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RESEARCH-ARTICLE

A Multi-media Entry to Traditional Chinese Art

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A multi-media Entry to Traditional Chinese Art: Art Gallery 2022 Chapter 4



Curator's Note

Work of this chapter explore possibilities of using multimedia to represent traditional Chinese art to a broad audience. These works include a three-dimensional book for Guangcai porcelain, a VR application for decorative patterns and Buddha statues in Dunhuang caves (*Exploring Dunhuang*), VR and AR applications for Beijing Eight Imperial Handicraft, and digital representations of traditional landscape and figure painting (*A Spring Journey* and *People in the View*). *JiYing* is an interactive artwork that combines the movements of Taijin and the aesthetics of traditional Chinese painting by means of ink fluid animation in a real-time manner.

Exhibitors

Zihao Fu, Jiarong Chen, Xinyi Huang, Zhaoqing Li, Zhuangyi Chen, Mingshuang Xin, Yuejing Liang, Yining Chen, Lao Jia, Hanbing Jia, Runze Shi, Xinzhe Zhang, Yuru Gao, Guo liu, Linxin Yang, Meng Zhang, Yihui Cai, Ziyi Zhu, Junxian Lin, Xintian Gao, Ye Wang, Mingxuan Zhang, Tiantian Chen

Curatorial committee

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Design of a Three-dimensional Book Based on the Combination of Traditional Culture of Guangcai Porcelain and AR technology

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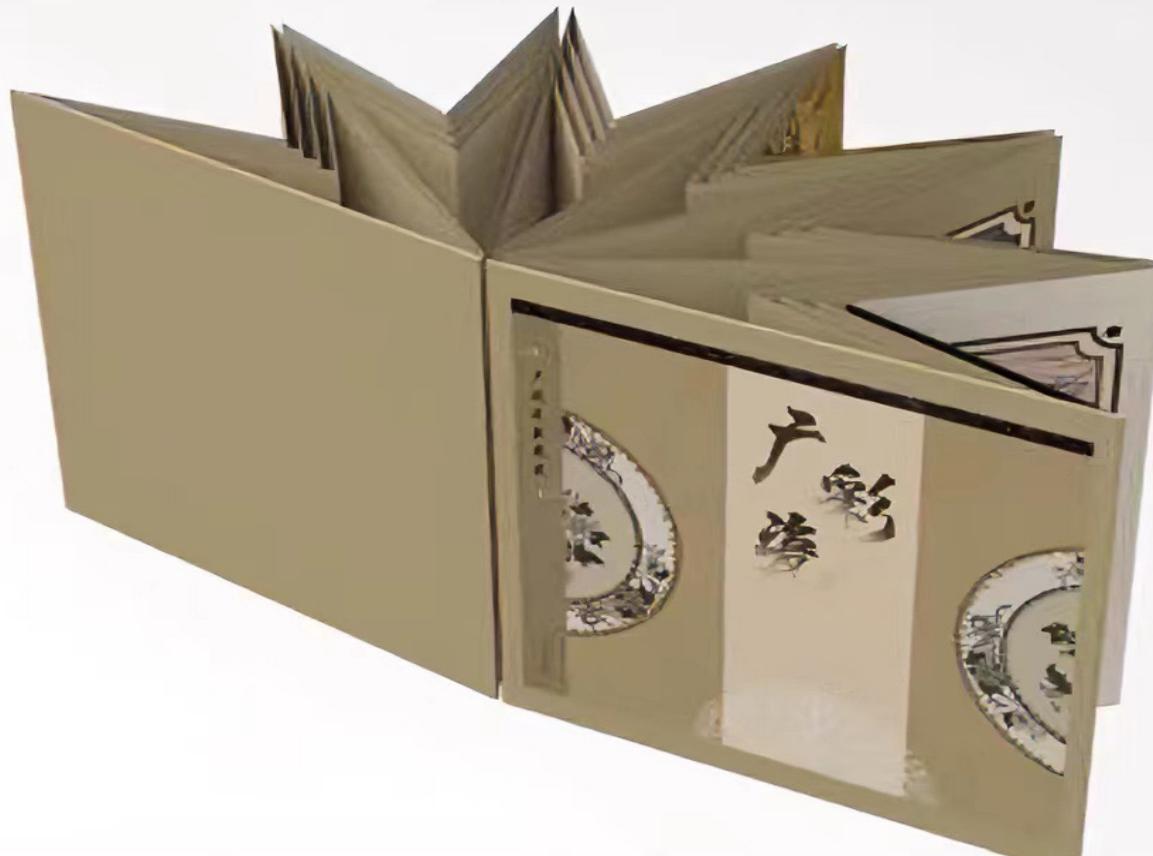
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Combining the idea of combining technology and traditional culture, we have combined AR technology with a three-dimensional book. The novel exhibition format allows visitors to scan the elements in the three-dimensional book to achieve a recreation of the historical background, traditional craftsmanship, colour characteristics and trade scenes related to Guangcai porcelain. In museums and other exhibition scenarios, visitors can interact with this precious intangible cultural heritage while appreciating Guangcai porcelain, learn about its background and future, feel the charm of Chinese Guangcai culture and actively participate in its preservation and heritage.



