Explore the Development of Handmade Leather Goods Under Intelligent Technology

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Abstract. With the development of the world economy and science and technology, global market competition has become increasingly fierce. The rapid development of intelligence, product consumption structure continues to develop in the direction of diversification and personalization. In the face of unpredictable and continuously developing market demand, the development of traditional handmade industry is seriously lagging behind, while intelligence has greatly promoted the development of cultural industry. In the whole social context, driven by intelligent technology, traditional handmade leather goods industry has ushered in new opportunities, but also faces new serious challenges. How to combine the development of intelligence and traditional handmade leather goods, how to use the new Internet technology to innovate traditional handmade leather goods, promote the development of handmade leather goods, and promote the development of handmade leather goods according to personalized needs, and put forward a new idea of handmade leather goods development based on the background of intelligence. From the user's point of view, we analyze the user's consumption trend and purchasing experience, introduce experience and service design into handmade leather goods, propose the future development direction of handmade leather goods, and design an APP to customize handmade leather goods and spread them out, and design actual cases for testing and improvement, hoping to promote handmade leather goods culture and provide users with a perfect handmade leather goods experience under the background of intelligence.

Keywords. Handmade Leather Goods, Intelligent, User Experience, Human emotions, Interaction System

1. Introduction

The integration of leather products into the structure of China's commodity economy has a long history. With the gradual improvement of China's business forms, the development of the original leather industry gradually developed in the direction of the trend of the times and trends. As a symbol of Chinese civilization, with the wave of industrialization sweeping the world, industrialized leather goods quickly occupied the leather goods market with its advantages of large capacity and low cost, causing a strong

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impact on the traditional handmade leather goods manufacturing industry.[1] Today in the 21st century, industrialized leather products occupy the vast majority of the leather goods market due to the socially sound raw material supply system and diversified sales channels. Handmade leather goods manufacturing and cultural heritage are in danger. How to find a place in handmade?

Design is the basis of technological development, technological development provides conditions for design innovation, and with the promotion of intelligence, the cross-border integration of tradition and technology has also brought about the possibility. Continuing traditional culture, it must be combined with the development of the times. In the pursuit of personalization today, the consumer market tends to develop in the direction of personalization, handmade leather goods are favored by the young generation of consumers. Consumers are more product design and purchase experience process. Handmade leather goods are used as a way to promote human interaction, enhance the intimacy between people and reduce the cost of learning handmade leather goods, create a new production method based on handmade, and combine with intelligent programs to spread and form an interactive circle. According to this idea, handmade leather goods will not only be an artifact, but can be developed into a new culture and a new way of interaction.

In this paper, the research mainly focuses on how traditional handmade leather goods can be combined with the development of intelligence and can promote human interaction, the research object includes two aspects: first, the study of traditional handmade leather goods, based on the preservation of cultural characteristics of the innovation of traditional handmade leather goods, based on functional and practical to increase the interactive performance of handmade leather goods, explore how to reasonably combine traditional leather goods and intelligent interaction of new handmade leather goods. Handmade leather goods with intelligent interaction of new handmade leather goods. Secondly, end-users are the best way to spread handmade leather goods culture, and explore how to use handmade leather goods as a carrier to provide communication and interaction between people and warm up emotions, and users can personally give the ideas and emotions on the actual items, and end-users can get a complete experience and unique feelings.[5] And in this study we introduce the Communication Platform, a new interactive platform whose purpose is to promote human-computer interaction, where users can make their own handmade leather goods through the inspiration of others; and users can upload their creative works to the platform; couples can make creative handmade leather goods together; businesses can Popularize the knowledge of handmade leather goods as well as the production process; the platform is also able to transform the flat structure created at will by themselves into three dimensions, allowing users to imagine the real physical appearance in the virtual interface. Create a more stable cultural circle and a sustainable cultural exchange platform.

2. Related Jobs

2.1. Handmade leather goods promote people's emotional warmth

With the development of social economy, people's life is getting faster and faster, at the same time, the relationship between people in society has become more complex and

sensitive, people's time in interpersonal interaction is reduced, thus for the emotional relationship has more or less weakened, the competition in society is increasing, people's pressure also needs to be released.

