

# Minnesota Institute of Arts African Galleries TDX Impact Evaluation Report



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## **Executive Summary**

### **The Art Shows Through**

During the 10 minutes on average visitors spent in the African Galleries, they were unequivocally positive about what they saw and their most memorable items were the art objects themselves. They used sophisticated and nuanced vocabulary to describe the exhibition, words like 'Fascinating', 'Dynamic', 'Timeless', 'Authentic', and 'Spacious'. A surprising number of visitors commented on the organization and design of the exhibits.

### **iPads and Map Had Long Stay Times**

Approximately 30% of the visitors used at least one iPad while in the exhibit; 40% of the visitors used the Interactive Map. While the technology was not the most mentioned aspect of the exhibit, those who stopped to use the technology spent a significant amount of time there, up to 5 minutes on average with the iPads. The Map and the iPads had some of the longest stop times in the exhibit, ranging from 4 to 6 minutes on average. People who used the Map, the iPads, or both spent more time in the exhibit than those who did not use the technology.

### **Technology Users Stayed in the Exhibit Longer**

Technology use did not "use up" time that could be spent on the art. Instead, visitors extended their stay to use the technology. The average stay time for those who did not use technology was 7 minutes and 40 seconds. For those who used some form of technology, the stay time was 11 minutes and 55 seconds. Ironically, one comment from a visitor who chose not to use the technology was that they wanted to "slow down". Instead, visitors who used the technology stayed in the exhibition longer.

### **Technology Neutral**

The visitors were noncommittal about the use of technology in the galleries. Those who did find it easy to use and the content interesting and useful, though they wouldn't necessarily be more likely to go to another MIA gallery just because similar technology was available. They were not opposed to the technology in the galleries and, for the most part, did not believe it was a distraction from the art. Technology in the galleries served neither as a driver nor a distracter, but as a lens through which they could gain insight about the art.

## INTRODUCTION AND PROJECT BACKGROUND

After 10 months of renovation, the Minneapolis Institute of Art reopened its African Galleries in early 2014 with a new look at a diverse collection of art from across the continent. The galleries showcase objects from many different cultures from across the continent, mounted and exhibited in new ways. Some of these objects are entirely new to the MIA collection. The galleries also feature new technology, including iPads and a large touch screen interactive map, which have been designed to give visitors more context and background information about the art. As the addition of technology to the galleries in this format was new for the MIA, the team contracted with Audience Viewpoints Consulting to evaluate the new exhibition space and the integration of technology from the visitor viewpoint. Aware that the team is discussing whether to carry this technological interpretation approach into other galleries, AVC focused on the following evaluation questions:

1. What is the nature of visitor interaction with the iPads and the large touch screen wall within the African Galleries? Does it enhance the visit?
2. How long do visitors interact with the touch screen wall and the iPads? Does the technology spark conversations between the visitors? Does visitor interaction vary by type of visitor?
3. What are visitor attitudes towards technology within the galleries? Do they perceive it as useful? Intrusive? Does the technology enhance their understanding and appreciation of the collections?

AVC designed the methods and evaluation instruments, provided data collection training to MIA staff monitoring data collection, performed data analysis and interpretation, and wrote this report.

This report is organized into this introduction, a description of the methods and the sample, and then the findings. The findings are arranged in four sections. The first section contains a description of impressions of the galleries and what visitors found most memorable, overall use of the galleries, including most and least used spaces, most and least visited objects, visitor stay times, and the comparison of stay times for visitors who used technology versus those who did not. The second section is a more detailed description of the use of the Interactive Map, including reasons for use or lack of use, and perception of the Map. The third section is a similar section, focused on the use and visitor reactions to the iPad benches. Finally, the fourth section is a description of visitor perceptions of technology, based on the exit interviews conducted as they were leaving the African Galleries.

## METHODS

This project utilized multiple primary methods:

1. iPad observation and interviews,
2. Interactive Map observation and interviews,
3. Visitor timing and tracking,
4. Exit interviews, and
5. Paired timing and tracking and exit interviews.

All visitors participating in the study were general visitors to the Minneapolis Institute of Art.

**Table 1: Methods and Sample Sizes**

Method	Sample Size
Timing and Tracking	70
Exit Interviews (including paired timing and tracking and unpaired)	48
Interactive Map Observation and Interview	41
iPad Observation and Interview	40

### **Method 1: iPad Observation and Interview**

To understand visitor behavior and social interaction in connection to the new iPad technology installed in the African Galleries, AVC designed an observation and interview instrument for MIA data collectors to gather data. MIA data collectors observed visitors if they interacted with one or more of the iPads in the gallery, noting their individual and group behaviors. The MIA data collector intercepted the observed visitor as he/she exited the gallery and asked if they would answer a few questions. Visitors were asked about the content on the iPad and the user interface.

### **Method 2: Interactive Map Observation and Interview**

To understand the visitor's behavior and social interaction in connection to the new Interactive Map installed in the African Galleries, AVC designed an observation and interview instrument for MIA data collectors to gather data. MIA data collectors observed visitors if they interacted with the Interactive Map in the gallery, noting their individual and group behaviors. The MIA data collector intercepted the observed visitor as he/she exited the gallery and asked if they would answer a few questions. Visitors were asked about the content on the Map and the user interface.

**Method 3: Timing and Tracking**

To unobtrusively observe visitor patterns of behavior in the African Galleries, AVC developed an instrument which MIA data collectors used to collect data. Visitors were observed throughout their entire gallery experience and MIA data collectors mapped where visitors stopped and spent the most time.

**Method 4: Exit Interview**

To explore visitor attitudes about the African Gallery reinstallation and new technology, AVC created an Exit Interview instrument that was used by MIA data collectors. Visitors were intercepted as they were exiting the gallery and asked a few questions about their experience in the gallery as well as their opinions about what they had seen.

**Method 5: Paired Timing and Tracking and Exit Interview**

To compare visitor behaviors and attitudes about the African Galleries AVC combined the instrument for Timing and Tracking and the Exit Survey into one study. MIA data collectors observed visitors as they moved through the gallery, recording their stops, then intercepted the visitor before they left the gallery to conduct an Exit Interview.

***Limitations of the Study***

The study was carried out as accurately as possible. The sample sizes of this study are relatively small. While large enough to provide this analysis, there may be further trends which larger sample sizes could better address. In addition, there were some abnormalities or elements of missing data within the data collection. These elements might unknowingly influence the results or interpretation of the data.

## SAMPLE

### *Group Composition*

Most individuals within the galleries were visiting in groups of two, and over half of our data was collected on groups of two. The second most common configuration was a single individual.

**Table 2: Number of Adults in the Group**

Adults per Group	Total Number of Groups of this size	Percentage of Overall Data
1	44	24.7%
2	107	60.1%
3	15	8.4%
4+	3	1.7%
Did not respond	9	5.1%
Total	178	100.0%

While there were observed groups that included children within each method, there were few children overall. The vast majority of our data collected (83% of groups) included no children. In the iPad observation, 17.5% of our observed groups contained children, and in the Map observations 20% of our observed groups contained children.

**Table 3: Number of Children in the Group**

Children per Group	Total Number of Groups of this size	Percentage of Overall Data
0	148	83.1%
1	13	7.3%
2	10	5.6%
3+	4	2.2%
Did not respond	2	1.1%
Total	177	99.4%*

\*Due to rounding.

