Article

AIGC-Empowered Digital Innovation Design for Red Tourism: The Case of Anyuan County

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Abstract: ***Background:*** In the digital era, young people are increasingly interested in immersive, interactive and personalized cultural tourism experiences. Traditional red tourism is facing challenges in terms of its appeal and dissemination. Meanwhile, the multimodal creative advantages of artificial intelligence generated content (AIGC) provide a brand-new path for the digital transformation of red culture. ***Objective:*** Using the red resources of the "Tianxin Military Reorganization" in Anyuan County as a case study, this paper develops a comprehensive workflow from material collection and feature extraction to multimodal creation. It completes the image design of the red IP "An Tianxiao", generates historical scene imagery, and develop a series of cultural and creative products. ***Method:*** Combining field research with AIGC technology, the innovative creation of red cultural tourism content was achieved by collating historical documents, conducting prompt engineering and applying multimodal generation techniques. ***Results:*** The study verifies that AIGC lowers the barriers to creating digital content about red culture, empowers counties develop their own digital cultural tourism products, and transforms red resources from static to dynamic, thus providing a practical model for the digital innovation in county-level red tourism. ***Conclusion:*** AIGC technology offers a feasible approach to advance digital development of county-level red tourism. It can effectively activate the value of red resources, to meet the cultural tourism consumption needs of young people, and boost the high-quality and sustainable development of the red tourism industry.

Keywords: AIGC; Red cultural tourism; Digitalization; Innovative design; Digital era

1. Introduction

Red cultural tourism plays as a crucial role in preserving revolutionary traditions and sustaining revolutionary spirit. It served as a spiritual bridge connecting history with the present and as a core engine driving high-quality development in the cultural tourism industry. (Sun & Qin, 2025) With the rise of the digital media era, the younger generation's curiosity for cultural and tourism experiences has shifted from traditional "sightseeing tours" to "immersive, interactive, and personalized" deep engagement. (Liu et al., 2025) However, many county-level red cultural tourism initiatives currently face challenges, such as monotonous content, outdated formats, ineffective dissemination methods, and a gap with the aesthetics needs of young people. These issues limit the influence and reach of red culture.

The rapid advancement of artificial intelligence generated content (AIGC) technology has created new opportunities for the digital transformation of red tourism. AIGC's outstanding multimodal content generation capabilities can transform complex revolutionary history into visual digital images, interactive digital scenes, and easily shareable, lightweight derivative cultural products. (Zhang et al., 2026) As one of the revolutionary base areas where significant events like the "Tianxin Military

Reorganization“ occurred, Anyuan County has rich red tourism resources but lacks technological and creative advantages, leaving its dissemination potential and market appeal untapped.

This paper uses Anyuan County as a case study to propose the application of AIGC technology to pioneer innovative design pathways for county-level red tourism. This approach not only outlines a viable strategy for Anyuan to develop a distinctive red tourism brand but also provides a reference model for digital development in similar counties and comparable red tourism destinations nationwide, thereby promoting the healthy and sustainable growth of the red tourism industry.

2. Analysis of the Current Status and Bottlenecks of Anyuan County's Red Tourism

2.1 Anyuan County's Red Cultural Resources and Value

Anyuan County is rich in red cultural tourism resources, prominently featuring the Tianxin Military Reorganization led by Zhu De and Chen Yi in Tianxin Town in 1927. This event is recognized as the inaugural chapter of the "Three Reorganizations in Southern Jiangxi". It occurred prior to the Sanwan Restructuring and is one of the earliest systematic military reorganizations in the history of the People's Army. (Liu, 1986) The ideological education, organizational restructuring, and military training conducted during this period played a crucial role in preserving the revolutionary flame ignited by the Nanchang Uprising and laying the foundation for the political development of the People's Army. Additionally, this historical episode is crucial for studying the early development of the People's Army, highlighting its historical value.

