



# Research on O2O Product Design of Beautiful Rural Tourism in the We-Media Era

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**Abstract.** This paper analyzes the present situation and development trend of rural tourism, and puts forward the idea of developing tourism-like O2O products by using We-Media communication effect. By deconstructing the three functions of We-Media era, tourists' experience behavior and O2O products, a beautiful village from the We-media era is constructed with the breakthrough of tourists' experience mode and the function mode of O2O products. The design method and concrete measures of tourism O2O product system are introduced, and the design practice of Tangshan Village in Nanjing City is taken as an example to verify the method. It provides a reference for the innovative construction of the beautiful countryside in the mobile Internet era.

**Keywords:** Rural tourism · We-media communication ·  
O2O product function · Experiential behavior mode · Virtual image design

## 1 Introduction

Since the 19th National Congress, the rural revitalization strategy centered on the issues of agriculture, rural areas and farmers has been raised to an unprecedented height. At present, the research results on beautiful countryside are mainly focused on policy interpretation, research and analysis in a certain region, information services and the construction of rural complex ecosystem, but the research achievements in the field of product design are very rare. At a time when the number of free travelers is constantly rising, beautiful countryside has great potential for developing its characteristic products. Therefore, tourism, as a green, high-quality industry that can effectively boost consumption, has become the entry point for beautiful countryside's development. The media environment has changed in the mobile Internet era, and the We-media communication platform has formed a momentum of large user base, sufficient content creativity and great communication power. Because of the low utilization rate of mobile phone applications, more and more traditional brands have abandoned the application development model and tried to explore new models and create new products on the We-media platform. Therefore, in the mobile Internet era, it is urgent to carry out practical research on how to make full use of the advantage of We-media communication to design and develop characteristic products in beautiful countryside.

## **2 The Current Situation and Development of Tourism in Beautiful Countryside**

### **2.1 The Present Situation of Beautiful Countryside and Its Tourism Development**

In the process of rapid urbanization, confronted with the problems of declining traditional agriculture and deteriorating ecological environment, villages are facing marginalization and hollowing-out, the concept of “beautiful countryside” has been put forward: a sustainable development village with scientific planning, production development, comfortable living, civilized rural style, clean and tidy village, democratic management, as well as livable and suitable industry [1].

In the 1970s, Japan’s “village building movement” has exerted great efforts to build up the characteristics of rural industry and humanistic charm, which has a profound impact on its rural revitalization and development. One of the most representative “One Village, One Product” campaign is a typical case of comprehensive development of rural resources for high quality, leisure, diversity and other needs of the city. In recent years, a number of good examples of beautiful countryside construction have also emerged in our country, such as Wuyuan in Jiangxi and Anji in Zhejiang, both of which have become “the most beautiful countryside in China” by virtue of their natural environmental resources and superior geographical conditions and relying on diversified publicity and tourism products. Rural tourism is the fastest growing sector in China’s tourism investment. In 2017, the number of tourists received exceeded 2.5 billion, and the tourism consumption scale increased to 1.4 trillion, driving 9 million farmers to benefit [2]. It can be seen that tourism, as an industry that can realize the all-round development of economy, environment and humanities, has become a breakthrough in the development of beautiful countryside.

### **2.2 Beautiful Countryside’s Tourists Demand Escalates**

Statistics released by the National Tourism Administration in 2017 show that free travel is the main way of rural tourism, and self-driving is another major trend. Specific to the travel time and distance, the tourists’ two-day tour is generally between 150 and 300 km, and the three-day tour is generally within 600 km [3]. This means that most tourists with a certain consumption ability will freely choose the rural tourism route on weekends or small holidays. Besides, they have a certain consumption ability and aesthetic judgment, and the choice of destination mostly comes from the Internet. If the rural tourism projects are still only on the same performance and the same small commodity display, it is already difficult to meet their needs. Therefore, under the surface geographical environment characteristics, the deeper and differentiated rural connotation and customs display have become the new demand of tourists, and the creation of its core experience content has become particularly important.

