly CRB (Criminal Records Bureau)

Question		Yes	No
Does the study require DBS (Disclosure & Barring Service) checks?			×
If YES, Please give details of the level of check, serial number, date obtained and expiry date (if applicable)			
If NO, does the study involve direct contact by any member of the research team with children or young people under 18 years of age?			×
If NO, does the study involve direct contact by any member of the research team with adults who have learning difficulties, brain injury, dementia, degenerative neurological disorders?		×	×
If NO, does the study involve direct contact by any member of the research team with adults who are frail or physically disabled?			×
If NO, does the study involve direct contact by any member of the research team with adults who are living in residential care, social care, nursing homes, re - ablement centres, hospitals or hospices ?			×
If NO, does the study involve direct contact by any member of the research team with adults who are in prison, remanded on bail or in custody?			×
If you have answered YES to any of the questions above please explain the nature of that contact and what you will be doing			

External Ethics Review

Question		Yes	No
Will this study be submitted for ethical review to an external organisation ? (e.g.Another University, Social Care, National Health Service, Ministry of Defence, Police Service and Probation Office)			×
If YES, name of external organisation			
Will this study be reviewed using the IRAS system?			×
Has this study previously been reviewed by an external organisation?		×	×

Confidentiality, security and retention of research data

Question		Yes	No
What data are you collecting / using / recording?	The study will collect data on NPC interaction quality, player immersion, and AI responsiveness through user testing, as well as from academic papers, books, industry reports, and case studies on conversational AI and game development.		
Are there any reasons why you cannot guarantee the full security and confidentiality of any personal or confidential data collected for the study?			×
Please provide an explanation	There will be no participants in this research , therefore no such confidential or personal data will be collected.		
Is there a significant possibility that any of your participants, and associated persons, could be directly or indirectly identified in the outputs or findings from this study?			×
Please provide an explanation	There will be no participants in this research ,so there is no such possibility.		
Is there a significant possibility that a specific organisation or agency or participants could have confidential information identified, as a result of the way you write up the results of the study?			×
Please provide an explanation	There will be no participants ,not even organisation or any agency in this research ,so there is no such possibility.		
Will any members of the research team retain any personal of confidential data at the end of the project, other than in fully anonymised form?			×
Please provide an explanation	This is a individual project or research and no such confidential data will be collected throughout.		
Will you or any member of the team intend to make use of any confidential information, knowledge, trade secrets obtained for any other purpose than the research project ?			×
Please give an explanation	This is a individual project or research and no such confidential data will be collected throughout. The datas that are freely available in the internet will be used just for the motive of completing this research and to not use in any other platform or share it to anybody.		
Have you taken necessary precautions for secure data management, in accordance with data protection and CU Policy		×	
Specify location (physical and electronic) where data will be stored	It was mentioned that the data used in this project are freely available on the internet, and there is no necessity to store them on any platform. However, if storage is required, the data will be kept on the personal computer. Additionally, the data will not be confidential or pose any data privacy concerns.		
		×	

Will you be responsible for destroying the data after study completion?			
If NO, who will be responsible for this?			
Please explain how any identifiable and anonymous data will be destroyed	There will be no such identifiable datas.However, all the datas thats stored in the local machine will be hard deleted from the system.		
Planned disposal date	01/10/2025		

Participant Information and Informed Consent

Question		Yes	No
Will all the participants be fully informed BEFORE the project begins why the study is being conducted and what their participation will involve ?			×
Please explain why	There will be no participants in this research .		
Will every participant be asked to give written consent to participating in the study, before it begins ?			×
If NO, please explain how you will get consent from your participants.If not written consent, explain how you will record consent	There will be no participants in this research , therefore no such consent will be required.		
Will all participants be fully informed about what data will be collected, and what will be done with this data during and after the study ?			×
If NO, please specify	There will be no participants in this research , therefore no such data will be collected .		
Please explain what recordings (audio, visual or both) will be made and how you will gain consent for recording participants			
Will all participants understand that they have the right not to take part at any time, and/or withdraw themselves and their data from the study if they wish?			×
If NO, please explain why	There will be no participants in this research , therefore no such data will be collected .		
Will every participant understand that there will be no reasons required or repercussions if they withdraw or remove their data from the study?			×
If NO, please explain why	There will be no participants in this research , therefore no such data will be collected .		
Does the study involve deceiving, or covert observation of, participants?			×
Will you debrief them at the earliest possible opportunity?			×
If NO to debrief them, please explain why this is necessary	There will be no participants in this research , therefore no such data will be collected .		

