School of Computer Science & Informatics

Ethical Approval Request Form
Form valid until 15th June 2020

Instructions

Do not use this form if your research is with the NHS or NHS-linked: please refer instead to the NHS Local Research Ethics Committee.

Do not use this form if your research involves adults who do not have the capacity to consent. Such projects have to be submitted to the National Research Ethics Service (NRES) system: http://nres.nhs.uk/

Please carefully review:

- School Research Ethics documentation
- Data management, collecting personal data, data protection act requirements
- Information Security Framework
- Research Integrity and Governance
- Research Ethics

Please complete the Research Integrity Online Training Programme (Staff link, Student link) prior to submitting this form.

Please complete this form at least **2 weeks** before starting your data collection/human involvement activities and send to comsc-ethics@cardiff.ac.uk along with **all** the relevant attachments:

- Full Project plan/proposal
- Participant Information Form, either:
    - hard copy, e.g briefing and debriefing (if appropriate)
    - online equivalent
- Consent Form or online equivalent (or justification as to why this is not possible)
- Certificate(s) of completion of the Research Integrity Online Training Programme (RIOTP) for all staff associated with a project (and students if applicable).
- (If applicable) Details concerning external funding
- (If an extension is requested) Provide a list of motivations and list of amendments to any previous approvals

Submissions will be reviewed at the next COMSC Research Ethics Group meeting held approximately fortnightly.

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1   General Information

Title of Project:

Using Bots to Expand the Functionality of Discord

If this submission relates to a previous approval request (e.g. a revision or extension):

Previous ID: Using Bots to Expand the Functionality of Discord

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If this approval refers to an Undergraduate or Masters Student Project:

Student(s) Names and IDs:

Kieran Parnell
1613910

Supervisor Name(s):

Frank C Langbein

If this approval refers to a research project (e.g. Staff, Postgraduate Research Student):

Principle Researcher: N/A

Other Researchers: N/A

Project Start Date: May 7st — End Date: June 1st

Attachments:	Yes	NA	Document Version ID
Full project plan/proposal	X		Initial Plan.pdf
Participant Information Form	X		briefing_information_sheet.docx
Consent Form	X		consent_form .docx
RIOTP Completion Certificates	X		certificate of completion.pdf
Details concerning external funding		X	
Motivations for and list of amendments	X		edits.txt

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2 Recruitment Procedure

		Yes	No	NA
1	Does your project include children under 18 years of age?	☐	✕	▪
	If "Yes," have you read and understood Cardiff University's Code of Practice for researchers Working With Children and Young People which forms part of the Safeguarding Children and Vulnerable Adults Policy? The Interim Guidance is at Appendix 1, Page 9 of this Policy	☐	▪	
2	Does your project include people with learning or communication difficulties?	☐	✕	▪
3	Does your project include people in custody?	☐	✕	▪
4	Is your project likely to include people involved in illegal activities?	☐	✕	▪
5	Does your project involve people belonging to a vulnerable group, other than those listed above?	☐	✕	▪
6	Does your project include people who are, or are likely to become your clients or clients of the department in which you work?	☐	✕	▪
7	Does your project provide for people for whom English / Welsh is not their first language?	▪	✕	▪

If any of the blue boxes has been ticked, please explain how the potential ethical issue(s) will be handled:

Please describe how do you plan to recruit participants:

Participants will be volunteers who respond to a group email sent out to the Computer Science email group.

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3   Consent Procedures

		Yes	No	NA
8	Will you tell participants that their participation is voluntary?	☒	☐	
9	Will you obtain written consent for participation?	☒	☐	▪
10	If the research is observational, will you ask participants for their consent to being observed?	▪	☐	☒
11	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	
12	Will you give potential participants a significant period of time to consider participation?	☒	☐	▪

If any of the blue boxes has been ticked, please explain how the potential ethical issue(s) will be handled:

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4   Possible Harm to Participants

		Yes	No	NA
13	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort?	☐	✕	☐
14	Is there any realistic risk of any participants experiencing a detriment to their interests as a result of participation?	☐	✕	☐

If any of the blue boxes has been ticked, please explain how the potential ethical issue(s) will be handled:

If there are any risks to the participants, please explain how you intend to minimise these risks:

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5 Data Protection

		Yes	No	NA
15	Will any non-anonymised and/or personalised data be generated and/or stored?		☒	
16	Will you have access to documents containing sensitive data about living individuals?		☒	
	If "Yes" will you gain the consent of the individuals concerned	☐	☐	
17	Are you planning to use Cardiff University installation of OneDrive to store data	☒		
	If "No" is your data storage policy compliant with Cardiff University ISF		☐	☒

Sensitive data are inter alia data that relates to racial or ethnic origin, political opinions, religious beliefs, trade union membership, physical or mental health, sexual life, actual and alleged offences.

