

**Survey Report:**

**“Guidelines for Designing Computer-Based Interactives in Museums”**

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## **Background**

The Smithsonian's policy on accessibility for people with disabilities states that the Institution is "committed to providing full and dignified access for people with disabilities to all programs, structures, and sites in its care."<sup>1</sup> In 1996, the Smithsonian Accessibility Program published "Smithsonian Guidelines for Accessible Exhibition Design" which have been widely adopted within the Institution as well as adapted and implemented by other institutions around the world. In 2000, the Institution issued "Guidelines for Universal Design of Exhibits" for the National Museum of American History, which emphasizes our responsibility for "being the leading advocate for a universal approach to exhibit programming and design so that our product, the exhibit, can reach a very diverse audience."

As interactive and multi-media experiences in museum exhibitions increasingly are implemented as digital experiences, the Institution's goal of providing full and dignified access using a universal approach to design needs to be revisited. Computer-based interactives offer museums many new opportunities but also may create new challenges for our diverse visitors. Museums—and the professionals who serve them—need guidelines that address the design of computer-based interactives that are "usable by all people, to the greatest extent possible, without the need for adaptation or specialized design."<sup>2</sup>

An online survey was distributed by the Smithsonian Accessibility Program in June 2007 as a first step towards creating a set of guidelines for computer-based interactives. These guidelines will be designed to supplement the "Smithsonian Guidelines for Accessible Exhibition Design," which do not adequately address the content and design of computer-based exhibition components.

## **Summary of Results**

The purpose of the survey was to gather information about the extent to which museums and cultural institutions, accessibility and universal design professionals, and multimedia and exhibition designers working for cultural institutions have embraced the principles of accessibility and universal design in creating computer-based interactives. While many museums and cultural institutions have begun to meet accessibility requirements and/or to follow the principles of universal design in exhibition development, our assumption was that this practice has not been fully extended to the development of computer-based interactives.

Our assumptions were confirmed by the survey results. The data show that a vast majority of museums and cultural institutions feature computer-based interactives in their exhibitions, although most have not adopted mobile digital

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<sup>1</sup> Smithsonian Directive 215, *Accessibility for People with Disabilities Policy*, May 9, 1994.

<sup>2</sup> From the definition of universal design by Ron Mace, Center for Universal Design.

interactives. The majority of respondents do not use guidelines for accessible exhibitions, generally, and an overwhelming majority do not use guidelines for computer-based interactives, specifically. 90% of respondents who are practitioners at museums and cultural institutions reported that 1 or more of the exhibitions in their institutions feature computer-based interactives. Yet, out of 145 museum practitioners, only 15 (10%) have implemented guidelines for computer-based interactives. A slightly more promising 17% (12 out of 70) of exhibition or multimedia designers that serve cultural institutions reported having adopted such guidelines.

The survey results offer readers insights into the reasons why cultural institutions and those who serve them have not yet adopted guidelines for computer-based interactives. The data show that half of those who do not currently use formal guidelines still try to stay current on best practices. The top concern among all respondents is that guidelines relating to technology quickly become outdated.

For those that have created and implemented guidelines, the survey results illuminate what is covered by such guidelines and what has been left out. Half of the museums that report using guidelines for computer-based interactives are science museums. A majority of those using guidelines created them based on published sources and professional experience. For those who have implemented guidelines, a majority have not established priorities. And while kiosks are almost always covered, mobile devices, cell phone tours, and other types of interactives are usually not addressed.

The survey findings provide a glimpse into the landscape of universal design for computer-based interactives—it is a landscape that has yet to be fully explored. While guidelines are not widely implemented, much of this has to do with a lack of resources to create them and a lack of knowledge about what information may already exist. The Smithsonian Accessibility Program, working with the wider museum community, is faced with a great opportunity to create and share best practices and examples and taking the lead on creating guidelines that will encourage practitioners to create experiences with a universal approach to design.

### **Methodology**

The online survey, which was open between May 30 and June 25, 2007, received 230 responses. The SurveyGizmo platform was chosen for the survey instrument because it is compliant with Section 508 guidelines and was available for a relatively minor cost. Additionally, the hosted service provided for an unlimited number of responses, offered a tracking feature that allows the survey creator to track the source of respondents, and featured branching logic to allow for tailoring questions based on previous responses.

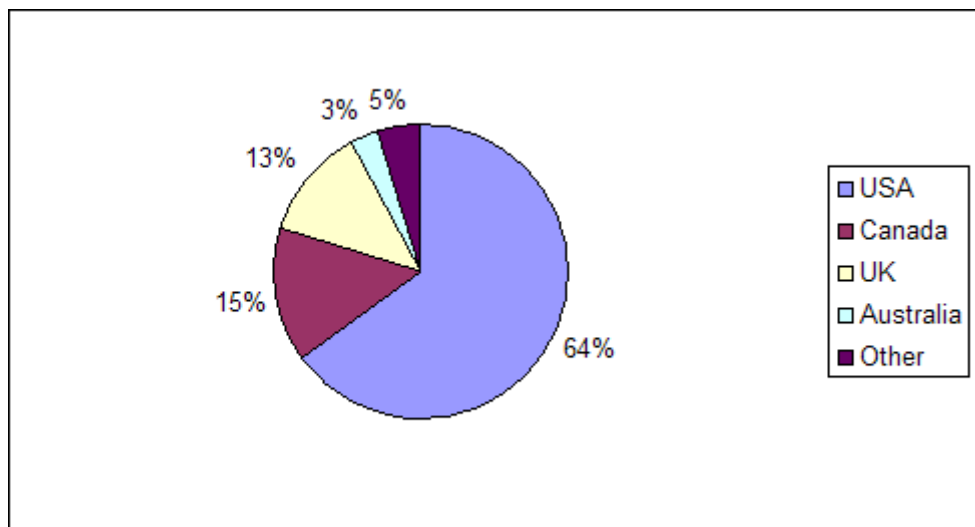
An invitation to participate in the survey was sent to 17 different museum and technology listservs. See Appendix A for the invitation text. See Appendix B for a list of discussion groups and listservs where invitations were sent. These invitations yielded a total of 213 responses. Seventeen additional responses were generated through an email invitation sent to exhibition and interactive designers listed in the 2007 American Association of Museums Annual Meeting program, which lists contact information for participants in the Museum Expo.

