

Dublin City University School of Computing ETHICS COMMITTEE

NOTIFICATION FORM FOR LOW-RISK PROJECTS AT UNDERGRADUATE OR TAUGHT MASTERS LEVELS

Application Number:		

<u>Please read the following information carefully before completing your application. Failure to adhere to these guidelines will make your submission ineligible for review.</u>

- Download this form
- Completed applications must be uploaded to your School of Computing GitLab repo and must be located in "docs/ethics.pdf".
- Your supervisor will be notified automatically and must approve your approach initially.
- The application should consist of one electronic file (PDF) only. The completed application must include this form and must incorporate all supplementary documentation, especially that being given to the proposed participants e.g. consent forms, plain English language statement. It must be proofread and spell-checked before submission.
- > All sections of the application form must be answered as instructed and within the word limits given.

Applications which do not adhere to all these requirements will not be accepted for review and will require resubmission

Applications must be completed on this form; answers in the form of attachments will not be accepted, except where indicated. No hard copy applications will be accepted. The project <u>must not</u> commence until written approval has been received from the School of Computing Ethics Committee.

PROJECT TITLE	Hopeful – A First Programming Language
PRINCIPAL INVESTIGATOR(S) The named Principal Investigator is the person with primary responsibility for the research project. In the case of Taught Masters projects and undergraduate projects the supervisor is the Principal Investigator.	David Sinclair
START AND END DATE	1/2/2019 - 17/5/2019
LEVEL OF RISK Please indicate whether this project requires more than a notification Justification for your choice is required under section 3.1	Low

Please confirm that <u>all</u> 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 file which includes the following documentation:	INCLUDED (mark as YES)	NOT APPLICABLE (mark as N/A)
Bibliography		N/A
Recruitment advertisement		N/A
Plain language statement/Information statement	YES	
Informed consent form	YES	
Personal Data Security Schedule https://www.dcu.ie/sites/default/files/info/3 . blank data security_schedule.xls		N/A
Evidence of external approvals related to the research		N/A
Questionnaire/Survey	YES	
Interview/Focus Group Questions		N/A
Debriefing material		N/A
Other (e.g. local government approval)		N/A

Please note:

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

1. ADMINISTRATIVE DETAILS

Project Type (select one): <u>Undergraduate Project – Final Year</u>

Undergraduate Project – non-final Year

Taught Masters (Practicum)

(projects at other levels, e.g. PhD or research Masters, should be approved by the University's REC if necessary)

1.1 INVESTIGATOR CONTACT DETAILS

PRINCIPAL INVESTIGATOR(S): Your supervisor and other academic staff who are assisting, it should be clear who is the person who is carrying out the research procedures.

NAME	SCHOOL/UNIT	EMAIL
David Sinclair	School of Computing	david.sinclair@computing.
		dcu.ie

OTHER INVESTIGATORS (STUDENT(S)):

NAME	SCHOOL/UNIT	EMAIL
Gillian Mullen	School of Computing	Gillian.mullen5@mail.dcu.i
		е

