# Aesthetic Education of Chinese Opera Art as Intangible Cultural Heritage through Digital Interactivity Technology
## ——The "Entering the Opera - Dream of the Red Chamber" New Yueju Opera Role-playing Interactive Experience Project

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**Abstract**: At a time when the Internet digital technology and interactive technological products are developing at a rapid pace, and the state attaches great importance to intangible cultural heritage, opportunities have been created for the national art of opera. This project hopes to cultivate opera inheritors and promote the digitization and commercialization of opera through the new Yueju role-playing interaction, with a view to creating unique value for the society and the drama and opera industry through aesthetic education of chinese opera art as intangible cultural heritage through digital interactivity technology.

**Keywords**: digital interactivity technology, intangible cultural heritage, Chinese opera, aesthetic education, Yueju Opera.

## 1 Introduction

In the age of informationization, digital media technology is developing rapidly, and people interact and communicate with each other through the Internet. This brings us many opportunities and challenges. In the process of human development, material and spirit are indispensable. It is crucial to apply the aesthetic sense of art to various aspects closely related to daily life through the study of art and digital technology. In recent years, the consumption data of non-legacy heritage has been growing steadily, and the development of digital new media and diversification of dissemination channels have been facilitated by the "national trend".The popularity of Yueju Opera "New Dragon Inn" on the Internet is a strong indication of the attraction of the new Yueju Opera to young people.

The"Performing China on the London Stage" has showed the Global Power of Chinese opera.[6] We respond to the national policy of strong support for traditional culture and art industry, strive to conduct aesthetic education of chinese opera art as intangible cultural heritage through digital interactivity technology to protect the opera music and contribute to its inheritance and development of their own modest efforts. The project has the artistic characteristics and cultural value of traditional Chinese culture, we have preserved the essence and

charm of opera art while using it as a carrier, adding modern technology means VR and immersive experience, which brings the audience a unique feeling and unique experience, realizing the combination of tradition and modernity and cross-cultural dissemination of opera. It carries forward and inherits the "old" traditional art and culture with "new" technological means, and promotes the process of digitization and commercialization of non-heritage opera.

## 2  Analysis of Industry Trends Based on Academic Datas and Questionnaires

### 2.1 Academic Datas

In the same way, "Intangible Cultural Heritage" and "Drama" were used as the primary and secondary keywords to search the related literature data in the past 5 years in Web of Science, and the keyword co-occurrence map (as shown in Figure 1) was obtained by CiteSpace,in which "intangible cultural heritage", "cultural heritage", "influencing factors", "embeddedness" and "economy" have higher degree centrality and are high-frequency hot topics. In addition, there are also hot words such as "cultural inheritance in games", "creative field", "arts and crafts" and "tourism". Further, timeline view are obtained to observe and analyze research hotspots and the relationship and evolution process of each cluster hotspot. It can be seen that scholars in various industries attach importance to drama and cultural inheritance in terms of intangible cultural heritage . In recent years, the attention to factors such as repertoire, music, influencing factors, empirical data, and news media has been significantly increased. It inspires us to focus on intangible cultural heritage, drama, music, repertoire, cultural inheritance, news media and the organic correlation, influencing factors and empirical data among all aspects, and introduce the creative concept of "game" and "arts and crafts", try to combine culture and tourism, pay attention to not only economic benefits but also the digital and commercial development of intangible cultural heritage.
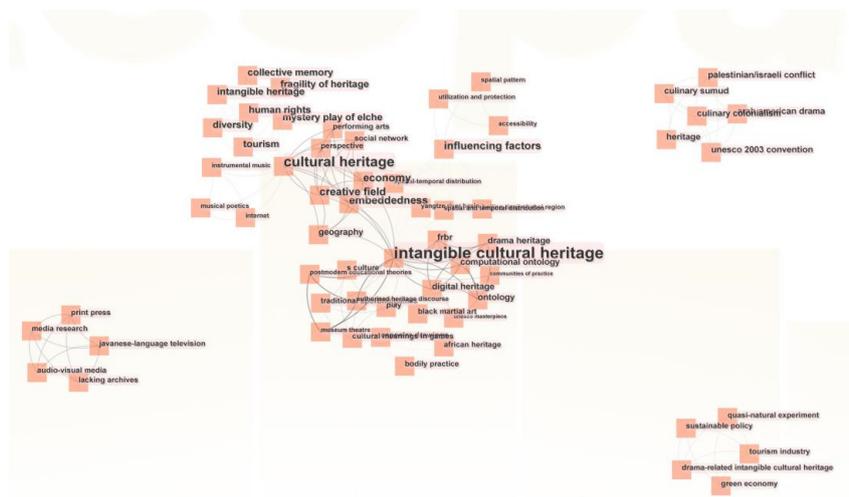


