

Research on Security Construction and Management of University Information System

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Abstract

Information construction is one of the important contents and characteristics of university construction and development. The implementation of information construction and management in Colleges and universities requires the establishment of information management system according to the characteristics of the University. When creating an information management system, we must pay attention to the security of the information management system itself, and strive to do a good job in the security planning and design of the information system to avoid potential security problems in the system. A good information management system can effectively optimize the management process of school information management, realize the information exchange and information sharing between various departments, so as to facilitate the information management personnel to work better in the management process. The author of the existing university information system to create the background and status quo, as well as how to create a secure information system and prospects to do a related exposition.

Keywords

University, Information System, Security, Management.

1. Introduction

after the reform and opening up, with the continuous development of economy and science and technology, information technology has also been rapid development. Information technology has been applied to various fields. Companies, enterprises, governments and universities have also established their own information management systems. Teaching, scientific research and other aspects in Colleges and universities are gradually applied to students' life, teaching and other aspects. If the information system can not work normally, or can not guarantee the security of university information data, it will affect the normal operation of the university work, and even leak the important information of the University, causing impact and danger to the security of the University.

2. Background and current situation of informatization construction in domestic colleges and Universities

With the development of network technology, computer software technology and integrated hardware, information technology is booming in various fields. Information system can improve people's work efficiency, bring convenience and reduce the physical and mental consumption of operators. The demand for information system in domestic colleges and universities is higher and higher. The informatization construction of colleges and universities in China is still in the rapid development. Informatization and information system is one of the

important symbols of modernization, and also one of the important symbols of modern education and management.

At present, the level of information construction and the degree of application of information system in Colleges and universities are not the same. Some colleges and universities still have problems such as low starting point, isolated data island, low utilization rate of data, repeated construction and low security. The information age needs to rely on the information technology and its system to provide information power and information support for the development of colleges and universities. Therefore, we need to study the application and security of information system. This paper mainly studies and explores the security construction and management of information system.

3. Security strategy design of information system construction in Colleges and Universities

3.1. Using encryption algorithm

Using information encryption technology to increase the confidentiality of school related data can effectively protect the confidentiality of school data and information, and cut off the possibility of illegal users to obtain relevant information and data from illegal channels. To encrypt the university data, only the relevant staff can understand the data in this way, and decrypt and read the data. Other non relevant staff members cannot understand the content and data, and even if they have obtained the encrypted content, they cannot decrypt the content, nor can they actually obtain the content. The plaintext content is converted into ciphertext by data encryption algorithm, and the encrypted content is decrypted into plaintext by decryption algorithm. At present, the commonly used encryption algorithms can be divided into hash algorithm, symmetric encryption algorithm and asymmetric encryption algorithm. Among them, the asymmetric encryption algorithm of RSA encryption algorithm is the most mature and effective public key encryption algorithm, which has been unanimously praised by professionals in the field of information management.

3.2. Electronic signature and authenticated identity encryption technology

3.2.1. Electronic seal technology

Information management personnel use digital signature technology to confirm the personal information of managers for each information and data, which is also called electronic signature technology. Managers use information electronic signature technology to confirm the information and confirm the personal information of the operator. For example, the financial department of colleges and universities should use electronic signature technology to manage and confirm information and data, so as to realize the effective management of information and data, so as to improve the work efficiency of each department. Of course, there are still many difficulties and problems in using this technology. For example, when querying and confirming messages, counterfeiters may query and confirm messages on their behalf. Therefore, information management personnel should constantly develop relevant technologies to manage and improve these situations, so as to ensure the accuracy and reliability of confirmation personnel. For example, electronic signature can be combined with face recognition and human dynamic recognition and other new technologies and methods to improve the security and effectiveness of electronic signature.

