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The Study of Management Information System for Coal Mine Safety Quality Standardization

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Abstract

In coal mine safety management, quality management and safety management supplement each other. Paying attention to quality characteristics of safety aspects is very important to coal mining enterprises, which can avoid and prevent coal mine safety problems. By the analysis of the coal quality and safety circumstances, system modules are designed. Fuzzy integrated evaluation is introduced. By evaluating the safety quality standardization of coal mine, it gets safety level. Finally, coal mine safety quality standardization management information system is developed by Visual Basic software.

1. Introduction

With the sustainable developement of China's economy, higher request is put forward on coal mine safety. However, coal mining's overall production level, technological progress and management in China have a great gap with the international advanced level. Safety accidents occur frequently, and bring heavy losses to national economy and people's life and property. According to experience of the domestic and international coal mine safety management, coal mining enterprises use information technology to improve safety management level, and establish coal mine safety quality standardization management information system, which has disaster prevention, standardization evaluation, and electronic information management.

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In most of the important state-owned coal mine enterprises, information systems of finance, scheduling, statistics, equipment, and sales application are more common. They get better benefits. But in coal mine safety management it is slow. In order to solve this problem, this paper studies and develops the coal mine safety quality standardization management information system to enhance the success rate of coal mine safety quality standardization management and promote coal mine safety management efficiency.

2. Design system module

In order to realize the development of the system software, firstly, analyze requirements in practical work, then divide system module, finally design system software. The demand of the coal mine safety quality standardization management information system expresses the following aspects:

1) Inquire system: The system can easily inquire, retrieve and show regulations of coal mine quality standardization and coal mine safety.

2) Personnel management: Hunman are the first elements in security. Behavior-based safety is the most important in the safety management. This system can check and manage the information of managers and employees.

3) Training management: Coal mine managers and workers learn coal mine safety quality standardization, and the effect of their learning must be assessed. It makes the concept of quality standardization system deep into everybody's mind, and they implant the concept into work.

4) Evaluation of quality standardization: It evaluates quality management standardization in coal mines. Fuzzy integrated evaluation is used. The system shows the scores of coal mine quality standardization. This function is the most important in system design.

5) Equipment management: Safety equipment is in a dynamic management environment. It provides real-time monitoring to all equipment and coal mine safety working site.

6) Rewards and punishments management: It can conveniently input and inquire each quality standardization and assessment results, standings, and award list. It can provide effective information for decision-making departments and employees.

7) System management: Coal mine safe quality standardization management information system should have a safe systematic management function. All levels and angles such as data storage, retrieval, extraction, release and management must have the corresponding security guarantees. System chooses the current mature data encryption technology to ensure data security.

According to the above analysis, coal mine safety quality standardization management information system can be divided into quality standardization inquires management module, worker information management module, safety training management module, safety quality standardization evaluation management module, safety equipment management module, safety rewards and punishments management module, system management module, which is shown in Fig.1.