Disaster Recovery Backup and Privacy Protection Algorithm of Hotel HRM Information System

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Abstract:In this study, a high-star hotel is used as a case to study the impact of informatization on hotel human resource management. For the hotel human management system data with many types, large quantities and high security requirements, the data disaster recovery backup should have scalability and privacy protection. The results show that: First, from an overall point of view, the current human resource management in the hotel industry has fully entered the information age, and the overall trend will continue. Secondly, in terms of specific applications such as recruitment management, training management, personnel management, etc., combining it with cryptographic technologies such as AONT and threshold secret sharing, a new power data disaster recovery backup scheme is proposed, which is implemented on the open source blockchain platform.

1. INTRODUCTION

The 21st century is the era of knowledge economy, enterprises are facing increasingly fierce market competition, and talent competition is the real key to competition [1]. Effective human resource management plays a decisive role in the healthy and smooth development of every enterprise. With the continuous improvement of enterprise management [2] and the continuous changes of external environment and external competition, it is an inevitable choice for enterprises to build a human resource management information system [3]. Enterprise informatization is an inevitable requirement for the development of social productive forces. With the continuous acceleration of the process of global economic integration [4], the Internet and electronic information technology have been widely used, and human beings have entered the era of knowledge economy [5] from the era of industrial economy. In order to adapt to the fundamental changes in the general environment and stand out in the fierce competition, enterprises have all carried out informatization construction.

As one of the key departments that determine the development of an enterprise [6], human resource management will inevitably make efforts in information construction. Therefore, the research on human resource management informatization [7] is of great significance. Human resource management is an important issue. In the context of the rapid development of information technology, the energy industry, especially the power industry [8], is increasingly integrated with information technology. A key component of the grid business [9]. The power industry is a national pillar industry, and its power supply level and safety status are directly related to the development of enterprises and people's daily life [10]. Electric power services are numerous and complex, with numerous types of data, huge amounts of data, and high requirements for data security. During the development of various business links [11], the system needs to constantly interact with historical data, and at the same time generate a large amount of new data and store it for reuse [12]. The reliable storage of these data is the basis for ensuring the stable operation of the system. Human

resource information management is a new type of modern management concept [13]. Compared with the traditional management methods of hotels, the information-based human resource management model can greatly improve the utilization efficiency of human resources. The realization of management information [14] is also inevitable for social development. Trend, the realization of human resources information management can effectively improve the core competitiveness of the hotel [15], but also a new innovation to the old traditional management model.

The hotel industry is a labor-intensive industry [16]. To develop better, the hotel must optimize the management of human resources. The location privacy protection technology has undergone a long development [17], from the early use of access control technology to protect user location information, to anonymization of a single precise location, and further to hide the sensitive location of users through anonymity algorithms [18]. Over the years, it mainly refers to the failures that occurred during the planned system upgrade, software installation, etc., such as delays in data transmission or unexpected system failures. Once the downtime occurs, it will cause data loss [19], or data unavailability caused by data corruption, which in turn will cause the interruption of the business system [20], which will seriously affect the normal operation of the business and cause huge economic losses. It is easy to cause the risk of social instability [21], the political risk of leaders and relevant responsible persons, etc. Location privacy protection technology has achieved a lot of results [22].

However, with the advent of the era of big data, even if the attacker cannot intuitively obtain the user's sensitive location data, he can obtain a large amount of location-related data of the mobile user [23], analyze the user's historical location data from other perspectives, and conduct the user's sensitive location analysis. speculate. Therefore, traditional privacy protection methods have been unable to effectively protect user privacy [24]. Hotel personnel information management system is mainly divided into the following parts, divided into user version and management version. As the name implies,

the user version is directly oriented to customers, and the user enters directly at the front desk; the management version is mainly for background management to ensure the normal operation of the personnel information management system. As the most typical labor-intensive industry in the hotel industry, human resource management plays a pivotal role in the resource allocation and productivity planning of the entire industry.

2. THE PROPOSED METHODOLOGY

2.1 The Hotel Human Resource Management Information System

The concept of "human resources" was proposed and clearly defined as early as 1954 by Peter Ferdinand Drucker in his book The Practice of Management. Human resources in a broad sense refer to people with normal intelligence, which is the total labor capacity possessed by the population in a certain field. Even though the concept of human resource information management has been widely used today, it does not have a clear definition. However, there are some tentative interpretations of e-HRM, which mainly emphasize human resource policies and activities supported by the Internet system.

