The Construction of NFT Digital Collection Trading Platform in the Perspective of Metauniverse

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Abstract: It is difficult to trace the origin of traditional cultural games, and there are many limitations. If NFT blockchain technology is introduced into cultural games, cultural games will become more popular and convenient. According to the investigation of the cultural game trading market, we analyzed the users' core needs in the traditional cultural game trading scenario, tried to intervene in the traditional cultural game industry with NFT blockchain technology in the perspective of the universe, established a 3D exhibition hall to broaden the appreciation of cultural games, built a digital platform to optimize the appreciation and trading channels of cultural games, and built a digital trading platform of cultural games in the universe, The new era culture of cultural relics can provide energy for the transformation of traditional cultural relics by using blockchain technology from the perspective of the meta-universe, and accelerate the process of the development of contemporary art towards digitalization.

Keywords: NFT; Digital collections; Digital exhibition

1. Introduction

Cultural relics are an essential carrier of ancient Chinese arts and crafts development and can also reflect the changes in the craftsmanship and technology of creation in different periods. The cultural relics have cultural and historical values and strong emotional ties with collectors. NFT digital collections are in the vanguard period of development. With increased participants and the breakthrough of related technologies, NFT digital collections will further blend with traditional culture and games. In recent years, Tencent, Alibaba, ByteDance, and other large Chinese technology companies have developed relevant businesses in this field.

In the new era, the Chinese government has put the protection of intangible cultural heritage on the agenda. Gradually build a relatively complete non-material cultural protection system and realize the scientific, standardized, and institutionalized protection. In 2017, the founder of NFT Crypto Cat put forward the concept of "NFT Digital Collection," and NFT art brings digital value to cultural games. However, in the research on the cultural game market, we found that there needed to be a gap in the chain of users' cultural game trading and appreciation behavior. The inheritance of cultural games needed to be more closely integrated with new technologies, and users still had many pain points in trading cultural games[1].

2. Opportunities and challenges for the development of cultural relics from the perspective of the meta-universe

The concept of the meta-universe began with the two concepts of meta-universe and avatar mentioned in the foreign science fiction "Avalanche" in 1992. After its name was changed to Mata, Facebook quickly set off a wave of meta-universe in the Internet ranks. The meta-universe is a digital space mapped from the real world. In this space, there are many information technologies, and participants' behavior can primarily span time and space to achieve interaction freedom. The digital assets created by the NFT blockchain are the technological extension innovation form of blockchain technology from the perspective of the meta-universe. The blockchain technology it uses has two core characteristics: first, data is difficult to tamper with, and second, decentralization.

2.1 Current situation analysis

According to the relevant data of China Central Television News Network, by the end of 2020, all public libraries, cultural centers, cultural stations, art galleries, and more than 90% of museums will be free of charge, realizing the "barrier-free and zero thresholds" of cultural venues. Since the normalization of epidemic prevention and control, the number of daily bookings at the China Art Museum has exceeded 1800, and getting a ticket on weekends is even more difficult. With China's comprehensive national strength growing, the public's demand for beauty and culture is increasing. Therefore, the desire to collect cultural relics has also increased. This demand is the question that designers focus on playing culture in the new era: first, how to broaden the appreciation channels of cultural games under the new era and new technology background. Currently, the channels for people to participate in relevant exhibitions are offline. With the change in the pace of urban life, the disadvantages of offline exhibition methods are gradually revealed. A series of problems, such as too long distances, inconvenient driving distances, and strict time limits, hinder the pace of visitors, which restricts a large number of people from visiting. Second, let the public enjoy cultural games through technological progress. Although the hobby of cultural relics is gradually popularized, the number of collections with historical value handed down by cultural relics is tiny, and there is still a phenomenon that most cultural relics enthusiasts need help accessing expensive and rare cultural relics. Third, help the fans of cultural games trace the history of cultural games. Nowadays, more visitors actively choose to turn to online collections of cultural relics, visit cultural relics and other activities, but still need help with problems such as incomplete information, unclear traceability of cultural relics, and difficulty in identifying the authenticity of the information. NEF technology can quickly trace the historical origin of cultural relics and conduct a comparative analysis of contemporary and cross-era cultural relics.

