TRAFFIC LIGHT WITH VEHICLE DENSITY

AIM:

Design and Development of Traffic light with vehicle density.

PURPOSE:

The main goal of this project is to control the traffic using timer delay. This traffic light system is based on fixed-time concept allotted to each side of the junction. Junction timings allotted are fixed. Along with regular traffic control here we will add density control using IR sensors. Here project title is traffic light with vehicle density.

DESCRIPTION:

This project includes 12 traffic LEDs which are connected to Arduino digital pins. Four IR sensors connected to Arduino digital pins.

WORKING:

In this project four road junction traffic lights operated based on time delay. In any road traffic is more than respective IR will activated and traffic allows in that road. Here traffic priority turns to density side to allow particular vehicles.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LEDs	:	RED, Green, Yellow/Orange 5mm DC
Density Sensor	:	IR Sensors
Power Source	:	12v 2 amp Adaptor

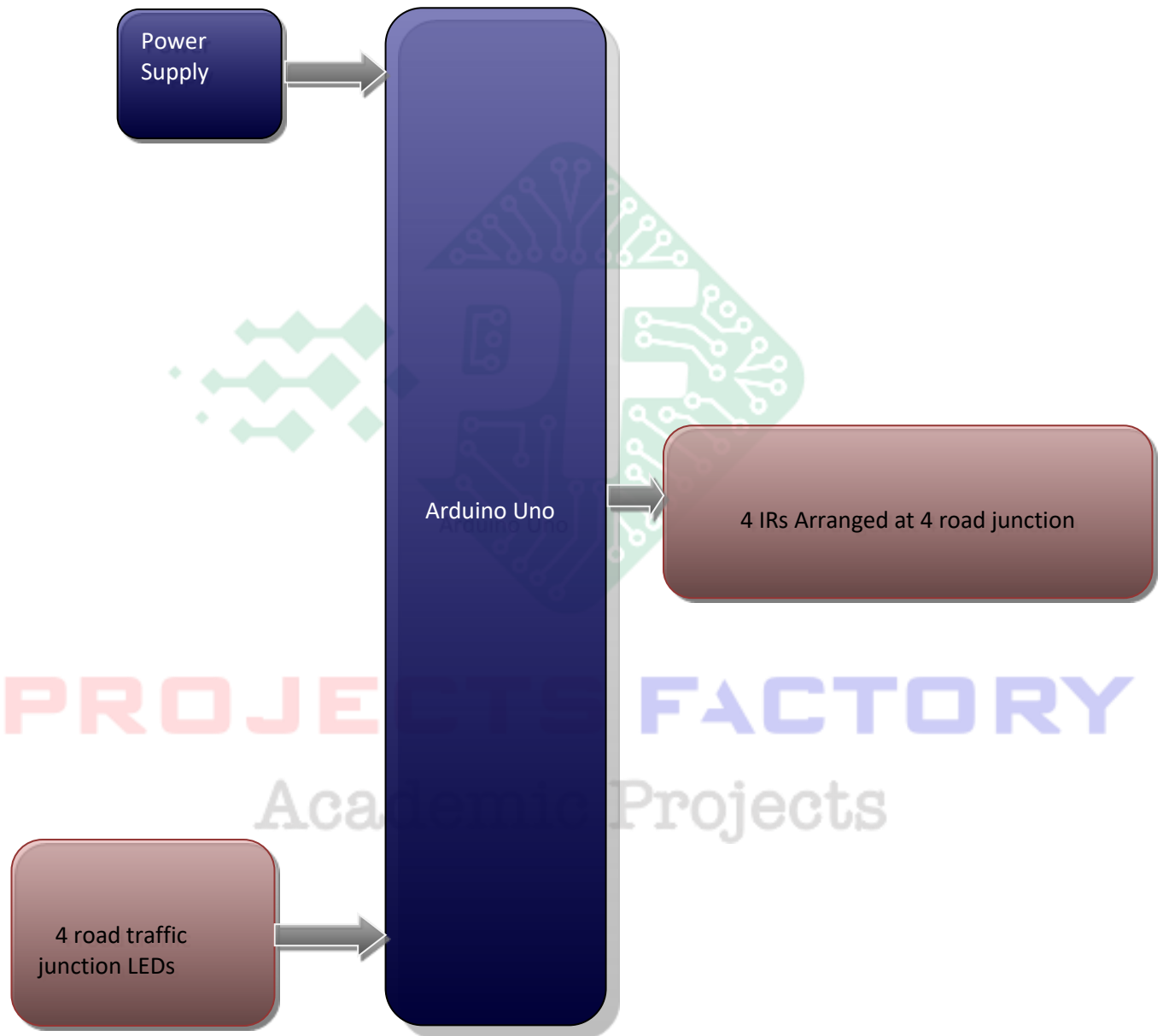## SOFTWARE:

Arduino IDE

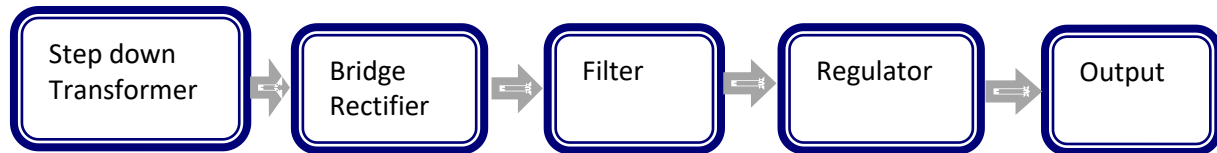Proteus based circuit diagram

APPLICATIONS:

➢ Traffic junction

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM:

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

INTERFACES COVERD:

- We have interface traffic LED interface along with IR sensors