



Research on the Design of Tianjin City IP Image Based on Haihe Culture

Pei Ban* and Lingheng Li

Tianjin University of Technology, Tianjin 300384, China,

*E-mail: 1525026910@qq.com

Abstract. The purpose of this study is to shape and enhance the urban IP image of Tianjin by combining the Haihe culture, and to explore a feasible path of integrated development and mutual promotion between Haihe culture and urban IP image design. Method: Through literature research and case analysis, this study explores the current situation and existing problems of Tianjin's urban IP image. From the perspectives of unclear positioning of urban IP image, incomplete visual recognition system of IP image, and insufficient integration of IP image application and industry, this study explores how to integrate Tianjin's urban IP image with Haihe culture design. As a result, an innovative model of "clarifying IP positioning+enriching IP personality+unifying visual image" was constructed, extracting elements of Haihe culture to expound the development path of "building urban IP image to tell the story of Haihe River". Conclusion: By deeply exploring the Haihe River culture and extracting cultural factors, it is possible to provide differentiated and unique cultural elements for the visual design of Tianjin's urban IP image, avoid homogenization of Tianjin's urban IP image design, enhance the recognition and affinity of the city's IP image, showcase unique historical culture, improve the city's cultural soft power, and promote urban development, which has important historical significance.

Keywords: Haihe River culture, City IP image, cultural elements

1 Introduction

1.1 A Study on the Classification of Resources in the Haihe River Cultural Belt

As the Grand Canal flows through Tianjin, the city has developed a unique culture centered on the Haihe River's transportation network. This has also given rise to the Haihe River Cultural Belt, which embodies the civilization of the Haihe River and boasts abundant resources and a long history. For example, "Jinmen Guli"—the convergence point of canal transport culture, Haihe River culture, and folk culture. From ancient times to the present, the Haihe River has nurtured profound historical and cultural resources in Tianjin, exerting a far-reaching influence. The Haihe River can be regarded as the wellspring of Tianjin's culture, and as the city evolves and develops, Haihe culture will continue to grow richer. This paper analyzes and studies the

resources of the cultural belt in three parts: water culture, traditional intangible cultural heritage, and the cultural belt where the Tianjin section of the Grand Canal converges with the Haihe River.

Water Culture Belt Resources.

Due to its colonial history, where international concessions were established along the river, Tianjin’s water culture possesses distinctive characteristics: the collision and fusion of multicultural elements with local Tianjin culture. This is also a significant feature that distinguishes Haihe River water culture from that of other cities.

The Haihe River Water Culture Belt can be divided into three aspects: physical water culture, institutional water culture, and spiritual water culture. Physical water culture is manifested through hydraulic engineering projects, bridge construction, and the surrounding architectural landscape along the Haihe River, such as Jiefang Bridge, Chifeng Bridge, and Xiaobailou; Institutional water culture is manifested through relevant water management practices and regulatory systems; spiritual water culture is reflected in the folk beliefs, customs, and spiritual connotations expressed along the Hai River banks based on local concepts and philosophies, such as Mazu culture, the legend of Nezha Stirring the Sea, and the spirit of Yu the Great in conquering floods despite adversity. Humans and rivers share a symbiotic destiny; water culture showcases the uniqueness of the Hai River’s cultural resources and serves as a vital vehicle for unifying the national spirit (see Table 1).

Table 1. Resources of the Tianjin Water Culture Belt (Author’s own illustration).

Material Water Culture	expression vector	element extraction	Spiritual Water Culture	expression vector
Liberation Bridge			Mazu culture	
Chifeng Bridge			Nezha Conquer the Dragon King	
Lion Forest Bridge			Yu the Great Tamed the Floods	

Traditional Intangible Cultural Heritage Belt.

The Traditional Intangible Cultural Heritage Belt comprises folk beliefs, folk arts, and traditional intangible cultural heritage crafts found along the Hai River. Yangliuqing New Year paintings, Zhang’s colored clay figurines, and Wei’s kites—all of which embody folk art—are renowned traditional folk crafts of Tianjin. Goubuli Steamed Buns, Guifaxiang Twisted Dough Sticks, and Erduoyan Fried Cakes are collectively known as the “Three Delicacies of Tianjin” and are renowned nationwide. Traditional

crosstalk performances, driven by the culture of the canal transport docks, flourished in Tianjin, vividly embodying the city’s street-level cultural atmosphere and remain deeply beloved by audiences across the country to this day (see Table 2).

