Retraction

Retracted: Study on Resource Sharing Strategy of e-Commerce Innovation and Entrepreneurship Education Based on Cloud Computing

Scientific Programming

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] Q. Cao, "Study on Resource Sharing Strategy of e-Commerce Innovation and Entrepreneurship Education Based on Cloud Computing," *Scientific Programming*, vol. 2021, Article ID 8268000, 8 pages, 2021.

Research Article

Study on Resource Sharing Strategy of e-Commerce Innovation and Entrepreneurship Education Based on Cloud Computing

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As a popular education major at present, e-commerce and innovation and entrepreneurship education are combined with research that has important strategic significance for talents. In the process of the coordinated development of the two, the sharing of educational resources is the core issue. For this reason, an e-commerce professional innovation and entrepreneurship education resource sharing platform has been constructed. The platform is divided into three hierarchical structures of resource layer, middle layer, and application layer, and detailed analysis is performed on the key modules in the construction of the educational resource sharing platform, including user login module, educational resource management module, system management module, and database design module; based on modular design, after logging in to the system, users can independently publish educational information and can also browse and retrieve shared resources. Experimental results show that the platform has a good operating effect, strong load capacity, rapid response of the system, and high safety performance, with a maximum safety of 97%.

1. Introduction

At present, the country vigorously advocates the spirit of innovation, strengthens the cultivation of innovative education and innovative talents in many aspects, and builds an innovative society in an all-round way, and the concept of innovative entrepreneurship education follows. Innovative entrepreneurship education takes creativity and innovation as the core content and improves students' comprehensive quality based on the combination of teaching and practice [1, 2]. By carrying out innovative entrepreneurship education, we can cultivate students' autonomy, reduce the shackles of traditional education on students' learning methods and ideas, deeply tap students' potential, cultivate students' ability to choose jobs and compete, and vigorously develop innovative entrepreneurship education. It not only is the demand for contemporary students' career development but also plays an important role in the construction of innovative country.

Innovation and entrepreneurship education is not a separate education, but it should be integrated into professional education and teaching, and the two should continue to integrate and practice, in order to truly play the role of innovation [3]. With the development of science and technology, e-commerce major has been developed and valued. The combination of e-commerce education and innovation and entrepreneurship education will greatly benefit the professional development of students and provide more ways for social employment development.

Many scholars have studied the concept of innovation and entrepreneurship education. The study in [4] points out the importance of the integration of industry and education. In view of the current lack of innovation ability of higher vocational e-commerce students, through extensive research and resource integration, this paper constructs an innovation and entrepreneurship ability training model. The authors of [5] put forward an innovative model of university, industry, and government, which has some shortcomings in resource sharing, cooperation mode, and so on. Therefore, this paper constructs a community of innovative entrepreneurship education in colleges and universities in order to change the cooperation model and establish a community of resource sharing and cooperation. The study in [6] puts forward the knowledge and ability structure requirements of

cross-border e-commerce talent training and explores the cross-border e-commerce innovation and entrepreneurial talent training methods from the perspective of school-enterprise cooperation to meet the market demand. The work in [7] analyzes the ways of cultivating college students' innovative entrepreneurial ability in special poor areas, uses file inquiry to understand the current situation of local students, and implements them by perfecting the education system, developing new teaching models, and constructing management platforms to maximize the sharing of educational resources and improve the innovative entrepreneurial ability of college students in poor areas.

On the basis of the existing relevant research, we learn the importance of college students' innovation and entrepreneurship education resources, in order to improve college students' innovation and entrepreneurship ability, explore resource sharing strategies, and provide ways for the innovative development of e-commerce majors.

2. Related Work

Innovation and entrepreneurship education is an inevitable requirement for the development of higher education in the era of knowledge economy. As a new type of professional education, e-commerce major should establish the core curriculum of innovation and entrepreneurship, strengthen the sharing of educational resources, gather more innovation and entrepreneurship resources of e-commerce major, and further deepen the reform of the education system; it is a new direction to develop e-commerce education. During the development of innovation and entrepreneurship education, there will be huge data resources, which are widely distributed and difficult to concentrate. Therefore, the education resources in some regions cannot meet the teaching needs. Hence, how to provide a convenient and efficient way of resource sharing and make it play a greater role in education is an important problem to be solved.