### **2.3 Tourism Development of Beautiful Countryside with the O2O Model**

With the development of mobile Internet and Internet of Things intelligent technology, beautiful countryside's tourism products rely on intelligent information technology to complete data acquisition, identification, storage, analysis and feedback through VR (Virtual Reality) technology, thus constituting a complete industrial chain. The beautiful countryside tourism under O2O (Online to Offline) mode is to use online display and interaction to expand the offline tourism space, enable consumers to delete and pay for products and services online through the Internet, and then use vouchers to go to offline destinations to experience relevant tourism services. With the popularization of mobile terminals and the Internet, Online to Offline has three typical characteristics of socialization, localization and mobility, which can effectively use its social communication effect to gather popularity for the development of local rural tourism and promote its consumption upgrade so as to boost the development of local related agriculture.

### **2.4 We-Media Communication Effect and Beautiful Rural Tourism**

We Media as a way to begin to understand how ordinary citizens,empowered by digital technologies that connect knowledge throughout the globe,are contributing to and participating in their own truths, their own kind of news [4]. This concept breaks the traditional mode of one-way information dissemination, including microblog, WeChat, short video social networking sites and other types. The user's subjective consciousness is enhanced; the content of the dissemination is fragmented and personalized, and it can cause instant public opinion effect [5]. Therefore, combining with Online to Offline design and innovation of tourism products from the media era, it will become the engine for industrial development, transformation and upgrading of beautiful rural industries.

## **3 Construct a Tourism O2O Product System in Beautiful Countryside from the We-Media Era**

The construction of beautiful countryside's tourism O2O product system in the era of We-media is divided into three parts: First, the construction of tourists' experience mode, which mainly refers to the integration of tourists' experience behavior, sharing behavior and consumption behavior. The second is the construction of O2O product function, which mainly refers to the exchange and transformation of information data between the virtuality and reality. The third is to propose specific product design measures under the prototype of constructed method.

### **3.1 Construction of Tourist Experience Mode**

Since the media era, the mode of tourists' access to information has changed dramatically: the mobile convenience of mobile phones has promoted a high degree of integration between social networks and real life, and to a large extent has affected

tourists’ purchase and consumption behavior. On the one hand, the channels and carriers of tourism information dissemination are combined through the We-media platform and tourists’ way of life. Then O2O products become an important node connecting tourism destinations and users’ needs, bearing the role of experience acquisition and sharing diffusion. On the other hand, every tourist is a relatively independent and complete individual. They make up a virtual community through the We-media platform owing to a certain life link or interest. What’s more, they also have real social activities, obtain and share information with each other. Therefore, the most valuable construction in O2O product system is the integration of tourists’ experience behavior, sharing behavior and consumption behavior. The experience consumption behavior of tourists is interpreted into five stages of AIVSA, and the experience mode in O2O product system is constructed according to the sharing characteristics of the We-media era. As shown in Fig. 1:

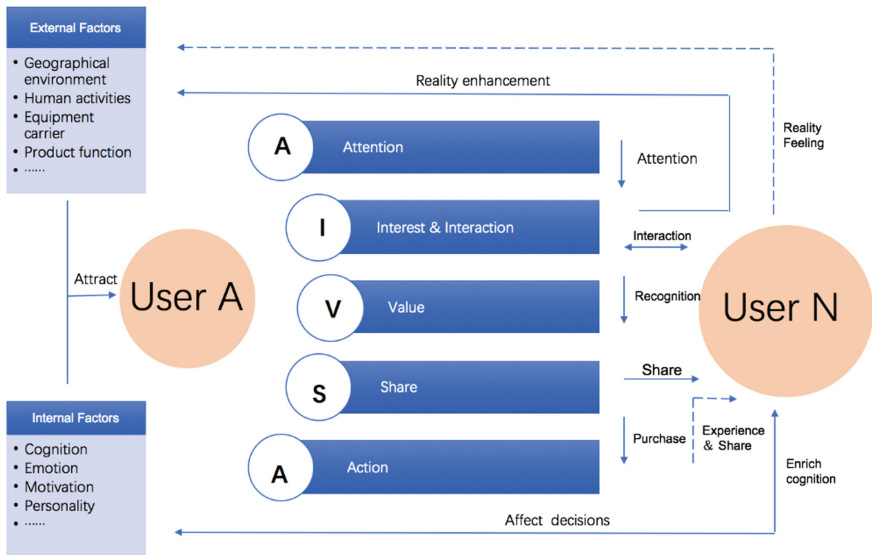


Fig. 1. Tourist experience pattern map

1. The external factors (geographical location, cultural activities, equipment carriers and product performance, etc.) of rural tourism destinations are concerned by the internal factors (cognition, emotion, motivation and personality, etc.) of tourists User A, which is the first stage of the experience model A that is attracted and recognized.
2. User A starts product interaction in the second phase of experience I (INTEREST & INTERACTION), including interaction with other users(User N), and interaction between User A and the tourism external environment through AR(Augmented Reality) technology in O2O products to form a reality enhancement.

