



Research on Intelligent Communication of Cultural Heritage of Tang Imperial Mausoleum Based on Field Theory

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Abstract. Through the case study of the digital protection and dissemination of the Tang Imperial mausoleum, the research is aim to perfect the theoretical framework and system studies of Chinese cultural heritage intelligent communication. Based on Pierre Bourdieu's "field" theory, the study analyzes and deconstruct the practical content, information space and operation mechanism of the information visualization platform of Tang imperial mausoleums through the four dimensions of information field, user field, ecology field and culture field. This paper discusses the digital protection and dissemination path of Chinese traditional culture from the perspective of sociology combing the new media. The project of intelligent communication platform of Tang imperial mausoleums consists of three meanings: Digital protection and communication platform of Tang imperial mausoleum cultural heritage. Making use of the unique pluralistic and interactive characteristics of Internet communication to spread the culture of Tang imperial mausoleum effectively. Build a "Tang imperial mausoleum cultural field" with a sense of public participation and cultural identity, While publicizing Chinese traditional culture, we should further strengthen cultural self-confidence and enhance national centripetal force.

Keywords: Intelligent communication, Tang Imperial Mausoleum, Field Theory

1 Introduction

The "Digital Tang Mausoleum" Tang dynasty imperial mausoleum cultural heritage project of Xi'an University of Technology collects data on 18 Tang Mausoleums in Guanzhong and the main burial tomb groups. Through panoramic mausoleums, plane hand-painting, animated videos, documentaries, themed games, virtual exhibitions, transform the abstract data and knowledge of Tang Mausoleum in a concrete Visualize information. At the same time, the "Digital Tang Mausoleum" website and the "Tang Mausoleum 360°" APP are used for wider dissemination, forming an all-round,

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multi-dimensional and digital platform project, breaking through the inherent geographical and physical space attributes of cultural relics. Create a digital community that connects physical heritage, cultural concepts and users through information flows. [1] This virtual spatial connection and series structure is exactly the reflection of French sociologist Pierre Bourdieu's "Field" theory. With the increasing degree of social informatization, people are more and more closely connected with the Internet and digital products. This article attempts to use the information vis intelligent communication visualization project of the Tang Imperial Mausoleum cultural heritage as a medium for communication between people and history. Data information, cyberspace and the public as a whole system, to consider the interaction between each other.

2 Problems and Exploration

2.1 The Construction of Intelligent Communication Information Field in Tang Imperial Mausoleum

The institutionalized and uniform traditional functionalist communication method can meet the needs of the industrialized society for information communication, but in the information society, people's empowerment of "media" continues to deepen, and for the protection and communication of cultural heritage, the use of digital methods, not only can record the cultural ontology truly and permanently, but also realize the unbounded spread of culture more quickly and efficiently by constructing an information field. With the help of "field" theory, [2] this paper deconstructs the intelligent communication process into three stages: pre-information, intra-information and post-information. Unlike simple information transmission, the visual processing and communication of data is actually in the virtual space. A series of interactive relations are constructed, and in Bourdieu's "field" theory, the "field" is just a network and structure composed of a series of objective relations, which further stimulates the production of new information, thereby Development is a spiraling information production field.

2.1.1 Pre-Information: Data Collection Process of Tang Imperial Mausoleum.

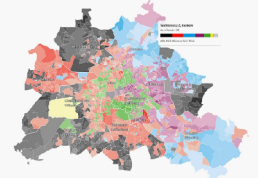

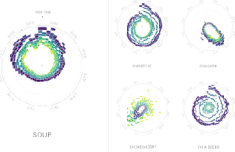

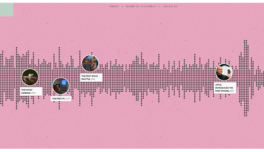

The Tang Dynasty is a glorious memory in ancient Chinese history. In the past three hundred years, it has experienced a total of 21 emperors, of which 19 (Wu Zetian and Tang Gaozong were buried together in the Qianling Mausoleum) were buried in today's Guanzhong Plain, Shaanxi, also known as the "Eighteen of the Tang Dynasty in Guanzhong". Mausoleum". As a kind of non-renewable precious cultural resources and cultural properties, historical relics such as stone carvings and tomb murals of Tang Imperial Mausoleum have important historical, artistic and scientific value. The formal collection process of these precious heritage information and materials before the information, the quality of its content directly determines the quality of the structure of the heritage "in the information". On the basis of the original historical documents and archaeological discoveries, the "Digital Tang Mausoleum" team summarized and organized the existing graphic materials in combination with art, history and imaging, and

transformed them into systematic and readable digital documents; Using digital photography, three-dimensional scanning, and physical measurement to conduct comprehensive and real records, build a comprehensive database of Tang Imperial Mausoleum, and preserve this precious cultural heritage truly and permanently.

