

# AUGMENTED REALITY APPLICATION FOR DAIRY PRODUCT PACKAGING DESIGN

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## ABSTRACT

Dairy product packaging design plays a crucial role in attracting consumer interest and representing brand identity. However, the conventional packaging design presentation process at CV Cita Nasional still has limitations in fully displaying the product's physical form, size, and visual interaction. This condition can hinder the internal evaluation and decision-making process, potentially resulting in less than optimal packaging designs when launched to the market. Therefore, a presentation medium capable of presenting packaging design visualizations more realistically and interactively is needed. This study aims to develop an Augmented Reality (AR)-based application as an internal presentation tool for displaying three-dimensional dairy product packaging designs. The system development method used is the Waterfall method, which includes the stages of needs analysis, system design, implementation, testing, and maintenance. The application was developed using Unity 3D with the support of the Vuforia Engine SDK to deliver Augmented Reality features on the Android platform. Two-dimensional packaging designs were converted into optimized three-dimensional models and integrated into the application for real-time display via the device's camera. The application provides interactive 3D visualization, design information displays, and navigation to facilitate user evaluation. System testing was conducted using the Black Box Testing method to ensure all application functions function as required. Test results showed that all application features functioned well and were stable. This Augmented Reality application provides a more immersive visual experience than conventional presentation methods, effectively assisting CV Cita Nasional's internal team in evaluating, discussing, and making decisions regarding dairy product packaging designs.

**Keywords:** Augmented Reality, Packaging Design, Dairy Products, Design Presentation, Android.