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Museum Experience Design

Crowds, Ecosystems and Novel
Technologies

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Foreword: Are We Ready to Listen to These Truths? Are We Ready to Act on Them?

What is common to the studies in this book is their user-centered design approach. As articulated by Vermeeren et al. (Chap. 15), it entails focusing on an audience, identifying a need through audience research (which often entails segmenting “The Crowd”), brainstorming design ideas that might fill that need, focusing on one or two solutions to prototype in simple form, testing and evaluating the results, and then adjusting and iterating. (Participatory and agile design processes, as detailed by Sabiescu in Chap. 13, are variations on this process, as is Design Thinking).

This is precisely what most museums fail to do.

How many museums prototype the exhibitions they put in their galleries? How many interview members of their community about future exhibitions in advance? We are not simply referring here to marketing campaigns. How many do so to help shape their interpretative strategy, which should ideally be a blend of analog and digital components? How many museums set experience goals that correspond to their community’s own expectations and stated desires? How many then evaluate to what degree their exhibition met those goals, and then adjust and iterate accordingly?

Museums have so much to learn from Human–Computer Interaction (HCI), and the enormous scientific literature that has developed around User experience (UX), if we are only willing to do so.

Conversely, designers have to learn not to be intimidated by their museums as clients, but to hold our feet to the fire and force us to sacrifice some of our shibboleths, if only on a test or “pilot” basis, so we can dare find out what we don’t know.

I have to state my fear. Reading the essays gathered in this volume, which is devoted to the potentially beneficial impact of human-centered design approaches to the museum field, these questions come to mind:

1. Are designers actually empowered to conceive of the most far-reaching visitor-centered changes to which they aspire, in order to ensure the continued vitality and relevance of the museum field?

2. Do they run the risk of not being bold enough—of being co-opted by their museum clients' entrenched power hierarchies and legacy systems?
3. Are we in museums ready to avail ourselves of human-centered design processes and really listen to the new truths that emerge from them—even if those insights force us to change some of our long-held traditions and cherished beliefs?

Too often, I have seen user-centered design practices stop short of the “ground-zero” of museum experience: the gallery door. Museums and galleries (the latter in the European sense of the term) often do hire audience research and marketing firms to create new strategic plans, glossy identity packages, and promotional partnerships that, at least superficially, acknowledge the four Key Themes of this book: engaging the public, cultivating diverse audiences, availing ourselves of the benefits of digital technology, and leveraging museums' roles as players in larger economic and cultural ecosystems. And yet the solutions these consultants provide often fall short of the transformative results they could attain. Why? Because they are hamstrung: they don't extend into the gallery. The changes stop short of the defining moment of the museum experience, the *sanctum sanctorum*. To actually impact that core dimension of museum experience is taboo.

Of course, that is not true of all museums. Over the past 20 years or more, history and science museums have made great strides in revamping their gallery presentations in light of audience research. They have parsed “The Crowd” into demo- and psychographic profiles, experience goals and learning styles, and revised their approaches accordingly. The best among them have recognized that this is an iterative process; in these museums, ongoing prototyping and evaluation are now a way of life.

Some art museums have followed suit; several are detailed in my recent book, *Creating the Visitor-Centered Museum*, co-authored with Mimi Michaelson¹. But the level of inside-out transformation that Nina Simon evokes in her book *The Art of Relevance*² is still a far shore in museum practice. Too often we prioritize our mandate to hold and protect our collections and stop short of making them relevant to today's audiences, real or potential. Too often we are zoomed way too far in on our objects, and lose sight of what people less invested might know, think, or want from us. One benefit of this book is the variety of focal lengths it affords on the museum experience, and design's potential to embed us in the lives of communities that don't necessarily think about us very often at all.

In this light, Calvi and Hover's essay (Chap. 14) is instructive. When we pull our focus back from the individual museum and its obsession with its objects, we find a larger community outside that is largely indifferent to our obsessions, and needs a story, even a superstar, to motivate their interest. In the case of the rural Dutch region known as the Noord-Brabant, they were fortunate enough to have just such a

¹ Samis, P and Michaelson, M (2017) *The visitor-centered museum*. Routledge, New York and London.

² Simon N (2016) *The art of relevance*. Museum 2.0, Santa Cruz, CA.

global megastar—or at least a vestigial figment thereof—on hand: Vincent van Gogh. (Not every region, museum, or cultural site is so fortunate).