3. Usually go through the first two stages to enter the third stage V(Value)-value recognition, and then enter the fourth stage S(Share) to share their feelings with other users(User N) on the basis of this recognition.
4. User A directly enters the final stage of experience mode A(Action) after V(Value) is approved to buy or consume and then returns to the fourth stage S(Share) to share the good experience to other users(User N).
5. Other users(User N) who share information can influence each other's internal factors during the interaction with User A, and can also feel their external factors simultaneously in O2O product system through the interaction of both sides, respectively, to enhance their real experience.

Therefore, the external factors that attract tourists involve people, culture, production, land and scenery, which constitute the local community entities in beautiful countryside. Tourists User A and other users(User N) form a virtual community through We-media platform due to the sharing and interaction between a certain life link, product or interest. The virtual community and the physical community interact through the five stages of the tourists' AIVSA experience.

### 3.2 O2O Product Function Construction

SOLOMO is the most typical three functions of O2O products, namely, Social, Local and Mobile, and refers to the regional interaction between users based on location contact through mobile phones [6]. Since the We-media era, the functional structure of the tourism product system has changed. Therefore, the O2O product function is deconstructed on the basis of tourists' experience behavior, as the exchange and transformation of information data between the virtuality and reality are analyzed. When a tourist arrives at a tourist destination in beautiful countryside, he has two types of location-based information: location information and spatial information. When tourists choose to share location information to the online site, they can match the online payment, identity confirmation, Check-in and other functions at the offline site. When tourists share their spatial information, for one thing, they can share the information with other users through the online site, and for another, they can enhance reality through the online site. The mode is shown in Fig. 2.

1. Tourists (User A) have two kinds of information based on the tourist location: location information and spatial information when they reach the destination of the tour, that is, the offline of O2O system. Location information usually includes: geographic location, equipment carrier, environmental route, etc. Spatial information usually includes: landscape, theme activities, product appearance, etc.
2. User A's location information is authenticated and matched through personal information with Offline account login, enabling to use online booking, online payment, Check-in, Check-out, GPS, traffic and weather queries and other functions at the Online;
3. User A's spatial information can make him show his own pictures, short videos and playing experience through the system's We-media online, or also share experiences, display pictures and exchange with other users(User N), etc.

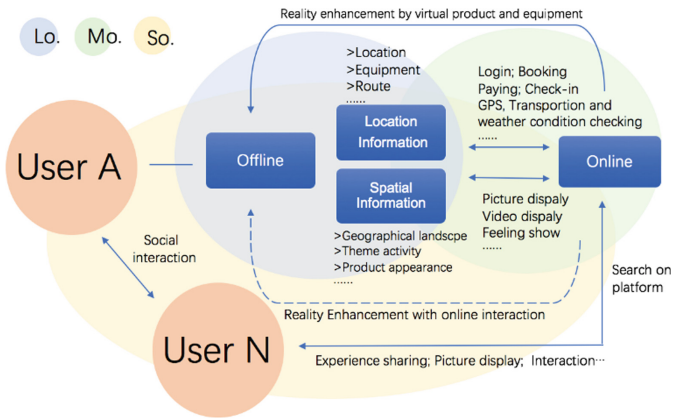


Fig. 2. O2O product function diagram

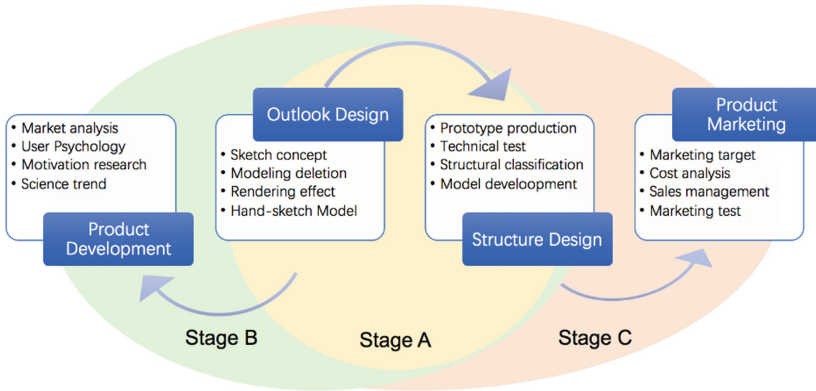
4. User A’s spatial information directly enhances the real environment at Offline of O2O system by interacting with products at Online;
5. The spatial information of User A enhances the real environment of Offline again through the interaction between the Online and other users(User N).
6. Other users(User N) can search for User A’s location information at the Online through direct social communication with User A, thus realizing sightseeing activities at the Offline of the destination.
7. Other users(User N) make online reservation and payment through the spatial information display of User A on the online to reach the aimed offline of the destination for sightseeing.

