

Can't Touch This? Is This Touch? It's So Fluffy I'm Gonna Die!

Material and Tangible Research Methods in HCI

SABRINA BURTSCHER, Research Group HCI and Accessibility, Institute for Anthropomatics and Robotics (IAR), Karlsruhe Institute for Technology (KIT), Germany

KAY KENDER and JANIS MEISSNER, HCI Group, Faculty of Informatics, TU Wien, Austria

IRENE POSCH, University of Arts, Austria

ANGELIKA STROHMAYER, School of Design, Northumbria University, UK

Materials are multifunctional resources that can serve as data, methods, processes, and outcomes of Human-Computer Interaction (HCI) projects. In this **full-day in-person workshop**, we reflect on materials and tangible artifacts: how we use them in our practice, what they mean to us, what we criticize, what we dream of. Our aim is to support aesthetic expression and material sensitivity in HCI, and cement the importance of tangibility. Together, we will **co-create a zine** that will be published physically during the conference, and made available digitally after.

CCS Concepts: • **Human-centered computing** → **HCI design and evaluation methods; Interaction design process and methods**; • **Applied computing** → *Media arts*.

Additional Key Words and Phrases: Design, Materiality, Aesthetics, Tangibility, Making

1 MOTIVATION

Materials are important means of expression. People often turn to them whenever it is difficult to articulate their thoughts or to put their feelings in words. A meme or GIF can capture a nuance of attitude, mood or humor better than a sentence. The look and feel of a book cover tend to give readers an idea of the kind of content they can expect. And in HCI research, we use the expressiveness of materials to grasp things and getting in touch with complex topics.

There are many ways in which materials offer us lush spaces to conduct our research in (e.g. [2, 3, 18]). As rich means of expression, they enable us to articulate, think, explore, communicate and interact in nuanced ways. Materials are multifunctional resources. They can serve as data, method, process, and analytical aids to think "things" through. They are deeply entangled in social dynamics [11] and hold incommensurable capacities for configuring meaningful interactions with our participants [16]: for example as prompts for engagement, sources of provocation, as common ground between academia and the "real world", as boundary objects, or as symbols. Our use of materials in research often embodies a critique of the rigid forms and formats of established formalized text-centric methodologies [4]. Caring for the materials and artifacts¹ we use in research offers productive space for knowledge generation in form of material fabulations [14] and speculations [17] and places emphasis on aesthetics, as well as process. Thus, materials (may they be of a digital, physical or hybrid kind) can turn into critical methodological tools for resisting the ways that research is traditionally expected to be done.

Figure 1 offers visual examples from our work with different materials, the different purposes of research we used them for and the different experiences we have had with the richness of expressive materials: Sabrina designed and

¹We intentionally and explicitly want to focus on both materials and tangible objects in this workshop.

Authors' addresses: Sabrina Burtcher, sabrina.burtscher@kit.edu, Research Group HCI and Accessibility, Institute for Anthropomatics and Robotics (IAR), Karlsruhe Institute for Technology (KIT), Karlsruhe, Germany; Kay Kender, silvia-kay.kender@tuwien.ac.at; Janis Meissner, janis.meissner@tuwien.ac.at, HCI Group, Faculty of Informatics, TU Wien, Vienna, Austria; Irene Posch, ireneposch@gmail.com, University of Arts, Linz, Austria; Angelika Strohmayer, angelika.strohmayer@northumbria.ac.uk, School of Design, Northumbria University, Newcastle upon Tyne, UK.

used cards to engage participants in the sensitive topic of gender inequalities. Janis collaborated with a Men’s Shed by co-producing a brochure that served her data-collection and their promotion endeavors. Kay highlights the expression of care through the aesthetics of beautifully designed research booklets they received from a friend working on an investigative design project², compared to booklets they themselves made within the resource constraints and priorities of an academic research project. Angelika has used textile exploration and storytelling with women in difficult life situations to co-develop spaces of care, wellbeing, and inclusion in heritage organizations. Irene’s work on a functional embroidered computer critiques the dominant aesthetic of technology [13].



Fig. 1. Images of the examples named in the text, in order of appearance.

This workshop seeks to expand this showcase of material richness in our ways of doing HCI research. It is an invitation for other researchers to get more in touch with the materials in their work. As workshop organizers, we want to create an opportunity to collect diverse experiences of the versatile functions and expressive capacities of materials. We seek inspiration from sharing personal practices, discussing alternative approaches to research and thinking through ideas from out different standpoints. In line with our emphasis on material expression, we propose a hands-on session producing a material artifact in the form of a zine to document our discursive explorations of the day.

2 WORKSHOP ACTIVITIES

The workshop revolves around the collaborative creation of a zine [12] that will be distributed in print and digitally.

Pre-Workshop: Expression of Interest, “Page 1”. The selected participants’ submission is the basis for the workshop activities. We ask interested participants to share with us something about the tangible artifacts and materials of their work.

Workshop day. To kick off the workshop, participants will discuss their artifacts (which they already described in their “Page 1” submission) with one another, during a free-form *show & tell* session. After brief initial discussions and a coffee break, participants will be given time to speak about aspects of other participants’ presentations that resonated with them (*re-tell & re-mix*). These discussions will shape each participant’s “Page 2” for the zine. Additionally, organizers will take notes of recurring topics and themes, and suggest group topics for the afternoon session accordingly.

