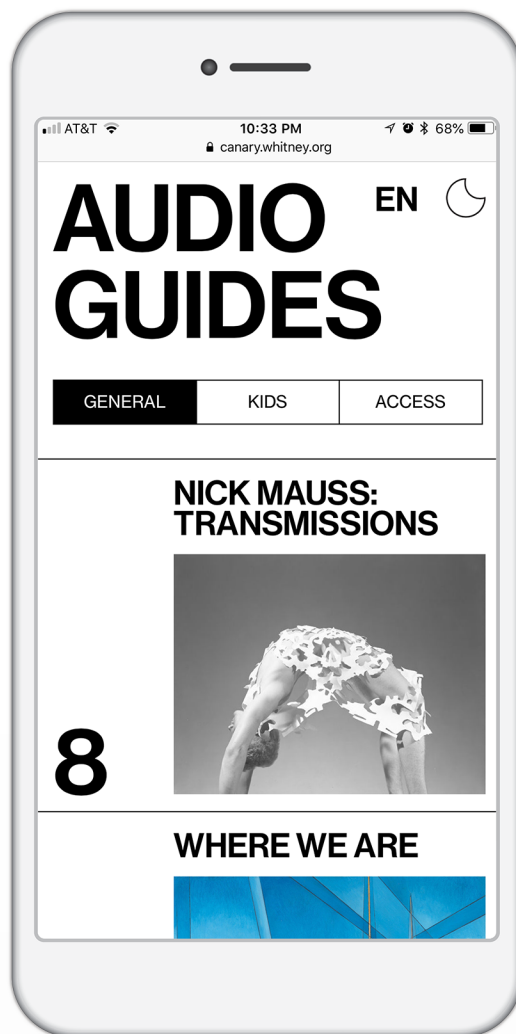


THE WHITNEY MUSEUM OF AMERICAN ART AUDIO GUIDE

User Test Report



EXECUTIVE SUMMARY

The Whitney Museum of American Art receives visitors from the world over and is devoted to share art of the United States, with a broad range of 20th century and contemporary art. One of the Whitney's main focus is to showcase the work of American living artists, which gives the visitors the opportunity to experience new exhibitions every few months (Whitney.org). Dedicated to innovation and authentic experiences for visitors, the Whitney's current Audio Guide features audio content sourced directly from artists and diverse voices described by one participant as, "more like a conversation, than the dryness of a normal lecture [that] you hear in audio guides."

The Museum created a new prototype of this popular Audio Guide, and the usability study contained here observed participants' behaviors in using it to complete relevant tasks. By exploring the prototype's understandability, the study resulted in findings and recommendations to further enrich visitor experiences with this digital product that helps to set the Whitney apart from other museums.

SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

Participants revealed a high level of interest in the Audio Guide's content. Some navigation links were expected to perform differently than their actual actions. Participants mainly relied on matching artwork thumbnails with artworks in the gallery to relate the correct stop number. They also relied on their memory to determine the current exhibitions.

Those findings and information led to this proposal of recommendations in support the participants and their interaction with the Audio Guide:

- **Recommendation 1:** Increase legibility of artist's name and the artwork title [visual design and information organization] ([see page 19](#))
- **Recommendation 2:** Refine shapes used in navigation and increase contrast to distinguish content [visual design and organization of navigation links] ([see page 21](#))
- **Recommendation 3:** Incorporate filter by exhibition, filter by floor, and search by stop number functions [content structure and information organization] ([see page 24](#))

TABLE OF CONTENTS

| | |
|--|----|
| Executive Summary | 2 |
| Introduction | 4 |
| Methodology | 5 |
| Preliminary Work and Considerations | 5 |
| User Testing and Tasks | 7 |
| Evaluations | 11 |
| Participants Profile | 11 |
| Limitations of this Study | 15 |
| Results & Recommendations | 16 |
| Summary of Key Findings and Recommendations | 16 |
| Finding 1: <i>Legibility of text causes participants to rely on artwork thumbnails</i> | 18 |
| Finding 2: <i>Participant's took time to learn and connect the symbols with the actions of the top navigation links and bottom level audio player.</i> | 20 |
| Finding 3: <i>Participants rely on prior knowledge of the exhibitions on display to find the correct link on the floors/exhibition menu list</i> | 23 |
| Test Results | 25 |
| Conclusion | 26 |
| Sources | 27 |
| Appendix | 28 |

