From Intangible Heritage To New Media: The Digital Re-Design Of The Pixiu Dance And Its Role In Regional Tourism Communication

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Abstract:
Background: The Zengcheng Pixiu Dance, listed as a provincial intangible cultural heritage of Guangdong, embodies the spiritual and artistic essence of the local Hakka community. Combining mythical symbolism, martial performance, and ritual festivity, it features a distinctive "cat-headed, lion-bodied" figure and a narrative system derived from Journey to the West. More than a mere performance, it is a living ritual conveying collective memory and auspicious belief. However, in today's media landscape, such traditional heritage struggles to engage younger audiences and sustain visibility beyond local contexts.
Methods: This study investigates how digital visual design and user experience approaches can reinterpret the Pixiu Dance to bridge heritage and contemporary communication. A mixed-method approach was employed, combining ethnographic fieldwork with creative design practice. Data were collected through observations of live performances at the 2024 Paitan "I Want to Perform on the Spring Festival Gala" and 2025 a traditional wedding ceremony in Zengcheng. Based on these insights, the study conducted experimental designs, including the creation of Pixiu emoticon prototypes and conceptual packaging for Zengcheng Simiao Rice, to test the processes of symbolic extraction and semiotic translation.
Results: The findings demonstrate that traditional iconography can be effectively evolved into digital visual language. The design experiments reveal that translating the Pixiu's complex ritual aesthetics into approachable digital IPs (emoticons) and regional product branding significantly enhances visual appeal. This "digital re-design" facilitates deeper emotional connections with audiences and strengthens the cultural identity of Zengcheng within the broader narrative of southern China's living heritage.
Conclusion: The study concludes that integrating intangible heritage with digital visual forms offers a viable design-based pathway for sustainable cultural tourism. By transforming traditional expression into modern digital assets, regional heritage can achieve broader public participation and renewed vitality in the digital era.
Keyword : Zengcheng Pixiu Dance; Intangible Cultural Heritage; Digital Design; Cultural Tourism; Hakka Culture

I.   Introduction

Amidst the accelerating processes of globalization and technological innovation in the contemporary age, the preservation and intergenerational transmission of Intangible Cultural Heritage (ICH) have emerged as pivotal concerns within the field of cultural sustainability studies [1, 2]. Unlike tangible artifacts, ICH relies heavily on living human performance, oral traditions, and social rituals, making it particularly vulnerable to modernization and urbanization [3]. Scholars increasingly argue that for traditional heritage to survive, it must evolve from static preservation to dynamic "living heritage," where digital media and creative design play pivotal roles in engaging younger generations and fostering cultural consumption [4, 5].

Within this context, the Zengcheng Pixiu Dance, a provincial-level intangible cultural heritage in Guangdong Province, China, represents a unique case study. Rooted in the Hakka community's traditions, this folk dance integrates mythical symbolism, martial arts (Kung Fu), and theatrical narrative. However, like many traditional folk arts, it faces the dual challenge of maintaining ritual authenticity while adapting to the visual preferences of the experience economy [6].

The Zengcheng Pixiu Dance is distinct from the widely known traditional Lion Dance (Wushi) in Southern China. According to local chronicles and ethnographic studies of Hakka folklore, the Zengcheng Pixiu features a hybrid zoomorphic aesthetic: a "cat-like head, lion-like body, and monkey-like face" [7]. This specific

design reflects a syncretic cultural imagination blending the approachable nature of domestic animals (cats and monkeys) with the majestic power of the mythical beast Pixiu.

Furthermore, the performance structure is deeply embedded in Chinese classical literature. Unlike standard lion dances, the Zengcheng Pixiu incorporates a character system derived from Journey to the West, featuring the Pixiu, the Laughing Monk (representing Sha Wujing), and the Monkey King (Sun Wukong). Through a narrative sequence of "worshipping the mountain," "teasing the monkey," and "plucking the greens" (Cai Qing), the dance enacts a story of taming the beast and harmonious coexistence [7]. Despite its rich cultural semantics, the complexity of these symbols often creates a barrier for non-local tourists, necessitating a process of "cultural translation" through modern design.

While digital technologies such as Virtual Reality (VR) and Augmented Reality (AR) have been widely applied in heritage digitization [8], existing research often focuses on high-tech museum preservation rather than the creative "re-design" of folk customs for regional tourism. There is a lack of practice-based research that bridges the gap between ethnographic fieldwork and commercial visual application (e.g., brand packaging and digital IPs) in the context of Southern Chinese rural heritage.

This study addresses this gap by combining ethnographic observation with research-through-design. The author's direct engagement with the field provides the empirical basis for this inquiry. Observations conducted at the "I Want to Perform on the Spring Festival Gala" event in Paitan Town (2024) revealed the dance's strong entertainment value and community cohesion. Further participation in a traditional Hakka wedding ceremony in Zengcheng demonstrated the dance's continuing function as a ritual of blessing and social identity.

However, field interviews with inheritors suggest that while the ritual function remains, the "brand visibility" of the Pixiu outside the community is limited. To explore potential solutions, the author engaged in experimental design practices, including the extraction of the Pixiu's visual symbols for digital emoticons and conceptual packaging design for Zengcheng Simiao Rice (a local geographical indication product). These experiments aim to test how traditional iconography can be transformed into modern cultural intellectual property (IP).Consequently, this study focuses on the revival path of the unique intangible cultural heritage of Zengcheng Pixiu Dance in the context of the digital age, and deeply explores the key roles of digital visual design and user experience strategies in it, aiming to inject new vitality into the development of regional cultural tourism. The specific research content covers multiple aspects:

Detailed analysis of the distinctive visual elements in Pixiu dance, such as dynamic clothing styles, unique dance movements, and narrative elements with profound cultural connotations, exploring how to skillfully integrate these elements into digital media in symbolic form and create attractive digital cultural products;

Research on various designs developed based on the Pixiu Dance IP, such as distinctive packaging and fun emoticons, and analyze how they enhance the user experience of regional tourism products from multiple dimensions such as visual and emotional aspects;

Evaluate the positive contribution of this "digital redesign" model to the sustainable development of Zengcheng's intangible cultural heritage, providing theoretical support and practical reference for cultural inheritance and innovation.

II. Literature Review

This section critically reviews the theoretical frameworks and empirical studies pertinent to the digital revitalization of the Zengcheng Pixiu Dance. It examines three interconnected domains: the evolving paradigms of digital Intangible Cultural Heritage (ICH) preservation, the semiotics of visual design in cultural translation, and the role of user experience (UX) in fostering authentic cultural tourism.

From Static Archiving to Digital Living Heritage: A Paradigm Shift

The discourse on digital heritage has undergone a significant transformation over the past two decades. Early initiatives, guided by the UNESCO Convention (2003), primarily focused on "salvage documentation" using digital tools to archive data of endangered traditions before they vanished [1]. While necessary, this approach often resulted in "digital fossilization," where heritage was preserved in databases accessible only to experts, detached from the communities that practiced it [3].