## **Findings**

### **Respondents Mostly from U.S., Populous States**

Of 230 respondents, 167 provided contact information. Of those respondents who provided location information, the majority (108) are from the United States. 25 are from Canada, 21 from the United Kingdom, and 5 from Australia. France, Germany, Hong Kong, Japan, Korea, Netherlands, Sweden, and Switzerland each had one respondent complete the survey.

**Figure 1: Country Representation**



The prevalence of responses from English-speaking countries is certainly related to the outlets where the invitation to participate was published. See Appendix B for more about where the invitation was published.

Within the United States, 28 of the 50 states were represented with the largest numbers coming from California, New York, and Illinois. Not surprisingly, those states with the most responses tend to have a larger number of American Association of Museums member museums than those with lower response rates.

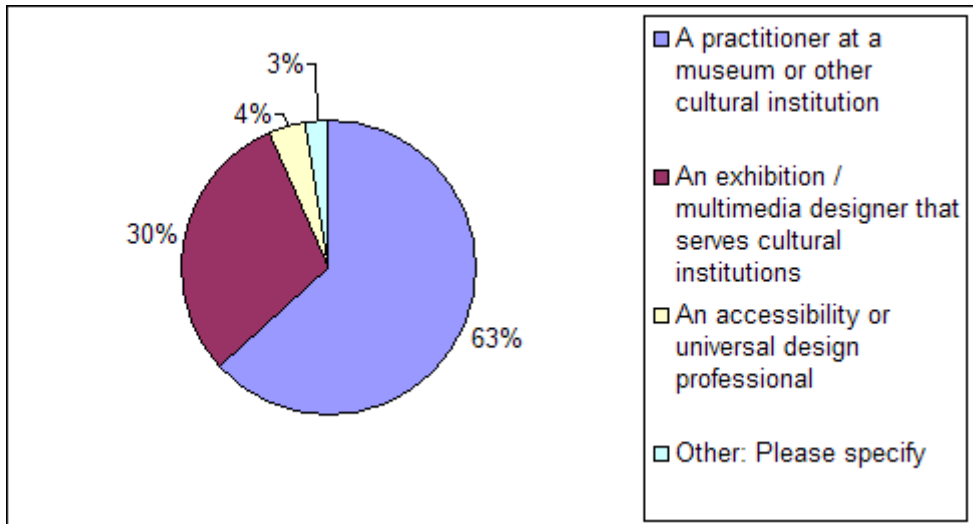
**Table 1: State Representation**

Respondents	State(s)
17	California
11	New York
7	Illinois
6	Ohio, Texas, Virginia
5	Maryland, Massachusetts
4	District of Columbia, Pennsylvania, Tennessee, Wyoming
3	Indiana, Oregon
2	Colorado, Florida, Minnesota, New Jersey, New Mexico, North Carolina, Washington
1	Arkansas, Connecticut, Kansas, Maine, Michigan, Missouri, Rhode Island
0	Alabama, Alaska, Arizona, Delaware, Georgia, Hawaii, Idaho, Iowa, Kentucky, Louisiana, Mississippi, Montana, Nebraska, Nevada, New Hampshire, North Dakota, Oklahoma, South Carolina, South Dakota, Utah, Vermont, West Virginia, Wisconsin

**Majority of Respondents are Museum Practitioners**

145 of the 230 respondents are practitioners at a museum or other cultural institution (63%). Seventy are exhibition or multimedia designers that serve cultural institutions (30%) while nine are accessibility or universal design professionals (4%).

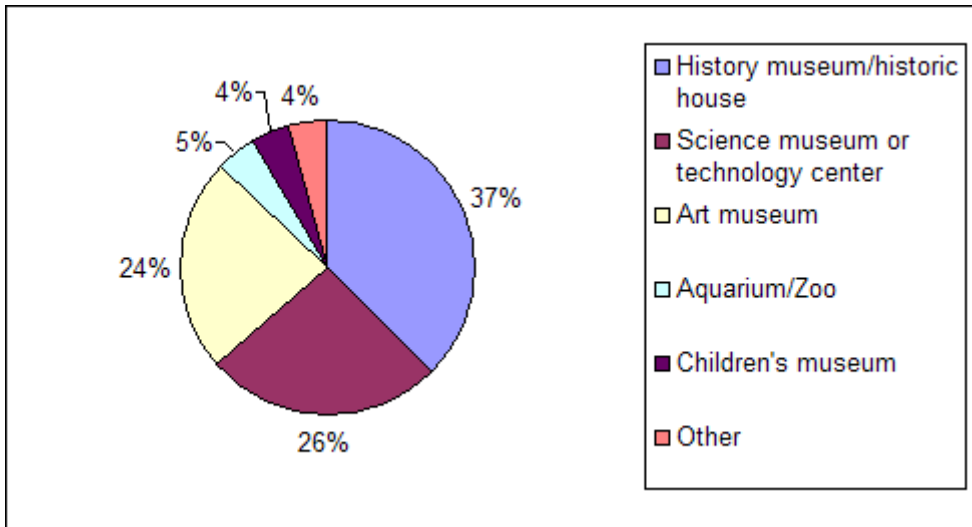
**Figure 2: Type of Professional**



Of those respondents who are practitioners at museums or other cultural institutions, 54 are affiliated with a history museum or historic house, 34 with an

art museum, 27 with a science or technology center, 7 with an aquarium or zoo, and 6 with a children’s museum. Other institutions represented include libraries, archives, and multidisciplinary museums.

