Research on the Application of Modern Technology in the Display Scene of Guizhou Provincial Geological Museum

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Abstract: This study found through a questionnaire survey that contemporary technology has become a key tool for improving exhibition effectiveness and enhancing science education in the Geological Museum of Guizhou Province. The use of virtual reality technology can provide visitors with a more immersive sightseeing experience, significantly enhancing the attractiveness and interactivity of museums; After applying digital display technology, geological knowledge has become clearer and easier to understand; The intelligent navigation system not only provides personalized guidance services for tourists, but also greatly enhances the convenience of the visiting experience. This study also delves into the potential benefits of modern technology in the fields of geological museum exhibition design, popular science education, and cultural exchange. At the same time, suggestions are provided to further promote the application of modern technology in the Guizhou Geological Museum.

1. Introduction

1.1 Literature Review

Huang Li (2021) believes that virtual reality interactive art can effectively update the interactive form of art itself and further enrich people's perception of the overall form of artistic expression[1]. Chen Tianlun (2022) conducted research on the development trend of the construction and management of digital museums in the future, aiming to promote the combination of AR and VR technology with digital museums and optimize the design and construction of museums[2]. Song Changcheng (2018) mentioned that the application of virtual reality technology in exhibition design can improve display effect, increase interactive experience, provide more information and educational content, and improve management efficiency[3]. Zhang Bolin (2023) mentioned the importance of establishing digital exhibition information platform, constructing "Internet +" online exhibition model, and training high-quality exhibition talents in China's exhibition industry, and put forward suggestions for the long-term development of China's exhibition industry[4]. Zhou

Jinglong (2020) believes that the construction of many smart exhibition venues adopts "digital twin" technology, and at the same time, it is necessary to improve the cognition of the management team and restructure the business process and management system in combination with digital transformation, so as to achieve high-quality management of smart exhibition halls[5]. Chen C. (2019) wrote that the rapid development of information technology enables exhibition design to develop into a more efficient two-way interactive mode and use physical environment layout to display multidimensional virtual space[6].

2. Research Methods and Data Sources

2.1 Research Methods

The research will adopt the research idea of "theoretical overview - analysis of the current situation - raising questions - solving problems", and ask the audience to score and evaluate the application of science and technology in the geological museum and the experience effect through a questionnaire, and finally reach a conclusion through the analytic hierarchy process.

2.1.1 Questionnaire design

A total of 200 questionnaires were distributed in response to visitors' questions about the application of science and technology and the design of experience effects in the Geological Museum.

2.1.2 APH analytic hierarchy process was used to analyze the survey results

APH hierarchical analysis was carried out on the survey results of the "Questionnaire (2) Hierarchical analysis", and the modern scientific and technological equipment and reasons that visitors thought would provide the most help for the exhibition were obtained.

① Determine the hierarchy
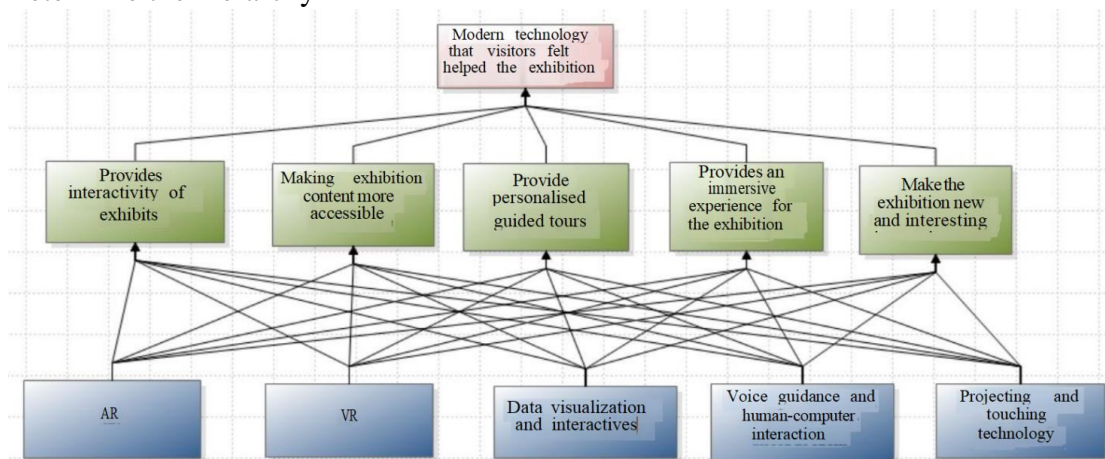
Figure 1: Determine the hierarchy