Therefore, the aimed offline of the tour destination and its location information and spatial information belong to the Local function of the whole O2O product system. The online terminal of the user’s mobile equipment belongs to the Mobile function of O2O product system. During this period, the information sharing and interaction between User A and User N was realized by using the We-media platform, which belongs to the Social function of the entire O2O product system.

### 3.3 Product Design Initiatives

Entering the era of We-media of information interconnection, the traditional top-down industry model of traditional product design has been broken, and the design chain has gradually penetrated into the upstream market analysis, product research and development and downstream product marketing.

As shown in Fig. 3, stage A is the responsibility of the traditional product design. with the optimization of information and internet technology, product designers participate in the user demand analysis of the market research and development department, and then product design enters stage B. Since the media era, product design has extended to the stage C: it is a step closer to users. In addition to making use of big data to obtain potential demand more conveniently, it can also participate in product



**Fig. 3.** Product design process diagram

marketing more directly and obtain experience feedback of user interaction in a timely manner. Therefore, the product design in the We-media era shows the new features of expanding the design chain, shortening the development cycle, demanding the core content of the product, cross-border integration of teams, and innovation of marketing model [7]. Through the constructed product system, the following four specific measures for the design and development of tourism O2O products in beautiful countryside are provided:

- (1) **Pay attention to the design of brand virtual image and explore its cultural transmission.** According to the experience model of tourists in the system, we can see that since the We-media era, tourists have been no longer blindly guided by commercial advertisements but actively have started collecting relevant information, and the content with relevance and sense of identification is more likely to attract the attention of tourists' internal elements and be actively accepted and disseminated. At the same time, the product brand of the We-media platform has the function of media: it can become a provider of content, even design and produce high-quality media content, and then release it directly to target customers through the We-media platform. Therefore, User A in the system is not only a real individual tourist, but also a virtual image of a product brand. It makes the brand have the characteristics of image specificity and personification, makes its design concept concrete into a virtual image, and enables tourists to understand the valuable information behind its products and arouse their recognition and resonance through personalized interaction with other users from the We-media platform.
- (2) **Making use of the community effect to create customized services.** In the system model, users gradually form a virtual community in the We-media platform because of their living environment or interests. They gather together to share life, work or entertainment information without geographical restrictions, constituting another interest community among themselves and emerging new consumption demands. At the same time, the external factors that attract tourists in the system involve people, culture, production, land and scenery, constituting

the local community entity in beautiful countryside [8]. They influence each other through the AIVSA experience phase of tourists. Therefore, the development of the real community in beautiful countryside needs to analyze the target user's information data in the virtual community, explore the potential demand matched with its cultural connotation, create customized services, and achieve a higher degree of integration of virtual reality through hardware equipment.

- (3) **Design the theme of products and focus on experience and interaction.** In accordance with the interest interaction and sharing mode in the experience system, tourists are no longer satisfied with offline single-line consumption but prefer online interactive participation to experience local culture. Therefore, in developing products, we should not only tap the value of local products, but also focus on the sensory experience that users get in the whole O2O product interaction: designing the routes, services and derivatives of rural themes, and creating their relevant visual, auditory, tactile, taste, smell and other experiences according to users' demands, not only staying in the product development at the "object" level, but also building tourists' using logic, behavior trajectory, scene space and even lifestyle [9]. Taking advantage of the sharing features in the experience mode, tourists can spread the experience through the We-media platform to attract more potential groups to understand, share and feel the beautiful village in person. In the meantime, the secondary processing and creation of this information has also become an important part of the whole system, realizing the value creation of both users and products.
- (4) **Activation of rural resources and diversification of product forms.** The primary factor attracting tourists' attention in the constructed system is the external factors of the tourist destination, so it is essential to realize the activation of rural resources: to develop the main rural resources and pillar industries in depth and at multiple levels so that they can operate independently and effectively in good order to attract local villagers to return to their homes, and to participate in the refactoring and construction of rural resources, and make their homes truly "beautiful countryside" [10]. Hence, in the process of carrying out this experiential design, the design forms of the products are diversified: compared with the traditional products, the tourism O2O products in beautiful countryside lay more stress on expressing their regional cultural characteristics through diversified technical means, creating a more novel and unique sensory experience, and enhancing their realistic expression through the interaction of the mobile end of the network to satisfy tourists' artistic imagination and experience new feelings.

