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# ***“Cyberpals!/Les Cybercopains!”: A Look at Online Museum Visitor Experiences***



**BARBARA J. SOREN AND NATHALIE LEMELIN**

**ABSTRACT** This article examines approaches to creating museum Web sites that offer quality experiences to online users. In six case studies, museum Web developers in the U.S. and Canada describe how they have made the most of available human and financial resources. The development history of each site offers insights into the origins of a design and its subsequent versions, and describes the influence of institutional missions, philosophies, success indicators—and financial and human resources, the most crucial factors. The study found considerable variety in the backgrounds, expertise, titles and training of people developing Web sites within institutions. Web teams developed “exchange” experiences through online discussion, and by creating links among users, or between museum staff and users. In three case studies, Web sites encouraged visitors to cycle between online and on-site museum visits. Web developers describe using quantitative and qualitative online audience research strategies. WebTrends™ software has enabled Web teams to report complex log analyses. Creating online experiences in partnership with users is the intention of Web developers.

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A PREFACE: ICHIM '03, PARIS, FRANCE

New technologies have had a mixed success rate in museums. An economic upturn in the early 1990s resulted in a profusion of museum Web sites and an interest in technology and multimedia. But after the recent economic downturn and the decline of the dot-com industry, revenue generation from museum Web sites has not been sufficient to sustain Web development teams. The implication is that Web user testing and the development of quality online experiences will have reduced priority in the future.

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Issues related to new technologies were on the agenda of the International Cultural Heritage Informatics Meeting (ICHIM) 2003: Cultural Institutions and Digital Technology, which took place at l'École du Louvre, Paris, France, on September 8–12, 2003 ([www.ichim.org](http://www.ichim.org)). Sessions highlighted trends in digital technology development for museums, and implications for developing quality online-user exchange experiences. The Web field is growing and changing very rapidly. It was apparent at ICHIM '03 that research on quality online experiences is an area needing exploration within the larger field of digital technology.

Despite hints of a downturn, this is a period of intense creativity for multimedia companies and user-interface technology consultants. Technologies for personalizing and individualizing museum-visitor experiences seem to be the rage. Resources are going into developing new user-friendly devices such as *DinoHunter*, a mobile game-based edutainment application. Prototypes of these new technologies are being tested with front-end user-design methods.

Museums have begun to focus on integrating human and technological support for museum visitors. The San Francisco Museum of Modern Art, for instance, has created a new education space, the Koret Visitor Education Center, which contains interactive media, a learning lounge for adults and children, and lifelong learning programs. Tate Online, the Web presence of the Tate Museum, is developing its third-generation site as a “fifth gallery” to increase access and understanding of the collections in the Tate’s four museums. Tate Online is concerned with expanding and diversifying audiences, and better defining who audiences are (geographically, for instance). The site is powered by BT, one of Europe’s leading providers of telecommunications services. The Web site ([www.btplc.com/pda/Betterworld/Community/Artsandheritage/TateOnline.htm](http://www.btplc.com/pda/Betterworld/Community/Artsandheritage/TateOnline.htm)) is rich in content and interactivity and provides access to over 60,000 works of art in the Tate collection.

The last day of the conference, one woman asked: “What is the right balance between social experience and focused individual experience? Which will stick longer?” How can we evaluate the differences between a human presence (such as a facilitator or docent) and machine personalization (such as a personalized palm pilot)? Audience research has shown that visitors have multiple preferences—so each of the different ways of engaging museum visitors and online users will appeal to some. Multiple interpretation strategies are an occasion not for tension but celebration.

Most of the new technologies seem more likely to appeal to younger users. We may ask: What types of experiences are preferred by individuals from different cultural communities who visit physical museums and their Web sites? Which users choose, and do not choose, to use advanced technologies? How are the precious resources of today’s museums best spent to optimize collections interpretation, both on-site and online? How should we engage diverse users who browse museum Web sites at their homes, schools, colleges, universities, or workplaces?

## ONLINE EXPERIENCES OF MUSEUM USERS

This report explores the development, documentation and evaluation of online experiences of visitors to six museum Web sites across the U.S. and Canada. We were given permission to use our title by one of the museums that participated in the research: *Cyberpals!/Les Cybercopains!* is the online service of the Montreal Museum of Fine Arts/Musée des Beaux-arts. The term “cyberpals” implies what we mean by quality online museum experiences. In our research we were exploring different ways that visitors to museum Web sites could be “pals” in cyberspace. (We encourage readers to visit these Web sites and experience them directly. Web addresses are listed on p. 61 and in the Acknowledgments.)

The primary objective of the project was to determine criteria for developing quality experiences that encourage user participation and feedback. Our criteria differ from the technical quality criteria set up by the W3C, which provides specifications and guidelines for HTML/XHTML and goals for online accessibility and other criteria. We focused our research on experiences of users who browse museum Web sites. One educator who strongly influenced our work is Dewey (1938), who argued for experiences that provide a lifelong spiral of growth.

Study participants included museum staff members who were designing Web sites and evolving methods for studying experiences of online visitors in 2001. Research strategies included online and in-print searches and interviews with six Web developers.

Many museums are developing Web sites, but little is known about users' experiences aside from basics such as number of hits and demographics of users. There seem to be two trends. First generation Web sites are typically modeled on a text-based electronic magazine; they tend to rely on traditional exhibition formats, and are institutionally focused. Museums currently redesigning Web sites have learned from visitors that they need to shift to a more interactive, participatory site that is more engaging and visitor-centered. There is an increasing focus on helping lifelong learners construct meaningful experiences as they browse museum Web sites.

**Online and in-print searches**—From conference sessions we attended in the U.S. and Canada during 2001–2002, we discovered how little museum staff and Web developers know about the quality and outcomes of online visitor experiences. Our searches, online and in print media, were aimed at finding museum Web sites that offer opportunities for user participation and monitoring of visitor experiences. These sites offer such options as: feedback, visitor surveys, discussion about topics with experts, chat rooms, guest books, graffiti walls, and simulating a curatorial role by creating exhibitions from an online database of the permanent collection. We were particularly interested in museum Web sites in which developers and designers were attempting to engage visitors and collect information about online users.

**Semi-structured conversational interviews**—Working with limited resources, we decided to interview six museum Web developers whose Web sites we felt offered quality audi-

ence involvement and feedback. We contacted staff or consultants by telephone and/or email, and requested an in-person, telephone, or online interview.

Conversational interviews (using a qualitative, naturalistic approach as described by Diamond 1999; Mason 1996; and Patton 2002) lasted approximately one hour. When we interviewed a staff member who was able to provide an online demonstration of research methods and strategies, we wrote observational field notes. During interviews, we asked Web developers about:

- Models or frameworks for developing sites.
- Strategies for studying online users.
- Challenges or obstacles in developing quality Web sites.
- Successes related to learning about the nature and quality of online experiences.
- Methods of using information about online visitors.
- Ways of determining outcomes and impacts of online visits.
- Skills of staff members developing and evaluating online visitor experiences.
- Documentation, statistics, or reports about users.
- Criteria that define quality museum Web sites.

