

# Digital Interaction Design Based on the Game of Beijing Snacks Thirteen Must

Xiaoyu Wang<sup>1</sup>

<sup>1</sup> National Academy of Chinese Theatre Arts, Beijing, China

## ABSTRACT

Beijing snacks thirteen must are an important part of Beijing's traditional cuisine. Beijing snacks thirteen must, including Lvdagur (glutinous rice rolls with sweet bean flour), pea puree cake and other traditional foods, also play an important role in Beijing cuisine, and can be seen as a treasure in Chinese traditional culture. However, with the rapid development of the economy, more people choose convenient fast food or trendy Western cuisine, while traditional cuisine is gradually fading. Therefore, it is necessary to better understand China's own ethnic cuisine, and "food is the top priority". Understanding traditional cuisine is also something that everyone should do. Games are also a widely accepted cultural dissemination method among young people in the new era in recent years. Integrating diverse interactive methods, music, animation, and science popularization into games is also more conducive to improving learning effectiveness and cultivating the ability to comprehensively learn knowledge. This article focuses on the Beijing snacks thirteen must, presenting different ways of popularizing science knowledge, and then integrates, organizes and concludes existing materials, and combines traditional Beijing cuisine with new media to spread traditional culinary culture.

**Keywords:** *Interactive games, Traditional culture, Beijing snacks thirteen must.*

## 1. INTRODUCTION

As an international city, Beijing has been most severely impacted by foreign cultures in recent years. Beijing snacks, as a fusion of various ethnic flavors, can serve as a symbolic entity of culture and become a gift for people to promote culture and strengthen cultural exchange. The survival of Beijing snacks has also faced unprecedented challenges, so the development of Beijing snacks has become very important. Therefore, starting from this, it is necessary to encourage the inheritance of this skill, attract more young people to learn about snacks, and solve the problem of promoting Beijing snacks, which also promotes the prosperity and development of Beijing culture.

For a long time, many characteristics have been formed in diet, which blend, absorb, and learn from each other, bringing people a unique cultural feast, which is the essence of traditional Chinese culture. So there is also a must to lead more promotional work on Beijing snacks, which has practical significance. Combining mobile games into a new

era of products, spelloort games are more suitable for spreading traditional culture and can better promote Beijing's traditional culture.

## 2. CONCEPT OF INTERACTIVE GAME "BEIJING FLAVOR"

In this section, the author explains the positioning of interactive games.

### 2.1 Definition of Interactive Games

In this part, the author explains the interactivity and advantages of interactive games.

#### 2.1.1 Concept Description of Interactive Games

The biggest difference between games and other forms of entertainment, such as movies and books, lies in their interactivity, which is also what sets them apart. Interaction can connect players with the game, allowing people in the game to truly immerse in the game, and truly control the game. From this,

players can learn about the fun and charm of the game, and easily acquire knowledge in the game.

Interactive technology is the use of one writing technology to achieve the purpose of interaction, gradually entering the era of multi domain applications, which is conducive to enriching life and obtaining meaningful information and knowledge.

### *2.1.2 Development Status of Interactive Games*

From ancient times to the present, there have been many game projects, such as Cuju, splines, and various entertainment electronic games, which have always accompanied people's growth. The myth in the gaming industry, Blizzard, seems familiar to everyone, and its gaming company has always been a classic myth. When conducting research on players, it was found that people's understanding of its games is "interesting". For example, the game "Warcraft" allows Blizzard to earn enough money for capital reproduction and expansion. With beautiful graphics and playable gameplay, players can truly enter the fun experience of their characters

From this, it can be seen that in the future, games will integrate interactivity and fun. In the process of unification, more specific operating procedures are also needed: firstly, overcoming the visual intuitive mode in the screen can further enhance the fun in the game; Secondly, games developed with the help of mobile phones are an indispensable medium for the public to access information; Mobile phones can make the implementation of games interesting, and players can experience the fun brought by games anytime and anywhere. Nowadays, mobile phones have begun to achieve convenient networking, allowing users to search for WIFI at any time. This type of mass media will also become a direct carrier for game interaction.

In game design, interaction is reflected in various stages to the entire process, and interaction is also an important feature that differs from other entertainment. The true characteristic of games is still that they are primarily interesting. Therefore, unifying interactivity and fun is also the trend of future game development, and the psychological requirement is to meet interest requirements and attract players' true interest in the game. In the new games in development, fun and science popularization should be the main directions.