INTRODUCTION

The innovative Whitney Museum of American Art is devoted to showcasing the work of living American artists, ranging from the twentieth-century to contemporary art. The Museum's signature exhibition, the Biennial, is part of their permanent collection. It is located in the Meatpacking District in New York City, and boasts seamless access to the Highline, which connects visitors to public installations (Whitney.org). Pressing into the future, the Whitney strives for similarly seamless "connections across content areas," physical and digital (Andersen, 2018).

A major intersection in the Whitney experience is between audio guide content and the galleries as physically experienced. The Whitney's audio guide is a stand out product, providing context for artworks through recorded primary sources (most often the artists themselves). Listeners are given a chance to gain deeper understanding and connection to the many artists' visions and personalities. A prototype for an updated audio guide is in development with the goal of connecting visitors to this rich content as best as possible.

To support the development of this prototype, the user test described herein was designed and conducted. Participating Whitney visitors were the first to test and use the prototype, and their approaches to resolving specific tasks with it were observed, recorded, and analyzed. This report presents recommendations to enhance the visitor experience of the audio guide based on direct feedback from users.

METHODOLOGY

The purpose of this user test is to support the development of the Audio Guide prototype. The main goal to examine the performance and several features of the Audio Guide was made possible by observing, recording, and analyzing the approaches that participants took in performing the Task Scenarios.

Once the participants completed their tasks and provided feedback, the information was analyzed to rate instances when participants relied on prior knowledge or more time to perform actions. These instances were accumulated by reviewing the observations, recorded conversations, surveys and participant feedback ([see Appendix E](#)). This user test involved several methods and analysis techniques; they include: pilot testing, random user sampling, task analysis, think-aloud protocol, probing questions, rating scale (see Figure 1).

Preliminary Work and Considerations

The audio guide prototype in development was tested to gather data about how visitors interact directly with the application as well as how they use it to seek information in conjunction with their surroundings. Audio guide use is site-specific, directing that the user testing be conducted on-site. The participants' interactions in comparison to the intended uses of the audio guide (as well as insights into potential improvements) were also determined to be best observed in person, and towards these ends, the study was developed in a task analysis model (see Figure 1). The study also opted for audio recording over other forms of notation to facilitate more authentic participant interactions.

Preparation for testing involved logistical planning (i.e. coordination with Whitney staff and research team members), types of participants and the designing of several scenarios and tasks for them to perform, and ethical considerations such as participant consent forms ([see Appendix A](#)).

METHODOLOGY

| 1. USER TEST METHODOLOGY MODEL | | |
|---|----------------------|---|
| METHOD/TECHNIQUE | TYPE | DESCRIPTION |
| Documentation ¹ | Research | Instructions for a successful user test can be referenced in existing reports and other materials |
| Formative Evaluation ² | Test Goal | The purpose of this test is to improve the interface as part of the design process |
| Test Goal ² | Test Plan | Address all details about the test and particular requirements for the study (gather materials) |
| Task Analysis ¹ | Analysis Technique | Task decomposition to build steps and subtasks |
| Pilot Test ² | Test Preparation | Refine tasks and procedures before actual test |
| Script ³ | Test Preparation | Facilitator and Moderator talking points and instructions based on participant responses |
| Sampling ³ | Recruitment | Selection method for choosing participants by waving any and all qualifications |
| Concurrent Think Aloud (CTA) ² | Moderating technique | Moderator encourages participants to describe their actions and thought-process aloud |
| Concurrent Probing (CP) ² | Moderating technique | Moderator asks questions as participant attempts to complete the tasks to gather feedback |
| Rating Scale ² | Performance Measure | Sorting of quantitative / qualitative feedback |
| Questionnaires ² | Debriefing | Interview for quantitative / qualitative feedback |
| Citations: 1. (Dix, 2004), 2. (Nielsen, 2003), 3. (Dumas and Loring, 2008) | | |

Insights into the general usability of the prototype did not require a targeted user profile, and time for testing was limited — these factors determined that the single qualification for participants was to be present at the Whitney at the time of testing. A script and speech for the test moderators to follow were created to maintain regularity between different iterations of testing ([see Appendix B](#)).

