Chapter 11
Ensuring Resilience Using Augmented Reality: How Museums Can Respond During and Post COVID-19?

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Abstract This chapter explores how cultural and heritage sites such as museums can weather the unpredictable storm of the Covid-19 pandemic by quickly adapting to the unprecedented situation to continue serving their communities in new innovative ways. The museums are awakening to the need for proactive and innovative measures for mitigating the impacts of the pandemic in order to ensure survival. These include offering online educational resources, showcasing of museum collections and engaging its communities with art-related discussions on social media. Powered by the key enabling technologies of the Fourth Industrial Revolution, many popular museums create virtual tours using mixed reality technologies to improve visitors' discovery in an interactive, engaging and enjoyable way. This chapter also highlights the challenges of the innovative applications. What might be introduced as temporary measures to address the current situation, could become paradigm shifts that lead to higher and more impactful engagement between the museums and the society, ensuring museums' resilience and irreplaceable status in the people's minds. Also, during such times of high stress in society, culture can play an important healing role as it can offer rallying beacons of solidarity leading to emotional resilience and overall well-being.

11.1 Introduction

Being an enduring form of travel, cultural heritage tourism is growing steadily as a high-yielding sub-category of tourism which involves travelling to places of cultural

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and historical significance, experiencing the sites and events that truly reflect the people as well as stories (Jung and Han 2014; Tom Dieck and Jung 2015). The richness in culture, history and architectural components of cultural heritage sites has exerted strong influences on travellers' choice of holiday destination (Chung et al. 2017). To illustrate further, destinations that listed as the UNESCO World Heritage Sites would raise tourists' level of awareness and provide them with a good sense of visiting the cultural heritage site (Patuelli et al. 2013).

Regarded as one of the most iconic cultural and heritage tourist attractions, museums are seen as a social powerhouse to bridge world heritage sites to the local communities so that knowledge and skills can be transferred to promote local cultural assets, boost employment and enhance the overall societal well-being. While preserving local culture and heritage, museums play an important role in providing a common space to promote education, inspiration, creativity and dialogue, particularly in a culturally diverse and inclusive society. Museums which are strategically located at cultural heritage sites have exerted strong influences on travellers' choice of holiday destination (Chung et al. 2017), promoting cultural heritage tourism as one of the key drivers of sustainable economic development.

The Covid-19 pandemic which hit nearly all parts of the world in 2020 has severely impacted the global travel and tourism sector, putting it at a standstill due to the implementation of lockdown in many countries. Also, the closure of national borders has paused international tourism activities. Thus, international tourist arrivals are expected to contract by nearly 80%, according to the United Nations World Travel Organisation (UNWTO 2020). Many tourist destinations, including cultural and heritage institutions are forced to shut their door and some may never reopen, causing millions of tourism-related jobs at risk.

While travel and tourism is one of the sectors being heavily affected by the Covid-19 pandemic, the United Nations World Travel Organisation (UNWTO 2020) reported that the unprecedented global health crisis has put global economy and social development at an alarming state. It suspends the opening of many tourist destinations, including cultural and heritage sites. Museums, which rely on government funds and public donations to sustain its operations, are among those severely affected. Most are pessimistic or cautious at best, as they face a total lack of visitors as authorities place restrictions to avoid mass gatherings, crowds and proximity among the population in order to fight the spread of the disease. Furthermore, the forecast for posting the various lockdowns or movement control measures continues to be grimed as the population will still need to practice social distancing while the threat of the pandemic still persists.

11.1.1 Museum Closures During the Covid-19 Pandemic

In May 2020, the United Nation Educational, Scientific and Cultural Organisation (UNESCO) published a report entitled "Museums Around the World in the Face of Covid-19" on the challenges faced by the cultural and heritage institutions, as well as

Table 11.1 Distribution of museums across regions

Region	Estimated number of museums	Percentage (%)
Western Europe and Others	61,634	65.10
Eastern Europe	11,465	12.11
Latin America and the Caribbean	8,067	8.52
Asia Pacific	12,195	12.8
Africa	841	0.88
Arab States	473	0.50
Total: 195 Countries	94,675	100.00

Source UNESCO (2020)

the opportunities to seize and be resilient in the times of crisis. The report estimated that there are 95,000 museums worldwide, which is a leap of 60% of the total number recorded in 2012 (see Table 11.1).

