Hindawi
Wireless Communications and Mobile Computing
Volume 2023, Article ID 9823134, 1 page
https://doi.org/10.1155/2023/9823134

Retraction

Retracted: Application of Interaction between Art and Intelligence Technology in Modern Exhibition Halls

Wireless Communications and Mobile Computing

Received 19 September 2023; Accepted 19 September 2023; Published 20 September 2023

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] X. Ye, "Application of Interaction between Art and Intelligence Technology in Modern Exhibition Halls," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 9735286, 10 pages, 2022.

Hindawi
Wireless Communications and Mobile Computing
Volume 2022, Article ID 9735286, 10 pages
https://doi.org/10.1155/2022/9735286

Research Article

Application of Interaction between Art and Intelligence Technology in Modern Exhibition Halls

Xuan Ye

College of Art and Design, Zhengzhou University of Technology, Zhengzhou 450000, Henan, China

Correspondence should be addressed to Xuan Ye; 20141006@zzut.edu.cn

Received 3 August 2022; Revised 26 August 2022; Accepted 6 September 2022; Published 23 September 2022

Academic Editor: Akshi Kumar

In order to further improve the user experience of interactive products that is the development trend of interaction design, a modern art interaction design method based on artificial intelligence technology was proposed. The method promoted the innovation of modern art, endowed the modern exhibition halls with more forms of expression, brought users a more intelligent interactive experience, and provided a new carrier for modern art interaction design. Through experiments, it was found that the people's perception of Chinese product design could only reach 62%. And 45% of the people were eager to know modern art. After the interview, 79.2% of the people thought that modern life needed the integration of technology and art. And 13.1% of the people thought it could be considered. Through experiments, it was found that the use of visual design symbols in line with modern people's aesthetics could create modern art in line with the people's aesthetics, realize the interaction between art and intelligence technology, and promote the development of artificial intelligence technology, which laid a solid foundation for the future interaction design of modern art.

1. Introduction

Artificial intelligence technology is a new technology in the modern context. With the continuous improvement of living standards, knowledge is constantly entering people's lives, changing people's way of life and communication. Based on the new concepts of Internet + and intelligence +, artificial intelligence not only has an impact on the field of production but also is an innovative process in the field of art. In essence, modern art interaction design is to form a new communication orientation through the mutual combination of art and technology, break the traditional meaning of the design to display the artistic connotation, expand the visual design, and improve the spiritual level of people to enhance visual communication. Through the application of virtual and realistic technologies, image capture, cloud intelligence, and other intelligence technologies, the visual design language in line with the form is adopted to create a modern exhibition hall in line with the audience's experience, improve the sense of novel and flexible visual experience, and present to the audience a more intelligent visual design [1, 2].

First, what is artificial intelligence? Artificial intelligence (AI) refers to intelligence that possesses, simulates, and extends human consciousness to perform functions such as cognition, discrimination, analysis, and judgment. Mimicking humans' ability to learn and apply knowledge enables machines to perform tasks previously only possible for humans. Artificial intelligence is aimed at helping people solve a wide range of problems in nature, production and life, and technological changes. Artificial intelligence is considered to be the fourth transformative technology after machine and data technology, which is currently mainly applied in fields including smart homes, service robots, mobile devices, autonomous driving, and other industries (finance, security, and medical care). AI can understand the environment, explore patterns, understand, and make decisions. Revenue growth such as mobile Internet is slowly disappearing, and the new environment of product innovation makes intelligence the basis for industry transformation. And the era of knowledge enlightenment has come and entered all areas of life [3, 4].

The evolution of computing platforms and technologies is one of the most important advances in human-computer

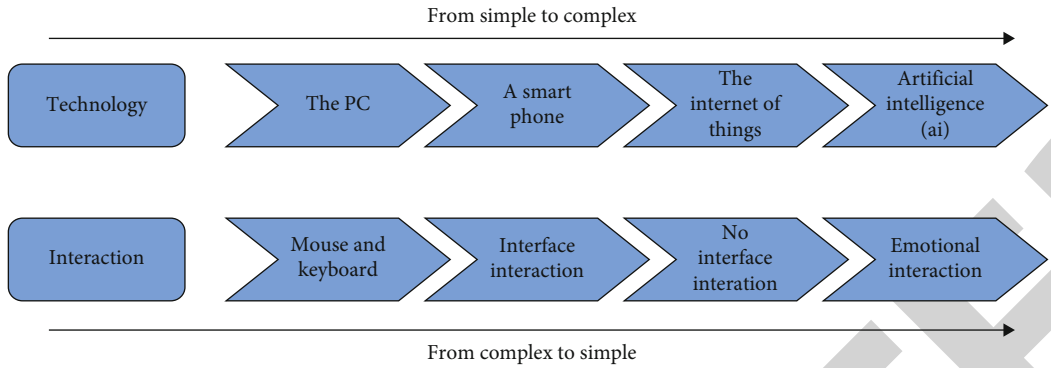

Figure 1: Different human-computer interaction modes based on the technical background.

interaction. Since the popularization of personal computers, the main ways of human-computer interaction have gone through the stages of the mouse and keyboard, graphical interface, intelligent touch screen, and so on. And the interactive bandwidth presented by each stage has increased compared with that of the previous level (see Figure 1). We are in the stage of multichannel and multimode intelligent human-computer interaction and the era of migration from the Internet to the Internet of Things and artificial intelligence. Computers are embedded in every aspect of our lives. With the advancement of technology in the field of intellectual property and the improvement of human-computer relations, the depth of human-computer interaction has further increased [5, 6].

