

Retraction

Retracted: Design of Psychological Consultation System Based on Weighted Fuzzy Hybrid Algorithm

Security and Communication Networks

Received 13 September 2023; Accepted 13 September 2023; Published 14 September 2023

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] Y. Li, "Design of Psychological Consultation System Based on Weighted Fuzzy Hybrid Algorithm," *Security and Communication Networks*, vol. 2021, Article ID 2208006, 10 pages, 2021.

Research Article

Design of Psychological Consultation System Based on Weighted Fuzzy Hybrid Algorithm

Yaling Li 

Shenzhen Technology University, Shenzhen, Guangdong 518118, China

Correspondence should be addressed to Yaling Li; liyaling@sztu.edu.cn

Received 17 October 2021; Revised 14 November 2021; Accepted 1 December 2021; Published 11 December 2021

Academic Editor: Jian Su

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In order to overcome the problems of low security and high message delay in traditional counseling systems, this article designs and proposes a new counseling system based on the weighted hybrid algorithm. According to the principle of system design, the system architecture diagram and system role are designed. In the hardware part of the system, the user management module, online consultation module, and knowledge base module are designed to realize the psychological consultation function of the system. In the software part, the weighted hybrid algorithm is used to divide the psychological information state of the consultants effectively. Combined with the hardware and software of the system, the overall design of the system is completed. The experimental results show that, compared with the traditional consulting system, the designed system can effectively ensure the information security of consultants and reduce the message delay of the system, which has higher practical application value.

1. Introduction

With the development of the social economy, the improvement of people's living standards, and the integration with the international community, many complex changes have taken place in people's economic life. While people's material life is extremely rich, their spiritual needs are constantly improving, not only to have a high quality of life but also to have a happy mood [1]. When people's living environment and economic situation change, it will inevitably lead to changes in values, lifestyle, national culture, and even national character [2]. Therefore, maintaining mental health and mental balance has become an urgent problem to be solved [3]. With the continuous development of society, people's psychological problems are increasingly serious, but due to the shortage of professionals and financial constraints, it is difficult to achieve all aspects of psychological counseling and mental health concept popularization [4]. In addition, many people are not willing to do face-to-face psychological counseling [5]. Therefore, psychological counseling software has become the best choice for people to consult psychological problems. In order to solve the problems people encounter in psychological counseling, we

need to constantly improve and perfect the existing psychological counseling system [6].

Reference [7] proposed a psychological counseling system based on WPF. Firstly, the system builds an interface framework of psychological counseling software, which is composed of a menu bar, toolbar, and navigation bar, and then uses a XAML markup language to separate user interface design code from program logic code. Finally, it briefly introduces some key technologies in the system development, that is, to realize the data sharing between MySQL database and SQL Server database through AES encryption algorithm, which ensures the security and reliability in the process of data transmission and realizes the integrity of data storage through transactions. Reference [8] proposed a psychological consultation system based on a support vector machine. The system designed a psychological information collection module and a condition monitoring module. The software part used principal component analysis to reduce the dimension of the collected data. Based on the dimension reduction data, a support vector machine is used to classify the psychological state, and the results of psychological counseling are obtained. Reference [9] put forward a psychological consultation system

based on asp.net. The system carries out consultation management for patients with mental diseases, detailed demand analysis, and mental health data collection and offers consultation result output and psychological counseling suggestions. Reference [10] analyzed the demand status of community public service platform and put forward a university community intelligent psychological service platform based on an e-commerce model. For the key modules of the system, such as online psychological testing, background management, and data communication, the specific flow and implementation methods are given. Reference [11] proposed a rule-based expert system designed to help psychology students in professional practice at the center make decisions in clinical cases of suicide risk. This allows early detection of patients with such behavior and assessment of the risk of suicide. Cloud computing has been rapidly evolving and various organizations are updating their infrastructure and services to the cloud computing system. However, being a relatively new technology, users of cloud computing are facing various issues that need to be addressed. Identifying the risks associated and establishing trust are such major issues that need to be addressed. Reference [12] has focused on the various concepts related to trust in the cloud environment, technicalities of trust being used and evaluated, the trust models with an objective of identifying the inclusion of psychological dimensions and attributes in the assessment, evaluation, and management process. In order to overcome novel coronavirus pneumonia's vulnerability to public service and health system and solve the shortage of medical resources caused by the explosive growth of patients, the authors in [13] proposed a novel British community healthcare system based on big data and artificial intelligence.