Nevertheless, the museums are distributed unevenly across regions. Only 16 countries or approximately 8% of the 195 countries studied have more than 1,000 museums (more than 5,000 museums: Germany, Japan, Russian Federation and USA; 2,001 to 5,000 museums: France, Brazil, Italy, United Kingdom and Canada; 1,001 to 2,000 museums: Spain, Mexico, Poland, Switzerland, Republic of Korea, China and Argentina). Based on the estimation, as many as 104 countries (53.33%) have less than 50 establishments while 13 countries (6.67%) have no museums at all.

The Covid-19 pandemic which started during the first quarter of 2020 resulted in many countries having to take radical measures including the closure of museums. Specifically, 156 (80.00%) of the total 195 countries studied and reported that all museums were closed during the pandemic while 13 countries (6.67%) did not take any measures such as all museums in Benin were opened during the pandemic but reported having no visitors. Some countries shut their museums in the first quarter of 2020 but were able to welcome visitors sometime in April. In May, some were getting ready to reopen or had even begun to operate fully while others were still closed as most countries are still implementing containment measures including physical distancing which is not conducive in normal museum settings (see Table 11.2). This problem is even more significant among the popular museums that are highly visited with numbers reaching millions annually. In short, the report estimated more than 85,000 (>90.00%) of the cultural and heritage institutions worldwide being temporarily shut by the respective local government and authorities as one of the precautionary measures to combat Covid-19.

Table 11.2 Closure of museums across regions

Region	Estimated number of museums	Estimated number of museums temporarily closed	Estimated percentage (%) of museums temporarily closed
Western Europe and Others	61,634	58,281	94.60%
Eastern Europe	11,465	11,311	98.70%
Latin America & the Caribbean	8,067	8,061	99.90%
Asia Pacific	12,195	7,237	59.30%
Africa	841	738	87.80%
Arab States	473	473	100.00%
Total: 195 Countries	94,675	86,101	90.9%

Source UNESCO (2020)

11.1.2 The Impact of Covid-19 Pandemic on the Cultural and Heritage Institutions

While some museums are operated using public subsidies channelled from the government or relevant authorities, many museums are depending mainly on the income generated by visitors in the form of paid visits and purchases of merchandises, as well as donations or sponsorships. Although the suppressed economic conditions due to the pandemic do not immediately stop public subsidies from funding the cultural and heritage institutions (at least for the short-term), private museums might not be as fortunate. The closure of museums has had considerable economic consequences on the private museums, some might not be able to sustain their operations and close down. With national borders remain closed for some countries, cultural and heritage tourism can be badly affected especially cultural and heritage sites that are largely depending on international tourists. Furthermore, the economic aftermath of the pandemic also may lead to drastic contraction of public donations and sponsorships. According to the International Council of Museum, more than 10% of the museums may never reopen again.

In the times of crisis, museums around the world ought to be resilient and many have taken steps in staying connected with their patron credit to the Internet and social media. According to the United Nation Educational, Scientific and Cultural Organisation (UNESCO 2020) among museums in 86 countries reported approximately 826 evidences of online sites or activities initiated by museums' management. The digital readiness in responding to closure of museums was based on the earlier investments and continuous efforts made before the Covid-19 pandemic such as the creation of virtual tours and digitalising the museum collections (see Table 11.3) However, the digitalisation of museums during the Covid-19 pandemic across regions suggests significant disparities between states and regions. Some of the factors leading to such disparity are uneven distribution of stable Internet access around the world,

Table 11.3 Digitalisation of museums during covid-19 pandemic across regions

Region	Number of countries studied	Number of sites and activities being digitalised	Percentage of sites and activities being digitalised
Western Europe and Others	16	220	26.60%
Eastern Europe	12	137	16.60%
Latin America & the Caribbean	18	226	27.40%
Asia Pacific	19	168	20.30%
Africa	10	17	2.10%
Arab States	11	58	7.00%
Total: 195 Countries	86	826	100.00%

Source UNESCO (2020)

insufficient museum collections, lack of IT infrastructures, as well as lack of skills, knowledge and competencies of museum staff in embracing digitalisation of heritage and cultural institutions. Also, highly visited museums in developed nations with strong financial capability have responded timely and invested heavily in digitising their collections and engaged with their patrons on social media platform. As a result, these museums which were regarded as more agile to the unprecedented pandemic saw a substantial increase in the number of visitors to their online platforms even during the lockdown period when museums were closed.

