

School of Computing RESEARCH ETHICS COMMITTEE

APPLICATION FORM FOR ETHICAL REVIEW OF A RESEARCH PROJECT INVOLVING HUMAN PARTICIPANTS WHICH IS IN THE CATEGORY OF NOTIFICATION ONLY

There are 3 generally accepted levels of ethical review for projects carried out in a University or similar setting. These are notification only, expediated and full committee.

This notification only level of review is to approve relatively low-risk research involving human participants, primarily using social science methodologies in which any personal information collected is not of a sensitive nature. The School of Computing Research Ethics Committee has been delegated responsibility by the University to approve ethics submissions from undergraduate and taught Masters projects only, which are in the category of notification only.

Examples of projects in this category include:

- Anonymous surveys in which the topic itself is not likely to elicit significant difficulties for the participants, such as: anonymous internet surveys (e.g. Survey Monkey), street questioning.
- Observation (without audio or visual recording) of public settings where privacy would not normally be expected, such as observing people on streets or at sports events.
- Research carrying no risks beyond those of everyday life (as experienced by the intended participant population), such as asking people's opinions about products or services; asking students about educational experiences; monitoring the impact of daily activities.
- Interviews with public figures, professionals or others in their professional capacity regarding their professional activities.
- Analysis of data (e.g. health records) which have had all identifying information removed by the data holder and been provided to the researcher in accordance with data protection legislation.
- Collection of biological samples which are anonymised and do not require invasive techniques (e.g. hair, nails).

If your project is using data from a public repository like Kaggle or is not generating or using any form of personal data then you do not need research ethics approval, you do not need to complete and to submit this form and your project supervisor should indicate this on the project dashboard.

If your project involves collecting or processing <u>personal data which is of a personal nature</u>, you must first complete the DCU online Data Protection training course and review the <u>"Data Protection – Key Points for DCU Researchers"</u> guidance from the Data Protection Unit to assist you in meeting your legal obligations under GDPR and associated Irish law.

Once you have completed this form (if you need to) you should save it as a PDF file, not WORD, and upload it to the your project dashboard before you start gathering data. It will then be read and assessed by two members of the committee and once two members of the committee approve your submission you will be automatically notified by email and your project can start data gathering.

There are strict deadlines for submitting this form for each class group, undergraduate and taught Masters by which your submission must be made and you will be informed of these deadlines by your course board chair or project co-ordinator. If you do not submit by these deadlines then the research ethics committee is not obliged to approve your submission and when that happens and your project is assessed and graded at the end of the year, you will be awarded 0 for that component of your project.

SECTION 1 – GENERAL DET	AILS	
1.1 Project Title		
Minerva		
1.2 Applicant Details		
Name	Student or Supervisor	E-mail
Gareth Hogan	Student	gareth.hogan22@mail.dcu.i
		e
Jack Farrell Gareth Jones	Student	jack.farrell82@mail.dcu.ie
Gareth Jones	Supervisor	gareth.jones@dcu.ie
Other Investigators: Including	any external to DCU	
Name	School/Unit/External Institution	E-mail
1.3 Key Project Dates	Decreased and data for data	Decreased and in a
Proposed start date for data collection	Proposed end date for data collection	Proposed project
1/3/2024	14/4/2024	completion date 21/4/2024
1/3/2024	14/4/2024	21/4/2024
1.4 Please indicate which ac	ademic award	
Undergraduate ⊠	Taught Masters	
	1 5	
1.5 Please confirm the locati	on(s) where the research will be	carried out
If research will be carried out	abroad, you will need to address th	e ethical challenges raised by this
	n - consult the Conducting Resear	
	ction of the DCU Research Ethics w	rebpage).
DCU		
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	onal permissions may be required	
	ssion is required (e.g. a school Boar	u oi iviariagerrierit), and when their
written approval will be obtaine	z u	
N/A		

SECTION 2 – PROJECT DESIGN AND METHODOLOGY

Research Overview - Please respect the indicated word counts in the following sections and explain all acronyms in full text the first time they appear.