We discussed Web group strategies for developing online experiences and methods for determining the nature and quality of visitor learning experiences. The research offered conclusions and insights into:

- How a sample of Web developers attempt to engage users during visits to the museum's Web site.
- How online opportunities are provided to help people construct their own meaning while exploring these Web sites.
- What people can learn about the museum's objects and collections through a Web site, compared to visiting the physical museum.
- How individuals can find out about additional online content and/or activities such as visits to the physical museum after online experiences.

#### QUALITY ONLINE VISITOR EXPERIENCE CASE STUDIES

Institutions, Web developers and Web users define quality from their own differing perspectives. We decided that a description of an "exchange" experience best represented the quality online experience we were looking for. In an exchange situation, space is created for discussion and sharing. Links are established among users or between museum

experts and users. The exchange function's main objective is to encourage formation of a network or a forum; it also represents "an opportunity for the museum to develop user loyalty" (Brochu, Davallon, Camirand, Gottesdiener, Le Marec, Lemieux, Poli and Tari 1999, 54).

We spent hours browsing the Web looking for this type of quality online visitor experience. We found three levels of exchange: basic contact information and feedback; increasingly interactive online experiences; and forums in which museum staff and visitors trade on-site and online information. The following examples were gleaned from international Web sites:

**Level 1: Feedback, message boards, and contact information**—The most common exchange was a basic Web survey asking for contact information: name, nationality, preferred language, age, residence, gender, level of education, physical site visits, modem type, email address, home address, postal or zip code, telephone, museum membership and comments. (Examples include the National Gallery of Canada and the Science Museum in London). Visitors who fill out the forms are assured that information will be used for internal analysis purposes only, and will not be passed on to any third party or used for mailings. Some Web sites (for instance, the one at the Musée d'Art Contemporain de Montréal) offered incentives, such as joining a special email club or group, for completing a Web survey.

Another basic exchange strategy gave visitors a place to write comments by providing a simple email link on the Web site (as in the Art Gallery of Nova Scotia, the Museum of Modern Art in New York, and the Art Institute of Chicago). Some Web sites had guestbooks to sign. Some requested feedback. Sometimes there were also archived and current posted comments regarding visits to the physical museum, the Web site, and specific online exhibitions and activities (Old Sturbridge Village; the Glenbow Museum). The Metropolitan Museum of Art guestbook included a customizable online calendar, an option to create your own Met Gallery of your favorite works from the online collection, and a password to receive further information.

Some sites encouraged feedback with the instruction "Tell us what you think." Users could respond to the look of the Web site, its features, its access to information, and viewers' reactions to a subsequent on-site visit (Canadian Museum of Civilization). Message boards were used to post information to expand the online user's familiarity with the museum's subject matter. The Franklin Institute Online created a section called "Braindrops—Did You Know?" The Naval Museum of Manitoba message board included the history of the Canadian Navy, as well as discussions and conversational threads.

**Level 2: Interactive exchanges, virtual tours, online galleries**—A more interactive and creative type of site offered online visitors a chance to construct a virtual tour (Centre des Sciences de Montréal—formerly ISCI). Some sites also invited people to take on a curatorial role and create their own gallery, which they could share with others; they could have an opening and invite their friends and colleagues to view their selections (Fine Arts Museums of San Francisco). An online arts workshop at the Children's

Museum of Indianapolis gave instructions on how families could make their own sculptures and puppets at home. The Exploratorium Web site invited users to make a scale model of the solar system and learn the real definition of space.

The Tate Web site provided multiple ways of engaging online visitors:

- A Visitors Book (typical of other sites) in which people could share thoughts with other visitors to the site.
- An online Web survey (untypical of other sites) that displayed the survey's key findings so users could see who else was using the Web site.
- A list of Frequently Asked Questions.
- An Art Forum (most interesting for our research purposes) in which online visitors discuss art-related issues specific to Tate artworks. (The forum included a warning that messages containing strong language and defamatory or abusive comments would be deleted.)

The Web site for Quebec City's Musée de la Civilisation similarly offered a variety of options for visitor involvement. Again, there was a simple feedback question: "What do you think of our website?" The site included:

- An online link to curators, allowing users to post a question about an exhibition, object, or topic.
- An option to vote for this site on WEBORAMA (a Web site that tabulated netizens' favorite sites).
- A *Patrimoine a domicile (Heritage at home)* interactive site, which offered a very educational opportunity to use an electronic courier to pose questions, meet with others online, participate in electronic activities, and search reference materials.
- A virtual discussion forum or newsgroup for posting comments about the topic of Aboriginal and non-Aboriginal People. Suggested areas for discussion: "being Aboriginal means . . ."; the economy; the territory; and political autonomy.

On the Montreal Museum of Fine Arts/Musée des Beaux-arts Web site we found a special program called *Cyberpals!/Les Cybercopains!*, which seemed to represent opportunities for the kind of exchange experiences we sought as a paradigm. The museum sent out an interactive questionnaire, which offered information about the museum in exchange for a user's date of birth, gender, residence, and exhibition preferences. The Web site had rating features, directions to other areas of interest, and an email address for further contact.

Finally, the Musée McCord Museum was developing an area of its Web site called *ClioClic*, an educational resource for learning Canadian history. This site was designed by Lab IdéeClic in Hull, Québec, and has innovative projects to help students learn how to



use artifacts, images and texts as sources of information. The Web site was developed in collaboration with McGill and Laval Universities, and had Social Sciences and Humanities Research Council (SSHRC) funding for the development process.

Interviews with Web developers—We decided we wanted find out more about Web site development in the following museums because they seemed like potential case studies of quality online exchange experiences for users:

Two museums in the U.S.:

- The Minneapolis Institute of Arts (MIA): ([www.artsmia.org](http://www.artsmia.org)).
- Seattle Art Museum (SAM): ([www.seattleartmuseum.org](http://www.seattleartmuseum.org)).

Four museums in Canada:

- Montreal Museum of Fine Arts/Musée des Beaux-arts (MBAM): ([www.mbam.qc.ca](http://www.mbam.qc.ca)).
- Musée de la Civilisation in Quebec City (Musée de la Civilisation): ([www.mcq.org](http://www.mcq.org)).
- Musée McCord Museum (McCord): ([www.mccord-museum.qc.ca](http://www.mccord-museum.qc.ca)).
- Ontario Science Center in Toronto (OSC): ([www.ontariosciencecenter.ca](http://www.ontariosciencecenter.ca)).

We invited Web developers from these art, history and science museums to participate in interviews during May-August 2001. Interviews were conducted on-site or by telephone. Interestingly, no one wanted to complete an on-line questionnaire! It was possible to conduct interviews in French Canadian museums because of our fluency in French and English, which helped make our research project a bilingual North American inquiry. The development strategies for these six Web sites provide a range of approaches.

