

Research on the Utilization of Mixed Reality (MR) through the Characteristics of 3D Precise Location

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SUMMARY

Mixed reality (MR), which integrates virtual environments into the real world, has been applied in various industries including architecture, gaming, and design to enhance spatial visualization. By utilizing MR, physical objects can interact with virtual elements, allowing for more advanced applications in fields such as construction, disaster response, and urban infrastructure monitoring. This paper proposes the use of MR for high-precision 3D spatial measurements through the application of LiDAR scanning technology. The proposed system will enhance accuracy in real-time spatial mapping and monitoring in dynamic environments, such as construction sites or complex urban areas. Additionally, wearable devices equipped with MR technology will facilitate technological innovation in spatial measurement and monitoring, offering solutions to various industries such as construction, urban planning, and field-based operations.

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