11.1.3 Types of Digital Activities Developed During Museum Closures

Using previously digitised resources. In responding to the Covid-19 crisis worldwide, many cultural and heritage institutions have leveraged on the benefits of digitising existing museum collections and communication based on the digitisation policies developed by public authorities. These include online collections, online publications, digital exhibitions, 360º virtual tours and even virtual museums with gamification elements to stay connected and engaged with their patrons. For examples: the Bangabandhu Museum in Bangladesh, the National Costume Museum of Grand Bassam in Cote d'Ivoire and the online portal set up by the Department of Antiquities in Jordan.

Digitising of planned activities during the months of lockdown. Many earlier-scheduled events such as concerts, talks and exhibitions were migrated online during the lockdown in the form of interactive digital visits presented online mostly via social media platform. The online events are usually live or pre-recorded, allowing online visitors to download or available on digital platforms such as YouTube and

SoundCloud. For example: the Gallery of Modern and Contemporary Art located at the Bergamo, Italy created an online radio show while the Museum of Arts and Crafts in Zagreb, Croatia launched numerous online events.

Increasing activities on social media. In transforming and diversifying the digital media of cultural and heritage institutions, some museums increased their social media activities on Facebook. Twitter, Instagram or launched a YouTube or SoundCloud channel through the managers of the virtual community and museum management and staff who offer specific content adapted to the digital format.

Creating special activities during the lockdown. In contrast with the more traditional projects mentioned above, some cultural and heritage institutions were actively developed original projects during the lockdown by transforming deserted rooms or spaces in museums to present an offbeat view of the collections or virtual tours with a robot (e.g. Hastings Contemporary, United Kingdom). Many museums have also offered new forms of experience online such as inviting patrons to participate in a "cocktail with the curators" in the Frick Collection, New York; associating a work with a song in the Valence Museum, France or presenting the collections in the Angermuseum, Germany in the form of video game named "Animal Crossing". With an aim to involve patrons' participation through fun and instructive activities, museums organised photo-taking contests, education games such as children's stories telling, quizzes, video games, colouring activities and games involving parents and children.

Organising professional and scientific activities in the context of lockdown. Several museums singularly or collaborated with associations regularly initiated web conferences in the form of webinars or meetings and talks via various videoconferencing media. In a more strictly professional and scientific manner, the web conferences focused on topics related to the Covid-19 crisis but such a form of initiative is expected to continue in the future.

In short, in responding to the Covid-19 crisis worldwide, many museums have transformed many planned activities by means of digital using investments made before the pandemic, as well as using social networks to engage with visitors. On the other hand, large museum associations also organised webinars on a professional level, as well as special activities initiated to alleviate the challenges of confinement such as games, quizzes and many other educational activities being conducted virtually. However, there are many challenges in accessing culture and heritage through digital means as millions of people around the world, especially in developing countries are out of reach to virtual museums and online collections due to limited Internet access and gender equality, suggesting digital divide is now more evident than ever.

11.2 Augmented Reality Technology

First surveyed by Azuma (1997), Augmented Reality (AR) is a technology which permits users to see computer-generated objects being overlaid with the real environment instantaneously, using head-worn, handheld or projection displays. The Virtuality Continuum proposed by Milgram and Kishino (1994) (see Fig. 11.1) suggests

