Behavior change: Ghost meetings

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INTRODUCTION

It is a well-known issue that most organizations struggle with the problem of not having enough rooms and working space for students and co-workers. That being the case, with the support of Coworking PLUS, BrainLog and Trendlog, we decided to investigate different solutions for tracking ghost meetings and provide suggestions on how to change the behavior of workers and students to use the provided resources in a more sustainable way.

For this research, we collaborated with the Danish company Coworking PLUS. The main activity of the company is to provide working offices/coworking spaces for Danish companies. Additionally, with the contribution of the Danish companies BrainLog and Trendlog, the conduction of this research became possible.

Inspired by Dr. BJ Fogg and his behavior change concept, we decided to incorporate this approach into our research. Fogg (2002) defines persuasion as *"an attempt to change attitudes or behaviors or both (without using coercion or deception)"*. It is important to distinguish that coercion implies force while persuasion implies a voluntary change in attitude, behavior, or both. To thoroughly understand how to change such behavior, we decided to carefully conduct several research methods to confirm the problem and find the potential solution.

With the purpose of this study, a prototype of visual reminder was created. The aim of the prototype is to persuade co-workers to change their habits and to accomplish positive effects on the ghost bookings at Coworking PLUS.

The solution was implemented and tested on two of the meeting rooms on the territory of Coworking PLUS.

METHODOLOGY

With the purpose of this research, a participatory workshop with the stakeholders was organized. The workshop was a collaboration process between Coworking PLUS, BrainLog and Trendlog. During the workshop, the problem for ghost bookings at Coworking PLUS was confirmed and different solutions were brainstormed and analyzed. In conclusion of the participatory workshop, the idea of creating a visual reminder was determined as the most appropriate solution. The concept of the visual reminder is to remind the coworkers to check out in case they leave the meeting room earlier than the originally booked time.

Based on the collected data from the workshop, we proceeded with the design of the prototype forn the visual reminder.

Lastly, the final version of the prototype was implemented at Coworking Plus for the testing process. Moreover, the field test method was applied with the aim of approaching the effect of the visual reminder and the positive impact on the users' behavior.

PROTOTYPING

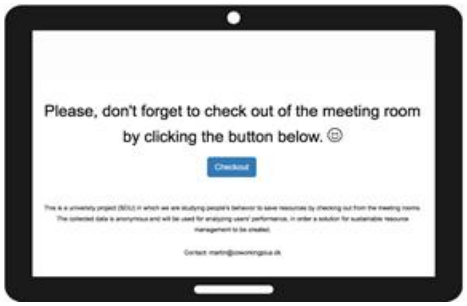
The analysis of the workshop provided valid points and opinions that were significant for the design process of the final prototype for the visual reminder.

After a discussion with the stakeholders, an agreement was reached for implementing the visual reminder with a supportive sensor system. During the workshop, it was clarified that the combination of the two might be the most effective solution which we decided to follow. Moreover, the sensor system allows the attendance of the meeting rooms to be followed-up and to detect whether the meeting rooms are used additionally outside of the booking times.

Furthermore, we agreed with Trendlog to include a checkout button to the interface of the visual reminder. This way, users of the meeting rooms could practice checking out by simply clicking the button. This button would act as a support to the sensor system, provided by BrainLog, with the goal of finding out at what time the meetings finish. If people finish earlier, we will be able to track this through the checkout button as well as sensors.

The visual will not be connected to the booking system (because it is not possible for this particular booking system), but it will give us an overview of how many people would use the button to check out of the room. That way, we can see if this approach would work and could be useful to implement it in the future.

With the great support from Trendlog, the final prototype of the visual reminder was completed and includes a short message and a checkout button as displayed in the following picture.



IMPLEMENTATION

We decided to place the visual reminder next to the door of the meeting room. This position of the tablet increases the possibility of users noticing on their way out of the room. Moreover, the actions that the visual reminder requires need to be completed at the end of the meeting, which is another reason why the tablet is placed next to the door.

To implement the checkout button, some IT and programming skills were required and applied by Trendlog. Furthermore, the visual reminder was coded like a website, which was visualized on the tablet through a QR code. Because of this, information on how many people checked out during the day was provided on a separate platform. Additional applications were installed on the tablet, so the visual reminder was available and visible at all times for the users. How we implemented and situated the tablet in a real-life situation will be displayed in the following picture.

