

ZIGBEE BASED TRAFFIC AMBULANCE SIGNAL CONTROL

AIM:

Design and Development of Zigbee based traffic ambulance signal control.

PURPOSE:

Traffic signalling system is everywhere in junctions. But almost all traffic lights operating based on time interval. It is very difficult to manage route for ambulance in traffic. There is golden hour for every patient who needs immediate treatment. To save time and traffic clearance we will suggest Zigbee based traffic ambulance signal control using Arduino.

DESCRIPTION:

This project includes Zigbee module (HC12), which is connected to Arduino through UART interface. Traffic LEDs connected to Arduino digital pins. 4 Buttons connected to Arduino digital pins.

WORKING:

This project divided into two parts. One is at traffic lights side, Which has Arduino, Zigbee and Traffic lights. Second part has Arduino, Zigbee and buttons. General traffic controls based on time interval. Here also traffic lights operating according to time interval, but whenever ambulance comes in particular road then driver can give signal to traffic lights and then it turns green light to that particular road. It will allow ambulance to move forward. Ambulance priority will display on 16X2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Zigbee Module	:	HC12 - 433MHZ or 2.4Ghz
Traffic Light	:	5mm LEDs 5V
Power Source	:	12v 2 DC Adaptor

SOFTWARE:

Arduino IDE
Proteus based circuit diagram

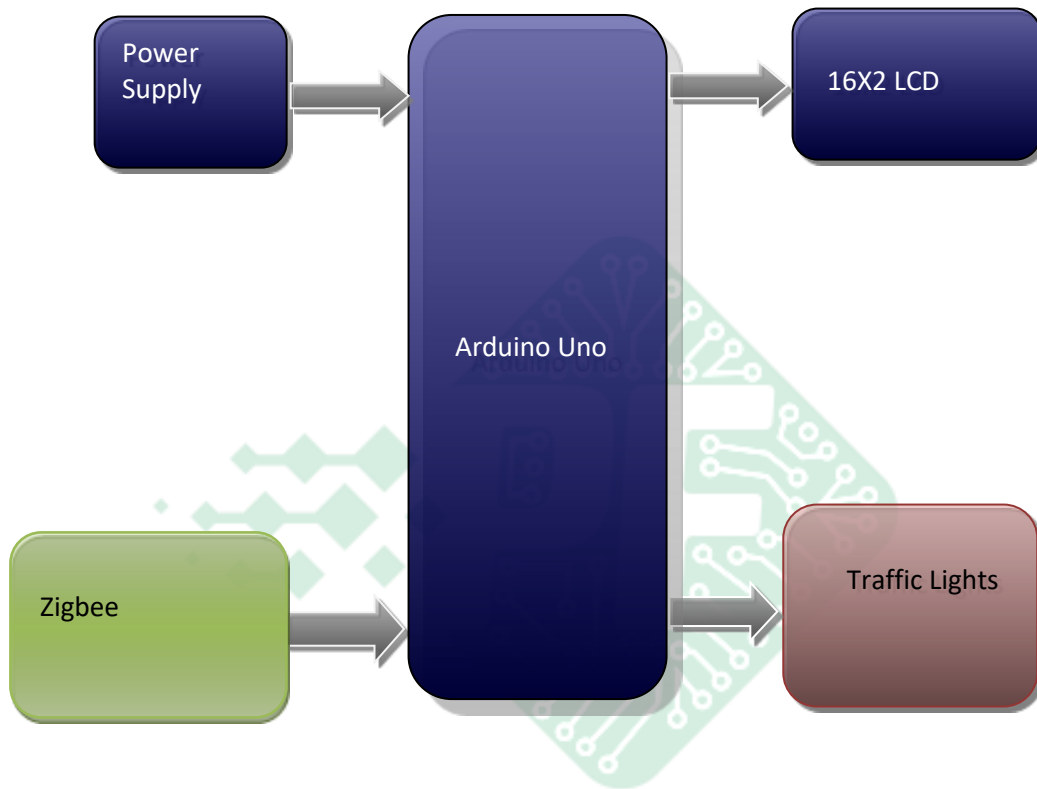
APPLICATIONS:

- Traffic Management
- Ambulance emergency management

PROJECTS FACTORY
Academic Projects

BLOCK DIAGRAM:

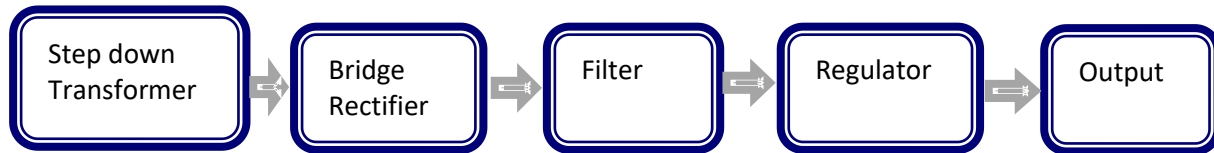
Traffic Signals:



Ambulance:

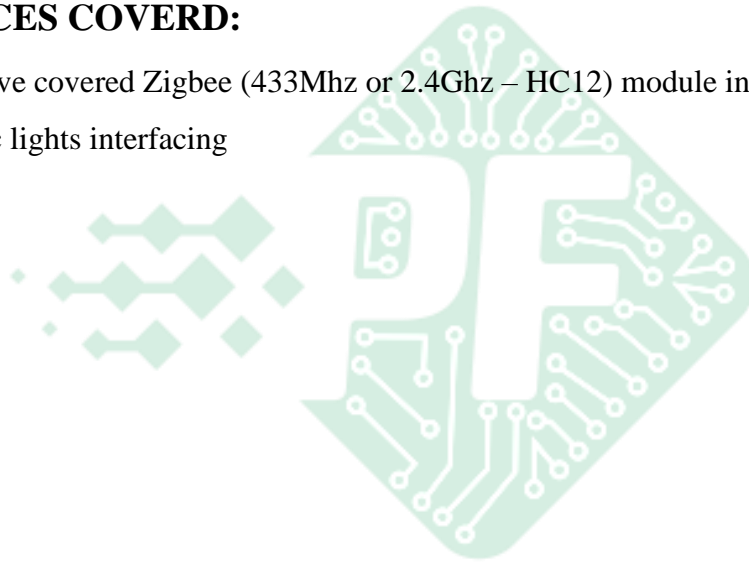


POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered Zigbee (433Mhz or 2.4Ghz – HC12) module interfacing
- Traffic lights interfacing



PROJECTS FACTORY
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