THE JAZEERA AL HAMRA DIGITAL HERITAGE PROJECT: A MODEL FOR DIGITALLY PRESERVING THE HERITAGE OF THE ARABIAN PENINSULA

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ABSTRACT

The digital environment offers an opportunity to establish a museum model that supports contemporary museum thought in regard to collective memory strategies, inclusivity and equity of tangible and intangible cultural heritage. Al Jazeera Al Hamra, a former coastal village in the Emirate of Ras Al Khaimah, UAE, was abandoned at the time of the formation of the country in the late 1960s and 1970s. It is considered one of the last traditional fishing and pearl diving villages in the nation. As the buildings are now only remnants of a time past, not only does the architecture need to be documented and mapped, but also the stories and traditions of the people who once lived there need to be recorded. Creating a web-based virtual environment that documents both the tangible and intangible cultural heritage of Al Jazeera Al Hamra can provide a cohesive physical and social record for future generations after the buildings and the people who inhabited the town are gone. Focusing on Al Jazeera Al Hamra, an at-risk site, this paper presents a model for digitally preserving and re-presenting tangible and intangible cultural heritage of the Arabian Peninsula and beyond.

Fig. 1. *Bird's Eye view of Al Jazeera Al Hamra*, 2009. Photograph © Seth Thompson.

INTRODUCTION

The introduction of oil wealth into the economies of the countries of the Arabian Peninsula in the 1950s and 1960s began a dramatic cultural and economic shift – catapulting an under-known and financially modest region into "modernization" driven by opportunity and ambition which has changed the cultural landscape significantly. Crisis is usually equated with conflict and natural disasters, but in the case of the Arabian Peninsula region, there is another kind of crisis that is a result of accelerated modernization coupled with a lack of cultural heritage documentation. The greatest threat of loss of identity is not necessarily by way of globalization or intercultural exchange, as this kind of change is inevitable, but rather the lack of documentation and preservation of its cultural heritage – both the tangible and intangible. Over the past four decades, the United Arab Emirates (UAE), one of the countries located within the Arabian Peninsula, has embarked on a transformation that has substantially changed its cultural landscape. From a predominantly Bedouin culture in which people lived in both ephemeral structures as well as more modest permanent ones to a landscape of skyscrapers and grand buildings, the UAE's investment in its new infrastructure reconfirms its ambitious plans for itself. This transformation has placed an emphasis on the preservation of past material culture and the creation of a new identity for the UAE through its endeavor to acquire a global contemporary architecture, which is especially evident in the emirates of Dubai and Abu Dhabi. From the time that the United Arab Emirates introduced its first museum in 1971, the Al Ain National Museum, the country has invested significantly in the development of its cultural infrastructure and has now established museums in all seven emirates. However, the predominant wealth of the UAE's culture does not necessarily reside in its material artifacts, but rather in its rich intangible cultural heritage such as storytelling, dance, poetry and rituals, which also needs to be preserved.

Al Jazeera Al Hamra, a former coastal village in Ras Al Khaimah in the United Arab Emirates, was abandoned at the time of the formation of the country in the late 1960s and 1970s. It is considered one of the last traditional towns in the nation. Once an active fishing and pearl diving community, Al Jazeera Al Hamra consists of a fort (*hisn),* several mosques, a market *(souq) a*nd over 100 houses, including a wind tower house. A wind tower is an architectural device used to capture wind in order to cool a house. It should be noted that some of the structures within the village are constructed of coral and gypsum. As the buildings are now only remnants of a time past, not only does the architecture need to be documented and mapped, but also the stories and traditions of the people who once lived there need to be recorded.

The digital environment offers an opportunity to establish a museum model that supports contemporary museum thought in regard to collective memory strategies, inclusivity and equity of tangible and intangible cultural heritage. Creating a web-based virtual environment that provides documentation of both the tangible and intangible cultural heritage of Al Jazeera Al Hamra can provide a cohesive physical and social record of a traditional fishing and pearling village for future generations after the buildings and the people who had inhabited the town are gone. In addition to presenting an intuitive and relatively inexpensive model to implement for digitally preserving and re-presenting tangible and intangible cultural heritage using Al Jazeera Al Hamra, an at-risk site, this paper will address the kinds of "artifacts" that

are to be collected and cataloged. It will also take into consideration the project's long-term digital sustainability and show how this computer-based participatory model falls within the guise of socially engaged art.

Fig. 2. *Mosque with Conical Minaret,* 2009. Photograph © Seth Thompson.