Table 2. Resources of the Tianjin Traditional Intangible Cultural Heritage Belt (Author’s own illustration).

Intangible Cultural Heritage Name	presentation form	introduce
Yangliuqing Painting		Yangliuqing woodblock New Year painting, a traditional folk art in Tianjin, is one of the national intangible cultural heritages. Yangliuqing woodblock New Year paintings have a wide range of themes, rich content, full composition, auspicious meanings, and are appreciated by both the refined and the popular. It adopts a combination of carving and painting techniques, with exquisite carving, delicate drawing, vivid characters, and elegant colors.
Clay Figure Zhang		Clay figurine Zhang Caizhu is a folk culture in Tianjin and one of the famous traditional handicrafts of the Han ethnic group. As a folk colored sculpture spread in the north, it was founded during the Daoguang period of the Qing Dynasty. It is a painted clay sculpture artwork created by Tianjin artist Zhang Mingshan in the mid-19th century and is now one of the first national intangible cultural heritages in Tianjin.
Weiji Kite		The Wei Ji kite is one of the traditional folk handicrafts in China. Tianjin, located in northern China, is the main production area for Chinese kites. Among the kites in Tianjin, the one produced by "Wei Ji" is the most exquisite and famous.

The Cultural Belt Where the Tianjin Section of the Grand Canal Converges with the Hai River.

The Tianjin section of the Grand Canal is the core area of China’s Grand Canal and embodies the essence of canal culture. Within Tianjin, the canal splits into the South Canal and the North Canal, which converge with the Ziya River to form the Hai River. The point where they converge is the famous Sancha River Mouth, situated between the Tianjin Eye and Jingang Bridge. This area gave birth to Tianjin’s civilization and prosperity, serving as the city’s earliest settlement and commercial hub. Since the name “Tianjin” was established later than Sancha River Mouth, there is a saying that “Sancha River Mouth came first, and Tianjin City followed.” The Hai River boasts a rich cultural heritage that has endured over time, providing Tianjin with abundant tourism and cultural resources.

2 The Concept and Design Principles of Urban IP Identity

2.1 The Concept of Urban IP Identity

The Chinese characters for “city” (城市) originally signified “enclosing land to form a city and gathering for trade to form a market.” The essence of a city lies in the aggregation of various human functions; it serves as the spatial vessel for people’s lifestyles. Its superficial functions include providing spaces for residence, work, daily life, interaction, and recreation; its deeper functions involve building regional culture and urban character upon these foundations. The concept of “urban image” was first proposed in 1960 by the renowned American urban planner Kevin Lynch. He argued that the composition of an urban image primarily encompasses urban street planning and functional planning, emphasizing that an urban image is derived from people’s comprehensive “perceptions.” A city IP image represents the branded extension and innovative expression of the urban image within a contemporary context. “IP” originally stood for intellectual property; in the context of urban culture, it has evolved into a unique cultural symbol and a form of spiritual consumption. A city IP image refers to a concrete, symbolic, personalized, and anthropomorphized representation created by distilling the city’s essence and spirit. Rooted in the city’s regional culture, it serves as a highly recognizable, self-promoting, and widely disseminable symbolic vehicle.

The analysis of the value of a city’s IP image can be approached from both internal and external perspectives. Internally, its value is reflected in the city’s residents: through the IP image’s role in shaping urban culture, conveying the city’s spirit, and representing its character, it serves to strengthen the city’s internal cohesion, sense of unity, and civic pride, thereby enhancing residents’ sense of fulfillment and happiness. External value is realized through communication channels. A successful city IP image can refine the city’s external image, deepen the impression of the city among visitors, attract talent and investment, and thereby further promote urban development, creating a virtuous cycle of “developing urban culture → shaping a unique IP image → efficiently communicating to attract resources.” Compared to traditional city logos, urban IP characters, with their concise, vivid, and three-dimensional visual characteristics and anthropomorphic narrative capabilities, are better able to resonate emotionally with people across all social strata and age groups, thereby more effectively promoting the city’s image and revitalizing the regional economy.