## *2.2 The Advantages of Interactive Games in Developing Educational Games*

Adding interactive methods to educational games has two benefits for learners.

### *2.2.1 It Is Beneficial for Improving Learning Effectiveness*

Virtual reality technology can be used to improve learning outcomes without the need for cutting-edge equipment such as sensors or VR glasses. In fact, using new media, the internet, or mobile platforms also has good effects, as well as integrating animation and sound into educational games, which can greatly improve our teaching effectiveness, achieving better acceptance and learning outcomes.

At the same time, this learning method utilizes virtual reality technology to simulate real teaching situations, conduct a detailed analysis of learning concepts and knowledge, guide three-dimensional learning content from the sensory perspective, and make students can gradually learn knowledge and skills through active interaction, which not only stimulates learning interest and innovative awareness, but also fully stimulates imagination. This learning method can also provide a large-scale virtual reality experience among numerous learning subjects to consolidate the purpose of education and learn knowledge.

### *2.2.2 It Helps to Cultivate Comprehensive Abilities*

Using virtual reality technology to develop games, which operate independently and autonomously, can find the parts learners are interested in, making them become the leaders of learning, and play a guiding role, prompting many adults to change their behavior and ideas. By interacting in various virtualization scenarios and staying in a certain number of social activities, this implicit way of interaction can form good behavioral habits, and also contribute to the development of normal social leisure by combining knowledge and better improving learners' abilities.

### **3. THE INTERACTIVE VISUAL EXPRESSION OF THE INTERACTIVE GAME WORK "BEIJING FLAVOR"**

The followings are the explanations of design principles, interaction modes, and design processes in the interaction section of the game.

#### ***3.1 Interactive Design Principles***

The design principles of the game mainly apply the principles of interactive diversity and simplified hierarchy.

##### ***3.1.1 The Principle of Diverse Interaction***

Different ways of interaction enable learners to become proactive learners, transforming users from "receivers" to "creators". For example, in the example of "Commemorating the 20th Anniversary of Harry Potter", users are brought into the true magical world through interactive means, such as text tilting on the screen, text breaking on slides, and drawing their own spells. This interactive paradigm has emerged in a new form of interaction and generated a huge amount of dissemination. So it is not only limited to flat and fixed forms when popularizing the Beijing snacks thirteen must, but also very necessary to incorporate music and dynamic effects.

##### ***3.1.2 Principle of Simplifying Hierarchy***

Different digital communication methods have different characteristics. At this stage, it is necessary to use anthropomorphic psychological characteristics before design, grasp and rigorously establish the hierarchy of logical frameworks, clarify visual processes, directions, thirteen types of snack painting forms, and science popularization methods. In order to guide users, dynamic effects can be added to emphasize and increase the importance of information. Using a simple one-sided selection interface and selecting levels, linear operations within one page are easier for learners to adapt.

#### ***3.2 Interactive Mode Analysis***

In an atmosphere that allows for maximum learning and gives the experimenter a certain degree of freedom, people can choose a relatively simple interaction design here. People can manually

click the button to enter the game page they want to learn and participate in. The experimenters follow the learning process to enter a state of science popularization, experiencing different fun at different levels, and experiencing the history and knowledge of Beijing snacks thirteen must, which can allow players to learn knowledge in a comfortable, concise, and enjoyable gaming experience.

#### ***3.3 Interactive Process Settings***

As shown in the interactive mode in the following "Figure 1", there will be three different interactive buttons at the beginning of "Beijing Flavor", and each button corresponds to different knowledge about learning the thirteen must snacks.

When selecting "Click to serve" on the homepage, and a direct introduction of ten things will appear, including their name, form, production method, and history; Selecting "Fun Guess" on the homepage will result in a morphological transformation of the remaining three delicious foods. Players should choose one option in two for the food that appears, then choose a name, and if they choose a food that has not been guessed, if there is an error, a science popularization introduction will appear for the food; Selecting "Find Snacks" on the homepage will bring up three images of different scenes connected together. Players need to find thirteen traditional Beijing cuisine that they have just learned about through science popularization in these three scenes.

