ABSTRACT

IMPLEMENTATION OF MARKERLESS AUGMENTED REALITY TECHNOLOGY BASED ON ANDROID AS IDENTIFICATION MEDIA OF FMIPA LAMPUUNG UNIVERSITY BUILDINGS

By

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Markerless Augmented Reality (AR) is a term for an environment that combines real world and the virtual world, where objects in the real world can be recognized through the position, direction and location. Markerless AR technology can be used to interactively visualize information, especially when the technology is combined with a mobile communication device such as a smartphone that has the Android operating system. Camera features, internet, accelerometer, digital maps and GPS (Global Positioning System) on Android devices can be integrated so that AR technology can be implemented. In this study, Markerless AR technology is implemented in the Faculty of Mathematics and Natural Science (Science) University of Lampung buildings. The aim of this study is to create an application that provides information about the buildings, it is show Faculty maps and information about the Natural Sciences accessible via Android smartphones. This application is designed and then implemented using the Java programming language for Android and BeyondAR framework support to detect and display the AR object and the Google Maps API to display a map of the Science Faculty. The results of data test using Equivalence Partitioning test shown the application functionate well according to the analysis. In addition, based on questionnaire data, that the application is a user friendly application (with an average value of 4.31 / very good), and interactive (with an average value of 4.23 / good).

Key words: Android, Application, ARMIPA, Augmented Reality, Maps, Markerless Augmented Reality