ABSTRACT

Fire is a disaster that is mostly caused by human error with the impact of property loss, business cessation, economic and government delays, and even fatalities. Fires can also be caused by natural factors, for example, forest fires caused by a long dry season are the cause of natural forest fires that are difficult to control.

In this final project, a system is designed that can detect fire objects using a webcam and two servo motors in an effort to minimize fires. This system uses fuzzy logic control methods to move the webcam and servo motor. This system works by detecting the coordinates of the hotspots on the webcam and the servo motor will move the webcam according to the coordinates of the hotspots detected. The coordinates of the hotspots obtained will then be displayed on the laptop monitor screen.

The system has succeeded in detecting the coordinates of the hotspots with a maximum settling time value of 4 seconds for the servo motor movement. In testing the motion of the servo motor with the pan position having an error value of 2° and the tilt position having an error value of 3°. This system also has a maximum overshoot value of 4,6%.

Keywords: *fire, fuzzy logic, rise time.*