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Designing with the Body in Unhabitual Movements using Visual and Textual Elicitation Tools

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ABSTRACT

The goal of this studio is to explore the qualities of unhabitual body movements to inform the design of close-to-the-body touch technologies. After engaging with unhabitual kinesthetic activities, we will use visual and textual elicitation tools to communicate emerging felt sensations. We propose the use of photography as an open-ended visual medium and a repertoire of textural metaphors as a textual tool - a vocabulary list of felt qualities that will be extended through the participants' contribution. We will then collectively explore how these expressions of felt sensations can be translated into concrete design elements via tangible design ideation and making.

KEYWORDS

Unhabitual experience, touch technology, soma design, elicitation tools, kinesthesia

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1 DETAILED PROPOSAL DESCRIPTION

1.1 Introduction

Designing with the lived body has gained increasing interest within the HCI and interaction design communities, taking a more holistic and situated account to understanding the experiences we are designing for. One salient approach in this context is soma design [9], an approach to interactive technologies based on somaesthetics theory [24]. During a soma design process, designers actively involve their soma, which encompasses their *bodymind*, sensations,

emotions, perceptions and values, intertwined with sociocultural and political surroundings [12]. The premise of soma design is that by thinking 'with' and 'through' their bodies, designers can create engaging interactive experiences for users [9, 11].

Non-habitual bodily activities have been incorporated into soma design processes as a catalyst for inward attention and as a way of accessing nuanced experiential qualities [9]. In the everyday flow of experiences, we are often not aware of our bodies, unless unusual, disturbing, or unexpected events disrupt them. Likewise, unhabitual bodily sensations provide designers with opportunities to unearth somatic insights valuable for designing interactive technologies, by bringing immediate visceral attention to neglected body parts [26, 30] and by making mundane movements *strange* [33]. Unhabitual bodily activities have also been designed for since they afford the development of new bodily perceptions and long-term cultivation of bodily awareness [16, 17, 25, 25, 30, 32].

In this studio, we will explore somaesthetic sensations and bodily knowledge emerging from unhabitual movements, and how the engagement with these sensations can be facilitated through novel kinesthetic and tactile modalities of interactive technologies. This studio builds upon the body of HCI work on tactile qualities that are not pleasurable, amiable, or desirable [2, 3, 18, 29]. First-person felt experiences emerge at the pre-reflective level [6]. It is by reflecting upon them that we can access a detailed account that informs our design processes. To reveal these hidden dimensions, this studio offers elicitation tools similar to [21]. When combined, visual and textual elicitation tools complement each other to illustrate the versatile aspects of felt experiences [5]. More specifically, this studio proposes participants to use photography [8, 15] as a visual elicitation tool, complemented by a repertoire of textural metaphors. The repertoire of textural metaphors is an open-ended collective list of vocabulary to assist the translation of felt qualities into tactile qualities for design.

1.2 Proposed Activity

The studio will entail three activities: (1) unhabitual kinesthetic body activity; (2) elicitation of emerging felt sensations and reflection activity; (3) tangible design ideation and making activity.

Prior to the studio, participants will be asked to reflect on their own practice of unhabitual bodily exercises using photography as a submission for participation. They will be asked to observe their experience of engaging with a particular kinesthetic practice that

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is outside of their daily routine (e.g., physical exercise, dancing, yoga, conscious breathing, etc). They can carry out one session of this activity for a few minutes or for a day, observing their somatic experience. Based on this observation, they will create and submit a collage piece consisting of a photograph and some words reflecting on their felt sensations and experiences. This is to sensitize participants to their bodily sensations in kinesthetic engagements and familiarize them with the photography and textual elicitations of felt experiences so that we can carry out more in-depth reflection and exploration in the studio.

The unhabitual bodily activity will be facilitated by the first two co-authors who will prompt participants to deeply engage with unfamiliar bodily sensations that correspond to normally neglected body parts. The first author is a certified yoga instructor and the second author is a long-term somatic practitioner engaging with dance and yoga. The activity will be a combination of yoga movements and practices using a tennis ball as a simple probe. To attend to individual somatic differences [12, 29], the participants will be told that they may withdraw at any point without providing a reason if they find certain movements overly uncomfortable.

Following the unhabitual kinesthetic activity, participants will employ photography and the repertoire of textural metaphors for eliciting the felt bodily sensations. This reflection activity will be conducted by the third author who has extensive experience in the facilitation of introspective methods. The studio offers visual and textual media as complementary elicitation tools that can reveal different aspects of felt experiences. The studio employs photography as a medium beyond solely capturing found objects, textures, or surroundings. Instead, we will explore how through capturing made and found objects, subjects, textures, and surroundings, one can reflect upon the felt qualities of one's own bodily experiences. Additionally, the repertoire of textural metaphors will be used as a textual elicitation tool. This is an open-ended vocabulary list created by the first two co-authors, and inspired by the works of [13, 31] and McGill's pain scale [19]. Participants will use these metaphors to verbally elaborate on their felt experiences and will collectively contribute to the extension of the repertoire during and after the studio.