2.1 Provide a brief description of the research (max 250 words):

Please use lay language, include the scientific/theoretical background of study and a justification as to why this research project should proceed in that context.

The aim of this project is to provide a simple non-technical interface for users unfamiliar with database technologies or query languages who want to access databases, we have developed Minerva as a conversational chatbot solution to this problem.

This research aims to evaluate Minerva against users, see how well the system performs and if it fulfils user expectations, participants will be asked to complete a short demonstration of Minerva during with their prompts and Minerva's responses can be logged for reviewing, they will be performing some basic tests using the system and trying out the features, after this they will complete a short anonymous survey on their experience. The objective of this survey is to identify defects and things that users do not like about Minerva so we can fix them, we also will ask participants to describe prompts that Minerva did not understand so we can collect synonyms and varied ways users could say things and add them to our training data.

2.2 Please state the aims and objectives of the project (max 200 words)

Our project is a database access chatbot called Minerva, it will allow users with little database experience to query and retrieve data from large databases easily by conversing with Minerva. Users will interact with Minerva through a web application chat interface, submitting queries and questions, the results of their queries would be displayed back to them through the same interface. The system is being developed as a solution for non-technical users to be able to utilise and access the vast potential of large databases without knowledge of technologies like SQL. Minerva will provide a conversational interface that most users should find intuitive and easy to use to access large databases that they might be working with, such as financial data for accountants, or medial records for nurses or doctors. Through Minerva these types of users could query databases for specific sets of data depending on their needs, sets that would have been hidden or lost in large amounts of irrelevant data in huge databases.

2.3 Please confirm your methods of data collection:

Tick all relevant check boxes and provide details for each one, including any devices used to collect data, and whether the data will be anonymous, potentially identifiable or identifiable at point of collection

Method	Describe briefly
☐ Interviews or focus groups	
Surveys/questionnaires	Participants will be asked to complete an anonymous online survey on google forms
☐ Audio/video recordings	
☐ Public observations	
☐ Persons in public office	

DCU Research Support

☐ Using existing data (incl.	
secondary data)	
☐ Using human derived	
material (biological samples)	
☐ Standard tests	
(educational/personality etc.)	
☐ Standard educational	
practices	
☐ Other (please specify)	
_ с шег (рискес сресину)	
2.4 Please confirm who the parti	cipants on this study will be, including group size and
composition:	, , ,
	haracteristics, and state how your proposed sample size was
determined (e.g. power analysis)	
	consist of friends and fellow students with ages of 18 and up, we
aim to collect survey answers fror	n at least 10 participants.
2 E Diagon cutting your requisition	ent process, including where you are sourcing participants
2.5 Flease outline your recruiting	eni brocess. Includina where you are sourcina participants
from and your critoria for inclusi	
from and your criteria for inclusi	on/exclusion:
Where gatekeepers are involved, of	on/exclusion: outline the procedures relating to their involvement
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Special arrangements:
2.7 Involvement of children under 18 years of age – if your participants are in this category,
please confirm compliance with the following: If your participants are not in this category, tick N/A
N/A
☐ We confirm that we have read and agree to act in accordance with the DCU Child Protection
policy and procedures (as per the DCU Child Protection Unit webpage)
☐ We confirm that we have put in place safeguards for the children participating in the research
☐ We confirm that we have supports in place for children who may disclose current or historical
abuse (whether or not this is the focus of the research)
☐ We confirm that all requirements will be met prior to commencing the research (e.g. TUSLA Children First Training completed, Garda Vetting in place)
Crimaretri not training completed, Carda Vetting in place)
2.8 Please confirm how the results of the research will be disseminated:
Include a statement on whether the participants will be provided with any information as to the findings or outcomes of the project
Results will be shared with our project supervisor and will be analysed and the findings will be
shown in our project documentation and demonstration.

