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Third Workshop on Design Research & GenAI

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From Dead-ends to Dialogue: Third Workshop on Design Research & GenAI

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Abstract

In this third installment of our GenAI workshop series at DIS, we focus on 'stopsigns'—the blockages that impede progress in design research with GenAI. These stopsigns manifest as both semantic barriers (political, social, or mental frameworks) and pragmatic hurdles (technical limitations or implementation challenges) that persist despite the rapid advancements since the GenAI boom. Such stopsigns present a productive tension—they often contain partial truths worthy of consideration while simultaneously being short-sighted in ways that prevent progression. From blanket rejection to uncritical acceptance, these barriers affect how meaningfully we engage with GenAI's potential. Our workshop welcomes both returning and first-time participants to share their experiences with these persistent challenges and work together to develop practical solutions. Through analysis of real cases and hands-on activities, we'll build strategies for moving beyond these obstacles while acknowledging their legitimate concerns. Our goal is to foster more thoughtful integration of GenAI in design research and practice.

CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI)**; **Interaction design**.

Keywords

generative artificial intelligence, design research, creative practices, computational creativity, design methods

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1 Background and Motivation

Generative artificial intelligence (GenAI) dominates contemporary discourse—it's the zeitgeist, the perpetual headline, the topic that has transformed every coffee break into an impromptu tech summit.

These discussions often revolve around "big narratives": AI as a threat to humanity, as a solution to global challenges, as a force of disruption, or as a replacement for humans [21]. While these narratives have sparked debate and interest, they can function as 'semantic stopsigns' [34]—conceptual framings that oversimplify complex issues, providing an illusion of resolution that hinders deeper inquiry [35].

One example is the refrain that "AI will make students lose essential thinking skills," which may lead educators to ban GenAI outright in their classes. However, research suggests the opposite: when students actively engage with AI technologies in educational settings, they develop more critical perspectives and deeper understanding of both AI's capabilities and limitations [37]. By avoiding AI entirely, educators miss the opportunity to guide students through this journey of critical engagement—leaving them unprepared for the technology they will inevitably encounter beyond the classroom [39].

While we as designers similarly get stuck on such semantic stopsigns, we also encounter *practical* stopsigns that stall design progress in real-world contexts. Although we have broadly answered questions like, "Can GenAI be used to support ideation?", we still struggle with how to deal with more nuanced challenges—such as the limitations of using large language models (LLMs) for transcribing interviews in design research projects, or the uneasy, even "dirty" [26] feeling that arises from automating humanistic processes. These challenges reflect what researchers have termed the 'ironies of AI' [18, 49]—where implementation leads to unexpected contradictions, such as increased cognitive load from evaluation tasks and workflow disruptions, rather than the promised reduction in workload. Reflecting on insights from our previous GenAI workshops [53, 54], we see these same ironies persist despite technological advancements and increased adoption of GenAI. This enduring "stuckness" suggests a deeper tension between the allure of automation and our ethical or creative comfort zones—one that, without focused attention, may continue to block thoughtful GenAI integration in design.

The need to move beyond these barriers is particularly critical for design research as they already shape how we approach GenAI—from curricula that overemphasize technical skills or avoid AI entirely [28, 58], to organizations that adopt new AI tools too hastily or dismiss them outright [19, 41]. Without more nuanced, practice-oriented approaches [29], design technologies risk being steered solely by market forces rather than thoughtful deliberation of research needs and ethical implications [25]. Yet, as we take these broader societal halting mechanisms and persistent practical challenges together, it becomes evident that while there is a clear desire to move beyond them, the path is far from straightforward.

To address this multilayered challenge, we embrace *critical optimism* as our guiding perspective [7]. Applied to GenAI, this mindset, or "posture" [3], holds that meaningful understanding of GenAI emerges through hands-on engagement—experimenting, playing, prototyping, and embedding these technologies into design practice [50]. Rather than adopting uncritical acceptance or wholesale rejection, critical optimism encourages designers to probe new technologies directly while remaining alert to their effects, limitations, and broader social contexts.

