Application of Quantification System for Website Quality Evaluation Based on AHP

Dr.Shekaina Justin
Associate Professor
Princess Nourah Bint Abdulrahman University
Kingdom of Saudi Arabia
Email: shekainajt@gmail.com

Abstract

The quantification system for sports action in competitive sports in the design of competition can effectively improve the standardization of the action. As there is great complexity in the implementation of competitive sports, it's difficult to deal with. The movement of human body belongs to a variety of complex multi-element problems, and there are many conditions for the movement, the production of human action needs effective combination of various pictures. However, affected by the influence of various factors and the interference of the site, it's difficult to design the quantization system of athletic athletes in competitive sports. In order to solve the above problems, artificial intelligence technology should be applied to the fuzzy mathematics technology, the method based on fuzzy mathematics can be used in the centralized analysis of all kinds of sports elements, and can deal with all kinds of motion characteristics by means of fuzzy processing; meanwhile, neural network technology is also needed, this technique can deeply analyze and recognize the movement, so as to improve the intelligence and the standardization of the quantification system of the sports action in the competitive sports. Travel sites and major sites in the tourism section in the next few years to the rapid development of more than 600, online tourism industry has become the emerging industry cluster with the highest technological content, fastest growing and most capital-intensive industries in the tourism industry. At present, scholars of domestic tourism e-commerce research mainly focused on the status quo, countermeasures, impact, classification, application, etc. and have not yet formed a systematic research system. For the e-commerce model of tourism website, the evaluation of website function, credit evaluation and customer satisfaction are the most important factors, but lack of comprehensive quality index system.

Keywords: e – commerce, AHP, Quality evaluation, motion quantification, quantification system, pattern recognition.

1. Introduction

1.1 Analytic Hierarchy Process (AHP)

Analytic Hierarchy Process (AHP) is a method to analyze and evaluate some things which are more complicated and have a more ambiguous problem [1,2]. It is the final program of the relevant factors of hierarchical settings, through the hierarchical level to establish the corresponding

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indicators, and finally for each indicator weight assignment, according to the weight and the score of each index, together with a certain mathematical calculation, you can draw a specific score for each program, and then you can choose the best program approach. Analytic Hierarchy Process is widely used; it has more applications in the field of system analysis, decision analysis and so on.

The difficulty of analytic hierarchy process is the establishment of two pairs of matrix. The establishment of two matrices is mainly based on the subjective judgment of experts and scholars, while subjective judgment of experts and scholars is limited by personal experience and knowledge accumulation degree, which increases the instability and inaccuracy of the establishment of two matrices and limits the objectivity of matrix construction. At the same time, it should be noted that the opinions of individual experts may not be able to give a reasonable opinion, which requires the wisdom of expert groups to make decisions. Therefore, for the establishment of two matrices, using Delphi method [3], that is, after a number of experts to modify the multi-round assignment, and finally determine the pairwise comparison matrix. So the establishment of two matrices is a difficulty in this paper.

The quantitative system of sports movements was mainly originated in Europe and the United States and other countries, the concept of quantification of competitive sports formed in the project of competitive sports as early as the beginning of the last century [4]. The quantification of sports action in competitive sports can effectively improve the standard of athletes' action and realize the standardization of sports movements, and improve the training ability of athletes [5]. With the upgrading of the computer level, at present, the movements of the athletes in the competitive sports events can be simplified and digitized with the assistance of the computer system [6]. Through the operation of the software, the difference between the actual movement of the athletes and the standard movement is analyzed, so that the athletes can be effectively guided in the course of sports events.

In the design of competitive sports, the quantitative system of sports action mainly uses fuzzy mathematics and neural network technology to systematically analyze and study complex movements, in this process, the complex movement of the athlete can be simplified by fuzzy mathematics, and the digitization of sports action can be realized. But in the course of the athlete's movement, the combination of neural networks is required as the fuzzy mathematics method needed more pictures to analyze and remember the simple movement, because the neural network had strong memory function and can record the complex movement of athletes, the whole movement of the athlete can be effectively analyzed by combining the fuzzy mathematics method [7].

