

Retraction

Retracted: Interoperability of Multimedia Network Public Opinion Knowledge Base Group Based on Multisource Text Mining

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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.

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- [1] Y. Zhu, "Interoperability of Multimedia Network Public Opinion Knowledge Base Group Based on Multisource Text Mining," *Advances in Multimedia*, vol. 2021, Article ID 9339584, 9 pages, 2021.

Research Article

Interoperability of Multimedia Network Public Opinion Knowledge Base Group Based on Multisource Text Mining

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Internet media has gradually replaced the existence of traditional media and has become the main place for people to express their views and opinions on social events. Based on the huge user base, after social events occur, a large number of Internet users promote the derivation and dissemination of topics to form Internet public opinion. The fast communication process and wide communication coverage have brought higher requirements to the supervision of Internet public opinion. Internet public opinion is an important expression of sociological intelligence at present, and multisource text mining technology has become a commonly used form of expression based on unstructured data by research scholars, providing relatively important technical support for public opinion information data analysis. After analyzing the relevant research literature of the multimedia network knowledge base groups in detail, this paper analyzes the operating factors and mechanisms among the multimedia network knowledge base groups elaborately. Finally, it is applied to the process of network public opinion analysis. The results of the case analysis show that the multisource text mining algorithm can provide a strong basis for the construction of a multimedia network public opinion knowledge base group.

1. Introduction

How to interoperate between heterogeneous knowledge bases has become a main problem in the current information management department that needs to be solved by domestic and foreign scholars. It has become one of the main problems that domestic and foreign scholars need to solve that the relevant government departments provide cross-platform, cross-system knowledge association, analysis, and text mining [1, 2]. The interoperation of different types of public opinion knowledge base groups has become the main means to complete the crossover and integration of multimedia public opinion data information under big data [3, 4], and it has also become an effective means for the acquisition, preservation, and use of big data information for multimedia network public opinion [5]. Public opinion data information, as an effective expression and reaction to public opinion, is also a way of responding to the public's thinking situation [6]. It has gradually become the common opinion of the public to publicly describe some different social phenomena or social problems on the Internet [7, 8].

Based on the particularity of the media in which public opinion disseminates, its expression forms, and some characteristics of different traditional public opinion information displayed by methods, this article mainly uses the multisource text mining technology to the data processing module based on the mutual operation mode of the multimedia network public opinion knowledge base group and extracts the obtained text feature vector into the geographic index matrix for calculation. Finally, through an example analysis, it is found that the method has a high-precision and time-based use values.

2. Multisource Text Mining Algorithm

Discovering information from multisource texts or text databases is to discover hidden patterns from a large collection of texts. Web multisource text mining displays a large amount of text on the network and performs feature extraction, content summary, classification, clustering, correlation analysis, meaning analysis, and trend prediction using web text. The main techniques for mining multisource text include:

- (1) Inquiry: specify the metadata related to the feature extraction text, which is classified into descriptive features and meaningful features. Descriptive features are relatively easy to proceed with, and it is difficult to obtain meaningful features. Specifications such as XML and RDF provide languages and frames for describing Web text resources. Extract the main information from the Web document and create a brief summary of the text content [9, 10].
- (2) Refer to the process of determining the category of the text based on the text content under the designated text classification system. Text classification is to find the relationship model between document features and document categories based on the displayed training document collection. Using the relational pattern obtained through such learning, new documents are judged by category. Mathematically, it is described as follows. Assuming that there is a set of documents, concept class C , and training document Doc , there is a target concept T .

2.1. $T: Doc \rightarrow C$. T maps the document instance to a certain category. The document dT (d) in Doc is already known. Through supervised learning of the training document set, a model close to T can be found.