In foreign research, the study in [8] put forward the way of sharing educational resources based on 5G network and FPGA system, studied the reform of the Wushu teaching system by the latest fifth generation technology, realized the experimental verification of FPGA system integration and equipment leasing system, and then realized the educational goal of comprehensive reform of the Wushu teaching system. It provides a theoretical reference for the new cooperative practice to require physical education planning, and the research of this method is relatively single. The work in [9] points out that resource sharing has become a key problem to be solved in the network environment. This paper studies the link prediction method in online education and establishes an appropriate model for online education. A neural network path-sorting algorithm based on the path-sorting method is proposed to realize the link prediction problem in online learning knowledge base, which provides support for educational resource sharing but has a long response time. The study in [10] explores and studies the network distance teaching and resource sharing system of higher education, comprehensively introduces the social needs, framework composition, main functions, and

expected objectives of the system, analyzes the main problems and development bottlenecks in combination with teaching practice, and obtains a better method of resource sharing platform construction through practical application. The study in [11] designed an object-oriented statistical analysis platform for educational data to meet the needs of teaching resource sharing service business and analysed the problem of teaching resource sharing from the perspective of different school color users, but the research results are not deep enough.

There are also many studies in China. The study in [12] provides research support for e-commerce teaching and education from the perspective of concept consensus, but there is a problem of poor operation function of sharing mechanism. The work in [13] has studied the mechanism of innovative entrepreneurship education resources integration and put forward specific ways of resource integration from many levels, including the construction of the system, the platform, and the way to expand. The construction of the resource sharing platform is insufficient. The work in [14] suggests that in the construction of practical teaching resources between schools and enterprises, the problem of resource sharing is insufficient in demand and scope. Therefore, this paper studies the sharing strategy of teaching resources in detail in order to improve the sharing degree of teaching resources. This improves the use value, but the sharing efficiency is not good. In [15], taking innovative entrepreneurship education as the background, this paper expounds the necessity of resource sharing, starting with the establishment of resource sharing goal, the construction of shared service platform, the establishment of related mechanism, and the construction of talent team, and comprehensively analyzes the problem of resource sharing.

In view of the shortcomings of the existing research, this paper studies the e-commerce professional innovation and entrepreneurship education resource sharing strategy, constructs the education resource sharing platform, modularizes the design of the platform, divides it into three parts, resource layer, middle layer, and application layer, and focuses on the analysis of user management, education resource management, and system management; the running function, load, running performance, and system security of the platform are tested, and the feasibility of the platform is verified. Finally, combined with the platform construction, the paper puts forward the e-commerce professional innovation and entrepreneurship education resource sharing strategy from multiple perspectives, which provides support for e-commerce professional education.

3. Construction of the Resource Sharing Platform for Innovation and Entrepreneurship Education for e-Commerce Majors

In order to study an effective e-commerce professional innovation and entrepreneurship education resource sharing strategy, this paper constructs an education resource sharing platform based on computer intelligent analysis technology

and hopes to provide more abundant and comprehensive innovation and entrepreneurship education resources for e-commerce specialty through the platform construction, so as to meet the needs of e-commerce professional teachers, students, and more users for innovation and entrepreneurship resources, promote the in-depth reform and development of e-commerce professional education, strengthen the cultivation of innovative talents, and provide talent strategic support for the construction of an innovative country [16, 17]. The framework of e-commerce innovation and entrepreneurship education resource sharing platform is given in Figure 1.

It can be seen from Figure 1 that this paper divides the educational resource sharing platform into three parts: resource layer, middle layer, and application layer. Each part is modularized, each module has strong independence, and different modules are connected by interface, which is convenient for the later maintenance of the system.

The resource layer is the basic layer of the platform, covering all kinds of hardware facilities. The middle layer mainly includes the data interface system and the shared resource processing system, which manages the interface by classification, connects the upper and lower layers for data transmission, realizes the information circulation, enhances the system flexibility, and analyzes and processes the transmitted data according to the user requirements of the application layer. The application layer is the task implementation layer, where users issue demand instructions, through the operation of the resource layer and the middle layer to complete the sharing of educational resources users need.

In order to fully meet the needs of users, in the design of e-commerce professional innovation and entrepreneurship education resource sharing platform, it is necessary to clarify the functional and nonfunctional requirements of the platform according to the user characteristics.

