Research Participant Information Sheet

Optimizing embedded systems software

1. Introduction

Many thanks for considering taking part in our scientific research. If you agree to participate, we would be glad to visit you at your workplace to conduct the study.

2. What is the background and purpose of this study?

In this study, we wish to learn the data needs of developers when they optimize embedded systems software for energy consumption. We are curious about which subgoals developers are pursuing, which information they are consulting, which challenges they encounter and which information they could still use. In this way we try to gain insight into how visualizations can support developers in optimizing embedded systems software for energy consumption.

3. Who will carry out the study?

This study is carried out by Mark Rietvelt (m.r.j.p.rietvelt@students.uu.nl) as part of his master thesis under supervision of Dr. Bernard van Gastel (bernard.vangastel@ru.nl) en Dr. Hieke Keuning (h.w.keuning@uu.nl).

4. How will the study be carried out?

This study consists of two parts. In the first part we ask you to talk the researcher through a recent optimization process for the software of an embedded system. The researcher will sometimes interrupt to ask clarification questions and he will ask additional questions afterwards. This first part will take about an hour of your time. In the second part we ask you to fill in a questionnaire to evaluate the value of existing ideas to support you in optimizing the software of embedded systems for energy consumption. The researcher will be available to provide clarification whenever you have questions. This second part will take about 15 minutes. We foresee no risks in taking part in this study.

This study does not involve any monetary compensation. However, it will allow you to reflect on how you optimize embedded systems software. Furthermore, if you would you like to, we would be happy to provide you with a summary of your optimization process which we derive from the first part of the study. Furthermore, if you would like to, we would also be happy to share the master thesis resulting from this study with you. This would allow you to learn from the experiences of other embedded systems software developers as well. In this way, we hope that the study proves valuable for you.

5. What will we do with your data?

With your permission, the researcher will audio record the first part of the study. Furthermore, he will make notes about which tools you used during the optimization process. If you do not consent to audio recording, he will also make notes about the questions he asks and the answers you give. The audio recording will be stored on a password protected computer and a secure university server. The notes will be stored in a private notebook of the researcher. The audio recording will be securely destroyed within 1 month after it is transcribed. The notes will be securely destroyed within 1 month after the end of the study. The transcribed text from the first part of the study as well as your responses to the questionnaire in the second part of the study will be anonymized so that you will not be identifiable.

The transcript and the questionnaire responses will become part of the thesis and will also be stored in a data repository for use by other researchers and research users. The thesis, any publications based on this

research, and the data repository will not include your name or any other individual information by which you could be identified.

6. What are your rights?

Participation is voluntary. We are only allowed to collect your data for our study if you consent to this. If you decide not to participate, you do not have to take any further action. You do not need to sign anything. Nor are you required to explain why you do not want to participate. If you decide to participate, you can always change your mind and stop participating at any time, including <u>during</u> the study. You will even be able to withdraw your consent <u>after</u> you have participated. However, if you choose to do so, we will not be required to undo the processing of your data that has taken place up until that time. The personal data we have obtained from you up until the time when you withdraw your consent will be erased (where personal data is any data that can be linked to you, so this excludes any already anonymized data).

7. Approval of this study

This study has been allowed to proceed by the Research Institute of Information and Computing Sciences on the basis of an Ethics and Privacy Quick Scan. If you have a complaint about the way this study is carried out, please send an email to: ics-ethics@uu.nl. If you have any complaints or questions about the processing of personal data, please send an email to the Faculty of Sciences Privacy Officer: privacy-beta@uu.nl. The Privacy Officer will also be able to assist you in exercising the rights you have under the GDPR. 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.

8. More information about this study?

If you have any questions or concerns about this research, you can contact Mark Rietvelt at m.r.j.p.rietvelt@students.uu.nl or Dr. Bernard van Gastel at bernard.vangastel@ru.nl or Dr. Hieke Keuning at h.w.keuning@uu.nl.

9. Appendices:

Consent form