Dreaming of Immersive Interactions to Navigate Forced Distributed Collaboration During Covid-19

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The digitalization of many forms of work during the Covid-19 pandemic has brought many challenges for online collaboration. While we have been using online communication tools for meetings and collaboration for a while, this is the first time we are collectively being forced to do so. At least for us, existing online tools initially created a sense of reassurance, as we were familiar with them—collaborating on project management through shared files and coedited documents, having meetings and saving conversations for later reference, collaborating with partners around the globe, and so on. We thought en passant about how these online activities could be better—more intuitive, more productive, more efficient—especially compared with the physical experience of similar activities. Still, we have been welcoming distributed collaboration tools in general, integrating them into some aspects of our lives and utilizing them whenever necessary or convenient.

We consider ourselves lucky to experiment with these tools firsthand in our EU-funded project, Pop-Machina (pop-machina.eu), which aims to demonstrate the maker movement’s potential and collaborative production for the circular economy. Being one of the academic partners, we are responsible for engaging local maker ecosystem actors in seven European cities to collaboratively design city-level activities for 1) engaging even more people to build a circular maker community, 2) offering more venues for knowledge acquisition, and 3) initiating and supporting circular fabrication practices. In doing so, we planned to bring actors from different backgrounds and perspectives, engage them in the idea generation of such activities, and democratically decide on the series of activities to be implemented at the city level. While there were online elements planned for widespread engagement, our initial plan was to develop generative workshops, physically bring the actors together, and initiate a fruitful participatory process. However, we had to switch to online workshops due to Covid-19.

Utilizing completely online tools for participatory design (PD) has its challenges [1]. PD aims to bring stakeholders into the design process democratically and to enable and empower them to influence the process [2]. It focuses on “infrastructuring” tools, networks, and sociotechnical skills for participants to actively take part in design projects [3]. The latter refers to developing the means for participants to creatively generate ideas, reflect on their knowledge and experiences, and reach applicable, viable outcomes that are meaningful to them. Since stakeholders represent a diversity of experiences and perspectives, often PD researchers need to adapt and overcome individual barriers to participation from the pluriverse of participants [4].
Our experience in Pop-Machina was not different. We came across three distinct difficulties where we wished for an interface as natural as face-to-face in situ interactions.

The first challenge is participants’ literacy of and capacity to utilize online collaboration tools and techniques effectively. Online collaboration tools (e.g., Miro, Google Suite, Zoom) help create online workshop settings. Since the Pop-Machina project involves various teams from six different countries, and our own team members are also working from home in light of the pandemic, we have been creatively interpreting these tools and creating ad hoc generative facilitation tools for what we call forced distributed collaboration. However, in the case of co-designing engagement, training, and production activities in each city, we are trying to engage a wide variety of stakeholders with varying knowledge and experience of such tools, and even much less knowledge regarding our creative interpretations of them. For participants who do not have previous experience with these tools, the interfaces offering advanced editing options and detailed menus irrelevant to the act of collaboration itself created confusion. The learning curve for such media is considerably longer compared with large sheets of paper, Post-its, and pens.

The second challenge is from the facilitator’s side: The subtle differences in digital means of communication hinder the facilitation of workshops. In a digital environment, facilitators are not able to use visible cues like slightly raising a hand to intervene or a nod to show confirmation, pointing to a sticky note or a particular area in the workspace/whiteboard, or turning to someone to answer a specific question. Realizing the multitude of small gestures utilized in physical settings and losing them due to a limited camera frame has revealed many vital aspects we usually take for granted during a physical workshop. Digital alternatives to such gestures (e.g., raise-hand buttons, timers, and alarms on whiteboard apps) are very much welcome, yet they work only as long as they stay inside the participants’ field of vision and the sound is on for that browser tab.

The third challenge is using a single sound channel for videoconferencing. It never occurred to us that this might create a problem, especially when teamwork is the ultimate goal of such generative workshops. Yet we now acknowledge the importance of limited interactions such as small one-on-one interactions during teamwork, single questions and answers between two members parallel to the larger team discussion, and fact-checking about some aspects of the process. These small, parallel interactions prevent short questions from becoming long and irrelevant team-wide discussions, and enable fuzzy comments to develop into constructive ideas or critiques. A similar practice seems to be facilitated through the videoconferencing apps’ private-message function. However, this is used only when two people are known to each other and aware of the need for correspondence before raising an issue or an idea. In the context of a workshop where participants may or may not be acquainted, this feature does not facilitate one-on-one communication.

We are not looking for a perfect replica of the physical workshop setting in the digital realm; we are aware of many opportunities for completely online PD practices. Rather, we are raising these seemingly subtle differences that result in the need for PD facilitators to come up with innovative ways to remove barriers against participation, and to equip themselves with a new
set of skills for effective facilitation. This, in turn, translates to a set of considerations for interaction designers and developers to address PD needs for remote participation.

Accordingly, we wish for a fully adaptable digital workshop environment that would magically overcome these challenges—and many others that we have not yet come across. This would be an environment where PD practitioners could not only develop the generative tools they would use but also pick and customize the interface elements they wanted to present to the participants. For instance, they would be able to design the environment and identify the tools the participants would use to collaboratively design things—instead of forcing them into a UI overcrowded with tools and menus. They could change the size, color, and placement of such tools and interactive elements according to the needs of the collaborative tasks, or even enable or disable some elements at certain stages of the session. Furthermore, they could create and implement new forms of audiovisual cues for cutting in, steering discussions, and other means of effective facilitation. Such an environment would require embedded videoconferencing capabilities that are richer and more intuitive, enabling both team conversations through breakout rooms and quick one-on-one conversations. What we ask for is probably a back-end nightmare, yet we wish for it here to highlight some important issues in this space.

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Endnotes

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