2.2. $H: Doc \rightarrow C$. For the new document, dxH (dx) represents the classification result of dx . The classification learning is to find the H closest to T . That is, an evaluation function F is provided to satisfy T and H .

$$\min \left(\sum_{i=1}^n F(T(dx) - H(dx)) \right). \quad (1)$$

The so-called data mining refers to the process of mining effective information from a large number of sample data. The feature of multisource text mining based on this paper is to use multisource text to measure whether the data objects are abnormal, to highlight the abnormal noise data, and to distinguish between data objects in the high-dimensional data space. For the set of data $M = \{M_1, M_2, \dots, M_n\}$, the data set of the neighbors of other objects is $KNN = \{D_1, D_2, D_3, \dots, D_k\}$, M_i and multisource text mean $avg(M_i, KNN)$. The mean value of the data set D is $avg(M, KNN)$, and the comprehensive definition of the weight is shown in formula:

$$W_{M_i} = \frac{avg(M_i, KNN)}{avg(M, KNN)}. \quad (2)$$

Among them, the set of KNN weights can be represented by $\{WM_1, WM_2, WM_3, \dots, WM_n\}$. For $WM_i < 1$, since the mean value is less than the mean of the KNN multisource text, it indicates that the multisource text in the center of the multisource text data is set to be calculated, and the degree of outlier is weak, so it can be considered as noisy data, which can be pruned, and the pruned data set can be used to calculate the outlier score of the data object, so as to effectively perform data mining efficiency extraction [11].

Multisource text mining starts from partial information blocks to describe the overall structure of the text and better represents the text type information. First, the training set is randomly divided into w text blocks, and a multisource text mining algorithm is used to obtain a multithreaded convolution filter, and the number of convolution filters is K . Among them, the size $u_c^2 \times 3$ of the convolution filter of the RGB thread and the depth encoding thread is the original depth thread and gray-scale thread K . Taking the original deep thread u_c^2 as an example, the size of $u_i \times u_i$ can fold the convolution filter corresponding to the input text to obtain the output feature.

$$\varphi \in \mathbb{R}^{K \times (u_i - u_c + 1)^2}. \quad (3)$$

In order to use the kernel function to perform inner product operations on $h(p)H^T$ and HH^T , respectively, to obtain a function-based overlapping learning machine, it is no longer necessary to determine the number of hidden layer neurons m and the activation function $h(\cdot)$. The core matrix of ELM is as follows:

$$\Omega_{ELM} = HH^T: \Omega_{ELM_{i,j}} = h(p_i) \cdot h(p_j) = k(p_i, p_j). \quad (4)$$

According to formula (3) and the abovementioned formula, the output function of KELM is as follows:

$$s(p) = h(x) \cdot \beta = h(x)H^T \left(\frac{I}{C} + HH^T \right)^{-1} T$$

$$= \begin{bmatrix} k(x, x_1) \\ k(x, x_2) \\ \vdots \\ k(x, x_n) \end{bmatrix}^T \left(\frac{I}{C} + \Omega \right)^{-1} T. \quad (5)$$

Here, I is the identity matrix, and C is the regular term used to adjust the generalization ability of the learning machine.

Equations (6)–(9), respectively, represent the relationship between the hidden layer, the correlation layer, the output layer, and the output feedback.

$$x(k) = f(W^1 x_c(k) + W^2 u(k-1)), \quad (6)$$

$$x_c(k) = x(k-1), \quad (7)$$

$$y(k) = g(W^3 x(k)), \quad (8)$$

$$u(k) = y(k), \quad m \leq k \leq r. \quad (9)$$

Multisource text mining has a simple structure, mature algorithms, and strong nonlinear mapping capabilities. Therefore, retrieval is performed in the direction of the fastest reduction of errors. If the learning factor is appropriate, the convergence efficiency is high.

Consider the following overall error objective function E :

$$E = \sum_{p=1}^N E_p. \quad (10)$$

Among them, $E_p = (1/2)(Y_d(k) - Y(k))^T (Y_d(k) - Y(k))$.

Hidden layer to associated layer:

$$\Delta w_{ij}^3 = \eta \delta_i^0 x_j(k). \quad (11)$$

Input layer to hidden layer:

$$\Delta w_{jq}^2 = \eta \delta_j^h u_q(k-1). \quad (12)$$

Associate layer to hidden layer:

$$\Delta w_{jl}^1 = \eta \sum_{i=1}^m (\delta_i^0 w_{ij}^3) \frac{\partial x_j(k)}{\partial w_{jl}^1}. \quad (13)$$

Multisource text mining of multimedia network public opinion knowledge can be carried out through the following models (see Figure 1) and steps. Hot-word records can be classified and saved according to the knowledge of online public opinion. Due to the rapid and efficient spread of the Internet, citizens' reactions and comments to news events can appear on the Internet as soon as possible. Therefore, the source reliability index created based on the W field is then used as a reference element to capture web pages more widely with keywords [12, 13].

