Retraction

Retracted: Design of Pedagogy Course Information Sharing System Based on Wireless Sensor Network

Security and Communication Networks

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] X. Jin, "Design of Pedagogy Course Information Sharing System Based on Wireless Sensor Network," *Security and Communication Networks*, vol. 2022, Article ID 7040441, 12 pages, 2022.

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Research Article

Design of Pedagogy Course Information Sharing System Based on Wireless Sensor Network

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In order to improve the information sharing effect of pedagogy courses, it is necessary to improve the system information transmission network algorithm. This paper improves the wireless sensor network algorithm and analyzes and verifies the performance analysis model of the Aloha protocol in multihop underwater acoustic sensor networks (UASNs). Based on the improved performance analysis model of the Aloha protocol on the String topology network, the expected throughput of the String topology network and the average end-to-end delay can be obtained, and the transmission effect of pedagogy information in the sensor network can be improved. In addition, this paper constructs a pedagogy course information sharing system based on wireless sensor network to verify the information sharing effect of the model constructed in this paper. The experimental research results show that the system model proposed in this paper has certain effects.

1. Introduction

Education is a social activity system constructed artificially for the purpose of cultivating people, rather than a natural existence. Its core problem is to guide and regulate the development of people and to solve the problem of what kind of people to train and how to effectively train them. Pedagogy is a subject whose research object is education. Specifically, the purpose of pedagogy research on educational phenomena and educational problems is to reveal the laws of education. The focus of pedagogy research on educational values is often to discuss the multiple possibilities and value choices of the educational activity system, reality and ought, objective laws and the subjective and active creation of historical unity [1]. Pedagogy studies the art of teaching. The reason why teaching activities are called art is that teaching activities can and should be activities full of spirituality, emotion, and free creation. In view of the foregoing, we can think that the research object of pedagogy can have multiple choices, which can be the law of education or the value of education or the art of education. It can also be combined with the law of education, the concept of education value, the art of education, and its unity [2].

Therefore, pedagogy is a discipline that reveals the laws of education and explores educational values and educational art. Through the study of pedagogy, future teachers can master the laws of education, establish correct educational concepts, and master certain educational theoretical knowledge and scientific educational methods. This improves the consciousness and creativity of engaging in educational work, increases interest in educational work, deepens the love for education, and avoids blindness in work [3].

This article combines the wireless sensor network to construct a pedagogy course information sharing system, changes the traditional pedagogy course information processing method, and improves the effect of pedagogy teaching.

2. Related Work

Some experts pointed out that higher education currently cannot better interpret, predict, and guide actual teaching activities. In addition, it is a development trend that can be selected to gradually shift from problem exploration to theoretical creation. The key task should be to explore the

laws of higher education, which should be regarded as a basic theoretical discipline [4]. Some studies proposes that in pedagogy, planning higher education as a subdiscipline has been unable to adapt to the current development needs of higher education theory, and higher education must be expanded into an independent first-level discipline. Higher education in the world is not regulated under the framework of pedagogy, and it has gradually tended to a separate discipline and has been continuously developing and growing [5]. Therefore, it is necessary to break the understanding category of traditional disciplines on the basis of the disputes on discipline theory and research field theory, and establish it as one of the contemporary disciplines [6]. The modern discipline paradigm of higher education can resolve and tolerate the contradictions and conflicts between the classical discipline paradigm and the research domain paradigm. The construction of higher education as a modern discipline and the realization of the rediscilinarity of higher education are the road to the transcendence of higher education [7]. Zawacki-Richter et al. [8] pointed out that when people think that higher education is not a discipline, they actually confuse the basis of discipline formation with the sound standards of disciplines. Higher education can adapt to the foundation and prerequisites for the formation of disciplines, but there are no sound indicators of disciplines, so it is still in the stage of continuous development. From this point of view, treating higher education as a developing discipline is a reasonable estimate based on the internal rules of the science and technology framework, and treating higher education as a developing discipline is based on the formation of the discipline. Scientific judgment is based on basic and sound indicators [9]. Lee pointed out that the current "discipline" and "collar city" continue to move closer, indicating that traditional discipline evaluation standards have become obsolete. To get out of the dispute between the "disciplines" and "fields" of higher education, we need to go beyond the traditional discipline evaluation standards and from the standpoint of specific disciplines, and from the height of the overall transformation of science, we should reunderstand the disciplines and their evaluation standards and insist that the discipline orientation is the reasonable and practical direction of higher education exploration [10]. Alonso proposes that higher education has basically completed the tasks of setting disciplines and discipline organization. The current task goal is to create a reasonable theoretical framework, that is, to form the internal mechanism of disciplines to promote or trigger the classification of disciplines. Then let it become an independent subject based on the normalization of theory [11]. Yang points out that higher education should become an interdisciplinary discipline system [12], and Ribeiro et al. believe that interdisciplinary discipline system has rich theoretical tension, which constitutes the consistency of higher education as a research category and discipline. From a standpoint, it not only lays a theoretical foundation for the discipline of higher education but also regulates the direction of its future development [13]. Rampton pointed out that multidisciplinary research methods have largely dismantled the traditional "three-independent" discipline standard's harsh treatment of higher education and resolved the identity crisis of higher education, while the "loose discipline" is precisely what. It is the multidisciplinary exploration that guides the future development path of the discipline of higher education [14]. Zhou puts higher education into the category of social disciplines [15].