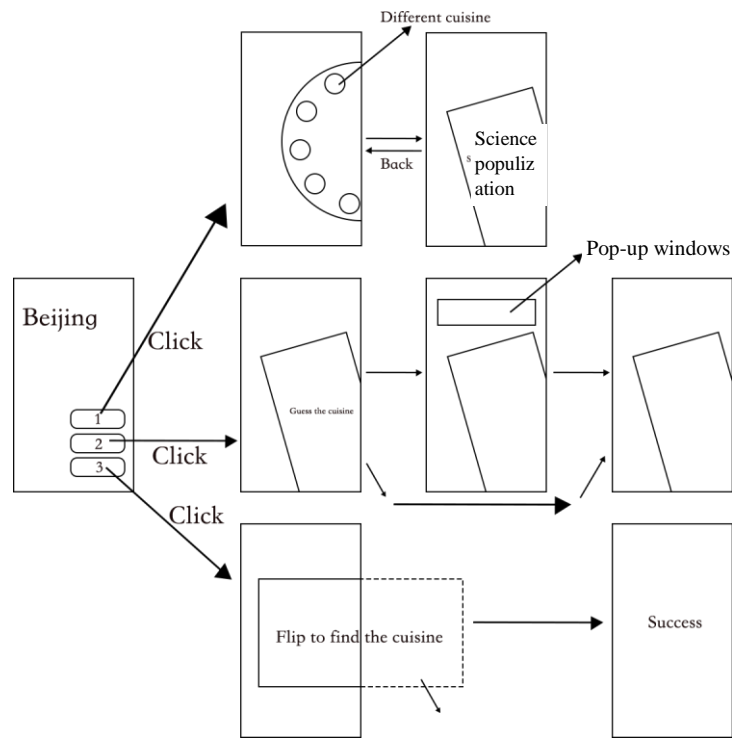


Figure 1 Interaction flowchart.

#### 4. DESIGN AND PRACTICE OF INTERACTIVE GAME "BEIJING FLAVOR"

The following content mainly focuses on the setting style and design of various elements in game design.

##### 4.1 Design Settings

The designers express the food in the form of illustrations, breaking through the original form of depiction. Adopting the form of H5 mini games, seamlessly connecting various terminals, it has universality and is incomparable to previous games. The designers also add dynamic special effects to the flattened design. After morphological screening, representative snacks are redesigned in graphical form, and designed and processed based on the original colors and forms of the food. Traditional Beijing snacks are effortlessly presented using youthful pop art dynamic language. The overall visual style is fresh and lively, with strong color contrast, combined with lively music, to effortlessly present traditional Beijing snacks. The aim is to educate more young people about traditional Beijing snacks and learn about the thirteen must snacks.

Pop artists usually use colorful symbols, such as red, blue, yellow, and other colors when creating art. They also use exaggerated visual effects to attract attention and attract attention, and their works will become more popular nowadays. The keywords include copying, overlaying, and reproducing. In Andy Howell's works, there will be paste art forms that present a character in different color blocks and images; There are also iconic elements such as dots and short lines, such as the iconic elements in the works of Yayoi Kusama and Roy Lichtenstein, which have popularized art to a broad extent, adding with contrasting colors and clear and tough lines, collages, colorful colors, and repetitive constructions. ("Figure 2")

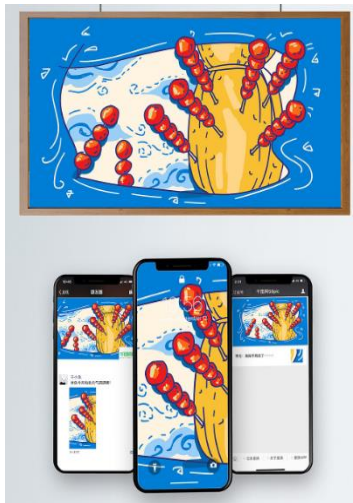


Figure 2 Example display.

## 4.2 Element Design

The element design in this article is the design that mainly conceptualizes and designs around elements in the game.

### 4.2.1 Form Setting of Beijing Snacks Thirteen Must

A hand drawn style around the food elements in the game is adopted.

#### 4.2.1.1 Cream Fried Cake

Cream fried cake can be called a nutritious snack variety among Beijing snacks. In his production process, natural ingredients such as flour and egg liquid are used, which are fried together with vanilla powder and sugar. In design, the colors are mainly yellow and white, with realistic forms and connections with the scene. (“Figure 3”)



Figure 3 Drawing of cream fried cake.