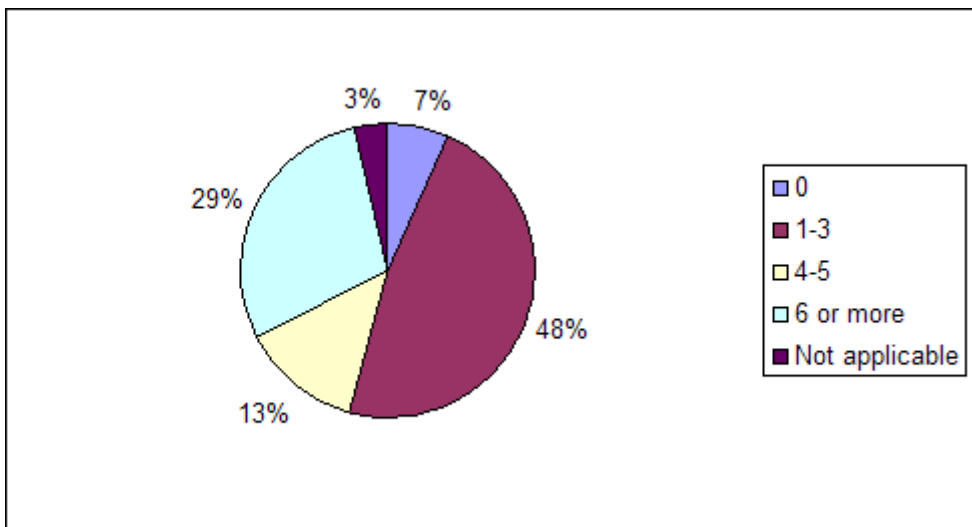
**Figure 3: Type of Institution**



**Vast Majority of Institutions Feature Computer-Based Interactives**

A vast majority (90%) of practitioners at museums and cultural institutions report at least one exhibition at their institution that features computer-based interactives. Nearly half reported that 1-3 exhibitions include computer-based interactives. 13% said that 4-5 exhibitions included computer-based interactives and another 29% reported that six or more exhibitions include computer-based interactives. Only 7% have no exhibitions with such interactives, and five respondents (3%) said the question was not applicable.

**Figure 4: Number of Exhibitions with Computer-Based Interactives**



It is interesting to note that only history museums/historic houses and art museums reported no computer-based interactives. Both types were represented most strongly in the 1-3 interactives group. Science museums and technology centers, on the other hand, are represented (perhaps unsurprisingly) in the six or more interactives group.

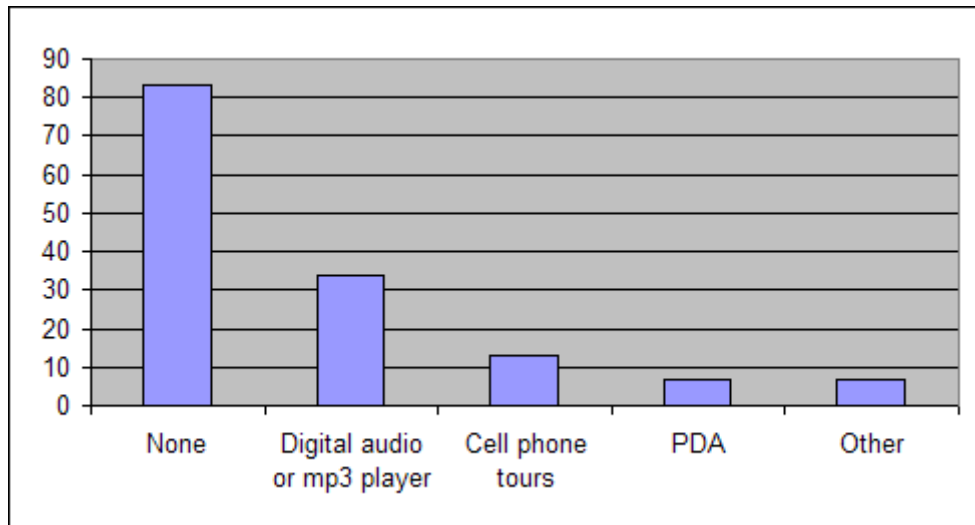
**Table 2: Number of Exhibitions with Computer-Based Interactives by Type of Institution**

Type of Institution	0	1-3	4-5	6+
History museum/historic house	5	31	3	7
Science museum or technology center	0	4	0	23
Art museum	5	20	4	3
Aquarium/Zoo	0	2	2	2
Children's museum	0	1	3	1
Other	0	9	7	6
<b>TOTAL</b>	<b>10</b>	<b>67</b>	<b>19</b>	<b>42</b>

### Vast Majority of Institutions Do Not Offer Mobile Digital Interactives

When asked whether their institutions offer mobile digital interactives, an overwhelming majority (83 respondents out of 136) of practitioners at museums and cultural institutions reported that their institutions do not currently offer such interactives. 34 institutions offer digital audio or mp3 players, 13 offer cell phone tours, 7 offer PDAs (personal digital assistants), and 7 offer other mobile digital technologies to visitors.

**Figure 5: Mobile Digital Interactives Offered**



### Majority of Institutions Feature Interactives Only in Exhibitions

71% of practitioners at museums and cultural institutions report that their institutions do not feature computer-based interactives or kiosks in public spaces other than exhibitions. Those that do feature such kiosks (41 respondents out of 141) offer the following types of information: wayfinding, collections, events, visitor services, access to the institution's Web site, surveys, and ticketing.



## **Majority of Respondents Do Not Use Guidelines for Accessible Exhibitions**

All survey respondents, regardless of their profession or affiliation, were asked whether they use written guidelines for accessible exhibitions and/or universal design for exhibitions. A majority (54%) stated that they do not use such guidelines.