## 4 Design Practice

### 4.1 Designing Background and Research on Current Situation

Tangshan Village in Nanjing is the east gate of Nanjing, covering a total area of 172 km<sup>2</sup>, and consisting of 133 natural villages in 16 communities of Tangshan, with an agricultural population of 50241. There are now two golden flower villages and a modern leisure agriculture park [11]. As a world-renowned hot spring town, Tangshan



Village has abundant tourism resources: natural resources dominated by hot springs, Ming culture represented by Yangshan monument materials, ape-man cave ruins, Jiang's villa and Canglong Temple, etc. Meanwhile, Tangshan Village was led by the government to create new rural communities such as Tangjijia and Qifang, combining tourism development with local agricultural production. On this basis, as the representative of beautiful countryside, Tangshan Village has the natural conditions and opportunities to develop tourism O2O products. After on-the-spot investigations and surveys, three manifest problems were found: First, hot spring tourism has a single theme, a great deal of redundancy and strong seasonal dependence. Second, the conceptual hysteresis of industrial development, the single mode of business, the serious homogenization, and the weak chain aggregation effect with local agriculture. Third, the new rural community has lower participation, lack of brand management concept and weak promotion.

To sum up, according to the constructed O2O product system design framework, under the background of Tangshan hot spring tourism development with a single theme, attention should be paid to the experience design of surrounding scenic spots with humanistic connotation, and brand management should be strengthened on the basis of new rural communities, so as to promote the active participation of local farmers on the one hand and enhance interaction with tourists on the other.

#### 4.2 Design Proposal I: Design Virtual Image and Concentrate on Product Content Communication

The site of the ancient ape man cave on the northern slope of Tangshan village in Nanjing was selected for design practice: in the Leigong mountain of Tangshan Village, there is a huge cave group with a total area of tens of thousands of square meters. The skull fossils of Nanjing ape man unearthed in the cave are about 300,000 years ago, confirming that the Yangtze river basin is one of the birthplaces of the Chinese nation and has great archaeological significance. At present, Leigong Cave and Hulu Cave are open to tourists, but the actual tourist visited-rate is low. Besides, the landscape development is roughly the same as that of similar attractions. As shown in Fig. 4, the whole journey can take about 15 min to get out of the cave entrance, and the view of the cave entrance is wide enough to see Tangshan Village.

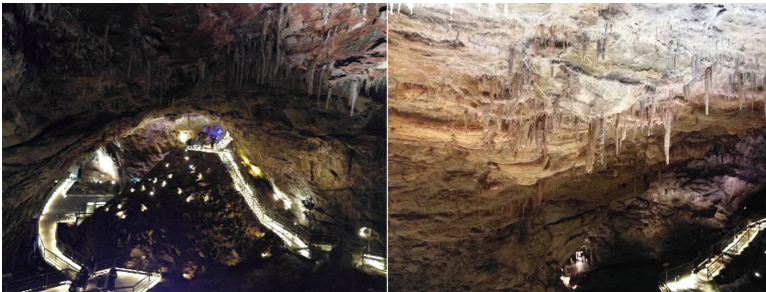


Fig. 4. Picture taken in the cave of ape man

In view of the practical problems, under the background of the development of Tangshan hot spring tourism with a single theme, attention should be paid to the experience design of surrounding scenic spots with humanistic connotation. According to the structured O2O product system design framework, virtual images are designed for the ape-man cave route to enable users to better obtain tourism from the perspective of product content dissemination. As shown in Fig. 5, the experiential design of the hominid cave is conducted from four aspects: online publicity, enhanced interaction, routes expansion and derivative products.

