



Dublin City University
School of Computing

APPLICATION FOR APPROVAL OF AN UNDERGRADUATE OR TAUGHT MASTERS PROJECT INVOLVING **HUMAN PARTICIPANTS**

Please read the following information carefully before completing and submitting your application.

- ☐ **Applications must be submitted via the project dashboard**
- ☐ **Student applicants must include their supervisor as the Principal Investigator (PI).** The form should be checked, approved and signed in digital form by the supervisor in advance of submission.
- ☐ **The application should consist of one electronic file only, in PDF format,** with an electronic signature from the PI (the project supervisor) and yourselves, the students. The completed application must incorporate all supplementary documentation, especially those being given to the proposed participants.
- ☐ **All sections of the application form must be answered as instructed and within the word limits given.**

Applications must be completed on the form; answers in the form of attachments will not be accepted, except where indicated. No hardcopy applications will be accepted. **The project must not commence until approval has been received from the School Research Ethics Committee.**

PROJECT TITLE	CA400 Year 4 Project – AI search visualiser
PRINCIPAL INVESTIGATOR(S) <i>The Principal Investigator is the project supervisor and s/he has primary responsibility for the project.</i>	Dr Charlie Daly
START AND END DATE	January 2020 – May 2020
STUDENT NAME(S), COURSE AND YEAR (E.G. EC4)	James Farrelly, CASE4 Emily Whyte, CASE4
LEVEL OF RISK <i>Please confirm that this project requires notification only</i>	Notification

1. ADMINISTRATIVE DETAILS

1.1 WILL THE PROJECT BE UNDERTAKEN ON-SITE AT DUBLIN CITY UNIVERSITY?

YES or NO

No

If NO, state details of the off-campus location – provide details of the approval to gain access to that location in section 2.7.

Due to Covid-19 restrictions, the project will be completed remotely over the internet.

DECLARATION BY PRINCIPAL INVESTIGATOR / SUPERVISOR

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 guidelines (<https://www.dcu.ie/researchsupport/researchethics.shtml>), the University's policy on Conflict of Interest, 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 project that may arise in conducting this project and acknowledge my obligations and the rights of the participants.


If there exists any affiliation or financial interest for researcher(s) in this project or its outcomes or any other circumstances which might represent a perceived, potential or actual conflict of interest this should be declared in accordance with Dublin City University policy on Conflicts of Interest.

I and my co-investigators and/or supporting staff have the appropriate qualifications, experience and facilities to conduct the project set out in the attached application and to deal with any emergencies and contingencies related to the project that may arise. Supervisor(s) signature(s) are required as evidence that they have read and approve the submission.

Please note:

1. Any amendments to the original approved proposal must receive prior School Ethics Committee approval.
2. As a condition of approval investigators are required to document and report immediately to the School of Computing Ethics Committee any adverse events, any issues which might negatively impact on the conduct of the project and/or any complaint from a participant relating to their participation in the study

Electronic Signature(s):



Charles Daly

Principal investigator / Supervisor: _

Print Name(s) here: Charlie Daly

Date: 16/3/2021

I/We, the students on this proposal, have read and approve this submission

*Student(s) signature(s): James Farrelly, Emily Whyte*_____

*Print Name(s) here: James Farrelly, Emily Whyte*_____

Date: 08/03/2021

2. PROJECT OUTLINE

2.1 LAY DESCRIPTION, AIMS & JUSTIFICATION, METHODOLOGY (up to 100 words)

Please outline, in terms that any non-expert would understand, what your project is about, including what participants will be required to do. Please explain any technical terms or discipline-specific phrases. State the aims and significance of the project.

Our project involves using a web application to visualise search algorithms used in artificial intelligence. The web application is a computer program that will be accessed using search engines, such as google chrome.

The web application (AI Search Visualiser) will contain several algorithms for users to display. Users will be able to move, add or remove the nodes which the web app uses in its visualisation. (see **Figure 1** for a draft UI mock-up). Participants will be asked to use the software while being observed. They will then be interviewed about their experience using the web app.

