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# DEATH OF THE DESIGN RESEARCHER? EARLY REFLECTIONS ON GENAI CHAOS

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WORK IN PROGRESS

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## ABSTRACT

The emergence of generative artificial intelligence (GenAI) presents both exciting opportunities and complex challenges for design research. Drawing inspiration from Roland Barthes' "The Death of the Author," this paper explores the implications of GenAI on design practices, authorship and agency, alignment and transparency, and environmental and social sustainability. By critically examining these themes, we aim to promote dialogue and collaboration within the design research community to guide the responsible integration of GenAI. We argue for the development of frameworks, methods, and infrastructures that prioritize ethical innovation, mitigate potential harms, and support inclusive, equitable, and sustainable design practices. As GenAI continues to evolve rapidly, we emphasize the importance of ongoing research, cross-disciplinary collaboration, and engagement with diverse communities to shape its future in design research.

**Keywords** generative AI · design research · authorship · agency · sustainability · ethics

## 1 Introduction

In his seminal essay, "The Death of the Author," [Barthes \(1967\)](#) challenged traditional notions of authorship, arguing that the meaning of a text is not solely determined by the author's intent but also by the reader's interpretation. As designers and design researchers, we find ourselves at a similar juncture with the emergence of generative artificial intelligence (GenAI) systems like ChatGPT and Stable Diffusion. These tools present exciting opportunities to enhance and expand human creativity by enabling rapid ideation and iteration, potentially transforming design workflows and outcomes. However, just as Barthes questioned the author's authority, we must grapple with the complex ethical challenges that arise from the application of GenAI in the design process.

The implications of GenAI extend beyond the creative industries, as they have the potential to reshape both design practice and design research. While design practice focuses on the creation of artifacts and experiences, design research aims to generate new knowledge and understanding through the design process. As such, the integration of GenAI in design research requires a critical examination of its impact on research methodologies, knowledge production, and the role of the researcher.

Building on a workshop at the Designing Interactive Systems Conference held in 2023 ([Van Der Maden et al., 2023](#)), this paper explores the ethical challenges and opportunities presented by GenAI in design research. By focusing on areas such as authorship, agency, bias, and the future of human-AI interaction, we aim to promote research and discussion that can guide the responsible integration of GenAI into design moving forward.

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This article discusses some themes that may be necessary components in a future framework describing the use of GenAI in HCI-oriented design research. The motivation is twofold: first, to ignite a community-wide conversation about the use of GenAI in design research and second, to take tentative steps towards a usable framework. By “framework” in the context of this article, we can understand it as a more flexible, evolving set of guidelines and perspectives that aid in navigating the integration of GenAI in Human-Computer Interaction (HCI)-oriented design research.

As GenAI implementations develop rapidly, and its use becomes ubiquitous, considering its implications on how design research is conducted and communicated becomes increasingly important. Many of the questions we consider are cross-cutting and relevant to GenAI in multiple contexts, but in this article, we consider how they are relevant specifically to design research practice.

Questions we explore include: What types of design research can GenAI tools contribute to effectively? What is the significance of casting how GenAI is used in design processes in terms of being an assistant, a partner, a creator, or as a tool? What, if any, is the consequence of new complexities around authorship and agency, if GenAI is used in design research? How can we actively shape the rapidly evolving landscape of GenAI to orient towards aspirations of environmental and social responsibility? How does alignment affect the creative application of such tools? We address these questions under four main themes: 1) practices, 2) authorship & agency, 3) alignment & transparency, and 4) environmental & social sustainability.

We hope to engage others in understanding how to develop consensus relating to GenAI’s use within HCI-oriented design research. We believe dialogue is key in this, and hope that this article fosters collaboration in that dialogue. As GenAI’s features expand and are more widely adopted, our intention is to strive towards a framework that can encourage responsible yet effective use of GenAI in design research.

## 2 Practices

The practice of design research is undergoing significant changes, as it has throughout its existence. New tools, workflows, and technological advancements continuously shape the discipline’s focus and methods. However, the emergence of GenAI may represent a unique turning point. If the central concern of design is the “conception and realization of new things,” as famously defined by Cross (1982), then GenAI seems to strike at the very core of design research. With GenAI, the creativity of generating new ideas and the craft knowledge of delivering them appear to take place within transistors etched on silicon, rather than relying solely on the experience and knowledge of designers, craftspeople, and artists. The ability to conceive and realize new ideas has always been a uniquely human trait and is part of the distinctive value proposition of design and design research.

