Encounters with Interactive Technologies in UAE Museums

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Introduction

For the past several decades, audio guides, frequently referred to as hand-held guides, have become expected aids to the museum visitor's enjoyment and understanding of the museum experience. At one time such devices were available only in major institutions, but now even smaller, less visited museums and historic sites regularly offer a handheld audio experience for their visitors. The approach to the development of audio guides and their content has altered substantially as our understanding of the museum visitor's experience has changed. Advances in technology have enabled a range of technical possibilities that may enhance the visitor's experience by, for example, allowing the visitor to customize their tour, providing multiple versions of a tour on one device, and linking tour content to interactive features via a visitor's mobile phone. The potential for an audio guide to be much more than a "talking label" is infinite, and mobile phone technologies and apps provide a unique opportunity for museums to engage new audiences. Often these guides can be downloaded and reviewed even before the visitor physically encounters the museum.

Although some museums in the United Arab Emirates employ audio guides as part of their visitor engagement strategy, many have yet to fully exploit this opportunity. Moreover, UAE museums in general have yet to develop the kind of interactive technologies that can be integrated with visitors' own handheld digital devices, such as smartphones. These technologies can prepare the visitor for their museum experience, enhance that experience while at the museum, and encourage ongoing exploration of the objects and themes encountered after the visit is completed. This essay provides a brief overview of trends in the use of handheld audio and digital technology in museums internationally, surveys the current state of such technology in major UAE museums and historical sites, and offers some thoughts on how such technology might be further developed and deployed by these and other institutions in the future.

Literature Review

While few in the museum community would disagree that new technologies are impacting the ways in which museums present objects, provide information, and engage with visitors, there may be debate over the extent to which such technologies are forcing change and how quickly that change needs to happen. For some, participatory media (e.g., interactive audio guides and iPad apps) and Web 2.0 technologies (e.g., customizable online collections) are seen as add-ons to the core curatorial and display functions of the museum. For others, employing and adapting such technologies to serve a museum's education and attendance goals is an immediate imperative. Kjetil Sandvik (2011, 186) describes the stakes for museums in stark terms: "museums are challenged to shift from static standards to open and dynamic solutions in order to maintain or reclaim their status as agenda setting and culturally significant institutions." To face this challenge, museums have har-

nessed new technologies, including audio guides in both traditional and enhanced formats, in a variety of ways.

The primary purpose of audio guides and other mobile technologies in the museum is educational; these devices are traditionally intended to guide the visitor through a permanent collection, special exhibit, or cultural heritage site while providing expert information on the objects, architecture, or material culture on display. Jørgen Riber Christensen approaches the question of meaning-making in the museum context through a historical lens. Looking at the development of interpretive technologies in museums from the eighteenth century to today, he concludes that as these technologies have evolved, "the signification generating process has moved away from the historical context of the object and towards the contemporary world of the visitor" (Christensen 2011, 8). According to the author, this can be a destabilizing shift; however, he views the audio guide as an acceptable means of engaging the viewer, as the voice-over offers expert and trusted supplementary information about the object while still permitting the viewer to connect with the object on its (and their) own terms.

Fiona Cameron offers insight into the ways in which digital technologies are reshaping visitor interaction with museums. She states, "Changes are occurring in the way information is organized, in the construction of knowledge environments, and in the relationship between museums and users" (Cameron 2003, 327). New technologies mediate the user/visitor experience in ways that are shaped by both the developer(s) of those technologies and, ideally, by the individual's own interests and preferences. Cameron acknowledges, however, that the imperative of the curator's voice is hard to dislodge in the construction of any narrative around museum collections and that, particularly from a curator's own perspective, there is a desire to "ensure that the museum's voice retains authority in advancing acceptable collection interpretations" (2003, 332). This curatorial desire creates a tension with the acknowledged value of a more constructivist approach to the visitor's expe-

rience with museum objects, a tension that can be seen in the development of audio guides as well as in museum websites.

Cameron's findings regarding young users' experiences of online museum collections may offer useful parallels for the development of audio guides and other technologies to enhance visitor experience of the museum space: "This group was less interested in prescribed material, choosing to drive their own pathways through collections and to explore object-centered narratives with rich streaming media, 3D objects and visual environments" (2003, 335). Such preferences may indicate that the standard approach to the audio tour, which generally relies on a particular path through the collection accompanied by presented knowledge, may be less suitable for younger museum visitors while still providing a positive and useful experience for older visitors. Such information would encourage the development of multiple options for audio tours that allow for both expert-guided and user-defined experiences. This multifaceted approach could incorporate not only different exploration methodologies but perhaps encourage the exploration of different relationships between objects. An older visitor might enjoy, for example, having an object connected to historical and cultural situations or values that they remember from their youth, whereas a younger visitor might appreciate situating an object within a more contemporary and global perspective.

