

# A Study on the Reconstruction of Western Regions' Ancient Sites in Tang Poetry Under AIGC and VR Empowerment: A Case Study of Loulan

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**Abstract:** Ancient relics in the Western Regions refer to the remnants of historic structures located in these areas. Using the example of Loulan from Tang poetry, and drawing on Mary Lou's digital narrative theory and Daoist concepts of interdependence, this paper analyzes how AIGC enhances VR imagery through spatiotemporal embedding. It also discusses the contemporary value and significance of AIGC + VR in the reconstructive creation of Tang poetry relics.

**Keywords:** Tang Poetry; VR + AIGC; Intelligent Interaction

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“Being” and “Non-being” have historically served as fundamental philosophical categories in Chinese thought to explain the origins of the cosmos. The synthesis of “being” and “non-being” culminates in the concept of the “Dao.” As Zhuangzi observes, “All things emerge from the realm of non-being. What exists cannot be accounted for by existence alone; it must arise from non-being, and thus, non-being encompasses all that exists”<sup>[1]</sup> Additionally, Mary Lou Ryan, in her work *Narrative as Virtual Reality*<sup>[2]</sup>, posits that immersion and interaction are the primary feedback mechanisms of virtual reality. She proposes a theory of possible worlds based on text features categorized into spatial immersion, temporal immersion, and emotional immersion.

Virtual Reality (VR) utilizes contemporary technological methods to reconstruct ancient Western Region relics from Tang poetry. Furthermore, the integration of cutting-edge AIGC (Artificial Intelligence Generated Content) technology enables the visualization and spatial narrative reconstruction of the ancient Loulan kingdom.

## 1. Constructing the Concept of “Loulan” in Tang Poetry: The Conditions of Being and Non-being and Immersive Interaction

As Zong Baihua articulates in *The Birth of Artistic Conception in Chinese Art*: “Not merely ‘being’ or ‘non-being,’ neither clear nor obscure, this represents the symbolic function of artistic form. ‘Symbol’ denotes the imagery of the realm, while ‘deception’ pertains to the illusory. Artists create illusory imagery to symbolize the true nature of the universe and human life.”<sup>[3]</sup>

Mary Lou Ryan's theory of digital narrative, grounded in computer hardware, represents a novel narrative paradigm characterized by interactivity and immersion. She innovatively introduces the concepts of “immersive poetics” and “interactive poetics,” leveraging computer theory to enhance narrative studies while drawing on Aristotelian poetics for theoretical approaches.

In summary, digital narrative theory benefits from the ongoing innovation driven by VR technology, which, in turn, seeks to gain a broader, more sophisticated theoretical framework through digital theory. As the Greek sage Protagoras famously stated, “Man is the measure of all things.” VR imagery, through its immersive and interactive experiences, places viewers within worlds constructed by digital technology, thereby facilitating a reconstitution from ancient times to the present, and from historical texts to virtual reality.

## 2. The Constructive Practice of the “Loulan” Imagery in Tang Poetry

### 2.1. The Imagery of “Loulan” in Tang Poetry

The term “Western Regions” is first documented in the *Book of Han: Treatise on the Western Regions*, which states: “The Western Regions were first opened during the reign of Emperor Wu of Han. Initially comprising thirty-six states, this number later expanded to over fifty, all located west of the Xiongnu and south of the Wusun. To the north and south are great mountain ranges, with a central river. This sea is located over three hundred li from Yumen and Yangguan, covering an expanse of three hundred li. Its waters remain constant throughout

the seasons, believed to flow underground and emerge in the Jishi region, which is the River of China.”<sup>[4]</sup>

As an important state in the Western Regions during the Han Dynasty, Loulan, though buried under shifting sands and renamed over time. This sustained literary representation has rejuvenated the ancient, sand-buried relics within the realm of literature. Tang poetry contains twenty-eight poems that reference Loulan. Due to Loulan’s strategic location in the Western Regions, it often serves as a metonym for the frontier lands of the region. These poems, which incorporate the Loulan imagery, convey diverse meanings and can be categorized into several thematic types:

The first category reflects the themes of military campaigns and the longing of women left behind, exemplified by Li Bai’s poem:

“In the remote land of Youzhou, the Hu horseman rides with a green-eyed tiger-skin cap. Laughing, he brushes away two arrows; a thousand men could not impede him. Drawing his bow like the crescent moon, the white geese descend from the clouds. With whips falling in pairs, he hunts towards Loulan. Leaving home without a backward glance, how difficult it is to die for one’s country!”<sup>[5]</sup>(The Hu Horseman of Youzhou, Li Bai); Similarly, in the poem by Yu Yuke:

The second category uses Loulan as a broad metaphor for the antagonistic states on the Western frontier in contrast to the Central Plains, as illustrated in the works of poets such as: Ong Shou, who writes: “The waning moon rises over the forest, shining on the swords and spears. On the flat sands, cattle and sheep are visible across the water. The rulers of the land are all nobles; who will slay Loulan and present it to the Emperor?”<sup>[6]</sup>(Lǒngtóu Yín, Ong Shou).

