The Museum and the Web: Three Case Studies

Current Innovations and Elements of Design

The University of Victoria's website, "Best Practices in Museum Web Site Design (www.uvcs.uvic.ca/crmp/museumwebsites) (2004)," suggests that users "spend eighty percent of their time using twenty percent of a website." If this is accurate, one would have to wonder why spend any time at all building a complex website. Surely a viewer visiting a site specifically to learn more about a subject is disqualified from this rule. At the very least, however, it suggests that museums must give considerable attention to what they include on a website, how it is presented, and whether it is working well.

To this effect, the "Best Practices" website poses a relevant question: "How does your museum empower and engage your visitors?" This section addresses some of the ways and means whereby museum websites are answering that question and, at the same time, creating a space that is more integrated into the overall museum mission and experience.

Virtual Tours

A virtual tour creates a moving, panoramic view of the museum, sometimes in conjunction with a floor plan. Visitors then know exactly where they are "standing," as well as where what they are looking at is located. Not only does this technique help orient visitors quickly when at the physical location, it also enables them to see how artifacts are arranged in relation to one another. It provides a sense of scale, although somewhat disproportionately, since many virtual tours use a distorting, wide-angle lens. The tour need not be limited to room-by-room exploration. Individual displays spliced in with records for each object recreate the experience of viewing the object in context with supporting materials. A personalized virtual tour can be set up so that selected objects can be viewed together. The virtual visitor can effectively reconstruct the exhibit, rearrange items within a room, or add other objects from different rooms or from storage.

(For an example of a basic visual tour, visit http://xroads.virginia.edu/~UG03/folk/gallery1.html and then click on the site's "panorama" link. This will take you to the virtual tour. Note the Flash animation used at the bottom of the page.

QuickTime Virtual Reality (QTVR) captures the experience of an actual walk-through by using a movie shot from the viewpoint of someone walking through the exhibit. The virtual tour might be further enhanced with audiotapes of tours, oral histories, or other relevant sounds.

An alternative to the panoramic tour is to use enlargeable photographs in a sequence or on a floor plan, but these do not convey the same sense of perspective or space. (For an example, visit http://www.jhu.edu/~hwdhouse/homewood.html.)

Streaming

A video or audio file that has been "streamed" starts loading within seconds so that the images become available before the entire file is opened. This considerably reduces the time the visitor must wait before seeing a moving image or hearing an audio file. It might be compared to reducing the time the visitor must "wait in line." Using this technique, some museums are posting video lectures on the education portion of their
websites, effectively decentralizing their materials. (For an example, visit http://xroads.virginia.edu/~MA05/peltier/30sproj/automot/masterhands.html. Click one of the movies to the left to see this in action.)

Personalization Techniques

An interactive website can create models of viewers' interests, much like online shopping services do. These models can be used to help shape personal collections culled from the museum's resources, including materials (artifacts and documents) that are not on display. The Peabody Museum, for instance, uses an audio guide in the physical site that enables visitors to key in the names of objects while perusing the exhibits. Visitors can later download the information onto a computer program accessible through the museum website. The viewer essentially builds a home "library" of images and text.

Autonomy is one benefit of personalized tours:

Rather than taking the obligatory path the visitor is compelled to follow in a real museum, remote visitors to a virtual museum are free to look for, combine and re-contextualize the information they need according to their interests. According to Jonathan Bowen, author of "Personalization and the Web from a Museum Perspective," the museum benefits from this as well, both by learning about visitors' interests and by including visitors in a dialogue that can help shape the museum's exhibits and activities in the future.

Personalization systems adapt the interface for the user by collecting information provided by the user or by monitoring the user's actions through site "cookies." The latter system, however, is considered by many to be an invasion of privacy. Bowen notes that "Twenty-five percent of visitors may avoid personalization techniques due to privacy issues, and only eight percent consider revisiting because of personalization options." Customization enables users to employ such features as bookmarking or rearranging pages, organizing information as they please, or putting their names on a page.

Proponents of personalization and customization argue that creating content and presentations that relate to the characteristics of the user facilitates navigation, increases speed of access, and augments the likelihood of a successful search. Studies have shown that "learning is stimulated when the information is described in terms that the visitor can understand and if it makes references to their interests as well as concepts that the visitor has already encountered during the navigation/visit." Besides the privacy issue, mentioned earlier, my other concern is that personalization to this extent necessarily filters information for the user (even more than it already is), thereby eliminating the possibility of stumbling across an area of previously unknown interest. I cannot imagine how many great books I would have missed had I been limited to reading subject matter that I had already been inclined to read. Only if the broader pool of information remains available does personalization seem viable. (Many commercial sites, such as amazon.com, use a related technique when it lists items that the viewer might enjoy.) The issue might be considered a variant on the question of curatorial authority, which in this case seems in danger of being usurped by the webmaster.