FIELD TEST

To conduct the testing of the visual reminder we used two of the meeting rooms in Coworking PLUS and analyzed the booking activities for a month.

The equipment of room 1 (Repair Shop) includes the following items:

1. Visual reminder (with a checkout button)
2. A sensor that tracks the movement
3. Standard meeting room equipment (table, chairs, screens, etc.)

Room 2 (Tool Box) was equipped with:

1. A sensor that tracks the movement
2. Standard meeting room equipment (table, chairs, screens, etc.)

By implementing these elements into each of the rooms, we were able to identify whether co-workers are influenced by the visual reminder and if the usability of room 1 is higher, as this would indicate that there are fewer ghost meetings. To prevent workers from having bias when picking the meeting rooms, we decided to use two rooms of the same size that are next to each other.

RESULTS

The table bellow presents the results of the measured data for one single day. (The collected data for the whole month is available in the references.)

Room 1		
Booking time		**Check out**
Date-29.04		
9:00	12:00	12:03
13:00	14:00	13:34
14:00	15:30	14:58
15:30	16:00	
16:00	16:30	
		18:06
Room 2		
Booking time		**Check out**
Date-29.04		
9:00	9:30	/
10:00	11:00	/
13:30	14:00	/
14:00	15:30	/

Table 1. Booking system and sensor data

Our implemented visual reminder results show that people are checking out even before finishing their meeting. If we look at the second meeting (ROOM 1 13:00 – 14:00) we can see that the meeting finished at 13:34, meaning that they saved 26 minutes of what would have usually been a ghost meeting. The same happens with the next meeting (14:00 – 15:30) when people checked out at 14:58 and saved 32 minutes. Workers from the last two meetings did not use the checkout button since they finished on time, as also the data from the sensors show. We can see that room 1 had one check out at 18:06 which might be explained by the fact that the room was used for an unplanned meeting, therefore the meeting room was not booked through the booking system.

When comparing this data from the sensor, we can see that room 1 had movements from 7:42 till 18:11, meaning that there were also movements outside of the meeting hours. This might be explained by the fact that both rooms are sometimes used for quick meetings such as short business calls, which is why there were no bookings in advance. It could also be that the rooms were cleaned and visited by people for similar purposes.

As the checkout button was not directly connected to the system, it did not actually check out people from the room, but we used it as a feature to see if people would use it and if it would show positive results. It was not mandatory for workers to check out since this was a test phase, but they were notified of it by reading the text on the tablet. We can assume that this might be the reason why some people did not use the checkout button. All other days show the same pattern of most people checking out before their meeting ended (or right on time when their meeting finished), which proves that the habit of implementing a visual reminder and check out button works with saving time and making the meeting rooms more available.[1] Throughout our research, room 1 had 46 meetings, while room 2 had 27 meetings. We can conclude that

[1] https://syddanskuni-my.sharepoint.com/:x:/g/personal/ditod20_student_sdu_dk/ESlYqT5g6S1Guwx4JZ96CMEBUekyCTqwl6Z0UzSWG08k9A?e=sdB4ET

room 1 had more meetings than room 2, therefore, the room with the visual reminder was used more.

CONCLUSION

This research aimed to investigate and find the optimal solution to the current problem of ghost meetings at Coworking PLUS. With the appropriate methods, we came up with the optimal solution of the visual reminder. Afterwards, we implemented and tested the solution. Our results show that the approach of the behavior change concept had a positive effect on the consumers. Consequentially, the problem of ghost meetings would potentially be reduced if our solutions were directly implemented into the booking system. This we easily noticed when comparing two meeting rooms: one with the visual reminder and one without the visual. Both meeting rooms would benefit from following this approach and thereby save resources.

REFERENCES

[1] B. J. Fogg (2002). Persuasive technology: using computers to change what we think and do. Ubiquity.

[2] The following link provides information about the collected data from the booking system and the sensors implemented to the rooms at Coworking PLUS (name of the rooms - Repair Shop and Tool Box) https://syddanskuni-my.sharepoint.com/:x:/g/personal/ditod20_student_sdu_dk/ESlYqT5g6S1Guwx4JZ96CMEBUekyCTqwl6Z0UzSWG08k9A?e=sdB4ET