METHODOLOGY

A pilot test was performed to determine how effectively the tasks and questions in the study revealed visitor behaviors and preferences regarding the understandability of the audio guide prototype. The results of the pilot test informed the redrafting and refinement of the study into a final version for implementation ([see Appendix C](#)).

User Testing and Tasks

The study was implemented on site at the Whitney by two teams of two researchers each. Each pair consisted of a facilitator and a moderator. A random sample of eight visitors were selected to participate. Participants had varying levels of familiarity with the Whitney's current audio guide system — five of the eight were observed with the current audio guide at the time of intercept. Upon granting written consent to the study conditions, participants were given the audio guide prototype on an iPhone device.

Eight visitors were chosen to participate in the user test of the Audio Guide prototype. The test took place on the seventh floor of the Whitney Museum. One team consisting of a tester and moderator performed the user test on 4/19/2018 with four participants. The following day, the second team, also consisting of a tester and moderator duo, performed the user test with four participants. After participants signed a consent form ([see Appendix A](#)), testers followed the script ([see Appendix B](#)) to properly guide participants as they performed the tasks on an iPhone mobile device with iOS 11.3.1 from Apple Inc. Moderators used a mobile device to record audio feedback, noted important points during scenarios, and observed the interactions that the participants followed to complete tasks. Participants completed a post-test questionnaire created with Google Forms.

METHODOLOGY

They were then presented with the following task scenarios:

1. Using the Audio Guide, find any information you can about Gorky's *The Artist and His Mother*. Go to the painting and listen to the audio provided (see Figure 2).
2. Using the Audio Guide, find an exhibition that you can view today (see Figure 3).

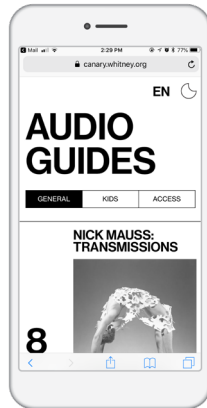
Participants were encouraged by moderators to explain aloud their decisions and thoughts throughout task resolution. Specifically, the two common moderating techniques used are referred to as Concurrent Think Aloud (CTA) and Concurrent Probing (CP) (Nielsen, 1993). Once it was determined through visual observation that participants had completed a task, they were prompted to both judge whether they had accomplished the task and to rate the difficulty experienced in doing so (see Figure 4).

Regardless of whether the tasks were successfully completed, participants were assured that their feedback was crucial and appreciated. Following the task scenarios, participants were asked a series of reflective questions to gather more critical feedback ([see Appendix D](#) and [Appendix E](#)).

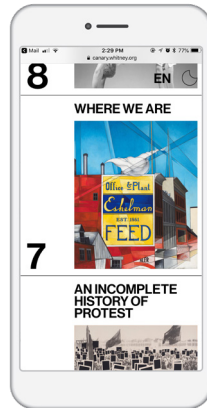
Demographic questions ([see Appendix F](#)) were an optional follow-up to the reflective questions, and concluded the study's data collection. Figures 2 and 3 are detailed, step-by-step descriptions of the task scenarios ([see Appendix C](#)).

METHODOLOGY

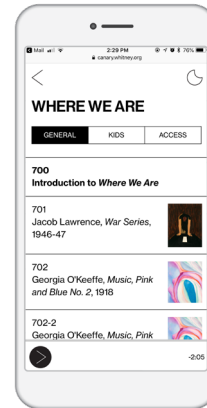
2. TASK SCENARIO 1



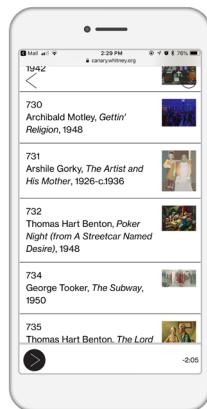
Step 1: Open Audio Guide.



