

Delft University of Technology
HUMAN RESEARCH ETHICS
CHECKLIST FOR HUMAN RESEARCH
(Version January 2022)

IMPORTANT NOTES ON PREPARING THIS CHECKLIST

1. An HREC application should be submitted for every research study that involves human participants (as Research Subjects) carried out by TU Delft researchers
2. Your HREC application should be submitted and approved **before** potential participants are approached to take part in your study
3. All submissions from Master's Students for their research thesis need approval from the relevant Responsible Researcher
4. The Responsible Researcher must indicate their approval of the completeness and quality of the submission by signing and dating this form OR by providing approval to the corresponding researcher via email (included as a PDF with the full HREC submission)
5. There are various aspects of human research compliance which fall outside of the remit of the HREC, but which must be in place to obtain HREC approval. These often require input from internal or external experts such as [Faculty Data Stewards](#), [Faculty HSE advisors](#), the [TU Delft Privacy Team](#) or external [Medical research partners](#).
6. You can find detailed guidance on completing your HREC application [here](#)
7. Please note that incomplete submissions (whether in terms of documentation or the information provided therein) will be returned for completion **prior to any assessment**
8. If you have any feedback on any aspect of the HREC approval tools and/or process you can leave your comments [here](#)

I.

I. Applicant Information

PROJECT TITLE:	Modeling Automation Maturity in Software Development
Research period: <i>Over what period of time will this specific part of the research take place</i>	5th January until 2nd March 2025
Faculty:	EEMCS
Department:	Software Engineering Research Group
Type of the research project: <i>(Bachelor's, Master's, DreamTeam, PhD, PostDoc, Senior Researcher, Organisational etc.)</i>	Master's Thesis
Funder of research: <i>(EU, NWO, TUD, other – in which case please elaborate)</i>	TUD
Name of Corresponding Researcher: <i>(If different from the Responsible Researcher)</i>	-
E-mail Corresponding Researcher: <i>(If different from the Responsible Researcher)</i>	-
Position of Corresponding Researcher: <i>(Masters, DreamTeam, PhD, PostDoc, Assistant/ Associate/ Full Professor)</i>	-
Name of Responsible Researcher: <i>Note: all student work must have a named Responsible Researcher to approve, sign and submit this application</i>	Sebastian Proksch
E-mail of Responsible Researcher: <i>Please ensure that an institutional email address (no Gmail, Yahoo, etc.) is used for all project documentation/ communications including Informed Consent materials</i>	s.proksch@tudelft.nl
Position of Responsible Researcher : <i>(PhD, PostDoc, Associate/ Assistant/ Full Professor)</i>	Assistant Professor

II. Research Overview

NOTE: You can find more guidance on completing this checklist [here](#)

a) Please summarise your research very briefly (100-200 words)

What are you looking into, who is involved, how many participants there will be, how they will be recruited and what are they expected to do?

Add your text here – (please avoid jargon and abbreviations)

The aim of the research is ranking software automations based on some order of importance, this order shall be created and confirmed based on the survey. I expect around 50 participants would be appropriate to get trustworthy results. Eligibility criterion is to have some experience with CI/CD; GitHub workflows or Maven plugins. This is a requirement that any developer would be eligible for as it is very elementary for software development. Participants would be recruited either through social media means like WhatsApp groups or Reddit, personal contacts, or through submissions on GitHub repositories, accompanied with a short description of the survey, after which they can optionally choose to fill out the survey. The survey is a short 5 minute questionnaire with short answer questions/likert scale/reordering type of questions. After the survey is finished, we will create a model based on the results. We will then sample and analyze public GitHub repositories, and provide summaries and recommendations. We will then ask them to provide feedback on these recommendations. We will use this feedback in order to confirm our model.

- b) **If your application is an additional project** related to an existing approved HREC submission, please provide a brief explanation including the existing relevant HREC submission number/s.

Add your text here - (please avoid jargon and abbreviations)

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- c) **If your application is a simple extension of, or amendment to,** an existing approved HREC submission, you can simply submit an [HREC Amendment Form](#) as a submission through LabServant.

III. Risk Assessment and Mitigation Plan

NOTE: You can find more guidance on completing this checklist [here](#)

Please complete the following table in full for all points to which your answer is “yes”. Bear in mind that the vast majority of projects involving human participants as Research Subjects also involve the collection of **Personally Identifiable Information (PII)** and/or **Personally Identifiable Research Data (PIRD)** which may pose potential risks to participants as detailed in Section G: Data Processing and Privacy below.