1.2 WILL THE RESEARCH BE UNDERTAKEN ON-SITE AT A Dublin City University CAMPUS?

WILL THE KES
YES or NO
YES

2.7.)	(If NO, state details of the off-campus location - provide details of the approval to gain access to that location in section
1.3 	IS THIS PROTOCOL BEING SUBMITTED TO ANOTHER ETHICS COMMITTEE, OR HAS IT BEEN PREVIOUSLY SUBMITTED TO AN ETHICS COMMITTEE? YES or NO NO
	(If YES, please provide details and attach copies of approval(s) received etc.)
The info Universi set out (https://v Code of Ethics C	RATION BY PRINCIPAL INVESTIGATOR(S) in the first in the desired in the attached application in accordance with the form guidelines, the SCEC guidelines www.dcu.ie/researchsupport/researchethics.shtml), the University's policy on Conflict of Interest, Good Research Practice and any other condition laid down by the Dublin City University Research committee. I have attempted to identify all risks related to the research that may arise in conducting earch and acknowledge my obligations and the rights of the participants.
other cir	exists any affiliation or financial interest for researcher(s) in this research or its outcomes or any cumstances which might represent a perceived, potential or actual conflict of interest this should ared in accordance with Dublin City University policy on Conflicts of Interest.
to cond	co-investigators or supporting staff have the appropriate qualifications, experience and facilities uct the research set out in the attached application and to deal with any emergencies and encies related to the research that may arise.
Electron	ic Signature(s):
Principal	investigator(s):David Sinclair
Print Nan	ne(s) here:David Sinclair
Date: _3	3/2/2019

2. PROJECT OUTLINE

2.1 LAY DESCRIPTION (Max. 300 words)

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

My project, Hopeful - A First Programming Language, will involve the development of a programming language. This language will be aimed at beginning programmers in a university setting. It will have a simple and clean syntax that will allow students to focus on the fundamentals of programming, instead of a complicated syntax. Teaching programming to beginners can be a very difficult task. This project aims to create a programming language that will both help lecturers to teach and students to learn.

Participants will first fill out a survey based on aspects of their first, and other, programming languages that they like and dislike.

Once the building of the language is completed, a second group of participants will test and compare the language against an existing programming language used to teach students.

2.2 AIMS OF AND JUSTIFICATION FOR THE RESEARCH (Max. 400 words)

State the aims and significance of the project. Where relevant, state the specific hypothesis to be tested. Please provide a brief description of background research, a justification as to why this research project should proceed in that context and an explanation of any expected benefits to the community. NB – all references cited should be listed in an attached bibliography.

The aim of this project is to create a beginners' programming language which caters to the needs of students in a university setting.

The inclusion of participants seeks to cater the language towards university students and test the success of the language in achieving those goals.

2.3 DESCRIBE THE METHODOLOGY BEING USED TO ACHIEVE YOUR STATED AIMS

Provide an outline of the proposed method and state who is doing which task – include details of data collection techniques, the tasks participants will be asked to do, the estimated time commitment involved, and how data will be analyzed. If the project includes any procedure which is beyond already established and accepted techniques, please include a description of it. There should be enough detail provided to facilitate ethical review, but applicants are encouraged to keep it as succinct as possible.

For the surveying section of the research, a questionnaire will be distributed to computing, engineering, and lecturers within the School of Computing. Participants will be asked to answer a series of question relating to different aspects of programming languages and learning how to program. The time commitment should not extend more than five minutes.

For the evaluation section of the research, participants will be asked to complete two small exercises, one using the new programming language and another in a language already used within the university. After completing the exercises, participants will be asked to compare and contrast their experiences during the exercises and give an evaluation of the new programming language.

2.4 PARTICIPANT PROFILE

Provide the number, age range and source of participants. Please provide a justification of your proposed sample size. Please provide a justification for selecting a specific gender, age, or any other group if this is done in your project.

Student participants will be ages 18-22 studying within Dublin City University, mostly from an Engineering and Computing background, but not exclusively. Participants will number about 20.

2 4/2	PARTICIPANT VIII NERABII IT	v

Are some or all of 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 researchers and participants etc.)? If they are, state what this vulnerability (or vulnerabilities) is and justify why this research is being done with such participants.

N/A			

2.4(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	
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)	

2.5 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 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.

For the survey portion, participants will be recruited through their class mailing lists, which are readily available, and then participants will fill out the linked online survey.

For the research portion, participants will be, once again, recruited through class mailing lists, and with word-of-mouth advertising within clubs and societies within DCU.

2.6 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 results of the research will be compiled into a report which shall be delivered with the final deliverables of the project.

2.7 ARE OTHER APPROVALS REQUIRED TO GAIN ACCESS TO ANOTHER LOCATION, ORGANISATION 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.)

