

Inquiry into the Integration of Communication Technology and Computer Technology

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Abstract: *Communication technology and computer technology occupy a very high proportion in modern society. They are important elements in building a modern and intelligent society, and they have played a strong role in the construction and development of various fields of society today, and have become an indispensable and important part. From a practical point of view, the comprehensive convergence of communication technology and computer technology can significantly improve the transmission efficiency and security of data information. It can bring very obvious convenience to people's daily work, life and study, and is an important development path for building "smart cities," and an important way to promote the rapid and good development of modern society and market economy. On the basis of a brief analysis of communication technology and computer technology, this paper explores the criticality of integrated development of the two. While analyzing the actual problems in integrated development, it proposes several ideas for integrated development.*

Keywords: Computer technology; Communication technology; Look into it.

1. INTRODUCTION

The comprehensive development and optimization of science and technology has gradually changed the traditional management model between enterprises and industries in the current process of socialist development in China. After the full use of communication technology and computer technology, the quality of management work of modern enterprises has been comprehensively improved, and the accuracy of many data and information has been achieved, laying a solid foundation for China's later market economic development. Recent AI advancements span diverse domains, beginning with Peng et al. (2024) who proposed representation aggregation-segregation techniques for domain-adaptive human pose estimation [1]. Zhang et al. (2025) then explored ML-based anomaly detection in biomechanical big data environments [2]. In healthcare AI, Wang (2025) developed RAGNet, a transformer-GNN-enhanced hybrid model for rheumatoid arthritis risk prediction [3]. Enterprise-focused innovations include Qi's (2025) generative AI framework AUBIQ for automating BI requirements in resource-constrained businesses [4], Fang's (2025) adaptive cloud-edge architecture for smart water management [5], and Lin's (2025) product management approach to AI governance frameworks [7]. Spatiotemporal analysis features Li's (2025) GIS-integrated U-Net for automated land encroachment detection in protected areas [6]. Sensor data applications include Huang and Qiu's (2025) LSTM-based electricity anomaly detection in smart meters [8] and Chen's (2023) foundational work on data mining for analysis [9]. Urban emergency systems are advanced by Li's (2025) AD-STGNN for dynamic fire vehicle dispatch [10]. Computer vision contributions include Wang et al.'s (2024) YOLOv8-based road car detection [11], while causal AI is represented by Wang's (2025) joint training method for MNAR recommendation data [12]. LLM applications in biosignals are surveyed by Ding et al. (2024) [13], complemented by Restrepo et al.'s (2024) multimodal embedding alignment for low-resource healthcare [14]. NLP research includes Yang et al.'s (2025) GAN-based text summarization with reinforcement learning [15]. Industrial AI features Xie and Chen's (2025) multi-agent system Maestro for manufacturing optimization [16]. Adtech innovations encompass Zhu's (2025) reliability automation framework RAID [17], Zhang's (2025) CrossPlatformStack for high-availability deployments [18], and Hu's (2025) AdPercept for visual saliency modeling in 3D ads [19].

2. OVERVIEW OF COMPUTER TECHNOLOGY AND COMMUNICATION TECHNOLOGY

2.1 Computer technology

Computer technology is based on applied physics, mechanical engineering, electrical engineering, and mathematics. Using advanced science and technology to realize systematic and automated applications, computer technology can achieve high efficiency and wide range of data processing and transmission, break through previous spatial and time constraints, and can support business or individual decision-making through data

analysis. With the development of human society, computer technology has spread throughout all corners of society, and its use of the network as a vehicle to complete data transmission and information sharing can provide convenience for people's work and life.

2.2 Communication technology

Communication technology has a relatively long history. Theoretically, Technology capable of completing communication tasks can be collectively called communication technology, such as in the past, communication technologies such as "warning stations," "pigeon messengers" and "post stations" in China have been widely used and have very prominent applications, which can achieve the transmission of information and documents. After many years of development, communication technology in the new era has become more modern and information-oriented. It can not only complete the transmission of text, pictures, audio and video, but also the transmission of digital signals and virtual signals, while improving communication efficiency, enriching people's communication methods and communication methods, and the communication channel becomes broader. Modern communication technology, mainly reliant on the Internet network technology, is an important product of the development of the times. The comprehensive application of modern communication technology has greatly improved people's daily life, and made information interaction and sharing among people more convenient and quick.

3. IMPORTANCE OF THE INTEGRATED DEVELOPMENT OF COMMUNICATION TECHNOLOGY AND COMPUTER TECHNOLOGY

3.1 Higher efficiency of information transfer

In the information age, information is relatively tedious and large. Whether in life, study or work, people need to process a lot of information and transmit information from time to time. Communication technology is one of the main ways in the process of information transmission. In the information age, the deep integration of communication technology and computer technology can make information transmission more efficient. And in the state of communication technology and computer technology integration development, you can Baidu cloud disk in a variety of information data through the link to share in a variety of social platforms, can quickly and other friends to share in real time. To some extent, this method breaks the limitation of transmission. As the route of transmission, various social media can improve the transmission efficiency.

3.2 Improving the efficiency and security of information transfer

Modern society is concerned with efficiency, and whether in daily work or in life, the information transmission process needs to reflect high efficiency. The comprehensive integration of communication technology and computer technology is in line with the trends of social development in the context of market economy and has high strategic value and timeliness. Moreover, the comprehensive integration of the two has enhanced the efficiency of human-to-human communication, but also promoted the innovation and change of information technology, which meets the new requirements of social development for computer communication technology. In addition, from the strategic perspective of social construction and development, the integration of the two makes the transmission of information in society more secure. Meet the most urgent needs of information transmission, greatly protecting the information security of various industries and groups, especially in the field of business, financial and other areas has a very high value, can significantly promote the overall development of social and economic.