Risk of harm, potential harm and disclosure of harm

Question		Yes	No
Is there any significant risk that the study may lead to physical harm to participants or researchers ?			×
If you have answered Yes, please explain how you will take steps to reduce or address those risks. If you have answered No, explain why you believe this is the case			
Is there any risk that your study may lead or result in harm to the reputation of the University Group, its researchers or the organisations involved in the study?			×
If you have answered Yes, please explain how you will take steps to reduce or address those risks. If you have answered No, explain why you believe this is the case	There is no such risk since I will be taking ethical guidelines with the motive of completing my research by not causing harm to society or my institution .		
Is there a risk that the study will lead to participants to disclose evidence of previous criminal offences, or their intention to commit criminal offences?			×
If you have answered Yes, please explain how you will take steps to reduce or address those risks. If you have answered No, explain why you believe this is the case	No, my research project is entirely about game game development using NLP Agents, so there is no connection to crimes. I am not able to draw that connection either.		
Is there a risk that the study will lead participants to disclose evidence that children or vulnerable adults are being harmed, or at risk or harm?			×
If you have answered Yes, please explain how you will take steps to reduce or address those risks. If you have answered No, explain why you believe this is the case	There will be no datas about children of such kind while conducting my research. So there is no connection and therefore no risk.		
Is there a risk that the study will lead participants to disclose evidence of serious risk of other types of harm ?			×
If you have answered Yes, please explain how you will take steps to reduce or address those risks. If you have answered No, explain why you believe this is the case	No, my research project is entirely about game game development using NLP Agents, and since this is a individual project and has no participants, there is no such risk.		
Will participants be made aware of the circumstances in which disclosure has implications for confidentiality?			×

Payments to participants

Question		Yes	No
Do you intend to offer participants cash payments or any kind of inducements, or reward for taking part in your study ?			×
If YES, please explain what kind of payment you will be offering(e.g.prize draw or store vouchers)			
Is there any possibility that such payments or inducements will cause participants to consent to risks that they might not otherwise find acceptable ?			×
If YES, please explain)			
Is there any possibility that the prospect of payment or inducements will influence the data provided by participants in any way ?			×
If YES, please explain)			
Will you inform participants that accepting payments or inducements does not affect their right to withdraw from the study at any time ?			×

Capacity to give valid consent

Question		Yes	No
Do you propose to recruit any participants?			×
Do you propose to recruit any participants who are children or young people under 18 years of age?			×
Do you propose to recruit any participants who are adults who have learning difficulties, mental health conditions, brain injury, advanced dementia, degenerative neurological disorders ?			×
Do you propose to recruit any participants who are adults who are physically disabled and cannot provide written and/or verbal consent			×
Do you propose to recruit any participants who are with adults who are living in residential care, social care, nursing homes, reablement centres, hospitals or hospices ?			×
Do you propose to recruit any participants who are with adults who are in prison, remanded on bail or in custody?			×
If you have answered YES to any of the questions above please explain overcome any challenges to gaining valid consent			
Do you propose to recruit any participants with possible communication difficulties, including difficulties arising from limited use of knowledge of the English language ?			×
If YES, please explain how you will overcome any challenges to gaining valid consent			
Do you propose to recruit participants who may not be able to fully understand the nature of the study, the foreseen implications or cannot provide consent?			×
If YES, please explain how you will overcome any challenges to gaining valid consent			

Recruiting Participants

Question		Yes	No
Who are the participants?	There will be no participants in this research.		
How are participants being recruited? Please provide details on all methods of recruitment you intend to use	There will be no participants in this research.		
Do you foresee any conflict of interest?			×
Please explain how will this conflict of interest be addressed	There is no conflict of interest as this research is purely academic, with no external funding or personal gain. The study maintains objectivity and follows ethical guidelines.		

Online and Internet Research

Question		Yes	No
Will any part of your project involve collecting data via the internet or social media?		×	
If YES, please explain how you will obtain permission to collect data by these means	As the project will only involve using freely available data from the internet and social media, there will be no participants involved. Therefore, there will be no need to obtain consent. All data used will be publicly accessible, and no personal information will be collected or stored.		
Will this require consent to access?			×
If NO, please explain how you will get permission/ consent' to collect this information?	As the project will only involve using freely available data from the internet and social media, there will be no participants involved. Therefore, there will be no need to obtain consent. All data used will be publicly accessible, and no personal information will be collected or stored.		
Will you be collecting data using an online questionnaire/ survey tool? (e.g. BoS, Filemaker)?			×
If YES, please explain which software and how you are ensuring appropriate data security			
Is there a possibility that the study will encourage children under 18 to access inappropriate websites, or correspond with people who pose risk of harm ?			×
If YES, please explain further			
Will the study incur any other risks that arise specifically from the use of electronic media ?			×
If YES, please explain further			

Information gathered from human participants

Question	Yes	No
Primary		
Does your project involve primary data collection from human participants via questionnaires, focus groups, interviews, psychological tests, photography/videography etc.?		X
If YES, Please detail the information to be collected and methods that will be used.		
Is there the possibility of physical or psychological harm to the researcher(s) or the participants?		X
If YES, please explain the possible harm and action taken to reduce/remove the risk		
Are any specific exclusions needed to prevent possible harm to participants (e.g. excluding people with known mental health problems)?		X
If YES, please explain exclusions needed and how these will be carried out		
Are any of the questionnaires or other tests being used in the research diagnostic for specific clinical conditions?		X
If YES, Please explain how you will take steps to reduce or address these risks		