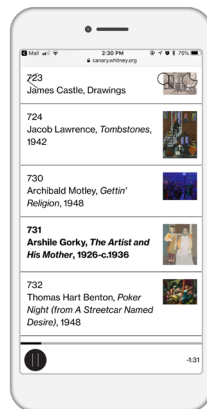
Step 2: Scroll to Floor 7.



Step 3: Select Where We Are.



Step 4: Find Stop number 731.



Step 5: Play Stop number 731.



Step 6: Explore The Artist and His Mother.

TASK SCENARIO 1

Figure 2: Using the Audio Guide or your mobile device: Find any information you can about Gorky's *The Artist and His Mother*. Go to the painting and listen to the audio provided.

METHODOLOGY

3. TASK SCENARIO 2

Step 1: Close the artwork page.

Step 2: From Stops list, go back to the Audio Guide floor and exhibitions page.

Step 3: Select any floor and / or exhibition category.

TASK SCENARIO 2 AND EVALUATION FORM

Figure 3 details the subtasks in Task Scenario 2. Using the Audio Guide or your mobile device: Find an exhibition that you can view today.

Figure 4 is the Task Scenario Evaluation Form. Both tasks were rated by two scales (success and difficulty).

4. TASK SCENARIO AND DIFFICULTY RATINGS EVALUATION FORM

After each task, record participants completion and let them rate the difficulty of task.

1. Did you Complete the Task?

Yes No

2. Rate the difficulty of the task

0 - Very Difficult

1 - Difficult

2 - Somewhat Difficult

3 - Somewhat Easy

4 - Easy

5 - Very Easy

METHODOLOGY

Evaluations

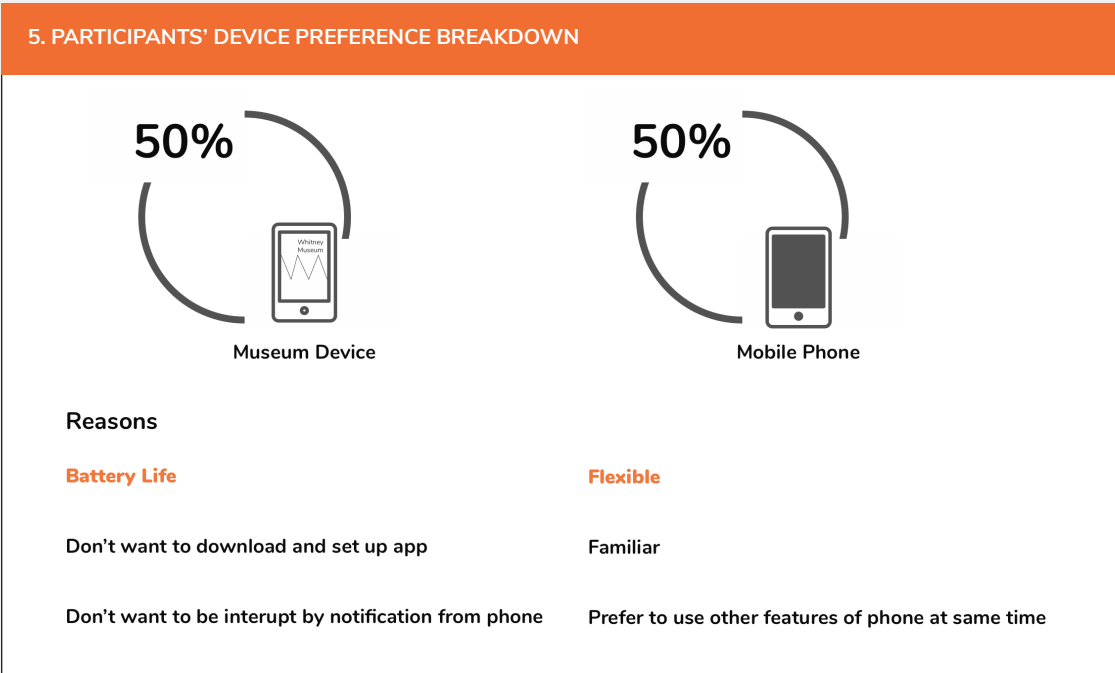
This is a list of processes that supported evaluation of the data to arrive at the particular findings and recommendations:

- Audio recordings of test sessions were transcribed
- Responses were compared and patterns were identified to develop and rate severity of findings([see Appendix D](#))
- Feedback from responses ([see Appendix E](#)) to questions were recorded and compiled to support the findings ([see Appendix D](#))
- Responses to demographic questions ([see Appendix G](#)) were combined with responses to task-related and open-ended questions to create a general profile of a Whitney visitor (see Figures 5–11)
- Participants completed the User Test and provided feedback in approximately 12–16 minutes.

Participants Profile

The post-test questionnaire provided the information to survey the participants' profiles. Participants were asked about their art and museum knowledge, how they gather information about the museum events, their nationalities, device preferences and their past visits to the Whitney and other museums. The analysis of this survey is detailed in the Figures 5–11.

METHODOLOGY



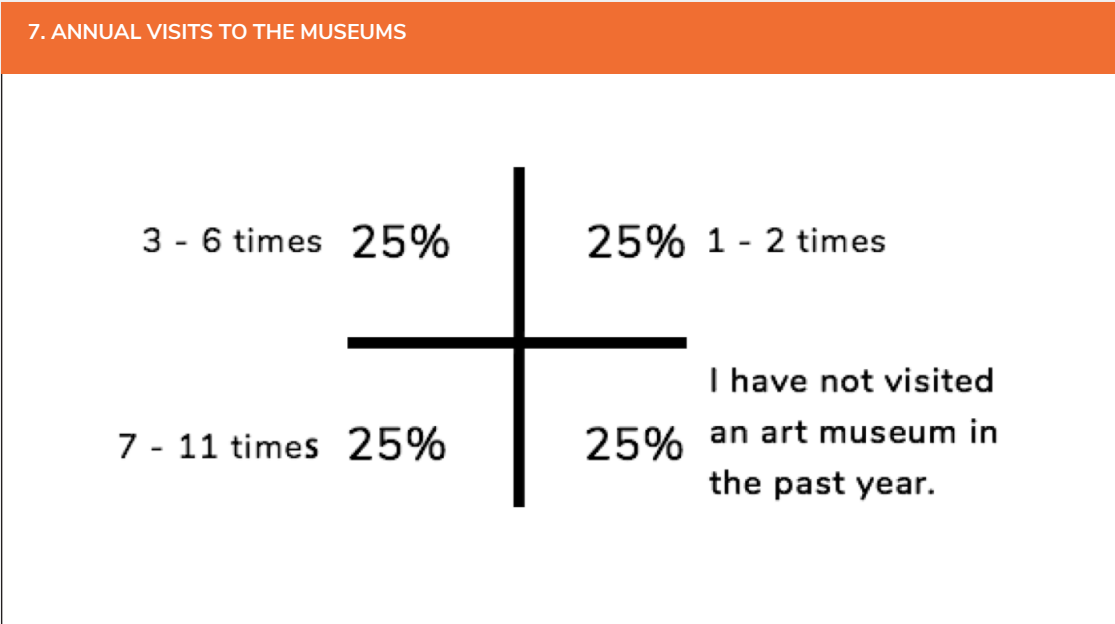
PARTICIPANTS PROFILE

Figure 5 shows the results of the participants' device preference. As you can see half the participants prefer to use their own device, while the other half prefers the museum-provided device. Those that prefer the museum device, want to skip the download or link to the application and prefer no interruptions from notifications they might receive on their personal device.

Figure 6 represents a broad overview of the nationality of the participants.