Historical examples, such as the printing press, CAD, and digital photography, demonstrate how new technologies can dramatically impact creative practices and industries. However, the question arises: is there something unique about GenAI and its potential impact on design and design research? A survey by *It’s Nice That* revealed that an overwhelming majority (83%) of creatives across various fields have already adopted AI into their working practices (Bourton, 2023). While the scale of adoption is remarkable, it is crucial to examine the consequences for design and design research. For example, Patrick Schumacher, the Principal at *Zaha Hadid Architecture* (ZHA), has openly discussed the company’s use of GenAI (DigitalFUTURES, 2023). Schumacher stated that they employ AI in most projects, as the technology extends the repertoire of tools available to their designers, which he considers a significant benefit. He also draws a parallel between the AI prompting process and traditional design meetings, as both involve taking descriptions of desired outcomes, going through an unpredictable process that references prior work, and ultimately resulting in novel ideas that provide *utility*. For ZHA, the ultimate measure of success in using GenAI for idea development will be the ongoing satisfaction of their customers and compliance with professional guidelines. However, as HCI scholars, we propose a broader perspective and ask: “What might this mean for design research?”

To explore the breadth of this question, we can consider three ways in which design and research intersect [Frayling]:

1. **Research into Design:** This area studies the design process itself, how designers work, and aims to understand the theories and history of design. Effort is needed here to investigate if and how GenAI—as well as AI in general—is changing the nature of design. Before the AI boom, Verganti, Vendraminelli, and Iansiti (2020) already noted that AI profoundly changes the practice of design by automating detailed problem-solving tasks and shifting the human role towards sensemaking and problem finding. This transformation brings about a fundamental change in the object and process of design, making it necessary for designers to focus on designing problem-solving loops rather than solutions themselves.
2. **Research for Design:** This encompasses any exploration and discovery that supports design processes, such as considering available materials, gathering related examples, or testing ideas through focus groups or user studies. Last year, researchers demonstrated how to generate qualitative data using AI, showing that it was

comparable to 'real' data (Hämäläinen, Tavast, & Kunnari, 2023). The idea of simulating user studies has enormous potential; however, the study also notes that their results undermine the use of self-reported data, as it may be impossible to distinguish between AI-generated and human-generated data.

3. Research through Design (RtD): This refers to when a reflective account of the design process itself serves as the primary source of research insights (Zimmerman, Forlizzi, & Evenson, 2007). A unique aspect of RtD's value often relies on the interpretive testimony of the designer. By providing designers with a quick way to create design concepts without the labor of creating and sketching them, GenAI has the potential to undermine this process, similar to the case of self-reported user study data.

In conclusion, the integration of generative AI and AI in general into design research practices presents a complex landscape of opportunities and challenges. While these technologies have the potential to revolutionize the way designers work, automate problem-solving tasks, and support various stages of the design process, they also raise critical questions about the nature of design, the role of the designer, and the validity of research methods. As we navigate this new territory, it is crucial that we proactively engage in a dialogue to identify and address the key questions that will shape the future of design research in the age of AI.

### 3 Authorship & Agency

Early on with GenAI, particularly with the rise of Stable Diffusion, issues around authorship became a topic of debate. For instance, mimicking Mickey Mouse images in artwork, despite being in the public domain, could lead to legal infringement. As such, many artists find their works imitated without legal repercussions. A well-known example is that of Greg Rutkowski, a renowned Polish illustrator, who had his name appear in AI image generation prompts 93,000 times in 2022 (Heikkilä, 2022), indicating widespread imitation. Similarly, cartoonist Sarah Andersen faced distress when her distinct style was mimicked, especially when her comics were adapted into inappropriate content by an Alt-Right group (Andersen, 2022). These issues of authorship are deeply intertwined with the way GenAI is developed and trained. Generative AI models rely on vast amounts of data that humanity has put on the internet and digitized from books. Essentially, the creativity of these models is fueled by data that originates from people. Therefore, any modality of generative AI is based on such vast data collections, reflecting the collective input of human creativity.

People developing human-AI co-creation tools and studying human-AI partnerships focus on metaphors that explain the nature of these partnerships and the gestalt of interactions with autonomous systems. Metaphors like a "butler" or a "coach" have been common in tools already. However, when one interacts with, for example, *ChatGPT*—a system that is based on the scraped data deluge from the internet, from books to subtitles or casual social media posts—it is hard to decouple from the idea that the training data has been made dominantly by other humans. In this situation, a more appropriate metaphor is "accessing humanity's knowledge" through a large language model. While the tone of voice, and conversational details can be covered with the interaction gestalt metaphors such as the "butler" or the "coach," when we "ask humanity" through the system, the answers are coming from a synthetic version of people's written thoughts. But these answers are also human; subjective, anecdotal, phrased authoritative or shy, essentially all the characteristics that make us humans. Metaphors eventually break, and this is no exception; however, looking at large language models as "asking humanity" excuses the system's hallucinations, misbehavior, etc. until a further point, where we ask the critical questions whether we find the answers credible, or would subject it to critical assessment that we also would do with claims from other humans.

