



Phone Usage While Programming

Introduction

You are invited to participate in a research study by Dr. John Edwards, an assistant professor in the Department of Computer Science at Utah State University.

The purpose of this research is to learn about code development in CS courses. Specifically, we are interested in vigilance during code development when phone notifications are on and when they are off. You are being asked to participate in this research because it may improve future Computer Science courses.

Your participation is entirely voluntary, and you may withdraw your participation at any time for any reason.

This form includes detailed information on the research to help you decide whether to participate. Please read it carefully and ask any questions you have before you agree to participate.

Procedures

Your participation will involve installing the “Do Not Disturb” plugin to PyCharm and the “USU Do Not Disturb” app on your phone. When you open PyCharm the plugin will ask you to use the phone app on selected assignments. Please use the phone app during only these assignments. Only students with an Android phone may participate in this study. When the app is open, the do-not-disturb feature on your phone will be enabled, meaning that you will not receive any phone notifications. You can restore notifications simply by navigating away from the app. You will be asked by the plugin to use the app (thereby disabling notifications) for approximately half of the programming assignments. You will also be asked to take a pre and post survey. Use of the app and plugin are strongly encouraged but not required for the study. If you agree to participate, the researchers will collect your assignment submissions through Canvas, including keystroke data for all assignments. Researchers will also collect all grade data associated with this course from canvas. The USU Do Not Disturb phone app sends anonymous usage data to a Firebase database about when the app was opened or closed and when Do Not Disturb was enabled or disabled while the app is running. We anticipate that 92 people will participate in this research study.

Risks

This is a minimal risk research study. That means that the risks of participating are no more likely or serious than those you encounter in everyday activities such as loss of confidentiality, privacy or anxiety about phone notifications.

Benefits

Participation in this study may directly benefit you by exposing you to the use of the Do Not Disturb setting on your phone that has been shown to make people feel more productive. We cannot guarantee that you will directly benefit from this study, but it has been designed to determine if Do Not Disturb is beneficial.

Confidentiality

The researchers will make every effort to ensure that the information you provide as part of this study remains confidential. Your identity will not be revealed in any publications, presentations, or reports resulting from this research study.

We will collect your information through paper submissions (pre-survey), canvas (assignment keystrokes and grades), firebase database (phone app data), and Qualtrics (post-survey). Online activities always carry a risk of a data breach, but we will use systems and processes that minimize breach opportunities. This Data will be securely stored in a restricted-access folder on USU’s Box. This form will be kept for three years after the study is complete, and then it will be destroyed.



It is unlikely, but possible, that others (Utah State University, or state or federal officials) may require us to share the information you give us from the study to ensure that the research was conducted safely and appropriately. We will only share your information if law or policy requires us to do so.

Voluntary Participation & Withdrawal

Your participation in this research is completely voluntary. If you agree to participate now and change your mind later, you may withdraw at any time by contacting Dr. John Edwards at John.Edwards@usu.edu. If you choose to withdraw after we have already collected information about you, we will remove any current identifiable data we have, and stop collecting data from you.

Findings & Future Participation

Identifiers may be removed from your data. These de-identified data may be used or distributed for future research without additional consent from you. If you do not wish for us to use your data in this way, please state so below.

IRB Review

The Institutional Review Board (IRB) for the protection of human research participants at Utah State University has reviewed and approved this study. If you have questions about the research study itself, please contact the Principal Investigator, Dr. John Edwards, at 435-797-0246 or John.Edwards@usu.edu. If you have questions about your rights or would simply like to speak with someone *other* than the research team about questions or concerns, please contact the IRB Director at (435) 797-0567 or irb@usu.edu.

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Informed Consent

By signing below and checking the box to participate, you agree to participate in this study. You indicate that you understand the risks and benefits of participation, and that you know what you will be asked to do. You also agree that you have asked any questions you might have and are clear on how to stop your participation in the study if you choose to do so. Please be sure to retain a copy of this form for your records.

- ☐ I do **not** agree to participate in this study.
☐ I do agree to participate in this study.

Participant's Signature

Participant's Name, Printed

Date

- ☐ I do **not** agree to allow my de-identified information/biospecimens to be used or shared for future research.

Phone App

If you have agreed to participate in this study, please install the "USU Do Not Disturb" app from the google play store now. Open the app and write the 6-digit ID here. If you cannot do so now, please install the app and email Kaden.Hart@usu.edu the 6-digit ID at your earliest convenience. If we do not receive your 6-digit ID within a week, we will email you to request it. If we do not receive the 6-digit ID, we will not be able to use your Phone usage data.

6-digit ID

Participants Email