Of those who do use guidelines (103 respondents), 28 responded to the question “Are you using guidelines created by an institution other than your own?” Eighteen respondents created their own guidelines. The other respondents reported using the Smithsonian Guidelines for Accessible Exhibition Design or cited additional resources such as Americans with Disabilities Act guidelines, Philadelphia/Camden Informal Science Education Collaborative (PISEC) resources, World Wide Web Consortium (WC3) guidelines, the American Association of Museums publication *Everyone’s Welcome*, and guidelines developed by the Virtual Museum of Canada and Canadian Culture Online Program for digital cultural content.

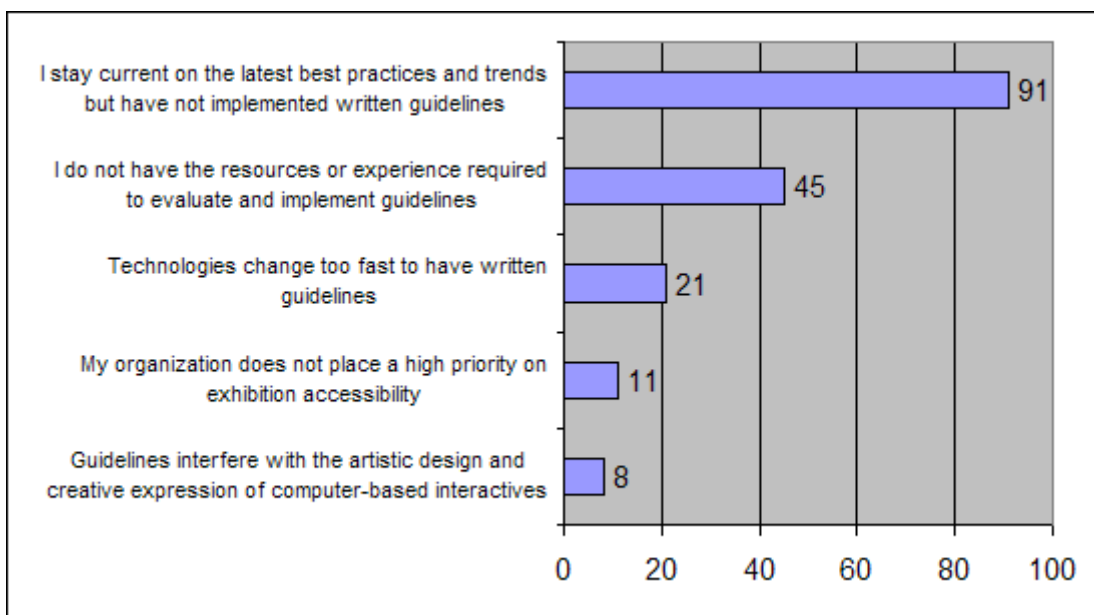
## **Overwhelming Majority Not Using Guidelines for Computer-Based Interactives**

An even larger percentage of respondents (85%) reported that they do not use accessibility/universal design guidelines written specifically for application to the design of computer-based interactives. Only 34 respondents (out of 225) reported using such guidelines.

## **Half of Those Without Guidelines Stay Current on Best Practices**

The 191 respondents who do not have guidelines for computer-based interactives were queried about why they have not implemented guidelines. Half reported that although they have not implemented written guidelines, they stay current on the latest best practices and trends. 45 respondents (25%) reported not having the resources or experience required to evaluate and implement guidelines, 21 (12%) said technologies change too fast to have written guidelines, and 11 (6%) felt that their organizations do not place a high priority on exhibition accessibility. Only eight respondents (4%) felt that guidelines interfere with the artistic design and creative expression of computer-based interactives. It is promising that accessibility and universal design is not widely seen as a barrier to a designer’s ability to fully embody his/her craft.

Fourteen respondents (8%) reported that they do not work with computer-based interactives.

**Figure 6: Reasons Why Guidelines Have Not Been Implemented**

47 open-ended answers were also given to address why guidelines are not implemented. These responses emphasized the resources (staff, time, budget) that would be required to undertake writing, evaluating, or implementing guidelines. One respondent suggested that “updating written guidelines would be a job in itself” while another felt that “guidelines are complex and too time consuming for a single organization to reinterpret.” Several respondents suggested that they rely on the contractors they hire to have expertise in this area rather than setting internal guidelines.

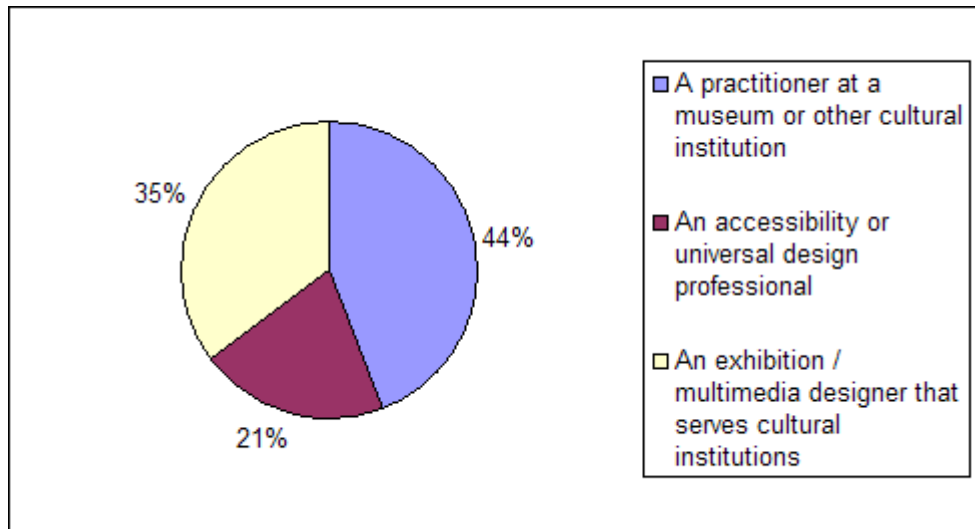
Another recurring theme was the uniqueness of each interactive implementation. One respondent said: “in many cases each project is unique, therefore each project must be looked at with the perspective of content, design, and visitor needs. The same rules cannot always apply because the game is never the same.” Several of those surveyed mentioned the need to prototype and test individually on a case-by-case basis, and a few mentioned testing with user groups. One respondent said: “Most guidelines expect screen-based interactions while we’re creating environments, tangible object interfaces, and other non-traditional interactions. Where applicable, we adhere to guidelines.”

