

Comparative Study of Digital Heritage Narratives in East Asia: The Cases of Digital Dunhuang and E-National Treasures

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Abstract

In the context of accelerating digitization and global cultural heritage preservation, digital heritage has evolved beyond a preservation-oriented function to become a medium for aesthetic experience and cultural reinterpretation. This study compares China's Digital Dunhuang initiative with Japan's E-National Treasures project to examine how distinct East Asian aesthetic traditions are translated into digital environments. Through a comparative aesthetic lens, the paper analyzes their developmental logics, narrative structures, and underlying cultural philosophies, focusing on the Chinese concept of *yijing* and the Japanese notion of *mono no aware* as they are operationalized in digital heritage platforms. The study proposes a four-dimensional analytical framework encompassing temporality, spatiality, interactivity, and affectivity to systematically examine how these two projects construct different modes of digital cultural representation. It argues that Digital Dunhuang tends to produce an immersive, integrative experiential field aligned with *yijing*, emphasizing continuity of space, guided interaction, and collective affect. In contrast, E-National Treasures foregrounds object-centered visualization, emphasizing material specificity, fragmentary perception, autonomous viewing, and individualized emotional resonance, reflecting the sensibility of *mono no aware*. By contrasting these two paradigms, the paper reveals how digital media reconfigure cultural memory and aesthetic perception in East Asian heritage practices. It further argues that digital heritage systems are not neutral preservation tools but active mediators that encode cultural philosophies into interface design and user experience. This study contributes to digital humanities by developing a culturally grounded analytical framework for understanding how aesthetic traditions are transformed into digital media architectures.

Keywords

digital cultural heritage, aesthetic ambience, *mono no aware*, media aesthetics

1. Introduction

Digital heritage has evolved beyond its initial role as a preservation tool, transforming into an active narrative medium that shapes the experience, remembrance, and transmission of cultures. However, the prevailing discourse in digital heritage research continues to exhibit a strong Western bias, concentrating on technical benchmarks, democratizing access, and enhancing realism through immersion, often neglecting how diverse aesthetic traditions reinterpret the fundamental essence of digital mediation. This gap is especially

pronounced in East Asia, where two prominent cultural nations, China and Japan, have each launched state-supported digital heritage initiatives that reflect markedly distinct aesthetic perspectives. The Digital Dunhuang project aims to create an engaging, navigable virtual environment, whereas Japan's E-National Treasures database meticulously captures ultra-high-resolution details of singular artifacts, encouraging reflective observation. These divergences cannot be attributed solely to technical decisions; rather, they signify two unique approaches to converting cultural aesthetics into the digital realm. To theorize this divergence, our study relies on two foundational aesthetic ontologies: *yijing* from Chinese tradition, which underscores a comprehensive, transcendent poetic space where emotion and scene intertwine to form an eternal, traversable environment; and *mono no aware* from Japanese tradition, centered around the emotional resonance with impermanence, material remnants, and the poignant beauty found in fleeting moments. Although both have been examined individually, they have seldom been integrated into a cohesive comparative framework within the domain of digital heritage studies. Thus, this research explores how digital media reshape aesthetic epistemologies by translating *yijing* and *mono no aware* into interactive heritage experiences, specifically analyzing the systematic variations between Digital Dunhuang and E-National Treasures in terms of their technological implementations, spatial-temporal frameworks, and interactive interfaces. It further investigates how these distinctions manifest different digital translation processes for *yijing* and *mono no aware*, and what cultural philosophies of time and memory these models represent. Methodologically, we employ a comparative case study design and establish a four-dimensional analytical framework encompassing temporality, spatiality, interactivity, and affectivity to conduct a thorough comparison of the two cases. Our main contributions are multifaceted: constructing a cross-cultural aesthetic framework for digital heritage, elucidating the digital translation mechanisms of *yijing* and *mono no aware*, and steering digital humanities research towards an aesthetic-culture paradigm that transcends technocentrism. The paper is structured across seven chapters, beginning with Chapter 2, which reviews existing literature and sets up the four-dimensional theoretical foundation. Chapter 3 contrasts the spatial organization of Digital Dunhuang and E-National Treasures, highlighting immersive total field against focused materiality. Chapter 4 analyzes their temporal narratives, comparing the quest for eternal presence with the meditation on transient instants. Chapter 5 examines interaction logic and emotional direction, differentiating guided exploration from autonomous gaze, and collective transcendence from personal reflection. Chapter 6 traces the cultural origins of these disparities, connecting them to China's *youguan* (roaming contemplation) tradition and Japan's *Mono-Ha* philosophy, theorizing two forms of memory: collective theater versus individual touchpoints. Finally, Chapter 7 concludes by addressing the three research questions, synthesizing theoretical insights, and outlining practical applications for digital heritage practices.