3.3 Accelerating the sharing of information

Information sharing has become an important symbol of modern society. In the past, it was limited by communication technology, and the information transmission was one-way, making it difficult to complete high-level information sharing in the shortest time. With the support of computer technology, information data can be shared quickly to meet the needs of members of society for information. At the same time, computer technology can also achieve the centralized and targeted transmission of information, such as information sharing for specific groups of people, providing great convenience for people to work.

4. PRACTICAL APPLICATION OF THE INTEGRATED DEVELOPMENT OF COMMUNICATIONS TECHNOLOGY AND COMPUTER TECHNOLOGY

4.1 Multimedia technology

Multimedia technology is an important product of the convergence of computer technology and communication technology, with characteristics such as complexity, instantaneousity and interactivity, which can provide users with various forms of information services. Multimedia technology is a collection of information, and the transmission, storage and acceptance of information through the Internet is accomplished. Its application fields are broad, including video interpretation, audio processing and data transmission, to achieve efficient interactive processing and two-way transmission of information. With the rapid development of science and technology, the application of multimedia technology involves many aspects of life. Solve the past data format can not be changed, low sharing level, slow transmission speed and large consumption of many drawbacks, such as the current more popular Douyin video, Douyu live, Tencent conference and nail and other software, but also greatly meet the needs of information sharing and transmission

4.2 Bluetooth technology

In the early days of Bluetooth, information was transmitted one-to-one, and since 2016, there have been more than one pair of transmission methods. For example, after a mobile phone device turns on Bluetooth, it can connect multiple Bluetooth devices. For example, connecting a bracelet and a Bluetooth headset at the same time is a form of information transmission that enables a one-to-one mode. However, there are also certain limitations, the information transmission of Bluetooth technology is only for short distances, and in the near future, it is believed that Bluetooth technology will break this situation.

4.3 Big Data Technology

Big data technology is also a high-quality representative product of the integrated development of communication technology and computer technology, which can realize the massive processing and collection and utilization of data information. The new era of society has developed into a society dominated by big data, and the era of big data has come quietly, which is extremely closely related to the booming development of big data technology. Under the support of big data technology, data information is collected, stored, The utilization has been fully strengthened, and can better complete the unified collection and collation of fragmented data, without wasting any valuable data information, and the effective utilization rate of data information has reached a relatively high level. With the continuous development of big data technology, the storage capability and processing capability of data have been fully enhanced, the overall utilization rate is higher, and the radiation range is wider, which can bring about better opportunities for the construction and development of many industries in society. Big data technology has also promoted the rapid development of artificial intelligence, which is also the central expression of the good integration of communication technology and computer technology.

4.4 Electronic Information Radio Frequency Technology

The use of this technology has a more intuitive impact on the management and development of production enterprises in China. At this stage, people's requirements for quality of life are comprehensively improved, and the role of RF technologies is becoming more and more obvious, especially in the implementation of the current design work and logistics design specifications. The full use of electronic information radio frequency technology can effectively improve the work quality of current logistics and transport management. For example, in the current process of industrial logistics transport, it is necessary to improve the comprehensive management of industrial transport data. It is possible to fully apply electronic information radio frequency technology in the data processing environment, comprehensively realize the targeted selection and timely processing of information data, and enhance and improve the quality of the collection and collation of the entire industrial design data. For many large industrial transportation data information, electronic information radio frequency technology can help enterprises save production and operation costs, and also maintain the reliability and security of the entire enterprise data information.

4.5 5G technology

With the development of mobile communication devices and mobile networks, people are more accustomed to using smart phones, notebook computers and tablet computers to complete information interaction and data processing. Against this background, 4G communication networks gradually retired from the historical stage, and human society entered the 5G era, which is far superior to 4G networks in terms of data transmission efficiency and security, and can fully meet the needs of special fields such as autonomous driving and telemedicine. On top of this, the technology also boasts a huge number of device connections, which can connect hundreds of billions of mobile terminals at the same time, which is a key support for the development of the Internet of Things.

5. INQUIRY INTO PROBLEMS IN INTEGRATED DEVELOPMENT

5.1 Ideas for integration need to be innovative

Although, as a whole, communication technology and computer technology fall under the category of information technology, Both products are based on information technology, but there are more obvious differences in essence between the two. Therefore, in the specific process of integration, it is necessary to analyze the two from an objective perspective to make the integration of the two more natural and smooth. However, in the actual integration process, many people unilaterally believe that the integration process is simply the combination of two technologies. This will not only fail to improve the service capability of computer communication technology, but will also waste a lot of technical resources, and cannot really play the actual role of both technologies.

5.2 Training of technical personnel needs to be strengthened

Communication technology and computer technology are two modern technologies that require relatively high comprehensive capabilities of talents, not only for technical talents to have strong professional capabilities, but also for outstanding innovative spirit and ability. However, judging from the reality, there is currently a shortage of a large number of good information technology talents in our society, and the talent gap in specialized fields is still relatively large, and it cannot be fully replenished in the short term. In addition, some talents in the field of information technology usually only have a good grasp of one of these technologies, and only a small number of talents have a strong combination of communication technology and computer technology capabilities, which greatly limits and hinders the integration of the two.

6. CONCLUSIONS

According to the current technological development trend, the integration of communication technology and computer technology in research and development is an urgent and inevitable trend for social development. The integration of these two technologies can improve the efficiency and timeliness of information transmission, both for communication technology and computer technology itself. Good conditions have been laid for the construction of future network information technology.

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