Here is a list of the museum staff we interviewed, and their positions at the time:

- The Minneapolis Institute of Arts (MIA).—Scott Sayre, director of media and technology.
- Seattle Art Museum (SAM).—Christina DePaolo, promotions and Web site manager, and Carrie Adams, Web site developer.
- Montreal Museum of Fine Arts/Musée des Beaux-arts (MBAM).—Nathalie Picotte, Web site officer.
- Musée de la Civilisation in Quebec City (Musée de la Civilisation).—Jules Morissette, information technology services (*service des technologies*), and Lucie Daigneault, research and development services (*service de la recherche et de l'évaluation*).
- Musée McCord Museum in Montreal (McCord).—Nicole Vallières, director of collections and information management (*directrice, gestion des collections et de l'information*).

- Ontario Science Centre (OSC).—Kevin von Appen, associate director, digital media and publications.

The six interviews we conducted provided us with useful information about the development of these Web sites from launch date to 2001. We found that our interviews focused on the following five general areas:

- Web site development history: designing and redesigning.
- Resources and funding.
- Web site types.
- Web site developers.
- Online audience research strategies.

#### WEB SITE DEVELOPMENT HISTORY: DESIGNING AND REDESIGNING

Each Web developer talked about how the Web site had evolved, and the number of redesigns it had been through.

The most “mature” site was launched by the Minneapolis Institute of Arts in 1993; by 2001 the Web team was working on the site’s third generation. The Web developer, Scott Sayre, had been involved throughout. He explained, “We were probably one of the very first museums to have a Web site . . . so we’ve been doing it for a while and we are actually behind where we want to be as far as redesign.” For the MIA, the Web has become an important institutional manifestation. The Web team has learned, particular-



ly in training teachers to use technology, that very few users understand plug-ins—applications that have to be downloaded and installed from the Internet. Therefore, their general intent in technical design was to do everything possible on the server side to make the Web site accessible and easy to use.

The Ontario Science Centre Web site, launched in 1995, was the next oldest in our sample. In 2001, the Web developer Kevin von Appen described the site as “a sprawling and fairly complex beast,” not unlike the museum’s building. A priority for the redesigned site was “to get the stuff that helps people make physical visits here working well” (through such aids as an interactive calendar). The Web developer believes that people who arrive on a Web site are entering into a dialogue with the institution; in some cases the experience can surpass the one they have in the physical museum. The museum’s message to online visitors is: If you are thinking of coming to the museum and have questions about the visit, just go to the Web site. The Web team was working with the market-

ing department on a “reasonable process” to make sure every piece of paper that goes out of the museum carries the Web address.

The three Québec museums developed their Web sites between 1995 and 1997.

The Montreal Museum of Fine Arts/Musée des Beaux-arts Web site was launched in 1997. The homepage was changed slightly in 1999 to give more of the look of an electronic magazine, with interactive activities to enhance some displays. The Web team wanted the site to continuously evolve—which is challenging, since technological change is happening so quickly. The site was already five years old, and they knew it needed to be rejuvenated; the plan was to incorporate new technologies and add English as a second language. They did not like the site’s electronic-magazine format. Their priorities were to make the site simpler, and to work on a bilingual research interface and database.



Musée de la Civilisation’s Web site describes the museum’s responsibility as the management and vitalization of many components. The Web site includes collections from two museums and two historic sites, as well as the most important ethnographic and historical collection in Québec. The Web site began as a CD-ROM electronic magazine in 1995. Web developers found that people interacted more on the Internet than they did using the CD-ROM.

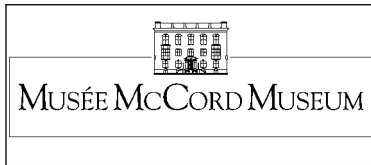
The Musée McCord Museum Web site was initiated in 1996 at the request of the city. The Web developer Nicole Vallières commented that in 1996 the Internet was not what it is today. Her vision was to create “*un lieu communautaire*,” a community space where people can chat, contribute to the knowledge of Canadian history and cultural heritage, and express themselves about the objects they see. She saw this as a type of forum (Cameron 1971) in which the museum’s collections become more open.

The Seattle Art Museum (SAM) Web site was launched in 1998 (the latest in this study) and the homepage was updated in 2000. Many exhibition, event, education and special project sections were added to the Web site on an ongoing basis; each had a unique design and navigation structure. Most of the site was taken up with 300 pages of general information. Updating these pages was becoming problematic in terms of quality control and outdated Web design. The Web team spent about five months in development before they built their second-generation Web site. They regarded their task as “figuring out what kind of post-exhibition experience we could provide and how we didn’t want to alienate people who couldn’t have a post-exhibition experience. We had an incredible number of development meetings to come up with this concept.” The main thing they wanted was “to harness what the Web could do that the exhibition couldn’t do.”

**Missions and philosophies**—Most Web sites in the sample listed the mission of their respective museums in a section designated as “corporate.” This section typically described where to find the museum, current exhibitions at the physical site, and the museum’s mandate and history in brief. The first generation of Web sites tended to lack

a strategy for users. Instead, energy was poured into having a presence on the Web by using traditional exhibition methods and interpretive text.

Vallières, the Web developer at the McCord, talked about a lack of mission for their Web site. The Web team was small and initially there was no grand strategy for development. They were working by trial and error to see what they were able to invest in with their resources and collections. The philosophy of the McCord Web site was to give online visitors freedom, a wide scope for their search, and the latitude to find their own online route. The Web developer felt it was a big price to pay that information users obtain is never complete. The museum decided to create an online collection of objects rather than a “corporate” Web site. The site developers started with 500 artifacts from



the collection, for which there already existed bilingual catalogue information. The first section was titled *Curators' Picks*; six curators each chose ten artifacts from one of the six areas of their collections. These objects and the remaining 400 or so became a database for online visitors.

Some Web development teams, however, defined a mission philosophy specifically for online visitor experiences. This was particularly true if the site had been redesigned several times. Web developers at MBAM created a mission statement for their site, during a redesign that served to reorganize their Web infrastructure and bring it up to industry standards. They wanted the site to represent the museum and reflect its reputation as a cultural leader in the region. The redesign was intended to provide users with accurate and complete information and to produce a site that is well organized, efficient and easy to maintain, with a consistent, seamless presentation throughout. They were developing icons to make the site more user-friendly. The design structure attempted to balance image, media and text, and accommodate all forms of multimedia. They planned to experiment with online discussion areas based on sections of an exhibition at the physical museum. They wanted to know whether just the art objects create interest in the on-site exhibition, or whether they can “forge” interest by how something online is written or presented.

Some groups did their Web development in-house and others outsourced the design. For example, OSC had a two-day meeting facilitated by an outside consultant from a Web design company to define the framework for the museum’s new Web site in terms of user experience and business objectives. The group articulated the Web site’s objectives and priorities from a corporate and mission/mandate perspective. Various types of visitors were identified in relation to the questions they have in their minds when they arrive on the Web site. The group wanted programs and services that are not apparent at the physical site to be clearly visible online. They decided to design a fun-for-its-own-sake section filled with interactive games, and a sales-catalogue section for offerings, ticket purchases, program bookings, facilities rentals, traveling exhibitions and consulting services, and memberships. The design challenge was to ensure that these two sections smoothly directed visitors back and forth to either section at “targeted, intuitive points.”

