POWER SAVER SYSTEM FOR ADVERTISEMENT HOARDING USING RTC

AIM:

Design and Development of Power saver system for advertisement hoarding using RTC.

PURPOSE:

In this competitive world human cannot spare his time to perform his daily activities manually without any fail. The most important thing he forgets is to switch OFF the room lights wherever they are not required. With this, even the power will be wasted up to some extent. This can be seen more effectively in the case of commercial sign boards. This project gives the best solution for electrical power wastage. Also the manual operation is completely eliminated. This project provides different ON and OFF timings to operate the lights around sign boards. The user can change ON and OFF timing with Bluetooth App.

DESCRIPTION:

This project includes Bluetooth (Hc-05) which is connected to Arduino UART port. RTC (DS1307) connected to Arduino I2C port. Relay Controls AC lights which is connected to Arduino digital pin.

WORKING:

In this project User can set ON/OFF time of advertisement hoardings light from Bluetooth Application. User can also change time from mobile application. This information will display on 16x2 LCD display. Light will ON and OFF according to setting time from Bluetooth Application.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller   :   Arduino Uno

LCD   :   16X2 LCD Display

Crystal   :   16 MHz

Bluetooth   :   HC-05

RTC   :   DS1307

Relay   :   12V DC

Buzzer   :   5V DC

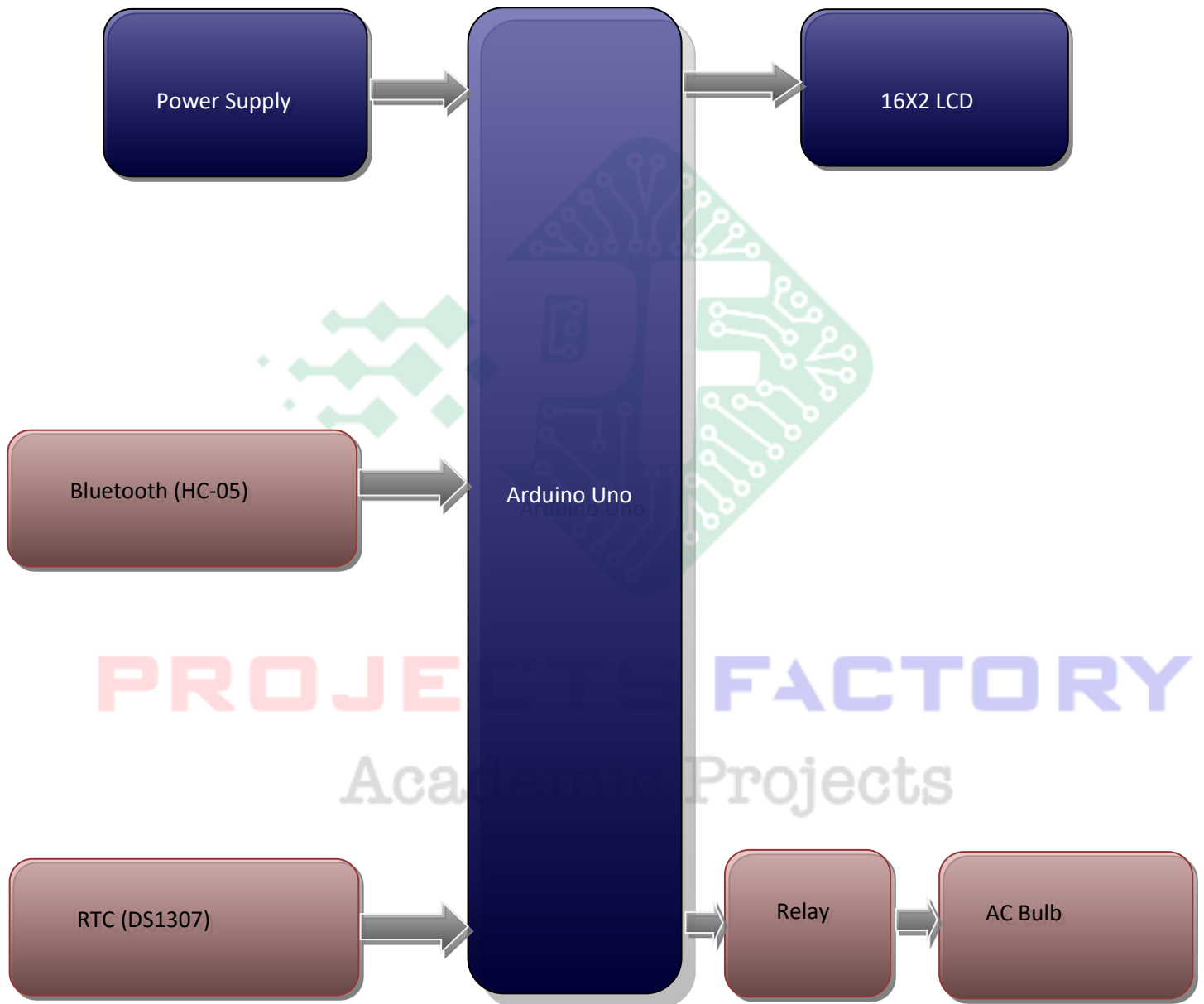AC Bulb   :   230V AC

Power Source   :   12v 2 amp Adaptor

SOFTWARE:

Arduino IDE

Proteus based circuit diagram

APPLICATIONS:

➢ Power Saving Systems

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM:

Step down Transformer	→	Bridge Rectifier	→	Filter	→	Regulator	→	Output

INTERFACES COVERD:

- Bluetooth (Hc-05) interface
- RTC (DS1307) and Relay interface