**Figure 1** Keyword Co-Occurrence Map (Original)

Through Social Network Analysis, "Intangible cultural heritage" is the "star" and "prestige" in the network, which is in the core position of research and has developed relatively mature, forming a systematic research structure. It is worth mentioning that "traditional drama" is in the position of "structural hole" in the whole relationship network, and is the "bridge" to communicate many keywords; Thematic communities such as "innovation", "sustainable development", "regional culture", "mass communication" and so on are loosely related to each other, and the structure of the research is not yet obvious.Based on the above analysis, I was inspired to take the structural hole of "traditional drama" as a bridge, and according to the theory of weak relationship and "embeddedness", promote the flow of information through the weak relationship of "artistic creation", "integration of disciplines", "image writing", "tourism literature and creativity", "cultural design", "all-media", "animation design" and "training" in the "production/creation" community. To connect the "living inheritance", "going out", "transformation", "productive protection" and other strong relationships of the "protection" and "inheritance" theme communities, and then integrate the key factors of "mass communication", "innovation", "regional culture" and add the "immersive performance" factor to carry out the embedded project design. [3]

## 2.2 Questionnaires

After collecting the data of the questionnaire "Investigation on College Students' Intention to the Interactive Experience of New Yue Opera Roles"，the sample size of this study was 306 participants. Through Cronbach. Coefficient analysis, it is found that Cronbach. The system number is 0.766, which indicates that the scale has good reliability.

In the analysis of the results of Pearson correlation coefficient, the Pearson correlation coefficient between the degree of interest in "creating a unique character's life in the meta-universe and savoring the joys and sorrows of characters" and the opportunity to participate in the interactive experience game of Shaoxing opera characters is 0.55, which indicates that there is a certain positive correlation between them. The data shows that the average value of attitudes towards the opera cavity of the national opera is as high as 1.29, which is close to the standard deviation of 0.48. Moreover，most people have a high understanding of A Dream of Red Mansions, with an average of 1.92, which is close to perfect data. Most people are interested in immersive performances, with an average of 2.2. However, there is a certain negative skewness in this data, that is, some people are less interested in immersive performances. This may reflect people's different acceptance of this new form of performance. Most people are interested in this game form, with an average of 2.21. It is worth noting that there are some negative skewness and positive skewness in this data, which may reflect people's different acceptance of this game form, and also show a certain attitude of product pole.

According to the above data and analysis, we can see that people hold more positive views and attitudes in the above five aspects. People have a high degree of interest and acceptance in the cavity, immersive performance and emerging meta-cosmic experience of traditional Chinese opera. However, there are individual differences in acceptance and interest in these new things. Generally speaking, this is a positive trend, reflecting people's active exploration and acceptance of traditional culture and new technologies.

By analyzing the F value and P value in the table of variance, we can further determine the significant relationship between these two variables. The F value is 8.858, and the correspond-

ing P value is 0.000, which means that we can reject the null hypothesis (there is no significant difference between the two independent samples) and accept the alternative hypothesis (there is significant difference between the two independent samples) at the confidence level of 99%. This shows that there is a significant relationship between the degree of interest in "creating exclusive character life in the meta-universe and tasting the joys and sorrows of characters" and the independent variable "what do you think of the development prospect of traditional Chinese opera?"