According to Sayre, the MIA Web team can collect much more specific statistical data on users' interests if the site has pages nested in compartments that are fairly specific (rather than a "flat" site with all pages at the same directory level or extended between a couple of directory levels). Although sophisticated data-collection software exists, the structure housing the site might not be able to generate good statistical information. To collect data about online visitors, Web developers often have to redesign the whole site (a good justification for doing so). The site design is very important in collecting really good statistical information.

Many Web sites use "cookies" to track online visitors and to store information about frequently-used pages. One of the Québec museums (MBAM) planned to install "cookies" during its redesign to have a report more in line with its needs. The Web developer at MIA used "cookies" in a section of the Web site where online visitors can build and save their own art collection. The computer can identify the online visitor taking part in the session. The user's session expires after a certain length of time "so someone else can't get on the same computer and mess with your art collection." The SAM Web team uses "cookies" for interactives: for instance, to enable a user to play a game or participate in a puzzle.

**Success indicators**—Three Web developers talked about success indicators that would give them evidence their Web site was providing quality online experiences for users. Success indicators are dependent on the Web site's mission, objectives, and expected outcomes (Soren 2001). Web sites have to be market-driven; their bottom line, for people we interviewed, is to bring more visitors to the physical site.

There were three essential qualities that indicated whether the MBAM's redesigned Web site was up to standards: it had to be efficient, simple, and the online information had to be pertinent. The museum defines itself in a motto as a leader of visual arts for the culture and enjoyment of everyone in the city. The Web site must represent the motto. An organizing chart helped the Web team analyze whether or not the site would be interesting. One indicator of interest was imagination and creativity; a second was the site's ability to direct online visitors; and a third was organization and navigation. The Web team wanted to know how satisfied users were, and whether the design promoted interactive experiences. The Web team believed their success indicators offered a winning formula enabling them to better represent their institution. They hoped their redesign would serve online visitors better, with fewer complaints and requests for information.

The team of Web developers at SAM felt that a benchmark of success for their Web site would be to get a handful of people coming to the site weekly and creating an online dialogue. They looked, in part, at the number of hits to their site, and the number of online users who came to the museum, but that was not the extent of their concerns. They wanted to measure success by the quality of online participation and the kind of interactivity users experience. "If people are using the Web site ... and there is a level of excitement and interest, that's a success mark for us."

For OSC, the real measure of success is whether the museum's Web site is doing what the museum is supposed to be doing. Von Appen felt the Web site "is getting

there.... The Web site mirrors our level of offering in some ways in the physical world.” The museum is constantly changing the physical site, and the Web site seems to be equally flexible. Visitors are surprised and delighted when they come to the museum; online “it’s not an accident that on almost every page you have these rollovers that you discover.” The site trains online users to expect “to click on things interesting, fun; things are going to happen.”

## RESOURCES AND FUNDING

The range of resource allocation is great. In some cases only one or two people were developing a Web site; in other cases museums had large Web development teams. Resources were one of the most critical factors in determining how innovative Web developers could be. MBAM seemed to have a level of resources and funding typical of many museum Web sites. The Web site officer Nathalie Picotte commented that the museum was not yet able to use the full potential of the Web because the financial and human resources allowed to this project were limited.

The McCord Web site is unique, in that it is database-driven and -managed. The Web team used consultants on specific projects, such as revamping their Web site’s colors or usability. The site relies on a university and its researchers for content. The Web team tries to focus on attendance growth and has noticed an exponential curve in the use of the Web site. Vallières said her group is always seeking new sources of funding. At the time, the Web-site operating budget had always been constructed out of subsidies granted for specific Web projects.

The SAM Web team applied for grants for their Web development. They have found that grant funders and writers want statistical information, and want to know what worked. Web site awards—even modest ones—are important for grant applications. Also, the SAM team receives many requests for online statistics from internal departments. The development department wants to know the number of hits on special events pages, particularly for big fundraisers promoted on the Web site. Exhibition developers want to know how many people come to a special exhibition site.

The OSC Web developer von Appen advised: “In an era of shrinking budgets generally, introducing an entirely new department and saying you’ve got to pay for this is tough. And so the way you have to deal with it is show the bankbook. Try to track the benefit, getting beyond simply saying, ‘Well you know we have to do this.’ That’s not cutting it anymore and it certainly can’t cut it in this environment.” Hard expenses such as software upgrades and equipment were budgeted, as was user testing for the Web site. The Web developer was trying to justify the cost of the Web site itself in the museum’s operating budget. The next major addition to the Web site was e-commerce or online sales. They planned to do user testing around that because it was “so critical that e-commerce would grow.”

Resources and priorities within MIA were beginning to shift to accommodate Web development and maintenance. The museum has had state funding for its education site

and teacher development. The Web team was using online visitor data to justify investment in certain areas. As Sayre explained, “This last fiscal year, when it came time to propose a budget for what our upcoming year’s projects were going to be, there was a discussion about how valuable our rich online programs and exhibitions are. Just having the data that showed those were the things that were always floating at the top of the statistics was very useful.”

#### TYPE OF WEB SITE

Our research focused on exploring how Web teams were developing exchange experiences by creating links among users, or between museum staff and users. In our sample we found a few examples that we perceived to be ideal Web sites; in each, a community of learners was evolving. The result was a cycle of online and on-site repeat visitations, and increased participation in the museum’s programs.

**More interactive activities**—To move beyond traditional exhibitions online, the first step of most museum Web teams was to develop more online interactive activities. The Web development group at Musée de la Civilisation found that interactive games were one way to attract adolescents who had not been interested in their Web site initially. They introduced a type of online “scavenger hunt” to encourage teachers and students to participate, and they offered a prize to winners.



MBAM has tried to enhance or animate exhibitions by adding a section called “interactive activities” to their online exhibition sites. For a Monet exhibition, a popular online experience offered a garden into which visitors could walk and look at Monet’s works. In addition, there is always a place for comments—a very popular feature.

The Web team often consults with people who are members of *Cyberpals!/Les Cybercopains!*, a program created by MBAM to offer more interactives to subscribers. In 2001, the museum Web site introduced the program this way: “We all need friends to get through the day. A museum is no different.” The museum encouraged “netizens” to join a new friends program. Members were automatically informed via email about new exhibitions and interactives; they also received museum news and information on Web-site events. There were 3,300 cyberpals/cybercopains in 2001. The Web development group planned to consult subscribers about the redesign of the museum’s Web site via an e-questionnaire.<sup>1</sup>

The McCord Web team was developing an interface for conducting searches. For example, the group was working with a tool called Think Map developed by an American firm, Plum Design. This software allows access to multiple databases. Users are offered many paths to information and thus can work with it in a more conceptual way. The Web

team's primary audience consists of online connoisseurs looking for specific information for their research. The team intends the site to be mostly for research. However, they were more interested in making information available than in restricting online use to members. The Web developer explained in a members' newsletter, "It's no longer enough for Web browsers to be well-designed, the information must also be meaningful and stimulating" and offer online users "a chance to play an important role in their own learning process" (Vallières 2001).

