LIFI BASED ELECTRICAL APPLIANCES CONTROL

AIM:

Design and development of LIFI based electrical appliances control.

PURPOSE:

Technology evaluates day by day and new technologies coming into every sector. Electronic sector is one of the fastest growing sectors among all. Everyone using WIFI technology to access internet through phones and laptops. But new researchers found LIFI technology that can be more advanced than WIFI. Now LIFI is in developing stage and we can use for many applications. Here we want to design LIFI based electrical appliances control using Arduino.

DESCRIPTION:

LIFI module connected to Arduino microcontroller UART port. Here there are two sections. One is transmitter, which has Arduino, LIFI module and two buttons. Two buttons connected to Arduino digital pins. Second section is receiver, which has Arduino, LIFI module and bulb, fan. Bulb and Fan are controlled by two relays. Relays controlled by Arduino digital pins.

WORKING:

Transmitter side LIFI module has LED lights to send commands while pressing buttons. Receiver side LIFI module has solar panel to receive commands to control loads. Loads status information will be displaying on LCD display. By pressing buttons fan and bulb will be control. For first press it takes ON command and for second press it take OFF command. Here Data will be converted into light then transmitted through LEDs and received by solar panel then amplified through LIFI module.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
LIFI Module	:	UART based LIFI module
Relay	:	12V DC Electromagnetic type
Bulb	:	230V AC
Fan	:	DC 12V
Power Source	:	12v 1 amp DC battery

SOFTWARE:

Arduino IDE

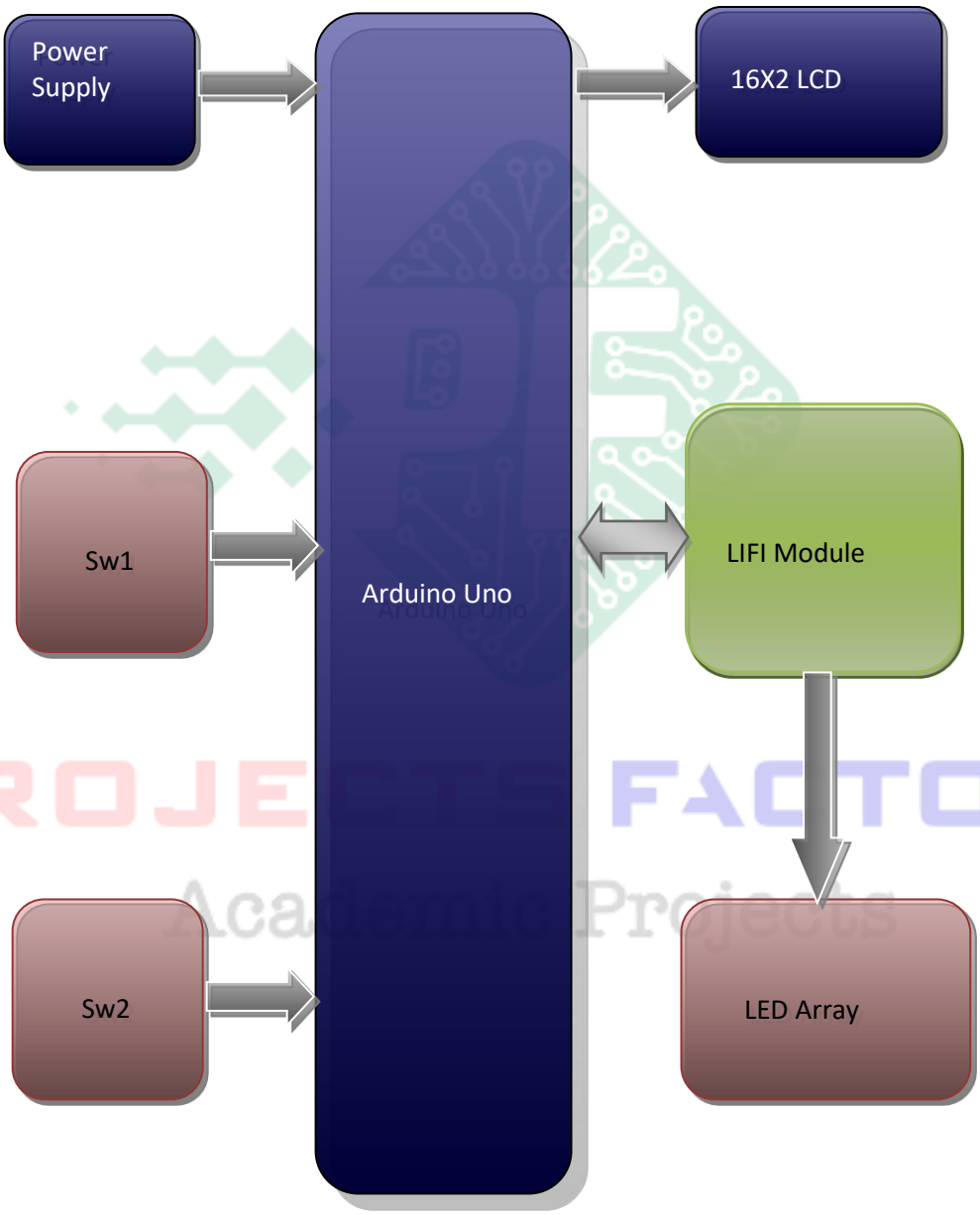
Proteus based circuit diagram

APPLICATIONS:

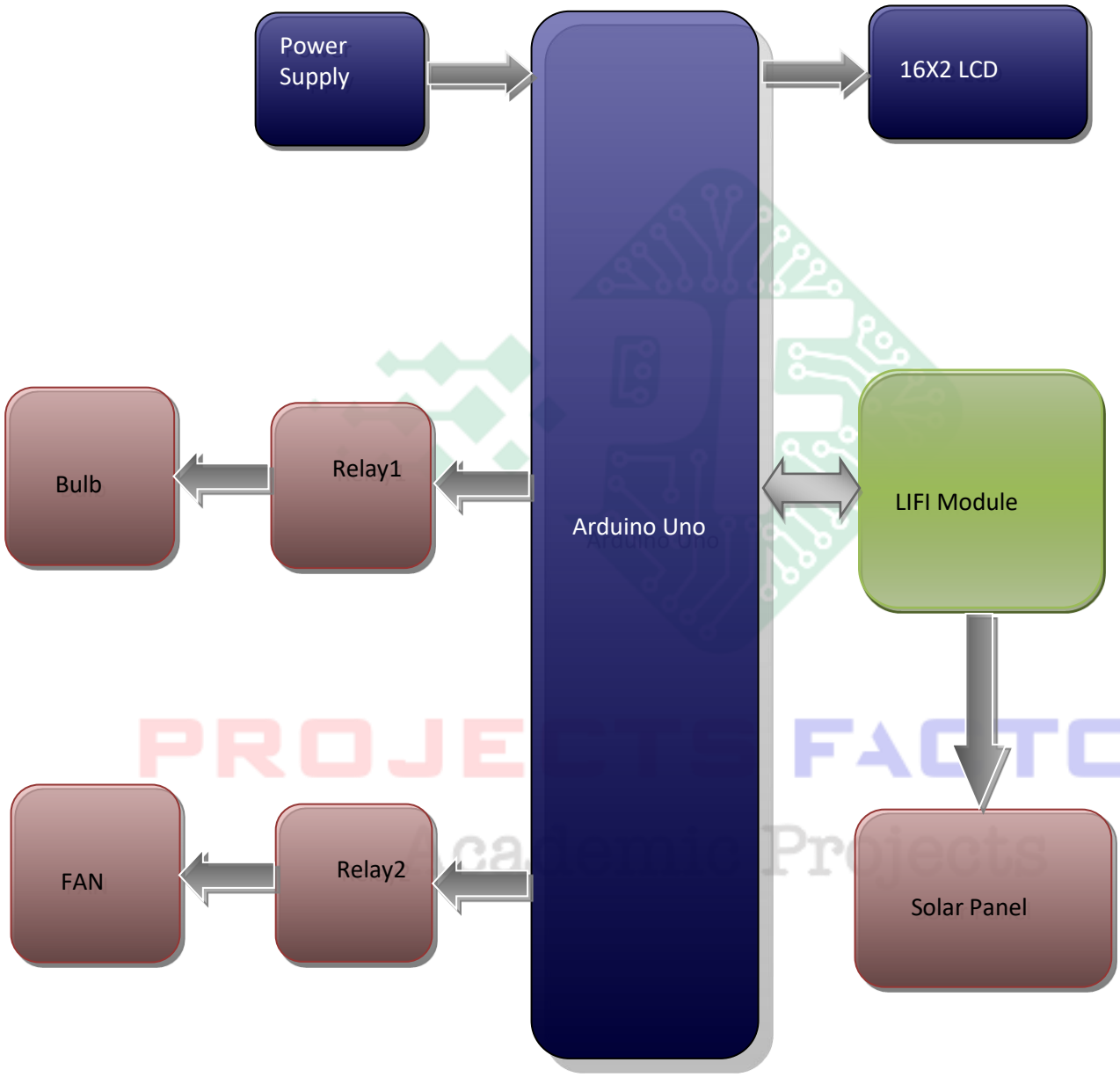
- Home automation
- Wireless communication

BLOCK DIAGRAM:

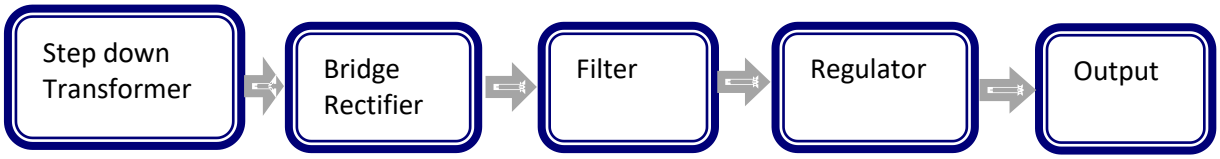
Transmitter Section:



Receiver Section:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered LIFI module interfacing
- Relays and loads