Haejoong and Sangmin's study [16] is based on the fact that students study under pressure from further studies and employment. The state of "being in Cao Ying and sweating" and the teacher's helpless maintenance of classroom teaching in teaching only propose strategies to improve the teaching status of teachers and students. Lin et al.'s study [17] is based on understanding and improving the status quo of public pedagogy teaching methods in the context of new courses. Research on teaching methods and suggestions for improvement are carried out. Guan et al. [18] put forward a content-method comprehensive optimization model for the traditional teaching model that emphasizes the method level. Literature [19] aims to solve the practical problems of Public Pedagogy Textbooks and focuses on improving the practicability of Pedagogy Textbooks to improve students' interest, whether Pedagogy Textbooks can be practical, and how to achieve successful practicability.

Dilmurod and Fazliddin [20] put forward suggestions to improve the awareness of the importance of opening public pedagogy, rationally locate course objectives, and scientifically select and organize teaching content; Huang proposes to study the reform of high-level education courses from the connotation and current situation of teacher professional development [21]; Levchenko and Sadykova propose that according to the professional background of teachers, the new graduates cannot make good use of the pedagogical knowledge they have learned in practice and put forward suggestions for reforms in the nature, objectives, content, system, and class hours of the curriculum [22].

From the aforementioned analysis, it can be seen that the current research on pedagogy is still the traditional education model, and the intelligent Internet of Things teaching model English has not been incorporated into the pedagogy course information. Therefore, this paper designs the pedagogy course information sharing system based on the wireless sensor network.

3. Improved Performance Analysis Model of Aloha Protocol on String Topology Network

In order to improve the sharing effect of pedagogical teaching resources in the system, it is necessary to analyze the network topology to improve the system performance. First, a multihop Aloha protocol performance analysis model is established by using the String topology network.

The algorithm uses the String topology network to establish a multihop Aloha protocol performance analysis model and models the data flow arriving at each node as a Poisson process. We assume that λ_i is the arrival rate of data packets on node O_i. The probability P_i of the successful transmission of node O_i is the probability that the next hop

node O_{i+1} successfully receives the data packet sent by O_i, and the expression is as follows:

$$P_i = \Pr\{O_{i+1} \text{Successfullyreceived}|O_i \text{Outgoingpackets}\}. \quad (1)$$

Based on the assumption that the interference radius of nodes in the String topology network is less than the distance between any two-hop neighbors, STNAM calls all nodes whose data packets can reach O_{i+1} as the competing node set of O_i, $C_i = \{O_i O_{i+1} O_{i+2}\}$, as shown in Figure 1. If the data packet of the node in C_i coincides with the data packet of O_i on O_{i+1}, the latter will not be able to reach O_{i+1} due to collision. Based on this analysis, the model further calculates the probability of each node to send out a package and derives a set of equations about P_i and λ_i, $i = 1, \ldots, n$.

However, there are two shortcomings in STNAM. First, STNAM assumes that the rate at which O_i sends out data packets is equal to λ_i. In fact, due to the limitation of the underwater acoustic modem half-duplex characteristics, when the underwater acoustic modem is sending data packets, other data packets arriving at the node will be discarded because they cannot be sent. Therefore, the rate of data packets sent by O_i is lower than that of λ_i. Second, for a data packet of O_i, not all data packets of nodes in C_i may collide with it on O_{i+1}. As O_i can only transmit one data packet at any time, there is no collision between O_i's data packets on C_i, that is, when a data packet of O_i arrives at O_{i+1}, the success of its reception has nothing to do with other O_i data packets. Therefore, STNAM amplifies the collision probability when the data packet is received. In fact, the algorithm only uses STNAM to evaluate the network performance and does not verify STNAM through simulation experiments, thus ignoring the aforementioned two points.

Before proceeding to the next step, the algorithm first distinguishes the data flow actually sent by each node from the data flow arriving at the node. We assume that the rate at which O_i actually sends data packets is $\lambda_{\text{transmit}}(i)$, and the probability that data packets can be sent on O_i is $P_{\text{transmit}}(i)$. If and only if O_i is currently in the sending state, O_i can send
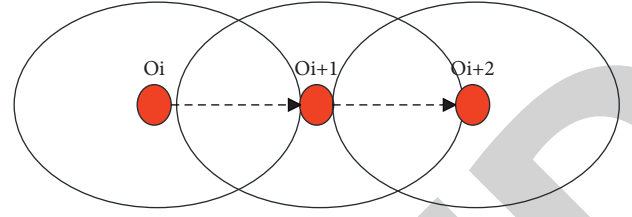

Figure 1: Schematic diagram of competing node set.

out data packets. Therefore, $P_{\text{transmit}}(i)$ is equal to the probability that no data packet will reach O_i within the data packet transmission time T, and it can be obtained:

$$P_{\text{transmit}}(i) = \frac{e^{-\lambda_i T} \cdot (\lambda_i T)^0}{0!} = e^{-\lambda_i T}, \quad (2)$$

$$\lambda_{\text{transmit}}(i) = \lambda_i \cdot P_{\text{transmit}}(i) = \lambda_i \cdot e^{-\lambda_i T}, i = 1, \ldots, n.$$