Drawing inspiration from the Tianxin Military Reorganization and the Zun Sanwei Defense Battle, along with other revolutionary histories, Anyuan County has identified three core red cultural genes: The Struggle Gene of Guarding the Spark, reflects the perseverance and struggle exhibited by revolutionary pioneers amid hardship; The Founding Gene of Military-Civilian Unity, illustrated through the Soviet era's "Ten Farewells to the Red Army" and the saying "sharing salt when there was salt, sharing plain food when there was none", symbolizing the deep bond between the army and the people; The Innovative Gene of Daring to Reform and Train, which embodies the spirit of self-renewal and vitality characteristics of the Tianxin Military Reorganization. (Liu, 1985) These genes form the core content of Anyuan's red culture and tourism, and they are also the most vivid materials for the inheritance of Anyuan's revolutionary legacy today.

2.2 Analysis of Development Status and Alignment with Mainstream Consumption Trends

Currently, Anyuan County's red cultural tourism remains largely in its early stages, characterized by reliance on resources and a focus on sightseeing. Primary venues like the Tianxin Military Reorganization Park primarily rely on site visits, textual exhibits, and guided tours—offering limited diversity. There is a distinct lack of digital, interactive, and immersive cultural tourism experiences, along with a few diverse red tourism formats.

From a cultural tourism perspective, the market is shifting from "sightseeing and check-ins" to "deep immersive experiences". Younger audiences are more open to new formats like virtual reality (VR) and augmented reality (AR) historical reenactments, live-action performances, and interactive educational tours, while interest in static sightseeing and one-way lecture-style explanations continues to decline. (Zhang et al., 2025) Regarding information channels, social media and short videos serve as their primary touchpoints. Young people prefer engaging, intuitive, and story-driven content that helps them express self-identity through social check-ins and sharing. They are less receptive to "serious lectures" or traditional "historical reenactment" styles of communication.

In contrast, Anyuan's red tourism offerings are largely disconnected from the demands of mass consumers in terms of supply, experience, and communication methods. Its transformation and upgrading lag behind industry trends, resulting in a failure to meet the needs of younger generations. Today, shifts in red tourism consumption patterns and the rise of technological platforms create essential opportunities to transform traditional red cultural resources into modern "new consumption" assets. This shift addresses Anyuan's supply-demand mismatch in red tourism, paving the way for high-quality transformation and improvement.

2.3 Core Bottleneck Diagnosis

Content-wise, Anyuan's red tourism offerings suffer from monotonous formats, with significant weaknesses in historical revitalization and modern adaptation. Content remains limited to the "heritage preservation + text-and-image displays" model, lacking digitalization, scenography, and experiential elements. This creates a bottleneck where "resources exist without products, and history exists without experience". Exhibition methods primarily rely on text panels, old photographs, artifact displays, and manual narration, lacking modern presentation techniques such as light-and-shadow storytelling, scene reconstruction, and interactive experiences. Historical settings and character narratives struggle to truly "come alive", making it difficult for visitors to feel immersed. Content exploration remains superficial, with core historical narratives treated lightly and lacking rich emotional detail. Simultaneously, red resources remain disconnected from other local cultural tourism assets, failing to form integrated "red tourism plus" business models. (Liu et al., 2025) Tourism extension products are scarce, and existing offerings do not meet the market's demand for lightweight, participatory experiences, failing to satisfy visitors' desire for deeper engagement.

In terms of presentation, Anyuan County's red cultural tourism has limited appeal to young audiences, with its discourse and product systems poorly aligned with youth consumption preferences. Red cultural narratives predominantly rely on traditional grand narratives, which lack youthful, personalized, and emotionally resonant expressions. They often appear overly didactic and fail to attract interest. Existing experiential offerings are largely limited to static visits and group study tours, which do not meet young people's preferences for immersive interactions, trendy cultural and creative products, and social check-in spots. This gap prevents them from satisfying young people's core needs for social sharing and emotional connection. Furthermore, the comprehensive development of Tianxin's military reorganization remains incomplete. The unique red IP of Tianxin's military reorganization has not been consistently developed in terms of visual identity, iconic characters, story IP, and cultural and creative products. As a result, it lacks distinctiveness when compared to similar red tourism sites. (Peng, 2026)

In terms of dissemination, Anyuan County's red tourism communication channels are inefficient, with weak new media operations and limited traffic conversion. The county faces an overall problem of "having content but no voice, having scenery but no traffic". Communication relies excessively on traditional channels like government publicity and offline events, with insufficient presence on mainstream youth-oriented new media platforms. Official account operations lack regularity and high-quality content. Dissemination focuses primarily on work updates, lacking narrative-driven, visually compelling materials, and failing to generate effective communication hotspots. The county's red tourism resources operate in isolation without a unified communication strategy, resulting in fragmented and unreliable online information. Furthermore, there is no closed-loop traffic conversion system—no follow-up channels for reservations, ticket sales, or route recommendations—preventing online traffic from effectively converting to offline visitors, resulting in low overall communication effectiveness.

