AUTOMATIC ROOM LIGHT CONTROL BASED ON VISITOR COUNTER

AIM:

Design and Development of Automatic room light control based on visitor counter.

PURPOSE:

In this project we can control the appliances in consideration of the number of people inside the room to save the power. To detect the number of people inside the room we are using IR sensors at the entrance and exit as shown in block diagram. We will fix this IR sensor at the entrance and exit of the particular place such that if any obstacle came in front of the transmitter, the emitted IR rays fall on the IR receiver. Here the project title is automatic room light control based on visitor counter.

DESCRIPTION:

This project includes two IR sensors connected to Arduino digital pins. Two relays connected to Arduino digital pins which can control AC lights.

WORKING:

Whenever the sensor [IR receiver] at the entrance is activated the count corresponding to the number of people inside the room will be increased and in opposite case if IR receiver at the exit is activated and count will be decreased. We continuously monitor the IR sensors at the entrance and exit by using the Arduino controller. In both cases the count will be updated with in very short time on the LCD. Depending upon the count the lights will be automatically turned ON/OFF. For first three people load 1 will ON, for next three people load 2 will ON and loads will be ON according to count of people. If count decreases then lights will be OFF automatically according to every three count of people.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
LCD	:	16X2 LCD Display
Crystal	:	16 MHz
Obstacle Sensor	:	IR sensor DC 5V
Relay	:	12V DC
Light	:	230V AC
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

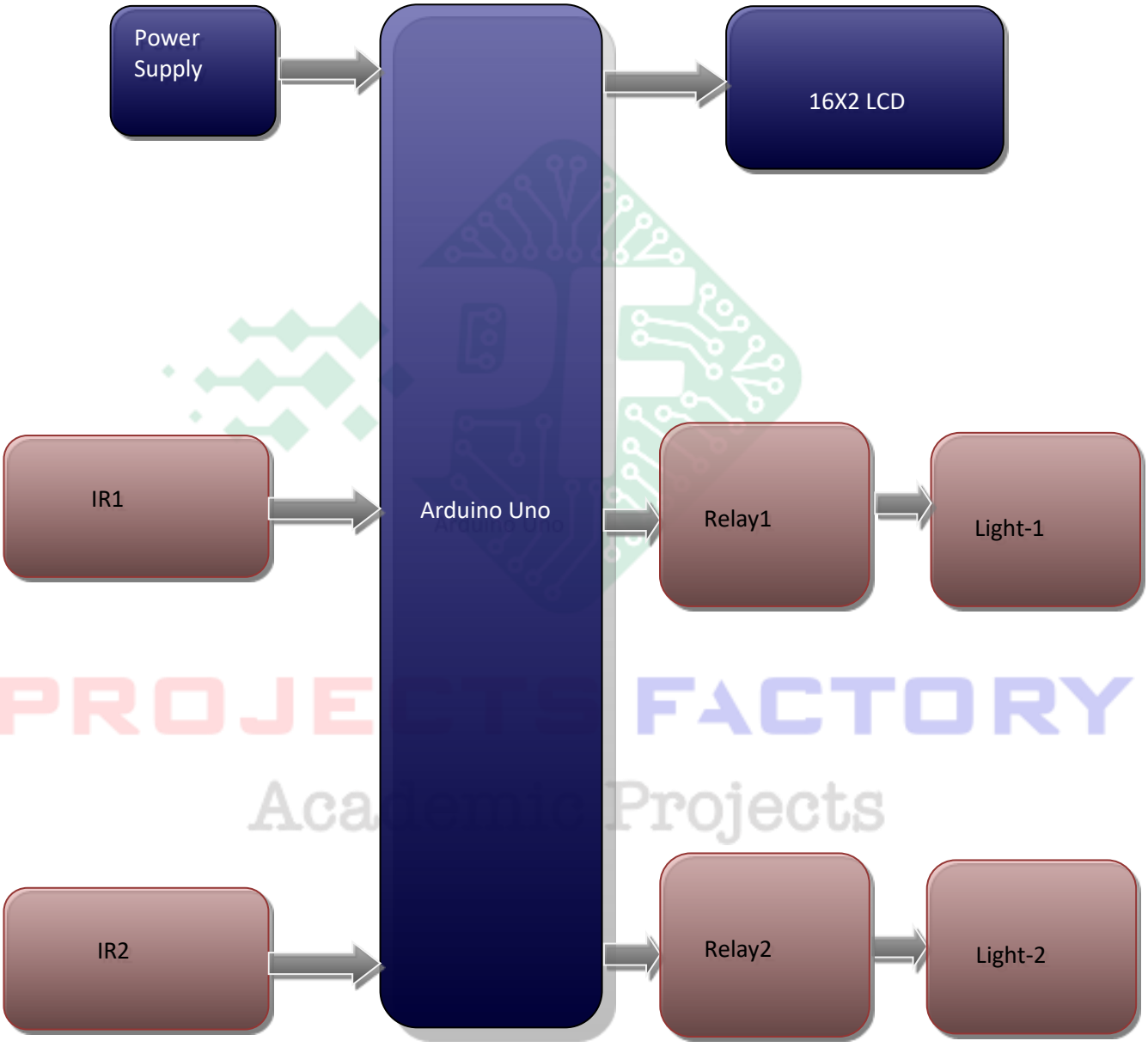
Arduino IDE

Proteus based circuit diagram

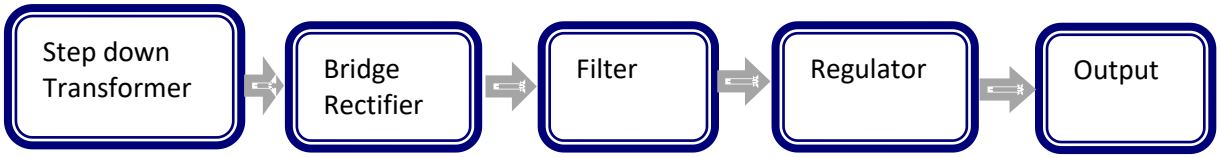
APPLICATIONS:

- Visitor Counter Applications
- Power Saving Applications

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- Two relays with Lights interface
- Two IR sensors interface