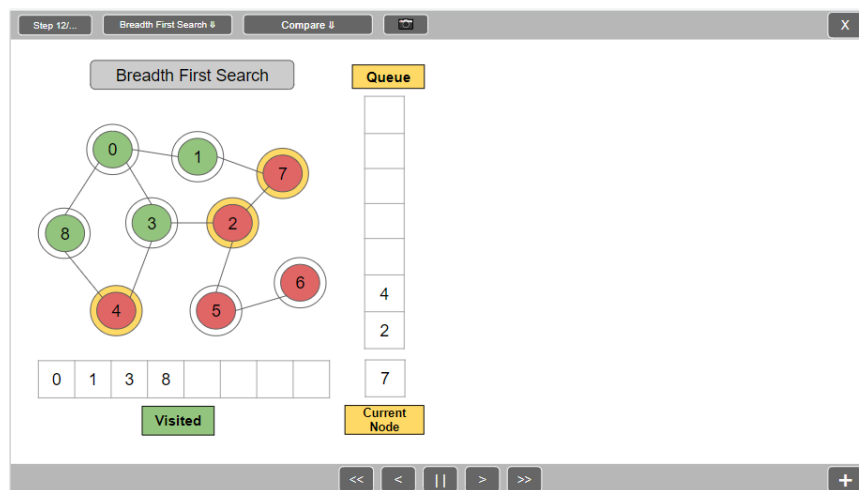


Figure 1

2.2 PARTICIPANT PROFILE

List and very briefly describe each participant group where applicable. For instance, participant group 1 will consist of..., participant group 2 will consist of... etc. Provide the number, age range and source of participants. Please provide a justification of your proposed sample size.

The participants of the first group will be computer science students from 2nd - 4th year in university. We are hoping to get a maximum of 8 students from this group to partake. The age range will be from 18-24. Students from this group will be sourced from friends and fellow students. We are targeting this group as they will be the main users of the software and so it is important to get their feedback.

The second group will consist of family and friends who wish to contribute. For this we wish to get a large sample size of 12. Focusing on ages from 18-70 to get as wide a sample range as possible so that accessibility issues are addressed, and enough user interface feedback is obtained.

2.3 PARTICIPANT RECRUITMENT

Please provide specific details as to how you will be recruiting participants. How will people be informed that you are doing this research? How will they be approached and asked if they are willing to participate? If you are mailing or phoning people, please explain how you have obtained their names and contact details. If a recruitment advertisement is to be used, please ensure you attach a copy to this application (Approx. 100 words).

The participants for this study will be acquaintances from Dublin City University, as well as friends and family. Participants will be contacted by email, which each participant will have been asked to share with us in private social media messages or in person.

2.4I IS IT LIKELY THAT ANY PARTICIPANTS COULD BE CONSIDERED POTENTIALLY VULNERABLE?

Are some or all participants vulnerable in any way? (e.g by virtue of the group they belong to, people who have undergone traumatic or adverse emotional events, people with diminished cognitive ability, power relations between students and participants etc.)?

YES or NO

No

If Yes, please state and describe what this vulnerability (or vulnerabilities) is and justify why this research is being done with such participants

2.5 WILL THE IDENTITY OF THE PARTICIPANTS BE PROTECTED?

YES or NO

Yes

If NO, please explain why

IF YOU ANSWERED YES TO 2.5, PLEASE ANSWER THE FOLLOWING QUESTION:

2.6 HOW WILL THE ANONYMITY OF THE PARTICIPANTS BE RESPECTED?

Please bear in mind that where the sample size is very small, it may be impossible to guarantee anonymity/confidentiality of participant identity. Participants involved in such projects need to be advised of this limitation in the Plain Language Statement/Information Sheet. If you intend to fully anonymize the data, please provide details

As we will be carrying out interviews and observations, it will be necessary to discuss and watch the participant using the application over online meeting tools such as Zoom, which will be password protected. During the interview & observation, the participants identity will be known to us. However, the results of the interview will be documented and anonymized, keeping only the discussion had and not names, emails or other identifiable information. To ensure anonymity for the Zoom meetings, the discussion will be recorded via textual notes and no recording of the meeting video or audio will be made. Zoom meetings will be attended by James and Emily alone, with 1 participant. Surveys and other techniques used will be completely anonymous from the beginning as they will be sent out in bulk over email and the results collected on Google forms. Participants will not be required to provide any identifying information in answer to any of the survey questions.