2. Literature Review and Theoretical Framework

2.1 Digital Heritage

Initially, the focus of research on digital cultural heritage was primarily on archival preservation, 3D reconstruction, and technical standards [1]. In more recent times, scholarly efforts have started to delve into the realm of digital storytelling and public engagement, investigating the transformative impact of digital platforms on the interpretation and sensory experience of heritage [2]. This collection of works is plagued by three interconnected constraints: it displays an enduring technological chauvinism, viewing digital instruments merely as impartial containers for conservation rather than as dynamic agents that influence aesthetic appreciation and cultural significance; it maintains an Eurocentric perspective, with the majority of practical examples stemming from European and North American regions, whereas large-scale and advanced East Asian digital heritage initiatives seldom undergo comparative aesthetic scrutiny; most crucially for this investigation, current studies often omit aesthetic evaluation, neglecting to inquire about how diverse cultural practices concerning beauty, emotion, and time are integrated into digital interfaces and interactions.

2.2 Analyze Framework

Yijing stands as a fundamental element in Chinese aesthetics, symbolizing a poetic space where emotion and scenery intertwine, enabling the tangible and intangible to collaborate [3]. In this era of digitalization, scholars have started investigating the potential role of virtual reality and immersive settings in cultivating the essence of *yijing* [4]. The notion of *mono no aware* holds central significance in Japanese aesthetics,