3. Design Pathways for AIGC-Empowered Red Tourism

3.1 Technical Characteristics of AIGC

AIGC refers to the intelligent creation of multimedia content—including articles, audio, and video—using generative machine learning models. (Li et al., 2023) Its core is based on algorithms that interpret human instructions to generate corresponding content, establishing a human-machine collaborative design production model.

Current mainstream AIGC tools primarily fall into three technical categories: 1) Image generation, with Midjourney and Stable Diffusion as representative examples. Users input a series of prompts, and the AI generates corresponding visuals. These tools use diffusion models as their foundational support, learning image distribution patterns through iterative processes to transform random noise into visual content aligned with textual descriptions. Combined with CLIP technology to establish semantic connections between text and images, the system can comprehend specific terms like "military uniform" or "octagonal cap" and accurately render these visual elements in the generated images; 2) Text generation: Large language models like ChatGPT, built on the Transformer architecture, utilize self-attention mechanisms to capture semantic relationships within lengthy texts. They can automatically compose content ranging from keyword extraction to complete narrative scripts. Their multimodal variants can even recognize historical image content, annotating character actions, scene elements, and clothing features, thereby providing a semantic foundation for creating red tourism content; 3) Video generation: Extending the capabilities of the first two into dynamic imagery. Runway's Gen-2 model supports both direct text-to-short-video generation and the conversion of static historical photos into moving footage, enabling more vivid visual representations of historical scenes.

Within the red tourism sector, various AIGC tools serve distinct purposes: Image generation tools translate historical records into vidual representations, reconstructing historical scenes; Text generation tools assist in organizing historical materials and extracting keywords, significantly improving content creation efficiency; Video generation tools transform static red imagery into dynamic narratives, enhancing the cultural impact of red heritage promotion.

AIGC technology has restructured the way revolutionary cultural content is created and shared, creating a collaborative framework that involves both humans and machines. At the tool level, AIGC makes content creation easier while boosting production efficiency and quality. (Gao & Yang, 2025) Designers no longer need to master complex drawing or modeling skills; instead, they can rapidly generate large volumes of high-quality visual assets using specialized tools. They can then iteratively refine keywords based on the generated output to ensure the content aligns precisely with creative requirements. This human-machine collaboration model frees designers from tedious execution tasks, allowing them to focus more on key aspects, such as exploring the essence of red culture and crafting clear content narratives.

3.2 Design Applications of AIGC in Red Cultural Tourism

Based on the aforementioned technical features, AIGC has produced diverse practical outcomes in its specific applications within the red tourism sector. In recent years, with the widespread adoption of generative AI, an increasing number of red tourism venues and cultural institutions have begun integrating AIGC into content production and experiential design. Existing case studies indicate that AIGC applications primarily focus on two areas: developing cultural and creative products and designing red-themed posters. These practices not only validate the technology's feasibility but also provide valuable reference points for future innovation.

1) Cultural and Creative Products

In recent years, red cultural and creative products have emerged as a new medium for promoting revolutionary culture. (Chen, 2020) As material representations rooted in revolutionary spirit, their essence is to embody patriotic values rather than pursue superficial decorative effects.

In 2021, Wang Juntao and Liu Weifeng designed the "Long March Auto Chess" series themed around the spirit of the Long March. They integrated the Red Army's 25,000-mile journey into the game board, with nine key battle sites arranged sequentially across the grid. (Wang & Liu, 2021) When players' pieces land on specific nodes, they acquire campaign cards that include historical contexts. Equipment cards authentically depict Long March artifacts like straw sandals, canteens, oil lamps, and rifles, allowing players to engage naturally with revolutionary history through gameplay. The Little Red Army IP character on the cards highlights the core traits of Red Army soldiers, creating a highly recognizable visual symbol. This design combines the educational function of red culture with the interactive nature of board games, transforming the abstract spirit of the Long March into a tangible, perceptible, and interactive medium. The product preserves the commemorative value of traditional cultural creations while enhancing its practical usefulness and interactive appeal, catering to young consumers' interest in "playable" cultural products.