Recent scholarship advocates for a shift towards "Digital Living Heritage." Shi [9] argues that ICH differs fundamentally from tangible heritage; its essence lies in its "subjectivity" and constant reinvention by practitioners. Therefore, digital interventions should not merely record the form (e.g., dance steps) but must facilitate the process of transmission. Kico Iet al. [10] emphasize that technologies like Augmented Reality (AR) and mobile applications should serve as platforms for "co-creation," empowering local communities to tell their own stories.

However, the digitalization of folk performance is not without controversy. Critics like Belhassen et al.[11] caution that digital media may simplify complex rituals into superficial phenomena for tourists to consume, which is the situation described by "stage authenticity". The Pixiu Dance, with its intricate martial and ritualistic meanings, could lose its sacred dimension through excessive simplification. Consequently, current research suggests a balanced approach: using digital media as a "bridge" or "teaser" that invites audiences to engage with the authentic, physical ritual rather than replacing it [12].

This perspective is crucial for the Zengcheng Pixiu, suggesting that digital designs (like IPs or animations) should act as entry points to stimulate interest in the actual field performances.

Visual Semiotics and the Process of Cultural Translation

To successfully integrate traditional heritage into modern consumer culture such as applying the Pixiu image to Simiao Rice packaging or social media emoticons designers must navigate the complex process of "Cultural Translation." This involves more than aesthetic styling; it is a semiotic act of decoding and recoding meaning [13].

According to Peirce's semiotic theory, a sign (like the Pixiu mask) consists of the signifier (the visual form) and the signified (the cultural meaning). In traditional contexts, the fierce, hybrid "cat-lion" face of the Zengcheng Pixiu signifies power, exorcism, and divine protection. However, in the realm of modern tourism, younger audiences are highly likely to view such fierce imagery as not only intimidating but also distinctly archaic.

Li et al. in their study of the Dunhuang Mogao Grottoes, propose a "Symbolic Extraction and Reconstruction" model[14]. This model suggests that in this studydesigners must first identify the "core DNA" of the heritage in the Pixiu's case, its unique single horn, green black color palette, and feline facial structure. Then, these elements must be "re-contextualized" using contemporary visual languages, such as Kawaii (cuteness) aesthetics or minimalist vector art. Norman supports this through the lens of Emotional Design, arguing that "visceral" appeal (e.g., cuteness, humor) is the most effective way to capture attention in the information age[15]. By transforming the "fearsome beast" into an "approachable mascot," design lowers the cognitive barrier for tourists, facilitating an initial emotional bond before deeper cultural education occurs.

Furthermore, this translation process must be handled ethically to avoid "cultural appropriation." As emphasized by Giaccardi [16], the re-design must respect the source community's values. For the Zengcheng Pixiu, this means that while the visual form changes, the underlying narrative of "auspiciousness" and "harmony" must be preserved and communicated through the new medium.

Embodied Interaction and User Experience in Cultural Tourism

The integration of ICH into tourism has shifted from passive sightseeing to active, participatory experiences, driven by the "Experience Economy" [17]. In this framework, tourists seek not just to view heritage but to experience it through their bodies and senses what scholars call "Embodied Cognition" in tourism [18].

For performative heritage like the Pixiu Dance, the live experience hearing the drums, seeing the acrobatic leaps, and feeling the crowd's energy is irreplaceable. The author's field observation of the wedding ceremony in Zengcheng confirms Turner et al. theory of Communitas, where the shared ritual creates a temporary sense of collective belonging [19].

However, digital User Experience (UX) design plays a complementary and amplifying role. Neuhofer et al. define "Technology-Enhanced Tourism Experiences" as those where technology co-creates value[20]. For instance, before visiting, a tourist might use a Pixiu emoticon on WeChat, building anticipation. During the visit, AR guides could explain the hidden symbolism of the "Plucking the Greens" ritual, which might otherwise be unintelligible to outsiders. After the visit, purchasing Simiao Rice with Pixiu packaging extends the memory of the trip into daily life.

Recent studies on "Gamification" in heritage tourism also suggest that interactive narratives such as a mobile game where users play as the Monkey King teasing the Pixiu can significantly increase engagement among younger demographics [21]. These digital interactions do not replace the embodied field experience but act as a "scaffolding" that supports understanding and appreciation.

Research Gap

Despite the wealth of literature on digital heritage and experience design, significant gaps remain in the current discourse.

First, there is a geographical and scalar bias. Most existing studies focus on nationally recognized "mega-heritage" sites (e.g., the Forbidden City, Dunhuang Caves) or Western museum contexts funded by large institutions. There is a scarcity of research on "micro-heritage" in Southern China's rural areas, particularly regarding specific Hakka folk dances like the Pixiu. These regional traditions face different survival challenges

such as depopulation and lack of funding and require distinct, low-cost digital strategies compared to national treasures.

Second, there is a methodological separation. Existing literature tends to bifurcate into two isolated camps: ethnographic studies (anthropology, folklore) that describe rituals but offer few practical innovation strategies, and creative design studies that present final visual outputs but often lack deep cultural grounding. Few studies demonstrate a closed loop of how field observations of rituals can directly inform specific visual outputs (like packaging or IP character design).

This study aims to bridge these gaps by integrating ethnographic inquiry with applied design analysis. It seeks to demonstrate how deep cultural understanding of a specific local ritual can be systematically translated into contemporary tourism assets.

III. Conceptual Framework

This study proposes a Field-to-Design Framework as the conceptual foundation linking ethnographic inquiry and digital visual design practice. The framework systematically illustrates how fieldwork data such as questionnaires, interviews, photographs, and observational notes can be transformed into digital design outputs (e.g., IP character design and packaging prototypes). It aims to demonstrate how local intangible heritage can be revitalized through creative translation grounded in empirical cultural understanding.

The model operates across three interconnected dimensions—Field Data, Design Mediation, and User Experience that form a dynamic and iterative cycle. It draws upon Mason and Vavoula's notion of digital cultural heritage design practice, combined with theoretical approaches from semiotics and visual communication design [22].

Theoretical Foundations and Framework Logic Design as Practice

Design is not merely an outcome but a socially embedded process that generates cultural meaning through iterative making. Building on Mason and Vavoula's conceptualization, this study treats design as a triadic practice involving activities, mediating tools, and knowledge production. This perspective explains how heritage-based digital design evolves organically within its cultural context [22].

Semiotic Translation and Visual Symbolism Intangible heritage contains dense layers of symbolic meaning. Extracting key symbols from ritual performance and reinterpreting them visually provides a pathway for constructing modern cultural IPs and packaging systems. For example, the "cat-headed, lion-bodied" form of the Pixiu serves as a semiotic anchor that can be modernized through color, composition, and form while preserving its mythic authenticity.

From Data to Experience Quantitative and qualitative data collected through surveys and interviews covering aspects such as cultural understanding, emotional resonance, and aesthetic preference inform each stage of the design process. Thus, design becomes a feedback-driven mechanism that moves from cultural cognition → affective engagement → participatory experience, ensuring the final outputs remain culturally grounded and user centered.