The data stream arriving at each node is composed of the data stream generated by the node itself and the data stream successfully transmitted by the previous hop node, and the rate at which each node generates data packets is λ. Therefore, the arrival rate of data packets on each node can be expressed as follows:

$$\lambda_1 = \lambda,$$
$$\lambda_i = \lambda_{\text{transmit}}(i-1) \cdot P_{i-1} + \lambda, \quad i = 2, \ldots, n. \quad (3)$$

Incorporating formula (3) into formula (2), we can get the following equation:

$$P_{\text{transmit}}(i) = e^{-\lambda_1 T}$$
$$= \begin{cases} e^{-\lambda T} & i = 1 \\ e^{-(\lambda_{\text{trummum}}(i-1) \cdot P_{i-1} + \lambda)T} & i = 2, \ldots, n \end{cases}. \quad (4)$$

From formula (4), the actual data packet rate of each node can be further expressed as follows:

$$\lambda_{\text{transmit}}(i) = \lambda_i \cdot P_{\text{transmit}}(i)$$
$$= \begin{cases} \lambda e^{-\lambda T} & i = 1 \\ (\lambda_{\text{transmit}}(i-1) \cdot P_{i-1} + \lambda) \cdot e^{-(\lambda_{\text{munmum}}(i-1)P_{i-1}+\lambda)T} & i = 2, \ldots, n \end{cases}. \quad (5)$$

As the node does not consider whether the target receiving node is ready before sending, the vulnerability of Aloha protocol packet reception is twice the packet transmission time, that is, $2T$. In the String topology network, the success of the reception of O_i's data packet depends on the state of O_{i+1} when it reaches O_{i+1} and the arrival of other data packets during the reception of this data packet. If the downstream neighbor O_{i+2}'s data packet arrives at O_i during the fragile period of O_{i+1}'s data packet reception, the reception of O_i's data packet will fail due to collision. Moreover, if O_{i+1} initiates transmission

during the fragile period of O_i's packet reception, O_i's packet reception will also fail due to blocking. If and only if O_i is idle during the vulnerable period of packet reception, the reception of O_{i+1}'s data packet can be successful. The aforementioned constraints are independent.

According to the assumption that the data packet arrives at the node and obeys the Poisson process, the probability that the node O_j does not send a data packet during the vulnerable period of the data packet reception, which is derived in formula (6):

$$\frac{e^{-\lambda_{\text{ramanit}}(j)\cdot(2T)}\cdot(\lambda_{\text{transmit}}(j)\cdot(2T))^0}{0!} = e^{-\lambda_{\text{tracmitit}}(j)\cdot(2T)}. \quad (6)$$

Therefore, the probability of O_i data packet being successfully received can be expressed as follows:

$$P_i = e^{-(\lambda_{\text{trucmili}}(i+1)+\lambda_{\text{rancuit}}(i+2))\cdot(2T)}, \quad i = 1,\ldots,n-2,$$

$$P_{n-1} = e^{-\lambda_{\text{rasmit}}(n)\cdot(2T)}, \quad (7)$$

$$P_n = 1.$$

In order to obtain the values of $\lambda_{\text{transmit}}(1)$, $\lambda_{\text{transmil}}(2),\ldots,\lambda_{\text{transmm}}(n)$, the n-dimensional nonlinear equations in formula (7) are used as constraints to solve the following objective function minimization problem.

$$\min_{\lambda_{\text{trasmit}}(1),\lambda_{\text{rasmit}}(2),\ldots,\lambda_{\text{transmit}}(n)} \sum_{i=1}^{n}\left[F_i'(\Lambda)-\lambda_{\text{transmit}}(i)\right]^2. \quad (8)$$

Among them, $\Lambda = (\lambda_{\text{transmit}}(1),\lambda_{\text{transmit}}(2),\ldots,\lambda_{\text{transmit}}(n))$, and $F_i'(\Lambda)$ is calculated by iterating formulas (5) and (7).

The aforementioned minimization problem can be solved by the Nelder–Mead simplex method. We use MATLAB to solve the performance analysis model proposed in this section and give the analysis results.

Next, it is necessary to analyze the possible data loss in the process of data sharing to improve the effect of system resource sharing.

Reanalyze the data packet generated when the node modem sends it; the data packet will be discarded by the node because it cannot be sent. Although no collision actually occurs at this time, this situation can be regarded as a collision. We call this collision a "discard collision" and call the actual collision "ordinary collision." Unlike all data packets of O_i in a normal collision, the data packets of O_i that are being sent in the collision will not be lost. We assume that $P_{\text{success}}(i)$ is the probability that the arriving O_i data packet is successfully received by O_{i+1}, and the expression is as follows:

$$P_{\text{success}}(i) = \Pr\{O_{i+1}\text{Successfullyreceived}|\text{Packetarrival}O_i\}. \quad (9)$$

The other definitions of the model are the same as in Section 1, and the arrival rate of data packets on each node is as follows:

$$\lambda_1 = \lambda,$$

$$\lambda_i = \lambda_{i-1}\cdot P_{\text{success}}(i-1)+\lambda,$$

$$= \lambda\cdot\left(1+\sum_{j=1}^{i-1}\prod_{k=j}^{i-1}P_{\text{success}}(k)\right), \quad i = 2,\ldots,n. \quad (10)$$

