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Mafalda Gamboa

*Chalmers University of Technology and University of Gothenburg, Sweden*

Elvia Vasconcelos

*Eindhoven University of Technology, Netherlands*

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# Agreements for collective real-time sketching practice in design research

Mafalda Gamboa<sup>a\*</sup>, Elvia Vasconcelos<sup>b</sup>

<sup>a</sup>Chalmers University of Technology and University of Gothenburg, Sweden

<sup>b</sup>Eindhoven University of Technology (TU/e), Netherlands

\*Corresponding author e-mail: [mafalda.gamboa@chalmers.se](mailto:mafalda.gamboa@chalmers.se)

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**Abstract:** Designers often converse without speech, for example, through sketches and artifacts. These conversations traverse across layers through gestures, time, and materialities. In this paper, we report on a demonstration at a design conference, where we brought together the practices of two designers into a collaborative real-time sketching environment. Through this unfolding exchange, we explore how sketching can move beyond individual expression to become a collective emergent record of thought and relation. The demo drew together digital and physical media while listening to a theoretical prompt, in a shared conversation with the audience. From this process and its tensions, we derive a set of agreements and actions for designing collective layered sketching practices: considering voice, encouraging relationality, and supporting the embodied performative choreography of drawing together. In doing so, we propose sketching as a shared, relational practice of conversation and reflection within design research.

**Keywords:** sketching, live sketching, performance, feminism

## 1. Introduction

Drawing inspiration from diverse interpretations of demonstration — ranging from artistic performance and exhibition to public acts of protest — we created a public performance to explore the intersections of our sketching practices. Usually, a demonstration at a Human-Computer Interaction design conference is a show and tell of a design artifact, but in this case, we were the exhibited piece: two design researchers creating sketches in real-time and in exchange with one another. The piece unfolded as a visual conversation about bodies of water, performed through layered acts of drawing and reflection. By acknowledging the transient and situated qualities of this encounter, we examine how visual dialogue can emerge and dissolve in real-time.

This demonstration presented a shared experiment in collaboration, offering the conference community a space to witness and join our ongoing dialogue. Across four sessions of layered conversational sketching and reflecting, we combined digital and analogue, responding to each other's gestures and the audience's questions. The process revealed how our ways of



seeing and accounting for could ebb and flow together: at times converging, at others diverging, but also unexpectedly leading to a significant unevenness in how we experienced our sketching voices.



Figure 1 A collage of pictures from the demonstration at ACM Designing Interactive Systems conference in Madeira

After the event, we discussed our learnings and disappointments through vignettes addressed to one another. We use these exchanges to ponder on what it means to think and converse visually within an academic context, and what would be necessary to invite participants to inhabit with us the uncertainties, rhythms, and relational dynamics of live visual making. To this end, we contribute to the DRS community with a set of agreements and actions to be used when setting the scene for layered collective drawing.

### 1.1 A Feminist Approach to Sketching

Our work investigates sketching as a performative and participatory practice for conducting design research collaboratively and in situ (Vasconcelos et al., 2024a). Drawing from feminist traditions of collective knowledge-making, it acknowledges the coexistence of individual voices while establishing shared ground through acts of making. Adopting a feminist orientation within design research (Ahmed, 2010; Martinis Roe, 2018; Place, 2023), the work places itself amongst scholarship on situated knowledges (D. Haraway, 1988), speculative fictions (Noortman et al., 2021), and critical fabulations (Rosner, 2020; Søndergaard et al., 2023). In doing so, our practices function as a narrative form of inquiry: one that expresses personal knowledge as embodied, relational, and situated (Desjardins et al., 2019; Devendorf et al., 2020).

As such, we see sketching as a collective making mode of inquiry, that generates dialogue and makes space for lived experience in collaborative processes (Koulidou et al., 2020). We explore this in several ways, for example by including moments of critical reflection that make 'interpretation explicit and public' and highlight the 'personal viewpoints, and points of conflict' in our processes (Wallace et al., 2017). In this paper we see sketching as a way of thinking with others, in context and in relation, rather than a tool for extracting information.

We treat sketching as subjective, reflexive, and relational (Franz, 2023; Gamboa, 2023), highlighting how it creates partial and situated understandings that can be framed in broader considerations around positionality in design research (Fox et al., 2020). Hence, sketching is for us a feminist practice: one that embraces multiple viewpoints and differences.

By focusing on performative forms of making and documentation, this work illustrates how varied modes of recording and reflecting can expand the scope and depth of design research (Desjardins et al., 2017; Meiklejohn et al., 2024; Yoo et al., 2022, 2023). Following the perspective that documentation operates “as an extension of the act of making itself” (Goveia Da Rocha et al., 2022) the live and material dimensions of the performance are emphasised, enabling conversational and tactile exchanges to become integral to the research process. This approach recognises the critical value of the physical and material aspects of discourse, rendering them visible for reflection and critique, while also offering multiple entry points for engagement (Mäkelä, 2011; Milara et al., 2019). The focus on relationality is not exclusive to feminism, and quite fundamental to sketching in general, which can be seen for example through new uses of technology for collaborative sketching (Dorta et al., 2014).