2.2 Principles of Urban IP Character Design

Today, rapid economic development and the enhancement of national comprehensive strength have brought both opportunities and challenges to urban development. A city’s image is a crucial factor in its development and a reflection of its culture. As a key vehicle for the city brand, the process of shaping a city IP embodies the city’s values and developmental essence. With the continuous advancement of urbanization, competition among cities in terms of comprehensive strength has become increasingly intense, and national soft power and cultural development are receiving growing attention. Consequently, a city’s cultural image and cultural soft power have become critical issues

for the sustainable development of modern cities. Relevant research indicates that a city's IP image is "a symbolic, personalized, and concrete representation distilled from the unique spirit and vitality of the city; it is a personified, communicable spiritual commodity" capable of enhancing the city's recognition and cultural cohesion. Only by strengthening awareness of its IP image and creating a city IP with distinctiveness and vitality can a city stand out in fierce competition. Therefore, the design of a city's IP image must adhere to the following principles:

Principles for the Coordinated Design of Urban IP Identity and Government Image.

A city's IP identity typically takes shape during a specific historical period; it is both the result of public perception and a process of consciously constructing urban culture. As urban cultural development has garnered increasing attention, and citizens' demand for a distinctive urban identity and symbolic representation has grown, the development of urban IP identities has received greater focus and support from local governments.

In the past, the development of a city's IP image was often disconnected from government image-building efforts, and in some cases, the two were even completely separate. Today, in the course of fulfilling administrative functions and promoting urban cultural development, local governments are increasingly inclined to integrate the development of the city's IP image with government image-building into a comprehensive strategy. By using the IP image to embody both the city's culture and the government's governance philosophy, they clarify the direction of the city's IP development and highlight the city's unique characteristics. Precise positioning of the city IP helps enhance the visibility, reputation, and influence of both the city and the local government. Therefore, through the coordinated design of the city IP and the government's image, the public can gain a more intuitive understanding of urban culture and government operations, achieving an effective integration of governmental philosophy and the city's image, and thereby reflecting the government's comprehensive functions across political, economic, cultural, and social domains.

Principles of Personalized Design for Urban IP Characters.

National development strategies place great emphasis on innovation, and the development of urban IP characters must likewise be innovation-driven. Without originality and personalized design, urban IP characters risk falling into a trap of homogenization, rigidity, and lackluster appeal. To highlight a city's unique characteristics, it is necessary to shape and promote its IP character based on the city's geographical environment, cultural history, and development philosophy. Different cities possess distinct historical and cultural legacies, which provide the foundation for differentiating urban IP identities. Therefore, in the design of urban IP identities, the principle of personalization should be followed. This involves deeply exploring the city's most representative architectural culture, regional symbols, and folk culture, making these elements the key pillars that integrate the urban IP identity with its cultural essence.

At the same time, the design should integrate the city's leading industries and distinctive resources. Urban IP images often embody the city's unique industries and environmental characteristics. Against the backdrop of rapid economic development and accelerated industrial restructuring, representative industrial symbols and cultural elements should be organically incorporated into the design. Through the comprehensive use of color, form, and narrative techniques, the urban IP can be made to better reflect the city's highlights and industrial features, thereby highlighting its unique charm and cultural character. In summary, urban IP image design should be guided by individuality, highlighting the city's unique characteristics to shape a vibrant and charismatic urban image.

Principles of Standardization and Regulation in Urban IP Image Design.

Since urban IP image design is primarily aimed at external communication, its foundational and application systems require a high degree of standardization. Standardized and regulated design helps establish a stable, unified perception of the IP image both within and outside the city, thereby reinforcing public recognition.

In practical implementation, the principle of standardization is primarily reflected in simplification, unification, and serialization:

First is simplification, which involves refining and generalizing elements such as graphics, colors, and text—while ensuring cultural connotations and distinctive features are preserved—to make the city IP image easier to recognize, remember, and disseminate;

Second is unification, which entails maintaining consistency in the core characteristics of the IP image across various application scenarios, including stylistic design, color standards, and dynamic expressions, to create a unified visual impression;

Third, systematization: building upon the main IP image to create application variants for different scenarios and media—such as festival editions, sports editions, and cultural tourism editions—thereby establishing a well-structured and comprehensive IP application system.

While adhering to standardization and normalization, it is also essential to showcase the unique charm and cultural characteristics of the city's IP image through innovative design, avoiding the rigidity that can result from excessive standardization. Only by seeking innovation within regulations and highlighting distinctiveness within standards can we build a city IP image that combines cultural depth with effective communication.

