Response Summary:

Section 1. Research projects involving human participants

P1. Does your project involve human participants? This includes for example use of observation, (online) surveys, interviews, tests, focus groups, and workshops where human participants provide information or data to inform the research. If you are only using existing data sets or publicly available data (e.g. from Twitter, Reddit) without directly recruiting participants, please answer no.
- Yes

Recruitment

P2. Does your project involve participants younger than 18 years of age?
- No

P3. Does your project involve participants with learning or communication difficulties of a severity that may impact their ability to provide informed consent?
- No

P4. Is your project likely to involve participants engaging in illegal activities?
- No

P5. Does your project involve patients?
- No

P6. Does your project involve participants belonging to a vulnerable group, other than those listed above?
- No

P8. Does your project involve participants with whom you have, or are likely to have, a working or professional relationship: for instance, staff or students of the university, professional colleagues, or clients?
- Yes

P9. Is it made clear to potential participants that not participating will in no way impact them (e.g. it will not directly impact their grade in a class)?
- Yes

Informed consent

PC1. Do you have set procedures that you will use for obtaining informed consent from all participants, including (where appropriate) parental consent for children or consent from legally authorized representatives? (See suggestions for information sheets and consent forms on the website.)
- Yes

PC2. Will you tell participants that their participation is voluntary?
- Yes

PC3. Will you obtain explicit consent for participation?
- Yes

PC4. Will you obtain explicit consent for any sensor readings, eye tracking, photos, audio, and/or video recordings?
- Yes

PC5. Will you tell participants that they may withdraw from the research at any time and for any reason?
- Yes

PC6. Will you give potential participants time to consider participation?
- Yes

PC7. Will you provide participants with an opportunity to ask questions about the research before consenting to take part (e.g. by providing your contact details)?
- Yes

PC8. Does your project involve concealment or deliberate misleading of participants?
- No

Section 2. Data protection, handling, and storage

The General Data Protection Regulation imposes several obligations for the use of **personal data** (defined as any information relating to an identified or identifiable living person) or including the use of personal data in research.

D1. Are you gathering or using personal data (defined as any information relating to an identified or identifiable living person)?
- Yes

High-risk data

DR1. Will you process personal data that would jeopardize the physical health or safety of individuals in the event of a personal data breach?
- No

DR2. Will you combine, compare, or match personal data obtained from multiple sources, in a way that exceeds the reasonable expectations of the people whose data it is?
- No

DR3. Will you use any personal data of children or vulnerable individuals for marketing, profiling, automated decision-making, or to offer online services to them?
- No

DR4. Will you profile individuals on a large scale?
- No

DR5. Will you systematically monitor individuals in a publicly accessible area on a large scale (or use the data of such monitoring)?
- No

DR6. Will you use special category personal data, criminal offense personal data, or other sensitive personal data on a large scale?
- No

DR7. Will you determine an individual's access to a product, service, opportunity, or benefit based on an automated decision or special category personal data?
- No

DR8. Will you systematically and extensively monitor or profile individuals, with significant effects on them?
- No

DR9. Will you use innovative technology to process sensitive personal data?
- No

Data minimization

DM1. Will you collect only personal data that is strictly necessary for the research?
- No

DM2. Will you only collect not strictly necessary personal data because it is (1) technically unfeasible not to collect it when collecting necessary data, or (2) needed as a source of necessary data?
- Yes

DM3. Will you (1) extract any necessary data as soon as possible from the collected not strictly necessary data and (2) delete the not strictly necessary data immediately after any required extraction?
- Yes

DM4. Will you anonymize the data wherever possible?
- Yes

DM5. Will you pseudonymize the data if you are not able to anonymize it, replacing personal details with an identifier, and keeping the key separate from the data set?
- Yes

Using collaborators or contractors that process personal data securely

DC1. Will any organization external to Utrecht University be involved in processing personal data (e.g. for transcription, data analysis, data storage)?
- No

International personal data transfers

DI1. Will any personal data be transferred to another country (including to research collaborators in a joint project)?
- No

Fair use of personal data to recruit participants

DF1. Is personal data used to recruit participants?
- No

Participants' data rights and privacy information

DP1. Will participants be provided with privacy information? (Recommended is to use as part of the information sheet: For details of our legal basis for using personal data and the rights you have over your data please see the University's privacy information at www.uu.nl/en/organisation/privacy.)
- Yes

DP2. Will participants be aware of what their data is used for?
- Yes

DP3. Can participants request that their personal data be deleted?
- Yes

DP4. Can participants request that their personal data be rectified (in case it is incorrect)?
- Yes

