STAGE 2 - RESEARCH ETHICS APPROVAL FORM

All research carried out by students and staff at the University must receive ethical approval before any data collection commences.

Notes

- Applicants complete the Risk Checklist and Stage 1 - Research Ethics Approval Form prior to completing this Stage 2 - Research Ethics Approval Form. Following completion of the Risk Checklist and Stage 1 - Research Ethics Approval Form, if your research study was provisionally classified as Risk Category 2 or 3, you need to complete this form.
- Full details of the project are to be provided in this Stage 2. Where a question in the Risk Checklist was answered YES, please ensure that specific details are included in the appropriate box below.
- If a question does not apply to your project, insert 'Not applicable' or N/A.
- Help is provided for each question. Further help can be found in the Research Ethics Procedures document.
- You navigate through the form by using the tab keys. If you prefer to complete a normal Word document, you can unlock the form by selecting the 'Restrict Editing' button on the Developer tab, then click on 'Stop Protection'. The boxes should expand to allow space for your text.
- Spellchecking is not available in Word forms, so you may find it helpful to prepare your responses in a Word document and then copy these to this form.
- Ensure the form is completed in sufficient detail to allow the reviewer to judge the ethical issues raised by the study. Remember that the reviewer will be considering the following questions when reviewing your application in order to be able to give ethical approval:
  - is it ethical to conduct the research project and is the proposed method of investigation appropriate, thorough and ethical?
  - does the research project meet the requirements of the relevant Research Ethics Principles (Research Ethics Policy A2.4)?

TO BE COMPLETED FOR PROJECTS IN RISK CATEGORY 2 AND 3	
Your name	Ekata Ghimire
Project title	Sentiment based chatbot using Machine Learning for mental health

1	**Project Overview**
Please give a brief overview of your study, including a summary of your aims and objectives. Help: Describe the purpose of the research and what question(s) the project should answer.	
Mental Health carries a stigma around it even today. Since some people have hard times expressing themselves with the people around them. The AI has the better solution. The focus of this project is to create a chatbot using Machine Learning that is based on Sentimental Analysis and provides recommendation to the users on mental health issues. By making resources and information more available it also aims at improving mental health awareness and reducing stigma around it. It also enlarges the understanding of the Natural Language Processing.	

2	Methodology

Please give a description of your methodology, including any data collection and analysis methods.
Help: Give an outline of your study here. If the project is complex, you can also submit your research proposal/protocol (no more than 2-3 A4 sides) if this would help the reviewer's understanding of the project. Include details of your (or your Research Supervisor's) appropriate skills and qualifications to carry out this research.

This is the product-based research project that will need the proper planning and implementation. After the research, the dataset findings are done and the chatbot models will be trained upon and then later integrated on the different web Application. Once the chatbot starts fully responding to the queries, it is tested. Since the project is solo based project, this will follow the Agile Methodology and planning is done using the Gannt chart and the project timeline defining the resources.

3	Main Ethical Considerations

Please give a brief description of the main ethical considerations involved in the study.
Help: All research projects will have ethical issues, and you will be asked later in the process on recruitment, voluntary participation and the right to withdraw, but highlight here the main ethical considerations for your study (which may concern, e.g., the type of participants, the sensitive nature of the study, the data collection process, a lone researcher carrying out research off-campus, security-sensitive research) and advise how you will address the main issues. If the project is funded, give details here, and whether there are any potential conflicts of interest involved in the study.

Taking about the ethical consideration that we we need to be careful are: to avoid any gender bias during the design of the bot. Additionally, we need to take caution when training the bot to ensure that it behaves appropriately. If it is not properly trained, the chatbot could be at risk of displaying racism, sexism, or use of abusive language.The user's information and chat data could be leaked.

4	Human Participants

If your study includes Human Participants (or their data), please give a description of who will be included.
Help:

- Please note this should include sample size/number of participants, whether the project will focus on any particular groups/individuals, if it will include any at risk or vulnerable participants,

participants aged 16 years or under, etc. Please also specify your rationale for including / excluding groups of participants.
- If the research involves secondary data not in the public domain, give details in this section.

This project will include the people who will use this chatbot after full production and fill in the questionaries as well as some externals from the college like other teachers along with the supervisor. There is no age limit for this chatbot anyone who has the access to the internt will have the access to this chatbot. This may involve the primary as well as the secondary data. for the initial bot training, there could be the use of the secondary dataset. And the questionaries after the production completion could be the primary source of data.

5	Recruitment, Voluntary Participation, Consent and Right to Withdraw

If your study includes Human Participants, please give a brief description of the recruitment process, how you will ensure voluntary participation, if (and how) informed consent will be obtained prior to participants taking part in the study, and the right of withdrawal from the research process.

