EMERGE

WP2 Ethics: Mapping risks and potential

D2.1 Ethics monitoring and compliance

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[1]R: Document, report (excluding the periodic and final reports); DEM: Demonstrator, pilot, prototype, plan designs; DEC: Websites, patents filing, press & media actions, videos, etc.; DATA: Data sets, microdata, etc.; DMP: Data management plan; ETHICS: Deliverables related to ethics issues.; SECURITY: Deliverables related to security issues; OTHER: Software, technical diagram, algorithms, models, etc.

[2]PU – Public, fully open, e.g. web (Deliverables flagged as public will be automatically published in CORDIS project's page); SEN – Sensitive, limited under the conditions of the Grant Agreement; Classified R-UE/EU-R – EU RESTRICTED under the Commission Decision No2015/444; Classified C-UE/EU-C – EU CONFIDENTIAL under the Commission Decision No2015/444; Classified S-UE/EU-S – EU SECRET under the Commission Decision No2015/444

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Abstract

The report describes the technical and organisational measures that are implemented in EMERGE to safeguard ethical aspects and ensure compliance with national and EU laws and guidelines. It reports the results of the ethical self-assessments regarding artificial intelligence. The informed consent procedures and forms for the experiments involving human participants are also detailed.

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List of abbreviations

LMU	Ludwig-Maximilians-Universitaet Muenchen
UoB	University of Bristol
WP	Work package
AIHLEG	High-Level Expert Group on AI
ALTAI	Assessment List for Trustworthy Artificial Intelligence

Executive summary

This document is a deliverable of the EMERGE project, funded under HORIZON-EIC-2021-PATH FINDER CHALLENGES-01-01 under grant agreement number 101070918.

The deliverable "D2.1 Ethics monitoring and compliance" describes the technical and organisational measures that will be implemented to safeguard ethical aspects and ensure compliance with national and EU laws and guidelines. The document mainly pertains to aspects of data protection and privacy preservation. It also reports the result of ethics issues self-assessment as regards the major sensitive point of the proposal, i.e. Artificial Intelligence. This is integrated with the result of a compliance check against ethical guidelines for trustworthy AI developed by the European High-Level Expert Group on AI.

The report identifies the procedures for data protection and the officers who are responsible for enforcing them, including the Data Protection Officers (DPOs) and the monitoring process for the ethics self-assessment. Finally, it reports the procedures and criteria used to identify and recruit participants to the project data collection, together with the associated informed consent forms.

1. Introduction

The EMERGE consortium is fully aware of the potential ethical implications of the proposed research and respects the ethical rules and standards of HORIZON Europe Programme, and the core requirements of EU guidelines for trustworthy AI. The definition, the understanding and the study of ethical risks and vulnerabilities associated to the emergence of collaborative awareness are one of the key aspects in the proposed research plan, and a full work package (WP2) running for the whole duration of EMERGE is devoted to these specific ethical aspects.

As a result of its research activity, EMERGE aims at developing ethical guidelines based on a combination of philosophical and experimental methods, to provide a formal framework for European and international researchers working on ethical topics. In particular, EMERGE will also take into consideration the assessment of the framework from an ethical viewpoint with the scope to evaluate the attribution of agentive and moral responsibility to collectives of local individuals having collaborative integrated awareness, and to characterise transparency, trust and risks of such systems. Therefore, the research methodology of EMERGE not only will be compliant with the new regulation in AI and the EU guidelines for trustworthy AI but also will contribute to the development of trustworthy AI. To study the risks and virtues of collaborative awareness for humans and society EMERGE will set up some empirical experiments involving humans as mentioned in the description of Work Package 2. These experiments will require the collection of personal data and the definition of some criteria for human recruitment to avoid ethical implications. Indeed, the recruitment process of participants and organisation of these experiments could raise ethical issues such as gender imbalance issues, privacy issues, etc. EMERGE will conduct these experiments following a well-defined process to guarantee the adherence to ethical principles to ensure that the activities will be compliant with the EU legal and ethical requirements of the countries where the experiments will be carried out. In

this deliverable we describe procedures of personal data collection, data storing and data protection. We provide information about DPOs of partners involved in the empirical experiments and collecting personal data. We also describe the process for periodic self-assessment of ethical issues and vulnerabilities of AI systems developed in EMERGE and present the initial result of self-assessment which will be revised periodically as result of the continuous monitoring of ethics. Lastly, the deliverable describes the procedure followed by EMERGE's partners to get the approval of local ethical committees and the informed forms and criteria which will be used for recruiting humans and conducting experiments.

