Dublin City University
School of Computing
ETHICS COMMITTEE (SEC)

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

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

1. **Download this form, complete the appropriate fields, attach additional pages (e.g. plain language statement) as appropriate and save as a PDF file**

2. **Completed applications must be uploaded to your School of Computing GitLab repo, and must be located in "`docs/ethics.pdf`".**

3. **Your SUPERVISOR will then be notified automatically and must approve your approach initially.**

4. **Your application should consist of <u>one electronic file (PDF) only</u>.** The completed application must include this form and also 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**.**

5. **All sections of the application form must be answered as instructed and within the word limits given.**

6. **Your ethics approval submission will be circulated to the School's Research Ethics Committee and you will be notified if/when it is approved**

7. **All projects must have either a derogation from an ethics approval requirement (as determined by your supervisor) OR must have an approved ethics submission (this form), before work with**

human subjects commences.

Applications which do not adhere to 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 must not commence work with human subjects until written approval has been received from the School of Computing Ethics Committee (SEC).**

PROJECT TITLE	Mona First Programming Language
PROJECT SUPERVISOR(S)	David Sinclair
START AND END DATE	Start: 23/09/2019 End: 16/05/2020

Please ensure that all supplementary information is included in your application (in one 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 (How are you getting volunteers?)		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): Undergraduate Project – Final Year	yes
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

SUPERVISOR(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@dcu.ie

STUDENT(S):

NAME	SCHOOL/UNIT	EMAIL
Ala Al Din Afana	School of Computing	ala.afana2@mail.dcu.ie
Shanan Lynch	School of Computing	shanan.lynch43@mail.dcu.ie

DECLARATION BY SUPERVISOR(S)

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 SCEC 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 research that may arise in conducting this research and acknowledge my obligations and the rights of the participants.

If there exists any affiliation or financial interest for researcher(s) in this research 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 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.

Electronic Signature(s):

DocuSigned by:

David Sinclair

Supervisor(s): _____ 3D0CEE3F95A3483... _____

*Print Name(s) here:*_____

Date: _____

2.	PROJECT OUTLINE

2.1 SIMPLE 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.

Our research project is a First programming language for novice programmers. Thee goal of our language is to allow users to learn the basic concepts of programming and be able to easily transition from our language to either python or java.

The users will be required to attempt a simple programming problem in either python or java. The user will time how long it took to solve the problem. The user will then be required to read our language documentation and attempt some simple problems. The user will then be required to attempt another problem in java or python and time how long it took to complete.

The user will then be required to fill out a survey to see if our programming language helped the user understand the basic concepts of programming and to see if the users performance improved on the second try.

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 the project is to provide the community with a programming language that users can use while learning the basics of programming. Papers such as Teaching Programming: Going beyond "Objects First" suggest that students find the abstraction part in a programming language very difficult to understand and this could be the result of high drop-out rates in computer science courses. The programming language Mona will focus more on the variables aspect of a language more than the abstraction to ease first time learners into the logic of programming. This would include loops, methods, variables, etc . We need user testing to test if our project has met its goal

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 analysed. 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.

The users will be required to attempt a simple programming problem in either python or java. The user will time how long it took to solve the problem. The user will then be required to read our language documentation and attempt some simple problems. The user will then be

required to attempt another problem in java or python and time how long it took to complete.

The user will then be required to fill out a survey to see if our programming language helped the user understand the basic concepts of programming and to see if the users performance improved on the second try.

The programs that the users compile will be run on an ec2 instance this is an amazon virtual server. When a user compiles the code a file is sent to the instance to run on the back-end.

The web-app will display the compilation result to the user. The file that has been sent to the server will be deleted after it is compiled.

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.

The participant groups will be selected from friends , family and fellow final year CASE students. The sample size will be 9 individuals. They will be divided into three groups. Group A will have no experience in programming and will be picked from family and friends.

Group B will consists of fellow final year students that have only programming experience in python.

Group C will consist of final year students that have only programming experience in java.

2.4(a)   **PARTICIPANT VULNERABILITY**
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	**N/A**
We confirm that we have put in place safeguards for the children participating in the	**N/A**

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**

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.

> We are recruiting participants by asking them through e-mail. As the participants will be members of our class, we will have easy access to the participants. We will also contact friends and family that have no experience in programming

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 will not be published as the users are needed for testing purposes only.

2.7   **ARE OTHER APPROVALS REQUIRED TO GAIN ACCESS TO ANOTHER LOCATION, ORGANISATION ETC.? (e.g. a School or company)**

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   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

The level of risk in this research is low. As the participant will be filling out a questionnaire provided. The participant will then be given a number and therefore be anonymous.

The users will provide no personal information

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)?	No
● 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 minimise these risks.

There are no risk to participants as all participants are anonymous and no personal information is collected

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

YES or NO
…No

(If YES, provide details.)

3.5   ARE THERE ANY SPECIFIC RISKS TO RESEARCHERS?

Examples include use of dangerous materials, asking certain types of questions, research 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.)

3.6   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.

If the participant, no longer wants to participate in the research or have their questionnaire used we will destroy any information of the participant doing the research.

<div style="border:1px solid black; height:70px;"></div>

3.7   HOW WILL THE CONDUCT OF THE PROJECT BE MONITORED?

Please explain how the supervisor 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

The supervisor will be continuously updated on project progress and will also be given a copy

of the questionnaire before any user testing begins. No user testing will begin until the principal investigator is happy with the standard of the questionnaire.