Informatization of human resource management refers to providing a large amount of data for hotel management through the collection, arrangement and storage of human resource information. Hotel managers provide data support for hotel talent training through observation and analysis of data. Data support is based on internal connections. Various modules are formed on a shared information technology platform. Human resource management informatization is a brand-new hotel management model that comprehensively records, analyzes and integrates multiple pieces of information. An advanced human resource information management platform can realize a low-cost, high-efficiency humanized management model, so as to maximize the efficiency of human resource utilization and improve the efficiency of hotel managers in human resource management. However, the human resource management information system MIS uses the PowerBuilder database management system as the application development software. Users can design program codes, run programs, and debug program errors. The visual development method can greatly reduce the difficulty of application development. As a typical service industry in the hotel industry, the quality of human resource management directly determines its competitiveness. Therefore, the research on hotel human resources plays a very important role in the business field.

The incentive mechanism is the most important part in the field of human resource management. If there is a lack of a relatively complete and perfect incentive mechanism, it will lead to the inability to use reasonable methods to mobilize the enthusiasm and enthusiasm of the hotel staff in the daily management work. Features and needs Create a modern incentive system. First, it is recommended to create an incentive mechanism for talent promotion at work, and to comprehensively assess and evaluate each person's job ability, work attitude, and contribution to the development of the hotel in their daily work. Among them, employee satisfaction has attracted much attention as the focus of human resource management. Research shows that well-educated talents have low job satisfaction in the hotel industry.

2.2 The Disaster Recovery Backup of Hotel Human Resource Management Information System

As a typical service industry in the hotel industry, the quality of human resource management directly determines its competitiveness, so the research on hotel human resources has a very important influence in the business field [9]. Among them, employee satisfaction has attracted much attention as the focus of human resource management. Research shows that well-educated talents have low job satisfaction in the hotel industry, and low job remuneration is also an important factor leading to the loss of hotel human resources. By creating multiple data backups, the data disaster recovery technology provides data objects that can quickly read and restore the existing system when the system encounters a disaster.

Data disaster recovery backup should ensure the consistency, reliability and integrity of business data in the system. Further, for power data with numerous data types, huge data volume and high security requirements, data disaster recovery backup should be scalable and include data privacy protection mechanisms. In order to support users to control the release of location information more fine-grained, we should first calculate when, where and under what circumstances the user needs to suppress the release of location information. Aiming at this problem, early researches let users suppress the release of location information at designated sensitive locations, and publish location information normally at other locations. This algorithm protects the user's location privacy in an intuitive way, but in the era of big data, attackers can infer the user's sensitive information through historical data, resulting in a significantly weaker protection of this type of algorithm. First, informatization has broadened the channels for talent recruitment, making it more efficient and convenient. Star-rated hotel companies and job seekers can communicate on the online platform, allowing job seekers to understand star-rated hotel recruitment information faster, and at the same time allow hotel companies to obtain the talent information they need, and initially understand the personal conditions of job seekers. Regional restrictions, convenience and quickness also save a lot of recruitment costs.

However, while online recruitment brings convenience, it will also face huge challenges. In the blockchain system, all (transaction) data generated within a period of time will be packaged into a block, and all blocks will be They are arranged in chronological order to form a blockchain. All participants in the system (i.e. nodes) have the same copy of the blockchain and no node can modify it. Before each block is written into the blockchain, all nodes in the system need to jointly run the consensus algorithm [14-16], and according to the consensus result, decide which representative node belongs to the write permission of the block. In addition, other nodes need to verify the validity and correctness of new blocks submitted on behalf of the node.

2.3 The Privacy Protection Algorithm of Hotel Human Resource Management Information System

Hotel human resource management is a key issue affecting the smooth development of my country's hotel industry. There are many problems in human resource management, which is the most difficult problem for hotel managers. Faced with this series of problems, hotel managers must establish a systematic and comprehensive human resource management system, so

that hotel human resources can be fully and efficiently used. In the human resource management work under the new situation, the hotel's perfect authorization work system is to give employees the corresponding trust and rights, to provide the necessary resources for the employees, so that all the staff can independently complete their own tasks.

In essence, authorization has an important impact on the development of the hotel industry. The main reason is that the employees in the hotel will directly provide the corresponding services to the guests, which is directly related to the impression and satisfaction of the guests. Threshold secret sharing refers to dividing a secret into multiple copies for multiple users to keep, and the original secret can be restored only when the secret components that reach a certain threshold are obtained. In this paper, the threshold secret sharing scheme is used. On the one hand, the rights of nodes are dispersed, which can ensure the confidentiality of backup data, and on the other hand, the scheme can ensure the reliability of redundant backup and effectively save the storage cost of nodes. The location privacy protection mechanism based on heuristic measurement is prone to location inaccuracy to a certain extent, and many such privacy technologies do not consider the timing of location data; the second type of location privacy protection based on information retrieval, although to a certain extent It can ensure the security of sensitive locations of mobile users and ensure the accuracy of location data, but the algorithm is complex and expensive, and the current hardware environment cannot support the application of such technologies well.