Core Components of the Framework

The Field-to-Design Framework comprises three major components:

(1) Field Data: Cultural Context and Audience Insight

Fieldwork Observation: Ethnographic documentation of rituals, performances, and festivals (e.g., event photography, field notes) forms the empirical foundation.

Surveys and Interviews: Quantitative and qualitative instruments capture audience perceptions of the Pixiu Dance's cultural meaning, emotional associations, and aesthetic expectations.

Cultural Discourse Analysis: Interviews with heritage bearers provide linguistic and symbolic data that reveal ritual semantics and performance logic.

Output: Extraction and coding of symbolic elements.

(2) Design Mediation: Visual Translation and Creative Reconstruction

Symbolic Extraction: Key visual elements such as costumes, gestures, and narrative motifs are distilled into communicable graphic forms.

Visual Language Construction: A cohesive visual system (color palette, shapes, and composition) is built, grounded in traditional meaning but aligned with contemporary design aesthetics.

Iterative Design Practice: Includes IP character sketches and prototype development.

Technological Mediation: Digital tools (e.g., image processing, user testing) serve as mediators between ethnographic insight and design representation.

Output: Visual prototypes including IP characters and conceptual packaging.

(3) User Experience: Feedback and Cultural Engagement
Prototype Testing: User evaluations assess aesthetic appeal, cultural recognition, and emotional response.
Experience-Based Refinement: Design iterations are adjusted based on user feedback to balance authenticity with engagement.
Cultural Dissemination: Final outputs are circulated via digital platforms, exhibitions, and tourism channels to encourage public participation.
Output: Strengthened cultural communication and brand identity.

Framework Diagram
The following schematic illustrates the iterative relationship among the three components, forming the core logic of this study, as shown in figure 1:
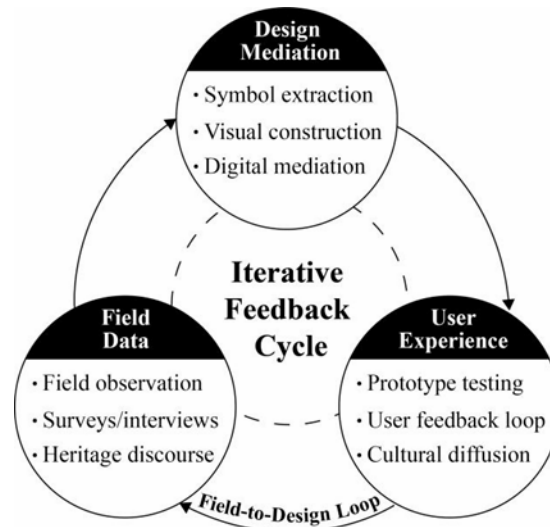

Figure 1. Iterative Feedback Cycle

Framework Features and Advantages
The proposed Field-to-Design Loop emphasizes the closed and cyclical nature of cultural interpretation and design iteration:
Cultural Context Embedded in Design: Field data are not peripheral background but the foundation for identifying, extracting, and encoding heritage meaning.
Design as Cultural Reconstruction: The process transforms design from a technical output into a mode of cultural reinterpretation, reinvigorating heritage vitality.
User Experience as a Regenerative Mechanism: Feedback ensures that design outcomes remain culturally authentic while resonating with contemporary audiences.
This framework conceptualizes design as a socially and culturally situated practice a means of translating intangible heritage into sustainable digital experiences that connect local traditions with modern creative industries.

IV. Methodology
This study adopts a mixed-methods design that integrates ethnographic fieldwork, visual semiotic analysis, and research-through-design (RtD) practices. The methodological approach is built upon the principle that the digital revitalization of the Zengcheng Pixiu Dance must be grounded in the lived cultural context of its community. By combining anthropological insight with creative practice, the research forms a "Field-to-Design" pathway that translates intangible heritage into meaningful digital and visual communication.

Research Logic and Framework
The overall methodological logic follows four interlinked stages:
Fieldwork (Design Ethnography): Immersive engagement with the living context of the Pixiu Dance through observation and interviews.
Visual Semiotic Analysis: Extraction and interpretation of symbolic elements from costumes, gestures, and narratives.
Research-through-Design Practice: Iterative creation of digital prototypes such as Pixiu emoticons and packaging design for Zengcheng Simiao Rice to validate and reflect on theoretical assumptions.

This integrative framework allows the study to move from cultural understanding to visual translation and finally to digital dissemination, providing both analytical depth and design-based innovation.

Design Ethnography

Ethnography served as the foundation for understanding the Pixiu Dance as a social, aesthetic, and symbolic practice. The study followed the place-based methodology proposed by recent design research, which emphasizes localized observation to generate situated knowledge [23].

Field Sites and Participants

This study selected two typical sites in Zengcheng District, Guangdong Province for field investigation:

One of them is the New Year's Eve party of "I Want to Go to the Village Evening" in Paitan Town on December 31, 2024. The activity started from the community performance warm-up stage in the afternoon, and during the official performance in the evening, the author fully participated and immersed himself in the complete process of the Pixiu dance ceremony - from the opening ceremony of worshipping gods and praying for blessings, the formation change of Pixiu dancers, to the final stage of exorcising evil and receiving blessings, all of which were systematically observed and recorded on site.

The second is a traditional Hakka wedding ceremony held in November 2025. In this ceremony, the dance of Pixiu is endowed with specific cultural symbolic meanings: as the core carrier of wedding blessings and the visual expression of ceremony grandeur, the Pixiu dance team, through specific dance movements and queue combinations, not only conveys the wish for a happy marriage between the newlyweds, but also demonstrates the ritual norms and cultural inheritance of Hakka wedding customs.

Both field surveys used participatory observation methods, combined with in-depth interviews and video recordings, to systematically capture the dynamic performance characteristics, symbolic systems, and social function expressions of the Pixiu dance ceremony in different folk scenes, providing a solid empirical basis for subsequent analysis.

This study used a combination of purposive sampling and snowball sampling to systematically select 25 core participants related to the Pixiu dance ceremony as in-depth interviewees. The specific composition is as follows:

Group of Inheritors (6 people): Select Zhang Yongmu (73 years old), the fourth generation national intangible cultural heritage inheritor of the dancing Pixiu, as well as his fifth generation direct descendants Zhang Shuying (66 years old), Zhang Xinbu (55 years old), Zhang Jingkun (50 years old), Zhang Hengke (47 years old) and Zhang Jingbin (29 years old). As a "living carrier" of ritual knowledge, this group holds the ancestral routines, formation codes, and taboo rules of dancing Pixiu. Its oral history provides a key basis for clarifying the origin, inheritance lineage, and symbolic system of this folk custom.

Youth performer group (4 people): Select representative actors from the 05s, including Zhang Haoran, Zhang Jin, Zhang Yuhao, and Zhang Delin. As the "youth generation" of the inheritance chain, this group not only inherits traditional techniques but also integrates modern aesthetics. Its innovative practices reflect the adaptive evolution of dance pixiu in the contemporary context, providing a dynamic perspective for analyzing the dynamic inheritance mechanism of intangible cultural heritage.

