The usability and buildability of an open source Monitoring Box

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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

A. Statement of Purpose

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B. Statement of Significance

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II. RESEARCH QUESTIONS

A. Overall research question

What factors contribute to creating an open source, multiresearch, 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

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IV. METHODS

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V. RESULTS

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VI. DISCUSSION

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VII. LIMITATIONS

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VIII. CONCLUSION

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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?