encapsulating profound sentiments and nuanced awareness of the impermanence inherent in every entity [5]. The unparalleled resolution and closeness achievable through digital technology present fresh avenues for capturing the distinctive and fleeting characteristics that *mono no aware* underscores [6]. Even though such aesthetic traditions are richly endowed, there is still a lack of a comprehensive comparative study situating both within the context of digital heritage. To address this gap, we develop a four-dimensional analytical framework encompassing temporality, spatiality, interactivity, and affectivity. This framework is specifically crafted to operationalize the embodiment of *yijing* and *mono no aware* in Digital Dunhuang and E-National Treasures respectively. The foundation of our framework lies on the premise that media are not mere vessels but rather serve as semiotic and signifying systems, which play an active role in shaping how cultural aesthetics are interpreted and transformed. Each dimension within this framework is delineated by a distinct theoretical concept, implemented through tangible design decisions, and evaluated using a series of comparative metrics. Temporality denotes the depiction of time within the architecture of digital storytelling. The central operational inquiry centers around whether the interface portrays time as linear or cyclical, and whether it permits reversibility or maintains irreversibility. Key indicators encompass: the application of restoration techniques against preservation of degradation (for instance, color correction in contrast to maintaining patina); the availability or lack thereof of functionalities enabling users to revisit past states; and narrative perspectives that engage users in perceiving time as an enduring constant (linked with *yijing*'s aspiration for permanence) or as a transient instant (connected with *mono no aware*'s reflection on impermanence) [1,7]. Spatiality revolves around the organization of perceptual frameworks by the digital interface, fundamentally shaping space as a locus for aesthetic experiences. At its core, this distinction is made between an immersive total field, characterized by the user being enveloped within a seamless environment, and focused materiality, which centers on isolating a single object to facilitate meticulous examination. Key elements encompass the unit of navigation, whether it be the entirety of the cave or a specific artifact; the extent of environmental continuity, ranging from panoramic stitching techniques to individual high-resolution images; and the visual prioritization of relational context over material surfaces. These factors distinguish *yijing*'s expansive, navigable spatial continuum from *mono no aware*'s singular, reflective focus on objects [2,5]. Interactivity encompasses the dynamic interplay between users and digital heritage systems, fundamentally distinguishing between directed interactions that follow a structured narrative, such as guided tours with step-by-step instructions or hotspot activations, and exploratory interactions that empower users with open-ended autonomy to manipulate, navigate, or select content freely without adherence to a predetermined sequence. Key indicators encompass the distinction between linear and non-linear navigation interfaces, the extent of user authority in controlling viewing order and magnification levels, as well as the frequency and nature of interactive elements (such as textual annotations versus silent zoom features). This dimension elucidates the distinct positioning of users within each project, either as passive recipients of information akin to visitors in Digital Dunhuang, or as active participants who independently explore artifacts similar to gazers in E-National Treasures [3,8]. Affectivity pertains to the affective direction that the digital experience aims to invoke. It differentiates between collective sublimity, encompassing feelings of awe, pride, and shared cultural identity, and private resonance, which refers to intimate, melancholic, and individually charged emotions. Indicators encompass: the application of cinematic or monumental visual rhetoric (such as grand panoramas, orchestral music) compared with minimalist, silent presentation; the existence of social sharing functionalities versus private viewing settings; and the emotional lexicon within curatorial texts (for instance, glorious heritage as opposed to traces of time). This dimension corresponds directly to *yijing*'s transcendent collectivity and *mono no aware*'s introspective fragility [7]. To achieve a comparative analysis, we need to operationalize each dimension with specific indicators, transforming this four-dimensional framework from a descriptive tool into an analytical one. It shows that digital heritage creation is essentially an aesthetic change in cultural traditions via media technologies [1,9].

3. Comparative Analysis of Spatial Dimension

3.1 Digital Dunhuang

Digital Dunhuang creates an immersive spatial ontology that dissolves the boundary between viewer and environment, embodying the *yijing* aesthetic of totality and wanderability. The Cave 45 deep roaming system incorporates game engine rendering, real-time lighting, and VR headsets to produce a continuous, navigable virtual space where users can walk freely, adjust viewpoints, and view murals and sculptures from various

angles as if physically inside the cave [8]. Cave 285's VR experience enables users to manipulate lighting through hand controllers, allowing them to illuminate dark corners and closely observe ceiling caisson decorations [5], which is another instance of this kind of design. This spatial arrangement embodies the Chinese *yoguan* (roaming contemplation) tradition by emphasizing a flowing, multi-perspective gaze rather than fixed-point viewing. Through transforming the cave from a static repository into an explorable environment, Digital Dunhuang translates *yijing*'s holistic poetic space - where feeling and scene merge - into a digital affordance. Users become wanderers rather than mere spectators, with the virtual realm serving as a vessel for cultural values and aesthetic ideals [10].

3.2 E-National Treasures

E-National Treasures creates a framework centered around specific material aspects, effectively removing the artifact from its surrounding environment and highlighting *mono no aware*'s focus on touchable, temporary, and imperfect physical forms. The platform's ultra-high-definition imaging captures intricate details such as swirling iridescent patterns, glaze cracks, and kiln bubbles on the Tenmoku tea bowl, presenting them as primary aesthetic subjects [11]. Digitization does not involve retouching or restoring surface imperfections; rather, it accurately displays oxidized blade rust, misaligned ceramic rims, and glaze drips, all of which are consistent with the *wabi-sabi* philosophy that values imperfection and simplicity. Unlike Digital Dunhuang, whose space is centered on the environment, E-National Treasures removes spatial continuity so that each artifact becomes an independent area for reflection. The digital interface transforms into a magnifying glass that dispenses with narrative context, revealing tangible object in question solely. Such spatial arrangement encourages a tranquil, extended observation, an aesthetic stance harmonizing with *mono no aware*'s sensitivity towards an object's singular, ephemeral being.

