IOT BASED INDUSTRIAL AUTOMATION USING ARDUINO

AIM:

Design and development of IOT based industrial automation using arduino.

PURPOSE:

Now a day everything becomes automation. This automation helps us making things fast and easy. Industrial automation is also that kind of category when we add IOT. IOT based Industrial automation helps us to control Industrial appliances from anywhere.

DESCRIPTION:

This project includes WIFI (Esp8266/IOT module) and connected Arduino through UART interface. Three relays connected to Arduino through digital IO pins. All kind of industrial loads can be control with relays. But instead those here we are showing with Fan, Light and 3 pin AC socket.

WORKING:

Here user has to give commands from IOT server. Based on commands from Arduino controls devices (light, fan, AC socket). Devices status (ON/OFF) information displayed on LCD. User can access devices control from anywhere. User has login credentials in IOT server.

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

Heater : 230v AC heating filament

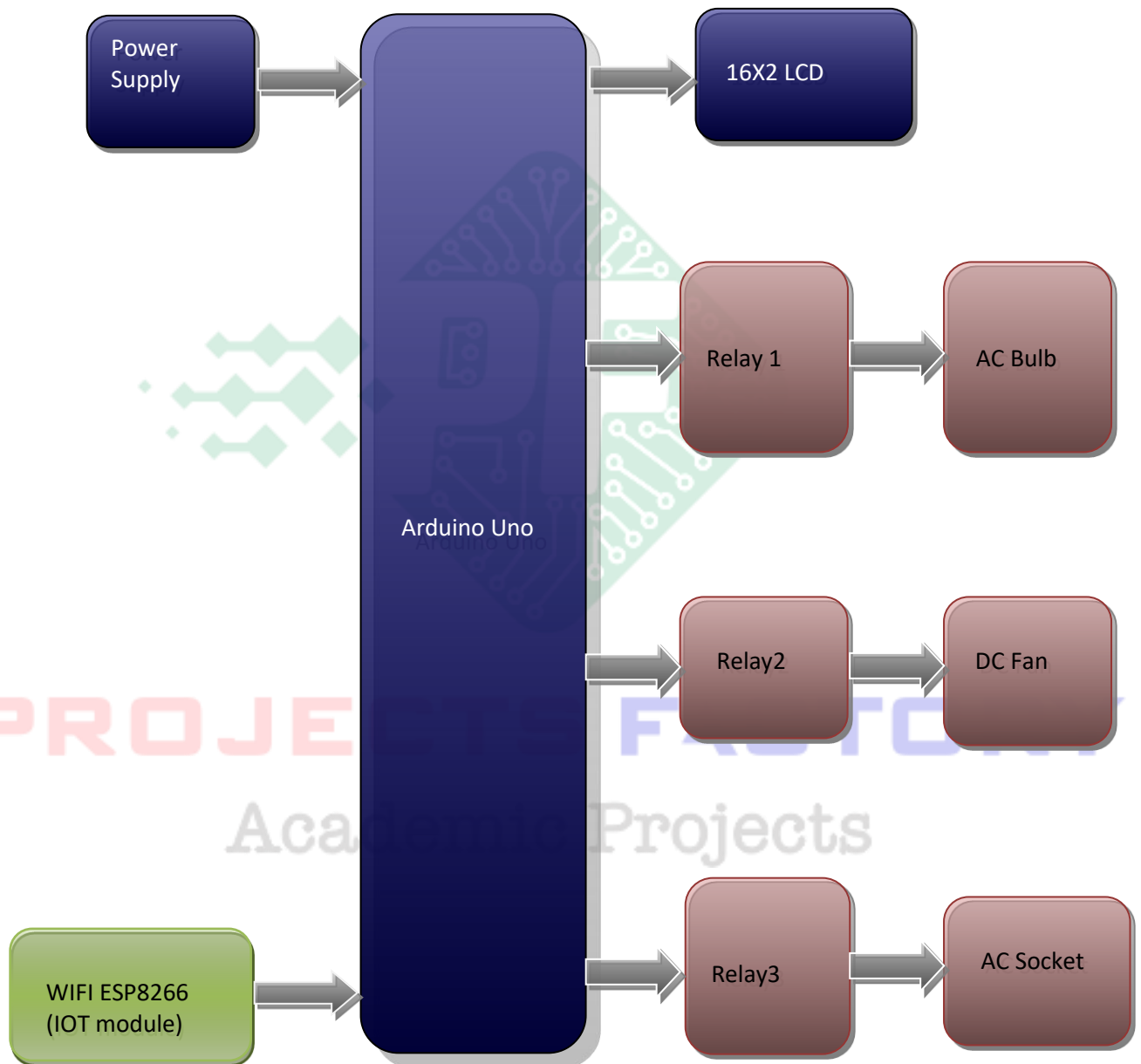Power Source : 12v 2 amp Adaptor

SOFTWARE:
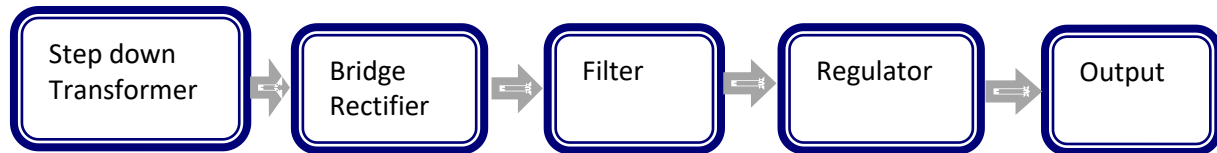
Arduino IDE

Proteus based circuit diagram

APPLICATIONS:

- ➢ Industrial Automation
- ➢ Home Automation

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM:

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

INTERFACES COVERD:

- In this project we have covered WIFI (ESP8266/IOT) module interfacings. Also relay Loads control.