

Embodied Design Ideation: analysis, estrangement and practice.

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ABSTRACT

Embodied design ideation (EDI) practices work with relationships between body, material and context to enliven design and research potential. Methods are often idiosyncratic and – due to their physical nature – not easily transferred. As independent researchers, and as collaborators, we have been engaging with this problematic for some time. At CHI2017 we will present a framework that enables designers to understand, describe and contextualise EDI practices in ways that can be understood by peers, as well as those new to embodied ideation. Our framework affords discussion of embodied design actions that leverage the power of estrangement. In developing our framework we engaged with numerous researchers who use estrangement as a key activator in embodied design ideation. We thus bring to the workshop (1) a framework to understand and leverage the power of estrangement in embodied design ideation, (2) our individual approaches to EDI, developed over many years of research practice and (3) an inspirational catalogue demonstrating the diversity of ideas that EDI methods can foster.

Author Keywords

Embodiment; ideation; design research; design methods; disruption; estrangement.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

With the computer's outward reach [10] now manifested in tangibles, wearables, virtual, augmented and mixed realities, and increasingly also through Internet of Things, the role of the body has become key in design ideation. This shift has resulted in an increase of methods designed to ensure the perspective of the mobile body (c.f. [17, 15, 18]). The challenge of such methods is to address the mundane and the intimate, to inspire new forms of interactions and new forms of design. They are often idiosyncratic, developed by a specific designer-researcher over years of practice, the underlying expertise and emergent knowledge tacit, rather than explicit. These characteristics make it difficult to bring EDI practices into an articulate space, such that they may be replicated, changed or easily transferred.

Over the past twelve months we have been studying best practices within *embodied design ideation* (EDI) and based on that developed a framework to analyse, build on and

share its methods (c.f. [22, 25, 27]). The framework can assist designers and design researchers to navigate the myriad of existing EDI possibilities, to help them better understand the inherent values of their own and others' practices, to help them articulate how and why they perform the tasks they do, and it aids in the development of new methods.

Articulating the underlying questions, contexts and actors that shape Embodied Design (and therefore, EDI), and finding new ways of sharing their implementation, is key to a better standing within the design research community to ensure the necessary critical and reflective engagement with existing practice and theory moving forward. We therefore hope to participate in the SOMA workshop. We thus lay out, here, our understanding of the complex terrain of Embodied Design (ED), then provide insight into each of our positioning within this terrain.

EMBODYING ESTRANGEMENT

ED enables all of a person's senses to be leveraged in an emergent design space. It draws on phenomenology [11, 12, 19] and related theoretical frameworks such as pragmatist aesthetics [5, 21], embodied cognition [24] and embodied, embedded and enacted minds [2, 3, 7, 8, 9, 13]. ED encompasses ideation, speculation, engagement and analysis, as well as, embodied interaction [6]. Our focus, here, is held on Embodied Design Ideation (EDI).

EDI typically relies on *estrangement* to enliven the ideation process and bring new ways of designing into being. By drawing on design researchers' and participant's first-person experiences throughout the design process, EDI affords enriched opportunities for knowledge generation and experience creation.

Merleau-Ponty [19] describes phenomenology as a "style of thinking", a "re-learning to look at the world" an attempt to "bring back all the living relationships of experience." To "re-learn" how to look at the world most, if not all, EDI researchers bring the body into situations that turn the familiar upside-down as means to enable reflection on the intimate and the tacit [1, 14, 23, 26]. These are strategies of estrangement. Estrangement has been used as a basic strategy in artistic expression, ethnography and design, throughout the twentieth century [1, 4]. It is epitomised in the surrealist slogan "making the ordinary extra ordinary" [16], and can be understood as what Russian Formalist Art critic, Viktor Shklovsky, describes as the "artistic-poetic

power of defamiliarization” [20]. The concept of estrangement is centred on the idea that the act of experiencing something occurs in the moment of perception and that the further you confuse or otherwise prolong the moment of arriving at an understanding, the deeper or more detailed that understanding will be.