### *Familiarity with African Art*

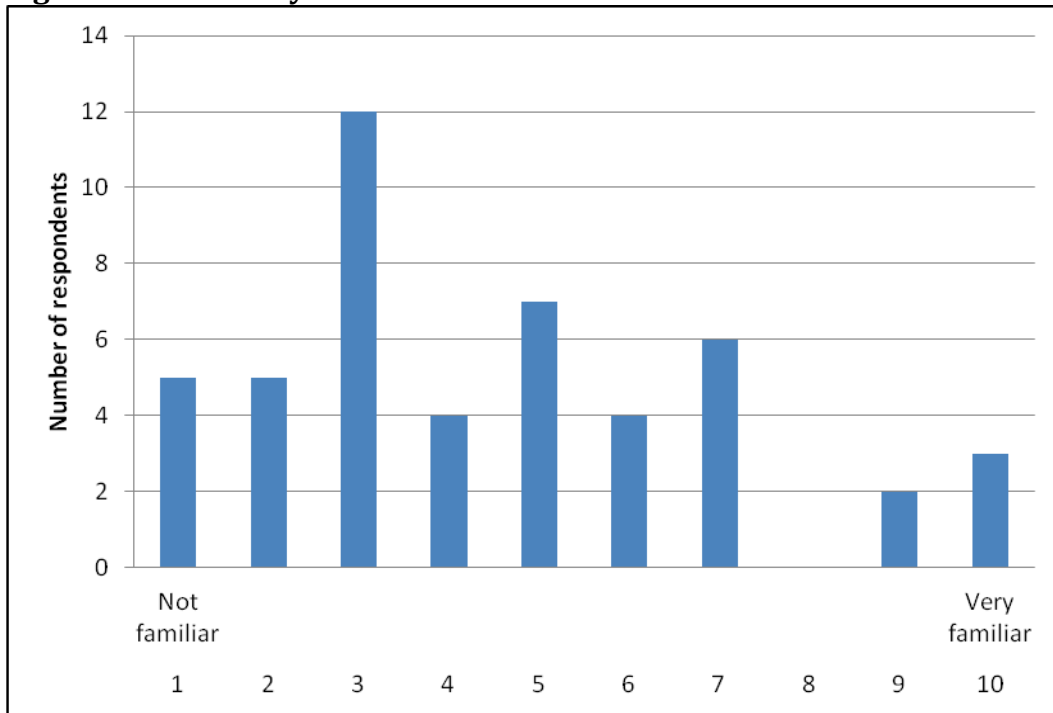
One of the design requirements for the Interactive Map was that it would serve to orient the visitor to the African Galleries content and context, as the team felt it was likely the visitor would be less knowledgeable in this particular subject area. Their rationale was born out by the visitor's ratings of their familiarity with African Art. On a 10-point scale, the average knowledge rating was 4.5, with 20% of all visitors rating themselves a 1 or 2 on the scale. (See Table 4.)

**Table 4: How familiar are you with African art?**

	<b>1 Not familiar</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10 Very familiar</b>
<b>Frequency n=48</b>	5	5	12	4	7	4	6	0	2	3
<b>Percentage</b>	10%	10%	25%	8%	15%	8%	13%	0%	4%	6%

As you can see below, these percentages cluster towards the lower end of the scale. (Figure 1)

**Figure 1: Familiarity with African Art**



***Use of Tech at Home***

The team was interested in knowing the familiarity of visitors with tablets, so visitors were asked whether they had an iPad or tablet at home. Over half do (52%) have an iPad or other tablet in their household. (See Table 5.)

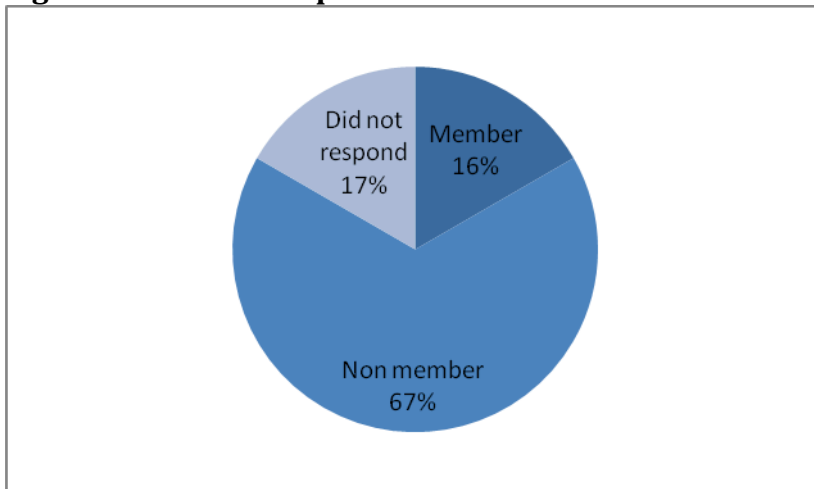
**Table 5: Tablet or iPad Ownership**

	Frequency (n=48)	Percentage
Yes	25	52%
No	21	44%
Used to/ Other	1	2%
Did not respond	1	2%

***Rate of Membership***

Of those we interviewed, only 16% were members of the MIA. This number might be artificially low, as 16% did not respond to the question. We do not currently have access to other MIA data to determine whether this rate is high or low.

**Figure 2: Membership of MIA**



**Findings: Visitor Overall Experience in the Galleries**

One of the common techniques we use in gaining a sense of visitor impressions of a gallery is to ask them to choose three words to describe the gallery to someone who has never seen it. For some exhibits we evaluate, the words chosen are rather general (such as cool) or factual (big). For the African Galleries, visitors choose a sophisticated set of words in highly positive terms. We roughly coded these words into categories, and the largest category that emerged was one that described the educational nature of the gallery. The second largest category spoke to the aesthetics of the gallery.

81% of visitors (n=39) used words to describe the information value of the exhibit

*Educational*  
*Intriguing*  
*Comprehensive*

*Interesting*  
*Interactive*  
*Thorough*

*Historical*  
*Insightful*  
*Fascinating*

*Informational*  
*Contextual*  
*Cultural*

64% of visitors (n=31) used words to describe the aesthetic of the exhibit, using the following words:

*Colorful*  
*Dynamic*  
*Beautiful*  
*Mysterious*  
*Incredible*  
*Timeless*  
*Energizing*

*Alive*  
*Expressive*  
*Dramatic*  
*Clean*  
*Style*  
*Vibrant*

54% of visitors (n=26) used words to describe the uniqueness of the exhibit:

*Unique*  
*Different*  
*New*  
*A mix of contemporary and old art*  
*Authentic*  
*Diverse countries*

*Eclectic*  
*Fun*  
*Variety*  
*Surprise*  
*Eccentric*

45% of visitors (n=22) used words to describe the organization of exhibit:

*Spacious*  
*Good flow*  
*Organized*  
*Open*  
*Expansive*

*Complete*  
*Inclusive*  
*Well-labeled*  
*Dynamic*  
*Resourceful*

When asked what they found most memorable in the African Galleries, they responded the art, with the majority of visitors primarily referencing specific pieces. 60% of visitors (n=29) mentioned specific objects they remembered:

*All the areas with the head sculptures, masks, and power figure. They're favorites and I always visit them.*

*Funerary Papyrus.*

*Crown with veil, mask "had a bad day". They have a closeness to nature and they used natural materials.*

*The woodcarving techniques. The primitive styles of the carving and art.*

*Always attracted by mummy. Came to see mummy - we walked around to find it.*

*The Ife Shrine Head. [Why?] A favorite piece. Love the way it's displayed.*

*The textiles. The robe over there is beautiful and really stands out. Nicely displayed. The way it's laid out. Like the case displays with color in the background.*

*Oh my god! The masks. I think the art is representative of the spiritual and the culture. Fascinating!*

*Egypt hieroglyphs. Didn't come in for a specific reason at all, just to browse. Like the Egyptian art - memorable.*

Of those visitors, the Fantasy Coffin was the most frequently cited item, mentioned by 12% of visitors (n=6) specifically:

*Coffin. That thing was awesome!*

*The coffin - such a unique piece. That is SO cool!*

Interestingly, 18% of visitors (n=9) mentioned the layout or exhibit design attributes of the reinstalled galleries. In our experience, visitors rarely mention the layout, flow, appearance of the gallery, so for visitors to comment on the exhibit approach it must have been significant to them. All of the comments about the layout and design were positive or neutral.