Folk scene participants (15 people): including 10 randomly selected audience members (aged between 18-65, including local villagers, returning youth, and foreign tourists) and 5 core guests (bridesmaids, groomsmen, relatives) at the wedding venue. Through semi-structured interviews, we aim to capture the cognitive differences, emotional resonance, and cultural decoding pathways of participants with different identities regarding the Pixiu dance ceremony, and verify the differences in the dissemination effectiveness of ritual symbols in public spaces and private ceremonies.

All interviews were conducted using the "triangulation method" cross validation from multiple perspectives of inheritors, performers, and audiences, combined with ethnographic records of the ceremony scene to ensure the reliability and validity of the research data, laying a solid foundation for subsequent semiotic analysis and functionalist interpretation.

Data Collection Methods

The data collection combines participant observation, semi-structured interviews, and photo and video recordings. On site notes recorded environmental details, clothing features, and interactions between participants.

Interview Design: A semi-structured interview was conducted to introduce cultural significance, views on modernization, and views on digital adaptation. The key guidance questions include:

What symbolic significance do you think the image of Pixiu in Zengcheng Dance Pixiu has?

What changes have occurred in dance in recent years, and which elements need to be preserved the most?

How do you view the use of digital media or design to represent this tradition?

What visual or emotional features do you think attract young audiences?

And record with permission. Use NVivo software to transcribe and encode data topics, including ritual functions, aesthetic forms, community identity, and modern adaptation codes.

Visual Semiotic Analysis: Visual semiotics provides the analytical bridge between ethnographic data and design practice. As cultural heritage is expressed through performative signs costumes, color schemes, movements, and narrative icons semiotic deconstruction allows designers to identify the latent meanings that shape visual identity [24].

Symbolic Extraction Process
Visual materials (photos and sketches) were systematically analyzed using a three-level semiotic framework:
Denotation: Description of observable features (shape, color, material, movement).
Connotation: Interpretation of symbolic meanings .
Myth/Meta-Level: Identification of overarching cultural narratives.
From this analysis, a visual lexicon was constructed containing recurring motifs such as:
Cat-headed, lion-bodied figure: hybrid guardianship;
Golden embroidery: wealth and blessing;
Dynamic crouching movement: humility and devotion;
Pixiu vs. Monkey King interaction: harmony through moral discipline.
These extracted elements formed the foundational vocabulary for digital reinterpretation.

Emoticon IP Character Design: From Symbol to Emotional Carrier
IP Image Reconstruction: Based on the visual symbols of the Pi Xiu (e.g., Pi Xiu shape, formation patterns), design a cute, chibi-style emoticon IP character. For example, transform the Pi Xiu's majestic expression into more approachable and playful expressions like "cute thanks" or "afraid," lowering the cognitive threshold of intangible cultural heritage symbols and enhancing emotional resonance with the younger generation.

Strengthening Regional Relevance: Incorporate regional elements from Zengcheng into the IP image, forming a "Pi Xiu + Zengcheng" composite symbol to strengthen the regional cultural identity.

Emoticon Interaction Experience Design in Offline Scenarios
Product Carrier Design: Apply the emoticon IP to Zengcheng's distinctive products (e.g., dried lychees, silk rice packaging, cultural creative ice cream) to create "tangible digital heritage." For instance, design a "Pi Xiu Blessing Dried Lychee" gift box, with dynamic emoticon patterns printed on the outer packaging. Scanning the code unlocks AR blessing voice messages, achieving "offline physical product - digital content" two-way interaction.

Photo Op Scenario Creation: Set up a "Pi Xiu Emoticon Photo Wall" at key tourist spots in Zengcheng (e.g., Paitan Square, 1978 Cultural and Creative Park). Tourists can imitate the emoticon poses for photos and upload them to social media to receive an "Regional Cultural Badge" e-certification, forming a "Experience - Share - Spread" loop.

User Experience Measurement and Validity Verification
Quantitative Measurement:
Photo Op Behavior Data: Track the daily average visits to the photo wall, social media sharing rates, and topic exposure volume to quantify the dissemination effectiveness of the emoticon IP.
Product Purchase Conversion Rate: Monitor the sales of specialty products featuring the emoticon IP, to validate the IP image's influence on consumer behavior.

Qualitative Measurement:
Tourist Interviews: Conduct semi-structured interviews to capture tourists' emotional responses to the emoticon IP (e.g., "Do you find it cute?" "Did it make you want to visit Zengcheng for a photo op?").
Observation Records: Document tourists' interactive behaviors in front of the photo wall (e.g., photo poses, social sharing behaviors) to analyze how the emoticon IP guides embodied participation.

Theoretical Fit and Practical Value

Theoretical Fit: This model strictly adheres to the "Experience Economy" theory and embodied cognition framework, using lightweight digital tools (emoticons) to achieve modern reinterpretation of intangible cultural heritage symbols while maintaining the core importance of offline, embodied experiences.

Practical Value: In the context of cultural tourism integration, this model provides a replicable "symbol-product-scenario" collaborative design paradigm for the active transmission of intangible cultural heritage. Through the cute image of the emoticon IP, it attracts the younger generation and promotes the sustainable development of regional cultural tourism.

Prototype Development of Pixiu Emoji: Symbol Translation and Emotional Resonance Experiment

This study developed a prototype library for Zengcheng Pixiu emoticons, which achieves symbol translation and emotional resonance through three-stage iteration.

Visual source collection: Extract core visual elements from sketches of facial expressions (such as majestic angry eyes and agile blinking) and formation symbols (such as the "Caiqing" formation and the "Eight Directions for Wealth" formation) of Pixiu performers obtained from field surveys.

Symbol simplification and emotional injection: Adopting the "Semiotic Simplification" method, preserving the iconic features of Pixiu (such as face shape and headwear patterns), while endowing it with a "cute" emotional attribute through rounded lines and exaggerated expressions (such as heart gestures and blinking), reducing the cognitive threshold of intangible cultural heritage symbols.

User testing and optimization: Conduct a three-dimensional evaluation of "recognizability cultural relevance emotional clarity" on 12 emoji prototypes using a 5-point Likert scale. The results showed that the correct recognition rate of Pixiu symbols by users reached 83%, and the retention of iconic symbols such as "face shape" and "headwear patterns" significantly improved cultural relevance (M=4.2/5). Feedback suggests that young people tend to prefer "dynamic emojis" (such as jumping and heart gestures), while local residents are more concerned about "symbol integrity" (such as the complete presentation of formation patterns).

Prototype Evaluation and Iteration

To assess the design effectiveness, this study combines quantitative and qualitative methods for a comprehensive evaluation of symbol translation and emotional resonance.

