

ABSTRACT

Fire is a catastrophic threat that has the potential to cause death which is large enough to require attention to public safety. However, until now the handling of fires in Indonesia still has shortcomings. In previous studies of fire systems made using smoke sensors, the sensor has a drawback that it cannot distinguish the presence of smoke haze and fire smoke. To cover the weaknesses in previous studies the author will create a system that uses thermal sensors and GPS to detect fires.

In this study, Arduino uno atmega 328 functions as a microcontroller, the components of the fire detection module and gps system consist of a thermal sensor, Lora transmitter, GPS and battery, and for the receiver component, namely Lora receiver, Arduino uno. This paper focuses on the sensitivity of the thermal sensor and GPS and then sent it via Lora, to determine the sensitivity of the Thermal sensor and GPS, a fire simulation is carried out.

The results of this study indicate that if a fire occurs in an area, the thermal sensor will detect an increase in temperature caused by the fire, with a normal temperature from 30°C to 35°C, in the event of a fire the temperature will increase by more than 120°C. which will be detected by the thermal sensor.

Keywords: *Fire Detector, Arduino uno, Thermal sensor, gps, Lora.*