**Ethical Approval for Non-Clinical Research Involving Human Participants**

**FORM A: Application for ethical approval for low risk projects**

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| Name of Applicant | Ibrahim Mohammed |
| School | School of Science and Engineering |
| University e-mail Address | [imohammed@dundee.ac.uk](mailto:imohammed@dundee.ac.uk) |
| Title of Project | Online Result Computation System |
| Co-Investigators (with internal School or external organisational affiliation) |  |
| Projected Start Date | 06/05/2019 |
| Estimated End Date | 10/09/2019 |
| Funder (if applicable) | NA |
| Version of Application (1, 2, 3…)\* | 2 |

\* After revision, please update the version number before re-submission.

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| **Students Only** | |
| Level of Study (Undergraduate (UG); Taught Postgraduate (TPG); Research Postgraduate (RPG) | Taught Postgraduate (TPG) |
| Name of University of Dundee Supervisor | Dr. Keith Edwards |

**Note: Students must copy in their supervisor when submitting the application for review.**

**1. Project Overview**

Please provide, with reference to the relevant literature, an overview of the research project providing a short explanation (maximum 400 words) of the research questions the project will address and why the study is justified.

Please write this section in a way that is accessible to a person who is not an expert in your field.

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| The use of computers systems to process information would enable better access to students' records (personal, and courses), updating student records keeping track of passed and failed courses (performance). The support of storing course information (course codes, course title, course credit units and grade points for the purpose of computing GPA with automation is required.[3]  Result Computation System (RCS) is an automated platform used in managing result for all categories of students in a friendly and interactive manner. Nigerian tertiary institutions follows the trend in Information and Communication Technologies in transforming their record keeping and information management operations. RCS is currently an information systems that readily attracts the attention of many tertiary institutions in Nigeria. Most of the Students’ RCS are traditional and standalone which has few or basic elements of a standard RMS. Most of the students RMS are not web based and others do not integrate well with the other information system in the Universities.[1]  Student result analysis is an online application used to analyse, store and keep track of student data and compute the mark analysis process in an educational institution, it enable the view of individual student’s result, automated computation of results from various departments. The use of computation systems that has it capabilities beyond result computation which is not so much in use. Tertiary institutions today compute student result analysis manually which consume lots of time and effort. A system that does analysis of student result is required as it will aid decision-making and taking in tertiary institutions. [2]  In view of the above the requirement to have an online Result computation system in Niger state Polytechnic, Zungeru is important. Niger State Polytechnic, Zungeru, Nigeria, Students result are computed every semester from the summation of CA and Exam score of each course taken by students, given each student grades, GP, CGPA and remark. This is presented as broadsheet with analysis. The computation of result is completely manual.  This project is to create a web-based Result Computation System that would allow teachers submit students CA and Exam score, the system will compute the scores, generate a broadsheet and provide analysis of the results on a semester basis. The students would be able to view their result through their profiles.  This project will considered security as an utmost priority, providing a login form for authentication of users and registration form to register student and courses offered.  *References*  *1. Akpasam J. E., Simeon O., Afolayan J. J. (2017). Development of Students Result Management System: A case study of University of Uyo. Mathematical and Software Engineering, Vol. 3, No. 1, 26-42.*  *2. Ashwin M., Jugal P., Aditya M. (2018). Student Result Analysis System. International Research Journal of Engineering and Technology (IRJET), vol.5, e-ISSN: 2895 -0056*  *3. UDEZE, C. L., UMOREN, P. U., OHERI, H. E., & ATTAH H. H. (2017) Automated Students' Results Management Information System (SRMIS), Journal of Multidisciplinary Engineering Science and Technology (JMEST) Vol. 4, ISSN: 2458-9403,* |

**2. Aims and Objectives**

What are the aims and objectives of the project?