Mobile computing is a new technology emerging with the development of mobile communication, the Internet, database, distributed computing, and other technologies. Mobile computing technology will enable computers or other information intelligent terminal devices to realize data transmission and resource sharing in the wireless environment. Its role is to provide useful, accurate, and timely information to any customer at any time, anywhere. This will greatly change the way people live and work.

This article studies the implementation of the psychological counseling system, which realizes the innovation of counseling business in psychological counseling, completes the transformation of counseling service to real-time, privacy, and information, so as to improve the processing efficiency of psychological counseling business, and becomes an important way to solve psychological problems.

Our contribution is threefold:

- (1) Aiming at the problems of low security and large information delay in traditional consulting systems, a consulting system based on a weighted hybrid algorithm is designed and proposed.
- (2) According to the system design principles, we designed the system structure diagram and system roles. In the hardware part and software part of the system, different modules are used, respectively.

Finally, combining the hardware and software of the system, the overall design of the system is completed.

- (3) Experimental results show that the system can effectively guarantee the information security of consultants and significantly reduce the message delay of the system.

The remainder of this article is organized as follows. Section 2 introduces the design of the psychological consultation system. Section 3 discusses experiment and analysis. Section 4 presents the conclusions of the study.

2. Design of Psychological Consultation System

Counselors are called counseling in English, which literally means consultation and guidance; psychological counseling, or psychological counseling, refers to the process of giving help, advice, and instruction to the counseling object in a psychological aspect. American psychologist Karner's definition of counseling is as follows: "counseling refers to the relationship between people who provide help to others and those who seek it." In this relationship, the means of helping others and the atmosphere they create make people gradually learn to treat themselves and others in a more positive way [14].

2.1. System Design Principles. The design of the large-scale system using the B/S architecture of the webserver has many advantages, but to give full play to its inherent potential, mining application depth, and expansion adaptability, we need to use advanced application architecture and practical as the fundamental criterion so that the system can meet the business needs and can adapt to the future development needs. Therefore, for developing the psychological counseling system, we should try to follow the principles of system design [15].

2.1.1. Practicality Principle. This is the most basic rule of all application software development, which directly measures the success or failure of the system. Every system submitted to the user should be practical and can solve the actual problems of the user; otherwise, the design is a failed system [16].

2.1.2. Adaptability and Scalability Principle. The system needs to have certain adaptability and can be expanded with the gradual improvement of the application and the gradual increase of users. The whole system can smoothly transition and upgrade to a new system. At the same time, in the development of software system, the reuse of each function module is considered to reduce the complexity of system expansion.

2.1.3. Reliability Principle. The stability and reliability of the system are the key to whether the system can be put into practical use. The system design should fully consider the pressure caused by a large amount of concurrency on the

system, ensure the normal operation of the whole system, and be able to cope with the predictable abnormal situation.

Therefore, in addition to selecting reliable hardware and software products, the adoption of redundancy design, backup scheme, and other measures, the selection of mature technology is an important means to ensure the reliability of the system [17].

2.1.4. Principle of Maintainability and Manageability.

The client is implemented by a browser, which can be updated automatically. According to the standard method, the system is designed as a component, using a B/S structure. Using the mainstream easy-to-maintain system platform, the system maintenance is more convenient, backup and data recovery should be fast and simple, and at the same time, the system configuration reflects automation; try to avoid complex system configuration files.

2.1.5. *Security Principle.* In the design, a variety of security technical means should be used to ensure that the relevant host system and application database provide strict protection. At the same time, the structure of the system is partitioned and hierarchical, and the firewall technology is used to isolate. All access is under the strict control of the application system and program of each layer so as to prevent some important data in the system from being obtained or destroyed by illegal users. In addition, we can also use network security vulnerability detection, network antihacker, antivirus, and other systems and means to maximize the security of the system [18].

2.2. *System Architecture Design.* Figure 1 is a system architecture diagram, which consists of four parts: J2ME mobile client, web server, business logic layer, and data information layer. The mobile phone client connects to the server through the wireless network and uses the optional JSR172 package supported by MIDP2.0 to call the server-side web service. Web services realize the access and operation of the database in the data information layer through the business logic layer.

Simple Object Access Protocol (SOAP) is an XML-based protocol that can be used in conjunction with many existing Internet protocols and formats. Being based on a "universal" transport protocol is one of the advantages of SOAP. It also supports a wide range of applications, from messaging systems to Remote Procedure Calls (RPCs).