In summary, these three principles demonstrate that a city IP image can comprehensively reflect the overall strength of a city or even a nation, showcase the city's cultural spirit and values, and facilitate effective communication through high-quality city IP assets. This not only promotes urban economic development but also adds cultural luster to the city, underscoring the necessity of adhering to the principles of city IP image design. For Tianjin, building a city IP image with distinct regional characteristics and contemporary features based on Haihe culture serves not only as an effective tool for local governments to implement urban cultural governance and image management but also as a crucial pathway to project Tianjin's charm to the outside world and promote the healthy development of city IP design.

2.3 New Trends in Urban IP Image Design Empowered by AIGC Technology

With the rapid development of generative AI technology, AIGC has moved from the experimental research phase to the stage of commercial application, demonstrating tremendous potential in fields such as creative design, digital marketing, and cultural communication. Fan Hong and Shi Xinnan point out that, with its data-driven, creative generation, precise dissemination, and dynamic optimization capabilities, AIGC can significantly enhance the efficiency and quality of urban brand positioning and communication. It has already demonstrated broad application prospects in urban brand image promotional videos, digital museum experiences, and the living transmission of intangible cultural heritage[1]. On the technical implementation front, scholars including Chen Yuyu used the Bai'e Tan area in Guangzhou as a case study, applying AIGC technology to conduct deep learning and generate landscape concepts for urban waterfront spaces, thereby validating the feasibility of AIGC in extracting urban characteristics and integrating it into design workflows[2]. However, Jing Rong's research also points out that AIGC technology still has limitations in emotional design at the reflective level, making it difficult to fully replace the emotional communication and identity construction achieved by designers through narrative spaces, familiar scenes, and interactive design[3]. The above studies indicate that the deep integration of AIGC technology with urban IP design requires not only leveraging its efficiency advantages in data-driven generation but also emphasizing the professional involvement of designers in cultural narrative and emotional expression, thereby forming a collaborative "AI+Design" creation model.

3 Current Status and Challenges of Tianjin's Urban IP Image

As Tianjin's urban infrastructure continues to improve, various people-oriented policies are consistently implemented, the city's capacity to host large-scale events has significantly increased, and its external communication channels have become increasingly diverse, the development of Tianjin's urban IP image has made some progress. However, several prominent issues remain, making it difficult to fully adapt to the new functional positioning and requirements for high-quality urban development set forth for Tianjin under the coordinated development of the Beijing-Tianjin-Hebei region.

3.1 New Requirements for Tianjin's Urban IP Image Under the Beijing-Tianjin-Hebei Coordinated Development Plan

In 2015, the Political Bureau of the CPC Central Committee reviewed and approved the "Outline of the Plan for the Coordinated Development of the Beijing-Tianjin-Hebei Region." This clearly supports Tianjin's development into a "national advanced manufacturing and R&D base, a core area for northern international shipping, a demonstration zone for financial innovation and operations, and a pioneer zone for reform and

opening-up.” This new urban positioning has set forth new requirements for the shaping of Tianjin’s urban image. This new national strategic positioning requires that Tianjin’s urban IP image no longer be confined to traditional tourism mascots or single-event symbols, but rather become a comprehensive urban cultural IP that embodies the city’s functional positioning and highlights its industrial characteristics and cultural essence.

When constructing Tianjin’s city IP image, three key factors must be comprehensively considered: first, Tianjin’s existing regional cultural resources; second, the new requirements for the city’s image arising from the functional positioning of the “One Base, Three Zones”; and third, the narrative structure needs of the city IP as dictated by spatial development strategies such as Tianjin’s “dual-city framework.” Existing research indicates that a city IP is “a symbolic, personalized concrete image distilled from the unique spirit and essence of a city,” characterized by personification, communicability, and scalability. Based on this, resources suitable for shaping Tianjin’s IP can be categorized into spiritual and material dimensions: the spiritual dimension encompasses Haihe culture, canal transport culture, modern industrial and commercial culture, and the city’s distinctive blend of Chinese and Western elements—all accumulated over six centuries of urban history; the material dimension encompasses iconic spatial elements such as the Haihe River, the port, the Western-style building districts, and industrial heritage sites. On this basis, the overall positioning of Tianjin’s urban IP image can be summarized as a “Dual-City Smart City IP” characterized by Haihe culture as its soul, advanced manufacturing and shipping as its body, a fusion of Chinese and Western elements, ecological livability, openness and inclusivity, and youthful vitality.