A few people shared that they were not aware of any existing guidelines for universal design or accessibility. In a separate question about whether the survey respondent would be interested in receiving a copy of the Smithsonian’s guidelines once they are complete, a whopping 88% (171 respondents) said “yes” and provided contact information.

## Half of Museums Using Guidelines are Science Museums

34 respondents reported using accessibility/universal design guidelines written specifically for application to the design of computer-based interactives. Of these 34, 15 are practitioners at a museum or other cultural institution (44%), 12 are exhibition/multimedia designers that serve cultural institutions (35%), and 7 are accessibility or universal design professionals (21%).

**Figure 7: Respondents Using Guidelines for Computer-Based Interactives**



Of the 15 museum practitioners who have implemented guidelines, half are affiliated with a science museum or technology center, 5 with a history museum or historic house, one with an art museum, and one from a multidisciplinary museum (i.e., children's museum, history, natural history and science). It is perhaps unsurprising that science museums and technology centers are represented so heavily as they are the type of institution most likely to have a large number of exhibitions featuring computer-based interactives (see Table 2).

Country information is available for 20 of the 34 respondents who are using guidelines for computer-based interactives. 60% (12 out of 20) are from the U.S., with the U.K. coming in at 20% and Canada at 10%. Switzerland and Australia are each represented by 1 person (5%). These numbers are reflective of the geography of the overall survey pool (see Figure 1), however, it is somewhat surprising that the one respondent from Switzerland and one of the five Australians who participated in the survey are using guidelines.

## Majority Using Guidelines Based them on Published Resources and Professional Experience

The following five questions were posed only to the 34 respondents who reported using accessibility/universal design guidelines written specifically for application to the design of computer-based interactives.

When queried about the basis of the computer-based interactive guidelines they had implemented, nearly two-thirds of respondents reported that they apply research from published resources and use professional experience. About one-third conducted visitor evaluation (e.g., observation, interviews, surveys, focus groups). 8 respondents each (out of the 34) conducted usability studies or hired a consultant to write guidelines.

**Figure 8: Basis for Guidelines**



Among the published resources cited as a basis for guidelines were: blogs and books from recognized accessibility experts, WCAG 1.0 (Web Content Accessibility Guidelines from the World Wide Web Consortium), Americans with Disabilities Act Standards for Accessible Design, Section 508 of the Rehabilitation Act, Smithsonian Guidelines for Accessible Exhibition Design. Resources from the British Interactive Group, Archimuse (Museums & Web), International Conference on Hypermedia and Interactivity in Museums (ICHIM), the Annual International Technology and Persons with Disabilities Conference produced by California State University Northridge, and Royal National Institute of Blind People (RNIB) were also cited.

## Majority Using Guidelines Have Not Established Priorities

73% of respondents using guidelines have not established levels or priorities. Of the 27% (8 respondents) who have, half cited using WCAG priorities.

Of 28 respondents who answered a question about which audiences their guidelines explicitly cover; people who are blind or have low vision and children were cited most frequently (22 each); these audiences were followed by people who are deaf or hard of hearing (21), wheelchair users (19), and family groups (18). People with language, learning, or cognitive disabilities were cited the least (9).

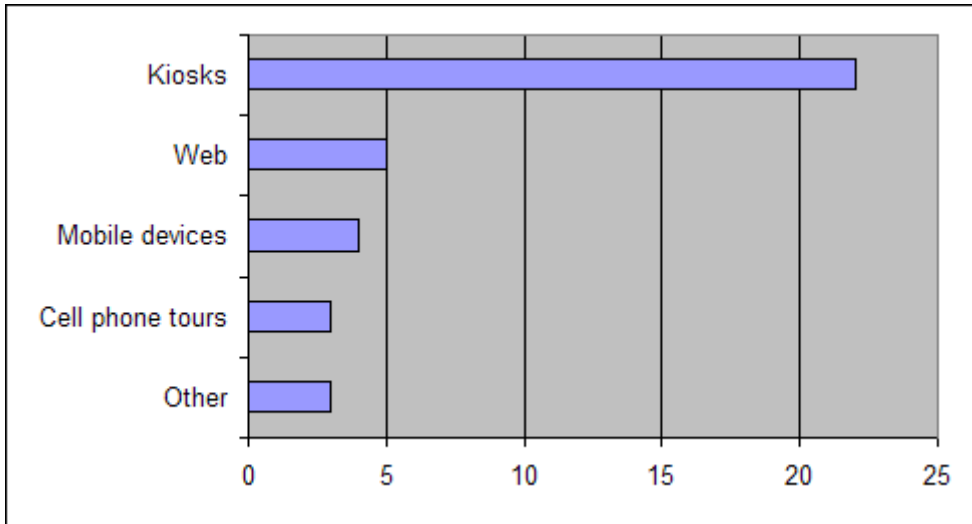
**Table 3: Audiences Explicitly Addressed in Guidelines**

<b>Audience</b>	<b>Percentage of respondents</b>
People who are blind or have low vision	79%
Children	79%
People who are deaf or hard of hearing	75%
Wheelchair users	68%
Family groups	64%
People with mobility impairments	61%
People with different learning styles	57%
People with little or no color perception	57%
People who speak a language other than English	57%
Older adults	57%
Other visitors in social groups of 3 or more people	39%
People with diverse cultural backgrounds	39%
People with language, learning, or cognitive disabilities	32%