3.1. Functional Requirements. In the construction of e-commerce professional innovation and entrepreneurship education resource sharing platform, it mainly includes administrator and user roles, among which the user includes teachers, students, and so on. Users can publish new e-commerce professional education resources through the platform and also search the required resources from the platform. Unhealthy information needs to be reviewed and deleted one by one, so as to ensure the quality of e-commerce professional innovation and entrepreneurship education resources in the platform. At the same time, safety maintenance work needs to be carried out [18]. The structure of functional requirements is shown in Figure 2.

3.2. Nonfunctional Requirements. The nonfunctional requirements for running the E-commerce professional innovation and entrepreneurship education resource sharing platform include operational requirements and security requirements; operational requirements are usually relatively simple, and mastering the basic knowledge of
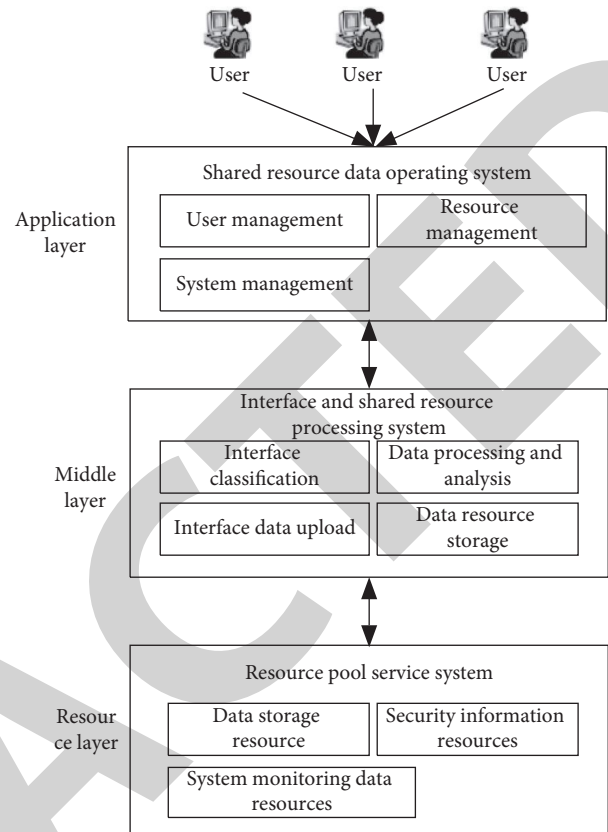

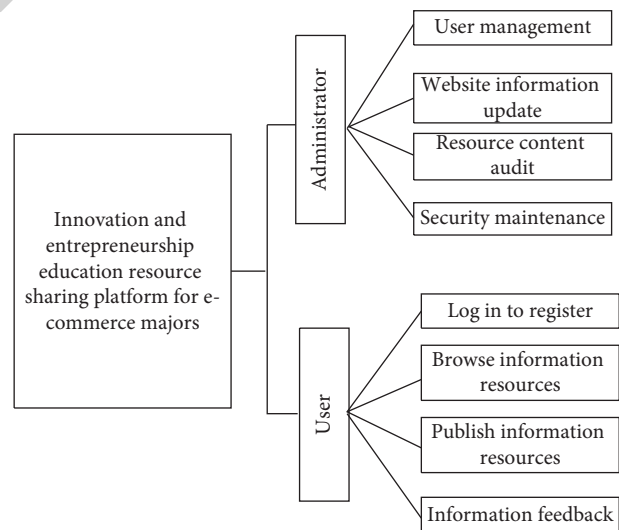Figure 1: Sharing platform for e-commerce professional innovation and entrepreneurship education.

Figure 2: Functional requirements structure chart.

computer use can complete the operation. The design of operation interface is usually more humanized [19].

Nonfunctional requirements specify the service level that the system must meet, the attributes of nonrunning time of the system, and the constraints that the system must comply with. Although nonfunctional requirements do not directly affect the system function, they have a great impact on the

recognition of the information system by users and system support personnel. Nonfunctional requirements mainly include system constraints and assumptions, system availability, reliability, performance, scalability, etc.

The content of nonfunctional requirements is generally expressed by nonquantitative indicators. Indicators describe a range from which certain characteristics of the system can be measured. In this project, the system is required to adopt simple and friendly man-machine interface, so that users can apply it conveniently and quickly. Due to the limited computer application level of customer employees, it is required not to change the man-machine interface and operation habits of the client of the previous version of real-time cooperation system.