By contrast, Bowen views personalization as a "communication strategy based on a continuous process of collaboration, learning, and adaptation between the museum and its visitors"—a way of ensuring that a populist approach will prevail.
The tactic some websites use that offers a compromise is to invite viewers to register (a process of submitting profile information, demographics, interests, etc.) and then to create their own "home page" on the site. On that page they can set up links to segments of the museum website (especially useful for pages deep in the site or focused on a particular topic), receive calendar updates, store images from a physical or virtual museum visit, create a catalogue of text and images, or write new text. The web visitor could even create a whole exhibit, drawing from the museum's archives and storehouses. Some museums have not only facilitated this but have also enabled these constituency-created exhibits to be viewed online via the main website.

The San Francisco Museum of Modern Art, for instance, had an exhibit in Spring 2001 in which Web visitors could curate a show according to suggested themes. (Options such as these might be desirable perquisites for members.) Such methods provide an innovative way to broker culture, for they satisfy the desire to empower visitors with a sense of history that belongs to them; authority is derived from the viewers themselves rather than an "elite" class.

Media

Using radio, newsreels, and videotapes as part of online storytelling can lend interest to a website, if they are truly useful (i.e., really add something that cannot be gleaned from text or images alone) and load quickly. Some museums invite the community to send in artifacts, written or audiotaped memories, and/or photographs that create a collective memory from a personal one; these are digitized, stored in the archives, and made available online. Such an exhibit "interweaves family memories, news, and history."5 (For an example, visit http://xroads.virginia.edu/~1930s2/Time/marcy/1940.html, to see a timeline that uses clips of old radio files and newsreels to help tell the story of the year 1940. Go to January, Arts and Culture, to listen to "Abbott and Costello"; go to October, Science and Technology, to see a newsreel of the Tacoma Bridge collapse; go to July, World, to listen to William Murrow's radio account of the London Blitz.)

The San Francisco Museum of Modern Art in 2002 began a series of programs specifically designed to enhance visitors’ experiences on the Web and in the physical space as a result of pre-education through the Web. The project, "Bridging the Gap: From Real Art to Virtual Learning" included one such program that was interactive, multimedia, and educational called "Making Sense of Modern Art." It makes use of many of the techniques mentioned in this section. (To see this program, visit http://www.sfmoma.org/grants/imls/index.html#.)

Animation

For younger audiences, animation can make learning about history more fun. (For an example, visit http://www.animatedatlas.com/ssss/movie.html.) But it easily crosses the line from edutainment to entertainment. On the other hand, using animation to show three-dimensional views, relationships among objects, or changes in materials over the years are some options that may provide more information than viewing the object alone (either virtually or physically).
Three-dimensionality

The techniques for digitizing three-dimensional objects so that they can be seen from multiple angles range from click-and-turn models that simply show photographs from a different perspective to videos of an object turning. Some medical and science lifelike, but the technology is beyond the reach of most museum budgets at this time. Eventually, however, the lack of dimensionality on the Web may be less of a problem than it is now. For some museums, combining virtual tours with three-dimensional animation or STL may enable visitors to "walk around" objects that must now be placed against a wall, in a corner, or in an alcove due to lack of physical space. (For examples, explore the website for Digital Morphology at the University of Texas, http://www.digimorph.org/.

E-postcards

Some museums offer an option to send a free "e-postcard" to a friend. The visitor selects a card, typically a representation of an artifact or art work, and writes an e-mail that is delivered from the site. The recipient receives the picture and the message; the museum Web link is automatically included.

The current use for this technique is limited to free advertising. The museum could use the technique to send a trail of "clues" about an artifact or exhibit that would work together to contextualize the artifact. The recipient could collect the "postcards"and plug them into an interactive site to get more information, solve an archaeological mystery, use to unlock related maps, and so forth. They could also be used by the museum to pre-educate and post-educate the viewer.

Combining Exhibits

The Textile Museum of Canada and the Gardiner Museum of Ceramic Art combined two collections online in an interactive exhibit, "Cloth and Clay: Communicating Culture" ( http://www.textilemuseum.ca/cloth_clay/home.html). Maximizing the "exploratory, unrestricted nature of the Web," the website enabled visitors to select items from a "Let the Objects Speak" segment that gave information about the object from a third- or first-person voice (http://www.textilemuseum.ca/cloth_clay/obj_main.html). For instance, clicking on one piece of cloth triggered a voice saying, "I have the privilege of being the oldest textile in this exhibit." A joint venture such as this one provides a way for small to medium-sized institutions to reach a wide audience and to expand their exhibits beyond the restrictions of their material collections. This idea could prove especially helpful for subject areas with limited artifacts, such as African American history.