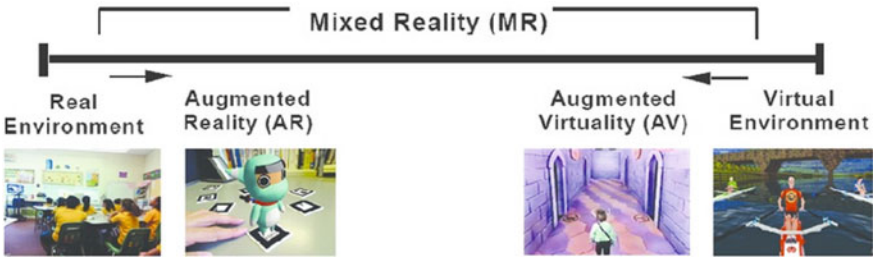

Fig. 11.1 Virtuality continuum (*Source* Milgram and Kishino [1994])

that mixed reality exists in between the real environment and virtual environment (commonly referred as Virtual Reality or VR). In a real environment, every object is real in nature whereas a virtual environment consists of computer-generated objects. Anything that lies between real environment and virtual environment is called mixed reality.

Gartner (2018)'s "Hype Cycle for Emerging Technologies, 2018" (see Fig. 11.2) predicted that AR is one of the emerging technologies which will remain relevant in the next five to ten years with increasing trends and investment prospects. The AR technology has seen massive applications in various industries which include medical, education, entertainment, robotics, as well as in the travel and tourism industry to enhance traveller experience. The market value of AR is forecasted to triple from USD 6.10 billion in 2016 to USD 18.8 billion in 2020 (Statista 2020).

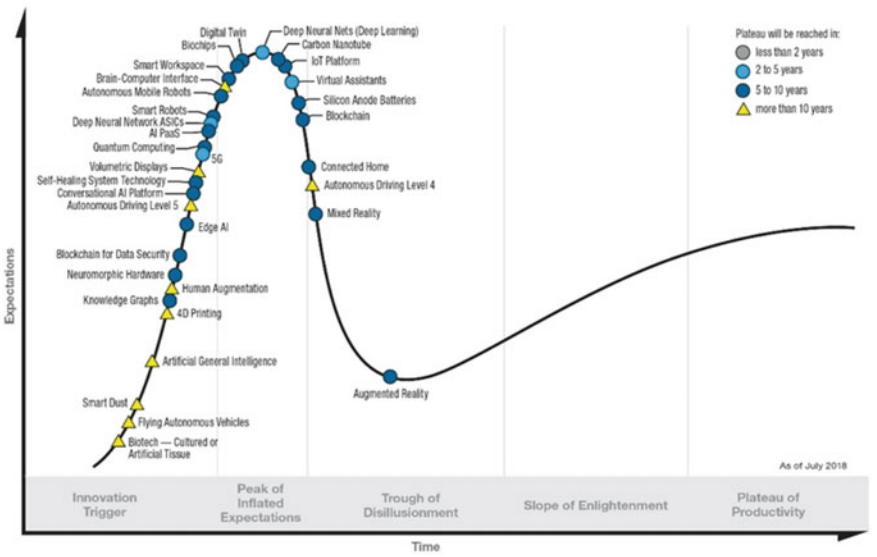

Fig. 11.2 Hype cycle for emerging technologies (*Source* Gartner [2018])

Lonely Planet (2018) named AR is one of the revolutionary trends that shapes the travel and tourism sector in 2019 and beyond, as well as significantly contributes to the growth of the tourism sector.

In view of tourism is now dominated by young travellers who are savvier in technological innovations, many tourism businesses have started to utilise cutting-edge digital technologies such as AR to offer tourists with value-added tourism products and services. With an increasing number of new AR applications emerged to make travel more interactive and enjoyable, past studies (Jung et al. 2015; Tom Dieck and Jung 2015) have recognised the potential of AR technology in enhancing the travel experience. More specifically, the increasing use of AR applications at cultural heritage sites (Chung et al. 2017; Jung et al. 2018) has made cultural heritage tourism to be among the economic sectors supplemented by mobile AR applications (Adhani and Rambli 2012; Jung et al. 2018; Portalés 2009; Tutenea 2013).