*The new layout - Wow!*

*Overwhelmed by the whole bit. Just amazing.*

*The look of the galleries. So different than the rest of the MIA. Excited to see they are open again.*

*Everything in glass now. The color was cool and different from the rest of the museum. Colder in this gallery.*

*We enjoyed the fantasy coffin. This gallery does not look like a museum.*

10% of visitors (n=5) enjoyed the technology in the galleries:

*We enjoyed the iPads because the children know the technology.*

*Was in previously but shied away from iPads; wanted to try them this time. The whole setup is dramatic and much better than before. Loved the pots, great setup. Coconut grinder!*

*I loved the interactive booths where you could sit and study. That was something new for us that we liked.*

*The board you can touch (screen), total of two minutes. Amazing to overhear about the head.*

*I don't know. All of it. All resources at hand, touch screen drew in, reinforce what you see.*

8% of visitors (n=4) talked about the variety of art in the gallery,

*Very intriguing with range and variety.*

*Different types of art displayed. Really enjoyed the various drums (were they used to communicate with others?) Fantasy Coffin.*

*There's a lot...more of a variety of things. From Nigeria, most drawn to Crown and Egungun Costume, these items still used today in Africa. African art is not like American art. It isn't a luxury. We use it.*

8% of visitors (n=4) were interested in the background or context provided in the gallery,

*Age, years ago it was made. How we got it over here.*

*Good descriptions of time, style, and place; background in anthropology. African art is always surprising; unlike European art where you know names and pieces.*

*Photography. [why?] You can see better time period relating to people. Usually see European stuff.*

4% of visitors (n=2) made personal connections with objects in the galleries,

*Drums. I am a drummer and love drums.*

*Fashioning personhood. Liked how it was grouped. Liked seeing household items, pots, Ethiopian headrests. Just came from Senegal.*

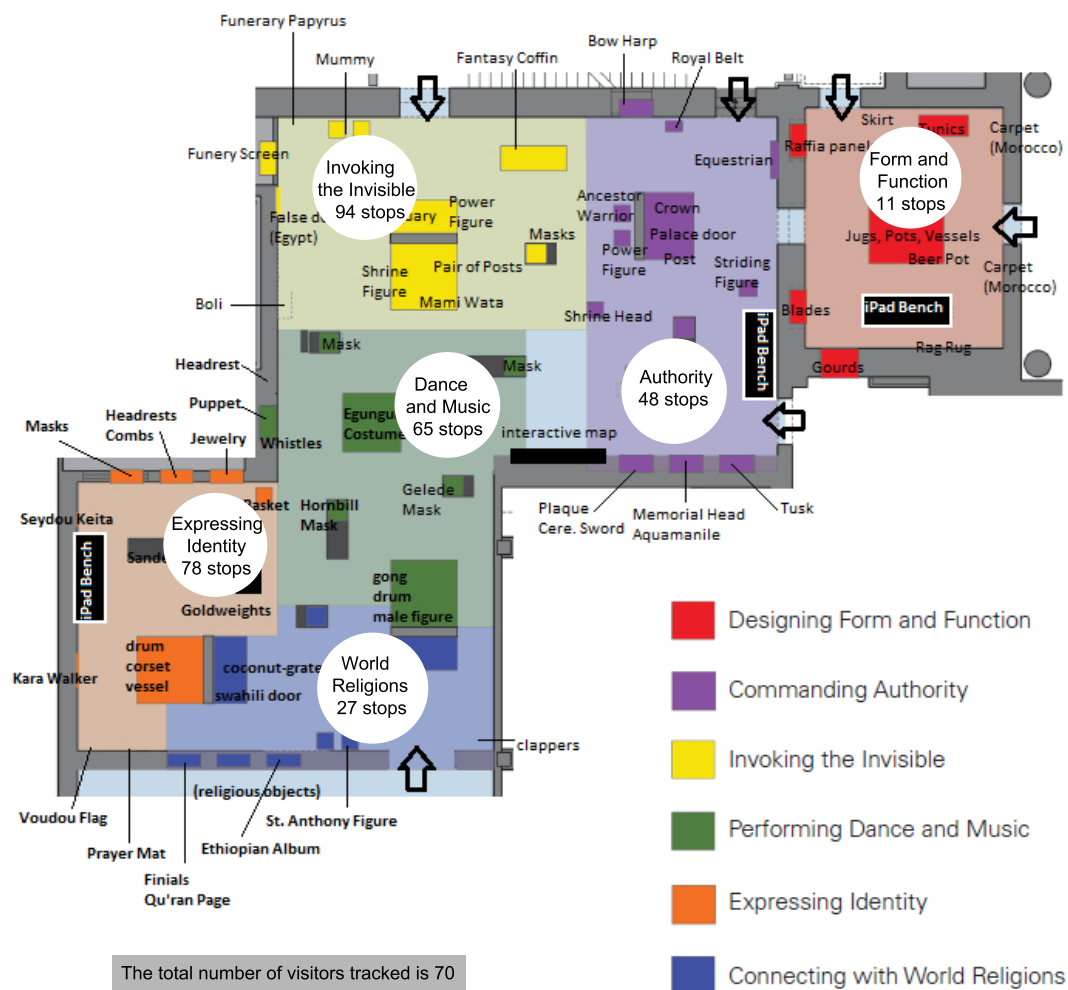
## **STAY TIME**

For the 70 visitors observed in the African Galleries, their visit lasted just under 10 minutes, at 9 minutes and 55 seconds. The largest proportion of stops visitors made was in Invoking the Invisible section, with nearly a third of the stops in the overall exhibition. Second most attended to was the Expressing Identity gallery, followed by Performing Dance and Music. Designing Form and Function was the least visited area, accounting for only 3.4% of the visitor stops made.

**Table 6: Percentage of Stops Made per Gallery**

	Frequency (n=70)
Designing Form and Function	3.4%
Commanding Authority	14.9%
Invoking the Invisible	29.1%
Performing Dance and Music	20.1%
Expressing Identity	24.1%
Connecting with World Religions	8.4%