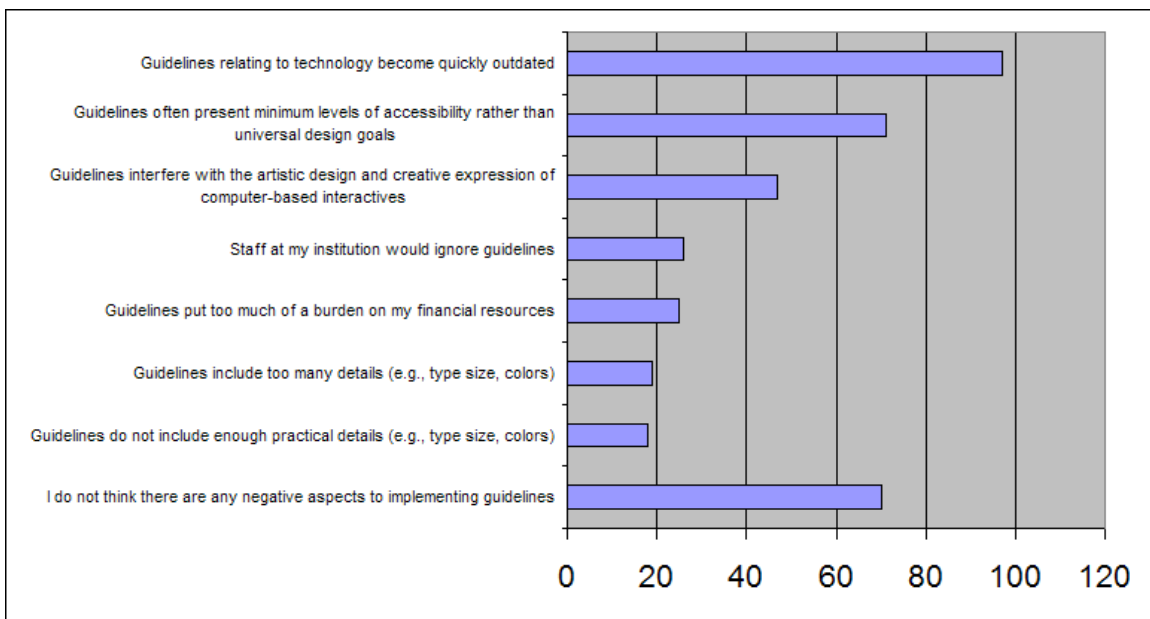
When asked about the philosophy behind designing accessible computer-based interactives, only 12 respondents (42%), reported creating an interactive which is not fully accessible but is supplemented with alternative formats. 25 of 29 respondents (86%) design the interactive to be as usable by as wide a range of visitors as possible.

### **Most Guidelines Address Kiosks**

Kiosks were mentioned most frequently (22 respondents out of 26) when asked about which types of interactives were specifically covered by their guidelines. Of the 26 respondents, 5 mentioned the Web, 4 cited mobile devices, 3 referenced cell phone tours, and 3 mentioned other interactives including immersive multimedia installations and electromechanical interactives. With mobile devices and cell phone tours on the rise in museums, this is an area where guidelines may be especially needed as these devices are not necessarily made by the manufacturer with accessibility in mind.

**Figure 9: Types of Interactives Addressed in Guidelines****Top Concern is that Guidelines Quickly Become Outdated**

All of the survey respondents were asked to state their concerns about guidelines for accessibility and universal design of computer-based interactives. The top concern for the 202 respondents who answered this question was that guidelines relating to technology become quickly outdated. This suggests that any guidelines created by the Smithsonian Institution or other entity must be flexible enough to accommodate new technologies as well as in a format that is easily updatable and shared.

**Figure 10: Concerns about Guidelines**

The second most cited concern was that guidelines present minimum levels of accessibility rather than universal design goals. One respondent expanded upon this idea: “Guidelines can often weight the focus on a specific disability group and actually perpetuate a myth of universal design. We have designed ‘accessible’ digital media that is usable by the blind but is severely limited in its general usability.” One person suggested that “Guidelines may be too narrow in scope.”

One respondent tied this concern about the perceived narrow vision of guidelines with a fear, shared by 23% of respondents, that guidelines interfere with artistic design and creative expression of computer-based interactives. The respondent wrote: “I would expect the guideline to be composed to inspire creative development and accessible design. Anything too rigid or narrow undermines the value of the guideline.” Several participants expanded upon this idea:

- “Guidelines are based set limits, we want to expand not limit the experience.”
- “Guidelines are good as guides not as barriers”
- “Guidelines are fine if they aren't applied like shackles.”
- “[guidelines do] put constraints on design, but universal usability is ultimately beneficial to all.”

Concerns about resources are the next priority, with 13% worried that staff would ignore guidelines and 12% anxious that guidelines put too much of a burden on financial resources. Respondents explained further:

- “It is difficult to make this an institutional priority, although discussion is welcomed.”
- “Staff at the institutions we work for decide to ignore the guidelines. They are considered at the beginning of a project and then are dropped off the priority list as the project progresses.”
- “Would my institution be capable of implementing/adhering to such guidelines?”
- “It takes a lot of time and resources to create guidelines and to get everyone to agree and sign off on them.”

Respondents were equally concerned that guidelines include too many details (9%) and that they do not include enough practical details (9%). This raises the point that good guidelines must strike a balance between enough guidance and examples to be understandable and useful as standards while not overwhelming designers and developers with too much information. Survey participants said:

- “[Guidelines are] often too abstract, hard to interpret - provide examples.”
- “[Guidelines] lack of practical examples for developing flexible interfaces to meet needs of diverse visitors.”
- “[Museums] need multiple guidelines for multiple presentation types and sizes.”

70 respondents (35%) did not think there are any negative aspects to implementing guidelines.