2.7 LEGAL LIMITATIONS TO DATA CONFIDENTIALITY

Participants need to be made aware that confidentiality of information provided cannot always be guaranteed by researchers and 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. This information should be included in your Plain Language Statement and Informed Consent Form. Depending on the project proposal and academic discipline, you may need to state additional specific limitations.

State how and where participants will be informed of these limitations

Participants will be notified of the limitations prior to any involvement in a survey, interview or observation. This will take the form of a verbal notification of the limitations for the interview or a written one for the survey. It will also be mentioned in the email inviting participants to either of these scenarios.

2.8(a) EXPLAIN HOW PARTICIPANTS ARE TO BE RECRUITED

Please provide specific details as to how you will be recruiting participants. How will people be informed that you are doing this research? How will they be approached and asked if they are willing to participate? If you are e-mailing, mailing or phoning people, please explain how you have obtained their names and contact details. If a recruitment advertisement is to be used, please ensure you attach a copy to this application.

Participants will be acquaintances, friends and family. This group will be contacted directly and asked if they would like to participate. For this group, contact details will have previously been obtained through direct communication. However, if this group is not broad enough in sample size, we will ask

for additional participants on social media and request that if they wish to participate, they contact us directly. Their email addresses will be obtained from there.

2.8(b) CHILD PARTICIPANTS (anyone under 18 years old)

If your participants include children, you **must** confirm that you are in compliance with the research specific guidelines as detailed in "Keeping Children Safe - Policies and Procedures supporting Child Protection at DCU" - available at: https://www4.dcu.ie/sites/default/files/policy/157%20-%20child_protection_handbook_rev1%282%29%281%29.pdf

Please indicate your compliance with the following guidelines:	Mark here
We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures	X
We confirm that we have put in place safeguards for the children participating in the project	X
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 project)	X

2.9 PLEASE EXPLAIN WHEN, HOW, WHERE, AND TO WHOM RESULTS WILL BE DISSEMINATED, INCLUDING WHETHER PARTICIPANTS WILL BE PROVIDED WITH ANY INFORMATION AS TO THE FINDINGS OR OUTCOMES OF THE PROJECT?

The overall findings will be condensed, analysed and anonymised. Participants will be provided the anonymous results of the survey and interview if requested. As part of the Final Year Project assessment, the project supervisor and members of the group reviewing and grading the project will be able to see the findings and outcomes.

2.10 ARE OTHER APPROVALS REQUIRED TO GAIN ACCESS TO ANOTHER LOCATION, ORGANISATION, SCHOOL ETC.?

YES or NO

NO

If YES, please specify from whom and attach a copy of the approval documentation. If this is not yet available, please explain when this will be obtained.

3. RISK AND RISK MANAGEMENT

3.1 EXPLAIN AND JUSTIFY THE STATED LEVEL OF RISK TO PARTICIPANTS

You must provide a justification that the stated level of risk and its corresponding level of review is notification only and not Full Committee or Expedited, as indicated on the cover page of your application. Note that the level of risk may be influenced by the vulnerability of the research group, the methods employed and the nature of the project itself. For further information on risk levels, please refer to the Levels of Review information on the website: <https://www.dcu.ie/researchsupport/researchethics.shtml>

The research participants will be aged 18-70. In order to avoid risk, the observation, interview and survey will be completed entirely online due to the Covid-19 restrictions. Participants will evaluate the web applications visualisation resources. An interview will then be completed after the observation.

3.2 POTENTIAL RISKS TO PARTICIPANTS AND RISK MANAGEMENT PROCEDURES

Identify, as far as possible, all potential risks to participants (physical, psychological, social, legal, economic, etc.), associated with the proposed project. Will your project involve deception, investigation of participants involved in illegal activities, performance of any acts which might diminish the self-esteem of participants or cause them to experience embarrassment, regret or depression? Please explain what risk management procedures will be put in place to minimise these risks.

We do not anticipate any risk being associated with this project as all interaction with participants will be completed online.

3.3 ARE THERE LIKELY TO BE ANY BENEFITS (DIRECT OR INDIRECT) TO PARTICIPANTS FROM THIS RESEARCH?

YES or NO

YES

If YES, provide details

If participants enjoy the use of the web application and find it helpful, it could potentially benefit them in their studies as a learning resource.