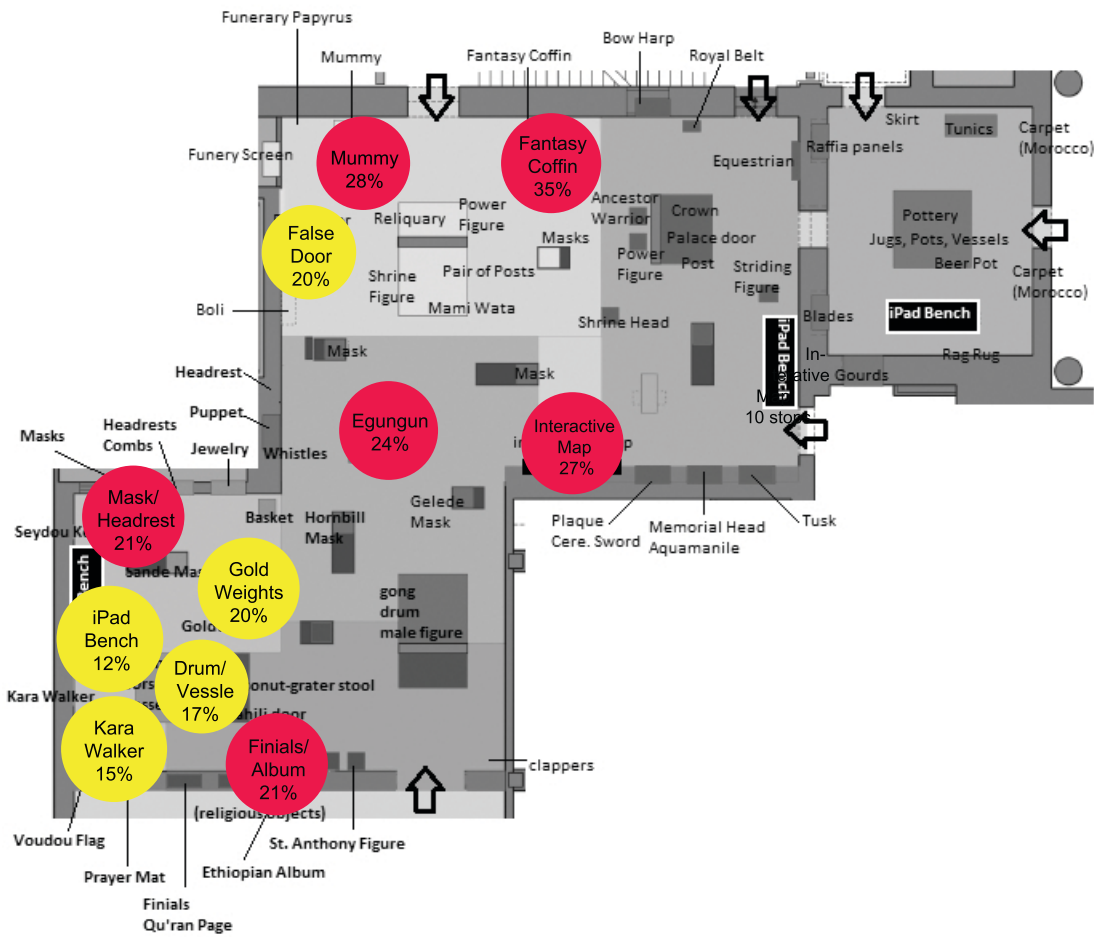
**Figure 3: Number of Stops Made per Gallery**



There were a few visitors who made no stops in the exhibit. The most number of stops made by a single visitor during the timing and tracking was 21. The average number of stops per visitor was 5. In terms of total visitor stops, six areas were high frequency elements, defined as 15 or more visitors out of the sample of 49 stopping. Figure 4 below details the high visit stops.

**Figure 4: Percentage of Visitors Stopping at an Exhibit Element**

	Frequency (n=49)	Percentage	Color key
High	15+	35%-21%	
Moderate	9-14	12%-20%	



More visitors stopped at the Fantasy Coffin than at any other element within the exhibition, with 35% of the visitors stopping at the coffin, and an average stay time of 1 minute and 16 seconds. The mummy was the second most visited element, with 28% of those tracked stopping

at the mummy and staying an average of just under a minute (51 seconds). The Interactive Map was the third most common visitor stop, with 27% of those observed stopping at the Map. It also had the second longest visitor stay time within the exhibit, a stay time of 5 minutes and 14 seconds. (A more detailed description on visitor interaction with the Interactive Map is in the following section.)

**Table 7: Percentage of Visitors Who Stopped, and Amount of Time They Spent**

	<b>Percentage (N=70)</b>	<b>If stopped, amount of time spent (mm:ss)</b>
Fantasy Coffin	35% (n=25)	1:16
Mummy	28% (n=20)	0:51
Interactive Map	27% (n=19)	5:14
Egungun	24% (n=17)	0:59
Mask/ Headrest/ Combs	21% (n=15)	2:09
Finials/ Album Pages	21% (n=15)	1:04
False Door	20% (n=14)	1:02
Gold Weights	20% (n=14)	1:57
Drum/ Vessel	17% (n=12)	0:54
Kara Walker	15% (n=11)	1:04
iPad Bench (Expressing Identity)	12% (n=9)	6:08
Boli	11% (n=8)	1:10
Door/ Stool	11% (n=8)	0:57
Tusk	11% (n=8)	0:50
Crown/ Door/ Post	11% (n=8)	3:00
Mami Wata	10% (n=7)	1:00
Mask (Performing Dance and Music)	10% (n=7)	1:00
Seydou Keita	10% (n=7)	0:36
Warrior/ Power Figure	10% (n=7)	0:51
Royal Belt	10% (n=7)	0:46
Puppet/ Whistles	8% (n=6)	0:31
Prayer Mat	8% (n=6)	1:24
Gong/ Drum Figure	8% (n=6)	2:20
Gelede Mask	8% (n=6)	2:00
iPad Bench (Commanding Authority)	8% (n=6)	4:00
Figure	7% (n=5)	1:44
Striding Figure	7% (n=5)	0:32
Screen	5% (n=4)	1:00
Reliquary/ Figure	5% (n=4)	0:31
Mask (Performing Dance and Music)	5% (n=4)	1:00
Clappers	5% (n=4)	1:00
Head (Commanding Authority)	5% (n=4)	4:30
Leopard	5% (n=4)	0:53
Head (Commanding Authority)	4% (n=3)	0:33
Blades	4% (n=3)	0:22
Carpet (Designing Form and Function)	4% (n=3)	0:03
Sande Mask	2% (n=2)	0:15
Bow Harp	2% (n=2)	1:00
Voudou Flag	1% (n=1)	1:00

Gourds	1% (n=1)	0:00
Carpet (Designing Form and Function)	1% (n=1)	0:10
Jugs and Pots/ Beer Pot	1% (n=1)	0:04
Tunics	1% (n=1)	0:30
Raffia	1% (n=1)	0:20
Equestrian	1% (n=1)	0:00
iPad bench (Designing Form and Function)	0% (n=0)	0:00
Rag Rug	0% (n=0)	0:00
Skirt	0% (n=0)	0:00

In terms of stay time, visitors spent the longest amount of time at the iPad bench in Expressing Identity, with an average stay time of 6 minutes and 8 seconds, though only 12% (n=9) of observed visitors stopped at that bench. As mentioned above, the second longest stay time was at the Interactive Map (5 minutes and 14 seconds). Third longest was at the Head in Commanding Authority with an average stay time of 4 minutes and 30 seconds for the 4 visitors who stopped there.

Figure 4 below relates the areas with high and moderate stay times, defined as three minutes or more than a minute and 40 seconds respectively. It is worth noting that each element had quite a range, even the ones with high stay times.

**Table 8: Maximum and Minimum Stay Time Observed**

	Minimum Time (mm:ss)	Maximum Time (mm:ss)
Interactive Map	0:30	20:00
iPad Bench (Expressing Identity)	1:00	20:00
iPad Bench (Commanding Authority)	1:00	11:00
Fantasy Coffin	0:04	6:00
Mummy	0:10	2:00

**Figure 4: Average Stay Time at Exhibit Elements (of those visitors who stopped)**

	Time	Color key
High	3:00+	
Moderate	1:40-2:99	



Overall, individuals who made use of the technology stayed longer in the exhibition. As shown in Table 8 below, visitors who did not use either the Map or the iPads stayed an average of 7 minutes and 40 seconds. Those visitors who used the Map but no iPads stayed an average of 9 minutes and 21 seconds. Those who used the iPads but not the Map stayed 10 minutes and 4 seconds, and those who used both stayed an average of 20 minutes and 31 seconds.

