



Analysis of Computer Development and Application in Network Environment

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Abstract

With the rapid development of the Internet and the Internet of Things technology, the computer application in the network environment is increasingly changing the way people live and work. From e-commerce and finance to social and entertainment, from education and healthcare to production and manufacturing, computer applications in the Internet environment are expanding their applications. This not only improves the speed and efficiency of information transmission, facilitates people's daily life and work, but also brings more business opportunities and opportunities for enterprises and organizations. However, computer applications in the network environment also face many challenges, including network security threats, difficult to guarantee information authenticity, privacy protection and digital inequality and other issues. Therefore, in the future, how to further develop and apply computer technology, give full play to its advantages, and solve the challenges it faces, will become an important issue. This paper will analyze the development and application of computer in the network environment, analyze its application field, advantages and challenges, and look into the future development trend, aiming to understand the current situation and future development direction of computer application in the network environment. Hope to provide a certain reference for the development of the computer in China, and promote the network environment, the computer can obtain more diversified development.

Keywords

Network environment, computer, development and application

Introduction

The development and application of computer under the network environment is an important research direction in the field of information technology today. With the rapid development of the Internet and the Internet of Things technology, information transmission and data exchange are increasingly convenient worldwide, and computer applications are widely used in various fields, which have had a profound impact on people's life and work. First of all, computer applications in the network environment have brought great changes in the fields of e-commerce and finance. The popularity of online shopping, payment, and financial services has changed the traditional business model and promoted the rapid development of the digital economy. For example, e-commerce giants such as Amazon and Taobao have realized global commodity trading and logistics management through powerful online platforms, providing convenient shopping and sales channels for consumers and merchants. The rise of fintech (FinTech) has also made online payments, mobile banking, digital currencies, etc, changing the way people pay and invest. Secondly, the social networking and entertainment fields are also widely used in the Internet environment. Social media platforms, such as Facebook and Wechat, have become important channels for people's daily social interaction,

changing the way of interpersonal communication and information dissemination. Online games and digital entertainment are also booming in the online environment, providing users with a rich and diverse variety of entertainment experiences and promoting the development of the cultural and entertainment industries.

1. Challenges of computer applications in the network environment

1.1 Network security threats

First, the hacking attacks. Hackers use various means to invade computer systems, network devices or applications, obtain illegal access rights, steal user data, destroy system functions or carry out other malicious activities. Second is the malware. Malicious software includes viruses, Trojan horses, spyware, etc., which can spread through the network, invade the user equipment, and control it, steal information or destroy the system. Third, social-engineering attacks. Social engineering attack refers to inducing users to disclose personal information, password or other illegal operations by cheating, camouflage, induction and other means, so as to obtain illegal benefits. Fourth is data leakage. Data leakage may be due to system vulnerabilities, configuration errors, human errors and other reasons, resulting in user data being leaked to the outside, thus posing a threat to users' privacy and information security. Fifth, the DDoS attacks. Distributed denial-of-service (DDoS) attacks refer to the large-scale network requests initiated through multiple sources, thus overloading the target system or network resources to run properly, thus affecting the normal business and user experience. Sixth is cross-station script attack (XSS). An XSS attack is when an attacker injects malicious script code into the Web page to execute malicious code in the user's browser, obtain user information, steal session information, or perform other illegal operations. Seventh is cross-station request forgery (CSRF). A CSRF attack refers to the attacker's illegal operation as a legitimate user by forging the request of a legitimate user, thus posing a threat to the user data and the system. Eighth is the zero-day vulnerability. Zero-day vulnerabilities refer to vulnerabilities that have not yet been publicly revealed and fixed, and can be exploited for unauthorized access and attacks. Network security threat may cause serious damage to individuals, enterprises and society. Therefore, in the computer application of network environment, it is an important challenge to ensure the information security of systems and users and take appropriate security protection measures [1].

1.2 It is difficult to guarantee the authenticity of the information

First is false information. There is a large number of false information on the Internet, including false news, false advertising, false comments, etc. The information may mislead users, affect users' judgment and decisions, and even lead to wrong behaviors and decisions. Second is social media abuse. Users on social media platforms are free to post information, but it also provides an opportunity for malicious users and organizations to spread false information. False information may be deliberately spread, thus manipulating public opinion and interfering with social order. Third is data tampering. In the process of network transmission or storage, data may be tampered, stolen or tampered, leading to the authenticity of information. For example, in e-commerce, order information, payment information and so on may be tampered with, thus a negative impact on users and merchants. Fourth is virtual identity camouflage. In the network environment, users can use their virtual identity to carry out various activities, including publishing information, commenting, shopping, etc., but they may also disguise their identity and falsely use others' identity, making the authenticity of the information difficult to identify. Fifth is the water army phenomenon. Shuijun refers to the user group who use virtual identity camouflage to publish a large number of false information, comments and evaluations, thus affecting the authenticity and reliability of information. Sixth is editing and manipulation. On some messaging platforms or social media, the people who edit and manipulate the information may intentionally change the authenticity of the information to mislead users [2].