Please describe how you will securely collect and store any data (**required**):

The only data stored will be chat logs. First Name/Last Name and the Student number are all randomly generated and hold no real-world connections to a user. This data will be stored using Cardiff University's OneDrive.

If any of the blue boxes have been ticked, please explain how the potential ethical issue(s) will be handled:

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6 Researcher Safety

		Yes	No	NA
18	If relevant to your research, have you taken into account the Cardiff University guidance on safety in fieldwork / for lone workers?	☐	☐	☒

If any of the blue boxes have been ticked, please explain how the potential ethical issue(s) will be handled:

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7   Researcher Governance

		Yes	No	NA
19	Does your study include the use of a drug? You will need to contact Research Governance before submission (resgov@cf.ac.uk)	☐	✗	☐
20	Does the study involve the collection or use of human tissue? You will need to contact the Human Tissue Act team before submission (hta@cf.ac.uk)	☐	✗	☐

If any of the blue boxes have been ticked, please explain how the potential ethical issue(s) will be handled and please attach approvals received from Research Governance and/or Human Tissue Act team:

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8   Prevent Duty

		Yes	No	NA
21	Has due regard been given to Prevent duty, in particular to prevent anyone being drawn into terrorism? Prevent Duty Guidance Procedure Freedom of Speech		☐	☒

If any of the blue boxes have been ticked, please explain how the potential ethical issue will be handled:

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9   Other Ethical Considerations

If there are other potential ethical issues that you think the Committee should consider please explain them in the following space. It is your obligation to bring to the attention of the Committee any ethical issues not covered on this form.

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10   Any other comments

If there is additional information that you think the Committee should consider please explain in the space below:

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Supervisor: Frank C Langbein

Web Apps: Using Bots to Expand the Functionality of Discord

Contents

Author: Kieran Parnell 1613910
Supervisor: Frank C Langbein

Project Description

Discord. (2020) is an open service that anyone can use for free, it aims to replace services like Skype and Google Hangouts while introducing many features that work great for organising, collaborating and sharing. Discord has an API (Discord Developer Portal. (2020)), meaning that we're able to create bots to interface with this API and in turn add functionality to Discord. Currently, Discord alone doesn't have great support when it comes to group monitoring, it doesn't record participation levels or control role assignment of tasks for group projects. I aim is to fix this, by introducing Discord bots we're able to add group monitoring, allowing for the bot to produce weekly reports on individual's contribution to the group. Moreover, a system where someone can be designated as the group supervisor and their linked group will need to be implemented, ensuring that the correct permissions are granted. Secondly, I'd like to implement a bot where people can submit questions during a lecture, then the most upvoted questions will be sent to the Lecturer for them to answer. This could either be done live during the lecture or post-lecture.

I'm implementing this bot to monitor group participation to avoid the situations where you have some doing more than others during group projects, furthermore, the bot will be able to keep a log of everything, this being useful if the group supervisor wishes to look over and confirm each individual's participation. I will aim to implement the weekly reporting function as a graph, showing who has contributed the most and least, this can be seen by anyone in the group. It may be necessary that there is some input from the Group Supervisor in the cases where people try to trick the bot by spamming or making conversation outside of the scope of the project in the Discord server.

The secondary function, submitting/upvoting questions during lectures is implemented to solve the issue where students have questions but often don't ask them. Either because they don't have the confidence to ask or think the question isn't valid. Using a Discord bot, people could submit their questions, other students can than see these questions and upvote. People won't be completely anonymous; they will have a randomly generated name/number that is related to their actual student number. Attached to this secondary function the Discord bot could post when lecture notes have been added or when the lecture recording has been made live. It would also be another method to ensure that people are aware that coursework is now live.

Overall, using Discord for more education-based activities provides a platform for students to discuss and work together, while supervisors are still able to monitor and see contribution rates of students.