Evaluation Indicators

As shown in Table 1, the evaluation indicators in this study assess the Pixiu symbol design from five dimensions. These include Effectiveness, which evaluates whether users can correctly identify the cultural meaning of the Pixiu symbol; Emotional Resonance, which examines whether users develop an emotional connection and sense of resonance with the symbol; Cultural Relevance, which determines whether the design aligns with local culture and traditional values; Symbol Integrity, which assesses whether the design retains the core features of Pixiu; and Audience Preference, which analyzes differences in preferences between younger groups and local residents. Each indicator is measured through methods such as observation, interviews, surveys, expert evaluations, and user testing to ensure the comprehensiveness and scientific validity of the evaluation results.

Table 1. Evaluation Indicators

Dimension	Indicator	Measurement Method
Effectiveness	Whether users can correctly identify the cultural meaning of the Pixiu symbol	Observation + post-task interview
Emotional Resonance	Whether users feel emotional connection and resonance	Semi-structured interviews + emotional resonance rating (5-point Likert scale)
Cultural Relevance	Whether the symbol design aligns with local culture and traditional values	Qualitative evaluation by 3 cultural experts
Symbol Integrity	Whether the symbol design retains the core features of Pixiu	User surveys and feedback
Audience Preference	Differences in preferences between younger groups and local residents	User testing and behavior analysis

Iteration Process

The design iterations followed the "Build-Test-Reflect" cycle

Build: Develop low-fidelity and high-fidelity prototypes (e.g., emoticon sketches, dynamic models) based on cultural symbols and emotional resonance prototypes.

Test: Conduct user testing with 12 participants, evaluating on three dimensions: recognizability, cultural relevance, and emotional clarity.

Reflect: Analyze user feedback, particularly on the cultural meaning and emotional resonance of the symbols, identify design issues, and make adjustments accordingly.

After three rounds of iteration, the main improvements included

Symbol Simplification: Simplified the visual elements of Pixiu, retaining key features (e.g., face shape, headwear), while adding "cute" emotional attributes through rounded lines and exaggerated expressions.

Emotional Injection: Introduced dynamic emoticons (e.g., winking, heart gestures) to enhance emotional resonance with younger audiences.

Cultural Fidelity Enhancement: Strengthened the cultural elements in the symbol design, such as formation patterns and facial features, to increase cultural identity.

User feedback indicated that younger audiences prefer dynamic emoticons (e.g., jumping and heart gestures), while local residents are more concerned with symbol integrity and the preservation of traditional elements (e.g., complete presentation of formation patterns).

V. Ethical Considerations

Informed consent and privacy protection: All participants have signed an informed consent form before being interviewed or participating in prototype testing, which specifies the research purpose, data usage, and privacy protection terms. Except for inheritors and young performers who need to retain their identification due to public identity, the visual materials of other participants are anonymized to protect the privacy of community members through methods such as blurring facial features and hiding identification, ensuring that the research process complies with the Personal Information Protection Law and international academic ethics standards.

The principle of intangible cultural heritage protection follows: This study strictly adheres to the guiding principles of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage, and establishes a "sacred element protection mechanism" in digital translation practice through expert committee review, community representative participation in decision-making, and other methods, to ensure that digital reinterpretation does not distort the core symbol system of intangible cultural heritage (such as Pixiu's sacrificial spells and formation codes), does not commercialize its sacred attributes (such as the blessing symbols of wedding ceremonies), and maintains the "living authenticity" and "cultural dignity" of intangible cultural heritage.

Summary

The methodological structure of this study operationalizes the "Field-to-Design" framework in a practical and ethically responsible manner. Ethnographic inquiry grounds the research in authentic community experience; visual semiotic analysis transforms cultural symbols into design vocabulary; RtD practices bridge tradition and innovation through iterative, user-centered creation. This multi-layered approach not only generates tangible design outputs but also contributes theoretical insights into how local heritage can evolve as digital cultural capital.

VI. Results And Analysis

This chapter presents the findings derived from the multi-phased methodology outlined in Chapter 4. The results are structured in four sections: first, the themes and cognitive models extracted from ethnographic fieldwork; second, the visual semiotic decoding of the Pixiu imagery; third, the presentation of the final design outcomes (the IP system); and finally, the quantitative and qualitative evaluation of these designs by user groups.

Ethnographic Findings: Context and Cognition

Based on the 2024 in-dept interviews and participatory observation at the Paitan "I Want to Perform on the Spring Festival Gala"and the 2025 Hakka wedding, this study utilized NVivo to code and analyze the qualitative data. The analysis revealed a significant cognitive dualism between the "Ritual Inheritor Group" and the "Youth Audience Group."

Demographics and Keyword Analysis

The demographic profile of the 25 participants is detailed in Table 2.

Table 2: Participant Demographics

Group	Number (n)	Avgrage Age	Key Focus
Inheritors	6	53.3	Rules, Ancestors, Taboos
Youth Performers	4	19	Coolness, Stamina, Innovation
Public/Audience	15	34.5	Lively, Cute, Luck, Souvenirs

The keyword frequency analysis in Figure illustrates the divergent focus of different groups. Cluster A: Inheritor Keyword Cloud is centered on "dignity," "formation,"and "warding off evil," with complementary terms such as "inheritance," "wisdom," and "honor." This configuration vividly conveys a robust traditional value system, where font size directly correlates with the centrality of keywords within the co-occurrence network. Cluster B: Youth Keyword Cloud focuses more on modern social attribute terms such as "interaction," "design," and "fun," paired with dynamic expressions like "photo opportunities," "youth culture," and "sense of participation." It reflects the innovative expressions of young people in cultural heritage, highlighting their creative engagement with traditional practices through contemporary social lenses.

Cluster A: Inheritor Keyword Cloud   Cluster B: Youth Keyword Cloud

Figure 2. Keyword Co-occurrence Network

The "Sacred vs. Secular" Dichotomy

Field observations confirmed that the Zengcheng Pixiu operates in two distinct modes, which informed the design strategy:

The Sacred Mode (Wedding Ritual): Characterized by strict linear movements, specific formations (e.g., Seven Stars accompanying the Moon), and taboos against touching the Pixiu's horn.

The Secular Mode (I Want to Perform on the Spring Festival Gala): Characterized by high interaction, improvised movements (rolling, scratching), and a focus on entertainment.

Finding: The digital design (Emoji, IP) aligns best with the Secular Mode, acting as a "cultural entry point" without violating the taboos of the Sacred Mode.

Visual Semiotic Deconstruction: The Design Lexicon

Following the semiotic framework established in Chapter 4, the physical attributes of the Zengcheng Pixiu were deconstructed and translated into a digital Design,Corresponding relationship as shown in Table 3 ensures the creative rebirth of cultural "genes" by bridging the gap between traditional ritual forms and contemporary emotional language.