2. Use and protection of personal data

2.1 Project data and relevance for its objectives

EMERGE will conduct empirical studies to investigate human interactions with artificial agents as computer programs and potentially also embodied robots. In our analysis we will use established and fairly well known behavioural game theory methods in which participants will interact with artificial agents in monetarily incentivized economic games. We will conduct these studies online as well as in physical labs (especially so if we will analyse human interactions with actual embodied robots). As usual in these studies, in addition to recording human participants' decisions and other performance metrics in their tasks, we will collect demographic data such as participants' age, gender, nationality, and so on. This activity will be led by LMU.

In addition, UoB will design in the future user trials related to the ability of users to monitor and control emergent awareness of robot swarms.

Data collected during these user studies are the only type of personal data used for research purposes in our project.

2.2 Data storage, safeguarding and processing

EMERGE's partners will give special attention to the confidentiality of data storage and processing. They will commit to implementing all appropriate technical and organisational measures necessary in order to protect potential personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, and against all other unlawful forms of processing. Initial data will be stored only on hard drives, and only fully anonymised data will be made accessible in open access. Any access will be granted only to authorised partners for data handling. Furthermore, access for information or data input (even change) will be also restricted only to authorised users to ensure their confidentiality and reserved only for these partners that collect and provide data.

LMU stores all data in offline digital storage. For online experiments data is collected via platforms such as Mturk and Prolific. These platforms maintain the identification and only an

encrypted ID will be entered into the offline storage at the lab. For lab based experiments the data is collected on hardcopies, and again only an encrypted ID will be stored on the hard drive. Moreover, in accordance with good science practice, will make data irreversibly and fully anonymised. Moreover, these anonymised datasets, our hypotheses, research methods, and statistical analyses, will be made freely and publicly available for further research and development in the Open Science Framework (OSF) database online. Once data is anonymized, we will analyse the data at group level using appropriate statistical software tools, predominantly R, and report our findings using group level statistics and other metrics that will make it impossible to identify any individual persons in our subject pools.

UoB will store the pseudonymised collected data on the University of Bristol's Microsoft OneDrive and only accessed by the researchers. Once anonymised data will be made open access where appropriate. Data will be stored, analysed and presented in accordance with the University of Bristol's data protection regulations. To learn more about those regulations, please follow this link: http://www.bristol.ac.uk/secretary/data-protection/.

2.3 Data protection officers

In the following, we provide a reference of the DPOs of the partners directly involved in the empirical experiments which entail collection of personal data.

Data protection officer for University of Bristol:

> Henry Stuart
>
> Information Governance Manager & Data Protection Officer
>
> University Secretary's Office, University of Bristol
>
> Beacon House, Queens Road, Bristol, BS8 1QU
>
> email: data-protection@bristol.ac.uk
>
> Tel: 0117 45 56325

Data protection officer for Ludwig-Maximilians-Universitaet Muenchen:

> Ophelia Deroy
>
> Gabelsbergerstrasse 62, 80333 Munich
>
> email: office.deroy@lrz.uni-muenchen.de
>
> Tel: +49 89 218078611

3. Ethics issues self-assessment

In this section we describe as EMERGE collects, stores and manages personal data while preserving individual privacy in accordance with the EU General Data Protection Regulation (GDPR). Moreover, we analyse the EMERGE research activity and the AI systems developed in the project with respect to the ethical implications. We first report the Ethics checklist dedicated to Artificial Intelligence by specifying appropriate details for the most important ethics questions. Then, we exploit the Assessment List for Trustworthy Artificial Intelligence (ALTAI) to self-assess the trustworthiness of our AI systems under development.