SECTION 3 – ETHICAL ISSUES AND RISK MANAGEMENT

3.1 Please identify all issues including ethical issues which may arise in the course of this research. What are the potential risks to participants, and how will those risks be addressed or minimised?
Potential risks can be physical, psychological, social, legal, etc. Please include details of any additional support being provided for participants during/after the study
The state level of risk is notification only, we will only be asking participants for their opinions and thoughts on the project via an anonymised survey, no personal information will be taken or stored in the results of the research.
3.2 Please identify the potential benefits (direct and/or indirect) to those participating in this research: Potential benefits should outweigh the potential risks to participants
There are no likely benefits.
3.3 Please describe what measures/protocols you have put in place in the event that there are any unexpected outcomes or adverse effects to participants arising from involvement in the research:
We agree to meet regularly with out supervisor who will monitor the project and help deal with any unexpected outcomes and provide support during the project.
3.4 Do you intend to provide payment or incentives to participants?
Yes □ No ⊠ If Yes, please consult the REC Guidelines on the Use of Compensation and Incentives (in the Ethics Resources and Guidelines section of the DCU Research Ethics webpage) before providing additional details below

	raise any potential risks for the researchers themselves?
	ocation/environment where the research is being conducted, exposure to
distressing data conten	
Yes □	No ⊠
If Yes, please describe	further and explain what risk management procedures will be put in place to
minimise these risks to	researchers:
3.6 Does this research	raise any potential conflict of interest?
	tential real or perceived conflicts of interest that might influence the integrity
	rise to bias in conducting and reporting the research, or affecting publication
	ict of Interest Policy for assistance)
Yes	No ⊠
	nd explain the steps being taken to address that conflict:
ir res, please identity a	nd explain the steps being taken to address that conflict.
	bw the conduct of the research will be monitored:
	e PI is required to ensure the project conforms to the procedures set out in
	ally where several people are involved in carrying out the research
procedures)	
•	reviewing all forms, surveys and questions before we use them in the
research.	

SECTION 4 – CONFIDENTIALITY AND DATA MANAGEMENT

4.1 Considering your previous response in section 2.3 of the form on data collection, please confirm whether you are collecting or processing personal data in this research project: Personal data is any information about a living person, where that person is either identified, or could be identified from the data itself, or when it is combined with other data. This includes paper based, electronic and biological samples data. If your data is fully and completely anonymous, it is not personal data. Yes \(\subseteq \text{No} \text{No} \text{D} \)
∀ We confirm that we have completed the DCU Data Protection training module on Loop.
☑ We have assessed the degree of risk inherent in the personal data being used in the research project, and confirm that all DPU GDPR requirements have been met prior to submitting this application (e.g. completion of Data Protection questionnaire, confirmation that any survey tool being used is GDPR compliant, that required Data Processing or Sharing Agreements will be in place, etc.)
4.2 Data access – please confirm whether access to participant data is confined to the investigators named on this application: Yes ☑ No □ If No, please name who the other individuals are and why they need access. Any proposed transfer of data (including outside of the EU) should be detailed here.
4.3 Data storage – please confirm compliance with the following:
□ Data collected on mobile devices will be protected with a strong password/passphrase at a minimum, and/or encrypted if the device supports it
□ Data will be removed from mobile devices as soon as is practicable and stored in a secured location in DCU (on server or institutional Google Drive)
□ Paper based data will be held securely in locked cabinets in DCU, with access restricted to the named researchers
Specific arrangements in relation to biological samples should be stated here:
Any exemptions to the above compliance statements should be justified here:

Name the relevant DCU investig	gator/s	
Gareth Hogan	,	
4.5 Please confirm how long t For personal data, consult section		ata in the "Data Protection – Key
Points for DCU Researchers" gu	uidance on the DCU Data Prote	ection Unit (DPU) website
Data will be retained until after	the progressions and awards b	poard of the current year.
4.6 Please confirm what will h Please tick the relevant checkbo		t the end of the study: I follow-up section for that category
Archived □	Destroyed ⊠	Other
Please provide the following det Name the DCU staff member responsible for archival and future use of data Confirm whether the data will be made available to other researchers, and if so, how? Confirm how the data will be prepared for archive (e.g. will datasets be anonymised) Confirm where the data will be archived and who will be allowed to access it	alis.	
	n if there is no guarantee the s	projects, the supervisor must tak tudent will have access to the data a data and it will not be of use to any
Name the DCU researcher responsible for destruction of data	Gareth Hogan	
Confirm when the data will be destroyed (specify date)	1/6/2024	
Confirm compliance with the following destruction methods (tick relevant boxes)	 ☑ Electronic data will be over ☐ Paper based data will be con ☐ Medical samples will be discrete and DCU approved SOP 	•

4.6.2 O	Other - Please explain what wi	II happen to the data if	not being archived or destroyed:

SECTION 5 - PARTICIPANT INFORMATION AND INFORMED CONSENT PROCEDURES

In addition to completing this form you are required to attach, within the single PDF that you submit, a copy of (1) the Participation Information Sheet which you share with your participants and (2) a copy of the Informed Consent Form which your participants sign.

5.1 Please confirm that the following items have been addressed in your Participant Information Sheet which should be shared with all participants whether it involves online or in-person data gathering:

The items below should be used as headings in your information sheet. Note the language used under each item must reflect the participant age group and corresponding comprehension level—if your participants have different comprehension levels (e.g. both adult and child participants) then separate sheets must be prepared for each set. Templates are available via the <u>REC Forms</u> - Applications. Templates and Amendments section of the Research Ethics website.

Checklist – tick the relevant check box for each item	Yes	No	
Introductory Statement (Researcher names and titles, school, title of the research study)	\boxtimes		
What is this research about?	\boxtimes		
Why is this research being conducted?	\boxtimes		
Why have you been invited to take part?	\boxtimes		
What will happen if you decide to take part in this research study?	\boxtimes		
How will your data be used?	\boxtimes		
How will your privacy be protected (including any legal limits to confidentiality)?	\boxtimes		
What are the benefits of taking part in this research study?	\boxtimes		
What are the risks of taking part in this research study?	\boxtimes		
Can you change your mind at any stage and withdraw from this study?	\boxtimes		
How will you find out what happens with this project?	\boxtimes		
Contact details for further information	\boxtimes		
5.2 Informed Consent Procedures – please confirm whether written consent is to	be obt	ained:	
Please tick the relevant checkbox Yes ⋈ No □			
If Yes, describe the procedures by which written consent will be obtained. If you are involving child participants, you will also need to obtain their written assent. Templates are available via the REC Forms - Applications, Templates and Amendments section of the Research Ethics website. Participants recruited for this survey will all be over the age of 18, each will be asked to read the PLS and then have the opportunity to ask questions before agreeing to be part of the research and signing the informed consent form.			
If No, describe the procedures regarding how consent/assent will be obtained:			

SECTION 6 - SUBMISSION CHECKLIST AND RESEARCHER DECLARATION

6.1 Please confirm all required supplementary documentation to be included in this application within Section 7:

Checklist – tick the relevant check box for each item	Yes	N/A
Participant Information Sheet/s	\boxtimes	
Informed Consent Form/s	\boxtimes	
Informed Assent Form/s		\boxtimes
Recruitment Advertisement		\boxtimes
Questionnaire/Survey	\boxtimes	
Interview/Focus Group Questions		\boxtimes
Debriefing Material		\boxtimes
Bibliography		\boxtimes
Approval from another Research Ethics Committee		\boxtimes
Evidence of other external approvals (e.g. Board of Management letter)		\boxtimes
Evidence of internal approvals (e.g. BSC approval review letter)		\boxtimes
Other – provide details here:		\boxtimes

6.2 Signed Declaration

By submitting this form, the applicant (and supervisor) agree to the following:

The information contained herein is, to the best of my knowledge and belief, accurate. I have read the University's current research ethics guidelines, and accept responsibility for the conduct of the procedures set out in the attached application in accordance with the form guidelines, the REC guidance and resources, the University's Conflict of Interest Policy, its Code of Good Research Practice and any other condition laid down by the Dublin City University Research Ethics Committee. I have attempted to identify all risks related to the research that may arise in conducting this research and acknowledge my obligations and the rights of the participants.