Aims and Objectives

I believe most of the aims and objectives were covered in the Project Description, but I'll summarise here:

- Implement Monitoring of Group work.
- Logging of group discussions via messages.
- Simple natural language processing.
- Upvoting system for questions in lectures.
- Registration system for someone to join the Discord server, ensuring they're a verified student.
- Automated permission system
- (If spare time) Implement a notification system when Coursework, Recordings and materials are made live.

Author: Kieran Parnell 1613910
Supervisor: Frank C Langbein

Ethics

After some discussion with my Supervisor we've agreed that an ethics proposal will have to be submitted. It will involve storing people's messages and creating reports about each student within a group. The only identifiable information that will be used by this bot is the Student number. After a deeper understanding of the Discord API I'll have a greater grasp on if the ethics proposal will need to be updated.

In the case ethics is declined the project will still be able to go ahead, we'd be able to test the bot using other bot accounts. Moreover, through the development stage while ethics approval is still pending, I'll test the bot in an isolated private server with no users other than myself.

Work Plan

Below I've created a 12-week plan, at the end of each two-week period I'll summarise what has been successful and what problems have arisen. If I'm moving ahead of time, I'll look into implanting the extra functionality for notifying students about lecture recordings, coursework and so on. Week 1 and 2 are focused around generating a core understand of the Discord API and getting a baseline bot running and ready for adding functions. Week 3 and 4 is where I start to implement the system for monitoring group participation. Week 5 and 6 is for implementing more features like logs and some simple natural language processing. Week 7 and 8 is for implementing the Lecture side of the bot and ensuring the bot can maintain stability under heavy requests while ensuring that the bot doesn't take too long to process a request. Week 9 and 10 is the period for generating a draft final report and creating a simple step-by-step of how someone would deploy the Discord bot onto a server. Week 11-12 gives a buffer period where core functionality of the bot can still be changed if needed and code can be altered if desired after a meeting with supervisor. It will also give some extra time if I've fallen behind in previous weeks.

Week 1-2 (Feb 3rd – Feb 16th)
- Understand and explore Discords (Discord Developer Portal. (2020).) API at a deep level
- Understand Discord Rules/Guidelines regarding bots.
- Submit Ethics
- Create Design of how the bot will work for each of its functions.
- Get a bot running as a continuous service ready to take requests by using Python to interface with the API.

Week 3-4 (Feb 17th- March 1st)
- Create a system where users must register with a bot before they are given access to the server.
- A backend database system to store registered users, could be done via .CSV.
- Implement a monitoring system, recording student's participation.
- Produce participation reports weekly or through user commands.

Week 5 -6 (March 2nd – March 15th)
- Supervisor Meeting.
- Implement a basic level of natural language processing, where a supervisor is flagged if possible inappropriate language is used.
- Add a system to store logs of group chats which can only be accessed by group supervisors.
- Implement a permission system that is automated via the bot to ensure that Group supervisors have permissions over students.

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Week 7 – 8 (March 16th – March 29th)

- Lecture question upvoting system.
- Test bot for maximum requests that can be made per min. (Fix code if too low)
- Refactor previous functions to ensure understandability of code.

Week 9-10 (March 30th – April 12th)

- Creation of draft final report.
- Check code and commenting.
- Create a step-by-step of how to install the bot.

Week 11-12 (April 13th – May 3rd)

- **Meeting to discuss draft final report and if anything should be changed before deadline.**
- Finishing touches on Final Report

Work plan includes working over Easter break.

References

Discord Developer Portal. (2020). Discord Developer Portal — API Docs for Bots and Developers. [online] Available at: https://discordapp.com/developers/docs/intro [Accessed 1 Feb. 2020].

Discord. (2020). Discord — Discord - Free Voice and Text Chat. [online] Available at: https://discordapp.com/ [Accessed 1 Feb. 2020].

Using Bots to Expand the Functionality of Discord Information Sheet

Introduction

The idea of this project is to create a system where you can register and join a Server (Group) that will automatically monitor and allocate you to your groups. For instance, in many courses Group projects are involved, for these group projects you could join this Server, the server would automatically assign you to a group, setting up areas for your group to type and talk to each other. This would also monitor group activity and create weekly reports on the individual's efforts for the group. The overall aim of the project is to create a Discord bot that can improve teaching/group work by processing conversation between them and creating reports after a set amount of time, showing participation levels and if any flagged words have been used. The consent form will be distributed via email.