4. Analysis of Key Platform Modules

4.1. User Login Module. User registration and login are the basis of system operation and use. In order to ensure the high-quality and high-accuracy operation of the educational resource sharing platform and strengthen the security performance of platform operation, users must correctly select their identity after logging in with their user name and entering their password. They can log in to the system only after all verification is accurate; otherwise, they will be prompted to log in incorrectly, unable to enter the platform system. If you log in correctly, users with different identities will jump to the corresponding interface. Teachers and students have different permissions, and the accessible interface is not exactly the same. The user login process is shown in Figure 3.
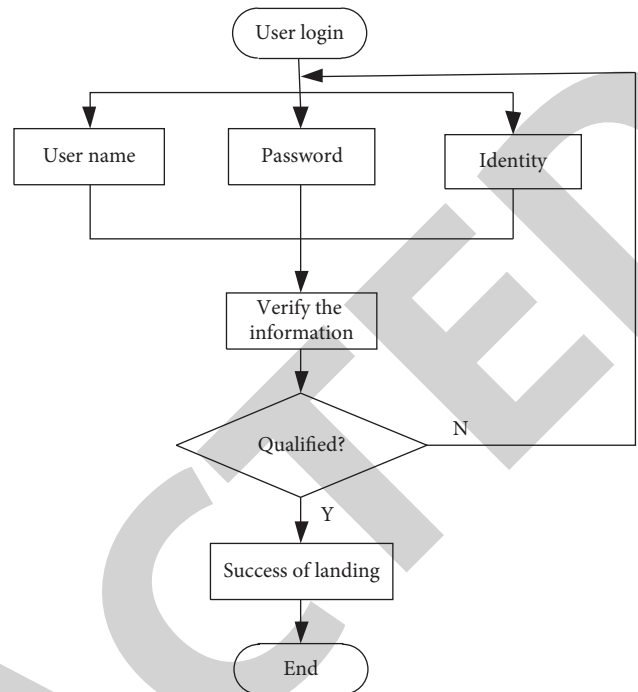
4.2. Education Resource Management Module. The main basis for the realization of educational resource sharing is that users can obtain the required resource information through website browsing. How to help users quickly and accurately obtain the required resources from the platform is a problem to be considered in the design of this module, so the design of educational resource management module is particularly important [20]. In this module, users with different roles can upload and download information related to e-commerce innovation and entrepreneurship education and administrators can delete resources in this module.

4.2.1. Resource Uploading. Considering the normative characteristics of educational resources, before uploading the resources related to innovation and entrepreneurship education of e-commerce major, administrators should first review the resources and relevant explanations themselves and then they can be released successfully after the completion of the audit. The main contents of the audit include the completeness of resource filling and the accuracy of resource classification. In addition, the modification function is also set to facilitate users to modify the content in time according to the feedback information of the system. After the modification is completed, the administrator will review it again. After the review, the information can be released successfully. The overall process of resource uploading is given in Figure 4.
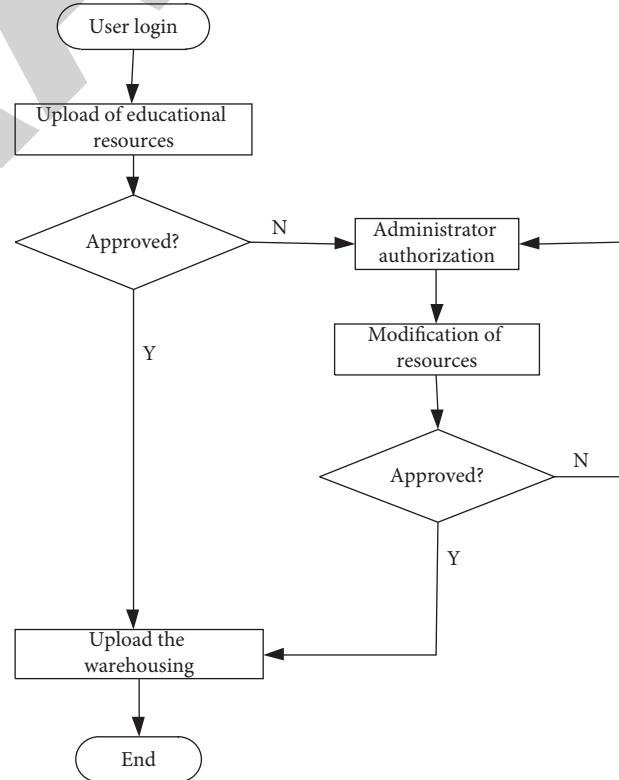

Figure 3: User login flowchart.