These sources and feminist ways of seeing sketching are hence deeply concerned with the relational practices that come with it. In this way, we regard sketching as a way of surfacing matters of care (Puig de la Bellacasa, 2015) while also caring for one another, supporting conversations that happen beyond words.

## *1.2 Sketching in Real-Time as Conversation*

Sketching, as a practice, is a well-established form of enquiry (Goldschmidt, 2003; Tversky, n.d.; Yurman et al., 2022). Each particular practice comes with a specific genealogy that shapes both how it is performed and the knowledge it produces (Blevis et al., 2015; Sturdee & Lindley, 2019). Sketching, in general, has a series of appended methods, tools, and processes (Ammon, 2019; Sturdee, 2018; Tversky & Suwa, 2009), but also distinctive practices that are done in real-time and usually on site, such as graphic notetaking (Franz, 2023), sketchnoting (Zheng et al., 2021), scribing (Wallace et al., 2017), graphic facilitation (Wright et al., 2023), ethnographic drawing (Boserman, 2022), field sketches (Geismar, 2014), and many others. Sketching has also played its role in the expression of first-person perspectives, subjective views, and lived experiences (Gamboa, 2022; Koulidou et al., 2020).

While most of these forms focus on one single person sketching, our focus has been on researching alternative ways of creating collaborative visual conversations. This turn in considering jointly generated knowledge (Hwang et al., 2022) brings implications on understanding the interplay between the individual and the collective, but also power relations and how different voices can be expressed. Both the authors of this paper have explored in their previous research how voice and research intentions can be explored and developed through collaborative sketching (Gamboa, 2022; Gamboa et al., 2023; Vasconcelos et al., 2024a, 2024b). A large part of such an endeavour relies on understanding the practice of sketching as a reflective practice (Goldschmidt, 1991), generating partial and situated interpretations of what is being observed. This previous work heavily influenced the outcomes we present here.

In this paper we discuss one attempt at creating a structure for listening and speaking through sketching, making a site for developing a form of shared concern and — what turned out to be — a space for disagreement.

## 2. The Demo Performance

The demonstration, presented at a design-oriented Human-Computer Interaction (HCI) conference, was centred around a large screen that displayed a live, evolving conversation through sketching. Using both a tablet and traditional pen-and-paper, the sketches were projected and layered in real-time to create a composite visual dialogue. The drawing process responded to an accompanying audio track composed of works exploring the theme of bodies of water. As the performance unfolded, the audience observed the interplay between sound and image. While we had initially thought we would create a space for the audience to engage, we ultimately decided to open for specific spaces of reflection after the performance.



Figure 2 A sketch of the expected set up at the DIS conference, at the time we submitted the demo.

### 2.1 Inspiration

This demonstration engaged two practices of analogue and digital sketching in a multi-layered public conversation in real-time. We attempted, taking inspiration from diffractive reading as a method, to support a drawn conversation towards “reading insights through one another in ways that help illuminate differences as they emerge.” (Dolphijn & Tuin, 2012). As a methodological approach (Sanches et al., 2022), diffraction leans on working with differences to create new differences (Haraway, 2016) and highlights interdependencies (Barad, 2006, 2014), rather than converge to a specific resolution. As this exercise was not meant to produce a specific design outcome but to explore the process of working to find difference rather than just agreement.

Inspired by Gloria Anzaldúa’s *Borderlands* (Anzaldúa, 2021), we explored the porous borders in-between practices, languages, and ways of generating knowledge visually and collaboratively. This meant our demo considered the messy reality of applying theory in context and accepting the ambivalence of our situated gathering. We curated a body of work in feminist theory in advance, with water as a theme to match the overall conference theme. An example of inspiring work is that of cultural theorist Astrida Neimanis’ ‘thinking with water’ invites us to consider water as ‘a lively collaborator in our ways of knowing and acting’ (Cecilia Chen Janine MacLeod, 2013).

## 2.2 Preparation and Technical Set-Up

This demo builds on our previous experiences sketching together. First, haphazardly, we sketched side by side at a conference panel (see figure 3). This was followed by a more intentional experiment where we staged our practices in a layered conversation using a whiteboard, a projector and an overhead. We were confronted with difficulties in managing the strength and prominence of each layer (see figure 4). In light of this attempt, we decided to use two of the same type of projectors that we could overlay in combination with an overhead document camera and a tablet. One projector would be streaming a person sketching on a paper roll being captured by an overhead document camera, while the other projector would be streaming the other person sketching digitally on a tablet. The two projectors were physically aligned to point towards the same surface on the wall, overlaying the paper roll and the tablet.



Figure 3 Sketching together side by side at the same design conference we ran our demo one year later.

Based on previous research in ideas of layering, we decided to introduce tracing paper as part of this set-up, to create a space for annotations and conversation with the audience. To play on its materiality and the hand-drawn qualities of our work we produced a hand-written poster as part of the signage of the demo. For organisational and inspirational reasons, this process also included creating a playlist, an are.na board, and an online document for keeping track of all the organisational steps.