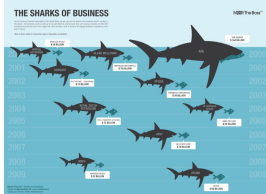
2.1.2 Intra-Information: Visual Design Process of Tang Imperial Mausoleum.

Intra-information refers to the process of data visualization and visualization through visual design. As information visualization pioneer Hans Rosling said, "It's not enough to just have the data, it's more important to present it to people in a way that they can appreciate and understand ". Based on the collection and sorting of information in the first stage,^[3] the "Digital Tang Mausoleum" team protects the material relics and cultural connotations of the Tang Imperial Mausoleum with the design thinking of "Internet + Art + Technology" through new image technologies such as digital images and 3D virtuality. and development, using interactive design, virtual reality, animation video and other digital information technologies to perfectly reproduce the real and virtual culture of the Tang Imperial Mausoleum, bringing users a new visual interactive experience, using a modern, user friendly "language" to speak well" Tang dynasty's Story” makes the traditional culture more charming, makes the Tang Mausoleum culture that has been dormant for thousands of years truly “live”, and creates a digital cultural heritage that can be enjoyed and regenerated(as shown in Table 1).

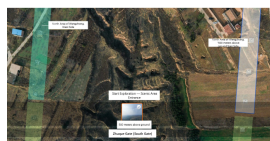
Table 1. Survey summary of information visualization architecture.

Category	Case	Function	Application
Mapping		Used for displaying complex spatial and environmental information, as well as for visualizing certain basic structures (such as subway schedules) that are more complex.	 Tang Qianling Mausoleum 720°Panorama
Informing		Used for visualizing information from digital statistics, news, and communication data, typically for large-scale data visualization.	
Interacting		Used for visually presenting complex events, behaviors, processes, etc., such as significant historical events.	

Exploring



Used for visually presenting exploratory events and symbolically linking creative information in a visual format.



2.1.3 Post-Informatization: The Process of Digital Communication of Tang Imperial Mausoleum.

Post-information, it refers to the process in which the processed and processed data reaches the user, and interacts and feedbacks with the user. Not used in the traditional mass media era, the linear, one-way, static information communication method, [4] the Internet era pays more attention to the pluralism and spontaneity of dissemination subjects, and the equality and interaction of communication behaviors. The "Digital Tang Mausoleum" team has realized the dynamic dissemination of material cultural heritage beyond time, space and contactless through the production of websites, APPs, H5 pages and other media platforms, so that more audiences can get unrestricted access to the text, images and dynamic information of the Tang Imperial Mausoleum at the same time, according to user feedback experience, the platform will be optimized in time to form a more benign and multi-dimensional new form of communication. Through the three stages of pre-information, intra-information and post-information, the digital platform project of the Tang Imperial Mausoleum attempts to construct a "digital protection and dissemination of the cultural heritage of Tang Imperial Mausoleum" from four key points: data prototype, information architecture and transformation, information communication and user feedback, information field" (as shown in Figure 1).

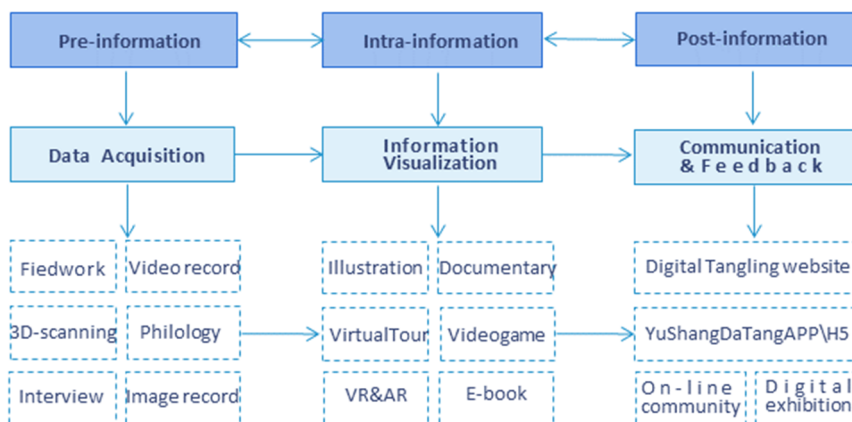


Fig. 1. Construction of Information Field.