**Table 9: Average Visit Time based on Use of Type of Technology**

Frequency (n=70)	Did not use tech	Used Map, not iPad	Used iPad, not Map	Used iPad and Map
Number of people	35	12	16	7
Average stay time	7:40	9:21	10:04	20:31

In looking at those who used any technology versus those who did not use technology, overall the visit time was longer when visitors used technology. The average stay time at the Map was over 5 minutes, and the time Map-using visitors extended their visit was between 1 minute and 41 seconds and 2 minutes and 20 seconds. So technology users definitely stayed longer. The amount of time they spent looking at the technology was longer than the amount they extended their stay.

**Table 10: Average Visit Time Based on Use of Technology**

Frequency (n=70)	Did not use any technology	Used some form of technology
Number of people	35	35
Average stay time	7:40	11:55

Technology was not the only item that had a significant impact on the visitor stay time. Group size did as well. Individuals who were by themselves and individuals with 4 or more in their social group stayed longer than those in a group size of 2 or 3. (See Table 11.)

**Table 11: Average Visit Time Based on Size of Group**

Frequency (n=70)	1 person in group	2 people in group	3 people in group	4+ people in group
Number of groups	12	42	11	5
Average stay time	11:33	9:15	8:16	14:24

## FINDINGS: INTERACTIVE MAP

Of the individuals interviewed about their complete experience in the gallery during the exit interview, over one-third used the Interactive Map during their visit (40%). Of those who didn't use the Map, 25% said it was because the visitor didn't have enough time or other visitors were using the Map.

**Table 12: Did you use the interactive map while you were visiting?**

	Frequency (n=48)	Percentage
Yes	19	40%
No	29	60%
Not sure	0	0%

Visitors were asked to give more details as to why they did or did not use the Interactive Map in the African gallery.

### **Yes, I used the interactive map**

The main reason visitors chose to use the Map was for more information (9 out of the 19 visitors who used the Map). Those individuals explained their reasons:

*Really interesting, languages, the geography.*

*Wanted more details, more information, more sources / resources to go to, as if one were to write a paper.*

*Wanted to use the map and see where things were.*

*Taught in Africa, show her where in Africa certain items were from. Couldn't find actual pieces in gallery from the wall.*

*I like how it's layered. Different screens with more and more info. It's cool. I haven't seen anything like this before.*

*Always do, because we have a child - he always picks different icons. Because it's African Art, using true iPads here helps facilitate learning for African American kids and teens. They were having discussions.*

*I thought it was educational.*

One visitor expected to see more information as part of the Interactive Map:

*Needs more information, breadth, depth.*

### **No, I did not use the interactive map**

Of the 29 visitors who did not use the Map, 12 of them articulated logistical constraints, such as they didn't have enough time to use the technology or other visitors were using the technology,

*Walking through, not enough time today.*

*Other people standing there.*

*Not enough time.*

*Didn't get to it.*

*Other people were in front of it. A large group of kids.*

*Someone was at it.*

*Just walking past/though, didn't stop.*

Other reasons: 7 out of the 29 visitors who did not use the Map said they preferred to look at the art rather than use technology

*Wanted to look at art instead.*

*Looking at the art, not electronics.*

*Don't know. We're more interested in the actual art.*

*Not into interactive walls, so much; into the actual art.*

Another 5 out of the 29 visitors who did not use the Map said they had not seen the Interactive Map during their visit, or did not realize they could use it

*Hadn't gone over that way, didn't see it.*

*Missed it. Going back to see it.*

*I didn't think to touch the wall. I've been taught hands-off walls.*

*The what? I didn't even notice it.*

*Didn't see it, might have just walked past.*

And 2 out of the 29 visitors who did not use the Map said they were not interested in using the technology.

*Not interested in them.*

*Not interested in using.*

One visitor reported being uncomfortable using the technology,

*Large, expensive, don't want to touch it.*

Visitors who did use the Map felt that it was easy to use. When asked, 98% of those who used it responded said they were able to figure out how to use the Map easily.

As mentioned in the previous section, the Map had long stay times (an average of 5 minutes and 14 seconds). Both adults and children felt comfortable initiating Map contact. Out of the 8 participating groups that included children, 5 of those groups had children initiate interactive Map contact.

We asked data collectors to gauge the amount of social interaction occurring while individuals used the Map, with a 1 representing no social interaction, a 2 representing light social interaction, a 3 representing moderate social interaction and a 4 representing heavy social interaction. The average rating for amount of social interaction was a 2.33, somewhere between light and moderate social interaction. Of the five groups with children that were observed and rated, all of them had moderate social interaction (a 3 on the rating scale).

**Table 13: Amount of Social Interaction**

<b>1 None</b>	<b>2 Light</b>	<b>3 Moderate</b>	<b>4 Heavy</b>	<b>No data</b>
22% (n=9)	19% (n=8)	41% (n=17)	5% (n=2)	13% (n=5)

When we further examined the use of the Map, we found that a majority of the users had some form of social interaction when using the Map. Over half of the visitors observed (63%) called attention to others some mention of the content of the Map. The same number (63%) pointed out specific functions of the Map. People reacted in a visibly positive manner to the Map, observers could see 61% of the visitors smiling and/or laughing. Nearly half of the visitors were observed reading aloud to another visitor. This is also considered a positive behavior, as visitors read aloud when they consider the information interesting enough or important enough to call it to the attention of their companions.

**Table 14: Visitor Behavior at the Interactive Map**

	<b>Frequency (n=41)</b>	<b>Percentage</b>
Calls attention to/ points out map content	26	63%
Calls attention to/ points out wall functions	26	63%
Emotionally reacts to map: positive (smiles, laughs)	25	61%
Reads aloud to another person	20	49%
Watches another visitor interact with the map	14	34%
Helps/ assists/ instructs (how to use, do something)	12	29%
Looks at map but does not touch	3	7%
Has trouble using the map or controls	1	2%
Not focused on exhibit/ down time	1	2%
Emotionally reacts to map: negative (frustration, disappointment)	0	0%

Percentages will not add to 100% as groups explored multiple content areas.

