

From Ideas to Pixels: How GenAI Affect UX/UI Design ?

Samangi Wadinambarachchi*, Jenny Waycott*, Ryan Kelly#, Yvonne Rogers[§], Eduardo Velloso+, Greg Wadley*

*The University of Melbourne | *RMIT University |
*The University of Sydney | [§]University College London

Creativity support tools UX/UI Design Inspiration
Creativity Generative-AI AI-CSTs Design thinking



Background

Recent advances in **Artificial Intelligence** now make it possible to **transform imaginations into tangible mediums like images, text, sounds and videos**. The **incorporation of Generative AI (GenAI) features into everyday design tools** such as Adobe Creative Suite, Canva, Figma and Miro have **provided designers easy access to GenAI**. **These tools allow designers to develop diverse solutions quickly and at a low cost**. **Professionals in creative industries claim that AI could be a promising tool to enhance their design process**.

Study One

How professional UX/UI designers are adopting, considering, or rejecting AI-CSTs ?



Participants

Professional UI/UX and Graphic designers.



Task

We conducted semi-structured interviews.



Qualitative Methods

Braun and Clarke's 6-phase reflexive thematic analysis approach [2].



The aim of the study

We aim to **understand professional designers' perceived benefits, challenges, and risks** regarding using AI-CSTs.



Our findings

Participants provided **insights** into **benefits that motivate** designers to consider using AI-CSTs, **risks** that lead to apprehension about using AI-CSTs and **Inconveniences** when using AI-CSTs.

Study Two

The effects of GenAI on design fixation and divergent thinking



The aim of the study

We aimed to **understand the effects of AI-generated imagery as a source of inspiration** in an ideation task.



Our findings

Exposure to AI-generated images led to **higher design fixation** and **lower fluency, variety, and originality** compared to the baseline condition [3].

Fixation displacement occurred, where some **participants fixated on the AI-generated images** and copied what they saw, **even if it was different from the example design** [3].



Participants

University students with a visual design background.



A between participant lab experiment

With three conditions :
No Support, Image search and GenAI.



Task

Create many ideas for a chatbot Avatar.



Mixed methods

Bayesian statistical models [1].
Braun and Clarke's 6-phase reflexive thematic analysis approach [2].

Study Three

AI for UX/UI Design: What Designers Want, and When They Want It



Participants

Professional UI/UX and Graphic designers.



Task

Design fiction-based flip-flap story card elicitation task



Qualitative Methods

Braun and Clarke's 6-phase reflexive thematic analysis approach [2].



The aim of the study

To **understand when designers desire AI support** to enhance the process and when they do not need AI support, especially **in the initial stages of the design process**.



Future Directions

Come up with **Design Guidelines** and **Build prototypes** that **enhances the ways of finding inspiration in the UX/UI design process**, and perform user testing.

References

- [1] Richard McElreath. 2020. Statistical rethinking: A Bayesian course with examples in R and Stan (2e). Chapman and Hall/CRC. |
- [2] Braun, V. and Clarke, V. 2022. Thematic analysis: a practical guide. SAGE Publications Inc.
- [3] Wadinambarachchi, S. et al. 2024. The Effects of Generative AI on Design Fixation and Divergent Thinking. Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11â-f116, 2024, Honolulu, HI, USA. 1, (2024). . DOI:https://doi.org/10.1145/3613904.3642919

This research is supported by the Diane Lemaire Scholarship, the Rowden White Scholarship and the Melbourne Research Scholarship offered by the University of Melbourne.

Scan here for more details



Main image is generated with Dall-E and edited in Adobe Photoshop by using Generative AI fill