Figure 4: Resource uploading process.

4.2.2. Resources Downloading. After users log in to the platform and get the required educational resources through website and web browsing, they can download the resources after permission application. It is important to

note that different users have different rights to download resources. Users can only download resources within their own permission. The specific flow is given in Figure 5.

4.2.3. Resource Deletion. Resource deletion is the exclusive authority of the system manager. During the normal operation and maintenance process of the platform system, the system administrator can delete invalid educational resources such as duplicate data, much old data, and so on according to maintenance needs.

4.3. System Management Module. After logging into the system, the administrator is mainly responsible for the operation and management of the user's general information and permissions and must timely audit the shared resources issued by the user, so as to prevent the spread of bad information and invalid information. In addition, daily maintenance of the system is needed to ensure the normal operation of the platform. The operation flow of system administrator is given in Figure 6.

4.4. Database Design Module. Traditional databases often use a single user server to complete data sharing, so this study uses cloud service technology to design the platform database, which allows multiple users to share and use the same database and centrally manage platform data [21]. The physical architecture of cloud database is given in Figure 7.

5. Test Analysis of the Educational Resource Sharing Platform

After the construction of educational resource platform, the testing process is very important, which can find some problems in time and avoid unnecessary trouble. Taking the innovative entrepreneurial education resources of e-commerce major in a province as an example, the performance of this paper is tested. The data are from all colleges and universities in the province, and the time range is 2019–2020.

The software and hardware environments tested on the platform are given in Table 1.

In the test environment given in Table 1, the functions, performance, and security of the educational resource sharing platform are tested.

5.1. Functional Testing. The user login and administrator operation function are used to analyze and in many experiments to test whether the platform can successfully complete user login and administrator operations. The results are shown in Table 2.

As can be seen from Table 2, many tests show that the functional modules of the platform are running well.

5.2. Performance Testing. By selecting load capacity and response time as indicators, the performance of platforms of this paper and [9], [10], [14], and [15] is compared and
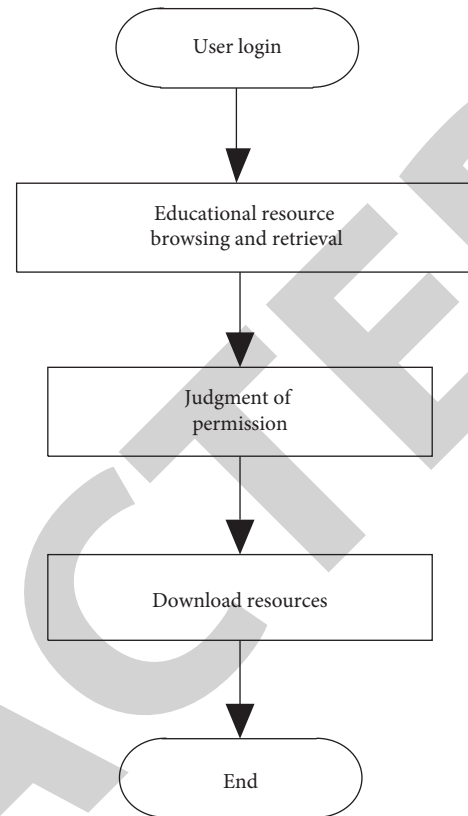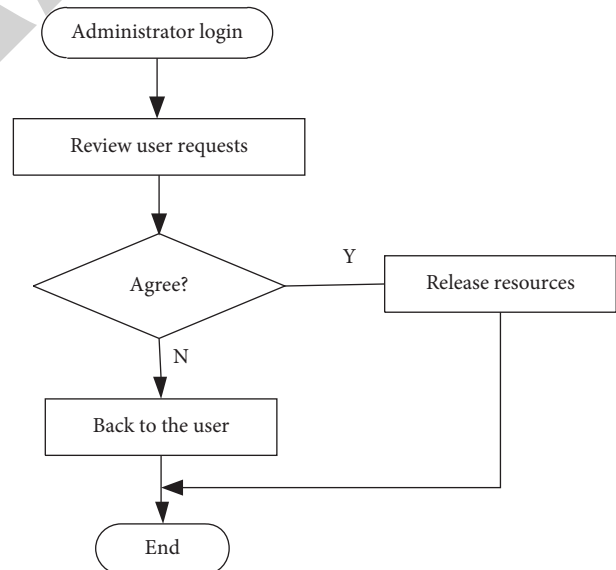
Figure 5: Resource downloading process.