From there, the conflict moves inside the museum. A struggle emerges between the museum's role as protector of authentic objects and the "facts" around them and its role as a site of experiences—preferably extraordinary ones, because if not, why bother? Where on the continuum between dry historical data and vivid voice should we land? Do the options include creative dramatizations, even poetic license? Whose side are we on: the expert-curator's or the potential visitor's, undecided as to whether to pay attention or not? How do we mediate between them?

Similarly, in a proposal that would encourage people to use their mobile devices to respond to museum shows using grist from their own daily lives, Leticia Verona and her Brazilian colleagues (Chap. 11) implicitly ask the perpetual Millennial question: Is there a place for me (and my creativity) in the narrative? Or am I to be subjected yet again to passive homage to Great (most often) White (almost always) Men?

Naturally, this also means curators' jobs would change: from handling museum content, they would now have to look through visitor-generated content to decide what should and should not be incorporated in the exhibits. (Verona, Vivacqua & Campos, Chap. 11, p. 234)

While that may be precisely the kind of practice that Simon (2016) advocates in her book and museum, it is a far cry from most curators' image of what they signed up or were trained for. In fact, at least in the case of art specialists, their training explicitly distanced them from crowd-sourced taste or values, focusing instead on markers of distinction defined by a limited circle of *cognoscenti*. So once again, as with van Gogh, the dream of inclusiveness smashes its boat on a hard rock of museum behavior: our self-important role as gatekeepers, maintainers of the exclusive. It is no surprise, then, that after detailing two challenges to the implementation of innovative technology projects in museums, Verona, Vivacqua, and Campos (Chap. 11) acknowledge that the third one may thwart innovation before it is even tried out:

Conceptual resistance to use technology: The public should see the artwork with no filters or digital interference; Resistance from museum personnel to learn and use new technology. (Verona, Vivacqua & Campos, Chap. 11, p. 229)

For this challenge represents Top-Down Fiat, the Veto, the Non-Starter—and it is still more present than we like to imagine. In the face of such resistance, do designers demur and focus their attention elsewhere, or do museums give them the support they need to make a difference?

And what if they don't? What is the role of designers then? To speak truth to power? Or is the client always right?

How do we deal with visitors who no longer see museums as central destinations in and of themselves (as we who work in them invariably do), but rather as interchangeable components in a larger picture-puzzle: their self-curated day, date, or vacation?

Time to zoom out again—if only to escape the bell jar. Get some air.

One caveat: while most of the solutions proposed in this book are technology-based, we should not lose sight of the fact that they are themselves embedded in larger systems, ranging from the *interpretive ecologies* (Mannion et al., 2016) described by Sabiescu and Charatzopoulou in Chap. 16 to the cultural route of Hidden Gems proposed by Vermeeren et al. in Chap. 15. Even as our society depends daily on its digital devices and the unseen networks that connect them, we still live in our bodies and often do seek refuge in museums “to oppose the overload we experience”.³

So, while digital apps take us on mobile adventures and open up trails of wonder for some, the vast majority of our visitors still default to analog first and foremost. The more we can design for blended environments that mix the virtues of analog and digital affordances in mutually reinforcing ways to foster a context for meaningful engagement with museum objects, the better off we’ll be. And the more likely that our visitors will offer their own Return On our Investment, as they reach for their phones to document and share their moments of insight and emotional connection.

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³Testimonial by museum professional in Brazil, in Verona, Vivacqua & Campos, Chap. 11, p. 235.

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Chapter 1

Future Museum Experience Design: Crowds, Ecosystems and Novel Technologies

Arnold P. O. S. Vermeeren, Licia Calvi, Amalia Sabiescu,
Raffaella Trocchianesi, Dagny Stuedahl, Elisa Giaccardi
and Sara Radice

Abstract The museum world is rapidly changing from being collection-centred to being community-centred and for the public. Apart from broadening access to collections through, for example, digitisation initiatives, new ways of involving the public more meaningfully and at various levels have emerged. Experiences inside museums have become more engaging, by extending the experience beyond the physical visit, or by involving the public in various forms of crowdsourced stewardship of collections. In this book, we explore the design implications that go along with these developments, all concerned with diversifying and making the engagement of the public in museum experiences more rewarding. We focus on the design implications associated with museums reaching out to crowds beyond their local communities, on experimenting with novel technologies and on conceiving experiences embedded in connected museum systems and large institutional ecosystems. By looking at and reflecting on trends, we attempt to sketch a picture of how future museums will change and, particularly, how they will relate to their public as a result of responding to or embracing these trends.

