

INDUSTRY SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM

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LITERATURE SURVEY:

Kerry R. Anderson,Published on" The Intelligent Fire Management Information System (1993)" An overview of the present fire situation is provided by the Intelligent Fire Management Information System (IFMIS), a fire management technology that incorporates fire weather, forest inventory, and suppression resources. IFMIS determines the fire meteorological conditions, forecasts probable fire behaviour, and evaluates the coverage effectiveness of suppression resources using the Canadian Forest Fire Danger Rating (CFFDRS) System. IFMIS is now a tool used for early attack planning and presuppression planning. Modeling fire spread, containment, or campaign (project) fires is not included in IFMIS. The construction and operation of the software known as the Intelligent Fire Management Information System (IFMIS) are described in the manual that follows. As a decision-support tool for forest fire managers engaged in early attack dispatching and preparedness planning, this software.

Elbehieri Hussam,Published "Developed Intelligent Fire Alarm System"on October 2012, The main goal of a fire alarm system is to give people advance notice of a fire so they can escape and take swift action to minimise the effects of the fire as soon as possible. Alarms can be set off manually or with the aid of detectors (Remotely). Sirens are used to alert or evacuate the residents. The key is to use the bus system intelligent distributed computer system fire alarm system. Although installation in the system is much easier than in the past, it still cannot meet modern needs, with the installation costs of equipment costing between 33% and 70. With the Intelligent Building of the rapid development of technology applications, commercial fire alarm market demand growth, The recommended method for a fire alarm system.

Sheng zeng,Published"Intelligent Fire Alarm System Based on MCU", Safety comes first, then prevention. Constant advancements in energy technology and the modernization of technological devices have made life more convenient for humans. These high-tech items have also created a fire threat, though. Every year, many fires are started in China for a variety of causes, so people should not only be conscious

of their own safety but also adopt certain preventative and warning measures. Sending alarm signals and finding the fire quickly are essential for timely reminders to be sent to those nearby to take safety precautions. STC89C52, a single chip microcomputer from the 51 series, serves as the paper's processing hub. The detection method integrates a number of detecting techniques, such as temperature, smoke concentration, and flame, helping to prevent omission and single false alarms.

Jinyue Zhang's research while affiliated with Tianjin University ,Published “A Framework for an Intelligent and Personalized Fire Evacuation Management System”on July 2019, Fire evacuation strategy has been the subject of numerous studies. There isn't a perfect approach, though, because of the ambiguities in how fires begin. In order to dynamically push personalised evacuation route recommendations and turn-by-turn directions to a building occupant's smartphone, this research proposes a fire evacuation management framework that makes use of a Bluetooth low energy (BLE)-based indoor real-time location system (RTLS) and an information-rich building information modelling (BIM) model. The risk score (RS) for each potential route is assessed using a weighted summation of the risk level index values for all risk indicators for each segment along the route, and the route with the lowest RS is suggested to the evacuee. Every two seconds, the system will reevaluate all routes based on the most recent information available.

Zhifu Gaoa,Published “2nd International Conference on Electrical, Computer Engineering and Electronics”, The forest is seen as a valuable and necessary ecological resource, yet forest fires, which are frequent worldwide, can ruin the forest and endanger the environment where people live. In order to lessen the damage caused by forest fires, it is important for departments in charge of preventing them to implement a monitoring system that can foretell their occurrence and spread. This paper provides an example of a forest fire monitoring system based on a 4G network and multiple sensors. On the basis of 4G communication technology and ZigBee technology, the hardware design and software implementations of the monitoring system are given. The CC2530 SOC is selected to gather the data and deliver it to a 4G network, where it is then sent to a remote monitoring server.

Guang Xu,Published “Real-time wildfire detection and tracking in Australia using geostationary satellite: Himawari-8” on 2017, Emergency responders and the general public can both benefit from real-time knowledge regarding the spatial extents of wildfires in order to lessen their effects. However, timely and reliable information regarding the regions impacted by active wildfires is frequently hard to get by on a large spatial and temporal scale. This study examines the viability of using Australia's newly deployed geostationary Himawari-8 satellite to produce such real-

time data. Extremely high-temporal-resolution (10 minutes) multispectral images provided by the Himawari-8 satellite is ideal for real-time wildfire monitoring on a broad spatial and temporal scale. A case study of the recent 2015 wildfire in Esperance, Western Australia, is used to assess the possibilities of real-time wildfire monitoring using Himawari-8. The findings show that the detection is resistant to smoke and light clouds.

Marmika Golatkar, Published "Fire Detection System", on 2018, A fire alarm system consists of a number of interconnected devices that detect the presence of smoke, fire, carbon monoxide, or other emergencies and alert people by visual and audible devices. These alarms can be set off manually using devices like manual call points or pull stations, or they can be set off automatically by smoke detectors and heat detectors. Alarms come in the form of wall-mounted sounders, horns, or mechanised bells. Computerizations, power usage, and cost effectiveness are the main considerations in current field advancements. Automation is necessary to reduce the risk of human negligence. The temperature sensor and the air quality sensor are the two sensors that the fire detection system uses to detect a fire.

Varun Chowdary Yarra, Published "International Conference on Artificial Intelligence and Smart Systems (ICAIS)", on 2021, The most frequent cause of unlucky death influences for several occupants each year, resulting in numerous injuries and an unprecedentedly high death toll. The detection system customises the Arduino IDE and is designed to keep people away from the fire by sounding an alert during a crisis and sending a warning message to a telegram account along with the identification of ESP32 movements via the web as a notification in a cellphone somewhere. The movement of a warning message through a telegram account independent of any specific movement can be used to construct a Telegram bot for ESP32 with the association of PIR sensors. Fire sensors are able to identify the temperature and image to send an alarm through the telegram channel.