Original Paper

Development of an Interactive Platform for Traditional Handicrafts and Creative Works Based on WeChat Mini Programs

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Abstract

With the continuous improvement of modern living standards and the rapid development of science and technology, crafts produced by industrial mechanization have gradually replaced traditional handicrafts. In order to expand the dissemination range of traditional handicrafts, arouse people's enthusiasm for handmade art and promote traditional culture, this paper takes advantage of the operation convenience, recommendation personalization and informatization of WeChat applet to design and develop a green and healthy trading platform for traditional handicraftsmen, people who like to transform unused items into handicrafts or users who like all kinds of handicrafts. --Traditional Handicrafts and Creative Works Interactive Platform. This platform not only provides a trading platform for consumers, but also greatly promotes the development of handicraft products, and plays a positive role in the publicity and promotion of traditional handicrafts and creative works.

Keywords

WeChat Minil Program, Interactive Platform, Traditional Handicrafts, Creative Works

1. Introduction

In the era of information technology, the rapid development of science and technology, industrial mechanized production of handicrafts gradually replaced the traditional handicrafts, however, with the spirit of craftsmen, still immersed in their own love, sweat, they give the work "vitality", and decades of focus on one thing, their talent, into the hands of the work, so that people feel, touch, and experience the warmth of the heart of the hand. They focus on one thing for decades and put their talents into the works in their hands, so that people can feel, touch and appreciate the temperature of their hands.

With the improvement of people's living standards and cultural attitudes, the pursuit of art and the demand for unique and personalized items has led to the gradual expansion of the handicrafts market. The production process of handicrafts requires artists to spend a lot of time and energy, and the high cost of production makes the price of handicrafts may be too high for some consumers, limiting the development of the market. In today's stressful society, people are more inclined to transform idle goods into handicrafts for sale, which can not only relieve the pressure of life and delight the mood, at the same time, it is a new consumer market.

The proportion of online consumption in China has continued to expand in recent years, and online retailing has gradually matured. The online trading platform is widely accepted by consumers for its low cost, high efficiency, wide dissemination and good effect. The continuous growth of China's network users, more and more people began to realize their dreams online, will be idle items transformed into a favorite model through online exchange or trading, to achieve the rational use of resources, so that the goods in the process of wear and tear can continue to flow to the hands of users in need, so as to give play to its residual value and achieve the maximization of resource utilization.

Based on this, this paper takes the advantages of the operation convenience, recommendation personalization and informatization of WeChat applet to design and develop a trading platform dedicated to building a green and healthy trading platform - traditional handicrafts and creative works interactive platform for traditional handicrafts, or for those who like to transform unused items into handicrafts or for users who like all kinds of handicrafts. Creative works interactive platform.

2. Function Design

By analyzing the handicrafts trading market, this exchange platform is designed and developed with WeChat small program as the carrier to expand the new mode of sales. The platform contains the functions of product release, product classification, information search, online trading and other functions related to the trading of handicraft enthusiasts. Information browsing and handicrafts transactions are completed through the WeChat applet page; at the same time, based on the WeChat applet and retrograde message push and personalized recommendation of handicrafts, it promotes information exchange between the two parties and realizes the informatization reciprocity of the trading platform. The overall functional structure of the system is shown in Figure 1.