**A cycle of online/on-site museum visiting**—Three Web developers in our sample described opportunities for exchange that created cycles of online and on-site museum visits.

At SAM, an exchange situation was set up at the physical museum during an exhibition, *Treasures from a Lost Civilization: Ancient Chinese Art from Sichuan* (May 10–Aug 12, 2001). When visitors gave back their audio tour guide at the end of the exhibition, they were handed a card that said, "Now that you've seen the exhibition, solve the mysteries online!" The card also had a password from the exhibition (*chengdu*, related to discoveries of early walled settlements in the Chengdu Plain). People who visited the Web site and typed the password received a "blue cap" and were able to join one of the discussions. They clicked on "Join the Discussions," typed in their name, where they were from, and their comments. Five "experts" received a different password, which entitled them to a



"red cap." An anthropologist and several scholars involved with exhibition content participated in the discussion. As "roving scholars" they could go to any of the discussions, and if they wished to respond to somebody's comments, could ask, "I think you're right but have you considered this?"

The concept of the site hinged on the mysteries and unsolved answers in the exhibition. According to Web developers Christina DePaolo and Carrie Adams, "It's just open and begging for dialogue." The Web developers could estimate who went to see the actual exhibition by scrolling through the online version and counting the little blue caps. In this way the Web team could gauge users' experiences via interactives, and could make an effort to build quality experiences based on feedback from online visitor dialogue.

Since the Web team did not want to deter people who had not been to the physical museum, the password was optional for joining the discussion. Everyone could participate and give feedback on the comment boards. But people felt "a specialness—by receiving a password at the physical museum you have this special access to be able to give feedback." The virtual scholar's cap meant that everyone online knew who had been to the exhibition. DePaolo explained the importance of this online strategy: "I don't want to say that it is like a marketing ploy. But it is just a fun way to bring people who have been to the museum and seen the exhibition into our Web environment and have them rewarded by giving them that distinction of having seen the show. . . . The main thing is we wanted to harness what the Web could do that the exhibition couldn't do."



**Online/on-site case study two**—Another example of a very successful online/on-site dialogue occurred when a large and important work of art—which was in very poor condition and needed massive restoration—was restored publicly in one of the MIA galleries and became an exhibition in its own right (Sayre, Gorman, Noon and Dust 2000).

Simultaneously, the Web team planned a Web component: a dynamic documentation of the process as it occurred in real time in the gallery. One of the staff served as a journalist alongside the conservators: photographing and videotaping what they were doing, interviewing them, and writing a daily journal that included pictures of the restoration process. A computer in the gallery was linked to the museum's Web site, so visitors could see the process happening online.

As Sayre said, "The online site provided a lot more interpretation than the gallery itself provided. Although there are a lot of didactics in the gallery, when you came as a physical visitor you were missing what had happened previously. The Web site helped people understand the stage the conservators were at that day. So the computer program provided that [opportunity]—people could start at the very beginning of the process and work up to that point." The development team set up prominent marketing in the gallery, directing visitors to follow the project online. They also marketed heavily online, suggesting that viewers see the restoration going on in the gallery. The conservators observed several dozen people coming every day, and felt it was one of the most popular small exhibitions. The Web developer felt that this cross-dialogue—"this cycle of people going to the site, coming to the exhibition, coming to the exhibition, and then going to the site"—encouraged multiple use. He regarded this cycle of physical and virtual visitations as important for the museum's mission. "That cyclical relationship is what we really need to be shooting for."

**Online/on-site case study three**—At the OSC, the Web team was attempting to target visitation. The team wanted to "drive awareness" of the museum and to urge visits to the physical site with such phrases as: "There is something great that's on right now that you want to check out." The team invited online visitors to participate in site creation and content. The home page of the 2001 redesign, for example, was created by a seven-year-old boy as part of a pilot program in which the Web team invited an elementary-level arts school class to create pieces of art—digital or otherwise—about the museum. The museum has initiatives to inspire youth participation. Von Appen explained that Web site tools have advanced so much that people "can quickly create content that is quite interesting to them as well as interesting to a giant audience"—content that is globally accessible.



A contest enabled online visitors to talk back. Users could ask questions of museum staff members in a contest format. The best question received a prize—as well as an answer. Young people were invited to join an online youth advisory team; some rigor around signing up kept the numbers lower. The Web team gathered the online material from the youth advisory team and analyzed it with the help of a company called Taking It Global. The Web team was working toward a Web presence in which a Web site recognizes the online user and talks to the user as an individual.

Electronic Exhibition Extensions was another OSC online innovation. People who visit the physical museum and experience a demonstration on the floor can later visit the Web site where there is more extensive information on the same material. Von Appen believes this is an example of “where the floor becomes online and online becomes the floor.”

The Web site, therefore, offers a new way of talking to visitors. Through email, online users can get responses to long, thoughtful questions and can solve problems in a rapid back-and-forth. On its second-generation Web site, the OSC Web team created a system for generating answers to all Web inquiries by experts in the building within 24 hours. They handle more inquiries in greater depth. As a result, online visitors have “a change in expectation already in their heads. They’re expecting to get talked to. They’re expecting something beyond the form letter and they don’t expect to be blown off. When they are we hear about it.” These initiatives were “raising the bar” around the OSC’s relationship with visitors. The most exciting frontier, according to von Appen, involved “blurring the lines between the physical visit and a virtual visit and making the two complement each other, making use of this medium.”

#### WEB SITE DEVELOPERS

Considerable variety exists within an institution in the backgrounds, expertise and training of people developing Web sites, and in the titles of staff who work on the Web site (table 1, pages 72–75). Expertise as a designer, artist or illustrator was thought to be a more important attribute than ability to use Web design software such as Clipart.

Von Appen commented that there is a “pretty small club” of museums attempting to do “real stuff” online, including online interactivity. It’s clear that development and maintenance of a quality Web site requires the museum to find considerable resources in its operational budget and in external funding to hire and maintain a team with a broad range of technological and non-technological expertise.

#### ONLINE AUDIENCE RESEARCH STRATEGIES

Although Frost (2002, 85–86) argues that those who create online “information resources may have little idea of who uses the information they distribute, where these users are, and under what circumstances or for what purposes the information is being

used,” museum Web site developers have become increasingly sophisticated in quantitative analysis of user behavior. They are shifting from tracking number of hits per page to complex log analyses, using specialized software such as WebTrends™, a commercial product that many museums use to track Web traffic.<sup>2</sup> Web developers in this sample found that the number of online visitors is much higher than the number of people who visit the physical site. Online surveys have been used to find out more about users of Web sites, with varying success. Several of the museums in this research project were conducting user or usability testing at various stages of development for more qualitative information about users’ online preferences, interests and experiences. In the spirit of exchange, some Web site developers were also beginning to give back to visitors some of the information they were learning from them.

