IOT WEATHER MONITORING SYSTEM USING ARDUINO

AIM:

Design and development of IOT weather monitoring system using Arduino

PURPOSE:

Weather is very important for humans and our responsibility is to protect it. By monitoring weather we can protect it. Wireless (IOT) weather monitoring is very useful to monitor from remote location. So that here we proposed IOT weather monitoring system using Arduino.

DESCRIPTION:

This project includes WIFI (Esp8266/IOT module) which is connected to Arduino through UART interface. LM35 (Temperature Sensor), MQ2 (CO level) and Humidity sensors are connected to Arduino through Analog and Digital IO pins. For basic Weather monitoring these parameters are primary.

WORKING:

All sensors data transmitted to IOT server through WIFI (ESP8266/IOT module). User can see data from anywhere. At the same time sensors data will be displayed on LCD. Sensors data visible in normal format as well graphical format also in IOT server. By observing graphical data weather estimation can be done easily.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
WIFI	:	Esp8266 (IOT module)
Relays	:	12V Electromagnetic coil
Temperature/Hum Sensor	:	DHT11
CO Sensor	:	Mq2
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

Arduino IDE

Proteus based circuit diagram
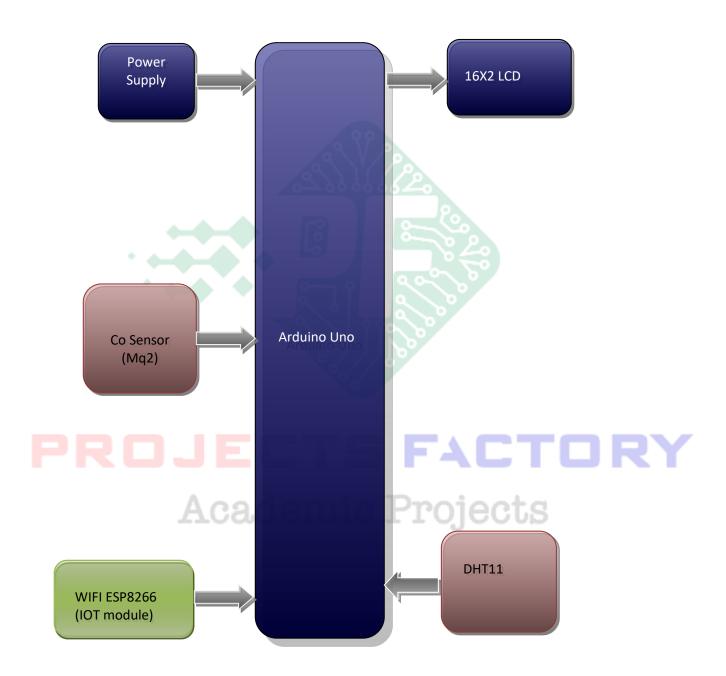
APPLICATIONS:

 ➢ Weather Stations
 ➢ Agri Sector

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM:

Step down Transformer → Bridge Rectifier → Filter → Regulator → Output

INTERFACES COVERD:

- We have covered WIFI (ESP8266/IOT) module interfacing
- DHT11 (Temp/Hum Sensor) and CO sensor (MQ2) Sensor interfacing