

# ***APPLICATION OF AUGMENTED REALITY TECHNOLOGY IN INTERIOR ROOM LAYOUT DESIGN USING ANDROID-BASED SIMULTANEOUS LOCALIZATION & MAPPING ALGORITHM***

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## ***ABSTRACT***

*Markerless augmented reality (AR) is a technology that allows the incorporation of virtual elements into a physical environment without the need for special markers. By using Natural Feature Tracking, markerless AR is able to track objects in the real world so that they can be projected into the virtual world without special markers. In the context of interior design, markerless AR technology plays an important role in providing real-time and interactive visual experiences for users. However, to be able to see the interior design in real-time, homeowners are often faced with limitations in moving furniture directly into the room to see the right position. Therefore, we need a system that is able to facilitate decision making in room interior design. In this context, markerless AR can serve as a useful tool in making interior design decisions. In this research, the system developed combines markerless AR technology with the Simultaneous Localization and Mapping (SLAM) algorithm to map the surrounding environment as a basis for determining the position of virtual objects. Through this research, it is hoped that the contribution provided can encourage the development of markerless augmented reality technology and interior design by combining the two, thereby creating a more interactive and real user experience.*

*Keywords: Markerless, augmented reality, interior design, void space, SLAM*