1.2 Analysis of User’s Demand for Quantification System of Athletic Movements in Competitive Sports

In the design of quantification system of athletic movements in competitive sports, the waterfall model is used to design the model. The flow chart of the model is shown in figure 1. The main reason

of using this model is that the process of athletes' movement is complicated; waterfall model mainly supports the design of higher complexity system, and has a high effect on promoting software engineering. At the same time, in the later stage of maintenance and upgrading management of software system, the model has strong adaptability, and can facilitate the reasonable planning, cost control and periodic review of the latter model, as well as effectively promote the development of software engineering, so as to improve the quality of software's development.

Fig 1 Waterfall model

Based on the analysis of the waterfall model mentioned above, the functional requirements of the system are analyzed [8]. Firstly, users need to register and log in, in this process, users need to register the system, fill in their information, and realize the inquiry of information, and users can log in after the audit of the system is qualified [9]. Secondly, the user can query and record information after the login of system and the information can be modified and added, in the process, the model can be modified and management can be quantified. Thirdly, the system can achieve the input of system information, in this process, data during the course of the athlete's movement can be recorded, and data can be revised and deleted according to the actual effect on movement. Fourthly, the quantification of information is realized, on the basis of the original data, the athletes' movements can be quantified based on the model, and then the quantized data is processed, audited and evaluated, and the corresponding data results are stored. The fifth is the data inquiry, in this process; data query can be carried out during the training of athletes. In the analysis of performance and requirements of system, the unified management of each module of the system is realized mainly based on the server technology, and the expansion of the system is completed, so that the system has a strong management and security [10].

In order to ensure the security of the system in the process of later application, it's necessary to set the user's permissions, so that the use of users with different levels can be ensured, in this process, identification and verification of identity are required for users with different levels. In the login screen, the user's identity needs to be discerned. In the process of using the system, if the user

violates the operation and agreement, the systems will automatically pop-up error information to remind customers. In the process of quantitative design of athletic movements in competitive sports, the fuzzy mathematics is used to characterize the sports action, first of all, the human body model needs to be constructed; the human body consists mainly of limbs and joints. The composition of the limbs is shown in figure 2. In the whole model, the articulation between the limbs and the joints can guarantee the inheritance of movement, at the same time; the movements of the limbs can be used to sort out the overall hierarchy of movements, and finally weighted by the degree of influence of the overall motion. Each limb is sorted and linked according to the hierarchical relation [11]

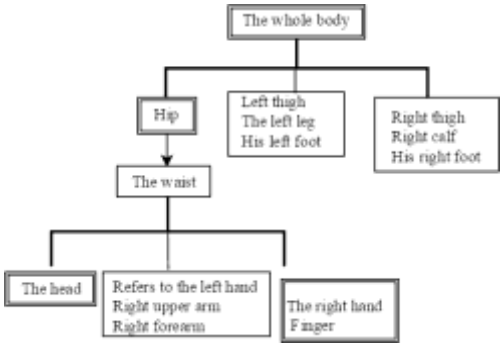

Fig 2 Structure diagram of the body movement element

In the process of design of the model, the method of fuzzy mathematics is mainly to classify the limbs in the image, which can be roughly divided into the larger limbs, the almost immobile limbs and the neglected limbs. Then, through the analysis of the athlete's characteristics of limb, the movement of the limbs is digitized based on the fuzzy mathematics method, and finally the recognition of the movement characteristics is carried out. On this basis, the function of model is designed, reasonable planning of function of each module and the transformation in the process of management are realized. Secondly, the system is implemented, in the implementation of the system, the B/S structure and TCP/IP protocol are mainly adopted, access to the terminal is carried through the server browser, in the end, and the user can invoke the task resources through the browser, thus reducing the cost of development.

2. Literature Survey

2.1 Function and Processing Flow of Quantification System of Sports Action Based on Competitive Sports

In competitive sports, a brief introduction to neural network technology is needed before the analysis of quantification system of sports action, the method is mainly able to analyze complex movements by memory, then each detail action is simplified and saved to the data set, so that the automatic learning can be achieved. Through the function of neural network, the comparison of action can be realized; the design of this system includes the input of data, knowledge learning and

matching, and the evaluation and output of result [12].

The flow chart of neural network learning method is shown in figure 3. Through neural network technology, the standard action can be digitized, and then the image is stored on the basis of this; in the later stage, the action pattern recognition is realized by learning function [13]. The method mainly includes the following aspects: the first is that it is necessary to adjust the standard data of inventory; the second is that the actions obtained by the system are compared and matched with the standard actions; the third is to adjust and correct the action according to the expert's opinions, so as to save the final data result.