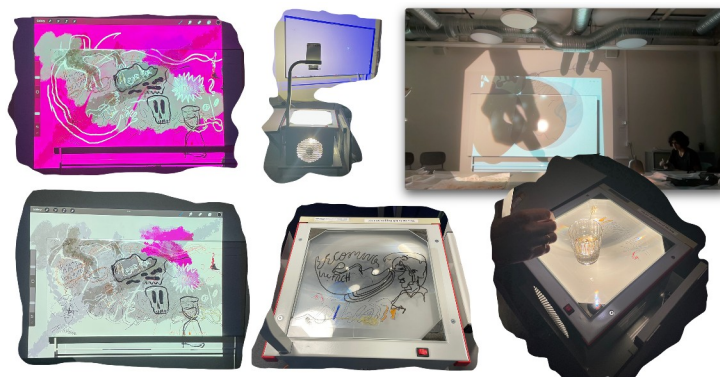


Figure 4 Experiments in layered conversation in preparation for the demo proposal.

### 2.3 Sessions

The demo took place in four 1-hour time slots split over two days. Each day we performed twice, once in the morning and again in the afternoon. The morning slots were used to sketch in real-time, listening to the audio of two different pre-selected talks. The two afternoon sessions were used to reflect on and document the sketches created in the morning.

We set out to explore the demonstration format, especially the performative aspects of doing a live and public performance, to explore varied tactics that would place our sketching practices in conversation each other. These tactics can be roughly organised in three buckets: (1) overlap: dialogue happens in the projected image that overlaps the paper and the tablet as layers; (2) side-by-side: what happens as we sketch side by side; how do we interact with each other?; (3) turn-taking: what different techniques might we use to weave our practices together? For example, swap practices, change seats, add to each other's drawings? Can we use turn-taking techniques such as *exquisite corpse* to merge our practices? The afternoon sessions were dedicated to reflecting and analysing the materials produced in the morning.

Audience interaction was also a component in this demo. The initial proposal was to offer multiple ways for the audience to actively contribute to the demo, for example, by setting up a wall space for sketching and writing, or a keyboard and a secondary screen. Due to limitations and constraints with space and materials, audience interaction occurred on a one-to-one basis, mostly during the afternoon sessions, where reflecting and analysing the sketches prompted discussions about what had happened and what they revealed about our sketching practices as conversation. A final consideration, although secondary, in this demo we were also responding to the conference theme, water, and as such, engaging with the topic of thinking with water in our conversations.

## 3. Reflections and Vignettes on the Demo

The main aim of this demonstration was to create a live conversation between us and the community, presenting ourselves as the performing technique — our bodies and sketching practices as the artefacts — and explore the risk of liveness as a form of knowledge in design research. Hence, the outcomes were somewhat unpredictable. Still, we generated a series of artefacts: (1) a video of the live performance; (2) a series of sketches, in a paper roll and in digital format; (3) analysis in the form of annotations on a transparent paper roll. As we were working collaboratively, we framed these results as layered conversation composites (Gamboa et al., 2023), that highlight personal perspectives while generating collective insights.

Following the demo we analysed these results via correspondence, and using the vignette format we unpack what emerged in terms of the agreements, advice, and strategies we would like to have had at the start of this collective experiment.

### **3.1 Before - practical aspects and material commitments**

#### **3.1.1 Mafalda // visiting:**

When Elvia came over to my place and we overlapped the projects, she seemed stressed. She clearly wanted to get things done and leave, but I genuinely had a good time sketching together. It was dark and quite cosy, I did not feel as if she was performing at all once we started sketching. The atmosphere was just for the two of us, though, the sound clear, a welcome respite from the busy days with the kids by the pool. I remember being quite relaxed that day, and was happy with what we achieved. Elvia however, there was a dissatisfaction about her, as if she was not entirely convinced of the whole set-up. A certain hesitation. The sketches I made that day were quite colourful but abstract, and I saw her pick up on the forms quite immediately, which was exciting and fun. Reminded me of the first time we tried to play around in Gothenburg.

The packed up rolls of paper felt enticing and virgin, more than ready to be rolled out.

#### **3.1.2 Elvia // materialities:**

The demo came to life when we defined the practical aspects of it: the projectors, the paper roll, the transparent paper and the handwritten signage. These material aspects enable our methodological commitments to exploring multiple possibilities for placing our sketching practices in conversation with each other, specifically looking at the overlaps between them, what happens when they are occurring side-by-side, and what turn-taking possibilities are available.

### **3.2 Setting up**

#### **3.2.1 Mafalda // room in a room:**

As we walked around the room we negotiated on where to best place our demo. Somehow, in my head, I wanted to have a darker place just for the two of us. The many discussions we had on interactions with the audience did not exactly end up in a particular strategy. Of the whole demo, I somehow still find the set-up the most interesting part of it. We found ways aligned with our aesthetic sensibilities to create a room within a room, with enough space for us to expand the sketches. The light was always still too strong, but not possible to dim. As a result we did consistently neglect the digital layer that I was responsible for. I felt Elvia's unease on how little traces of the layer I was responsible for would leave in the physical space.

#### **3.2.2 Elvia // environment:**

I was hesitant with the tablecloth but it looks great (see figure 5). In the future though, we could use a tent for darkness, although it hides the performance (we could have a camera recording and showing the performance live). In the future, I would like more signage to mark the site.



