

School of Computing RESEARCH ETHICS COMMITTEE

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

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

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

Examples of projects in this category include:

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

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

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

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

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

SECTION 1 – GENERAL DETAILS 1.1 Project Title **START Web Application** 1.2 Applicant Details Name Student or Supervisor E-mail Adam Gray Student adam.gray27@mail.dcu.ie Niall Kelly Student niall.kelly88@mail.dcu.ie Dr David Sinclair Supervisor david.sinclair@dcu.ie Other Investigators: Including any external to DCU School/Unit/External Institution Name E-mail 1.3 Key Project Dates Proposed start date for data Proposed end date for data Proposed project collection completion date collection 07/04/24 01/04/14 21/04/24 1.4 Please indicate which academic award Taught Masters □ Undergraduate 1.5 Please confirm the location(s) where the research will be carried out If research will be carried out abroad, you will need to address the ethical challenges raised by this in Section 3 of your application - consult the Conducting Research Abroad document in the Ethics Resources and Guidelines section of the DCU Research Ethics webpage). At our own homes as well as on site at the DCU campus. 1.6 Please state what additional permissions may be required to access participants. Specify from whom the permission is required (e.g. a school Board of Management), and when their written approval will be obtained N/A

SECTION 2 - PROJECT DESIGN AND METHODOLOGY

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

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

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

The reason for the research to be undertaken is so after our initial implementation phase of the project we can get feedback from our target users on which features they would like to be improved or changed, allowing us to do so before the project deadline.

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

The project is a web application that will enable users to learn our own programming language, START, as well as write and execute code all from the web. It will also contain a debugger to help them learn how to fix issues they come across while programming. The application will also contain resources such as videos and educational document about the language including concepts and tutorials.

2.3 Please confirm your methods of data collection:

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

Method	Describe briefly
☐ Interviews or focus groups	
⊠ Surveys/questionnaires	Google Forms will be used to collect data from the users who answer our survey. This will be anonymous and no user will be able to be identified.
☐ Audio/video recordings	
☐ Public observations	
☐ Persons in public office	
☐ Using existing data (incl. secondary data)	
☐ Using human derived material (biological samples)	
☐ Standard tests (educational/personality etc.)	
☐ Standard educational practices	
☐ Other (please specify)	

2.4 Please confirm who the participants on this study will be, including group size and composition:

Include associated demographic characteristics, and state how your proposed sample size was determined (e.g. power analysis)

We have 2 main groups of participants in mind:

- Group 1 consists of students from a non computer science discipline
- Group 2 consists of non students with no prior experience with programming

Our sample size was open to any participant who met 2 criteria:

- 1) The participant did not partake in our testing last year
- 2) The participant had no prior experience with programming

2.5 Please outline your recruitment process,	including where you are sourcing participants
from and your criteria for inclusion/exclusion	n:

Where gatekeepers are involved, outline the procedures relating to their involvement

An email would be sent to possible participants we know meet our criteria, asking them if they wish to participate in the study.

2.6 Addressing participant vulnerability - if your participants fall into any of the following
categories, please check the relevant tick box/boxes and state below what special
arrangements will be made to protect them:

STANIA.
⊠ N/A
☐ Children under 18 years of age
☐ Persons in unequal relationships with the researcher (e.g. lecturer-student, therapist-client,
employer-employee)
☐ People with a recognised or diagnosed intellectual, physical or mental impairment
☐ People confined to institutions (e.g. prisoners, residents in 24 hr nursing facilities)
☐ People who have undergone traumatic or adverse emotional events
People with diminished cognitive ability
☐ Marginalised sections of society
☐ Other (please specify)
Special arrangements:
No protection is required, participants data will be anonymous and will be destroyed after
the survey is completed.
2.7 Involvement of children under 18 years of age – if your participants are in this category,
please confirm compliance with the following:
If your participants are not in this category, tick N/A
If your participants are not in this category, tick N/A ⊠ N/A
⊠ N/A
 ☑ N/A ☐ We confirm that we have read and agree to act in accordance with the DCU Child Protection
 N/A □ We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures (as per the DCU Child Protection Unit webpage)
 N/A □ We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures (as per the DCU Child Protection Unit webpage) □ We confirm that we have put in place safeguards for the children participating in the research □ We confirm that we have supports in place for children who may disclose current or historical abuse (whether or not this is the focus of the research)
 N/A □ We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures (as per the DCU Child Protection Unit webpage) □ We confirm that we have put in place safeguards for the children participating in the research □ We confirm that we have supports in place for children who may disclose current or historical abuse (whether or not this is the focus of the research) □ We confirm that all requirements will be met prior to commencing the research (e.g. TUSLA)
 N/A □ We confirm that we have read and agree to act in accordance with the DCU Child Protection policy and procedures (as per the DCU Child Protection Unit webpage) □ We confirm that we have put in place safeguards for the children participating in the research □ We confirm that we have supports in place for children who may disclose current or historical abuse (whether or not this is the focus of the research)

2.8 Please confirm how the results of the research will be disseminated:

Include a statement on whether the participants will be provided with any information as to the findings or outcomes of the project

The results of the study will not be made public to any participant or anyone outside of the study. The project supervisor and examiners will be informed of the results where relevant and the overall results will be present in the documentation of the final project.

SECTION 3 – ETHICAL ISSUES AND RISK MANAGEMENT

	Il issues including ethical issues which may arise in the course of this ne potential risks to participants, and how will those risks be addressed
or minimised?	
	physical, psychological, social, legal, etc. Please include details of any
	ng provided for participants during/after the study
The level of risk for pa	articipants of the study is low.
3.2 Please identify th research:	e potential benefits (direct and/or indirect) to those participating in this
	uld outweigh the potential risks to participants
	fit to the participants of this study. They will be helping us to develop and
improve our system.	
any unexpected outcresearch:	what measures/protocols you have put in place in the event that there are comes or adverse effects to participants arising from involvement in the
	ely event of any adverse side effect on any participant of the study, all llection will be stopped and all previously gathered data will be destroyed.
Toobaron and data oo	modici. Will be displaced and all providuoly gainered data will be decirelyed.
	provide payment or incentives to participants?
Yes □	No ⊠
	the REC Guidelines on the Use of Compensation and Incentives (in the Ethics ines section of the <u>DCU Research Ethics webpage)</u> before providing additional
details below	The decire of the Dee House of Eurobe Webpage Delete providing additional
3.5 Does this researc	h raise any potential risks for the researchers themselves?
	location/environment where the research is being conducted, exposure to
distressing data conter	nt etc.
Yes □	No ⊠
If Yes, please describe	e further and explain what risk management procedures will be put in place to
minimise these risks to	researchers:
3.6 Does this researc	h raise any potential conflict of interest?
	otential real <u>or perceived conflicts of interest that might influence the integrity</u>
	e rise to bias in conducting and reporting the research, or affecting publication
	flict of Interest Policy for assistance)
Yes □	No 🗵
If Yes, please identify a	and explain the steps being taken to address that conflict:

DCU Research Support
3.7 Please describe how the conduct of the research will be monitored: Regular oversight by the PI is required to ensure the project conforms to the procedures set out in this application (especially where several people are involved in carrying out the research procedures)
Regular meetings and contact with the supervisor of the project will ensure that the study is being carried out as specified in this application.
CECTION 4 CONFIDENTIALITY AND DATA MANAGEMENT
SECTION 4 – CONFIDENTIALITY AND DATA MANAGEMENT
4.1 Considering your previous response in section 2.3 of the form on data collection, please confirm whether you are collecting or processing personal data in this research project: Personal data is any information about a living person, where that person is either identified, or could be identified from the data itself, or when it is combined with other data. This includes paper based, electronic and biological samples data. If your data is fully and completely anonymous, it is not personal data. Yes □ No □
If Yes, please confirm your compliance with the following by ticking the checkboxes:
☐ We confirm that we have completed the DCU Data Protection training module on Loop.
☐ We confirm that we have read the "Data Protection – Key Points for DCU Researchers" guidance on the DCU Data Protection Unit (DPU) website and agree to protect and manage our data in accordance with same.
☐ We have assessed the degree of risk inherent in the personal data being used in the research project, and confirm that all DPU GDPR requirements have been met prior to submitting this application (e.g. completion of Data Protection questionnaire, confirmation that any survey tool being used is GDPR compliant, that required Data Processing or Sharing Agreements will be in place, etc.)
4.2 Data access – please confirm whether access to participant data is confined to the investigators named on this application: Yes ☑ No □ If No, please name who the other individuals are and why they need access. Any proposed transfer of data (including outside of the EU) should be detailed here.
4.3 Data storage – please confirm compliance with the following:
☑ Data collected on mobile devices will be protected with a strong password/passphrase at a
minimum, and/or encrypted if the device supports it Data will be removed from mobile devices as soon as is practicable and stored in a secured
location in DCU (on server or institutional Google Drive)
Paper based data will be held securely in locked cabinets in DCU, with access restricted to the
named researchers

Specific arrangements in relation to biological samples should be stated here:

Any exemptions to the above of	compliance statements should be ju-	stified here:
4.4 Please confirm who will be research:	pe responsible for the secure sto	rage of data generated by the
Name the relevant DCU investig	gator/s	
Niall Kelly		
Adam Gray		
4.5 Please confirm how long t		
	on 15: Retention of Personal Data in	
	uidance on the DCU Data Protection than 7 days after the final project e	
The data will be help no longer	than 7 days after the infai project c	Admination in May 2024.
	appen to the data collected at the	
	ox and complete the associated follo	
Archived	Destroyed ⊠	Other
4.6.1 Archived data		
Please provide the following det	taile:	
Name the DCU staff member	ans.	
responsible for archival and		
future use of data		
Confirm whether the data will		
be made available to other		
researchers, and if so, how?		
Confirm how the data will be		
prepared for archive (e.g. will		
datasets be anonymised)		
Confirm where the data will		
be archived and who will be		
allowed to access it		
4.6.2 Destroyed data		
	details - Note: for student proje	
	n if there is no guarantee the stude	nt will have access to the data at
the time of destruction	T	
Please justify why the data	It will no longer be needed for any	purpose in the project.
will be destroyed	Adama Ones All HIZ H	
Name the DCU researcher	Adam Gray, Niall Kelly	
responsible for destruction of		
data	47/05/0004	
Confirm when the data will be	17/05/2024	
destroyed (specify date)		

