ABSTRACK

Fire is a disaster caused by uncontrolled or controlled fires that can cause fires, endanger human lives, damage surrounding buildings, vehicles or flammable materials, the purpose of this study is to design a fire detection system that can integrate IoT devices. and can be equipped with fire alarm sensors that are able to detect fire events accurately and can integrate the Telegram application into the fire detector to send timely information to the authorities. This research focuses on creating fire detection design coordinates of IoT-based fire sources and with Telegram Bot technology. This research aims to utilize technology to detect early signs of fire, in order to reduce the risk in the event of a fire. By making this tool using Nodemcu ESP8266 and Arduino Nano, Nodemcu ESP8266 aims to send initial information on signs of a fire through telegram robot notifications. This tool uses 2 sensors, namely a fire sensor and an MQ-2 sensor. When the sensor can detect a fire, it will send a notification to telegram through the telegram bot. If the notification has been sent, the buzzer will sound if fire and smoke sensors detect the source of the fire to warn of a fire. Test prototypes, namely fire and smoke sensors that can detect flames on matches up to a distance of 25 cm, can work precisely according to the instructions given in the program. While the Arduino Nano connects the output, especially the Neo-6M GPS to detect waypoints through a serial monitor. With this prototype test, the Neo-6M GPS can detect coordinates through a serial monitor and can function normally according to the commands given to the program.

Keywords : Fire, Internet of Things, Nodemcu ESP8266, Arduino Uno