Figure 5 Tablecloth improvisation as screen.

### 3.3 Sessions 1 and 3 - sketching in real-time

#### 3.3.1 Mafalda // technical glitches:

During the first session (see figure 6), my tablet was glitching heavily, even though I had tested the set-up multiple times before. I could not even rest my hand on the screen and the lines would go everywhere. I started panicking: there was absolutely no way I could deliver sketches of quality in those conditions. It was unclear what was to blame: the pen, the iPad itself, the projector. I noticed that it indeed only happened when connected to the small pocket projector, but what to do when I needed it. After restarting all the equipment nothing happened, and I reached out to some people I knew in search for a different pen. When I left the room to watch other presentations, I kept searching online for similar issues. I decided to go back over lunch break to try to troubleshoot what was happening, as Elvia was busy elsewhere. When I sat down with a friend, suddenly it all worked again, without any change.



Figure 6 A picture from the demo while we were both at our stations.

#### 3.3.2 Mafalda // disagreement and discomfort:

It might have been by the third session, I felt overwhelmed with the amount of paper Elvia had produced (see figure 7). She was in complete focus listening to the sound and sketchnoting. I noticed how I was slightly jealous of her ability to create such consistent drawings, while I was desperately trying to grab her attention on the screen. Her head

bowed over the paper, completely engulfed in her own work. I observed as my sketches got less and less for their own sake or to my comprehension of the content, but more to call for her attention. As I heard certain concepts in the audio, I wondered what they meant and tried to engage with her own notes on them, just to see them move away from time to time without her noticing the connections. I did not have as much freedom in the maintenance of the layers, so often my content would become mismatched to hers. Eventually, I felt unheard and unseen. As if my digital layer was too frail to be taken in consideration. I could do nothing but look at the screen in front of me, inevitably layering hers, while she could fully ignore my contributions. I wonder what would have happened had we hung one of the projectors on top of her, forcing my lines to overlap with hers.



*Figure 7 Image of the demo when we were not active at the stations.*

Elvia was late to one of the sessions. I sat there waiting and doodling. This was the first sketch that actually communicated my style in some way — but that was not right. These things were meant to happen in collaboration. When she was gone, the presence of her paper roll was taking over the room. It made our signage inaccessible, and our message unclear. But for once, the only thing happening was me, and all I felt was lonely. The traces of her were all over, climbing up the wall. Eventually Elvia asked me if we should switch tables. But looking at the huge amount of work she had put into that piece of paper I felt suddenly incapable of continuing it. My style is slower, with less flow. I felt insecure that I would deliver what she could. Now, in retrospect, we should have tried that earlier.

On the side of performance however, we had planned little and we followed through with that. The disagreement and discomfort this caused me was because we wanted to keep a flexible approach to the idea of the performance. The unevenness of digital and tangible voices could be useful in many situations, perhaps just not this one. What it made me think is of the pauses that Elvia could not make, which I did. I did not feel the pressure to produce, hence I could listen. But she was in her bubble, perhaps with no space to pause and enter in conversation. To the point where she dismissed engagements with other participants as she worked. The rules of the performance were not agreed upon beforehand; and while I understood why she ignored participants, I was confused as to why she did not want to listen to my drawn (and drowning) voice.



Figure 8 Image of the setup as Elvia sketched, digital layer can be seen on top, as well as the two piled up projectors and the poster we hand-made.

### 3.3.3 Elvia // no hard rules and expectations:

Treating this as an experiment, we deliberately did not establish any hard rules. After the first session it became clear that we did not have the same expectations around how we were supposed to (1) interact with each other during the live performance, (2) how we were to handle audience intervention during the live performance and (3) how to reflect and tweak things in between sessions. We had very different expectations for how to interact while sketching. For me, sketching in real-time requires my full attention - I am listening and following whatever is being said with my pens. This is different from doing graphic facilitation, where the focus is on engaging a group of participants in conversation in real-time (as opposed to engaging with the content of a talk). I wanted to see what would happen when we enacted our distinct practices of sketching in real-time, with a live audience, seeing what would happen as they were overlapped by the projectors and after, through the layer of transparent paper.

I would like to define expectations around interaction during demo-mode. I would also like to explore ways to tweak things in between sessions — we reflected and analysed the demo briefly and organically in between each session, but this was so rushed and sandwiched in between everything else (presenting, attending to other things) that we never really addressed any of the tensions that were emergent. *I feel like I didn't make the most of the fact that you were sitting next to me. Not sure what I would do next time, but I would like to explore this further.*

## 4. Agreements, Advice, Strategies, and Actions for Collective Real-Time Sketching

In this section we present a set of agreements, advice, strategies, and actions we developed both as a result of the analysis of the vignettes and the disagreements that emerged in our sessions (as described earlier in section 3), but also as a revisitation of our previous work. They address the frustrations and tensions within our collaboration, while attempting to preserve the relational accountability we both showed towards each other. While it is

difficult to exactly trace the rigour of how we achieved these results, they are nonetheless the outcome of several conversations triggered by an invitation to hold a workshop based on our demonstration to a group of about 15 participants.