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| The aim of the project is to develop a web-based system as an automation to the existing manual process of computing students’ examination results that is prone to lots of errors and waste of time and resources like paper. The objectives are as follows:   * Keep up-to-date records of the entire students in polytechnic * Support Registration, data upload, queries to the system, generate broad sheet report and student result analysis for academic board decisions making with user-friendly interfaces for easy interaction |

**3. Research Design and Methods**

Please describe the design of your study and the research methods including information about any tasks or measuring instruments (validated or otherwise) that you will be using. *If you are using non-validated instruments (e.g., surveys or questionnaires[[1]](#footnote-1) you have designed, interview questions, observation protocols for ethnographic work or topic lists for unstructured data collection) please attach a copy to this ethics application.*

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| The tools to be used for physical and database design is Entity-Relationship Diagrams (ERD) used for the design of the database table structures. The description covers the logical and database structural designs as well as its database normalization. The entire web-based program would be designed and developed with object-oriented codes, mainly with server side PHP scripts.  Indigo studio is used as a prototyping tool to develop a prototype that mimic the proposed system, which will be used for pre evaluation to collect information from users about the proposed system in other to better understand required functionalities and better user experience.  The prototype was developed based on information from an observation and direct involvement of the researcher/developer as he is part of the examination committee and an instructor in the polytechnic.  With the detail idea on how the existing system work, most of the data/information required to build the proposed system is known and can also be acquired through secondary source e.g. the New NBTE grading system is on the internet for public consumption, the broad sheet result publicly available for everyone.  In view of the above the data required for the development of the proposed system will be from primary and secondary sources, using a survey/questionnaire and searching from the internet.  Attached is the evaluation form comprising survey/questionnaire to be completed by participants. |

**4. Identification and Recruitment of Participants**

How will participants be identified and recruited? Will your research involve participants outside of the UK? If so where?

Please provide details on how and by whom they will be contacted; please also add information on any exclusion criteria, should they apply. *Please attach the wording of any emails, letters, social media adverts or other written approaches that you may use for recruitment purposes.*

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| I will personally have one on one conversation with the Nigerians (staff of the polytechnic) studying in the UK particularly in the University of Dundee and other colleagues in the department of computing. It wouldn’t require any email, letters or social media advert or written approaches to recruit participants. I am to recruit 20 adults |

**5. Informed Consent**

How will you obtain informed consent? Are you satisfied that all participants have capacity to make their own decisions and understand the risks?

Please explain how and when participants will be informed about the scope of the research, what their involvement would entail and their rights under data protection legislation. *Please provide the participant information sheet and consent form with this application*; if consent is not obtained in written format (e.g., oral communication, deliberate action to opt-in to surveys or questionnaires), please provide details of how consent will be obtained and recorded. If the project involves photography or video- or audio-recording of participants, explicit consent will need to be given; where applicable this includes consent for someone not on the direct research team to have access to the participant’s data (e.g. for transcription). Explain how you have considered and will address consent for the preservation and potential sharing and [reuse of data](https://www.dundee.ac.uk/media/dundeewebsite/ethics/Forms-A-and-B-Research-Data-Management-Guidance-v1-10122018.pdf).

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| Informed consent would be obtained by providing participants with informed consent form. All participant have the capacity to make their own decision and understand the risk, though no risk is involved in this particular work. It is voluntary to participate, choosing not to take part will not disadvantage the participant in any way; and may decide to withdraw from the study at any time without explanation and without penalty. If a participants withdraw from the study the data collected from the participant will be eliminated and replaced.  Some participants are already aware of the scope of the research as they are from various tertiary institution in Nigeria and understand the intricate of the work. |

**6a. Data Management: Lawful Processing of Data**

Data protection legislation[[2]](#footnote-2) requires participants to be informed of the [lawful basis](https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/principles/lawfulness-fairness-and-transparency/) for processing their personal data. At the University of Dundee, the normal basis for the lawful processing of personal data in research is that 'processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller'. If you intend to use another lawful basis you must contact the University’s [Data Protection Officer](mailto:dataprotection@dundee.ac.uk) (DPO) for advice and insert the lawful basis agreed with the DPO below.

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| No Personal information of participants is required. Therefore, participant taking part in this project remain confidential, other data collected will be used only for academic purposes by the researcher. Participant information will be anonymous as I will be using codes to represent participants. |

**6b. Data Management: Planning**

Please describe your plan for managing the data[[3]](#footnote-3) you will collect during your project and how it complies with data protection legislation. Include information on:

i) The type and volume of data; ii) Where and for how long will the data be stored and what measures will be in place to ensure secure storage; iii) Whether the data will be anonymised or pseudonymised[[4]](#footnote-4); iv) How secure access will be provided to data for collaborators; v) Whether and how data will be shared for [reuse](https://www.dundee.ac.uk/media/dundeewebsite/ethics/Forms-A-and-B-Research-Data-Management-Guidance-v1-10122018.pdf) by other researchers beyond the project (including details on any access restrictions); vi) Processes in place to erase and/or stop processing an individual participant’s data (except where this would render impossible or seriously impair the research objectives)[[5]](#footnote-5); vii) Processes in place for individuals to have inaccurate personal data rectified, or completed if it is incomplete; viii) Who has overall responsibility for data management for the research project; ix) [Arrangements for collection and transfer of data outside the UK](https://www.dundee.ac.uk/media/dundeewebsite/ethics/Forms-A-and-B-Research-Data-Management-Guidance-v1-10122018.pdf).