Christensen (2011, 20) raises the possibility of audio guides serving as prompts for viewer interaction with museum objects based on physical presence: "The physical and bodily management of the museum visitor's movements adds a form of signification that has a high potential for participation." In other words, to the extent that audio guides and other mobile technologies can perceive and respond to a visitor's location within the museum, and perhaps even within a specific gallery, the devices can in essence "respond" to the visitor's real-time interests, thus developing a more participatory experience for the visitor. Sebastiano Colazzo, Franca Garzotto and Paolo Paolini (2005) further explore the possibilities and limitations of location-aware mo-

bile technology use in museums. They note that while such technologies offer a uniquely enhanced user experience of the museum or heritage site, there are technological and semantic issues that must be addressed to ensure their successful use.

Engaging families as a group is an important goal for any museum education program, and the audio guide can play a role in facilitating observation and communication among family members of different ages. Sherry Spires (1989) discusses the production and reception of a family-oriented audio guide at the Tampa Museum of Art. She describes the varied tone and pace of the guide and the way in which the script "spoke" in turns to older and younger family members. To further focus viewer interaction and attention, the audio guide was designed to pause at certain points to create time for unscripted discussion and sustained viewing, as well as an opportunity to engage with family-themed activities in each section of the exhibit. Spires notes the "overwhelmingly positive" response to the guide and explains that the specially designed script encouraged "an exchange of leadership roles [between adult and child] in setting the pace and selecting objects for concentrated viewing" (Spires 1989, 13). Such sharing of the roles of teacher and learner further facilitated and encouraged ongoing conversation about the objects and themes of the exhibits.

Lois Lydens, Yasuji Saito, and Tohru Inoue (2007) acknowledge the challenges as well as opportunities in presenting explanatory content in multiple languages within the museum setting. A personal digital assistant (PDA) guide developed for the National Science Museum of Japan is available in Japanese, English, Korean, and Mandarin. The authors note, however, that the non-Japanese options are condensed versions of the full guide; notably, they lack translations of conversational dialogue about each exhibit, instead relying on an exclusively narrative format. While this approach arguably limits the non-Japanese-speaking visitor's experience of the exhibits, Lydens, Saito, and Inoue (2007) also explain that the translated audio guides have become an es-

sential tool for non-Japanese speakers, as the text-based content (wall labels, computer kiosks) in the exhibits is presented almost exclusively in Japanese.

Museums in the United Arab Emirates

The United Arab Emirates was established as a constitutional federation in 1971 and is thus a very young country, still developing its cultural and artistic identity within and beyond the Gulf region. The first museums in the Emirates were developed largely to preserve archaeological finds from the region and to highlight the country's history and heritage (Al Ali 2013, 136). In recent years, an increasing number of museums have emerged in the country focusing on areas as diverse as maritime history, Islamic civilization, and contemporary art. Several of these are still in development, notably the Louvre, Guggenheim, and Zayed National Museum, which are under construction on Saadiyat Island in Abu Dhabi. With the growth of a museum culture in the Emirates has come an increasing interest and investment in museum education as a key component of the museum experience and mission. Educational programs in UAE museums range from family workshops and film series to docent-led tours and, of course, audio guides. The museums in the Emirate of Sharjah have highly developed and comprehensive exhibition and education programs, and this essay will focus on that group of museums.

The Sharjah Museums Authority (SMA) was established in 2006 by His Highness Sheikh Dr. Sultan bin Mohammed Al Qasimi, member of the Supreme Council of the UAE and ruler of Sharjah, as an independent government department. As described on the website of the Sharjah Museums Authority, the vision and mission of the organization is:

> To be a cultural beacon that enhances Sharjah's identity locally and internationally and contribute in nurturing a community aware of museums' importance as

a cultural, educational and enjoyable destination. … [To] deliver the highest museum standards to preserve collections and enhance an appreciation of culture and learning through our exhibitions, educational and community programs. (SMA 2017)

SMA comprises sixteen museums, many of which are located in the Heart of Sharjah, the historic center of the Emirate's main city. Currently audio guides are available at three of these museums: Sharjah Fort (Al Hisn), Sharjah Museum of Islamic Civilization, and Sharjah Archaeology Museum. Every site designs its own audio guide with the resident curator responsible for audio guide development. As such, each of these museums takes a slightly different approach to the guides, depending on the museum focus and anticipated audience.