The algorithm reanalyzes the probability of successful transmission for each hop on the network. At this time, the success of O_i's data packet reception depends on the status of O_i and O_{i+1}. If and only if O_i does not currently send a data packet, the data packet that reaches O_i can be successfully transmitted, and no other data packet reaches O_{i+1} during

the fragile period of the data packet reception. In other words, there are three situations in which packets arriving at O_i are lost. First, when the packet is generated, O_i is sending other packets. Second, when O_{i+1} is cross-talking receiving O_{i+2}'s data packet or O_{i+1} is sending data packet, the data packet arrives at O_{i+1}. Finally, when O_{i+1} is receiving the data packet, O_{i+1} starts to send the data packet or O_{i+2}'s data packet arrives at O_{i+1}. The aforementioned constraints are independent. Therefore, the probability of O_{i+1} being successfully received is as follows:

$$P_{\text{success}}(i) = e^{-(\lambda_{i+1}\cdot P_{\text{trasmit}}(i+1)+\lambda_{i+2}\cdot P_{\text{trasmit}}(i+2))\cdot(2T)-\lambda_i T}$$

$$= e^{-(\lambda_{\text{transmit}}(i+1)+\lambda_{\text{transmit}}(i+2))\cdot(2T)-\lambda_i T}$$

$$= P_i\cdot P_{\text{transmit}}(i), \quad i = 1,\ldots,n-2,$$

$$P_{\text{success}}(n-1) = e^{-(\lambda_n\cdot P_{\text{trassuit}}(n))\cdot(2T)-\lambda_{n-1}T}$$

$$= e^{-\lambda_{\text{transmit}}(n)\cdot(2T)-\lambda_{n-1}T} \quad (11)$$

$$= P_{n-1}\cdot P_{\text{transmit}}(n-1),$$

$$P_{\text{success}}(n) = e^{-\lambda_n T}$$

$$= 1\times P_{\text{transmit}}(n)$$

$$= P_n\cdot P_{\text{transmit}}(n).$$

Combining equations (10) and (11), we can get

$$\lambda_1 = \lambda,$$

$$\lambda_i = \lambda_{i-1}\cdot P_{\text{success}}(i-1)+\lambda$$

$$= \lambda_{i-1}\cdot P_{i-1}\cdot P_{\text{transmit}}(i-1)+\lambda \quad (12)$$

$$= \lambda_{\text{transmit}}(i-1)\cdot P_{i-1}+\lambda, \quad i = 2,\ldots,n.$$

We assume that U_i is the utilization rate on the O_i to O_{i+1} link. As the traffic in the String topology network finally converges to the gateway node through the last hop node, the throughput of the network directly depends on the throughput of the last link on the network. The utilization and effective throughput of the String topology network are denoted as $U(n)$ and $S(n)$, respectively, and the expressions are as follows:

$$U(n) = U_n$$

$$= \lambda_{\text{transmit}}(n)\cdot P_n, \quad (13)$$

$$S(n) = \lambda_{\text{trausmit}}(n)\cdot P_n\cdot L\cdot\alpha.$$

In the formula, L is the average length of the data packet, its unit is bits, and α is the average factor occupied by the data part of each data packet.

The end-to-end delay of a data packet in the network is equal to the sum of all transmission delays between the source node and the destination node plus the end-to-end propagation delay. We assume that the average end-to-end delay of the network is $\overline{\text{delay}}$, and the expression is as follows:

$$\overline{\text{delay}} = \sum_{i=1}^{n}\left[\left(\prod_{j=i}^{n}P_j\right)\cdot\left(\sum_{k=i}^{n}\left(T+\text{Distance}\frac{(i)}{c}\right)\right)\right]. \quad (14)$$

In the formula, c is the sound wave velocity in water, the unit is m/s, T is the data packet transmission time, the unit is s, and distance(i) is the distance between node O_i and O_{i+1}, and its unit is m.

4. Pedagogy Course Information Sharing System Based on Wireless Sensor Network

This article combines the third part of the wireless sensor network improvement algorithm and the actual needs of pedagogy course teaching to construct the pedagogy course information sharing system. Sensor real-time sharing is mainly divided into six main service modules (Figure 2):

Sensor classification service: When the sensor of the perception layer is connected to the middleware, the metadata information of the sensor information will be registered, including the sensor industry, protocol, corresponding topic in the message service, message sharing authority, location, and other information. Users can quickly find the corresponding sensor information according to their needs through the directory service. Data communication service: It collects sensor information in real time through a long connection with the sensor device terminal. Moreover, it parses the sensor data of different protocols, and then sends it to the Topic or Queue of the corresponding message queue service. Message queuing service: The message queuing service establishes a unique Topic and Queue for each sensor, and manages the messages of each sensor separately. At the same time, as a message transfer service container, it decouples data communication services and message push services, making the entire architecture highly scalable. Message push service: It monitors the sensor (monitors the topic corresponding to the sensor in the message queue service). When a message arrives, the message push service pushes the corresponding sensor message in real time according to the sensor information subscribed by the user, thereby realizing the real-time sharing of sensor messages. The user first uses the sensor classification service, locates the corresponding sensor according to the demand, and obtains the metadata information of the sensor. Then, the user establishes a connection with the message push service, sends the metadata information to the message push service, and the message push service establishes a subscription relationship based on the metadata information. Storage service: It is mainly used to persist sensor metadata description information and sensor historical information and other data to improve the reliability and stability of the entire middleware. At the same time, as a cache service, it enables some scenes with high real-time requirements to quickly read the corresponding information. Monitoring management service: It monitors the server status of the entire middleware to discover potential risks of system operation and improve the reliability of real-time sharing of sensor information.