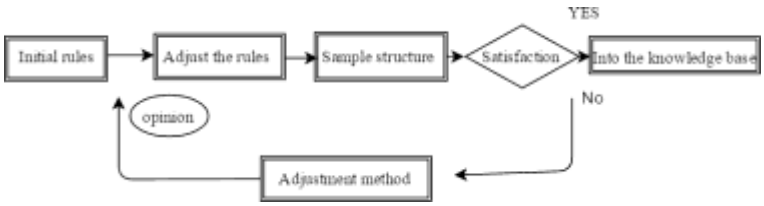

Fig 3 Schematic diagram of neural network learning method

In competitive sports, the quantitative analysis and recognition system of behavior of athletes mainly include the image processing system, image analysis system, and the extraction system of the athletes' movement characteristics, pattern recognition system and action pattern recognition system [14]. The flow chart of the specific system function is shown in **fig. 4**.

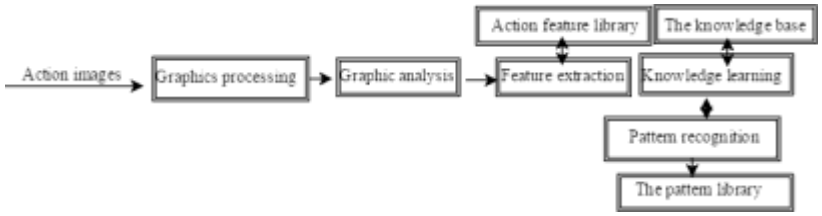

Fig 4 Flow chart of system function

Through the analysis of the flow chart of the function of the system, it can be seen that graphics processing in the flow chart of the system is mainly to input the picture of the athletes' movements directly into the software system of computer, in this process, it needs to be ensured that the image format of the transmission is consistent with the default picture format of the system, and then the picture is repaired and processed [15]. In the process of image acquisition, the captured pictures contain more clutter and objects that aren’t associated with the motion because of the effect of the surrounding environment and the function of the image collector, the picture needs the impurity treatment, the action memory pictures of sports are encoded, finally the processed pictures are saved to the picture library

Through the analysis of the flow chart of the function of the system, it can be seen that graphical

analysis of the flow chart of the system is mainly to correct the pictures obtained to ensure that the pictures processed are front elevations, then the athlete's physical map is converted into action line graph, the human model is transformed into limbs and joints according to the human model, and the entire action graph is simplified [16]. Through the analysis of the flow chart of the function of the system, it can be seen that the feature extraction in the flow chart of the system is mainly to fuzzily process the acquired characteristic image of the athletes, a set of limbs and nodes that are gained during the course of athlete's movement, each action is transformed into numbers, and the whole movement of the athlete is represented by various data. According to the analysis of the flow chart of the function of the system, the knowledge learned in the flow chart of the system is mainly to digital process the standard movements in the sports events, and the learning mechanism is designed according to the neural network approach. Through the comparative analysis of the movements and standard movements of various sports, the information obtained is stored in the knowledge base [17]. According to the analysis of the flow chart of the function of the system, the pattern recognition in the flow chart of the system is mainly to analyze the athletes' actual motion information, and then compare them with the standard action, the situation of sports action matching is obtained, finally the athletes' movements are corrected according to the difference between the athletes' actual actions and the standard movements.

It is also necessary to test the consistency of the judgment matrix. Test formula: CR = CI / RI. In the formula, CR is the random consistency ratio of the judgment matrix, CI is the generalconsistency index of the judgment matrix. RI is the average random consistency index of the judgment matrix, and the RI value of thejudgment matrix of 1 to 9 order is shown in **Table 1**.

Table 1 Consistency index

n	1	2	3	4	5	6	7	8	9
RI	0	0	0.85	0.90	1.12	1.24	1.32	1.41	1.45

3. Methods and Materials

3.1 Establishment of Quality Evaluation Index for Tourism E - Commerce Website

AHP hierarchical analysis is applied to construct a hierarchical structure of interrelated factors. From the construction of the overall goal evaluation system, to build five first-level indicators, and then from the five first-level indicators extend 22 secondary indicators. From the customer interface, select 8 indicators, from the perspective of the internal structure interface, select 12 indicators, starting from the partner interface, select 3 indicators. The overall index system frame diagram shown in **Table 2**

