

Activating the Aesthetics of Environmental Design through Augmented Reality: An Applied Study on Al-Shaab Square in the New Administrative Capital

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Abstract:

This research explores the concept of environmental aesthetics as a philosophical and technical framework that contributes to reshaping the architectural perception of contemporary urban spaces by integrating the principles of cultural identity and sustainability with elements of interactive urban design. The research focuses on augmented reality technology as a pivotal tool for enriching these aesthetics, not only by adding digital elements, but also by reshaping the cognitive and sensory relationship between people and space. It seeks to understand how to achieve a visual and functional balance that takes local specificities into account and enhances a sense of belonging and interaction with the surrounding urban environment. The research problem lies in a philosophical question about the extent to which environmental aesthetics, supported by technological media, can be an effective driver of design, rather than merely a consequence of it, given the pressures of urban expansion and accelerating social and technological transformations, without falling into the trap of visual vulgarity or false beautification. This research aims to explore frameworks for integrating beauty with environmental and symbolic values of cultural identity through augmented reality media. It offers a critical vision that highlights how this integration can contribute to achieving sensory comfort, belonging, and environmental sustainability simultaneously. The research's importance stems from its presentation of an integrated vision between aesthetic philosophy and contemporary digital technologies, paving the way for new approaches to urban design that balance form and meaning, authenticity and innovation. The research methodology relies on a descriptive and analytical approach, based on a review of aesthetic and architectural literature and an analysis of local and global applied models, most notably the People's Square in the New Administrative Capital as a practical model for integrating augmented reality with environmental beauty. The results highlight that integrating augmented reality as a design medium is essential in the contemporary urban landscape, as it contributes to enhancing the user experience, activating collective memory, and sustaining public space visually, psychologically, and functionally.

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