AL JAZEERA AL HAMRA, CULTURAL HERITAGE AND THE NOTION OF IDENTITY

Cultural heritage, both tangible and intangible, contributes to the sense of identity of a place and represents the character and distinctiveness of its people. Ritual and materiality within a community appear to be benchmarks of intellectual sophistication within the assessment of a culture. Traditionally, when preserving a culture, emphasis has been primarily concerned with the tangible and it appears that the intangible aspects of the culture often become either secondary or mute. Intangible cultural heritage is defined as "heritage that is embodied in people rather than in inanimate objects." [1] This includes oral traditions, music, dance, social practices, rituals and traditional craftsmanship, which is transmitted from one generation to the next and is an important aspect of community identity. [2]

Intangible cultural heritage is difficult to commodify culturally, as it is ephemeral. The measurement of its sophistication appears to be based on the residue of memory or the remaining supportive material objects. If the material objects did not last or did not exist to reinvigorate memory, it could be easily considered less sophisticated or irrelevant to a culture's long-term identity even though the ritual or tradition may have played an important role within the community at a particular time, defining its people culturally. As the region's museum professionals and researchers grapple with how they may document, collect and disseminate intangible cultural heritage, a re-examination of how heritage and cultural artifacts are cataloged, represented and interpreted within a museum context needs to be carefully considered. A virtual environment may be the most appropriate place to preserve and disseminate these cultural artifacts. Al Jazeera Al Hamra, which means "red island," is considered one of the last traditional coastal villages in the United Arab Emirates. [3] An aerial view allows one to see the original "red island" among the sea of white infill sand

that now surrounds Al Jazeera Al Hamra, connecting it to the Ras Al Khaimah mainland. It should be noted that today, the area known as Al Jazeera Al Hamra is divided into two parts: the old settlement, which is the residue of the former three-kilometer island – the focus of this paper and model – and the new modern village that sits beside it. In the late 1960s and 1970s, many of the residents left for either nearby residence in Ras Al Khaimah or the emirate of Abu Dhabi, which offered more modern amenities. Due to the wishes of the families who once lived there, the buildings have not been demolished and remain relatively intact. [4] Consequently, Al Jazeera Al Hamra provides a snapshot of a traditional Emirati coastal town that has been fairly unspoiled since its original inhabitants left.

While remnants remain of the introduction of electricity, automobiles and various building materials used over the late nineteenth and through the twentieth century – such as coral, gypsum and concrete block – this unique setting offers insight into how coastal village life, with courtyard houses, mosques and a souq, were mainstays of the urban tissue before UAE citizens transitioned to inhabiting air-conditioned villas and shopping malls. The deserted village's densely knit courtyard houses stand close together, separated by vein-like narrow pathways called *sikkas* that run throughout the town, providing shade and at times a gentle breeze for the inhabitants as they conducted their day-to-day activities. Mosques were conveniently situated throughout the community for worship and prayer. Located on the northern part of the former island are remnants of a souq that stood along the original coastline. Very little written or photographic documentation exists on Al Jazeera Al Hamra. Much of its history remains in the skeletal remnants of the village and the hearts and minds of the people who once lived there. In the book, *From Rags to Riches: A Story of Abu Dhabi*, Mohammed Al-Fahim writes:

The peoples of the Arabian Peninsula have long been blessed with a rich oral tradition through which knowledge, experience and wisdom are passed from one generation to the next. Many of the important events of our history are not recorded anywhere but in the memories of our people. They live on in the stories, myths and legends that our sons and daughters are told by senior family members. Woven together, these stories form the colourful tapestry of our past. [5]

Al Fahim continues:
Countless generations of our people have lived and died without a trace because there are no written records of their lives and achievements [...] Although our rich history goes back many centuries, only bits and pieces of the last several decades have been written by our own historians and scholars. We are in a lamentable position. We must study the past from the perspective of foreigners, using their old documents and photographs in our research. The past as seen through the eyes of our own ancestors is lost forever, simply because most of our fathers and their fathers could not read nor write. [6]

While globalization and intercultural exchange have been cited as the culprits for the region's loss of identity due to the import of outside businesses and dominance of foreign workers within the countries of this region, the real threats, in this author's opinion, are (1) lack of heritage documentation, (2) missed opportunities due to the passage of time to document existing heritage traditions through oral history collection and video documentation and (3) a lack of a mature infrastructure for the preservation and dissemination of cultural heritage that establishes equity in regard to the tangible and intangible.