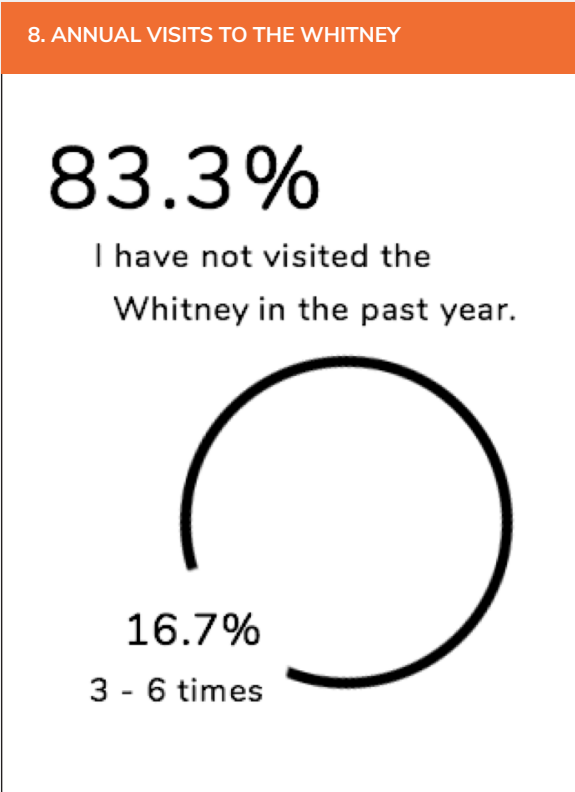
METHODOLOGY



PARTICIPANTS PROFILE

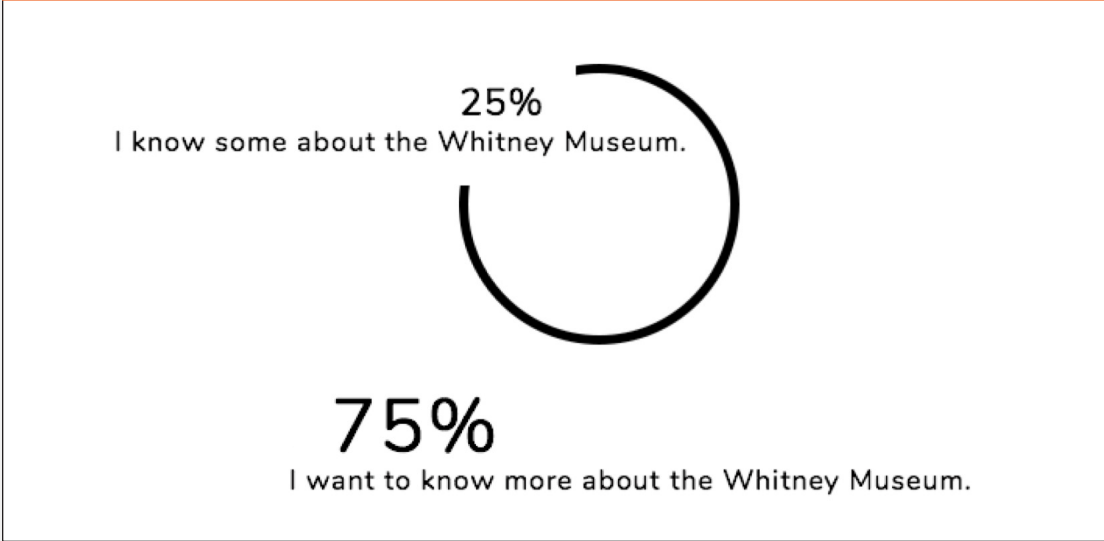
Figure 7 presents the number of visits participants have made to museums in the past year.

Figure 8 breaks down the number of visits participants have made to the Whitney Museum in the past year.