Table 2 The framework of index system

Core level	First levelindex	Secondary index
Customer interface	Product and service	convenient financial exchange
		supporting the quality of entertainment and leisure services and diversity
		reasonable price level
		taste and personalization of tourism products
		the quality marketing strategy of online information consulting service
		UI design
Internal structure	Financial aspects	market share
		business operating efficiency
		benefit of enterprise capital operation
		corporate liabilities
		net cash flow
		asset turnover
	Staff aspects	company culture
		compensation and benefits system
		promotion system
		personal promotion space
	Social value	enterprise visibility
		enterprise credibility
Partner interface	Partner	choose war alliance partners
		value network partner integration management
		partnership management

3.2 Determine the Index Weights

Delphi method is used to construct the pairwise judgment matrix. Through the eight enterprises from the management, applied economics experts and scholars in the field of business management and staffsurvey, access to the primary and secondary indexes of the two comparison matrix

3.2.1 Questionnaire design and distribution

Compiled the questionnaire based on the above-mentioned two-level evaluation index system, in accordance with the requirements of Delphi method, the questionnaire needs more than three rounds of expert advice collection, consider the time, a total of two rounds of testing. In the first round, experts assessed the importance of each index, according to their relative importance to score, a total of 8 questionnaires were distributed, in addition to a business manager for travel reasons failed to complete the survey, a total of 7 valid questionnaires were recovered, recovery rate 87.5%, withdraw the questionnaire for data processing. In the second round, all experts and scholars have given a reply, saidno objection to the results of the treatment, experts and scholars all agree on

it

3.2.2 Data processing

The expert opinion obtained by Delphi method needs to be analysed and processed statistically. For Delphi method data processing need to be analysed from three aspects of concentration degree of expert opinion, coordination degree and the positivity of the experts [18].

(1) Data processing of primary index

First, processing the primary index of data, apply SPSS. The processing results are shown in **Table 3**

Table 3 Statement of level 1

	N	**Minimum value**	**Maximum value**	**Mean**	**Standard deviation**	**Variance**	**Skewness**	
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Standard error
Compare scores1	7	3.00	5.00	4.2857	0.7559	.571	595	794
Compare scores2	7	2.00	4.00	3.0000	0.81650	.667	.000	794
Compare scores3	7	6.00	8.00	7.1429	.69007	.476	-.174	.794
Compare scores4	7	6.00	8.00	7.1429	.69007	.476	-.174	.794
Compare scores	7	2.00	4.00	3.1429	.69007	.476	-.174	.794
Compare scores	7	3.00	5.00	4.1429	.69007	.476	-.174	.794
Compare	7	4.00	6.00	5.0000	.81650	.667	.000	.794
scores7								
Compare scores8	7	1.00	3.00	2.1429	.69007	.476	-.174	.794
Compare scores9	7	1.00	3.00	2.0000	.81650	.667	.000	.794
Compare scores10	7	1.00	3.00	2.0000	.81650	.667	.000	.794
Valid N （list status）	7							

From the table can be drawn pairwise comparisons data between the various elements, and the standard deviation is smaller, indicating that the coordination of experts is better, after organizing obtained the two comparison matrix of the primary index, as shown in figure 5

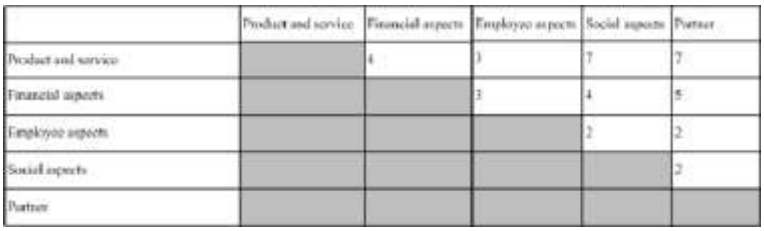

Fig 5 Comparison matrix of level 1

After obtained the pairwise comparison matrix, check the consistency of the matrix, through theYAAHP calculate that, CI=0.0468<0.1， meet the consistency requirements, and the data is reliable [19].

