

For office use only	
Assigned EBIT tracking number	EBIT/ /
Date received	

<p align="center">UNIVERSITY OF PRETORIA</p> <p align="center">FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY</p> <p align="center">FACULTY COMMITTEE FOR RESEARCH ETHICS AND INTEGRITY</p> <p align="center">(EBIT Ethics Committee)</p>
<p align="center">APPLICATION FOR APPROVAL OF A RESEARCH PROJECT</p>
<p>This application form must be read with the relevant UP regulations, as documented in the Code of Ethics for Scholarly Activities, and the Policy and Procedures for Responsible Research. By completing and submitting this form, you declare that you have read these two documents and understand the regulations.</p> <p>Important: Each item must be completed.</p> <p>Complete the form in your word processor. Forms completed in handwriting are not accepted.</p> <p>Where applicable, underline the correct answer (e.g. <u>Yes</u> or No).</p>

1. RESEARCHER DETAILS: (Please include your Supervisor details in this section if you are a student)			
Applicant details:		University of Pretoria supervisor details:	
Initials and surname:	JR Gouws	Initials and surname:	D Ramotsoela
Title:	Mr	Title:	Mr
Email:	u16033915@tuks.co.za	Email:	daniel.ramotsoela@up.ac.za
Phone:	(061) 424 8765	Phone:	(012) 420 3738
Employee/student number:	16033915	Employee number:	10350749
Department:	Electrical, Electronic and Computer engineering	Department:	Electrical, Electronic and Computer engineering
Are you a student (yes or no):	Yes		

2. RESEARCH PROJECT TITLE (use a descriptive title)
Secure communication system using audio steganography.

3. RESEARCH PROJECT DETAILS

3.1 Provide a complete but concise description (no more than 5000 characters, including spaces) of the study objectives and study design, so that the relevant ethical aspects can be identified.

- From this, **please identify the aspects clearly that you believe require ethics clearance.**
- Please note: do NOT submit a complete research proposal. The Ethics Committee will not consider this, but will only consider the documents required for submission of an application.

In order for secure communication, secret information is hidden within a public audio media in such a way that no difference can be detected between the original audio signal and the modified audio signal. This is to provide a secure communication system, which can be used as an alternative to conventional encryption.

One of the tests that are performed in order to verify that the embedding of the secret message within the audio was successful, is a subjective listening test, where humans are asked whether the difference can be detected between the original audio file and the file with the secret message embedded. This will be done using a survey, where individuals (non-students) will be asked to rate on a scale from 1-5, whether they can detect a difference between the original audio file and the audio file that includes the message.

3.2 Will a research questionnaire/survey be used?

- If Yes, please answer the next question. If No, ignore the next question.
- **Please submit your questionnaire, survey questions or interview questions with your application.** This will be a separate file that should be submitted as a pdf file, using this filename format: Questionnaire.pdf or Survey.pdf

Yes

No

3.2.1 Does your questionnaire/survey include any personal questions?

(including ANY of the following: name, address, email address, any other information by which a respondent can be identified, gender, age, race, income, medical status)?

Yes

No

3.3 Are employees of a firm, organisation or institution questioned as informant in this study?

- If Yes, please submit letter(s) of permission from this entity to carry out this study. It should be clear that the person giving permission is authorised to do so and should be on a company letterhead and should include the date and that person's signature.
- **Where required, your application cannot be considered without this permission.**
- This letter should be submitted as a pdf file, using this filename format: CompanyPermissionLetter.pdf

Yes

No

3.4 Will you be surveying or questioning UP students or UP personnel in this study?

- If Yes, you need to submit a letter or email from the Dean that provides permission for you to include UP personnel or students as participants in your study.
- **Where this is required, your application cannot be considered without this permission letter.**
- This letter should be submitted as a pdf file, using this filename format: DeanPermissionLetter.pdf

Yes

No

4. RESEARCH PARTICIPANTS		
Does the project involve people as participants, either individually or in groups? If Yes, please answer questions 4.1 to 4.7. If No, continue to section 5.	Yes	No
4.1 Does the study involve people as informants, or does it involve people as research subjects? <i>Informants</i> are people of whom you require an opinion, e.g. people that are interviewed or that take part in a survey. <i>Research subjects</i> are people that actively take part in research, e.g. where biological measurements are made (e.g. heart rate) or where people take part in behavioural tasks (e.g. listening tasks)	Informants	Subjects
4.2 Describe possible safety and health implications that participation in the project may pose. Headphones will be used when participants listen to the audio files. If users are not capable of listening to audio through headphones, they should inform the researcher and will not participate in the survey. No further safety or health implications are posed during the survey.		
4.3 What is the expected duration of participation of people in the project? Approximately 5-10 minutes.		
4.4 Describe the manner in which confidential information will be handled and in which confidentiality will be assured. No confidential information is required in the survey. The survey will be anonymous, with individuals are only required to provide a rating of the quality of the audio signal, compared to the unaltered audio signal.		
4.5 Please explain how and where data will be stored. It should be clear that data will be appropriately protected (e.g. password protected in encrypted files). The surveys will be stored in a password protected folder.		
4.6 Is remuneration offered to subjects for participation? If yes, please expand. No remuneration is offered.		