## 2.2. Practical Reconstruction of the Imagery of “Loulan” in Tang Poetry Through AIGC-Enhanced VR Visualization

AIGC, or Artificial Intelligence Generated Content, utilizes advanced AI technologies to generate content based on specific directives, leveraging models that accomplish tasks with minimal human intervention. As the adage goes, “bringing narrative into life,” the integration of AIGC and VR is conducive to advancing narrative visualization by embodying characteristics such as “blending the virtual with the real,” “generating existence from non-existence,” and “immersive interaction.”<sup>[6]</sup>The AIGC+VR model represents a significant innovation in traditional narrative visualization.

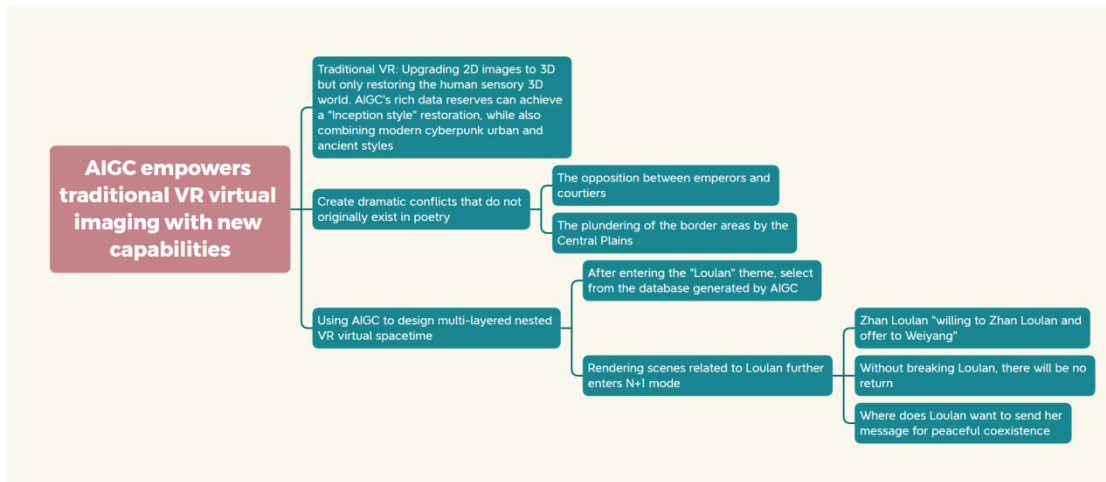
Furthermore, AIGC demonstrates potential in understanding and reproducing abstract concepts. AIGC’s ability to recreate not only the external forms of Eastern traditional aesthetics but also to convey the core spirit of Tang poetry is exemplified in the model’s rendering of the Loulan ruins.





Additionally, I propose that the

AIGC+VR model could further expand the temporal and spatial dimensions of Tang poetry. While three-dimensional space enhances visual volume, high-dimensional temporal-spatial expansion remains challenging. The nested temporal-spatial structures seen in films like Inception could offer valuable insights for the AIGC+VR model, enabling a higher-dimensional, cross-temporal experience that transcends reality. The system, supported by AIGC technology, would then render the relevant poetic scenes. Based on interactive feedback, the system would automatically generate a secondary layer of temporal-spatial experience, with variations tailored to individual interactions.



### 3. The Value and Significance of AIGC+VR in the Reconstruction of Loulan Ruins in Tang Poetry

In “Art and Visual Perception,” Rudolf Arnheim asserts, “Visual images are never mere mechanical reproductions of sensory material but rather creative interpretations of reality. The images they capture are imbued with rich imaginative, creative, and perceptive qualities. An undeniable fact is that what endows the actions of thinkers and artists with nobility can only be the mind.”<sup>[8]</sup> While the grandeur of this era can only be sensed through poetry, the spiritual resonance can still be experienced through the subtleties beyond the language—the imagery beyond the text, the scenes beyond the descriptions, and the flavors beyond the literal meanings.

The integration of AIGC and VR technology provides a tangible supplement to this abstract experience. As elucidated in Professor Ye Jiaying’s theory of “evocative inspiration” in poetic aesthetics, where sensory engagement is required to achieve a “stimulating appreciation of meaning,” the fusion of AIGC and VR leverages interactive and immersive sensory experiences to bridge the gap to the free spirit. This technological synergy not only reconstructs the lost spatial dimensions of Tang poetry’s ancient ruins but also extends our spiritual realm, offering a renewed perspective on the magnificent ethos of the Tang dynasty through interactive imagination.

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