IOT BASED INDUSTRY PROTECTION USING ARDUINO

AIM:

Design and development of IOT based industry protection using Arduino.

PURPOSE:

Industries are running fuel for any country economy. Huge number of fire accidents occurred around worldwide in industries. Sometimes it causes huge financial losses like million dollars or more. Prevention and monitoring of such dangerous situation is more important. Here we have solution like IOT based industry protection using Arduino. By monitoring some sensors data user can control respective loads, based on this criteria we can provide IOT industry protection using Arduino.

DESCRIPTION:

This project includes WIFI (Esp8266/IOT module) which is connected to Arduino through UART interface. LM35 (Temperature Sensor), Mq2 (Gas Sensor), Fire sensor, and LDR sensor are connected to Arduino through Analog and Digital IO pins. Two relays connected which are control fan and light respectively.

WORKING:

All sensors data transmitted to IOT server through WIFI (ESP8266/IOT module). User can see data from anywhere. Based on sensors data user can control respective loads from IOT server. At the same time sensors data will be displayed on LCD.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
WIFI	:	Esp8266 (IOT module)
Relays	:	12V Electromagnetic coil
Light	:	AC Bulb 230V
Fan	:	DC pump 12V
Temperature Sensor	:	LM35
Gas Sensor	:	Mq2
Fire and LDR sensor	:	Digital Type
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

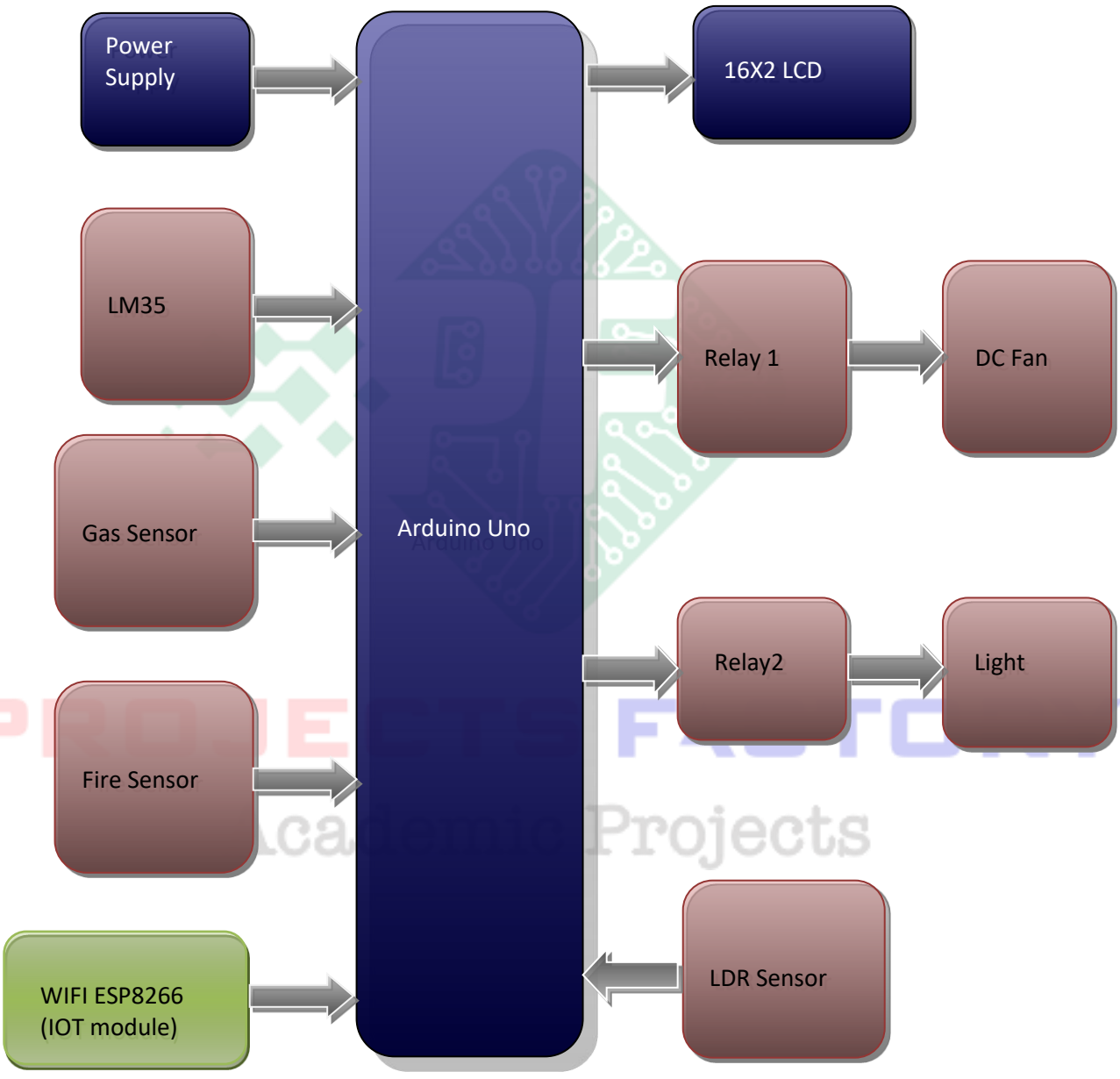
Arduino IDE

Proteus based circuit diagram

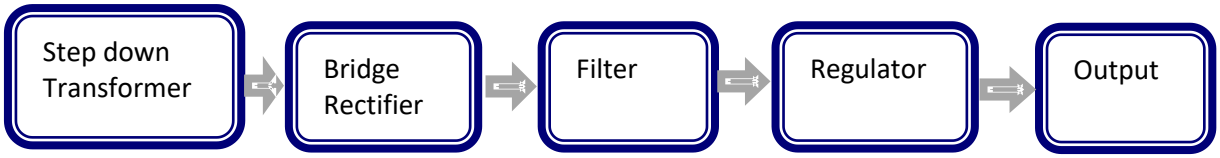
APPLICATIONS:

- Industrial Automation
- Industrial protection
- Home Safety system

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered WIFI (ESP8266/IOT) module interfacing
- LM35, Gas sensor, Fire sensor and LDR sensor interfacing
- Fan and light interface through relay