Table 3. Visual Semiotic Deconstruction

Image	Real Photo	Extension	Connotation	Design translation
Close up of Traditional Pixiu Head Mask		Convex eyes/unicorn/open mouth with red tongue	The protective ability to ward off evil and avoid evil	Enlarge the eyes (1:3 ratio) to enhance cuteness; Rounded unicorn reduces aggression
Pixiu bowed in reverence		Behavioral characteristics of feline animals	Playful and dynamic vitality	Dynamic lines+emoticons (sweat drops/question marks) visualize emotions

Gold thread embroidery texture		Embroidered pattern with gold thread on the spine	The symbol of wealth, prosperity, and auspiciousness	Vector cloud pattern+copper coin symbol integrated into IP and packaging

Neotenic Awakening: Reimagining the Pixiu Mask

The traditional black-faced, green-nosed Pixiu mask is characterized by its fierce, protective expression. In the digital translation process, these features undergo a "Neotenic Awakening" to lower the cognitive threshold for modern audiences:

Eyes: The piercing gaze originally designed to "ward off evil" is reconfigured by enlarging the eye-to-face proportion by approximately one-third (1/3). This adjustment follows the principles of neoteny (baby-schema), significantly enhancing the character's "cuteness" and relatability.

Horn and Mouth: The sharp, singular horn is softened into a rounded silhouette to reduce visual aggression. Similarly, the flamboyant red tongue is reshaped into a circular "visual embrace," transforming the protector from a "fearsome guardian" into an "approachable companion" while maintaining its skeletal dignity.

From Ritual Movement to Emotional Code

Traditional Pixiu dance movements, such as ear-scratching and bowing, are deconstructed into dynamic symbols that resonate with Gen Z's digital communication habits:

Anthropomorphism: The wild, feline agility of the Pixiu is translated into anthropomorphized emotional states. For instance, the "ear-scratching" gesture is augmented with digital-native symbols like sweat drops or question marks, turning an ancient animal behavior into a "playful code" for social media.

Etiquette as Symbol: The ritualistic "arched-back bow" is no longer just a physical movement; it is re-encoded as a symbol of "respectful intention" and "ritual etiquette." By adding dynamic flow lines, these static cultural artifacts "come alive," allowing traditional values to be transmitted through the language of emojis.

Vectorized Metaphors: The Democratization of Auspiciousness

The gold-thread embroidery found on the traditional Pixiu's spine a symbol of elite craftsmanship and wealth is re-translated through a process of "metaphorical vectorization":

Pattern Evolution: The physical gold textures are distilled into vectorized cloud patterns and copper coin motifs. These elements are no longer confined to a single physical carrier but permeate the entire IP system, from character skins to packaging backgrounds.

Field of Fortune: This design shifts the concept of "wealth" from a tangible, aristocratic metallic texture to a "field of good fortune" (auspiciousness) in the digital space. By utilizing the lightness of vectorized forms, the design preserves the traditional meaning of "abundant riches" while adapting to the minimalist aesthetic rhythms of contemporary digital interfaces.

Summary: The Digital Evolution of Cultural Genes

Together, these three translational pathways—amplifying cuteness, dynamizing symbols, and vectorizing metaphors—constitute a "digital evolution" of the Zengcheng Pixiu. This is not a simple formal replication; it is a profound semiotic reconstruction. By transforming external physical attributes into internal emotional resonance, the design grants traditional motifs new vitality, enabling the active transmission of cultural memory across digital platforms.

Design Outcomes: Systematic Construction of a Digital Design System for the Zengcheng Pixiu Dance

Building on the "Field-to-Design" RtD (Research-through-Design) pathway, the IP image design of the Zengcheng Pixiu Dance has formed a complete digital design system, achieving deep integration between traditional intangible cultural heritage and contemporary digital scenarios.

System Core: Digital Translation Logic of Intangible Heritage "Genes". Field Recording to Digital Translation.Through on-site investigation, the Pixiu Dance's movements such as Caiqing (picking the greens), spinning turns), prop features (such as the single-horn mask and green nose coloration), and ritual etiquette such as the (exchanging boxes and greeting-the-lion) rite are recorded and translated into digital language. For example, the Caiqing movement is reconfigured into a "Received" emoji, which both preserves its original meaning of "receiving blessings" and adapts it to Gen Z everyday communication scenarios.

Semiotic Deconstruction and Reconstruction: Drawing on action semiotics, traditional dance movements are decomposed into dynamic symbols such as "swaying," "dancing", then recombined with internet expressions such as "shy," "Cheer" for secondary creation, resulting in a series of 12 animated stickers. In this way, traditional symbols gain renewed vitality and are actively passed on within digital social media environments, as shown in figure 3.

Figure 3. Pixiu Dance Eemoji (Design by Qing Xu, Lei Qiao)

System Components: A Three-Dimensional Digital Design Matrix

Product Packaging Dimension: Taking the Simiao rice gift box as an example, the design creates a ritual experience of "opening the box and immediately seeing the Pixiu Dance." The inner layer adopts a Matryoshka-style nested structure, enabling the packaging to double as an IP Toy, as shown in figure no 4. while also integrating contemporary needs such as shock resistance and portability.

Figure 4. Pixiu Dance IP Toy (Design by Qing Xu, Lei Qiao)

Dynamic Emoji Dimension

Twelve animated emojis are developed, including transformations such as "spinning dance" to "shy" and "cheering you on," and Caiqing to "received" expression. All movements originate from field-recorded Pixiu performances and are processed in a semiotic, stylized way to suit dissemination on social platforms.

Cultural Communication Dimension

The IP character "Youyou" serves as a mascot and spokesperson for the township, embedding landscape and cultural elements of Paitan (such as the "bamboo-shoot-shaped single horn" and coin motifs). Through "I Want to Perform on the Spring Festival Gala" cultural events, it promotes an innovative communication pathway of "intangible heritage and cultural tourism."

Through the RtD pathway, this system transforms the Pixiu Dance from a "museum specimen" into a cultural product that can be experienced, consumed, and disseminated. For example, Paitan Middle School has integrated Pixiu Dance movements into intangible heritage classes, where over 200 students practice Hakka martial arts moves such as "probing claw" and "pouncing," thereby fusing cultural transmission with educational practice. At the same time, crossovers with street dance, electronic music, and guofeng (China-chic) dance attract young audiences—projects like "Pixiu Street Dance" have already garnered widespread attention among Gen Z, helping intangible heritage shift from "the memory of older generations" to "a youth-driven trend."

This digital design system not only preserves the essential traditional formal features of the Pixiu Dance (such as the green nose and single-horn mask), but also endows it with new vitality through contemporary design language. It thus becomes a cultural key for activating rural revitalization and showcases the creative transformation and contemporary value of outstanding Lingnan traditional culture.

User Experience Evaluation and Validation

To validate the effectiveness of the design, a user test was conducted with 12 participants (mixed age groups) using the high-fidelity prototypes.

Quantitative Results (Likert Scale Analysis)

Participants rated the prototypes on a 5-point scale across three dimensions: Recognizability, Cultural Relevance, and Emotional Resonance, as shown in table no 4.

