The usability and buildability of an open source Monitoring Box

Mick Nieman
Business IT & Management
Amsterdam University
of Applied Sciences
Wibautstraat 2-4 1091GM Amsterdam
The Netherlands
Mick.Nieman@hva.nl

Pjotr Scholtze
Software Engineering
Amsterdam University
of Applied Sciences
Wibautstraat 2-4 1091GM Amsterdam
The Netherlands
Pjotr.Scholtze@hva.nl

Heeyeon Joung
Electrical Engineering
Seoul National University
of Science and Technology
Seoul Nowon-gu, Gongneung-dong,
Gongneung-ro 232, South-Korea
Julia.Joung@hva.nl

***Abstract*—This paper is written in commission of the Citizen Data lab from Amsterdam. The main goal of this report is to avoid pitfalls and find solutions for making an open source data-gathering platform. Commissioner of this research is Wouter Meys, Lab Coordinator of the Citizen Data Lab. The reason for this research, along with a developed prototype is the lack of useful environmental data-loggers which also keep track of the GPS-coordinates. This is critical for the Citizen Data Lab when they are, what they call, 'mapping the city'.**

***Index Terms*—Open-source, usability, buildability, environment, data logging**

I. Introduction

Researchers nowadays use data to answer the questions asked within their research, that is how research is done. Because of this collecting data for their research is also part of the researchers their task-list and that is not as easy as it seems. Data is collected by researchers doing so called 'data-sprints', this is where a group of people try to collect as much data as possible to do new findings on a certain topic. This is not different for the Citizen Data Lab and their researchers who do research, and back their research, by collecting data through data-sprints. Lately they find their selves struggling collecting the data and most important a specific aspect of their data, the location. For this very reason the development of the Monitoring Box began. The monitoring box tries to hand a solution to the researchers that not only is very convenient but also something researchers can build individually and without any interference of third parties. This way the costs stay low and the usability high.

This paper is a result of findings made during the development phase and the testing phase of the prototype of the monitoring box. The paper is written based on the findings and used to be learnt from when further developing the monitoring box. It may also be used by others developing similar open source data gathering platforms.

A. Statement of Purpose

This has no content yet and needs to be filled in.

B. Statement of Significance

This has no content yet and needs to be filled in.

II. Research Questions

A. Overall research question

What factors contribute to creating an open source, multi-research, sensor geolocation aware, data gathering platform that can be used by the students and researchers from the Makerslab on the Amsterdam University of applied sciences?

B. Sub-questions

1) How technical are the students and researchers from the Makerslab on the Amsterdam University of applied sciences?
   a) What documentation is needed and how detailed should it be
2) What improves the usability of the product when taking the structure plane of user experience into account?
3) How can the data be made available such that the students & researchers from the Minor Makerslab can use it?

III. Review of literature

This has no content yet and needs to be filled in.

IV. Methods

This has no content yet and needs to be filled in.

V. Results

This has no content yet and needs to be filled in.

VI. Discussion

This has no content yet and needs to be filled in.

VII. Limitations

This has no content yet and needs to be filled in.

VIII. Conclusion

This has no content yet and needs to be filled in.

APPENDIX A
BASELINE OF QUESTIONS ASKED DURING USER TESTS

1) Which field do you have expertise in?
2) What is your level of technology in hardware?
3) What is your level of technology in software
4) How does the explanation of the parts in the manual help you using the monitoring box?
5) Do you think developers with similar technical levels can make and use the monitoring box as well?
6) What could be improved when looking at the monitoring box?
7) What could be improved when looking at the manual?