Research on Fire Information Based on Computer Network Technology

Liu Rong Cai¹, Tao Hua Ning²* and Liu Rong Chao¹

¹ Guangxi Vocational College of Water Resources and Electric Power, Nanning, Guangxi, China
² Guangxi Gorgeous Fire Protection Technology Co., Ltd., Ltd., Nanning, Guangxi, China

*Corresponding author’s e-mail: taohuaning@glut.edu.cn

Abstract: In the era of rapid development of information technology, the openness and sharing characteristics of network technology have changed people's life patterns. Computer information technology not only changes people's life patterns, but also lays a foundation for the construction of urbanized fire information. Taking the information application of computer network technology as the research object, this paper analyzes the important value and significance of the development of information-based fire protection, as well as the contemporary commonly used technologies, hoping to provide reference for the corresponding units.

1. preface
Fire command is the "central nerve" of fire control work, which directly determines the quality and feasibility of fire control work. In recent years, with the continuous development and application of information technology in China. China's fire command work has also been reformed. Through computer information technology, we can mine the fire epidemic situation in urban construction and effectively control the disaster occurrence trend. This paper analyzes the fire information construction quality of computer network technology, hoping to provide reference for the corresponding units.

2. Explain the connotation and application value of computer information technology
Computer information technology is an advanced technical means, which is connected together by mobile terminals to form an information network environment, and completes information processing through computer information transmission and information interactive sharing. The application and development of computer information technology covers video technology, data transmission technology and monitoring technology, which is an integrated application scheme. By coordinating the information among users, the integrated information transmission of the application platform is realized, and finally various application requirements are met. Connecting computer information technology with urban fire management can improve the quality of fire command and control in an all-round way and promote the construction and development of fire control work.

3. The value and significance of applying network information technology to fire engineering
With the application and development of Internet communication technology and computer
technology in China, the fire command work in China has played an important role in the supervision and management of urban fire safety. At present, the fire information work includes network technology, satellite positioning, communication technology, call technology, etc., For urbanized fire engineering construction, the application of these mainstream technologies can not only improve the efficiency of fire treatment, but also reduce the unnecessary work cost and manpower of fire command work, and escort the construction of urban fire control work. In recent years, computer network technology has successfully realized interactive management with fire protection projects in many cities, which has laid a foundation for reducing fire protection engineering errors, avoiding disaster spread and scientifically guiding fire protection work.

4. Specific application examples of computer network technology in fire protection engineering

4.1 Application of Video Technology
Video technology is one of the most common computer network information technology, which is applied frequently and widely in fire command. In the application of video technology, data is transmitted through sound, pictures and other forms. After the fire station receives the information, the commanders and rescuers in Lower Foang can keep real-time conversation and transmit the disaster information to the corresponding system in time, which is convenient for grasping and controlling the disaster situation in time. Real-time video broadcasting has greatly promoted the smooth development of fire protection work and laid a foundation for the scientific command and management of fire protection. Computer information technology can also timely transmit the information of rescue site to everyone in need.

4.2 Data transmission technology
The interaction between mobile communication technology and computer network technology constitutes a multi-environment and multi-space information transmission system. Computer network technology covers data transmission technology, and with the help of the current popular mobile communication technology terminal, information interaction is realized. At present, the mainstream mobile communication technologies in China include 3G, 4G, etc. Under the information-oriented construction environment, the information exchange of fire protection projects in China has been consolidated, and the quality of fire protection construction can be expected in the future (as shown in Figure 1). for the quality and clarity of data transmission, and truly realizes the interactive frequency of information transmission between disaster center and command center.

![Fig. 1 Structure diagram of fire-fighting wireless sensor node](image-url)
4.3 Automatic Monitoring and Alarm Technology

At present, in the process of urbanization, the number of high-rise buildings in China is gradually increasing, and at the same time, the potential safety hazards it brings can not be ignored. In order to ensure the timeliness of fire rescue, automatic monitoring and alarm technology has achieved various tasks through temperature, smoke concentration, temperature and other control technologies. It is worth noting that the application of alarm monitoring technology needs flexibility and stability. Using the monitoring and alarm technology, we can supervise the actual level of fire supervision work in regions and special environments, and find out the situation of fire alarm at the first time, and finally realize the fire rescue work through targeted treatment. Information acquisition is improved in an all-round way, and the difficulty of fire supervision and management is also reduced to a great extent.

![Diagram of wireless automatic fire alarm system]

Fig. 2 Schematic diagram of fire automation monitoring and alarm

4.4 Fire Rescue Positioning Technology

GPS and GIS belong to the theorem information location technology. According to the characteristics of geographical location, this paper analyzes it to help firefighters make scientific and reasonable decisions for emergency rescue and disaster relief. Through the comprehensive application of GIS and GPS, staff can monitor and share information resources in real time, and provide big data support for fire prevention and emergency rescue, so as to fully ensure the smooth development of fire protection work. be helped to sort out the geographic information content in time, and finally the information processing quality can be improved.
5. Suggestions on measures to promote the reform of network information construction of fire protection engineering

5.1 Strengthen the reform of network application

Fire information is a complex system engineering, which needs the cooperation and coordinated development from all sides. Establish an informatization promotion coordination system that is in line with the actual situation of the fire brigade, with reasonable division of labor and clear responsibilities. Strengthen coordination among business departments, clarify the functions of fire departments at all levels in information construction, and formulate the promotion plan of fire information. Establishing the evaluation index system of informatization construction is a very important basic work to promote the informatization construction of fire forces to develop in depth and objectively and scientifically examine the informatization construction level of fire forces, which is conducive to scientific summary, quantitative or qualitative assessment of informatization construction of fire forces, finding gaps, accumulating experience and promoting the informatization construction of fire forces to develop continuously and healthily.

5.2 Do a good job in safety management

Use information security infrastructure and information system protection means to build an information security system that is compatible with the basic network. Strengthen network physical isolation measures, and install firewall, anti-virus and intrusion detection systems in units above detachment. To strengthen the construction of information security system, we should attach great importance to information security emergency response, improve the information security emergency command and security notification system, and constantly improve the information security emergency response plan. Proceeding from reality, we should pay attention to the construction of disaster backup center, and enhance the survivability and disaster recovery ability of information infrastructure and important information systems. Strengthen the training of information security personnel and enhance the awareness of information security of fire officers and soldiers.

6. Conclusion.

To sum up, under the background of the continuous development of computer network technology, China's fire command work presents new characteristics, which lays an important foundation for urbanization fire management and fire epidemic supervision and prevention. On the basis of comprehensive urban construction, vigorously exploiting economic strength can give full play to the application advantages of computer information technology and reflect the quality of fire control
command. Therefore, it is suggested that the corresponding fire units should strengthen the interactive application and research of computer networking technology, constantly tap its existing value and connotation, adopt scientific and reasonable control technology, strengthen fire control management, give full play to the application advantages of information technology, and promote the scientific development of fire protection industry.

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