3.2 Existing Issues with Tianjin’s Urban Brand Image

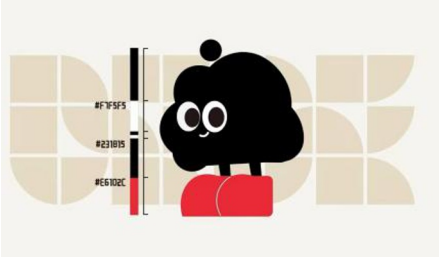
Although Tianjin has devoted significant effort to urban image promotion in recent years, it still faces numerous deep-seated challenges in the transition toward a “city IP.” Currently, the construction of Tianjin’s city IP remains in a spontaneous and fragmented stage, failing to establish cultural assets with core competitiveness and struggling to effectively support the city’s new functional positioning within the context of coordinated development in the Beijing-Tianjin-Hebei region.

Unclear Positioning of Tianjin’s Urban IP Image.

The core of an urban IP image lies in establishing a differentiated identity within a metropolitan cluster through the cultivation of a unique character. However, the positioning of Tianjin’s urban IP image remains vague, lacking a precise distillation of the city’s core spirit. On the one hand, there is a phenomenon of “overgeneralization of symbolic imagery.” Although Tianjin possesses rich historical and cultural resources—such as canal transport culture, Republican-era architectural heritage, and intangible cultural traditions like crosstalk and folk arts—it often fails to effectively identify and select these elements when shaping its IP image, resulting in a lack of a distinct central theme. Relevant studies point out that some cities fall into the misconception that “a city’s IP image must not only be visually appealing but also possess a soul”; Tianjin is no exception in this regard, IP characters often devolve into a simple jumble of cultural

elements, lacking the instantly recognizable core memory points found in brands like “Hospitable Shandong” or “Panda Chengdu.” Consequently, they struggle to leave a unique psychological imprint on the minds of the audience. The author has compiled examples of city IP logos from abroad, as shown in Table 3. On the other hand, there is a disconnect between IP images and modern urban functions. Under the Beijing-Tianjin-Hebei coordinated development strategy, Tianjin has been designated as a hub for high-tech industries with the positioning of “one base and three zones,” yet current city IP images often focus on showcasing traditional folk culture. They have failed to effectively integrate modern urban elements such as modern manufacturing and shipping, resulting in a stereotypical impression that the IP image is “rich in tradition but lacking in modernity.” Consequently, it cannot fully represent the contemporary spirit of Tianjin or its future development vision, leading to a misalignment between the IP image’s positioning and the city’s development strategy.

Table 3. IP Image Symbols of Domestic Cities.

Domestic city	IP Design
XiNing	
XIshuangbanna	
Guangdong Liede	

Tianjin's Urban IP Identity System Remains Fragmented.

A comprehensive urban IP identity should feature an integrated system spanning concept, visual design, and behavior; however, Tianjin currently exhibits significant gaps in this regard. First, the visual identity is fragmented, lacking a unified primary IP character. The symbolic imagery currently used in Tianjin's city promotion efforts is rather haphazard, ranging from official tourism logos to independent cultural and tourism mascots created by individual districts and counties, and even temporary mascots for major events. These images lack internal logical connections and visual continuity, failing to establish a unified and powerful primary city IP character akin to Japan's Kumamon (see Fig. 1). Academic consensus holds that a city IP identity system should comprise both a foundational element system and an application element system. However, Tianjin currently lacks unified standards for its foundational elements, and its application elements operate in isolation, making it difficult to generate synergy. Second, the city IP lacks personification. What distinguishes a city IP from traditional city logos is its "personified" nature—that is, it possesses a name, personality, and backstory. Currently, many of the image designs launched by Tianjin remain at the level of two-dimensional visual symbols, lacking in-depth narrative construction and character development, and thus unable to engage in emotional interaction with the audience. This state of being "form without substance" makes it difficult for the city's IP image to effectively "break through" to new audiences via modern communication channels such as social media, significantly weakening the city's image in terms of both communication effectiveness and appeal.



Fig. 1. Kumamoto Bear IP Image Design in Japan.

Insufficient Integration of Urban IP Visual Identity and the Tourism Industry.

