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Participant Information Sheet

Understanding the effect of programming expertise on code review task outcomes

Below is the Participant Information Sheet (PIS) for this experiment. The University of Auckland takes its obligations to ensure research conducted by members of the University conforms to the highest ethical standards very seriously. This includes providing information to research participants about the goals and nature of the research, which is the purpose of the PIS. If you wish to participate, please read the PIS and indicate you have done so at the bottom of this document.

Name of researchers: Assoc. Prof. Ewan Tempero, Dr. Kelly Blincoe, Ms. Sanuri Gunawardena

Researcher Introduction

Dr Ewan Tempero is an Associate Professor in the School of Computer Science at the University of Auckland. Dr Kelly Blincoe is a Senior Lecturer of Software Engineering in the Department of Electrical, Computer, and Software Engineering at the University of Auckland. Ms. Sanuri D. Gunawardena is a student in the School of Computer Science at the University of Auckland, working towards her PhD in Computer Science.

Project description

Code review or proof-reading of programming code is an important part of software production. The results of a code review task may vary based on many factors such as understanding, knowledge, and experience of the reviewer. The aim of this experiment is to investigate the effect that programming expertise has on the outcome of a selected set of code review tasks.

Project Procedures

After reading this PIS, if you would like to participate in the experiment, please read the consent form sent separately, sign it (electronically or physically) and send it to the researcher along with the details of your availability. The researcher will be in contact to finalize the experiment date and time.

During the experiment, we would like you to review a sample of source code for a given set of defects, guided by a web form, while thinking aloud (or expressing your thoughts on the task verbally as they occur) on your decisions and challenges that you come across while performing the tasks.

This experiment will help us to investigate the effect that the programming expertise has on the decisions you make while completing a selected set of code review tasks.

The experiment will take place over an online communication platform such as Zoom or Google Hangouts. Your screen and voice will be recorded during the experiment, for further analysis. The recording is essential for the experiment and thus cannot be stopped during the experiment. We expect the experiment to take 1 hour.

If you are a student of the researchers we give our assurance that your participation or non-participation in this study will have no effect on your grades or relationship with the University and that you may contact your academic head should you feel that this assurance has not been met.

As an appreciation of your time spent on the experiment, 50NZD gift card will be posted to you, within a week of your participation in the experiment. You also have an opportunity to decline payment or seek recompense in an equivalent or culturally appropriate manner, such as a koha payment to an iwi.

Please note that it is not your knowledge and abilities that are tested in this experiment but the code review process. If you feel that this experiment caused you psychological distress, you have the opportunity to receive the services of the University of Auckland Counselling services.

Anonymity, Confidentiality, and Privacy

This experiment is not anonymous since the researcher will be present during the experiment to provide any instruction clarifications you need, to provide answers to the training questions that you will be training on, and to remind you to think aloud from time to time. Thus, anonymity cannot be guaranteed.

You will be given a consent form to sign (electronically or physically) and return. This consent form will be retained in secure, university-managed storage separately from the experiment data by the primary investigator for a period of six years or while the experiment data is retained. The access to the consent forms will be restricted to the principle investigator and the researchers.

The experiment data will be de-identified before analysis and therefore reporting. Each participant will be assigned a unique code against which the response data will be stored. The participant's name and email will also be stored against the same unique code but separate from the experiment data. This is needed to remove the participant's data if he or she decides to withdraw. Access to the list of code will be restricted to only the principle investigator and the researchers throughout the research. Thus, confidentiality is guaranteed.

Storage, use and reporting of data

The data will be analyzed and the analysis of the data may be presented or published in academic venues such as journals and conferences. The data will be stored on a secure server at the University of Auckland indefinitely, but for a minimum period of six years. If the data is no longer useful after six years, then it will be destroyed by deleting the digital files. Even though the experiment is not anonymous, the data will be analyzed and reported anonymously.

Participation and right to withdraw

You may stop participating in the experiment at any time. If you choose to do so, your data can be deleted by the researcher within a week from your participation in the experiment.

Results

If you would like a summary of the results, then there will be an opportunity to receive it via the email you provided under demographic information. The email you provided will not be linked to your data in any way.

Contact Details

If you have any questions about the project, please contact the researchers.

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Dr. Kelly Blincoe <k.blincoe@auckland.ac.nz>

Ms. Sanuri Gunawardena <sgun571@aucklanduni.ac.nz>

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of

Auckland, Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373-7599 x 83711. Email: humanethics@auckland.ac.nz

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE ON <date> for three years, Reference Number <ref>.