As there are too many nodes in the wireless sensor network, if the nodes directly purchase spectrum from authorized users, it is too cumbersome and complicated. Therefore, the cluster head is generally used to trade with the spectrum sharing pool on behalf of the nodes in the cluster. Figure 3 shows the general model of spectrum sharing in wireless sensor networks, where the number of authorized users is not necessarily equal to the number of spectrum users in the spectrum sharing pool. In fact, because not all authorized users have free spectrum or not all authorized users are willing to share spectrum, K is generally less than or equal to M. In each round of transactions, the SP determines the spectrum price Pi and the sold bandwidth Di for each participating authorized user after obtaining the spectrum demand $\sum d$ of all cognitive users. Moreover, it notifies the corresponding spectrum trading information to the corresponding cognitive users.

In the one-master and multislave spectrum sharing model, as the bandwidth W that authorized users can provide is limited, and the spectrum demand of cognitive users changes, and the spectrum price P of authorized users generally changes with the relationship between spectrum supply and demand. Each cognitive user decides the bandwidth they purchase according to their own spectrum requirements and the spectrum price of authorized users, so as to maximize their own income. The spectrum sharing model at this time is shown in Figure 4:

When multiple authorized users sell spectrum usage rights to a cognitive user or a cognitive user system, the spectrum d that the cognitive user can purchase is limited. Authorized users can control their own spectrum prices to strive for cognitive users to purchase more bandwidth in order to obtain greater benefits. Ultimately, the bandwidth di that a cognitive user purchases from each authorized user depends on the spectrum price of the authorized user and the cognitive user's preference for spectrum. In the spectrum sharing model in Figure 5, the authorized user informs the spectrum management agency of the free spectrum with a bandwidth of Wi and its selling price Pi. The spectrum management agency then informs the cognitive users of the information of the M authorized users, and the cognitive users determine the bandwidth di they purchase from each authorized user according to their own spectrum requirements, spectrum preferences, and the spectrum price of the authorized users.

As shown in Figure 6, there are two competing relationships in multimaster and multislave spectrum sharing. One is that authorized users compete to sell spectrum to cognitive users. If the bandwidth provided by an authorized user is small or the frequency price is high, then cognitive users will be biased towards choosing other authorized users. Therefore, in the competition with other authorized users, each authorized user must consider its own spectrum price in order to obtain the maximum benefit. The second competition is that multiple cognitive users compete to buy the spectrum of authorized users. If many cognitive users choose to purchase spectrum provided by the same authorized user, the corresponding channel will become very crowded, which will lead to an increase in frequency prices. When the price of spectrum rises, some cognitive users with low competitiveness (mainly depending on the degree of preference of the cognitive users on the spectrum) will withdraw from the competition and choose other authorized
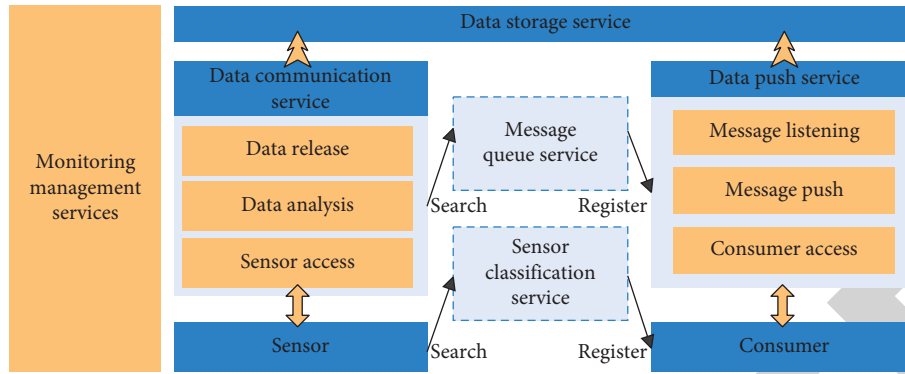
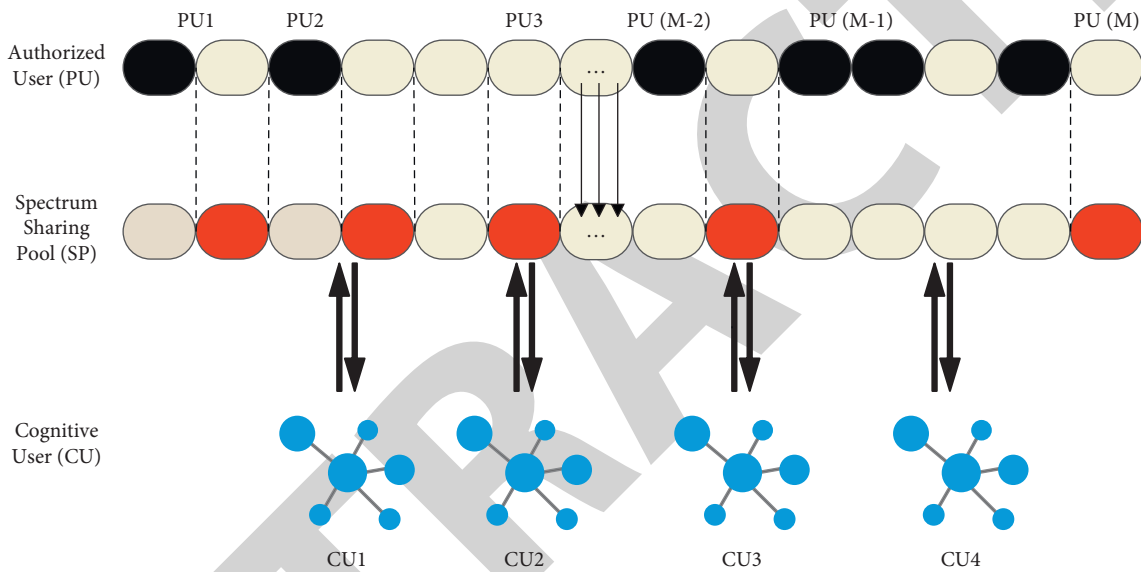FIGURE 2: System function architecture diagram.