The provision of useful tour information makes AR application an ideal tool in guiding non-expert tourists to navigate and explore the surroundings of a tourist destination (Garau 2014). Also, AR application can help tourists in reminiscing significant events in history as historic properties can be restored and preserved by using three-dimensional objects through virtual reconstruction (Kourouthanassis et al. 2015). This would directly improve their knowledge and enhance their appreciation towards cultural heritage tourism (Jung et al. 2015). In short, AR application can enhance the overall travel experience (Tom Dieck and Jung 2015) because it creates a fun, interactive and meaningful learning environment for the tourists by stimulating their imagination and arousing their interest towards a cultural heritage site (Tom Dieck and Jung 2015). Remarkably, AR applications also give cultural heritage sites a competitive advantage in building a stronger destination branding which can attract more tourists (Kourouthanassis et al. 2015).

11.3 How Cultural and Heritage Institutions Use AR Applications in Response to the Covid-19 Pandemic?

Today, the cultural and heritage tourism sector such as museums are looking for innovative ways to engage with visitors by mean of cutting-edge digital technologies (Tscheu and Buhalis 2016). For instance, AR. The "World's Top 10 Most Visited Museums in 2018 and 2019" have integrated AR applications or similar virtual technologies for visitors to interact with museum exhibits and enhance their overall experience while visiting the museums, except the State Hermitage Museum in Saint Petersburg, Russia (The Art Newspaper 2019; Themed Entertainment Association 2019) (see Table 11.4). A study reported that visitors only spend an average of 2.31 s for each museum exhibit thus the use of AR applications in museums would grab their attention and explore the exhibits which lead to longer time spent in the museums (MuseumNext 2019). The section below discusses how the world's most visited museums responded to the Covid-19 pandemic with respect to the application

Table 11.4 World's top 10 most visited museums in 2018 and 2019

No	Name of museums	City	Visitors (in million)		Use of AR
			2018	2019	
1	Louvre	Paris, France	10.20	9.60	Yes
2	National Museum of China	Beijing, China	8.61	7.39	Yes
3	Vatican Museums	Vatican City, Italy	6.76	6.88	Yes
4	Metropolitan Museum of Art	New York City, United States	6.95	6.48	Yes
5	British Museum	London, United Kingdom	5.83	6.24	Yes
6	Tate Museum	London, United Kingdom	5.87	6.10	Yes
7	National Gallery	London, United Kingdom	5.74	6.01	Yes
8	Natural History Museum	London, United Kingdom	5.23	5.42	Yes
9	American Museum of Natural History	New York City, United States	5.00	5.00	Yes
10	State Hermitage Museum	Saint Petersburg, Russia	4.50	4.96	No

Source The Art Newspaper 2019; Themed Entertainment Association 2019

of virtual technologies such as AR to connect and engage with its visitors during the post Covid-19 world.

Louvre Museum, Paris, France. Housing approximately 38,000 objects from over an area of 72,735 square meters, the world's largest museum and historical monument is the world's mostly visited cultural and heritage institution with 9.60 million visitors recorded in 2019. Due to the Covid-19 pandemic hit on France starting 13 March, the museum has resumed its operation on 6 July after four months with strict safety measure such as the visitors are compulsory to wear masks, one-way system, online ticketing and controlled number of visitors by cutting-down 80% of its normal capacity, causing a 40-million-euro loss on its bottom line. During last fall, a distanced queuing system was introduced for visitors to view the Leonardo Da Vinci's famous Mona Lisa painting in such a way that each visitor will be allowed to get closer to the painting with social distancing in place a distance of about 10 feet between visitors. Collaborated with the HTC VIVE Arts, the "Mona Lisa: Beyond the Glass" project is the inaugural virtual experience to be held at the Louvre, giving the visitors the chance to immerse and interact with the painting within a recreated virtual space using optical visor. The visitors will get to know more about the painting with the augmented textual information. What's more? The virtual experience will also be available in a home version through digital subscription service. The public