In 2024, Yan'an Tourism Group launched the "Storytelling Postcards" project, integrating AIGC generation technology with AR experiences. Six vintage photographs—including Baota Mountain, the Central Grand Hall, and the Yan'an Childcare Center—were selected. Utilizing AIGC technology, these images were restored and animated, transforming static historical scenes into engaging narratives printed on physical postcards. When tourists scan the postcard via WeChat, revolutionary-era and various human activities come to life on their screens. Digital avatars narrate historical stories accompanied by ambient sound effects. This digital-physical integration transforms static vintage photos into dynamic narrative tools, delivering a novel interactive experience through viewing, listening, playing, and engaging with the content.



Figure 1. Self-Propelled Chessboard of the Long March
Source: Wang and Liu (2021)

2) Poster Design

In the field of red cultural tourism poster design, AIGC applications mainly appear as diverse visual styles and the reconstruction of historical scenes.Yu and Liu (2025) focused on Wuhan's red culture, selecting iconic scenes and figures from revolutionary history. They used AI technology to restore and reimagine vintage red photographs. They utilize Stable Diffusion's latent space interpolation to automatically identify and repair photo damage and scratches. With the Palette.fm platform, they described desired color styles using natural language to automatically colorize black-and-white photos and optimize parameters. The restored images were integrated with Wuhan's red architectural elements—such as Hankou Railway Station, Yangtze River Bridge, Uprising Gate, and Comrade Mao Zedong's Former Residence—and arranged in a stamp-style layout to complete the public service poster series "Red Wuhan". Survey results validated the project's impact: among 67 respondents, 47 expressed a desire to learn more about Wuhan's revolutionary heritage after viewing the posters, while 52

affirmed the role of AI technology. This confirms the feasibility of integrating AIGC technology with revolutionary cultural posters. (Yu & Liu, 2025)



Figure 2. Renderings of Public Service Posters Red Wuhan
Source: Yu and Liu (2025)

3.3 Content Generation Pathway Based on AIGC

The prerequisite for AIGC-generated content is authentic historical representation. To achieve this, the research team conducted multiple field visits to Anyuan County in 2025. They toured the Tianxin Military Reorganization Memorial Hall with expert guidance and held in-depth discussions with local cultural tourism officials. Starting from field materials, the team then analyzed local historical records and online resources to integrate and examine the people, events, locations, and iconic red cultural symbols associated with the Tianxin Military Reorganization. This process resulted in the classification and summarization of a red cultural knowledge system diagram, laying the groundwork for subsequent AIGC content generation.



Figure 3. Visit to the Memorial Hall of the Tianxin Military Reorganization
Source: Photographed by the authors

Structured data required conversion into prompts and keywords recognizable by AIGC systems. To achieve this, the team input field photographs and textual materials into GPT-4. Using the large model's multimodal capabilities, it automatically identified key elements. These were then "corrected" and "supplemented" with revolutionary terminology and local dialect expressions from Anyuan, creating a prompt and keyword library that is true to the historical essence of the Tianxin Military Reorganization.

These prompt phrases and keyword libraries serve as the "direct handles" for AIGC content. The team tested these prompts on image-generation platforms like Midjourney and Stable Diffusion. After testing, generated images underwent preliminary screening based on three criteria: historical accuracy, visual impact, and stylistic consistency. Images that passed this initial screening entered a refinement stage, where more precise instructions were given for details like character poses and light-shadow relationships to further enhance the final works. For rejected images, the team conducts an in-depth analysis of the underlying issues and incorporates this feedback into the prompt library.

The keyword weights within the prompts were adjusted to initiate a new round of image generation.

Video animations follow the same generation process as images. After completing the main visuals, language models generate corresponding narration or character dialogue based on the content. Era-appropriate music and ambient sound effects from 1927 are then added, producing synchronized, vivid audiovisual animations.

