**FIRE FIGHTING ROBOT**

**AIM:**

The main aim of the project is to develop a fire fighting robot for the users to control the fire.

**PURPOSE:**

The purpose of the project is to sense the fire/smoke in the environment and react to it quickly.

**TRANSMITER SECTION**

**BATTERY**

**RF TX**

**KEYPAD**

**HT12E**

**ENCODER**

**RECEIVER SECTION:**

BATTERY

MICRO CONTROLLER UNIT

(AT89S52)

**Motor Drivers**

Smoke sensor

ADC 0808

DC Motors

**HT12D Decoder**

**RF Receiver**

**HT12D Decoder**

**DESCRIPTION:**

In the present scenario of war situations, unmanned systems plays very important role to minimize human losses. So this Robot is very useful to do operations like detecting fire. Here is an automated unmanned system being designed around a microcontroller which serves for detecting hazardous parameters such as smoke.

According to this project, a Robot is designed which is made to move all the time. We have two sections, transmitting and receiving section. Transmitting section consists of a keypad and RF transmitter. From keypad we can give move the robot in different directions. This information is transmitted to the receiver section using RF transmitter. RF receiver will receive the data and based on that direction robot is controlled.

Apart from this, the system also detects the presence of smoke with the help of a smoke sensor. All the devices such as smoke sensor, motor by which Robot is made to move are being interfaced to microcontroller which forms the control unit of the project. In the standby mode the Robot is moved here and there. Whenever any smoke is detected by the smoke sensor, the same is sensed and is given to microcontroller. A fire extinguisher i.e. water supply is connected to the robot. When the microcontroller sends signal to this, water is supplied and stops the fire. Thus the fire will be stopped immediately.

**HARDWARE USED:**

* Microcontroller(at89s52)
* Smoke sensor
* ADC 0808
* Motor driver
* Motor
* RF transmitter
* RF receiver
* Water pump motor
* Keypad
* Relay

**SOFTWARE USED:**

* KEIL
* EXPRESS PCB
* ISP
* EMBEDDEB C

**APPLICATIONS:**

* Used in Military applications
* Used in Industrial applications.

**RESULT:**

According to this project we can implement a Robot, which senses the smoke in environment.