3.2.2. Authentication identity

In the computer system, the staff use the identity authentication technology to confirm the exact identity of each operator, check whether the operator has the right to query and use the relevant resources correctly, and establish the mutual trust relationship between users, so as to improve the work efficiency. There is still a lot of work to be done to solve the identity

authentication problems of relevant personnel. Information management personnel should constantly create better and more effective working methods to solve these problems. In the process of employee identification, there may be illegal access by other people. These personnel may be colleagues or unrelated personnel, which may lead to information and related data disclosure, thus causing potential security risks in the information system. Therefore, the staff and R & D personnel of the information management system are responsible for this problem. We should pay attention to the potential security problems at any time, and solve these problems fundamentally in time, so as to reduce the irreparable damage caused by the security problems of the information management system. Moreover, colleges and universities belong to densely populated areas, and there are more teachers and students. Everyone's relevant information should be kept confidential in order to avoid information leakage. At the same time, the teaching content and scientific research content of colleges and universities belong to confidential content, so it should also be kept confidential. On this basis, each staff member is required to be highly confidential. Therefore, it is necessary to conduct qualification certification and personnel confirmation for each employee, and set up corresponding information system.

3.3. Using network security protection technology

3.3.1. Use antivirus software and security guards for virus detection and security defense

Install a stand-alone version of anti-virus software and security guards on the computer terminal to check and kill viruses and defend against virus and network attacks. If you are in the same department, you can also install network version of antivirus software and security guards. The management personnel can easily carry out effective unified management on the client managed by the center. According to the actual situation of the management and detection of each computer, you can check and defend the problems, and solve all the problems.

3.2 use firewall and other technologies for security protection

In the school between the external network and the internal network, the installation of a firewall and the corresponding settings can filter some network viruses and network attacks. Installing software firewall in each computer can also filter some network viruses and network attacks to reduce security risks. It is an effective tool for filtering network virus and network attack to install firewall and make corresponding settings.

3.3.2. Set and manage the Internet address and visit content

Each Internet user in the intranet controls and manages the network address and access content through the management equipment or settings, and filters the access traces, so as to fundamentally reduce the possibility of virus invasion and improve the security of information management system. Set up the access rights of each user, so that users can browse the website or data content safely and healthily. Good management can effectively improve the work effect and management efficiency of information management personnel, and make the management work better, so as to realize the security access of information system.

4. Management and research of informatization and information system

4.1. Absorb professional talents and improve training intensity

At present, there is a lack of professional information system construction and management professionals in university information management. In order to carry out information management better, we must absorb more professional information management talents. And for these managers to carry out relevant professional training content and regular training, so that these personnel can timely grasp the latest technology, and according to the actual situation to develop the latest management methods. Teachers and students should also be

trained to improve their standardized operation of the information system, improve their safety awareness, enhance their sense of responsibility, and make the information management system play a maximum role.

4.2. Backup various data

In the operation process of university work, more and more rely on information system technology, but there are many unsafe factors, these factors may pose a threat to the information system. Therefore, information management personnel in the information management work, to back up all kinds of data. When the data is damaged, the staff can recover in time, quickly and effectively, such as dual machine hot standby technology, cluster backup technology, multi-point backup technology, etc. When the data information in the required data and information has problems, it can also quickly resume work.

4.3. Establish emergency system and management mechanism

In addition to the need to enhance the security technology in the development of information systems, it is also necessary to establish and constantly improve the corresponding crisis mechanism and strategy of information management system. Each department should formulate the corresponding information management system and information emergency response mechanism according to the actual situation, so that the information management personnel can cope with the possible crisis at any time. Once the emergency state of information system appears, it can be timely and effectively handled according to the emergency plan, so as to reduce the crisis and loss to the lowest point. When establishing the information management system, it is necessary to formulate corresponding management mechanism according to the process and the actual situation to carry out the standardized management of the information management system, so that the information system can be standardized, effective and smooth operation, and enhance the anti risk ability and normal and efficient operation of the information system.

5. Conclusion

In a word, the establishment of university information management system can effectively guarantee and promote the normal operation of colleges and universities. However, the establishment of information system should be based on the needs and characteristics of the school itself to ensure the security of the information management system. The effect of information management system on the management of colleges and universities is not unchangeable. Managers should pay attention to the hidden dangers and problems that may occur at any time, and prevent and deal with these problems in time. Therefore, colleges and universities must pay attention to the construction of security system in order to improve the role of information technology in the operation and management of colleges and universities.

References

- [1] On the security management of experimental teaching information system in Colleges and universities. Zhang Shaoyu. Computer knowledge and technology, 2018 (14.27): 232-233.
- [2] Analysis on the security problems of university management information system. Li Gang; Wang Junwei. China education informatization, 2016 (15): 43-45.
- [3] University Information System Security Design Based on firewall. Ji Yun. Information communication, 2016 (8): 186-187.