(2) Secondary index data processing

Using the same method, we can have obtained the pairwise comparison matrix of the secondaryindex.

a) Statistics and calculation for secondary index of products and servicesUsing SPSS make statistical, the results as shown in table 4

Table 4 Statement of product and service

	N	**Minimum value**	**Maximumvalue**	**Mean**	**Standard deviation**	**Variance**	**Skewness**	
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Standard error
Compare scores1	7	7.00	9.00	8.1429	.89974	.810	-.353	.794
Compare scores2	7	3.00	6.00	4.7143	1.11270	1.238	-.249	.794
Compare scores3	7	3.00	5.00	4.0000	1.00000	1.000	.000	.794
Compare scores4	7	1.00	4.00	2.2857	1.11270	1.238	.249	.794
Compare scores5	7	1.00	4.00	2.1429	1.06904	1.143	.772	.794
Compare scores6	7	2.00	5.00	3.2857	1.11270	1.238	.249	.794

Compare scores7	7	1.00	4.00	2.1429	1.21499	1.476	.414	.794
Compare scores8	7	1.00	3.00	2.2857	.75593	.571	-.595	.794
Compare scores9	7	4.00	7.00	5.0000	1.15470	1.333	.909	.794
Compare scores10	7	1.00	3.00	2.1429	.89974	.810	-.353	.794
Compare scores11	7	2.00	4.00	3.1429	.89974	.810	-.353	.794
Compare scores12	7	1.00	3.00	2.0000	.81650	.667	.000	.794
Compare scores13	7	4.00	7.00	5.2857	1.11270	1.238	.249	.794
Compare scores14	7	1.00	3.00	2.0000	57735	.333	.000	.794
Compare scores15	7	2.00	4.00	3.0000	1.00000	1.000	.000	.794
Compare scores16	7	2.00	4.00	3.1429	.69007	.476	-.174	.794
Compare scores17	7	1.00	3.00	1.8571	.89974	.810	.353	.794
Compare scores18	7	1.00	3.00	2.0000	.57735	.333	.000	.794
Compare scores19	7	2.00	5.00	3.2857	1.11270	1.238	.249	.794
Compare scores20	7	2.00	4.00	3.0000	57735	.333	.000	.794
Compare scores21	7	1.00	3.00	2.0000	.81650	.667	.000	.794
Valid N （list status）	7							

From the table can be drawn pairwise comparisons data between the various elements, after organizing obtained the pairwise comparison matrix of the various elements of the secondary index products and services, as shown in **Fig. 6**

Fig. 6 Comparison matrix of product and service

Through the YAAHP calculate that, CI=0.0458<0.1, meet the consistency requirements, and the data is reliable

b) Relevant calculations of the financial aspects

Table 5 Statement of finance

	N	**Minimumvalue**	**Maximumvalue**	**Mean**	**Standard deviation**	**Variance**	**Skewness**	
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Standard error
Compare scores1	7	2.00	5.00	3.2857	1.11270	1.238	.249	.794
Compare scores2	7	3.00	5.00	4.0000	.81650	.667	.000	.794
Compare scores3	7	4.00	7.00	5.4286	.97590	.952	.277	.794
Compare scores4	7	2.00	5.00	3.4286	.97590	.952	.277	.794
Compare scores5	7	1.00	3.00	2.1429	.69007	.476	-.174	.794
Compare scores6	7	1.00	4.00	2.1429	1.06904	1.143	.772	.794
Compare scores7	7	1.00	3.00	2.2857	.75593	.571	-.595	.794
Compare scores8	7	1.00	3.00	2.0000	57735	.333	.000	.794
Compare scores9	7	1.00	3.00	2.1429	.89974	.810	-.353	.794

Compare scores10	7	1.00	3.00	2.0000	.81650	.667	.000	.794
Compare scores11	7	2.00	4.00	2.8571	.89974	.810	.353	.794
Compare scores12	7	1.00	3.00	2.1429	.69007	.476	-.174	.794
Compare scores13	7	1.00	3.00	2.1429	.89974	.810	-.353	.794
Compare scores14	I 7	4.00	7.00	5.1429	1.06904	1.143	.772	.794
Compare scores15	7	3.00	5.00	4.0000	.81650	.667	.000	.794
Valid N （list status ）	7							

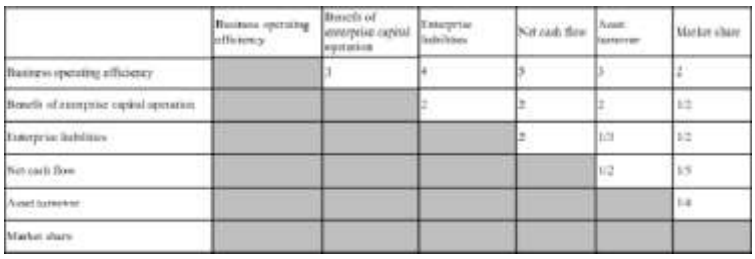

Fig. 7 Comparison matrix of finance

Through the YAAHP calculate that, CI=0.0476<0.1, meet the consistency requirements, and thedata is reliable

c) Relevant calculations of the employee aspects

Table 6 Statement of staff

	N	**Minimum value**	**Maximum value**	**Mean**	**Standard deviation**	**Skewness**	
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Standard error
Compare scores1	7	4.00	6.00	5.0000	.81650	.000	.794