First of all, in the form of comics, draw the experience story version of the whole tour route from the perspective of tourists User A, and publish it through We-media platforms such as microblog and We-chat, as shown in Fig. 6. In the era of time-fragmented picture reading, the Online terminal arrests users' attention in a more vivid and direct way, and uses the social cluster effect to convey tourist routes and relevant products vividly to potential users through comics.

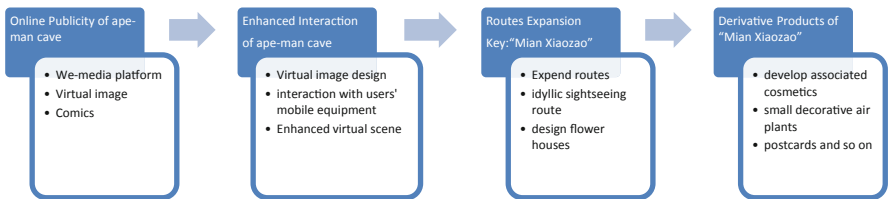


Fig. 5. Sketch map of ape man cave design process



Fig. 6. The cartoon excerpts of Visitors User A's experience

As shown in Fig. 7, take We-chat platform as an example to push popular science and activity information of relevant scenic spots on Tangshan public number homepage from time to time. The ape-man cave route is designed with a virtual image of "ape-ape" to serve tourists with functions such as scenic spot navigation, introduction to ape-man cave, and stalactite encyclopedia. At the same time, in the process of visiting ape-man cave, we can use image recognition and voice input and output technologies to vividly realize virtual reality enhancement with the image of "ape-ape".

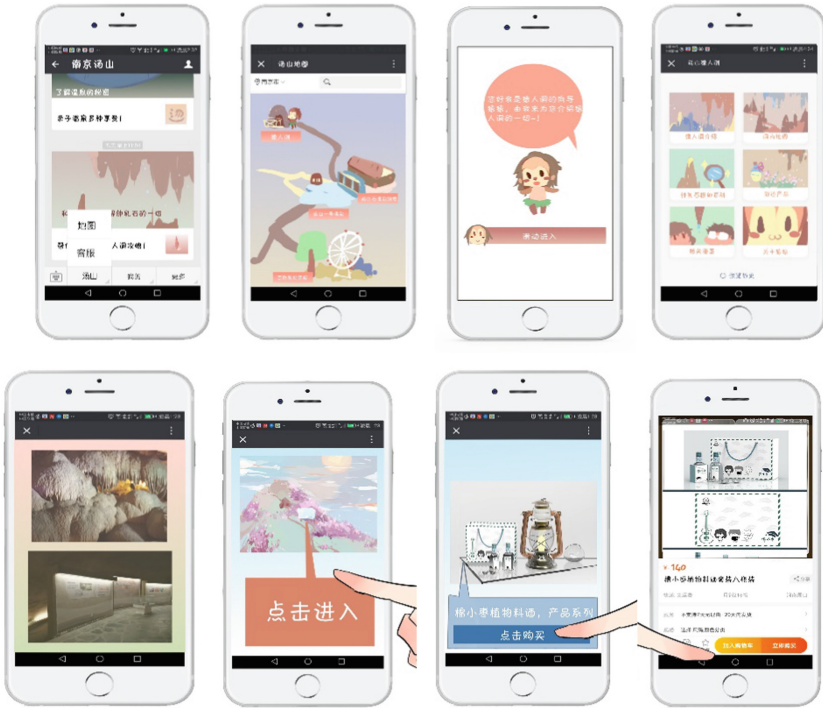


Fig. 7. The excerpts of interactive interface of product

According to the actual investigation, there is a typical herb in Tangshan Village: Mian Zaoer, which has the medicinal effects of promoting blood circulation, detoxifying, detumescence and relieving pain in addition to its good ornamental value. On this basis, the brand image of “Mian Xiaozao” is designed, and at the same time, develop associated cosmetics, decorative air plants and postcards. As shown in Fig. 8, taking advantage of the wide view of the cave entrance and the unique geographical position around the ape man cave, we designed and expanded an idyllic sightseeing route, planned to plant related plants, designed flower houses and post stations, and opened online purchase and distribution channels simultaneously with product introductions. In the meantime, it also connects the scenic spots such as the flower house post station expanded on offline into the tourist route of the ape-man cave through the way of online drainage.