Deepening the Hierarchy

Rollovers, pop-ups, links (both internal and external), and Flash (animated images) provide ways to expand the information presented about any subject. Dragging the cursor over a map of railroads in the 1870s, for example, could "roll over" to a map of highways in the 1930s so that the history of transportation could be traced visually. This in turn could be tied to artifacts in a transportation museum. In addition, the images of the artifacts might be placed on the map to show where they were made. Clicking on an image or word could link to a brief explanation or definition (via a pop-up), another
exhibit, text about related subject matter, or to an outside source. The Web makes it possible to dig deeply into a subject using a host of methods and to expand upon the presentation of artifacts within the physical site.

(For an example of a rollover, visit http://xroads.virginia.edu/~MA05/macdonald/currier_ives/bigships2.html. For an example of using Flash to provide additional information in a visually interesting way, visit http://xroads.virginia.edu/~UG03/folk/gallery1.html. Clicking on one of the moving images will take you to an enlargement of the painting and related information. The website author could have added suggestions about how to look at the painting to appreciate it more, or even included a discussion on why the painting is considered "art." Another way to use Flash is as a link that serves double-duty by providing imagery that is relevant to the subject matter. For an example, visit http://xroads.virginia.edu/~1930s/FILM/filmfr.html. For an example of using pop-ups to expand the information provided on a subject, visit http://xroads.virginia.edu/~MA05/macdonald/currier_ives/intro_nost.html. On the new page, scroll down until you see and can click either mythos or lithograph.

Edutainment

Interactive games, storytelling modules, puzzles, and animated characters from history are some of the ways that museums are using the Web to blend education and entertainment. Creative play, role-playing stories, interactive mysteries, and simulation are other types of interactive resources. Creative play helps develop observational and hand-eye coordination skills, while puzzles and mysteries stimulate critical thinking skills. Role play puts the viewer inside the story and brings a populist twist to the presentation of history.

For instance, at one point the Virginia Museum of Fine Arts had a section on their website called, "You're the Expert." This section asked viewers to solve real-case scenarios, such as issues of authenticity, and compare their responses to those of the staff. One scenario asked visitors to determine what information would be most interesting for inclusion in an object label, thereby addressing directly the controversial issue of label writing and curatorial authority.7

Studies conflict as to whether passive or active approaches work best on the Web. A 2001 IBM-funded study noted passive preferences in a small study limited to employees aged 21-55 and limited to one topic. A 2002 study designed by David T. Schaller, et al, found that while adults prefer straightforward cognitive information, interactive reference or simulation, children prefer motivational strategies such as role-playing stories. (For examples, visit the website for Educational Web Adventures [www.eduweb.com] for numerous examples of innovative edutainment being crafted for museum websites.

Education

Some websites offer lesson plans that use both virtual and physical museum spaces to teach segments on history. These tend to include detailed information about events, people, and culture of a given period, supplemented by images from the museum, writing exercises, vocabulary assignments, and the like. The Colonial Williamsburg Foundation, for instance, in 2005 was offering electronic field trips (for a fee) that include diverse activities such as selecting materials to supply Revolutionary troops, taking a personality
quiz to compare decisions with that of a colonial civilian, and making videos. (Visit http://www.eduweb.com/portfolio/soldier/index.html for information.) Interactive sites such as this can teach "complex cyclic, structural or relational concepts by immersing students in credible microworlds [. . .] [that] convincingly 'transport' students through time to historical sites; through space to the museum; or through their imagination to fictitious and fantastic worlds."8 Audio-visual materials and interactive technologies are essential components of a realistic but simulated environment. Videoconferencing and projects facilitated between chat rooms and actual meetings with curators can supplement the field trip.

Another possibility that I did not encounter (but that might be employed somewhere) is to create a virtual exhibit specifically tailored to a class's history lesson. A teacher could work with a curator and, delving into the archives, fashion an exhibit of relevant artifacts and text for nearly any period of history. If several museums collaborated, a group of teachers and curators could generate cross-disciplinary courses that present history as far more than a string of political and economic events.

(For an example of a website providing writing exercises tied to an examination of art in the context of history, visit http://xroads.virginia.edu/~MA05/macdonald/currier_ives/writing.html. While this website is entirely virtual, the same approach would be effective in a website for a physical museum.)

Post Visit

Some museums place an interactive computer in or near an exhibit so that visitors can log in items or questions to investigate once they are home again and can take more time. It is even possible to record a layout of an exhibit, those sections visited, and those still to visit.9 Presumably the post-museum virtual visit would further enlarge understanding of the subject matter and even encourage another physical visit to address a new set of questions.

Guralnick's concept of "infinite hierarchical depth" is an essential element in a post-real-time visit. A follow-up virtual visit is an ideal way to contextualize the material further and move deeper into the topic.

3 Ibid.
4 Ibid.