UNIVERSITY OF CAPE TOWN
SCIENCE FACULTY RESEARCH ETHICS STATEMENT
Application to the Science Faculty Research Ethics Committee for research involving human subjects

A key function of the Science Faculty Research Ethics Committee is to screen and approve, or otherwise refuse, all research proposals in the Faculty that relate to human subjects (see definition in section 2 overleaf), including questionnaires involving human participants; this includes proposed research involving students or staff, by UCT researchers. Outside visiting researchers seeking to work with UCT staff or students must do so in collaboration with a member of UCT staff. Research that does not involve human subjects or third party data collected from human participants does not need to be submitted to this committee for approval. Research on animals needs to be approved by the Faculty's Animal Ethics Committee; and research that uses biological materials from humans (e.g. fresh tissues, blood or body fluids) needs also to be approved by the Faculty's Biological Safety Committee.

We are still living through the Covid-19 pandemic. Although no separate documentation covering health protocols is required, please indicate within section D.5 how you will mitigate any risks of infection posed by your research methodology, if applicable.

This **research ethics statement form** and the appended **informed consent form** should be completed and submitted by the actual person undertaking the research ('the applicant'). All details must be **typed**. Please read the **UCT Code for Research involving Human Subjects** before completing the form:
http://www.uct.ac.za/downloads/uct.ac.za/about/policies/ethicscode.pdf

In the case of research that involves a number of researchers, this form should be endorsed and signed by the Principal Investigator (PI). If the applicant is a student, the supervisor must endorse and sign the form and ensure that the student is fully informed of his/her ethical responsibilities. Where the research is part of a project that is being co–ordinated from outside the Science Faculty, the researcher should fill in the form in relation to her or his part of the larger research project. We aim to provide an initial response to applications within 15 working days. Full ethics review and revisions frequently take up to a month or longer. Please plan your research accordingly.

All applicants
Please submit the form (in the original MS Word format) to https://universityofcapetown.submittable.com/submit

This form must be completed electronically (i.e. typed) by students and supervisors, and submitted as a Word document as indicated above. The fields are expandable (horizontally and vertically). Use Enter when you get to the end of the page, to prevent the fields from spilling too far on the horizontal axis. Attachments will not be considered except as specified in the form.

Expedited Review
Researchers from the Departments of Computer Science or Environmental and Geographical Science conducting studies which entail only minimal risk, that do not involve the collection of any privately identifiable or sensitive personal data, are not contentious or are not working with any vulnerable populations (e.g. pregnant women, minors, prisoners, low-income communities) may apply for **expedited review** by ticking 'Yes' in section **B2**. Applications for expedited review are not necessarily faster, but only require the approval of one member of the Science Faculty Research Ethics Committee in addition to the Chair. For CS applications this typically (but not necessarily) entails testing the **usability** of programmes and applications. '**Usability**' in this context is defined to include learnability, efficiency, memorability, accuracy, ease of use and user experience, typically with an artefact or prototype. However, if the research also involves the collection of any privately identifiable or sensitive personal data about participants (e.g. information on disabilities, vulnerabilities, health/medical conditions and/or treatments) then the proposal is **NOT** eligible for expedited review. Projects using human subjects and not judged to be of minimal risk will be submitted for review by the full committee.

Questions?
Please send queries to your departmental contact or directly to the Servicing Officer of the FSREC.
Chair: Dr Shari Daya, shari.daya@uct.ac.za
Servicing Officer: Ms Shanaaz Smith, shanaaz.smith@uct.ac.za
Computer Science Subcommittee: csethics@cs.uct.ac.za
Environmental and Geographical Science Subcommittee: egsethics@uct.ac.za

A. STUDENT AND SUPERVISOR DETAILS

A.1	**Applicant personal particulars** (required)**:** *You may enter more than one name here, if this is a group project.*			
	Title and name(s):	Mr Martin van Rooyen; Mr Tangwa Shihepo		
	Email(s):	vrymar023@myuct.ac.za; shhmos001@myuct.ac.za		
	Telephone:	N/A	Mobile number:	0718970024; 0835858566
	Department(s):	Department of Computer Science		
A.2	**Supervisor particulars** (required)**:**			
	Staff no:	01448624		
	Title and name(s):	Prof. Rob Simmonds		
	Telephone:	+27 (0)21 650 5108	Mobile number:	N/A
	Email:	simmonds@cs.uct.ac.za		
	Department:	Department of Computer Science		

