Electronic Commerce Assistant Teaching System Based on Artificial Intelligence Technology

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Abstract: This paper combines artificial intelligence technology with computer aided instruction technology, introduces the mathematical model of Ebbinghaus Forgetting curve, and uses software engineering methods to design and implement an e-commerce assisted instruction system based on artificial intelligence technology, to make up for the lack of current e-commerce teaching resources. This article provides an in-depth analysis of the development characteristics of e-commerce activity systems in the application of artificial intelligence technology and conducts research on the system development characteristics and strategy formulation of the ERP system design scheme.

Keywords: Electronic Commerce, Assistant Teaching, Artificial Intelligence Technology

1. INTRODUCTION

With the rapid development of China's economy and the rapid popularization of the Internet, e-commerce has ushered in a spring of rapid development in China. At the same time, the enrollment scale of e-commerce majors in various colleges and universities has also rapidly expanded. However, e-commerce is an emerging industry, and there is a shortage of e-commerce talents, especially professional teachers. Therefore, the growth of teaching staff in e-commerce majors in vocational colleges is slow.

Due to the shortage of teaching staff, the existing professional course teachers have several times more class hours than their normal work and are often too exhausted to take into account teaching quality and research and reform work. Increasing investment in teaching staff is the fundamental way to solve this contradiction, but it is also a long-term process that is difficult to achieve results in the short term. Building a computer-assisted teaching system with a certain level of intelligence that can replace teachers to complete some teaching tasks is an effective way to alleviate the pressure on teachers in the short term. Firstly, it is necessary to design all system modules based on the specific application functions of artificial intelligence technology in e-commerce activities, ensuring that all system modules can adapt to the design requirements of the system structure.

In addition, it is necessary to study the specific performance of system modules based on the operational characteristics of all intelligent systems, so that the auxiliary characteristics of the system can be adapted to the intelligent teaching system. The use of intelligent auxiliary systems must ensure consistency with the characteristics of autonomous design mechanisms, so that all artificial intelligence technologies can be applied in the completed system structure planning scheme. E-commerce is equivalent to an economic and technological revolution, using the Internet as a platform and supported by computer network technology to achieve close integration of business technology, information technology, and management technology. It is a product of economic, scientific, and cultural development, with strong comprehensive characteristics. The development of e-commerce has made significant contributions to global economic progress. Early e-commerce was carried out through electronic technology, and with the continuous progress of science and technology, with the support of the Internet, commercial activities such as electronic transactions, electronic settlements, and electronic banking were carried out through computers, truly realizing e-commerce.

Compared with traditional commercial activities, the market exchange venues of e-commerce have virtual characteristics, and the development of commercial activities can be free from time and space constraints. By using e-commerce platforms to meet the diverse needs of manufacturers, enterprises, and users, information acquisition is timelier and more convenient, and the understanding of the market is also more comprehensive, it provides excellent conditions for the development of commercial activities. The construction cost of online shopping platforms has always been at a high level. If the current information communication mechanism cannot ensure good adaptation to online shopping platforms, it will greatly restrict the construction of online shopping platforms and ultimately increase their operating costs.

2. THE PROPOSED METHODOLOGY

2.1 Functional orientation of e-commerce assisted teaching system.

Therefore, operating costs are the main cost component of online shopping platforms. It is necessary to design the information technology in artificial intelligence technology based on the operational requirements of online shopping platforms, so that the ERP system can adapt to the processing requirements of e-commerce in the new era. Compared with e-commerce, e-commerce is a unique concept that not only refers to enterprises establishing e-commerce platforms and conducting commodity transactions based on the Internet, but also does not simply represent the working form of e-commerce. It emphasizes on improving the modernization level of the entire business operation system with the support of information technology, optimizing business processes, integrating resources, promoting the optimization and upgrading of business operations, refining to design, production in various aspects such as sales, logistics, and management, comprehensive control is used to promote the efficient development of business activities. Moreover, e-commerce requires the assistance of supporting systems, including internet information systems, intermediaries, and

trading environments, to ensure mutual promotion and promote the smooth development of e-commerce activities.