3.4 ARE THERE ANY SPECIFIC RISKS TO YOURSELVES IN CARRYING OUT THIS PROJECT?

Examples include use of dangerous materials, asking certain types of questions, The project being undertaken in certain locations, researchers working alone in isolated areas, etc.

YES or NO

NO

If YES, please describe and explain what risk management procedures will be put in place to minimise these risks

3.5 DEALING WITH ADVERSE/UNEXPECTED OUTCOMES

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 project.

In the event of an unexpected outcome such as a participant being unable to attend the Zoom due to internet troubles, the meeting will be re-arranged. Unexpected outcomes should not have any adverse effects on participants. At most, the participant may no longer be able to take part in the study if they are no longer able to attend remotely. In this scenario, depending on the remaining number of participants, a replacement may be recruited to maintain the sample size.

3.6 SUPPORT FOR PARTICIPANTS

Depending on risks to participants you may need to consider having additional support for participants during/after the study. Consider whether your project would require additional support, e.g., external counselling available to participants. Please advise what support will be available.

Participants will be aided if not familiar with using online communication software like Zoom if necessary.

3.7 HOW WILL THE CONDUCT OF THE PROJECT BE MONITORED?

Please explain how the principal investigator will monitor the conduct of the project (especially where several people are involved in recruiting or interviewing, administering procedures, etc.) to ensure that it conforms with the procedures set out in this application. In the case of student projects please give details of how the supervisor(s) will monitor the conduct of the project.

The principal investigator and students will adhere to the procedures set out in this application.

3.8 DO YOU PROPOSE TO OFFER PAYMENTS OR INCENTIVES TO PARTICIPANTS?

YES or NO

NO

If YES, please provide further details

3.9 DO ANY OF THE RESEARCHERS ON THIS PROJECT HAVE A PERSONAL, PHILOSOPHICAL, FINANCIAL, POLITICAL, IDEOLOGICAL, OR COMMERCIAL INTEREST IN ITS OUTCOME THAT MIGHT INFLUENCE THE INTEGRITY OF THE PROJECT OR BIAS THE CONDUCT OR REPORTING OF THE PROJECT, OR UNDULY DELAY OR OTHERWISE AFFECT THEIR PUBLICATION?

YES or NO

NO

If YES, please specify how this conflict of interest will be addressed

4. PERSONAL DATA - COMPLIANCE WITH THE GENERAL DATA PROTECTION REGULATION (GDPR)

Applicant declaration:

0	I understand that the proposed project, as set out in this form, is to be carried out by me in my capacity as a student of Dublin City University.	YES or NO	YES
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What does “Personal Data” mean?

Personal data is any information about a living person, where that person is identified or could be identified, either from the data itself or when it is combined with other data.

Personal Data is defined in [Article 4\(1\) of the GDPR](#) and can include, but is not limited to the following: hard-copy information (e.g. files, records); electronic information (e.g. databases, online survey returns); written information; consent declarations, interview notes, still or moving images; audio & visual recordings; IP addresses; an individual's handwriting; clinical or medical data; diagnostic or other clinical imaging; etc.

Further information is available from the [DCU Data Protection Unit](#)

4.1 ASSESSING DATA PROTECTION RISKS & REQUIREMENTS

Note 1: What does ‘Minor’ and ‘Vulnerable Individual’ mean?

A **minor** is defined as an individual below 18 years of age. Where the processing relates to ‘electronic marketing’ the age limit is reduced to 16 years. A **vulnerable individual** may be anyone who is unable to consent to, or oppose, the processing of his or her personal data for any reason. Both of these are of particular importance if the project compels the provision of data from individuals.

Note 2: What does ‘large scale processing’ mean?

The GDPR does not define what constitutes large-scale. EU guidance recommends that the following factors, in particular, be considered when determining whether the processing is carried out on a large scale:

- the number of data subjects (either as a specific number or proportion of the relevant population);
- the volume of data and/or the range of different data items being processed;
- the duration, or permanence, of the data processing activity; &
- the geographical extent of the processing activity.