#### QUANTITATIVE DATA COLLECTION ABOUT ONLINE VISITORS’ EXPERIENCE

**Tracking online visitors**—Each of the six Web developers or teams we spoke with used a Web log of some sort to track online visitors’ use of their Web site and compile results in reports in regular intervals (e.g., daily, monthly, weekly, annually).

MBAM reported that the average age of its Web users was 38 years. The Web developers planned to experiment and stimulate their group, *Cyberpals!/Les Cybercops!*, because they felt this group’s level of interest was decreasing.

The McCord group had begun using a Web log in November 2000. The group found the statistics on Web site visits encouraging (when compared to those of other sites) and felt they had made good decisions. However, because the museum uses a university server, the Web group realized the statistics about number of online visitors could be misleading. For instance, 10 researchers could be using the same terminal during the same day, leading the system to believe that one user had logged on 10 different times, rather than 10 different users each logging on once. The group was beginning to realize the importance of installing instruments to help them see the validity of the online content they were developing.

**WebTrends case study one**—The Web team at SAM was beginning to use WebTrends based on the report of a survey that gave the brand a number one rating in tracking software used by museum Web teams. The IT systems specialist and Web team liked WebTrends best of several tracking programs they looked at. DePaolo was purchasing the software at the time of our interview and planned to spend the next few months figuring out what it could do: what kind of statistics it could give her, why she would want to use it, and how it would fit institutionally. She was thinking about whether the Web group would give staff a weekly statistical report like their Admissions department does, and whether museum staff members have time to look at reports weekly. She planned to implement a system for doing Web statistics on a regular basis.

The Web team found that the Web site averaged 2,364 online visitors per day, which was much higher than the number who visit the physical site. The average visit

Table 1: Web Site Developers

Museum & Web team	Role & Background (if known)	Responsibilities
<b>MBAM</b>		
1 staff member responsible for Web site.	Web Site Officer (no longer in this position)	Key experience came from working in the museum for a long time. As a result, she understood how the museum functions and knew the clientele—both members and other visitors to the physical museum.
<b>McCord</b>		
2 departments looked after Web site.	Communications Department	Managed the “corporate” aspect of the site. Worked with a consultant who created a simple interface for the Communications group so they could format new or changing information.
	Collections Department: Web Developer, Head of Department (MA, Art History; Ph.D., Ethnology; some IT training).	Since the head of the collections department was already managing the collections and the information pertaining to collections, it was logical that the Web development work derived from her department. As Web developer, she was responsible for: <ul style="list-style-type: none"> <li>• The database aspect, which is linked to the collections.</li> <li>• Integrating the information on the Web site, and submitting grant proposals to launch their projects.</li> </ul>
<b>Musée de la Civilisation, Québec City</b>		
7 departments looked after Web site.	Technologies Department Communication, Education, Cultural Action, Collections, Archives Departments Research and Development Services	Responsible for the production and technological side of the Web site. Responsible for the contents of the Web site. Conducts research and evaluation related to online users.

**SAM**

<p>3 staff worked on Web development. Web team was actively involved in professional development (e.g., how to digitize audio, video, and stream; attending Museums and the Web conferences).</p>	<p>Web Developer (political science major who decided she wanted to work in the arts; “self-taught on a lot of things”) Designer (graduated in graphic design; worked for a corporate graphic design firm for three years where she began to work in Web design) Programmer</p>	<p>The Web developer believed that the way the tools are being developed to create and maintain a Web site make it less necessary to begin with technological expertise. The Web team’s collective “brain power”—“our brains working together conceiving, organizing, and figuring out issues of navigation”—were most important. The designer had no programming background but her traditional design expertise and an aesthetic for both organization and design were used most in developing the SAM Web site. Her ability to do “conceiving” was most important for her work and she was always learning how to better organize information.</p>
		<p>Helped with visitor survey analysis and programmed access so the Web developer could analyze online visitor data.</p>

**OSC**

<p>Core Web team: 2–3 full-time employees. 2 half-time employees. 5 full-time equivalents people working on the design and maintenance of the site.</p>	<p>Associate Director of Digital Media and Publications</p>	<p>Made decisions at the policy and budget level in consultation with his team and the museum’s management.</p>
<p>The Web team was setting new visitor content available off the homepage everyday, and making sure everything was up-to-date on the site.</p>	<p>Web Developer Front-end Coder (also a writer/journalist) Editorial Writer Two Translators (and French science writers) Designer Senior Multimedia Producer</p>	<p>He felt the title “Webmaster” for his position was an outdated concept. “It is no longer feasible to think that the museum can invest all control and all decision-making on the execution of their Web site in one person.” A database developer and expert, a back-end coder expert. An expert in HTML and ASP. Being a writer/journalist was a very useful skill set. Experience in desk-top publishing. Learning about and trying to get more comfortable with Web development. “Did Web” rather than a Web designer. Responsible for information architecture and art direction.</p>

Table 1: Web Site Developers (continued)

<b>OSC (continued)</b>	Computer Scientist (Ph.D.)	Worked with the Web site and IT related to the visitor experience throughout the building, and instrumental in helping to make decisions about how to code the site and position it in the future, technically.
<b>MIA</b>	Director of Media and Technology (Doctorate in Educational Technology, Adult Education with an emphasis in technology)	He initiated the development of MIA's Web site in 1993 and the formation in early 1991 of the institute's in-house Interactive Media Group, which had produced and installed over a dozen interactive multimedia programs throughout the museum's galleries by 2001. In 1997, he led the formation of a collaborative online partnership with the Walker Art Center resulting in the development of ArtsConnectEd ( <a href="http://www.artsconnected.org">www.artsconnected.org</a> ), a comprehensive resource for teachers and students. He had worked at MIA for ten years at the time of this interview (and has now left the museum to form his own company).
7 people on staff who supported two museum Web sites. They also developed programs that would be available in the galleries, as well as on the Web.	Webmaster	Managed servers, accounts, and some of the more complex programming for their database connections. (Webmaster as a title was not problematic for this group!)
	Senior Producer/Director	Developed the rich media programs and online exhibitions, displayed both in the galleries and online.
	Multimedia Specialist	Did page layout, some programming, video and audio editing, and integrated all of the materials that were collected by the producer, developed in the audio and video editing process, or in the majority of cases developed by the graphic designer to build the Web pages.
	Graphic Designer (a designer and illustrator)	Somebody who could really draw, rather than just scan art or work with clip art.