We remark that this assessment is the initial self-assessment with respect to those criteria. Our goal is also to monitor the assessment during the duration of the project. We propose a monitoring procedure based on periodic ethics assessments. In particular, we intend to exploit Consortium meetings, where WPs progress is reported and discussed, for analysing, discussing and reporting potential ethical issues and risks detected. This periodic analysis will be also supported by the ALTAI checklist and will be performed as activity of the Task 2.5 of the WP2.

3.1 Data protection

Data will be collected and stored in accordance with the EU GDPR. Indeed, data will be collected and processed fairly, lawfully and transparently. In other words, the purpose for which personal data is collected and processed will be made clear to the data subjects. Data subjects will be fully informed about how their data will be used. All the collected data will be obtained and used for specified, explicit and legitimate purposes related to the EMERGE research, and will not be further processed in any manner incompatible with those purposes.

A data minimization policy will be adopted to ensure that only data (including personal data) that are strictly necessary for running the activity will be processed. All processing activities will be documented, in compliance with the accountability requirements of the GDPR. The principle of data minimization and storage limitation also need to be seen with respect to the research goals. Art. 5 (1) (e) GDPR provides an exception for research. None of the user data collected during the experiment is linked directly to participants. Therefore, there is no way of referring the opinions entered back to participants, and so we will not be able to locate participant's specific entries to delete them if requested. Also, the studies will ask for demographic data, namely gender, age, profession, and years of experience. Quotes, and correlations between the demographical data with some answers may be used for publications, academic journals, and presentations at academic conferences. Personal data will not be retained longer than necessary for the purpose it was initially collected. However, EMERGE, in accordance with good science practice, will make data irreversibly and fully anonymised. Moreover, these anonymised datasets, our hypotheses, research methods, and statistical analyses, will be made freely and publicly available for further research and development in the Open Science Framework (OSF) database online.

Online labour platforms, such as Prolific and Amazon Mechanical Turk, from which we intend to recruit our participants online, issue each individual person a unique ID (for reimbursement purposes). We will use this ID to reimburse our participants immediately after their participation in our experiments, but we will not save these IDs in our datasets. We will not save our participants' internet protocol (IP) addresses either, which means that our dataset will be irreversibly and fully anonymized. Subsequently we will analyse the data at group level using appropriate statistical software tools, predominantly R, and report our findings using group level statistics and other metrics that will make it impossible to identify any individual persons in our subject pools. Similarly, for studies conducted in physical laboratories, we will retain, store, and analyse only fully anonymized data, removing any information that would allow one to subsequently identify individual persons who took part in our studies.

In summary, all above research data publicly available, upon verification, they are legally free to be used, will be anonymized by applying the opportune privacy-preserving method (such as differential privacy, k-anonymity, randomization, etc.) that guarantees adequate privacy protection, data utility, and quality for analytical goals.

3.2 Artificial Intelligence

In this section we report the analysis of the AI systems, which we are developing in EMERGE, with respect to the Ethics checklist dedicated to Artificial Intelligence. For each item in the checklist we provide the result of our analysis and for each item of the checklist we provide explanations supporting the answer to the ethical question (when necessary).

ARTIFICIAL INTELLIGENCE	Yes/No	Note
Does this activity involve the development, deployment and/or use of Artificial Intelligence-based systems?	Yes	
Could the AI based system/technique potentially stigmatise or discriminate against people (e.g. based on sex, race, ethnic or social origin, age, genetic features, disability, sexual orientation, language, religion or belief, membership to a political group, or membership to a national minority)?	No	The developed AI systems in EMERGE are based on synthetic agents which learn to autonomously interact with each other. No personal data is used by the system and the only users of the system are developers and auditors thus, potentially stigmatisation or discrimination against people is not possible. Fairness could be an issue in the user studies where human participants are recruited. EMERGE will apply a recruitment that, as described in Sec. 5.3, will be fair in terms of age, gender and any other demographic