Fig. 3. *Pearl Merchant's Home*, 2009. Photograph © Seth Thompson.

PRESERVING HERITAGE DIGITALLY USING A MODEL THAT PROMOTES INCLUSIVITY

With the introduction of digital media and the Internet in the early 1990s into the mainstream cultural landscape, museums began to consider new opportunities for re-presenting, managing and disseminating cultural heritage content – both the tangible and intangible. With current digital media technologies, one can create cultural content using imaging, modelling and archiving methodologies in conjunction with database management tools to examine cultural heritage content in a number of different ways. [7] Additionally, new exhibition models for understanding and experiencing heritage are emerging as a result of novel social practices of collection, representation and communication that are enabled by digital media technologies such as social media. [8] Digital curation often involves the collection, preservation and dissemination of digital assets, which may have analog or digital origins, using information technologies. [9] For the purposes of this paper, this author will be focusing on a web-based "virtual museum" model for the preservation and dissemination of cultural heritage.

The World Wide Web is one of the most promising of the digital media tools for cultural heritage dissemination, as it is an information-broadcasting tool that enables collaboration and interaction between individuals across and within a global community. Drawing upon notions of contemporary museum theory, web 2.0 and hypermedia narratives for cultural heritage preservation, the model presented in this paper supports the following ideas: collective memory, inclusivity and equity of tangible and intangible culture heritage.
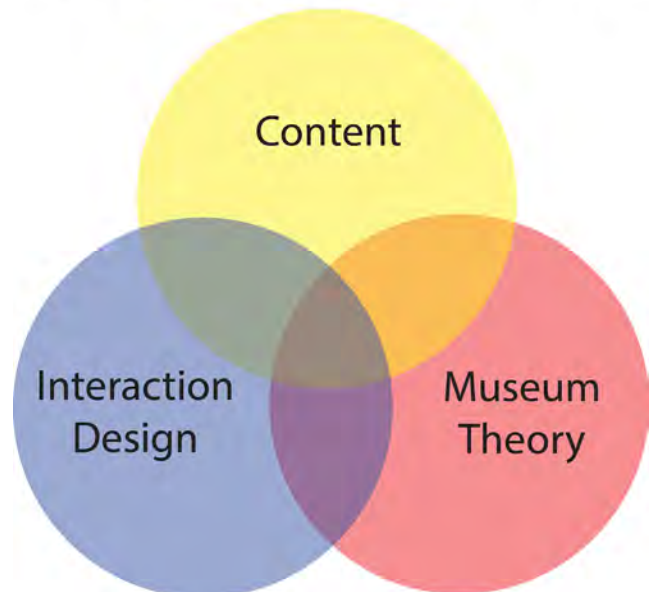

Fig. 4. Illustration by the Author. Photograph © Seth Thompson.

Departing from an exclusively authoritative exhibition model used in most traditional museums settings to an inclusive one where collective memory is encouraged allows for a new model for cultural heritage preservation to emerge. In this model, the role of the "curator" changes from an authoritative voice to "facilitator" who is a protector of the exhibition or project's mission – enabling a collaboratively created and participant-driven recording of a community's cultural heritage. With both the tangible and intangible cultural heritage converted into media objects (e.g., text blocks, images and/or video), one no longer takes precedence over the other – creating an equality that has been absent in many museum exhibitions, as the intangible has traditionally been considered support material or context to the material object. As Lev Manovich points out in *The Language of New Media*, "media objects do not tell stories; they do not have a beginning or end; in fact, they do not have any development, thematically, formally or otherwise that would organize their elements into a sequence. Instead, they are collections of individual items, with every item possessing the same significance as any other." [10]

The notion of database and hypermedia narrative are essential for the search and discovery elements of this project model. While a hypermedia structure is open ended, a hypermedia narrative is the linking of media objects within a database that forms a narrative through associations. Using hypermedia can strengthen the social dimension of tangible cultural heritage by linking

individuals' stories and histories to that of a larger context of place and time. In the essay, Database as a Genre of New Media, Lev Manovich writes, "The 'user' of a narrative is traversing a database, following links between its records as established by the database's creator. An interactive narrative (which can be also called 'hyper-narrative' in analogy with hypertext) can be understood as the sum of multiple trajectories through a database. A traditional linear narrative is one, among many other, possible trajectories." [11]