**MIA (continued)**

Media Support Specialist	Dealt with the physical installations of technology (there were 21 computers in the galleries) and made sure that all of those were running properly and updated with preventative maintenance and installation.
Administrative Assistant	Did all of the statistical collection and reporting, as well as all the administrative work.
Project Coordinator for the large educational Web site (a very large job)	<p>Collected and refined data from all over the museum for the Web site (to get all of the images that were available through the Web site and the museum's collection management system).</p> <ul style="list-style-type: none"> <li>• Managed, collected, updated, and expanded all the educational resources and information.</li> <li>• Helped coordinate a state-wide teacher training program.</li> </ul>

length was 7 minutes, 9 seconds. The median visit length was 1 minute, 58 seconds. The team also looked at time spent on specific pages. It seemed that people spent anywhere from 10-30 seconds to decide where they wanted to go and one minute to get the information they wanted. The Chief of Information Technology was looking for statistics that would tell her how many came to the Web site before an exhibition opened. She also wanted to know how many came after the exhibition was initially promoted online; after a visitor information section was posted; after an interactive section was posted a week before the exhibition opened to the public; and after the exhibition opened. The team was hoping that WebTrends would give them that sense of pre- and post-visitation.

**WebTrends case study two**—Before the Web existed, MIA was known for being one of the few art museums that had installed computers in all its galleries to allow visitors to learn about works of art on display. As Sayre explained, those programs were designed so they were able to collect “incredible statistics.” Web staff could tell how long a person stayed in a specific section of the program and what exactly they did there. The Web team was “frustrated and struggling” to get data on Web site users that could be “even close to being as useful” as the gallery data. They were using WebTrends to gather statistics for their Web site, and they adjusted how WebTrends was reporting statistics according to the depth of information they were looking for.

The statistics this Web team produces are easily accessible online and are also summarized and distributed via email to museum staff on a weekly basis. The WebTrends software produces colorful and easy to read charts and tables. There are Web statistics about Web site visitors daily, weekly, monthly, year to date, and for a complete year. MIA's WebTrends reports for each of two Web sites included, for example:

- User profile by regions.
- General statistics on hits, page views and session length, unique and repeat visitors.
- Most requested pages and top entry pages.
- Top entry requests.
- Single access pages.

At the time of the interview, this Web team was using two methods to collect information about online visitors. The group customized and monitored WebTrends statistics “quite heavily.” They also began implementing online surveys for online exhibitions, and for the first time focused on survey information in their design of new materials.

**WebTrends case study three**—The OSC was also tracking usage within its Web site: seeing where users were going online, and looking at what they were accessing. For this Web team, online traffic was a measure of success particularly if they could draw links between that traffic and visits to the physical institution. For example, if people are accessing their online calendar, they may be using the calendar to help plan their visit.



The team was using WebTrends to track visitors and analyze online visits. They were measuring “median dwell time,” which measures how long people are on site. Median time is calculated as the point midway between half of all people who came and stayed longer, and half of all people who came and stayed shorter. (Averages, on the other hand, tend to be skewed by people who quickly come in and leave, or by people who come in and look at everything). The team also examined where users were going within the site. For heavily trafficked areas of the Web site, the Web team could see whether online visitors could get where they wanted to go, or whether some features should be more prominent. Alternatively, if nobody was clicking on an important aspect of the Web site (for instance, checking on features playing at the Omnimax theater) the Web team might be burying the information somehow in the site.

**Online surveys**—In 1998, Musée de la Civilisation designed a self-administered online questionnaire entitled “Que pensez-vous de notre site Web?/What do you think of our Web site?” (Allaire 1998). The questionnaire aimed at acquiring quantitative data, and contained closed-ended questions that measured approximately 50 variables. A space at the end allowed comments or suggestions. The survey was set up to determine the socio-demographic profile of online visitors, their level of satisfaction with the site, and the characteristics of those who had visited the Web site prior to their museum visit. The survey was online for seven months, from March to October, and during that time only 49 people responded to the questionnaire of a total of 36,754 people who visited the Web site.

Web site users commented that they were having problems with:

- Speed (downloading time).
- Unclear site map.
- Difficulty reading text because of the background color.
- Printing the schedule and activities at the museum.
- Lack of information for parking and directions to the museum by bus.
- Language (French was predominant).

Most visitors found the museum’s Web site while surfing on the Internet. Six out of 10 visitors said they had visited the museum before the online visit. Most online visitors felt a new or renewed interest in visiting the museum as a result of their Web site experience. During the same period, an on-site survey determined that of 1,290 people who came to the physical museum, only 48 (3.7 percent) said they had visited the museum’s Web site.

SAM’s Web team had not yet developed an audience research strategy for the Web site. But the team had determined—from workshops at the museum, “Museums and the Web” conferences, and in-house staff discussions—that it needed many different tools to get a sense of people’s online experiences. A survey had been online for 14 months. Several hundred comments came out of the survey.

The survey helped the Web team learn that people wanted:

- Information added to the site.
- Information to help their cause and based on their interests (e.g., “I want a job”; “I want to submit my art”; “I love blue paintings, do you have any blue paintings?”).
- To respond with comments (e.g., “I love your site, thank you, you have the best museum site”; “Some of the things I was looking for are on the site but I couldn’t find them”; “It took too long to download”).

Survey participants taught the Web team that Web information needed to be updated. A lot of people wanted long-range information because they were planning a trip in a year. Online users also wanted to see more of the collection; they were not connecting with the online collection database. The Web team had known they needed to redesign that part of the Web site, but the comments convinced them of the need for improvement.

Sayre discussed the challenges and obstacles found by the MIA Web team in its online audience work. The three biggest issues were: privacy-related concerns; interrupting the browsing experience of the online visitor (for instance with an online survey); and technical limitations. Privacy was an internal political issue as well as a very real issue for some members of the public. The Web developer worried that public concerns about privacy issues and suspicions about the intentions of institutions and corporations might intrude into MIA’s activities to collect information about online visitors. Web users frequently are concerned about possible multiple uses of information on the Web. If they fill out a survey, they wonder if they will also be “hit” or hammered by email later on. Another challenge was interpreting statistics. Although some online activities look like they are popular, it doesn’t mean those activities are the only thing online users are interested in. It may mean it’s the one thing you’ve been able to successfully interpret.

Finally, this Web team found that a “huge obstacle” occurred in using statistical information collected dynamically (e.g., by America Online) rather than by asking for it directly from the user.

According to the team’s statistics, the number one visiting organization was America Online, with 6,500 users (close to 90 percent of the site’s online users) during one report period. This statistic compared with the second-place group (Home Network) with 382 users, or the seventh-place group (the local university) with 193 users. As a result, America Online knows “a whole bunch of demographics about its users that it is able to strip away so the rest of the world knows nothing about its users.”

#### QUALITATIVE DATA COLLECTION ABOUT ONLINE VISITORS’ EXPERIENCE

**User testing case study one**—The two most experienced museum Web teams in the sample were working with user or usability testing extensively, and collecting qualitative information about users experiencing their Web site.