To achieve the functionality of the system, the system includes two modules: an intelligent teaching assistance system and a student autonomous learning system. Intelligent teaching assistance system is a rule-based expert system that mainly evaluates students' learning situation and adjusts teaching strategies based on the evaluation results. At the same time, the intelligent teaching assistance system also includes learning functions that allow teaching experts to dynamically adjust the knowledge base according to teaching needs. Firstly, it is necessary to study all user decision setting mechanisms based on the operational requirements of human control technology, ensuring that all user role setting techniques can fully adapt to the operational characteristics of the system.

In addition, it is necessary to combine the technical level of managers in the process of user role setting to study and analyze the permissions of subsequent e-commerce activities, to ensure that the subsequent user operation activities can be technically compatible with the role setting procedures. The proposal of data mining meets the data processing needs of the big data era, and clarifies the valuable links between data by integrating data to provide information support for decision-making. Data mining, as a modern data analysis technology, can extract hidden valuable information, optimize integration, establish a data warehouse, improve data analysis efficiency, and provide decision-making basis and opinion reference for the development of e-commerce. The teacher login system selects test questions from the question bank based on the learning objectives of the teaching content and the level of student learning to organize the test paper. According to school conditions, teachers can choose to take exams online or print them into paper papers in traditional ways. After the exam is completed, the teacher uploads the EXCEL format score sheet to the system, which can analyze the exam situation. The teacher can choose the range of student groups to analyze.

For example, the knowledge mastery of a certain class or the mastery of a certain department. According to the specific business requirements during the role setting process, the management program should be controlled so that the role setting work can be consistent with the sample characteristics of e-commerce activities, and the application value of authorization factors can be improved. From the perspective of the application of artificial intelligence technology in the development of e-commerce. The implementation of data mining involves processing data objects with certain specificity, typically for large-scale databases and high-dimensional data.

2.2 The Application of Artificial Intelligence Technology in E-commerce Assisted Teaching System

Moreover, data mining requires standardized processing of multimedia data and object-oriented data to meet the processing requirements of non-standard format data. The operation of its data processing system cannot be separated from the support of other systems, especially the close connection with related systems. After students log in, they choose a mode for diagnostic exercises. After the diagnostic exercises are completed, the system will analyze the students' practice situation. Then, based on the analysis results, the system will extract exercise questions from the question bank that contain students' weaker knowledge points for practice.

The results of each exercise will be saved by the system and provided with learning suggestions for students.

Firstly, it is necessary to ensure that the application of artificial intelligence technology can adapt to the design requirements of databases and ensure that the development process of e-commerce activities can receive effective support from user resources. In addition, it is necessary to analyze the static processing requirements of user resources based on the operational characteristics of the database of e-commerce activities, so that all technical strategies can be optimized and configured under the reasonable utilization of static knowledge, ensuring that the database design work can achieve the configuration of the static resource foundation of e-commerce activities in the effective operation of the password library. We should combine the characteristics of existing sample resources to make quality judgments on all analysis programs, so that all analysis activities can achieve complete application of artificial intelligence technology in the control process of related results and improve the quality of e-commerce.

In modern social life, the security protection of magnetic cards, certificates of deposit, etc. that we apply mainly relies on passwords. However passwords also face the risk of loss and leakage, which poses a huge threat to the information and property security of social groups. In the internet environment, the rapid development of e-commerce has put forward higher requirements for information security. The application of artificial intelligence technology has promoted the formation of biometric authentication technology and played an important role in promoting the development of e-commerce. Biological authentication technology refers to the accurate identification of user identities through certain unique features or daily behavioral habits of the human body, thereby ensuring information security.

