

## **FIRE FIGHTING ROBOT**

### **AIM:**

Design and Development of Fire Fighting Robot.

### **PURPOSE:**

Robotics used in everywhere. There is autonomous robot available in market for specific applications. Here we want to design and develop Autonomous robot that can move forward and if it detects fire then water spray will ON to stop fire spreading. By dispensing water into fire, fire will be reduced. The proposed project title is firefighting robot using Arduino.

### **DESCRIPTION:**

Two DC gear motors connected to Arduino through L293D h-Bridge. Three fire sensors connected to Arduino digital pins. Servo motor connected to Arduino digital pin.

### **WORKING:**

Three fire sensors placed at the front of the robot. Water dispensing pipe placed on the servo motor shaft. It will align to particular position of fire sensor. When fire detecting in particular place like right then servo motor rotates right side and water dispensed to the right side. In the same way it does for middle and left. Fire sensors status will be displaying on 16x2 LCD display.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontrollers	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Motors	:	12VDC Gear Motors
H-Bridge	:	L293D
Fire Sensor	:	IR type
Pump	:	12VDC
Servo Motor	:	SG-90
Power Source	:	12VDC Battery

### SOFTWARE:

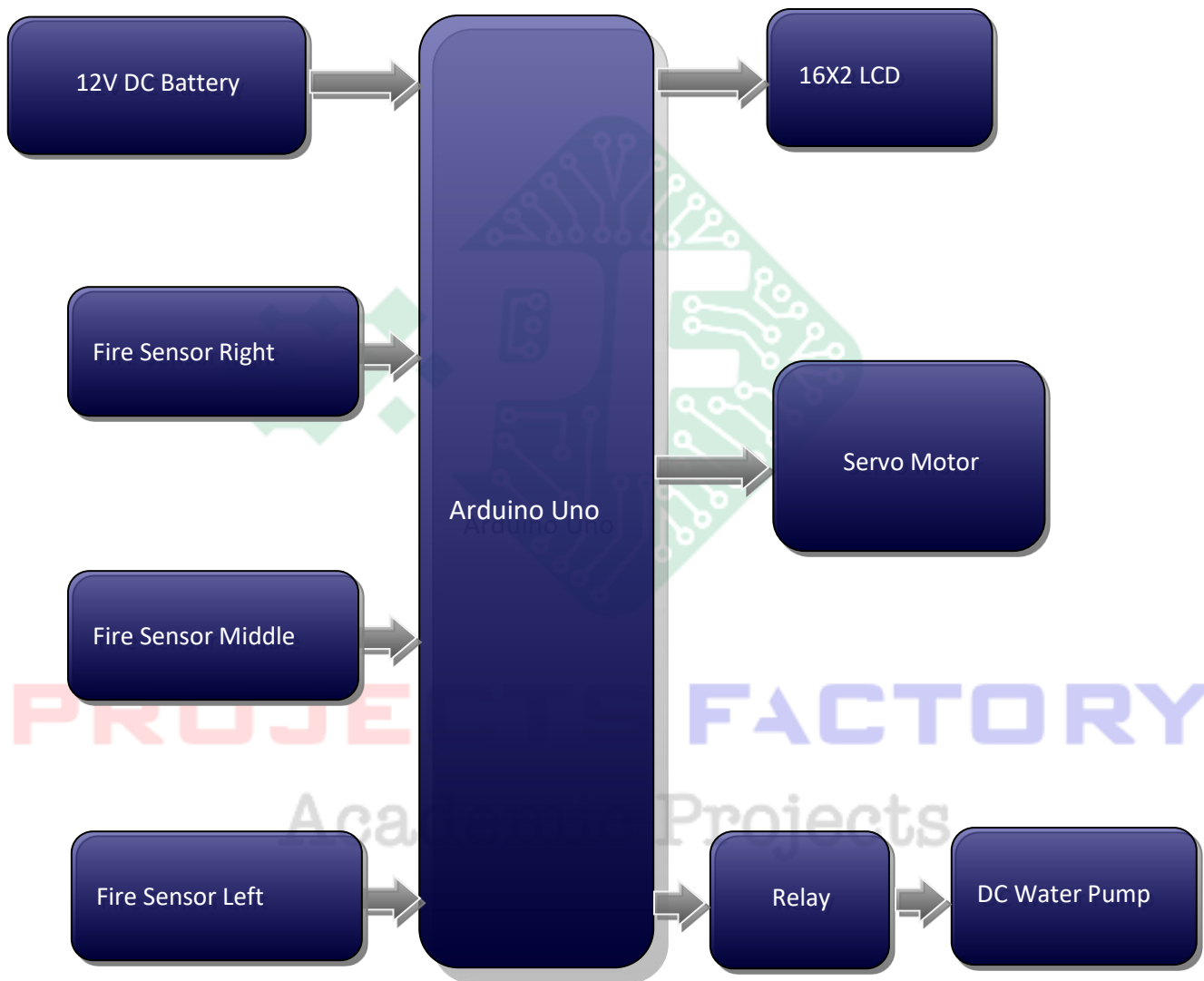
Arduino IDE

Proteus based circuit diagram

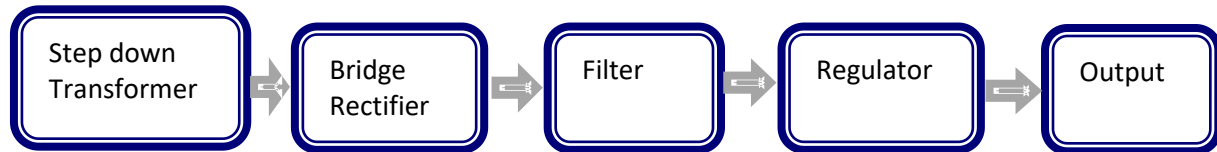
### APPLICATIONS:

- Fire Fighting Robot
- Robotic Applications
- Industrial Robotics

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered Arduino and fire sensor interface
- Servo motor and DC pump interface

**PROJECTS FACTORY**  
Academic Projects