(a) Visitors use their mobile phones to interact with the three-dimensional book



(b) Top view of the three-dimensional book



(c) Detailed display of the three-dimensional book

Exploring Dunhuang: Digital reproduction of Traditional Culture based on New Media Interactive Art

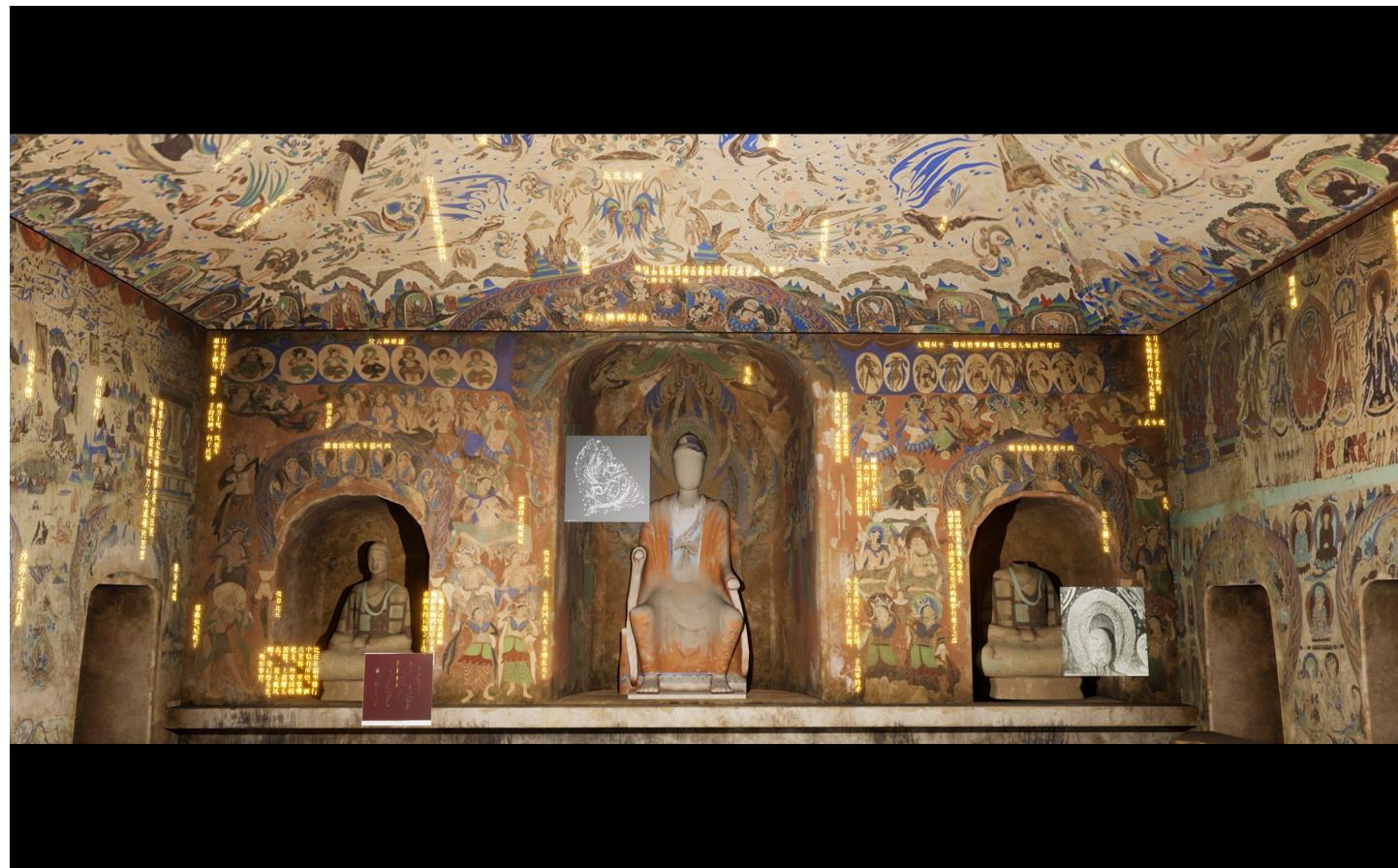
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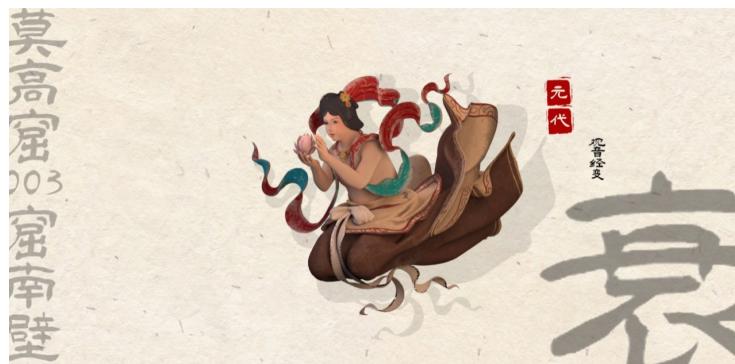
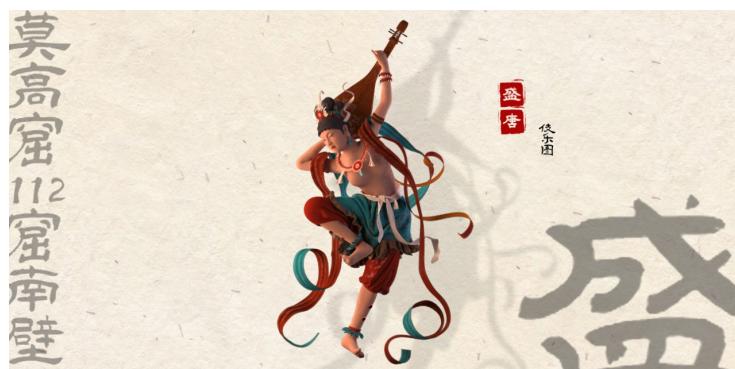