How will this be structured?

1. You're provided a fake account along with a randomly generated student number and with a fake First/last name.
2. With this account you will join the server using the provided invite.
3. At this point you would have been put into groups by the system, or if you are a teacher you will have been put in charge of supervising the group.
4. You will now use this system for roughly 20 mins. This will generate reports of participation levels and if anything, you said was unacceptable during the demonstration.

Who is organising and funding the research?

There is no funding required and I'll be organising the project.

Taking part in the project.

If you decide to take part in the project no real-world information will be stored or used that can link you to the account, you were using for the demonstration. Moreover, your name, student number and other personal information isn't required as we'll use randomly generated student numbers and names to protect your identity. This project will be demonstrated remotely, therefore the demonstration will not be performed in person.

How will the data be stored?

The data will be stored using Cardiff University's One Drive.
The Data stored will be the users account information provided by Discord. A fake student number along with fake First and Last name will be used to demonstrate the project.

What data will be collected?

Type	Data

Chat Logs	Messages Between participants during the demonstration. (These are anonymized)

How can I request access to my data?

You can request to have access to your data or have it removed by contacting:

Parnellkj@cardiff.ac.uk , by contacting a system administrator or if the information you're

requesting isn't stored by us but rather by Discord you can go here:

https://support.discordapp.com/hc/en-us/articles/360004957991-Your-Discord-Data-Package

What if I want to end my participation in this study?

There are three ways you can leave the study:

- Contact parnellkj@cardiff.ac.uk
- In Discord, you can right click the Server logo and press "Leave Server"
- Direct message one of the system administrators within that Discord Server.

What do I do if I have any complaints regarding this project?

In the first instance, you should contact the leader of the Project:

Kieran Parnell

parnellkj@cardiff.ac.uk

If you are still unhappy, please contact the relevant Ethics Committee:

Cardiff School of Computer Science & Informatics Ethics Committee
Email: comsc-ethics@cardiff.ac.uk

The data controller is Cardiff University and the Data Protection Officer is Matt Cooper
CooperM1@cardiff.ac.uk. The lawful basis for the processing of the data you provide is consent.