Examples of large-scale processing include, but are not limited to:

- processing of patient data in the regular course of business by a hospital;
- processing of travel data of individuals using a public transport system (e.g. tracking via travel cards);
- processing of real time geo-location data of customers of an international fast food chain for statistical purposes by a processor specialised in these activities;
- processing of customer data in the regular course of business by an insurance company or a bank;
- processing of personal data for behavioural advertising by a search engine; &
- processing of data (content, traffic, location) by telephone or internet service providers.

Examples that do **not** constitute large-scale processing include, but are not limited to:

- processing of patient data by an individual physician; and
- processing of personal data relating to criminal convictions and offences by an individual lawyer.

A. Applicant Data Protection Assessment Questionnaire – Part I

1	Does your project include living human subjects?	YES or NO	YES
2	Does your project include the use of any information (i.e. ‘Personal Data’) relating to an identified, or identifiable, person?	YES or NO	NO

3	Does your project include the use of identifiers such as: a name, an identification number, location data, an online identifier, or other similar identifiers?	YES or NO	NO
4	Does your project include the use of Personal Data specific to the physical, physiological, genetic, mental, economic, cultural or social identity of any living individual?	YES or NO	NO

If you answered 'Yes' to one or more of Questions 1-4 above, please continue to Part II below (otherwise proceed to the next section of this form). You should also consult with your Supervisor / Principal Investigator to ensure adequate Data Protection compliance measures are in place.

B. Applicant Data Protection Assessment Questionnaire – Part II			
5(a)	Does your project include the use of Personal Data of individuals which reveals any of the attributes or characteristics below? If 'Yes,' please indicate which will be used in your project (tick all that apply):	YES or NO	NO
	<i>racial or ethnic origin</i>	YES or NO
	<i>political opinions</i>	YES or NO
	<i>religious or philosophical beliefs</i>	YES or NO
	<i>trade union membership</i>	YES or NO
	<i>genetic data</i>	YES or NO
	<i>biometric data</i>	YES or NO
	<i>data concerning health</i>	YES or NO
	<i>data concerning a natural person's sex life or sexual orientation</i>	YES or NO
5(b)	Does your project include the use of Personal Data relating to minors or vulnerable individuals? (See Note 1 , below)	YES or NO	NO
6	Does your project include the use of Personal Data of individuals relating to their criminal convictions and/or offences?	YES or NO	NO
7	Does your project include large-scale processing of personal data relating to living individuals? <i>This may include: a wide range or large volume of personal data; processing which takes place over a large geographical area; or where a large number of people are affected (e.g. over 100 individuals); or where the processing is extensive or has long-lasting effects. (See Note 2, below)</i>	YES or NO	NO
8	Does your project include any form of automated processing of personal data, used to evaluate certain personal aspects relating to a living individual? <i>In particular, to analyse or predict aspects concerning that person's performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements</i>	YES or NO	NO
9	Does your project include any partners which are third parties outside of DCU? <i>e.g. Research partners, third party software providers or other providers such as translation or transcription services, etc.</i>	YES or NO	NO

10 (a)	Does your project involve the sharing or processing of Personal Data outside the EU or the EEA? <i>i.e. the EEA is the European Economic Area (the EU plus Norway, Liechtenstein and Iceland)</i>	YES or NO	NO
10 (b)	If 'Yes', please state which non-EU or EEA country is involved:		
11	Does the project require the matching or combining of separate datasets of information on individuals in a way that would exceed their reasonable expectations of privacy? <i>An example would be combining mobile phone location data along with any other dataset to identify individuals.</i>	YES or NO	NO

If you answered 'Yes' to one or more of these questions, you should make sure that you have strong and secure data privacy risk mitigation safeguards in place, discuss these with your supervisor.

4.2 WILL ANONYMISATION OR PSEUDONYMISATION OF THE PERSONAL DATA, WHERE APPLICABLE, BE UNDERTAKEN?

Anonymisation is the process of removing personal identifiers, both direct and indirect, that may lead to an individual being identified. **Pseudonymisation** is the processing of personal data in such a manner that the personal data can no longer be attributed to a specific living individual without the use of additional information, provided that such additional information is kept separately and is subject to technical and organisational measures to ensure its security.

