

The Role of Technological Innovations in Supporting Virtual Photography and its Effectiveness in the Field of Architectural Photography

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Abstract:

Virtual photography technology, whether through 360-degree image capture or laser-based scanning devices, plays a fundamental role in representing buildings. These technologies enable the production of accurate models and realistic simulations, contributing to improved design, construction, advertising, and marketing processes. Thanks to these advanced technologies, it is now possible to produce high-quality 360-degree images and create precise 3D models of buildings, providing architects with the ability to offer an exceptional interactive environment for their clients.

Additionally, 3D laser scanning technology assists in documenting and restoring historical buildings before restoration processes. It enables architects to identify changes that have occurred over the years and leverage Building Information Modeling (BIM). Many software companies have also developed image processing programs, incorporating artificial intelligence to achieve smart processing solutions that help designers work professionally.

These advancements contribute to reducing costs and increasing efficiency while improving the final quality of the produced image. This enhances architects' ability to deliver innovative solutions in their architectural art. Therefore, this research focuses on exploring how these technologies can be employed to enhance the visualization of architectural design and achieve optimal results in architectural projects. The study reviews various types of 360-degree cameras and their processing software, along with 3D laser scanning technology, detailing the operation of scanning devices and the latest types of scanners currently available in the market.

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