		information.
Does the AI system/technique interact, replace or influence human decision-making processes (e.g. issues affecting human life, health, well-being or human rights, or economic, social or political decisions)?	No	The AI systems developed in EMERGE do not interact, replace or influence human decision. However, EMERGE will conduct studies in WP2 for analysing and mapping specific ethical and legal risks and vulnerabilities. The final goal is the development of an ethical guideline toolkit to be shared in an open-access repository. Moreover, the development of interpretability techniques for explaining agents' decisions, leading to some interactions with other agents, will enable developers and auditors to control, monitor and audit the behaviour of the whole system.
Does the AI system/technique have the potential to lead to negative social (e.g. on democracy, media, labour market, freedoms, educational choices, mass surveillance) and/or environmental impacts either through intended applications or plausible alternative uses?	No	Concerning social negative impact, the system developed in EMERGE is the result of synthetic agents which learn to autonomously interact with each other. Thus, no social interaction with humans is taken into account. Concerning environmental impacts, EMERGE contributes to the development of a sustainable AI. Indeed, developed technologies build on a novel computational engine enriched with lifelong learning and it will support neuromorphic computing requirements. Together they contribute to fulfilling the requirements of green AI. The contribution to sustainable AI is also confirmed by the release of a library that will enable small smart devices to learn and adapt to their surroundings, helping to save energy and improving the overall environmental sustainability of AI systems.
Does this activity involve the use of AI in a weapon system?	No	

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Does the AI to be developed/used in the project raise any other ethical issues not covered by the questions above (e.g., subliminal, covert or deceptive AI, AI that is used to stimulate addictive behaviours, lifelike humanoid robots, etc.)?	No	

3.3 AIHLEG guidelines compliance check

In this section we report the result of the initial analysis of the AI systems which we are developing in EMERGE. In order to evaluate the potential ethical issues and risks we used the Assessment List for Trustworthy Artificial Intelligence (ALTAI). As a result of the self-assessment, for each item of the checklist we provide an explanation supporting the answer to the ethical question (when necessary).

Specification of Objectives against Ethical Requirements	Yes/No	Note
Respect for Human Agency		
End-users and others affected by the AI system are not deprived of abilities to make all decisions about their own lives, have basic freedoms taken away from them	Yes	
End-users and others affected by the AI system are not subordinated, coerced, deceived, manipulated, objectified or dehumanized, nor is attachment or addiction to the system and its operations being stimulated.	Yes	
The system does not autonomously make decisions about vital issues that are normally decided by humans by means of free personal choices or collective deliberations or similarly significantly affects individuals,	Yes	
The system is designed in a way that give system operators and, as much as possible, end-users the ability to control, direct and	Yes	Although the project goal is to design autonomous systems where synthetic agents autonomously interact with each other, EMERGE will develop

intervene in basic operations of the system (when relevant)		assessment, interpretability and monitoring to provide operators to control the system.
Privacy & Data Governance		
The system processes data in line with the requirements for lawfulness, fairness and transparency set in the national and EU data protection legal framework and the reasonable expectations of the data subjects.	Yes	The AI systems developed by EMERGE do not rely on personal data. Only during user studies EMERGE will collect personal data. For this data EMERGE will apply a data collection and processing compliant with GDPR as described in previous sections and for avoiding bias in the recruitments of participants of the experimental studies particular attention will be posed in guaranteeing fair involvement of participants with respect to sex, age, and gender. In order to ensure transparency EMERGE will also study XAI methods for AI systems developed in the project.
Technical and organisational measures are in place to safeguard the rights of data subjects (through measures such as anonymization, pseudonymisation, encryption, and aggregation).	Yes	As explained in Sec. 4.1 personal data once collected will be first pseudonymized and then, anonymized by applying the opportune privacy-preserving method (such as differential privacy, k-anonymity, randomization, etc.) that guarantees adequate privacy protection, data utility, and quality for analytical goals. However, these data are related to user studies and not used by the AI system.
There are security measures in place to prevent data breaches and leakages (such as mechanisms for logging data access and data modification).	Yes	EMERGE's partners will give special attention to the confidentiality of data storage and processing. They will commit to implementing all appropriate technical and organisational measures necessary in order to protect potential personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, and against all other unlawful

