**FIREMAN’S AID**

**DESCRIPTION :**

We are developing an Arduino based fire fighting robot. Arduino is an open-source platform used for building IOT projects. It consists of both a physical programmable circuit board and a piece of software or IDE that runs on your computer, used to write and upload programmable code to the physical board.

Flame sensors are incoporated to sense the fire and four such sensors are placed in four different directions of the robot to sense the direction of fire. The fire sensors have an IR Receiver which help in the detection of fire and an Op-Amp will be used to check for change in voltage across the IR Receiver.

By using the feature of Arduino our bot can send a SMS to the owner of the place affected by fire irrespective of the location of the owner. The features of the Arduino also alerts the people in close proximity of the fire by Bluetooth connectivity and hence alerts people not to get too close to the affected area.

It also involves the usage of L293 and a Servo motor. L293 is a motor driver IC which helps the bot in the movement of its wheels.A **servo motor** is used so that we can control the direction in which the water has to be sprayed.

**PURPOSE:**

* Firemen’s aid is designed to detect intensity of fire and operate first at the place where the intensity of fire is more without any loss of life.
* By using Bluetooth connectively the neighbours are warned of the danger so that they can move to safety.
* The SMS sent to the owner can bring help to extinguish fire quickly.
* It can be used in rescue operations during fire accidents where the possibility for service men to not enter the fire prone areas is very high because of the temperature being too high to handle and it does it in a very least expensive way.
* **The robot can rotate while actively scanning for the fire .This scanning is performed by the sensors placed on the bot . When the fire is detected , the robot can move in the direction of the fire and it stops 30 cm in front of it and trigger the extinguisher to turn out the fire .**

**COMPONENTS REQUIRED:**

|  |  |  |
| --- | --- | --- |
| ***MATERIALS*** | ***QUANTITY*** | ***COST*** |
| **ARDUINO BOARD UNO** | **1** | **500** |
| **FLAME SENSOR -IR SENSOR** | **4** | **320** |
| **SERVO MOTOR(SG90)** | **2** | **230** |
| **LM34** | **1** | **20** |
| **WHEELS** | **2** | **130** |
| **GEAR MOTOR** | **1** | **225** |
| **CHASSIS** | **1** | **200** |
| **PUMP(SMALL)** | **1** | **225** |
| **L293D MOTOR DRIVER** | **1** | **150** |
| ***TOTAL*** | | ***2000*** |

**PROGRESS OF THE PROJECT:**

The designing is done and once the components are available we can proceed to the implementation.

**MEMBERS:**

|  |  |  |
| --- | --- | --- |
| ***NAME*** | ***YEAR*** | ***ROLL NUMBER*** |
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