

# ***FIRE DETECTION SYSTEM WITH IOT-BASED WHATSAPP NOTIFICATION***

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## ***ABSTRACT***

*Fire is a disaster that can cause material loss and loss of life. In Indonesia, thousands of fires occur every year, with 17,768 fire incidents recorded in 2021. The most common cause of these fires is electrical short-circuiting. Early detection is crucial in dealing with fires, as delayed treatment can increase the risk of death by up to 80 percent. Therefore, the development of an Internet of Things (IoT)-based fire detection tool is the focus of this research. The developed system uses DHT22 sensor to detect temperature and flame sensor to detect fire, as well as NodeMCU ESP8266 microcontroller for processing and connectivity. The test results show that the system can accurately detect temperature changes and the presence of fire, send data to the database, display the status on the monitoring website, and send notifications via WhatsApp according to the detected conditions. System testing showed accurate responses under various conditions. Under normal conditions, the website displays a "Safe" situation. High temperature displays the "Alert" situation, while detected fire displays the "Alert" situation. If both high temperature and fire are detected, it will display the "Danger" situation.*

***Keyword:*** *Fire, Flame Sensor, DHT11, NodeMCU ESP8266, WhatsApp*