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		forms of processing. Initial data will be stored only on offline hard drives, and only fully anonymised data will be made accessible in open access. Any access will be granted only to authorised partners for data handling. Furthermore, access for information or data input (even change) will be also restricted only to authorised users to ensure their confidentiality and reserved only for these partners that collect and provide data.
Fairness		
The system is designed to avoid algorithmic bias, in input data, modelling and algorithm design. The system is designed to avoid historical and selection bias in data collection, representation and measurement bias in algorithmic training, aggregation and evaluation bias in modelling and automation bias in deployment	Yes	The system does not use any human data, therefore cannot generate any fairness issue. Fairness could be an issue in the user study where human participants are recruited. EMERGE will apply a recruitment that, as described in Sec. 5.3, will be fair in terms of age, gender and any other demographic information.
The system is designed so that it can be used different types of end-users with different abilities (whenever possible/relevant)	Yes	The developed AI systems are based on synthetic agents which learn to autonomously interact with each other. The system users are developers and auditors.
The system does not have negative social impacts on relevant groups, including impacts other than those resulting from algorithmic bias or lack of universal accessibility,	Yes	As mentioned above, the system is the result of synthetic agents which learn to autonomously interact with each other. There is no social interaction with humans.
Individual, and Social and Environmental Well-being		
The AI system takes the welfare of all stakeholders into account and do not unduly or unfairly reduce/undermine their well-being	Yes	The systems studied in the project will not have any direct impact on welfare. However, future services that could exploit such technology could introduce beneficial impacts on the stakeholders well-being.

The AI system is mindful of principles of environmental sustainability, both regarding the system itself and the supply chain to which it connects (when relevant)	Yes	EMERGE technologies builds on a novel computational engine enriched with lifelong learning and it will support neuromorphic computing requirements. Together they contribute to fulfil the requirements of green AI. EMERGE clearly contributes to the development of a sustainable AI. This is also confirmed by the release of a library that will enable small smart devices to learn and adapt to their surroundings, helping to save energy and improving the overall environmental sustainability of AI systems.
The AI system does not have the potential to negatively impact the quality of communication, social interaction, information, democratic processes, and social relations (when relevant)	Yes	
The system does not reduce safety and integrity in the workplace and complies with the relevant health and safety and employment regulations	Yes	
Transparency		
The end-users are aware that they are interacting with an AI system	Yes	The developed system will have as users only developers and auditors that are fully aware.
The purpose, capabilities, limitations, benefits and risks of the AI system and of the decisions conveyed are openly communicated to and understood by end-users and other stakeholders along with its possible consequences	Yes	The AI system is not a decision making system, decisions are not direct to humans but only useful for interaction among synthetic agents. However, EMERGE will map the possible risks and ethical possibilities of collaborative awareness. Moreover, will develop an ethical toolkit to be

		shared in an open-access repository.
People can audit, query, dispute, seek to change or object to AI or robotics activities (when applicable)	Yes	The assessment, auditing and monitoring of the developed AI systems will be one of the goals of EMERGE.
The AI system enables traceability during its entire lifecycle, from initial design to post-deployment evaluation and audit	Yes	
The system offers details about how decisions are taken and on which reasons these were based (when relevant and possible)	Yes	EMERGE we will develop interpretability tools that could support the auditing, monitoring and assessment procedures.
The system keeps records of the decisions made (when relevant)	Yes	The system keeps records of the decisions generated with the interactions among synthetic agents.
Accountability & Oversight		
The system provides details of how potential ethically and socially undesirable effects will be detected, stopped, and prevented from reoccurring.	Yes	One of the goals of EMERGE is to provide an ethical compass to avoid and mitigate potential risks and values of collaborative awareness for the design of trustworthy and benevolent AI-agents.
The AI system allows for human oversight during the entire life-cycle of the project /regarding their decision cycles and operation (when relevant)	Yes	

