ABSTRACT

PROTOTYPE OF FIRE WARNING AND SUPPRESSION SYSTEM IN RESIDENTIAL HOME BASED ON INTERNET OF THINGS

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Fire disasters are often triggered by a variety of factors, namely caused by matches or cigarettes, electrical damage, stoves / LPG gas, and others. Based on interviews that have been conducted, the fire disaster will only be realized by the community when the fire has grown and has burned almost the entire house and the lack of fast information to the fire department. Therefore, researchers conducted this research which is expected to help minimize the spread of fire and help with initial handling when a fire disaster at home occurs, the research uses the prototype method to simulate house fires. This system uses the NodeMCU ESP32 microcontroller which is integrated with the Whatsapp application chatbot (CallMeBot) to provide warnings and monitoring of fire disasters. This system uses a 5-point flame sensor to detect the presence of fire, 2 temperature sensors (DS18B20) useful for monitoring the temperature near the stove and room temperature, MQ2 gas sensor to detect and warn of LPG gas leaks at home and use a water pump as a fire suppression tool. This system will work when the flame sensor and both temperature sensors detect a fire, the system will immediately turn on the water pump to extinguish the fire, and will send a notification to the cell phone with a Whatsapp chatbot to the homeowner and the fire department for further handling of the fire disaster.

Keywords: *NodeMCU ESP32, Fire, Prototype*

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