REST is a lightweight web service architecture style. Its implementation and operation are simpler than those of SOAP and XML-RPC, and it can be implemented through HTTP. In addition, it can use cache to improve response speed and is superior to SOAP in performance, efficiency, and ease of use. The operations performed by the REST architecture on resources, including obtaining, creating, modifying, and deleting resources, correspond to the GET, POST, PUT, and DELETE methods provided by the HTTP protocol. This design and development method for network

applications reduces the complexity of development and improves the scalability of the system.

XML is a common markup language, which is used to mark electronic files with structure, and can be used to mark data and define data types. It is a source language that allows users to define their own markup language. Unified XML format, cross-platform, and language have long become the industry-recognized standard. XML is a subset of the Standard General Markup Language (SGML) and is well suited for web transport. XML provides a uniform way to describe and exchange structured data that is independent of an application or vendor.

JSON stands for JavaScript Object Notation, which is a syntax for storing and exchanging text information with smaller text volume and faster and easier parsing features. JSON is different from HTML. HTML is mainly used to display data, whereas JSON is mainly used to transmit data. Thus, it is generally used as the data query interface. In JS, everything is an object. Therefore, any supported types, such as strings, numbers, objects, and arrays, can be represented by JSON.

2.3. *System Role.* This system is an information platform for communication between all the people and the psychological counseling center. It mainly completes the appointment of the counselor of the psychological counseling center for patients with mental diseases, the online interaction with the psychological counseling center, the offline message exchange, and the realization of related ancillary functions. Participants were patients with mental illness, counselors, and staff of psychological counseling center. Among them, patients with mental illness are mainly using the Android platform application of the client; the staff of the psychological counseling center is responsible for the data maintenance function of the management server and the maintenance of the system itself; counselors are also the staff of the psychological counseling center, but they are the core staff, who are specially responsible for the important role of communicating with patients, and complete the business process related to dealing with psychological problems. The specific relationship is shown in Figure 2.

2.4. System Hardware

2.4.1. *User Management Module.* The function of the user management module includes the following: users can inquire about their personal information and psychological counselor's registration information so as to help the consultants understand the relevant information of users, communicate with users, and analyze and solve problems. Each user can only view their own registration information. After login, users can modify the registration information in user information management [19]. The consultant can modify the user information and delete the user through the user management module. The permissions that can be executed are as follows: adding user information records by registration; modifying, deleting, and querying user information records.

The structure of the user management module is shown in Figure 3.

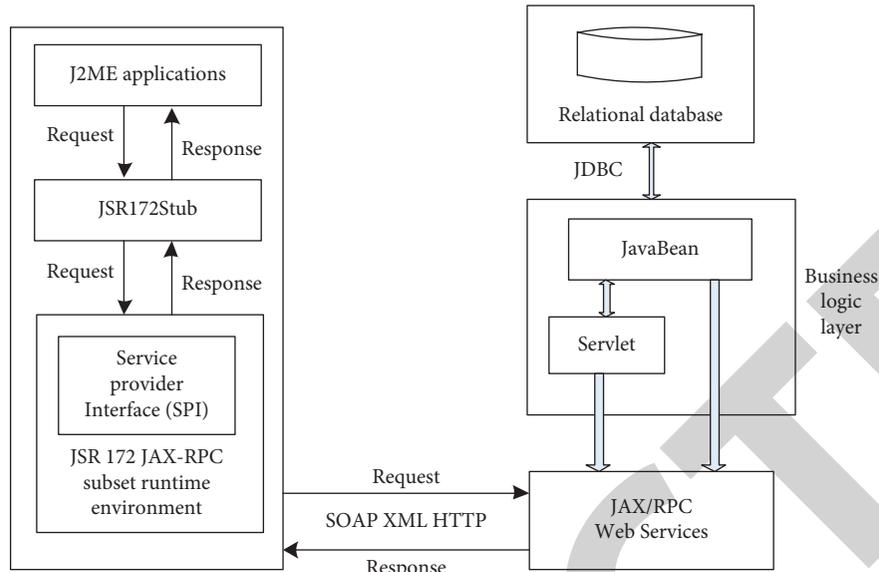


FIGURE 1: System architecture.

