

ABSTRACT

Augmented Reality or AR is a technology that allows a computer to display virtual objects precisely on a real object in real time. AR system was first developed in Suntherland in 1965, and continues to grow until now in various field such as medic, manufacturing, entertainment, industry, and other.

In this final project created an AR application for Android smartphone that are used to identify city transportation in Bandung city. AR is implemented without using marker to operate or may be called Markerless Augmented Reality. To realize AR without marker, it's necessary for the application to have the ability to detect the presence of city transport in an image. As for identifying the city transport, the application must have artificial intelligence.

The method used to do city transport detection process is Haar cascade classifier, whereas the method used for identification of city transport is artificial neural network Back Propagation. As an intermediary for both methods, used image processing method Principal Component Analysis for feature extraction process.

The result of the implementation by these methods have a poor performance. The accuracy level of the information presented by the application is only 40%, so that the application *output* in form of detected city transport information change often. Some public transportation with certain color and motif can be identified with high accuracy, but some city transport can not be identified at all.

Kata Kunci: angkutan kota, angkot, bandung, *Augmented Reality* (AR), *Markerless Augmented Reality* (MAR), android.