ANDROID BASED FIRE FIGHTING ROBOT

AIM:

Design and Development of Android based firefighting robot.

PURPOSE:

The importance of robotics increased day by day. Few applications definitely need robotic presence to perform without failures. Especially for firefighting applications, robotic plays major role. Firefighting workers can control fire, but sometimes due to heavy fire, man can't do further move. To solve this kind of problems we want to implement a robot that can perform this task. Here project title is android based firefighting robot using Arduino.

DESCRIPTION:

In this project Arduino is a microcontroller. Bluetooth module (HC-05) connected to Arduino serial port. DC gear motors controlled by l293d and L293d connected to Arduino digital pins. DC water pump controlled by relay. Relay connected to Arduino digital pin. Three fire sensors and servo motors are interfaced to Arduino digital pins.

WORKING:

We can control robot from Bluetooth application. There are three fire sensors attached at the front side of the robot and those can detect fire occurring. DC water pump immersed in water tub, which can pump water. Also based on fire sensor active servo motor rotates that side and water sprinkles respectively. Fire sensors information will be displaying on 16x2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
H-Bridge	:	L293D
Bluetooth Module	:	HC-05
Fire sensor	:	IR type DC 5V
Motor	:	DC 5V Servo motor
Robot Driving Robot	:	DC gear motor
Water Pump	:	DC 5V 1 amp
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

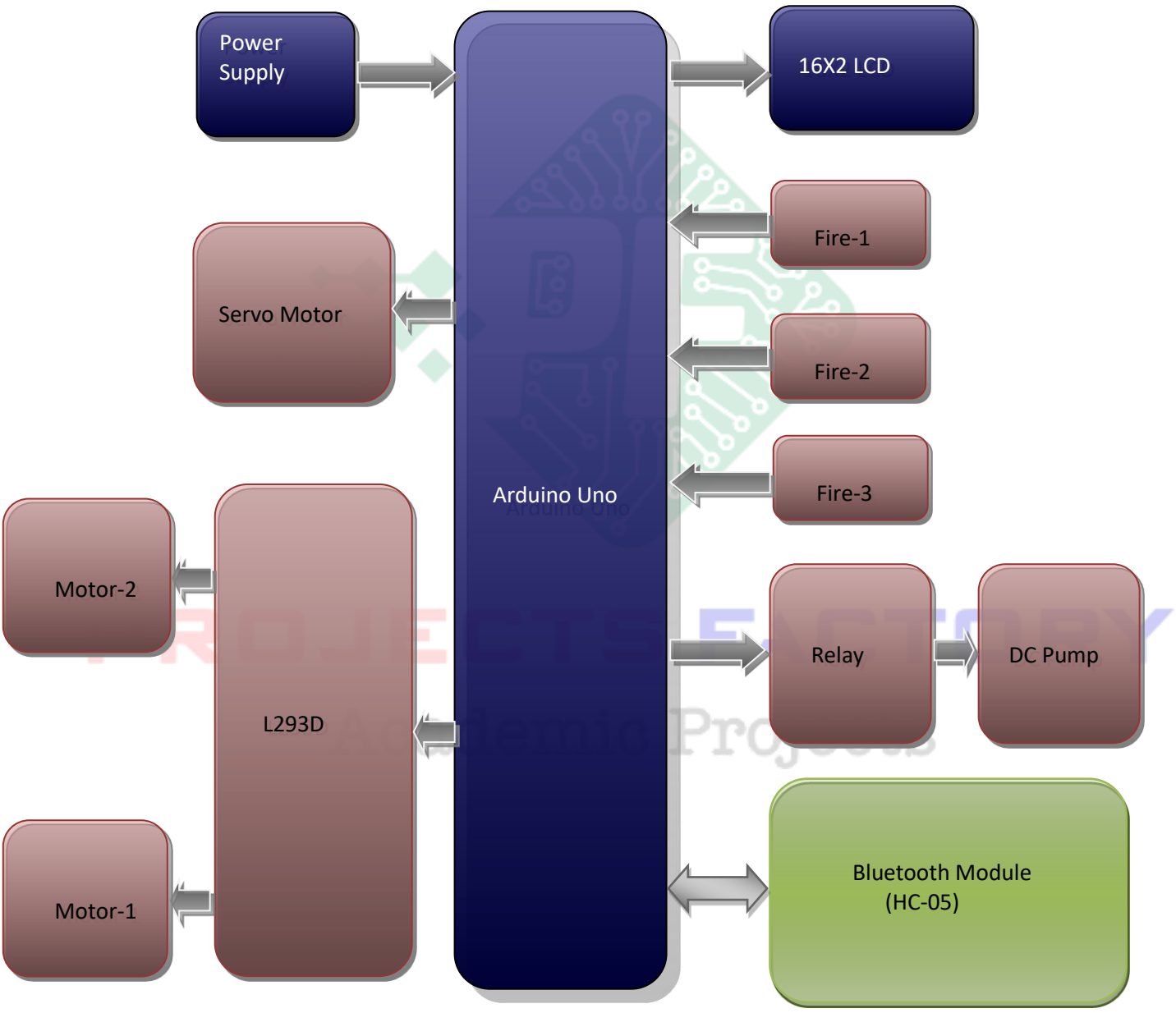
Arduino IDE

Proteus based circuit diagram

APPLICATIONS:

- Robotic Applications
- Firefighting robot
- Bluetooth Robot

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:

INTERFACES COVERD:

- We have covered Bluetooth module (HC-05) Interfacing
- DC gear motors, Servo motor, DC pump interfacings