Design, especially collaborative design, is related to technological development. From the interaction of data to behavior and thinking, the depth of human-computer interaction is increased. However, from the perspective of intelligence, cognitive intelligence can be further divided into "weak intelligence" (system value), "super artificial intelligence," and "strong artificial intelligence." "Humanized systems," according to separate research, are shown in Figure 2.

2. Human-Computer Interaction Concept and Design

2.1. Human-Computer Interaction. Human-computer interaction refers to the process in which people and systems interact with each other (see Figure 3). The first is from human output to computer input. After processing information, humans output it through interactive behavior. The system accepts these inputs through controls and causes changes in the system state [7, 8]. Finally, the computer output is converted into human input. The system will display the changed system status. Through the sensory organs, humans take this information as input, trigger the information processing of the human brain, and trigger the next output. Human-computer interaction uses technology and constraints to solve specific "conversational" problems.

2.2. Research on Human-Computer Interaction Design. There are three main directions or perspectives for the research of human-machine interaction. The first is machine-centric interaction research (how robotics engineers view human-computer interaction). Most robot-centered research studies focus on robots' perception, cognition, and related actions to humans [9, 10]. Human-computer interaction requires the use of artificial intelligence, including the decision tree, random forest algorithm, logistic regression, SVM, naive Bayes, K-nearest neighbor algorithm, K-means algorithm, AdaBoost algorithm, neural network, and Markov algorithm. Decision trees are classified according to certain characteristics and each question. The data is sorted into two categories in order, and then the question continues. These questions are learned from existing data. And when new data is put in, the data can be divided into appropriate leaves according to the problem of the tree. M matrices are randomly generated by S,

$$S = \left[\begin{array}{cc|c|c} f_{A1} & f_{B1} & f_{C1} & C_1 \\ \vdots & & \vdots & \\ f_{\mathrm{AN}} & f_{BN} & f_{CN} & C_N \end{array}\right]. \tag{1}$$

Thus, the M submatrix,

$$S = \left[\begin{array}{cc|c|c} f_{A12} & f_{B12} & f_{C12} & C_{12} \\ \vdots & & \vdots & \\ f_{A15} & f_{B15} & f_{C15} & C_{12} \end{array}\right], \tag{2}$$

, is generated randomly to obtain M classification results, which are taken as the final prediction results.

Logistic regression is when the prediction target is a probability, and the range needs to be greater than or equal to 0 and less than or equal to 1. At this time, the simple linear model cannot do this because when the range is not within a certain range, the range also exceeds the specified interval. Therefore, when the model meets two conditions, greater than or equal to 0 and less than or equal to 1, the corresponding coefficient of model P can be obtained by the formula.

$$\begin{aligned} P &= \exp\left(\beta_0 + \beta_1 \mathrm{age}\right) = e^{\beta_0 + \beta_1 \mathrm{age}}, \\ P &= \frac{\exp\left(\beta_0 + \beta_1 \mathrm{age}\right)}{\exp\left(\beta_0 + \beta_1 \mathrm{age}\right) + 1} = \frac{e^{\beta_0 + \beta_1 \mathrm{age}}}{e^{\beta_0 + \beta_1 \mathrm{age}}} + 1. \end{aligned} \tag{3}$$

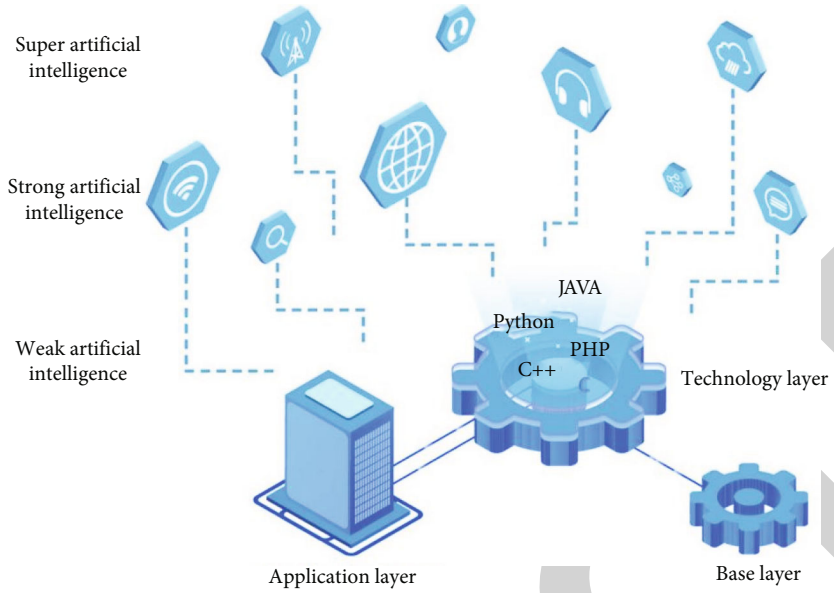

Figure 2: Classification of artificial intelligence.

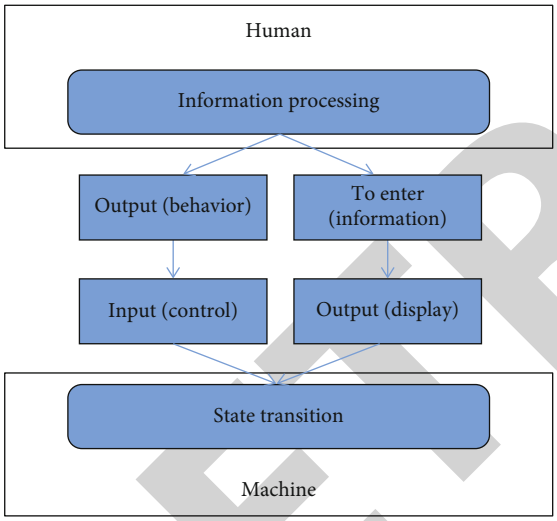

Figure 3: Human-computer interaction process.