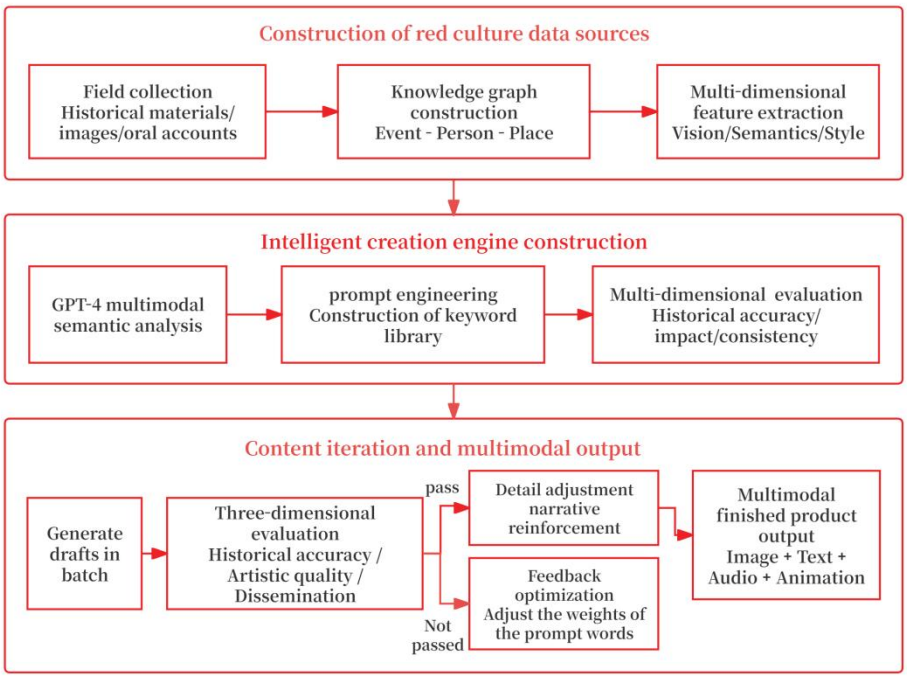

Figure 4. AIGC-Based Generation Path of Red Cultural Content
Source: Drawn by the authors

3.4 Digital Product Design and Dissemination Strategy

In today's entertainment industry, developing serialized IPs has become highly competitive. The rise of AIGC technology has brought revolutionary changes to this domain. It can create a series of interconnected, detailed characters and stories, constructing a unified yet diverse IP universe. (Guo & Lu, 2024) The team uses distinctive cultural symbols from local heritage to design protagonist costumes, crafting optimal red IP character images for cultural products like commemorative badges and postcards. This approach addresses traditional design challenges, such as long development cycles and limited scalability.

The deep integration of IP imagery with digital technology further extends into offline physical cultural products. AR technology, utilizing computer vision algorithms and real-time image recognition, can precisely overlay historical information and interactive elements onto real-world scenes, providing visitors with a more immersive and engaging experience. (Pang, 2025) The team incorporates specific identification anchors into cultural products like commemorative badges and blind boxes. Users can scan these with their phones to view 3D animations of IP characters and historical scenes. This approach transforms static cultural products and virtual spaces into interactive digital platforms, enhancing user engagement and interactivity while broadening the reach and depth of red culture dissemination.

With the introduction of AIGC technology, the symbolic perception of animation has become richer and more diverse. (Zhou, 2025) This technological advantage presents new opportunities to create the "Tianxin Military Reorganization"-themed short film. The short film highlights key events and figures from the "Tianxin Military

Reorganization" period, using text-to-video diffusion models such as Runway to transform historical photographs into dynamic visuals. During production, the team carefully reviewed each frame to verify architectural styles, character attire, and other details, ensuring historical accuracy. After confirming the content's validity, the preliminary script was artistically refined, incorporating vivid, dramatic narratives and character dialogues. This was enhanced by period-appropriate soundscapes and classical revolutionary music to heighten the historical atmosphere.

