Research Article

The Interaction of Internet Fun Design Resources Based on the Network Communication System

Xiaojie Min (ID)

Fashion and art Design Department, Gongqing College, Nanchang University, Gongqing, 332020 Jiangxi, China

Correspondence should be addressed to Xiaojie Min; i22021959@student.newinti.edu.my

The interactive function of the Internet is the basis of all data transmission. The functions of Internet products are becoming more and more complex, and the amount of information they carry also increases dramatically. People and products mainly interact with products through the product interface, and the operation of the interface becomes more and more complex and more important. With the help of the interactive function of the Internet, various "Internet +" businesses are carried out in an orderly manner. The realization of Internet functions also requires user-centric interactive design. This puts higher demands on the fun of Internet interaction. This article aims to study the interaction of interesting design resources on the Internet, so as to make the Internet interaction more interesting. This article proposes to add interesting elements to the interactive functions of the Internet on the basis of the network communication system and stimulate the user's feelings from many aspects such as actions, pictures, sounds, and colors, so as to make the users feel psychologically happy and trigger. The experimental results in this paper show that fun interaction design can enhance user experience by 20%.

1. Introduction

The network communication system is the basis for voice, data, and image transmission and is connected to external communication networks (such as public telephone networks, integrated service digital networks, computer Internet, data communication networks, and satellite communication networks) to ensure smooth information flow. With the development of the technological age, our production and life can no longer be completely separated from the Internet. More and more network products are overflowing our lives. Especially in the current era of focusing on user experience, facing a fast-paced and stressful living environment, modern users pay more attention to spiritual relaxation, and the design that reaches the depths of the soul will affect the user's own emotions and behaviors and enhance the interest and pleasure of the user experience. A very important evaluation criterion for interaction design is the product function and ease of use. For users, in the process of using the product, if the function of the product exceeds the user's expectations, this will become an attractive point to attract users to interact with the product in depth, reducing the dullness of system opera-

tion. As a perceptual animal, the center of people's attention is the emotional communication, and the most moving thing is also the emotional communication. In the process of product marketing, the survey found that consumers' emotional needs have increasingly become a marketing focus. Consumers enjoying basic product services when buying products are just the most basic marketing strategy. Emotional interaction is the key to moving consumers and stimulating consumers to buy. This is not only the strategy of product marketing today, but in the future, product marketing is also inseparable from the exploration of user needs. The interest is the prerequisite for the realization of user emotional interaction. Studying consumer interest can better find the true needs of consumers and create more product value. In the future, the fun of interactive design will surely become the direction of Internet product design.

For the research of interaction design, domestic and foreign experts and scholars have already achieved results. Woodbury studies this near-universal feature of changing parameterized interfaces to support the exploration of using multiple alternatives. It builds a prototype gallery system on a web browser that supports saving alternatives from three

graph-based parametric modeling tools. The users can retrieve alternatives from the gallery, share them with others, and combine them to generate more alternatives. This research proposes several directions for new user interface design [1]. Sequenzia developed a variable geometry saddle (VGS) prototype for amateur cyclists through an interactive redesign method, which can reduce saddle pathology and improve pedaling comfort. The development of VGS can be adjusted according to the rider's anatomical requirements and various riding conditions (uphill, flat, and downhill). Simple adjusters will affect the inclination of the nose and the width of the saddle backrest. In particular, the nose mechanism allows immediate adjustment. The VGS developed can also allow cyclists to identify the most suitable subjective geometric shapes to help choose among commercial alternatives [2]. Rizzuti proposes a unique noise reduction function that can be used in combination with all types of "loss functions." This article discusses an interactive program that can integrate Taguchi's method and axiomatic method, which can check the design matrix, the nature of which can hint at the effectiveness of the product being developed and find contradictions [3]. Abbood proposed a robot vision system that can distinguish the color of objects and their position coordinates and then classify the objects (products) on the right branch conveyor belt in real time based on the colors. The system is constructed based on the HVS mode algorithm and classifies products based on color. In addition, the system can also recognize the shape of the object, then find its position, pick up the shape of the object, and place it on the correct branch conveyor [4]. Kim proposed a new robust optimization design method, which realized the optimization procedure based on direct search. The Interactive Design Space Reduction Method (IDSRM) based on orthogonal arrays for experimental design was developed as a general optimization tool. Using this system, the designers can interactively adjust the design space according to experimental results during the search process to obtain the best solution. Compared with the initial design solution, the proposed method-assisted optimization design shows more effective and better results in terms of design robustness [5]. Preciado proposes to use the finite element method (FEM) to include the volume model in the interactive simulation of deformable objects, directly using the triangular mesh method. This method avoids the problems caused by the generation of tetrahedral meshes, such as unstable, poor-quality meshes or degraded meshes. In this research, he improved the grid intersection method by increasing the robustness to simulate complex grids and also showed how to realize user interaction in real time [6]. Amory's research involves the development and evaluation of a redesigned online and mobile application for the African Storybook Initiative service, which supports the creation and reading of publicly licensed storybooks to support the development of literacy in Africa. It provides an opportunity to combine the sociocultural theories used by African storybook researchers with the design of interactive artifacts and environments. The redesign utilizes many cultural-historical activity theory principles, including activity objects, tool intermediaries, and shared objects as part of the third-generation activity system. Three main activities (reading, author and research) have been identified [7]. Jim has developed an Art Game, which provides a very simple user experience. Most of the content of the game is to answer yes or no to each painting. But attribution is an extraordinary problem expert, and connoisseurs are related to it when verifying their findings. Like them, the art game players bring their knowledge and instincts (regardless of what they have recently acquired) to a problem. Jim reconstructed the science of appreciation; he focused on a kind of dual factor copyright to help users improve their visual thinking and recognition ability [8].

This article studies the integration of fun into the Internet interaction design and, on the basis of network communication technology, incorporates interesting elements, investigates the user experience, finds the best user experience, and optimizes the design of the plan to better increase the user's Internet experience. The user-centered design concept requires that in the process of designing the interactive interface of the product, the needs of the product users should be fully considered, and the interactive interface of the product should be designed according to the needs of the users. In order for the product to obtain a good user experience, it is necessary to conduct in-depth research on the product's interactive interface and evaluate the design results.

2. Interesting Introduction to Network Communication System and Interaction Design

2.1. Network Communication System. The communication system consists of two parts: hardware and software. The hardware consists of processor, clock and power circuit, reset configuration circuit, memory circuit, network interface circuit, I/O interface circuit-bus, and circuit test interface. The processor is an onboard processor; the clock and power supply include the system main clock, USB clock, and power control circuit; the memory part includes Flash for storing the operating system and SDRAM for program operation; the network interface includes the Ethernet chip and configuration circuit; the I/O bus interface is composed of a 16-bit double word data line, read signal, write signal, address line, reset, wait, chip, and power signal; the debug and test interface includes JTAG and UART interface. The software part is composed of integrated operating system and application software [9]. The hardware composition block diagram of the communication system is shown as in Figure 1.

SINR is the quality of the signal, which is equal to the ratio of the signal strength C to the sum of the noise N and the interference strength I. If the users want to communicate data through the current network, they must obtain corresponding channel resources. When the channel C_m is allocated to A (x) and B user pair y, the calculation formula of the instantaneous SINR of A (x) is

$$S_{x,y}^m = \frac{F_x^a Z_{x,D}^m}{F_y^b Z_{y,D}^m + \theta^2} \tag{1}$$
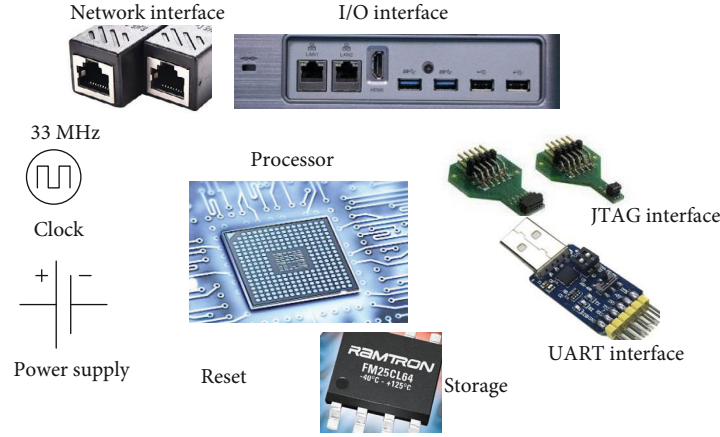
Figure 1: Frame diagram of communication system.

In the same way, the instantaneous SINR calculation formula of user B to the receiving end of y is as follows:

$$S_m^{y,x} = \frac{F_y^b Z_m^{y,y}}{F_x^a Z_m^{x,y} + \theta^2} \qquad (2)$$

In the formula, the operating power of the noise can be expressed as θ^2; the transmission power of the signal can be expressed by F_x^a and F_y^b, respectively, the output of A (x) and B users to y; and the increase in channel power between A (x) and D can be expressed by $Z_{x,D}^m$. It means that the utility of signal interference between different links of y and D can be expressed by $Z_{y,D}^m$, the increase in channel power of B users to y can be expressed by $Z_m^{y,y}$, and the utility of signal interference between different links of B and y can be expressed by $Z_m^{x,y}$.

In order to achieve the maximum overall rate of the communication link, it can be calculated by solving the mathematical formula:

$$\max \sum_{m=1}^{M} \sum_{x=1}^{E+G} \sum_{y=1}^{F+H} \left\{ \gamma_{x,m} J \log_2 \left(1 + S_{x,y}^m \right) + \lambda_{y,m} J \log_2 \left(1 + S_m^{y,x} \right) \right\}$$
$$(3)$$

$$s.t. S_{x,y}^m \geq S_{x,\min}^m, \forall x \in P \qquad (4)$$

$$S_m^{y,x} \geq S_{m,\min}^{y,x}, \forall y \in Q \qquad (5)$$

$$\sum_{m=1}^{M} \gamma_{x,m} \leq 1, \ \sum_{m=1}^{M} \lambda_{y,m} \leq 1, \forall x \in P, \forall y \in Q \qquad (6)$$

$$\sum_{x=1}^{E+G} \gamma_{x,m} \leq 1, \ \sum_{y=1}^{F+H} \lambda_{y,m} \leq 1, \forall x \in P, \forall y \in Q \qquad (7)$$

The bandwidth is represented by J, and the minimum SINR thresholds of A (x) and y can be represented as $S_{x,\min}^m$ and $S_{m,\min}^{y,x}$. $\gamma_{x,m}$ and $\lambda_{x,m}$ are the output of resource allocation results, which are piecewise functions, which can be expressed as

$$\gamma_{x,m} = \begin{cases} 1, C_m \text{ is assigned to A}(x) \\ 0, \text{Other cases} \end{cases} \qquad (8)$$

$$\gamma_{x,m} = \begin{cases} 1, C_m \text{ is assigned to user B to y} \\ 0, \text{Other cases} \end{cases} \qquad (9)$$

The establishment of the above conditions meets the minimum SINR requirement, which reduces the error caused by signal interference to a certain extent [10].

We use t to represent users who are not connected to the network. With the aid of the signal-to-noise ratio, the users will uniformly evaluate the channel of the cell. The output signal-to-noise ratio of the link can be represented by $\omega_{t,m}$, and its calculation formula is

$$\omega_{t,m} = \begin{cases} \dfrac{F_t Z_{t,D}^m}{\theta^2}, \ \alpha_{t,m} = 1 \\ 0, \ \alpha_{t,m} = 0 \end{cases} \qquad (10)$$

Among them, the transmitted power F_t can be expressed as t, and the power increase of the channel between D can be expressed as $Z_{t,D}^m$. Binary is a number system widely used in computing technology. The binary data is a number represented by two digits, 0 and 1. The characteristic value of the user can be represented by a binary indicator function $\alpha_{t,m}$. According to the above conditions, whether $\alpha_{t,m}$ can be used for data communication by users can be preliminarily determined. $\alpha_{t,m} = 1$, it means the result is definite, otherwise $\alpha_{t,m} = 0$ [11]. The specific situation is shown in Table 1.

TABLE 1: $\alpha_{t,m}$ Assignment in different situations.

	A (x)	B user
Already reused by users A (x) and B	0	0
Only occupied by A (x)	0	1
Only occupied by B	1	0
Unoccupied	1	1

Here, the variable Q_t is used to rank the preference of user t for each channel, which is called the feature value list of user t. The specific expression is

$$Q_t = \left\{ \left(\alpha_{t,m_1}, m_1, \varepsilon_{t,m_1} \right), \left(\alpha_{t,m_2}, m_2, \varepsilon_{t,m_2} \right), \cdots, \left(\alpha_{t,m_3}, m_3, \varepsilon_{t,m_m} \right) \right\} \quad (11)$$

Among them, $\varepsilon_{t,m_1} \geq \varepsilon_{t,m_2} \geq \cdots \geq \varepsilon_{t,m_m}$; m refers to the index value. Suppose that the first channel index value in Q_t is the channel with the greatest user interest.

According to the characteristic values of users, a user alliance is formed on the channel with the highest similarity, and L_m refers to the alliance of channel m.

Let I_m be the initial rate of the alliance, which is provided by users with stable communication, which can be expressed as

$$V_0^m = \sum_{x=1}^{N} \gamma_{x,m} D \log_2 \left(1 + S_{x,y}^m \right) + \sum_{y=1}^{M} \lambda_{y,m} D \log_2 (1 + S_m^{y,x}) \quad (12)$$

$$\forall x \in G_m, \forall y \in H_m \quad (13)$$

Alliance V_m is expressed as the final rate of the alliance. It can be represented by a weighted bipartite graph. Its two sets of unrelated endpoints, and the A (x) and B user distributions represent two sets of unrelated endpoints. Establish an alliance of users waiting to access the network. The channel may have four different states (C_m has been multiplexed by two users, C_m is only occupied by A (x), C_m is only occupied by B users, and C_m is not occupied) [12], as shown in Figures 2 and 3, which can be represented as four different forms of it.

As shown in Figure 2(a), channel C_m is multiplexed by two groups of users at the beginning, so its final rate is determined, which can be expressed as

$$V_{\text{sum}}^m = \sum_{x=1}^{N} \gamma_{x,m} D \log_2 \left(1 + S_{x,y}^m \right) + \sum_{y=1}^{M} \lambda_{y,m} D \log_2 (1 + S_m^{y,x}) \quad (14)$$

As shown in Figure 2(b), C_m a group of data is occupied by A (x), and another group of data is to be allocated by user

B. At this time, the final rate is determined by two sets of weights, which can be expressed as

$$V_{\text{sum}}^m = D \log_2 \left(1 + S_{x,y'}^m \right) + \sum_{y=1}^{F+H} \lambda_{y',m} D \log_2 \left(1 + S_m^{y',x} \right) \quad (15)$$

As shown in Figure 3(a), C_m one group of data is occupied by user B, and the other data is to be allocated by A (x). At this time, the final rate can be expressed as follows:

$$V_{\text{sum}}^m = \sum_{x=1}^{E+G} \gamma_{x',m} D \log_2 \left(1 + S_{x',y}^m \right) + D \log_2 (1 + S_m^{y,x}) \quad (16)$$

As shown in Figure 3(b), when C_m is not occupied by any user at the beginning, the new user provides its final rate. The calculation formula is as follows:

$$V_{\text{sum}}^m = \sum_{x=1}^{E+G} \gamma_{x',m} D \log_2 \left(1 + S_{x',y'}^m \right) + \sum_{y=1}^{F+H} \lambda_{y,m} D \log_2 \left(1 + S_m^{y',x'} \right) \quad (17)$$

In Formulas (13)–(16),

$$\forall x \in G_m, \forall y \in H_m \quad (18)$$

$$\forall x' \in G_p, \forall y' \in H_q \quad (19)$$

Constraints (4) and (5) are the prerequisites for all SINR calculations. The calculation of the increase in the rate of users waiting to access the network can be expressed by the following formula:

$$V_{x'',y''}^m = V_{sum}^m - V_0^m \quad (20)$$

When calculating indicators such as averages in statistics, the values that have a weighted effect on each variable value are called weights. When calculating, if a number has the same number, multiply the number by the number, and this number is called the right. Among them, $\forall x'' \in G$, $\forall y'' \in H$. Suppose the weight value of the connection between $A(x'')$ and y'' is denoted by $V_{x'',y''}^m$. The users with the maximum rate increase of C_m data communication are grouped into a set, denoted as $A(x^*)$. Delete the first element of the C_m user characteristics that has not been obtained so that it can connect to the new alliance to transmit data. The appeal operation is repeated until all users meet the requirements or $Q_t = \varphi$.

2.2. Interaction Design. Interaction can understand the process of a certain experience produced by the interaction between people and things and between people. In this process, there must be conscious and feeling exchanges and changes [13]. The interaction design establishes effective communication between designing products and users. In this process, it can help users use products quickly and achieve the goal of a pleasant experience. Therefore, whether
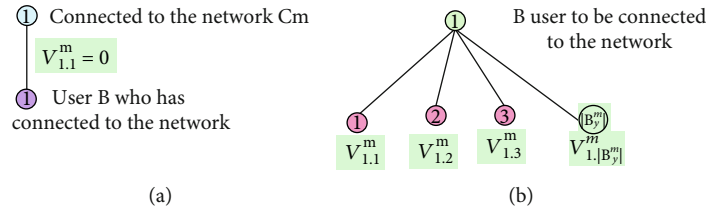
FIGURE 2: The alliance channel is multiplexed by two users and occupied only by A (x).
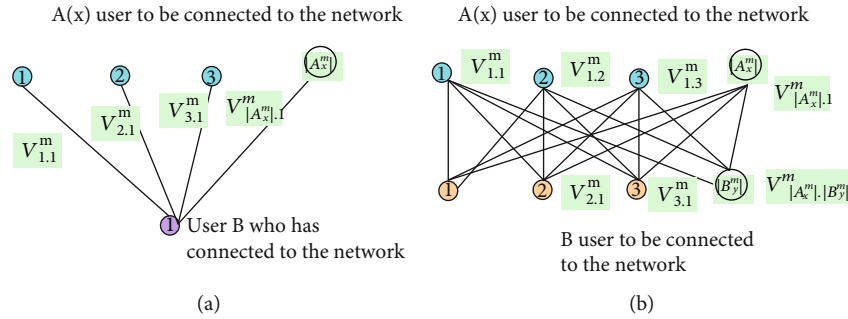

FIGURE 3: Schematic diagram of manifestations of only occupied and unoccupied by user B.

interactive design is classified into behavioral design or product design, it is based on user experience. It requires designers to understand the characteristics of users' psychological needs, conduct analysis and research based on users' daily operating habits, and combine the design concepts of interactive design. Produce products that meet user requirements. Because interaction design involves many disciplines, such as design psychology, semiotics, human function, and consumer behavior [14, 15]. So excellent interaction design not only enables users to operate the product conveniently and quickly, but also uses various effective interaction methods to make users have a pleasant interactive experience. With the development of network technology, more and more merchants choose online interactive methods for product promotion, forming a new form of human-computer interaction in marketing, and enhancing people's attention to interactive experience.

2.3. Internet Media Attributes and Content Strategy. When the Internet was just emerging, it was used for hypertext production, allowing people to create and share documents with each other and then became a way for research teams to communicate in a small area. When this technology expands the scope of dissemination and is widely used for resource sharing and material reference, the Internet has shown its excellent media function. By adding advanced technologies and new features to browsers and servers, the Internet has gradually evolved from static information collection to database-driven dynamic sites [16].

The Internet can not only convey information, but also collect and control this information. At the same time, it supports real-time response with users and provides multiple possibilities for interaction with audiences. And it has therefore become a hybrid with the dual functions of media (traditional characteristics) and instant response [17]. On the one hand, we can take the website as the carrier of infor-

mation release and retrieval, and think about the function and meaning of the website; on the other hand, we can regard the website itself as a "localized" software product, pay attention to its use process, and think about how users achieve the set goals. The two perspectives complement each other and interact to form a complete Internet media. The content of the Internet is an important element of its role as a media. The content refers to what users read, learn, and see on the site. It is generated by a series of complex information linked through the network. It is a comprehensive experience and is by no means a certain part of the specific content understood in a narrow sense. The content has the functions of persuasion, notification, verification, instructions, and entertainment, which is the core strength of the website to attract and retain users. Therefore, we need a good content strategy to provide guidelines for the use of website content, so as to meet website goals and user needs and at the same time lead the content life cycle (from creation to death) and provide a basis and criteria for iterative design and development. The "quadruple diagram" constructs the content strategy of the website, as shown in Figure 4; it can determine the ideas and methods of using the website content to achieve its own goals and meet the needs of users [18].

(1) The Core content strategy sets a long-term development trend for website content. The core strategy is based on product demand decision-making based on ease-of-use standards. In an agile user experience project, the core content strategy of Internet media is based on product requirements, and it is designed to be changed flexibly with each iteration in the product life cycle

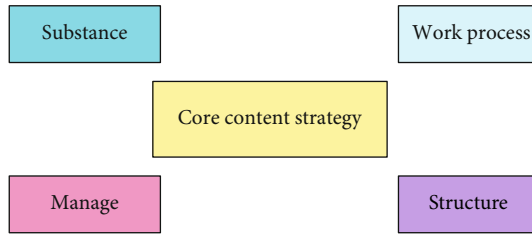(2) The substance part needs to clarify what type of content the website needs and what information they

FIGURE 4: Four elements of the Internet media content strategy.

need to convey in order to achieve communication with users

(3) The structure refers to the form, priority, organization, and display method of content arrangement (including information architecture, hyperlinks, and metadata).

(4) The workflow refers to the work process, methods, and personnel arrangements of the entire life cycle of the content (release, maintenance, expansion, update, cancellation, etc.).

(5) The management (governance) covers content and the rules of content strategy continuation and change

2.4. Interesting.

What is fun is understood from the literal meaning of the psychological effect that makes people feel pleasant and arouses interest. It can be explained in two levels. Affection refers to sentiment and affection, and fun refers to interest and pleasure [19]. Human emotions include emotions, anger, sorrow, and joy. Interesting design will make people feel interesting, will move people's heart and attract people's attention, and can make people happy and beautiful aftertaste the moment. It is difficult for everyone to resist interesting things. A fun life is rich and wonderful. People oriented is the basic principle in modern product design, because the relationship with people will produce emotional connections. We can find that many products in life use humor and humor to convey emotions, which allows users to relax and enjoy. The interesting design of the product is the embodiment of people-oriented.

The interesting design can be explained from two aspects. One aspect is that the designer incorporates relevant interesting elements at the beginning of the product design to make the product interesting. On the other hand, the consumer design chooses products according to their own aesthetic taste. In fact, there is no essential difference between the two aspects, and both are to satisfy the user's aesthetic taste as the core. Fun design itself is the aesthetic taste of the public. Only by designing products that meet the emotional needs of the public can the emotional interaction between the product and the user be harmonious and consistent [20].

2.4.1. From the perspective of the product itself, the high user satisfaction is very important for the product.

According to the results of the American Customer Satisfaction Index (ACSI) model, user satisfaction is the degree to which users' desires are satisfied. If the product and service far exceed user expectations, then the user satisfaction will be greatly improved, and vice versa. Generally speaking, each satisfaction score is multiplied by the corresponding weight to obtain a weighted value, and all the weighted values are multiplied together to obtain the total average value.

For interactive products, the product provides services to match user needs. In this process of enjoying the service, the users will classify their experience levels according to their own experience. Whether you can achieve your set goals is the basis for measuring satisfaction, and user experience during use is an important condition for measuring satisfaction. After completing the set tasks, whether there are other gains is the key to improving satisfaction, as shown in Figure 5.

In the design of interactive products, the user experience is a bottom-up mapping, which puts forward bottom-up requirements for the design of interactive products. Whether the functional structure of interactive products is efficient is the prerequisite for product design. Evaluating the rationality of product structure is the basis of product design. The product can achieve the target demand that is the direction of product manufacturing. The product meets the psychological needs of users and is original and interesting. The details are shown in Figure 6.

As shown in Figure 7, the use of a product is an indispensable condition for product design. However, the usability of the product is only the basis. For users, the level of satisfaction lies in whether it can provide higher demand. User experience and emotional needs are the breakthrough points to improve user satisfaction. Interest, as a basic element to meet human emotional needs, is essential for enhancing product originality and emotional needs. It meets the deep-seated needs of users, makes the product usable and easy to use, and further enhances user satisfaction. According to the relevant knowledge content of human psychology and communication, people tend to tend to things that bring them pleasure. Interestingness is reflected in the design, which can bring pleasant emotions to the viewers.

2.4.2. Better optimize software functions.

The fusion of interesting elements and software operations can have an amplification effect. The users feel the interesting elements in the process of using the software. While achieving their goals, satisfying emotional needs is a direction of fun design.

Generally speaking, we can see the pattern of the alarm clock and the specific time display. As time passes to the set time, the alarm sounds, which is in line with the user's habit. However, if you increase the sound of running water or the ticking sound of the clock when setting the alarm, the user will be visually and audibly moved and feel the passage of time. The whole process is lively and interesting. While playing the function of the alarm clock, it makes the function of the alarm clock more three-dimensional and meets the needs of users. For example, the effect of the dynamic logo of the video website iQIYI is to use the point element on the original logo to make it dynamic and jump to its position one by one join in.
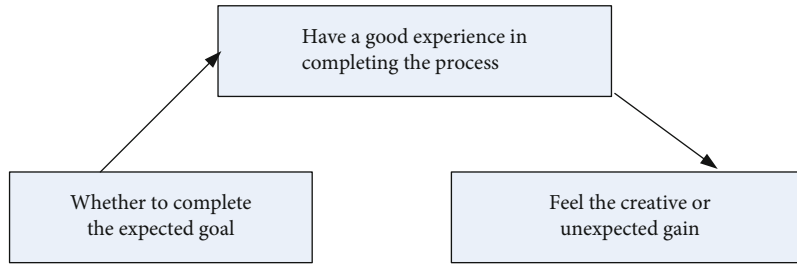
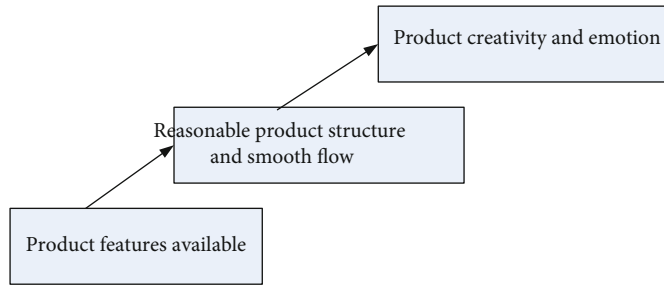FIGURE 5: Interactive product experience structure from high to low.

FIGURE 6: The experience structure corresponds to the design requirements of interactive products from high to low.
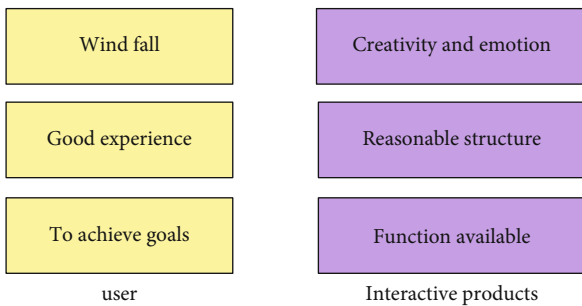

FIGURE 7: The relationship between user experience and interactive product design requirements.

TABLE 2: Introduction to the age structure of the questionnaire.

	18-25	25-35	35-45
Internet age	5-8	9-15	9-15
Total	36	48	21
Male	17	20	8
Female	19	28	13

TABLE 3: Satisfaction evaluation standards for interaction-related elements.

	Image	Word	Action	Audio	Video
Total	70%	76%	71%	65%	58%
Familiarity	73%	85%	67%	56%	39%
Satisfaction	68%	72%	75%	73%	77%

2.4.3. Guide users to use the software efficiently. When it comes to unlocking software, I believe that many people are familiar with it, especially when almost everyone has a mobile phone, it is widely used by users. Sliding patterns, rich pictures, and interesting action designs make unlocking operations not only easier, but also more interesting. Simply slide your finger to enter the system interface smoothly. Although the change is only a small gesture, it is also a sublimation of the user's concept, taking the user as the center to participate in product design at a deeper level, so as to maximize the function of the software.

2.4.4. Optimize software based on human psychology. In real life, it is a natural habit of people to open the closet and search for clothes one by one. This habit is translated into computer operation, and along with the movement of the mouse, the clothes move in sequence for the user to choose. This design conforms to the physiological habits of the human body and also breaks the boundary between reality and the network, allowing the network to further touch reality. Throughout the process, the products are continuously available and fully displayed, giving people an immersive shopping experience. The details are even more surprising. When users interact with the product, their psychological and material needs are met in both directions, making software optimization more reasonable and more valuable.

2.4.5. Bring emotional adjustment and comfort. At present, smart phones are used as information communication channels to connect various resources. With the help of smart phones, people can communicate with the world, watch film, television, and audio programs and enjoy better spiritual civilization needs. More and more people spend their time on the Internet and on mobile phones. Smartphones also rely
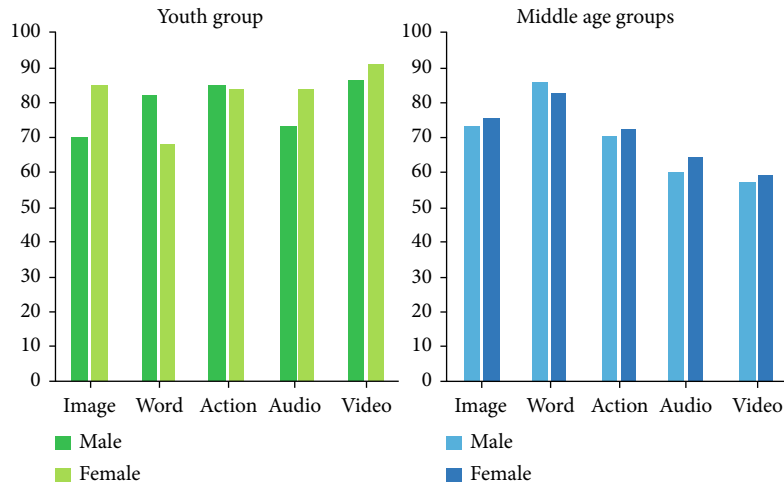
FIGURE 8: Evaluation of different interaction elements by different young groups.
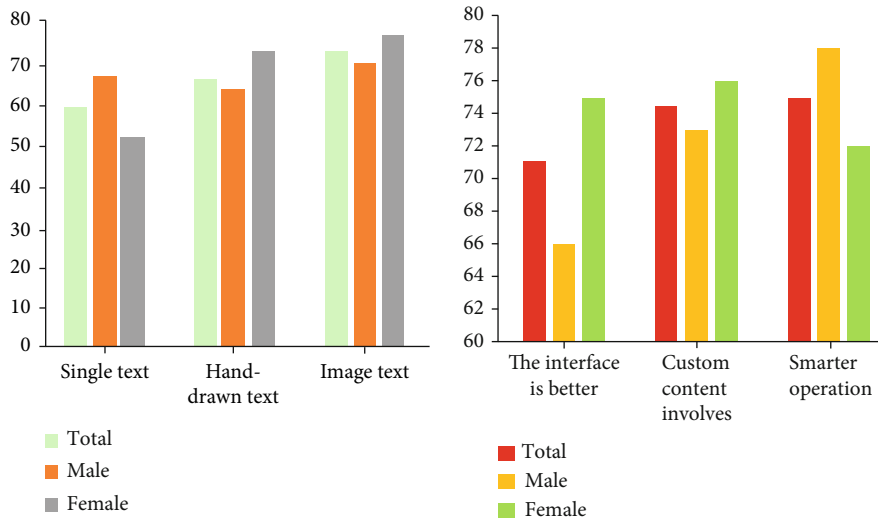

FIGURE 9: User experience of common font interaction design and areas for improvement.
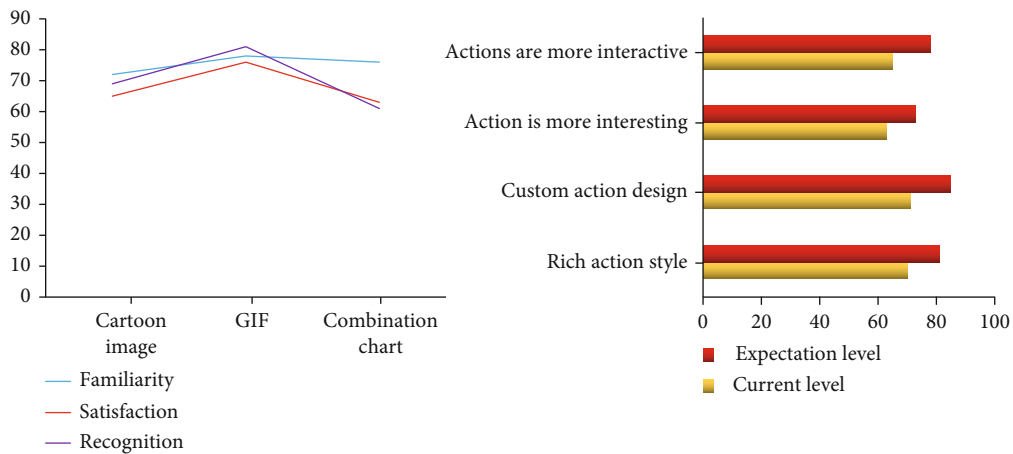

FIGURE 10: People's evaluation of images and expectations for action improvement.
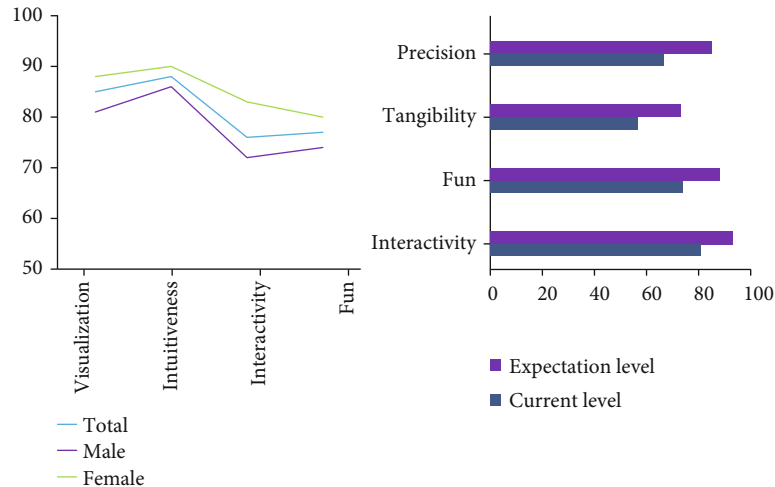
FIGURE 11: People's perception of audio-visual interaction and future expectations.

on their resource advantages to touch the users' emotional needs; impress the users; give the users a shock, anger, or sad, or joy experience; promote the users' thinking, and let them stay away from the boring life and enjoy the beauty and beauty of life [21].

3. Experiment and Analysis

3.1. Experimental Design. As of June 2021, the number of Chinese Internet users has exceeded to 1 billion, and the scale is expanding rapidly. Research data shows that the Internet usage rate of 18-45 years old accounts for more than 81%. Therefore, people in this age group are regarded as the core group of Internet surveys. In addition, people in this age group are more accepting of interaction design. Therefore, netizens of this age group are taken as the main survey subjects, and surveys about the needs and satisfaction of netizens in Internet interactive activities are collected through questionnaire surveys [22].

The questionnaire survey was distributed through e-mail, QQ, WeChat, and other online channels. A total of 105 people participated in the questionnaire, 99 of which were valid questionnaires, with a completion rate of 95%. The average age of the people participating in the survey was 30.2 years old. The average Internet age of the respondents is more than 3 years, as shown in Table 2. The purpose of this questionnaire is to explore the needs of users' Internet interaction design.

3.2. Data Analysis. The questionnaire asks questions about the netizens' feelings, evaluations, opinions, and suggestions on Internet interaction design, and the results are as follows [23].

For the interactive design of the Internet, we showed the investigators the forms of images, text, actions, audio, video, etc. In comprehensive comparison, they are more familiar with text, actions, and images, and the evaluation is more acceptable, and they have expectations for audio and video. Recognizing the application of video and audio in the field of Internet interaction in the future, the specific results are shown in Table 3.

Specifically segmenting the population, we found that 18 to 35-year-olds prefer the interactive operation of audio and video. They feel that they have a stronger sense of interaction, richer pictures, and more attractive. People aged 35-45 prefer words and images. For them, simple descriptions are more moving and conform to their general aesthetics. For the action interaction, the general acceptance is good, they think that the action is in line with their usage habits, and it is more convenient to use. The details are shown in Figure 8.

As shown in Figure 9, for text, a single text is often too dull and not highly recognized by users. Generally speaking, most interesting texts on the Internet are creative designs, or hand-drawn designs, with cute tones, and diverse fonts. When asked about the elements that users want to add, the interface is more "good-looking," the customized content design, and the operation is more "smart" are the choices of most people.

As shown in Figure 10, for images, a single image is sometimes too rigid. Cartoon images, animated images, and combined images are more in line with people's understanding of Internet images. These types of image combinations meet people's needs for nonstationary and transformable pictures. This is also the direction for future image improvement. For actions, the existing actions are limited and not interactive. In the future, action styles should be enriched, and custom action designs should be provided to make actions more interesting.

As shown in Figure 11, video and audio are the direction of future image interaction, which includes the advantages of images, text, and actions. People have higher expectations for video and audio. Most people have a good opinion of the visualization, intuitiveness, and interactivity of video and audio. For the future development of video and audio, people have put forward new requirements, looking forward to the future; video and audio will make breakthroughs in interactivity, visualization, and interactivity and achieve deep-level "human-computer interaction" [24, 25].

4. Discussion

This article investigates the young people's feelings and evaluations of the interactivity of Internet products. Most people's evaluations of various interactive products on the Internet are positive. After an in-depth discussion, they also found the shortcomings of interactive products. Interaction design is still limited to a single interactive product, which is not interesting enough and has limited user appeal. Interaction design is currently only at the initial stage of development, but the attention of users on the Internet is limited. It is impossible to capture the user's attention in a short period of time, and it is difficult to realize the next series of strategies. When the technology cannot be improved quickly, there is a lot to do in satisfying the interest of users. In the future, the design of Internet products should investigate user needs, use rich expressions, and combine different design elements to enhance the interest of products, attract users' attention, and achieve a greater degree of interactivity. Through the research on the interactive interface theory, this paper organizes and summarizes the interface design and interaction design of Internet products, summarizes the methods of interface design and interaction design of Internet products, and uses specific cases for design analysis. At the same time, it studies the users of Internet products, summarizes the characteristics of the user experience of Internet products, and proposes a dynamic division method for product user groups on the basis of traditional user group division.

5. Conclusion

This paper conducts research on the interaction of Internet fun design resources, combined with the in-depth application of the network communication system, to investigate users' feelings and evaluations of the interaction of Internet products. After surveying people of different age groups, we have roughly understood that the current users' evaluations of Internet interactive products are positive. For specific interactive products with different elements, modern video elements are more attractive than traditional graphic actions. Interesting has a powerful advantage, which can help the product enhance the attractiveness and increase the added value. This provides a direction for future interactivity improvements. However, there are also some shortcomings: It has not been able to conduct a more comprehensive analysis and research on the interactive design of hardware; when studying the interestingness of interactive product design, the research on the reasons for the interestingness of people is not comprehensive enough, and I hope that follow-up research. There are professional and scientific research methods and equipment to make more in-depth and detailed discussions on the reasons for human interest and to conduct more comprehensive and in-depth learning of other related disciplines, so as to develop a more comprehensive interesting design in the Internet interactive design research on the methods applied in. The existence of the design is to solve the problem, the fun is the flavoring agent in the process, and its expression

is not limited to certain categories, and there is a huge development space and prospects worth exploring.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that there is no conflict of interest with any financial organizations regarding the material reported in this manuscript.

References

[1] R. Woodbury, A. Mohiuddin, M. Cichy, and V. Mueller, "Interactive design galleries: a general approach to interacting with design alternatives," *Design Studies*, vol. 52, pp. 40–72, 2017.

[2] G. Sequenzia, G. Fatuzzo, S. M. Oliveri, and R. Barbagallo, "Interactive re-design of a novel variable geometry bicycle saddle to prevent neurological pathologies," *International Journal on Interactive Design & Manufacturing*, vol. 10, no. 2, pp. 165–172, 2016.

[3] S. Rizzuti and L. D. Napoli, "An interactive robust design approach in product development," *International Journal on Interactive Design & Manufacturing*, vol. 12, no. 2, pp. 677–688, 2018.

[4] W. T. Abbood, O. I. Abdullah, and E. A. Khalid, "A real-time automated sorting of robotic vision system based on the interactive design approach," *International Journal on Interactive Design and Manufacturing (IJIDeM)*, vol. 14, no. 1, pp. 201–209, 2020.

[5] K. H. Kim, J. C. Park, Y. S. Suh, and B. H. Koo, "Interactive robust optimal design of plastic injection products with minimum weldlines," *International Journal of Advanced Manufacturing Technology*, vol. 88, no. 5-8, pp. 1–12, 2016.

[6] L. F. Gutierrez, S. Vargas, F. Cervantes, G. Torres, and F. Ramos, "Simplifying the design of interactive simulations of deformable objects," *IEEE Latin America Transactions*, vol. 14, no. 1, pp. 391–397, 2016.

[7] A. Amory, "Activity theory and interactive design for the African storybook initiative," *Journal of Educational Multimedia & Hypermedia*, vol. 27, no. 3, pp. 293–308, 2018.

[8] H. Jim, "Art game: an early interactive design from the office of Charles and Ray Eames," *Interactions*, vol. 24, no. 3, pp. 27–35, 2016.

[9] H. S. Yoo and Y. J. Da, "Gesture interaction design based on user preference for the elastic handheld device," *Journal of the Ergonomics Society of Korea*, vol. 35, no. 6, pp. 519–533, 2016.

[10] C. K. Andersson, "Google is not fun : an investigation of how Swedish teenagers frame online searching," *Journal of Documentation*, vol. 73, no. 6, pp. 1244–1260, 2017.

[11] L. C. Vieira and C. D. S. F. Soares, "Assessment of fun in interactive systems: a survey," *Cognitive Systems Research*, vol. 41, pp. 130–143, 2017.

[12] I. M. Verner, A. Polishuk, and N. Krayner, "Science class with RoboThespian: using a robot teacher to make science fun and engage students," *IEEE Robotics & Automation Magazine*, vol. 23, no. 2, pp. 74–80, 2016.

[13] N. Tegn, M. Abdelnoor, L. Aaberge et al., "Invasive versus conservative strategy in patients aged 80 years or older with non-ST-elevation myocardial infarction or unstable angina pectoris (after eighty study): an open-label randomised controlled trial," *The Lancet*, vol. 387, no. 10023, pp. 1057–1065, 2016.

[14] A. Greenhill, K. Holmes, J. Woodcock et al., "Playing with science," *Aslib Journal of Information Management*, vol. 68, no. 3, pp. 306–325, 2016.

[15] C. Grange and H. Barki, "The nature and role of user beliefs regarding a website's design quality," *Journal of Organizational and End User Computing (JOEUC)*, vol. 32, no. 1, pp. 75–96, 2020.

[16] Z. Han, Y. Ma, G. Gong, R. Huang, L. Song, and Y. Bi, "White matter pathway supporting phonological encoding in speech production: a multi-modal imaging study of brain damage patients," *Brain Structure & Function*, vol. 221, no. 1, pp. 577–589, 2016.

[17] A. Fiebich, "Narratives, culture, and folk psychology," *Phenomenology and the Cognitive Sciences*, vol. 15, no. 1, pp. 135–149, 2016.

[18] J. Shen, Y. Liu, R. P. Thornburgh, A. R. Kreshock, and M. L. Wilbur, "Design and optimisation of an aerofoil with active continuous trailing-edge flap," *Aeronautical Journal*, vol. 120, no. 1231, pp. 1468–1486, 2016.

[19] S. Lee, S. Kim, M. Seo, and D. Har, "Synchronization of frequency hopping by LSTM network for satellite communication system," *IEEE Communications Letters*, vol. 23, no. 11, pp. 2054–2058, 2019.

[20] H. Futaki, J. Lee, and K. Hamabe, "Radio communication system, communication apparatus, radio communication network system and method therefor," *Mediterranean Journal of Social Sciences*, vol. 3, no. 2, pp. 145–150, 2017.

[21] S. K. Viswanath, C. Yuen, W. Tushar et al., "System design of internet-of-things for residential smart grid," *IEEE Wireless Communications*, vol. 23, no. 5, pp. 90–98, 2016.

[22] R. van Renesse, H. Weatherspoon, Z. Shen, and W. Song, "The Supercloud: applying internet design principles to interconnecting clouds," *IEEE Internet Computing*, vol. 22, no. 1, pp. 82–86, 2018.

[23] J. J. Zakelj and K. M. Passino, "Feedback controller design over the internet of things," *Engineering Applications of Artificial Intelligence*, vol. 82, pp. 96–101, 2019.

[24] K. Shilton, "Engaging values despite Neutrality," *Science Technology & Human Values*, vol. 43, no. 2, pp. 247–269, 2018.

[25] Z. Lv, X. Li, and W. Li, "Virtual reality geographical interactive scene semantics research for immersive geography learning," *Neurocomputing*, vol. 254, pp. 71–78, 2017.