To ensure alignment between your risk assessment, data management and what you agree with your Research Subjects you can use the last two columns in the table below to refer to specific points in your Data Management Plan (DMP) and Informed Consent Form (ICF) – **but this is not compulsory**.

It’s worth noting that **you’re much more likely to need to resubmit your application if you neglect to identify potential risks**, than if you identify a potential risk and demonstrate how you will mitigate it. If necessary, the HREC will always work with you and colleagues in the Privacy Team and Data Management Services to see how, if at all possible, your research can be conducted.

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
ISSUE	Yes	No	RISK ASSESSMENT – what risks could arise? <i>Please ensure that you list ALL of the actual risks that could potentially arise – do not simply state whether you consider any such risks are important!</i>	MITIGATION PLAN – what mitigating steps will you take? <i>Please ensure that you summarise what actual mitigation measures you will take for each potential risk identified – do not simply state that you will e.g. comply with regulations.</i>	DMP	ICF
A: Partners and collaboration						
1. Will the research be carried out in collaboration with additional organisational partners such as: <ul style="list-style-type: none"> One or more collaborating research and/or commercial organisations Either a research, or a work experience internship provider¹ <i>¹ If yes, please include the graduation agreement in this application</i>		x				
2. Is this research dependent on a Data Transfer or Processing Agreement with a collaborating partner or third party supplier? <i>If yes please provide a copy of the signed DTA/DPA</i>		x				
3. Has this research been approved by another (external) research ethics committee (e.g.: HREC and/or MREC/METC)? <i>If yes, please provide a copy of the approval (if possible) and summarise any key points in your Risk Management section below</i>		x				
B: Location						
4. Will the research take place in a country or countries, other than the		x				

			<i>If YES please complete the Risk Assessment and Mitigation Plan columns below.</i>		<i>Please provide the relevant reference #</i>	
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Netherlands, within the EU?						
5. Will the research take place in a country or countries outside the EU?		x				
6. Will the research take place in a place/region or of higher risk – including known dangerous locations (in any country) or locations with non-democratic regimes?		x				
C: Participants						
7. Will the study involve participants who may be vulnerable and possibly (legally) unable to give informed consent? (e.g., children below the legal age for giving consent, people with learning difficulties, people living in care or nursing homes,).	x		The repositories we are analyzing could be owned by people that are under 18.	We only ask people that have specific experience with CI/CD, which is something only professional developers would have experience with, all other respondents would be excluded.		
8. Will the study involve participants who may be vulnerable under specific circumstances and in specific contexts, such as victims and witnesses of violence, including domestic violence; sex workers; members of minority groups, refugees, irregular migrants or dissidents?		x				
9. Are the participants, outside the context of the research, in a dependent or subordinate position to the investigator (such as own children, own students or employees of either TU Delft and/or a collaborating partner organisation)? <i>It is essential that you safeguard against possible adverse consequences of this situation (such as allowing a student's failure to participate to your satisfaction to affect your evaluation of their coursework).</i>		x				
10. Is there a high possibility of re-identification for your participants? (e.g., do they have a very specialist job of which there are only a small number in a given country, are they members of a small community, or employees from a partner company collaborating in the research? Or are they one of only a handful of (expert) participants in the study?	x		The questionnaire is anonymous, only respondents can enter their email address if they want a follow-up or join the gift card raffle. When we are analyzing responses in the repositories, the responses are made by an account.	Survey results will be anonymously aggregated without the email address, and the email addresses will be deleted after the survey has finished. Account names can typically not identify a person. However, when we obtain the feedback from the developers, we will not store their account name, we will just aggregate resulting answers. There will be no personal information collected or stored.		
D: Recruiting Participants						
11. Will your participants be recruited through your own, professional, channels such as conference attendance lists, or through specific network/s such as self-help groups	x		Informed consent issues; participants may not completely understand what they are consenting to on an informal platform. Bias; because of the specific selection of social media communities that the survey will be shared on, bias	Before participants can continue to the survey, they will have to read through a clear text so that participants can have informed consent, the text is written based on the recommended informed consent template.		

