

IOT SMART GARAGE DOOR OPENER

AIM:

Design and development of IOT based smart garage door opener using Arduino.

PURPOSE:

Regular door opening and closing need manual physical power. It is ok when normal home doors. Particularly in garages door are heavy and big size. There are some electronic doors can be controlled by power. But those are static and can't be control from remote location. But here we have solution like IOT smart garage door opener using Arduino.

DESCRIPTION:

This project includes WIFI (Esp8266/IOT module) which is connected to Arduino through UART interface. DC motor connected Arduino through H-bridge IC (L293d). DC motor attached with some mechanism acts like door. Two IR sensors connected to Arduino and placed at open/close position to know door open or close.

WORKING:

Arduino always be in command receiving mode from IOT server. When user gives command from IOT server WFI (ESP8266/IOT) module receives the signal and execute accordingly. If it is opening command then door will be open. If it is closing command then door will be close. Door status will be displayed on LCD. IR sensors identifies door status whether door is in open or close condition. This information transmitted to IOT server through WIFI (Esp8266/IOT). User can control door from anywhere using IOT server.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
WIFI	:	Esp8266 (IOT module)
H-Bridge	:	L293d
DC gear motor	:	100 r.p.m
IR sensors	:	Digital Type
Power Source	:	12v 2 amp Adaptor

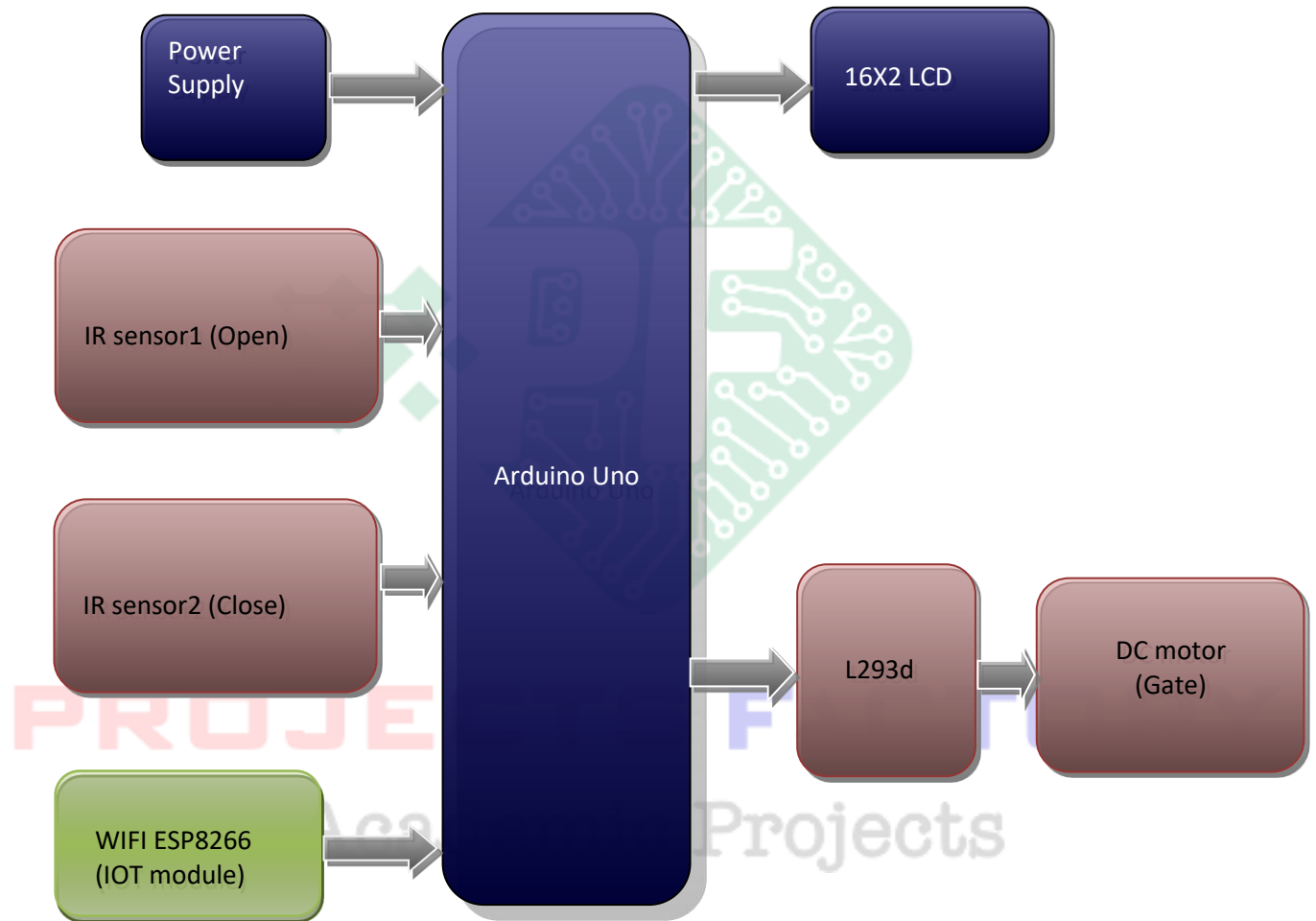
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

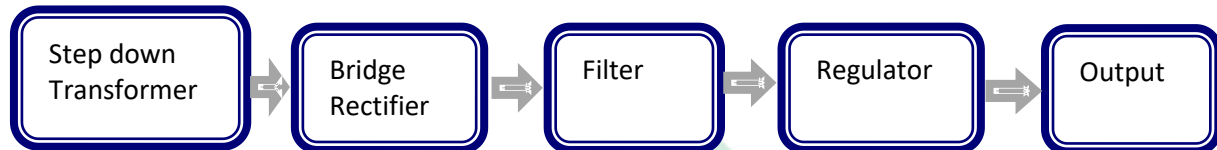
APPLICATIONS:

- Garages
- Shopping malls
- Industrial Applications

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered WIFI (ESP8266/IOT) module interfacing
- L293d for DC motor
- Digital type IR sensor

PROJECTS FACTORY
Academic Projects