

ABSTRACT

System of counting the number of visitors of public places at this time is generally obtained manually. However, the human factor has a vision that is less alert can cause errors in counting the number of visitors. Another way is to use sensors in the room to count automatically, but require a more expensive cost. The solution to these problems is to use a webcam tool to obtain an automatic system of counting the number of visitors with a cheaper cost.

This final one examines the application of motion detection system using a webcam to count the number of people passing through the area at the front entrance of either moving into or out of doors. The method used is the background subtraction to detect any movement by using a webcam mounted above the entrance door facing down. Frame background is determined using the frame averaging method that takes an average frame of some amount of the initial time frame then diselisihkan the next frame. Frame difference value was then selected by thresholding and then do the tracking direction of the centroid. While the output of the simulation is the number of people in and out so that is known number of people who pass by and stay in that place.

The system reliability was tested by simulating the field conditions. The test results show that the system is able to identify the moving object is a human with 98.5% accuracy, using a threshold of 60, 7x7 median filter size, 7 strel size and at 70 of threshold, 5x5 median filter size, 7 strel size at load time in the morning.

Keywords : digital video, frame averaging, centroid, motion detection, object physical characteristics.