Figure 6: Flowchart of the system administrator.

tested. The response time refers to the time when the system makes the response when the user visits; the shorter the response time, which indicates that the higher the efficiency of the system, the higher the user experience. Load capacity refers to the response time of the system when the number of users is increasing. The shorter the response time is, the stronger the load bearing capacity of the system will be. The performance test results are shown in Figure 8.
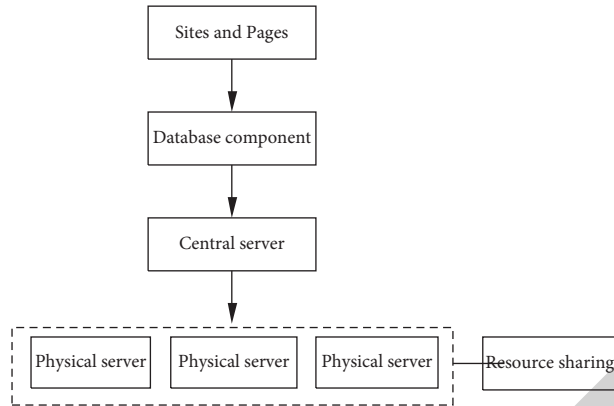
FIGURE 7: Physical architecture of the cloud database.

TABLE 1: Platform test environment.

Hardware environment		Software environment	
Name	Type	Name	Type
Operating system	Windows 10	Programming technology	JavaScript
Database server	MySQL	Programming language	Java
Central server	Web	Platform design framework	CI
Operating environment	Php5.6		

TABLE 2: Functional testing.

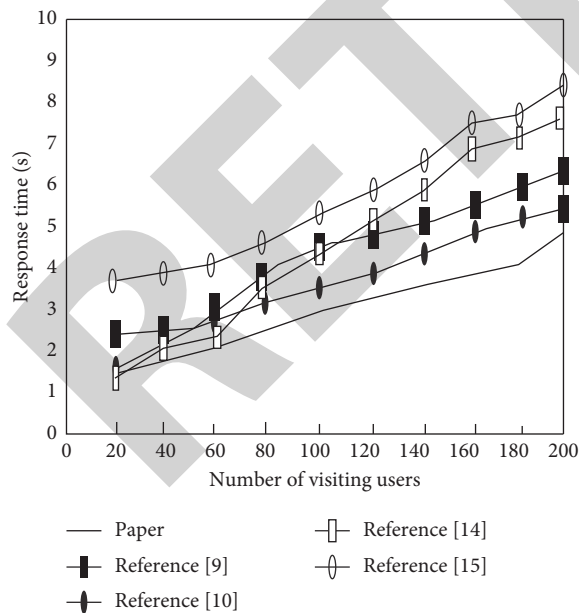| Number of experiments/times	User login function	Administrator action function
10	Good running	Good running
20	Good running	Good running
30	Good running	Good running

FIGURE 8: Performance test analysis of the platform.

By analyzing Figure 8, it can be seen that when the number of users is 100, the response time of the system in this paper is about 3 s and when the number of users is 200, the response time of the system in this paper is about 5 s, which can quickly respond to user operations. The study in [15] has the longest response time, up to 8 s when the number of users is 200. In terms of response time, the response time of the system in this paper is far lower than that in other references.

From the analysis of system load capacity, with the increase in access users, the response time curve of this paper's system and reference [10] system is relatively small, the curve of platforms in reference [14] and reference [15] is larger, and the increase in access users leads to the slowdown of the system. System load capacity is not strong. Comprehensive analysis found that the system has strong load capacity and running ability and its performance is better. The reason is that this paper adopts cloud service design platform database and centrally manages platform data, which enhances the efficiency of the system.