## Recommendations

This survey has yielded twelve sets of existing guidelines for the Smithsonian Institution to analyze as models. It has also gathered contact information for a population of nearly 100 knowledgeable respondents who are willing to be interviewed further about the challenges and opportunities presented to museums and other cultural institutions by computer-based interactives.

This survey is the first step in a process towards development of guidelines for accessible computer-based interactives in museums. The Smithsonian Institution will continue to solicit advice and feedback from museum practitioners, designers, and universal design experts through more in-depth interviews. The Accessibility program will also continue its literature review of existing resources and tested guidelines.

A few specific areas have emerged from the survey data as places where further investigation is needed. More research on what science museums and technology centers are doing to tackle universal design of computer-based interactives should be undertaken, as they are clearly leading the pack in implementing such experiences. More research should also be done into what Australian and European museums are doing. And the unique challenges of mobile technologies should be considered.

The thoughts of one survey respondent should be kept in mind as the Institution embarks upon writing guidelines for computer-based interactives: “These guidelines should aim to both set standards for accessibility, and inspire creativity in curators, developers, and media designers.” In order to create guidelines that will be used—rather than sitting on a shelf or on a hard drive—we must strive to put them in a format that is extremely sharable, searchable, and updatable. If possible, the Institution should take advantage of Web 2.0 technologies such as photo-sharing, wikis, and blogging to create a dynamic set of guidelines that may be added to and changed. Research findings produced in the wider museum and interactive communities should be incorporated, as should newly developing technologies. The guidelines should be promoted and shared widely, with ongoing feedback from the field welcome and encouraged.

It will be a challenge to balance updatability with simplicity. We know that museums have limited resources and that guidelines that are simple to decipher and provide examples of inexpensive solutions will be most useful. With so many outputs available to museums and a dizzying array of technologies, it will also be a challenge to create guidelines that balance specifics with flexibility.

With such a great need and an equally great interest, creating guidelines to share with the museum field will be a challenge, but also hopefully the next great



success for museums in improving the museum experience for all of our diverse visitors.

**Note to Readers**

Additional information will be published and shared with the museum community—and those who serve it—as it becomes available. If you have questions or comments about these survey findings or about the project to create guidelines, please contact Dana Allen-Greil at [greild@si.edu](mailto:greild@si.edu).

**Appendix A: Survey Invitation**

Subject: Take the Interactives Survey

Does your institution feature computer-based interactives in its exhibition galleries or other public spaces? Are you a multi-media designer who creates digital interactives for cultural institutions or a universal design or accessibility professional with technology experience? If so, please share your experiences and expertise by completing this short online survey (5-10 minutes to complete).

**Project Background:**

The Smithsonian Institution Accessibility Program is conducting research on best practices for accessibility and universal design for computer-based interactives. The product of this research will be a set of guidelines to supplement the Smithsonian Guidelines for Accessible Exhibition Design (1996).

Thank you for participating in the survey. You are encouraged to forward this message to colleagues.

## **Appendix B: Listservs Invited to Participate**

Invitations to participate in the survey were sent the following listservs and e-mail discussion groups. They are listed in order below from most to least responses generated.

- **Association of Science-Technology Centers (ASTC) listserv.** ASTC is an organization of science centers and museums dedicated to furthering the public understanding of science among increasingly diverse audiences. 30 responses.
- **American Association of Museums Media and Technology Committee listserv.** The Media and Technology Committee (M&T) is the American Association of Museum's link between museums and media technologies. As such, it identifies, examines, and advocates appropriate uses of media technologies in helping museums meet the needs of their diverse publics. 27 responses.
- **Museum-L.** Museum-L is a general purpose, cross-disciplinary electronic discussion list for museum professionals, students, and all others interested in museum related issues. 27 responses.
- **H-Museum.** H-MUSEUM is a moderated mailing list in the H-Net (Humanities and Social Sciences Online) for Museums and Museum Studies. 26 responses.
- **Museum Computer Network (MCN) listserv.** The Museum Computer Network (MCN) supports the greater museum community by providing continuing opportunities to explore, implement, and disseminate new technologies and best practices in the field. 23 responses.
- **Canmuse-L.** This bilingual list is provided as a service to the Canadian museum community by the Canadian Heritage Information Network (CHIN). CANMUSE-L provides an opportunity for discussion, information requests, and dissemination of information of interest to heritage professionals. 22 responses.
- **Museum-ed listserv.** Museum-Ed strives to meet the needs of museum educators by providing tools and resources by and for the museum education community. 14 responses.
- **Group for Education in Museums (GEM) listserv.** GEM promotes the importance of learning through museums, galleries and other cultural organisations. GEM is based in the U.K. but has members around the world. 10 responses.

- **Museums Computer Group (MCG) listserv.** MCG is the U.K. national forum for museum, gallery, archive and related professionals working with new technologies and new media. 9 responses.
- **Culturalartsaccess group, ADA/504 Coordinators and Accessibility Managers in the Cultural Arts.** This yahoo! Group is a unique national network of professional accessibility managers, coordinators and directors hosted by the John F. Kennedy Center for the Performing Arts Accessibility Program in Washington, D.C. The group is made up of professionals in theaters, performing arts centers, museums, arts commissions/councils and other arts service organizations. 9 responses.
- **NAME (National Association for Museum Exhibition) e-mail distribution list.** NAME's mission is to enhance the cultural landscape by advancing the value and relevance of exhibitions through dialogue among individuals, museum leaders and the public. 8 responses.
- Additional responses came from the following listservs and yahoo! Groups: E-learning, DC Web Women, Heritage, historichousemuseums, Childmus, and the Association of Zoos and Aqauriums. 8 responses.

## **Appendix C: Survey Instrument**

### **Page 1**

Does your institution feature computer-based interactives in its exhibition galleries or other public spaces? Are you a multi-media designer who creates digital interactives for cultural institutions? Are you a universal design or accessibility professional with technology experience? If so, please share your experiences and expertise by completing this short online survey (5-10 minutes to complete). You are encouraged to pass this survey along to colleagues.