DISRUPT – DESTABILISE – EMERGE – EMBODY: ANALYSING EDI

Estrangements in EDI methods take on many forms and provoke many different kinds of thinking. We therefore have further unpacked the concept of estrangement as means to describe how it functions as a component of different EDI methods, and to discriminate between them and their outcome type. As it plays out, estrangement entails some sort of act to disrupt the familiar. Significantly, in EDI, what it destabilises may not be in the same medium as what it disrupts. For example, a disruption might set constraints on how a person moves around in space, but what it destabilises might be their perception, rather than their tactile experience of that space. What emerges in this example pertains to new ideas or concepts of how to engage with that space. Thus, based on our analysis of practiced methods, we formulated the following questions:

What is done to *disrupt* the usual way of doing [something] or the current state of affairs?

What physical or conceptual elements are added to or taken away from the body or the action?

What is *destabilised* by this disruption?

What norms, traditions, structures, or systems become – conceptually or physically – unstable?

What *emerges* from this destabilisation?

What does it bring into awareness? How is the previous landscape altered?

What does this entire process *embody*?

What idea, quality, or feeling does the process give tangible or visible form to?

To further clarify how these questions are to be understood we looked to formal (OED) definitions of the key words:

- To *disrupt* is to prevent a process or an event from continuing as usual or as expected. A disruption acts in a temporal context.
- To *destabilise* is to render a system or a structure unstable. A destabilisation acts in a structural or systemic context.
- To *emerge* is for something to come out of something or from behind something.
- To *embody* is to express, or give a tangible or visible form to (an idea, quality, or feeling)

Indeed, a disruption is an event in time that temporarily or permanently destabilizes (something) and from this destabilization something new emerges. When you throw a

stone into the water it is a disruption that destabilizes the surface and from this a pattern of ripples emerges. The disruption can be physical (e.g. the throwing of a stone) or conceptual (e.g. a new procedure); what it destabilizes can equally be physical (e.g. the water) or conceptual (e.g. perception of a practice); and finally what emerges can be ideas for new physical designs (e.g. vibrating clothing) or for designs grounded in new values or desires (e.g. embodied communication).

The final question of what this estrangement process embodies is posed to give a sense of the domain in which the method operates, and thus provide a hint as to what the outcome will be. Identifying the domain will help clarify the genre of theories and related work needed to analyse the outcome of the method. Thus, it aids in the articulation of a research contribution.

Our desire, in the workshop, is to expose our framework to the scrutiny of the participants: to further test and critically analyse the explanatory and analytical power of the EDI framework. We have found it has merits in our own work, and among our graduate students, but are interested in more feedback from the community. We welcome contributions of our peers to strengthen our offer.

WHO WE ARE

Danielle Wilde is associate professor of Embodied Design at the University of Southern Denmark. Her research is investigates the role of embodied knowing throughout the design process. She uses *thinking-through-making*, *-moving* and *-doing* to access the rich possibilities afforded by engaging the body through the imagination, and the imagination through the moving, sensing, thinking body.

Anna Vallgård is Head of the IxD lab and Associate Professor at the IT University of Copenhagen. Her research is focused on developing Interaction Design as a material practice. She understands the computer as a material for design and experiments with it as such with the aim of creating new material expressions for computational things.

Oscar Tomico is head of the design engineering bachelor at ELISAVA, and Assistant Professor at Eindhoven University of Technology where he collaborates with the Wearable Senses Lab. His current projects focus on designing soft wearables, with a specific interest in the impact the relation between the body, context and material has in the design process.

CONCLUSION

Idiosyncratic methods and approaches to Embodied Design continue to add to the canon of existing repertoire. But this is not enough to build a coherent community of practice. Calls for a shared set of understandings, better connections between theory and practice and, the need for the formation of a coherent community are increasing [2, 30, 49, 58, 72]. We applaud this current gesture to support the formation of a more coherent community of embodied design researchers and hope to actively participate.

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