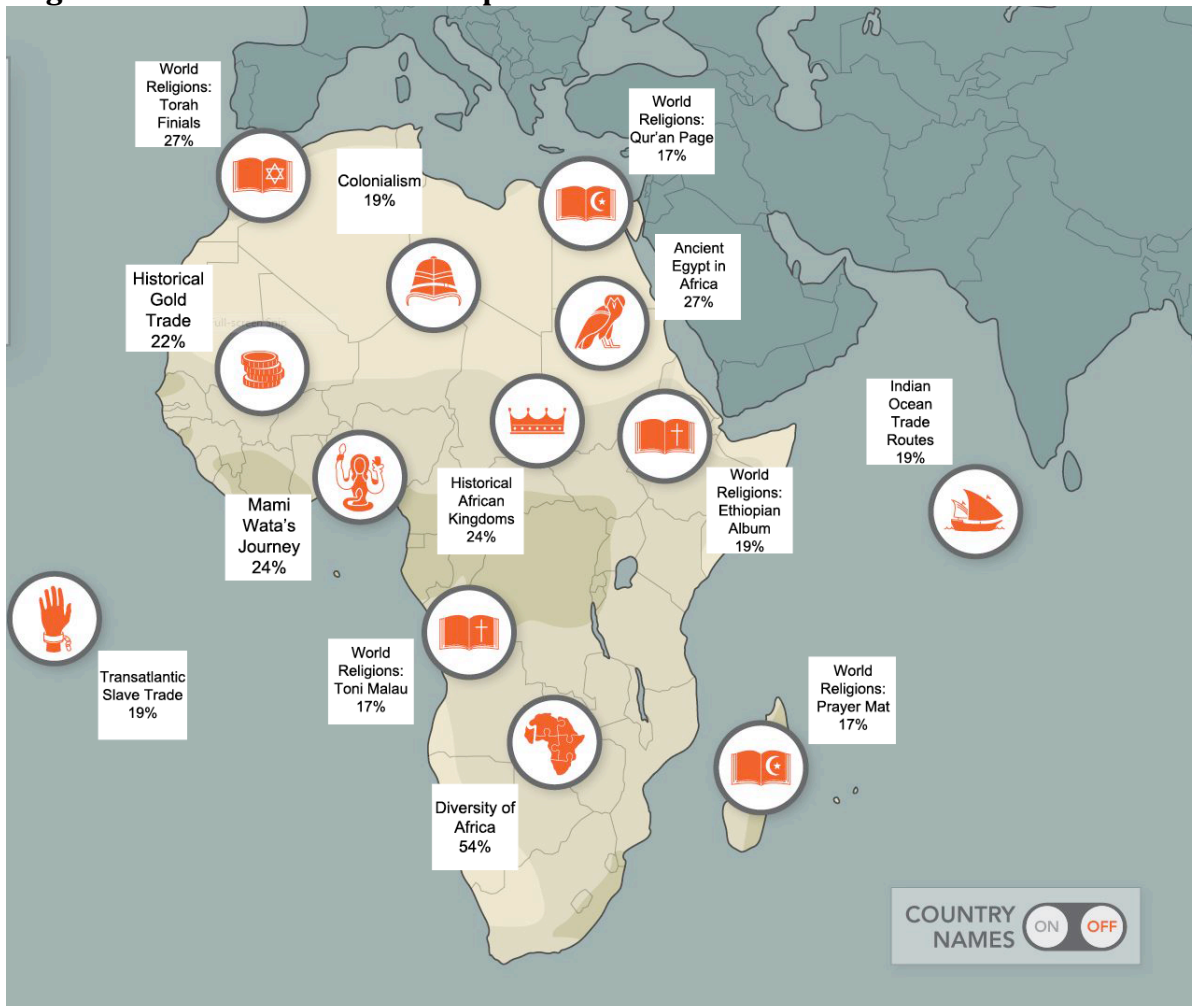
Visitor groups explored an average of 3 content areas on the Interactive Map during their visit. Visitors who used the Map explored an average of 3 content areas. Diversity of Africa was the most common element explored, with 54% of observed visitors selecting that content. Selection of the other content areas was roughly split equally, with no content area particularly ignored.

**Table 15: Content Use on the Map**

	Frequency (n=41)	Percentage
Diversity of Africa	22	54%
World Religions in Africa: Torah Finalists	11	27%
Ancient Egypt in Africa	11	27%
Historical African Kingdoms	10	24%
Mami Wata's Journey	10	24%
Historical Gold Trade	9	22%
Indian Ocean Trade Routes	8	19%
Colonialism	8	19%
World Religions in Africa: Ethiopian Album	8	19%
Transatlantic Slave Trade	8	19%
World Religions in Africa: Qur'an Page	7	17%
World Religions in Africa: Prayer Mat	7	17%
World Religions in Africa: Toni Malau	7	17%

Percentages will not add to 100% as groups explored multiple content areas.

**Figure 5: Content Use on the Map**



As shown in Figure 5 above, visitors made use of all areas on the Map wall display. When visitors were asked about the most interesting elements of the Map, they commented on the amount and depth of information the Interactive Map offered, and about how they could customize their experience.

Of the 41 visitors observed, 27% (n=11) visitors spoke about the amount and depth of information the Interactive Map offered, making the following comments:

*Layers of information.*

*Looking at all the countries, really impressed with all the information on it.*

*It's a giant screen, so that's cool. Gives you more information into the culture and why the art work is important. Provides a new perspective and connections. A deeper understanding to why it's important.*

*You can explore lots of information, it looks like you could stand here for quite some time and learn a lot.*

Another 17% (n=7) visitors talked about all the different options available to them through the Interactive Map. They appreciated the ability to customize their experience and choose what they wanted to see.

*Lots of options. Lots to choose from. There is something for everyone here.*

*The interactivity, the design, and how it works - you can choose what you want to look at.*

*I liked that it was not static. I was something you could interact with.*

*The ability to pick certain areas and pictures; the information is nice and short, you don't have to read pages of information.*

Approximately 15% (n=6) of the visitors spoke about how the Map helped them make connections with content:

*The big map itself. When we touched the icons you could scroll through and dive deeper.*

*Additional screens. More in depth. Helped to engage my kids and share my experience with them. Loved the map to point out locations.*

*Some she already knows, opportunity to zoom. "Map can tell me, some I don't know." (shows me map) a lot of info about religion, trade, were fascinating*

*Connecting location with information; helped fill the gaps, "I'm familiar with Europe, Africa is a blank slate so this was useful."*

Several visitors noted the ease of use of the Map:

*I like how simple it is.*

*Touch screens moving from/sliding images. Very easy to do and interesting.*

*The stories all presented in a quick manner, easy to access it.*

*Since I'm with my son, I enjoyed all of the information displayed and how easily the screen could be manipulated to find more information.*

Finally, 12% (n=5) of the visitors mentioned the images on the interactive map:

*Beautiful pictures.*

*Loved the real pictures of places today, cool to see what things are like today.*

*All the pictures. So beautiful.*

## FINDINGS: IPAD INTERPRETATION

Of the individuals interviewed about their complete experience in the gallery during the exit interview, almost one-third used at least one of the iPads during their visit (29%). Of those who didn't use an iPad, 23% said it was because they didn't have enough time or other visitors were using the iPads.

**Table 16: Use of an iPad during the Visit**

	Frequency (n=48)	Percentage
Yes	14	29%
No	34	71%
Not sure	0	0%

We asked visitors to give more details as to why they did or did not use the iPads in the African gallery.

### **Yes, I used the iPad**

One of the main reasons visitors used the iPads (5 out of the 14) was because they wanted more information about the collections:

*The iPads were extremely helpful and interesting for the girls.*

*Gotta get into this 20th century stuff, can't get over it. Like the gold pieces, contemporary African art is interesting.*

*It was a lot closer look at the objects with a lot more information; wanted more information.*

*A reference to learn more about an object, such as the door. I really like it.*

*Thought it was good, informational, being able to zoom in and look at details.*

For some individuals, it was clear that the concept of the iPad in the gallery was new. Four visitors (8%) specifically mentioned the novelty of using technology while in the gallery,

*Using them was not typical for me, but it was inviting and comfortable. Enjoyed it.*

*It's cool integrating the technology with the art*

*Wall displayed, aesthetically pleasing. Didn't know at first that she could pull it out. Trouble is not used to using. Questions what to do.*

*It's modern. You can't escape technology so it's real neat that you're integrating art with technology. Young kids and those who are in their 20s should really enjoy it.*

### **No, I did not use the iPad**

For the 34 visitors who did not use the iPads, the primary reason they gave was the lack of time to use the technology or other visitors were using the iPads at the moment.

