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Design Psychology in Human-Computer Interaction Design: A Comprehensive Review

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Abstract: *Design psychology plays an increasingly critical role in Human-Computer Interaction (HCI), where the focus has shifted from functionality to creating meaningful, intuitive, and emotionally resonant experiences. HCI has become a nexus of psychology, computer science, and design, developing interfaces that not only serve users' goals but also accommodate their cognitive abilities and emotional responses. This paper presents a comprehensive review of how psychological models inform HCI, drawing from foundational theories in cognition, perception, emotion, and behavior. It synthesizes insights from leading research to outline how self-efficacy, cognitive load, emotional design, and user modeling transform interaction design. Particular emphasis is placed on the user-centered paradigm, affective computing, and adaptive interfaces. By exploring case studies and applied research, the paper highlights the evolution of HCI as a design science, offering guidance for future interface development strategies. It argues that the integration of psychological insights is not merely an enhancement but a necessity for modern systems design.*

Keywords: Design Psychology, Human-Computer Interaction, Cognitive Load, Emotional Design, User-Centered Design, Self-Efficacy, Adaptive Interfaces, User Modeling, Affective Computing, UX

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