following destruction methods (tick relevant boxes)	 ☑ Electronic data will be overwritten/securely delet ☐ Paper based data will be confidentially shredded ☐ Medical samples will be disposed in accordance relevant DCU approved SOP 	l	
4.6.2.Other Bleese explain w		or dootre	wodi
+.o.2 Other - Flease explain w	hat will happen to the data if not being archived o	or destro	oyea.
SECTION 5 – PARTICIPANT IN	IFORMATION AND INFORMED CONSENT PROCE	DURES	
submit, a copy of (1) the	form you are required to attach, within the single Participation Information Sheet which you sh the Informed Consent Form which your participa	are with	า you
	following items have been addressed in yould be shared with all participants whether it involved		
under each item must reflect the your participants have different o separate sheets must be prepar	d as headings in yourinformation sheet. Note the lange participant age group and corresponding comprehe comprehension levels (e.g. both adult and child particed for each set. Templates are available via the RECOMPENDED RECION OF the Research Ethics website.	nsion lev cipants)	∕el– if then
Checklist – tick the relevant		Yes	No
Introductory Statement (Research	er names and titles, school, title of the research study)		
\A/bat is this research shout?			
What is this research about?	rted?	\boxtimes	
Why is this research being conduc			
Why is this research being conduct. Why have you been invited to take	e part?		
Why is this research being conduc	e part?		
Why is this research being conduct. Why have you been invited to take What will happen if you decide to How will your data be used?	e part?		
Why is this research being conduct. Why have you been invited to take What will happen if you decide to How will your data be used? How will your privacy be protected. What are the benefits of taking pa	e part? take part in this research study? I (including any legal limits to confidentiality)? rt in this research study?		
Why is this research being conduct. Why have you been invited to take What will happen if you decide to How will your data be used? How will your privacy be protected. What are the benefits of taking part in the work of taking part in th	e part? take part in this research study? I (including any legal limits to confidentiality)? It in this research study? In this research study?		
Why is this research being conduct. Why have you been invited to take What will happen if you decide to How will your data be used? How will your privacy be protected. What are the benefits of taking part in Can you change your mind at any	take part in this research study? I (including any legal limits to confidentiality)? In this research study? In this research study? In this research study? In this research study?		
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Why is this research being conduct Why have you been invited to take What will happen if you decide to How will your data be used? How will your privacy be protected What are the benefits of taking part in Can you change your mind at any How will you find out what happen Contact details for further information of the contact details for further as No, part of the contact details for further as No,	e part? take part in this research study? I (including any legal limits to confidentiality)? It in this research study? It this research study? It is stage and withdraw from this study? It is with this project? It is part?		

participants, you will also need to obtain their written assent. Templates are available via the <u>REC</u>
<u>Forms - Applications, Templates and Amendments section</u> of the Research Ethics website.

The participant will click a box before completi participate in the study. This will be a written allow them to continue.	
If No, describe the procedures regarding how conse	ent/assent will be obtained:
If you are gathering data from an online process such should use a page such as the one below, to captur gathering should not proceed until participants have answers.	re participants' informed consent and your data
Participant – please complete the following ((by clicking Yes/No for each question)
I have read the Plain Language Statement (or had it read to me) *	I understand I may withdraw from the Research Study at any point *
Yes	O Yes
○ No	O No
I understand the information provided *	I have read and understand the arrangements to be made to protect confidentiality of data, including that confidentiality of information provided is subject to legal limitations.*
O Yes	○ Yes
O No	O No
I have had an opportunity to ask questions and discuss this study *	I have read and understand confirmations relating to any other relevant information as indicated in the PLS *
O Yes	○ Yes
O No	O No
I understand the information provided in relation to data protection *	I consent to participate in this research study *
○ Yes	○ Yes
O No	O No
I have received satisfactory answers to all my questions *	
Yes	
O No	

SECTION 6 – SUBMISSION CHECKLIST AND RESEARCHER DECLARATION

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

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

6.2 Signed Declaration

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

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

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

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

Electronic Signature(s):

Supervisor:

Print Name here: David Sinclair

Date: 13/03/2024

Student(s) signature(s): Niall Kelly & Adam Gray

Print Name(s) here: Niall Kelly & Adam Gray

Date: 16/02/2024

SECTION 7 – SUPPLEMENTARY DOCUMENTATION

Please attach all required documentation as confirmed by you in the previous section. The application should then be saved as one file in <u>PDF format</u> before submission via the project dashboard.

Participation Information Sheet

Introductory Statement

Evaluating the START Web Application with user-based testing.

Investigators: Adam Gray, Niall Kelly

School: DCU School of Computing

This project aims to develop an application to allow beginner programmers to be able to learn about, write and run code for our own programming language START. As such we will need to get real beginner feedback on the design of the application.

Why is this research being conducted?

The research's purpose is to allow user feedback to be implemented into the final system ensuring it is catering to the original target users. No personal data is being collected in this study.

Why have you been invited to take part?

You have been invited to participate in the study as you have been identified as a target users for our system, meaning you are from a non computer science background and have no prior experience with programming.