A.3	**Collaborators** (optional)**:** This will include any external collaborators or research assistants that are involved in this project.		
	Title and name	Institution	Role
	Adrianna Pińska	University of Cape Town	Project Proposer

A.4	**Project** (required)**:** *The title of the project should be suitably descriptive of the work entailed.*	
	Title	**Scripting for Publication Quality Images**
	Project duration (month/year – month/year)	**March/2022 – October/2022**
	Purpose (tick)	
	Honours Project	✓
	Masters by coursework and dissertation	
	Masters by dissertation only	
	PhD thesis	
	Academic research	
	Contract-funded research	
	Other research (please specify)	

B. PRE-REQUISITES (all answers required)

B.1	**Have you read the UCT Research Ethics Code for Research Involving Human Participants?** This code is available for download from the UCT web-site's listing of policies – scroll down the alphabetical listing to 'Research', where you will find this specific code: http://www.uct.ac.za/about/policies/ Yes ✓ No
B.2	**Are you applying for expedited review?** Computer Science and Environmental and Geographical Science: You are only eligible for expedited review if your project meets the criteria detailed on p.1 of this form Yes ✓ No
B.3	**Is your research making use of human participants or subjects as sources of data?** Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information, which includes a subject's opinion on a given topic. Yes ✓ No
B.4	**Is your research making use of third party data?** If yes, please (i) give details in section C1 about the nature of the data, how it was acquired, and any restrictions on its use, (ii) answer section B5 below with respect to the custodian/source of the data, (iii) ensure you address in sections C and D the ethical issues related to your use of the data, including the process by which permission was sought from participants for the anonymised use of their data. If free and prior informed consent was NOT sought by the custodian of the data, please provide an explanation and briefly reflect on the ethical implications of this for your own research. Please note that a clearance certificate is not required by the FSREC for use of anonymised third party data, although you should still consider ethical implications of your work and seek proper permissions from the custodian of the data for its use. However, if the data custodian or another entity requires ethics clearance, please clearly state the reasons for the requirement in B5. If you are using non-anonymised data, please detail your data storage and protection procedures in C1. Yes No ✓
B.5	**Does your research require express permission from a third party, such as governments, property owner(s), occupier(s) or manager(s), or other institutions?** Yes No ✓ **Please state from whom permission is required:**
	Have you received permission to proceed? If yes, please attach or append a copy of the permission, or explain the nature of the permission received. If no, please provide an explanation. Yes No

B.6	**Is your research being conducted within a National Park or Nature Reserve (or similar) or any other area for which a permit is required?** Yes [ ] No [✓] **Please state from whom permission is required:**
	Have you obtained the required permit? If yes, please attach or append a copy of the permit. If no, please provide an explanation. Yes [ ] No [ ]
B.7	**Does your research intend to make use of UCT students or staff as participants?** For research involving UCT students you must send a DSA100 form with your clearance certificate to the Executive Director of the Department of Student Affairs (DSA) for approval to conduct this research. For research involving UCT staff, you must submit the HR194 form with your certificate to the Executive Director of the Human Resources Department for approval to conduct the research. You will need to first receive ethical clearance from the Science Faculty Research Ethics Committee (FSREC). After you receive ethical clearance from the FSREC please write to Shanaaz Smith (shanaaz.smith@uct.ac.za) for the appropriate forms. Yes [ ] No [✓]

C. RESEARCH FOCUS (required, maximum 500 words, may not exceed this page)

C.1	In the space below state your research aim and objectives (or questions); briefly outline your plans for data collection, and indicate the nature/type of information you will be seeking from the participants in your research. Please also indicate the number of participants you envisage and how you will recruit them for your research. Do NOT submit additional documents. Your proposal will be evaluated on information in this form alone. Please note that ethics applications are reviewed by a multi-disciplinary committee and should be written in a manner that does not assume specialist knowledge. For this reason, acronyms/ abbreviations should be written out in full the first time they are used, followed by the shortened version in brackets.
	Our project involves creating a software solution that interacts and provide additional functionality to an astronomy imaging application called Cube Analysis and Rendering Tool for Astronomy (CARTA). The aim is to use CARTA's backend software, along with other software solutions, to vectorize certain features that have been added onto an image in CARTA (such as labels, contours, etc), and then combine them with that original raster image into a single image. These final images will be of a higher quality and can thus be used for publication purposes. The users of this software will be anyone who wishes to use a CARTA-generated image for publication purposes. We wish to conduct a usability study with users and developers of CARTA, to determine whether our initial solution is suitable for use and/or how we might change it in a way that it provides an easier user experience. This study will be conducted online through Microsoft Teams and/or Zoom meetings, and will involve up to 9 individuals who develop and/or use CARTA regularly for astronomical and publication purposes. The collection of data will involve them using the software to complete particular tasks, as well as questions on how the software might be improved in terms of usability. These users will be recruited through email, through the assistance from both the project proposer and supervisor in that they will recommend individuals for the study.

