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DESIGN AND MANUFACTURE OF ANDROID BASED GAS AND FIRE DETECTOR

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ABSTRACT

Fires caused by gas leaks are very common in Indonesia. The cause of the gas leak was largely due to the carelessness of the LPG users. An example of a gas leak that is not detected properly is the installation of an imperfect regulator that results in a fire that is very detrimental to its victims. To overcome this incident, several studies have been conducted to detect gas leaks with various devices and with different potencies. The rise of the application of IoT (Internet of Things) technology has encouraged researchers to design prototypes that are capable of detecting leaks of Gas and Fire (Flame) connected to the Internet.

The design was conceived using a MQ2 sensor that serves to detect gas leaks and a DS18B20 sensor that detects room temperature, Buzzer, LED, Bluetooth Module, Mini Fan, Arduino Uno, and Android. In a simple way, the workings of the system that is built is that if the MQ2 sensor detects alcohol, H2, LPG, CH4, CO, Smoke and Propane with certain levels then the system turns on the LED, Mini Fan and send danger signals through the buzzer and also provide information to users through android. Likewise, if there is a significant change in room temperature, the DS18B20 sensor sends a danger signal to the user.

The results of the design and testing that had been done showed that the system designed is able to provide a danger signal by turning on the LED and Buzzer and providing information to Android users related to a gas leak or uncontrolled fire.