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Call for Master Thesis at the Chair of Integrated Product Design (IPD)

SLOW AI

Designing and evaluating a frictional GenAI interface for creative work

Summary

Generative AI is built for speed: type a prompt, receive a solution. This frictionless flow may come at a cost. Recent HCI work has raised concerns that efficiency-focused AI in creative practice can lead to creative exhaustion and diminished agency among designers (Van Der Burg et al., 2026). When AI delivers ready-made ideas, creative professionals risk shifting from generating their own thoughts to selecting between the AI's, quietly outsourcing the effortful work of imagination (Risko & Gilbert, 2016). This thesis takes the opposite approach and asks whether a GenAI interface can be deliberately designed to slow down, to ask rather than answer, and to provoke rather than deliver. You will design and build a working GenAI interface (for example a browser extension, a chatbot wrapper, or a custom web app) that introduces frictional interaction patterns drawn from recent work on Slow AI (Kim et al., 2026): question-first responses, delayed suggestions, explicit uncertainty markers, or prompts that push back rather than deliver, positioning the AI as critic or provocateur rather than as solution provider (Dreyer et al., 2026). You will then evaluate the interface in a comparative user study with creative professionals working on a design futuring task, contrasting the frictional interface with a standard GenAI baseline. The task builds on the AI-supported futuring method developed at our chair (Thoring et al., 2027), in which imagination is central to the exercise and to the cognitive offloading of a particular concern. Measures include the temporal distribution of the creative's work (time spent developing own ideas versus engaging with AI outputs), perceived agency and ownership, cognitive load, and short interviews on the experience. An optional eye-tracking layer can be added for measuring cognitive engagement in real time. The thesis contributes a working interface as a design artifact, empirical evidence for how frictional AI shapes the creative process, and interaction principles for GenAI tools that support rather than displace human imagination. If the outcome of your thesis allows, we will jointly publish the results in an academic design journal or conference proceedings.

Keywords: Human-AI Interaction, Generative AI, Interface Design, Slow AI, Creative Agency, Design Futuring, Cognitive Load

Prerequisites

An interest in human-AI interaction, interface design, and design futuring is essential. You should bring skills in web development or scripting (JavaScript, Python, or similar), some experience with prompt engineering or GenAI APIs, and willingness to plan and run a user study. A solid understanding of scientific research methods is helpful; if needed, this can be acquired through the IPD Research Seminar. For this topic, we consider students from the following programs: Human Factors Engineering, Informatics, and Information Systems (students from other programs upon request).

Provided Resources

You will have access to our creative space lab, and optional access to our Pupil Labs eye-tracking system for the evaluation study. The thesis will be rather self-directed. We offer 3 personal meetings throughout the thesis progress in a joint colloquium with other thesis candidates, plus on-demand consultations when needed.

How to Apply

If you are interested in conducting this thesis at our chair, please send an email to **thesis.ipd@ed.tum.de** with reference line "**Master Thesis: Slow AI**". Please state your preferred starting date and motivation for the topic in your email, and attach your resume and some portfolio samples. Based on the provided materials, we will invite you for a first meeting to discuss further.

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Key References

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