After lunch, participants can choose to join groups fitting their specific interests to work on their group pages for the final zine, based on discussing and sharing individual thoughts and ideas (*hack³ & create*). The organizers will provide crafting materials such as paper, textiles, gluing and cutting tools, as well as documentation tools such as cameras. Participants are invited to bring their own crafting material.

The afternoon includes another (optional) coffee break. In the final session of the workshop, participants will reconvene in the plenum to talk about the individual groups’ creations. The final session also includes time for wrap-up and co-ordination of future work.

²One Sheep for a Lifetime by Alexandra Fruhstorfer et al., <https://onesheepforalifetime.com/>

³Term chosen to make visible the re-configuration and appropriation of existing materials to fit our needs and preferences.

After the workshop, the organizers will create a zine based on the participants' individual and group contributions, providing a summary of the workshop. The zine will feature two pages per participant: the initially accepted submission and the page created during the workshop. In addition, each group in the afternoon will have created at least one page. The zine will be physically distributed to workshop participants, and in a small number, to other conference participants. The digital version will be publicly available, e.g., at the workshop website. Regarding next steps, the organizers intend to submit a summary of the workshop outcomes at the following MuC in the form of a full paper co-authored by workshop participants.

3 WORKSHOP MODE

As the workshop revolves around tangible and material research methods, we want to focus on on-premise interactions. However, if the need exists, we intend to facilitate remote attendance. If multiple participants want to join remotely, this means that they will be put together in one special interest group, which might cover a different topic than the one they would have preferred. This trade-off will be necessary as we can only support one hybrid working group with the available resources. It will also allow for easier communication between online and in-person attendees.

4 CALL FOR PARTICIPATION

In this full-day workshop, we will talk about tangible elements of our work: probes, assistive technologies, paper prototypes, design workshops, written text, videos, prototypes, etc. We want to reflect on tangible artifacts and materials, what they mean to us, what we criticize about them, what we dream of. Together, we will create a zine, supporting aesthetic expression and constructing an enjoyable physical artifact. Detailed information, prompt questions and a preliminary time table are available *on the workshop website*. We invite interested parties to submit one page (A4, one-sided) via *ConfTool* (*as track, select MCI-WS103*) until 11.59 pm on July 16, 2024 (AoE). The submission should include a brief self-introduction and description of a tangible artifact the participant could bring along. The artifact can be an object, images, a story, a problem, an idea, a drawing, or something else that relates to tangibility and research. The organizers will select up to 15 participants based on the relevance of their submissions. Submissions may be made in any language. We ask for translation of relevant text to German or English where applicable.

The workshop language will be English. At least one author of each accepted submission must attend the workshop and register for at least one day of the conference. Accepted submissions, content created during the workshop, and a summary by the organizers will together be published in a zine after the workshop. If you have any questions, do not hesitate to reach out to *muc-workshop@div.uber.space*.

5 ORGANIZERS

The organizers are sorted alphabetically by last name.

5.1 Sabrina Burtscher

Sabrina is a PhD student at Karlsruhe Institute of Technology, and holds a MSc in Media and Human-Centered Computing from TU Wien. Her thesis included creating a deck of cards representing a set of recommendations on how to make HCI research more inclusive ([1]). The card deck was created based on the assumption (and observation) that people think differently when they have something tangible to keep their hands occupied and their minds focused. Her PhD research will study support technologies for neurodivergent workers, centering their needs, preferences, and self-determination.

5.2 Kay Kender

Kay holds a Master's in industrial design from the Design Investigations studio at the University of Applied Arts Vienna. Previous projects they have worked on include social design with housebound participants⁴, participatory design with neurodiverse groups of elementary school children [6] and speculative design crippling assistive technologies [7]. Kay's PhD project examines Design Power and social media, and reflects their ongoing issues with the drop of importance of aesthetics (in every meaning of the word) in academia compared to design work outside academia [5].

5.3 Janis Meissner

Janis is a postdoc researcher at the HCI research group of TU Wien. She obtained her doctoral degree in Digital Civics at Open Lab (Newcastle University) and holds a MSc in Media Informatics. Her research explores productive creative practices of non-expert technology users and their ways of meaning-making with digital tools - such as yarnbombers engaging in activism with knitting needles and online platforms [8]; people with disabilities using 3D-printers for 'empowering hacks' [9, 10]; charity workers, service users and quilters creating a touch-interactive e-textile blanket [15]; organizers and users of a Men Shed combining traditional craft skills with new digital technologies.

5.4 Irene Posch

Irene Posch is Professor at the Department of Design and Technology at the University of Arts Linz, Austria, where she directs the Crafting Futures Lab. Her research and practice explore the integration of technological development into the fields of art and craft, and vice versa, and social, cultural, technical and aesthetic implications thereof. She has previously co-organized workshops at CHI, PD, and TEI.

5.5 Angelika Strohmayer

Angelika is an Assistant Professor and co-lead of the Design Feminisms Research Group at Northumbria University's School of Design. Her research explores material co-exploration with community groups. Often, her work relates to the design, facilitation, and reflection on support services for people in difficult life situations (e.g. homelessness, experiences of interpersonal and systemic violence, engagement with the criminal system). Ultimately, she is interested in how these co-produced material explorations can facilitate inclusion in exclusionary spaces and decisionmaking rooms, as well as movements towards more socially just worlds.

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⁴<http://kaykender.de/1070-unseen/> – Non-academic project for the Vienna Design Week.

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