Immersive experiences require adaptation across social media platforms. The team created different types of revolutionary cultural content tailored to each platform's user demographics: For text-based platforms like WeChat Official Accounts and Zhihu, focus on expressing and discussing the historical context and values of the "Tianxin Military Reorganization". On video platforms like Douyin and Kuaishou, emphasize showcasing the natural scenery and cultural landscapes of Anyuan's revolutionary sites; On communities like Xiaohongshu (popular among younger users), share authentic travelogues and travel diaries to inspire more people to visit.。

4. Digital Innovation Design Practice of "Tianxin Military Reorganization"

4.1 Historical Scenes and IP Character Generation

The team selected five of the most representative and narrative-rich scenes from existing Tianxin Army Reorganization materials—including "Night on the Tianxin Riverbank", "Military Mobilization Meeting on the Riverbank", and "Morning Departure Formation"—as subjects for image generation. Taking "Military Mobilization Meeting on the Riverside" as an example, the team input keywords like "earth platform", "autumn 1927", and "soldiers in formation" into Stable Diffusion's text-to-image model. After generating the first set of images, the team observed stiff and unnatural poses in the figures. Subsequent iterations increased the emphasis on keywords like "waving" and "unified gaze", while adjusting parameters that caused expressionless faces or overly mechanical formations.

The same approach was applied to other scenes. The team continuously refined prompts and their weights based on each scene's historical characteristics, comparing visual outcomes across different generation batches to enhance color schemes and compositions. This process ultimately produced high-quality scene images (Figure 5). Compared to traditional hand-drawn sketches or on-site photography, the AIGC method demonstrated efficiency advantages in generating multiple draft versions and enabling quick iteration. It could provide diverse compositional options for selection within a short timeframe, addressing the long cycle and high modification costs associated with conventional approaches.



Figure 5. Generated Image of the Military Mobilization Meeting on the Riverbank
Source: Generated by AIGC

In developing red cultural tourism IP characters, the concept's originality and its ability to propagate positive values determine the vitality and healthy growth of the core IP industry. (Yuan & Miao, 2020) The team adopted a "name-based concept" approach,

integrating the historical contexts of Anyuan County and the Tianxin Military Reorganization. Utilizing the GPT-4 large model to identify the core elements of red tourism culture, they conducted multiple rounds of semantic analysis and selection, ultimately naming the IP "An Tian Xiao". The character "An" (安) draws from the geographical roots of Anyuan, while "Tian" (天) originates from "Tianxin", clearly identifying the location of the event. "Xiao" (晓) signifies "dawn", symbolizing how the Tianxin Military Reorganization emerged like the breaking dawn during a revolutionary low point, bringing awakening, inspiration, and organizational renewal to the people's army.

In the visual adaptation process, elements like the octagonal cap, rugged military uniforms, and leg bindings were selected. These not only carry the era's memory of Red Army soldiers but also make history feel closer through simplification and cartoonization. This approach maintains historical recognition while making the imagery more engaging to younger audiences. This demonstrates how symbols are refined and translated, transforming concrete historical attire into symbolic visual language. Compared to purely realistic historical portraits, this approach is more suited for sharing across digital platforms.

After finalizing the IP name, the team began generating and developing its visual identity. The core concept established a youthful, revolutionary soldier figure, with distinctive period clothing elements like the octagonal cap, rugged military uniform, and leggings that defined the character's silhouette. Starting from line art sketches, the team generated numerous design iterations, ultimately selecting the most conceptually fitting final image (Figure 6). During selection, the team considered visual preferences common among youths—such as clean lines, expressive features, and vibrant colors—to ensure the character appeals to younger audiences.

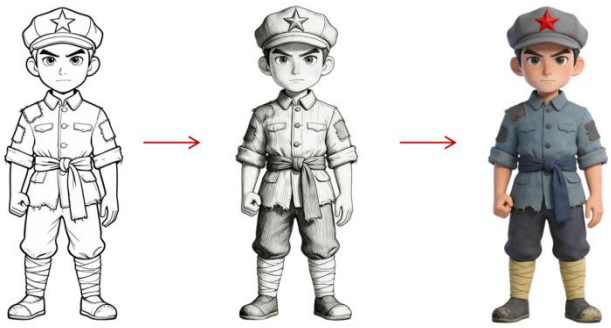

Figure 6. Rendering Display of the Red IP "An Tianxiao"
Source: Generated by AIGC

4.2 Digital Output and Dissemination

Based on the generated "An Tianxiao" IP character and historical imagery of Tianxin's military reorganization, the team created a systematic short-video content plan. Centered around the core character "An Tianxiao", they produced the animated series "The Moment Tianxin Reorganized His Army", with each 60-second episode narrating impactful stories from the reorganization process. These videos are optimized for distribution on short-video platforms like Douyin and Kuaishou. For text-based platforms like WeChat Official Accounts and Weibo, the team combined historical imagery with revolutionary narratives to create illustrated content pushes. Addressing online educational needs, the team also produced thematic storytelling videos to support red culture education.

