

# **FINAL YEAR PROJECT REPORT**

## **GSM Based Life Tracer Fire Protection System**



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## **Abstract**

GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM is a system which will help the rescue teams to find out the exact location where the human beings are present in the fire place and where the only fire is present. This will help them to decide quickly from where they should start their operation. Its not only about quickness but also the accuracy. So it can reduce the destructive level by overcoming the problem at its initial level.

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(Signed)

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# **Chapter 1**

## **Introduction**

## 1.1 Introduction

Fire protection systems such as water sprinkler and spray systems are widely used in the process industries for protection of storage vessels, process plant, loading installations and warehouses. The duty of the fire protection system may be to extinguish the fire, control the fire, or provide exposure protection to prevent domino effects. For some applications foam pourers or fixed water monitors sprays or sprinklers are used. Other more specialized systems using inert gases and halogen based gases are used for flooding enclosed spaces.

Adding new thing to these systems is to find out the exact location of victims present in the fire therefore they could be saved by the rescue teams in time. This can be done by GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM which increases the accuracy to save the lives which are present in the victim areas by giving the more preference to that area where fire and human beings are present instead of where there is only fire.

Now anyone could be informed by the movement of living objects through the installation of GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM at the targeted areas by sending messages on the rescue teams systems or on the mobile phones of the owners. Now the technologically is so advanced but there is nothing to worry about because GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM is easy, affordable and user attractive.

There are different methods of protection and just how to get these benefits into your home today. More and more homes are being outfitted with increasingly complex automation systems. Most of the people may think that this is too hard to do or that it's too technologically advanced for you. There's nothing to worry about because GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM has become easy and affordable.

## 1.2 Aim of the project

The objective of this project is to

- 1) Rescue the human life from the fire place by sensing their presence through motion sensors and by using GSM features of the mobile phone to send the information to the relative rescue teams or owners.
- 2) The smoke and motion sensor modules are connected to the PIC Microcontroller which is programmed accordingly and sends information to the GSM module and acts accordingly.

The proposed approach for designing this system is to implement a microcontroller-based control module that receives its instructions and commands from the motion and smoke sensors and send this information over the GSM network.

### **1.3 Concept**

GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM is a kit which is installed at the desired places at an angle of 45 degree to its performance. There will be a GSM Module, gas sensors, ultrasonic motion sensors and microcontroller (controlling unit) with each of the box, so it can exchange information with the microcontroller. If gas sensor senses any input then the input of the Ultrasonic motion sensors will be considered and the decision will be made by the micro-controller. If there is only fire in a place then it will be detected by the gas sensors and it will trigger the alarm/red light and will wait for 20 seconds to send message to the rescue teams because if the problem is under control so one can push the reset button within 20 seconds to stop message and alarm. BUT if reset button is not pressed it will inform the rescue teams the location of the targeted area via message and if there are human beings or moving living objects then their motion will be detected via ultrasonic motion sensors and again it will continuously inform the rescue teams the location of living objects via message as it will sense any movement.

All the setting will be easily reset able to default value, so people can move the devices between different electrical devices and networks. GSM BASED LIFE TRACER FIRE PROTECTION SYSTEM put into different rooms at home, depending on the needed functionality. Various different sensors could be attached. People can enjoy the highly accurate protection system and can enjoy their lives without any fear of fire.

## 1.4 Block Diagram:

