Study on the Modernization Application of Computer Science and Technology

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Abstract: With the rapid development of our country's economy, the application of computer science and technology has also penetrated into all fields of our social production and life, which provides technical guarantee for product innovation and upgrading of industrial structure. Moreover, the wide application of computer technology facilitates people's life as well as improves their living standard. In this paper, the connotation, development status, existing problems, solving strategies and application trend of computer science and technology are analyzed.

1. Introduction

In today's society, computer science and technology is an indispensable technical support in the development of various industries in China, which is of great significance to the healthy development of enterprises and has a positive role in promoting the improvement of people's living standards. Therefore, it is particularly essential to further promote the development of computer science and technology and modernization application.

2. Basic Connotation of Computer Science

Computer science refers to a theoretical basis that can systematically study information and a computer, as well as solve the problem of realizing disciplines associated with practical application techniques on a computer system. The content of study generally tends to be creative, relating to a comprehensive and systematic scientific research on information conversion algorithm processing. Scientific contents contain a wide range, among which, some focus on the calculation of specific results, such as computer graphics, some focus on the calculation of problems, such as complex theoretical calculation, while some focus on how to implement calculation, for instance, some programming language theory about the method to describe computing method, some focus on the programming of computer problems in a particular area with a particular programming language, as well as some focus on the human-computer interaction technology that facilitates peopel anytime. The public always hold one-sided view that reaserch on computer problems is computer science, or computer-related research, such as playing games, surfing the Internet, or word processing. In fact, computer science is concerned about using the current theoretical knowledge and technical experience to improve the original program or create an updated program that is propicious to people's production life. Computer science is not limited to computer, but a more extensive and in-depth scientific study, which includes a wide range of content and intersects with other disciplines, such as Psychology, Linguistics, Cognitive Science, Mathematics, Physics, Statistics, Economics, and so on.

Computer science is also concerned about the creation and resolution of various computational problems, just like a man-made system with self-thinking and communication ablity, that is, artificial intelligence. Computer science also includes machine translation, computer system structure and computer engineering, computer graphics and vision, computer security and cryptography, computer science, information science, software engineering, etc. Its subject stresses on what the computer program can do and can not do, that is, computability, on how to make it more efficient to perform a specific task, that is, the algorithm and complexity theory, on how the existing program stores various types of data, that is, the data structure and database, on how to make the program more intelligent, that is, artificial intelligence, and on how the human beings

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communicate with the program, that is, the man-machine interaction and human-machine interface.

Computer system can be divided into two types, software system and hardware system. The former includes the structure control and instruction system, algorithm and logic structure, memory structure, Von Neumann structure, Harvard structure, input/ output and data communication, digital logic, logic design, integrated circuit, computer system organization, computer system structure, computer network, distributed computing, network security and computer system implementation. Software system includes the system software, operating system, compiler, application software, computer game, office automation, network software, CAD software, computer program, program design and program design practice, object-oriented technology, programming language, software engineering, software reuse, driver, computer simulation, programming methodology, data and information system, data structure, data storage representation, data encryption, data compression, coding and information theory, file, information system, management information system, decision support system-expert system, database, information storage and data access, information interaction and expression, main research field, formal foundation, logistics, predicate logic, mode logic, timing logic, description logic, mathematics, general algebra, recursive theory, model theory, probability theory and mathematical statistics, logical algebra, Boolean algebra, Discrete mathematics, combined mathematics, graph theory, network theory, information theory, theory computer science, formal language, automatic machine, etc.. The software system contains a wide range of subjects, and I'm not going to talk too much about it here.

3. Current Situation of Computer Science and Technology

In the current state of social development in our country, computer science and technology change from the past main content of single data calculation and information processing to a new technology application with the function of conveinent communication and interaction, as well as rapid and timely information transmission especially the application development of artificial intelligence. Computer science and technology are widely used in China, such as in government, enterprises, education, medical treatment, health, public information and so on, which plays an important role in promoting the rapid development of computer science and technology. The characteristics of convenient operation, convenient communication, rapid information transmission, accurate calculation, convenient demonstration and the like are quite convenient for people to produce and live to a great degree. In particular, in the social environment with the theme of environment protection and resource saving, the application of computer science and technology in all industries, and the maximization of the "paperless" office work has made great contributions to the saving of resources and the environmental protection of our country.

In China, computer science and technology, whether from the theoretical foundation or the technological innovation or the application field, have been greatly developed and are also in the leading position in the world. But in terms of the overall applicaiton situation, it is still in the primary stage, especially the R & D. Therefore, compared with other contries, there is also a wide gap in the use of similar technologies in China. We should continue our efforts to speed up the theoretical research, software development and modernization application of computer technology, so as to realize the wider and more convenient application of computer technology in all fields of society, to speed up the development of our economy and technology and realize the full advancement of modernization process.

4. Problems in the Modernization Application of Computer Science and Technology

With the rapid development of computer technology and its wide application, we can see that computer technology has made a great contribution to the change of our country's social form and social consciousness. It is our country's one of one of the important scientific and technological means to response to the new era, fast development, big reform and big breakthrough. The modernization application of computer science and technology has brought the basic technical support to the scientific and technological innovation and product upgrading of all industries in our

country, and made a great contribution to the cause of aerospace and national defense. However, at the same time of making a major contribution and bringing rich scientific and technological achievements, the problems of its application and development also give rise to our attention.

The main problems of the application of computer science and technology in our country are as follows. Compared with developed countries, the application of computer science and technology in China is very late, which was extended and applied in the 1980s. besides, the development of the whole computer science system is not good enough and not perfect enough. China's computer science and technology are in the state of disorder in a period of time, and lack application management system. Although the electronic information technology is developing rapidly in our country and the kinds and performance of software are gradually increasing and perfecting, influenced by various factors, the software development and utilization scope of our country is still relatively small, and its competitive trend tends to be poor, with a lack of corresponding technical supervision and management system. In the application of computer technology in enterprises and other fields, the main problems are in the limitation of research and development of technical personnel and the operation level as well as the absence of maintenance management. Moreover, the security information protection system is faced with some problems in the development and application of computer science. Its openness and extensiveness provide great convenience for computer users no matter in information data transmission or in other apllication operation, which greatly promotes the operation of information data transmission and other application. However, it also brings another problem, virus infection and hacker attack. This kind of malignant information invasion can cause computer data leakage and network paralysis, which will cause huge economic loss to users and countries. In our country, the information security management system is still imperfect, as well as the security protection system of information security. Besides, there are problems such as the improper operation of the user or the lack of information security consciousness, and the like, cause personal information to be leaked. People of our country still need to be strengthened in the normative operation of computers.

5. Improvement Strategy of Modernization Application of Computer Science and Technology

5.1 Improve the Supervision and Management System and Strengthen the Safety Protection

Our government should pay more attention to and strictly crack down the crime problem through network information, and also strengthen the network information regulation, refine duties and content of supervision department, make a timely response to the network fraud problem, carry on the popularization of network security knowledge. Besides, laws and regulations on network crime and other acts shall be formulated, and the problems of network and crime shall be seriously dealt with and strictly enforced. In the case of network hackers, enterprises are advised to make a comprehensive protect, the information security construction of the computer should be done well, and the operation behavior of computer operators need to be strictly regulated. In the aspect of improving the safety supervision of information calculation, it is not only to strengthen the supervision of supervision organization, but also to increase the investment of funds, personnel and equipment in this field, and to develop and update more effective protection technology software.

5.2 Set up A Perfect Computer Science and Technology Management System

In order to promote the rapid and rational application of computer technology, China is required to set up a perfect computer management system, define the development direction of computer technology, and point out the focus of R & D. Moreover, they also should avoid the vicious competition of high-tech enterprises. In the aspect of software development, it is necessary to focus on the R & D quality, and develop on the basis of customers' needs, but not blindly seek new development. It is essential to pay attention to the technical innovation and the application of technology, and to meet uses' needs.

5.3 Pay Attention to the Cultivation of Computer Science and Technology Personnel

The wide application of computer technology has also put forward the requirements for the operation level of computer-used personnel. They should be strictly in accordance with the computer standard operating procedure, and have information security consciousness as well as a high operation level. Enterprises are required to pay more attention to the training of computer operators, and carry out training on the basis of corresponding operation contents. Besides, it is also important to pay attention to the development of software technology developers in enterprises, and can engage experts to guide and send them to study. At the same time, attention should be paid to the protection of computer information security technology, encourage the computer R & D personnel to actively study, avoid the malicious intrusion of hacker and virus invasion, and ensure the orderly implementation of the production and living work.

6. Developing Trend of the Modernization Application of Computer Science

The continuous development and innovation of computer science and technology will give new vitality to the production and life of all sectors of the industry. With the improvement of people's living standard, their demand for quality of life as well as for science and technology products is also rising, which greatly facilitates the development of computer science and technology. While the innovation and development of computer science and technology also improve the quality of life of people, and make people's application requirements be met. At present, the development of artificial intelligence and 5G communication technology will open up a new prospect of computer science and make it more convenient for human beings to produce and live.

7. Conclusion

To sum up, the development and modernization of computer science and technology play an active role in promoting the development of all fields in our country, and are the important scientific and technological guarantee for the opportunities and challenges facing our country in the coming of a new era. It is also the technological vanguard of our country to deal with the competition of global economy. Our country should attach importance to the cultivation of computer technology R & D talents, to the innovation of computer technology, to the establishment and improvement of computer technology supervision system, and to the strengthening of network security information protection. In addition, it also worth their attention to the popularization of information security awareness and the implementation of normative operations of computer users in our country, investment increase in computer science and technology, personnel training, equipment investment, technical input, to the development of computer science and technology and its practical application in various fields to meet the needs of people for material and quality of life, to meet the needs of social production and development, and to the development promotion of social production and life to the greatest extent.

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