3. Analysis of Interoperability Characteristics of Multimedia Network Knowledge Base Group

3.1. Heterogeneity of Multimedia Network Knowledge Base Group Interactive Data. Multimedia network knowledge is composed of the subject of the network social trends, the object of the network social trends, the subject of the network social trends, and the media of the network social trends. The four elements are interrelated to form a multimedia network of social trends and information. Therefore, the information data structure stored in the multimedia network knowledge group is different from the traditional information data structure. The constructed relational database must conform to the connotative characteristics of the multimedia network knowledge base, establish a logical framework, and establish related rules [14].

The subject data, object data, subject data, and media data of the multimedia network knowledge base are divided into terrorist databases for storage. The multimedia network knowledge base includes all attributes such as text, audio, video, and image. Each attribute constitutes a single entity collection, forming the whole logic through the association relationship, forming the multimedia network knowledge base, and finally reflecting in the multimedia network knowledge group. The heterogeneity of data is embodied in the characteristics of multianalysis of angles, difficulty in memory, and strong data relevance in the multimedia network knowledge base. The connotation of the knowledge of the multimedia network knowledge base exists in each attribute and is interrelated. When mining and analyzing the

geographic data of the multimedia network from the perspective of a single data, the result is one-sided and lacks the connotation of knowledge. Therefore, it is necessary to use the multimedia network knowledge base group as a storage environment and combine the multimedia network knowledge base group for interoperability to store, mine, and analyze multimedia network knowledge [15].

3.2. Independent Serviceability of the Interoperability of the Multimedia Network Knowledge Base Group. The purpose of establishing the multimedia network public opinion knowledge base group is to provide data support for the social situation supervision department's early warning of the network public opinion crisis, the crisis response of the network public opinion, and the simultaneous acquisition of network public opinion and monitoring and early warning operations of the network public opinion. This shows that the multimedia network knowledge base group interoperates, and the difference from the traditional knowledge base operation is that the multimedia network knowledge base provides special services to specific information user groups. In the past, the knowledge base had the characteristics of a large user base, low knowledge mining, and wide knowledge fields. The main service targets are participating users, providing domain knowledge to general user groups, community members, and network users who need previous domain knowledge.

The multimedia network public opinion knowledge base group provides services for policy decision-making users such as public opinion analysts, government public opinion management policy decision personnel, and departments. Different from previous knowledge bases, the multimedia network knowledge base group can integrate multiple geographic information data, multistructure data sub-databases, and multiangle mining algorithms through interoperations. It can conduct a comprehensive, diversified, and in-depth analysis of online public opinion information, provide decision-making users with early warning of online public opinion events, crisis response plans, and crisis event follow-up services, and provide service users of specific projects with high-relevant knowledge of multimedia online public opinion.

3.3. Interoperability and Network Security of Multimedia Network Knowledge Base Group. Traditional knowledge base information sources include expert knowledge, books, literature, and documents with few data source channels and narrow application scope. Traditional knowledge base has low interoperability and low exploitation. The data source of the multimedia network knowledge database group is a general channel based on the traditional knowledge base data source, combined with multiple multimedia network knowledge base channels. Due to the diversification of information sources, multimedia network knowledge base data has various data attributes such as structured, semi-structured, and unstructured ones. The media includes PC terminals, mobile terminals, traditional media, online news,