Sharjah Fort (Al Hisn) reopened in April 2015 after a substantial renovation that included the development of an audio guide for the collection. Currently the guide is available in English and Arabic, and translation into additional languages is planned. The guide does not follow a specific path through the museum; visitors can select objects of interest in any order and use the guide to obtain information. The focus of the guide tends toward the factual rather than the interpretive and reinforces the information provided in the wall labels and other texts. Visitors listen to the content of the audio guide without using headsets, which may sometimes be distracting to other visitors; however, because of the spacious and open nature of the site, this is unlikely to be a significant problem.

Khuloud Al Houli, curator of Sharjah Fort (Al Hisn), observes that since human tour guides are available, many visitors, both local and international, are more likely to choose this option over an audio guide.[1] Since the museum is newly reopened and the audio guides have only been in place since September 2015, no statistics or feedback on the use of the guides are currently

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1   Khuloud Al Houli (curator, Sharjah Fort), interview with Kara McKeown, Sharjah, October 29, 2015.

available, although the museum plans to put facilities in place that will provide this information. The text for the audio guide was written by a museum writer familiar with the Emirates in general and Sharjah specifically, drawing on the oral histories that had been gathered from the long-term inhabitants of the area around the fort. The stories were infused into the audio guide and the opportunity was taken to incorporate material that could not otherwise fit into the interpretation boards. The aim was to create a one-hour tour designed in such a way that visitors could walk through it in any order.

Al Houli was able to work on the development of the guides from inception to completion and feels that the end result is very satisfactory. The guides were written in English and Al Houli herself carefully translated the text into Arabic, although she observes that it might have been a better and more authentic process to have written the texts in Arabic and translated that version into English, and then into other languages. Care was taken to ensure that the speaker of the text on the Arabic guide has a discernably local accent. In the future, Al Houli hopes to incorporate more interactive technology into Al Hisn. She feels that the younger generation of museum visitors, both local and international, will respond positively to the availability of more digital options, such as QR codes. For the immediate future, the institution is planning to build an interactive database to capture visitors' stories; Al Houli believes that everyone who visits the museum has a story to tell.

The Sharjah Museum of Islamic Civilization (SMIC) is a much larger institution than Sharjah Fort and, consequently, the audio guide is longer and more complex. The guide provides a more object-oriented focus than that of Sharjah Fort, and visitors use headphones to hear the narration, perhaps because the quieter space of this museum's galleries would be easily disturbed if all visitors could hear the audio. At the SMIC, audio guides have been in place since 2012. In an interview with the authors,[2] Ulrike Al-Khamis, stra-

2   Ulrike Al-Khamis (advisor to the Sharjah Museums Authority, formerly Sharjah Museums Department), interview with Kara McKeown, Sharjah, October 29, 2015.

tegic advisor to the Sharjah Museums Authority, made the following obser-
vations on the background and use of audio guides at SMIC. The very first
English and Arabic texts used were based on a tour guide training manual
developed for the museum, which, in turn, had originally evolved from the
initial museum guidebook. According to Al-Khamis:

> The first audio guides were developed in a very pragmatic way, intended to pro-
> vide an added general service to the wide range of visitors, which include Arab
> and South Asian audiences, coming largely from Sharjah, the UAE and the GCC
> [Gulf Cooperation Council], as well as an increasing contingent of overseas vis-
> itors coming mainly from continental Europe as well as South and East Asia. As
> SMIC gets to know the profiles of both the consistent and newly evolving audi-
> ences better, it is adding further key languages: Urdu and Russian versions for
> audio guides at the SMIC are under way, and a Chinese version is planned for the
> near future.

While committed to ever improving visitor experience at the Sharjah Mu-
seums Authority to match international standards and expectations, the mu-
seum staff remains keenly conscious of the need to be flexible in acknowl-
edging and catering to the culturally diverse and specific ways in which its
various audiences may choose to engage with what is on offer. With regard
to the provision of audio guides in particular, Al-Khamis observes that many
Arab and Asian visitors – in contrast to European or "Western" visitors – pre-
fer to experience museums in a collective rather than individual fashion: for
example, in intergenerational family groups that learn and gather informa-
tion by conveying and analyzing orally what they experience, either with
each other or with the help of a museum guide. In such a setting, wearing
headphones to follow an audio tour may not be appropriate, as it tends to
isolate an individual from the rest of the family group in a way that would
not be customary and could disrupt the collective experience. Furthermore,
Al-Khamis has noted that during collective museum visiting, particularly in
an Arab and Asian context, groups such as families tend to intuitively create
their own tours, so to speak, reacting to specific objects that attract their at-
tention along the way and then stopping in front of these objects to engage

with them through discussion. Sometimes, the elder members of the group might take the lead in selecting objects, perhaps to explain something to their children or to recall a memory. On other occasions it may be the children who are drawn to a particular piece. Often, Al-Khamis observes that local Emirati museum guides are asked to provide a standard museum tour, but with their extensive experience they are always ready to modify it in order to fall in and engage meaningfully with any visitor-led tour pattern such as the two outlined above.