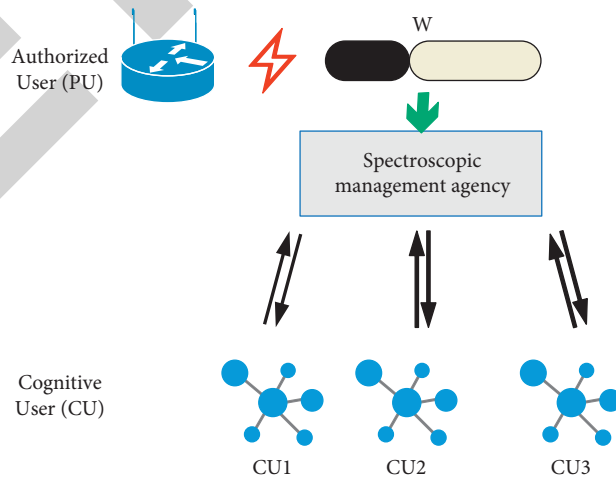FIGURE 3: Spectrum sharing model in wireless sensor network.

FIGURE 4: One-master and multiple-slave spectrum sharing model.

users with lower prices or relatively less competition. It is worth mentioning that the same authorized user in the model provides the same spectrum pricing for different cognitive users. Cognitive users can choose any authorized user, and which authorized user ultimately chooses depends on their own income.
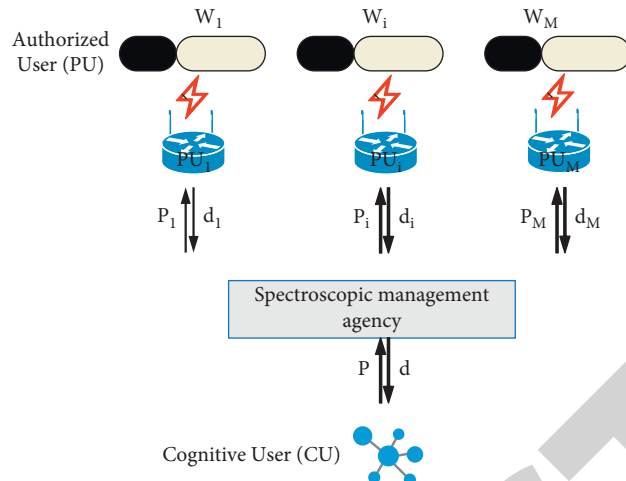
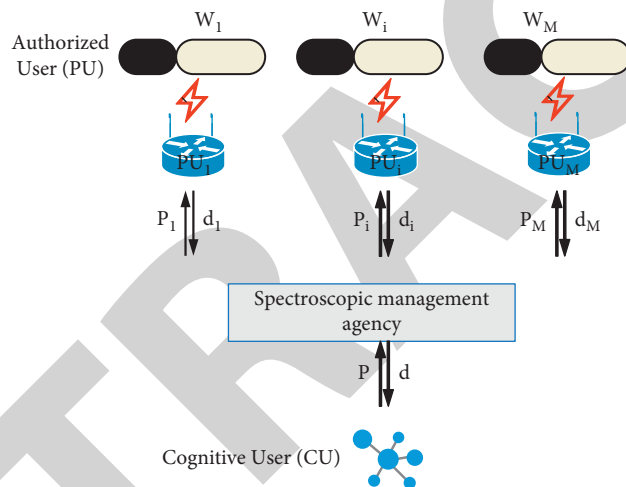Figure 5: One-slave and multimaster spectrum sharing model.

Figure 6: Multimaster and multislave spectrum sharing model.

At the level of pedagogy course information database, the traditional pedagogy course information data model contains all application data on a data server. However, with the development of pedagogy course information application, the amount of data is getting larger and larger, and the number of visits to a single library is getting larger and larger, so the database has to be split. This paper splits the database based on services, that is, different services use different databases. Originally, all data were concentrated in one database, but now it is split into multiple databases based on services, so that the pressure on one database is shared by multiple databases at the same time (Figure 7).

The pedagogy course information transmission channel specifically refers to the channel between the shared resource and the user of the resource in the sharing of educational digital resources. Media convergence is to closely connect different sharing channels to form a large transmission network, as shown in Figure 8. On this basis, the influence of multimedia integration on the sharing channels of community pedagogy course information digital resources is reflected in the expansion of the traditional resource

transmission network and the innovation of the original human resources interaction channels.

