DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IBM – LITERATURE SURVEY

PROJECT TITLE

SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM

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S.no	Title of Paper	Advantages	Disadvantages	Technology used
1.	Research on public building fire risk assessment control model	In building fire risk assessment, the information model can ensure the accuracy of the information. The integrated data model can realise the information sharing of all disciplines and stages in the fire risk assessment of existing buildings and improve its efficiency and accuracy.	Due to the various types of public buildings and complex fire risk factors, the index system contents established still need to be further improved depending on the types of constructions. And the index quantification method could be more accurate.	Fire risk assessment information plays a significant role in addressing fire risk management during the operation and maintenance periods and enriching the application function of BIM technology throughout the life cycle.
2.	Prototype of Fire Symptom Detection System	Developing and implementing this prototype fire safety system can effectively provide information about fire risks, fire safety, fire detection, alarm responses, optimal evacuation routes, 3D visualization and simulation of evacuation routes, arrow and voice evacuation guidance from smartphone device and overall building fire safety with disaster response capabilities for every underground mine.	The data monitoring is not shown in real time because the parse of the serial data in MFC cannot read the data quickly.	The sensing system use smoke, gas, temperature and humidity sensor then the decision method to measure fire symptom, is implemented by fuzzy system. This research focus on gas leak sensing, smoke sensing, and the change of temperature and humidity to sense fire based on fuzzy.
3.	A Model-Based Systems Engineering Approach to Capturing Disaster Management Systems	The design of a framework for defining and capturing disaster management systems (DMS). Using a domain-independent language such as the systems modelling language (SysML) to implement MBSE, the holistic approach proposed here effectively introduces a new paradigm in disaster management studies that is aimed at reducing the aforementioned complexity.	Additional work is obviously required to advocate MBSE in those domains. The authors plan to share their ongoing work in a future paper. Such includes, among other, the analysis of DMS requirements, the development of views and viewpoints, and analysis of the DMS behaviour.	MBSE uses a graphical modelling language, called SysML, which is an extension of UML (Universal Modelling Language) developed by the software industry. The SysML language and a MBSE modelling tool allow systems engineers to develop descriptive models of the system.

4.	Building Fire Rescue with Evacuation Management Information System and its application	In the event of a fire or other emergency, your evacuation strategy helps you gain some control of the situation. It also helps you and the emergency services get an accurate account of everyone who should have left the building and who may still be inside.	A number of vicious incidents of fire are related to inadequacy of emergency exit or the locked exit. The time for people to leave in different units was determined in accordance with their respective characteristics.	The constructed network model, the evacuation of the teaching building in the university was analysed by using the software EVACNET4.
5.	Agent based data collecting in a forest fire monitoring system	The main advantage of the agent based approach for data collecting is its simple extension for distributed systems. The forest fire monitoring system of Split and Dalmatia County will be a sensory network system.	Several forest fire detection methods have been implemented, such as watchtowers, satellite image processing methods, optical sensors, and digital camera-based methods 2, although there are many drawbacks, such as inefficiency, power consumption, latency, accuracy and implementation costs.	The system consists of ZigBee coordinator, routers, end nodes and PC computer. The ZigBee nodes compose wireless sensor network by ad-hoc network mode, and is mainly responsible for collecting and transporting the special environment parameters of the forest including temperature, humidity, and light intensity and so on.
6.	Automatic Fire Alarm and Fire Control Linkage System in Intelligent Buildings	The idea of the system designing, the system components, selecting equipment, the linkage of alarming and controlling gas extinguishing, and the technical features.	Fire alarm system inspectors point out is wireless systems have limited range and don't have centralized monitoring. Range can be a problem for large offices or homes, since a weak wireless connection may cause the system to not operate reliably.	The convenient installation of wireless fire alarm system requires no through-wall ducting and wiring, with no damage to buildings, and is adaptable to changes of use and function of buildings, therefore attracting wide attention of researchers at home and abroad. 2.4G wireless networking technology, represented by ZigBee, is a common technology used in automatic fire alarm system.
7.	Discussion of Society Fire-fighting Safety Management Internet of Things	Fire Fighting Systems work in the simplest way thus on ensures minimal harm to your surroundings.	Standardizing failure acceptance, maintenance management, inspection check and other information flow, thereby promoting to improve	RFID technology is utilized for dynamic perception and process tracking on fire-fighting key part inspection, fire fighting facility state

	Technology System	Gas systems significantly will extinguish a fire while not damaging equipment.	management level and work efficiency of fire-fighting facility maintenance enterprise.	inspection and other links of fire fighting personnel on duty, thereby timely discovering post missing and inspection missing phenomena, and strengthening the supervision and management.
8.	Wireless Fire Detection Monitoring System for Fire and Rescue Application	The main value of installing a wireless fire alarm system are speed and flexibility. A conventional system needs to be completely hardwired, but a system using wireless technology only needs a few screws at each device.	Fire alarm system inspectors point out is wireless systems have limited range and don't have centralized monitoring. Range can be a problem for large offices or homes, since a weak wireless connection may cause the system to not operate reliably.	A monitoring system of alarm for fire detection using Arduino microcontroller was design. The circuit are includes with a buzzer, smoke sensor and a camera.
9.	Proposal of the Fire Fighting Support System for the Volunteer Fire Company	The fire corps volunteers can confirm the fire fighting water sources around the fire site in real time. In fire fighting, secure of the fire fighting water sources are the most important.	In this case, the fire corps volunteers require a great deal of time for arrival at the fire site, which could negatively affect its fire fighting.	Fire Fighting Water Sources Management Agent registers all the fire fighting water sources (fire hydrant, fire cistern, river, etc.) on the Web-GIS in advance.
10.	An Embedded System of Dedicated and Real-time Fire Detector and Locator Technology as an Interactive Response Mechanism in Fire Occurrences	The current technologies, the proposed fire response mechanism will help in cases of emergency that would provide real-time information to prevent or mitigate the loss of lives and properties.	The fire that goes out of one's control can create a massive destruction to property and even sacrifice lives. It can also cause impairment in the social and economic stability of the society and the country as well.	The smoke and temperature detector device that was installed in a structural building specifically in the "trial house". The chosen homeowner is within the proximity of the BFP station in the City.