Application Research of Office Automation Based on Computer Technology

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Abstract—With the development of science and technology and the improvement of computer performance, the computer is more and more widely used. Among them, the development of office automation supported by computer technology and network is the most prominent. Based on this, this paper studies the application of computer technology in office automation, and optimizes the design to realize the automatic flow of office approval, announcement and collaborative application. At the same time, it can realize the office automation system from the system structure, computer technology application, office database and software code design. The results show that the optimized design of office automation system based on computer technology is conducive to the realization of automatic office, the paper office approval into paperless office, announcement and collaborative application, can effectively improve the efficiency of office automation 80%, play a positive application benefits.

Key words: Office automation; Computer technology; Design; system Zero Foreword

1. INTRODUCTION

With the popularization and development of Chinese computer technology, the application of computer powerful text and data processing functions and the combination of computer automation characteristics are playing an important role in realizing the file transmission and data processing automation in the office process[1]. The design and implementation of optimized office automation system, not only has the feasibility of the same time, can strengthen the coordination and communication of office staff, strengthen the unity of office decision-making, improve office efficiency. The following article makes a specific analysis of this.

2. COMPUTER TECHNOLOGY

With the upgrading of computer operating system and the acceleration of the running speed, the development of computer technology is gradually adapting to the application needs of more

fields in the society. Computer technology is a process of information processing and collection. With the deepening of the information society, we have a constant demand for high quality quantification of office level. Office automation as a carrier to optimize the quality of work, its work content must be accurate and timely collection of required information, scientific processing, and based on the computer's powerful text and data processing function and multimedia function, all bring convenience to office automation, so that the realization of office automation is no longer a virtual talk but can be realized under the support of the application of computer technology three-dimensional.

3. DEMAND AND SIGNIFICANCE OF OFFICE AUTOMATION

3.1   Requirement Analysis

Office automation by the large-scale change of the office environment and the development of office, through advanced machines and equipment to replace the traditional office paper record, pen writing and other inefficient working methods. By combining the new office mode with the traditional office structure, a more advantageous office mode can be formed, and the collaborative office ability of office members can be improved[2].

In the past office form, data processing, data sorting, complex work flow and so on need a large number of staff to work in parallel, through increasing the number of office staff to solve the complex task. Automated office greatly improved this defect, the staff can through the high efficiency of the computer, a variety of mechanical equipment to deal with a variety of work, a large number of complex and trivial work are completed by the computer, greatly liberated the human resources, reduce the office work on the number of staff requirements.

Based on computer technology to achieve office automation, need to be able to ensure that the personnel of the company department can work together to complete the same thing, or collaborative automation to complete the office project, according to the tasks in the system, process, schedule, multiple collaboration automation office; It can also absorb the essence of knowledge in documents and forums and automatically handle office projects.

3.2   Meaning Analysis

This paper mainly analyzes the computer technology, aiming at how to achieve the office automation system design optimization measures, in order to design the office automation system, improve the office efficiency, transform the traditional office mode, achieve office automation, play a positive design to achieve significance.

4. OFFICE AUTOMATION SYSTEM BASED ON COMPUTER TECHNOLOGY

The structure of office automation system optimized based on computer operating system, software and hardware environment is as follows figure1:
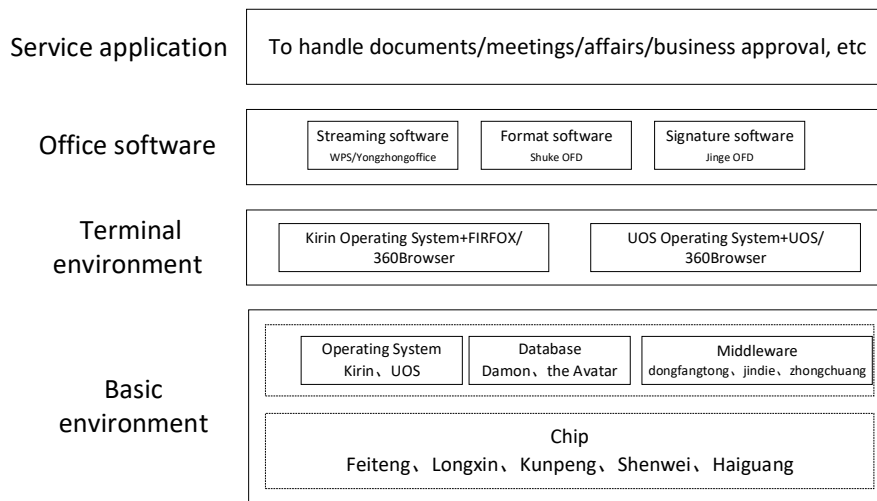
Figure 1. Office automation system construction