2.2 The development opportunity of the following game trading in the perspective of the meta-universe

NFT art relies on blockchain technology to promote the replacement of art display and collection methods, which not only dramatically broadens the possibility of digital art but also makes it easier to integrate and exchange culture with new media.

Metacosmic technology is first shown in bringing changes to the exhibition and visiting methods of cultural relics. The emergence of NFT digital collections has changed the exhibition carrier of traditional art collections from offline to online. To a large extent, it transcends the limitation of time and space, making the exhibition form more diversified, reducing the exhibition cost of art collections, and expanding the group of visitors to exhibitions. Under the meta-universe technology, the information about cultural games is open and transparent. Big data is used to collect and integrate cultural game information and is stored in the platform information base according to the historical context of cultural games. Metauniverse technology is also innovating the collection method of cultural games. For a long time, the main body of cultural relics collection activities has been limited to authentic cultural relics. The cultural relics purchased by collectors are also confined to one pavilion. Cultural relics usually only attach importance to the appreciation value of natural objects, which can not make cultural relics obtain more cultural value and hinder their popularization of cultural relics. To solve this problem, NFT Digital Collectivization uses blockchain technology to issue NFT digital games, pays more attention to the behavioral interaction between the two sides of the link game transaction, serves the game enthusiasts with different needs, and becomes a positive element to promote the development of the game collection market[2].

3. Preliminary research on building a digital trading platform

The traditional trading and appreciation mode of cultural games is characterized by geographical solid limitations, noisy environment, and limited types of offline exhibitions; Online searches for information, text, and play information are jumbled, and it is difficult to distinguish the truth from the false; The cultural game market industry is lack of standardization, lack of professionalism, weak popularity of science, and the quality of collections is mixed. Digitized cultural relics and artworks uniquely identified by blockchain technology have great potential in cultural relics trading and appreciation, which can effectively solve the problem of counterfeiting, innovate the display and collection methods of cultural relics, and accurately trace the history of cultural relics. This research is mainly based on the pain points faced by traditional cultural relics appreciation and exchanges to explore how to use NFT technology under the background of the meta-universe to provide optimization solutions.

3.1 Population survey

The purpose of this survey is to explore the core pain points of users in traditional cultural game trading and appreciation through the combination of visits and online research on cultural game enthusiasts of different income groups and ages. A total of 115 interview outlines were prepared. The interview outlines mainly focus on the target group's basic information, collection preferences, demand gaps, etc.. The collected research samples are classified according to the typical characteristics such as the collection year and professional level. The design's target users can be divided into: senior collectors of cultural games, young fans of cultural games, and professional experts of cultural games. According to the interview analysis and summary, it can be determined that the target user of this design is the enthusiast of cultural games, and the core user is the collector of cultural games. After the target group is determined, its group characteristics, group needs, and main consideration directions will be analyzed.

3.2 Demand Analysis

Based on the information obtained from the above research, as a small group of cultural game enthusiasts, their group lacks support from the online display, cultural game information, cultural game trading, and other digital cultural game platforms. The two groups targeted by the platform construction are potential cultural game enthusiasts and senior cultural game collectors, who respectively assume the identity attributes of buyers and sellers and can switch identities. Based on the past collection and trading pain points of fans of cultural relics, the user's goal vision for the platform is a cultural relics service platform with collection, trading, appreciation, and traceability, which hopes to have the digital functions of collecting digital collections, building a virtual treasure hall exhibition, tracing the history of cultural relics, etc.

3.3 Market value

Currently, the trading and collection of cultural games are spontaneous and lacking professional guidance, and the offline market is jumbled, which is challenging to meet the needs of current users. The digital collection platform is built with NFT technology under the background of the meta-universe, providing users with an immersive digital experience and empowering the widespread development of traditional cultural games. NFT digital collections have social development potential. Users can display digital games in online exhibition halls. Collectors and enthusiasts can trade through the Metauniverse NFT digital platform[3].

4. Creation of NFT digital trading platform

4.1 Design orientation of "Zhizhu" APP

"Zhizhu" APP is a cultural game trading platform that enables the traditional cultural game industry based on the technology in the meta-universe era.

