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USING VIRTUAL REALITY (VR) TO ENHANCE DESIGN SKILLS OF ARCHITECTURAL ENGINEERING STUDENTS AT UAE UNIVERSITY

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Abstract

The significance of this research lies in its intention to systematically assess the effectiveness of Virtual Reality (VR) as an advanced intelligent tool in architectural practices, with a particular focus on enhancing user experience and improving design quality. This investigation will explore how VR can be facilitated to help architectural students enhance their design skills, detect design flaws and clashes between different systems for seamless integration, and provide valuable insights for the advancement of architectural education and practice. How can VR be facilitated to help students enhance the design quality from an architectural point of view? How does VR assist in identifying design constraints and conflicts between various systems to support the seamless integration and the incorporation of sustainable elements? The research adopted a

qualitative research methodology using in-depth interviews with architectural students to answer the research questions. The research results highlighted the effectiveness of VR technology in grasping and assessing various architectural design aspects specifically within the interior spaces and structural design issues (including clash detection within the integration of architectural structural systems), it also showed valuable results evaluating exterior building design. Findings from this investigation help contribute to the ongoing discourse on leveraging technology to optimize design education practices and foster innovation among students. The research findings revealed the effectiveness of VR in identifying the following: enhancing the visualization of design challenges, providing a comprehensive building assessment, and holistically detecting design qualities and system integration problems. The pilot study recommends integrating the use of VR into the curriculum of the intermediate design studio level at the University. The research findings will contribute to the current knowledge base and guide future advancements in immersive design technologies.

Keywords:
Architecture Design Studio, Education, Intelligent Tools, Virtual Reality, University