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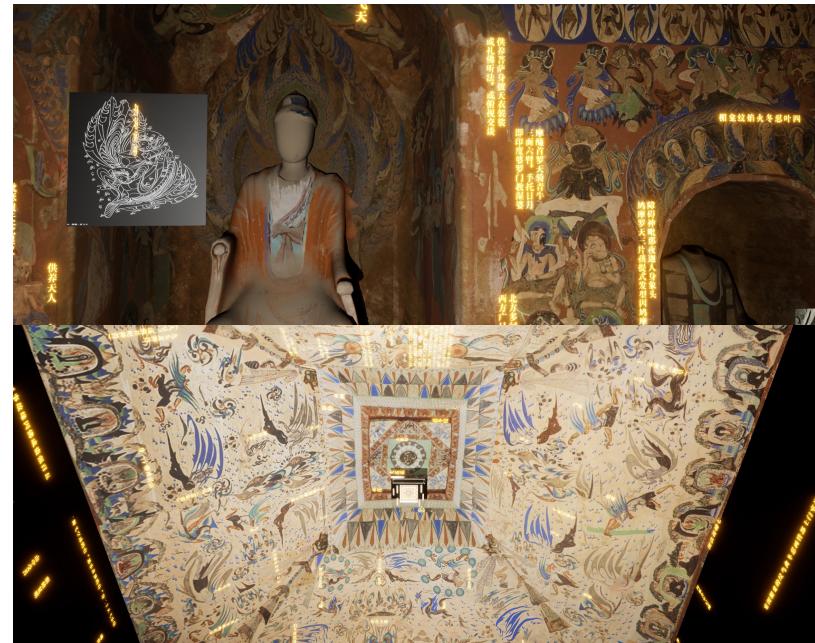


In this project, Cave 285 of Mogao Grottoes is selected as the main scene, and its internal murals, decorative patterns, Buddha statues, etc. are digitally reproduced. Science content is also added to achieve a "online viewing" and to protect the caves. Participants can observe mural patterns closely, and read the text information at the same time to deeply understand the meaning behind them. This is a combination of science and fun.

