ABSTRACT

Losing a pet is a problem that is often experienced by pet owners. This is due to many things, one of which is the negligence of the pet owner. Pets leave the cage without the owner knowing. Therefore, we need a system that can overcome this problem or at least reduce the risk of losing a pet.

Prevention systems using sensors such as motion sensors cannot differentiate between pet objects or objects other than pets. Therefore, this final project proposes the creation of a pet loss detection and prevention system using image processing with the background subtraction method and the OpenCV library. The system will sound an alarm, make a screenshot of the object, and email notification when a pet object in the form of a cat walks out of the house. The system can also distinguish between pet objects in the form of cats and non-pet objects, so that this Final Project can reduce the risk of owners losing their pets.

The test results that have been carried out show that the test gets the best accuracy of detecting objects (cats) that come out at 93.3% during the day with a light intensity of 140LUX, for the morning test it is 73.3% with an intensity of 93LUX, and for the afternoon test it is 86.6% with 113LUX light intensity, the total average detection accuracy of 84.4%. Lighting affects accuracy so as to produce accurate values in detecting objects. The average processing time required by the system to detect objects is 0.157 seconds, which means that the detection process is running well.

Keyword: *Background Substraction, OpenCV, Phyton, Objeck Detection.*