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1.1 Trends in Museum Experience Design

In the museum world, a number of trends can be recognised that have an impact on museum experience design. For example, there is a development from museums being collection-centred to being community-centred and for the public. Additionally, the public has started to become involved in museum visits in more meaningful ways, for example, due to an increase in digitisation initiatives. This is achieved by deepening experiential engagement during the visit, by extending the museum experience beyond the physical visit or by involving the public in content generation, objects classification or other forms of crowdsourced stewardship of collections.

This book concentrates on the design of museum experiences that integrate some form of digital and networked media. However, and despite our focus on digital mediation, we acknowledge that visitor-centeredness and connected practices have been a concern for museums (or at least some museums) well before the large-scale integration of digital technologies. In a section suggestively titled ‘History repeats’ from their seminal work on visitor-centred practices in museums, Peter Samis and Mimi Michaelson (2017) point out that already in 1987, the Art Institute of Chicago commissioned a focus group study to gauge insights about visitor experiences, attitudes and expectations from the museum visit. The findings of that study are not less relevant today: visitors asked for more contextual information and particularly wanted to understand why an artwork is considered valuable and important for the museum. This is not very different from what museum visitors seek today. What changed, however, is the variety and complexity of forms by which museums can follow up on these expectations—not as one-way information transmission but through experiential engagements that may, for instance, accommodate creative inputs, appeal to various senses and promote collaboration and sharing of experience. Specifically, we have identified a number of trends in museum experience design: (1) dialogical engagement of the public; (2) diversifying and broadening audiences, including the nameless ‘crowd’; (3) the use of novel technologies, such as the Internet of Things (IoT) and Do-It-Yourself (DIY) technology; and (4) designing for museum systems and institutional ecosystems, rather than for individual museums only.

1.1.1 *From Visits to Continuous Dialogical Engagement*

Museums started off as institutions focusing on collecting and preserving objects, open for the public to come and watch. The primary purpose for visitors to come to the museum was to see the original objects. A first notable shift saw the museums move from a collection focus to a visitor focus and from a mission for objects preservation and access provision to a mission of offering meaningful engagements with the collection and rewarding learning experiences for their public. The concept

of 'museum experience' is the pinnacle of this historical shift, as it implies a focus on the visitor and connections between visitor and objects rather than a focus on collections. In the course of time, new types of museum experiences gradually emerged. The degree of sophistication and immersion increased exponentially when experiences started to be enhanced by the integration of interactive and digital media. In many science and technology museums, for example, visitor engagement and participation are uplifted through the use of new media (e.g. video games, interactive installations and other forms of edutainment) to encourage visitors to engage with the content on exhibit, to experiment with the techniques on show and to appropriate the visiting experience by making it meaningful and memorable. This trend is being adopted also by art museums, where it is by definition more difficult to let visitors experiment with the collections. Recent examples include the Rijksmuseum in Amsterdam, where an augmented reality app called *Paint Job*¹ (launched in 2012 by creative agency Brilliant After Breakfast) allows visitors to play with the paintings on display by 'hijacking' their content. By reappropriating the painting in this way, art gets closer to the individual and it acquires a meaning that is more personal and may, therefore, resonate longer in the visitor's memory.

Over the course of time, visitor involvement mechanisms have given more space to visitor agency and creative intention, reaching out to models in which visitors are involved as consultants or partners in co-designing museum experiences or even museum exhibitions. For example, in 2010 the Kröller-Müller Museum in the Netherlands experimented with involving a younger audience and launched *Expose: My favourite landscape*,² curated by children who chose the artworks to be exhibited from a sample preselected by the museum. These types of initiatives gradually have increased the involvement of visitors in museums as well as the level of social engagement among participants. One of the more recent trends goes even further than this. It focuses on a sustained engagement of people with museums and fosters connectedness between museum practice and the everyday personal experiences of those visiting the museums. For example, the project *Digital Natives* conducted by the Center for Digital Urban Living at Aarhus University, Denmark, invited young people to express their culture and everyday practices in the creation of an exhibition (Iversen and Smith 2011). Another example is *Forces of Change 1960–1975*,³ an exhibition at the Oakland Museum of California in which people worked with museum staff and teaching artists to curate the objects to be exhibited through the use of both personal objects and pieces from the collection. The rich exhibition material was meant to represent the diversity of cultures and lifestyles in California from 1960 to 1975. The participative ways in which visitors interact with museums also open up new models and ways of learning about and understanding heritage and museum content. Participatory

¹<http://theinspirationroom.com/daily/2012/rijksmuseum-paint-job/>.

²<http://editie2.kmmexpose.nl/>.

³<http://museumca.org/forces-of-change>.

approaches mark the transition from museum-led interpretation (under the authority of curators) to two-way conversations around heritage (e.g. McLean and Pollock 2010) and towards a conversational learning approach (Baker et al. 2002).

In terms of designing for museum experiences, the question is what are the implications of this shift towards conversational learning and continuous dialogical engagement. The experiences to be designed have changed from ‘experiencing the encounter with an object’ to ‘experiencing interactive exhibits’, and now beyond that towards designing platforms that enable two-way dialogues, multi-user content creation, collaborative activities and social learning practices. Museum experiences are thus broadened to include, for example, direct user interactions with such platforms and communication across platforms as well as more diverse ranges of activities (e.g. creative, contemplative, visual and observational) performed through digital mediation. A noteworthy development is the shift from designing short experiences within the museum towards designing long-term dialogical relationships between the museum and its audiences. Such a shift also raises issues on how to deal with curation and control, finding the right balance between the needs of the museums and the needs of public audiences.

1.1.2 From a Focus on Individuals to a Focus on Crowds

Nowadays, it is widely admitted that the desire to establish social relationships and to be actively engaged in informal learning processes are among the main expectations according to which people decide to visit a museum (e.g. see visitor categories, such as explorers, as identified by Falk 2009). However, this realisation took time to crystallise, just like it took time for museums to distinguish among and engage differently with diverse types and categories of audiences. In the early days of museum practice, ‘the visitor’ was an undifferentiated individual, at most with some form of distinction conferred to scholars as a special type of audience. In time, various types of (social) groups, such as families and school classes, were distinguished, with the acknowledgement that each of these comes to the museum with different needs, interests and agendas. Local communities around museums gained attention as important audiences with which museums gradually started fostering better connections for strengthening their identity and anchoring it in the local territory.

With the emergence of the Internet came initiatives for involving citizens in museum affairs. Citizen involvement was not only seen as a way to give voice to communities and enable them to have a say in the way museum exhibits were interpreted but it was also a way to link the collections to the personal experience of these communities. For example, several museum initiatives focused on engaging local communities in telling stories about objects on display or the historical period from which objects originated (see for instance the *Object Stories* project at the

Portland Art Museum⁴). The emergence of new forms of communication and collaboration over the Internet and the exponential growth of social media has made the potential outreach of museums even bigger; indeed, so big that recently some museums have started exploring the possibility of engaging the crowd—people unrelated to the museum, the geographical area or the community in which it is embedded. The potential is there for museums to no longer address only local communities and on-site visitors but to become museums ‘for the global citizen’, as is stated in the 2020 Strategy of the British Museum (The British Museum 2015). The focus on crowds can be seen in terms of one-way or bidirectional communication (through growing communities around museum social media sites) and culminates in crowd involvement in processes that were once exclusively carried out by institutions. Museums worldwide have already experimented with various forms of crowdsourcing: from social tagging, labelling and transcribing manuscripts through crowd involvement to co-curated experiences and exhibitions. Crowdsourcing practices are rewarding on many levels: they enrich interpretive layers for museum collections, they strengthen relationships between museums and their publics and they make audiences feel more connected, more empowered and closer to culture and the arts. Yet, existing projects show that the breadth of these phenomena is not always enough to reverberate in long-lasting or significant impacts. Indeed, some studies indicate that crowd involvement and the outcomes of their participation are oftentimes reduced to just a handful of enthusiastic or dedicated participants (Eveleigh et al. 2014). The challenge for museum experience design is to find the right balance between seeing the crowd as an undifferentiated mass and taking into account a multitude of influential factors and a number of unknowns, especially with respect to the tastes, wants, needs and interests of a diversity of audiences.

1.1.3 From Printed Labels to DIY Technology and Internet of Things

Not so long ago, objects displayed in museums were labelled with printed boards. Subsequently, displays were introduced providing general information about parts of exhibitions, audio guides to guide visitors along displayed artefacts and, gradually, also iPads as interactive labels next to exhibited objects. The Internet of Things (IoT) movement (where objects, such as those in people’s daily lives, become networked) can also be expected to lead to museum experiences that become integrated in people’s daily practices—at home, in offices and schools, leisure environments and elsewhere: iBeacons are already used to augment the museum experience by merging the physical and the digital: social media to share museum experiences or to contribute impressions and even ideas and content for

⁴<http://objectstories.org>.

exhibits design (e.g. Iversen and Smith 2011); appropriation of paintings that are printed on mugs or T-shirts is now made easier by cheaper printing technology; 3D printing is already being used for making replicas of museum artefacts as tangible memorabilia (e.g. in the British Museum and the New York Metropolitan Museum). Yet another development is the inclusion of DIY technology, such as Arduinos (e.g. Calvi and Vermeeren 2015), allowing for both museum-organised and grassroots initiatives of citizen involvement to create museum experiences. What new opportunities arise with the advent of these new technologies? How much are they empowering grassroots initiatives compared to the pre-existing ones (like blogging or video sharing)? How can we design for museum experiences that become embedded in people's everyday practices and foster more enduring connectedness between museums and their publics? These are just a few of the questions museums are confronted with by the advent of new technologies.

1.1.4 From Designing Individual Displays to Designing for Museum (eco) Systems

Originally, museums were collections of objects on display. At a certain point in time, more attention started to be paid to the way objects were displayed or to interactive possibilities around the objects. However, the design focus remained at the level of individual objects. Later on, more integral approaches were needed to better market museums and attract new audiences. Museums needed to be branded; unique identities needed to be created for them. Thus, a start was made to design experiences around the museum as a whole, instead of around individual objects only. Thereafter, the trend evolved and shifted, moving from single museums to connected museums or to museums as part of large institutional ecosystems. Looking at current EU-calls in the field of cultural heritage, there is a striking focus on museums as part of systems of connected institutes. Partnerships and networks among museums and between museums and universities, libraries, archives or community organisations have a rich potential for spearheading innovative practices and broadening the outreach and public engagement in such practices. At institutional level, they open up unique opportunities for knowledge exchange and cross-fertilisation, enabling institutions to work in convergence for identifying social needs and priorities for growth and innovation and then proposing innovative ways to meet them.

Such partnerships and networks present unique opportunities but also challenges, especially as they operate beyond the comfort zones of routine practices and processes. For instance, as part of the YOUmedia Learning Lab network,⁵ the Dallas Museum of Art and the Perot Museum of Nature and Science teamed up to establish a learning lab for teens, following the principles of connected learning

⁵<http://youmedia.org>.

(Ito et al. 2013) and emulating the early model initiated by the YOUmedia Chicago learning lab, at the Harold Washington Public Library in Chicago (see Sebring et al. 2013). This partnership between an art and a science museum encouraged innovative explorations of convergences between art and science education. At the same time, it also meant that staff from both institutions were exploring unknown terrain and had to learn on the go how to create an experiential space for teens that enabled exploration of science and art confluences. One of the innovative approaches taken was that the Dallas Learning Lab was designed and implemented through the involvement of teens. The founders launched a survey to hear their views and collaborated with a Teen Advisory Council throughout the whole design phase, and further after the lab came into being. This example shows that partnerships between museums are deeply rewarding for multilateral thinking and innovation. Yet, designing for out-of-the-box informal learning experiences that cross disciplinary boundaries also requires out-of-the-box ideas as institutions are moving into unknown territory. In terms of designing for museum experiences, this trend implies that designers need to think further and beyond the visitor's experiences before, during and after a museum visit. Design needs to be rooted in a holistic vision that locates visitor experiences within a system of connected institutes without, however, losing sight of the museum's role within this system. The examples above show only some of the challenges this vision poses to museum experience design processes; more examples will be explored and discussed in this book.

1.2 Developing the Book Structure

A workshop was conducted at the CHI 2016 conference⁶ to discuss viewpoints on the central theme of the book—how museum experience design practices are changing at present and which are the most influential factors that impact upon these changes in practice. A call for position papers (Vermeeren et al. 2016) was launched to invite potential chapter authors to submit position papers inspired by the trends discussed in Sect. 1.1. From the position papers, four themes emerged that were taken as inspiration for developing a brainstorm game to stimulate discussions among the various workshop participants. The themes were:

1. *Engaging the public*: this is about investigating the diverse modalities of engagement that museums can put forth for their visitors to make their visit (or related interaction with the physical and web presence of the museum) a memorable experience;
2. *Crowds—diverse audiences*: broadening the focus on the diverse types of museum audiences to include a more heterogeneous and somehow undifferentiated mass of people—the crowd;

⁶<http://chi2016.acm.org>.