In our 2024 workshop, we asked whether design research was 'dead' in the age of GenAI. Now—echoing DIS 2025's focus on sustainable oceans—we dive deeper to establish a more sustainable relationship between design research and GenAI, one that can thrive beneath surface-level tensions. This workshop creates a collaborative space where design researchers and practitioners can bring forward the challenges they face in their GenAI work—whether these are conceptual barriers or practical implementation hurdles. Together, we will examine these challenges in depth and work to develop concrete strategies for overcoming them. Through structured activities and group discussions, we will analyze both the theoretical "semantic stopsigns" that halt deeper inquiry and the day-to-day practical challenges that impede implementation. We will collect exemplars of critical optimism in practice—documenting how researchers successfully engage with, reframe, or move past common barriers. By collectively developing solutions and creating shared resources from these experiences, we aim to help participants move beyond their current impasses toward more effective and nuanced engagement with GenAI in their work.

2 Related Work

2.1 GenAI & Design

Generative AI has rapidly expanded its footprint in diverse design processes—from architectural prototyping [32] and automated user interface generation [60] to algorithmic fashion design [12, 23] and the design of human-robot interaction [27]. This proliferation is driven by new AI architectures, including diffusion models and LLMs [61], that support multimodal creativity and more sophisticated *co-creation* scenarios [15, 22, 62]. Advocates highlight time savings and the possibility of "faster ideation" [9, 11, 13], envisioning a future where designers focus on higher-level concerns while (Gen)AI handles repetitive or exploratory tasks.

Yet, debates persist over whether GenAI "truly" reinvents design practice or primarily reuses patterns from training data [38]. Critics warn that data-driven systems can embed biases or perpetuate dominant stylistic norms [1, 5, 8, 10, 14, 46, 57], raising questions about genuine creative innovation [4]. This tension intersects with ethical and legal concerns: AI outputs can reproduce or transform copyrighted materials without explicit consent [16, 47], stoking ongoing debates around fair use and IP infringement [17, 44]. At the same time, critics emphasize GenAI's significant resource footprint [36, 51], adding environmental harm to the list of pressing issues [2, 33].

2.2 Semantic Stopsigns

In other words, GenAI introduces real, pressing challenges around sustainability, skill development, intellectual property, labor displacement, and so forth [18, 49]. However, they can easily become oversimplified into what we refer to as "semantic stopsigns": catchy, reductive statements that *halt* deeper engagement by framing the topic in absolute terms [56]. Instead, these narratives can serve as points of inquiry.

For example, consider the controversy surrounding *Zarya of the Dawn*. When illustrator Kris Kashtanova applied for copyright protection for her AI-assisted comic book, the U.S. Copyright Office revoked the registration on the grounds that only works of pure

human authorship can be copyrighted [31]. Kashtanova argued that, although the images were generated using Midjourney [40], the act of composing the narrative and assembling the final work was entirely human. Three years later, the Copyright Office has now formally recognized this principle, establishing that while AI-generated elements themselves are not copyrightable, the creative selection, coordination, and arrangement of such elements with human-authored content can indeed qualify for copyright protection [52].

Another example is the mass adoption of *Deepseek R1*, which challenges the "AI is environmentally unsustainable" stopsign by demonstrating that models can be built with relatively low resource footprints [24]. Its adoption prompted major stakeholders, including OpenAI, to follow suit by reducing computational and energy costs per task [20]. While this does not negate or fix the *very real* environmental costs of many AI systems being put to use in many contexts of the society simultaneously (resulting to a rebound effect), it does show that design interventions can meaningfully shape the ecological impact of individual AI systems. Together, these examples demonstrate how apparent stopsigns in GenAI adoption can be transformed into opportunities for deeper investigation and practical solutions.

2.3 GenAI Workshops

The proliferation of GenAI-focused workshops at HCI and Design conferences reflects the research community's growing engagement with generative AI's human implications. These workshops vary in scope and emphasis: GenAICHI 2023/2024 [42, 43] serves as a broad forum examining human-AI interaction patterns, ethical frameworks, and collaborative paradigms. More specialized venues include a CHI2023 workshop dedicated to AI-enabled collaborative ideation [48], while HAI-GEN specifically addresses the integration of deep generative models in human-AI co-creation processes [59]. Additionally, a NordiCHI2024 workshop [45] explored practical applications through its focus on AI-assisted design tools and their implications for design processes, while the Computational Creativity Workshop [30] provided a platform for early-stage research and position papers on co-creative systems.

