Remix: Design, Media, and Shaping Experiences

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> Just as the line separating physical and online spaces is increasingly blurred, so too should exhibition planning and design remix practices be thought of not as separate strategies, but as part of a holistic vision.

Think back to the first time you experienced technology in an art museum exhibition. Where was it in the gallery? What did you do? One of the first experiments using digital interactives at the Nelson-Atkins Museum of Art probably resembled your memory—a touch screen kiosk with didactic content away from art objects at the end of the gallery. In the last two decades, the widespread evolution of web and digital access has instigated a change in museum display, encouraging experimentation with immersive systems that create cohesive and participatory visitor experiences. Just as the line separating physical and online spaces is increasingly blurred, so too should exhibition planning and design remix practices be thought of not as separate strategies, but as part of a holistic vision.

A Unified Strategy

An example of this unified strategy occurred in the exhibition, *Journey Through Mountains and Rivers: Chinese Landscapes Ancient and Modern* at the Nelson-Atkins Museum of Art. Featuring a group of the Song dynasty Chinese scrolls, the exhibition sprawled across multiple galleries and two floors. The central learning goal for this exhibition was to support confident looking in visitors who are unfamiliar with Chinese scrolls. Multiple entry points encouraged investigative looking habits in other exhibition areas as well. The big ideas for Journey included:

- Many art experts consider the Nelson-Atkins Song Dynasty landscape paintings to be just as important as the Mona Lisa, and they are worthy of close looking.

- Anyone can read and understand a scroll with a few tips.

- The Chinese were one of the first cultures to represent landscape.

- Contemporary Chinese painters find inspiration in a 1000-year old tradition of landscape painting.

These statements were the criteria from which the team approached all design decisions and interpretive strategies. While the team understood the need for protecting and displaying scrolls, there was also a shared understanding for creating an environment that allowed visitors to access scrolls in new and engaging ways. The team produced a case that supported both physical and interpretive needs for an ancient scroll; they envisioned something that enabled visitors to come close without feeling the physical barriers of traditional casework. In short, the team sought to create an immersive environment that included both the visitor and an ancient scroll.

To condition visitors how to read other scrolls in the exhibition, the team chose to heavily interpret one scroll, *The Red Cliffs*, in the main gallery. This scroll is highly narrative in subject matter and includes several details for the viewer to unpack, including owner's seals, inscriptions, and hidden figures. The scroll was the entry point for designing an experience that supported both novice and advanced visitors in exploring a great, but unfamiliar, work of art through storytelling, visuals, poetry and the passion of the expert.

To mimic the physical experience of "unrolling" the scroll, the team designed a slideable digital tablet to be installed on top of the case above the object. Photo courtesy of the Nelson-Atkins Museum of Art.

Can Hardware and Content Work Together for Visitor Engagement?

To achieve an immersive and interpretive display, the team added colleagues from Unified Field, Inc. and Goppion Museum Workshop, Inc. to tackle the question: can hardware and content work together to increase visitor engagement? By including more voices at the table, the hybrid team of contractors and staff shattered the previous working template for planning exhibitions. Through iterative conversations, challenges were quickly identified, and physical and digital elements were discussed not as separate components, but as a single strategy for visitor engagement.

Knowing that the physical experience of "unrolling" the scroll could not be completely translated online, the entire team designed a slideable digital tablet to be installed on top of the case, above the art object. As the tablet glided across and up and down the case it revealed layered content and recreated the original experience of unrolling in sections from right to left. As visitors interact virtually on top of the scroll, the casework and new media merged into one immersive experience for close looking and content delivery. Along with the digital tablet, the team developed analog strategies for visitors to access the scroll, such as magnifying glasses and interpretive booklets.

With these diverse interpretive tools available, the team ensured all components were designed into one seamless physical installation. By planning the digital media interactive in tandem with the development of the casework, the project team realized and worked towards a single learning outcome. Acknowledging how the physical environment affects learning was critical for thinking through this project, thus the team produced several physical and digital mock-ups of the physical case and the tablet slider. The construction of the case was thoroughly examined from the perspective of how visitors interact with the digital media, so both the physical and digital features supported one another.

The interactive case also reflects visitors' evolving physical behavior with multimedia devices, namely, using natural movements and gestures to access content. Although this digital experience could only be activated by a visitor physically moving the tablet carriage, in the future body movement will become inherent in thinking about these types of new immersive environments (The New Media Consortium [NMC], 2012). By including digital media experiences as part of the vision for designing an exhibition, art museums will be able to quickly identify challenges and work together to fully realize opportunities for this new natural, gesture-sensing language.

This interactive scroll case is one of the first examples in an evolving trend that combines interactive digital media with traditional casework. It merges a virtual medium that responds to learning styles,

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The casework and new media merge into one immersive experience for close looking and content delivery. Exhibition view of the Interactive Scroll Case *at the Nelson-Atkins Museum of Art. Photo courtesy of the Nelson-Atkins Museum of Art.*

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interests and knowledge, with the presence of a physical artifact. Overlaying the scroll with dynamic digital media gives visitors access to the rich stories beyond a static label or a traditional touch screen interactive. This inclusive approach taken by the project team is one that could be applied to other exhibition projects. Too often art museums are worried about competing for audiences between the flashy multimedia interface and the inherent power of an art object; however, this experience proved that when digital and physical elements work together visitors of ages all become more engaged and empowered.