Help:
- This should include clear information on how participants will be identified, approached and recruited; whether the study will include any covert research or deliberate deception; whether help is required from a third party/ gatekeeper to access participants; what information you will give participants, etc.
- If expenses or any incentives are to be offered to participants, give full details.
- If your research involves students, colleagues and/or other employees then you must specify the rationale for this and how you will address issues of coercion or feelings of obligation.
- Regarding withdrawal from the study, discuss the different stages/dates a participant could withdraw or withdraw their data, and how they could do this.

Since, this project being the solo project I have the sole responsibility of making research, coding and all other production activities but during that process all of my activities would be monitored by the supervisor (two days in a week). Along with my supervisor I would be getting help from the AI module tutor during the production. The people from different age groups will be involved in solving the questionaries and providing the feedbacks after using the chatbot.

6	Risks and Benefits

Please give a brief description of how, when and where the research will take place and whether there are any risks and/or benefits involved.

Help:

- This should include information on what participants will be required to do, the rationale for this and the level of risk involved.
- When considering risks, please refer to risks to the participants (e.g., for research in sensitive areas), the researcher, any other parties to the research; and also any health and safety issues for anyone involved (e.g., for lone researchers carrying out fieldwork).
- If participants will be exposed to ionising radiation, separate approval documentation must be submitted with this application.

The only risk that potentially be caused and can be extremely harmful would be the risk of chatbot not understanding the sentiment of the user and giving the recommendation based on the previous interaction with other users.

On the other side, this bot could be proven useful to the person who is not able to personally tell their closed ones about their problems and the issues that could lead to mental illness.

7	Personal Data, Anonymity and Confidentiality

Please specify what type of information/data will be collected/analysed and the source(s). In addition, specify if and how you will ensure the anonymity of participants and keep information confidential.

Help: This should include information on whether you are collecting new information/data or using that that is already in the public domain; whether the data you are using includes personal details; how the data will be processed and stored; who will have access to it; how and when it will be destroyed; the Data Protection requirements for any sensitive personal data, etc. In addition, include whether there may be any requirements for disclosure of information to other parties due to professional practice or legal reasons. If there are limits to confidentiality, explain clearly how the participants would be advised about these limits and possible outcomes.

This chatbot will appear to the user in the web application. Since the user does not need to properly login into the system their information can't be saved in the database. They can remain anonymous and chat with the bot. After chatting the information is again stored so that the machine could learn but those information can't be retrived as who gave the information is not stored in the database, that provieds confidenitality and no loss of private data.

8	Reporting and Dissemination

Please give details of the planned dissemination and specify if the findings from the research will be published and whether any permission is required for this.

Help: This should include information on the methods of dissemination (e.g., dissertation/thesis) and/or what will be published and where (research papers, conference presentations). Specify if any permission is needed (e.g., from participants, clients, gatekeepers, etc.) prior to publication, and whether there are any potential issues relating to Intellectual Property Rights when creating or using materials.

All the aritcles which would be used in the process would be given the citaion and those papers would only be used which are publically published and can be cited in the research paper.

9	Location of research

Will the research take place outside of the country where you are enrolled as a student, or for staff, outside of the UK?

YES ☐ **NO** ☒ **If yes, give details below.**

Help: If yes, please specify where the research will take place and what will be involved. Research must comply with the laws of the country where it is taking place and also comply with local Data Protection and Intellectual Property legislation: you must confirm that your research is compliant with local requirements and how you have ascertained this. Advise if the project requires ethical approval in-country and how this has been ascertained. If approval is required, a copy of this should be included in the application or details of the process of how it will be obtained. Please make reference to insurance and indemnity cover for the project where relevant.

10	Collaborative Projects

Is the research is a collaborative project (i.e., it involves more than one institution)?

YES ☐ **NO** ☒ **If yes, give details below.**

Help: If yes, please specify the other institutions involved and if ethical approval needs to be / has been given by them. Please also specify what procedures have been put in place to ensure ethical compliance from all partners.

11	Any other permission or external ethical approval required to undertake the project

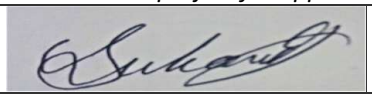
Please specify if the project requires any other ethical approval or permissions not mentioned previously in this application and how and when these will be obtained.

Help:

- Other permissions: ethical approval does not give the right of access to the University's students, staff or the use of University premises to carry out research, and you may need to contact an appropriate University gatekeeper for agreement to approach potential participants or for the use of premises, so please give details.
- Gatekeepers: permission of a gatekeeper for initial access to participants may be required or to carry out data collection on their premises.
- If your project requires approval from an external ethics committee, this should normally be obtained prior to submitting this application.
- If a Disclosure and Barring Service check is required due to the specific participant group, give details.
- Regarding insurance and indemnity cover, some projects will require individual confirmation of cover. See the Research Ethics Procedures document for more details.