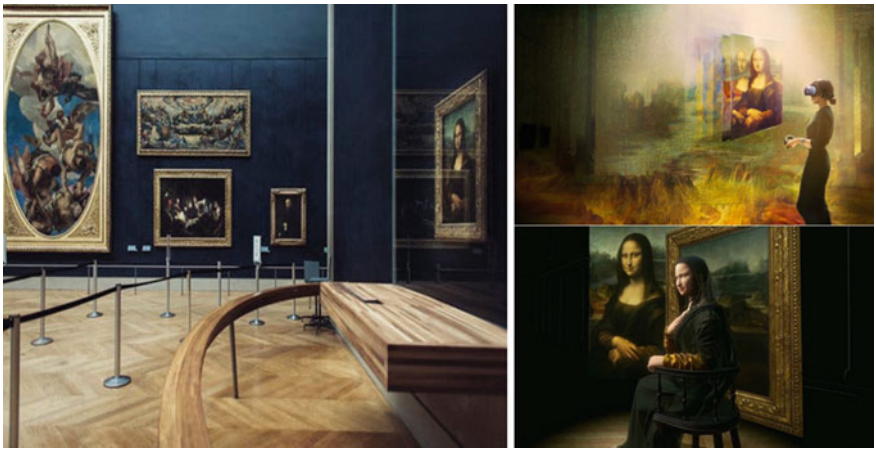

Fig. 11.3 Mona Lisa beyond the glass

now can tour in the virtual museum right from their own homes during the pandemic. Figure 11.3 illustrates the Mona Lisa Beyond the Glass Project.

National Museum of China, Beijing, China. Housing approximately 1,050,000 collections, the museum is the second most visited cultural and heritage institution in the world with 7.39 million visitors recorded in 2019. After being closed for almost 100 days, the museum started to reopen on 1 May as the pandemic has eased in China While implementing strict standard operating procedures, the museum management caps a maximum of 3,000 visitors per day (a reduction of 90% of its normal capacity), introduces online ticket booking and enforcing social distancing and health measures. With an aim to stay connected with the museum goers, the museum on 6 September launched the "Treasure Hunt Relay: Global Museum Director's Choice" which is an online campaign to showcase cultures and heritage for the global community. The initiative is a collaborative project with other 15 museums across five continents of the world, including Argentina, South Africa and Russia. Today, the museum provides exhibitions enriched by virtual technologies such as immersive AR glasses to augment and display detailed information about the Archaeological Ruins of Liangzhu City when the visitors wear a special pair of glasses equipped with audio commentary. Many Chinese museums, such as the Sanxingdui Museum has also opened an online virtual exhibition hall where visitors can view the exhibits from their own home. Figure 11.4 illustrates the AR glass used in the National Museum of China and others.

Vatican Museum, Italy. Owning approximately 70,000 collections in which 20,000 are on display, the public art and sculpture museum in the Vatican City is the third mostly visited cultural and heritage institution in the world with 6.88 million visitors recorded in 2019. After being closed for nearly three months due to national lockdown, the museum resumed its operation on 1 June with strict standard operating procedures such as online ticket reservation, limited number of visitors

Fig. 11.4 AR glass in the Chinese museums

per hour and other health measures. In reconnecting and engaging the museum goers around the world, the museum launched 3D virtual tours to provide an extraordinary and innovative experience in touring the site online from anywhere around the world. The guided virtual tour showcases accurate 3D replicas of the Vatican institutions and sites such as the Sistine Chapel, St. Peter's Basilica and many others for online visitors to discover Rome during the pandemic. Figure 11.5 depicts the screenshots of the virtual tours on mobile device.

Metropolitan Museum of Art, New York City, United States. Colloquially "The Met", the cultural and heritage institution is the largest museum in the United States houses more than two million collections. Since national lockdown on 13 March when most of the cultural institutions in the New York City were shuttered, the Met

Fig. 11.5 Screenshots of the virtual tours on mobile device

had reopened on 29 August with some new safety protocols in place, including reduction of 75% in hosting capacity, time ticketing, more frequent sanitising especially at high-contact areas and frequent hand-washing with sanitising stations throughout the museum. Today, the Met via its Imaging Department is bringing the "zemí cohoba stand" (one of the most iconic sculptures that survives from the ancestral civilisations in the Americas) to life through AR mobile application. Figure 11.6 shows the development of the AR model and screenshot.