Compare scores2	7	3.00	5.00	4.1429	.89974	-.353	.794
Compare scores3	7	3.00	7.00	5.0000	1.29099	.000	.794
Compare scores4	7	2.00	5.00	3.1429	1.06904	.772	.794
Compare scores5	7	1.00	4.00	2.0000	1.00000	1.400	.794
Compare scores6	7	1.00	3.00	1.8571	.89974	.353	.794
Valid N （list status）	7						

From the table sorting the two comparison matrix, the results are shown in figure 8:

	Company culture	Compensation and benefits system	Promotion system	Personal space to enhance
Company culture		1/5	1/4	1/5
Compensation and benefits system			3	2
Promotion system				1/2
Personal space to enhance				

Fig. 8 Comparison matrix of employee

CI=0.0366<0.1, meet the consistency requirements, and the data is reliable. Data calculation of the social valueTable 7 is the questionnaire results.

Table 7 Statement of social value

	N	**Minimumvalue**	**Maximumvalue**	**Mean**	**Standard deviation**	**Variance**	**Skewness**	
	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Statistics	Standard error
Compare scores1	7	2.00	5.00	3.1429	1.06904	1.143	.772	.794
Valid N （list status）	7							

From the above table, we obtain the pairwise judgment matrix as shown in figure 9:

	Enterprise visibility	Enterprise credibility
Enterprise visibility		1/3
Enterprise credibility		

Fig. 9 Comparison matrix of social value

d) Data calculation of the partner

The data processing results of the partners are shown in Table 8.

Table 8 Statement of partners

	N	**Minimumvalue**	**Maximumvalue**	**Mean**	**Standard deviation**	**Variance**	**Skewness**	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Standard error
Compare scores1	7	3.00	5.00	4.0000	.81650	.667	.000	.794
Compare scores2	7	2.00	5.00	3.1429	1.06904	1.143	.772	.794
Compare scores3	7	1.00	3.00	2.2857	.75593	.571	-.595	.794
Valid N （list status）	7							

	Strategic alliance partner selection	Upstream and downstream of the value chain as partners for integrated management	Partnership management
Strategic alliance partner selection		1/4	1/3
Upstream and downstream of the value chain as partners for integrated management			2
Partnership management			

Fig. 10 Comparison matrix of partners

CI=0.0176<0.1, meet the consistency requirements, and the data is reliable.At this point, the establishment of pairwise comparison matrix is complete [20-22].

Use the software to continue weighting all pairs of matrices and compute the results as shown in Table 9.

Table 9 Weighting figure of index system

First level index	Weight value	Secondary index	Weight value
		convenient financial exchange	0.3307

product and service	0.5089	supporting the quality of entertainment and leisure services and diversity	0.0421
		reasonable price level	0.0549
		taste and personalization of tourism products	0.0950
		quality of online manual information consultation service	0.2580
		Marketing strategy	0.1060
		UI design	0.1123
financial aspects	0.2443	market share	0.3623
		business operating efficiency	0.1425
		benefit of enterprise capital operation	0.9800
		corporate liabilities	0.0562
		net cash flow	0.1078
		asset turnover	0.2512
staff aspects	0.1209	company culture	0.0626
		compensation and benefits system	0.4629
		promotion system	0.1787
		personal promotion space	0.2958
social value	0.0730	enterprise visibility	0.2500
		enterprise credibility	0.7500
partner	0.0529	choose war alliance partners	0.1220
		value network partner integration management	0.5584
		partnership management	0.3196

4. Result Analysis and Discussion

In the design of quantification system of athletic movements in competitive sports, the system should be designed in detail during the design and implementation of it to improve the simplicity of the research

