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The Impact of Artificial Intelligence AI in Enhancing Experience Design of Physical Products

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Abstract:

This study investigates the integration of Artificial Intelligence (AI) in the experience design of physical products to enhance customer engagement and satisfaction. Focusing on products characterized by repetitive use, low complexity, and high production volumes, the research aims to evaluate both the advantages and challenges of using AI in product design. The study explores how AI-driven approaches can improve the user experience by creating emotionally resonant, memorable interactions through AI-enhanced sensory and interface touchpoints. By using scenario-based research, the study examines how AI can co-design customer experiences alongside designers, contributing to the Physical Design Cycle. The approach is rooted in human-centered design principles, emphasizing the importance of AI in fostering emotionally enriching, personalized user experiences while addressing ethical considerations. Through a literature review and empirical field study, this paper presents an analysis of AI's role in improving experience design across UX, product aesthetics, and smart products. The findings suggest that AI holds substantial potential to transform the design process, enhance consumer engagement, and shape future design practices in academia and industry, setting a foundation for future research.

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Artificial Intelligence AI, Experience Design XD, Physical Products, Product Design.

Keywords

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