The ultimate value of an urban IP lies in its ability to drive industrial development, particularly its role in stimulating the tourism industry. However, the current integration of Tianjin's urban IP with the tourism industry remains superficial, failing to establish a virtuous cycle of "IP-driven traffic generation and industrial monetization." On the one hand, the application of IP imagery in tourism settings remains fragmented. Currently, IP images mostly appear in promotional brochures or on official websites, while their integration into core offline tourism settings—such as scenic spots, urban public facilities, and cultural and creative products—is severely lacking. During their on-site

visits to Tianjin, tourists rarely encounter the city's IP images through visual cues, preventing the IP from becoming an integral part of the tourism experience and hindering its ability to stimulate purchasing desire or encourage word-of-mouth promotion. On the other hand, the IP industry chain has not been sufficiently extended. A successful city IP should drive the development of related industries such as cultural and creative products, dining, and accommodation. However, the development of merchandise for Tianjin's city IP remains relatively lagging. Product varieties are limited, lacking in creative design and practical value, and mostly confined to the level of simple, sticker-style souvenirs. There has been a failure to deeply explore the cultural essence of the Haihe River and transform it into creative products. Relevant studies indicate that a city's IP image should serve as a bridge connecting urban cultural symbols with the tourism consumption market. However, Tianjin's current situation suggests that IP image design has not been genuinely integrated into the overall planning of the city's tourism industry. The disconnect between design and operation makes it difficult for the IP image to translate into tangible economic benefits, resulting in a significant waste of cultural resources.

4 Strategies for Shaping Tianjin's Urban IP Identity

4.1 Integrating Fragmented Resources to Showcase Local Cultural Characteristics

The Haihe River boasts abundant cultural resources, but these are fragmented and lack cohesion. Given the current state of the "Haihe Culture" brand, it is difficult to establish a concrete image in the minds of consumers. It is necessary to leverage the cultural and tourism value to drive the value of the cultural and creative industries, and to link the scattered resources of Haihe culture—such as the river's unique water culture, cruise and ferry culture, the Western-style buildings along both banks, the distinctive crosstalk culture, and the Yangliuqing New Year's painting experience—into a comprehensive cultural tourism route. Identify and select valuable local cultural resources for priority development, integrating local resources with those of the surrounding areas. Leveraging the context of coordinated development in the Beijing-Tianjin-Hebei region, facilitate resource interaction with Beijing and Hebei to fully realize the synergistic potential of these resources. Integrate scattered individual cultural resources into the surrounding resource ecosystem. For example, Jiefang Bridge, Haihe River cruises, the Tianjin Eye, and the Century Clock are all standalone resources. Through systematic design, these cultural elements can be integrated to create a Haihe River nightscape cultural tourism route. Cultural brands such as the "Haihe River Cruise Hospitality" program effectively promote resource integration and facilitate branded development(see Fig. 2).



Fig. 2. Series of Cultural and Creative Products Featuring Haihe River Cruises (Source: Internet).

4.2 Extraction of Cultural Elements from the Haihe River in Tianjin

The extraction of cultural tourism resources from the Haihe River primarily focuses on the following three aspects.

Regional Color Elements.

Color is one of the most intuitive elements that imbues products with a sense of atmosphere. Incorporating iconic colors from regional culture into design enhances the cultural ambiance of the product. For example, many cultural and creative products from the Forbidden City in Beijing adopt the color of the Forbidden City's red walls, evoking a solemn and sacred imperial cultural experience; Yangliuqing woodblock New Year paintings, with their vivid colors and themes closely tied to people's daily lives, establish a lively, festive, and auspicious style that reflects the relaxed and joyful mindset of Tianjin's people and their aspirations for a better life.

Cultural Form Elements.

Form and shape create the first impression. By extracting and reshaping the outlines and contours of cultural symbols, and then transforming and simplifying them in design, we can present the characteristic features of the culture in a concise manner. This section analyzes design elements such as the forms of "Clay Man Zhang" from folk handicrafts, the plump figures of children in Yangliuqing New Year paintings, and the symmetrical structures of kites.

Elements of Everyday Life.

The carefree lifestyle of Tianjin's residents—such as walking birds, fighting crickets, and listening to crosstalk—embodies the city's unique street culture and reflects the spirit of self-entertainment among the common people. These elements—including the lifestyle, behavioral habits, and spiritual traits of Tianjin's people—are expressed through tangible forms. Through design, culture is integrated into users' lives, thereby conveying the essence and spirit of the city of Tianjin.

