

Exploring Intelligent User Interfaces from Design Students' Perspectives on Smart Home Products through Peer Assessment, Focus Group and ChatGPT

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Abstract. In a changing and connected world, people are surrounded by an increasing number of smart devices in a complex system. Intelligent technology has revolutionised the way we interact with these devices, and has resulted in improved user experiences through the integration of physical status and digital applications. However, this transition has also presented new challenges and demands for transdisciplinary adaptation in traditional approaches to design education. Many existing design methods and frameworks have not kept pace with the level of automation now seen in intelligent interactive products, nor have they addressed human-machine interdependence in a system-thinking context. The aim of this study is to gain insights from the younger generation of design students to inform the development of a more suitable design course. Using smart home products as the case scenario, 39 industrial design students evaluated the user experience with the products through hands-on interaction. The individual product reviews of the robot cleaner, smart speaker and smart lightbulb were then analysed and consolidated. Thus, this study contributes to the elucidation of design students' perspectives on intelligent user interfaces. Furthermore, a comparative analysis of user insights was conducted through peer assessments, focus groups and large language models to explore their potential and difference in terms of the design process. Overall, the goal of this analysis is to advance the field of design practice and education.

Keywords. s. Design education, transdisciplinary engineering design, intelligent user interface, user experience, ChatGPT

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