

## **ABSTRACT**

The use of cctv in shopping malls or public places can be used as a tool for people's calculation systems aimed at managing shopping centers or public places to know the number of visitors entering the area. The calculation system is based on head detection for every object (human) that passes the camera range. Head detection is done using the Viola-Jones method to make the system accurate and flexible. Then the system will do the tracking on the object (human head) and then done the calculation process.

In testing the head detection, the angle of data collection is 45 degrees, 60 degrees, 75 degrees, and 90 degrees. Then the test is also divided based on the trainer data of 20 frames, 30 frames and 40 frames. After that from the results of accuracy on each train data will be taken the best accuracy which will be processed into the calculation system. Results from the best angle testing is 90 degree with 61.05% accuracy and based on best train data is 30 frames with an average accuracy of 62.84%.

**Keywords:** Head Detection, Viola-Jones , Object Tracking, Counting People.