We also explored the artistic style of Dunhuang in its three periods of prosperity and decline. Representative Buddha statues were then selected for digital restoration. Participants can trigger these three Buddha scenes through similar elements in the 285 caves. The individual immersion galleries will serve as a node to disperse outward, linking them together and presenting a more complete picture of Dunhuang culture.



(a) Representative Buddha statues in the three periods of the rise and fall of Dunhuang.



(b) Text messages for science popularization and supplementary image display.



(c) Finally, the immersive exhibition hall with flashlight light and music sound effect.

Skills and Arts of the Beijing Eight Imperial Handicraft

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Through the method of virtual reality technology and interaction design, and starting from AR, VR, and book design, this work makes the “Beijing Eight Imperial Handicraft” which represents “Royal-craftsmanship” becomes more intelligent through the addition of modern technology. On the one hand, interactive design and virtual reality technology are used to display the information of cultural relics through 3D effects, and on the other hand, modeling technology is used to convert physical cultural relics into virtual cultural relics, and shows how some of the artifacts were designed, their internal structures and processes, and a series of derivative content is produced. It makes people have more intuitive and vivid understanding and interest in Beijing Eight Imperial Handicraft, so that users can better understand and learn what they need, and hope to make the culture of Beijing Eight Imperial Handicraft understood by more people through virtual reality reproduction methods.



(a) Demonstration of the VR use scenario of Skills and Arts of the “Beijing Eight Imperial Handicraft”.



(b) AR design interface of Skills and Arts of the “Beijing Eight Imperial Handicraft”.



(c) Demonstration of the book design of Skills and Arts of the “Beijing Eight Imperial Handicraft”.

A Spring Journey: Digital Interactive Experience Works

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This study combines and explores the embodiment theory, immersive virtual reality and the 'mood space' of landscape painting in a deeper way, and thus innovatively realises the ideal of the 'feasible, desirable, liveable and playable' mood space in green landscape painting in a 3D interactive way. The exhibition is an interactive three-dimensional realisation of the ideals of 'feasible, desirable, liveable and playable' in landscape painting. Based on the theories of 'embodied cognition' and 'imagery schema', the interactive cognitive hierarchy model and the immersive virtual reality embodied interaction design model of landscape painting are proposed. Finally, Zhan Ziqian's "Spring Journey" is used as a case study to develop a three-dimensional contextual space that is "feasible, desirable, liveable and playable" using virtual reality technology, providing a case reference for the combination of similar landscape paintings with virtual reality and interaction design.



Fig 1:The opening of A Spring Journey VR experience



Fig 2: The mist covers the Chunjiang river



Fig 3: Rowing to the other side



Fig 4: Touching a sutra block and understanding the significance of temple imagery in ancient paintings



Fig 5: The sound of striking the bell



Fig 6: Entering the farmhouse



Fig 7: Temple complex restored from research

THE MAJOR SCENES OF A Spring Journey



Fig 8: The interior of the temple complex and its setting

People in the View

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As a special visual symbol, the point scene expresses the theme, significance and aesthetics of the work and plays the role of finishing touch in the picture. I combine the point scene system with artificial intelligence operation, explore the possibility of digital art through the comparison between traditional and modern, technology and art, comb the data set into artificial intelligence training, and realize the final creation. This is a process of the combination of intelligent reason and human perception, and it is a discussion of the two important propositions of human development, science and technology and art.