Handmade leather goods have a long history, but the current social situation is that handmade leather goods is a niche industry, handmade leather goods are currently consumed by lovers of handmade leather goods. This crowd pays more attention to the cultural symbols inherited from leather goods, and in this regard, handmade leather goods have strong cultural attributes and humanistic sentiments. It can be used as a way to promote emotional communication between people.

2.2. Simulation of handmade leather goods technology

The development of intelligence and the latest technology has a great allure for handmade leather goods, however, the most advanced technology does not necessarily mean that it is the best solution for handmade leather goods innovation scholars believe that technology should be used as part of people's lives, and that research and design should focus more on improving the quality of people's lives, based on these aspects, this research has developed a CAD system, CAD system is available to create the layout and plan of handmade leather goods. The design direction is to use an interactive system that assists the design, innovate the structure of handmade leather goods and transform it into a three-dimensional way to anticipate the mock-up samples of the design in advance, using intelligent technology can reduce the operational difficulties and improve the production efficiency when actually making handmade leather goods.

3. Design Process

In order to create the Communication Platform and the possibility of implementing the CAD system, we first discussed its rationality with experts, secondly discussed the design options with our mentor, and then presented the process and goals of our design.

3.1. Design Survey

We conducted a preliminary survey of 1 psychological research expert with more than 5 years of experience and 1 expert with more than 5 years of research in emotionology and 1 handcrafted leather craftsman with more than 10 years of industry experience,(mean age = 35,SD = 9.37,K1,K2,K3) from the Guangzhou Psychological Research Center, Guangdong Province, China, with research interviews lasting 50-90 minutes, and audio-recorded and recording. Including the introduction of our ideas on the exploration of handmade leather goods, exchange and discussion with them, and then shared with me their views on my research topic: experts believe that modern people's work is too stressful, and the happiness index is low, making handmade is a good way to release stress, and in the process of making handmade can make people emotionally relaxed; handmade leather craftsmen believe that handmade leather goods have a long history, and in today's Handmade leather goods is a niche industry in today's society, which is a good means to promote handmade leather goods. At the same time, some suggestions were made:(I) K1 and K2 suggested that after the user service, there should be user evaluation and user feedback to adjust the interaction structure of the Communication Platform; (ii) K3 suggested that the "handmade" nature of handmade leather goods

should not be lost while combining with intelligence, and hoped that a communication chain could be formed. And we hope to form a communication chain.

3.2. Design Objectives

Based on the preliminary research and discussions with psychologists, we synthesized the key tasks suggested to constitute an interactive system to support the development of handmade leather goods and to make users feel the warmth brought by handmade leather goods:(1) timely feedback and corrections are needed during the practice process (2) the essence of handmade leather goods "handcrafted" should not be lost while combining intelligence, and hopefully a communication chain can be formed.

4. System Description

With our preliminary design research and discussion with experts, we designed a text model and conducted preliminary tests. It is mainly composed of hardware and software, hardware refers to a physical object made based on the Communication Platform, while software refers to an application that provides a communication platform for users, a cooperation platform for handmade leatherwork studios, a sharing platform for handmade leatherwork innovation, a carrier that proposes handmade leatherwork teaching ideas to share production methods and gives real-time feedback.
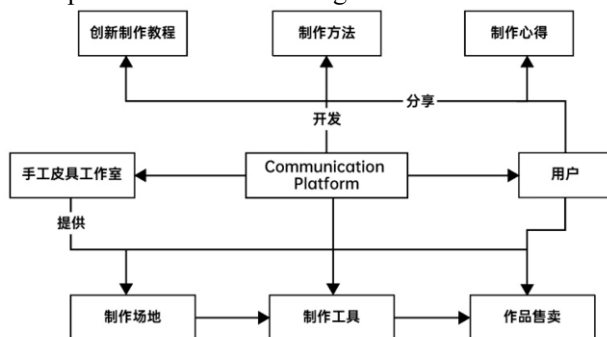

Figure 1. Communication Platform handcrafted leather goods platform conceptual framework.