2. Computer development and application in the network environment

2.1 Development and application of e-commerce

E-commerce (E-commerce) refers to business activities through the network environment, including online shopping, online payment, electronic supply chain management, e-marketing, digital marketing, etc. With the continuous development and popularization of Internet technology, e-commerce has become an indispensable part of modern business activities, bringing many convenience and opportunities to merchants and consumers. The computer application of e-commerce mainly includes the following aspects. First are online shopping platforms. Online shopping platforms, such as Taobao, Jingdong and Amazon, provide online trading platforms for merchants and

consumers through computer applications. Users can browse and purchase goods on the platform through the computer application to realize online shopping and enjoy the convenient shopping experience. Second are online payment systems. Online payment systems, such as Alipay, WeChat payment and PayPal, provide users with safe and convenient online payment methods through computer applications. Users can make online payments through computer applications, including payment, transfer, recharge, etc., to realize rapid capital flow. Third is electronic supply chain management. E-commerce applications also include the electronic supply chain management, through the computer application to realize the digital and automatic management of the supply chain, including supplier management, inventory management, logistics management and so on. This enables all parties in the supply chain to achieve efficient cooperation and collaboration, and improves the operation efficiency and management level of the supply chain. Fourth is the electronic market. E-commerce applications have promoted the development of the electronic market, including B2B (enterprise-to-enterprise), B2C (enterprise-to-consumer), C2C (consumer-to-consumer) and other forms of the electronic market. Through computer applications, merchants and consumers can trade in the electronic market, expanding the boundaries of the market and providing more business opportunities. Fifth is digital marketing. E-commerce applications have driven the rise of digital marketing, including search engine optimization (SEO), search engine marketing (SEM), social media marketing, e-mail marketing, and more. Through computer applications, businesses can achieve accurate digital marketing activities to improve brand awareness and sales performance. Sixth is mobile e-commerce. Mobile e-commerce is an important branch of e-commerce. It conducts business activities on mobile devices through computer applications, including mobile shopping applications, mobile payment, mobile advertising, etc. The rapid development of mobile e-commerce enables users to make online shopping and payment anytime and anywhere, which further promotes the popularization of e-commerce [3].

2.2 Development and application of social media

The computer application of social media mainly includes the following aspects. First are social networking platforms. Through computer applications to provide users with a platform for online social interaction. Users can create personal information, share content, interactive comments, likes, etc. on social platforms to realize social communication and information dissemination. Second is content generation and sharing. Social media apps have driven the development of user-generated content (User-generated content), including photos, videos, text, music, and other forms of content. Through computer applications, users can generate and share various contents, interact with and communicate with others on social platforms. Third is social advertising. Social media apps have also contributed to the rise of social advertising, including advertising and marketing campaigns through social platforms. Through computer applications, businesses can create and manage advertising campaigns on social platforms, to achieve accurate advertising positioning and delivery, and improve brand exposure and sales performance. Fourth is social data analysis. Social media applications generate a large amount of social data, including user behavior, social relationships, content dissemination, etc. Through computer applications, social media platforms and merchants can analyze social data, obtain user insight and market information, and optimize it for business decisions and marketing strategies. Fifth is social login and sharing. Social media apps offer social login and sharing capabilities, allowing users to use social media accounts to log into other sites and apps or share content on social platforms. This social and interactive computer application improves the user experience and convenience, and promotes user participation and interaction. Sixth are social communication tools. Social media apps also include social communication tools, such as instant messaging apps (such as Wechat) and social groups (such as QQ groups and Wechat groups). These social communication tools realize real-time communication and information communication between people through computer applications, and strengthen social relationships and interaction.

2.3 Development and application of online education

First is the online learning platform. Online learning platforms such as Coursera, Udacity, and edX provide students with online courses and learning resources through computer applications. Students can learn the course content at anytime, anywhere, including video courses, online assignments, discussion areas, etc. Second is the virtual learning environment. Virtual learning environment (Virtual Learning Environment, VLE) is an online learning environment that provides students with learning resources, communication and interaction through computer applications. The VLE includes the functions of course management, content management, student management, online communication and evaluation, providing a comprehensive online learning solution. Third are online teaching tools. Many online teaching tools are included in online education applications, such as online classroom, interactive whiteboards, learning management system, online quizzes and exams. These tools realize the interaction, evaluation

and management in the teaching process through the computer application, and improve the effectiveness and convenience of teaching. Fourth is the adaptive learning system. Adaptive Learning System (Adaptive Learning System) is an online educational application based on individual differences and learning progress. Through the computer application, the adaptive learning system can provide students with personalized learning content and learning path according to their learning situation and learning style, and improve the learning effect and learning experience. Fifth, distance education and online courses. The online education application also includes distance education and online courses. Through computer applications, students can participate in teaching activities in different places and times, solving the geographical and time limitations, and realizing flexible learning methods [4].

3. The dilemma faced by the application of flipped classroom in computer teaching

3.1 Insufficient technical conditions and equipment support

The flipped classroom requires students to learn and practice online outside the classroom, and may need to use computers, tablets, Internet and other technical equipment. However, some schools or student families may lack sufficient technical conditions and equipment support, causing students to successfully conduct online learning and practical activities.

3.2 Differences in students' learning habits and styles

Students' learning habits and learning styles vary from person to person. Some students may not adapt to self-learning and practice outside the classroom, and lack the ability of self-discipline and self-learning. They may be more accustomed to the traditional passive receptive learning model in the classroom, and they are difficult to adapt to the flipped classroom learning model.

3.3 Adjustment of teacher role and teaching design

In traditional computer teaching, the teacher is usually the knowledge teacher and instructor, while in flipped classroom, the role of the teacher needs to change from the traditional lecturer to the mentor and mentor, and more attention to the students' learning process and personalized teaching. This may require some teachers to adjust their roles and instructional design, and increase the complexity and difficulty of teaching.

Epilogue

The development and application of computers in the network environment show a booming trend, covering many fields, such as e-commerce, social media, online education and so on. While providing convenient, flexible and efficient services, these applications also face a series of challenges, such as network security threats, difficult to guarantee information authenticity, privacy protection issues and so on. Therefore, while promoting the development and application of computers, we need to pay attention to solving these problems and protect the rights and interests of users and data security. The development and application of computer in the network environment have achieved remarkable results in many fields, but they also face a series of challenges. These problems need to be fully recognized and addressed to promote the sustainable development of computer applications [5].

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