# Avoid using extension cardLITERATURE SURVEY ON IOT BASED INDUSTRY-SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM


## ABSTRACT:

It has been found during a survey that 80% losses caused thanks to fire would are kept faraway from if the hearth was identified promptly. ESP32 based IoT empowered fire indicator and observing framework is that the account this issue. during this task, we've assembled fire finder utilizing ESP32 which is interfaced with a temperature sensor, a smoke sensor and signal. The temperature sensor detects the heat and LDR sensor detects any light produced due to monitoring or fire. buzzer related to a ESP32 gives us an alert sign. a fireplace caution can likewise be activated due to little candlelight or oil lights utilized as a neighborhood of a family. Bell or alert is killed at whatever point the temperature goes to ordinary temperature an light level decreases. With the help of IoT innovation ESP32 fire checking serves for mechanical need and also for relatives reason.


## INTRODUCTION:

In recent years, fire detection has become a really big issue, because it has caused severe damage including the loss of humanlives .Sometimes, these incidents are more destructive when the hearth spreads to the environment . Early detection of a fireplace event is an

efficient thanks to save lives and reduce property damage. to flee a fiery place and to douse the hearth source, the hearth must be detected at its initial stage. The installation of a fireplace place alarm is that the most convenient thanks to detect a fire early and avoidloses.Fire alarms contains different devices working together that have the power to detect fire and alert people through visual and audio appliances. *The alarm may contains bells, mountable sounders, or horns.Most of the hearth alarm systems use the technology of a wireless sensor network (WSN). WSNs have gained popularity because they need a spread of uses in several applications, like target tracking , localization , healthcare , Smart Transpiration , environmental monitoring, and industrial automation

## PROBLEM STATEMENT:

Fire safety management is playing an important role in enhancing building fire safety. This paper identifies the problems in implementation of fire safety management in Malaysia hospital buildings since there is a lack of research on this subject. The methods used were observation, reviewing the documents and interviews with authority, hospital management and maintenance contractors to achieve this purpose. It was found that the hospitals encountered problems in fire safety management, such as documentation problems,combustible materials, lack of installation of fire measures or outdated fire safety technology, locked doors due to the security reasons, lack of training of hospital staff and blocking of fire safety systems. As the conclusion authority,

hospital management and maintenance contractors must cooperate to implement a proper fire safety management system in the hospital buildings.

## INDUSTRY FIRE SAFETY:

We are developing a fire monitoring and controlling device which sense the fire and display the message on monitor screen and if the value of sensor will cross a specific threshold value it will take action autonomously. A basic web page has been designed for displaying the temperature, humidity value. It also has some other buttons to take control action regarding relay which will turn on and off different AC equipment of the building. We are storing the reading of sensor in the database for further analysis of the system

## METHOLOGY:

ESP8266 Wifi module has used in our project. All devices with specific IP address are connected to router this connection gives us best result for local operation purpose through XMLHTTP request we are handling the webpage with the help of set interval function for reading the value of Temperature and Humidity.The data of temperature and humidity has been collected by GET method and stored in targeted variable %temp for temperature and %humidity for humidity. Asyncwebserver has been used for updating specific

parameters only the value of temperature and humidity get updated regularly at an interval of 10 seconds.The function has been called by getElementbyid(“temp”) for temperature readings and getElementbyid(“humidity”) function for humidity readings

## DHT11:

DHT11 is a low-cost digital sensor for sensing temperature and humidity. This sensor can be easily interfaced with any micro-controller such as Arduino, Raspberry Pi etc… to measure humidity and temperature instantaneously. DHT11 humidity and temperature sensor is available as a sensor and as a module

## NODEMCU:

Nodemcu is an open source development board and firmware based in the widely used ESP8266 - 12E Wifi module. It allows you to program the ESP8266 Wifi module with the simple and powerful LUA programming language or Arduino IDE. With just a few lines of code you can establish a Wifi connection and define input/output pins according to your needs exactly like Arduino, turning your ESP8266 into a web server and a lot more. It is the Wifi equivalent of Ethernet module.

## RELAY:

A relay is a form of electrical switch that is operated by

electromagnet which changes over the switching when current is applied to the coil. These relays may be operated by switch circuits where the switch cannot take the high current of the electrical relay, or they may be operated by electronic circuits, etc. In either circumstance they provide a very simple and attractive proposition for electrical switching.

## CONCLUSION:

Fire monitoring and controlling system plays an important role in Industries, malls, residential areas, parking etc. They help in detecting fire or smoke at an early stage and can help in saving lives. Commercial fire detecting system usually have an alarm Signaling, with the help of a buzzer or siren. We have designed an IOT based Fire Alerting system using Temperature and a smoke sensor which would not only signal the presence of fire in a particular premise but will also send related information through IOT