HAS A SIMIL A	R PROPOSAL BEEN PREV	IOUSI Y APPROVED BY T	HE DCU SCEC?
YES or NO			
NO			
]		
(If VES please	tate both the REC Application N	lumber and Project Title)	
(If YES, please	tate both the REC Application N	lumber and Project Title)	

3. RISK AND RISK MANAGEMENT

3.1 JUSTIFICATION OF STATED LEVEL OF RISK TO RESEARCH PARTICIPANTS

You must provide a justification for the stated level of risk, 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 research 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

No personal data will be collected regarding the participants.	

3.2 DOES THE RESEARCH INVOLVE:

	YES or NO
use of a questionnaire? (attach copy)?	YES
interviews (attach interview questions)?	NO
 observation of participants without their knowledge? 	NO
 participant observation (provide details in section 2)? 	YES
 audio- or video-taping interviewees or events? 	NO
 access to personal and/or confidential data (including student, patient or client data) without the participant's specific consent? 	NO
 administration of any stimuli, tasks, investigations or procedures which may be experienced by participants as physically or mentally painful, stressful or unpleasant during or after the research process? 	NO
 performance of any acts which might diminish the self-esteem of participants or cause them to experience embarrassment, regret or depression? 	NO
 investigation of participants involved in illegal activities? 	NO
 procedures that involve deception of participants? 	NO
administration of any substance or agent?	NO
 use of non-treatment of placebo control conditions? 	NO
 collection of body tissues or fluid samples? 	NO
collection and/or testing of DNA samples?	NO
participation in a clinical trial?	NO
 administration of ionising radiation to participants? 	NO

3.3 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 research. Please explain what risk management procedures will be put in place to minimize these risks.

There may be mental risk to participants as undergoing the exercises may cause stress for the participants. The risk management will involve giving as many resources to the participants to help them complete the exercises.

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

NESEANCIII
YES or NO
NO

(If YES, provide details.)		

	clude use of dangerous materials, asking certain types of questions, research being undertaken in
VES or N	earchers working alone in isolated areas, etc.
NO	
(If YES, pleas	e describe and explain what risk management procedures will be put in place to minimise these risks.,
	VITH ADVERSE/UNEXPECTED OUTCOMES
	ibe what measures/protocols you have put in place in the event that there are any unexpected outcon its to participants arising from involvement in the project.
N/A as pa	articipants are all regular computer users and will be simply filling a web-based sur usly.
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3.10 DO ANY OF THE RESEARCHERS ON THIS PROJECT HAVE A PERSONAL, PHILOSOPHICAL, FINANCIAL OR COMMERCIAL INTEREST IN ITS OUTCOME THAT MIGHT INFLUENCE THE INTEGRITY OF THE RESEARCH, OR BIAS THE CONDUCT OR REPORTING OF THE RESEARCH, OR UNDULY DELAY OR OTHERWISE AFFECT THEIR PUBLICATION?

YES or NO					
NO					
(If YES, please sp	cify how this co	onflict of interest wil	ll be addressed.)		
(II TEO, piedoe opi	ony now tries oo	Williot of Wilcrost Wil	r be addressed.)		

4. INVESTIGATORS' QUALIFICATIONS, EXPERIENCE AND SKILLS (Approx. 200 words)

List the academic qualifications and outline the experience and skills <u>relevant to this project</u> that the PI, other researchers and any supporting staff have in carrying out the research and in dealing with any emergencies, unexpected outcomes, or contingencies that may arise. State specifically who will be carrying out the research procedures

BE (Electronics) 1984, MSc (Computing) 1991, PhD 1993

The PI has over 25 years' experience in academia and is an Associate Professor in the School of Computing in DCU.

The PI will oversee the development of the surveys, the analysis of the results and the destruction of the raw data after the storage period.