On the whole, it can be said that while audio guides should certainly be part of a museum's visitor services to provide added value and choice, it appears – based on these observations in the Sharjah Museum of Islamic Civilization – that their successful implementation in a multicultural setting requires in-depth knowledge of the diverse audiences that will visit the museum. These audiences bring culturally specific expectations and preferences that inform their approach to visiting a museum and influence their preferred ways of engaging with what is on offer.

At the Sharjah Archaeology Museum, as at the Sharjah Museum of Islamic Civilization, the audio guide is directed toward specific objects, and the narrative often highlights the story behind the object while placing it in the broader context of the prehistoric and ancient culture of the United Arab Emirates. The information provided is the most detailed of the three tours and includes both factual and interpretive comments, with sixty audio records in total. However, including this level of detail has resulted in an audio script that likely extends beyond the attention span (or available visiting time) of all but specialist visitors. The audio guide is available in five languages: Arabic, Chinese, English, French, and Russian. According to Mohamed Yousif Al Zarooni,[3] curatorial assistant at the museum, because the docents can offer tours only in Arabic and English, the audio guide provides an important way

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3   Mohamed Yousif Al Zarooni (curatorial assistant, Sharjah Archaelogy Museum), personal
      communication, October 27, 2015.

to connect with more visitors in their own languages. Visitor statistics show that the usage of the guides varies by season, with the winter months of January through March seeing the highest use. Throughout the year, the majority of visitors using the guide are international rather than local, perhaps supporting the idea that the guide primarily makes the museum exhibits accessible to visitors who do not speak Arabic or English. Al Zarooni explains that the museum is currently seeking feedback from visitors to use in future development of the audio guide.

In addition to the audio guide, each gallery in the museum features an introductory video in both English and Arabic that serves as a complement to the guide. There are also kiosks in some galleries that were not in operation at the time of the authors' visit. However, it is assumed that these offer another channel through which to provide supplementary information to enhance the visitor experience.

Visitor Experience at the UAE Museums

Although museums in the United Arab Emirates generally present "Visitor Books" that museum visitors are encouraged to sign, there has been a lack of museum visitor evaluation or visitor studies in the Emirates. At a 2006 seminar on museums in the UAE, it was agreed that museum attendance among the local population is low (Al Ali 2013, 140). Al Ali references Abdullah Al Mutairi's list of possible reasons for this limited attendance:

- Families do not take or encourage their children to visit museums, resulting in lack of visitorship when children grow up.
- Emirati families are not aware of the importance of museums as places which collect, preserve, and care for collections.
- Schools do not include museums and heritage sites as components of curricula.

- Staff in museums limit the role of museums to that of displaying objects, rather than having a broader educational outlook.
- There is a lack of targeted marketing, and in some cases museums are uninterested in promoting museums to local people.
- Objects, their interpretation, and display are not appealing or interesting to local visitors. (Al Ali 2013, 140–41)

With the rapid and recent growth of the museum field in the Emirates, the situation today has clearly improved over that of 2006. However, at least some of the challenges identified by Al Mutairi remain. While the development of appealing and engaging audio guides or other digital interpretative aids cannot resolve all of these challenges, the innovative use of such technologies might address some of them. By developing interpretative guides specifically designed for an Emirati audience, museum staff could perhaps play a greater role in educational outreach to the local population.

Although the study of museums and their audiences on the Arabian Peninsula is still in its early stages, Pamela Erskine-Loftus, director of the Media Majlis at Northwestern University in Qatar, has edited a volume that contributes significantly to our understanding of the roles museums play in the culture and community of this region. Erskine-Loftus (2013, 41) suggests that the role of the museum may be similar to that of the *majlis*, which served "historically and culturally as the forum for the exchange of ideas and opinions … a site of assembly and hospitality seen as a multigenerational area for dialogue and learning." The physical and conceptual construction of the museum as the type of community space for dialogue seen in the traditional *majlis* is supported by the findings of several contributors to Erskine-Loftus's collection of essays titled *Reimagining Museums: Practice in the Arabian Peninsula*. In that volume, several authors address the topic of how audiences in the Gulf region interact with, navigate and respond to museums.