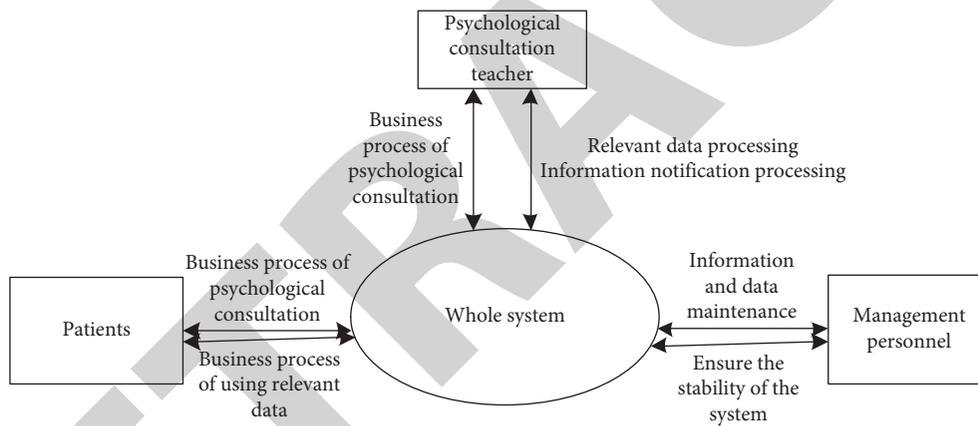


FIGURE 2: System role division.

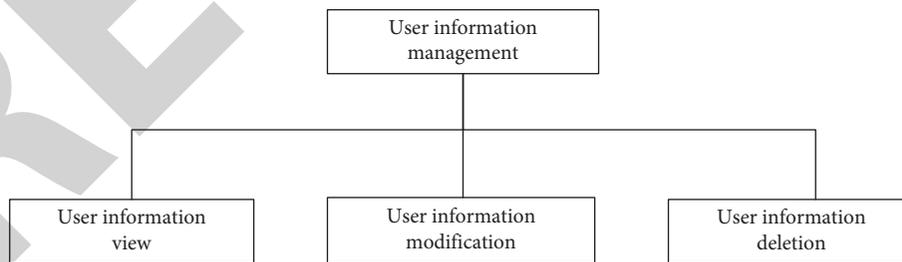


FIGURE 3: User management module structure.

2.4.2. *Online Consulting Module.* The online consultation module is the user login system to realize psychological consultation, online discussion, appointment, and e-mail of the counselor selected by the counselor [20]. The online consultation module provides the online questioning function for system users, and the questions raised by users are saved in the database. When the consultant logs in to the system, they will read the questions from the consultation table and give answers.

The results after the section are saved in the reply table of the database. When the user logs in again, they will read the consultant’s answers to their own questions from the reply table.

The main contents of psychological consultation include the following: users give consultation application, experts accept or reject the application, and users leave messages or communicate with experts online within the time limit of application.

The structure diagram of the psychological consultation module is shown in Figure 4.

2.4.3. Knowledge Base Module. The first mock exam module includes the following: the module is mainly used to manage a large number of knowledge contents, including the following questions: question base, answer library, answer library, and public information base.

Question bank: it mainly stores the problems when the system is tested. These problems are commonly used in the psychological counseling industry and can clearly analyze the classification of psychological problems. Experts can summarize some related problems that can identify certain psychological problems and ask questions to patients based on their own years of experience in patient problem research. The first mock exam is designed to be managed by experts. It can add, modify, view, and delete four problems of the problem library. Besides looking at the four operations, it is hoped that experts will proceed cautiously after the discussion and deliberation. At the same time, it also sets up the download of questions related to the question bank so that patients can download questions to answer them, and at the same time, they can find their own problems by comparing the answers and adjusting their own psychology [21].

The answer bank stores the answers to the first mock exam questions. The setting of this module is one-to-one with the problem base. All the questions of psychological counseling should have corresponding answers. Moreover, the questions of psychological counseling usually are set up as multiple-choice questions or one-way multiple-choice questions because this type of questions helps patients answer when they are not in a good mood. It is not reasonable to set up a subjective answer, which will reduce the mood of patients. So for this kind of question set, a separate answer library is necessary. At the same time, when experts set new questions, they also need to add corresponding answers, or when the answers are wrong, they need to modify them. When the questions are deleted, they also need to delete the answers so as to avoid the waste of database resources. At the same time, the first mock exam is needed to download and view the module.

The answer library is the expert's answer to the first mock exam or questions. This part is set up for some students to ask questions and store the answers. The module is set up individually, which is convenient for some patients to search for related questions. This will reduce the unnecessarily repeated answers of experts to the same questions, and patients can solve similar problems by searching, which also reduces the burden of experts [22].