#### 4.2.1.2 Seasoned Millet Mush

Seasoned millet mush is a traditional snack in Beijing. Seasoned millet mush is not a traditional tea, but is made by boiling millet flour, and in its expression, it is a layer of sesame paste. The method of drinking Beijing seasoned millet mush is that people hold a bowl in their hand and rotate their mouth around the edge of the bowl to drink, without using chopsticks or spoons. In the design, brown yellow is the main color, with blue and red as embellishments, and the bowl is held in hand in a realistic form. (“Figure 4”)



Figure 4 Drawing of seasoned millet mush.

#### 4.2.1.3 Ginger Shredded Skewers

Ginger shredded skewers are also known as ginger sauce skewers, ginger crispy skewers, and honey skewers. It belongs to a type of Beijing cuisine tea and is one of the ceremonial foods of the Manchu and Hui ethnic groups. During major banquets, people drink tea first and then eat cold meat, hot dishes, desserts, and soup. In the design, yellow is the main color, with red as the decoration, combined with the traditional Chinese New Year bags in a realistic form. (“Figure 5”)

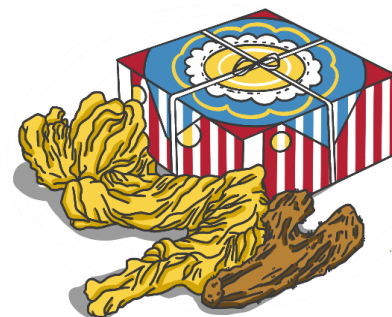


Figure 5 Drawing of ginger shredded skewers.

#### 4.2.1.4 Pea Puree Cake

Pea puree cake, as a traditional snack in Beijing, can be seen everywhere in spring. It has a light yellow appearance, a sweet and refreshing taste, and is famous for being loved by Cixi. Pea puree cake is a common spring food, which is often seen at temple fairs in spring. In the design, yellow brown is the main color, white green is the auxiliary, realistic is the main, and pop point elements are incorporated as decoration. ("Figure 6")

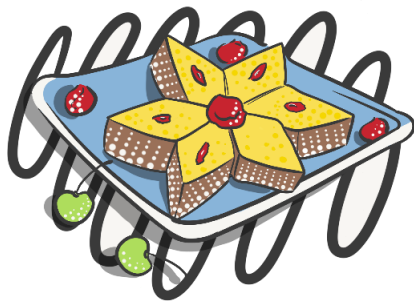


Figure 6 Drawing of pea puree cake.

#### 4.2.1.5 Stewed Liver

Stewed liver is one of the traditional snacks in Beijing. The stewed liver sauce is fresh and red, and the liver is tasty and the intestine is fat, which is strong in taste. Stewed liver is a type of folk snack in Beijing, developed from the folk food of the Song Dynasty as "boiled liver" and "fried lung". Using pig intestines and liver as the main raw materials, Beijing snacks are made by thickening them with starch. In design, brown and cyan are the main colors, combined with blue and white porcelain colors. ("Figure 7")



Figure 7 Drawing of stewed liver.

#### 4.2.1.6 Sugar Rolled Fruit

Sugar rolled fruit, as a famous Chinese snack, also occupies a place in Beijing's traditional cuisine and is a popular variety both in China and abroad, especially loved by women. The main raw materials are jujube and yam, with green plums, melon seeds, peach kernels, etc. In the design, the main focus is on brown red, with green, white, and red as embellishments, with realistic elements. Adding a background can enhance contrast.



Figure 8 Drawing of sugar rolled fruit.

#### 4.2.1.7 Crisp Noodle Dough Twists

Crisp noodle dough twists is one of the most popular snacks in Beijing. It was formerly known as "ring cake" or "cold utensil". It's crispy, sweet, and delicious. Ring cake has a longer history, appearing during the Warring States period and later developing into an essential food for the Cold Food Festival. In the design, yellow and white are

the main colors, and the background bag design indicates halal food. ("Figure 9")



Figure 9 Drawing of crisp noodle dough twists.

#### 4.2.1.8 Sugar Baked Bun

Sugar baked bun is a traditional snack known for being used as a stove to directly bake the walls of the cylinder during production, and has a history of over 300 years to this day. Sugar baked bun has a sweet and strong taste, soft and sticky to the teeth, making it very suitable for the elderly. The design is mainly brown, yellow, and white, showcased in the fireplace to create a smoke effect as an embellishment. ("Figure 10")



Figure 10 Drawing of sugar baked bun.