What will happen if you decide to take part in this research study?

Should you wish to partake in this study, you will be given an opportunity to use our new application early and give feedback on how you feel about the features of the application by completing a short questionnaire after the testing period.

How will your data be used?

Your data will be collected anonymously via Google Forms and used in conjunction with other user's data to allow the data controllers to assess the failures in the initial implementation of our application.

At the end of the study period, May 17 2024, your digital data will be destroyed by the data controller's.

The data controller's in the study are:

Niall Kelly (niall.kelly88@mail.dcu.ie)

Adam Gray (adam.gray27@mail.dcu.ie)

How will your privacy be protected (including any legal limits to confidentiality)?

Your data will be completely anonymous in this study and there will be no way to attribute your collected data to you. This will be ensured through the use of an anonymous survey as well as only the data controllers having access to the final data. Please note 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.

You may request more information about the protection of your data, either by contacting a member of our research team, or by contacting <u>DCUs</u> Data Protection Officer Mr. Martin Ward, by phone: 01 700 747, or by email: martin.ward@dcu.ie

What are the benefits of taking part in this research study?

There are no direct benefits to partaking in this study, however an indirect benefit is that you may improve your programming ability.

What are the risks of taking part in this study?

It is not expected that there will be any risk to the participants arising from the involvement in this study.

Can you change your mind at any stage and withdraw from this study?

At any time you may withdraw from the study and your data will be destroyed immediately following the conclusion of the study, and will remain anonymous the entire time in accordance with laws associated with GDPR.

Contact details for further information:

In addition to providing the relevant researcher contact details, please include the following statement: "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

Informed Consent Form:

DCU Research Support

Research Study Title
Evaluating the START Web Application with user-based testing.
Investigators: Adam Gray, Niall Kelly
School: DCU School of Computing
The research's purpose is to allow user feedback to be implemented into the final system ensuring it is catering to the original target users. No personal data is being collected in this study. You must first use the system for about 20-30 minutes and after answering a short anonymous survey.
Before starting the survey please confirm your participation by answering the following statements listed below
Details during the surrey predict committy out participation by anomaling the following determine need below
I have read the Plain Language Statement (or had it read to me) above *
I understand the information provided *
Yes
I have had an opportunity to ask questions and discuss this study *
I have received satisfactory answers to all my questions *
Yes
Lhous resolved estisfactory angulars to all mu questions *
I have received satisfactory answers to all my questions *
Yes
I understand I may withdraw from the study at any time or wish to not partake at all * Yes
I understand the arrangements in place to protect my data and am aware that these
arrangements are subject to legal limitations
Yes
I understand arrangements are in in place to dispose of my data once the study period has been completed Yes

User Testing Survey:

How would you rate your overall experience with our web-based IDE for learning * START?
○ Very Positive
OPositive
○ Neutral
○ Negative
○ Very Negative
On a scale of 1 to 10, how easy was it to navigate and find the resources (videos, * documents) within the application?
1 2 3 4 5 6 7 8 9 10
Did you find the learning resources (videos, documents) helpful in understanding * programming concepts? Yes No
How satisfied are you with the features available for coding within the IDE (e.g., * code editor, debugging tools, syntax highlighting)? Very Positive Positive Neutral
○ Negative
○ Very Negative
Were you able to create an account successfully? * Yes No
If you encountered any issues while using the web-based IDE, please describe them briefly. Your answer

How likely are you to recommend our web-based IDE to others interested in learning programming concepts?						
	1	2	3	4	5	
	0	0	0	0	0	
Did you find	the option	to save your	coding sess	sions useful?		
○ Yes						
○ No						
Somewh	at					
Were there any specific features or resources you wished were available within the web-based IDE? Your answer						
How would you rate the performance and speed of the web-based IDE? *						
	1	2	3	4	5	
	0	0	0	0	0	
Submit						Clear form