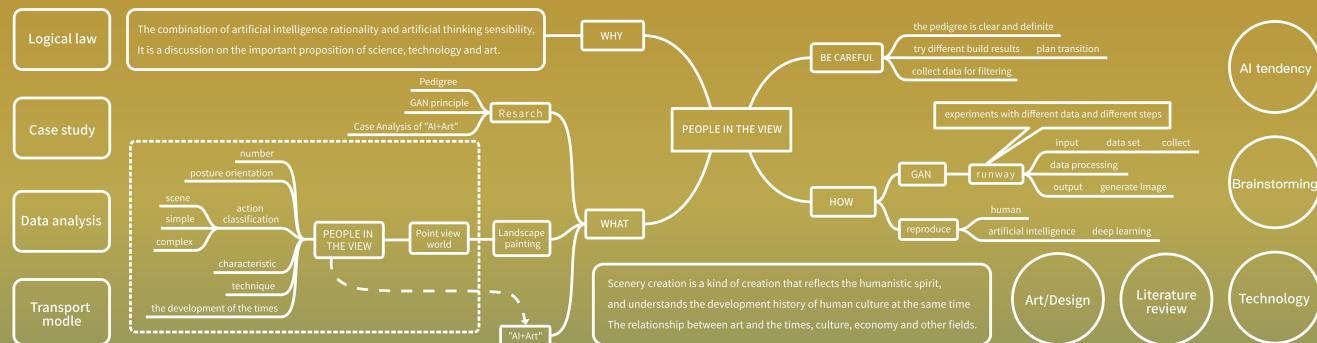
PART1 PROJECT BACKGROUND

PEOPLE IN THE VIEW

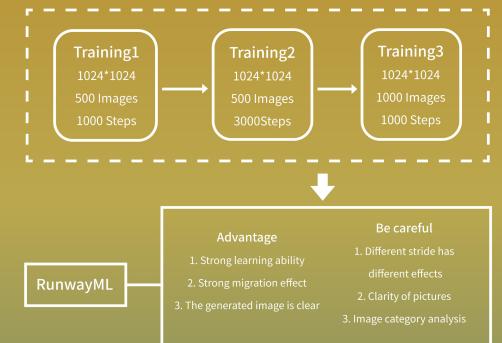
The art of artificial intelligence includes works independently created by artificial intelligence systems and works of cooperation between human beings and artificial intelligence systems. It is a unique, special and most representative art form in the "artificial intelligence era". AI has had a profound impact on a large number of fields. In the past few years, it has brought many changes in different fields. Some people may be surprised that even the art field, which has always been regarded as an obvious human field, is also affected by AI. Artificial intelligence has invaded the art.

PART2 PRELIMINARY RESEARCH AND DATA COLLECTION

Scheme thinking map



Training model



PART3 DIGITAL GENERATION ART

Generative image model



More and more questions arise about the relationship between AI and art. We should face up to the relationship between artificial intelligence and works of art. AI and art are not about who replaces who. On the contrary, AI technology and art creation have more possibilities to combine.

JiYing: A Real-time Interactive System Based on Taiji Aesthetics

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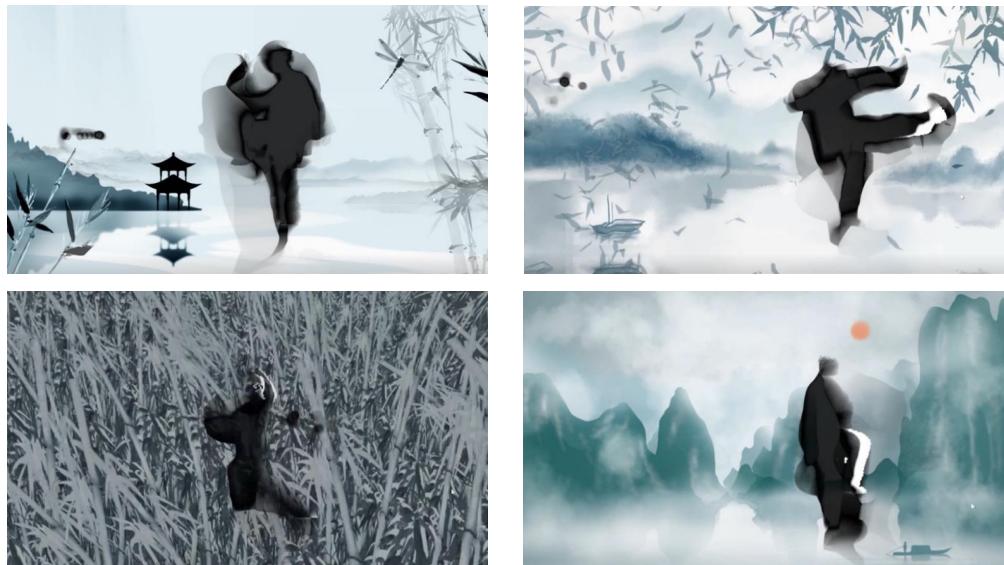
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JiYing is a real-time interactive device, composed of ink fluid effects and four traditional painting backgrounds, with the aim to help the experiencers feel the aesthetics of Taiji and encourage them to learn Taiji through immersive experiences. This design is inspired by the movements of Taiji, including the movement trend of footsteps, gestures and body posture. The Kinect captures the motivity of the experiencer, and the system generates ink fluid animation in real time. Furthermore, the feet, hands and body postures will interact with the background scene in real time respectively, producing effects such as ripples, wind, leaves falling and white cranes flying.



(a) Design of four interactive backgrounds.



(c) Demonstration of the experience scenario of JiYing.



(b) Test of ink fluid effect.