3.3 Comparative Synthesis

In the realm of aesthetics, the spatial contrast between the comprehensive field of Digital Dunhuang and the singular object presented in E-National Treasures embodies two distinct ontological perspectives: one that emphasizes relational integration and the other that highlights material uniqueness. Within Digital Dunhuang, users traverse a space, immersing themselves in an environment that functions as a unified, navigable entity. Conversely, in E-National Treasures, users engage with individual artifacts, zooming in on specific details without transitioning through a broader setting. This fundamental difference manifests in two unique paradigms of digital transformation. The field model resonates with *yijing*'s vision of an infinite, livable poetic universe. Meanwhile, the object model corresponds to *mono no aware*'s emphasis on the profound, tactile connection with objects in their solitary material essence. Consequently, each model establishes a unique dynamic between the user and cultural heritage, either fostering deep immersion or promoting reflective distance.

4. Comparative Analysis of the Temporal Dimension

4.1 Digital Dunhuang

In response to the degradation of murals, including flaking, efflorescence, and cracking, the restoration team adheres strictly to the principle of restoring them to the original state. Through digital scanning techniques, the caves are effectively preserved in their artistic zenith, showcasing a millennium-old grandeur that dates back 1500 years [1,5]. The 2025 re-opening of Cave 285 will digitally reconstruct the Western Wei period's murals. The -Digital Library Cave- initiative virtually brings together globally dispersed fragments of Dunhuang manuscripts, meticulously piecing together individual leaves to form comprehensive scrolls [1]. By eliminating signs of aging and reassembling fragmented originals, Digital Dunhuang constructs a temporal loop wherein the past is continuously accessible and revisitable. This temporal ontology rejects linear progression and irreversible deterioration. It instead provides users with an immersive experience akin to living during the Tang Dynasty, transforming time into a spatial dimension that can be repeatedly traversed rather than a singular direction of movement. This approach directly resonates with the aesthetic vision of *yijing*, which seeks to achieve an eternal, transcendent harmony beyond temporal constraints.

4.2 E-National Treasures

E-National Treasures creates a linear and irreversible temporality which highlights material decay as an aesthetic object, thus performing *mono no aware*'s celebration of impermanence. Upon closer inspection of a haniwa (a funerary clay figure), one discovers not its original glossy exterior but rather the aged, granulated texture resulting from thousands of years of exposure to the elements. In contrast, Heian-era scrolls exhibit signs of degradation such as frayed paper fibers and ink blurring, clear indications of physical disintegration [11]. Here, digitization does not aim at restoring or concealing deterioration; instead, it accentuates the process of decay, transforming it into a central element of aesthetic focus. Consequently, this interface generates what can be termed a precious present phenomenon: users become aware that the item under their observation is undergoing an irreversible transformation, thereby ensuring every moment spent viewing it remains singular and irreplicable. Time feels directional, transient, and delicate - these emotions encapsulate *mono no aware*.

4.3 Comparative Synthesis

Digital Dunhuang and E-National Treasures embody contrasting temporal ontologies-one rooted in cyclical, reversible eternity akin to the *yijing* philosophy, while the other embraces linear, irreversible ephemerality reminiscent of *mono no aware*. This distinction is pivotal as it underscores the divergent approaches to historical preservation and appreciation. In this context, Digital Dunhuang provides an innovative platform where users can rewind through history, revisit specific caves multiple times, and immerse themselves in an unending Tang dynasty era, effectively offering a timeless experience. Conversely, E-National Treasures does not permit such repetition; every zoom-in action unveils distinct signs of deterioration, underscoring the transient nature of the artifacts, thereby highlighting their inevitable decline. The former embodies a time ontology centered on preservation, whereas the latter focuses on observation. *Yijing* aims at transcending temporal boundaries, while *mono no aware* resides within them. Consequently, these two temporal frameworks encapsulate starkly different cultural perspectives on heritage: one viewing it as an eternal monument destined for restoration, and the other perceiving it as a finite entity worthy of being cherished during its fleeting existence.