As shown in the figure 1 , the target layer is constructed respectively: the modern scientific and technological equipment that visitors think will provide the most help for the exhibition; Criterion layer: The application of modern science and technology improves the interactivity of the exhibits, makes the contents of the exhibition easier to understand, provides an immersive experience for the exhibition, makes the exhibition novel and interesting, and provides visitors with personalized tour services to meet the needs and interests of different visitors; Solution layer: AR, VR, data

visualization and interaction technology, intelligent voice navigation and human-computer interaction, interactive projection and multi-touch technology.

Through questionnaires, each of the influential elements at the same level is tested to determine their importance. The evaluation criteria are broken down into nine levels, with values 9, 7, 5, 3, and 1 representing critical, very important, relatively important, slightly important, and equally important, respectively, while values 8, 6, 4, and 2 are used to indicate that their importance is in the middle of the adjacent levels.

② Establish indicator weights

The questionnaire was designed based on AHP, and the 1-9 scale method was used to obtain the relative importance values of each factor to construct a judgment matrix.

2.1.3 Data Source and Analysis

① Modern scientific and technological equipment considered by visitors to provide the most help for the exhibition in Guizhou Geological Museum, the consistency ratio: 0.0257; The weight of "modern scientific and technological equipment in Guizhou Geological Museum that visitors think will provide the most help for the exhibition": 1.0000; λmax: 5.1153, as shown in the table 1.

Table 1: Modern scientific and technological equipment providing the most help for the exhibition

The modern scientific and technological equipment that visitors in the museum consider to be the most helpful for the exhibition	Improve the interactivity of the exhibits	Make the content of the exhibition easier to understand	Personalized guided Tours are provided	Provides an immersive experience for the exhibition	Make the exhibition new and interesting	Wi
Improve the interactivity of the exhibits	1	2	3	2	1	0.2803
Make the content of the exhibition easier to understand	0.5	1	2	0.5	0.3333	0.1218
Personalized guided Tours are provided	0.3333	0.5	1	0.3333	0.25	0.074
Provides an immersive experience for the exhibition	0.5	2	3	1	0.3333	0.1753
Make the exhibition new and interesting	1	3	4	3	1	0.3485

② We should improve the interactive exhibits, as the consistency ratio is 0.0059, and the weight of "modern scientific and technological equipment in Guizhou Geological Museum considered by visitors to provide the most help for the exhibition" is 0.2803, with a λmax of 5.0264, as shown in the table 2.

③ The organizer of the exhibition should make the exhibition content easier to understand, with a consistency ratio of 0.0618. The weight of "modern scientific and technological equipment that visitors in Guizhou Geological Museum think will provide the most help for the exhibition" is

0.1218, and the λmax is 5.2770, as shown in the table 3.

Table 2: Modern scientific and technological equipment improving the interactive exhibits

Improve the interactivity of the exhibits	AR	VR	Data visualization and interaction technology	Intelligent voice navigation and human-computer interaction	Interactive projection and multi-touch technology	Wi
AR	1	1	3	2	2	0.301
VR	1	1	3	2	2	0.301
Data visualization and interaction technology	0.3333	0.3333	1	1	1	0.1194
Intelligent voice navigation and human-computer interaction	0.5	0.5	1	1	1	0.1394
Interactive projection and multi-touch technology	0.5	0.5	1	1	1	0.1394

Table 3: Modern scientific and technological equipment making the exhibition content easier to understand