However, the location privacy protection mechanism based on probabilistic prediction can better balance the relationship between privacy and execution efficiency in location privacy algorithms. The server writes the data to the primary storage, the primary storage synchronously writes the data written this time to the secondary storage, the secondary storage returns the updated status to the primary storage after the data is updated, and the primary storage then feeds back the updated status to the server, and then perform the next write operation. In synchronous disaster recovery, the data stored in the primary storage and the backup storage are updated synchronously, after both the primary storage and the backup storage have finished writing data.

3. CONCLUSIONS

The web-based human resource information management system for hotel-style apartments is mainly a system that uses information technology to manage human resources. Its main function is to ensure the scientific and efficient development and management of human resources. It is established by computer and records the function simulation information database of each employee of the enterprise. It can provide the required data analysis and statistical data for human resource managers and decision makers at any time. Compared with traditional disaster recovery backup technology and cloud storage-based disaster recovery backup technology, the scheme in this paper can reduce the cost of infrastructure construction, avoid the risk of single point failure, and enhance scalability.

4. ACKNOWLEDGEMENT

5. REFERENCES

[1]Cai Jiaqi. Discussion on optimizing hotel human resource management methods [J]. Industry and Technology Forum, 2018, 17(10):2.

[2] Qiu Zhengying. Research on Human Resource Management Courses in Higher Vocational Colleges [J]. Hubei Agricultural Mechanization, 2019(22):1.

[3] Du Siyi. Analysis of new thinking on hotel human resource management in the information age [J]. Modern Economic Information, 2019(11):2.

[4] Wang Wenyan. Optimization strategy of human resource management in economy hotels [J]. Journal of Jiangxi Electric Power Vocational and Technical College, 2020, 33(5):2.

[5] Zhang Ying. Visual Analysis of Hotel Human Resource Management Research in my country——Based on CiteSpace Knowledge Graph [J]. Journal of Hubei University of Arts and Sciences, 2020, 41(8):6.

[6] Xi Jianting. Research on problems and countermeasures in hotel human resource management [J]. Market Weekly Theory Edition, 2019(52):1.

[7] Li Shanshan. On the New Path of Hotel Human Resource Management [J]. Chinese and Foreign Entrepreneurs, 2020(16):1.

[8] Zheng Meidan. An information display box for hotel human resource management:, CN210429216U[P]. 2020.

[9] Chen Xiaoying. Human resource management innovation of hotel enterprises under the knowledge economy [J]. Fortune Today (China Intellectual Property), 2020(05):113-114.

[10] Gong Wei. An Exploratory Study on the Impact of Informatization on Human Resource Management in High-Star Hotels [J]. Marketing, 2019(29):2.

[11] Liu Yi, Peng Yu, Zhang Chunyan. Measures to motivate employees in resort hotels: Taking the human resource management of a resort hotel in Sanya as an example [J]. Contemporary Tourism, 2018, 000(007):91-92.

[12] Wu Changying. Research on Strategic Cost Management of Hanting Hotels [D]. Harbin University of Science and Technology, 2018.

[13] Qin Hao. A flexible employment information platform and full-process delivery platform for the hotel industry: CN110414916A[P]. 2019.

[14] Chen Qianmin, Zhai Xiangxu, Chen Siqiao, et al. Design and Implementation of Human Resource Information Management Promotion Platform [J]. Management Science and Engineering, 2021, 10(4):11.

[15] Liu Hui. Challenges and responses of hotel human resources management under the new situation [J]. Enterprise Technology and Development, 2020(10):3.

[16] Li Shuyi, Guo Yu. A Humble Opinion on Hotel Human Resource Management and Incentive Mechanism Construction [J]. Leisure, 2020(36):1.

[17] Wang Li. Problems and solutions in hotel human resource management [J]. Enterprise Reform and Management, 2020(21):2.

[18] Zhang Yizhe. Research on new trends and countermeasures of hotel human resource management under the background of Internet + [J]. Knowledge Economy, 2020(23):2.

[19] Lin Wu, Bao Yanli. New Thinking of Hotel Human Resource Management in the Internet Era [J]. China Business Review, 2018(36):2.

[20] Wei Tingjie. New Thinking of Hotel Human Resource Management in the Internet Era [J]. Global Market, 2019, 000(016):33.

[21] Han Yaqian. The impact of informatization on human resource management of high-star hotels [J]. Science and Fortune, 2020.

[22] Liu Yanwei, Li Jing. Analysis and Countermeasures of Hotel Human Resource Management [J]. Small and Medium Enterprises Management and Technology, 2021(29):3.

[23] He Xiaoyi, Xu Haochun, Wu Xiaofang, et al. Research on the Impact of Artificial Intelligence on Hotel Human Resource Management [J]. Chinese Market, 2021.

[24] Ma Danfei. Application of artificial intelligence in human resource management of star-rated hotels [J]. Value Engineering, 2021, 40(16):2.