5. Comparative Analysis of Interaction and Emotional Dimensions

5.1 Interaction Logic

In the context of Digital Dunhuang, we see a form of guided, narrative-driven interaction where users are essentially visitors on a prearranged journey through carefully selected content. Conversely, E-National Treasures presents an environment that encourages open-ended exploration and personal reflection, positioning the user as an individual observer rather than following a set itinerary. The VR experience titled *Seeking Dunhuang* adheres to a predetermined flow: it begins by entering a cave, then illuminates its interior space, transitions upward toward the ceiling, and culminates with the action of striking a drum [2]. In the realm of augmented reality (AR), the game *-Dunhuang Twelve Hours-* innovatively utilizes a *-pass token-*mechanism to direct participants towards concealed mural intricacies [6]. Meanwhile, the Digital Donor initiative engages users by assigning them online tasks focused on the restoration of murals [6]. Unlike this approach, E-National Treasures provides minimal functionality beyond basic search capabilities and category filtering, allowing users complete autonomy in selecting artifacts, determining magnification points, and managing the length of their viewing sessions without any prompts or explanations appearing on screen [11]. This contrasts sharply with the structured guidance found in other platforms, emphasizing a more self-directed engagement model. Guided interaction, rooted in the philosophical tradition of Confucianism, particularly emphasizes the practice of *-investigating things-* (*ge wu zhi zhi*), which involves systematic inquiry aimed at achieving profound insights into moral and cultural values. On the contrary, autonomous gazing represents the Zen-inspired concept of reduction, which posits that true understanding arises from the absence of external guidance, allowing for deep contemplation within an empty temporal and spatial framework. These two distinct interaction models place the user in contrasting roles: one as an active participant within an educational setting (as seen in Digital Dunhuang), and the other as a solitary observer in a personal meditative space (characteristic of E-National Treasures).

5.2 Emotional Generation

Digital Dunhuang elicits a shared, communal sense of wonder and historical majesty, while e-National Treasures stirs individual, deeply personal sentiments of cherished memories and unique connections. Cloud tours, VR headsets, and dome theaters generate a theater effect, allowing millions of users to experience breathtaking spectacles simultaneously [1,2]. The platform offers 30 caves' high-resolution images along with more than 6,500 Library Cave documents, cultivating an international sharing community that transcends borders [12,13]. Dubbed animated series and Dunhuang Culture Global Connect events strengthen the collective narrative of civilization's legacy. Unlike this, e-National Treasures delivers high-definition visuals that act as personal memory prompts: A sword's forging pattern could evoke recollections for one user, whereas a ceramic crack may stir another's feeling of personal loss [11]. Such emotions are singular, silent, and not transferable between individuals. Digital Dunhuang generates a collective memory theater—a shared ritual space in which individual feelings merge into a cohesive story of national pride and cultural continuity. In contrast, e-National Treasures creates private memory touchpoints—discrete, idiosyncratic locations where personal past intersects with physical remnants, without necessitating agreement or consensus. This is different from the former which resonates with *yijing*'s transcendental, elevating collectivity, compared to the latter that corresponds with *mono no aware*'s contemplative, somber individuality.