The first mock exam is the public information database, which is mainly about storing public videos and some related announcement information, such as new regulations of the state on psychological consultation. This module has the nature of entertainment, can put some psychological movies or interviews and other programs, and guide the patients' psychology. Try to avoid some psychological problems caused by getting up early, and prevent the tendency to expand. The first mock exam is to change psychological problems of psychological counseling and

turn psychological counseling into a common way of understanding and health, such as colds. This is also one of the innovative issues considered in this system [23].

The partition result of the knowledge base module is shown in Figure 5.

2.5. System Software. Based on the above design of the system hardware, in the software part of the system, the weighted fuzzy hybrid algorithm is used to analyze the uncertainty of psychological counseling in order to improve the accuracy and efficiency of counseling.

In the psychological consultation system, each patient has several forms of psychological problems, which should be reflected in the system according to the importance. For example, in the rule of "depression, insomnia, loss of pleasure and suicidal tendency, the course of disease is more than 3 months," the information of "suicidal tendency" is obviously more important than that of "insomnia," "depression," and other information [24]. In order to express this information, it is more appropriate to adopt the following weighted fuzzy logic formula:

$$(P_n, w_n), (P_n, w_n), \dots, (P_m, w_m), (Q_i, CF_1, T_1). \quad (1)$$

In the formula, CF_1 is the certainty factor, T_1 is the certainty degree weight, Q_i and P_n are fuzzy predicates, P_n and w_n are the importance measure, $w_{ij} > 0$ (w_{ij} is the given weight of rule R), and $\sum_{j=1}^{m_1} w_{ij} = 1$. According to formula (1), if R_1 adopts the rule confidence, $0 \leq CF_1 \leq 1$; then, the application threshold of R_1 is r_1 , and $0 \leq r_1 \leq 1$. According to the weighted logic relationship in the above conditions and its corresponding real propagation algorithm, if $T_1 \geq t_1$ (t_1 is the degree of certainty of assertion P_j), then the conclusion Q_i can be deduced by activating R_1 in the rule, and the conclusion is $T(Q_i) = CF_1 \wedge T$. The conclusion can be used as the premise of other rules at the same time, and the next reasoning can be carried out through the participation of P_j . When (R_1, R_2, \dots, R_n) , the main condition is to deduce the same conclusion Q and the final truth degree can be determined according to the actual situation.

General psychological counseling system will adopt different reasoning methods according to different objectives. In order to improve the efficiency of the new psychological counseling system, the research mainly focuses on the forward reasoning algorithm. In the process of using the forward reasoning algorithm in the psychological system, the user's initial problem data needs to be input into the database. If there is a consistent conclusion in the database, the reasoning ends; if there is no consistent conclusion, the input dynamic data are matched with the rule antecedents in the knowledge base. After the matching is successful, it is put into the conflict base. The designed conflict miss strategy is used to deal with the rules in the conflict base, and the enabled rules are obtained. The rules are stored in the dynamic database as fresh events, and the rules are queried in the dynamic database. If the query problem exists, the reasoning ends; if the query does not exist, repeat the above steps. In the real-time supplement stage, the supplementary data are stored in the database as new things and transferred

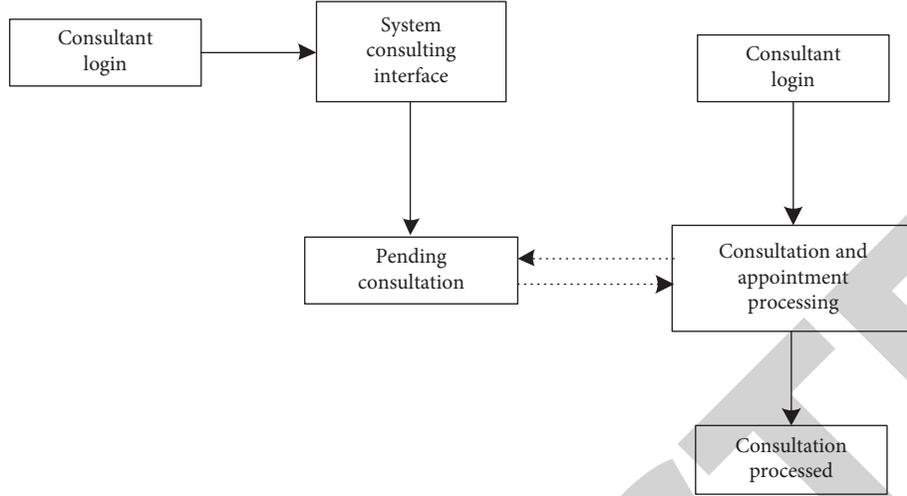


FIGURE 4: Structure block diagram of psychological consultation module.

