PC BASED EGG INCUBATOR PARAMETER MONITORING

AIM:

Design and Development of PC based egg incubator parameter monitoring.

PURPOSE:

Poultry hatching industries are main source of production of chicken. Hatching industries have big size machines that can do hatching. Egg incubators are also part of hatching machines. There is lot of Egg incubator machines available in market, but all are expensive and not computer attached. We want to design and develop low cost and smart egg incubators that can send sensors parameter data to PC (personal computer) software. Egg incubators have mainly two parameters one is temperature and other one is humidity. Here we do read these two parameters and send to PC (personal computer). Also it has incubation process. Here project title is PC based Egg Incubator parameter monitoring using Arduino.

DESCRIPTION:

Arduino and USB-TTL connected through UART communication and it can communicate Arduino to PC and vice versa. DHT11 and Servo motor (MG995) connected to Arduino digital pin.

WORKING:

General process of Egg Incubator is to tilt egg from -45 degrees to +45 degrees with some time delay. This process need to do about 12 hours and some times more. While doing this we have to read temperature and humidity. Arduino does all these things and send information to PC. In PC, C# application handles all this information and stores in local file. This stored information will be useful for further statistics of Egg incubation.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontrollers	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Communication Cable	:	USB-TTL
Count Sensors	:	IR sensors
Temperature Sensor	:	DHT11
Humidity Sensor	:	DHT11
Motor	:	ServoMG995
Power Source	:	12VDC adaptor

SOFTWARE:

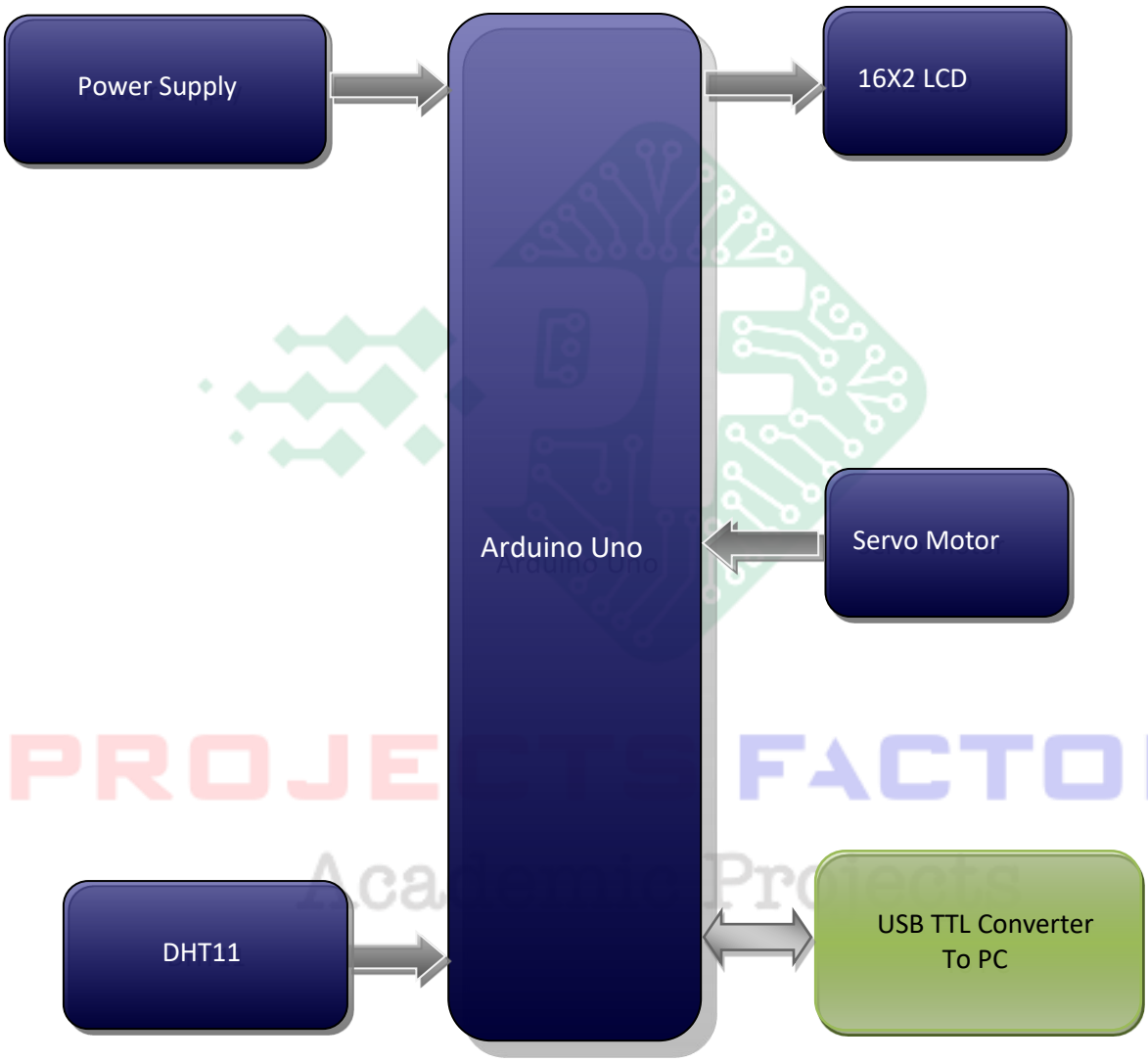
Arduino IDE

Proteus based circuit diagram

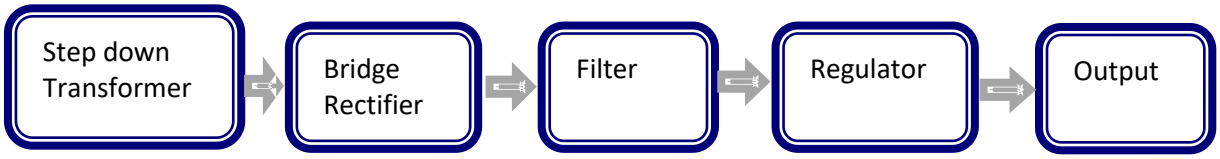
APPLICATIONS:

- Egg Incubators Applications
- Hatcheries Applications
- Poultry Hatching

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered Arduino and PC interface
- Sensor like DHT11 and Servo motor interface