THE DESIGN OF AUGMENTED REALITY APPLICATION AS A MEDIUM OF LEARNING JAVANESE SCRIPT FOR ELEMENTARY SCHOOL CHILDREN WITH MARKER-BASED TRACKING METHOD.

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ABSTRACT

The Javanese script, utilized in the Javanese language, is often perceived as a challenging script for reading and memorization, particularly among newly introduced students. This complexity has resulted in a diminished interest in Javanese script among both students and the general populace. In response to this issue, researchers have developed a learning application aimed at facilitating the introduction of Javanese characters in an engaging, comprehensible, and enjoyable manner, particularly for elementary school children who are beginning to learn these characters. The application employs Augmented Reality (AR) technology, specifically the Marker Based Tracking method, which draws data from elementary school textbooks with Javanese script. The application is designed using Unity 3D software, incorporating Javanese script data as markers that can subsequently be transformed into three-dimensional (3D) objects. The outcome is an educational application that enables users to interact with a virtual environment represented by 3D objects integrated into the real world. Additionally, the application includes quiz features that enhance elementary school students' skills and memory retention, thereby rendering the learning process more engaging and motivating for students as they study Javanese script. Black box testing was conducted to assess the application's functionality, yielding a 100% success rate for all the designed buttons and features. Furthermore, a distance test of the AR camera indicated that 90% of the time, the camera successfully detected the marker at specified distances.

Keywords: *Application, Javanese Alphabet, Augmented Reality, Marker Based Tracking, Android.*