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INDUSTRIAL ELECTRICAL DEVICE REMOTE PLACES USING GSM

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ABSTRACT:

In this paper, we have tried to increase the level of security system by combining new techniques and added new concepts to develop low cost GSM based industrial security system. In our day to day life or in industrial purpose security and automation is a prime concern. Industrial automation and security system design is growing nowadays. The designing of this security system is simple hardware circuit. It allows every users to use this wireless security system by using or combining IR sensor, gas sensor, fire sensor and main failure detector at industrial level.

Keywords: IOT (Internet of things), IR sensor, GSM module.

1. INTRODUCTION

Home security is the most significant one for every homeowner either in an individual house or an apartment. To get the absolute peace of mind whether you are at home or out of home you must ensure that your home is installed with the perfect home security monitoring system. This GSM Bases industrial security system can be used to provide security system for residential, industrial, and for all domestic and commercial purposes using GSM technique. Security systems are certain electronic devices which are used to detect intrusions in home or industry. The basic components of a home automation security system are motion detectors, LPG detectors and smoke detector. It is cheaper and can be maintained easily than any other security device. When the user is away from home or industry, all the sensors are activated by switching on the Security system. Whenever systems experiences a abnormal condition in the industry like any fire/smoke occurs in the home/industry and any intrusion into the home/industry the Security system alerts the security personnel as well as the owner of the industry by sending SMS alerts to the users of the home/industry. In the system along with security, industrial lighting is also activates based on the lighting available in the industry. The system operates with the help of sensors installed in this system. Security is the main concern for every industry. Every industry wants to work in safe and secured environment that are beneficial for the workers and specially for their production process say for raw materials in the industry. Every industry want their workers to keep safe and secured from various incidents like accidents caused due to LPG gas leakage or accidents due to fire

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in their go down or their machinery department.

2. RELATED STUDY

Now a days the usage of gases and fuels at home and in industries has increased, So the number of accidents that occur as a result also increases. “A year ago in Visakhapatnam, Andhra Pradesh, there was one of its worst environmental disasters – the contamination of poison gas from a storage tank of LG Polymers Ltd, a South Korean company on the outskirts of the city, killed 12 people and taken to the hospital nearly 500 – villagers residing near the plant remain fearful. Though the plant has since been closed due to orders from the Andhra Pradesh high court, residents of Venkatapuram and four other villages surrounding the plant say the horror of the tragic incident haunts them to this day.” [1] Not only in venkatapuram we have also seen the Bhopal disaster, Chernobyl gas tragedy, which cost the whole area with effected air which contains harmful gas, people at that place get effected with harmful diseases and radiation. “There are approximately 20 gas disasters happened across various divisions of industries in India from 2014-2021, till date.” [2] 1.1 Scope While LPG is a necessity in every sector, its leakage might be disastrous. There are a variety of products available to detect gas leaks and prevent any mishaps. We've created an LPG gas detection alarm using Arduino. If a gas leak occurs, this system detects it and sounds an alarm by buzzing the circuit's buzzer. This system is simple to construct, and anyone can handle it. To detect danger, we used an LPG gas sensor module and a smoke sensor module. When LPG gas leaks, it sends a HIGH pulse to Arduino's DO pin, which Arduino reads continually. When the Arduino receives a HIGH pulse from the Gas module, it displays the message "Leakage Alert" on a 16x2 LCD and triggers the buzzer, which sounds repeatedly until the gas detector module detects no gas in the surroundings. When the gas detector module sends a LOW signal to Arduino, the LCD displays the message "No LPG Gas Leakage."

EXISTING SYSTEM:

Devices that require invasive connections in order to obtain measurements. An Arduino-based system for detecting gas leaks exists. However, it only activates the alarm if it detects a gas leak. If the user is not at home, this would be an issue. As a result, the current system is inadequate.

The disadvantages of the existing manual approach are as follows:

The systems are not portable. If the user is not at home, this would be an issue. Difficult to operate complex system. Code that is difficult to read. Code that is inaccurate

3. AN OVERVIEW OF PROPOSED SYSTEM

This project detects if any worker is entering inside the department or not. If some workers enters the working chamber or machinery room the lights will be on and if no one is present in the working room the lights will be off. If there is no one in the working chamber or in the plant then in that case if the lights or halogen bulb near the convey or belt or the boiler is continuously on so this wastage of electricity will cost heavy bills for the company. By using this system the

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wastage part can be easily overcome and more important than that this circuit is wireless and automatic on off lights so need for manual working for switching off the lights every time.

It uses LPG gas sensor to detect the gas leakage. If there is leakage then buzzer is turned on. Specially in the cooking gas industry they have to be very careful with whatever their are working or designing. Because there are thousands of pipes that bypass the LPG gases from inlet of pipe to another outlet of pipe. If there is leakage in the pipe due to any reasons in the night time or any time there might be chances of getting major incidents of end of workers. This system can protect the workers all damages. Sending of data will be there if the gas is leakage on the registered mobile number.

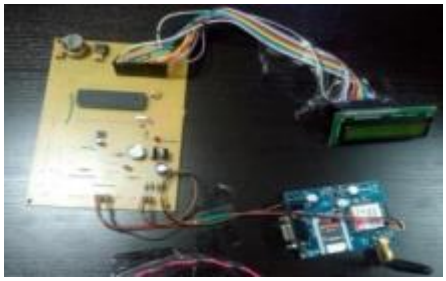

Fig.1. Hardware module.

It uses the fire sensor for detection of fire in the industry or say go down or gas filling chamber. If the fire is detected then in that case the fire detection sensor will sense and will on the water sprayer pump working as fire extinguisher and when the fire is extinguished automatically the water sprayer pump will be off. No need for manual switching on and off of the circuit. It will work automatically.

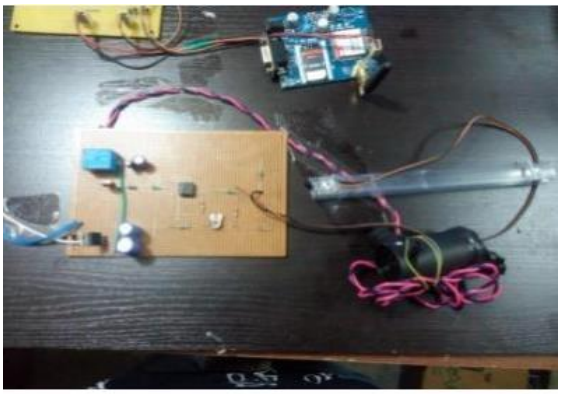

Fig.2. Sensor interfacing.

4. CONCLUSION

In this paper presentation the gas detection and alerting system will be done through SMS. The fire extinguisher circuit called as automatic fire sprayed on fire detection pump on and when fire extinguishers the pump will of. Automatic lights on-off system through invisible rays is also installed.

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