As a final activity, we will probe the creative potential of unhabitual and even slightly challenging kinesthetic sensations through the following tangible design ideation and making activity. Participants will use their photos and textual reflections to inspire their design ideation, exploring how these unfamiliar felt sensations can be translated into tactile qualities. Participants will work in pairs to speculate on possible concepts of a touch technology that either facilitates unhabitual kinesthetic engagement or reenacts the sensations that emerge during the kinesthetic activity. For this tangible design ideation, they will use drawing materials, crafting materials (e.g., yarns, threads, scraps of fabric, silicon pieces), off-the-shelf training tools (e.g., resistance bands, heat/cold packs, massage balls, yoga rings, etc) and the Soma Bits toolkit [34] brought by the organizers. Through interweaving different tactile and kinesthetic qualities, the design activity and its outcomes will open up a space to reflect on the process of translating first-person somaesthetic sensations into third-person tactile experiential qualities [3, 4, 10, 14, 25, 27].

2 GROUNDING IN THEORY

Engaging with unhabitual bodily movements has been employed to reconnect with the body [32], improve somatic knowledge [11], and as a design ideation method [17] for the creation of embodied bodily interactions. Such design approaches aim at understanding the lived aspect of bodily experiences to promote bodily awareness. These approaches are mainly based on phenomenology and somaesthetics as theoretical background, which discuss human beings as sensory subjects that experience the world through a body [20, 23]. Humans develop an understanding of the world and of themselves through these bodily experiences of being and living in the world. Hence, in developing a comprehensive insight into lived bodily experiences designers may address the sensory body to augment bodily awareness.

Elicitation tools, on the other hand, can aid the explication of first-person experiences and make them graspable. Various tools have been employed for the documentation of such experiences, e.g., body maps [1, 21], journals [7], plasticine [21], trajectories [28], and video [7]. These tools were employed both by researchers and participants. Photography, on the other hand, has been mostly used by researchers to articulate and illustrate the felt experience of participants. For instance, to design a visual language of chronic pain, photography artists created a photo series inspired by the felt experiences of chronic pain patients [22]. Additionally, photography has been applied by the researcher in communication with the tangible body maps to capture images associated with the felt experiences of participants [21]. Due to its form of representation, photography can stimulate memories and feelings [8] that may help designers and participants to recall their bodily experiences during the design process.

3 MATERIALS TO BE EXPLORED

We will use low-cost, easily accessible materials to support bodily activities and reflection. These include tennis balls, plasticine, colored drawing pens, pencils, paper, scissors, glue, and any kind of material that can be used for creative expression. Participants will use their own mobile phones for taking photos, which will be printed in the venue for collage work. For virtual events, we will use the Miro platform¹ to upload the photos, and participants can use any software tool to view the photos. Additionally, they can replace some materials with materials at home, e.g. homemade dough as plasticine, or old magazines or newspapers as paper.

For the tangible design activities, the organizers will provide the materials, including off-the-shelf products and the actuation design toolkit, Soma Bits [34]. In case of a virtual event, this activity will be adjusted so that participants can use readily available materials and Wizard-of-Oz actuation technologies. Participants will present their design concepts on the Miro board.

4 LEARNING GOALS

Participants will be introduced to the unhabitual and challenging kinesthetic practice that can be applied to various kinds of movement practices for unusual bodily engagements. They will learn and experiment with visual and textual elicitation tools to reflect upon and communicate their felt experiences. They will then work

¹<https://miro.com>

in pairs to ideate on the possible design applications that may facilitate the evoked sensations during the exercises using their visual and textual reflections. Accordingly, participants will learn:

- How to pay attention to the bodily experiences via unhabitual and challenging kinesthetic practices and how to incorporate them into their design processes
- A hands-on experience on methods to incorporate open-ended visual and textual tools for eliciting felt experiences and interweaving materials into the practice of photography for visual expressions
- Ways of employing visual and textual documentation of felt experiences for design ideation and making, where they will learn how these felt sensations can be materialized into tangible design concepts.

5 SCHEDULE

- Introduction of organizers and participants. Participants will introduce their interests and a kinaesthetic activity they engage with.
- Bodily Activity
- Reflection activity using photography and the repertoire of textural metaphors
- Presentation of the reflection
- Tangible design ideation and making, focusing on kinesthetic and tactile sensations
- Presentation of the design concepts
- Overall reflection on the studio and wrap-up

6 PLANS FOR THE VIRTUAL CONFERENCE

The studio is planned to be a one-day event that lasts 5.5 hours. The studio is planned to be held in-person since participants' bodily engagement with diverse tactile and kinesthetic qualities is key. If the conference goes fully online, we will propose a fully virtual event and adjust the schedule according to participants' locations. We will avoid a hybrid format because the activities require full bodily concentration for the organizers, to make sure participants safely practice the movements.

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