### 2.3 Practical Basis

The original musicals such as "Water Manshan Mountain" and "Butterfly of China" provided valuable examples for the integration of opera and musicals[5].Moreover，the interactive experience of the new Yueju Opera role-playing of "Entering the Opera - Dream of the Red Chamber" will inject new vitality into the inheritance and promotion of traditional culture through the combination of cultural traditions and modern science and technology. Through virtual reality, augmented reality and other technologies, we make participants feel as if they are in the world of the Dream of the Red Chamber, greatly enhancing the interactivity and immersion of the experience, and establishing an online and offline industrial matrix, providing participants with a rich variety of experience forms.

## 3 Building offline foundational experiential activities

The new original format of genre creation-genre transformation provides feasible ideas for the reform of the contemporary theatre field[1] and Studies of theory and practice can support my project concept. In terms of preparation, we will  Recruiting interested theater and opera practitioners to build a "world of opera" through scene arrangement, choreography and directing, drawing on the creation and performance modes of the "folded play" and "outline play" of operas[2], and using the new Yueju Opera "Dream of  Red Mansions" as a blueprint.

As the core of aesthetic education, art education undertakes the im- portant task of opening people's perception, understanding, imagination and creativity, and making people's inner emotions develop harmoniously[4].In the main planning of the project, we will take "aesthetic education" as the axis to cultivate opera inheritors.

The first step is to feel and appreciate the beauty. Participants choose the role they want to play, enjoy the Yueju Opera's characteristic costume and visualization services, and after understanding the original storyline through the new media by combining digital technology with performance elements and national style animation. After understanding the direction of the original storyline, with the yelling of "Please come inside!", accompanied by the music of the new national style opera, they enter the "opera world" of the Dream of Red Mansions, interact in real time with other characters played by the actors, also change the direction of the plot and the fate of the characters with different choices, and experience the cross-cultural charm of Chinese opera together with the actors. A "prize quiz" was set up to deepen the participants' impression of the non-heritage opera art.

In the second step, with the theme of creating beauty, we set up the following three scenarios: Firstly, we set up different opera cantatas of Yueju opera to be introduced as the "secret key"

in the key plot nodes of Dream of Red Mansions. At the end of the user experience, we ask the following question: "Would the story have gone differently if you had chosen differently in a key episode? " If the user wants to be "reborn" and change the character's experience, he or she has to learn the Yueju Opera melody of the relevant episode as a key to wake up and re-start the character's life. This enables users to experience the creation of opera and learn about opera in a subtle way. Secondly, a breakthrough mode is set up, in which users can unlock the next level of the "Folding Opera" experience module after the completion level of the character created by the module (i.e., the completion level of hand, eye, body, technique, and singing) reaches 60%. If the completion level of the character reaches 80% in any module, the participant will have the opportunity to change the basic setting of the character (i.e., the experience before the storyline, i.e., the background of the character). Third，During the experience, participant can create experiences according to his or her own interests, and make personalized DIY opera masks, costumes, pendants and other cultural and creative souvenirs.

In addition, we will also use photography equipment to film the participants' experience process, make character posters and generative videos, and provide them as "growth files" through the app; the choreography team will pay attention to the participants' performance and communicate with the actors and other workers through ear returns. When conditions permit, AR and VR technologies are used to enhance the experience; 3D printing technology is used to realize the integration of traditional handicrafts and modern crafts; and participants wear "eye-tracking devices" to monitor their focus and make real-time adjustments to the various aspects of the project on the basis of knowledge of consumer psychology.

## 4 Engagement of digital technologies and interactive products

The online platform is built through apps and small programs, and is divided into diversified modules.

