

LIFI BASED DATA AND AUDIO COMMUNICATION

AIM:

Design and development of LIFI based Data and Audio communication.

PURPOSE:

LIFI is a advanced communication technology among all wireless communications like RF, Zigbee, and WIFI. Now this LIFI is under developing process and day by day it will bring new advancements. Here we want to transmit data and audio through single LIFI module using Arduino. Here project title is LIFI based data and audio communication using Arduino.

DESCRIPTION:

LIFI module connected to Arduino UART port. At transmitter side LIFI module has LED light array. At receiver side LIFI module has solar panel. LIFI module can transmit both data and audio. It has selection switches for two modes. By selecting mode switches we can keep LIFI module in data and audio mode.

WORKING:

Here there are two sections to transmit data and audio. One is transmitter which has LIFI transmitter connected to Arduino serial port. Also it has connection with PC serial port to transmit data from PC. When we enter data in PC, LIFI module transmits data through LED array in the form of light. At receiver side LIFI module interfaced with Arduino serial port. It has solar panel to receive data from transmitter and converts light format data into text. This data will be displayed on 16x2 LCD display.

These LIFI modules has audio communication modes by selecting switches into audio mode. We can connect mobile phone audio pin to transmitter LIFI module and it can transmit audio through light format. LIFI receiver converts light data into audio signals playing through amplifier and speaker.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
LIFI Module	:	UART based LIFI module
Speaker	:	6 ohms
Power Source	:	12v 1 amp DC battery

SOFTWARE:

Arduino IDE
Proteus based circuit diagram

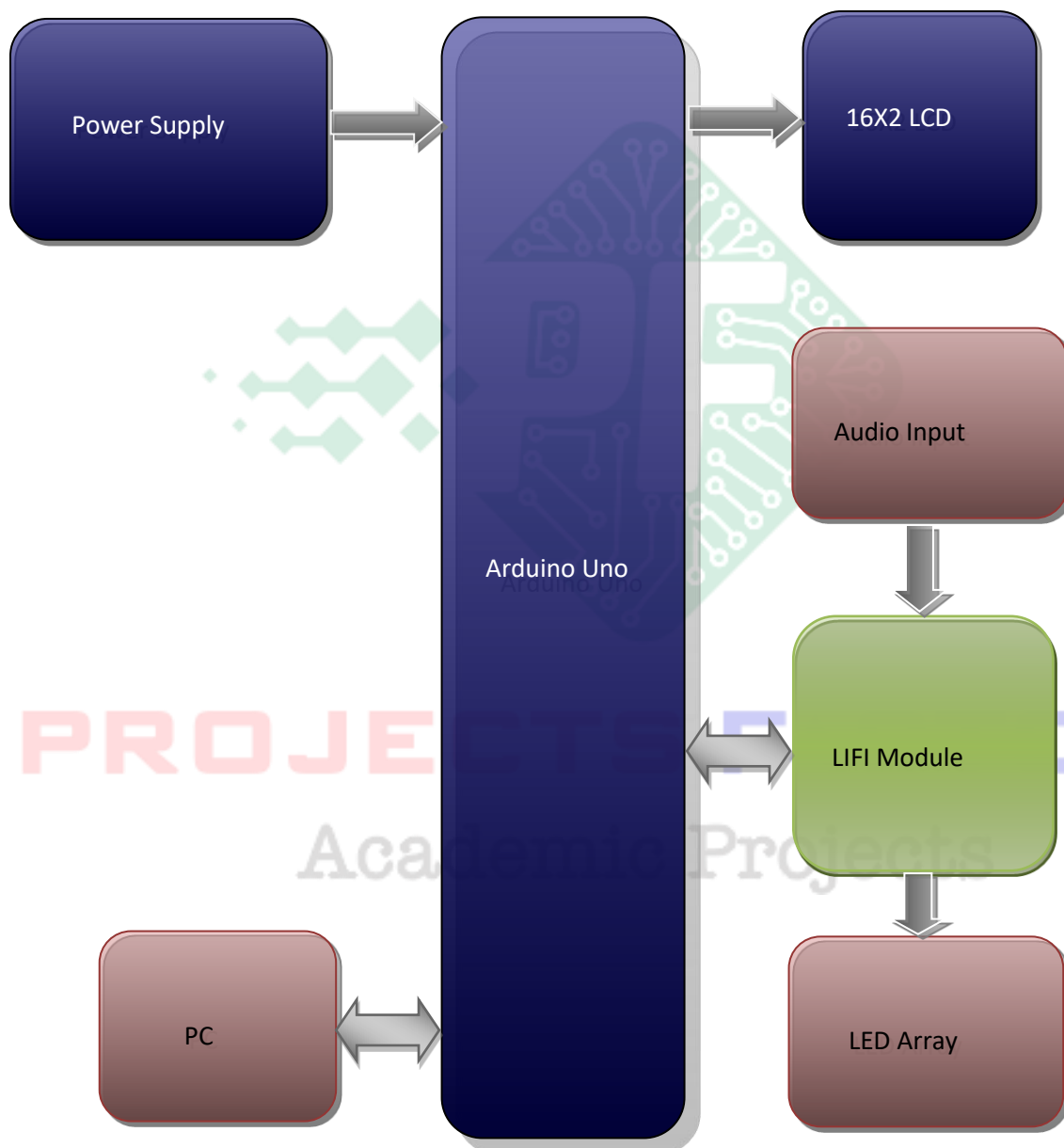
APPLICATIONS:

- LIFI Data communication
- LIFI Audio communication
- LIFI communication
- LIFI based projects

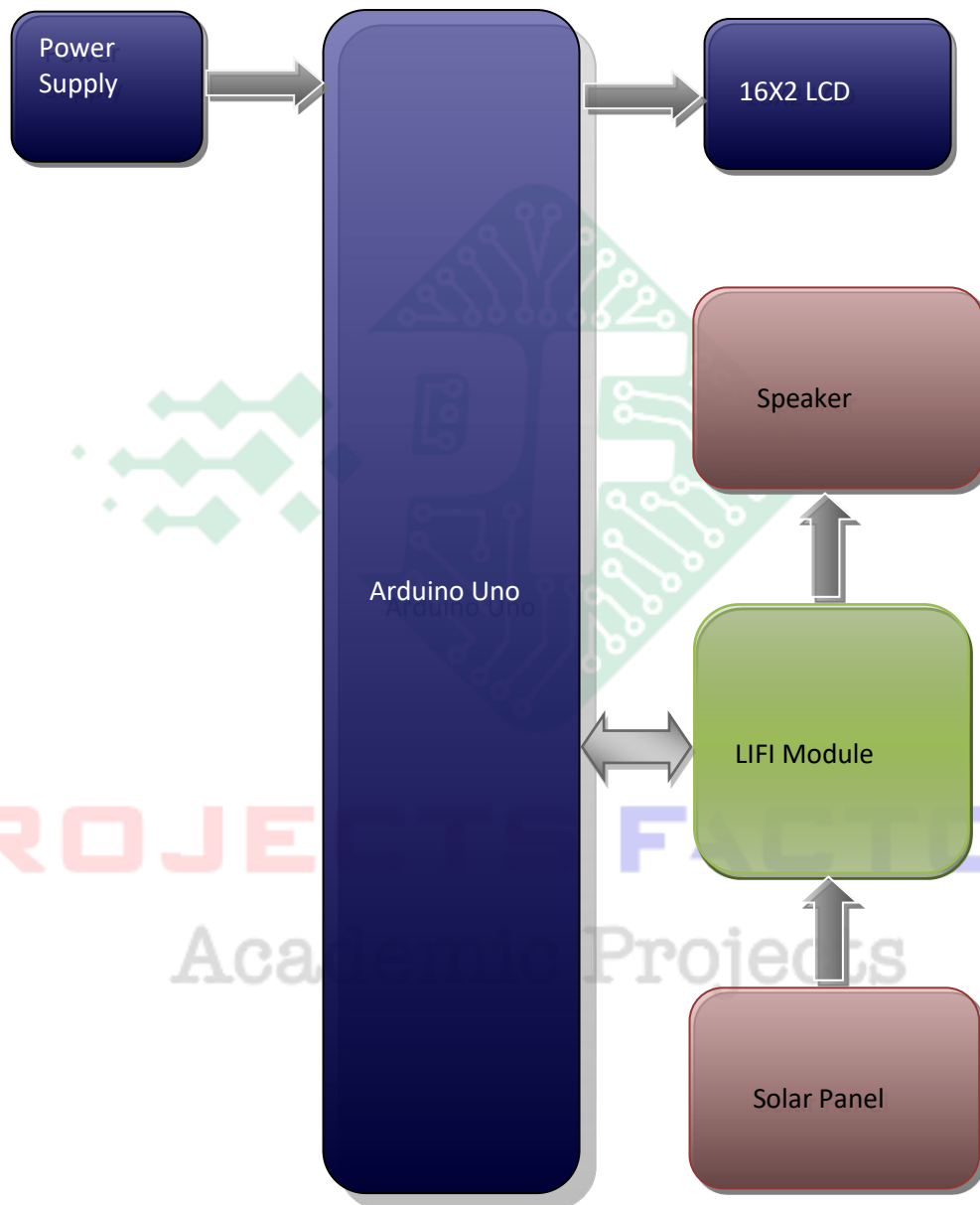
PROJECTS FACTORY
Academic Projects

BLOCK DIAGRAM:

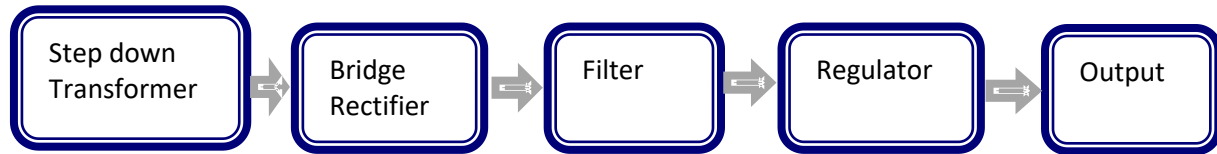
Transmitter Section:



Receiver Section:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered LIFI module interfacing
- LIFI Audio communication interface
- LIFI Data communication interface

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