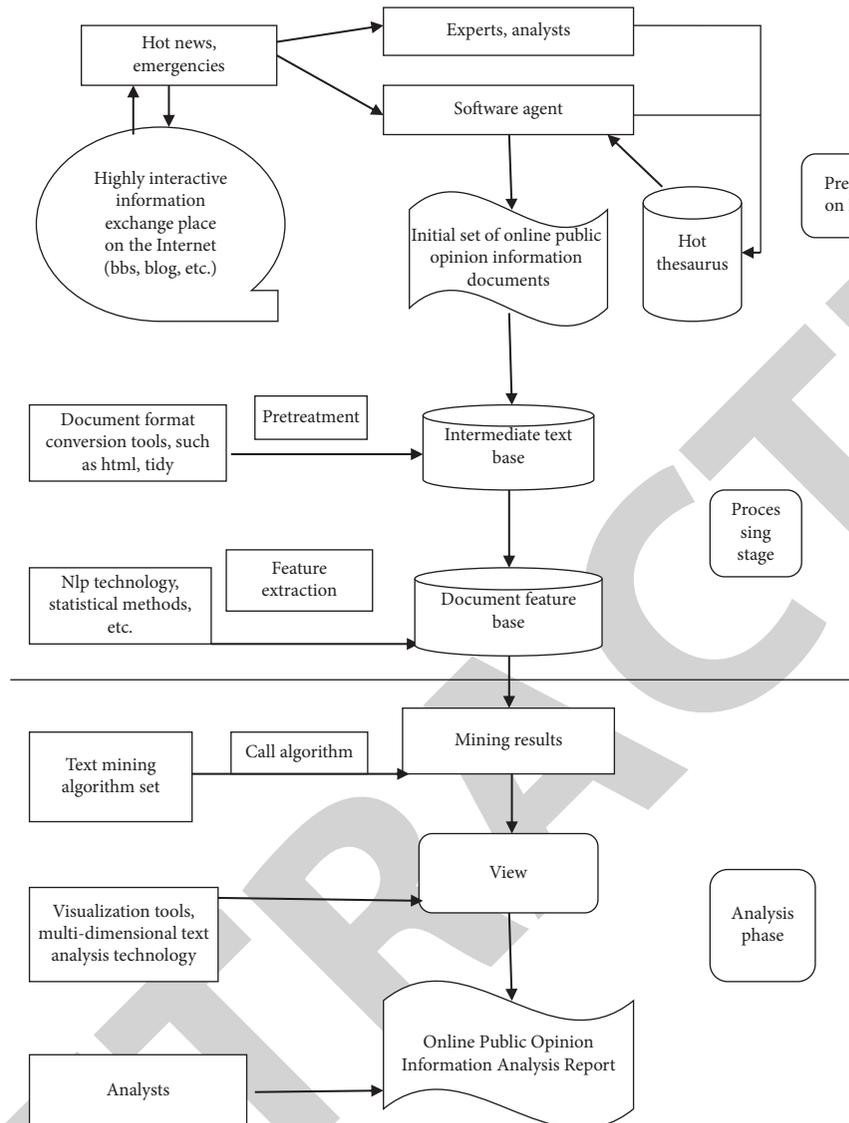


FIGURE 1: Multi-source text mining process.

online videos, and social networking applications as a means of transmission.

Firewall security technology is a type of security technology that effectively controls network access in a computer system. It is an effective strategy for the interoperability of public opinion knowledge base groups from the computer itself. The computer network firewall can prevent illegal users in the external network environment from invading the computer network system, mainly by setting different security levels. It is a very effective protection technology, which can fully guarantee the internal information security of the computer network and plays a very important role. During the operation, the firewall can filter the non-compliant information by presets of different levels, effectively blocking the illegal data transmission process, and filtering some dangerous information and operations, to effectively ensure the safe operation of user network information.

4. Construction of Multimedia Network Public Opinion Knowledge Base Group

4.1. Login Authority Verification. The operation flow chart of the login permission verification module in the application layer of the multimedia network public opinion knowledge base group structure diagram includes inputting the dongle after the computer is running and then verifying the medium. If the conditions are met, the medium will be further loaded, and if it fails the media verification, the loading program will be prohibited. At this time, the entire system cannot continue to run, and the judgment efficiency is higher. After the loading medium is passed, the next step is to verify the certificate file and then verify the user name and password. After these subroutines are verified, the program can be successfully opened, and if any intermediate link fails to pass the verification before starting the program, the interoperability system of the

public opinion knowledge base group will be deemed as a failure and will return to the prohibition of loading the program again. It can be seen that login permission verification plays a vital role in the interoperability of the entire computer system public opinion knowledge base group, and the level of public opinion knowledge base group interoperability and overall operating efficiency are relatively high.