The smooth implementation of education can not only be accomplished by content, but the construction of a virtual learning environment is equally important. An integrated platform must include a powerful backend that can support resource storage and transmission, application data calculation and analysis, and management and operation methods, and the content displayed in front of the audience is scientifically differentiated. As a resource management platform construction project, in addition to considering the management of various resources in the future, it is also important to consider the selection, cleaning, and integration of various heterogeneous resources precipitated by the school's history, especially the unified retrieval of various resources, personalized services, and the coconstruction and sharing of characteristic resources. An all-round resource sharing platform should adhere to the three-stage strategy of "improving the environment, expanding applications, and deep integration." Moreover, it uses "overall planning, unified standards, application-driven, and step-by-step
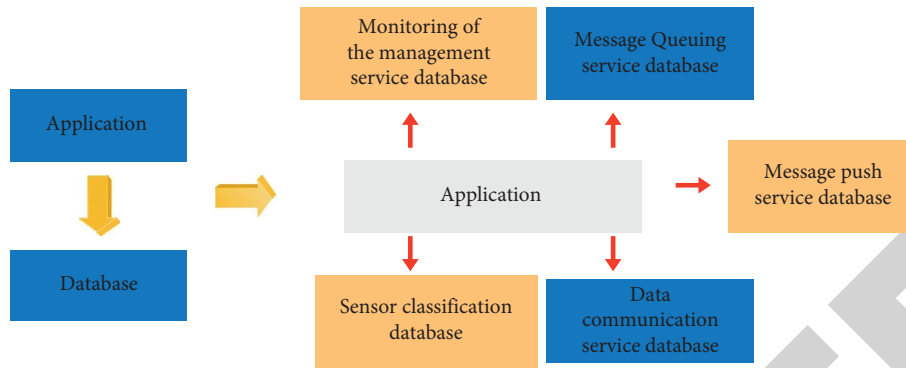
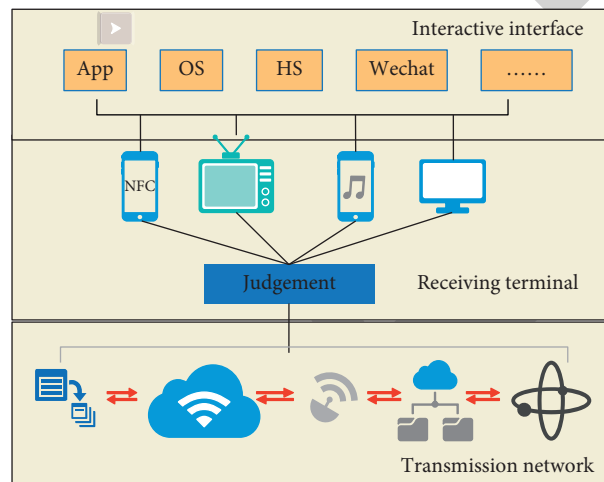Figure 7: Subdatabase model of pedagogy course information database.

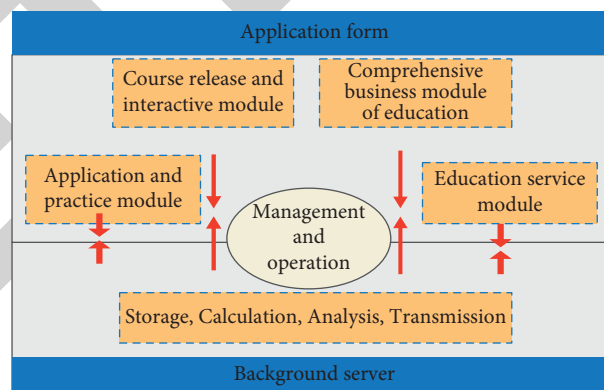Figure 8: Fusion relationship between pedagogy course information transmission channels.

Figure 9: Structure relationship diagram of the content integration platform.

implementation" as its guiding ideology. Such a platform should consist of four parts, course release interactive module, community education integrated business module, application and practice module, and education service module. The structure relationship diagram of the comprehensive content integration platform is shown in Figure 9.

On the basis of the aforementioned research, the information sharing effect of the model constructed in this paper is verified, and experiments are designed to verify the model in this paper. This article collects a number of educational resources as experimental samples through a network library and builds a pedagogical information sharing system through a network platform. Moreover, this

Table 1: Information processing effect of wireless sensor network.

NUM	Information processing
1	97.0
2	96.1
3	94.5
4	96.8
5	95.5
6	96.5
7	93.5
8	91.8
9	93.0
10	96.7
11	92.0
12	90.7
13	94.0
14	93.0
15	94.9
16	94.5
17	94.6
18	92.9
19	93.4
20	92.5
21	90.5
22	94.2
23	93.0
24	96.3
25	90.5
26	95.2
27	93.2
28	94.4
29	94.9
30	91.7
31	95.3
32	96.2
33	95.3
34	94.0
35	93.4
36	92.3
37	96.2
38	95.7
39	93.6
40	95.5
41	96.3
42	91.2

Table 2: Teaching information sharing effect of course information sharing system.

NUM	Information sharing
1	87.0
2	91.0
3	87.3
4	89.9
5	91.2
6	89.0
7	90.9
8	87.2
9	86.0
10	90.2
11	87.9

Table 2: Continued.