4.7 INFORMED CONSENT/ASSENT Informed consent is a requirement for <i>all</i> studies. All participants need to provide individual informed consent, which the researcher should keep on record. An example for an informed consent form appears on the website, but this should be adapted to be very specific about your study and what you will require of participants. Please submit your informed consent form (an example of the form that you will use) with your application. This should be submitted as a pdf file, using this filename format: InformedConsent.pdf
4.7.1. Please describe what you will do to obtain informed consent/assent from your participants (or their caregivers in the case of underage participants). The informed consent form will be provided to the participants in order to explain how the data will be used and handled, as well as the risks and responsibility of researcher not to use the data in any other manner. The researcher, participants and a witness will sign the form in order to ensure that consent is obtained.
4.7.2 Detail the measures you will take to ensure that participation is voluntary. Prior to the survey, each participant will receive an overview of the project, what is expected from the participants as well as how the data provided by participants will be used. Possible health risks will also be explained to the participants. It will be explained that the survey is optional and the participant may at any time choose to not participate in the survey.

5. ENVIRONMENTAL IMPACT and HAZARDOUS MATERIALS		
5.1 Does the project have a potentially detrimental environmental impact, or are hazardous materials used in the project?	Yes	No
<ul style="list-style-type: none"> If Yes, you will need to submit a letter of approval from the Department of Facilities and services, Occupational Health and Safety division, before the Ethics Committee can consider your application. If section 5 (this section) is the only aspect of your project for which you require clearance from the Ethics Committee (i.e. no people or animals are included in your study), you should not apply to the Ethics Committee, but should apply for clearance directly to the Occupational Health and Safety division. If No, continue to section 6. 		

6. DISSEMINATION OF DATA
6.1 How and where will your results be published and/or applied?
The results will be included in a final year BEng Computer Engineering technical report, as results of a subjective listening test. This will also be displayed as results in the examination.

7. DECLARATION (Tick the relevant boxes)	
✓	I accept and will adhere to all stipulations pertaining to ethically sound research as locally, nationally and internationally established.
✓	I will conduct the study as specified in the application and will be principally responsible for all matters related to the research.
✓	I shall communicate all changes to the application or any other document before any such is executed in my research, to obtain the necessary permissions from the Ethics Committee.
✓	I will not exceed the terms of reference of the research application or any other documents submitted to the Ethics Committee.
✓	I confirm that I'm not seeking ethics clearance for research that has already been carried out.
✓	I affirm that all relevant information has been provided and that all statements made are correct.
✓	I have familiarised myself with the University of Pretoria's policy regarding plagiarism http://www.aibrary.up.ac.za/plagiarism/index.htm . Plagiarism is regarded as a serious violation and may lead to suspension from the University.
Please submit the completed Declaration By The Researcher form with your application. Please submit this as a pdf file with this filename format: Declaration.pdf	

8. SUBMISSION CHECKLIST			
Each item to be submitted should be submitted as a separate pdf file, using the naming convention given earlier in this document or below.			
8.1 Have you submitted confirmation that the research proposal has been approved? Please submit as a pdf file with this filename format: Confirmation.pdf	Yes	No	
8.2 Have you submitted your application form (this form)? Please submit as a pdf file with this filename format: ApplicationForm.pdf	Yes	No	
8.3 Have you submitted your survey questions, questionnaire or interview questions (where applicable)? Please submit as a pdf file with this filename format: Questionnaire.pdf	Yes	No	N/A
8.4 Have you submitted the Declaration by the researcher form? Please submit as a pdf file with this filename format: Declaration.pdf	Yes	No	
8.5 Have you submitted the Informed consent form? Please submit as a pdf file with this filename format: InformedConsent.pdf	Yes	No	
8.6 Have you submitted permission letters from firms, institutions or organisations where required?	Yes	No	N/A

Please submit as a pdf file with this filename format: CompanyPermission.pdf			
8.7 Have you submitted a permission letter from the Dean where required? Please submit as a pdf file with this filename format: DeanPermission.pdf	Yes	No	<u>N/A</u>