The whole trading platform consists of six main functional modules: homepage display, information release, commodity classification, online trading, message push and user center, and the layout is divided into four main pages, as shown in Figure 1, and the specific functions of each page are as follows:
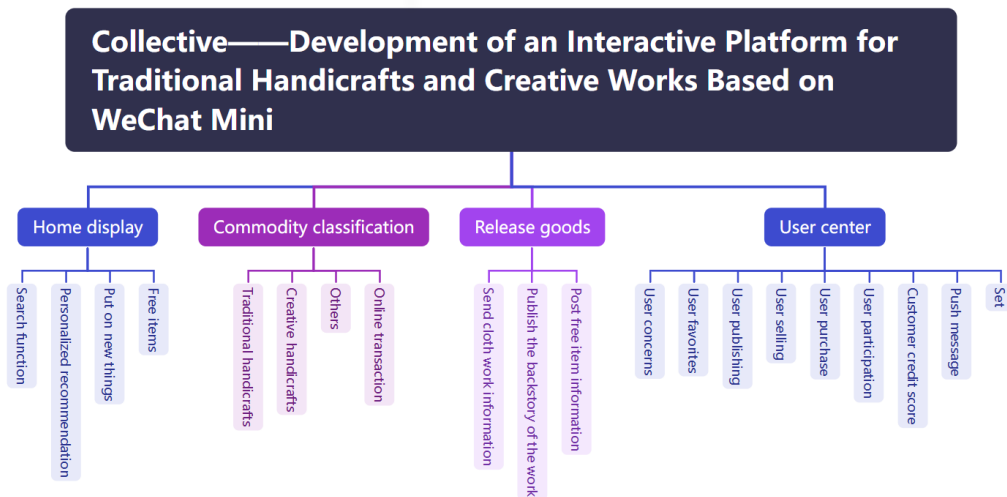
Figure 1. Interactive Platform Platform Layout Four Main Page Functions as Shown in Figure

(1) Home page display: this interface mainly consists of four parts: search function, user personalized recommendation, new items and free items, of which free items are mainly sold by users themselves, and buyers can contact sellers directly to obtain the goods.

(2) Commodity (handicrafts) classification page: this page mainly categorizes commodities, which are mainly divided into traditional handicrafts, creative handmade works and free commodities, and it also contains online trading function, which facilitates the trading mode.

(3) Publishing page: This page mainly includes three parts: publishing work information, publishing work background stories and publishing free goods information. The background story of the published work is mainly about the origin and background of the traditional handicrafts, which facilitates sellers to understand the story behind the items and evokes consumers' favoritism.

(4) User center page: This page includes the basic information of users, user concerns, user collections, and its core part of user publishing, user selling, user purchasing, user participation, user credit score, message pushing and settings, and other important information. After authentication, the user can release information about the traded items, and if the credit score is too low, the user will be disqualified from participating in the transaction.

3. System Overview

The system design of the trading platform applet mainly includes three parts: the front-end display layer, the business logic layer and the data storage layer (Li & Zhou, 2019), the specific meanings are as follows.

Front-end display layer: mainly responsible for the interface display and user interaction of the small program. Through simple and clear interface design and smooth interaction experience, users are attracted to carry out transaction operations. In the applet, the front-end is mainly developed using WXML, WXSS and JavaScript, WXML is a template language of the applet, which is used to describe

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the structure of the page; WXSS is similar to CSS, which is used to describe the style of the page; and JavaScript is used to deal with user interactions and logic control.

Business Logic Layer: First, complete the server interface configuration according to the project requirements, and utilize the WeChat applet for network communication through the configured URL. Secondly, according to the file that conforms to the server interface configuration format, it initiates a data request based on the https/wss protocol. The server receives the request parameters to respond, the request function utilizes callback functions such as the success function to obtain the return data. Then update the returned data to the .js file, using the data binding function provided by the framework, so that the returned generation of data synchronized update to the view layer to present to the user.

