

PC BASED HOME AUTOMATION WITH VOICE ALERT

AIM:

Design and Development of PC based home automation with voice alert.

PURPOSE:

We can see computers everywhere around the world. They are very smart and we can run any kind of applications. Every person working time on computer is increased day by day. Using simple mouse clicks we can control home appliances. Here we want to design and develop home automation system using PC (personal computer). It has C# application that can have graphical user interface to control loads. Proposed project title is PC based home automation with voice alert using Arduino.

DESCRIPTION:

Arduino interface with PC or laptop through USB to TTL cable. USB-TTL cable can communicate data from PC to Arduino. It has UART pins at one end and other end it has USB port. DC fan, AC bulb and DC LED light are controlled by relays. Relays connected to Arduino digital pins.

WORKING:

Computer has graphical user interface application which was developed in C#. It has three buttons to control respective loads like light, fan and dc bulb. When we press on button first time then corresponding load will be ON, if we press it again then same load will be OFF. All three loads status will display on 16x2 LCD display. C# application has provision of selecting serial port to communicate with Arduino. Also Audio (Voice) alert will come through speakers of laptop or external speakers of desktop. C# application will do this with conversion of text to voice.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontrollers	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Relay	:	12V DC Electromagnetic
Light	:	230V AC
Fan	:	12V DC
LED light	:	12V DC
Power Source	:	12VDC adaptor

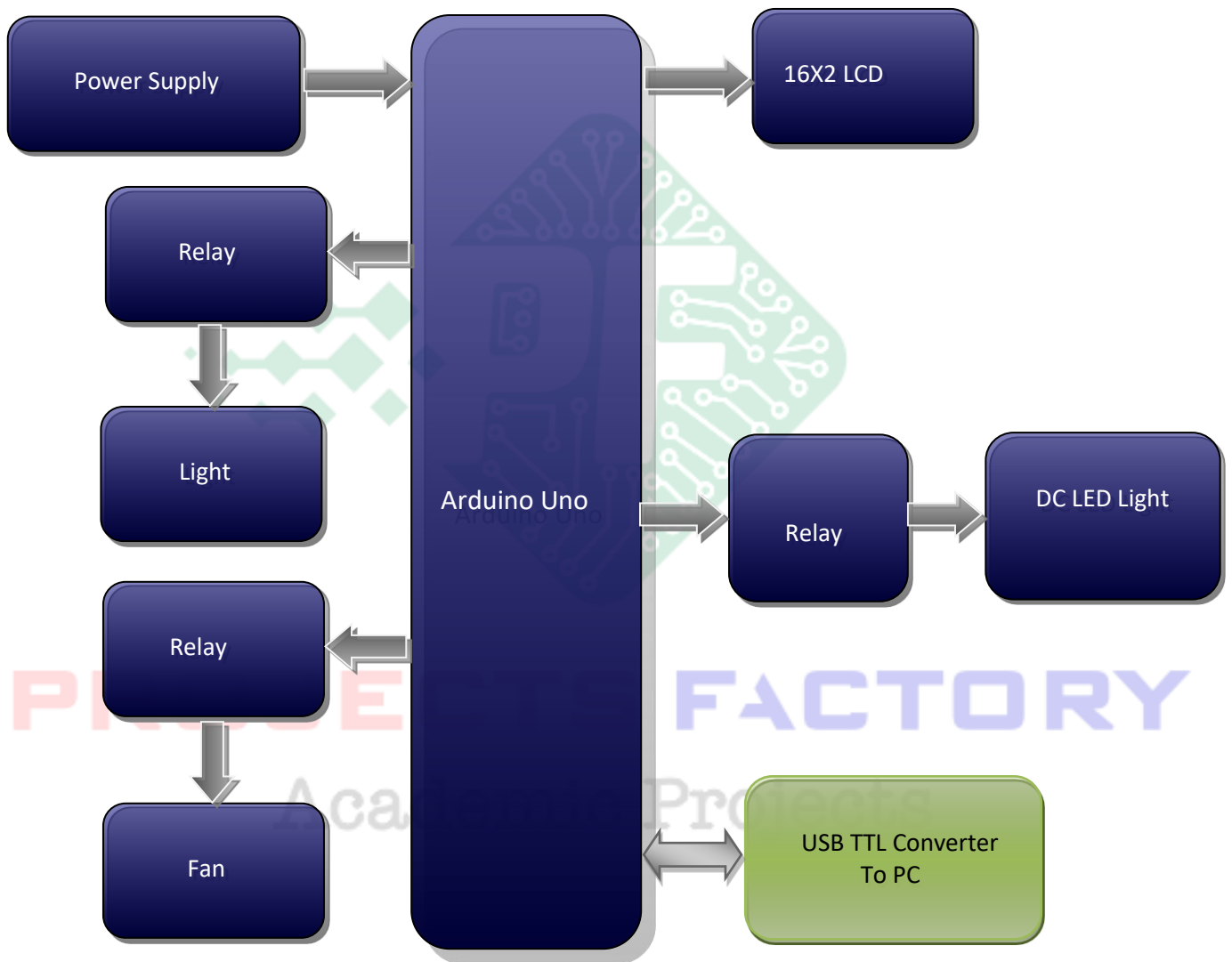
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

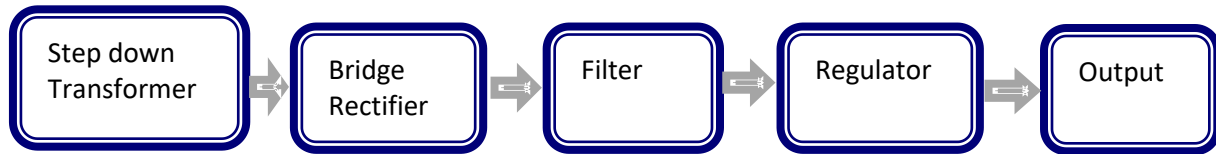
APPLICATIONS:

- Home Automation
- Home Appliances control
- Industrial Control
- Industrial Appliances control

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered Arduino and PC interface
- Relays and loads like Light, Fan and DC LED interface

PROJECTS FACTORY
Academic Projects