The lists we suggest, though succinct, capture the layered methodological dimensions that emerged throughout the experiment. They are purposely written to embrace changes and transform, in line with our initial commitment to “working with differences to create new differences” (Haraway, 2016). Hence, they are provisional suggestions, with large degrees of leeway, to be made different by every context. We have since the writing of this paper, used this set and observed as participants made their own edits. In that sense, they follow a feminist approach where we acknowledge that these agreements are in constant change and mutation, permanently reframed by the groups of people who enact them.

The **agreements** (4.1) articulate the implicit aspects of our practices, offering them as guiding principles for future experiments. The **practical advice** (4.2) outlines the material setup required to carry out the work. The **strategies** (4.3) consolidate and expand our existing mechanisms for collective making (Vasconcelos et al., 2024a). Finally, the **actions** (4.4) provide open-ended prompts intended to spark real-time intervention during the sketching process.

#### *4.1 Agreements for Collective Real-Time Sketching*

These agreements should be printed out or written in big format to have in the room where the sketching will happen. The format should allow for editing.

0	<b>PRESENT</b>	<b>Be present, stay engaged and let yourself be affected today; put your phone away, please.</b>
1	IN RELATION	We are in relation, place yourself in conversation with others and in space.
2	TOGETHER	Use your voice to listen and build on the voices of others; aim for a choir, not a solo; look for connections and what can be shared; yes and...
3	SPACE	We make space for multiple ways of being, doing, sensing; navigate with respect; be gentle.
4	MAKE	Everyone can make, find a way to bring your practice into material form.
5	EXPLORE	Engage movement and understand the materials with all your available senses (feel, touch, sound, smell...).
6	DEPTH	Look and feel deeply; consider what is there and what might be obscured.
7	OPEN	Stay open to what happens. Follow your imagination and recruit metaphors, stories, speculation...
8	ADD	Reflect, add to, revise, disagree, and remix these agreements. Make your own agreement and tell others about it.
9	SITUATED	Whatever happens today is uniquely situated within the agreements between those involved.
10	CARE	Do whatever you need to feel well and supported. Enjoy yourselves as much as possible.

#### *4.2 Practical Advice (Before we Start)*

These are simple tips for how to engage with the material. These can be simply shared with participants when introducing the activity.

1. **HOUSEKEEPING:** What to expect, how to interact with each other and the other workshop; breaks; issues or concerns; accessibility or sensorial requests; photos.

2. **IDENTIFY YOURSELF:** When you can, in whatever way makes sense to you.
3. **EXPLORE DIFFERENT MODES:** Through materials: Listening mode (base colour); Annotate another colour; observations on a post-it; masking tape for titles; etc. And signal them if you can.
4. **EXPERIMENT WITH MATERIALS AND THE SPACE:** Try out all the materials. Pay attention to how people are using the materials. Build on each other's experiments. Extend them into space.

### 4.3 *Strategies for Collective Making*

These strategies can be presented to participants ahead of the sketching as examples of what can be done, and what types of strategies one can have while performing together.

1. SIDE-BY-SIDE
  - a. Parallel play
  - b. Negotiate space
  - c. Explore neighbouring borders
  - d. Copy something
  - e. Leak, cross-over, extend, reach
2. TURN-TAKING AND MOVEMENT
  - a. Change seats
  - b. Explore different modes: Listening-speaking-making-enacting-domino-amplifying
  - c. Pass X around, think Exquisite Corpse
  - d. Roles (e.g. Only one pair of scissors that only one person uses; if you need cutting you call that person and instruct them on what to do)
3. LAYERING + COMPOSITES
  - a. Add another layer of colour, another material, collage
  - b. Connect: Look for connections between things
  - c. Obscure: hide or re-iterate (trace over) something through layers
  - d. Grab separate elements and combine them, remix and resample
  - e. Add a digital layer
4. SCALE
  - a. Explore space and scale as a collective surface
  - b. Draw something inside something else
  - c. Expand to a new dimension

#### **4.4 Actions While Performing**

These actions can be printed out and kept in the room while sketching, as reminders of what actions can be taken. We suggest making them into a set of cards.

- Negotiate space. Take turns. Think of musical chairs, switch with someone else.
- Take a step back, observe what is happening.
- Copy what somebody else is doing.
- Join in on what somebody else is doing.
- Look for connections between things.
- Fill in the spaces between things.
- Grab separate elements and combine them.
- Remix. Resample.
- Be still/silent for a while.
- Follow a thread for a long time.
- Drop a thread you have followed for too long, invite someone else in for leakage, intersections, and juxtapositions.
- Think through metaphors and movement.
- Make something invisible (obscure), visible (or vice-versa).
- Make something temporary, permanent (or vice-versa).
- Make something strong, weak (or vice-versa).

## **5. Discussion**

Tracing back to our feminist commitments, the vignettes reveal how collective sketching operates as both a site of care and tension. Our attempt to merge distinct sketching practices surfaced differences in tempo, material engagement, and presence: differences that are often obscured in collaborative design processes. This framing of feminist scholarship reminds us that such frictions are not failures, but moments of situated negotiation (D. Haraway, 1988; Puig de la Bellacasa, 2015). These differences point to the necessity of remaining accountable to the relational conditions that shape participation and expression. However, transversing from theory to reality is not seamless and it is through our relational accountability and attunement to such practices that we could find the value in surfacing the tensions.