I also acknowledge my requirement to be informed as to other duties and legal obligations applying to my research, and to comply with these duties and obligations – this includes being informed about DCU Data Protection guidelines for researchers, DCU Child Protection policy and procedures (where relevant) and DCU Insurance requirements.

I and my co-investigators and/or supporting staff have the appropriate qualifications, experience and facilities to conduct the research set out in the attached application and to deal with any emergencies and contingencies related to the research that may arise. Research will not commence until required consents and approvals are in place.

Electronic Signature(s):

Supervisor:

Print Name here: Gareth Jones

Date: 21/03/2024

Student(s) signature(s):

G. Hogan Fack famel

Print Name(s) here: GARETH HOGAN, JACK FARRELL

Date: 21/03/2024

SECTION 7 – SUPPLEMENTARY DOCUMENTATION

See below the attached documents

- 1. Plain Language Statement
- 2. Informed Consent Form
- 3. Anonymous Online Consent Form
- 4. Questions for our Survey

DUBLIN CITY UNIVERSITY

Plain Language Statement

Minerva - Research and Testing

Research conducted by Gareth Hogan and Jack Farrell Supervised by Gareth Jones DCU School of Computing

Minerva is a chatbot designed to enable users with little technical knowledge to access and utilise large and complex databases. Users can interact with Minerva through a web based interface, asking questions and submitting prompts that are transformed into database queries, the results to these queries are then displayed back to the user.

This study is being conducted to help understand how well the Minerva is performing, to identify any defects or bugs and language phrases (Synonyms, Slang, etc.) that Minerva does not interpret correctly. This study also hopes to gain opinions from participants on how the system feels to use, and any suggestions or feedback on the user experience.

Data Protection/Privacy Notice

During the study none of your personal data will be recorded. Any opinions or suggestions will be collected anonymously and will have no data links to you.

Information will be anonymised and protected to the full extent that we can however confidentiality of information can only be protected within the limitations of the law - i.e., it is possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions.

Data Destruction Policy

The feedback taken via the anonymous survey will be deleted at the end of this academic year by Gareth Hogan

What the Study will involve

If you decide to participate in the study, it will involve completing a short anonymous survey after seeing Minerva demonstrated or having the chance to interact with Minerva yourself.

You can choose to withdraw from the study at any time, at that point no further data or information will be recorded from you, however any data gathered up to that point will still be processed according to the data protection and privacy rules above.

How will your responses be used?

Your responses will be collected anonymously via google forms and stored securely, they will be used only by the names researchers on this project to help improve the Minerva systems and fix any problems and bugs that you found during your time using the system.

All data collected will be stored safely on a secured DCU google drive and only the named researchers will have access to it, any data held will only be used for the purposes of this research and will be destroyed after it is used and the research is concluded on the 01/06/2024

The Data Controller for this study will be DCU and the DCU Data Protection Officer is Mr. Martin Ward (data.protection@dcu.ie Ph.: 7005118 / 7008257) who will handle any data protection concerns arising from the research

After the study

The study results will not be published publicly, and we will not be in contact after you are done to update you on the studies progress, if you have any questions after the study is over, please contact one of the researchers.

Benefits or Risks of this study

This study is completed completely anonymously and will no incur any risks or benefits on participants during or after the study is concluded

Withdrawing from this study

Your participation in this project is voluntary and at any point during this study you may change your mind and withdraw from this study.