The most crucial module is the "W" meta-universe world: when the technology allows, the "W" section of the app will form the meta-universe world of the characters. Users can create their own character's life in the meta-universe and savor the sadness and joy of the character. Firstly, the cultural and creative products created during the offline experience will be generated in the meta-universe synchronously, and users can fill the gap in the space of the meta-universe through offline creation. Secondly, after the user's first offline experience, a proto-type of the exclusive character of the Yuan Universe will be born; if the user wants to have the gait, body rhythm, demeanor, language, etc., the user needs to learn the hand-eye, body, meth-od and steps, singing, reading, acting, etc., in the next offline experience, which will gradually improve the character's degree of completion and activate the character's life. In addition, eve-ry time the user completes a new offline experience and generates a new character experience, the character experience record of the previous experience in the "Growth Profile" will be synchronized to the meta-universe.

Another module is "Entering the Opera - Dream of the Red Chamber", a multi-player online, real-time interactive role-playing puzzle game module: users choose a character, design the virtual character's costume, enter the virtual opera world after understanding the original plot through digital new media technology (combined with VR and AR technology to improve the user's experience at a later stage), change the character's fate, and appreciate the art of opera.

The character's destiny can be changed through the digital new media technology. You can also design your own character e-posters and cultural products. By completing the character's tasks in the game, you will have a chance to get a free offline experience.

The next module is the "Growth Profile" module, in which the process videos, character posters, and creative achievements of users' offline experiences will be recorded. What's more, in "Theater Creation Community" module,users can choose whether to display and exchange the character posters, process videos, and cultural and creative products they have participated in creating according to their own wishes. "Link Information" module provides information links and video teaching and learning services by connecting with the Internet, self-media and e-commerce.The "micro-shop service" module provides a platform for the sale and exchange of users' exclusive "growth profile" series products, character posters, and cultural and creative products.

Through the setting of the above links, users can move towards different plots with different choices, create different chapters of the character's "growth profile", and build different and unique "me" (the role played) in the parallel world in the meta-universe. In this way, a closed loop of online and offline linkage is formed to continuously attract users and enhance the sustainability of profitability, as well as to permeate the knowledge of opera in the whole process of user experience, cultivate the inheritors of opera, and realize the creative transformation and innovative development of opera.

## 5 The Feasibility Analysis and Development Plan of the Project

After making an analysis of the feasibility of the project and social pain points, we believe that we can make full use of the state's support policy for the cultural industry and combine it with modern technological means to create a unique artistic experience. We will seek diversified sources of funding, establish a good relationship with large enterprises, formulate a reasonable business plan and co-develop the project. We will also maintain the artistic character and cultural value of the project. The implementation of these measures will help to realize the sustainable development and commercial success of the project.

We will realize profits through various channels such as performances, copyrights, derivatives and online platforms. For marketing and promotion, we will publicize through the Internet and new media through various strategies, such as social media promotion, interactive drama push, and cooperative promotion.

It will Provide differentiated services for different age groups，extend to various kinds of opera, and the organic combination of different traditional operas will be realized. Also，it is going to be combined with local culture, folk customs and stories in the process of development. Combined with the characteristics of opera art and market demand, explore a variety of business models, such as cooperation with tourism, cultural and creative industries, to achieve win-win development.

Furthermore，we will invest more resources in technology research and development and integration, ensure the stability and advancement of technology, and provide solid technical support for the project. Continuously optimize the design of role-playing interaction through

user research and feedback collection to improve the satisfaction and comfort of user experience.

## 6 Conclusions

The "Entering the Opera - Dream of the Red Chamber" New Yueju Opera Role-playing Interactive Experience Project aims to protect and pass on opera as intangible cultural heritage culture by cultivating opera inheritors in the process of feeling, appreciating and creating beauty，to realize the creative transformation and innovative development of opera and create its contemporary value.The project can promote the digital protection and commercialization of opera.It strives to solve the pain points of Chinese opera industry, drive the development of emerging industries, which can promote employment and enhance social benefits, in order to seek win-win cooperation between individuals, society and the country. Through the combination of cultural tourism, it is conducive to the exchange and understanding of different regions and cultures. In addition, the model can help us promote Chinese opera overseas, then Try to explore a new mode of intercultural communication of opera.

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