Make the content of the exhibition easier to understand	AR	VR	Data visualization and interaction technology	Intelligent voice navigation and human-computer interaction	Interactive projection and multi-touch technology	Wi
AR	1	2	4	2	3	0.3654
VR	0.5	1	4	2	2	0.2615
Data visualization and interaction technology	0.25	0.25	1	1	2	0.1181
Intelligent voice navigation and human-computer interaction	0.5	0.5	1	1	3	0.1674
Interactive projection and multi-touch technology	0.3333	0.5	0.5	0.3333	1	0.0876

④ The service provided by the museum offers personalized tour service, with a consistency ratio of 0.0655. The weight assigned to "modern scientific and technological equipment in Guizhou Geological Museum that visitors think will provide the most help for the exhibition" is 0.0740, and the λmax value is 5.2935, as shown in the table 4.

Table 4: Modern scientific and technological equipment providing personalized tour service

Personalized guided Tours are provided	AR	VR	Data visualization and interaction technology	Intelligent voice navigation and human-computer interaction	Interactive projection and multi-touch technology	Wi
AR	1	3	2	2	4	0.3786
VR	0.3333	1	3	1	3	0.2142
Data visualization and interaction technology	0.5	0.3333	1	0.3333	0.5	0.092
Intelligent voice navigation and human-computer interaction	0.5	1	3	1	2	0.208
Interactive projection and multi-touch technology	0.25	0.3333	2	0.5	1	0.1072

⑤ The exhibition provides an immersive experience, with a consistency ratio of 0.0119. The weight of "modern scientific and technological equipment in Guizhou Geological Museum considered by visitors to provide the most help for the exhibition" is 0.1753, and λmax is 5.0535, as shown in the table 5.

Table 5: Modern scientific and technological equipment providing an immersive experience

Provides an immersive experience for the exhibition	AR	VR	Data visualization and interaction technology	Intelligent voice navigation and human-computer interaction	Interactive projection and multi-touch technology	Wi
AR	1	1	4	3	2	0.3269
VR	1	1	4	2	2	0.2996
Data visualization and interaction technology	0.25	0.25	1	0.3333	0.5	0.0704
Intelligent voice navigation and human-computer interaction	0.3333	0.5	3	1	1	0.1533
Interactive projection and multi-touch technology	0.5	0.5	2	1	1	0.1498

⑥ The evaluation team or organizer should make the exhibition novel and interesting, with a consistency ratio of 0.0403. Additionally, the weight of "modern scientific and technological equipment in Guizhou Geological Museum considered by visitors to provide the most help for the exhibition" is 0.3485, and the maximum eigenvalue (λmax) of the evaluation matrix is 5.1804, as

shown in the table 6.

Table 6: Modern scientific and technological equipment making the exhibition novel and interesting

Make the exhibition new and interesting	AR	VR	Data visualization and interaction technology	Intelligent voice navigation and human-computer interaction	Interactive projection and multi-touch technology	Wi
AR	1	1	2	3	1	0.2655
VR	1	1	3	2	2	0.3033
Data visualization and interaction technology	0.5	0.3333	1	2	1	0.1505
Intelligent voice navigation and human-computer interaction	0.3333	0.5	0.5	1	1	0.1163
Interactive projection and multi-touch technology	1	0.5	1	1	1	0.1644

The relative importance value was input into the analytic hierarchy process (AHP) software Yaahp to conduct consistency test for evaluation factors at each layer and establish the weight of indicators at each layer, as shown in the following table 7 and table 8:

Table 7: The ranking weight of the factors to the decision goal in the scheme layer

Alternative plan	weight
AR	0.3068
VR	0.2903
Intelligent voice navigation and human-computer interaction	0.1423
Interactive projection and multi-touch technology	0.1412
Data visualization and interaction technology	0.1195

Table 8: The ranking weight of the factors in the first intermediate layer on the decision goal

Intermediate layer element	weight
Make the exhibition new and interesting	0.3485
Improve the interactivity of the exhibits	0.2803
Provides an immersive experience for the exhibition	0.1753
Make the content of the exhibition easier to understand	0.1218
Personalized guided Tours are provided	0.074

