ABSTRACT

Object tracking is one of the fields in computer vision that has been widely investigated and increasingly shows an increasingly rapid increase from year to year. In its application object tracking is used in tracking the movements of objects and humans to augmented reality. Even though it is quite sophisticated, it will still experience tracking failure, because there are many factors that can cause interference to the object and can cause tracking failure.

This system will work by detecting objects in a video from each frame, by initializing the object in the first frame then tracking from the second frame to the last frame by taking a color histogram representation of the object initialized in the first frame, the method used when tracking is mean-shift tracking. In its application, it will use the kernel-based algorithm to generate mean-shift tracking. The test parameter for tracking failure analysis used in this study is with the Bhattachary, we will find out how much the system can track the object correctly and as an failure detection..

The results obtained from this study are correction of tracking failure with a system performance improvement method. The performance parameters in this final project use the precision plot method and also the success plot in evaluating it using a Benchmark Object Tracking (OTB-50) as a dataset. For the bhattachary threshold, use the value 0.8 and image enhancement of 1.4. Based on the results of experiments conducted on 5 sequences of 50 selected sequences, namely DragonBaby, Box, Basketball, CarDark, and BlurFace. Performance improvement was achieved because the biggest correction was 1,885 or 1.88% in the DragonBaby sequence.

Keywords: *object tracking, mean-shift tracking, color histogram, tracking failure, bhattacharyya coefficient.*