B4B Webinar 16 March

Experiences with user feedback in a living lab environment

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Introduction

BRAINS4BUILDINGS

BRAINS

BUILDINGS

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Monthly webinars on smart buildings energy systems

Experiences with user feedback in a living lab environment

16.03.2023 | 16.00 - 17.00 CET |ONLINE

In this webinar we will discuss our experiences with different ways of collecting feedback from building users. In this case the users of multiple living lab environments. We will show the results of the feedback obtained in relation to the (sensor) measurements that we perform in the living labs. We will discuss the advantages and disadvantages of multiple ways of feedback collection, and possible alternatives for collecting experience from people on (mainly) the experienced climate.



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Part of WP 3

- To determine the difference in measured comfort (sensordata) and the experienced comfort by building users
 - Use these insights to optimize comfort
 - These insights can lead to more efficient management of building





Control energy demand of Buildings

Part of WP 2

- Being able to control the energy demand of buildings based on feedback of the users.
 Within what thermal comfort bandwidth can we operate in each building?
- Being able to determine the so called 'buffer zone' of a building
- Control buildings based on the energy market





Living Lab of The Hague University of Applied Sciences



Data insights of the Living Lab



innovation center

Narrowcasting at entrance





We used 4 different methods to collect feedback from the end users.

- Vote boxes
- QR codes (including webapp)
- Dedicated App
- (Annual) survey





Results of the dedicated app



Results of the dedicated app

- Feedback vs sensorvalue analysis of ST.0.23 81 responses
- The average temperature is 21,51 if it is indicated that it is too warm(7 times).
- The average temperature is 20,58 if it is indicated that it is too cold (20 times).
- When people indicate too cold, it has often been colder before, so people have cooled down while the building was still warming up





Other ways to obtain user feedback









Findings on different ways of feedback

Vote boxes*:

- Generate a much higher number of comfort feedback than QR-codes or a yearly questionnaire. This suggests that using vote boxes is an attractive way to deliver self-triggered comfort feedback.
- More extremes responses on the comfort scale were given compared to other feedback methods

QR codes*:

- Generate a low number of comfort feedback
- Quality of feedback is good, and can be used by everyone

Арр

- Generate a low number of comfort feedback
- Will only be used by employees who visit the rooms multiple times

Jaarlijkse enquête

- Often a low response
- Good insight into overall experience, but no insight into specific moments (which is needed to determine a buffer zone)

*Piet Jacobs et al. (2023), User centric assessment of comfort and health in offices – an explorative field study



- Each method has its own advantages and disadvantages
- Performed methods are suitable for gaining more insights in a research situation but are not suitable in a normal situation.





Discussion

• An alternative is to obtain data from the use of thermostats in a building. We would like to get more experience with this.

Next question

• How can we retrieve data from users in a normal environment?