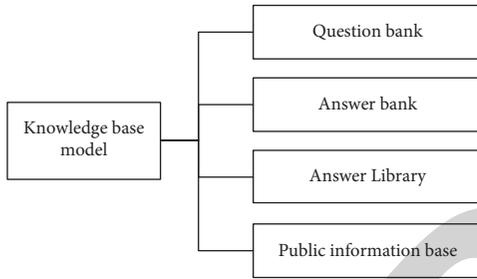


FIGURE 5: Knowledge base module.

to the knowledge base. If the user cannot get the fact supplement after inputting the fact data in the process of using, the system will prompt the user that the reasoning fails and exit.

There is a certain fuzziness in the process of using the psychological counseling system. When users describe psychological problems, they often use “may,” “probably,” “a little,” and other descriptive words. In order to facilitate the follow-up reasoning of the system, they classify the keywords and add values to describe the truth of things. In the psychological consultation system, users are divided into two types: developmental psychological consultation and health psychological consultation. Developmental counseling mainly aims at career planning, love. The structure of health counseling is shown in Figure 6.

When reasoning for these two types, the common psychological problems are divided into hysteria, depression, obsessive-compulsive disorder, phobia, neurasthenia, anxiety disorder, and hypochondria, and these symptoms are divided into four types: body reaction, emotion,

behavior, and cognition. Each mental state contains several specific manifestations. The psychological consultation system infers the corresponding symptoms according to the user input data, determines the state of psychological problems through symptom performance, and infers the corresponding psychological problems. Because of the uncertainty of knowledge in the process of using psychological consultation system, uncertain factors should be considered in the system reasoning process.

This article analyzes the knowledge uncertainty of some psychological counseling systems, and its production rule expression mode is e and then H , where e stands for rule premise and H stands for rule theory. In the psychological consultation system, e and H are the uncertainties in the whole system. The main reasons for e are that users do not provide complete facts for the system, the fact data provided by users are random and subjective, and the data provided by users are fuzzy. In order to solve the problem of rule matching in psychological counseling system, a user needs to provide a formula to calculate the matching between fact data and expert data so as to realize the successful calculation of threshold. According to the weighted fuzzy production rule, the representation is as follows:

$$\text{If } (E_1, w_1) \wedge (E_2, w_2) \wedge (E_3, w_3) \cdots \wedge (E_n, w_n). \quad (2)$$

In the formula, E_i represents the premise fact data and W_i represents the weight of E_i . In the process of reasoning, calculation factors are often involved. Therefore, the algorithm for calculating the uncertain combination of evidence facts is as follows:

$$T'_i = \sum_{j=1}^n W(P_{ij}) \cdot T(P_{ij}) - \frac{1}{2} \left[\sum_{j=1}^n W(P_{ij}) \cdot T^2(P_{ij}) - \left(\sum_{j=1}^n W(P_{ij}) \cdot T(P_{ij}) \right)^2 \right]. \quad (3)$$

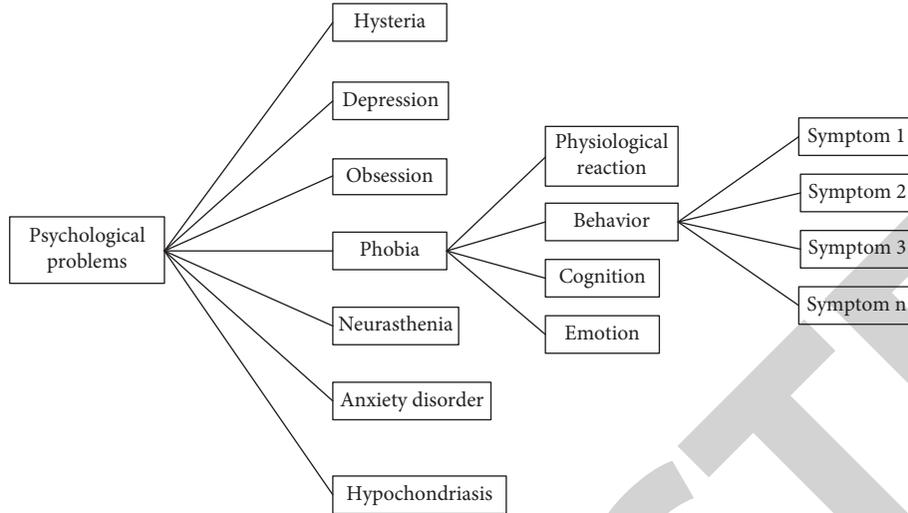


FIGURE 6: The knowledge structure of psychological resources.

