Investigation of IoT Devices for Fire Alarm Detection Systems Using Raspberry Pi

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ABSTRACT

This study investigated the design of a fire alarm detection system based on the Internet of Things (IoT) and the potency of an alarm system with the IoT in reducing time taken for system to alert the user. The design utilizes a system prototype with wireless access in an open-source physical computing platform based on Raspberry Pi technology using a personal computer that provides the communication and user interface for both the control system and the fire alarm systems. This includes wireless connectivity between sensors and apps for monitoring and control. The sensors using to measure the related parameters that is temperature, presence of gas and humidity of the area. The Raspberry Pi is programmed to turn on the buzzer when the temperature and smoke reach a threshold value. This system equipped with WiFi module built in the Raspberry Pi will send the notification to the user via Blynk apps. The trial findings demonstrated the Raspberry Pi's affordability, effectiveness, and responsiveness in reducing the time it takes for the system to alert the user.

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