Methodology

Like the interpretation plan itself, teamwork was a vital part of the evaluation process. The evaluation questions were established in conversations between the evaluator and the project team. While the evaluation looked at the exhibition as a whole, the discussion in this paper will be limited to the aspects of the evaluation that reflect the impact of the tablet on the visitor experience. Evaluation questions that related to the tablet were:

- Are the big ideas/main messages of the exhibition being effectively communicated to visitors?

- Do visitors understand the use of the tablet?

- What is their response to the tablet?

- Do visitors spend more time looking at the tablet or the art?

A combination of visitor interviews and focused observation was employed to explore these questions. Forty visitors were interviewed as they exited Kirkwood Hall, the first floor gallery where the *Red Cliffs* Scroll was displayed. In focused observations, a chart was completed for 100 visitors to demonstrate if they ignored, glanced at, spent a short time (arbitrarily set at 2 minutes or less), or a long time (more than 2 minutes) with each of the exhibition elements. Group makeup and interactions were also recorded, as there was a concern that the tablet would not accommodate groups and become a solitary experience.

One challenge experienced was that despite being installed early to

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troubleshoot, the tablet occasionally malfunctioned. Although it was fixed quickly, this affected the visitor experience and evaluation. While the visitor service officers were trained in restarting the system, formative testing should include them so that they are aware of potential issues and are ready to discuss these with visitors. Often security or visitor services officers are included on the team towards the opening of the exhibition, when truly they should be part of the nascent discussions about the visitor experience.

What we Learned
The multimedia tablet was well-used by visitors. Forty percent of those interviewed outside of Kirkwood Hall (n = 40) reported using it. Forty-one percent of users said it contributed the most to their experience when compared to the other available interpretive elements. These visitors typically explained their selection by saying it was 'awesome,' 'interesting,' and 'informative'. Thirty-two percent (n = 100) of visitors observed were seen using the tablet and 53% of these visitors spent more than two minutes with it. Given the common assumption that technology is favored by younger people and/or confusing for older people (Tsoroni, 2009), one surprising finding was that the tablet was used by over a quarter of each age group.

In addition to individuals' responses to interpretation, group interaction around the tablet was also assessed through focused observation. The interactive nature of technology and its ability to accommodate layers of information makes it a convenient tool for groups to teach each other about art (Perry, 2012; Ash, 2003; Sayre and Wetterlund,

2008). While the majority of visitors using the tablet were in adult groups (48%), families with children were most likely to use the casework to discuss exhibition content. Twenty-four percent of visitors observed were with children or teenagers, and 67% of these families looked at the exhibition together part or all of the time. Sixty-nine percent of families that looked at the scroll together used the tablet together. Although topics of conversations often could not be heard, 45% of parents looking at the tablet were heard explaining related topics or reading content to their child. This indicates that the tablet facilitated parent-child interaction.

Although 75% of adult groups looked at the exhibition together all or some of the time, only 25% of groups that looked together used the tablet together. Although only a small percentage of this group was heard discussing the table (22%), this is consistent with previous research. McManus found that families spend a long time in exhibitions and talk frequently about content, while adult groups focus less on the exhibitions and spend more time in personal conversations (1987). Thus, while age has not proven to be an indicator of the likelihood to use technology, group makeup may be a determining factor, with groups with kids being almost twice as likely to engage with the tablet as adults. However, it is not clear if these results are specific to technology, or if these results reflect how different group types engage with all interactive exhibition elements.

Future Challenges/Questions:
This paper has discussed how museums are using exhibition design and

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A child uses the Interactive Scroll Case. *Sixty-nine percent of families that looked at the scroll together used the tablet together. Photo courtesy of the Nelson-Atkins Museum of Art.*

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digital media to create cohesive visitor experiences with supporting summative evaluation of this case study. Both interpretive planning and evaluation will face challenges in the future. For interpretive planning, the speed at which technology advances can make it difficult to select hardware, particularly in permanent galleries. Museums will also need to be mindful that technology is not overused in a gallery. Although under-researched, technology fatigue can be a significant barrier to visitors' use of technological interactives (Tsoroni, 2009).

The definition of 'success' for digital media within an exhibition is still being determined. Use of the tablet alone is not an appropriate measurement of success. Numerous studies recognize that visitors are individuals, and thus will not all use the exhibition elements in the same way (Falk, 2009; Pekarik, Doering and Karns, 2010; Perry 2012). Triangulation of qualitative research methods will give individual museums a sense of whether or not they are reaching the appropriate ratio of visitors. This also highlights the issue that many art museums are still building a baseline of data with which to work. For example, we have not had opportunity to look at group interaction in previous evaluations. Anecdotally, there seemed to be more conversation happening around the tablet; future observations will prove or disprove this.

More agile processes of exhibition planning and evaluation are needed to address the evolving trends of digital media in exhibitions. While these new ways of working compete in many real ways for money, staff time and institutional priorities, they expand opportunities for creating iterative, innovative, and integrated visitor experiences. ☀