

# The World from My Bedroom: A Collection of Thoughts on Co-Design Through Screens

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## ABSTRACT

This position paper represents a collection of thoughts resulting from running remote co-design workshops during a pandemic. It is meant to be a timely document and may serve as a conversation starter for the workshop.

## KEYWORDS

Co-design, remote research during COVID-19 pandemic

## 1 PRELUDE

This spring I did attend the CHI conference as I would in any other given year. However, I would not get on a plane, meeting fellow HCI researchers at the gate, travelling in excited anticipation of things to come. Instead I was sitting in my bedroom because that is where my desk is. I sported shoes though to honour the occasion. Still, here I was talking and listening over several time zones to the brightest people of my field from the ordinariness of my home. We went through one of the most profound and enjoyable workshops. Yet, when the wrap up was done at 11 pm on a Sunday night and I put my Mac to sleep, here I was left in my dark bedroom with a mind revved up on inspiration and full of ideas. But no post-workshop dinner to consolidate.

What does this tell us about the nature of the work we do?

Well, design works on resonance.

Pandemic life is a life well connected. At least for knowledge workers such as me, and I suppose in many cases you as the readership of this position paper. Digital communication technology makes it easier than ever to engage with people. It lowers the bar. Yet, so many of us feel exhausted. People who care deeply about human-computer interaction even more so, it seems. Why is that? And how will it change the way we work in the future, especially in participatory design where human to human interaction is as precious as it gets.

When COVID hit, most of us were faced with unavoidable decisions: Can I run my co-design workshops remotely? Well, I have to, unless I am willing to do nothing instead for an unknown length

of time. Let's go remote, then. The tools are here. And who should spearhead the remote movement if not us.

## 2 RUNNING REMOTE CO-DESIGN EXPERIMENTS

### 2.1 What did I do?

I ran several co-design sessions, which I refer to as co-design experiments, via video call last year. The goal was to produce user-generated design solutions for visualizing an explanation generated with an explainable AI (XAI) model (LIME) and to identify patterns for alternative design solutions within these artifacts. The study had two parts. During the first part, participants were supposed to familiarize themselves with how decision support systems (DSS) work. To this end, they were asked to complete an estimation task, i.e., make a prediction based on a given data set, supported by an ML system and an explanation of its advice. Then followed the co-design part, where participants would comment on the explanation design and then sketch alternative solutions. The study is described in [1] and [2] and the results will continue to be published.

### 2.2 How did I do it?

I used Microsoft Teams for video calling and Google Docs for individually or collaboratively working on both parts of the study. The PEQ was done with Google Forms. I chose Google services for their ease of use and because I wanted to switch tools as little as possible. Its online documents allow to create sketches and drawings which was essential for my co-design tasks. It turned out that none of the participants had difficulties with the tools. Hence, all good on the tool side, or is it?

### 2.3 What did I learn

While it technically works to run remote co-design workshops I came to the conclusion that something is missing. It is hard to exactly describe this something. My closest description would be a lack of three-dimensionality and immediacy. Contextual information gets lost when interacting through a two-dimensional medium. This makes it harder to interact, like reading cues and then reacting. One example: When in a discussion you often have to put your thoughts on hold and then use a super short time window to make your point. Often you are not quick enough and the opportunity passes. I feel like almost every call needs thorough moderation. It also makes it harder to talk to strangers as in the experimental context I just described. Co-design makes it necessary to establish some form of work relationship between those involved. This can be effectively achieved if you are physically in the same room and agree on a set of rules or how to go about. My impression is that