DP5. Can participants request access to their personal data?
- Yes

DP6. Can participants request that personal data processing is restricted?
- Yes

DP7. Will participants be subjected to automated decision-making based on their personal data with an impact on them beyond the research study to which they consented?
- No

DP8. Will participants be aware of how long their data is being kept for, who it is being shared with, and any safeguards that apply in case of international sharing?
- Yes

DP9. If data is provided by a third party, are people whose data is in the data set provided with (1) the privacy information and (2) what categories of data you will use?
- Not applicable

Using data that you have not gathered directly from participants

DE1. Will you use any personal data that you have not gathered directly from participants (such as data from an existing data set, data gathered for you by a third party, data scraped from the internet)?
- No

Secure data storage

DS1. Will any data be stored (temporarily or permanently) anywhere other than on password-protected University authorized computers or servers?
- Yes

DS2. Does this only involve data stored temporarily during a session with participants (e.g. data stored on a video/audio recorder/sensing device), which is immediately transferred (directly or with the use of an encrypted and password-protected data-carrier (such as a USB stick)) to a password-protected University authorized computer or server, and deleted from the data capture and data-carrier device immediately after transfer?
- Yes

DS4. Excluding (1) any international data transfers mentioned above and (2) any sharing of data with collaborators and contractors, will any personal data be stored, collected, or accessed from outside the EU?
- No

Section 3. Research that may cause harm

Research may cause harm to participants, researchers, the university, or society. This includes when technology has dual-use, and you investigate an innocent use, but your results could be used by others in a harmful way. If you are unsure regarding possible harm to the university or society, please discuss your concerns with the Research Support Office.

H1. Does your project give rise to a realistic risk to the national security of any country?
- No

H2. Does your project give rise to a realistic risk of aiding human rights abuses in any country?
- No

H3. Does your project (and its data) give rise to a realistic risk of damaging the University's reputation? (E.g., bad press coverage, public protest.)
- No

H4. Does your project (and in particular its data) give rise to an increased risk of attack (cyber- or otherwise) against the University? (E.g., from pressure groups.)
- No

H5. Is the data likely to contain material that is indecent, offensive, defamatory, threatening, discriminatory, or extremist?
- No

H6. Does your project give rise to a realistic risk of harm to the researchers?
- No

H7. Is there a realistic risk of any participant experiencing physical or psychological harm or discomfort?
- No

H8. Is there a realistic risk of any participant experiencing a detriment to their interests as a result of participation?
- No

H9. Is there a realistic risk of other types of negative externalities?
- No

Section 4. Conflicts of interest

C1. Is there any potential conflict of interest (e.g. between research funder and researchers or participants and researchers) that may potentially affect the research outcome or the dissemination of research findings?
- No

C2. Is there a direct hierarchical relationship between researchers and participants?
- No

Section 5. Your information.

This last section collects data about you and your project so that we can register that you completed the Ethics and Privacy Quick Scan, sent you (and your supervisor/course coordinator) a summary of what you filled out, and follow up where a fuller ethics review and/or privacy assessment is needed. For details of our legal basis for using personal data and the rights you have over your data please see the University's privacy information. Please see the guidance on the ICS Ethics and Privacy website on what happens on submission.

Z0. Which is your main department?

- Information and Computing Science

Z1. Your full name:

Mark Rietvelt

Z2. Your email address:

Z3. In what context will you conduct this research?

- As a student for my master thesis, supervised by::
  Hieke Keuning

Z5. Master programme for which you are doing the thesis

- Human-Computer Interaction

Z6. Email of the course coordinator or supervisor (so that we can inform them that you filled this out and provide them with a summary):

h.w.keuning@uu.nl

Z7. Email of the moderator (as provided by the coordinator of your thesis project):

graduation.hci@uu.nl

Z8. Title of the research project/study for which you filled out this Quick Scan:

Empowering embedded systems developers to reduce the energy consumption of their software through visualization: uncovering their data needs

Z9. Summary of what you intend to investigate and how you will investigate this (200 words max):

I try to investigate which data embedded system software developers need to optimize the energy efficiency of their software. I will do so by consulting embedded systems software developers. I will make use of (1) a variation on a contextual enquiry and a retrospective think-out-loud session, (2) a semi-structured interview and (3) a questionnaire. In the variation on a contextual enquiry and a retrospective think-out-loud session, I will ask developers to show how they optimize the performance of their software. In a follow-up semi-structured interview, I will ask about their challenges and their needs during this process. Lastly, in a survey I will ask developers to validate or falsify assumptions from literature about which data they need to see during their optimization process.

Z10. In case you encountered warnings in the survey, does supervisor already have ethical approval for a research line that fully covers your project?

- Not applicable

Scoring

- Privacy: 0
- Ethics: 0