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(57) Abstract :

The Internet of Things (IoT) implies the arrangement of physical objects surroundedwith sensors, software, and other technologies, integrating everyday items with the internet. Industries are running fuel for any country economy. Huge number of fire accidents occurred around worldwide in industries. Sometimes it causes huge financial losses like million dollars or more. Prevention and monitoring of such dangerous situation is more important. A study conducted from 2010 to 2020, reveals that India experienced 560 industrial accidents, contributing to substantial environmental damage. Unfortunately, these incidents led to profound loss of around 2,500 lives and 8,500 injuries. In the Bhopal gas tragedy case, reports indicate that more than 2,000 animals were dead from the effects of gas and disposed in the nearby river. Even decades later, the samples collected from the site revealed the presence of benzene compounds and organochlorine pesticides at higher level than the national standard. Numerous accidents of similar nature have occurred. The occurrence of an accident is predictably attributed to three main components: fire, gas leakage, high temperature. The above-mentioned factors frequently lead to industrial accidents. This work proposes a solution for addressing such accidents through the utilization of IoT. In this work, an IOT based industrial safety system using Arduino is proposed. The proposed design reduces industrial accidents like fire outbreaks, gas leakages, temperature and humidity related issues in the industries. The proposed system is integrated with sensors and Arduino UNO board. Whenever an accident occurs, the data from the sensors is transmitted to Arduino board and the necessary control signals are given to actuators. The information is stored in the secured web page whenever the sensors are activated.

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