

## **ABSTRACT**

*A house fire is a frequent disasters in the community. Fires can occur anytime, because fire is an unexpected disaster. Accidental house fires occur when homeowners are away, when something like that happens, it can lead to material loss and even loss of life. This research aims to design a system that can either home monitoring via email using a temperature sensor and smoke sensor that can detect fires early. The design of this system starts from a temperature sensor, smoke sensor which is controlled by arduino uno, then arduino uno transmit data from temperature sensors and smoke sensors to raspberry pi using serial communication. If the temperature exceeds the specified limits and smoke then web camera connected with raspberry pi will take pictures of the room and sends the images to email the owner of the house. From the system design which has been made showed that the images transmitted from raspberry pi and received in the mail the same size, and the delay at the time of sending the image to an email less than a minute, therefore the system is able to work in real-time. For the further research, should be added flame sensor and buzzer in order to more accurately detect fires and there is alarm that sounds when the fire occurred.*

**Keywords :** *Raspberry Pi, Email, temperature, smoke*