Data storage layer: responsible for storing and managing all the data of the trading platform, including user information, product information, order information and so on. Through efficient data storage and query mechanism, it provides data support for the business logic layer. Figure 2 is the interface design of the platform, and Figure 3 is the flow chart of the transaction process.
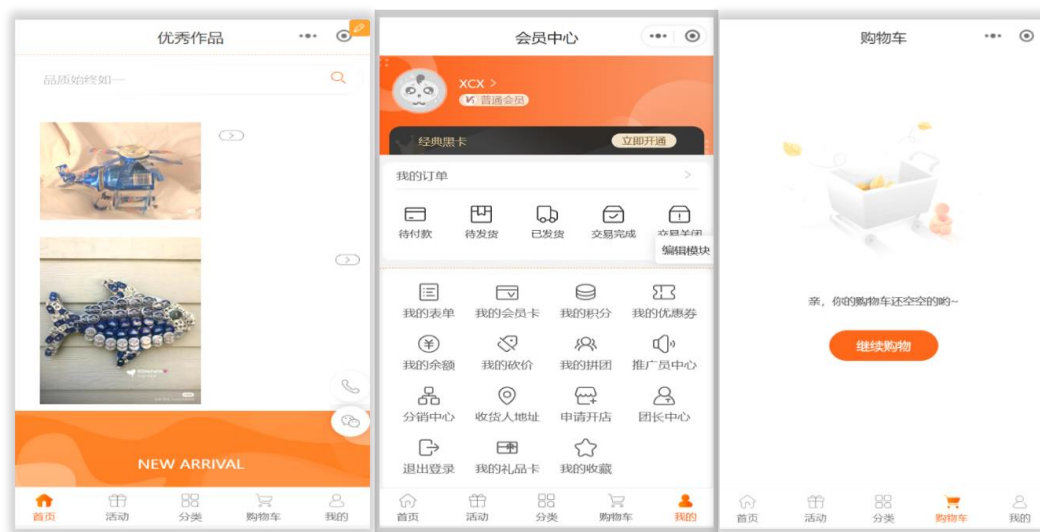

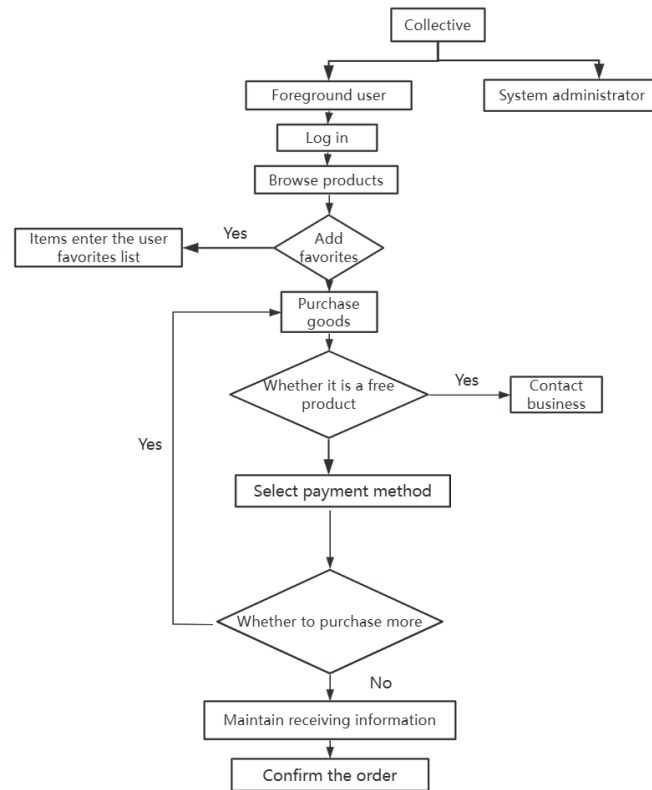**Figure 2. Interactive Platform Flat Interface Design**

Figure 3. Flowchart of the Transaction Process of the Interaction Platform

4. Operation Strategy

After the platform is developed and designed, it is necessary to adopt operation strategies corresponding to it in order to realize precise positioning, effectively attract target customers, improve market competitiveness, and contribute to environmental protection and sustainable development. Specific operation strategies include the following three aspects.

4.1 Precise Positioning

Taking the concept of environmental protection as one of the core values of the project, the starting point of the system design emphasizes the reduction of environmental pollution and resource wastage through waste reuse, and the enhancement of public awareness of the importance of environmental protection by making handicrafts from waste reuse. Segment the target market according to consumers' environmental awareness, purchasing power and aesthetic preferences. For example, different groups such as fashionable hipsters, environmentalists, art collectors and CSR purchasing can be targeted. Create a brand image that is in line with the project concept. This image should reflect environmental friendliness, innovation, sustainability and high quality. Develop a reasonable pricing strategy based on the purchasing power of the target market and the unique value of the product, and the price should reflect the product's environmental value, creative design and craftsmanship costs (Wang, Liu, Yan, et al., 2019). Emphasize the project's contribution to the society, establish a sustainable supply chain, and the improvement of the small program order rate can enhance customer satisfaction and brand

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reputation to maintain the innovation and competitiveness of the small program.