3.8   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.

N/A

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

YES or NO
…No

(If YES, please provide further details.)

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 specify how this conflict of interest will be addressed.)

4. CONFIDENTIALITY/ANONYMITY

4.1 WILL THE IDENTITY OF THE PARTICIPANTS BE PROTECTED?

YES or NO
...
Yes

(If NO, please explain why.)

IF YOU ANSWERED YES TO 4.1, PLEASE ANSWER THE FOLLOWING QUESTIONS:

4.2 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 survey is done on google forms where the users can fill the survey out anonymously

4.3 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

N/A

5. PERSONAL DATA - COMPLIANCE WITH THE GENERAL DATA PROTECTION REGULATION

*Personal data is data relating to a living individual (i.e. the 'Data Subject') who is, or can be, identified either from the data itself or from the data in conjunction with other information that is in, or is likely to come into, the possession of the 'Data Controller' (i.e. DCU and its constituent units e.g. research teams etc.). **Further information on personal data is available from the DCU Data Protection Unit at https://www.dcu.ie/ocoo/dp/guides.shtml***

5.1 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	

Please see the GDPR and the Research Ethics Process section of the SCEC main webpage for guidance

IF YOU ANSWERED YES TO 5.1, PLEASE ANSWER THE FOLLOWING QUESTIONS:

5.2 WHAT KIND OF PERSONAL DATA IS BEING PROCESSED?
Note special categories of personal data include health data, genetic data and/or data relating to ethnicity/race of participants, their sex lives and/or sexual orientation

5.3 WILL ANONYMISATION/PSEUDONYMISATION OF THE PERSONAL DATA BE UNDERTAKEN?

YES or NO
...
Yes

(If NO, please explain why.)

6. 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.

6.1 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.

The participants will be answering the survey on google forms. In google forms we can insure that the survey is answered anonymously in this way we are not collecting any user data and the users privacy will be protected.

6.2 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 Ala and Shanan will have access to data

6.3 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.*

The data will be stored until after the evaluation for our research project is conducted.

The data refers to the Questionnaire answers filled by participants this will not include any personal information

6.4 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.*

The questionnaire will be deleted from google forms by the researchers Ala and Shanan.

No personal information is stored only information that is answers to the questionnaire which is filled anonymously

7. 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 (Supervisor and student 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)?	**NO**
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 study	**Yes**
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	**Yes**

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

No - for benefits, as we believe that there will be no benefit to doing this research study.

No – for personal data, as we are not collecting personal data from the participants and personal data is not necessary for our research study.

---

8.   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***

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

DUBLIN CITY UNIVERSITY

Plain Language Statement

1. Introduction to the Research Study

School: School of Computing.

Title: Mona Programming Language.

Principal Investigator: David Sinclair.

Contact Details: david.sinclair@dcu.ie

Other Investigators: Ala AL Din Afana , Shanan Lynch

Contact Details: ala.afana2@mail.dcu.ie

2. Details of what involvement in the Research Study will require

As part of the system l will require you to attempt a simple programming problem in either python or java. You should time how long it took to solve the problem.

You will then be required to read our language documentation and attempt some simple problems. You will then be required to attempt another problem in java or python and time how long it took to complete.

You will then be required to fill out a Qustionaire to see if our programming language helped you understand the basic concepts of programming and to see if your performance improved on the second try.

The answers to the questionnaire will help improve the user experience of the system and allow us to establish if we have accomplished our project goal.

The questionnaire data will all be deleted after the project presentation

3. Potential risks to participants from involvement in the Research Study (if

greater than that encountered in everyday life)

this there is no risk to the participants involved as all information gathered is anonymous.

4. Benefits (direct or indirect) to participants from involvement in the Research

Study

There will be no benefit to the participants for taking part.

If you wish, you can stop taking part in the research at any time.

Your involvement/non-involvement in this research project will in no way affect any on-going

relationship with Dublin City University.

6. GDPR Compliance

As stated before, you should not enter any personal information.

If you 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

Was it easy to navigate through the website *

	1	2	3	4	5	
Not very	O	O	O	O	O	Very much

What programming experience do you have

O No Experience

O Python developer

O Java developer

How long did it take you to solve the first problem in java or python ? *

Time

__ : __

How long did it take you to solve the first problem in Mona after watching the tutorial videos ? *

Time

__ : __

How long did it take to solve the second problem in python or java *

Time

_ : _

How would you compare your experience with the second problem compared to the first ?

Both presented and pre-read material

○ Same difficulty

○ Easier to solve

What language did you prefer to program in as a novice ?

○ Mona

○ Python

○ Java

How difficult was it to solve problem three ?

	1	2	3	4	5	
Not difficult	○	○	○	○	○	Very difficult

Would you recommend Mona over python or java to anyone interested in learning programming. If so why ?

Your answer

Informed Consent Form

Mona Programming Language

I.. voluntarily agree to participate in this research study.

I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.

I understand that I can withdraw permission to use data from my questionnaire, in which case the material will be deleted.

I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.

I understand that I will not benefit from participating in this research.

I understand that all information I provide for this study will be treated confidentially.

I understand that in any report on the results of this research my identity will remain anonymous.

I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Signature of research participant

--   ---------------

Signature of participant   Date

Signature of researchers

I believe the participant is giving informed consent to participate in this study

--   ----------------

Signature of researcher   Date

I believe the participant is giving informed consent to participate in this study

---   ----------------

Signature of researcher   Date