			If YES please complete the Risk Assessment and Mitigation Plan columns below.		Please provide the relevant reference #	
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			might arise in the responses.	Bias will be mitigated by sending the survey on multiple different sharing media, and the questions will be posed in such an objective way that bias will not be able to have large influence on the outcomes of the study.		
12. Will the participants be recruited or accessed in the longer term by a (legal or customary) gatekeeper? (e.g., an adult professional working with children; a community leader or family member who has this customary role – within or outside the EU; the data producer of a long-term cohort study)		x				
13. Will you be recruiting your participants through a crowd-sourcing service and/or involve a third party data-gathering service, such as a survey platform?	x		The survey is designed in Qualtrics. It is indicated that Qualtrics software only complies with the Privacy & Security regulations of the TU Delft if certain conditions are met.	We comply with the Qualtrics specific guideline released by the TU Delft (Privacy & Security regulations). Information has been found on this TU Delft guide. So, minimal personal data will be collected, and no sensitive personal data/personal identifiable information. File upload will be disabled. The survey will be removed after it has finished.		
14. Will you be offering any financial, or other, remuneration to participants, and might this induce or bias participation?	x		Unqualified respondents: by offering a raffle, this may attract respondents that do not qualify to enter the survey. Bias: by offering a raffle, there might be bias in the responses of the respondents.	By asking specialized questions at the beginning, we weed out people that are unqualified. The questions are generally unbiased, and there is no benefit for respondents to answer questions in a particular way.		
E: Subject Matter <i>Research related to medical questions/health may require special attention. See also the website of the CCMO before contacting the HREC.</i>						
15. Will your research involve any of the following: <ul style="list-style-type: none"> Medical research and/or clinical trials Invasive sampling and/or medical imaging Medical and <i>In Vitro Diagnostic Medical Devices</i> Research 		x				
16. Will drugs, placebos, or other substances (e.g., drinks, foods, food or drink constituents, dietary supplements) be administered to the study participants? <i>If yes see here to determine whether medical ethical approval is required</i>		x				
17. Will blood or tissue samples be obtained from participants? <i>If yes see here to determine whether medical ethical approval is required</i>		x				
18. Does the study risk causing psychological stress or anxiety beyond that		x				

			If YES please complete the Risk Assessment and Mitigation Plan columns below.		Please provide the relevant reference #	
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normally encountered by the participants in their life outside research?						
19. Will the study involve discussion of personal sensitive data which could put participants at increased legal, financial, reputational, security or other risk? (e.g., financial data, location data, data relating to children or other vulnerable groups) <i>Definitions of sensitive personal data, and special cases are provided on the TUD Privacy Team website.</i>		x				
20. Will the study involve disclosing commercially or professionally sensitive, or confidential information? (e.g., relating to decision-making processes or business strategies which might, for example, be of interest to competitors)		x				
21. Has your study been identified by the TU Delft Privacy Team as requiring a Data Processing Impact Assessment (DPIA)? <i>If yes please attach the advice/ approval from the Privacy Team to this application</i>		x				
22. Does your research investigate causes or areas of conflict? <i>If yes please confirm that your fieldwork has been discussed with the appropriate safety/security advisors and approved by your Department/Faculty.</i>		x				
23. Does your research involve observing illegal activities or data processed or provided by authorities responsible for preventing, investigating, detecting or prosecuting criminal offences <i>If so please confirm that your work has been discussed with the appropriate legal advisors and approved by your Department/Faculty.</i>		x				
F: Research Methods						
24. Will it be necessary for participants to take part in the study without their knowledge and consent at the time? (e.g., covert observation of people in non-public places).		x				
25. Will the study involve actively deceiving the participants? (For example, will participants be deliberately falsely informed, will information be withheld from them or will they be misled in such a way that they are likely to object or show unease when debriefed about the study).		x				
26. Is pain or more than mild discomfort likely to result from the study? And/or could your research activity cause an accident involving (non-) participants?		x				
27. Will the experiment involve the use of devices that are not 'CE' certified? <i>Only, if 'yes': continue with the following questions:</i>		x				
<ul style="list-style-type: none"> Was the device built in-house? 						