5.3. Safety Testing. Security is very important for educational resource platforms. Especially for confidential educational resources, security tests are required to prevent data leakage and system vulnerabilities. The test results are given in Table 3.

It can be seen from Table 3 that the security performance of different systems will decrease slightly under high load. The educational resource sharing platform in this paper can better cope with the system load. The security is high under

TABLE 3: Safety test analysis (%).

System	High load operation	Low load operation
Paper	93	97
Reference [9]	85	88
Reference [10]	80	83
Reference [14]	72	76
Reference [15]	75	79

high load and low load conditions, up to 97%. In other literature studies, the safety of system in reference [9] is relatively high and that of reference [15] is relatively low. The reason for the good security performance of the system in this paper is that during the construction of the platform, an access tool is designed to detect the security performance regularly and the administrator will also maintain the security of the system in daily operation, which improves the security of the platform built in this paper.

6. Discussion

Innovative entrepreneurship education is a new form and new concept of talent training and social innovation development in the new era. If e-commerce major wants to achieve great development, the cultivation of high-quality e-commerce talents is the key. In order to improve the quality of e-commerce talents and promote the smooth implementation of the innovation and entrepreneurship education reform of e-commerce specialty, we can put forward the strategy of sharing educational resources from the following aspects:

(1) Strengthen the understanding of innovation and entrepreneurship education. Set up advanced education ideas and improve the training standard of e-commerce professionals, to promote the concept of quality education in colleges and universities, to integrate innovative entrepreneurship education into the study plan of e-commerce major and to fully run through it, to deeply analyze the characteristics of e-commerce major, and to strengthen education in combination with professional characteristics. Improve students' understanding of innovative entrepreneurship education and strengthen students' innovative entrepreneurial ability. In evaluating the training quality of e-commerce professionals, colleges and universities should add the assessment of innovative entrepreneurial ability and gradually strengthen the importance of this index.

(2) It is the core to build a sharing platform for e-commerce innovation and entrepreneurship education resources. The platform has the corresponding mechanism of technical support and guarantee, can fully expand the e-commerce professional education knowledge base, gather high-quality education resources, can consult the required knowledge to students and teachers on the platform, can further understand innovation and entrepreneurship education, so as to enrich the educational form, can

deeply tap the education needs, and can strengthen the e-commerce professional talent innovation and entrepreneurship learning. Through the construction and gradual application of the sharing platform of e-commerce innovation and entrepreneurship education resources, e-commerce education resources will continue to accumulate and strengthen gradually, so as to provide a good foundation for e-commerce talents training.

(3) Create an atmosphere for sharing educational resources. Build an organizational atmosphere of trust and respect, improve the willingness of teachers and students of e-commerce majors to share knowledge, and strengthen encouragement and support for students' innovative consciousness of e-commerce majors. Gradually, form a new mechanism to promote the development of innovative entrepreneurship education.

(4) Innovation and entrepreneurship education should be integrated into practical education. Combining theory learning with practice, the innovative entrepreneurship education resources will be integrated into e-commerce professional education, teaching content and teaching mechanism will be improved, the quality of professional talents and practical ability of entrepreneurship and employment will be continuously improved, and more efforts will be cultivated for the development of e-commerce education.

7. Conclusion

The innovation and development of e-commerce technology can ensure the security of network data. In order to highlight the effectiveness of e-commerce teaching, sharing teaching resources is an extremely effective means. In order to find an efficient education resource sharing strategy, this paper constructs an innovation and entrepreneurship education resource sharing platform for e-commerce specialty and modularizes the platform structure. Users can publish resources after logging in to the platform and can also obtain their own education resources on the platform. The construction of the platform can enrich the education content of e-commerce specialty, promote the education reform of e-commerce specialty, and provide favorable promotion for cultivating innovative and entrepreneurial e-commerce talents. In the future research work, we should improve the security of the platform to ensure that the information e-commerce teaching information will not be invaded or tampered with.

Data Availability

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] Y. An, M. Xu, and C. Shen, "Classification method of teaching resources based on improved KNN algorithm," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 14, no. 4, pp. 73–88, 2019.

[2] L. Yi, "Storage and allocation of English teaching resources based on k-nearest neighbor algorithm," *International Journal of Emerging Technologies in Learning (iJET)*, vol. 14, no. 17, pp. 102–107, 2019.