YES or NO
YES

If YES, please explain below the methods by which you intend to anonymise/pseudonymise the personal data:

Anonymisation will occur once the interview and observation are complete. The survey will be completely anonymous.

5. DATA/SAMPLE STORAGE, SECURITY AND DISPOSAL

For the purpose of this section the term 'Data' includes personal data that is in a raw or a processed state (e.g. interview audiotape, transcript or analysis, etc.). The term 'Samples' include body fluids and/or tissue samples.

5.1 HOW AND WHERE WILL THE DATA/SAMPLES BE STORED?

DCU recommends that any data stored electronically offsite should utilise the DCU Google Drive. Alternative offsite storage will need to be justified and must meet data protection and GDPR compliance requirements.

The DCU google drive will be used to store all data. Google forms, docs and sheets may also be used for processing.

5.2 WHO WILL HAVE ACCESS TO DATA/SAMPLES?

If people other than the main researchers have access, please name who they are and explain for what purpose.

The principal investigator and both students will have access to the data samples. If requested, the data will be provided to the examiner who will be a lecturer/professor within the DCU school of computing, however by then the data will be anonymised.

5.3 HOW LONG IS THE DATA TO BE HELD OR RETAINED?

Note that, with very few exceptions, **Personal Data** may not be retained indefinitely. It is up to the project team to establish an upper retention limit for each category of Personal Data used within the project and to ensure it is applied at the expiry of that limit. The School of Computing Research Ethics Committee recommends that Personal Data is retained until after the resit Pab for the current academic year.

Data will held in a private drive until the end of August 2021 before being destroyed.

- 5.4 IF YOUR PROJECT DOES INVOLVE THE USE OF PERSONAL DATA THEN WILL THIS BE USED AT A LATER DATE FOR THE PURPOSE OF PUBLICATION OF THE RESULTS OF THE PROJECT?

YES or NO

NO

Where it is intended that the personal data used in the project will be used at a later date for the purposes of publication please explain how consent to do so will be obtained.

- 5.5 IF THE DATA/SAMPLES ARE TO BE DISPOSED OF AT THE END OF THE PROJECT PLEASE EXPLAIN HOW, WHEN AND BY WHOM THIS WILL BE DONE?

Note that simply deleting files is not sufficiently secure. The additional steps to be taken to maintain data security should be given. **Personal data** must be disposed of in a safe and secure manner at the end of its retention period. If the data is stored in (a) a paper-based format, then shredding or disposal via a secure bin is recommended; or (b) in an electronic-based format, then deletion of the record or the full anonymization of the data is recommended. If data/samples are **not** being disposed of, please justify that intention.

How will the data/samples be disposed of? Please describe the means by which the personal data will be deleted or destroyed. This includes personal data held in hard copy and digital formats.	The data will be deleted from the google drive by the end of August 2021.
By whom will the data/samples be disposed? Please indicate the designated team member(s) with responsibility for deletion and/or destruction of the research project's personal data.	The data will be deleted by both James Farrelly and Emily Whyte.

6. PLAIN LANGUAGE STATEMENT (Attach to this document. Up to a max of 400 words)

A Plain Language Statement (PLS) should be used in all cases. This is written information in plain language that you will be providing to participants, outlining the nature of their involvement in the project and inviting their participation. The PLS should specifically describe what will be expected of participants, the risks and inconveniences for them, and other information relevant to their involvement. Please note that the language used must reflect the participant age group and corresponding comprehension level– if your participants have different comprehension levels (e.g. both adults and children) then separate forms should be prepared for each group. The PLS can be embedded in an email to which an online survey is attached, or handed/sent to individuals in advance of their consent being sought. See link to sample templates on the website: <https://www.dcu.ie/researchsupport/ethicsapproval.shtml>

PLEASE CONFIRM WHETHER THE FOLLOWING ISSUES HAVE BEEN ADDRESSED IN YOUR PLAIN LANGUAGE STATEMENT/ INFORMATION SHEET FOR PARTICIPANTS:

Note that this list is a check-list of all of the things that you should include in your plain language statement, if they are relevant (they are in most cases). In the earlier sections of this form you have already written the text that can be used to create your plain language statement. References to the relevant sections are provided on each line.