By aligning the hierarchical structure of culture with the levels of product design, we determine the product attributes of Tianjin's Haihe cultural elements at different cultural levels and select design elements accordingly. For example, at the external

level: the architectural forms of Tianjin's bridges and the colorful imagery of Yangliuqing New Year paintings; at the intermediate level: the craftsmanship of "Miren Zhang" and the culture of crosstalk. At the innermost level, elements include the atmosphere of Tianjin's street culture, the humor and wit of the "Gendu" (Tianjin's local comedians), and the courageous spirit of Nezha. Combining these with the conclusions of consumer preference and positioning analysis, we identify key design points.

The method of extracting the aforementioned cultural elements aligns with Zhang Jian's theory of city IP 'visual translation.' Zhang Jian points out that city IP design should be rooted in the city's 'cultural genes,' and through methods such as form extraction, color symbolism, and narrative embedding, abstract regional culture can be transformed into concrete visual symbols, avoiding the blurring of images caused by the accumulation of symbols. This study's extraction of cultural elements from Tianjin's Haihe River follows this logic: extracting forms and colors from bridge architecture and Yangliuqing New Year paintings, and refining narrative connotations from everyday city life, laying a cultural foundation for the subsequent generation of IP images[4].

4.3 Wei Xiao-jin IP Design

This IP character centers on the culture of Tianjin's Haihe River, drawing elements from three dimensions—regional colors, cultural forms, and daily life—to create a city IP that combines regional distinctiveness with emotional resonance. In terms of regional color elements, the classic red, gold, black, and white color palette of Yangliuqing New Year paintings is adopted. These bright and festive tones echo Tianjin residents' aspirations for a better life. Meanwhile, the black-background-with-gold-pattern headgear and red-and-white color-blocked attire recreate the vibrant texture of Tianjin's folk art, reinforcing the down-to-earth, everyday charm of Haihe culture. In terms of cultural form, the headwear draws inspiration from the symmetrical structure of Tianjin's traditional tiger-head hats and kite tails, blending phoenix motifs with wing-like shapes. This design not only reflects the exquisite craftsmanship of folk arts along the Hai River but also evokes the dynamic imagery of "Tianjin, the Water Town"; The figure draws inspiration from the plump, round features of the chubby babies in Yangliuqing New Year paintings, paired with a simple, clean silhouette to convey a warm and endearing visual impression. In terms of elements from everyday life, the overall design is grounded in the optimistic and carefree spirit of "Gendu." Through soft, cute chibi-style proportions and realistic clothing details, it embodies the humor and inclusivity of Tianjin's street culture, presenting the intrinsic spirit of Haihe culture in a way that resonates with contemporary aesthetics and serving as a tangible embodiment of Tianjin's urban culture(see Fig. 3).The AIGC-assisted design workflow adopted in this study aligns with the 'data layer—generation layer—application layer' framework proposed by Chen Bo and Liu Siyu [5].The multiple application forms of Wei Xiaojin are shown (see Fig. 4).



Fig. 3. Wei Xiaojin Cultural and Creative Design.



Fig. 4. Wei Xiaojin IP Design

AIGC-Assisted Method for Generating IP Characters.

The “Wei Xiao Jin” urban IP character was developed using a collaborative “AI + design” workflow. During the preliminary research phase, the cultural resources of the Haihe River were systematically organized into three major categories—the Water Culture Belt, the Traditional Intangible Cultural Heritage Belt, and the Grand Canal Cultural Integration Belt—to form a database of cultural elements. During the visual generation phase, drawing on the AIGC urban characteristic design workflow proposed by scholars such as Chen Yuyu [2], the Midjourney image generation model was employed. Through meticulous prompt engineering, the color characteristics of Yangliuqing New Year paintings, the stylistic language of Zhang’s clay figurines, and the symmetrical structure of “Kite Wei” were deconstructed and reconstructed. In terms of technical implementation, this study systematically integrated parameters such as regional colors (red, gold, black, white), cultural forms (the structure of the tiger-head hat, phoenix patterns), and elements of daily life (chibi proportions, everyday attire) into the prompts. Through multiple rounds of generation and screening, the study ultimately developed a city IP image that combines regional distinctiveness with emotional resonance. In terms of emotional expression, this study drew upon Jing Rong’s theory of emotional design at the reflective level [3], addressing the shortcomings of AIGC in evoking deep emotional resonance by constructing a narrative space (incorporating the