4. Compliance with ethical principles and relevant legislations

EMERGE will study the risks and virtues of collaborative awareness for humans and society and to this end will set up some experiments involving humans as mentioned in the description of Work Package 2. Such experiments will require recruiting participants and collection of some data. EMERGE will make sure that data will be collected legally and ethically. Informed consent procedures and information sheets will be developed with the Data Management Plan (Deliverable D9.2) and kept on file. The recruitment process of participants and organisation of empirical experiments will be conducted following a well-defined process to guarantee the

adherence to ethical principles to ensure that the activities will be compliant with the EU legal and ethical requirements of the countries where the experiments will be carried out.

LMU and UoB organising and conducting such empirical studies will consult the local ethics committee of their university before starting to collect data and conduct experiments. This experiment-based research is low risk for the participants and will concern the understanding of the risks and virtues of collaborative awareness for humans and society. Each experiment will be submitted to the ethical committee with the documentation supporting the whole process to be performed. This will follow standard procedures of the University conducting the study and will include assessment of both possible data protection aspects and ethical aspects.

Furthermore, the experiments will be developed to allow for anonymized data collection, although the experiment could include basic demographic characteristics such as age and gender. Given the statistical properties of the sample, it is unlikely that this information will allow for a de-anonymization of the individuals. A gender-sensitive approach is pursued in the experiment organisation, for ensuring equal opportunities for participation and expression.

UoB before conducting the experiments needs to submit the ethics application using the Online Research Ethics Management System (OREMS) along with supporting documentation for their research. UoB will need to upload all participant-facing study documents, such as:

- recruitment adverts, messages or forms
- Participant information sheet (Office document, 52kB) or transcript
- Consent form for an adult participant (Office document, 55kB)
- debriefing sheet or transcript
- questionnaires
- any other relevant material, such as an unpublished questionnaire enquiring about possibly sensitive topics or collecting personal data.

The Research Governance Administrator will arrange a review of the ethics application with the appropriate ethics committee.

LMU will follow a similar procedure that requires all the documentation for their research for the evaluation and approval by the ethics committee of the Faculty of Philosophy, Philosophy of Science and Religious Studies at Ludwig-Maximilians-Universität München (LMU Munich).

The Ethics Committee of the Faculty of Philosophy, Philosophy of Science and Religious Studies was established by resolution of the Faculty Council. It operates according to the Verfahrens- und Geschäftsordnung by 3 May 2021 (document available online, in German).

4.1 Informed consent procedures

EMERGE will present and conduct our studies in a fully transparent manner to our participants. In any empirical study involving humans participants will be informed about the study they are invited to participate in, and their consent to take part in it will be made voluntarily, freely, and

without any coercion. Prior to taking part in the studies, participants will be informed that they are free to terminate the experiment and withdraw their participation at any time without the need to provide reasons for doing so. Participants will also be provided with the research team's contact details to raise any concerns, ask further questions about the project, or communicate their wish to withdraw their data from the study after completing the experiment. The researchers will actively monitor the designated e-mail inbox and respond to received queries without delay. Participants will also be provided with contact details for correspondence with the research services office at institutional level.

The information provided to participants will include:

- a description of the study to understand what the study is about and what participants are asked to do;
- an explanation of how their monetary bonus (if any) is determined;
- what will happen during and after the research
- what the project involves for the participant
- an explanation of how their data will be used, stored and how the researchers will anonymize it;
- any potential risks or inconvenience for the participant balanced against any possible benefits for the participant or the wider community, including the advancement of knowledge and understanding.
- details of whom to contact for further information and which organisation is overseeing the research;
- assurances that their data will be handled securely and treated in compliance with all legal regulations, in particular, GDPR.