	YES or NO
Introductory Statement (Student(s) and supervisor names, school, title of the project) [Table, p 1]	YES
What is this project about? [section 2.1]	YES
Why is this project being conducted? [section 2.1]	YES
What will the participant be expected to do/have to do if they decide to participate in the study?[section 2.1]	YES
How will their privacy be protected? [section 2.5, section 2.6]	YES
How will the data be used and subsequently disposed of? [section 5.3]	YES
What are the legal limitations to data confidentiality? [section 2.7]	YES
Are there any benefits of taking part in the study? [section 3.3]	YES
Are there any risks of taking part in the study? [section 3.2]	YES
Confirmation that participants can change their mind at any stage and withdraw from the study [see plain language statement template, appendix 1]	YES
How will participants find out what happens with the project? [section 2.9]	YES
Contact details for further information [see plain language statement template, appendix 1]	YES

If any of these issues are marked NO, please justify their exclusion:

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7. INFORMED CONSENT FORM (Attach to this document. Approx. 300 words, see appendices 2 and 3 for templates.)

In most cases where interviews or focus groups are taking place, an Informed Consent Form is required. This is an important document requiring participants to indicate their consent to participate in the study and give their signature. In cases where an anonymous questionnaire is being used, it is not enough to include a tick box in the questionnaire. Participants should indicate their consent to each aspect of the research in a staged manner by checking mandatory checkboxes.

See link to sample templates on the website: <https://www.dcu.ie/researchsupport/ethicsapproval.shtml>

NB – IF AN INFORMED CONSENT FORM IS NOT BEING USED, THE REASON FOR THIS MUST BE JUSTIFIED HERE.

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8. ASSENT FORM & PLAIN LANGUAGE STATEMENT FOR CHILDREN (Attach to this document.)

A child specific Plain Language Statement (PLS) should be used in project where children will be involved. The PLS must be written in a way that is understandable for children within your targeted age group. It also must state, in plain language, the nature of their involvement in the project and inviting their participation. The PLS should specifically describe what will be expected of participants, the risks and inconveniences for them, and other information relevant to their involvement. In addition, child participants should also be provided with an Assent Form. Parents/guardians will be provided with the Informed Consent Form, but each child should provide assent before taking part in the project. The Assent Form needs to be understandable to the age-group you are targeting. See link to sample templates on the website: <https://www.dcu.ie/researchsupport/researchethics.shtml>

NB – IF AN ASSENT FORM IS NOT BEING USED, THE REASON FOR THIS MUST BE JUSTIFIED HERE.

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9. SUBMISSION CHECKLIST *(Attach to this document)*

Please confirm that all supplementary information is included in your application (in electronic copy). If questionnaire or interview questions are submitted in draft form, please indicate this by putting (draft) after YES. A copy of the final documentation must be submitted for final approval when available.

My application has been collated as one electronic PDF file which includes the following documentation:	INCLUDED (mark as YES)	NOT APPLICABLE (mark as N/A)
Recruitment advertisement [consistent with section 2.3]		N/A
Plain language statement/Information Statement [see section 6 and appendix 1]	YES	
Informed Consent form [see appendices 2 and 3]	YES	
Informed Assent form (children only)		N/A
Evidence of external approvals related to the research [see sections 1.1 and 2.10]		N/A
Questionnaire/Survey	YES	
Interview/Focus Group Questions		N/A

Appendix 1

DUBLIN CITY UNIVERSITY

Plain Language Statement

This user research study is being completed for a non-commercial web application we have created called AI search visualiser. The web app attempts to visualise algorithms used in artificial intelligence and let the user know what is happening at each step. This is a final year project for the School of Computing, Dublin City University. Charles Daly is the principal investigator, with James Farrelly and Emily Whyte being the sub-investigators.

Dublin City University will be the data controller for the project. Data will only be stored on DCU services such as the DCU Google Drive. If participants have any initial concerns or wish to access your own personal data kept as part of this study, please contact the DCU Data Protection Officer – Mr. Martin Ward (data.protection@dcu.ie Ph: 7005118 / 7008257). The anonymous survey, observation and interview are being used in order to obtain feedback from sample users of the app in order to improve its functionality and user interface. The data obtained will not be shared with any external (non-DCU) parties. The data collected will be destroyed prior to August 2021. You have the right to lodge a complaint with the [Irish Data Protection Commission](#) at any point during the study. You also have the right to withdraw yourself from this study, as well as the use of your data.