4.2. Interoperability of Process Public Opinion Knowledge Base Group. The interoperability of the process public opinion knowledge base group belongs to the application layer of the multimedia network public opinion knowledge base group. Its existence can control the process start or end of the multimedia network public opinion knowledge base group, and verify external information, eliminate untrusted processes, and add trusted processes. [6]. In the actual operation process, when the process public opinion knowledge base group interoperability module is opened, if it is judged to be at safe condition this time, the process will be further created, and if the process public opinion knowledge base group interoperability module fails or the creation process fails, the process will be ended directly. After the program is created successfully, the computer will further execute the underlying driver and verify the underlying process information, open the process after passing it, and send the program to the application layer after failure, and open program mode with inquiry to operate. During the entire running process, only the program that trusts the current operation is executed in the open program, and the untrusted operation is added to the blacklist. After the trusted program is successfully run, it can be further added to the trusted program to speed up the efficiency of the next operation [7]. During the operation of the entire public opinion knowledge base group interoperability module, whether the underlying driver fails or the program fails to be sent, the entire running program will be terminated.

4.3. Interoperability of Document Public Opinion Knowledge Base Group. The interoperability of the document public opinion knowledge base group is also subordinate to the application layer of the multimedia network public opinion knowledge base group. Its existence can ensure the integrity and confidentiality of the data files and play a role in starting the program, loading the driver, reading the document, and controlling the application during the operation. Since the current computer system generally uses the drive system provided by Windows officially, although this drive system is stronger than the application programming interface in protection and safety, it has greater difficulties in the implementation of specific technologies. Therefore, a document public opinion knowledge base group interoperability system is designed based on filter-driven technology. In the actual computer application process, an authorization process is required after data files are opened (such as Doc and XLS). If it is an unauthorized process, the corresponding ciphertext is

required for processing; in the authorization process, the verification process is required for subsequent operations. If the ciphertext is displayed, a shutdown operation shall be conducted to stop the operation. If it is not displayed, you can open the document and then perform the underlying I/O driver processing. In this process, you can observe whether the program is running normally and then determine whether to read the key. If the key is read successfully, you can perform read and write control operations, and both write and read are performed in an encrypted operating environment. If the key is unsuccessfully read, then the operation of the next step shall be refused. This self-designed document public opinion knowledge base group mutual operating system based on filter drive technology has more powerful protection functions than the traditional application programming interface and the drive system provided by Windows officially. During the actual computer application process, the interoperability system of this kind of document public opinion knowledge base group can be introduced to strengthen the protection of documents with special confidentiality requirements.

4.4. Interoperability of Mobile Media Public Opinion Knowledge Base Group. The interoperability of the mobile media public opinion knowledge base group also belongs to the application layer of the multimedia network public opinion knowledge base group. Its existence can realize the functions of computer reading and writing control and information transmission. During the process of daily work, life, and study, mobile media is ubiquitous, and the interoperability of public opinion knowledge base groups of mobile media with communication and connection attributes is considered to be a module that needs to be strengthened [12]. From the perspective of the interoperability strategy of the past mobile media public opinion knowledge base group, the steps of monitoring before the use of the system, preventing during use, and eliminating hidden dangers after use should be mainly performed for the overall structure. During the use of the computer, media verification is required after the removable media is inserted. If the verification is passed, the next step of loading can be performed.

If the media verification is not passed, loading is directly prohibited. This is an important basis for mobile media protection. The media loading process is divided into two types: successful loading and failing loading. The next step of verifying the algorithm key operation can be performed only after successful loading, and if it fails, the operation is directly prohibited. After the verification algorithm key operation is successful, the verification service life is determined, and if it succeeds, the data can be read and written. If any step of the above process fails, the operation will be prohibited. The operation of writing data is more complicated than reading data, and the entire mobile media function is basically completed after reading. However, writing data also needs to be verified and write-protected in the subsequent process, which is divided into

two types: readable and nonwritable and readable and writable in the open state, as the case may be.

5. Instance Analysis of Interoperability of Multimedia Network Public Opinion Knowledge Base Group

The network public opinion event information is composed of network public opinion information data in various forms, different types, different platforms, and of different users. It describes the network public opinion events from various aspects such as content, attributes, and tags. Multiform and heterogeneous network social trends event information is divided into subdatabases with different structures, which is not conducive to the exploitation and discovery of network social trends knowledge. Therefore, it is necessary to cluster according to the tags and characteristics of Internet public opinion data. The network public opinion data belonging to the same event are stored in the network public opinion information database as the same data set. Support the subsequent use of information in the online public opinion knowledge base. In the geographic construction of the multimedia network, the data level and data structure of the multimedia network knowledge base have a great influence on the transmission of table correlations and correlation values in the heterogeneous database. The association of multiple libraries is detrimental to the interoperability effect of the multimedia network knowledge base group and the utilization of the public opinion data of the multimedia network. Please refer to Figure 2 for the data aggregation organization.