5.3 Comparative Synthesis

In the context of Digital Dunhuang, the interaction-emotion complex exhibits characteristics that are pedagogical, collective, and oriented towards the future, aiming at cultivating heritage awareness. Conversely, within E-National Treasures, the interaction-emotion complex manifests as receptive, private, and present-oriented, focusing on enhancing immediate emotional experiences. The design of Digital Dunhuang's interactive elements is aimed at imparting cultural knowledge via structured gameplay, with an emphasis on evoking feelings of wonder and accomplishment. In contrast, the interactions in E-National Treasures are crafted to encourage contemplative observation, fostering an emotional resonance marked by a sense of melancholy and deep personal connection. This duality does not imply a hierarchical distinction but rather reflects distinct cultural approaches to the question of how digital heritage can resonate with the human spirit—one emphasizing grand narratives and communal identity, the other highlighting lyrical depth and individual reflection. Together, they encompass the comprehensive range of affective possibilities inherent in digital heritage.

6. Cultural Roots and Memory Pattern Explanation

The spatial, temporal, interactive, and emotional distinctions between Digital Dunhuang and E-National Treasures are not random; rather, they represent a transformation of profound Chinese and Japanese philosophical heritage into particular digital design decisions. This chapter explores the implementation of two aesthetic ontologies—China's *youguan* (roaming contemplation) and Japan's *Mono-ha* (School of Things)—via unique media mechanisms, leading to two contrasting memory architectures: collective theatre and private touchpoints.

6.1 Tracing Cultural Ancestry

The Chinese tradition of *youguan*, rooted in early Daoist philosophy, found its systematic articulation in Zong Bing's seminal work, the Preface to Landscape Painting (circa 5th century CE), where he introduced the notion of purifying the mind to observe the Dao and reclining to wander through mountains. This concept was later elaborated by Guo Xi during the 11th century, who defined a landscape as something that is walkable, viewable from a distance, livable, and traversable [14], underscoring a holistic engagement with nature. This philosophical perspective reimagines artworks not as static visual entities but as dynamic, explorable realms designed for immersive experience. Digital Dunhuang interprets *youguan* as a form of spatial navigation characterized by ongoing, multidirectional exploration. The panoramic roaming interface, coupled with free viewpoint control and the elimination of visual boundaries, directly embodies the Daoist ideal of infinite wandering. By enabling users to enter Cave 45, ascend to the ceiling of Cave 285, and navigate through corridors, this transformation turns the abstract idea of roaming into a tangible, interactive affordance via click-and-drag actions. Consequently, *youguan* evolves into an operational parameter within the VR engine

framework, transcending its status as a mere historical reference point. The Mono-ha movement, which emerged in Japan during the late 1960s, explicitly rejected both representation and fabrication, advocating instead for the direct presentation of objects in their pure, unmediated form. Its philosophical underpinnings can be traced back to Shinto animism, which posits that all things are imbued with spirit; Zen Buddhism's foundational principle that the thing itself is reality; and the wabi-sabi aesthetic prevalent in the tea ceremony, emphasizing imperfection and transience. Artist Lee Ufan introduced the concept of Encounter, highlighting a harmonious, non-hierarchical interaction wherein the object maintains its intrinsic autonomy and otherness [11]. E-National Treasures renders Mono-ha as an interface centered solely on objects, devoid of any environmental context or framing. The platform offers no spatial orientation, no narrative progression, and no explanatory annotations. Rather, it provides ultra-high-definition zoom capabilities that emphasize material details such as rust, cracks, and glaze drips as the sole content. When a user magnifies the forging pattern of a sword or the kiln bubble of a ceramic, they enact an action akin to Lee Ufan's Encounter, a quiet, reverent gaze that allows the object to speak without human interference. Through this design, the interface operationalizes Mono-ha's anti-representational ethos into a digital gesture of silent magnification.