As the use of GenAI in design research becomes more prevalent, it is crucial for the design community to grapple with these questions of authorship and agency. To return to Barthes, we can see that the rise of AI-generated content further complicates the notion of authorship. Just as Barthes argued that the meaning of a text is not solely determined by the author's intent but also by the reader's interpretation, the use of generative AI in design research raises questions about the role of the designer, the AI, and the collective knowledge it draws upon in shaping the final output. For design researchers, this presents a unique set of challenges and opportunities. The traditional concept of authorship becomes blurred, as the final output is a product of the designer's prompts, the AI's algorithms, and the collective knowledge it has been trained on. This calls for a nuanced understanding of authorship that acknowledges the distributed nature of creativity in the age of generative AI. Moreover, the question of agency takes on new dimensions. While designers can guide the AI through carefully crafted prompts and parameters, the system's outputs are ultimately shaped by the biases and limitations of its training data and the opacity of its algorithms. This raises concerns about the extent to which designers can claim creative control over the generated content and how this impacts their role in the research process.

## 4 Alignment

The rapid advances in GenAI, combined with growing concerns about possible AGI, have sparked widespread interest in “AI alignment”. This refers to the process of training AI systems to behave according to human intentions—for example, when you prompt DALL-E for a cat in a tuxedo, you expect to see precisely that, not an image of an elephant in a tutu. For designers utilizing text-to-image tools like Midjourney, DALL-E, and ChatGPT, alignment has complex implications for creative possibilities—opening up venues for research.

Take the leap from Midjourney’s version four to five, where the platform ‘revolutionized’ the interaction, demanding fewer words to grasp the user’s intent, thus enhancing the system’s “alignment.” However, this progress may also constrain the design space of Midjourney. Namely, the very act of aligning AI to a set of norms or expectations can impart a distinct, recognizable style across outputs, sacrificing the diversity that is the hallmark of human creativity. It introduces a pattern of uniformity that, while efficient, potentially curtails the organic, unpredictable nature of artistic innovation. For designers using these systems, it is imperative to ask the question of what the system they’re using is aligned to. Or more specifically, whose values were and still are central to the alignment process of these systems. Consider, for example, the pervasive whiteness of AI (Cave & Dihal, 2020). Relying heavily on western training data also hinders alignment with diverse cultural values and artistic traditions. This constrains creative expressions. A lack of diversity makes systems less receptive to different viewpoints and techniques. Designers have a key role in evaluating how alignment processes shape AI capabilities. Questioning the imposed boundaries allows unlocking more of the serendipitous “magic.” Guided by human creativity, not limited by it, GenAI can become a liberating creative partner rather than a constrained servant.

At the same time, we as designers and researchers want to be careful not to overblow the GenAI hype bubble. With disproportionate amounts of funding pouring into the “AI-ification” of many processes and premises, it is crucial to consider how, despite the promises of AI asserted in the marketplace, its capabilities and value still remain to be proven. While many marketing materials peddle AI’s ability to perform a wide array of tasks, the technology itself is still widely dysfunctional and discriminatory (Buolamwini & Gebru, 2018). Exerting too much trust and reliance on AI to replace human beings holds much potential to backfire. Additionally, we as a society are just beginning to understand the many harms associated with AI hollowing out human elements (Halperin, Jones, & Rosner, 2023). The propagation of AI incurs costs on particular groups not only in terms of algorithmic bias and the raciality of automation (Atanasoski & Vora, 2019), but also in competition for resources. Consider how funding AI in hospitals and schools may be at the expense of providing care workers and educators with the fair wages and additional support that they need (e.g., amid a pandemic). Techno-solutionist impulses stand to unleash many new and unanticipated problems. For all these reasons, we want to caution that AI alignment extends to broader social, political, economic, and cultural circumstances. Thus, GenAI today should primarily be explored for its potential to augment rather than automate existing practices.

In short, as designers and researchers, it is crucial to critically examine the alignment process of generative AI systems. We must question whose values are being prioritized, consider the potential for algorithmic bias, and assess the impact on creative diversity. While generative AI offers exciting possibilities for augmenting human creativity, we must remain cautious of the hype surrounding these technologies and their potential to perpetuate or exacerbate existing inequalities. By addressing these concerns and aligning generative AI with values of safety, equity, and resistance to the global harms of Western technology development, we can work towards harnessing its potential as a tool for positive change rather than an instrument of further marginalization.

