# FOREST FIRE MONITORING SYSTEM USING GSM

## AIM:

Design and development of forest fire monitoring system using GSM.

## PURPOSE:

Fire Security is primary concern for everyone. Individuals, industries, home appliances are taking general precaution about fire safety. But forest fire monitoring always in less priority. The main aim of this project is to continuously monitor the forest from fire accidents occur, the system should alert the siren and also inform immediately to the person concerned by using wireless communication system GSM. This system totally eliminates a person who has to monitor the house or industry all the time. Here we proposed solution like forest fire monitoring system using GSM.

## DESCRIPTION:

This projects consists GSM (sim800c) Module connected to Arduino through UART pins. Fire sensor connected to Arduino through digital IO. Siren connected to Arduino through relay.

## WORKING:

Arduino reads fire sensor continuously. Fire sensor status displaying on LCD. When fire occurs, sensor gets activated and SMS will send to registered mobile number. Siren will ON when fire occur.

## TECHNICAL SPECIFICATIONS:

## HARDWARE:

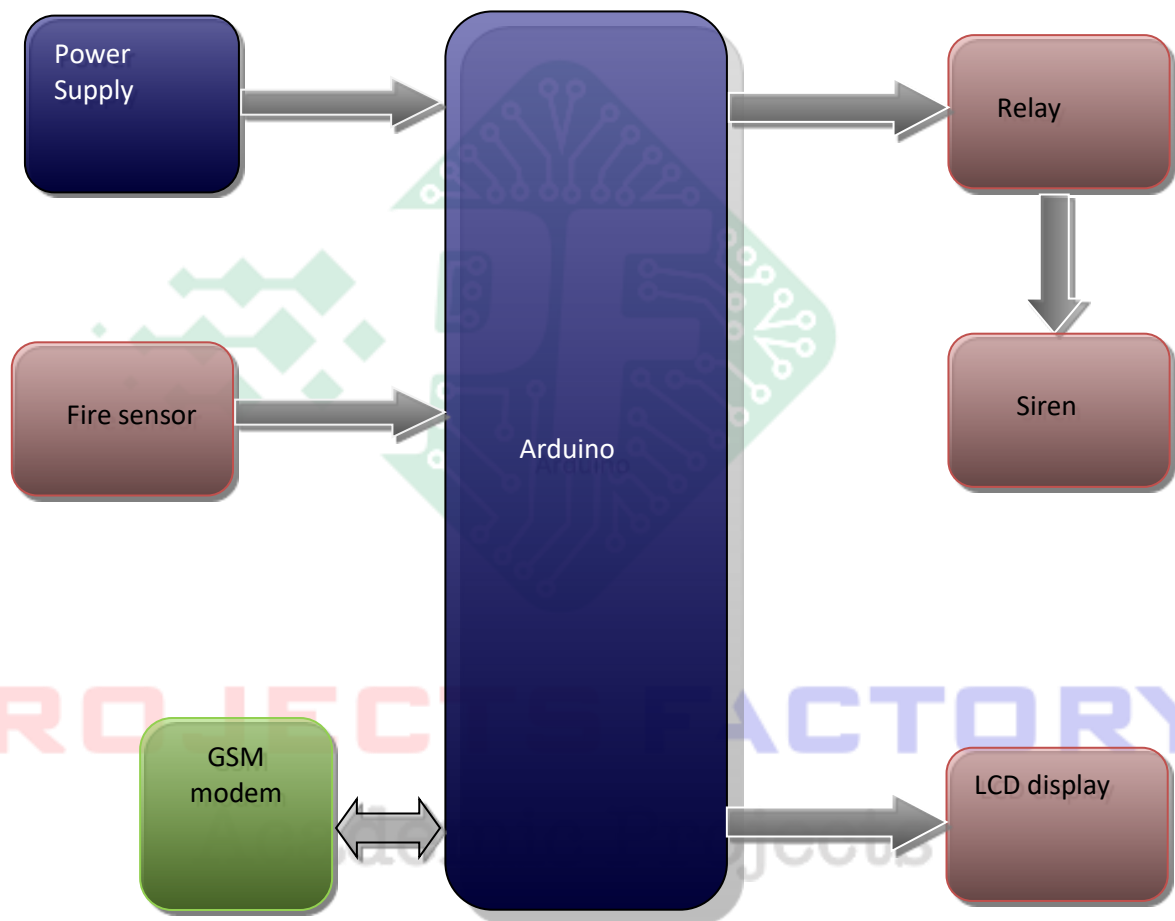| | | |
|---|---|---|
| Microcontroller | : | Arduino Uno |
| Crystal | : | 16 MHz |
| LCD | : | 16X2 LCD |
| GSM | : | SIM800C |
| Fire Sensor | : | IR type |
| Siren | : | 12v/5v DC |
| Relay | : | 12v DC Coil type |
| Power Source | : | 12v 1 amp DC battery |

## SOFTWARE:

Arduino IDE

Proteus based circuit diagram

## APPLICATIONS:

➢ Forest Department
➢ Industrial Application

**BLOCK DIAGRAM:**

## POWER SUPPLY BLOCKDIAGRAM:

```
Step down        Bridge          Filter          Regulator       Output
Transformer  →   Rectifier   →              →                →
```
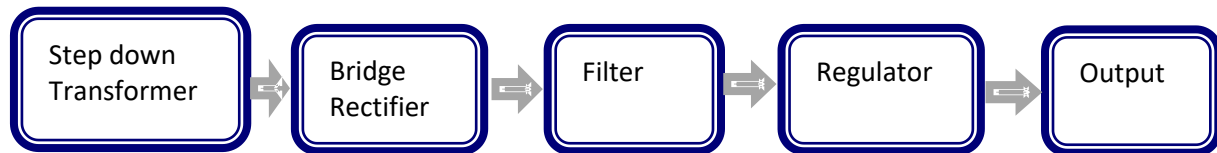
## INTERFACES COVERD:

- We have covered GSM (SIM800C) module interfacing

- IR sensor interfaces

- Relay and siren interfaces