4.2 Continuous Optimization

The smooth operation of small programs requires regular optimization and upgrading, regular page structure, data storage and management of small programs, as well as performance monitoring and testing, so that users get a faster and smoother experience. For example, diverse page rendering can improve user retention and increase the stickiness of target customers.

4.3 Marketing and Promotion

The marketing and promotion of the platform is a key factor for the smooth implementation of the project, which can be started from the following aspects.

Determine the target market, such as environmentally conscious consumers, art collectors, fashion trendsetters, etc., to understand their needs and preferences, as well as the direction of their work output.

Participate in environmental events, bazaars and exhibitions to display and sell crafts. These activities can help the project reach potential customers and raise public awareness of the waste reuse program. Satisfied customers are encouraged to share their purchasing experience and how they feel about using the products, and word-of-mouth recommendation is a very effective way of marketing.

In the era of social media, utilize social media platforms, short video platforms, press releases, media interviews and public service activities to regularly publish high-quality content and interact with fans to increase brand awareness and media exposure of the project, which helps to build the credibility and authority of the platform.

Establish good communication and cooperation with the government, enterprises, communities, etc., and carry out project publicity and promotion activities to increase public awareness and acceptance of the waste reuse project in order to obtain more support and resources.

4.4 Improve the Management Mechanism

Managing small programs is an ongoing process that requires regular evaluation and adjustment of operational strategies to adapt to changes in the market and users. By focusing on user experience, improving application performance, effective user acquisition and retention strategies, and optimizing with data analytics, small programs can be better managed to provide better services to users and maximize the value of small programs.

5. Platform Shortcomings and Later Improvements

The platform is operated for a period of time, and found that the platform has certain deficiencies, as follows:

(1) Functional limitations: the function of the small program is limited by the framework and API specified by the platform, which can't comprehensively show the various details of the goods ingenuity, and certain complex or special functions are difficult to realize, thus affecting the user experience and application value.

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(2) Highly dependent on the platform: the small program can not run independently from a specific platform, once the platform changes or stops service, the small program will be directly affected and can not be used.

(3) Differences in user experience: due to the different technical standards and interface styles of different platforms, the user experience of small programs on different platforms may differ greatly, which cannot meet the personalized needs of all people, thus reducing the use of users.

The direction of later improvement and refinement is as follows:

(1) Fully understand the development environment and rules of small programs

The development environment and rules of small programs are the basis for developers to carry out development. Developers need to fully understand the functional limitations of the applet, look for alternatives or use the open interfaces provided by WeChat to realize the required functions and improve the flexibility and practicality of the applet. At the same time, the platform can provide richer development documents, tools and community support to help developers better understand and use the small program framework to improve development efficiency and quality.

(2) Optimize the stability of the platform and constantly conduct tests

Testing is a key part of ensuring the quality of small programs. During the development process, the platform should continuously improve the stability and reliability of its own services, conduct sufficient tests to ensure that the small program can operate normally in various environments, and reduce the risk of small program operation caused by platform problems.

(3) Unify user experience standards and increase visual specifications

The platform can formulate unified interface design specifications and interaction standards to reduce the interference of irrelevant design elements on user goals, politely show users the services provided by the program, and friendly guide users to operate, helping developers achieve consistent user experience on different platforms.

6. Conclusion

The mini-program for making handicrafts from waste reuse not only has a positive effect on environmental protection and sustainable development, but also provides a sales platform for craftsmen to promote social, economic and cultural development. Through trading of waste reused handicrafts, public awareness of environmental protection and resource recycling can thus be raised. The promotion of applets helps to pass on these cultures and skills, while also encouraging innovative designs to revitalize traditional crafts. In this paper, the development of small programs is not only a business platform, but also an important tool for spreading environmental protection concepts, promoting cultural exchanges, supporting community development and educating the public, which helps to build a more environmentally friendly, harmonious and sustainable society.

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