#### **Project Background:**

The Smithsonian Institution Accessibility program is conducting research on best practices for accessibility and universal design for computer-based interactives. The product of this research will be a set of guidelines to supplement the Smithsonian Guidelines for Accessible Exhibition Design (1996). Please contact Dana Allen-Greil with questions or concerns at greild@si.edu.

1. Are you: \*

- A practitioner at a museum or other cultural institution
- An exhibition / multimedia designer that serves cultural institutions
- An accessibility or universal design professional
- Other: Please specify

*Note: Questions 2-5 were only posed to those who answered "a practitioner at a museum or other cultural institution" to question 1.*

### **Page 2**

2. I am affiliated with a(n):

- Art museum
- Children's museum
- History museum/historic house
- Science museum or technology center
- Aquarium/Zoo
- Park
- Other (please specify)

3. How many exhibitions are on view in your institution that feature computer-based interactives?

- 0
- 1-3
- 4-5
- 6 or more
- Not applicable (please explain)

4. Does your institution offer mobile digital interactives?

- Digital audio or mp3 player
- PDA
- Cell phone tours
- My institution does not offer mobile digital interactives
- Other (please explain)

5. Does your institution feature computer-based interactives or kiosks in public spaces other than exhibitions (e.g., for wayfinding, events calendars)?

- No
- Yes (please specify)

6. Do you/your institution use written guidelines for accessible exhibitions and/or universal design for exhibitions?

- Yes
- No

*Note: Question 7 was only posed to those who answered "yes" to question 6.*

7. Are you using guidelines created by an institution other than your own? (check all that apply)

- No- We created our own
- Yes- Smithsonian Guidelines for Accessible Exhibition Design
- Yes- Other resources of information / guidelines (Please specify)

8. Does your institution have accessibility/universal design guidelines **written specifically for application to the design of computer-based interactives?**

- Yes
- No

**Page 3**

**Note: Question 9 was posed only to those who answered “no” for question 8.**

9. Why haven't you implemented guidelines for computer-based interactives?

- I do not work with computer-based interactives
- My organization does not place a high priority on exhibition accessibility
- Guidelines interfere with the artistic design and creative expression of computer-based interactives
- Technologies change too fast to have written guidelines
- I do not have the resources or experience required to evaluate and implement guidelines
- I stay current on the latest best practices and trends but have not implemented written guidelines
- Other (please specify)

**Page 4**

*Note: Questions 10-14 were only posed to those who answered “yes” for question 8.*

10. What did you use as the basis for developing computer-based exhibition interactive guidelines? (Check all that apply)

- We conducted usability studies
- We conducted visitor evaluation (e.g., observation, interviews, surveys, focus groups)
- We hired a consultant to create them
- Professional experience
- We applied research from published resources (Please specify)
- Other (please specify)

11. Have you established levels or priorities in your guidelines?

No

Yes: Please explain

12. Do your guidelines explicitly cover making computer-based interactives accessible to (check all that apply):

- Wheelchair users

- People with mobility impairments
- People who are blind or have low vision
- People with little or no color perception
- People who are deaf or hard of hearing
- People with language, learning, or cognitive disabilities
- People with different learning styles
- People with diverse cultural backgrounds
- People who speak a language other than English
- Older adults
- Children
- Family groups
- Other visitors in social groups of 3 or more people
- Other (please specify)

13. When designing a computer-based interactive do you: (check all that apply)

- Design the interactive to be as usable by as wide a range of visitors as possible
- Create an interactive which is not fully accessible and supplement it with alternative formats
- Other: Please specify

14. Does your document specify guidelines for the following types of digital interactives (check all that apply):

- Kiosks
- Mobile devices
- Cell phone tours
- Other (please specify)

15. What concerns do you have about these kinds of guidelines (check all that apply)?

- Guidelines interfere with the artistic design and creative expression of computer-based interactives
- Guidelines put too much of a burden on my financial resources
- Guidelines relating to technology become quickly outdated
- Guidelines often present minimum levels of accessibility rather than universal design goals
- Guidelines include too many details (e.g., type size, colors)



- Guidelines do not include enough practical details (e.g., type size, colors)
- Staff at my institution would ignore guidelines
- I do not think there are any negative aspects to implementing guidelines
- Other: Please specify

*Note: Question 16 was only posed to those who answered “yes” for question 8.*

16. Would you be willing to share a copy of your guidelines for the purposes of this research?

- Yes
- No

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*Note: Question 17 was only posed to those who answered “yes” for question 16.*

7. Use the following controls to upload your file (Word or PDF files accepted). If you would prefer to email or fax your document, please send it to greild@si.edu or 202-357-1853, Attn: Dana Allen-Greil.

*Note: A browse function was offered so survey participants could upload files to the survey tool.*

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18. Would you be willing to be contacted for a brief phone interview to follow up on your answers to this survey?

- Yes
- No

19. Are you are interested in receiving a copy of the Smithsonian’s computer-based exhibition interactives guidelines when they are completed?

- Yes
- No

*Note: Question 20 was only posed to those who answered “yes” to question 18 or 19.*

20. Please include your contact information to receive a copy of the guidelines and/or be contacted for a follow-up interview.

First Name

Last Name

Title

Company Name

Street Address

Apt/Suite/Office

City

State

Postal Code

Country

Email Address

Phone Number

21. Can you recommend organizations, specific people, or other relevant resources for further research on this topic? Other comments and suggestions are also welcome here.

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Thank you for taking the time to complete this survey. Your feedback will be used to help the Smithsonian Accessibility Program create a set of guidelines to supplement the Smithsonian Guidelines for Accessible Exhibition Design (1996). For questions or comments about this survey, please contact Dana Allen-Greil at greild@si.edu.