Regarding platform settings, multi-party interaction behaviors such as exhibition, exhibition arrangement, transaction, and traceability increase the stickiness of users' use of the platform. At the same time, the platform opened a new mode of "online+offline" physical and digital collection conversion and a new mode of user identity switching as a visitor and exhibitor. On the one hand, it adds added value to cultural relics; on the other, it also makes traditional culture more popular. Regarding function setting, it mainly comprises digital collections, traceable cultural relics, and virtual exhibition halls. It is committed to creating a digital treasure hall that integrates the trading and appreciation of cultural relics and collections. It focuses more on displaying or selling its treasures in NFT form to establish a personal treasure hall. At the technical operation level, NFT digital collections supported by blockchain technology can clarify the copyright of the games sold and make this collection unique and non-transferable. The opening of the digital collection trading platform has extended the boundaries of the art collection to the digital world and made art collection more popular.

4.2 Design function setting of "Zhizhu" APP

The function of digital collections is to convert "online+offline" physical objects and digital collections according to the needs of cultural game enthusiasts to trade/collect cultural games. Build a 3D scanning function for transferring cultural relics from offline to the online bridge, an online collection

function for collecting digital collections, a collection gift function for transferring digital cultural relics to online channels, and an NFT window for launching digital collection channels. Tracing the history of cultural games is to help collectors analyze the cultural value of cultural games according to the needs of cultural game enthusiasts. The function of detailed explanation of pictures and texts helps users understand cultural games and establish emotions; The online selling function allows the cultural games to be sold by telling stories; Understanding the Wenju function helps users integrate information and explore the history of Wenju; The information function of cultural games has made cultural games more popular. The function of a virtual exhibition hall is to build an online exhibition hall independently by users according to the needs of fans of cultural games to appreciate cultural games, mainly by changing cultural games to online entertainment, Breaking the traditional exhibition time and space limit to choose the exhibition hall function; Enable the AR special exhibition function of multi exhibition mode and the exhibition reservation function with the automatic reminder.

4.3 "Zhizhu" APP design practice

There are three main technical paths for the establishment of the "Zhizhu" APP: First, a virtual exhibition hall is established with the help of 3D scanning imaging technology: a 3D scanning imager scans the cultural game in multiple dimensions to generate a physical 3D model of the cultural game, and users can choose to store or display the cultural game. After the exhibition hall is opened, other users can enter and visit it. With the help of 3D scanning imaging, the 3D game display in the virtual exhibition hall enables users to immersively experience the collection's charm through the screen. Second, help users trace the history of cultural games through big data technology. With the integration and development of media and traditional culture, how to effectively organize, manage, and use digital resources of cultural relics has become a hot topic in recent years. By assigning cultural relics in this way, the historical culture of tracing cultural relics becomes more widespread and popular. Third, the construction of a digital collection trading platform based on blockchain technology makes the cultural relics no longer limited to the square space of the exhibition hall and shortens the distance between the public and traditional culture. Users can watch collections through VR, AR, and other digital virtual displays, as well as other meta-universe digital experiences[4].

5. Conclusion

The extraordinary vitality of NFT in art collection and trade has opened up a new era of consumption mode, collection mode, and exhibition form when solving the problems in the traditional art collection market and has had a revolutionary impact on a new round of changes in the collection field. On this basis, the art collection ranks will also form a new system. First, at the cognitive level, the appreciation and trading of NFT digital collections are more multi-dimensional and scientific, and the users' viewing of the exhibition of the cultural relics is basically in the state of "taking whatever they want." All activities of the cultural relics market supported by the meta-universe technology are as transparent as possible to reduce the trading risk of cultural relics and increase their cultural value. Second, the platform has created an innovative user behavioral interaction mechanism at the behavioral interaction level. Users are both owners and consumers of cultural relics collections and builders and viewers of virtual exhibition halls to enhance the user's immersive experience of blending the virtual with the real. Third, at the level of cultural identity, more and more collectors have gradually increased their acceptance of NFT art, and the potential of NFT in the art market has become increasingly prominent.

The intrinsic value and practical significance of traditional cultural games provide a cultural core for the organic operation of NFT. At the same time, the development of NFT technology pushes cultural games' spiritual and cultural nature from behind the scenes to in front of the stage. The relationship between the two is interactive and spiraling. Blockchain technology in the meta-universe perspective provides energy for the transformation of traditional cultural games and accelerates the process of the development of contemporary art towards digitalization.

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