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YES	or	N	0	
YES	6			

(If NO, pl	ease exp	lain wi	hy.)
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IF YOU ANSWERED YES TO 5.1, PLEASE ANSWER THE FOLLOWING QUESTIONS:

5.2 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

The only details about the participants that will be collected is their level of programming skills.

5.3 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 research proposal and academic discipline, you may need to state additional specific limitations.

State how and where participants will be informed of these limitations

Included in Plain Language Statement.

6.	PERSONAL DATA - COMPLIANCE WITH THE GENERAL DATA PROTECTION I	
from the DCU and	data is data relating to a living individual (i.e. the 'Data Subject') who is, or can be, identified either from to data in conjunction with other information that is in, or is likely to come into, the possession of the 'Data C I its constituent units e.g. research teams etc.). Further information on personal data is available from on Unit at https://www.dcu.ie/ocoo/dp/guides.shtml	ontroller' (i.e.
6.1	IS PERSONAL DATA BEING PROCESSED AS PART OF THIS PROJECT? YES or NO NO	
	If YES, Please indicate your compliance with the following guidelines:	Mark here
	We confirm that we have read and agree to act in accordance with DCU Data Protection Unit guidance and procedures regarding personal data	
	We confirm that we have put in place a Personal Data Security Schedule (PDSS) for the project and have attached it to this application	
IF YOU 6.2	Please see the GDPR and the Research Ethics Process section of the SCEC mainguidance ANSWERED YES TO 6.1, PLEASE ANSWER THE FOLLOWING QUESTIONS: WHAT KIND OF PERSONAL DATA IS BEING PROCESSED? Note special categories of personal data include health data, genetic data and/or data relating to participants, their sex lives and/or sexual orientation	
6.3	WILL ANONYMISATION/PSEUDONYMISATION OF THE PERSONAL DATA BE UNDERT YES or NO (If NO, please explain why.)	AKEN?
	III NO, picase explain why.	

7. DATA/SAMPLE STORAGE, SECURITY AND DISPOSAL

For the purpose of this section, "Data" includes that in a raw or processed state (e.g. interview audiotape, transcript or analysis). "Samples" include body fluids or tissue samples.

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

Note that the SCEC recommends that all data be stored on campus - please justify any off-site storage

Surveys are digitalised and kept on student Google Drive.

7.2 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.

Only main researchers will have access.

7.3 HOW LONG IS THE DATA TO BE HELD/RETAINED FOR?

Note that with very few exceptions **personal data** may not be retained indefinitely. It is up to the unit or research team to establish an upper retention limit for each category of personal data under its control.

Data will be held for 4 months after the completion of the project as it contains no personal data about the participants.

7.4 IF DATA/SAMPLES ARE TO BE DISPOSED OF, PLEASE EXPLAIN <u>HOW</u>, <u>WHEN</u> AND <u>BY WHOM</u> 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) if it is stored in an electronic based format then deletion of the record or full anonymization of the data is recommended. If data/samples are NOT being disposed of, please justify this decision.

N/A

8.	FUNDING OF THE RESEARCH
8.1	HOW IS THIS WORK BEING FUNDED, IF IT IS EXTERNALLY FUNDED? Not funded.
8.2	PROJECT GRANT NUMBER (If relevant and/or known – otherwise mark as N/A) N/A
8.3	DOES THE PROJECT REQUIRE APPROVAL BEFORE CONSIDERATION FOR FUNDING BY A GRANTING BODY? YES or NO No
8.4.1	HOW WILL PARTICIPANTS BE INFORMED OF THE SOURCE OF THE FUNDING? (e.g. included in the Plain Language Statement)
8.5	DO THE FUNDERS OF THIS PROJECT HAVE A PERSONAL, FINANCIAL OR COMMERCIAL INTEREST IN ITS OUTCOME THAT MIGHT COMPROMISE THE INDEPENDENCE AND INTEGRITY OF THE RESEARCH, OR BIAS THE CONDUCT OR REPORTING OF THE RESEARCH, OR UNDULY DELAY OR OTHERWISE AFFECT THEIR PUBLICATION? YES or NO No (If YES, please specify how this conflict of interest will be addressed.)

