

ABSTRACT

The development of Virtual Reality (VR) technology at the Metaverse Research and Experience Center (MREC) presents various challenges, one of which is the lack of an integrated information system to support laboratory management, internship participant supervision, and research project administration. This hampers the laboratory's operational efficiency and visibility. To address these issues, a web-based application was developed to provide structured laboratory information, manage internship participants, and support research project management. The application features interactive tools such as a 360-degree camera-based virtual tour, internship data management, and a project management dashboard. Testing results indicate that the application successfully meets user needs, with effectiveness rated at 97%, usability at 91%, and satisfaction at 96% based on trials involving 27 respondents. This application not only enhances MREC's operational efficiency but also expands its appeal for collaboration with academics and industry.

Keywords: *information system, laboratory management, internship management, virtual tour, web-based application*