4.1 Application of data processing technology

1) Capability model

The capability model of organizational model management supports the comprehensive description of various organizational forms and supports various business processes and applications through the authority system[3]. At the same the capability model of organizational model management supports the comprehensive description of various organizational forms and time, it supports the comprehensive description of the personnel, departments, posts and units in the organization, and provides the basic data management of corresponding dimensions to realize the consistency of organizational information in the system and effectively support the flow of process and business management, is shown in figure2.
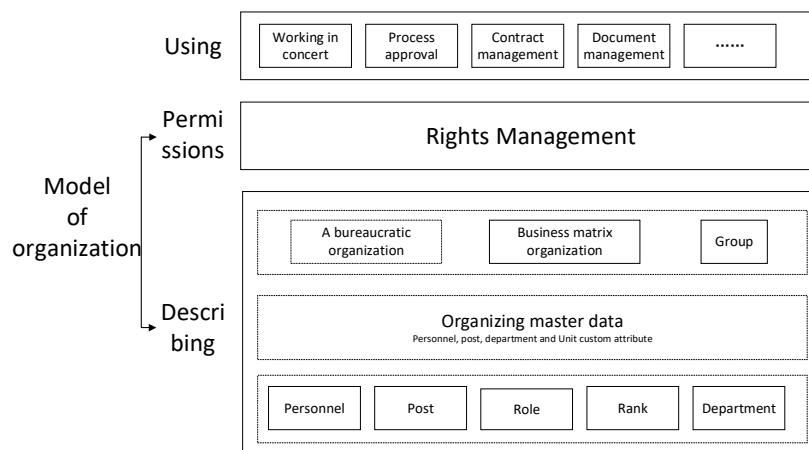

Figure 2. Model of capability in office automation system

2)   Authority system

The organizational model authority system is designed based on the Role-Based Access Control (RBAC) authority model and associates user authority with their roles. In an organization, different roles are created to perform different tasks. Users should be assigned to a role at the request of the organization, and the corresponding permissions of the role should also be granted. When one or more users are assigned from one role to another, their permissions change accordingly. When authorization or permission is changed, only the role of the personnel can be changed, rather than the specific rights. This kind of permission control system greatly simplifies the management of rights. As shown in Figure 3.
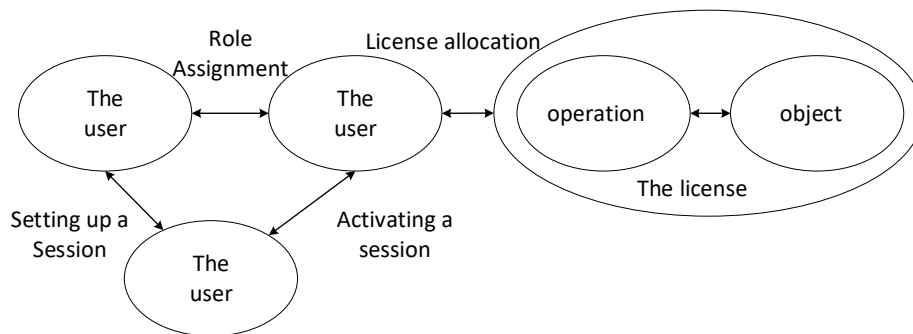

Figure3.   Role-based access control authority model

The establishment of the above model is based on the organization of the master data, through the computer technology data processing technology, set up the corresponding hardware and software interface, in all scenarios of the office environment can call the basic data, realize the automation of the office system.

4.2   Application of Network technology

Based on computer technology, Struts network programming is used in the realization of office automation to deliver office documents through the network. Combined with JavaWeb application, the office network data transmission framework is developed, designed and implemented[4]. The specific workflow implementation process is as follows:

1) You can first give the service request through the browser, obtain the request in the Controller, and then proceed to the next operation.

2) In the Controller, requests can be sent to the Action, which is handled by the Model, as defined in the Struts-config.Xml configuration file.

3) Use Action to process the business logic, return the result to the Controller, and finally transfer the result to the user View interface

4.3   Automatic Office Database

In the design and implementation of the office automation system, the use of computer technology in the database technology, in order to effectively prevent the office of the electronic file information abnormal, maintain the system database information security[5]. The

database of this system uses SQL2000 database, and the structured data of the collaborative system is stored in the relational database. In terms of the domestic relational database, it is suitable for:

TABLE 1 DATABASE ADAPTATION SCOPE

Classification	Range of adaptation
Relational database	Dameng(DM7/8)/rendajincang(KingBase ES）

As shown in Table 1 data: rely on the conversion tool of domestic database, support the data migration of other types of database to domestic database[6].