Participants will receive this information sheet to help them decide if they would like to take part in the experiments.

4.2 Informed consent forms

As additional material attached to this deliverable we deliver the forms that UoB will use for collecting the informed consent of participants: Participant information sheet (Office document, 52kB) and Consent form for an adult participant (Office document, 55kB).

We also attach in Appendix A an example of the form used by LMU in previous experiments having a similar nature as ours.

4.3 Recruitment criteria

Both LMU and UoB in any user study organised in EMERGE will recruit only adult participants.

LMU will conduct empirical studies by online experiments. In this case participants will be recruited via Prolific, Amazon Mechanical Turk, Yahoo! Crowdsourcing Japan, and/or similar online platforms that are commonly used to recruit human participants for behavioural studies

in social science research. The participants' age will be restricted to 18 years or older and we will recruit an unbiased sample of participants in terms of their sex, age, and gender. Our experience with running large online behavioural studies to date shows that we can consistently obtain a well-balanced mix of sexes, genders, and ages though the aforementioned platforms. If need be, we will specifically target participants with particular demographic characteristics to obtain balanced samples of participants in terms of their gender, age, and ethnicity whenever possible.

LMU will also conduct experiments in physical labs. In this case LMU will recruit participants from local populations surrounding the physical labs in which the experiments will be conducted. Munich, where our research group is based, is a large, international, and fairly well represented city in terms of people with a mix of demographic characteristics. For larger-scale cross-cultural comparisons, we plan to conduct some experiments with participants recruited in Japan (in collaboration with our research colleagues in Tokyo).

UoB in their empirical studies will recruit adult participants ensuring diversity of backgrounds to favour inclusive technology design. Particular attention will be posed in guaranteeing fair involvement of participants with respect to nationality, age, and gender.

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Appendix A.   Template of LMU Informed Consent

Please consider this information carefully before deciding whether to participate in this research.

The study will take between 8 to 10 minutes to complete. You will receive XX if you follow the instructions and complete the survey until the end. There are no anticipated risks associated with participating in this study. The effects of your participation should be comparable to those you would ordinarily experience from viewing a computer monitor and using a mouse or keyboard for a similar amount of time.

Your participation in this study will remain confidential. No personally identifiable information will be associated with your data. Also, all data analyses will be averaged across all the participants. Thus, your responses will never be individually analysed.

Please note that you can only take part in this study once. As such, please do not proceed to the next page if you cannot dedicate XX minutes of uninterrupted time to completing the task. If you have questions or concerns about your participation or payment or want to request a summary of the research findings, please contact the researcher: XX

AGREEMENT

The nature and purpose of this research have been sufficiently well-explained, and I agree to participate in this study. I understand that I am free to withdraw at any time without incurring any penalty. Please consent by clicking the button below to continue. Otherwise, please exit the study at this time. By clicking on 'I wish to participate', you indicate that you are happy to take part in this study. You also consent to the use of gathered data anonymously for research purposes only.

This study is conducted by the Cognition, Values, Behaviour (CVBE) research group at LudwigMaximilians- Universität München (LMU-Munich). Participation in this study is entirely voluntary and may be withdrawn by you at any given moment without further consequences. All decisions involved in this task will be made anonymously, and results will only be analysed at the group level for publications in scientific journals.

This study has been reviewed for compliance with ethical research standards and approved by the Ethics Committee of the Faculty of Philosophy, Philosophy of Science and Religious Studies at the Ludwig Maximilian University of Munich. Only investigators directly involved with the study will access the collected data. It will be treated as strictly confidential and handled by the provision of the Bavarian Data Protection Act (BayDSG) and with the European General Data Regulation 2016/679 (Art. 1 Paragraph. 1 in conjunction with Art. 2 Para. 1 GG), the respectively applicable versions of the codes of ethics and recommendations of the relevant national and international professional associations (Society for Analytical Philosophy (GAP) / Society for Cognitive Science (GK) / European Society for Philosophy and Psychology - ESPP).

I wish to participate

I do not wish to participate