Intelligent traffic light controller for ambulance

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Abstract:

IoT (Internet of Things) is expanding its market share and opening up new avenues for innovation with each improvement in Internet speed & Bandwidth. According to data compiled by the Prevention Council while the Environmental Protection Association, the average mortality toll from fire is 10.5% and from petrol is 11%.

This research endeavour addresses the issue of electrical appliance safety. IoT-based control system with gas, fire and temperature sensors; lcd(16x2) displays system status and sensor data. In this setup, loads are managed mechanically based on sensor readings. The Internet of Things (IoT) can store and track this information. The system provides safety against toxic gas and fire hazards. Wi-Fi networks with IEEE 802.11 wireless standards are ideal for homes and offices with little space.

The primary goal of this project is to ensure the safety of the building in which this design is implemented; for example, if a fire is detected by a fire sensor, a motor pump will be triggered to disperse water as part of a sprinkler system, and if a gas sensor detects harmful gases, an exhaust dc fan will rotate to vent the area. The temperature sensor will monitor the interior temperature and activate the exhaust fan if the temperature rises beyond the set limit. All of the sensor data and the status of each linked function will be shown on an LCD, and a buzzer will sound a warning.

Proteus, a professional design suite, version 8.6, may be used to simulate this proposed safety solution, and Arduino IDE, version 1.8.19, can be used to write the necessary code. A working prototype is built and put through its paces as an experiment.

Keywords: