

# Towards adaptive buildings based on user needs

Researching user behaviour and space usage in Lab42

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## ABSTRACT

Hello World

## KEYWORDS

Human-Building interaction, Ubiquitous computing, Persuasive technology, Living lab, Smart buildings, User behaviour

## METADATA

**Thesis Design** for the fulfillment of the *Master Thesis* for the Master Information Studies: *Information Systems (IS)*.

**Institute:** Informatics Institute

**Faculty:** Faculty of Science (FNWI)

**Research Group:** Digital Interactions Lab (DIL)

**Supervisor:** Dr. Hamed Seied Alavi PhD

**Mentor:** Shruti Rao Ph.D. Candidate

## 1 INTRODUCTION

This thesis will investigate [...]

### 1.1 Research questions

In order to achieve this, the following main research question is formulated:

*How do alterations in building activity, particularly adjustments in acoustic conditions and occupancy comfort, influence the levels of concentration among students and the establishment of conducive learning environments?*

To be able to answer this research question, the following supporting sub-questions are formulated:

- **RQ1:** *This is a research question.*
- **RQ2:** *This is another research question.*
- **RQ3:** *This is another research question.*

### 1.2 Lab42 building

This research will be performed in association with the *Digital Interactions Lab* and uses the recently (september 2022) opened Lab42<sup>1</sup> building at the UvA Amsterdam Science Park as a case study. Lab42 is a energy-neutral, flexible and adaptable designed faculty building that facilitates partnerships between students, researchers and businesses. [1] The layout aims to feature different zones with varying functionalities, from areas where you can sit quietly and focus on

<sup>1</sup><https://lab42.uva.nl/>

work to spaces that allows for collaborative work. The overarching interior theme in the design is 'tech' and 'nature' aiming to create afresh, light and warm comfortable building. Sensing devices are installed throughout the building to automatically adjust lighting, air, temperature so these can be adjusted for overall improvement of comfort [2].

## 2 RELATED WORK

Write about your related work here. Make clear to which key papers you will compare your eventual results. This can be done from the perspective of methods used, the task at hand and the addressed domain.

## 3 METHODOLOGY

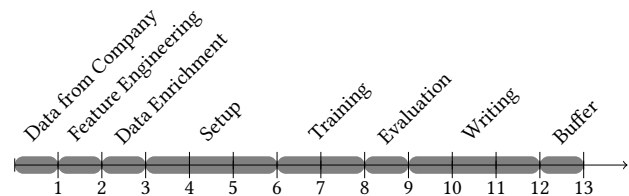
Write about your methodology here. Focus on your own contribution. Indicate exactly how you will assess your work in terms of evaluation.

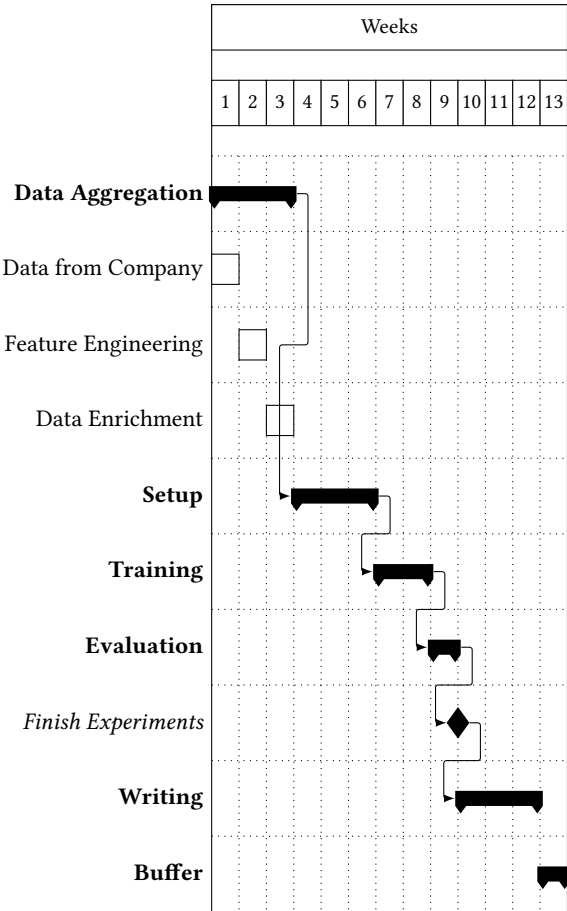
## 4 RISK ASSESSMENT

Write about the risks of your project here. Focus on risks that may challenge you finishing on time (such as not getting high-quality (labelled) data on time, difficulties with modelling, having to wait on key stakeholders, etc.) and how you plan to mitigate them.

## 5 PROJECT PLAN

Present your timeline here. Finally, you show your academic maturity by being able to quantify how much time your work will take (realistically!). Your UvA supervisor must be able to use your visual timeline to check whether you are on schedule. You can either use a timeline as below or a Gantt chart shown on the right.





REFERENCES

[1] Benthem Crouwel Architects. 2022. LAB42 - Project case study. <https://www.benthemcrouwel.com/projects/lab42> Last accessed: 2024-02-27.

[2] UvA. 2022. LAB42 - Science Park description. <https://campus.uva.nl/en/science-park/lab42/building-lab42.html#Facilities-and-sustainability> Last accessed: 2024-02-27.