# Participant Information Sheet for Research Project

**Name of department: Computer and Information Science**
**Title of the study: Active Learning Toolkits**

**Introduction**
*My name is Alistier, and I am a postgraduate student at the University of Strathclyde in Glasgow, UK. This research work is part of my MSc in Advanced Computer Science with Artificial Intelligence degree.*

*Contact Information for the Researchers:*
*Name: Alistier Noel Xver*
*Email Address: alistier.xver.2023@uni.strath.ac.uk*

**What is the purpose of this research?**
*The aim of this study is to research, build, test, analyse and evaluate the impact and efficacy of an Artificial Intelligence based Active learning toolkit. This toolkit will consist of a student facing AI augmented chatbot interface that answers subject related questions and collects chat information and feedback data from users after collecting their consent for the same. This research will also conduct comparative analysis and tests along with the above evaluations to compare the effectiveness, quality and outcomes of RAG (Retrieval-Augmented Generation) chatbot and GAR (Generative Augmented Retrieval) based chatbot.*

**Do you have to take part?**
*Engagement in this research project is completely optional. The choice to participate is entirely up to you. Prior to starting with the survey, you will be required to offer your informed permission if you want to participate. Nevertheless, even after granting your agreement, you have the freedom to discontinue your participation in the research at any point without the need to provide an explanation. Opting out or withdrawing from the research will not result in any repercussions.*

*If you want to withdraw from the research after completing your survey replies, it is important to understand that all data gathered from the survey is anonymous and not connected to any specific participant. The poll does not gather personal or identifying data, such as individuals' names, email addresses, or IP addresses. Hence, once replies are submitted, they are irrevocable and cannot be retracted or deleted.*

**What will you do in the project?**
*You will receive an invite over email that would provide share access with you of the relevant course chat of your interest. After visiting the portal, feel free to follow the steps given below to help us with our research.*

*1. Accessing the portal:*

*o Upon accessing the portal you will find details of the study and a consent form. Please read through it (it's a 2-minute read) and provide your consent for data collection.*

*o You will be redirected to a list of courses you can choose from and proceed or directly be taken to the next step.*

*2. Using the Chat interface:*

*o After collecting consent, you will be led to a chat interface, which will allow you to communicate with our AI-enabled chatbot about course-related topics. We request you to converse extensively, with a minimum of 12 message exchanges (usually takes 5-10 minutes). We also request you to rate the answers provided by the chatbot, using the star rating selector below the answers, to help with our research. Rate the answers of the basis of relevance to the topic, context and course content, message latency and quality of the answer.*

*3. Submitting User Experience feedback:*

*o At any point during the chat or after chat completion, you can submit quick feedback using our feedback form on the application (usually takes 2-5 minutes). This form could be used to provide us any positive or negative feedback for us to make the application better.*

*o If you have any questions or encounter any issues, please contact the researcher at* alistier.xver.2023@uni.strath.ac.uk

*The feedback questions do not have definitive correct or incorrect responses. We value your authentic perspectives and firsthand experiences. If there are any questions that you prefer not to answer or find uncomfortable, you have the option to skip them.*
*The feedback answers will be securely gathered and stored inside the Microsoft Forms platform. Access to the raw data will be limited to the researcher and their supervisor alone. The feedback will not gather any personally identifying information, guaranteeing your anonymity. The conversation data collected will also be stored securely on the application server following all GDPR regulations and data security measures. This data is not linked with any user personally and ensures participant anonymity.*

*If you have any questions about the feedback forms or have any technical problems during its completion, please reach out to the researcher using the contact information given in this document.*

**Why have you been invited to take part?**

*You have been asked to participate in this research project due to your status as a student or faculty member. Your expertise and familiarity in this field (course assigned on the platform) will provide us significant perspectives on the efficacy of augmented artificial intelligence chatbots in improving and empowering active learning techniques.*