5. THE APPLICATION OF CHARACTERISTICS COMPUTER TECHNOLOGY IN OFFICE AUTOMATION

Computer technology is a process of information processing and collection. With the deepening of the information society, enterprises are constantly asking for high quality quantification of office level. Office automation as a carrier to optimize the quality of work, its work content must be accurate and timely collection of information needed by enterprises, scientific processing, in order to make enterprises in the market competition to stabilize the advantage, improve the overall efficiency of enterprises. Office automation to staff technology as the leading, the use of computer and communication technology, the formation of a variety of office mode, with convenient, comprehensive open and high efficiency characteristics. By collecting information resources and establishing internal resource sharing mechanism, it can comprehensively improve the application effect of computer technology.

First, the independence of data processing. Computer applications and databases are independent of each other and do not affect each other, which greatly improves work efficiency. Second, high safety of office work. When computers are used in office automation, you can set the login password and permission to improve the security of core content. Third, work process integration and automation. Through computer technology unified office work in the complex work flow, so that the overall work content of office work is more concise, reduce the workload of workers. Fourth, data processing is complete and accurate. Under normal circumstances, computer calculation and analysis will not make mistakes, effectively improve the accuracy and correctness of office work, and avoid serious consequences caused by work mistakes. Fifth, the work record of each link. The computer records the work of each staff, creating conditions for the development of closed-loop management.

6. STRENGTHENING THE APPLICATION OF COMPUTER TECHNOLOGY IN OFFICE AUTOMATION SEVERAL STRATEGIES

6.1 Building a sound management system

In the application of computer technology in office automation, the staff should build office automation system from different angles according to the actual situation of enterprise

development[6]. In addition, we can make use of some foreign advanced work experience, combined with the form of domestic computer technology development, to develop a perfect office automation system, for the continuous application of computer technology, improve the good play of the platform, its functions are fully displayed.

6.2   Build office automation operating environment

In the process of continuous application of computer in office automation, it needs a good operating environment as the basis. Therefore, in order to effectively develop and continuously improve the economic benefits of enterprises in the process of development, enterprises should attach great importance to the construction of office automation operating environment. In the process of building the office automation operating environment, the enterprise should be combined with its own development and the staff's understanding of the office automation, to carry out a comprehensive construction[7]. In the process of continuous application of computer in the office automation, enterprises should properly install some firewalls and anti-virus software in the office automation system, so that the office automation in the process of operation, a comprehensive inspection and management, for the use of computer technology, provides a good environment.

6.3   Improve the working quality of staff and posts

In the process of continuous application of computer technology in office automation, good working literacy of staff is very important, but also the core of computer technology in the process of office automation application. Enterprises can use regular training to strengthen the staff's ability to master computer technology and have a comprehensive understanding of the Windows system operation[3]. In addition, in the process of staff training, enterprises should focus on strengthening the application form of office software for staff and have a comprehensive understanding of its related functions, such as PPT, World, Excel and other software application forms. At the same time, the staff should also have a comprehensive understanding of some functions in computer technology, and carry out continuous application, which can provide convenient conditions for the application of computers in office automation[9].

7. COMPARATIVE ANALYSIS OF RESULTS

Using the current modern computer technology, to achieve the design of office automation system, not only can realize the automation of enterprise office processing, but also can use the computer technology will be the means of office information, effectively changed the traditional way of information exchange, so that the information exchange has a significant change; It also greatly improves the efficiency of the office. In the design and implementation of the automated office system, the application of computer technology[10], can be the office manpower information, office data into the form of electronic documents, and also can provide you with a better information transmission network platform. The benefits of office automation and traditional office are compared, as shown in the Table2:

TABLE 2 COMPARATIVE ANALYSIS OF RESULTS

Analysis of Results	Traditional office	Office automation
Office mode	Paper record, manual statistics	Computer record, automatic statistics
Cost of investment	Labor cost, data maintenance cost	Cost of equipment
Improve Office Efficiency	10%	80%

In this study, it involves the realization of office automation system based on computer technology, which can realize automatic office through computer technology, transform paper office into paperless office, improve office efficiency, increase 80%, and play a positive role in realizing value.

8. CONCLUSION

To sum up, in the realization of office automation, the application of computer technology for the exchange of information to bring revolutionary changes, computer technology to become the foundation and core of office automation[8]; At the same time, through this new office work mode, to improve the coordination and communication between the staff in the office work, strengthen the unity of the office work decision, improve the efficiency of the office work, is a basic construction to be implemented in the future development of every enterprise and government department. Continue to study and analyze the application of computer technology in office automation, promote its continuous development and progress, and further improve the office quality and work efficiency.

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