Through the vignettes, we saw how our individual practices, when brought together, made visible questions of materiality, temporality, visibility, and voice. The discomfort of not being seen or heard, or of being too visible, becomes a feminist issue when considered as part of how power circulates in collaborative making. In our case, imbalance emerged materially:

through paper rolls that overtook the room in a pervasive manner, or digital layers that disappeared under projection light and temporal drift. Yet these moments also offered opportunities to reimagine how collective sketching could better distribute attention and care.

The agreements we later articulated can be understood as feminist propositions: they are situated, provisional, negotiable, and mutable. They do not prescribe fixed roles or outcomes, they are tentative and instead support the conditions for relational accountability (Ahmed, 2010; Desjardins et al., 2019). Each agreement functions as an ethical orientation towards presence, relationality, care, and openness; rather than a procedural rule. In this way, they reframe collective sketching not as a search for harmony, but as an ongoing practice of attunement, disagreement, and deeply embodied co-presence. As part of this commitment, the agreements explicitly invite for a participatory way of making together.

This feminist lens also nuances our understanding of liveness and documentation in design research. Live sketching, as performance, surfaces vulnerability and uncertainty. Documentation, in turn, becomes not a record of what was achieved but a material continuation of the encounter (Goveia Da Rocha et al., 2022). The sketches, notes, and agreements exist as layered composites of thought — partial, porous, and alive. What emerges is a mode of inquiry that privileges relation over resolution, and care over control. These values put the emphasis on ways of knowing rather than forms of representation. For example, most of the actions are precisely reminders to make space, to reclaim silence, or to encourage exchanges.

As these are the outcome of an invitation to hold a workshop, these insights will be challenged by participatory workshop formats, where agreements can be collectively rewritten, nuanced, expanded, and contested or excluded. This ongoing reworking of practice aligns with design methodologies of reflexivity and diffraction, as well as collective world-making. Rather than stabilising the practice, we seek to keep it open: to allow it to evolve with each new gathering of sketchers, materials, and relations. Hence, we forfeit our authorship of these suggestions and see them as creative commons at the hands of the ephemeral nature of performance.

## **6. Conclusion**

This paper explored collective real-time sketching as a feminist practice of conversation and reflection within design research. Through a live demonstration and subsequent correspondence, we examined how sketching can move beyond individual expression to become a relational and performative act of making sense together. The vignettes revealed the complexities, frictions, and moments of care that emerge when two distinct practices meet in live, deeply relational layered dialogue.

From these reflections, we derived a set of agreements for collective real-time sketching — provisional guides that invite presence, relationality, openness, and care. These agreements are not fixed methods, but evolving orientations that help sustain feminist commitments within collaborative design practices. In proposing sketching as a shared and situated mode of inquiry, we highlight how live making can generate new spaces for collective reflection, material conversation, and ongoing experimentation in design research.

## 7. References

- Barati, B., Giaccardi, E., & Karana, E. (2018). The Making of Performativity in Designing [with] Smart Material Composites. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–11. <https://doi.org/10.1145/3173574.3173579>
- Ahmed, S. (2010). Feminist killjoys (and other willful subjects). *S&F Online, Polyphonic Feminisms: Acting in Concert.*, (83). [http://barnard.edu/sfonline/polyphonic/ahmed\\_01.htm](http://barnard.edu/sfonline/polyphonic/ahmed_01.htm)
- Ammon, S. (2019). Drawing Inferences: Thinking with 6B (and Sketching Paper). *Philosophy & Technology*, 32(44), 591–612. <https://doi.org/10.1007/s13347-018-0323-5>
- Anzaldúa, G. (2021). *Borderlands =: La frontera: the new mestiza* (Fifth edit). Aunt Lute Books.
- Barad, K. (2006). *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Duke University Press. <https://doi.org/10.1515/9780822388128>
- Barad, K. (2014). Diffracting Diffraction: Cutting Together-Apart. *Parallax*, 20(3), 168–187. <https://doi.org/10.1080/13534645.2014.927623>
- Blevis, E., Hauser, S., & Odom, W. (2015). Sharing the hidden treasure in pictorials. *Interactions*, 22(33), 32–43. <https://doi.org/10.1145/2755534>
- Boserman, C. (2022). *Dibujo en contexto- otros laboratorios, pequeñas cosinas y un rebaño. Una aproximación al dibujo etnográfico desde el arte, lo político y lo colectivo.pdf* [Universitat de Vic - Universitat Central de Catalunya. Departament de Didàctica de les Arts i de les Ciències. BAU. Centre Universitari de Disseny de Barcelona]. <http://hdl.handle.net/10803/673588>
- Cecilia Chen Janine MacLeod, A. N. (2013). *Thinking with Water*. McGill-Queen's University Press. <http://www.jstor.org/stable/j.ctt32b7pn>
- Desjardins, A., Key, C., Biggs, H. R., & Aschenbeck, K. (2019). Bespoke Booklets: A Method for Situated Co-Speculation. *Proceedings of the 2019 on Designing Interactive Systems Conference*, 697–709. <https://doi.org/10.1145/3322276.3322311>
- Desjardins, A., Wakkary, R., Odom, W., Lin, H., & Schilling, M. L. (2017). Exploring DIY tutorials as a way to disseminate research through design. *Interactions*, 24(4), 78–82. <https://doi.org/10.1145/3098319>
- Devendorf, L., Andersen, K., & Kelliher, A. (2020). Making Design Memoirs: Understanding and Honoring Difficult Experiences. *Conference on Human Factors in Computing Systems - Proceedings*. <https://doi.org/10.1145/3313831.3376345>
- Dolphijn, R., & Tuin, I. van der. (2012). *New Materialism: Interviews & Cartographies*. Open Humanities Press. <https://doi.org/10.3998/ohp.11515701.0001.001>
- Dorta, T., Kinayoglu, G., & Hoffmann, M. (2014). Hyve-3D: a new embodied interface for immersive collaborative 3D sketching. *ACM SIGGRAPH 2014 Studio*, 1–1. <https://doi.org/10.1145/2619195.2656325>
- Fox, S., Lim, C., Hirsch, T., & Rosner, D. K. (2020). Accounting for Design Activism: On the Positionality and Politics of Designerly Intervention. *Design Issues*, 36(1), 5–18. [https://doi.org/10.1162/desi\\_a\\_00571](https://doi.org/10.1162/desi_a_00571)
- Franz, J. (2023). "Sketch and Talk", Drawing lines between incarcerated humans, the interior, and "stuff". *Design methodologies for (well)-being in prisons, youth homes and psychiatric hospitals*