In the formula, T'_i is the uncertain combination evidence fact, T is the rule premise, $W(P_{ij})$ is the membership degree, and P_{ij} is the sample point.

In the process of solving user problems, there are usually fuzzy logic relations in the psychological counseling system, which are weighted by each precondition and weighted with each precondition. The premise of the two relationships is to adopt the same formula and distinguish the difference of reasoning mode while distinguishing the distribution of true value. In the premise of the relationship of each weighted logic in the system, the subitems that may contain disjunctive logical relations are extracted and classified. According to this relationship, when the number of data rules increases, there are many problems in the efficiency of system maintenance and reasoning. Therefore, the weighted processing method is used to realize the inference of the ahead truth among different logical relationships in the system. The calculation results are as follows:

$$T_i^{\oplus} = \sum_{j=1}^n W(P_i) \cdot \max(T(P_{i1}), T(P_{i2}), T(P_{ij})). \quad (4)$$

In the formula, T_i^{\oplus} is the truth degree of rule premise, T is the rule premise, $W(P_i)$ is the membership function, and $j = 1, 2, \dots, k$.

A rule premise is added after each rule to satisfy different fuzzy logic relations. Using the fuzzy logic of regular time, the system can select different calculation premise truth degrees according to different description marks in the reasoning process so as to improve the accuracy of mental state judgment.

3. Experimental Verification

In order to verify the practical application effect of the proposed psychological counseling system based on the weighted fuzzy hybrid algorithm, experiments are carried out.

In order to improve the effectiveness of the experimental results and reduce the experimental error, in the same experimental environment, taking the system safety factor and online consultation delay as the experimental comparison indicators, this article compares and verifies the system with the psychological consultation system based on WPF and the psychological consultation system based on support vector machine. In engineering, a factor of safety expresses how much stronger a system is than it needs to be for an intended load. Safety factors are often calculated using detailed analysis because comprehensive testing is impractical on many projects, such as bridges and buildings, but the structure's ability to carry a load must be determined to a reasonable accuracy.

3.1. Experimental Environment. The experimental environment parameters are shown in Table 1.

3.2. Analysis of Experimental Results

3.2.1. System Security. The security comparison results of the three systems are shown in Figure 7.

By analyzing the system security comparison results shown in Figure 7, it can be seen that during the one-month experiment, the safety factor of the designed system is always higher than that of the two traditional comparison systems, and the safety factor of the designed system is always stable at 0.98, while the safety factor of the WPF-based psychological consultation system and the support vector machine-based psychological consultation system fluctuates greatly, and the downward trend is obvious [25]. The method in [25] and [26] fluctuates greatly. Compared with the method proposed in [25] and [26], the method in this article is relatively stable. Therefore, the designed system can effectively ensure the security of information in the system.

3.2.2. Online Consultation Delay. In order to further verify the performance of the designed system, the online consultation delay of the three systems is compared. The

TABLE 1: Experimental environment parameters.

Project	Parameter
CPU	P4; main frequency above 2.4G MHz
Memory	512 MB
Hard disk	Above 40 G
Display card	Color VGA, resolution no less than 1024×768
CD-ROM optical disk drive	More than 24 times speed
Web development tools	JSP technology
JSP connect to database	JDBC technology
Programming language	JAVA
Database	SQL server 2000
System structure	B/S structure
Application server	Tomcat

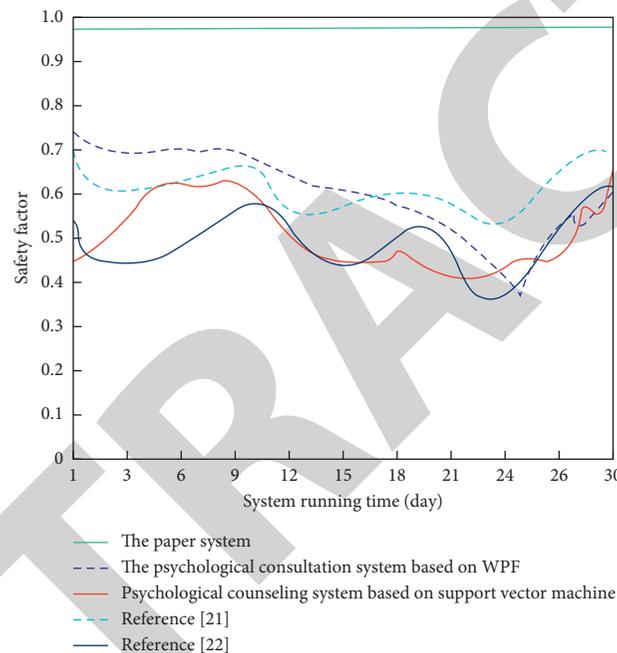


FIGURE 7: System security comparison results.

comparison results of the online consultation delay of the three systems are shown in Table 2.

