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Modular 3D Environmental Development for Augmented Reality

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Abstract : This work used industry-standard practices and technologies as a foundation to explore current and future advancements in modularity for 3D environmental production. Covering environmental generation, and AI-assisted generation, this study investigated how these areas will shape the industries goal to achieve full immersion within augmented reality environments. This study will explore modular environmental construction techniques utilized in large scale 3D productions. This will include the reasoning behind this approach to production, the principles in the successful development, potential pitfalls, and different methodologies for successful implementation of practice in commercial and proprietary interactive engines. A focus will be on the role of the 3D artists in the future of environmental development, requiring adaptability to new approaches, as the field evolves in response to tandem technological advancements. Industry findings and projections theorize how these factors will impact the widespread utilization of augmented reality in daily life. This will continue to inform the direction of technology towards expansive interactive environments. It will change the tools and techniques utilized in the development of environments for game, film, and VFX. This study concludes that this technology will be the cornerstone for the creation of AI-driven AR that is able to fully theme our world, change how we see and engage with one another. This will impact the concept of a virtual self-identity that will be as prevalent as real-world identity. While this progression scares or even threaten some, it is safe to say that we are seeing the beginnings of a technological revolution that will surpass the impact that the smartphone had on modern society.

Keywords : virtual reality, augmented reality, training, 3D environments
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