John Bull and Shaikha Hamad Al Thani (2013), working through the Qatar Museums Authority, conducted extensive audience research with families to

try to identify and understand "family needs in relation to museums" (339). Among their findings were the discoveries that families are likely to see social interactions as a primary motivating factor behind a museum visit; that local (Qatari and Emirati) families generally do not use maps of the museum, nor do they read interpretive materials (such as wall texts or object labels); and that although extended families often visit museums in large groups, they do not always remain together in the museum space but rather break up into smaller groups, often by age.

In the same volume, Salwa Mikdadi (2013) shares her experience working with non-governmental, non-profit art and culture organizations (NPOs) in the region and some of the ways in which these organizations are working at a grassroots level to create collaborative settings for the experience and appreciation of local arts and culture. Mikdadi (2013, 152) sees NPOs as ideally placed to experiment with innovative approaches to meeting community needs in ways that larger museums may prefer not to undertake. Although Mikdadi does not specifically use Erskine-Loftus' construct of the museum as *majlis*, it is possible to see how the collaborative and engaged arts spaces fostered by NPOs could fulfill a similar function in their respective communities.

Future Developments

The United Arab Emirates has positioned itself as a country driven by innovation, particularly in the area of technology adoption and integration. Initiatives to improve technology capabilities in government services and education are high priorities in all of the Emirates, with the rulers of Abu Dhabi and Dubai showing particular interest in developing technology capabilities across sectors. Among other key initiatives, in 2012 His Highness Sheikh Mohammed Bin Rashid Al Maktoum, vice president of the UAE and prime minister and ruler of Dubai, launched the Federal Higher Education Mobile

Learning Initiative, an ambitious plan for the UAE Federal Higher Education institutions, initiated by His Excellency Sheikh Nahyan bin Mubarak Al Nahyan to support the delivery of course material anytime, anywhere, and to encourage innovative pedagogical practices in the classroom (Higher Colleges of Technology 2012).

A 2015 study conducted by BT-Avaya shows that UAE consumers are among the most tech-savvy in the world, particularly when it comes to the use of social media and communication applications such as Facebook, WhatsApp, and Skype (Ndichu 2015). Such a high usage of social media technology might suggest that the audio guide of the future for the Emirates should incorporate an interactive platform designed to allow real-time, multiparty communication, perhaps the ability to join a chat with other museumgoers or share on social networks information about what the visitor is viewing.

Given this embrace of new technology and the UAE's status as a global leader in the use of mobile technology and social media, what could be the future of audio guide technology in the country? Audio guides have existed in museums for decades, and while sound quality and ease of playback have improved dramatically in recent years, the technology is fundamentally linked to an older style of interaction between museums and their visitors. Is it perhaps appropriate – and likely – that museums in the Emirates will move very rapidly beyond the development of audio guides into new approaches to visitor engagement through technology.

The museums under development on Saadiyat Island in Abu Dhabi (Louvre Abu Dhabi, Guggenheim Abu Dhabi, and Zayed National Museum) are exploring ways in which interactive digital technologies can enhance the visitor experience both before and during the museum visit. Speaking in Abu Dhabi in 2014, Sree Sreenivasan, the first chief digital officer appointed at the Metropolitan Museum of Art, urged UAE museums to use tools such as digitization and online display of their collections to cultivate and engage their au-

diences. Quoted in the UAE newspaper *The National*, Sreenivasan explained, "You have to make the virtual museums so enticing that people will want to come to see the physical museums. It's all about storytelling" (Sahoo 2015). The Louvre Abu Dhabi has already taken steps in this direction with an ambitious project to digitize the museum's collection of artwork, and the "Explore the Collection" feature on the museum's website allows visitors to access high-resolution images and expanded descriptions of some key objects in the collection (Louvre Abu Dhabi 2014). It is worth noting, however, that the interface does not currently provide the kind of sophisticated interaction with the objects (multiple views, zoom-in capacity) offered by similar areas of many international museum websites.

In October 2015 a global partnership was announced with the goal to "help preserve the archaeological sites in the [Gulf] region by documenting them using three-dimensional imaging technology to rebuild them through 3D printing technology if they are exposed to any threats" (Dubai Future Foundation 2015). Partners include the Dubai Museum of the Future Foundation with UNESCO and the UK-based Institute for Digital Archaeology (IDA), a joint venture between Harvard University and the University of Oxford. In support of this initiative, the Dubai Museum of the Future Foundation "will distribute 5,000 3D cameras to partners and volunteers to photograph the heritage sites in the region" (Emirates News Agency 2015). Will including local residents as active participants in the co-creation of a visual knowledge-base encourage them to visit the Dubai Museum of the Future? Time will tell, but the approach certainly ushers in a new world of possibilities for museum and visitor interaction well beyond the audio guide tradition.

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