AUTOMATIC GREEN HOUSE AUTOMATION

AIM:

Design and Development of Automatic Greenhouse Automation.

PURPOSE:

The main idea is to implement micro controller based application which can sense environmental parameters like temperature, humidity and Soil moisture. This equipment is used in green house for increasing the growth of plants and continuingly monitoring the variations of parameters and take required precautions. This project can be implemented with low cost and easy to install and easy maintenance. Here project title is automatic greenhouse automation.

DESCRIPTION:

This project includes DHT11 which is connected to Arduino digital pin. Soil moisture sensor connected to Arduino digital pin. Two relays controls DC fan and AC pump which are connected to Arduino digital pin.

WORKING:

Here DHT11 reads temperature and humidity of environment. If temperature or humidity exceeds more than desired limit then DC fan will ON. Based on soil moisture wet and dry condition water pump will controlled. Sensors values will display on 16X2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
LCD	:	16X2 LCD Display
Crystal	:	16 MHz
Temperature Sensor	:	DHT11
Humidity Sensor	:	DHT11
DC Fan	:	5V DC
AC water Pump	:	230V AC
Relays	:	12V DC Electromagnetic
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

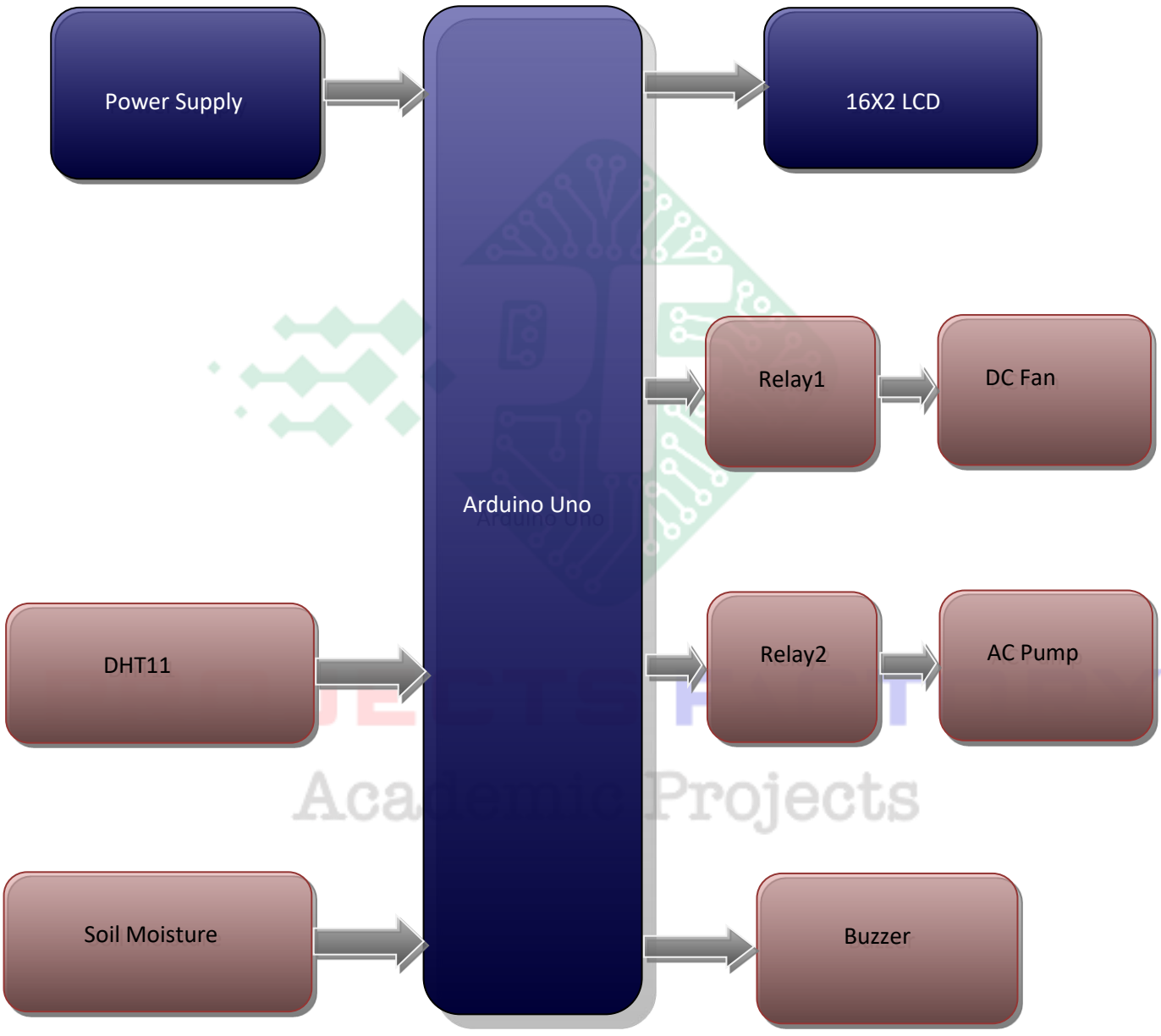
Arduino IDE

Proteus based circuit diagram

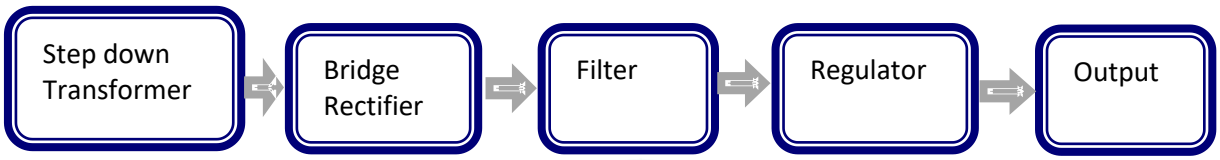
APPLICATIONS:

- Smart agriculture Applications
- Hydroponics

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- DHT11 sensor, Soil moisture sensor interfaces
- DC fan and AC water pump along with relay interfaces