9. PLAIN LANGUAGE STATEMENT (Attach to this document. Approx. 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:

	YES or NO
Introductory Statement (PI and researcher names, school, title of the research)	YES
What is this research about?	YES
Why is this research being conducted?	YES
What will happen if the person decides to participate in the research study?	YES
How will their privacy be protected?	YES
How will the data be used and subsequently disposed of?	YES
What are the legal limitations to data confidentiality?	YES
What are the benefits of taking part in the research study (if any)?	YES
What are the risks of taking part in the research study?	YES
Confirmation that participants can change their mind at any stage and withdraw from the	YES
study	
How will participants find out what happens with the project?	YES
Contact details for further information (including SCEC contact details)	YES
Details relating to GDPR Compliance if Personal Data is being sought	N/A

If any of	these issues are marked N	IO, please justify their	r exclusion:	

10. INFORMED CONSENT FORM (Attach to this document. Approx. 300 words)

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. If your participants are minors (under 18), it is best practice to provide them with an assent form, while their parents/guardians will be given the Informed Consent Form. In cases where an anonymous questionnaire is being used, it is enough to include a tick box in the questionnaire (underneath the information section for participant), where participants can indicate their consent.

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

NR - IF AN INFORMED C	ONSENT FORM IS NO	I BEING USED, I	HE REASON FOR	THIS MOST BE 2	USTIFIED HERE.

PLAIN LANGUAGE STATEMENT

This is the *Hopeful – A First Programming Language* project. The Principal Investigator of this project is David Sinclair (<u>david.sinclair@computing.dcu.ie</u>) and the researcher Gillian Mullen (<u>gillian.mullen5@mail.dcu.ie</u>). This research project is about creating a programming language that caters to the needs of students within a university setting. This research is being conducted as a test to see how effective the programming language truly is.

Should you participate in this project, you will be asked to complete two exercises, one in the language being evaluated and another in a popular programming language, and then complete a questionnaire about the exercises and the languages.

The time commitment of this activity should not exceed one hour. This activity poses no risk to the participant. A benefit of this activity may be learning about a new programming language, if the participant is not already familiar with the pre-existing language.

Participants' privacy will be protected by making the questionnaire anonymous. Participants should be aware that confidentiality of information cannot be guaranteed 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.

Participation in this study is completely voluntary. Consent may be withdrawn at any point during the study, and that participant is not required to finish the activity. Participants may find out about the results of this study by emailing gillian.mullen5@mail.dcu.ie, upon the conclusion of this project on 19th May 2019.

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

I am aware of the research project *Hopeful – A First Programming Language*, its Principal Investigator David Sinclair, and researcher Gillian Mullen. I understand that the purpose of this research is to evaluate the new programming language, Hopeful. I understand that I will be asked to complete two programming exercises and then be asked to complete an evaluation questionnaire. I understand that the questionnaire has been anonymized to protect the confidentiality of the data, and that the confidentiality of information is subject to legal limitations. I understand that the data will be retained indefinitely as it contains no personal data. I understand that I may withdraw from the research study at any point.

Participant – please complete the following (Circle Yes or No for each question)	
	V/\/
I have read the Plain Language Statement (or had it read to me)	Yes/No
I understand the information provided	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 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:	

Survey Links

Beginning Level Programmers: https://goo.gl/forms/HDd9oWQ76pQv3uii2

Advanced Level Programmers: https://goo.gl/forms/5H6GCH7quoCfi5bF2

Engineering Students: https://goo.gl/forms/SgSdnUWQaKiVoDAj2

School of Computing Staff: https://goo.gl/forms/WLmRcrqf9SQnSd0z1

Evaluation Survey

https://goo.gl/forms/GLsXBs7JDy9d3GrX2