Solution Title of the experiment

Name Surname Student Number VU Amsterdam xyz@student.vu.nl Name Surname Student Number VU Amsterdam xyz@student.vu.nl

Name Surname Student Number VU Amsterdam xyz@student.vu.nl

ABSTRACT

Context. 🗞 at the end

Goal. ∞ at the end Method. ∞ at the end

Results. S at the end

Conclusions. \otimes at the end

conclusions. at the end

ACM Reference Format:

Name Surname, Name Surname, Name Surname, Name Surname, and Name Surname. 2020. Surname. 2020. Title of the experiment . In Green Lab 2020/2021 - Vrije Universiteit Amsterdam, September–October, 2020, Amsterdam (The Netherlands). ACM, New York, NY, USA, 2 pages. https://doi.org/10.1145/nnnnnnnnnnnnn

1 INTRODUCTION

This document represents a template of the final experiment report structure for the course *Green Lab* at the Vrije Universiteit Amsterdam [1].

The experiment is conducted according to the guidelines by Wohlin and colleagues [2].

The total length of this document must not exceed 15 pages, including references, appendixes, etc.

In this section you have to describe (i) the domain (*e.g.*, mobile apps and their market) and the technologies relevant for understanding the rest of the document, (ii) the main motivation behind your experiment (the problem, here you can show examples via apps/tools screenshots, snippets of source code, etc.), (iii) what your experiment is about (hint of the solution), and (iii) what the developers will learn from the results of your experiment.

Page limit: 2

2 RELATED WORK

Describe here scientific papers similar to your experiment, both in terms of goal and methodology.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a

fee. Request permissions from permissions@acm.org.

 Name Surname Student Number VU Amsterdam xyz@student.vu.nl Name Surname Student Number VU Amsterdam xyz@student.vu.nl

One paragraph for each paper (we expect about 5-8 papers to be discussed). Each paragraph contains: (i) a brief description of the related paper and (ii) a black-on-white description about how your experiment differs from the related paper. Page limit: 1

3 EXPERIMENT DEFINITION

Report about the GQM (with figure). Page limit: 2

4 EXPERIMENT PLANNING

- 4.1 Subjects Selection
- 4.2 Experimental Variables
- 4.3 Experimental Hypotheses
- 4.4 Experiment Design

4.5 Data Analysis

Page limit: 3

5 EXPERIMENT EXECUTION

Report about: how you plan to conduct your experiment, which tools you are going to use, which devices/laptops, figure and description of the overall software/hardware infrastructure you are setting up for the experiment (*e.g.*, who communicates with whom, proxies, network requests, order of actions, etc.).

Page limit: 2

RESULTS

n	•	1
1/200		d 0.
P 1 (1	IV D	
110		\cdots

descriptive statistics hypothesis testing

Provide suitable plots and tables to illustrate your results. Page limit: Open - go deep as you wish

7 DISCUSSION

Report implications and interpretations of your results (possibly grouped by research question). Page limit: 1

Green Lab 2020/2021, September–October, 2020, Amsterdam, The Netherlands

^{56 © 2020} Association for Computing Machinery.

ACM ISBN 978-x-xxxx-xxX-x/YY/MM...\$15.00 https://doi.org/10.1145/nnnnnn.nnnnnn

Green Lab 2020/2021, September-October, 2020, Amsterdam, The Netherlands

Name Surname, Name Surname, Name Surname, Name Surname, and Name Surname

8 THREATS TO VALIDITY

Report about each type of threat to the validity of the experiment, according to the classification discussed in class.

121 8.1 Internal Validity 122

- 8.2 External Validity
- 124 8.3 Construct Validity

8.4 Conclusion Validity

Page limit: 1

9 CONCLUSIONS

One brief paragraph for summarizing the main findings of the report.

One brief paragraph about the possible extensions of the performed experiment (imagine that other 3 teams will be assigned to the extension of your experiment).

REFERENCES

- I. Malavolta, "Green Lab: empirical software engineering for energy efficiency," 2020.
- [2] C. Wohlin, P. Runeson, M. Höst, M. Ohlsson, B. Regnell, and A. Wesslén, *Experimentation in Software Engineering - An Introduction*. Kluwer Academic Publishers, 2012.