			If YES please complete the Risk Assessment and Mitigation Plan columns below.		Please provide the relevant reference #	
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<ul style="list-style-type: none"> Was it inspected by a safety expert at TU Delft? <i>If yes, please provide a signed device report</i> 						
<ul style="list-style-type: none"> If it was not built in-house and not CE-certified, was it inspected by some other, qualified authority in safety and approved? <i>If yes, please provide records of the inspection</i> 						
28. Will your research involve face-to-face encounters with your participants and if so how will you assess and address Covid considerations?		x				
29. Will your research involve either : a) “big data”, combined datasets, new data-gathering or new data-merging techniques which might lead to re-identification of your participants and/or b) artificial intelligence or algorithm training where, for example biased datasets could lead to biased outcomes?		x				
G: Data Processing and Privacy						
30. Will the research involve collecting, processing and/or storing any directly identifiable PII (Personally Identifiable Information) including name or email address that will be used for administrative purposes only? (eg: obtaining Informed Consent or disbursing remuneration)	x		By storing email addresses, there is always a possibility that they might be leaked.	Respondents are aware of their rights regarding entering their email address, this is not required at all. If respondents choose to enter their email address, much care will be taken; they will be stored in an encrypted environment and the personal data will immediately be removed after the survey has finished.		
31. Will the research involve collecting, processing and/or storing any directly or indirectly identifiable PIRD (Personally Identifiable Research Data) including videos, pictures, IP address, gender, age etc and what other Personal Research Data (including personal or professional views) will you be collecting?		x				
32. Will this research involve collecting data from the internet, social media and/or publicly available datasets which have been originally contributed by human participants	x		Licenses and compliance: this research collects data from GitHub repositories. These repositories can have licenses that impose restrictions on the use of the data.	Raw data and responses gathered in this research will not be altered, and will not be distributed. Rather, we aggregate some statistics based on the raw data. This way, we are able to comply with all licenses available for use on GitHub.		
33. Will your research findings be published in one or more forms in the public domain, as e.g., Masters thesis, journal publication, conference presentation or wider public dissemination?	x		TU Delft repository: the thesis would be published in the TU Delft repository and Zenodo research archive. It is possible that some of the participants think their privacy is affected.	Absolutely no personal information will be requested and stored. The already anonymous survey answers will be only aggregated for the findings of the publication. Respondents were aware of their rights and possibilities for withdrawal of the study if they choose so.		
34. Will your research data be archived for re-use and/or teaching in an open, private or semi-open archive?		x				

H: More on Informed Consent and Data Management

NOTE: You can find guidance and templates for preparing your Informed Consent materials) [here](#)

Your research involves human participants as Research Subjects if you are recruiting them or actively involving or influencing, manipulating or directing them in any way in your research activities. This means you must seek informed consent and agree/ implement appropriate safeguards regardless of whether you are collecting any PIRD.

Where you are also collecting PIRD, and using Informed Consent as the legal basis for your research, you need to also make sure that your IC materials are clear on any related risks and the mitigating measures you will take – including through responsible data management.

Got a comment on this checklist or the HREC process? You can leave your comments [here](#)

IV. Signature/s

Please note that by signing this checklist list as the sole, or Responsible, researcher you are providing approval of the completeness and quality of the submission, as well as confirming alignment between GDPR, Data Management and Informed Consent requirements.

Name of Corresponding Researcher (if different from the Responsible Researcher) (print)

Signature of Corresponding Researcher: -

Date:

Name of Responsible Researcher (print)

Signature (or upload consent by mail) Responsible Researcher: Sebastian Proksch

Date:

V. Completing your HREC application

Please use the following list to check that you have provided all relevant documentation

Required:

- ☐ **Always:** This completed HREC checklist
- ☐ **Always:** A data management plan (reviewed, where necessary, by a data-steward)
- ☐ **Usually:** A complete Informed Consent form (including Participant Information) and/or Opening Statement (for online consent)

Please also attach any of the following, if relevant to your research:

Document or approval	Contact/s
Full Research Ethics Application	After the assessment of your initial application HREC will let you know if and when you need to submit additional information
Signed, valid Device Report	Your Faculty HSE advisor
Ethics approval from an external Medical Committee	TU Delft Policy Advisor, Medical (Devices) Research
Ethics approval from an external Research Ethics Committee	Please append, if possible, with your submission
Approved Data Transfer or Data Processing Agreement	Your Faculty Data Steward and/or TU Delft Privacy Team
Approved Graduation Agreement	Your Master's thesis supervisor
Data Processing Impact Assessment (DPIA)	TU Delft Privacy Team
Other specific requirement	Please reference/explain in your checklist and append with your submission