- [HDK-Valand – Academy of Art and Design, University of Gothenburg].  
<https://hdl.handle.net/2077/76386>
- Gamboa, M. (2022). Conversations with Myself: Sketching Workshop Experiences in Design Epistemology. *Proceedings of the 14th Conference on Creativity and Cognition, C\&C '22*, 71–82. <https://doi.org/10.1145/3527927.3531450>
- Gamboa, M. (2023). My Body, My Baby, and Everything Else: An Autoethnographic Illustrated Portfolio of Intra-Actions in Pregnancy and Childbirth. *Proceedings of the Seventeenth International Conference on Tangible, Embedded, and Embodied Interaction*, 1–14. <https://doi.org/10.1145/3569009.3572797>
- Gamboa, M., Ljungblad, S., & Sturdee, M. (2023). Conversational Composites: A Method for Illustration Layering. *Proceedings of the Seventeenth International Conference on Tangible, Embedded, and Embodied Interaction*, 1–13. <https://doi.org/10.1145/3569009.3572793>
- Geismar, H. (2014). Drawing It Out. *Visual Anthropology Review*, 30(22), 97–113. <https://doi.org/10.1111/var.12041>
- Goldschmidt, G. (1991). The dialectics of sketching. *Creativity Research Journal*, 4(2), 123–143. <https://doi.org/10.1080/10400419109534381>
- Goldschmidt, G. (2003). The Backtalk of Self-Generated Sketches. *Design Issues*, 19(11), 72–88. <https://doi.org/10.1162/074793603762667728>
- Goveia Da Rocha, B., Andersen, K., & Tomico, O. (2022). Portfolio of Loose Ends. *Designing Interactive Systems Conference*, 527–540. <https://doi.org/10.1145/3532106.3533516>
- Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, 14(3), 575. <https://doi.org/10.2307/3178066>
- Haraway, D. J. (2016). *Staying with the Trouble*. In *Making Kin in the Chthulucene*. Duke University Press. <https://doi.org/10.1515/9780822373780>
- Hwang, E., Kirkham, R., Marshall, K., Kharrufa, A., & Olivier, P. (2022). Sketching dialogue: incorporating sketching in empathetic semi-Structured interviews for human-computer interaction research. *Behaviour & Information Technology*, 1–29. <https://doi.org/10.1080/0144929X.2022.2113431>
- Koulidou, N., Wallace, J., Sturdee, M., & Durrant, A. (2020). Drawing on Experiences of Self: Dialogical Sketching. *Proceedings of the 2020 ACM Designing Interactive Systems Conference*, 255–267. <https://doi.org/10.1145/3357236.3395513>
- Mäkelä, A. (2011, May). Reflection and Documentation in Practice-led Design Research. <https://doi.org/10.21606/nordes.2011.009>
- Martinis Roe, A. (2018). *To become two : propositions for feminist collective practice* (J. Armin & S. Gibb, Eds.). Archive Books.
- Meiklejohn, E., Devendorf, L., & Posch, I. (2024). Design Bookkeeping: Making Practice Intelligible through a Managerial Lens. *Designing Interactive Systems Conference*, 35–49. <https://doi.org/10.1145/3643834.3660754>
- Milara, I. S., Georgiev, G. V., Ylioja, J., Özüdüru, O., & Riekk, J. (2019). “Document-while-doing”: a documentation tool for Fab Lab environments. *The Design Journal*, 22(sup1), 2019–2030. <https://doi.org/10.1080/14606925.2019.1594926>

