LITERATURE SURVEY ON A IOT BASED INDUSTRIAL FAULT MONITORING SYSTEM USING ARDUINO

ABSTRACT:

In modern homes, as well as in industries, gas leaks are a major problem. Because the gas sense is very low, human negligence, lack of patience, or some other external condition prevent us from finding it. Gas levels can cause disasters if they are raised. An alternative idea is discussed in this paper in order to avoid this disaster in advance. A number of embedded sensors, controllers, and IoT -based software are used in the development of the system. A system that monitors and alerts us when there are LPG gas leaks can be found in this system. To monitor each parameter, we use sensors such as temperature and humidity sensors (DHT22), gas sensors (MQ6), flame sensors (LM 2903), PIR sensors (HC-SR 501), and WiFi module (ESPZ8266). In their respective fields, the sensors collect data and send it to the Wi-Fi module for processing.

INTRODUCTION:

The Internet of Things is capable of creating and analyzing information about connected objects, making decisions, and therefore, changing the world; in other words, it is smarter than the Internet. Industrial applications are also widespread. Safety and security are more important in the industrial sector, so we are developing an industrial monitoring system through the Internet of Things to prevent accidental explosions caused by leaks of various gases. In addition to being a security system, it will also be a monitoring system. When there is a gas leak, the system will sound an alarm, as well as display the concentration of gas and at which it is dangerous. In the meantime, all the people who enter the room will be deducted.

PROBLEM STATEMENT:

In industries, leaks of unwanted gases and deep depths of workers contribute to industrial accidents. Gas leaks of any kind have become an enormous problem in modern times, regardless of whether they occur in your household, in your workplace, in your restaurant, etc. Now, more than ever, a monitoring system and fault detection system are essential. Gas leaks of LPG, CH4, and CO are detected through the use of an MQ-6 sensor. This project aims to create a unique device

which detects malfunctions in an endangered plant and stops released gases from combustible gasses, preventing any explosion from occurring, while also monitoring a lot of other factors for additional safety.

DESIGN METHODOLOGY:

The design approach for the project is based on data that is gathered using a variety of sensors, including PIR sensors, flame sensors, gas sensors, and temperature and humidity sensors. These sensors are put in the necessary places, such where the gas has spilled. The flame sensor detects fire, the temperature and humidity sensors show the values, the PIR sensor alerts the user of unlawful access, and the flame sensor detects fire. These sensors provide data to the microcontroller continually (Arduino UNO). A specified threshold value has been programmed into the Arduino UNO. The condition is normal if the value is below the threshold. A signal is sent to the appropriate output by the Arduino UNO if it rises beyond the threshold value. When the sense is extremely low, a buzzer sound is produced if gas is leaking. The exhauster fan is activated when there is a strong sense of smell.

CONCLUSION:

Finally through our proposed system fault can be easily identified and sensors replace the oil automatically .The information will also be stored in the cloud platform for future reference and damages to the machines as well as humans can be avoided and can rescue quickly.