The system related to base group scheduling management shall be added to the reasonable resource allocation in the multimedia network knowledge base group and the interoperability between the sub-bases, different sub-base data levels, business levels, and sub-base functions need to be added to the base group control system for reasonable resource allocation and requirements, which makes each sub-base exert the greatest effect in the process of interoperability of the knowledge base group. Reasonable data distribution in the scheduling system can effectively and orderly carry out the interoperability of the warehouse group, reduce the reaction time of the warehouse group and improve the efficiency of multimedia network public opinion alarm and network public opinion knowledge generation. The scheduling control agency can organically organize the various elements and links of the interoperability activities of the base group, organize the base group according to the determined related tasks, and effectively carry out the interoperability of the base group. This is the monitoring and control system of the warehouse group. It is judged according to the current operation situation and expected changes of the warehouse group, and the decision-making and command are interoperating. In the actual construction process of the multimedia network knowledge base group, the construction mode, framework,

rules, and other contents of the existing sub-base shall be considered for the management control system. Similarly, the relevant standards of the sub-base that needs to be expanded in the future must be considered fully, necessitating long-term planning of a complete multimedia network knowledge base. The mechanism of schedule control is shown in Figure 3.

Mining multimedia network knowledge and providing knowledge services for network public opinion managers are the main tasks of the interoperability of the multimedia network knowledge base group. In the process of the interoperation of the warehouse group, the knowledge mining function is set up based on the requirements of public opinion supervision, and managers always hold hot events according to the conditions on the network as required. As high-risk events change and development changes, the multimedia network knowledge base group must be able to flexibly adjust the function settings and the framework of the warehouse group. In order to cope with the occurrence and changes of various types of public opinion events, supervision is required. The multimedia network public opinion knowledge base group sets the functions of the base group, the type, and quantity of data collection, the public opinion knowledge mining algorithm based on the demand feedback mechanism, which effectively provides public opinion managers with a comprehensive and multiangle multimedia network public opinion management solution and response mechanism in real time. In the process of interoperability, the modification of the feedback request will cause the fundamental problems of the function conversion and structure change of some sub-bases, and the corresponding impact may lead to changes in the related mode of the related sub-bases. The demand feedback mechanism is shown in Figures 4 and 5.

The algorithm matching mechanism needs the support of corresponding algorithms in the process of multimedia network knowledge discovery to generate geographic data of the network to generate knowledge. The algorithm matching mechanism can accurately generate Internet knowledge. The sub-base collaboration organization and the interactive service organization ensure the efficient and orderly interoperability between the sub-bases during the interoperability of the sublibraries of the multimedia network knowledge base group. The interoperability scheduling mechanism is used for the control system of the warehousing group, and the interoperability of the storage group is scheduled as the interoperability technical support of the knowledge base group. The demand feedback mechanism acts as a public opinion knowledge base group sub-base for multimedia networks, and the base group sub-base is updated through feedback adjustment functions to ensure that the overall function of the warehouse group is suitable for all stages of the development of network public opinion. The protocol matching mechanism acts on the data transmission process of the base group, forming a path between the sub-bases, and the base group is formed as a whole.

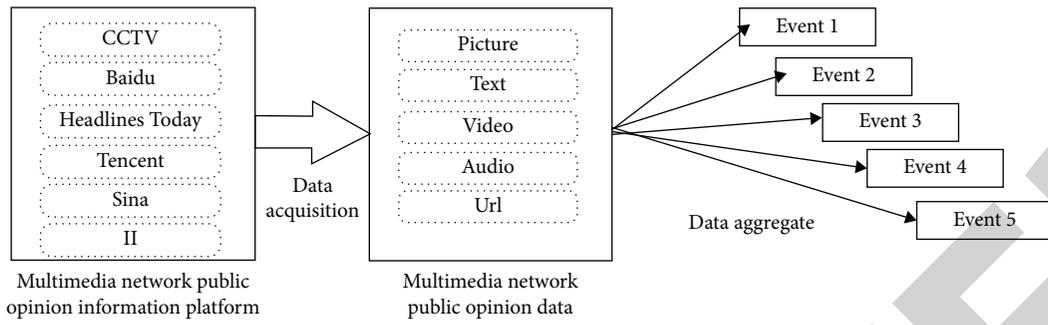


FIGURE 2: Multimedia network knowledge base group interoperability data summary mechanism.

