IoT Based Fire Alert Monitoring System for Car Parking

Safety is one of the important factors that should be considered either in the parking area, workplace, home area and so forth. In the university parking area, the students are unable to receive any information regarding a fire smoke or an accident near their vehicle. In addition, the parking safety also not assured due to the shortage of car superintendence and there is no any strict parking management by the security officer. Therefore, a fire smoke alert monitoring system in the university parking area is necessary in order to prevent any accidents that may cause property breakdown and loss of life as happens inside the university area. This system should be introduced since the existing parking is unsystematic and less efficient as it unable to response the complications that are regularly happen to the students because they do not receive any information regarding a fire smoke or an accident near their vehicle in the parking area. With this new system, a few advancements are implemented in order to help the students in various aspects by using multiple and distinct Arduino devices. Moreover, an android application is developed to facilitate the security officer in order to identify the car information that are involved in the accident that might be occur in the university parking area.

Mobile Fire Evacuation System for Large Public Buildings Based on Artificial Intelligence and IoT

The complexity and variability of the internal environment of public buildings prompt to think about how to protect people in the fire and quickly reach the safe area. With the help of the Internet of Things, firefighting facilities, such as fire hydrants, fire extinguishers, safety evacuation signs, fire sprinklers, fire pumps, smoke, temperature, and fire doors in buildings can be dynamically monitored and controlled. In addition, based on the relevant fire emergency evacuation strategies and ideas at home and abroad, the artificial intelligence

technology is used to construct an efficient and intelligent dynamic evacuation path solving model, and an intelligent mobile terminal fire evacuation system was built for large public buildings based on artificial intelligence technology. When a fire breaks out, the system can help guide people to evacuate from the building real-time and reach the safe exit quickly, so as to reduce casualties and economic losses.

A Novel Internet of Things Architecture for Improving Fire Safety in High-rise Buildings

Fires continue to occur all over the world, destroying cities, families, and -workplaces. The threat is even greater -when a fire breaks out in a high-rise building. This article presents a novel Internet of Things (IoT) architecture in order to improve fire safety in high-rise buildings.The proposed five-layered architecture facilitates secure evacuation and reduces the risk of asphyxiation as the main cause of death by fire. In addition, this IoT architecture calculates and locates the potential inhabitants stuck in the building and transmits the information to the rescue teams. A program is written in "Python 3" in order to examine the IOT architecture’s decision-making layer in the high-rise "La Marseillaise" in Marseilles, France. This program by using machine learning algorithms such as Artificial Neural Network (ANN) and Support Vector Machine (SVM) succeeds in classifying the different zones of "La Marseillaise" according to the lethality of smoke with the accuracy of 98%. Based on this classification program sends the smart orders to the smoke extraction system to ventilate the in-danger zones further and thus reduce asphyxiation