The "An Tianxiao" IP serves not only as the foundational element for online content but also as the visual anchor for offline cultural and creative products. The team has

developed a series of physical, cultural, and creative products featuring the "An Tianxiao" character. These products are centered around themes like "Daily Military Training", "Study Time", and "Marching on the Road", which relate to Tianxin's military reorganization. Corresponding blind box series have been designed, each series contains 6 to 8 different poses and styles of three-dimensional "An Tianxiao" figurines. This approach emphasizes the fun and collectibility of these cultural and creative products. Simultaneously, the IP's visual elements and revolutionary themes are integrated into everyday items like canvas bags, pins, and notebooks (Figure 7). Unlike traditional revolutionary-themed products that often rely on realistic photographs or replicated artifact patterns, IP-based designs offer greater consistency and scalability. This approach enables the creation of unified product lines, significantly enhancing brand recognition.



Figure 7. Display of Cultural and Creative Products
Source: Generated by AIGC

Offline cultural products now incorporate AR technology to develop interactive experiences. The design of digital interactions enhances sensory engagement, significantly stimulating consumers' revolutionary spirit and patriotic sentiment. (Wei, 2025) The team develops the "AR Historical Cards" utilizing the character "An Tianxiao" and models from the Tianxin military training scene. By integrating AR recognition and rendering technology, users can scan these cards with WeChat to view a 3D avatar of "An Tianxiao" on their screens. Tapping the screen activates audio narrations related to the historical event. Some cards include interactive features, such as tapping the bugle icon to play the original Red Army bugle call, while tapping on character avatars reveals additional biographical details. This seamlessly integrates cultural product collection with immersive experiences.

5. Conclusion

5.1 Conclusions and Significance

With the rise of the digital era, cultural tourism preferences among younger demographics have shifted. Many county-level red tourism destinations still rely on traditional models, featuring outdated content presentation and limited interactive experiences, making it difficult to attract younger audiences. This paper examines the Tianxin Military Reorganization site in Anyuan County, integrating literature review, field research, and AIGC technology to explore its practical application in digital innovation for red culture. The study outlines an operational technical workflow encompassing the collection of historical material, content refinement, prompt construction, and multimodal content generation, forming a comprehensive methodological framework.

The research confirms that AIGC can lower the production barrier for digital red cultural content. Through design practices such as the red IP "An Tianxiao", historical

scene reconstruction, and cultural and creative product development, this paper proposes specific methods for the digitalization of county-level red cultural tourism. Static textual historical materials are transformed into intuitive, tangible visual digital content, providing a feasible path for the revitalization and utilization of county-level red resources. This research delivers a comprehensive solution for the digital development of the Tianxin Army Reorganization Site in Anyuan County, serving as a reference model for similar counties nationwide. For counties with relatively limited technological and creative resources, this approach opens new avenues for digital creation in red tourism, pushing it toward a younger, more digital, and more experiential direction.

5.2 Research Limitations and Future Directions

This study utilized design practices assisted by AIGC based on literature analysis and field research. However, due to research timelines and practical limitations, the study has some shortcomings. The current design outcomes remain at the proposal stage and have not undergone formal deployment and testing among youth demographics and cultural tourism practitioners. Additionally, there is a lack of quantitative data on user acceptance and satisfaction. The content focuses primarily on visual design elements like cultural products, scene imagery, and promotional posters, without extending to more complex immersive digital scenario development.

To address these limitations, future research will focus on three areas: first, conducting user evaluations using questionnaires, interviews, and scenario-based experiences to gather feedback from young people. This data will be used to optimize proposals and enhance practical outcomes. Second, expand application boundaries by integrating AIGC with technologies like VR beyond existing visual design, creating more immersive red tourism experience systems. Finally, promote model dissemination by applying the research-developed processes and methodologies to more county-level red resource development projects. Through multi-regional and multi-case implementation, we aspire to establish a digital creation pathway for red cultural tourism that adapts to the diverse development needs of local areas.

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