

ABSTRACT

Technological developments play a very important role in encouraging human activity, as well as in the development of Augmented reality technology. Augmented reality (AR) is an attempt to combine the real world and the virtual world created by means of a computer so that the boundary between the two becomes very thin because this technology allows users to interact in real-time with the system. Augmented reality requires a marker target or what is commonly called a marker as a system reference to display 3D objects. However, in the process of detecting markers in augmented reality, there is often a low level of stability. This research was conducted to analyze the process of detecting moving markers on the performance of augmented reality applications. The parameters used in the test include the speed of movement of the marker back and forth in a straight line 35 cm long. Movement speed is determined into four categories, namely 145cm/s, 97cm/s, 87cm/s and 73cm/s. The distance between the camera and the marker is divided into several distances, namely 40cm, 50cm, 60cm and 70cm. Based on the test results, it was found that the movement of the marker had an effect on marker detection and 3D object stability. The ideal speed for detecting moving markers is at a distance of 73cm/s-97cm/s and 3D objects are relatively stable at low marker speeds and close distances. 3D objects can appear at high movement speeds and long distances, but the stability of 3D objects is not bad..

Keyword — Augmented Reality, Distance, Speed, Marker Based Tracking, Stability