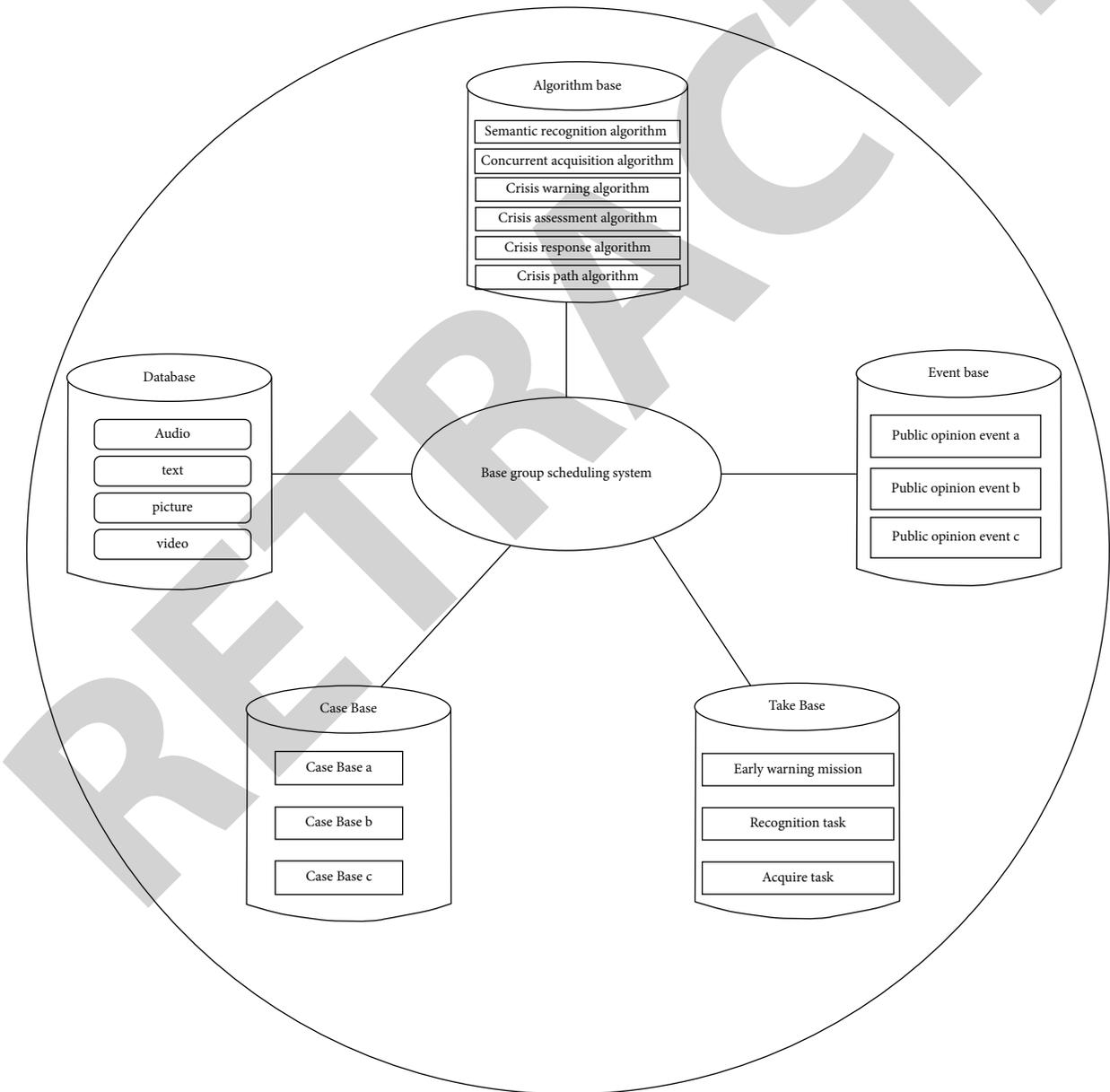


FIGURE 3: Interoperability scheduling control mechanism of multimedia network knowledge base group.