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| The type of data that would be collected is from primary and secondary sources, the data from primary source is the outcome of the prototype evaluation done by the participants and the secondary source include data about **NBTE grading system**, **result sheet** and **result analysis format** all of which could be found online. The volume of data is small and would be used as a guide to fulfil certain requirement in the development of the proposed system, No personal information of participant is required and data collected would only be used for academic purpose, most of the information from participants would be used for the purpose of:   1. **Motivation** (do the target audience want the proposed system), 2. **Usability** (Can the target audience work out how to use it?) and 3. **Content** (Does the target audience understand what the proposed system is about). |

**7. Other Permissions**

Are any other permissions (e.g., from local authorities) required? If so which?

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| No permission is required from the local authority as all data/information required are made public and can be collected through secondary source |

**8. Risks of Harm to Researchers and Participants**

Risks of harm. Please detail any risks associated with the project. Does the research involve fieldwork (either in the UK or overseas)? Does the research incur a risk of injury or ill-health above the level of risk prevalent in daily living? *If yes, please complete the relevant risk assessment form(s) (*[*general risk assessment form*](https://www.dundee.ac.uk/safety/policy/general/spa11-2002/) *and/or the risk assessment for* [*Travelling on University Work Overseas*](https://www.dundee.ac.uk/safety/policy/general/spa44-2010/)*) and submit with this application.*

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| There is no risk involve in this work, the participant will only evaluate a prototype and complete an evaluation form, given their views about the project and what should be improve in terms of operation and accuracy of the use of interfaces and output generated.  *The location for the evaluation of the prototype would be at the University of Dundee* |

**9. Other Ethical Considerations**

Are there any other ethical considerations relating to your project which have not been covered above? If so, please explain.

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**10. Documentation**

Please list all attached documentation, ensuring that each item has a date and version number.

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| * Evaluation form (Survey/questionnaire) |

**11. Declaration**

By signing below I declare that I have read the University [Code of Practice for Non-Clinical Research Ethics on Human Participants](https://www.dundee.ac.uk/media/dundeewebsite/ethics/documents/Code-of-Practice-for-Non-Clinical-Research-Ethics-v2-July%202016.pdf) and that my research abides by these guidelines. I understand that this application and associated documents will be retained by the University.

**Principal Investigator or Student**

Name: Ibrahim Mohammed Date: 24/05/2019

Signature:

**Supervisor (for applications from students)**

Name: Date:

Signature:

1. Please provide details of any survey tools you intend to use. The University approved online survey tool is ‘[Online surveys](https://www.onlinesurveys.ac.uk/)’ (formerly BOS). If you intend to use a different survey tool please indicate the reason. [↑](#footnote-ref-1)
2. The General Data Protection Regulation ((EU) 2016/679) and the UK Data Protection Act (2018). Further information can be obtained from the [University of Dundee data protection website](https://www.dundee.ac.uk/information-governance/dataprotection/) and the [website of the Information Commissioner’s Office](https://ico.org.uk/). [↑](#footnote-ref-2)
3. Note that staff and postgraduate research students are required to complete a research data management plan under the University of Dundee’s [Policy to Govern the Management of Research Data](https://www.dundee.ac.uk/media/dundeewebsite/ethics/documents/Policy-to-Govern-the-Management-of-Research-Data.pdf). However, providing you have included the information requested above, it is not necessary to attach a formal data management plan to this application. [↑](#footnote-ref-3)
4. (Article 4(5) of the General Data Protection Regulation describes pseudonymisation as: “The processing of personal data in such a way that the data can no longer be attributed to a specific data subject without the use of additional information”. An example would be where a coded reference or pseudonym is substituted for personally identifiable data. [↑](#footnote-ref-4)
5. The right to erasure under the General Data Protection Regulation does not apply if erasing the data would prejudice scientific or historical research, or archiving that is in the public interest. [↑](#footnote-ref-5)