- Noortman, R., Funk, M., Andersen, K., & Eggen, B. (2021). What Would Margaret Atwood Do? Designing for Utopia in HCI. Proceedings of the 24th International Academic Mindtrek Conference, Academic Mindtrek '21, 72–80. <https://doi.org/10.1145/3464327.3464344>
- Place, A. (Ed.). (2023). *Feminist Designer: On the Personal and the Political in Design*. The MIT Press. <https://doi.org/10.7551/mitpress/14269.001.0001>
- Puig de la Bellacasa, M. (2015). Making time for soil: Technoscientific futurity and the pace of care. *Social Studies of Science*, 45(5), 691–716. <https://doi.org/10.1177/0306312715599851>
- Rosner, D. (2020). *Critical Fabulations Reworking the Methods and Margins of Design*. The MIT Press.
- Sanches, P., Howell, N., Tsaknaki, V., Jenkins, T., & Helms, K. (2022, April 29). Diffraction-in-action: Designerly Explorations of Agential Realism Through Lived Data. Conference on Human Factors in Computing Systems - Proceedings. <https://doi.org/10.1145/3491102.3502029>
- Søndergaard, M. L. J., Campo Woytuk, N., Howell, N., Tsaknaki, V., Helms, K., Jenkins, T., & Sanches, P. (2023). Fabulation as an Approach for Design Futuring. Proceedings of the 2023 ACM Designing Interactive Systems Conference, 1693–1709. <https://doi.org/10.1145/3563657.3596097>
- Sturdee, M. A. (2018). Sketching as a support mechanism for the design and development of shape-changing interfaces. Lancaster University.
- Sturdee, M., & Lindley, J. (2019). Sketching & Drawing as Future Inquiry in HCI. Proceedings of the Halfway to the Future Symposium 2019, 1–10. <https://doi.org/10.1145/3363384.3363402>
- Tversky, B. (n.d.). What Does Drawing Reveal about Thinking? 7. Retrieved from [https://www.researchgate.net/publication/243783195\\_What\\_does\\_drawing\\_reveal\\_about\\_thinking\\_In\\_J](https://www.researchgate.net/publication/243783195_What_does_drawing_reveal_about_thinking_In_J)
- Tversky, B., & Suwa, M. (2009). Thinking with Sketches. In A. Markman & K. Wood (Eds.), *Tools for Innovation* (pp. 75–84). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195381634.003.0004>
- Vasconcelos, E., Andersen, K., & Wakkary, R. (2024a). The table: considering sketching as collective making. Proceedings of the 13th Nordic Conference on Human-Computer Interaction, NordiCHI '24. <https://doi.org/10.1145/3679318.3685490>
- Vasconcelos, E., Andersen, K., & Wakkary, R. (2024b). Who is holding the pen? Annotating collaborative processes. Proceedings of the 13th Nordic Conference on Human-Computer Interaction, NordiCHI '24. <https://doi.org/10.1145/3679318.3685401>
- Wallace, J., Rogers, J., Foster, J., Kingsley, S., Koulidou, N., Shorter, E., Shorter, M., & Trotman, N. (2017). Scribing as Seen from the Inside: The Ethos of the Studio. *Design Issues*, 33(3), 93–103. [https://doi.org/10.1162/DESI\\_a\\_00454](https://doi.org/10.1162/DESI_a_00454)
- Wright, A. L., Butt, M. L., Miller, V., Jacobs, B., & Ferron, E. M. (2023). The Use of Graphic Facilitation to Support Adherence to OCAP® Principles in Research With Indigenous Communities. *International Journal of Qualitative Methods*, 22, 16094069231190556. <https://doi.org/10.1177/16094069231190557>
- Yoo, M., Berger, A., Lindley, J., Green, D. P., Boeva, Y., Nicenboim, I., & Odom, W. (2023). Beyond Academic Publication: Alternative Outcomes of HCI Research. Designing Interactive Systems Conference, 114–116. <https://doi.org/10.1145/3563703.3591458>
- Yoo, M., Knight, L., Odom, W., & Berger, A. (2022). Storywork & Reciprocity: On the Design of an Audio Documentary that Extends HCI Research back to Participants. Designing Interactive Systems Conference, 1345–1357. <https://doi.org/10.1145/3532106.3533539>

Yurman, P., Juul Søndergaard, M. L., Pierce, J., Campo Woytuk, N., Venugopal Reddy, A., & Malpass, M. (2022). Venetian Drawing Conversations. *Creativity and Cognition*, 457–461. <https://doi.org/10.1145/3527927.3531207>

Zheng, R., Fernández Camporro, M., Romat, H., Henry Riche, N., Bach, B., Chevalier, F., Hinckley, K., & Marquardt, N. (2021). Sketchnote Components, Design Space Dimensions, and Strategies for Effective Visual Note Taking. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, CHI '21*, 1–15. <https://doi.org/10.1145/3411764.3445508>

#### About the Authors:

**Mafalda Gamboa** is a design researcher with a background in architecture, focusing on understanding design sensibilities and theory. She is soon finishing her PhD at Chalmers University of Technology and University of Gothenburg.

**Elvia Vasconcelos** is a design researcher whose work combines collaborative design research methods and sketching to engage more conversational and material ways of doing research together. They have recently completed a PhD at the Eindhoven University of Technology.