

Interactive Media Visual Interpretation of Traditional Chinese Graphics in Urban Public Spaces

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Abstract: This paper focuses on the application of interactive media technology in the visual interpretation of traditional graphic urban public spaces in China. Case studies and practical exploration show that interactive media technologies such as projection mapping, interactive devices, virtual reality technology, etc., have realized the diversity of traditional graphics display forms in urban public space. The rich interactive experience design enhances the sense of participation and experience of urban citizens and tourists and promotes the visual culture transmission of traditional Chinese graphics. The future urban public space exhibition is destined to continue to deepen the integration of technology and graphics, promote the visual communication of traditional Chinese graphics visual interpretation in urban public space, and promote sustainable innovation in cultural output in urban public space exhibitions around the world.

Keywords: Motion graphic design; Public space; Interactive media technology

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1. Introduction

In his book *The Image of the City*, published in 1960, Kevin Lynch discussed the concept of interactive city image, arguing that city image is the product of the interaction between direct feeling and experience memory in an individual's mind. Lynch suggested that elements such as paths, edges, districts, nodes, and landmarks in urban environments serve to convey information and direct human behavior. Through visual communication, these elements contribute to the formation of cognitive maps and mental maps, which represent individuals' perceptions and understandings of their surroundings. Lynch emphasized the role of subjective feelings and personal experiences in shaping people's recognition and emotional responses to urban environments, highlighting the profound influence of urban public spaces on individuals' psyches ^[1].

In his 1995 article "City of Bits: Space, Place, and the Infobahn," Mitchell discusses how information technology impacts architecture, urban life, and social interaction. He explores changes in production, lifestyle, and urban culture resulting from people's use of information networks. Mitchell predicts that advancements in

information technology will inspire the development of new urban public spaces that reflect evolving societal needs and behaviors [2].

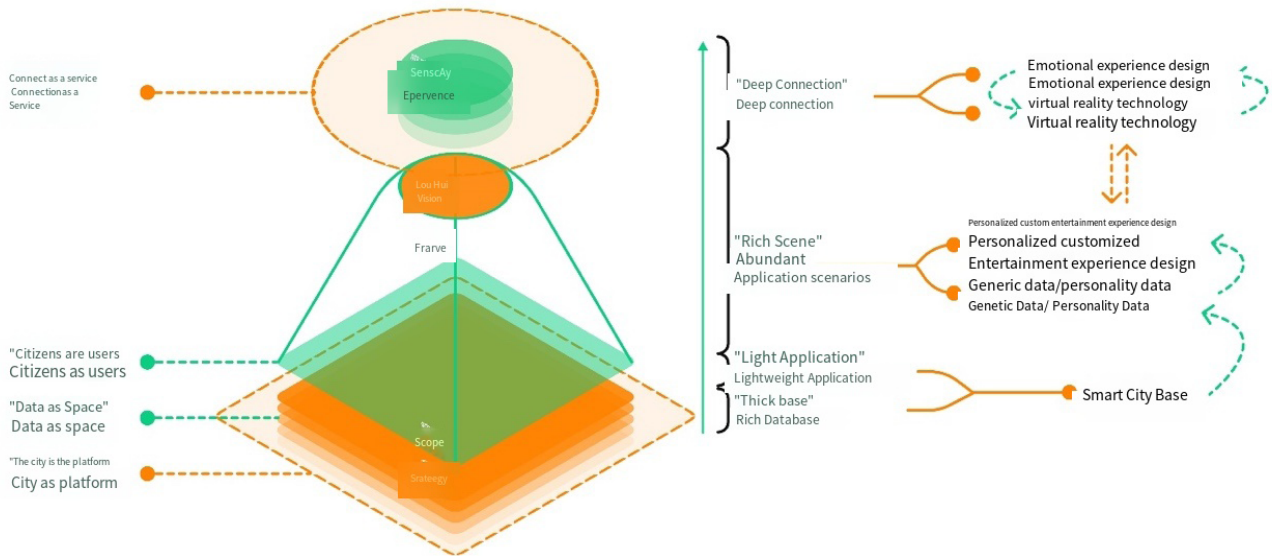


Figure 1. Structural display of “Future City Values”

Amid the global COVID-19 pandemic in 2020, Zhejiang University’s Future City Project Team authored two books: *Future City: Reshaping Urban Competitiveness in the Digital Age* [3] and *Future Community: Global Ideas for Urban Renewal and Six Samples* [4]. These books showcase various cases of intelligent urban buildings and outline the future city values of “city as platform,” “digital as space,” “citizen as user,” and “connection as service.” They advocate for the application of scientific and technological innovations to integrate community entertainment, emphasizing concepts such as a “thick base,” “light application,” “rich scene,” and “deep connection.” The aim is to design and construct a new type of urban public space for interactive entertainment experiences (Figure 1).

In the 14th Five-Year Plan for the Development of Cultural Industry, China encourages the development of digital media technology in the design of urban public space, emphasizing the cultural feelings of traditional Chinese graphics design narrative [5]. However, due to the complexity of the Chinese traditional graphics system, there has not been a very representative dynamic application case of Chinese traditional graphics in China’s urban public space [6]. From a technical standpoint, China possesses both the foundational data technical capabilities (“thick base”) and platform technical conditions for application (“light application”). In terms of content creation, traditional Chinese graphics represent a rich resource of graphic design elements for creating immersive scenes and serve as a vital visual component for fostering a deep emotional connection with national sentiments in urban public space communication. In the new era, the digital integration of traditional Chinese graphics is poised to reconstruct the “cognitive map” and “psychological map” of Chinese cultural emotions.