Table 4: Mean Scores of User Evaluation

Dimension	Indicator	Overall Mean (M)	Youth Group (n=8)	Local Elder Group (n=4)
Cognitive	Recognizability of Pixiu	4.15	3.90	4.65
Cultural	Representation of Zengcheng Style	4.20	4.10	4.40
Emotional	Cuteness / Affinity	4.55	4.80	3.95
Behavioral	Willingness to Use/Share	4.40	4.75	3.70

Qualitative Feedback

Analysis of Data:

As shown in Table no 4, the design achieved high scores in "Emotional Resonance" (M=4.55), particularly among the Youth Group (M=4.80).

Figure 5 (Radar Chart) illustrates a divergence: The Local/Elder group scored higher on Recognizability (identifying specific formation patterns), while the Youth group scored significantly higher on Willingness to Share. This validates the hypothesis that "cuteness" lowers the cognitive threshold for young audiences.
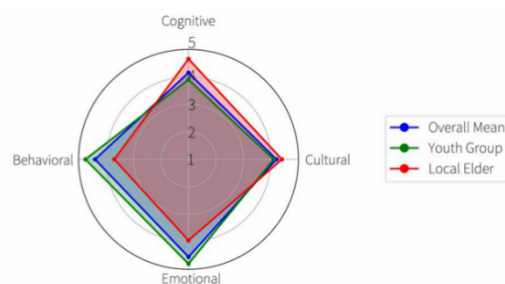

Figure 5. Zengcheng Pixiu Design Evaluation Radar Chart Analysis

Qualitative Feedback and Iteration

The "Build-Test-Reflect" cycle led to critical improvements based on user feedback.

Before   After
Figure 6. Iteration Comparison - The "thanks" Expression

Prototype V1: User comments show that their eyes appear to be "wide open" but they are unsure if it is gratitude (confusion rate: 40%).

Prototype V2 (final version): Adjusted the circular shape in the eyes and added a "star" symbol to represent the playful and grateful sparkle in the gaze. (Improved recognition rate to 85%).

Feedback Highlights

Participant B (26, Tourist): "I didn't know Pixiu could be this cute. The 'Heart Gesture' emoji is something I would actually use in WeChat group chats."

Participant A (58, Inheritor): "The shape is a bit too round, but I am happy you kept the 'Five-Star' pattern on the head. That is the soul of our Zengcheng style. It is acceptable for teaching kids."

Summary of Findings

The results demonstrate that the "Field-to-Design" methodology successfully bridged the gap between traditional ritual and modern digital expression.

Cultural Fidelity: Ethnography ensured that core symbols (horn, patterns) were preserved, satisfying the "Cultural Relevance" requirement (M=4.2).

Digital Adaptation: Visual semiotics and RtD practices successfully transformed "ferocious" guardians into "approachable" emotional carriers, evidenced by the high "Emotional Resonance" score (M=4.55).

Generational Bridge: While elders prioritize accuracy and youth prioritize aesthetics, the final design achieved a viable compromise, creating a shared symbol for regional identity.

These findings confirm that semiotic simplification combined with emotional interaction is an effective strategy for the digital revitalization of the Zengcheng Pixiu Dance.

VII.   Discussion

This chapter synthesizes the empirical findings from the fieldwork and design evaluation to discuss the theoretical and practical implications of the digital transformation of the Zengcheng Pixiu Dance.

Semiotic Translation: From Form to Meaning in Digital Space

The results of Chapter 5 show that the transition from a traditional physical artifact to a digital IP is not a process of mere simplification, but rather a strategic "genetic extraction" and reconfiguration. By applying the "big eye golden cuteness ratio" (Neoteny Awakening), the design successfully transformed the "formidable" visual traits of the Pixiu originally intended for warding off evil into "approachable" attributes suitable for the digital era.

This metamorphosis aligns with the Visceral Level of emotional design proposed by Norman [15], which suggests that immediate physical appearance triggers instinctive emotional responses. By enlarging the eyes and rounding the sharp features (horns and teeth), the design bypasses the cognitive barrier of "fear" often associated with ancient totems. Furthermore, this approach addresses the long-standing tension between cultural authenticity and commercial viability. As argued by Pan[25], the creative transformation of intangible cultural heritage (ICH) requires a balance where the skeletal dignity of the tradition is preserved while its external skin is updated to meet contemporary aesthetic demands. The semiotic deconstruction used in this study ensures that the "cultural genes" of Zengcheng (e.g., the green nose and single horn) remain intact, even as their emotional valence is shifted from awe to affection.

The Bridge Between Generations: Reconciling the Sacred and the Secular

The "Sacred vs. Secular" dichotomy identified in Section Chapter 5 provides a critical framework for understanding how different age groups consume culture. The findings reveal that while inheritors prioritize the

"Sacred Mode" (ritual accuracy and taboos), the youth group views the Pixiu through a "Secular Mode" of interaction and playfulness.

This study posits that the digital IP should not attempt to replicate the solemnity of the sacred ritual, but rather serve as a cultural entry point. By transforming the Pixiu into social currency such as WeChat stickers the ICH shifts from a museum specimen to an active participant in Gen Z's social media discourse. This layered communication strategy echoes the findings of regarding Zengcheng's traditional rituals, where the construction of authenticity is not static but is constantly renegotiated through modern participation. By focusing the digital design on the secular, entertaining aspects of the dance (rolling, scratching, bowing), the research protects the sacred core from over-commercialization while expanding the cultural periphery to include younger audiences[26].

RtD as a Catalyst for Rural Revitalization

The "Field-to-Design" (RtD) pathway discussed in Chapter 5 demonstrates how design can move beyond aesthetics to become an engine for rural development. The integration of the Pixiu IP with Paitan's local agricultural product (Simiao Rice) represents a model of embedded cultural production.

As suggested by Zimmerman et al.[27], Research-through-Design (RtD) allows researchers to produce prototypes as theory, proving that cultural symbols can increase the added value of local industries. This study shows that the Pixiu is no longer just a dance performed once a year, but a visual system that empowers the local economy. This aligns with Xiang's [28] theory on the creative industrialization of ICH, where digital technology and design intervention act as catalysts for rural revitalization. By creating a recognizable and reproducible visual system, the Paitan township can leverage its unique identity to compete in the "China-chic" (Guofeng) market, turning intangible memory into tangible economic and social capital.

Limitations and Future Challenges

Despite the positive evaluation results, this study acknowledges several limitations:

Sample Size and Diversity: The user evaluation relied on a relatively small sample (n=12). While it provided deep qualitative insights, the "Willingness to Share" and "Recognizability" scores require validation through larger-scale quantitative testing to ensure generalizability across broader demographic segments.

Dynamic Precision in 2D Space: The 12 animated emojis successfully captured the "emotional essence" of the Pixiu, but some of the sophisticated Hakka martial arts footwork inherent in the dance was lost in the 2D simplification. Future research should explore AR (Augmented Reality) or Motion Capture technology to preserve the kinetic precision of the Sacred Mode movements while maintaining the Cute Awakening aesthetic in a 3D environment.

VIII.   Contributions

This study set out to investigate the digital revitalization of the Zengcheng Pixiu Dance through a "Field-to-Design" methodological framework. By integrating design ethnography, visual semiotic analysis, and Research-through-Design (RtD), the research successfully bridged the gap between traditional Hakka ritual practices and contemporary digital communication.