D. PARTICIPANT PROCEDURES (all answers required)

D.1	**Information**
	Will research participants have reasonable and sufficient knowledge about you, your background and location, and your research intentions? By ticking the 'Yes' box, you declare that you have completed and will use the **informed consent form** appended to this statement, and that whether you are seeking written or verbal consent, you will explain the content of the consent form verbally to each participant. Any other information you want to provide to strengthen your application w.r.t. the provision of information may be included in the box below. If your answer is 'No', please provide justification. Yes [✓] No [ ]
D.2	**Consent**
	Will you secure the free and prior informed consent of all participants in the research? Please ensure that you complete the **informed consent form** at the end of this document with the particulars of your project, or include the form or script you will use. By ticking the 'Yes - Written' or 'Yes - Oral' box, you declare that you: • commit to ensuring that each participant understands the informed consent statement, agrees to participate, before any research begins • retain a record of informed consent, either by keeping a copy of the signed form, or in the case of oral consent, recording time and place of consent in writing with the signature of a witness, or on an audio device • will give the participant a copy of the signed form and keep a second copy for yourself (in the case of written consent) Yes - Written [✓] Yes - Oral [ ] No [ ]
	Please provide your procedure for securing informed consent of all participants. If you ticked 'No', explain why waiver of prior informed consent is required. Any other information you want to provide with regard to consent may also be included in the box below, including any plans required to translate the form or oral informed consent script into the language of research participants, and a brief motivation for oral consent if applicable
	Each participant will be provided with an informed consent form for them to complete and sign.

D.3	**Recording**
	Will you take photographs, audio recordings or videos of your participants? Photographs, audio, and video recordings contain personally identifiable information, even if the face is not visible, and may also be prohibited by certain individuals and cultures or violate people's rights to privacy. By ticking the 'Yes' box, you declare that you: • will commit to asking permission prior to initiating any photograph or recording • will not photograph or record participants who have declined • will seek the free and informed consent of participants prior to using any recordings or photographs in publications, project websites, presentations, social media or other means of dissemination. If yes, please provide (i) a rationale for using such material in your research, (ii) the procedure for securing consent for recordings (this may entail modifications to the consent form), and (iii) an explanation of how you intend to use the material. *Please ensure that the content of this section aligns with the informed consent statement at the end of this form.* Yes [ ] No [✓]
D.4	**Confidentiality**
	Are you able to offer privacy and confidentiality to participants, if they wish to remain anonymous? The default requirements of the Science Faculty Research Ethics Committee are to assure that either: (a) study data are de-identified (identifiers are stripped or separated), or (b) data are collected without identifiers (anonymous). If you wish to use the names and organisational affiliations of participants in your research: (i) tick 'No'; (ii) provide a reasoned motivation in the box below why you are adopting this approach, indicating why this does not have ethical implications for the participants, and (iii) modify the appended prior informed consent form appropriately so that it reflects a participant's agreement that you may use his or her name and/or affiliation together with the information they provided. If there are any aspects of your research where there might be difficulties or problems with regard to protecting the confidentiality and rights of participants, and honouring their trust, explain this in detail below. Yes [✓] No [ ]