### 4.3 Design Proposal II: Substitution Theme Design with Emphasis on Immersion Experience and Interaction

The Ming Culture Village in the northern part of Tangshan Village is selected for design practice: Nanjing Ming Culture Village is located in Guquan Village in Tangshan, Nanjing, and consists of Ming Culture Village, Yangshan Guashi Forest and Yangshan Beilin Wenwu District. It is a cultural tourism and sightseeing area



**Fig. 8.** “Mian Xiaozao” brand image and product sample map

based on Yangshan Xiaoling Tomb tablet materials and featuring the historical scenes of the Ming Dynasty, as shown in Fig. 9. However, the actual number of tourists per day is less than 100. The main reasons for this are: remote location, low popularity, slightly higher ticket price (48 yuan/person), single tour mode, low interaction of scenic spots, and idle tourist attractions, etc.



**Fig. 9.** The Pictures of General route of scenic spot, scenic entrance and the Imperial Drug Institution

In response to the actual problems, a substitute experience theme was designed for the route of Ming Culture Village to strengthen the interaction between tourists and scenic spots. First off, the way to collect tickets for the tour is designed as a mode of identity authentication: you can top up 100 yuan in cash or online in exchange for the entry token, and with this entity token, you can visit and consume in the scenic area. If the actual overspend, it can be recharged online or exchanged in cash at the pawnshop. The token will be returned when leaving the scenic spot, and RMB will be exchanged when it is not used up. The entire scenic spot browsing uses a physical product to complete the identity conversion and substitution, and can inspire tourists' consumption desire and tourist achievement, as shown in Fig. 10.

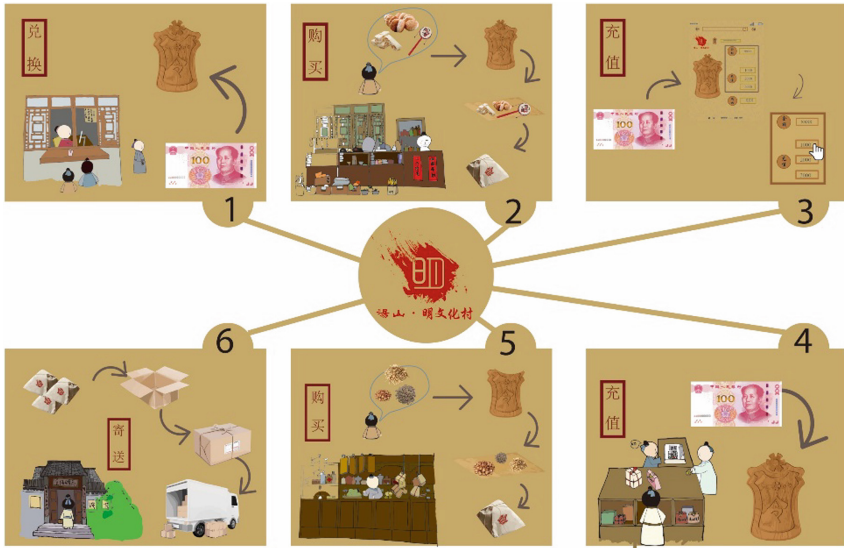


Fig. 10. The role experience design of Ming Culture Village

In addition, all the scenic spots with closed doors will be opened, and the staff will restore the real life of Ming people through clothing and scenes, and also set up some tourist experience links. For example, the staff in the royal pharmacy personifies the shopkeeper and page, and tourists can come here to watch the cleaning and drying of medicinal materials, experience the links in the process, and buy the relevant medicinal derivatives. Then, some scenes of life in Ming Dynasty will be combined with modern life. For example, the escort agency can perform the function of modern express delivery and provide packaging and shipping services for goods purchased by tourists in other shops, as shown in Fig. 11.



Fig. 11. The design plan for scenic spots of Ming Culture Village

## 5 Conclusion

This paper takes beautiful countryside's tourism O2O products as the research object, proposes the design method of constructing its product system under the background of the We-media era. It also puts forwards the measures and guidelines of system design through the construction of tourists' experience mode and O2O product function mode. What's more, it comes up with the concrete design scheme for the field investigation and design practice of Tangshan Village in Nanjing. Grasping the core of user experience and paying attention to the characteristics of communication and interaction in the era of We-media, we apply online to offline design method to the development of tourism products in beautiful countryside, which is practical and innovative. More importantly, it is a new trend in beautiful countryside research in the era of mobile Internet, which deserves further practical exploration.

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