4.1. Software Design

End-users can use the app to learn how to make handmade leather goods and follow the videos of the experts. At the same time, users can choose the appropriate handmade leather goods studio in the app and have a practical experience offline, choosing the appropriate tutorials and preferred objects. Users need a workbench of a certain area for a weekend or leisure time, buy the corresponding materials according to the corresponding tutorials, use the software graphic tutorials and video tutorials for a combination of explanations, and can design their own weaving style, etc., choose 3D view on the APP, so that the imagination has a sense of picture. In addition, the platform will regularly develop simple and easy to do creative handmade leather styles, users can

share their own design ideas, and combined with the studio, to achieve both to promote user emotional relaxation and promote handmade leather and sustainable purposes.
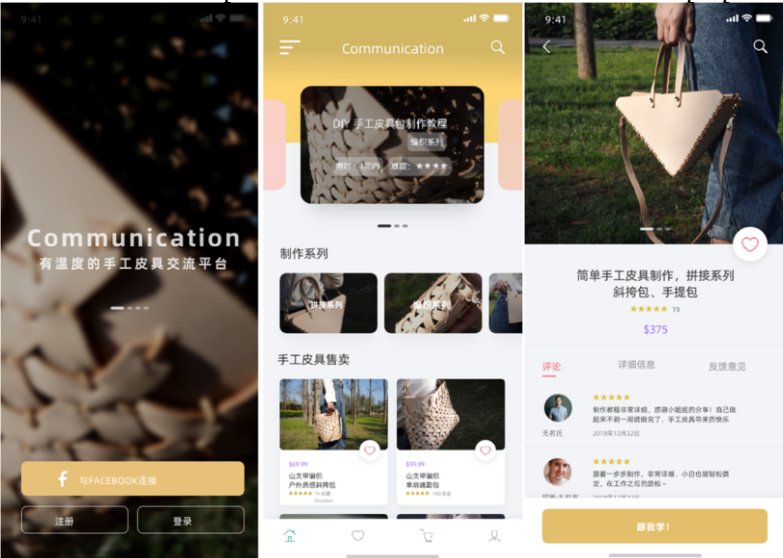

Figure 2. Communication APP interface tutorial.

4.2. CAD system design

The development tool uses Microsoft.NET. This is a nascent computer model of the Internet, introduced by Microsoft.XML is an extensible markup language, embedded in CAD system, which will enter the prior handmade leather weaving structure into the program, as well as some common bag styles (not limited to bags),forming a handmade leather production database connected to Communication Aphtha user's creativity in using the Papain use the Communication flat drawing function, for example: fixed The system will then calculate the total number of units needed to weave a bag according to the size of the bag, and then the user can make it according to the production method. In the future, the CAD system will be able to create infinite possibilities and focus the creativity of each user, which will greatly facilitate the spread of handmade leather goods and the sustainable development of the handmade leather goods industry.

5. Preliminary user research

Because handmade leather goods are difficult to make, we conducted a preliminary user study to determine the feasibility of the system and communication platform we designed. We have several target users from the network who usually work under pressure and want to try handmade, the users are K1,K2,K3,K4 (average age 28.9) All participants through the Communication platform first to learn the general knowledge of handmade leather goods production, and then follow the tutorial to do the complete a bag, in the process can play their own creativity, using the CAD system In the process, they can use their own creativity and use the CAD system to generate 3D effects in advance. The whole process will be recorded and recorded with the consent of the participants.

5.1. Procedures

The experiment was conducted in a workshop. First, we gave a short introduction to the Communication platform and CAD system and handmade leather goods, and then all participants learned about handmade leather goods at a fixed time. During 1 day, we observed the participants and hoped they could continue to experience the Communication platform. After the participants' productions were completed, we conducted a semi-structured interview with the participants with the following sample interview questions:

- How do you feel about the handmade leather goods making process?
- Do you think it is difficult and easy?
- What is the difference between the Communication platform and the traditional perception of handmade leather straps?