British Museum, London, United Kingdom. Houses approximately 8 million collections, the museum is dedicated to human history, art and culture is among the largest and most comprehensive in existence. In 2019, the museum recorded 6.24 million of visitors, placing the public institution the fifth most visited museum in the world. The pandemic and lockdown implemented nationwide, all museums shuttered its door to the public on 17 March and only resumed on 27 August with stricter safety and health measures. The British Museum and Samsung have collaborated to launch a new AR application called "A Gift for Athena" to enhance visitor's experience in the museum. The AR application allows visitors, especially the kids to learn history more fun and exciting using gamification features such as fixing puzzles. Figure 11.7 depicts the AR application—"A Gift for Athena".

Tate Museum, United Kingdom. Houses a network of four art museums with rich collection of British art, and international modern and contemporary art, the cultural and heritage institution is the sixth most visited museum in the world with 6.10 visitors recorded in 2019. In collaboration with an AR-powered design firm, Facebook Creative Shop and The Mill, eight collections in the museums are now transformed using Facebook's Spark AR camera effect platform. Called the "Untold Stories", it is a project that explores the hidden narrative of existing paintings and the artists behind them to give patrons a more in-depth context and background of the iconic artworks. Using the camera in the Instagram application, the users have to scan the museum's Instagram name tag and activate the exciting virtual experience. Then, the users will see a map, guiding them to all the eight paintings powered by AR technology. Such innovative feature can help the visitors to learn and connect to

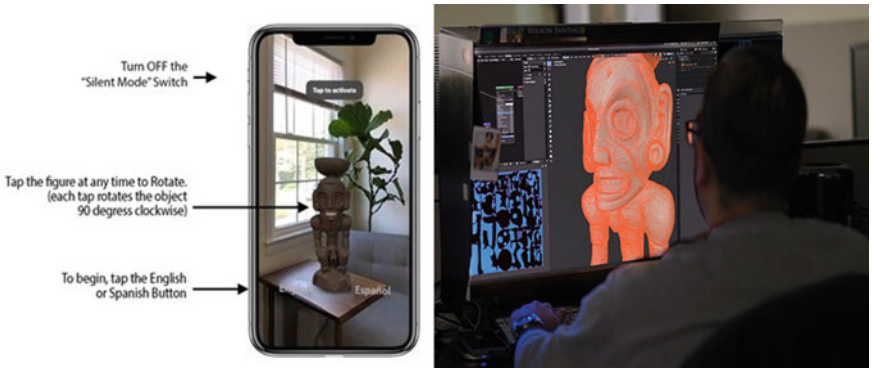

Fig. 11.6 Development of the AR model of 'Zemí Cohoba Stand'

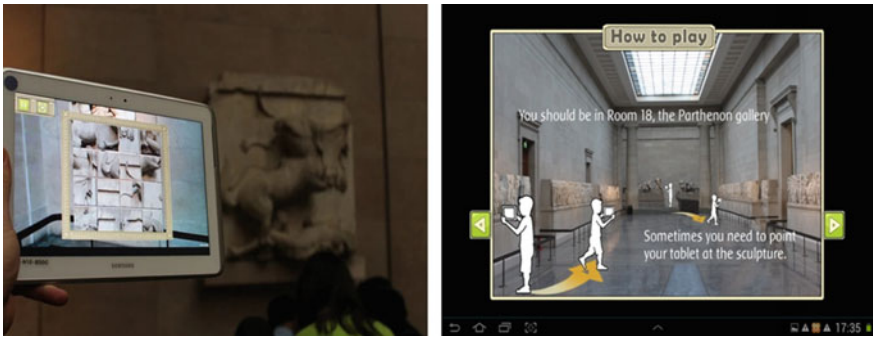

Fig. 11.7 The "A Gift for Athena" AR application

the world more meaningfully. Figure 11.8 shows the AR-enhanced paintings in the Tate Museum.

National Gallery, United Kingdom. The 196-year-old art museum located at the Central London houses a collection of over 2,300 paintings dating from the mid-thirteenth century to 1900 is the seventh most visited museum in the world with 6.01 million visitors recorded in 2019. Today, the National Gallery is becoming "an innovation lab" as many experiments of cutting-edge digital technologies including AR to be relevant in bringing arts to the new audiences, mainly the younger travellers who are savvier in technologies. Envisioned by the tagline of "Culture is digital", the museum pledges to bring culture and digital closer together while shaping the nation as a global leader where sustainability is the key of survival. The museum has used 3D printing technology to recreate an Italian renaissance chapel and it is now offering a virtual reality tour of its Sainsbury Wing allowing visitors to examine its 270 paintings in detail. In its five-year digital transformation journey would see the

Fig. 11.8 AR-enhanced paintings in the tate museum

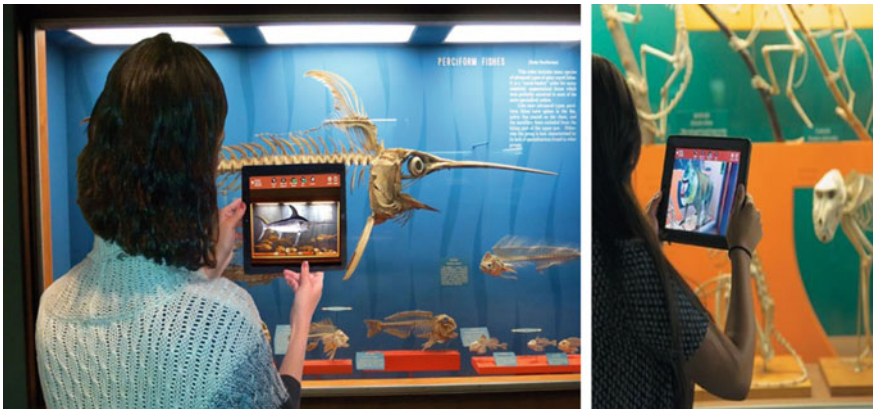

Fig. 11.9 The "Skin and Bone" mobile application

embedding of innovation in immersive media in the gallery such as a hologram of Sir David Attenborough used at the Natural History Museum to educate visitors about fossils, and a virtual reality experience at the Science Museum where astronaut Tim Peake guides users through space.

Natural History Museum, United Kingdom. Jointly produced with the BBC Natural History unit, the museum in London has just opened an interactive film called "Who do you think you really are?" to produce AR element for the film by adding "virtual" graphics to TV. The end result is an innovative museum experience that uses camera tracking technology with specially designed handheld displays and rendering software to bring extinct creatures to life using AR technology.

Smithsonian National Museum of Natural History, Washington, D.C, United States. The 110-year-old world's most visited natural history museum received 6.24 million visitors in 2019. Today, the Smithsonian's oldest museum hall is officially enriched with AR technology in the Bone Hall in which it collects and showcases many of the original skeletons and skins. With muscles and skins being superimposed on the exhibited bones. Among the thirteen highlighted features include a vampire bat flies away from its mount, a sea cow grows flesh, an anhinga catches fish, all accessible in situ or from home of the visitors through mobile application called the "Skin and Bone". Figure 11.9 illustrates the use of "Skin and Bone" mobile application in the museum.

11.4 Conclusion

The global coronavirus pandemic facing cultural and heritage institutions today remains a great concern of its sustainability and survival. While serving as repositories of both works and artefacts, museums play a significant role as spaces for

meeting people, sharing knowledge and building social ties. The global health crisis has closed the door of around 90% of the total number of museums worldwide and some may never reopen. Although such closure is temporary, the impacts that hit a nation's economic and social development could be in long term. Being resilient is one of the fundamental traits of museums and this has become even more profound since the beginning of the Covid-19 crisis. It is crucial for museums to be able to reinvent themselves and being agile to adapt to the societal changes. Thus, museums ought to redefine their operations and their relationship with the public in order to move forward and survive during post Covid-19.

The examples reviewed give insights to innovative new ways museum offers the public to enjoy and interact with their collections. The solutions may be started as new or trendy attractions to ensure relevance and attract new patrons. However, the pandemic has shown how such initiatives have become key modes for the museums to continue engaging with the public given the various restrictions that have arisen. As the pandemic rages on, what was seen as temporary measures to address the current situation, could become the main method of how we now experience the museums. This could be a paradigm shift that leads to higher and more impactful engagement between the museums and the society.

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