3. According to the weights of the scheme layer and the first intermediate layer, the conclusion can be drawn

In the scheme layer, AR and VR are given a high weight of 0.3068 and 0.2903 respectively, which indicates that they have a greater influence on the realization of decision goals. Intelligent voice navigation and human-computer interaction, interactive projection and multi-touch technology, and data visualization and interaction technology also have a certain weight, respectively, but relatively low. In the first element of the middle layer, making the exhibition novel and interesting and improving the interaction of the exhibits are given higher weights, 0.3485 and 0.2803 respectively. This suggests that these elements play an important role in the audience's visit. In addition, providing an immersive experience for the exhibition and making the content of the exhibition easier to understand also has a certain weight, while providing personalized tour services has a lower weight.

4. Recommendations

4.1 Strengthening the application of technology

The exhibition design strengthens the use of AR, VR and other technologies to design innovative and interesting exhibits display ways to enhance the interactive nature of the exhibition. We introduce real-time interactive elements, increase the immersive experience and easy-to-understand exhibition content, and enhance the interest of the exhibition.

We can introduce real-time interactive elements, increase the immersive experience and easy-to-understand exhibition content, and enhance the interest of the exhibition.

It is necessary to always keep an eye on the latest technological innovations and to keep current with existing research equipment.

4.2 Improving personalized tour services

Exhibition design can realize personalized tour services through intelligent technology, such as providing customized exhibition routes or personalized interpretation services according to the audience's interest points, to improve the audience's participation and experience quality.

4.3 Strengthen user training and guidance

We should strengthen user training and guidance, provide concise instructions for use, set up special staff or volunteers to provide on-site help, and better disseminate geological knowledge and promote cultural exchanges.

5. Conclusion

The use of modern technology in Guizhou Geological Museum was positively evaluated by the participants. Participants generally agreed that the application of modern technology can enhance the visiting experience and make the exhibition more lively and interesting. Most participants found the modern technology application relatively easy to operate, indicating that the museum has considered user friendliness in its design and implementation, making it easier for visitors to participate in and experience the exhibition content. Museums need to continuously optimize their technological equipment and applications. Some participants held a general evaluation on the effect of information transmission, indicating that there is still room for improvement in the design of

display content and interactive interface, and the effect of information transmission can be improved by optimizing the display mode and increasing the interest. It is necessary to cooperate with scientific research institutions and universities to enrich the display content with professional knowledge and technical support, and improve the academic level and attractiveness. We aim to improve the level of geological science education through continuous innovation, strengthening external cooperation, improving the effectiveness of information transmission, and strengthening user training measures, in order to meet the growing needs of the audience.

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Appendix Questionnaire

Dear audience members, thank you for participating in this survey to understand your views on the application of science and technology in Guizhou Provincial Geological Museum. Please fill in the following questions based on your actual experience and feelings. Thanks for your cooperation!

(1) Basic information

1) Your gender:

A. Male

B. Women

2) Please fill in your age:

A. Under 18 years old

B. Ages 18-30

C.31-45 years old

D.46-60 years old

E. Over 60 years old

(2) Hierarchical analysis

The questionnaire aims to assess how exhibitors measure the relative importance of various advanced technology elements that affect the effectiveness of exhibitions. This questionnaire design adopts the principle of Analytic Hierarchy Process (AHP), that is, the factors of the same level are compared one by one. Evaluation criteria are divided into nine levels, according to the indicators 9, 7, 5, 3, 1 respectively represent critical, very important, relatively important, slightly important, equally important; The scores of 8, 6, 4 and 2 are between the two adjacent levels. The scoring unit for the left row indicates that the element in the right row is more critical than the element in the right row, and vice versa indicates that the element in the right row is more critical than the element in the left row. You can choose the corresponding scoring cell to reflect your judgment according to your personal opinion.