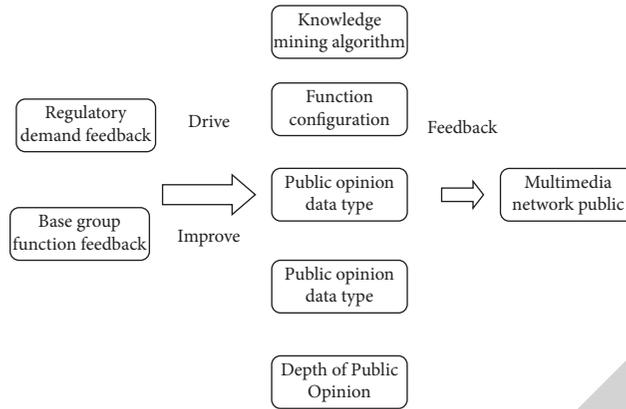


FIGURE 4: Multimedia network public opinion knowledge base group interoperability demand feedback mechanism.

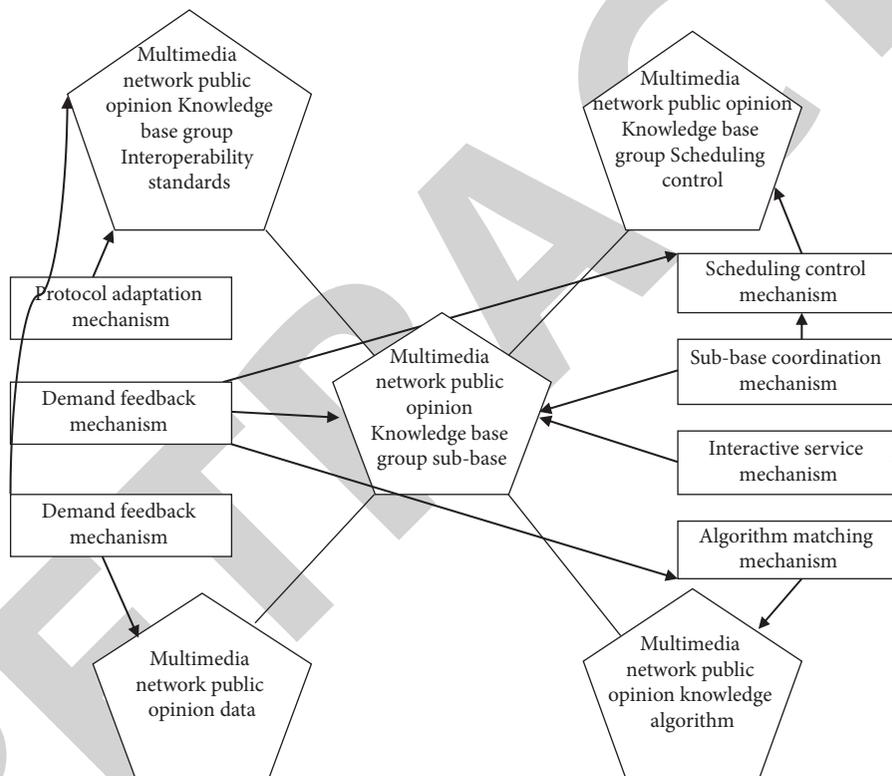


FIGURE 5: The relationship between the interoperable components and mechanisms of the multimedia network knowledge base group.

6. Conclusions

Based on the characteristics of the multimedia network knowledge base, an in-depth study and analysis of the important factors and mechanisms of the operations between the multimedia network knowledge base groups are conducted in this paper and are compared with the common mode of the traditional knowledge base. It has significant geographic characteristics of multimedia networks. Meanwhile, the in-depth analysis of the interoperability between multimedia network knowledge bases as technical support will help the network public opinion supervision department to respond and warn of sudden

public opinion events quickly, accurately, and timely, so as to effectively reduce the risk of sudden network public opinion, which reduces the cost of early warning and monitoring of the network.

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 declare no conflicts of interest.

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