5.2. Results

When we had a formal interview with the participants, K1 smiled and said to me, "finally, I can experience handmade in my spare time after work, which not only releases my work pressure, but also gives me a great satisfaction in the process." K3 said, "I feel like it's like my personal teacher, I haven't made handmade leather goods before because it seemed like a "luxury" and now I can learn how to make handmade leather goods at a fraction of the cost." And K1 and K3 are looking forward to the future can be more perfect, such as making bags style is currently less, I hope to add other supplies, like life storage products, with handmade leather goods is also very warm thing.

The difference is that K4 said, "Handmade leather goods are made in a new way compared to the past, the degree of difficulty is reduced a lot, even a novice can easily master, which greatly promotes the development of handmade leather goods, while not deviating from handicraft." K2 also added: "It's really amazing that the production method I imagined can become reality in the Communication platform, and it's a very satisfying feeling to see my ideas slowly come to life.

Overall, all participants agreed that the Communication platform is extremely beneficial for themselves and for handmade leather goods, and my findings show that the Communication platform is an effective way for users to gain access to handmade leather goods.

Table 1. User Survey Results

Question	K1	K2	K3	K4	Average
1.Are you willing to work on handmade leather goods? (1: willing - 6: unwilling)	5.7	6	6	5.8	5.9
2.Is it easy for you to make handmade leather goods with Communication? (1: easy - 6: not easy)	5.2	5.5	6	5.3	5.5
3.Do you release stress after making handmade leather goods? (1: Yes - 6: No)	6	5.7	5.8	5.7	5.8
4.After experiencing the Communication platform, will you continue to use it? (1: Yes - 6: No)	5.8	5.6	5.4	6	5.7

5.3. Production process and physical display

After the 4 participants followed the Communication platform to learn the basic knowledge of handmade leather goods, later we arranged the less difficult tutorial of making leather bags to the participants, observed the independent learning status of the participants, and made video records, under the guidance of the operation process, the participants finally finished the physical production.
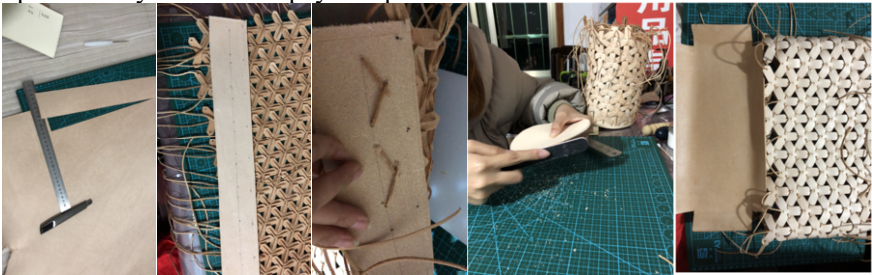

Figure 3. Participant's production process.

Figure 4. Physical display.

6. Limitations and future work

We found some limitations in our research, firstly, because handmade leather goods are a traditional industry and a niche industry, we can collect few cases about handmade leather goods making, in the future we will start to explore cases from other countries. Secondly, we have only developed two types of handmade leather goods for the time being. For the time being, there are fewer ways to make leather goods, and it takes longer for users to innovate by themselves.

In the future, we will update and iterate the Communication platform and further improve the features based on user feedback to expand the crafting area. In addition, based on user reviews and feedback, we will continue to optimize the application system to make the user experience better.

7. Conclusion

In this paper, we introduce the combination of Communication platform and CAD system with handmade leather goods making to explore a platform that allows white people to learn handmade leather goods making, in the process of making users can release the pressure, businessmen to sell materials to users to earn profit, from which can also promote handmade leather goods culture, to achieve a win-win situation for all three parties. Through user research, we can know that Communication platform provides a perfect platform for users to make handmade leather goods, it promotes the emotional communication between users and plays an active role in the process of learning to make handmade leather goods. This is an innovative development for the handmade leather goods industry and can make the handmade leather goods industry reach sustainable development.

Acknowledgements

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