“SMART STIMULATING FIRE EXTINGUISHING ROBOT”

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Abstract: There are many possibilities a fire can start in an industry or in any remote area. For example, in cotton mills, garments, fuel storages, etc., electric leakages can lead to huge damage. Also it is a worst-case scenario, causing heavy losses not only financially but also destroying areas surrounding it. Robotics is the emerging solution to protect human lives and their wealth and surroundings. The aim here is to design a FIRE FIGHTING ROBOT using embedded system. A robot capable of detecting and fighting a simulated household fire will be designed and built. The Robot is controlled autonomously using an Arduino uno micro-controller which is considered the brain of the robot. The 4 wheeled robot contains infrared sensors, DC motors, motor controllers, and a servo assembled in the robot's body. The extinguish system is comprised of a fire extinguisher linked to a servo motor which is connected to the micro-controller. The software part of the project is the program code written in the micro-controller to control the fire fighting robot.

The Fire Fighting Robot is designed to search for a fire in a small floor plan of a house and inform us so that we can extinguish the fire with the help of the fire extinguisher. The robot finds the fire in a specific room, the alarm starts buzzing at a very fixed distance and then we can send it to that location and extinguish it by controlling it through the Bluetooth of our android system. It can detect fire, play buzzer to alarm, can be operated through android, extinguishes fire by fire extinguisher.

APPLICATIONS

1. Rescues people by extinguishing fire.
2. Used in the Security System.
3. Can reach those areas where humans can’t.
4. Efficient and power saving.

Robot Model

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