[3] J. Hu and Y. Zhou, "Research on deep integration of E-commerce teaching resources construction and practical teaching," *Journal of Beijing College of Politics and Law*, vol. 19, no. 1, pp. 118–123, 2020.

[4] M. Guxian and X. Zhao, "Research on the cultivating path of innovation and entrepreneurship ability of higher vocational E-commerce students from the perspective of integration of industry and education," *Adult Education in China*, vol. 42, no. 1, pp. 48–51, 2020.

[5] Q. Chun, G. Zou, and H. Xia, "The construction of the community of innovation and entrepreneurship education in colleges and universities from the perspective of three helix theory," *Guizhou Social Sciences*, vol. 26, no. 6, pp. 163–168, 2018.

[6] H. Xie, T. Ding, and Y. U. Bin, "Research on the cultivation of cross-border E-commerce innovative and EntreprenEurial talents from the perspective of school-enterprise collaborative education," *The Theory and Practice of Innovation and Entrepreneurship*, vol. 2, no. 21, pp. 116–119, 2019.

[7] W. Luxin and W. Li, "Research on ways to improve the innovative and entrepreneurial ability of poor college students in northwest China," *Frontiers in Educational Research*, vol. 9, no. 1, pp. 23–28, 2019.

[8] C. A. Shan and L. B. Luo, "Online resource sharing of martial arts teaching based on 5G network and FPGA system," *Microprocessors and Microsystems*, vol. 13, no. 8, Article ID 103447, 2020.

[9] Q. Yuan, "Network education recommendation and teaching resource sharing based on improved neural network," *Journal of Intelligent and Fuzzy Systems*, vol. 39, no. 4, pp. 5511–5520, 2020.

[10] S. Yao, D. Li, A. Yohannes, and H. Song, "Exploration for network distance teaching and resource sharing system for higher education in epidemic situation of COVID-19," *Procedia Computer Science*, vol. 183, no. 3, pp. 807–813, 2021.

[11] X. Bai and J. Li, "Intelligent platform for real-time page view statistics using educational big data digital resource sharing," *Journal of Intelligent and Fuzzy Systems*, vol. 40, no. 1, pp. 1–10, 2020.

[12] G. Xu and T. Huang, "Research on the mechanism of Co-construction and sharing of teaching resources of E-commerce specialty in vocational colleges," *Electronic Commerce*, vol. 15, no. 2, pp. 131–136, 2020.

[13] "On the optimization and integration of innovation and entrepreneurship education resources in private colleges and Universities," *Education and Vocation*, vol. 15, no. 4, pp. 62–65, 2019.

[14] J. Liu and F. Yun, "Research on sharing strategies of practical teaching resources in cooperative construction of schools and enterprises," *Vocational and Technical Education in China*, vol. 19, no. 8, pp. 76–80, 2020.

[15] L. Huang, J. Tang, and H. Zhang, "Exploration on resource sharing mode of songjiang university city laboratory under the background of innovative entrepreneurship education," *Experimental Technology and Management*, vol. 35, no. 11, pp. 245–248, 2018.

[16] Yi. Han, "Construction of online education and teaching resource recommendation model based on subject words[J]," *Techniques of Automation and Applications*, vol. 38, no. 9, pp. 170–173, 2019.

[17] S. Liu, "Study on the training strategy for rural E-commerce personnel in applied undergraduate colleges under the background of rural revitalization," *Vocational and technical education*, vol. 41, no. 2, pp. 31–35, 2020.

[18] Y. Huang, "Simulation of regional medical medical image interaction information sharing method," *Computer Simulation*, vol. 36, no. 4, pp. 103–106, 2019.

[19] E. Tok, "The incentives and efforts for innovation and entrepreneurship in a resource-based economy: a survey on perspective of Qatari residents," *Sustainability*, vol. 12, no. 3, pp. 45–50, 2020.

[20] E. P. Studies, "Science Parks and talent attraction management: university students as a strategic resource for innovation and entrepreneurship," *European Planning Studies*, vol. 28, no. 2, pp. 36–45, 2020.

[21] M. Wang, "Research on the construction of resource sharing platform for academic lectures in local universities," *Library construction*, vol. 27, no. 3, pp. 128–137, 2019.