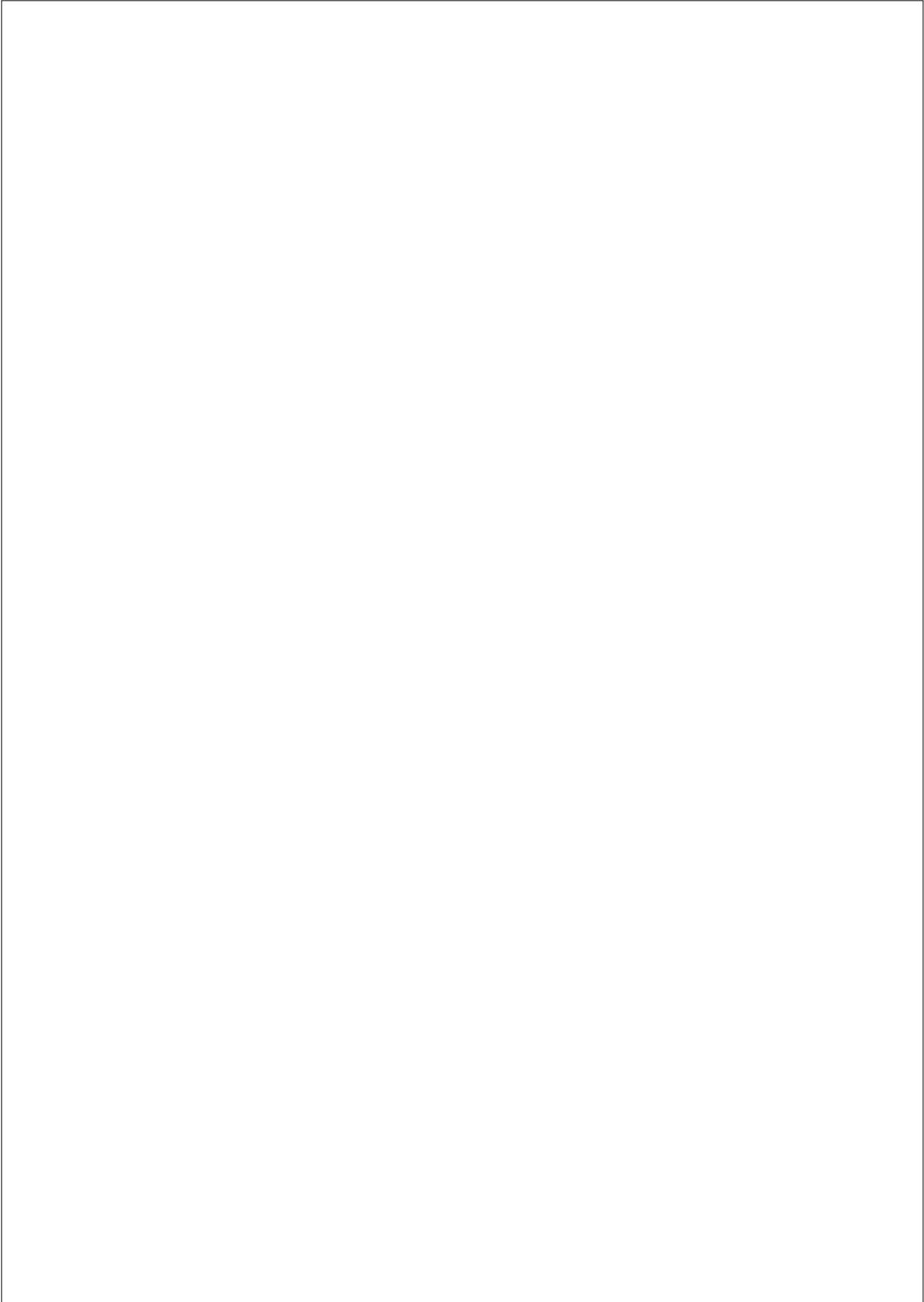**Contact for Further Information**

We welcome the opportunity to answer any question you may have about any aspect of this study or your participation in it.

Kieran Panrell

parnellkj@cardiff.ac.uk

Discord Bot Consent Form

Name of participant/identifier: _____

Please read the Information Sheet and then read the following statements carefully and then add your signature. If you have any questions, please ask the person who gave you this form. You are under no pressure to give your consent and you are free to withdraw from this study at any time. If you have any complaints or concerns about this study, please contact comsc-ethics@cardiff.ac.uk. The data controller is Cardiff University and the Data Protection Officer is Matt Cooper CooperM1@cardiff.ac.uk. The lawful basis for the processing of the data you provide is consent.

By adding your initials in the box to the right of each item and signing the form at the bottom, you are agreeing to the following:

INITIALS

- I understand that I am to take part in a briefing session, a demonstration procedure and a debriefing session.

- I confirm that I have all of the prerequisites for participation as outlined in the Information Sheet, and consent that, where appropriate, any personal equipment I provide can be used for the purposes of this study.

- I confirm that I have read and understand the Information Sheet and have had the opportunity to ask questions about it.

- I understand that upon completion of the study, I will receive confirmation of completion. In the case that I withdraw from the study, I understand that I will receive confirmation of withdrawal.

- I understand that participation in this study is entirely voluntary and that I can withdraw from the study at any time without giving a reason, and without loss of credit / payment (as applicable).

- I understand that I am free to ask any questions at any time and that I am free to withdraw or discuss my concerns with the lead researcher Kieran Parnell.

- I also understand that at the end of the study I will be provided with additional information and feedback about the purpose of the study.

- I understand that the information provided by me will be held confidentially, such that only the researchers can trace this information back to me individually. The information will be retained for up to two weeks when it will be deleted/destroyed. I understand that I can ask for the information I provide to be deleted/destroyed at any time.

- I agree to data generated from my participation can be shared with other researchers.

I, _____ (NAME) consent to participate in the study conducted by [INSERT], School of Computer Science, Cardiff University.

Signed:

Date:

3rd submission for Ethics. Edits Made:

1) Removed personal Emails
2) Added that consent forms will be sent out via email
3) Used offical cosent form template.

28/03/2020   Blackboard Learn

Research and Innovation Services

This is to certify that

Kieran Parnell

has successfully completed

19/20 Research Integrity Training (Student)

on

28 March 2020

Research and Innovation Services

This is to certify that

Frank Langbein

has successfully completed

17/18 Research Integrity (Staff Version)

on

26 February 2018

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