1) What is the relative importance of the following pairwise comparison factors to the "modern technology that visitors consider to be the most helpful to the exhibition"？as shown in the diagram1

A								Importance comparison									B
Provides interactivity of exhibits	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Make the content of the exhibition easier to understand
Provides interactivity of exhibits	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Personalized guided Tours are provided
Provides interactivity of exhibits	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Provides an immersive experience for the exhibition
Provides interactivity of exhibits	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Make the exhibition new and interesting
Make the content of the exhibition easier to understand	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Personalized guided Tours are provided
Make the content of the exhibition easier to understand	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Provides an immersive experience for the exhibition
Make the content of the exhibition easier to understand	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Make the exhibition new and interesting
Personalized guided Tours are provided	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Provides an immersive experience for the exhibition
Personalized guided Tours are provided	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Make the exhibition new and interesting
Provides an immersive experience for the exhibition	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Make the exhibition new and interesting

Diagram 1 The relative importance of the following pairwise comparison factors to the "modern technology that visitors consider to be the most helpful to the exhibition"

2) What is the relative importance of the following pairwise comparison elements for "enhancing the interactivity of the exhibits"?as shown in the diagram2

A								Importance comparison									B
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	VR
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Data visualization and interaction technology
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Intelligent voice navigation and human-computer interaction
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology
VR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Data visualization and interaction technology
VR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Intelligent voice navigation and human-computer interaction
VR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology
Data visualization and interaction technology	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Data visualization and interaction technology
Data visualization and interaction technology	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology
Intelligent voice navigation and human-computer interaction	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology

Diagram 2 The relative importance of the following pairwise comparison elements for "enhancing the interactivity of the exhibits"

3) What is the relative importance of the following pairwise comparison elements for "making the exhibition content easier to understand"?as shown in the diagram3

A								Importance comparison									B
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	VR
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Data visualization and interaction technology
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Intelligent voice navigation and human-computer interaction
AR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology
VR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Data visualization and interaction technology
VR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Intelligent voice navigation and human-computer interaction
VR	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology
Data visualization and interaction technology	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Intelligent voice navigation and human-computer interaction
Data visualization and interaction technology	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology
Intelligent voice navigation and human-computer interaction	◄9	◄8	◄7	◄6	◄5	◄4	◄3	◄2	1	2►	3►	4►	5►	6►	7►	8►	9►	Interactive projection and multi-touch technology

Diagram 3 The relative importance of the following pairwise comparison elements for "making the exhibition content easier to understand"

4) What is the relative importance of the following pairwise comparison factors for "providing personalized tour services"?as shown in the diagram4

A	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	B
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	VR
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Data visualization and interaction technology
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Data visualization and interaction technology
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
Data visualization and interaction technology	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
Data visualization and interaction technology	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
Intelligent voice navigation and human-computer interaction	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology

Diagram 4 The relative importance of the following pairwise comparison factors for "providing personalized tour services"

5) What is the relative importance of the following pairwise comparison elements to "providing an immersive experience for the exhibition"?as shown in the diagram5

A	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	B
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	VR
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Data visualization and interaction technology
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Data visualization and interaction technology
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
Data visualization and interaction technology	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
Data visualization and interaction technology	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
Intelligent voice navigation and human-computer interaction	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology

Diagram 5 The relative importance of the following pairwise comparison elements to "providing an immersive experience for the exhibition"

6) What is the relative importance of the following pairwise comparison factors for "making the exhibition new and interesting"?as shown in the diagram6

A	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	B
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	VR
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Data visualization and interaction technology
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
AR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Data visualization and interaction technology
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
VR	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
Data visualization and interaction technology	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Intelligent voice navigation and human-computer interaction
Data visualization and interaction technology	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology
Intelligent voice navigation and human-computer interaction	◀9	◀8	◀7	◀6	◀5	◀4	◀3	◀2	1	2▶	3▶	4▶	5▶	6▶	7▶	8▶	9▶	Interactive projection and multi-touch technology

Diagram 6 The relative importance of the following pairwise comparison factors for "making the exhibition new and interesting"