LITERATURE SURVEY ON “INDUSTRY-SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM”

TEAM ID: PNT2022TMID32813

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INTRODUCTION		SURVEY/BODY OF REVIEW			CONCLUSION	FUTURE ENHANCEMENTS
YEAR	**TITLE**	**PROBLEM STATEMENT**	**METHODOLOGY**	**INPUT PARAMETERS**		
Received 13 May 2020, Received in revised form 04 November 2020 Accepted 04 December 2020, Available online 30 August 2021	Fire Safety Management Strategy in Nigeria Public Buildings	In order to ensure the safety of building occupants, building contents, the essential features depend on the fire safety protection system, which should be under the fire safety regulation requirements	<u>TOOLS REQUIRED:</u> Artificial Lighting Fire Men Access Fire Alarm Fire Extinguishers Escape Stair	the legal provision for place of safety, escape stairs, fire doors, protected lobbies, travel distance, story exist, fire barrier, fireman access and exist signage are contained in the National Fire Protection Agency 2008, Nigeria Fire Safety Code 2013, and drafted Nigeria National Building Code 2006. The fire safety regulations require that public buildings should provide emergency vehicle access and a place of safety to enable occupant's assembly for safety and create access for firefighting equipment to the building at any time without any hindrances.	<u>ADVANTAGES:</u> 1) It is effectively maintained and manage to provide an acceptable level of safety for occupants and protection of the properties. 2) It enhance quick intervention of fire safety respond squard during a fire emergency.	1) an effective fire safety system management should be developed to enhance continuous functions of installed system, comprehensive fire safety inspection, regular fire risk assessment, investigating and reporting, and mitigating action be undertake, and construction of any office building should be made to adhere strictly to fire safety regulation standard and code
			<u>METHODS USED:</u> Snowball sampling		<u>DISADVANTAGES:</u> 1)The major setback revealed from the provision of fire safety systems was the lack of implementation of the standard fire regulation as stipulated in the guideline. 2)all the buildings inspected do not have critical fire safety systems,	2) An emergency escape stair should have sufficient width that is capable of enhancing safe evacuation of the building users, and it shall be free from any hindrances includes luck up, obstructions.

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INFO Received: 9th October 2018 Revised: 25th October 2018 Accepted: 9th November 2018 Published Online: 31st January 2019	Research on Fire Safety Management System in Colleges and Universities	Current Situation and Problems of Fire Safety Management in Colleges and Universities.	<u>TOOLS REQUIRED:</u> 1) Internet technology 2) Wechat public account 3) mobile evacuation indicator 4) “ABC type” dry powder fire extinguisher <u>METHODS USED:</u> 1) initial fire suppression or escape method 2) specific fire drill training exercise	1) according to the relevant provisions of the “Fire Safety Regulations of Colleges and Universities”, colleges and universities should improve the fire awareness of internal teachers and students and employees as the main work, further strengthen the publicity and education man-agement of reprotection education in colleges and universities, and provide a basis for the smooth promotion of fire safety management system. 2) colleges and universities can formulate supporting incentive mechanisms based on the previous re-safety management mechanism. In order to coordinate with the university security agencies, student departments and other departments to closely organize combined with the supervision and management of college counselors to ensure the implementation of the fire safety management system	<u>ADVANTAGES:</u> 1) Each fire and life safety system that is installed on a campus works together to protect valuable assets and save lives. 2) Evacuation practices may seem unnecessary to busy staff and students at first, but if ever needed, these plans can help save lives. They reduce chaos and disorganization so everyone can quickly get to safety. <u>DISADVANTAGES:</u> colleges and universities have not set up a perfect fire safety system implementation mechanism, which leads to the lack of scientific management of the fire management system. The lack of specic professional measures cannot guarantee the smooth operation of the fire safety management system	The fire safety enforcement mechanism is the basis for the smooth progress of the university re safety management system. At this stage, colleges and universities have not set up a perfect re safety system implementation mechanism, which leads to the lack of scientific management of the re management system. The lack of specific professional measures cannot guarantee the smooth operation of the fire safety management system.

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Received: 9 October 2019; Accepted: 9 December 2019; Published: 11 December 2019	Fire Risk Assessment in Dense Urban Areas Using Information Fusion Techniques	Fire policy and mitigation strategies in developing countries are constrained by inadequate information, which is mainly due to a lack of capacity and resources for data collection, analysis, and modeling.	The main factors used for this purpose are fire safety hardware facilities, fire safety evacuation ability, building fire prevention capability, and building fire safety management status.	It requires assessment, data gathering, weighting process, and information fusion based on GIS modeling. spatial and attribute data were collected and processed to produce the needed information. In order to generate the spatial data of the study area, aerial surveying was performed using a unmanned aerial vehicle (UAV) in the area	ADVANTAGES: 1)unmanned aerial vehicle (UAV)-based imaging systems have many advantages compared to other information sources. These vehicles are especially useful for disaster monitoring, such as their high flexibility because they can fly when there is a fire, are quick to launch and low cost, and provide large-scale imagery for detailed urban infrastructure analysis. 2) GIS and geospatial analyses provide very powerful tools to aggregate and fuse information from different sources to assess disaster risks in urban and regional scales. DISADVANTAGES: 1) Alarm and fire extinguishing systems installed in buildings, despite the high costs involved, are either not active or not implemented properly. 2) From an exit and entry point of view, many densely populated buildings have major problems. Incorrect landscaping in many buildings, despite adequate space, has created barriers	By using fire risk maps integrated with a geospatial database, decision-makers can decide and plan more efficiently to solve problems and deficiencies in urban infrastructures and high-rise-buildings.

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Published Date :2017	Intelligent Fire Alert and Escaping Systems	In this paper Intelligent fire alert and escape system is presented that can help in minimize losses by the fire event. Along with fire alarm this system sends an alert to fire station with location.	<u>TOOLS REQUIRED:</u> Fire Extinguishers. Fire Alarm Systems. Smoke detector. Heat Detector. Fire Hydrant System. Fire Suppression System. Fire doors. Emergency and Safety Sign. <u>METHODS USED:</u> machine learning algorithms	fire dynamics simulator (FDS)—are measured, and a sensitivity analysis is conducted on the effects of individual and common input parameters of the numerical models on the detection time. The input parameters are applied to the FDS, and the results predicted the activation time of the detector within +5 s. Compared to the individual input parameters, the obscuration per meter (OPM), which is a common input parameter, significantly affected the detection time. Finally, additional input parameters that correspond to combustion properties, such as the soot yield and mass specific extinction coefficient, are discovered to have a greater impact on the detection time than the input parameters in the detector's numerical models. Considering various smoke detectors and combustibles, this study's findings will contribute to the efficient use of resources to build a database of input parameters.	<u>ADVANTAGES:</u> 1) The multiple functioning robot has more advantages than a single task robot. A movable system provides many advantages during fire. 2) This system helps to escape from a fire spot by providing navigation with the help of camera inbuilt in a robot system. <u>DISADVANTAGES:</u> Fire detection technology still faces challenges related to reducing false alarms, increasing sensitivity and dynamic response, as well as providing protections for highly expensive and complex installations to bettersafeguard the public and meet evolving regulations.	This system helps to escape from a fire spot by providing navigation with the help of camera inbuilt in a robot system. It also able to send a alert of fire to the nearest fire station with the help of a GSM and GPS module provided in the system. If fire is of small level the system is capable of extinguish it. If any fire accident occurs, there is a need of person to monitor continuously and alert respective department. In this process if any time delay takes place irreparable loss occurs. Hence a automatic system is useful for monitoring from a distant place and send alerts without delay.

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