#### 4.2.1.9 Fried Doughnut

Fried doughnut is a traditional Beijing snack and one of the most common foods on the dining table. Its color appears light yellow, like a bracelet closed, and after frying, it has a scorched aroma and a very unique taste. As early as Li Shizhen's "Compendium of Materia Medica - Grains", it has been recorded that "adding a little salt, twisting the rope into a ring shaped bracelet, and frying it for food." It has a history of thousands of years in China. In the design, a yellow base, white and light

yellow accents are used, with two focal circles superimposed to increase the sense of hierarchy. ("Figure 11")

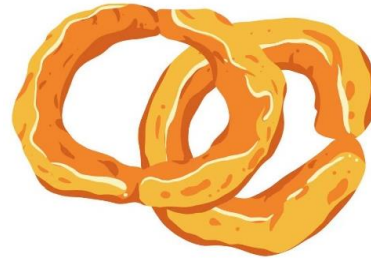


Figure 11 Drawing of fried doughnut.

#### 4.2.1.10 Aiwowo (Steamed Rice Cakes with Sweet Stuffing)

Aiwowo is a long-standing snack in Beijing and is highly popular among the public. The "Beijing Traditional Culture Guide" records that Aiwowo is a "halal flavor snack in Beijing. It is snow-white in color, spherical in shape, sticky and soft in texture, and has a sweet and fragrant taste. It was named 'royal Aiwowo' because it was a favorite food for emperors and empresses during the Ming Dynasty. Later, it was passed down to the people and evolved into 'Aiwowo'." In the design, pink is used as the base and white as the main color, while yellow is used to complement white, creating a realistic style. ("Figure 12")

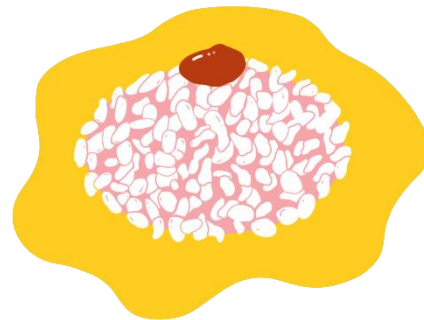


Figure 12 Drawing of aiwowo.

#### 4.2.1.11 Lvdagur (Glutinous Rice Rolls with Sweet Bean Flour)

Because the last process of making this snack is to cover it with soybean flour, which is the outermost layer, just like in the old Beijing period, some wild donkeys would raise a layer of loess when they played games, hence the name "Lvdagur (glutinous rice rolls with sweet bean flour)". Its

dark yellow appearance is the outermost yellow bean noodles, which are filled with glutinous rice and red beans. It tastes sweet and delicious, soft and sweet, and is very popular. In the design, light yellow is used as the main color, and red is interspersed. In the modeling design, the shape of the donkey is Chinese Lvdagur, and the donkey hooves are metaphorical of Lvdagur. ("Figure 13")



Figure 13 Drawing of Lvdagur.

#### 4.2.1.12 Toad Spitting Honey

During the reign of Zhu Di in Ming Dynasty, there was a battle called the "Jingnan Battle". The soldiers carried a kind of portable dry food, which was made by spreading sheep fat oil on the baked cakes. After seeing this kind of cake, the Liu family sprouted the idea of making it and continuously explored it. During this exploration, the Liu family finally discovered this snack "toad spitting honey", which has 26 different programs. This skill is now fully inherited. In the design, yellow and brown are the main colors, while the toad next to it is blue, with strong color contrast and a combination of realism and allegorical design. ("Figure 14")

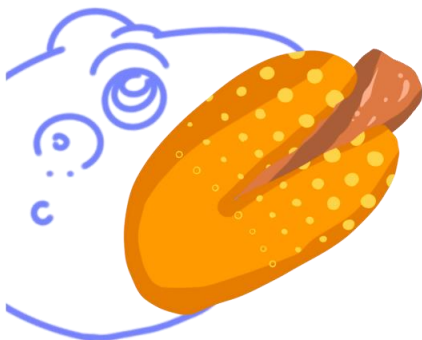


Figure 14 Drawing of toad spitting honey.

#### 4.2.1.13 Sugar Ear

Sugar ear is also called honey fried dough twists because its shape is similar to human ear after being made. In 1997, it was rated as a "Beijing Famous Snack" and "Chinese Famous Snack". Sugar ear is brownish yellow in color, looking shiny and oily. When it comes to arguing, the taste is very soft and sweet. In the design, yellow is used as the main color, with varying shades of yellow as the base, and pasting and realistic techniques are used. ("Figure 15")



Figure 15 Drawing of sugar ear.