*Participation in this research does not need any specific skills or traits other than proficiency in English and knowledge of the course assigned on the platform. The poll will be tailored to suit participants with different degrees of proficiency, domain knowledge and expertise.*

*The objective of the research is to include a varied sample of students and faculty members in order to collect a broad spectrum of viewpoints on the use of interactive augmented artificial intelligence chatbots in empowering active learning techniques. Participants will be chosen based on their desire to take part and their compliance with the inclusion criteria.*

*Kindly be aware that your involvement in this research is completely optional, and you have the liberty to refuse the invitation or discontinue your participation at any point without facing any repercussions.*

**What information is being collected in the project?**

*This research project will gather data using an online chatbot interface and feedback forms. The data collection is specifically developed to evaluate the efficacy of active learning toolkits and include the following categories of information:*

*Chat Interactions: The dialogues between individuals and the chatbots enhanced with AI, including both RAG and GAR versions, will be documented. This encompasses the inquiries posed by participants and the corresponding answers given by the chatbots. The objective is to assess the chatbot's performance and efficacy in responding to course-related inquiries.*

*Evaluations of Chatbot replies: Participants will be requested to assess the quality of the replies given by the chatbots. This input is essential for evaluating the performance and satisfaction levels of both the RAG and GAR chatbot types.*

*User Experience Feedback: Participants will be asked to fill out a feedback form to provide their overall assessment of the chat interface. This feedback may provide qualitative data about the clarity, engagement, and effectiveness of the chatbot interactions in supporting learning.*

*Consent Information: Participants will provide their permission to take part in the research and for their data to be used as outlined. This approval will be digitally recorded at the beginning of their encounter with the chatbot.*

*Participant ID: A unique participant ID will be created for each participant's device to monitor interactions while ensuring anonymity. This identification (ID) guarantees that individual sessions may be examined without directly associating the data with particular persons.*

*The collected data will be securely maintained in compliance with GDPR legislation and data protection standards. The data will be exclusively used for the purpose of this research and will be erased at the completion of the study.*

*The chatbot interactions and feedback forms given by the participants themselves will be the exclusive sources of information, with no further sources being used.*

*If you have any inquiries about the data being gathered in this study, please reach out to the researcher using the contact information given in this document.*

.**Who will have access to the information?**

*Ensuring confidentiality and anonymity is important for this research investigation. The data obtained from chatbot interactions and feedback forms will be handled with strict confidentiality and will not be associated with any specific participant.*

*Data Access: Access to the unprocessed data will be restricted to the researcher, Alistier Noel Xver, and their supervisor, Dr. Rosanne English, at the University of Strathclyde. The data will be securely kept on servers that adhere to GDPR legislation and data protection standards.*

*Storage and Security: The chat messages and feedback data will be safely stored on our application platform, which is a local application setup (on my personal machine) following data security methods such as SSL/TLS encryption, firewalls, and DDoS protection. All application data (including participant information, messages, sessions etc) will be stored in the local database. The data will undergo anonymization, whereby each participant will be allocated a unique participant ID in place of their personal information. The models being used for AI operations are also pre-trained models that run offline, ensuring data security and that the chat data is not being used to train the LLM.*

*Anonymity: Only the essential consent to participate in the research will be acquired, and no personally identifying information will be gathered. If a participant unintentionally submits personal information in an open-ended answer, it will be promptly eliminated during data processing to guarantee anonymity.*

*Data Reporting: The gathered data will be examined and presented in a summarized format. The final research report and any associated publications will not contain any individual replies or identifiable information. Quotes from feedback, with any potentially identifiable information removed, may be used to exemplify significant themes or discoveries. The findings of this research could be presented at relevant seminars and conferences, published in scholarly publications, or included into conference proceedings.*

*Data Sharing: The data gathered in this research will not be disclosed to any other people or organizations outside the University of Strathclyde. There will be no use of external transcribing services, and the raw data will not be accessible to the public.*