Contact Details

If you have any further questions or concerns you can contact the researches using the details below:

- Gareth Hogan, gareth.hogan22@mail.dcu.ie
- Jack Farrell, jack.farrell82@mail.dcu.ie
- Gareth Jones (Supervisor), <u>gareth.jones@dcu.ie</u>

If participants have concerns about this study and wish to contact an independent person, please contact:

The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000, e-mail rec@dcu.ie

DUBLIN CITY UNIVERSITY

Minerva - Informed Consent Form

Minerva - Research and Testing

Research conducted by Gareth Hogan and Jack Farrell Supervised by Gareth Jones DCU School of Computing

I understand that for the purposes of the study my responses to the survey will be recorded and kept until the end of this academic year. I also understand that none of my personal data will be collected during the process of this study.

I acknowledge that the data controller for this study is DCU, if I have any questions or clarifications I can contact the researchers in charge of this study.

I understand that during this study I will be asked to complete an anonymous survey after watching a demonstration of the system or interacting with it myself.

I understand I can withdraw from this study at any time.

I understand that my information will be protected to the best extent possible within the limitations of the law as stated in the Plain Language Statement

Participant – please complete the following (Circle Yes or No for each question)	
I have read the Plain Language Statement (or had it read to me)	Yes/No
I understand the information provided	Yes/No
I understand the information provided in relation to data protection	Yes/No
I have had an opportunity to ask questions and discuss this study	Yes/No
I have received satisfactory answers to all my questions	Yes/No

Signature:

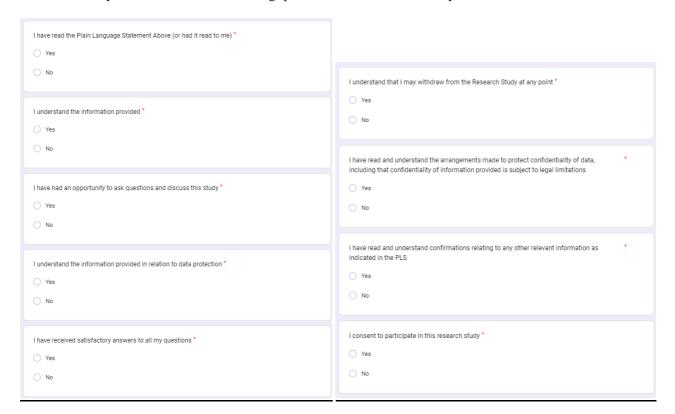
I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this project

Participants Signature:	
Name in Block Capitals: _	
Witness:	
Date:	

Anonymous Online Consent Form

[Plain Language Statement Displayed in Form]

Please answer yes or no to all the following questions to access the survey.



Questions in our Survey:

Task Section:

Changing the database

In this demo, Minerva has two databases that can be switched between, the default is a medial database, can you switch to the financial database.

1. How easy was this to do? Scale of 1-5

Ask Minerva some questions

For this task, try and ask Minerva some simple questions to figure out the system, what is Minerva, how does Minerva work, what can she do, how do you submit a prompt?

- 1. Input any questions that Minerva misunderstood or could not answer below: Text Submission
- 2. How relevant was the information that Minerva responded with in terms of helping to understand the system and how to use it? *Scale of 1-5*
- 3. Are there any questions you believe Minerva should be able to answer, additional things she could explain? *Text Submission*

Submit a prompt to the database

Using the medical database (loaded by default), submit a prompt to retrieve data about "how many people are registered under 40"

- 1. Were you able to get the data? Yes/No
- 2. Was the data displayed in a clear and helpful format? Scale of 1-5
- 3. Any suggestions as improvements to the viewing of the data, or difficulties encountered trying to submit a prompt? *Text Submission*

Feedback Section:

- 1. Overall, how would you rate Minerva? Scale of 1-10
- 2. Do you think Minerva would help non-technical users access complex databases? Yes/No
- 3. How much easier did Minerva make accessing the database for you? Scale of 1-10
- 4. How relevant was the data Minerva returned for prompts you tested? Scale of 1-10
- 5. If you had to access a database frequently as part of your job, would you like to use a system like Minerva to make it quicker and easier? *Yes/No*
- 6. Any suggestions as to how to improve the system, features to add, things you would like to see/use? *Text Submission*