D.5	**Potential harm for participants**
	Outline any foreseeable risks of legal, physical, psychological or social harm or suffering to participants and/or the environment, which might result from, or occur in the course of, this research. Please include what these risks might be and what preventative steps you plan to take to avoid or minimise such harm from being suffered, and include a summary of these risks in the appended prior informed consent form. Residual risks are to be balanced by your response to question D.8 below (on the benefits of the research). If there are no foreseeable risks beyond what your participants may encounter in everyday life, state that this is the case.
	There are no foreseeable risks that the participants of the study might experience, given that they will be participating in a usability study only and the results of the study will not be published. There are also no health risks relating to the ongoing Covid-19 pandemic, as the study will be conducted online only.
D.6	**Potential for harm to UCT or other institutions**
	Are there any foreseeable risks of harm to UCT, or to other institutions, that might result from or occur in the course of the research, for example, legal action resulting from the research; or the image of the university or another institution being adversely affected by association with the research (such as a school being compromised in the eyes of the Department of Education)? If your answer is 'Yes', give details below (to be balanced by your response to question D.8 below). Yes [ ] No [✓]
D.7	**Other conceivable ethical issues**
	Are there any other ethical issues that you think might arise during the course of the research (e.g., with regard to conflicts of interest amongst participants and/or institutions)? If your answer is 'Yes', give details in the box below and say what you plan to do to minimise any adverse consequences (to be balanced by your response to question D.8 below). Yes [ ] No [✓]
D.8	**Benefits to science, to participants and others**
	Summarize the benefits of your research. The core task of research ethics committees is to balance the benefits of research against risks or potential harm that may ensue, as per sections D.5, D.6, and D.7 of this form. In the space below summarise the benefits of your research. If appropriate, please also give some indication as to how you will provide feedback to the participants in your study.
	As a usability study, this research will help to improve the software solution that the project aims to produce, especially with regards to how easy the solution is to implement. The study will also help to determine how effective the software is at producing the intended results, and how it can be improved in this respect.

D.9	**Publication of results**
	Research projects ideally result in publication of the results. Have you and your supervisor/PI read and agreed to the principles regarding authorship as set out in the UCT Authorship Practices Policy? This code is available for download from the UCT web-site's list of policies – scroll down the alphabetical listing to 'Research', where you will find this specific code http://www.uct.ac.za/about/policies/ Yes ✓ No

E. SIGNATURES

E.1	**Endorsement by Applicant**			
	Title and Names	Mr Martin van Rooyen; Mr Tangwa Shihepo		
	Signature	Martin: Tangwa: TangwaShihepo	Date	10/06/2022
E.2	**Endorsement by Supervisor or Principle Investigator** By signing below, I certify that I have assisted the applicant to identify ethical issues pertaining to his or her research; that I have reviewed this ethics application, including the informed consent form overleaf, and am satisfied that it is accurate and adequately communicates information about the proposed research			
	Comments			
	Title and Names	Prof. Rob Simmonds		
	Signature		Date	10/06/2022

DEPARTMENT OF COMPUTER SCIENCE

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URL: https://www.cs.uct.ac.za/

Informed Voluntary Consent to Participate in Research Study

Scripting for Publication Quality Images

Invitation to participate, and benefits: You are invited to participate in a research usability study conducted with CARTA users and/or developers. The aim of the study is to determine how we might improve upon our solution for improving the quality of images that are meant to be used in publications. We believe that your participation will allow us to determine what features we need to add to the software, as well as which parts of the user interface we should improve upon.

Procedures: During this study, you will be asked to use the software to produce the intended images, and relay to us what you struggled to understand and use, as well as what features you believe might prove useful if they were to be added.

Recording: We will not be recording audio, video, or taking any photographs in this study.

Risks: There are no potentially harmful risks related to your participation in this study.

Feedback: You will receive feedback about the results of this research through the final report, as drafted by the researchers at the end of the study.

Disclaimer/Withdrawal: Your participation is completely voluntary; you may refuse to participate, and you may withdraw at any time without having to state a reason and without any prejudice or penalty against you. Should you choose to withdraw, the researcher commits not to use any of the information you have provided without your signed consent. Note that the researcher may also withdraw you from the study at any time.

Confidentiality: All information collected in this study will be kept private in that you will not be identified by name or by affiliation to an institution. Additionally, neither the results of the study or any identifying information will be published.

What signing this form means: By signing this consent form, you agree to participate in this research study. The aim, procedures to be used, as well as the potential risks and benefits of your participation have been explained verbally to you in detail, using this form. Refusal to participate in or withdrawal from this study at any time will have no effect on you in any way. You are free to contact me, to ask questions or request further information, at any time during this research.

I agree to participate in this research (tick one box) ☐ Yes ☐ No _____ (Initials)
[The following statements are suggested items only and may be replaced or deleted as appropriate for your study.]

_____	_____	_____
Name of Participant	Signature of Participant	Date
_____	_____	_____
Name of Researcher	Signature of Researcher	Date