

## IOT BASED TRANSFORMER HEALTH MONITORING SYSTEM

### AIM:

Design and development of IOT based transformer health monitoring system using Arduino.

### PURPOSE:

Transformers are heart of power production and distribution. Damages of transformer effect on power distribution. Damage happen due to poor maintenance and overheating. Sometimes over load create very huge problem. But there no transformer health monitoring system available in existing electricity department. Here we have solution like IOT based transformer health monitoring system.

### DESCRIPTION:

This project includes WIFI (Esp8266/IOT module), which is connected to Arduino through UART interface. Temperature sensor (LM35) connected to Arduino through analog pin. Shunt resistance and voltage divider connected to Arduino Analog pins respectively.

### WORKING:

Here we can connect bulb (load) to transformer. Current sensor reads current value of load. Also voltage sensor reads voltage. Here we have load variation circuit and it varies voltage and current of load. LM35 reads temperature of transformer and update on LCD. Temperature value, Voltage and Current values will update to IOT server through WIFI (Esp8266/IOT module). User can see data in IOT server from anywhere. We can see data in graphical format also.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
WIFI	:	Esp8266 (IOT module)
Temperature Sensor	:	LM35
Current Sensor	:	Shunt Resistance
Voltage Sensor	:	Voltage Divider
Load	:	Bulb
Power Source	:	12v 2 amp Adaptor

### SOFTWARE:

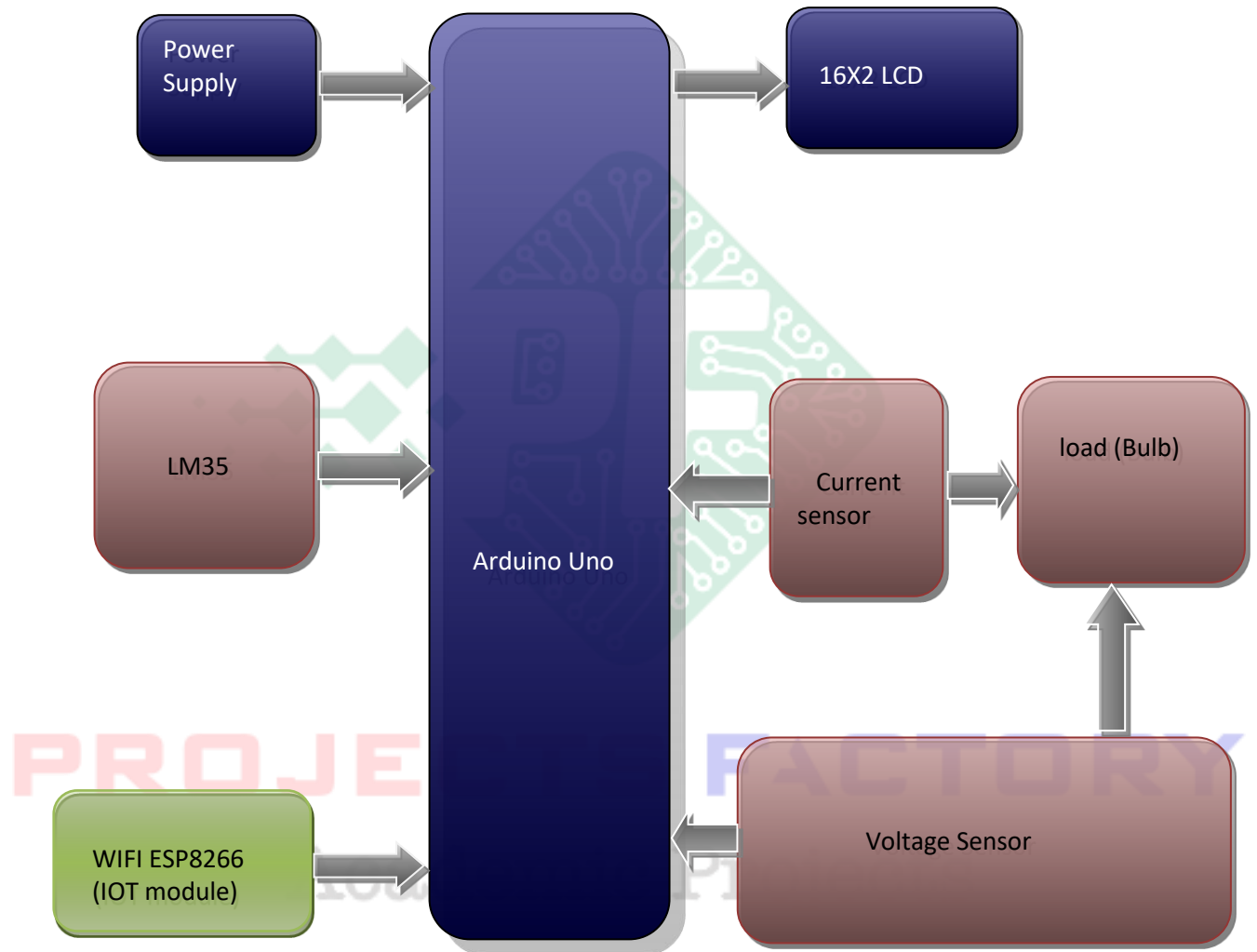
Arduino IDE

Proteus based circuit diagram

### APPLICATIONS:

- Power Distribution
- Industries
- Electricity Department
- Power Plants

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered WIFI (ESP8266/IOT) module interfacing
- LM35 ,Voltage sensor and Current sensor



PROJECTS FACTORY  
Academic Projects