2.2 Generation of User Field and Environment Field

2.2.1 User Field of Tang Imperial Mausoleum.

Information technology not only changes the way of life of human beings, but also gives the social role attributes of people who are constantly changing, a place where many once distinct social roles are no longer clearly visible". For traditional mass media, users, as the recipients of information, are the destination of information arrival. With the deepening of Internet technology, the information production mode dominated by UGC (User Generated Content) is becoming more and more active. The customers of the traditional Tang Mausoleum heritage are mainly offline tourists, but due to the impact of distance and the epidemic, the scale of this group is restricted, which also limits the spread of Tang Mausoleum culture. In the cultural intelligence communication project of Tang Imperial Mausoleum, the traditional user-centered design concept was turned to co-design, users transform from observed objects to collaborative designers participating in various design stages,^[5]while digital Tangling designers transform from expert status to information transfer facilitator , the importance of openness and participation has gradually become prominent, which has become the core of social innovation design.

The user is both the viewer and the creator of the content. The user end is no longer the end of the data flow, but the starting point of information reproduction and the bridge point connecting the information field. The objective structure of a series of relationships between users and data, users and communities, and users and platforms is the user field. The information field without user relationship cannot generate new information content. As the "scale of all things", human beings not only give objective information meaning and standard, but also add necessary humanistic and psychological perception to the "field". While constructing the information field, it is being shaped by the information field.

2.2.2 Environment Field of Tang Imperial Mausoleum.

Society and technology jointly shape the environment field of information, making it the external condition and space guarantee for information transmission. In the process of visualizing the cultural heritage information of the Tang Imperial Mausoleum, the platform content takes sharing and interaction as the concept, and the environment field of the Tang Imperial Mausoleum cultural information also presents the characteristics of public information and open data. The digital Tang Mausoleum website is both a historical It is also a storage space for cultural, artistic materials and knowledge, and it is also an information platform for the public to freely obtain data. This environment field maximizes the accessibility and availability of Tangling information, enhances user participation, and promotes information. The redistribution and reuse of data can fully release the value and productivity of data and benefit the general public (as shown in Figure 2).

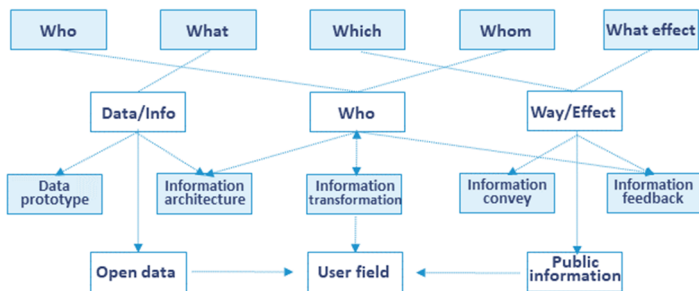


Fig. 2. The environment field action Mechanism.

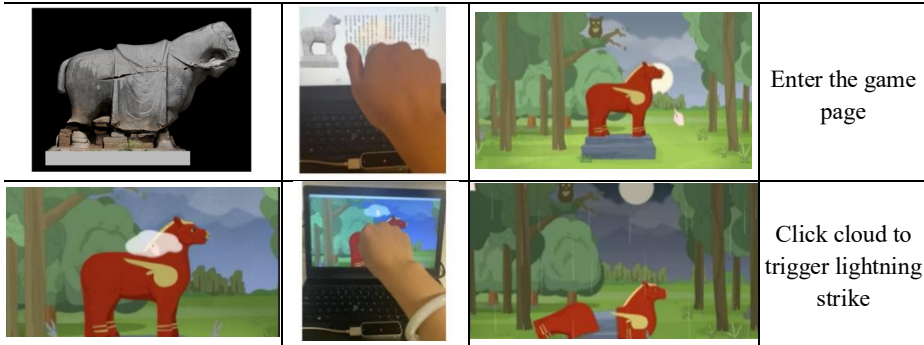
A good environment field reflects the positive media ecology of information dissemination (Media Ecology), [6]and “media is an extension of the human body”, its neuro-sensory range is continuously extended and expanded by new media, which is a crucial factor in modern information communication. On the other hand, people can also be regarded as an extension of the media. In the era of new media, [7] the one-dimensional linear transmission of traditional information has been transformed into decentralization, multi-dimensional transmission mode, people are also the generator and sender of a new content while receiving information. Therefore, the environment field and the user field are intertwined with each other to jointly maintain the dissemination and re-generation of information.

3 Transform the Digital Platform of Tang Imperial Mausoleum into the Cultural Field

Different from the intelligent communication project of pure data analysis, the cultural relics and cultural heritage represented by the Tang Emperor Mausoleum focus more on the visual expression of complex information such as historical changes, cultural circulation, artistic evolution, etc. Before these information are transformed into views, videos and games (as shown in Table 2), experts and scholars in different fields such as archaeology, art, and history are often required to screen, extract, and organize them so that they can become basic materials that can be grasped and adopted by visualization designers.