*Other people were using them.*

*Mostly because of time and other people were using them.*

*We didn't take the time. In a hurry.*

*There were little kids using it. That seemed more appropriate. Great for kids.*

*We're just going through and looking, and we're on a tight schedule.*

Still, a significant portion of visitors (9 out of 34) noted they preferred to look at the art and read labels rather than use the iPads.

*I didn't want to use while looking at the art.*

*I'm slow moving...I think we should slow down. I think the computers should go away.*

*We wanted only to view the art and read the labels.*

*Wanted to spend more time looking at the art.*

*I don't know. I come to be on my own. I like getting lost in my own world without distraction.*

*On a mission for the art. Since we have one at home, we try to look at art. We are aware they're there.*

Another 7 visitors of the 34 non-users said they did not realize there were iPads in the gallery,

*Because he didn't know there were iPads.*

*Didn't see them [iPads] - where are they?*

*Didn't know they were here.*

*Didn't notice them.*

One visitor (2%) mentioned the content on the iPad versus the content on the Interactive Map,

*Thought it had same content as the wall map.*

A small portion of visitors (4%, n=2) said they were unfamiliar with how to use the iPads. As mentioned in the demographics section, more than half of the visitors

*Don't know how to use iPads.*

*I've never used an iPad.*

Of the 40 visitors observed and interviewed about their use of the iPads, nearly all of the visitors were able to figure out how to use the iPads. Only one visitor responded that they could not easily use the iPad technology.

**Table 17: Were you able to figure out how to use the iPad easily?**

	Frequency (n=40)	Percentage
Yes	37	93%
No	1	2%
Not sure	0	0%
Did not respond	2	5%

Of the benches observed closely, the Gold Weights bench was the most popular.

**Table 18: Use of iPad Benches (Based on Focused Observation Data)**

	Frequency (n=40)	Percentage
Rag Rug	8	20%
Kara Walker	8	20%
Gold Weights	15	37.5%
Tusk	9	22.5%
Data not available	2	5%

Note: Total will not add to n because some visitors used multiple benches.

Only two out of the 40 groups used the iPads at more than one bench. Those groups both used the iPads at the Kara Walker and Gold Weights benches.

**Table 19: How Visitors Use the iPads**

	Frequency (n=40)	Percentage
Calls attention to/ points out iPad functions	21	52%
Emotionally reacts to iPad: positive (smiles, laughs)	19	47%
Reads aloud to another person	16	40%
Watches another visitor use the iPad	14	35%
Calls attention to/ points out something in exhibit	9	22%
Not focused on exhibit/ down time	8	20%
Helps/ assists/ instructs (how to use, do something)	7	17%
Hands on iPad but not focused on content	5	12%
Emotionally reacts to iPad: negative (frustration, disappointment)	1	2%
Has trouble using the iPad	1	2%

Percentages will not add to 100% as groups displayed multiple behaviors.

Visitors were asked what were the most interesting parts of what they saw on the iPad, and why it was interesting. Twelve of the 40 users answered by mentioning the ability to access more information, such as in the following:

*Learning what the goldweights were; being able to learn more.*

*Really wanted more detail about pieces they had seen when walking around, the mummy in particular.*

*I'm an engineer and I love how much content can be displayed in one area. The iPads allow for easy access for a more in-depth look. This is a such a clean way to present this kind of content.*

*More information about the tools, using weapons, notes the scorpion goldweight. There's audio, too, from people who know more about the objects, who work here.*

*Liked how it broke down pieces: mummy, which symbolizes what. Liked weaving, showed the process, see how it comes together.*

Eleven of the 40 users talked about museum objects on the iPad:

*Masks. Love looking at all of them in one place.*

*Making the mummy video. Fascinating to see how it was done.*

*Yes, interesting how art was made and the process of making it. You see the art, but you don't always see how long it took or what went into making it.*

*Really nice pictures and images.*

*Able to zoom in on a piece of clothing and see all the details, better lighting. "Better than real life." Cool to hear the girl's story from St. Thomas about keeping traditions alive.*

*I liked the pictures, how clear they were and easy to see. Looked specifically at sculpture of woman.*

*All the further views, like "open coffin", also getting the other sources was cool too.*

Three of the 40 users felt the iPads could be improved:

*The layout could use improvement, but once it was working, I really liked the information that was presented.*

*I would have been interested to learn more from iPads if they had worked.*

*It wasn't. It had miniscule amounts of information. Just needs to be more specific. Like that they're there, but wanted it to have more.*

Two of the 40 users did not find anything interesting about the iPad:

*Nothing in particular, I've seen iPads. Seen them, don't want one.*

*Nothing really. I just don't see the importance.*

As in the Map observations, we asked data collectors to gauge the amount of social interaction occurring while individuals used the iPads, with a 1 representing no social interaction, a 2 representing light social interaction, a 3 representing moderate social interaction and a 4 representing heavy social interaction.

**Table 20: Amount of Social Interaction**

1 None	2 Light	3 Moderate	4 Heavy	No data
30% (n=12)	37.5% (n=15)	27.5% (n=11)	5% (n=1)	13% (n=1)

The average rating for amount of social interaction was a 2.02, right at light social interaction. Of the seven groups with children that were observed and rated, all of them had more social interaction than the overall average. Social interaction in groups that had children was a 2.71 on the rating scale. Even in the groups with children, the children were not necessarily the ones to initiate interaction with the iPads. Out of the 7 participating groups that included children, 4 of those groups had children initiate iPad contact.

## ATTITUDES TOWARDS TECHNOLOGY

In the exit interviews, we asked visitors a variety of questions about their attitudes toward technology in the galleries. Their answers paint an interesting and complex picture of a visitorship ambivalent about technology. First off, the visitors were not generally against technology within art museums. When asked, the vast majority of visitors completely disagreed with the idea that technology does not belong in the galleries.

**Table 21: iPads and other technology-based content don't belong in art museum galleries.**

	1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
<b>Number of responses</b>	24	7	7	3	0	2	0	5

(Average is 1.93, Standard deviation of 1.33)

When asked if they felt the iPads and other technologies provided were a distraction from the art, their answers were more distributed (standard deviation of 2.11), but still a majority (54%) of the individuals completely disagreed with the statement.

**Table 22: The iPads and other technologies are a distraction from the art.**

	1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
<b>Number of responses</b>	22	3	3	3	3	5	2	6

(Average is 2.63, Standard deviation of 2.11)

Both the technology users and the non-users felt the technology was not a distraction in the gallery, as can be seen in the breakdown in Table 23.

**Table 23: Breakdown of Technology as Distraction by Technology Use**

	1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
<b>Responses of those who used tech</b>	13	3	2	2	1	3	1	2
<b>Responses of those who did not use tech</b>	9	0	1	1	2	2	1	4

For those individuals who did use the technology, they generally felt it helped them better understand the art in the galleries, with 36% of them completely agreeing. The standard deviation was also fairly large here, representing a wide range of opinion, and some felt the technology did not better help them understand the art.

**Table 24: The iPads and Other Technology Helped Me Better Understand the Art in this Gallery.**

	1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
<b>Number of responses</b>	4	1	4	1	4	4	10	20

(Average is 4.85, Standard deviation of 2.22)

When asked if the iPads and the other technology made the gallery more enjoyable, again, visitors were generally positive with an average rating of 4.48, but with a wide range of distribution. The standard deviation was also fairly large here, representing a wide range of opinions, and some felt the technology did not make the gallery more enjoyable. Those who actually used the technology, as can be shown in Table 26, tended to skew higher on that scale.

