

# The Opportunities and Challenges of AIGC Platforms in Design Practice and Education

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## 1 Background

With the rapid adoption of generative AI (artificial intelligence) technology, AIGC (AI-generated content) platforms like ChatGPT and Stable Diffusion are increasingly being utilized in various sectors, including design (Dwivedi et al., 2023; Pavlik, 2023). These AIGC platforms are now being employed in design practices such as field studies, brainstorming, documentation, sketching, prototyping, and more. By enhancing design efficiency, AIGC platforms have the potential to disrupt traditional design practices through widespread adoption.

However, the impact of AIGC platforms on design practice has not been fully explored. AIGC platforms that offer diverse functions, such as sketching and 3D modelling, have demonstrated increased intelligence and context-awareness, enabling them to reform collaborative design processes with human designers. Current AIGC platforms are capable of generating human-like responses and understanding complex language structures. It is conceivable that in the future, human designers may perceive AIGC platforms not merely as tools but as reliable collaborators.

Despite the increasingly conversational nature of the collaboration between humans and state-of-the-art AIGC platforms, many designers struggle to effectively work with these platforms (Cao et al., 2023; Zhang et al., 2023). This difficulty arises from a lack of adequate design education within the current system, which fails to prepare the next generation of designers to comprehend the capabilities of AIGC platforms and collaborate with them in design activities. For instance, designers need to learn how to input complex prompts into Stable Diffusion to ensure that it understands their intentions; otherwise, the platform may produce unsatisfactory or misleading results.

Given that the current AIGC platforms are driving changes in design, a panel talk will be held to discuss how these platforms will influence design practice. Additionally, the panel will address emerging

concerns and challenges associated with the widespread adoption of AIGC platforms, while also sharing opinions on how design education can effectively address these issues.

## **2 Aims**

The purpose of the panel talk is to investigate the impact of AIGCs on design practice and education, assess potential challenges and opportunities, and explore methods for preparing the next generation of designers to collaborate with AIGC platforms through design education.

This panel talk aims to achieve the following objectives:

1. Explore the impact of AIGC platforms on design practice and education, understand their current applications in design, and examine their potential influence on future design workflows.
2. Assess the existing challenges and opportunities that design practitioners face when working with AIGC platforms to meet client needs.
3. Discuss how design education can better equip students to work with AIGC platforms, identifying ways to incorporate AIGC platforms into design courses that will effectively prepare students for future careers.

## **3 Possible discussion points**

The invited practitioners and researchers will engage in discussions pertaining to research directions, methods, and policies relevant to the adoption of AIGC platforms in design practice and education. They will share their opinions and address concerns regarding the role of AIGC in supporting design activities.

Potential discussion points related to the investigation of AIGC's impact on design practice and education include:

- Evaluating the potential benefits and limitations of using AIGC platforms in design practice and education, such as improvements in efficiency, productivity, creativity, accuracy, as well as their inherent constraints.
- Examining the potential impact of AIGC platforms on design industries and the roles of design educators and practitioners in shaping this impact.

Potential discussion points related to the assessment of potential challenges and opportunities include:

- Identifying the challenges of working with AIGC platforms, such as preparing and optimizing prompts, the risks of bias and error, and the difficulties of interpreting and evaluating AI-generated results.
- Exploring the opportunities presented by AIGC platforms, such as generating new ideas, exploring alternative solutions, and automating repetitive tasks.

Potential discussion points related to how design education can better cultivate students to work with AIGC platforms include:

- Discussing methods for improved training and education of designers on how to effectively collaborate with AIGC platforms. What skills and knowledge do designers need to develop in order to work efficiently with AIGC?
- Addressing the ethical considerations for design educators to ensure the responsible use of AIGC platforms. What responsibilities do designers have to ensure the ethical use of AIGC?

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