2.3. Needs Based on Human-Computer Interaction Design. Maslow believes that need comes from physiology as well as psychology. Need is the true inner essence of man. The process was designed to meet the needs of different levels, with different functions and effects [11, 12]. By applying the needs pyramid to the field of user experience design, as shown in Figure 4, the needs from the bottom design to the middle design to the top design can be obtained.

Therefore, the pyramid model of human needs should be included in the product design process of human-computer interaction, which is based on social interaction [13, 14]. Table 1 is the case of human-computer social interaction information with intelligent speakers. According to the content of the table, speakers are highly evaluated in appearance, feedback efficiency, music playing function, and overall interaction effect, but their requirements for wake-up flexibility and interaction fluency have not been fully met. During the scoring process, most of the users like the design of the volume bar with color which can be replaced by finger sliding.

3. Artificial Intelligence Driving the Development of Product Interaction Technology

The concept of human-computer interaction can be simply described as the interaction between humans and machines. The degree of human interaction with the machine is both simple and complex. Therefore, the technical level of human-computer interaction can be roughly divided into the physical level, cognitive level, and emotional level. The proposed time of the emotional level is relatively short, mainly through changing the user's attitude and emotion to increase the user's stickiness. Due to the technical and ethical problems, emotional human-machine technology still needs to be explored and developed. At present, the more general, mature, and widely used human-computer interaction technologies are mostly at the physical level [15, 16]. We rely on ubiquitous computing, vision, sensing devices, audio, and multichannel human-computer interaction systems to achieve the interaction among equipment, products, and users. Examples include wearables, wireless devices, virtual devices, military enhancement devices (such as heat vision, GPS used to track other soldiers' movements, and environmental scanning), personal digital assistants (PDA), and real estate virtual tourism businesses.

3.1. Concept Upgrade. Artificial intelligence has brought significant changes to human-machine interaction. The traditional form of human-computer interaction is gradually transitioning from the continuous cycle of "input to feedback" to the cycle of "recommendation to selection." Human-computer interaction will also change from the

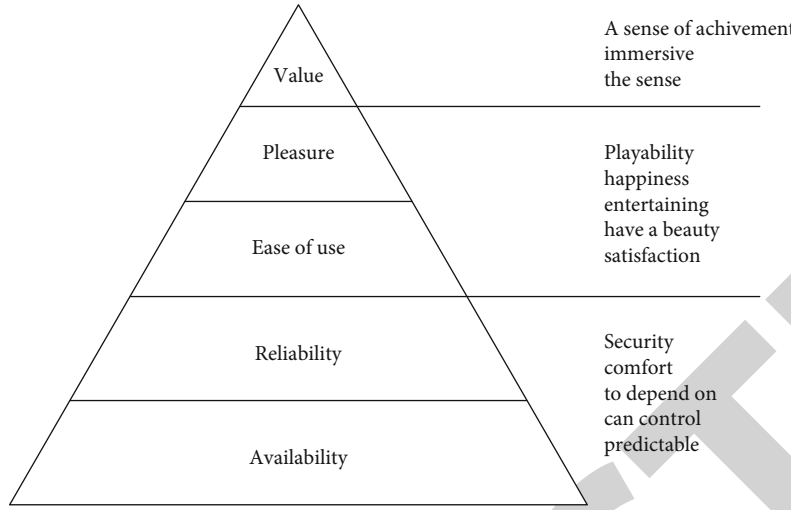

Figure 4: Pyramid model of human needs.

Table 1: Data summary of the survey table.

No.	Appearance scoring	Wake-up flexibility	Feedback efficiency	Interaction fluency	Music function scoring	Interactive scoring	Note
1	5	4	3	3	3	4	Like the color lights
2	4	3	3	4	4	3	
3	5	3	4	3	3	4	Appearance is good
4	3	2	4	2	4	3	
5	4	3	2	4	2	5	Not as good as other products
6	3	4	4	5	5	3	Lack of intelligence
7	4	3	3	3	4	4	
8	5	4	3	3	4	4	Good interaction performance
9	5	3	5	5	2	3	
10	3	2	3	4	3	5	The built-in power supply is not configured

one-way subordinate relationship to the bidirectional training relationship. This change will rewrite "design thinking, methods, processes, and norms." When people want to go to a place, how will they choose? The main contents of the questionnaire include the following: question 1: when you go to a place and do not know how to choose the route, should you look for the electronic map or the guide system?; question 2: why do you choose the electronic map?; question 3: do you think the navigation system is important?; question 4: when you are in a strange place and have to use the guide system, if the guide system is missing or you cannot understand it, will you continue to look for it angrily or give up the guide system decisively and choose to ask people around you?; question 5: what is your mood when you find the guide system and the guide system cannot give you the correct instructions?; and question 6: if there is an intelligent navigation system that can be updated in time and has various forms that need to be operated by a mobile phone, will you use it? Figures 5–10 show the answers to questions 1-6.

After the analysis of the user, it shows that the user's demand for an intelligent guide system is imminent. In the design of the intelligent guide system, it is necessary to avoid the problems of unclear labeling and not updating in time. And the guide system can affect the user's emotions; it should be paid attention to mobilize the user's emotions in the design to ensure the positive experience of users.

3.2. Autonomy of Interaction. The future human-computer interaction will comprehensively improve the system of autonomous learning, which includes active recommendation, active learning, own evolution, and own immunity. Among these four aspects, autonomy is a very important concept [17, 18]. Autonomy is a concept of memorization, selectivity, matching, and control.

3.3. Upgrade of Deep Situational Perception. This is a kind of intelligence symbiosis between humans and machines, including human intelligence and machine intelligence. Deep situational perception includes feeling, perception, planning, and feedback. Human feeling is different from a machine. Human feeling is imagined by the brain and responds to things in the natural environment. Therefore,

human feeling is real and virtual. Perception is a connection, an understanding of things. Planning and design enable machines to manage equipment and environments in a timely manner through an understanding of robotic-like experiences [19, 20]. In the security industry, intellectual property appears to have a naturalized status, especially in public safety and transportation, where data is widespread. Innovations in safety products are developing due to reforms in demand. Relying on the autonomy and perception ability of machine learning, it solves the problem of complex data, which has the main advantages of higher recognition accuracy, stronger environmental adaptability, and richer recognition types. Perfectly solve the pain points of familiarity with graphics and technology in the process of big data security, and make the security platform "real." For diagnosis and treatment, the best expertise in this area is to improve the accuracy of diagnosis and treatment, especially for certain diseases and others. Through the research of a large number of medical literature, it can quickly grasp all the knowledge that an "expert" possesses.

4. Research on Human-Computer Social Interaction Design

4.1. Quantitative Research and Result Analysis

4.1.1. Sending Questionnaires. As for the cognitive status of human-computer social interaction, the Questionnaire Center of the People's Forum carried out a wide-ranging survey on Chinese people in early 2019. The following information was learned, and some important conclusions were drawn. The questionnaire was published through the Internet and WeChat public platform in the form of an online questionnaire, with a sample size of 3,399. According to the survey, the most familiar AI product was the intelligent terminal. People are most willing to use personal service robots at home and public service robots. In order to get an in-depth understanding of the current cognitive status of the human-machine relationship and obtain first-hand research materials, the method of issuing questionnaires was adopted to further explore. During the research process, data were collected on the attitudes of intelligent machines and social robots, laying a foundation for the formulation of a user in-depth interview outline. An online questionnaire survey was issued, and a total of 495 valid questionnaires were collected [21, 22].

4.1.2. Analysis of Questionnaire Survey Results. The quantitative data obtained from all questions were analyzed by using the data analysis method of SPSS software, and the results of reliability coefficient analysis were obtained, as shown in Table 2. Reliability assessments are often used to determine the reliability and accuracy of answers to a wide range of data, especially behavioral questions. Cronbach's alpha model coefficients were evaluated. Reliability is indicated if the alpha value is greater than 0.8. The reliability is good if the value of α is between 0.7 and 0.8. Reliability is obtained if the value is between 0.6 and 0.7. If the value is less than 0.6, it is not trusted. The reliability rating of this study is

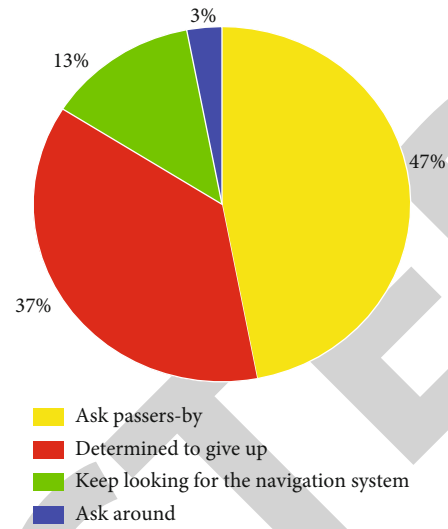

Figure 5: Question 1.

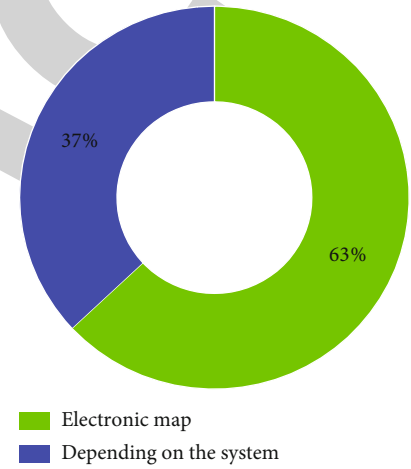

Figure 6: Question 2.

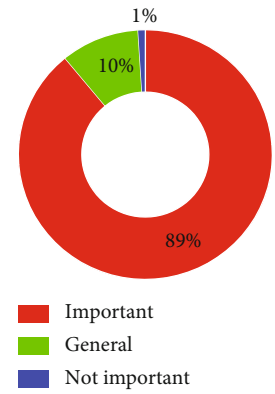

Figure 7: Question 3.

0.814, which is greater than 0.8, indicating that the reliability of the research data is high.

The number of valid samples of the questionnaire was 495, and the sample size after screening invalid

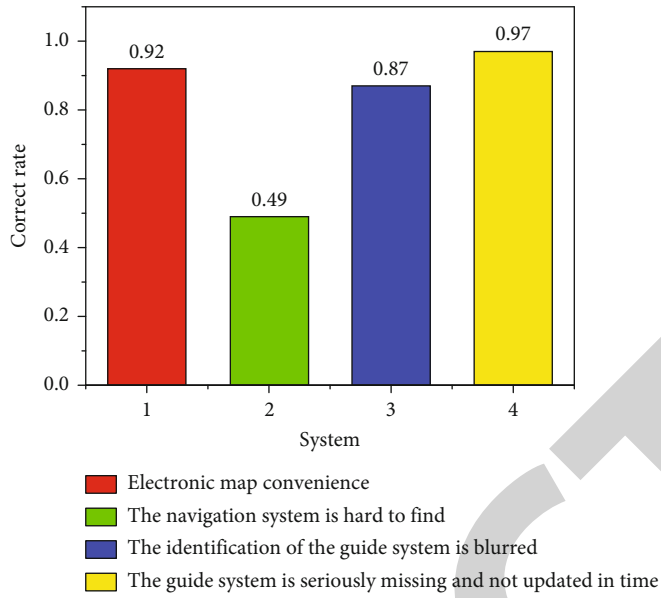

Figure 8: Question 4.

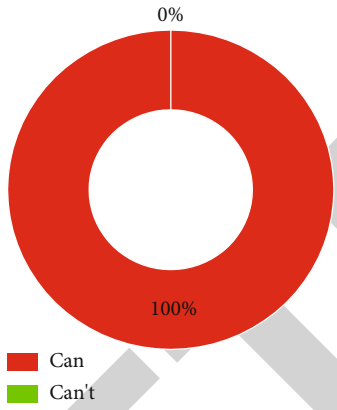

Figure 9: Question 5.

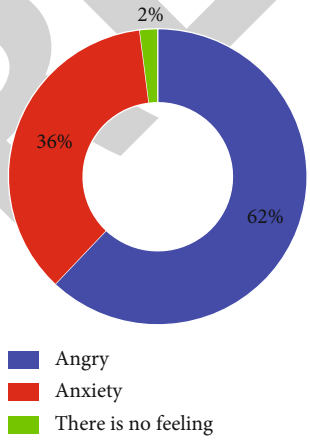

Figure 10: Question 6.

questionnaires was large and had certain reliability. Participants came from all age groups, including middle age and youth. The sexual orientation of the participants was almost 1 : 1, with nearly 80 percent having a bachelor's degree or above and nearly 30 percent having less than a bachelor's degree. More than 91% of respondents had some knowledge of artificial intelligence (see Figures 11(a)–11(c)).

Research results on the usage and acceptability of social robots were as follows. Nearly 100% of participants accepted social robots as service workers (advanced tools). 50% accepted social robots as pets, and generally, those who accepted social robots as pets also accepted them as service workers. Nearly 50% of respondents believed that social robots could be regarded as friends or companions or escorts in the future (social roles with possible emotional mapping and advanced interactions).

In the survey of the attitude, cognition, and trust of intelligent machines, the method of quantitative research and analysis was mainly adopted. In the survey, it was found that three-quarters of participants believed that the social and ethical status of a social robot was closer to that of an electrical appliance than a living organism but agreed that the intelligence of a social robot was closer to that of a human than a lower creature. In terms of trust in artificial intelligence and machines, nearly 40% of respondents could fully trust AI to do intelligent algorithms and personalized recommendations. And 50% of respondents fully described AI as assisting physical behavior activities, which had a higher degree of trust. 25% of respondents fully trust AI robots for long-term contact or behavioral assistance (such as caring for an elderly relative), while 50% believed that they accepted but did not fully trust AI robots. And nearly 30% believed that they did not trust robots at all to replace humans for complex long-term care tasks. The results showed that, to a certain extent, in terms of current public cognition, there was a high degree of recognition for

Table 2: Reliability coefficient analysis results of the research using SPSS.

Name	Corrected item-total correlation (CITC)	The α coefficient of the deleted term	Cronbach α coefficient
Understanding of artificial intelligence	-0.927	0.843	0.814
Age groups	-0.019	0.834	
Gender	-0.0.18	0.818	
The highest record of formal schooling	-0.137	0.822	
Whether socializing can be fulfilled	0.055	0.818	
Whether to accept social bot service	0.498	0.799	

machines to complete the repetitive tasks requiring a low algorithm and cognitive intelligence, while there was a low degree of recognition and trust for machines to complete the tasks related to emotional intelligence, intelligent algorithm recommendation, and social skills.

4.2. People's Actual Needs for Human-Computer Interaction. Tool-functional machines have higher needs for the input of sound (auditory) information and action interaction than social and emotional ones. Tool-functional machines should focus on the command listening and timely feedback of action during the design. Compared with tool-functional machines (robots), respondents' more important needs for social-emotional robots are tactile feeling (88.27% above the general needs) and output of sound information, namely, the need for communication to a certain extent (90% above the general needs). Therefore, the third hypothesis is obtained; namely, the design of a social-emotional machine (robot) should focus on two factors: the sound feedback and the tactile sensation [23, 24].

Through the data research of the questionnaire survey, it is also found that most users have clear expectations for the robot's active communication. People need to update their view of robots constantly. At present, the recognition of robots being not technological achievements applied in our real life and artificial intelligence participating in social interaction is low. The research and popularization of social artificial intelligence is in its infancy. It is necessary to increase the public's understanding of the application of artificial intelligence, improve the communication level, quality, and efficiency of artificial intelligence participation in social interaction, put forward optimization strategies for human-machine social interaction, and obtain more information supplements.

5. Virtual Reality Art Design

Through research and analysis, the purpose of group layout, the use and demonstration of intelligence technology, the application of intelligence technology in the production of communication intersections, and how intelligent equipment locates the target and reevaluates the relationship are elaborated.

5.1. Tasks of Virtual Reality Art Design. Virtual reality art design is a new kind of art design which combines the traditional art design form with virtual reality technology under the artificial intelligence technology system. Whether from the perspective of art design or virtual reality technology, its research has high practical and theoretical significance. Its special research work is dominated by the theory of materialist dialectics, from the perspectives of virtual reality technology and art design, to describe the nature and role of virtual reality technology in design. Regarding virtual reality technology, it introduces virtual reality art in art and design and creates features and designs. It determines the relationship between virtual reality art design and traditional design and how virtual reality technology completes the realization of art design. And the preliminary theoretical system of virtual reality in art and design is constructed to make a contribution to the development of China's art design research. To be specific, the research of virtual reality art design mainly has the following specific tasks:

(1) The development background and formation conditions of virtual reality art design are clarified. And the artistic expression forms and evaluation standards of virtual reality art design are discussed in detail

(2) The focus of art design is explored in detail through the influence of cognitive and virtual machine theoretical knowledge

(3) By identifying specific situations, the research application of virtual reality art design in graphic design is revealed. And there is a beautiful analysis of artworks created by virtual art designers

(4) The artistic characteristics and artistic expression forms of virtual reality art design are analyzed from the perspective of art design to help stimulate and change the thinking ability and creation mode of traditional art creators

5.2. "3I+M" Characteristics of Virtual Reality Art Design. In his book *Singularity Art: Future Art Transformation under the Influence of Technology Singularity*, famous artist Professor Tan Liqin proposed the concept of 3I characteristics of virtual reality, namely, immersion, interaction, and imagination. The "3I" characteristics of virtual reality technology are easy to adapt to the field of art design, and the artistic characteristics of virtual reality art design are systematically discussed. At the same time, virtual reality art design is the visual and sound art, taking the perception behavior of the

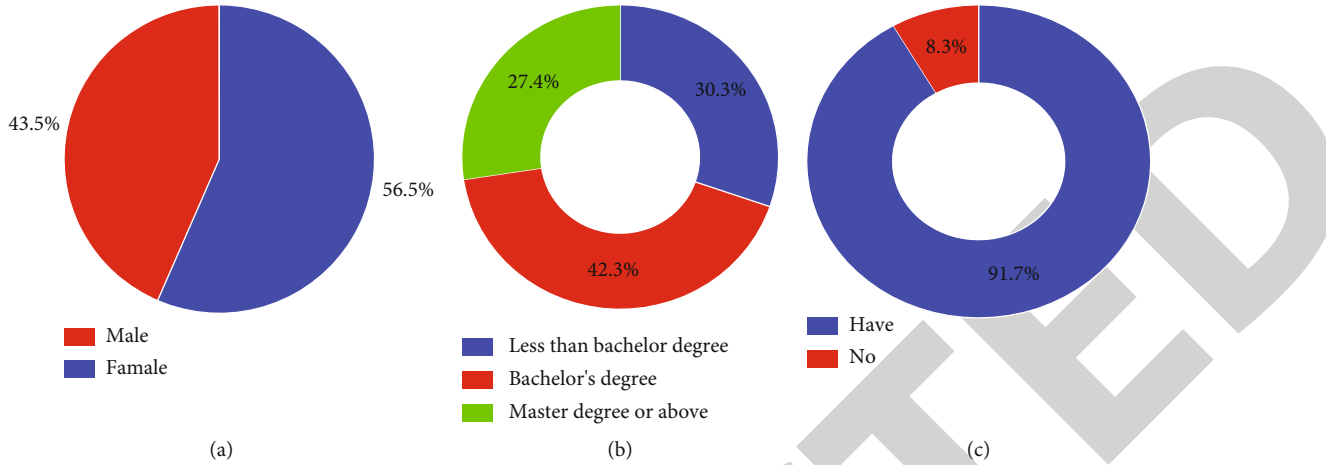

Figure 11: Basic information of interviewees.

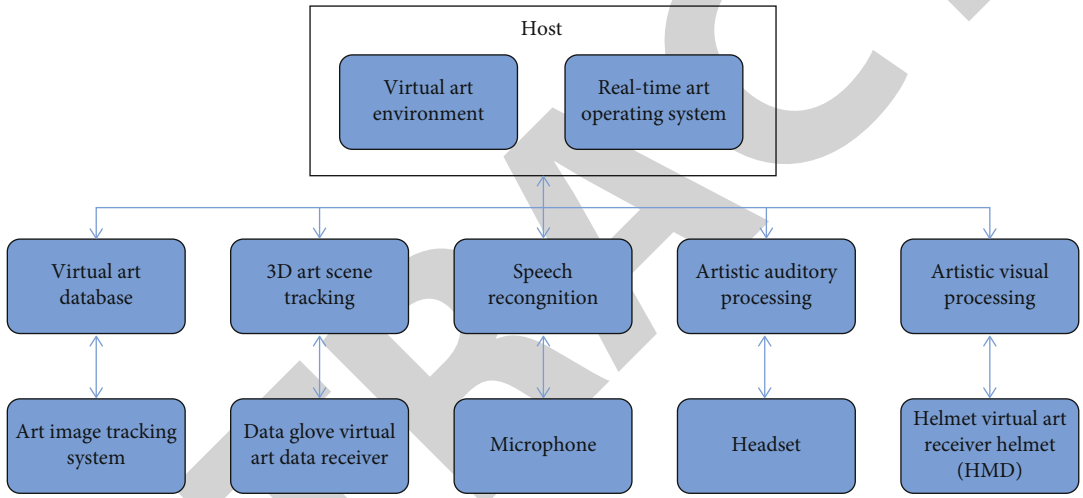

Figure 12: Virtual reality art interaction 1.

art experiencers and appreciators for the art form and the artwork as the only evaluation criteria. Therefore, combined with the previous "3I" characteristics, the "3I+M" artistic characteristics of virtual reality art design are systematically formed.

5.2.1. Immersion. Immersion is the most important artistic characteristic of virtual reality art design. After all, the artistic scene created by virtual reality art design does not exist objectively in the real world. In addition, humans are more intelligent than other creatures and can use their own knowledge, logical reasoning, and life experience to force themselves outside the virtual environment created by virtual reality. The degree of immersion of virtual reality art design is directly related to whether the viewers and experiencers of art can naturally blend into the virtual art situation created by art design. Artists creatively combine artificial intelligence technology with traditional art forms to create art experiencers' and viewers' intuitions of visual, auditory, tactile, and gustatory-like sensory elements in a virtual environment. Through the high-tech intelligent equipment, the sense of body and force indistinguishable from reality and the environment are created, and a three-dimensional virtual art scene highly imitated by the realistic scene is created.

5.2.2. Interaction. Interaction mainly refers to the interaction between the art experiencers and viewers and the virtual art scene by using high-tech equipment (Figure 12), which makes the art experiencer and appreciator participate in the virtual art scene as the master. The implementation of virtual reality interactive art intelligent equipment is mainly divided into two types. One is to provide intelligent virtual image projection equipment, mainly responsible for the artists making use of the software system to create a virtual environment and the projection of the artistic experience through the intelligent computer system so as to build a virtual reality art scene [25]. This equipment mainly includes some projection equipment and display equipment, such as a 3D projector. The other device is the receiving device worn by the art experiencer and appreciator. Its function is not only the audio-visual perception window of the art experiencer and appreciator, but more importantly, it can be

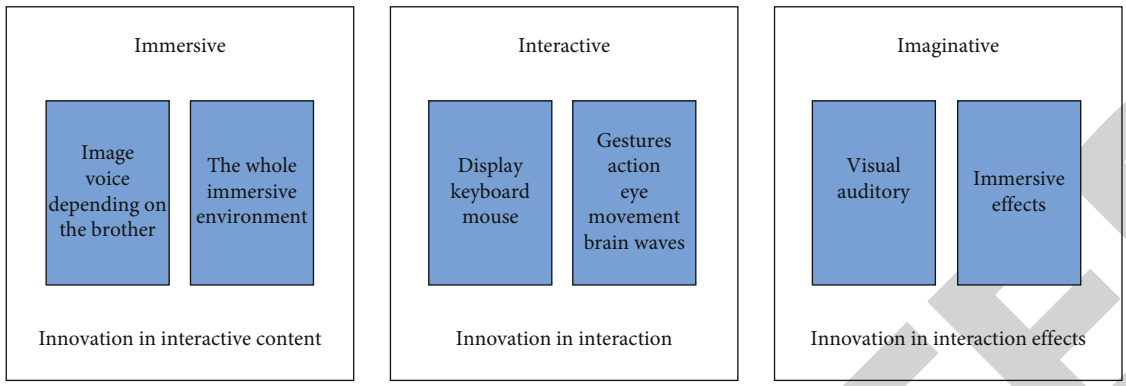

Figure 13: Virtual reality art interaction 2.

connected to the intelligent computer system. And the software used to create virtual reality art scenes can be manipulated in real time by the intelligent computer system. In this way, art experiencers and appreciators can change some scenes in virtual reality art at any time and realize real-time interaction with virtual reality art scenes.

5.2.3. Imagination. Imagination is the main basis for the creation of virtual reality art design (see Figure 13). Virtual reality art design is actually the abstraction of the art form of imagery, visualization, and magnification. It creates the art scene that the art experiencers and appreciators can accept and agree with because the art scene created by artists by virtual reality technology is not unconstrained, but the art is enlarged creatively by taking the imagination or outlook deep down to the art of appreciators as the foundation. It is easy to empathize with a virtual art scene like this.

5.2.4. Multi Perceives. Multi perceives is not only the content of VR art itself but also an important characteristic of VR art from the perspective of art appreciators. Multi perceives mainly refers to artists that can make art design be perceived and recognized by art experiencers and appreciators in an all-round and multiangle way through virtual reality technology. Through a series of multisensory sensing systems and reaction devices, the appreciators of art get rid of the limitations of traditional audio-visual art at the perception level and provide a more hierarchical, multistructure all-round stereoscopic perception called "five senses and six senses." Multi perceives is the prerequisite or technical basis for creating immersive feelings for the appreciators of virtual reality art. In addition to the factors of technology itself, the research on multi perceives also involves the knowledge of perceptual psychology and perceptual behavior. It is necessary to deeply understand the aesthetic intention and perception habit of art appreciators to create a virtual art scene with no difference in reality and bring people a better feeling. The art experiencer and appreciator interact with the virtual environment constituted by the intelligent interactive interface and visual data, which is the mutual integration and penetration of the thinking of the art audience and experiencer and cutting-edge technology. With the rapid development of science and technology, the technologization of art will be an inevitable trend in the future.

6. Conclusions and Prospects

There are many problems with the application of artificial intelligence technology in the visual design of exhibition halls. Whether it is the initiative of visual design or the application and development of intelligence technology, designers should use intelligence technology reasonably in the exhibition halls, which cannot be overused. In a word, using artificial intelligence technology in modern exhibition halls, intelligence technology should be made full use of as a guide. Taking the visual language of the exhibition halls as a way of decorating, the diversified development of the modern exhibition halls is realized. At the same time, the artificial intelligence technique should be used to strengthen the exhibition halls in the real case, which can provide the reference for the application of the visual design for the future of modern exhibition halls.

With the expansion of technology-influenced technology, the development of virtual reality technology, big data analysis, and intelligent cloud technology is changing with each passing day. As the demand for modern theatre continues to increase, knowledge of language design and discussion skills are being used. The organic combination of cutting-edge technology and modern presentation is the hallmark of modern theatre. In the future, the application of artificial intelligence technology in exhibition halls will be more and more extensive.

Data Availability

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

Conflicts of Interest

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

[1] H. Chen, "Lighting design method of museum exhibition hall based on Internet of Things and deep learning," *Journal of Computational Methods in Sciences and Engineering*, vol. 22, no. 2, pp. 411–423, 2022.