In the essay, Modular Visions: Referents, Context and Strategies for Database Open Media Works, Fabian Wagmister argues that digital audio-visual databases in conjunction with interactive techniques potentially offer a paradigm shift in the way media works are conceived and produced, which is radically different from the authoritarian structure of modern cinema. He writes, "these redefined processes permit an open communications (creation and viewing) environment in which the power relationships involved in the construction of meaning are multidirectional and multidimensional." [12] This idea can also be applied to the notion of digitally preserving heritage, creating new museum/exhibition models that not only fluidly intermix both the tangible and intangible cultural heritage, which has been difficult to do within a traditional museum context, but also empowers the user/participant to create his or her own narrative from the material provided – much like a traditional democratic exhibition where the museumgoer chooses what and how long he or she will spend with the material on view.

Fig. 5. *Fort (Hisn), 2009*. Photograph © Seth Thompson.

THE JAZEERA AL HAMRA DIGITAL HERITAGE PROJECT MODEL

The model presented in this paper stems from both contemporary museum theory and the arts practice known as *socially engaged art* or *social practice*. [13] Socially engaged art is multidisciplinary, participatory in nature and requires the involvement of others. [14] The goal of this model is to create a platform for a dynamic exchange of interrelated oral histories and artifacts about a time and place that survives primarily within the community's collective memories and architectural remnants. Participants of the project can become co-authors, editors and/or observers. In regard to the model's platform as a digital medium, Christiane Paul writes, "Participation and collaboration are inherent to the networked digital medium[…] The artist becomes a mediatory agent and facilitator – both for collaboration with other artists and for audiences' interaction with and contribution to the artwork. Any new media artist who creates a system that is open to public contribution has to consider the 'socialization' of the work." [15] This model as a completed project would be a social sculpture using documentation of Al Jazeera Al Hamra's architectural remnants oral histories and historical photographs to create a cohesive physical and social record of a traditional fishing and pearling village for future generations after the buildings and the people who inhabited the town are gone.
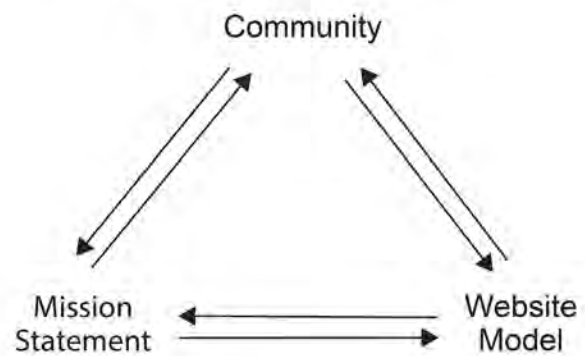

Fig. 6. Illustration by the Author. © Seth Thompson.

For these types of initiatives, involving the community and its stakeholders in the developmental process will potentially generate a more invested dialogue between the project and its community. Acceptance, trust and mutual respect between the "curator" and the community are at the heart of this model's design. [16] Nevertheless, with a project such as this, it requires a clearly defined mission along with lucid objectives and goals, so that the vision and parameters of the collection are maintained. Using a site map and documentation of the current site – a metaphor and reminder that if the history is not preserved, it can be easily lost – as a point of departure, *The Jazeera Al Hamra Virtual Digital Heritage Project* presents a people-centered model for the preservation of Al Jazeera Al Hamra's cultural heritage. Utilizing an interactive interface, this project is a portal and database of photographs, 360-degree vr panoramas, text and video presenting the history, traditions and stories behind both the material and social culture of Al Jazeera Al Hamra. The framework provides both indexed and exploratory modules. The indexed module allows for keyword searches and reference information to be directly retrieved, while the exploratory module provides a search-and-discover navigation based on associations.
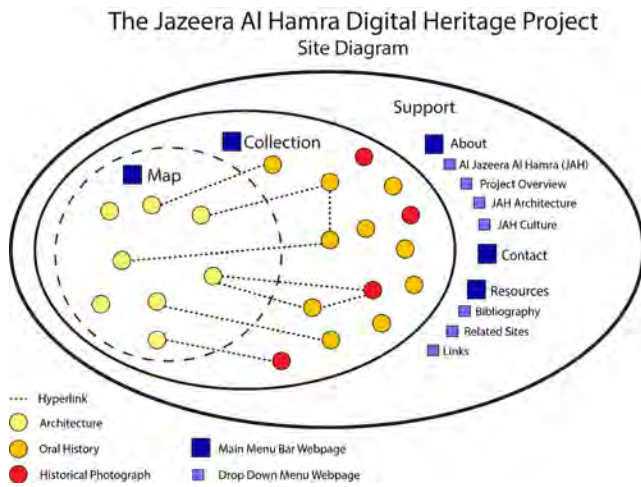
Fig. 7. Illustration by the Author. © Seth Thompson.