Nothing

FOR PROJECTS INVOLVING RISK CATEGORY 2 AND 3: DECLARATION AND SIGNATURE/S			
APPLICANT (STUDENT/STAFF MEMBER/RESEARCHER)			
I confirm that I will undertake this project as detailed in stage one and stage two of the application. I understand that I must abide by the terms of this approval and that I may not make any substantial amendments to the project without further approval. I understand that research with human participants or their data must not commence without ethical approval.			
I have read an appropriate professional or learned society code of ethical practice:		Yes ☒ N/A☐	
Where applicable, give the name of the professional or learned society:			
Signed		*Date*	10/03/2023

RESEARCH SUPERVISOR/DIRECTOR OF STUDIES RECOMMENDATION FOR STUDENT PROJECTS					
I confirm that I have read stage one and stage two of the application. The project is viable and the student has appropriate skills to undertake the project. Where applicable, the Participant Information Sheet and recruitment procedures for obtaining informed consent are appropriate and the ethical issues arising from the project have been addressed in the application. I understand that research with human participants must not commence without ethical approval. I recommend this project for approval.					
Name	Sukant Kumar Sahu	*Signed*		*Date*	10/03/2023

Local Research Ethics Co-ordinators

*Please complete EITHER **A** (giving ethical approval for the project) OR **B** (recommending the project to the School level group for approval)*

A	**LOCAL RESEARCH ETHICS CO-ORDINATOR APPROVAL** *For projects approved by the Local Research Ethics Co-ordinator*				
I confirm ethical approval for this project					
LREC Name		*Signed*		*Date*	

OR

B	**LOCAL RESEARCH ETHICS CO-ORDINATOR'S RECOMMENDATION FOR SCHOOL APPROVAL** *For projects that require School level approval*				
I recommend this project for consideration at school level. It cannot be approved at local level due to the following reason(s)					
LREC Name		*Signed*		*Date*	

School level group

For projects approved at School level please complete the box below.

PROJECTS APPROVED BY THE SCHOOL LEVEL GROUP					
I confirm that this project was considered by the School level group and has received ethical approval					
Group Lead		*Signed*		*Date*	

OR

University Research Ethics Sub-Committee

For projects approved by URESC please complete the box below.

Projects involving security-sensitive research do not need supervisor/LREC approval prior to being considered by the Chair of URESC.

PROJECTS APPROVED BY THE RESEARCH ETHICS SUB-COMMITTEE					
I confirm that this project was considered by the Research Ethics Sub-committee and has received ethical approval					
Chair		*Signed*		*Date*	

This form will be retained for the purposes of quality assurance of compliance and audit for THREE years

SUPPORTING DOCUMENTATION: what to submit with the application

For projects involving human participants, you must submit, where appropriate, the Participant Information Sheet/s and consent form/s. You must also submit every communication a participant will see or receive. Failure to do so will cause delays to the application.

Below is a checklist reminder of what could be submitted, depending on the research project. Please tick the appropriate boxes for each attachment or give details of the document at the end of the checklist.

SUBMISSION CHECKLIST	Tick box
RISK CHECKLIST AND STAGE 1 – RESEARCH ETHICS APPROVAL FORM	☒
STAGE 2 – RESEARCH ETHICS APPROVAL FORM	☒
Participant Information Sheet(s)	☐
Consent Form(s)	☐
Assent Form (usually for children participants)	☐
Recruitment documents *eg, posters, flyers, advertisements, email invitations, letters, web pages if online research*	☐
Measures to be used *eg, questionnaires, surveys, interview schedules, psychological tests*	☐
Screening questionnaire	☐
Letters/communications to and from gatekeepers/third parties	☐
Evidence of any other approvals or permissions *eg, NHS research ethics approval, in-country approval*	☐
Research proposal/protocol (no more than 2-3 A4 pages) *It is not a requirement that this is included, however, if this would help the understanding of a complex project by the reviewer(s), please include*	☐
Risk assessment form *Some projects may require a risk assessment form: see the Procedures document for details (eg, projects involving a physical intervention, collecting data off-campus)*	☐
Approval documentation for projects involving ionising radiation	☐
Confirmation of insurance and indemnity cover where relevant *Some projects need to be referred to the Insurance & Risk Officer: see the Procedures document*	☐
Security-sensitive research form	☐
Other: give details here:	☐
	☐

SUBMITTING YOUR FORMS

- Students: email the typed forms (stage one and stage two) and supporting documentation to your Research Supervisor or Director of Studies.

- Staff: email the typed forms (stage one and stage two) and supporting documentation to your Local Research Ethics Co-ordinator.

- Security-sensitive research: the stage one form (and stage two form if applicable) should be submitted directly to the URESC Chair, Professor Karl Spracklen, k.spracklen@leedsbeckett.ac.uk and include the Security-sensitive research form, available from the Research Ethics web page.