

## ABSTRACT

Augmented Reality (AR) is a technology that combines virtual 3D objects into the real environment in real-time. Augmented reality is very popular and can be applied in various fields such as technology, education, art, and marketing. One of them in the field of technology is real-time game using the Kinect hardware to display in 3D animation.

Identification of body motion (motion capture) is a method used to display the Kinect can interact with the real world. In this final task will be made a game that will be played on Kinect. The process was conducted on the reading of the depth of objects using infrared laser, and retrieval of objects in video using two cameras is that the camera RGB camera and a depth sensor. Object retrieval using two cameras produce two video streams so that Kinect can detect any movement of the human body. The game is played using the motion of foot. Virtual ball displayed on the screen shot of Kinect will stimulate the right ankle of player, and headed into the goal.

From the test results, the best distance that can be used to play is 200 cm with a percentage of 99.5% on the condition of the room was dark, and 98.5% on the room light conditions. At best distance calculations obtained is 190.3986 cm. Response ball in the direction of movement of the players feet, among others, the response to the middle 58%, 56% to the right and to the left 64%. Percentage of players managed to put the ball into the goal is 10%.

**Keywords :** *Augmented Reality, Kinect, Skeleton Tracking, Motion Capture.*