#### 4.2.2 *Scene Diagram Design*

These two scene images are in the third part of the level, integrating the delicacies from the Beijing snacks thirteen must into the theme of Beijing culture. In the picture, there are decorations reflecting traditional culture such as time-honored plaques. Thirteen types of distribution are hidden among them. ("Figure 16")





Figure 16 Scene design diagram.

### 4.3 Game Interface Design

Mainly explaining the concept and design of the game interface, including the loading interface, main page, and game interface.

#### 4.3.1 Loading Interface Design

The main display method is to hold your phone in hand, and the food floating out of the screen above is one of the Beijing snacks thirteen must. The form of asking "How much do you know about Beijing snacks?" drives curiosity and introduces it to the homepage. ("Figure 17")



Figure 17 Home page design diagram.

#### 4.3.2 Main Interface Design

Yellow is the main color, with yellow and blue contrasting each other to stimulate curiosity and complement colors. There are snacks on the right side of the homepage that directly lead to the theme, and the large orange question mark in the middle also stimulates curiosity. The three buttons below lead to the secondary interface. ("Figure 18")



Figure 18 Main interface design diagram.

### 4.3.3 Secondary Interface Design

The secondary interface design mainly focuses on the design of the secondary interface after entering the game interface, including the design of three levels in the game.

#### 4.3.3.1 The First Level "Click to Serve"

After clicking to enter the first level, another page will appear. The disk on the right is in a rotating state, and ten snacks will appear on the table. People can click to display their introduction. ("Figure 19")



Figure 19 Secondary interface design diagram.

#### 4.3.3.2 The Second Level "Fun Guess"

The players can guess the three forms of traditional Beijing cuisine, presented in ways such

as pasting, painting, and realism. There will also be different interfaces for correct and incorrect answers, and incorrect answers will lead to knowledge popularization. ("Figure 20")



Figure 20 Secondary interface design diagram.

#### 4.3.3.3 *The Third Level "Find Snacks"*

The third level is a combination of three scene images. The designers use a sliding motion to find the thirteen types of snacks displayed below. Combining what players have learned from popular science in the first two levels with the images, they

need to find the number of snacks in the upper left corner of the found snacks below, and you will be able to distinguish different types of snacks more clearly until you pass the level. This concludes the popular science learning of the thirteen unique snacks. ("Figure 21")



Figure 21 Secondary interface design diagram.

## 5. CONCLUSION

After understanding and analyzing the relevant materials of the Beijing snacks thirteen must, this article found that there are still many people who are not familiar with Beijing's traditional food culture, and there is still a need for more in-depth science popularization and development in the culinary aspect of Beijing's traditional culture.

This article introduces the interactive game of the Beijing snacks thirteen must, integrating unique culinary culture into new media, so that more people can understand Beijing's traditional culinary culture. Because many people have little understanding of Beijing's traditional culinary culture, it is not only about culinary culture, but also about popularizing Beijing culture and culinary history, which can help the public have a better understanding of Beijing's traditional culinary culture.

## REFERENCES

- [1] You Min, Gossip about Beijing Snacks [J]. Chinese & Foreign Corporation Culture, 1998(11). (in Chinese)
- [2] He Chenhui, The Problem of Talent Inheritance in Beijing Snacks Urgently Needs
- [3] Liu Biao, A Study on the Gamification Inheritance and Communication of Excellent Traditional Chinese Culture [J]. Art Appreciation, 2021(26): 60-61. (in Chinese)
- [4] Zhang Shaoxuan, Research on the Communication of Traditional Culture in Mobile Games: Taking "The Hundred Scenes of Jiangnan" as an Example [J]. New Media Research, 2020, 6(23): 34-36. DOI:10.16604/j.cnki.issn2096-0360.2020.23.009. (in Chinese)
- [5] Zhang Geng, Xiang Yang, Research on Interactive H5 Advertising Design of Mobile Games [J]. Design, 2020, 33(03): 131-133. (in Chinese)
- [6] Han Yuwei, Research on the Communication of Traditional Culture in Ancient Villages Based on H5 Interactive Design [D]. Zhongyuan University of Technology, 2021. DOI:10.27774/d.cnki.gzygx.2021.00025 1. (in Chinese)