Table 2. Explore more multi-dimensional intelligent media paths through human-platform interaction design.

Scene page	User-behavior	Interaction effect	Description
			Clouds fill the interface with hand movements



Along with the "field" theory, Bourdieu also proposed two concepts, "Capital" and "Habitus", which together constitute an inseparable tool for sociological analysis, of which "field" is at the core Status is the carrier and premise for connecting different subjects and generating "capital" and "habitation".

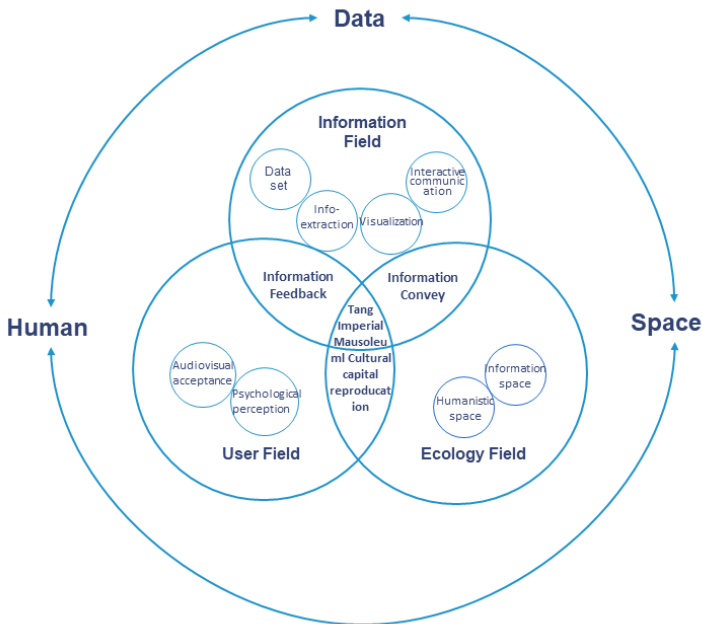


Fig. 3. The generation and operation mode of Tang Imperial Mausoleum cultural field.

Bourdieu's concept of capital is the development of Marx's capital theory, which is divided into four categories: economic capital, cultural capital, social capital and symbolic capital, and believes that they can be transformed into each other. For example, economic capital is transformed into symbolic capital by And then generate symbolic

power. In the information intelligent communication system of the Tang Imperial Mausoleum, the pictures, texts, videos, and AR/VR scenes that carry the Tang Mausoleum culture and knowledge are cultural capital in a specific field. More importantly, we must realize that "capital is a social relationship, that is, a social energy that exists and functions only in the field in which it is produced and reproduced, and each class-related attribute derives its value and value from the specific laws of each field. Therefore, to interpret the digital dissemination of Tangling culture from a sociological point of view, it can be understood as the inheritance and promotion of this Chinese cultural heritage based on the background of "Network+". In *Distinction*,^[8] Bourdieu divides cultural capital into two levels: material and symbolic. Through information visualization design such as the "Digital Tang Mausoleum" website and 360° APP, the Tang Mausoleum information can be effectively processed and multiplied. It can not only effectively increase the attraction (material) of the Tang Mausoleum site, Tang Mausoleum sculpture and cultural and creative products to the public, but also make people realize the humanities contained in the Tang Mausoleum heritage in a wider range and to a greater extent. Value and spiritual connotation, enhance cultural identity, and strengthen national self-confidence (symbolic).

If the "Digital Tang Mausoleum" series of information intelligent communication projects are regarded as a "field" within a specific range, then the user's operations such as browsing, experiencing, and transmitting information in this information space are carried out under the action of "habitation". A series of practices, which Bourdieu interprets as the "Disposition". This kind of "habitation" or dispositional tendency refers to the habitual tendency, habits and hobbies of the body and behavior caused by people's inner and psychological state, but at the same time it is different from the "habit" that people often say, compared with the latter. The former can be based on the structural relationship of "field" and internalize the practical experience of people, i.e. users here, into subjective power, forming a relationship of "field-habitus" self-discipline interaction. In this way, the reconstruction of cultural capital in the "field" is completed (as shown in Figure 3).

4 Conclusion

Analyzing the social value of digital communication of Tang Imperial Mausoleum, and the great significance for the new media from the perspective and paradigm of sociology, in the meantime attempts to improve the theoretical system of intelligent communication of traditional cultural heritage. In the future research, the focus of project will be further extended to the relationship between people, communication platforms and cultural content, combining theory with practice, trying to establish a multivariant cultural field, rather than a collection and distribution space for cold data.

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