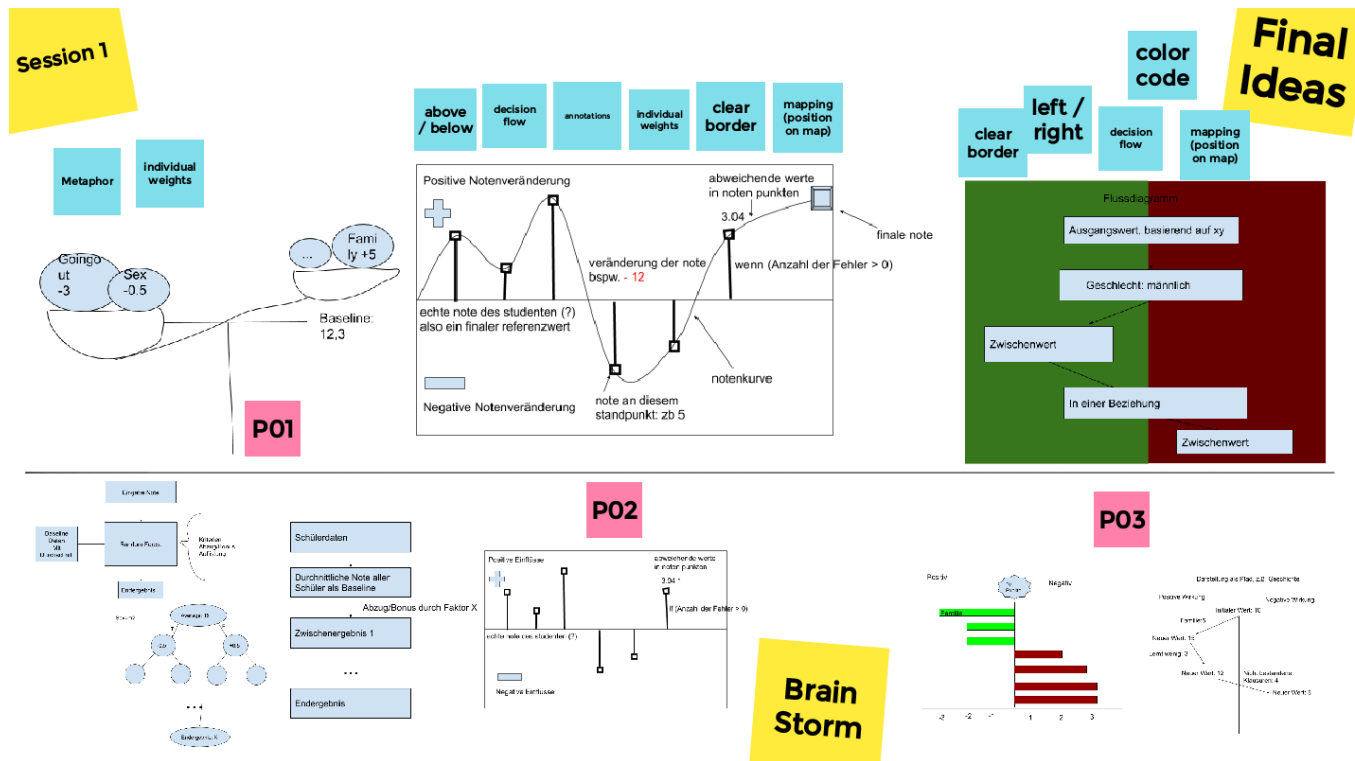
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**Figure 1: A sample from the workshop showing sketches from the participants proposing different designs for the visualization of a LIME explanation, also referred to as user-generated design solutions. These sketches were then coded (thematic analysis). The image also shows some of the codes. From the emergent patterns alternative design concepts can be derived which then are evaluated in larger scale user studies. The goal of this approach is to test whether going through design activities with the users of such systems can contribute to better understand and describe mental models of DSS running on ML and XAI models.**

in online workshops people are generally more detached. There is also less room for improvisation, an element that is also well-suited to create such work relationships. However, a remote setup might allow for reaching a more diverse audience, since, at least in theory, everyone with a device and internet could take part. Yet, in my case I found it harder to recruit, schedule the workshops, and then to actually have the attendees present. I experienced some no-shows, which quickly turn into show-stoppers having in mind that you would rather run remote workshops with fewer participants. In conclusion, I feel as with most things a hybrid approach might work best in the future.

### 3 PROVOCATION AND BRAIN FOOD

I will use the space left in this paper to put down and out some of the things that concerned me the most. They may well be conversation starters for the workshop. Or not. But hopefully they lead your thoughts somewhere interesting. In any case, I hope they resonate.

- Remote takes double the preparation.
- No one has the time to prepare.
- It can easily become a meaningless stream of words. You are lucky if something sticks
- Are we stealing people's time?
- Zoom silence is awkward. We need more silence.

- Can you be critical when in zoom mode?
- Can you whole-heartedly use platform services for online studies? This means, should we push the click working approach to research ... given the consequences it can have?
- Is it fair?
- Potentially we can reach more people and increase diversity but do we actually reach more of the same people and less of the people that would matter?
- Can someone switch off the internet for a couple of weeks?

## REFERENCES

- [1] Henrik Mucha, Sebastian Robert, Ruediger Breitschwerdt, and Michael Fellmann. 2021. Interfaces for Explanations in Human-AI Interaction: Proposing a Design Evaluation Approach. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*. 1–6.
- [2] Henrik Mucha and Franziska Schulz. 2021. Explanation Interfaces: Two Approaches for Grounding Design Decisions. <https://hcxai.jimdosite.com/papers/>. In *HCAAI Workshop at the 2021 CHI Conference on Human Factors in Computing Systems*.