*Data processing and analysis will only take place in the United Kingdom. The researcher and their supervisor shall guarantee adherence to the legal obligations of data protection and confidentiality, as specified by the University of Strathclyde's Information Governance Unit.*

*If you have any apprehensions about the confidentiality or anonymity of your data, please reach out to the researcher or their supervisor using the contact information given in this information sheet.*

**Where will the information be stored and how long will it be kept for?**

*The chatbot conversations and feedback forms will securely store all data acquired on servers that adhere to the Data Protection Act 2018 and GDPR rules.*

*Only the researcher, Alistier Noel Xver, and their supervisor, Dr. Rosanne English, will have access to the raw data obtained via chatbot encounters, user evaluations, and comments. The data will be kept on secure servers, accessible only to authorized persons via password security and encryption. Data will not be downloaded or kept on personal devices or local storage systems.*

*Data Retention -*

*The data will be kept for the duration required to finish the research project and achieve its goals. After the completion of data analysis and submission of the final study report, the raw data will be safely erased from the servers.*

*The research report and any associated publications will maintain anonymized, aggregated data forever to ensure the study's results can be verified and reproduced. The anonymised data may be stored in an appropriate data repository, such as the University of Strathclyde's institutional repository, to support future research and meta-analyses.*

*Data Destruction -*

*After finishing the study, the researcher will take measures to guarantee the safe deletion of all raw data from the servers. This process will include the permanent removal of all saved chat logs, ratings, and feedback data. The researcher will verify the thorough and protected erasure of the data by consulting their supervisor, guaranteeing that no duplicates of the unprocessed data are preserved on any systems or devices.*

*If the research is ended prematurely, all data acquired to that point will be swiftly and securely erased, using the same processes as described before.*

*The data retention and deletion techniques used in this research comply with the data protection regulations of the University of Strathclyde and any relevant funding standards.*

*If you have any inquiries or apprehensions about the storage, retention, or disposal of your data, please reach out to the researcher or their supervisor using the contact information given in this information sheet.*

*Thank you for perusing this material – feel free to inquire if you have any uncertainties about the content presented.*

*Personal data will be handled in compliance with data protection laws. Kindly review our Privacy Notice for Research Participants to get comprehensive information on your rights by the law.*

**What happens next?**

*Please contact the researcher using the information below if you would like to take part in this study or have any further questions:*

*Researcher's contact information:*
*Name: Alistier Noel Xver*
*Email: alistier.xver.2023@uni.strath.ac.uk.*

*Please discard this invitation should you choose not to take part in the research. We value your time and thoughtful consideration.*

*Post-Study Information: Participants may ask the researcher, using the above contact information, a synopsis of the results of the study after it ends. The researcher will send interested participants a succinct, nontechnical overview of the main findings and conclusions.*

*No personally identifying information, however, will be included in any papers or presentations arising from this work. To respect the privacy and confidentiality of every participant, the published findings will be based on aggregated, anonymised data.*

*Please do not hesitate to get in touch with the researcher or their supervisor should you have any further questions or concerns concerning the study or the release of its findings.*

*I appreciate you taking part in this study. Your interactions and insights will help towards the improvement of our active learning toolkit, which in turn will improve computer science student involvement and learning results.*

### *Researcher contact details:*

*Researcher's Contact Details:*

*Name: Alistier Noel Xver*

*Email: alistier.xver.2023@uni.strath.ac.uk.*

### *Supervisor details:*

*Name: Dr. Rosanne English*

*Email: rosanne.english@strath.ac.uk*

*Address: University of Strathclyde, 1411, Livingstone Tower*

*Work Phone: 01415484301*

This research was granted ethical approval by the Department of Computer and Information Sciences Ethics Committee.

If you have any questions/concerns, during or after the research, or wish to contact an independent person to whom any questions may be directed or further information may be sought from, please contact:

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26 Richmond Street, Glasgow, G1 1XH

Telephone: +44 (0) 141 548 3189

Email: cis-enquiries@strath.ac.uk