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Invitation to Participation – Information Sheet

Study Title: ***Software Developers' Everyday Practices: Exploring How Security 'Works'***

Background

Today, there is a general consensus that security should be a central part of software development. Yet we have a little understanding of how this translates to day-to-day activities. To address this, we are seeking to understand software development practice and security from the perspective of software developers themselves. In order to do so, we need to engage with a variety of organisations. This is where we require your assistance in order to see what happens 'on the ground'.

What is the Benefit of Us Taking Part?

As we seek to gain a broad overview of practice, we hope to be able to provide insights into your organisation. This means that we will provide a general report for all participant organisations and, if certain thresholds are reached to maintain research integrity, specialised reports on your organisation. In addition, there will be an opportunity for workshops to be held in which software development practice and security can be reflected on by participants that will aid in how they work.

Proposed Research

We propose an ethnographic study of software developers in participant organisations. This will at most include two interviews, observation and shadowing, and a workshop. We propose research in **two stages** which will provide different levels of insight for both you and for ourselves. The first stage will be used for a snapshot of what is happening over a short-time scale, whereas the second stage will provide a much deeper and longer understanding of software development practices and security. The proposal is as follows and can be adapted accordingly. Please see the figure at the end of information sheet for a rough breakdown of planned activities.

Stage 1: Day-to-Day Activities of Individual Developers (Two Months)

This first stage attempts to gain an initial glimpse at individual software developers' practices as a 'snapshot' into their day-to-day activities across a variety of organisations to build up the 'big picture'. This includes an Entry Interview, Participant Observation (and an Exit Interview for participants and organisations not continuing to Stage 2).

Stage 2: Everyday Practices across the Software Development Lifecycle (early 2020 – June 2020)

A longer-term engagement to delve into practices identified in Stage 1 to understand at greater depth the practices of multiple software developers over time, preferably over a software development lifecycle. This includes Shadowing, Participant Observation, an Exit Interview, and an optional workshop to participant organisations (reflecting on findings reported back to participants in a participatory exercise in reviewing their own practices)

What Do We Receive in Return?

For each participant organisation, and participant taking part, we will produce reports on what we find no later than 31 July 2020. The level of engagement in the stages and number of participants will determine the output you receive based on the following criteria:

General Report + Tailored Report

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- Organisations with ≥ 5 participants in Stage 1 *and* Stage 2, in addition to the general report, will receive a tailored report that will offer insights into software development and security in the organisation. This can be supplemented with a workshop that will offer those who have participated an opportunity to offer their insights on the research and offer their own insights for input into the tailored report before it is submitted.

General Report + Tailored Appendix

- Organisations with ≥ 5 participants in Stage 1 *only* will receive an appendix (of no more than two pages) with some high-level observations alongside the general report.

General Report

- Organisations with < 5 participants will be offered a *general* report at the end of the project.

What is the Time Commitment?

We expect the amount of time *per participant* to be relatively small with little impact on their day-to-day activities. Below is an outline of the proposed time commitment per stage.

For Stage 1 only:

Stage	Activity	Contact Hours	Intensity	Total
1	Entry Interview	1.00	100%	1
1	Participant Observation	10.00	10%	1
1	Exit Interview	1.00	100%	1
			Total	3

For Stages 1 + 2, plus additional time for a workshop:

Stage	Activity	Contact Hours	Intensity	Total
1	Entry Interview	1.00	100%	1
1	Participant Observation	10.00	10%	1
2	Shadowing	5.00	30%	1.5
2	Participant Observation II	10.00	10%	1
2	Exit Interview	1.00	100%	1
			Total	5.5
2	Workshop	1.50	100%	1.5
			Total	7

This time commitment would be over several months, reducing the impact of the research against business need. The intensity of each interaction is also not equal, with the shadowing being low impact on each software developer up to full engagement at interviews and workshops.

Next Steps

If you are interested in getting involved in this research please contact Andrew Dwyer at andrew.dwyer@bristol.ac.uk. We will try to be as flexible as possible according to your business need, and these are indicative timelines of research. We hope that it will not only inform academic research but also provide insight into how your business operates with regard to software development and security (with those engaging in both Stages 1 and 2 with ≥ 5 participants receiving a detailed, tailored report on their organisation).