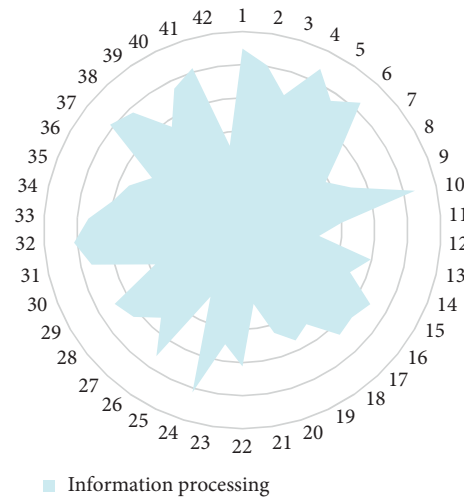| NUM	Information sharing
12	86.3
13	85.3
14	86.8
15	85.9
16	90.2
17	89.3
18	91.7
19	87.6
20	91.9
21	90.6
22	85.7
23	86.0
24	84.6
25	91.9
26	90.8
27	88.8
28	92.1
29	90.3
30	89.1
31	88.8
32	91.8
33	91.2
34	88.8
35	90.9
36	85.8
37	85.4
38	87.1
39	86.9
40	87.0
41	86.7
42	84.4

Information processing

Figure 10: Statistical diagram of the information processing effect of wireless sensor networks.

paper verifies the information processing effect of the wireless sensor network and the teaching information sharing effect of the course information sharing system, and the results shown in Tables 1 and 2, Figures 10 and 11 are obtained.
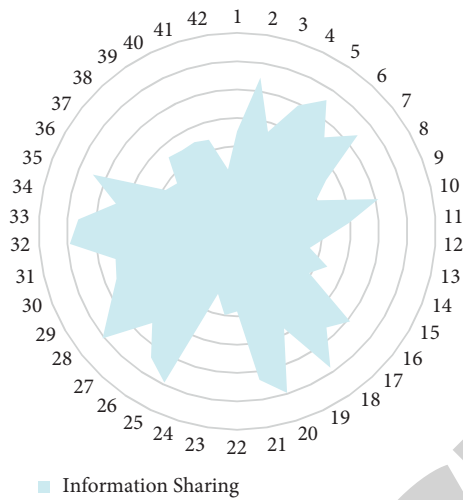
FIGURE 11: Statistical diagram of the teaching information sharing effect of the course information sharing system.

TABLE 3: Comparison of information sharing effects of pedagogy courses based on wireless sensor networks.

NUM	The method of this paper	The method of reference [12]
1	88.32	88.22
2	90.73	96.05
3	93.93	91.26
4	88.79	90.98
5	85.28	90.98
6	88.72	88.92
7	86.04	90.33
8	93.12	91.27
9	92.88	96.50
10	88.86	89.14
11	88.34	90.41
12	86.53	87.30
13	88.57	89.55
14	80.73	95.29
15	92.49	92.15
16	93.87	91.85
17	81.18	88.10
18	78.60	91.20
19	78.43	91.81
20	91.02	90.32
21	89.51	90.02
22	81.87	93.62
23	81.38	89.78
24	86.75	91.36
25	86.14	89.56
26	83.67	93.53
27	88.92	87.71
28	78.67	87.35
29	87.86	91.37
30	87.89	94.30
31	78.70	87.43
32	89.26	94.02
33	90.80	95.06
34	86.25	93.29
35	86.73	95.42
36	89.15	95.65
37	80.98	96.16
38	89.96	91.16
39	86.35	96.48
40	87.70	88.43
41	87.71	94.27
42	89.39	87.19

On the basis of the aforementioned research, the effect of the pedagogical course information sharing system based on wireless sensor network in pedagogical teaching information sharing is studied, and the research effect of this paper is compared with the literature [12], and the results are shown in Table 3 below.

Through the aforementioned experiments, it can be seen that the pedagogy course information sharing system based on the wireless sensor network proposed in this paper has a good course information sharing effect.

5. Conclusion

This paper first analyzes the current situation of pedagogy, summarizes the teaching problems, and draws the research purpose and research necessity of this paper. It summarizes and analyzes the research of experts and scholars, improves the wireless sensor network algorithm, analyzes and verifies many Jump the Aloha protocol performance analysis model in underwater acoustic sensor networks (UASNs), based on the improved String topology network. Aloha protocol performance analysis model can obtain String topology network throughput expectations and average end-to-end delay and improve the transmission effect of educational information in sensor networks, A wireless sensor network-based pedagogical course information sharing system is constructed, and the information sharing effect of the model constructed in this paper is verified.

In the face of fierce social competition, many teachers feel that they cannot adapt to the speed of knowledge renewal and the ever-changing teaching requirements. Therefore, their job satisfaction decreases, and they lack empathy and support for students, which in turn produces job burnout and stress. The most direct victims are students. The pedagogy course information resource is a key step in teacher preservice education. We must use a variety of effective methods to improve the sharing effect of pedagogy course teaching information, so that future teachers will enhance their confidence in education while learning knowledge and establish correct educational concepts. This article combines the wireless sensor network to construct a pedagogy course information sharing system, which changes the traditional pedagogy course information processing method and improves the teaching effect of pedagogy. The experimental verification shows that the pedagogy course information sharing system based on the wireless sensor network proposed in this paper has a good course information sharing effect.

Data Availability

The labeled data set used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The author declares no conflicts of interest.

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