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| **NAME OF THE INSTITUTION** | SRI MOOGAMBIGAI POLYTECHNIC COLLEGE |
| **INSTITUTION CODE** | 912 |
| **COURSE CODE &**  **NAME OF THE DEPARTMENT** | 1030 & ELECTRICAL & ELECTRONICS ENGINEERING |
| **TITLE OF THE PROJECT** | **FIRE FIGHTING ROBOT USING ARDUINO** |
| **NAME OF THE GUIDE & DESIGNATION** | **SARASWATHI V & LECTURER** |
| **TOTAL COST OF THE PROJECT** | 8,000/- |
| **NO.OF STUDENTS** | 06 |

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| **S.NO** | **REGISTER NUMBER** | **NAME OF THE STUDENTS** |
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**SYNOPSIS**

**Brief Introduction:**

Fighter robot can be used to control the fire. This robot can detect the fire by itself and control the fire by throwing water. There are some sensors we are using that can detect fire and robots can move there to fire extinguish. The firefighting robot has the same structure as Bluetooth control RC car. The robot has 3 sensors 1 sensor at the front side which see if there is anything in front of the robot and the other two at the both front corner which also searches for fire. If any sensor detects fire at any site the robot will sensor and move towards it. The firefighting robot has 4 wheels, 3sensors, one water tank, one nozzle, and a computer which help him to take decision according to the Arduino code

# Objective of the Project:

To study a robot which can search, detect and extinguish burnt area and develop a program using PIC18F4550 to control the movement of the robot. Besides, lean how to connect microcontroller and GSM modem. To design the robot that includes the flame sensor to detect the fire and then send notification by Short Message Service (SMS). To analyze how the robot performance to detect the angle of burnt area in Front of the robot and detecting burnt area in 0m ~ 2m in radius**.**

# Brief Methodology:

Firefighters continuously run the risk of dying as the world progressively moves toward automated systems and self-driving cars. If a fire is not put out, it spreads quickly. Therefore, our system steps in to solve this problem and protect the life of our hero. The Arduino Uno development board powers this Firefighting robotic system, which also has a fire flame sensor for spotting oncoming fires and a water tank and spray mechanism for putting out the flames. For optimal coverage, a water spraying nozzle is attached to a servo motor. A water pump is used to transfer water from the main water tank to the water nozzle so in this tutorial we are going to make a fire fighting robot with the help of Arduino, flame sensor and servo motors.

# Block diagram:

# D:\PROJECT\2023-2024\ROBOT-Model.jpg

**Expected Outcome:**

# The expected outcome of a firefighting robot using Arduino would be a functional robot capable of autonomously detecting and responding to the presence of fire.

**CERTIFICATE:**

The Project works is selected by the students based on the norms/rules prescribed by the DOTE, Chennai.

**Signature of the guide** **Signature of the HOD**

**Remarks of the Member/Monitoring Committee:-**

Recommended / Not Recommended Approved / Not Approved

**Signature of the member/Project Signature of the Head/Project**

**Work monitoring committee** **work monitoring committee with seal**