It can be seen from the comparison results in Table 2 that under the same experimental environment and conditions, the delay of WPF-based psychological counseling system and support vector machine-based psychological counseling system is higher and the maximum delay of the two systems is 6.12 s and 4.18 s, respectively, while the maximum delay of the designed system is 0.61 s, which greatly reduces the delay. The delay in the method in [25] and [26] is higher: the maximum delay of the two systems is 5.39 s and 4.62 s, respectively. Therefore, the performance of the designed system is effectively improved.

The relevant test results of the matching function of the consulting module are shown in Table 3.

The test results of hardware modules and programs at all levels of the system show that, under the condition of randomly selected test times, the core modules and main control programs of the system have passed the test, indicating that the system has a good stability of operation, and the functions of each module and program are intact.

The statistical results in Table 4 show that the average time to deal with a single psychological counseling problem of volunteers is 1.08 s, indicating a high comprehensive efficiency level. The questionnaire was distributed to 200 volunteers. The questions and their weights included the following: Q1: did the system solve your problem? Q2: usability of the system? Q3: practical functions of system hardware and software? Q4: human-

TABLE 2: Comparison results of online consultation delay of different systems.

Iterations	Consultation delay (s)				Reference [25]	Reference [26]
	The proposed system	Psychological consultation system based on WPF	Psychological consultation system based on support vector machine			
1	0.53	3.45	2.94		3.92	3.978
2	0.42	4.16	3.05		3.65	3.023
3	0.31	4.56	2.89		2.89	2.39
4	0.45	6.12	3.76		3.66	3.126
5	0.41	4.23	4.15		4.53	4.11
6	0.48	2.84	3.72		3.62	3.24
7	0.52	3.51	2.96		2.97	2.54
8	0.46	4.21	4.12		4.14	4.7
8	0.61	4.53	4.18		4.48	4.12
10	0.47	3.49	3.87		3.89	3.37

TABLE 3: Matching results of key terms.

Number	Number of test terms	Test times	Tests for a match
1	2	15	Y
2	3	20	Y
3	6	23	Y
4	10	20	Y
5	11	16	Y
6	13	21	Y

TABLE 4: Sample data detection efficiency distribution.

Group	Sample	Comprehensive time (s)	Average time (s)
1	150	157.5	1.05
2	136	164.56	1.21
3	238	242.76	1.02
4	110	105.6	0.96
5	109	90.47	0.83
6	246	253.38	1.03
7	155	187.55	1.21
8	300	390	1.3
9	350	336	0.96
10	205	256.25	1.25

computer interaction performance of the system? Q5: how fast does the system respond? The weight ratio of the five questions in the questionnaire was set as 3.5 : 1 : 2.5 : 1.5 : 1.5. The results of the survey were divided as follows: 10 points, very satisfied; 8 points, satisfied; 6 points, basically satisfied; 4 points, dissatisfied; 0 points, very dissatisfied.

4. Conclusion

In order to improve the application performance of the psychological consultation system, a psychological consultation system based on a weighted fuzzy hybrid algorithm is designed. The performance of the system is verified theoretically and experimentally. The system has high security and low online consultation delay when carrying out psychological consultation. Specifically, compared with the system based on WPF, the system security is significantly improved, and the safety factor can reach 0.98. Compared

with the system based on support vector machine, the online consultation delay is significantly reduced, and the maximum delay is less than 0.5 s. Therefore, it fully shows that the consultation system based on a weighted fuzzy hybrid algorithm can better meet the requirements of psychological consultation. Although our method has achieved good performance so far, it still fails to achieve comparable accuracy in complex environments. In addition, the training of the model is more constrained by some conditions. In the future, we will further optimize the model to improve training speed while ensuring accuracy.

Data Availability

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

Conflicts of Interest

The author declares that he has no conflicts of interest.

Acknowledgments

The author acknowledges the Guangdong Province 2018 Education Science “13th Five-Year Plan” Project: A Study on the Liberal Education Model of College Students Psychological Development Based on the Cultivation of Applied Talents (2018GXJK167).

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