Participants will be asked to complete an anonymous survey. The survey data will be collected and analysed. This will be a quick survey, taking roughly 5 minutes. The observation and interview will take roughly 20 minutes. It will involve you, the participant, walking through using the web application. During so we will be observing what you are doing without commenting unless help is needed. After this, we will interview you about your experience using the application. Your feedback will be anonymised, taking away any identifiable information. Participating in this study will hopefully increase your understanding of AI search algorithms.

Please be aware that 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.

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

Appendix 2 DUBLIN CITY UNIVERSITY

Informed Consent Form

AI search algorithm

Dublin City University

Principle Investigator: Charles Daly

Students: James Farrelly & Emily Whyte

This research study is being completed for a non-commercial web application called AI search visualiser. The app is a learning tool using to visualise search algorithms used in Artificial intelligence. An observation will occur, where you will be watched using the application. We will then ask you to complete an interview about your experience. At no point during this study is your personal data being collected. After the initial observation and interview, all references to your personal data will be deleted and then the interview will be analysed and combined with the anonymous survey into a document, which will be stored on the DCU Google Drive.

Please complete the following after reading 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

I am aware that I will be observed & interviewed Yes/No

I am aware that I may withdraw from the research study at any time, without reason Yes/No

I understand the legal limitations to data confidentiality Yes/No

I understand the data kept for this study will be destroyed by August 2021 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 research project.

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Appendix 3

Anonymous Online Consent Form Template

AI search visualiser

Dublin City University

Principle Investigator: Charles Daly

Students: James Farrelly & Emily Whyte

This research study is being completed for a non-commercial web application called AI search visualiser. The app is a learning tool used to visualise search algorithms used in Artificial intelligence. An observation will occur, where you will be watched using the application. We will then ask you to complete an interview about your experience. At no point during this study is your personal data being collected. After the initial observation and interview, all references to your personal data will be deleted and then the interview will be analyzed and combined with the anonymous survey into a document, which will be stored on the DCU Google Drive.

Please complete the following after reading the Plain Language Statement on the previous page

Participant – please complete the following (by clicking Yes/No for each question)

<p>I have read the Plain Language Statement (or had it read to me) *</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	<p>I have received satisfactory answers to all my questions</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>
<p>I understand the information provided</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	<p>I am aware I will be observed & interviewed</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>
<p>I understand the information provided in relation to data protection</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	<p>I am aware that I may withdraw myself from the research study at any time, without reason</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Maybe</p>
<p>I understand the information provided in relation to data protection</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	<p>I understand the legal limitations to data confidentiality</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>
<p>I have had an opportunity to ask questions and discuss this study</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	<p>I understand the data kept for this study will be destroyed by July 2021</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>

Appendix 4
Survey Draft (currently not accepting responses):

<https://forms.gle/YaKN3iDFrGTpmPVV6>

Appendix 5 ***Interview***

1. Design & Navigation

1.1 Did you enjoy the design of the website. This includes the colour choices, the logo and overall layout. If you had to change anything, what would you change?

Answer:

1.2 Were the controls intuitive enough such as the node movement, step controller, etc. Would you change anything in this regard?

Answer:

1.3 Was it easy for you to navigate the comparison feature. Were there any parts of the website that weren't easy to navigate?

Answer:

2. Content

2.1 Have you used a website like this before, if so what do they offer that our website doesn't? Is there anything that makes our website better than these other websites?

Answer:

2.2 Did this website help your understanding of AI search algorithms? Was the visualisation helpful in this?

Answer:

2.3 Are there any features missing from the website that you might expect?

Answer:

2.4 Would you like it if you could make an account and save your work? Would you be more likely to use the website if this feature was available?

Answer:

2.5 Did everything behave the way you expected it to?

Answer:

3. Usability & Accessibility

3.1 Did the website work correctly with your browser? What browser are you using?

Answer:

3.2 How would you rate the overall clarity and readability of the website? Were there any particular parts that were confusing?

Answer:

3.3 Would you visit the website again?

Answer:

3.4 Do you have any extra suggestions?

Answer:

