

## Museum experience design: lessons from across the field

Cath Styles

Last week, staff of the National Museum of Australia met its incoming director, Andrew Sayers. Introducing his vision for the Museum, Sayers described its key characteristics: *relevant*, *coherent* and *responsive*. Those three concepts are now triggering my reticular activating system; as I was researching for this essay, they appeared again and again. Their recurrence is also logical, since my topic here is visitor experience design – precisely the field on and through which Mr Sayers' vision might manifest. So I use those notions to frame what follows.

My intent here is to comment on visitor experience design in museum contexts. Drawing on knowledge and expertise both within and slightly beyond the traditional purview of museum professionals, I hope to provide some insight into the quality and process of good visitor experience design. Museums tend not to have staff-members singularly dedicated to framing or forming visitors' experience. Rather, it is a responsibility distributed among a range of specialists in particular media – curators, exhibition designers, multimedia and web producers, educators and so on. Despite this distribution of responsibility, I believe it is important to regard visitor experience as a coherent opportunity space, whether that space is deliberately, explicitly *designed* or emerges as an aggregate of distributed effort.

Having claimed that broad interest, I should also say that my gaze here is selective. I focus on digitally-designed things with which visitors can interact in physical space.<sup>1</sup> I'm interested in design that is in some way both digital and participatory. 'Participatory design' means involving users in design *processes* to ensure the functionality and effectiveness of the result.<sup>2</sup> But 'participatory' is also used in museum circles alongside 'co-creative' to refer to physical or digital spaces that invite visitors to participate in meaning-making by sharing, evaluating or creating content.<sup>3</sup> I will therefore use the terms 'participatory process' and 'participatory experience' to distinguish the two. For me, participation is necessary, if not sufficient, for a positive museum experience, as I will explain.

### Responsiveness – or, experience design must *adapt*

Museum experience design has evolved in the last few decades in response to both social and technological change. Early experiments in digital experience design took the form of standalone computer 'interactives'. Usually, these were single-user workstations that challenged users to reach a concrete goal. Effectively, they constituted a transplantation of an instructional-style of personal human-computer interaction into public space. The idea was to make learning a more active, hands-on experience, and it was a good idea, informed by a strong sense that museum experiences should be more lively and responsive. Having a task to perform is a

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<sup>1</sup> Even when narrowed to a focus on museum visitor experience, the field of design is broad. Design streams potentially relevant to this discussion include architecture and interior design, 'user experience (UX) design', 'interaction design', 'HCI (human-computer interaction) design, exhibit design, instructional design, as well as the more encompassing 'experience design'.

<sup>2</sup> It originated in Scandinavia (as 'cooperative design') in the 1970s in the context of workplace redesign in association with trade unions.

<sup>3</sup> Since the recent publication of Nina Simon's book, *The Participatory Museum*, this association is likely to endure.

motivating experience for museum visitors,<sup>4</sup> but the limitations of these early 'interactives' were severe. Aside from issues of usability and accessibility, which are forgivable in the context of experimental media, and the perennial issue of technological obsolescence, these systems were hobbled by their constrictive approach to experience design.

In terms of user experience, 'interactives' failed to live up to the promise of their name.<sup>5</sup> Choosing a path through a fixed set of options is not really an interactive experience. A more appropriate term might be 'extractive' – such systems are characterised more by their prescriptive dispensation of information than they are by the interplay between the user and the system. The interaction certainly involved the body of the user (or at least their eyes and index finger); but the system's pre-determination afforded no space for the user to contribute, even conceptually – even in their own mind – to the act of meaning-making.<sup>6</sup> Amusingly, in the language of the museum, the adjective 'interactive' became a noun – a thing alongside (but isolated from) other things in the collection. It may seem a trivial point, but the historically-determined focus of museums on things is worth problematising.

The superficiality of the interaction afforded by 'interactives' has been well-critiqued,<sup>7</sup> and now that technology has evolved – and Web 2.0 is pervading – visitors' expectations of museums have grown. Museums are therefore obliged to adapt again. Significantly, they must broaden their focus from collection items – *things* – and the stories they can evoke, to the *relationships* between things and people, and indeed, among people. In the same way that molecular biologists are shifting their focus from single cells to the interactions between cells,<sup>8</sup> museum experience design is becoming more akin to systems design. Such a shift also accords with the socioeconomic shift Charles Leadbeater identifies, from an economy of things to an emerging 'economy of ideas' where you are identified less by what you own than by what you share.<sup>9</sup> It is an important lesson for museums: however valuable their collections are, their highest value is in the relationships they create around them.<sup>10</sup>

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<sup>4</sup> The motivational force of having a concrete task to perform has been well documented. It is an idea central to Nina Simon's book, *The Participatory Museum*. Jane McGonigal also cites it as one of the four keys to human happiness in her lecture 'Gaming the future of museums'.

<sup>5</sup> In their 2003 critique of museum 'interactives', Christian Heath and Dirk vom Lehn use inverted commas around the term at every use. It is a tendency I share.

<sup>6</sup> It is a pity, in that there is no doubt excellent content buried within these now-obsolete systems. It would be worth revisiting the content deployed in early 'interactives' with a view to converting the content to a new form. It could be deployed as the base data in a system that was open-ended, network- and feedback-enabled, where visitors could not only contribute but see their own and others' contributions.

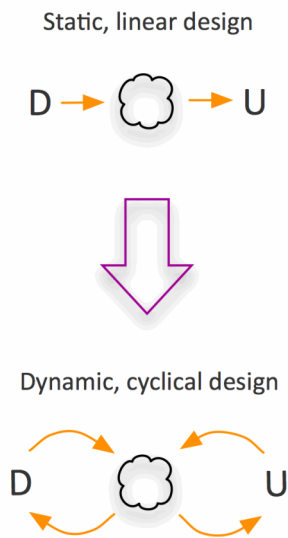
<sup>7</sup> See, for example, two papers in the recently-published collection *Museums in a Digital Age*. The chapter by Maria Roussou is fairly optimistic, although she concedes that 'the interactive part of most public experiences is inevitably controlled, structured and brief' (260). The chapter by Christian Heath and Dirk vom Lehn, by contrast, is a gently scathing report of empirical research into visitors' experiences of 'interactives' in museums.

<sup>8</sup> See 'Scientists discover the molecular heart of collective behaviour', *ScienceDaily*, 21 May, 2010, at [amira.amplify.com/2010/05/27/scientists-discover-the-molecular-heart-of-collective-behavior-science-daily-may-21-2010/](http://amira.amplify.com/2010/05/27/scientists-discover-the-molecular-heart-of-collective-behavior-science-daily-may-21-2010/)

<sup>9</sup> Charles Leadbeater, *We-Think*, 2009, p. 6.

<sup>10</sup> For many museums – especially older museums that emerged from the 19th-century modernist tradition, it will not be an easy transition to make. But it is actually imperative that they do. As Bridget McKenzie notes in her blog on climate change and cultural heritage, 'we face the fact that we have made our planet unliveable by our fetish for things. And what is a museum, fundamentally, other than a

In a similar way, the design process is evolving, from a static, linear process, where the design is presented to the user as a *fait accompli*, to a dynamic, cyclical process where the design is adjusted during its production in response to user experience (a participatory process), but also possibly after its release, in response to its use (a participatory experience).



A recent overhaul of the Oakland Museum in California is testament to the possibility of a museum’s radical adaptation to the new environment. Describing the process as ‘not linear’ and ‘much more messy’ than is customary for museums, the director, Lori Fogarty, explained how ‘teams of curators, educators and designers hammered out concepts and then, after running them past advisory councils, scholars and others, reconvened to finesse and consult again, over and over’. In all, over 3,000 individuals were consulted, and the resulting experience includes various opportunities for contributing to the display.<sup>11</sup>

### **Coherence – or, participatory process design makes sense**

Design that develops through a participatory process can yield better results for the people that use it. The process involves a range of techniques, but the general purpose is to develop ideas about how the work will be experienced, test those ideas, and then adjust the design in response. In other words, a participatory process can help ensure a match between the intent of the designers and the resulting experience of the users. It involves a ‘situated, radical creativity’<sup>12</sup> from participants. Here, I draw on two case studies of the process of designing museum-related experiences to argue that the return on a participatory process is well worth the investment.

My first example relies on a paper by a team of designers who contributed to the process of creating an interactive media artwork.<sup>13</sup> *Bystander* is an immersive, multimedia, interactive, multi-user artwork by Ross Gibson and Kate Richards, based on a collection of photographs taken by forensic detectives in Sydney between 1945 and 1960. The work comprises a room of five large screens and a surround-soundscape. Depending on the presence, movement and pace of the people inside the room, different combinations of sounds, text and images appear. The artists’ intent was sensitive to the collection imagery, and staunchly anti-didactic. Gibson wanted users to form their own relationship with the work, in fact to ‘gain the “trust” of the space’ and ‘develop a “dance” of intimacy with the images’. For the participatory designers, who were ‘sceptical about this rhetoric’, the mission was more pragmatic. They strove to ensure that the work would function within the parameters of interestingness for the full spectrum of possible audiences – from a

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monument to our fetish for things?’ See McKenzie, ‘The climate crisis and the ‘happy museum’, 17 May 2010.

<sup>11</sup> See Carol Kino, ‘Giving museumgoers what they want’, *The New York Times*, 16 May 2010.

<sup>12</sup> This phrase is from the article I introduce next, p. 40.

<sup>13</sup> See Toni Robertson, Tim Mansfield and Lian Loke, ‘Designing an immersive environment for public use’, 2006.

single, slow-moving person to a highly-active rabble of children. From their paper, it seems that they brought a valuable clarity to the process and, by urging multiple iterations of the artwork, helped to ensure its success.

A second example of the value of participatory process design comes from an article about a historic house in England.<sup>14</sup> A team of designers approached Chawton House about technologically enhancing the visitor experience of the house and grounds. The work involved developing mobile audio as a tour for general visitors and as a prompt for a creative-writing activity for school students. Initially the curators were reluctant to commit time to the project, but ultimately, all parties were pleased with the outcome. The article traces the progress of the relationships alongside the applications, and makes a strong case in favour of the participatory process. For example, as a result of their experience the teacher and the curators were able to see how their personal values could be inscribed into their professional practice:

The curators made quite radical departures from existing practice – tours that are not sequenced, not guided etc. Teachers agreed to run a fieldtrip in which they did not supervise children – another big departure. In the process of opening up this space, values that had been lost in the crystallization of their previous practices were rediscovered.

Where the curators and the teacher had become locked into more closed, controlled methods, the design process enabled them to rethink their approach, and to embrace the opportunity to afford visitors with a more personal, reflective engagement with the house and gardens.

Developing designs through a participatory process makes sense, and not only because it produces effective results. Beyond functional coherence, participatory process design has a significant flow-on effect. Clearly, a situated, radically creative process is inspiring: the teacher and curators alike gained a new perspective, from which they could work more in accord with their values. By opening up the process of design thinking – and in particular by introducing non-designers to design thinking – participatory process design can have an immeasurable, beneficial effect on professional practice, and institutional culture.

### **Relevance – or, participatory experience design is *powerful***

Happily, the days when isolated, read-only ‘interactives’ were the best digital experience that museums could offer are gone. With affordable, networked, miniature and mobile technologies at our disposal, we are well-equipped to enable deeply engaging and memorable experiences for visitors. It might be a challenging proposition for museums to adopt participatory processes. But in fact, the participation must not stop there, because many visitors now expect to contribute to the process of making meaning. A museum could enable such contributions conceptually, by leaving space for visitors to come to their own conclusions. Or it could design systems that evolve through use, where each visitor’s use alters the next visitor’s experience.

To host a participatory experience, a museum needs to relinquish some control over the content. This might be unsettling for museum staff accustomed to strict regimes

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<sup>14</sup> See Hornecker et al, ‘UbiComp in opportunity spaces: Challenges for participatory design’, 2006.

of control over every detail of an exhibit's presentation.<sup>15</sup> But the sacrifice is worth it, since the gain is relevance – and value, and authority. In the traditional model, museums exercise power by selectively presenting artefacts and knowledge about them. In the emerging model, museums exercise power *through visitors* as well, by setting a stage on which artefacts and visitors intermingle to create their own experience and meaning. Rather than performing to visitors, the new-model museum draws visitors in to its performance.<sup>16</sup>

In subtle but potent ways, this model is interesting. Nina Simon describes participatory exhibits in terms of their 'network effect', and lists their three key elements as: personalised interaction (for example, an opportunity to vote on a specific question); an algorithm that relates each interaction to all the others (in this case, simply collation of all the votes); and feedback to individuals (how many people voted which way).<sup>17</sup> With effective rules of engagement, the network effect can produce results that are surprising, and greater than the sum of the individual interactions. This effect is otherwise known as 'emergence', and was a stated goal of the *Bystander* exhibit. Indeed, there is a wealth of opportunity for museums to explore in this regard.

As well as the potential to create new forms of collective intelligence, participatory experience designers exert considerable influence over the bodies of visitors. Interactive artist David Rokeby is highly conscious of this influence. In his work *Very Nervous System*, the position and the slightest movement of a human body is observed, interpreted, and translated, instantly, into music. For viewer-participants of the work, it is both unsettling and highly engaging – unsettling because their conscious perception of their own movement lags behind, or is less subtle, than the music it produces; and engaging because, as Douglas Cooper describes in his *Wired* article about the project, the work 'makes something out of you' – both a dancer and a symphony – and 'the music created is entirely coherent; it's music you want to listen to'.<sup>18</sup> Rokeby in fact reports that prolonged engagement with the work can change a person's experience of the world:

Walking down the street afterwards, I feel connected to all things. The sound of a passing car splashing through a puddle seems to be directly related to my movements. I feel implicated in every action around me. On the other hand, if I put on a CD, I quickly feel cheated that the music does not change with my actions.<sup>19</sup>

Importantly, Rokeby's approach to experience design is responsible. He is attentive to the imprint of his interfaces on the viewer's perceptual systems – the

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<sup>15</sup> As custodians of valuable material, and publishers of authoritative content, museums take very seriously their responsibility to maintain high professional standards.

<sup>16</sup> Nina Simon puts it this way: 'Platform designers have incredible power over the user experience, but it's a different kind of power that may be unfamiliar to those accustomed to designing and presenting content experience.' *The Participatory Museum*, 2010, p. 121.

<sup>17</sup> Nina Simon, *The Participatory Museum*, 2010, p. 89.

<sup>18</sup> Douglas Cooper, *Very nervous system*, *Wired*, 3(3), March 1995.

<sup>19</sup> David Rokeby, 'The construction of experience: Interface as content', article published online but also in *Digital Illusion Entertaining the Future with High Technology*, Association for Computing Machinery Press, 1998.

accumulative, and possibly enduring, effect on their physical and symbolic experience of the real world.<sup>20</sup>

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Museums that choose the path of participatory digital design (both as process and as experience) are adapting to the prevailing circumstances – they are choosing relevance over obsolescence. In several ways it is not an easy choice to make. To design more responsive, coherent and relevant experiences will most likely require structural and cultural changes within the organisation. It is one thing to recognise the affordances of a new technology; it is another to integrate it strategically, with a mind to the experience of visiting as a whole, and in the context of traditional or legacy divisions within the institution. Opportunities for consultants are emerging more frequently, but it remains rare for a museum to employ an experience designer. Indeed, various specialist roles are only just emerging – mobile application designer, physical–digital interaction designer, data visualiser, and so on.

It is clearly insufficient for a museum to deploy participatory processes, or to create participatory experiences. We must also attend to the quality of those processes and experiences. On this front, it would be useful for museums to develop guidelines for visitor experience design. Interfaces must be functional, coherent and engaging, and they should cultivate good relationships between museums and visitors. We also need to attend to the effect of interfaces on the perceptual systems of visitors. In a nutshell, museums are powerful entities, and should wield that power with transparency and care.<sup>21</sup> In the short-term, we would do well to remember the advice of game designer Jane McGonigal, who urges museums to give visitors what games do: a challenge suited to their ability, access to collaborators, and positive feedback.

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<sup>20</sup> I am reminded here of Adam Greenfield's call for ethical guidelines for user experience in ubiquitous computing settings, and Anne Galloway's analysis of their implicit power relations. See Adam Greenfield, 'All watched over by machines of loving grace: Some ethical guidelines for user experience in ubiquitous-computing settings', *Boxes and Arrows*, 2004, and Anne Galloway, 'Resonances and everyday life: Ubiquitous computing and the city', 2003.

<sup>21</sup> Several writers whose work I have cited in this paper recognise the privileged position that museums occupy in relation to culture – not to decry their elitism, but to urge their action. In her lecture to the Center for the Future of Museums, Jane McGonigal referred to museums as the 'premier platform for collective experience'. And Robertson et al refer to museums as 'natural laboratories' for investigating both design prototypes and how people discover, explore and create connections. (p. 33)

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