## 5 Environmental & Social Sustainability

GenAI technology poses a multitude of sustainability concerns, both from environmental and social perspectives, which need to be addressed in the design practices that surround these technologies. From the environmental point of view, there is a concern of computational cost and CO2 emissions that result both from the heavy generation of data, but also from the further *technologization* when new (generative) tasks are being automated in society. The second aspect is particularly concerning not only in terms of the computational cost and resulting environmental impact, but also for the fact that when we discuss GenAI that aims to automate production of media, critical questions emerge regarding what portrayals, aesthetics (and fundamentally culture) are being re-produced by these systems. Are these ‘AI mediated cultures’ prioritizing or de-prioritizing sustainability values? How can we address these critical concerns on the automatization of the production of cultural aesthetics in the design of GenAI technology? There is an urgent need for developing design-supporting frameworks that address such critical questions.

It is also a grave concern that a large majority of the environmental sustainability research within GenAI focuses on quantifying carbon emissions, undermining the societal conditions that relate to sustainability and framing it primarily as an “engineering problem.” These social conditions, for example, relate to how often the new emerging technologies

that are argued to be environmentally sustainable for their efficiency—but in real-world scenarios, phenomena such as the 'rebound effect' can often lead to higher overall consumption and environmental impact due to co-occurring changes in the socio-technical systems. Furthermore, social justice in the design of GenAI technologies is often overlooked in the design of these systems. Whose and what kind of values are embedded into GenAI? Who has access to use GenAI technology? Who will benefit from this technology? It is important to also point out that these two dimensions (environmental and social) are fundamentally entangled, as social justice is argued as a key condition for change towards sustainability in how environmental disregard is embedded in social injustices and systemic inequalities (Costanza-Chock, 2020).

These remarks lay the groundwork for critical designerly reflection on the socio-material-capitalist structures that are enforced and established through the design of GenAI technology—and which often also distribute the agency of inflicting and experienced effects of environmental or social harm to stakeholders on different levels based on their privilege and access to the technology, as well as in how their worldviews and values are prioritized in the design of GenAI technology. Thus, environmental and social sustainability of GenAI can also be framed as a design political question (Fry, 2010) of who gets to matter—and there is a critical need for design frameworks and methods to address these fundamental design political and social-environmental justice-related questions in the design processes of GenAI. In these efforts, we should also take the non-human stakeholders into account.

The rapid development and deployment of GenAI technologies have far-reaching implications for environmental and social sustainability. As designers and researchers, we must critically examine the ecological footprint of these systems, as well as their potential to perpetuate or exacerbate existing inequalities and injustices. By addressing these concerns head-on and developing frameworks that prioritize sustainability, equity, and inclusion, we can work towards a future in which GenAI serves as a tool for positive change rather than a source of further harm.

## 6 Conclusion

In this paper, we have explored the complex landscape of GenAI and its implications for design research. Drawing inspiration from Roland Barthes' seminal essay, "The Death of the Author," we have examined how the emergence of these technologies is reshaping notions of authorship, agency, and creativity in the design process. Through the lens of four main themes—practices, authorship & agency, alignment & transparency, and environmental & social sustainability—we have highlighted the transformative potential of GenAI, as well as the ethical, social, and environmental challenges it presents.

Our exploration of GenAI's impact on design research practices has revealed the need for proactive engagement in understanding how these technologies are changing the nature of design, the role of the designer, and the validity of research methods. The blurring of authorship and agency in the age of GenAI calls for a nuanced understanding of the distributed nature of creativity and the limitations of creative control. We have also emphasized the importance of critically examining the alignment process of GenAI systems, questioning whose values are being prioritized, and considering the potential for algorithmic bias and its impact on creative diversity. Furthermore, we have addressed the pressing concerns surrounding the environmental and social sustainability of GenAI, highlighting the need for frameworks and methods that prioritize equity, inclusion, and justice in the design and deployment of these technologies.

While this paper has touched upon several key issues, we acknowledge that our discussion is by no means comprehensive. The insights and arguments presented here are part of an ongoing conversation, building upon the discussions held at the Designing Interactive Systems conference (DIS 2023) workshop and aiming to foster further research and collaboration in this rapidly evolving field.

As we move forward, it is crucial that we develop frameworks, methods, and infrastructures that prioritize responsible innovation, mitigate potential harms, and support inclusive, equitable, and sustainable design practices. This will require cross-disciplinary collaboration and engagement with diverse communities to ensure that the development and deployment of GenAI aligns with our values and aspirations as a society. We must also acknowledge the limitations of our current understanding and the need for further research to address remaining gaps and challenges, such as the inclusion of marginalized voices, the potential impact of GenAI on other domains, and the broader societal implications of these technologies.

In conclusion, we call upon designers, researchers, and the broader community to critically examine the role of GenAI in design research and actively participate in shaping its future. Through ongoing dialogue, collaboration, and the development of generative infrastructures that support ethical, transparent, and accountable practices, we can collectively navigate the challenges and opportunities presented by GenAI, unlocking its potential to drive positive change and push the boundaries of what is possible in design.

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