Haihe River story into the character's backstory) and evoking familiar scenes (utilizing folk symbols familiar to Tianjin residents), thereby achieving an organic integration of technology and humanistic values. The AIGC-assisted design model adopted in this study is highly consistent with the 'data layer—generation layer—application layer' three-tier technical framework proposed by Chen Bo and Liu Siyu. At the data layer, this study systematically organized the cultural resources of the Haihe River and constructed a cultural element database; at the generation layer, the Midjourney model was used to achieve style deconstruction and reconstruction through refined prompts; at the application layer, the final outcome was the creation of the 'Wei Xiaojin' IP image and its cultural and creative derivatives. As emphasized in that study, the core value of AIGC in the field of cultural heritage lies in 'cost reduction and efficiency improvement' and 'creative transformation,' but attention must be paid to the erosion of cultural authenticity caused by 'technology dominance.' Therefore, this study consistently adheres to a designer-led 'human-machine collaborative' generation model, leveraging the efficiency advantages of AIGC while ensuring the cultural depth of the IP image through cultural narrative and emotional design.

5 Conclusion

As a core element of a city's soft power and an innovative vehicle for cultural heritage, the urban IP image plays an irreplaceable role in contemporary urban competition. Particularly against the backdrop of rapid globalization and urbanization, the homogenization crisis—where “all cities look alike”—has become a bottleneck constraining the development of urban individuality. Therefore, constructing a highly recognizable urban IP image based on regional cultural characteristics holds significant practical importance. As Tianjin's mother river, the Hai River is not only a geographical landmark but also a cultural totem and spiritual symbol of the city. However, for a long time, traditional urban development has lacked an understanding of “IP-oriented” thinking, resulting in a blurred regional identity for Tianjin's urban IP and a lack of systematic and personified charm in its image-building. Based on a systematic review and analysis of the Haihe River's cultural resources, this paper addresses the issues of unclear positioning and the absence of a visual identity system in Tianjin's urban IP. It proposes strategies to integrate fragmented resources, distill visual symbols of the Haihe River, and construct a personified urban IP—“Wei Xiao Jin”—to narrate Tianjin's stories, as well as to promote the in-depth application of the IP in public facilities and the tourism industry. These measures aim to drive the innovative transformation of Haihe River culture. It is hoped that this study will play a positive role in helping Tianjin preserve the cultural heritage of the Hai River and establish a unique urban identification system, prompting relevant departments to prioritize the development of the city's IP image and assisting Tianjin in transitioning its urban image from “functional display” to “cultural resonance” and “personified communication.” It is worth noting that AIGC technology demonstrates broad application prospects in urban IP image design. Research by Fan Hong and Shi Xinnan indicates that AI-driven personalized content generation can stimulate broader public participation, suggesting that urban administrators adopt

AIGC as a strategic tool to build an intelligent communication ecosystem[1]. Future research could further explore technical implementation pathways for urban IP identities within smart guidance systems, AR interactive experiences, and digital cultural tourism platforms. This would help propel Tianjin's urban image beyond "functional display" toward "cultural resonance" and "personified communication," while leveraging AIGC technology to enable dynamic updates and multimodal presentations of the IP identity.

References

1. Fan, H., Shi, X.N.: Application and Strategy Exploration of AIGC in Urban Brand Communication. *News Enthusiast* 2024(9), 33–37 (2024)
2. Chen, Y.Y., He, M., Yuan, L., Ai, Y.J.: Research on the Construction of Urban Waterfront Characteristic Landscape Based on AIGC: A Case of Bai'etan District in Guangzhou. *Urban Architecture* 22(4), 11–13, 78 (2025)
3. Jing, R.: Research on Dynamic Posters of Urban Brands Based on Reflective Emotional Design. *Packaging Engineering* 42(14), 365–371 (2021)
4. Zhang, J.: Research on Cultural Genes and Visual Translation of Urban IP Images. *Packaging Engineering* 44(12), 289–295 (2023)
5. Chen, B., Liu, S.Y.: Research on Paths and Modes of AIGC Empowering the Living Inheritance of Cultural Heritage. *Library Tribune* 44(2), 112–121 (2024)

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