Materials to be collected and presented are divided into three different categories:

• Architectural Documentation (360-degree vr panoramas, floor plans and photographs)
• Oral Histories (text-based summaries and/or videos)
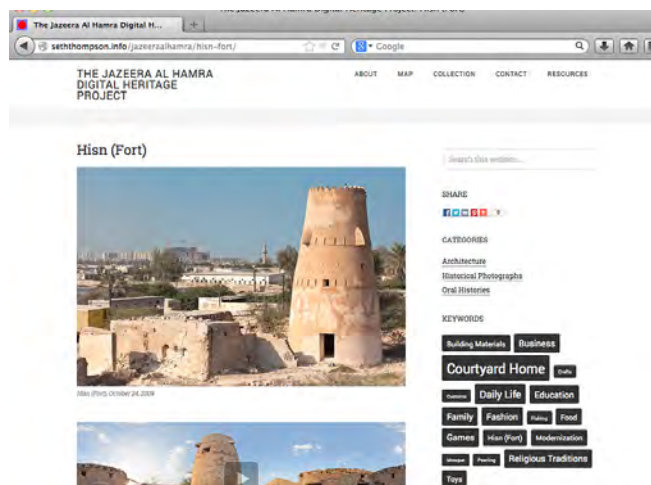• Historical Photographs

Fig. 8. Screenshot of *The Jazeera Al Hamra Digital Heritage Project*. Photograph © Seth Thompson.

Oral histories are not only integral to understanding how people lived within the village, but where different families resided and who worked in and managed different shops and trades. The collection of oral histories and documentation of the physical site work in tandem with each other as the knowledge base of the project continues to grow. The documentation of the architecture using 360-degree vr panoramas and photographs and the historical photographs provide context to the oral histories and a visual understanding of the place. The categories and keywords are available on most of the webpages for quick searches. Keywords such as: *building materials*, *courtyard homes*, *fishing*, etc., are the

same words used in the website texts (e.g. oral histories and architectural descriptions) that are easy to access for research and informational purposes.

With the inclusion of documentation (360-degree vr panoramas and photography along with descriptive text) of other heritage sites within the UAE and other countries within the region, comparisons and contrasts can be made to provide a stronger understanding of the uniqueness of its material culture in relation to its counterparts. By using digital technologies to document and create records of Al Jazeera Al Hamra's intangible and tangible cultural heritage assets as well as related contextual information, *The Jazeera Al Hamra Digital Heritage Project* not only preserves an important historical site, but it can also potentially be a long-term working experiment in preserving heritage digitally – experimenting with new technologies and ideas that better tell the collective history of Al Jazeera Al Hamra.

It should be noted that this "virtual museum" project model uses accessible and relatively low-cost technologies such as WordPress so that communities may take an initiative in digitally preserving and exhibiting their heritage, whether it resides as an online exhibition within a museum context or exists as its own "virtual museum" entity. The primary benefits of using WordPress as a content management system is that it is (1) customizable and expandable, (2) easy to use after the configuration and design have been completed, (3) upgradable without affecting existing content and (4) relatively inexpensive to run and to maintain.

Fig. 9. *Market (*Souq*), 2010.* Photograph © Seth Thompson.

LONG-TERM SUSTAINABILITY OF THE PROJECT'S INFRASTRUCTURE AND MEDIA OBJECTS
Preserving cultural heritage digitally still presents many roadblocks as file formats, hardware and software are constantly evolving. What is considered industry standard today may be obsolete tomorrow. In order to insure the longevity of the project's digital assets, sustainability issues need to be addressed, especially in regard to migrating files to future storage and access systems so that the media objects (digital objects) retain their integrity.

In 2003, UNESCO adopted a Charter on the Preservation of Digital Heritage in response to the understanding that "digital heritage is at risk of being lost and that its preservation for the benefit of present and future generations is an urgent issue of worldwide concern[…] [and] […] that the disappearance of

heritage in whatever form constitutes an impoverishment of the heritage of all nations." [17] The strength of this charter is that it recognizes the fragility of cultural products existing within the digital environment, which can easily become obsolete or extinct unless appropriate preservation and conservation actions are taken. As hardware and software evolves and with industry standard file formats changing and/or becoming obsolete, precautions and measures need to be taken to safeguard these types of digital cultural heritage projects for future generations in regard to both its content and its value to the history of media arts.