6.2 Memory Form Interpretation

These two approaches to translation generate distinct cultural memory frameworks. Through the process of translating youguan into an accessible, shareable virtual environment, Digital Dunhuang creates a shared stage for collective memory. The platform reimagines dispersed and decaying cave temples as a cohesive, perpetually revisitable digital landmark. Here, memory is presented as an epic, ongoing story-the radiance of Tang Buddhism and the culture of the Silk Road-that every user encounters in much the same order and emotional tone [1,2,12,13]. This theatrical effect is amplified by shared practices such as VR dome screenings, cloud-based tours, and dubbed animation series which evoke collective wonder and national pride. This framework enhances communal identity and cultural persistence; however, it could potentially stifle unique, discordant, or somber reactions, thereby diminishing the complexity of personal interpretation. Through the transformation of Mono-ha into an object-centric framework devoid of contextual dependencies, E-National Treasures facilitates the creation of personal mnemonic touchpoints. The platform deconstructs the national heritage repository into individual, user-chosen components. There is no overarching narrative thread connecting these elements, nor is there a predetermined sequence guiding the viewer's attention. Every individual establishes a distinct, biographical link with an item - for instance, the patina on a sword could evoke recollections of one's family, while a fractured bowl might stir feelings of personal grief [11]. In this context, memory does not function as a common script but rather as a scattered array of possible stimuli. This approach honors personal subjectivity and emotional variety, yet it may lead to cultural disintegration since no unified storyline links all these fragmented interactions. Neither model is fundamentally better; they embody two contrasting cultural perspectives on the same issue: how ought digital heritage facilitate interaction between current and historical eras? Digital Dunhuang responds by envisioning itself as an eternal, communal landmark that brings people together. Conversely, E-National Treasures envisions its role as a transient, intimate experience designed to heighten sensitivity towards specific aspects of our shared heritage. When considered collectively, these examples illustrate that digital media serve not merely as passive conveyors of information, but rather as dynamic interpreters of the cultural frameworks surrounding time, space, and remembrance.

7. Conclusion

In this research, we identify two foundational paradigms concerning digital heritage. The immersive-totalizing model, as exemplified by Digital Dunhuang, creates a traversable and everlasting virtual realm that transforms *yijing* into a shared memory stage. By means of panoramic traversal, VR envelopment, and directed investigation, it incorporates the Chinese youguan custom, which entails wandering and residing in landscapes, into spatial navigation principles. Conversely, the fragmented-material model, represented by E-National Treasures, severs material remnants for reflective observation, converting *mono no aware* into personal recollection touchpoints. It strips away environmental context and facilitates quiet, independent zooming, thereby operationalizing Japan's Mono-ha philosophy, which emphasizes the direct presence of objects, into an interface centered on individual encounters through magnification. Theoretically speaking, this paper reinterprets digital media as a cultural encoding framework wherein aesthetics serve as the underlying logic

governing interfaces. A four-dimensional framework encompassing temporality, spatiality, interactivity, and affectivity illustrates how philosophical traditions are manifested in tangible design elements: cyclical time versus linear decay, total field versus isolated object, guided paths versus silent gazing, collective awe versus private resonance. Consequently, digital heritage cannot be viewed merely as neutral preservation; rather, it actively translates cultural ontologies into executable code and interaction patterns. This shift propels digital humanities away from techno-centric and Western-centric perspectives toward an aesthetic-cultural paradigm. In practice, heritage institutions ought to acknowledge that each design decision—be it selecting panoramic views over close-ups, opting for restoration instead of preserving patina, or choosing guided tours over unrestricted exploration—embodies a distinct aesthetic and cultural perspective. Neither approach is inherently better; they cater to varying mnemonic requirements. The fully enveloping model enhances communal identity and the uninterrupted transmission of culture, whereas the disintegrated-material model honors personal subjectivity and emotional variety. Future digital endeavors could contemplate integrating methods where moments of tangible closeness are interwoven into immersive settings, or where narrative context is added to object-centric interfaces. Limitations encompass the lack of user reception data as well as a restricted two-case scope. Subsequent studies should evaluate these paradigms within a wider array of East Asian digital projects (for instance, South Korea, the Taiwan region of China, and Singapore) and adopt user-centered methodologies to investigate how aesthetic interfaces influence genuine perception and emotional reactions.

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