Analyzing a blind comparative study on the user perception of Human design vs AI generated interiors within a residential space in Colombo

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Abstract— The accelerating integration of Artificial Intelligence (AI) into creative disciplines demands a deeper understanding of its impact on established design practices. This research explores how professional interior designers perceive AI-generated compared to human-designed bedroom layouts, aiming to evaluate effectiveness, user preferences, and the evolving role of AI tools in contemporary design. Using a blind comparative methodology, ten industry professionals assessed four-bedroom interiors, two created by humans and two with the help of AI, without knowing their origins. Evaluations focused on comfort, spatial logic, aesthetic appeal, functionality, and privacy, employing quantitative feedback to capture both preference trends and underlying reasoning. Findings highlight AI's value as a complementary tool, demonstrating efficiency and consistency while emphasizing the continued importance of human contextual understanding and empathy. The study advocates hybrid workflows that integrate AI's analytical precision with human creativity to enhance design outcomes. Acknowledging limitations such as the small sample size and reliance on a single AI platform, it recommends future studies involving multiple AI tools and broader design applications. This work provides clear evidence of AI's capabilities and constraints in interior design, contributing valuable insights into fostering effective human-AI collaboration within the industry.

Keywords—Blind comparative study, User perception, Human designed interiors, AI-generated interiors, Residential space