[2] A. S. Bist, W. Febriani, C. Lukita, S. Kosasi, and U. Rahardja, "Design of face recognition AttendX for recording student attendance data based on artificial intelligence technology," *Solid State Technology*, vol. 63, no. 2s, pp. 4505–4518, 2020.

[3] H. Yu and Z. Zhou, "Optimization of IoT-based artificial intelligence assisted telemedicine health analysis system," *IEEE access*, vol. 9, pp. 85034–85048, 2021.

[4] M. Fan and A. Sharma, "Design and implementation of construction cost prediction model based on SVM and LSSVM in Industries 4.0," *International journal of intelligent computing and cybernetics*, vol. 14, no. 2, pp. 145–157, 2021.

[5] H. Detjen, S. Faltaous, B. Pfleging, S. Geisler, and S. Schneegass, "How to increase automated vehicles' acceptance through in-vehicle interaction design: a review," *International journal of human-computer interaction*, vol. 37, no. 4, pp. 308–330, 2021.

[6] L. Jianan and A. Abas, "Development of human-computer interactive interface for intelligent automotive," *International Journal of Artificial Intelligence*, vol. 7, no. 2, pp. 13–21, 2020.

[7] Z. Wan, T. Zhou, Z. Tang, Y. Pan, and L. Zhang, "Smart design for evacuation signage layout for exhibition halls in exhibition buildings based on visibility," *ISPRS International Journal of Geo-Information*, vol. 10, no. 12, p. 806, 2021.

[8] Q. Yang, S. Zheng, M. Liu, and Y. Zhang, "Research on Wi-Fi indoor positioning in a smart exhibition hall based on received signal strength indication," *EURASIP Journal on Wireless Communications and Networking*, vol. 2019, no. 1, Article ID 275, 2019.

[9] D. Guo, Y. Zhu, W. Xu, S. Shang, and Z. Ding, "How to find appropriate automobile exhibition halls: towards a personalized recommendation service for auto show," *Neurocomputing*, vol. 213, pp. 95–101, 2016.

[10] L. Jia and L. Li, "Research on core strength training of aerobics based on artificial intelligence and sensor network," *EURASIP Journal on Wireless Communications and Networking*, vol. 2020, no. 1, Article ID 164, 2020.

[11] C. Chen, "Application research on human-computer interaction in emotional design of science and technology exhibition hall," *Communications in Computer and Information Science*, vol. 1034, 2019.

[12] P. Radanliev, D. D. Roure, R. Nicolescu, M. Huth, and O. Santos, "Artificial intelligence and the Internet of Things in Industry 4.0," *CCF Transactions on Pervasive Computing and Interaction*, vol. 3, no. 3, pp. 329–338, 2021.

[13] H. Miwa, K. Watanabe, and M. Niemel, "Classification of care assistive technology based on the relationship between users and technologies," *Journal of Robotics and Mechatronics*, vol. 33, no. 4, pp. 858–867, 2021.

[14] T. Liu, Z. Gao, and H. Guan, "Educational information system optimization for artificial intelligence teaching strategies," *Complexity*, vol. 2021, Article ID 5596571, 13 pages, 2021.

[15] S. Li, "Synesthetic design of digital elderly products based on big data," *Wireless Communications and Mobile Computing*, vol. 2021, Article ID 5596571, 9 pages, 2021.

[16] G. Yu, "Emotion monitoring for preschool children based on face recognition and emotion recognition algorithms," *Complexity*, vol. 2021, Article ID 6654455, 12 pages, 2021.

[17] Y. Ahmady and Y. Kaluarachchi, "The influence of lighting settings on museum's brand image and human satisfaction in exhibition halls using virtual reality," *Human Interaction, Emerging Technologies and Future Applications III*, vol. 1253, pp. 103–108, 2021.

[18] G. Mirra and A. Pugnale, "Expertise, playfulness and analogical reasoning: three strategies to train artificial intelligence for design applications," *Architecture, Structures and Construction*, vol. 2, no. 1, pp. 111–127, 2022.

[19] H. Salo-Pntinen and P. Saariluoma, "Reflections on the human role in AI policy formulations: how do national AI strategies view people?," *Discover Artificial Intelligence*, vol. 2, no. 1, 2022.

[20] B. Shneiderman, "Human-centered artificial intelligence: reliable, safe and trustworthy," *International Journal of Human–Computer Interaction*, vol. 36, no. 6, pp. 495–504, 2020.

[21] L. Liang, Z. Wu, and W. Xiaobo, "Design and implementation of online exhibition hall for transportation achievements based on WebGL," in *Proceedings of the 2nd International Conference on Information Technologies and Electrical Engineering*, vol. 18, China, 2019.

[22] A. Asemi, A. Ko, and M. Nowkarizi, "Intelligent libraries: a review on expert systems, artificial intelligence, and robot," *Library Hi Tech*, vol. 39, no. 2, pp. 412–434, 2021.

[23] B. Shneiderman, "Design lessons from AI's two grand goals: human emulation and useful applications," *IEEE Transactions on Technology and Society*, vol. 1, no. 2, pp. 73–82, 2020.

[24] Y. Song and R. Wu, "Analysing human-computer interaction behaviour in human resource management system based on artificial intelligence technology," *Knowledge Management Research & Practice*, pp. 1–10, 2021.

[25] K. Ch En, Y. Zu, and Y. Cui, "Design and implementation of bilingual digital reader based on artificial intelligence and big data technology," *Journal of Computational Methods in Sciences and Engineering*, vol. 20, no. 3, pp. 889–907, 2020.