Blackbow, founded by new media artist Wang Zhiou, is one of the top cross-media artistic creative teams in China, having created scientific and technological artworks representing the national aesthetics during the 70th National Day and the Beijing Winter Olympic Games. With expertise in cross-disciplinary collaboration across shows, events, spaces, and interactive mediums, Blackbow’s portfolio spans industries including culture, tourism, real estate, and science and technology. The team is dedicated to seamlessly blending cutting-edge artistry with technological innovation.

The Blackbow team’s hallmark works revolve around the promotion of national culture, prioritizing

the creation of “national aesthetics” pieces. Their endeavors are bolstered by exceptional creativity and technical prowess, emphasizing the fusion of science and technology with cultural heritage. Through their unique creativity and skilled execution, Blackbow seamlessly integrates traditional Chinese graphics with interactive media technology, offering a fresh visual language to the public. Utilizing interactive media, these works breathe new life into traditional graphics, unveiling their immense potential in contemporary urban public spaces. They contribute to enhancing the city’s cultural ambiance and image while fostering innovative development in cultural and technological industries. Ultimately, these creations deliver novel visual and sensory experiences to both citizens and tourists alike.

2. Basic graphic data construction of “thick base”

China possesses a robust technical foundation for digitally interpreting traditional Chinese graphics. To ensure smooth research progress and successful artwork creation, it is crucial to classify the vast database of Chinese traditional graphics. Traditional Chinese figures can be categorized into several groups, including animals, plants, human figures, and artifacts. For instance, within the animal category, specific figures like dragons, phoenixes, tigers, and deer can be further delineated ^[7]. In-depth research on each figure, encompassing its historical origins, cultural connotations, and artistic characteristics, is essential. Subsequently, digital media technologies such as 3D modeling, animation design, and interactive programming can be employed to reinterpret these figures into modern and interactive works.

In urban public spaces, these artworks can be showcased through various mediums such as large naked-eye 3D screens, interactive installations, and AR interactions. Audiences can engage with the pieces via multi-mobile device terminals, interacting through touch, slide, click, and other actions. This immersive experience allows for a deep appreciation of the cultural significance and artistic allure of traditional Chinese graphics. Not only does this enhance public awareness and interest in traditional Chinese culture, but it also drives the development and innovation of digital media art. Therefore, the key to ensuring these works can continuously achieve secondary creation when applied and promoted in different urban public spaces lies in classifying traditional Chinese graphics and conducting in-depth research based on graphic elements, supported by interactive media technology ^[8].

3. “Light application” platform interactive logic design

Supported by technology, project creation must focus on the application of motion graphics in physical spaces and user interaction design. Interactive media technology modernizes traditional Chinese graphics to align with contemporary aesthetics and public needs. The visual design of interactive media is continually refined through research, analysis, and feedback to enhance public satisfaction ^[9].

The creative team must consider public habits and needs, optimizing the interface and interactive logic through thorough research and testing. Public feedback is crucial for timely design adjustments to improve the user experience. For instance, interactive digital media devices can be installed in urban parks or commercial areas. These installations, based on traditional Chinese graphics, achieve dynamic and interactive effects through technologies like projection mapping and touch screens.

4. Narrative scene creation through “rich scene” design

The concept of “rich scene” emphasizes designing interactive media visual interpretations tailored to the unique

characteristics of various urban public spaces. This approach ensures that the visual art is relevant to citizens' lives and needs, creating vibrant and engaging effects through narrative design ^[10].

For example, in a hypothetical narrative set on a train, passengers searching for Pikachu gradually acquire a golden glow, symbolizing globalization. This narrative continues with unexpected twists, such as a televised carnival triggering an explosion. yet the train persists, moving towards a mysterious station, with the song PPAP playing in the background. This scenario illustrates the interplay of individual experiences, shared landmarks, and social events, reflecting New York City's unique temperament ^[11].

Similarly, traditional Chinese graphic design can achieve unique visual interpretations of public spaces by crafting narrative stories tailored to different cities. Each city's unique character can be highlighted through distinct interactive media schemes. The "rich scene" concept thus allows the creation of visual art effects that resonate with the everyday lives and needs of citizens, blending modern urban experiences with the distinctive charm of traditional Chinese culture.

5. Providing emotional experiences through "deep connection"

"Deep connection" emphasizes linking traditional Chinese graphics with the emotional experiences of participants during interactions. This approach enables the preservation and innovation of culture in urban public spaces. Emotional connections in the modern era breathe new life into traditional graphics, offering fresh ideas and directions for urban cultural development and promoting sustainable urban growth ^[13]. For instance, "Fan Shadow" has been exhibited in public spaces such as community squares and pedestrian streets in China. Using projection mapping technology, traditional Chinese graphics are dynamically projected onto the ground. These graphics change in response to music rhythms and touch interactions. The public can control the content or rhythm of the projection show through any mobile device, presenting stunning visual effects of fan patterns and achieving meaningful interaction.

Currently, many museums, art galleries, science and technology museums, and cultural centers in China feature dedicated VR/AR experience pavilions. Citizens can immerse themselves in the charm of traditional Chinese graphics by wearing VR glasses or AR helmets. For example, in a VR environment, they can travel back in time to appreciate the exquisite patterns of ancient buildings. In an AR setting, they can view virtual traditional graphics overlaid on the real world and interact with them, bridging the past and present through technology ^[14].

These forms of digital integration not only provide new ideas and directions for the cultural construction of urban public spaces but also promote the sustainable development of cities. By combining heritage with innovation, traditional Chinese graphics gain new vitality in modern society, becoming a significant aspect of urban culture ^[15].

Disclosure statement

The author declares no conflict of interest.

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