Fingerprint recognition, voiceprint recognition, palm print recognition, facial recognition, and other common biometric authentication methods provide security for the information and property of social groups in the modern social development environment. The application of biometric authentication technology has the characteristics of convenience, efficiency, and accuracy, achieving a close integration of biotechnology and computer science. It has good application value in fields such as banking, medical insurance, network information security, and plays an important supporting role in the development of e-commerce. After the knowledge expert logs in, they enter the interface for adding questions, Enter the corresponding questions and fill in specific knowledge point analysis, trust level, and other content for each option, then save and exit.

Mainly operators responsible for daily maintenance of the system, their main permissions include user management, question bank management, and password modification. Experts in this field have a strong professional background, can have a clear understanding and understanding of the knowledge points involved in this field, and can provide samples required for training neural networks. The main authority is to maintain the knowledge base and maintain samples of neural networks.

3. CONCLUSION

This paper combines AI technology with CAI technology, and introduces the mathematical model of Ebbinghaus Forgetting curve, so that CAI system has the intelligence of teachers. This system can dynamically adjust learning content based on students' learning situation, guide students to learn

independently, and assist teachers in analyzing exam results and providing certain teaching opinions. The prototype system of this system has been implemented on the Windows platform. Provide reliable technical support for the development of e-commerce. Under the conditions of modern social development, e-commerce is facing a more severe situation, which also puts forward diversified requirements for resources and technology. In the future, it is necessary to increase research on artificial intelligence technology and promote the development of e-commerce through the application of artificial intelligence technology, thereby promoting social and economic progress.

4. REFERENCES

[1] Bai Yiming, Liang Weixiang. Artificial Intelligence Based E-commerce Data Storage Method, System and Cloud Platform: CN202210340605. X [P]. CN202210340605. X [2023-07-09]

[2] Yu Shijun. E-commerce commodity recommendation system based on artificial intelligence and big data: CN202111215801.6 [P]. CN202111215801.6 [2013-07-09]

[3] Zhang Qinqian. Research on Civil Liability of Artificial Intelligence Agents in E-commerce: Taking "Electronic Agents" as an Example [J]. Journal of Hubei University of Engineering, 2020, 40 (1): 6

[4] Wang Liang. Artificial intelligence-based e-commerce Big data mining method and e-commerce system: 202110876815 [P] [2023-07-09]

[5] Sam Schwarz. Artificial intelligence-based e-commerce systems and methods for manufacturers, suppliers, and buyers: 202180047600 [P] [2023-07-09]

[6] Zhang Jia, Chen Taifei. An Artificial Intelligence Based E-commerce Management Method and System: 202310187457 [P] [2023-07-09]

[7] Song Shimin. A Method and System for Building an Artificial Intelligence Based E-commerce Platform: 202210023823 [P] [2023-07-09]

[8] Li Bo. E-commerce Assisted Teaching System Based on Artificial Intelligence Technology [J]. Journal of Taiyuan City Vocational and Technical College, 2011 (6): 2. DOI: 10.3969/j.issn.1673-0046.2011.06.016

[9] Chen Yiming. Research on the Development of E-commerce ERP System Based on Artificial Intelligence Technology [J]. Electronic Technology and Software Engineering, 2016 (14): 1

[10] Hu Kunfeng. An E-commerce Platform Based on Artificial Intelligence Technology: CN201810595727.7 [P]. CN109003087A [2023-07-09]

[11] Sun Limei, Zhang Yuliu, Deng Sanjun. Design and Research of an Intelligent Teaching System Based on Artificial Intelligence Technology [J]. Comparative Study of Cultural Innovation, 2021, 5 (28): 4

[12] Wang Yue. Analysis of the Development of E-commerce Based on the Application of Artificial Intelligence Technology [J]. Computer Products and Circulation, 2017 (12): 1. DOI: CNKI: SUN: WXXJ.0.2017-12-115

[13] Zhang Haotian. A Classroom Teaching System, Equipment and Method Based on Artificial Intelligence Technology. CN202211577035.2 [2023-07-09]