Summary of Key Findings

The research yielded three primary insights

Effective Semiotic Translation: The study demonstrated that the "Cute Awakening" (Neoteny) strategy transforming the Pixiu's formidable features into approachable digital symbols is an effective way to lower cognitive barriers for younger audiences without erasing the cultural genes (e.g., the green nose and single horn) of the heritage.

Bridging the Generational Divide: By identifying the "Sacred vs. Secular" dichotomy, the study developed a tiered communication model. It posits that digital IPs should serve as social currency in the secular realm (via emojis and social media), acting as an entry point that leads younger generations back toward the sacred, traditional roots of the dance.

Systemic Integration for Rural Revitalization: The creation of a "symbol-product-scenario"matrix ranging from Simiao rice packaging to interactive "Photo Op" installations proves that ICH can be more than a static performance; it can be a dynamic engine for local economic and cultural growth in rural townships like Paitan.

Research Contributions

Theoretical contribution: This study advances the discourse on "creative transformation" of ICH by providing a replicable logic for how ethnographic data can be systematically translated into visual design

vocabulary. It offers a nuanced understanding of how authenticity can be maintained through genetic extraction rather than rigid formal replication.

Practical contribution: The developed Digital Design System (12 animated emojis, IP character and integrated packaging) provides a tangible toolkit for local stakeholders in Zengcheng. This model demonstrates how traditional rituals can be "activated" to enhance the brand value of local agricultural products and cultural tourism.

Concluding Reflections

The digital revitalization of the Zengcheng Pixiu Dance is not an attempt to replace the physical ritual, but to ensure its survival in the collective consciousness of the digital age. The "Field-to-Design" pathway emphasizes that for heritage to remain "living," it must evolve. By transforming the Pixiu from a distant ancient totem into a playful, interactive companion, this research has shown that tradition and innovation are not mutually exclusive.

As the digital landscape continues to evolve through AR, VR, and the metaverse, the framework established here grounded in semiotic integrity and community experience provides a foundation for future designers and researchers to ensure that the "spirit of the Pixiu" continues to dance across both physical and digital borders, fostering cultural pride and sustainable development for generations to come.

Acknowledgement

References

[1]. Unesco. Convention For The Safeguarding Of The Intangible Cultural Heritage. Paris: Unesco, 2003.
[2]. Smith L. Uses Of Heritage. London: Routledge, 2006.
[3]. Alivizatou M. Intangible Heritage And The Museum: New Perspectives On Cultural Preservation. Walnut Creek: Left Coast Press, 2012.
[4]. Kenderdine S. Embodiment, Entanglement, And Immersion In Digital Cultural Heritage. A New Companion To Digital Humanities. 2015, 15:22-41.
[5]. Silberman Na. Heritage Interpretation As Public Discourse. Understanding Heritage: Perspectives In Heritage Studies. 2013 Apr 30:21-31.
[6]. B Joseph Pine Ii, Gilmore Jh. Welcome To The Experience Economy. Harvard Business Review. 1998 Jul 1;76(4):97-106.
[7]. Zengcheng District People's Government. Introduction To The Intangible Cultural Heritage Of Zengcheng District . Guangzhou: Zengcheng District Culture, Radio, Television, Press And Publication Bureau, 2021.
[8]. Bec A, Moyle B, Timms K, Et Al. Management Of Immersive Heritage Tourism Experiences: A Conceptual Model [J]. Tourism Management, 2019, 72: 117-120.
[9]. Shi Li, Inkuer A, Mayusoh C, Puntien P. Culture Pedigree And Digital Expression In Foshan Lion Dance. Procedia Of Multidisciplinary Research. 2025 Jun 3;3(6):7-7.
[10]. Kico I, Grammalidis N, Christidis Y, Liarokapis F. Digitization And Visualization Of Folk Dances In Cultural Heritage: A Review. Inventions. 2018 Oct 23;3(4):72.
[11]. Belhassen Y, Caton K, Stewart Wp. The Search For Authenticity In The Pilgrim Experience. Annals Of Tourism Research. 2008 Jul 1;35(3):668-89.
[12]. Silberman Na. Heritage Interpretation As Public Discourse. Understanding Heritage: Perspectives In Heritage Studies. 2013 Apr 30:21-31.
[13]. Kress G, Van Leeuwen T. Reading Images: The Grammar Of Visual Design. Routledge; 2020 Nov 25.
[14]. Ning Li, Jing Zhang, Jiahang Chen,Application Of Dunhuang Decorative Tile Elements In Children's Furniture Based On Symbolic Duality And D4s Theory,Results In Engineering,Volume 26,2025,105422.
[15]. Norman D. A. Emotional Design: Why We Love (Or Hate) Everyday Things. New York: Basic Books, 2004.
[16]. Giaccardi E. Heritage And Social Media: Understanding Heritage In A Participatory Culture. Routledge; 2012 Jul 26.
[17]. Pine Bj, Gilmore Jh. Welcome To The Experience Economy.Harvard Business Review, 1998, 76(4): 97–105.
[18]. Kock F, Ringberg T. Embodied Cognition Effects On Tourist Behavior. Annals Of Tourism Research. 2019 Sep 1;78(C):1-5.
[19]. Turner V, Abrahams R, Harris A. The Ritual Process: Structure And Anti-Structure. Routledge; 2017 Jul 5.
[20]. Neuhofer B, Buhalis D, Ladkin A. Smart Technologies For Personalized Experiences: A Case Study In The Hospitality Domain. Electronic Markets. 2015 Sep;25(3):243-254.
[21]. Xu F, Buhalis D, Weber J. Serious Games And The Gamification Of Tourism. Tourism Management. 2017 Jun 1;60:244-56.
[22]. Mason M, Vavoula G. Digital Cultural Heritage Design Practice: A Conceptual Framework. The Design Journal. 2021, 4;24(3):405-424.
[23]. Vanni I, Crosby A. Place-Based Methodologies For Design Research: An Ethnographic Approach. Design Studies. 2023 Mar 1;85:101168.
[24]. Trocchianesi R, Bollini L. Design, Digital Humanities, And Information Visualization For Cultural Heritage. Multimodal Technologies And Interaction. 2023 Nov 1;7(11):102.
[25]. Pan, L. S. (2021). On The Research Significance Of The Traditional Chinese Creation Art System. Art & Design Research, (02), 56-60.

[26].   Zhao, Y H. (2011). Semiotics: Principles And Deductions. Nanjing: Nanjing University Press, 156-170.
[27].   Zimmerman J, Forlizzi J, Evenson S. Research Through Design As A Method For Interaction Design Research In Hci. Inproceedings Of The Sigchi Conference On Human Factors In Computing Systems 2007, 29 493-502.
[28].   Xiang, Y. Creative Tourism: The Integration Of Culture And Tourism From The Perspective Of Place-Making. Frontiers,2019 (11), 64-70.