**Table 25: The iPads and other technology made this gallery more enjoyable.**

	1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
<b>Number of responses</b>	4	4	2	3	6	5	7	16

(Average is 4.48, Standard deviation of 2.12)

**Table 26: Technology Made it More Enjoyable by Technology Use**

	1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
<b>Responses of those who used tech</b>	3	3	1	3	5	4	6	2
<b>Responses of those who did not use tech</b>	1	1	1	0	1	1	1	14

As MIA is considering whether to make use of iPads and similar treatments in other galleries, we asked visitors whether they would specifically seek out galleries if they knew that they would find interpretation on iPads or interactive wall displays. Visitor answers were all across the range, but with an average of 3.78, it seems safe to say that most visitors believe they would not specifically seek out these experiences.

**Table 27: I would make a point of visiting other galleries at MIA if I knew they had similar technology.**

1 Completely disagree	2	3	4	5	6	7 Completely agree	N/A
6	3	7	10	3	7	2	9

(Average is 3.78, Standard deviation of 1.80)

Participants were roughly evenly split over whether they would recommend using the iPads or Interactive Map to a friend, with more individuals recommending use of the Map (54%) than use of the iPad (44%). For many others, the answer wasn't that they were against recommending the technology, they were simply uncertain. A total of 42% of the interviewees were uncertain whether or not they would recommend the iPads to a friend, and 35% were uncertain they would recommend using the Map.

**Table 28: I would recommend it to a friend (N=48)**

	iPads	Interactive Map
Yes	44% (n=21)	54% (n=26)
No	13% (n=6)	8% (n=4)
Not sure	42% (n=20)	35% (n=17)
Did not respond	2% (n=1)	2% (n=1)

Participants were asked to give more detail as to why they would or would not recommend using the iPads or Map. The main reason they would recommend usage, given by 15 out of 48 visitors, is they believe the technology can enhance the visit with more information.

*The interactive stations teaches you so much more. It's not dry and boring.*

*Yes. It could give someone a more in depth experience.*

*Provides more info.*

*Very different. Helpful to find more information.*

*It can add to the enjoyment, but it also adds to the knowledge of the experience.*

*We believe it's a great educational tool.*

*Because we've used that [map]. Gained more insight and have context for the art. Again, it is interesting and educational.*

*The information on the map is very educational. I suppose students would also enjoy seeing this.*

*Lots of good information.*

Visitors gave other reasons as well. Six visitors commented on the personalized experience of using technology in the gallery, and about the attraction rate of interactive technology today.

*Enhanced experience, don't need docent, able to do it at our pace.*

*Fan of anything interactive, better than just canvas, attracts more in this day and age. Everything touch now.*

*Map person. Want to see where things come from. Good way to visit the art.*

*iPad - cool feature, modern, informational. Didn't think technology was distraction at all.*

*May attract new, younger audience and anything will help. Technology is the now and that's what the generation is familiar with.*

### **No, I would not recommend using the iPad or interactive map**

Main reason: 3 out of 48 visitors felt that looking at the art was more important than exploring the technology and therefore said they would not recommend it.

*If you come into a gallery you should use your eyes. And it's good to disengage from technology once in awhile. Good too, like teens who need engaging.*

*Wouldn't mention it. I have to go back and see what's on them. It's not my point of attraction.*

*Looking at the artwork. Don't want to be told how and what to look at, just want to enjoy the art.*

Other reasons for not recommending the technology included one visitor who alluded to the age of the visitor, perhaps suggesting that older visitors would not like to use technology, or that technology is only for young visitors.

*Being born before 1980.*

Interestingly, another visitor who said he would recommend using the technology also mentioned the age of the individual as a determining factor of the recommendation.

*If they were young. That was very informative. Slave trade was 'shocking'.*

### **I'm not sure if I would recommend using the iPad or interactive map**

6 out of 48 visitors responded that they were unsure whether or not they would recommend using the technology because they weren't familiar enough with the content on the technology

*I didn't use content so I'm not sure if they are useful.*

*Didn't use them, so not sure if I can recommend.*

*We didn't use them. This is our mental health day away from technology. My kids would love it.*

6 out of 48 visitors responded that they would recommend using the technology based on the interests of the individual to whom they were making the recommendation,

*Not sure. Depends on who is visiting.*

*Some people are interested in using those things. If they are, would recommend.*

*Depends on friends and their interests. It's appealing and looks helpful. Depends on interests.*

*I would say to use them if they wanted to. Doesn't think technology is bad, but chose not to use it.*

*If interested, it's a personal preference. Didn't use it (the map), so couldn't say. Can get more information about a variety of things.*

## Appendix A: Additional Timing and Stops Tables

**Table 29: Number of visitors who stopped at each element**

	Frequency (n=21)
Interactive Map	9
Fantasy Coffin	8
Drum/ Vessel	7
Mummy	6
Gold Weights	6
Mask/ Headrest/ Combs	6
Mask (Performing Dance and Music)	6
Kara Walker	5
Finials/ Album Pages	5
iPad Bench (Commanding Authority)	5
Crown/ Door/ Post	5
False Door	4
Egungun	4
Royal Belt	4
Mami Wata	3
Mask (Performing Dance and Music)	3
Door/ Stool	3
Head (Commanding Authority)	3
Tusk	3
Puppet/ Whistles	2
Sande Mask	2
Seydou Keita	2
iPad Bench (Expressing Identity)	2
Prayer Mat	2
Clappers	2
Gong/ Drum Figure	2
Gelede Mask	2
Head (Commanding Authority)	2
Carpet (Designing Form and Function)	2
Warrior/ Power Figure	2
Screen	1
Boli	1
Figure	1
Voudou Flag	1
Leopard	1
Tunics	1
Striding Figure	1
Equestrian	1

Bow Harp	1
Reliquary/ Figure	0
Blades	0
Gourds	0
iPad bench (Designing Form and Function)	0
Rag Rug	0
Carpet (Designing Form and Function)	0
Jugs and Pots/ Beer Pot	0
Skirt	0
Raffia	0

**Table 30: Average time spent at each element (n=70)**

	<b>Time</b>
iPad Bench (Expressing Identity)	6:08
Interactive Map	5:14
Head (Commanding Authority)	4:30
iPad Bench (Commanding Authority)	4:00
Crown/ Door/ Post	3:00
Gong/ Drum Figure	2:20
Mask/ Headrest/ Combs	2:09
Gelede Mask	2:00
Gold Weights	1:57
Figure	1:44
Mask (Connecting with World Religions)	1:30
Prayer Mat	1:24
Fantasy Coffin	1:16
Boli	1:10
Kara Walker	1:04
Finials/ Album Pages	1:04
False Door	1:02
Screen	1:00
Mami Wata	1:00
Mask (Performing Dance and Music)	1:00
Voodoo Flag	1:00
Clappers	1:00
Bow Harp	1:00
Egungun	0:59
Door/ Stool	0:57
Drum/ Vessel	0:54
Leopard	0:53
Mummy	0:51
Warrior/ Power Figure	0:51
Tusk	0:50
Royal Belt	0:46

Seydou Keita	0:36
Memorial Head	0:33
Striding Figure	0:32
Reliquary/ Figure	0:31
Puppet/ Whistles	0:31
Tunics	0:30
Blades	0:22
Raffia	0:20
Sande Mask	0:15
Carpet (Designing Form and Function)	0:10
Jugs and Pots/ Beer Pot	0:04
Carpet (Designing Form and Function)	0:03
Gourds	0:00
iPad bench (Designing Form and Function)	0:00
Rag Rug	0:00
Skirt	0:00
Equestrian	0:00