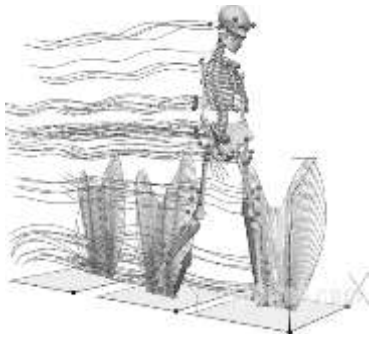

Fig. 11 The data of detector detection model simulation

In the design of the interface of the system, the main interface of the system can confirm the user's information, if the users' information is reviewed and approved, they can enter the operation interface of quantitative system; if the users login to the system for the first time, they need to register the system, and they can enter the system after the registration is successful. In the information input interface of system, uses need to select the participating test items, and there are hurdles, volleyball, basketball and other item in accordance with the test items. In order to increase the speed of input and the accuracy of input data, a menu bar is set with the selection of options in each fixed category. The query interface of this system can query the athletes' training data, the retrieval of information in this system can achieve simple retrieval and retrieval of multiple information, and the retrieval mainly uses fuzzy query to query information, which can effectively improve the speed of information inquiry

The information retrieval function is designed in this system, first of all, the retrieval methods include three kinds: simple retrieval, combination retrieval of multiple retrieval information and fuzzy retrieval, in simple search, users only need to click on the connection of the query, and the information will be filtered in the system; then, the system automatically searches for information based on the retrieval content; finally, in the web page, all the information related uses' inquiry is shown to the user. In combination retrieval of multiple retrieval information, users need to list a variety of retrieval information in terms of search condition one by one; the system will search and retrieve the information of data according to the retrieval requirements. The main method used in this process is to set up a retrieval boundary in the process of system retrieval, users provide retrieval criteria during retrieval, and then, in the query processing, the system transforms the user's retrieval condition into the SQL condition, "multiple" and "or" are used to link, and this retrieval method can realize the common retrieval of many kinds of information. In the process of fuzzy retrieval, retrieval information is searched mainly according to fuzzy retrieval methods, at this point, the main retrieval data is retrieved by using Select statements, the retrieval content and the specific methods are blurred because the retrieval address is ambiguous. In this process, fuzzy matching is mainly used to retrieve data.

Through the analysis and design of the function of the above system, finally, functional testing of the

system is required to understand whether the system can meet the requirements. In the design of quantification system of athletic movements in competitive sports, its main workload is done on the web server, due to the complexity of the user's class, it's necessary to carry out strict stability testing in the process of submitting information, so as to ensure the stability and security of the system. To this end, the system needs to be tested at three levels. First of all, after the completion of the system programming, the program module needs to be tested to ensure the effective connection between each module of the system, and to avoid interference between each system; secondly, the overall function of the system is tested, finally, the test system will be submitted to user units for use. In the process of use, there is a user test to discern the reasonableness of the system.

5. Conclusion

This paper first uses analytic hierarchy process (AHP) to analyse the primary and secondary indexes of tourism e-commerce website model. Then Delphi method is used to establish the pairwise judgment matrix for the first and second level indexes. The Delphi method is used to analyse the collected data and SPSS software is used to analyse the data. After establishing the pairwise comparison matrix, we use YAAHP to carry on the complex matrix computation, thus obtains the weight coefficient of each evaluation index. At this point, tourism e-commerce model of quality evaluation index system is completed, it including the first and second level of the detailed content of the index system and the weight of the indicators assigned. The evaluation system can be used to evaluate the quality of tourism e-commerce. In the design of quantification system of athletic movements in competitive sports, the model was established according to the analysis of requirement to improve the accuracy of the quantification system, and the whole system was verified and applied through the overall function design of system, as well as the training efficiency of athletes was effectively improved, and the effect of sports training was promoted through the application of system in this the model. Based on this system, the detection of motion behavior can be carried out in real time, so as to correct the irregular behavior in a timely manner, the system is convenient and fast, and the athletes' behavior can be monitored in a timely manner because of its strong timeliness. The system can realize the real-time detection of athletes' sports events, and the whole process of detection can realize the process-oriented, so that the coach is liberated from the complicated affairs, the personnel cost is reduced to the utmost, and the training effect is improved. Through the design and the research of application, the continuous and thorough exploration of the system, the rapid and stable development of competitive sports can be effectively guided and promoted. However, the system is only suitable for competitive sports, but not suitable for other sports, such as water projects, therefore, in the later stage of the design of software system, the system should be gradually optimized and upgraded, so as to improve its scope of application.

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