Digital preservation is defined as the "formal endeavor to ensure that digital information of continuing value remains accessible and usable." [18] For those who wish to use this model for long-term heritage preservation, there are two primary issues to take into consideration: (1) the content management system and (2) the digital assets (e.g., media objects such as the images, text, videos and panoramas). The benefit of using WordPress is that as of 2012, there are more than 60 million websites that are being powered by this free and open source content management system (CMS), which provides automatic upgrades. [19] As a result, this CMS has a potentially long life as the World Wide Web evolves. Nevertheless, a site map and flow chart are important tools for this type of web-based project in order to more easily consider future expansion possibilities as well as the prospect of migrating content to another CMS when a more sophisticated CMS is required or the existing one becomes obsolete. It should be noted that there are currently other open source and free CMS systems specifically designed for exhibition purposes, such as Omeka (http://omeka.org/). However, WordPress was chosen to power this model, as there are many more WordPress developers available to help a community or smaller museum set up this type of project.

In regard to the digital assets, which are the basis of the collection, a cataloging system or document management system should be developed for the longevity of the media objects and the long-term sustainability of the project. To best understand the requirements for the cataloging system or document management system as well as the type of CMS to be used, a digital preservation policy needs to be established. A digital preservation policy specifies goals that help ensure that the digital objects remain renderable or executable, the physical media are cared for and that the digital content can be identified and retrieved in the future. [20]

Metadata, which is data about data, is an important component of digital preservation. For the well-being and longevity of digital assets, different types of metadata groupings are necessary, which usually fall under the following four categories: *descriptive, structural, technical and administrative data.* Each category provides necessary information for the conservation of the digital asset. *Descriptive metadata* provides content information (e.g., title, author, subjects, keywords, publisher) used to identify,

search and locate the media object. *Structural metadata* describes the physical and/or logical structure of a media object and how its components are organized. *Technical metadata* provides the technical information on the media object, such as software and hardware on which it can be rendered and executed and specific object information such as image width or audio length. Lastly, *administrative metadata* provides information regarding provenance, preservation actions and rights and permission information. [21]

In addition, a unified vocabulary needs to be established to describe the digital assets so that there is a consistency throughout the project's digital assets metadata. As a result, the metadata, which provides information about a digital object, needs to be carefully considered. Using a controlled vocabulary and thesaurus – suggested by *Cataloging Cultural Objects: A Guide to Describing Cultural Works and Their Images*, which is a data content standard for the cultural heritage community – would enable the project to potentially improve the discovery and access of the project's assets, allow for better migration to future storage and access systems and create sharable metadata among other institutions by engaging in a "best practice" currently accepted by other institutions. [22] The field of digital preservation is still in its infancy and there is no definitive approach to preserving our digital heritage – only recommendations and models at this point in time. However, having a digital preservation policy for one's project is better than having no policy at all, as it helps to have a systematic approach on how the project and its media objects will be communicated, maintained and conserved.

Fig. 10. *360-degree Panorama of a Courtyard House,* 2009. Photograph © Seth Thompson.

CONCLUDING REMARKS

While the model presented in this paper provides a relatively low-cost and intuitive vehicle that supports contemporary museum thought on collective memory strategies, inclusivity and equity of tangible and intangible culture heritage, future research efforts by this author need to be undertaken in order to further develop this model, such as developing a more sophisticated map interface that better interrelates with the project's media objects and researching and developing digital preservation "best practices" for panoramic imaging. These initiatives play a central role in this author's vision for future iterations of this model and other potential digital heritage projects.

As inferred from this essay, cultural heritage is much more than material objects and architecture; it is about making sense of our past and developing a sense of understanding through our

collective histories using both tangible remains and lived traces. With a collective approach to knowledge acquisition, a scholar, a former inhabitant or relative and/or a visitor can contribute to a greater understanding of a place by sharing images, stories and research. From the communities located on the coasts of the Arabian Peninsula to the coastal islands of the United States and everywhere in between, the model presented in this paper can reside in a number of different community-based initiatives. By creating a networked vehicle for information collection, dissemination and re-interpretation that enables the tangible and intangible cultural heritage to live side by side with interrelated information, this digital model can provide an infrastructure for the understanding and preservation of a place.

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