

ABSTRACT

The advancement of Virtual Reality (VR) and Mixed Reality (MR) technology has significantly impacted the fields of education and product design, enabling interactive and immersive experiences for users. However, physical exhibitions often face limitations in space and accessibility, hindering the effectiveness of product information delivery. Therefore, a MR-based solution has been developed to overcome these constraints by creating a flexible and interactive virtual exhibition space, allowing visitors to explore products in greater depth without physical limitations.

The NusantaRoom application was developed using the V-Model method with a systematic approach to requirement analysis, design, implementation, testing, and deployment. Development was carried out using Unity and Meta Quest to create an immersive and optimized MR environment for showcasing student design products. 3D product models were created using Blender, optimized to maintain high application performance. Testing was conducted in stages, including validation testing through User Acceptance Testing (UAT) to ensure the application's alignment with user needs.

With NusantaRoom, virtual exhibitions can enhance visitor experiences in understanding product details through intuitive digital interaction. This solution also provides broader accessibility for audiences from various locations while reducing the need for physical exhibition space and resources. The implementation of MR technology demonstrates significant potential in transforming how products are presented and accessed in academic and creative industries.

Keywords: Mixed Reality, Virtual Exhibition, Product Design, Meta Quest.