This workshop builds on these workshops but also occupies a unique space between other initiatives by taking a focused approach to persistent challenges. As design researchers, we are uniquely positioned to serve as a "rapid response methodology" [6], engaging with emerging AI practices while broader societal and regulatory frameworks are still being negotiated. The two previous workshops in our series have built a foundation for this work. Our first workshop at DIS2023 [55] led to the emergence of key themes in GenAI design research through participant discussions and presentations—particularly around authorship, agency, transparency, and human-AI collaboration. Leveraging these insights, our second workshop [53] explored these themes more concretely, with researchers sharing experiences of using AI as a reflective design partner and critical thinking catalyst. Yet despite these rich discussions within our workshop community, we observed how these same challenges often manifest as semantic stopsigns in the broader community—halting implementation before deeper engagement can occur. Therefore, this third workshop aims to directly address these persistent barriers by developing practical strategies for moving past them.

3 Workshop Goals

Building on our understanding of semantic stopsigns, we aim to empirically examine how these conceptual barriers and implementation challenges affect design practice with GenAI. For example: When do reductive framings lead to non-use?; How do organizational policies constrain adoption?; What are implementation challenges that technical advancements in GenAI have not resolved? Rather than simply documenting these instances of "stuckness," our goal is to develop practical strategies for moving past them. While common examples include concerns about AI ownership or resource constraints, **we are particularly interested in the unique challenges participants** have encountered in their own work—especially those that move beyond broad investigations like "Is GenAI applicable to design?" to specific implementation challenges like "What are the challenges of using LLMs for transcription in a design research project?; or "How can design researchers ethically navigate attribution when publishing work that incorporates AI-generated elements?"' These granular, practice-based challenges often reveal nuances that broader discussions miss. Through collective analysis, participants can develop new strategies for their own practice while contributing to our broader understanding of effective GenAI integration in design research.

To keep the workshop grounded in lived practice, we invite every participant—whether returning or first-time—to bring a concrete example of working with Generative AI that ran into a "stopsign." The artifact can be anything: a polished prototype, a half-finished experiment, a speculative probe, or an instructive failure. During the workshop, participants will have the opportunity to share their work and insights in whatever format works best for their material, whether a short presentation, interactive demo, or theater performance. For submission, we only require you to complete a template prompting several questions that will fuel the workshop's discussion. These include but are not limited to:

(1) Describe a **real-world scenario** where you encountered a conceptual, ethical, social, or practical impasse while using GenAI for design or research
(2) Reflect on **what caused the stop** (e.g., a strong conviction about AI's harms, an organizational policy, concerns about authorship, or a technical limitation)
(3) Explain **what you've done** about it—perhaps you abandoned GenAI altogether, or you're still experimenting with ways to move forward
(4) Identify **what you hope to learn** from the workshop (e.g., new strategies, alternative viewpoints, or connecting with others facing similar challenges)

4 Anticipated Outcomes

The workshop offers both immediate and long-term benefits for participants. Immediately, participants will gain practical strategies and conceptual frameworks for navigating semantic stopsigns in their own GenAI work. As part of our ongoing workshop series and broader research community, participants will join an active Slack channel that has already sparked several joint publications

and research projects examining how designers can thoughtfully integrate GenAI technologies. Workshop participants will be invited to contribute to our upcoming paper on semantic stopsigns in design research (preprint available [56]), providing an immediate opportunity to shape the discourse around these important challenges.

Through participants' workshop submissions, we will have a rich collection of real-world encounters with semantic stopsigns in design research and practice. During the workshop, we will collectively work through these cases to develop deeper understanding and practical approaches for moving past them. This collaborative analysis will naturally reveal opportunities for joint research projects that address GenAI in design practice and research through a critically optimistic lens, moving beyond current barriers to explore thoughtful and ethical integration of these technologies.

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