MIA's Web team was working with usability labs to glean formative information about the education Web site it was developing. The team collected qualitative data about target Web site users: groups of students, educators, and "just general people." This approach was very different from gathering statistics about the "vast [Web] audience out there." The Web team used what they had learned about online users while developing the education Web site, and extended this information to the redesign of the museum Web site. The usability lab was the only methodology the Web team had "really taken on, fully embraced, and done very seriously." In terms of statistical analysis, the team needed to know "a little bit more about what we're looking for. . . . You can't develop an instrument or a methodology unless you know what your objectives are." The Web team conducted online audience research at an informal reference level and used findings to justify investment in certain areas.

**User testing case study two**—The Web team at OSC worked extensively with user testing to redesign the second-generation Web site. Von Appen felt that user testing was "fundamentally geared towards finding out whether people could find the things they were looking for" (e.g. corporate information). However, the primary focus of user testing was to see whether the menu on the side of the screen worked for people. The menu ideally would let them see themselves in the site ("I'm a teacher and interested in booking a school trip; can I find that?"). Navigation offered in excess of 100 pathways on the Web site's homepage. The Web team looked at how users made navigation choices, whether they were finding a pathway they expected to find, and whether their confidence in the site remained high. The team tested evolving conceptions of navigation with different kinds of users, and played out multiple scenarios to help users find what they needed. This information helped the Web team create what they considered to be "quite an elegant piece of design in terms of information architecture." However, they had not yet begun testing how people interact with "the heart and soul" of the Web site, the SciZone, a newly designed area for interactive experiences.

Research informed the Web developer that 80 percent of interface problems will be discovered by testing six to eight users; everybody after those six to eight will mention similar interface problems. The Web team, with limited time and budget, found that reactions of this small number of users either confirmed the team's direction or caused them to question it. The Web team collected qualitative data from a cross-section that included science center members, as well as visitors brought into a lab from the museum floor. The data aided the team in its decision-making. In return for their time, users received a pass to the IMAX movie.

Software developers have found that it is 40 to 100 times more expensive to fix a glitch after a release than to do it in the prototype stages. The consultant who facilitated user testing offered analysis that was invaluable for the Web team. She reported what visitors to the physical site and online users were saying, and what she thought the Web team should do about it. The team conducted user testing in the Web site's redesign development period and whenever a new piece of content was launched.

**Online/on-site audience research**—The SAM Web group said it would be very curious to see what could be done to “loop the interest” of individuals coming to the Web site and then to the museum. Online users had been rewarded after they entered a contest or created something. The Web group was not yet able to figure out what online visitors could receive at the Web site that would warrant going to the physical location. They also liked the idea of creating something online and receiving the creation somehow at the museum.

The Web development team working on the third generation Web site at MIA had just begun a large online audience research project. A half-million-dollar grant from the Institute of Museum and Library Services initiated a two-year project, “What Clicks,” which looked at how the Web site works with audiences (Ockuly 2003). The team used external consultants to help them facilitate and coordinate research. The project compared the physical audience that visits the museum to the online audience, and asked what the crossover is between those two audiences. The team also asked why people were not using the Web site, or why the Web site was not working for them—perhaps because of a lack of awareness about the site, or because online visitors were not finding what they wanted. The Web team was planning to define a baseline, by asking who was using their resources, and to what end? Then they would develop a plan: whom they wanted to target, how they wanted to change their offerings, and the usability of certain aspects of their offerings. After they made changes based on audience research, they would re-evaluate user response to the redesigned Web site.

In 2000, MIA’s Web site attracted three times more people online compared to the physical site (a little over a million and a half unique users to the Web site during the previous year, compared to just under half a million at the physical building). Sayre also thought the percentage of repeat online visitors was higher than repeat visitors to the physical site. Upper administration believed that a large percentage of the physical audience uses the museum’s Web site. According to Sayre, the reality was that the actual number who visit both the physical museum and the Web site was very small, in part because there was very little marketing with the physical audience to tell them how to extend their experience virtually.

## LESSONS LEARNED

Our title—*Cyberpals!//Les Cypbercopains!*—is intended to highlight both the exchange function of a Web site and the usefulness of developing online experiences in partnership with users. In both situations, online users have opportunities to find meaning in their experiences while they browse museum Web sites. Web developers are creating quality online experiences by building a community of online and on-site users who cycle between virtual and physical museums. These Web developers were making a growth spiral possible for online users (see Dewey 1938). We believe strongly, as did one of the Web developers we interviewed, that this “cyclical relationship is what we really need to be shooting for.”

The following specific conclusions emerged from our research.

- Exhibition development teams, Web teams and members of target communities (in academic disciplines; ethnic, racial, cultural groups; schools, colleges, and universities) need to talk together more about what makes a quality physical and virtual museum visit.
- User testing is critical during the development process of online exhibitions and activities. It gives a truer sense of user interests and Web navigation preferences. Users can also help test exhibition theories before a physical space is created. An audience research approach, using both quantitative and qualitative methods, should be an integral part of the Web development process. User-testing results are crucial for funding Web development within the operational budget of museums, and for accountability to funders.
- Building or redesigning Web sites offers a good opportunity for museums to rethink their mission and relationship to visitors. (McCord, MBAM, MIA, and SAM are excellent examples). Having a clear vision and a mission statement specific to Web development can also help Web teams push the boundaries of both traditional and online exhibiting.

Articulating visions and missions, coupled with preliminary user testing, will likely lead to quality content offering meaningful and engaging online experiences. These practices will also help to foster relationships with users who may decide to visit the physical museum as a result of their online experience. All of these outcomes will contribute to creating quality experiences. The dialogue between the museum and its various publics may be what is needed to blur the lines between online and on-site visits.

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Individuals quoted in this article were interviewed on-site at their respective museums from May to August 2001; we are grateful for their willingness to give freely of their time and knowledge.

The Web addresses of the six museums are: The Minneapolis Institute of Arts ([www.artsmia.org](http://www.artsmia.org)); the Seattle Art Museum ([www.seattleartmuseum.org](http://www.seattleartmuseum.org)); the Montreal Museum of Fine Arts/Musée des Beaux-arts ([www.mbam.qc.ca](http://www.mbam.qc.ca)); Musée de la Civilisation ([www.mcq.org](http://www.mcq.org)); Musée McCord Museum ([www.mccord-museum.qc.ca](http://www.mccord-museum.qc.ca)); Ontario Science Center ([www.ontariosciencecenter.ca](http://www.ontariosciencecenter.ca)). Thanks to each museum for permission to reprint its Web logo here.

## NOTES

1. In January 2004 the online message for becoming a cyberpal seemed to indicate a change. Joining the group allowed the new member to receive free information on the activities and programs of choice, implying a diminishing of the exchange experience: "Sign up as a Cyberpal and let us know what interests you. We'll look after the rest!" ([http://www.mmf.ca/sn/cybercopains/inscription\\_en.html](http://www.mmf.ca/sn/cybercopains/inscription_en.html)).
2. A reviewer for this article argued that the commercial Web world tends to be far more advanced in audience research, interactivity, and ways to cultivate audiences than the museum Web world.

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