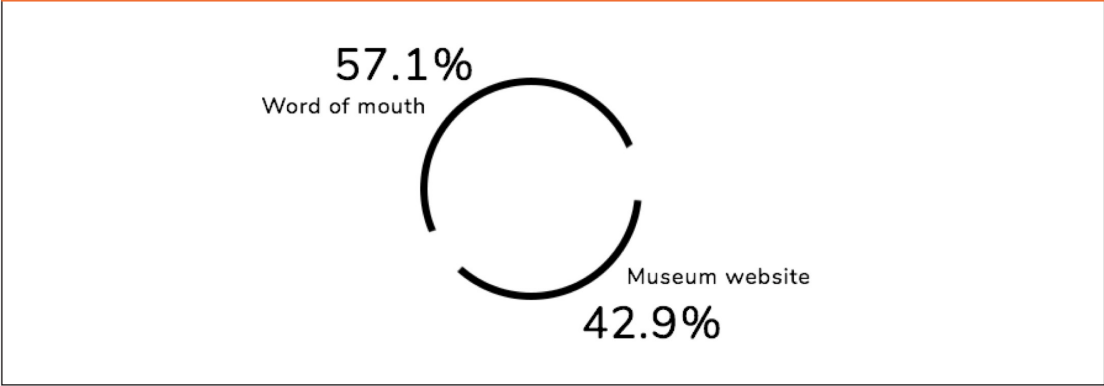


METHODOLOGY

9. PARTICIPANTS' KNOWLEDGE OF THE WHITNEY MUSEUM



10. HOW PARTICIPANTS GATHER INFORMATION ABOUT THE WHITNEY'S EXHIBITIONS



PARTICIPANTS PROFILE

Figure 9 displays participants' knowledge of the Whitney Museum.

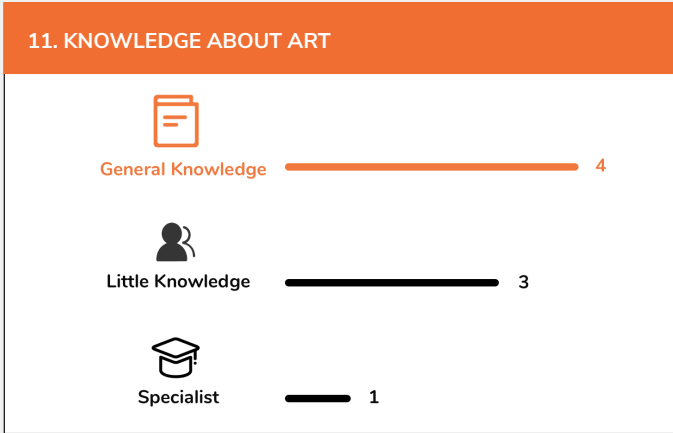
Figure 10 represents how participants find information about the current exhibitions on display at the Whitney Museum.

METHODOLOGY

PARTICIPANTS PROFILE

The user test focused on a smaller segment of the overall museum visitors. This user profile is a breakdown of the test participants.

Figure 11 presents the results of the participants' self-assessment on their knowledge of and background in the arts.



Limitations of This Study

While it may seem that user tests are limitless in their benefits, researchers should be aware of certain tendencies that may cause errors in collecting critical information and making the right observations. To avoid error on the part of the researchers, drafts of the task scenarios were tested prior to the actual test. These test runs and edits also alleviated the possibility of incorrectly screening or inadvertently assisting participants.

Because of existing, inevitable social pressure, some responses to our questions may not be true. Mostly this is due to participants aligning their answers with what they perceive to be more popularly accepted by society, regardless of the truth. There are times when participants may not feel at ease with or trust the test moderators. To reduce the significance of these limitations, participants received reassurance that all materials are confidential and that participants were not tested on their skills. Participants were also allowed to skip questions they felt uncomfortable answering and even end the test at their discretion.

RESULTS & RECOMMENDATIONS

In both tasks, participants initially sought information through verbal descriptions (such as labels) in the audio guide, but ultimately had more confidence in completing the tasks through visual cues. The thumbnail images provided for each audio stop act as a way to correlate the information in the audio guide to the environment of the gallery. During the second task, participants took some time to test and translate the actions of the links in the navigation menu and audio player; some explained that they thought the links would result in a different manner (for example, there were times that the back button was taught to perform the actions of the close button).

Summary of Key Findings and Recommendations

Participants relayed that the organization of the artwork information on the artwork stops list page was mostly overlooked. They tended to rely on the artwork thumbnail. Most participants referenced the thumbnails as “iconic,” which gave them enough clues to make decisions with confidence. On the other hand, on the main floors and exhibitions category list page, users mostly recalled whatever information they had about the exhibits name. Most participants verify exhibitions on display via the museum’s website. Participants were noted to experience some hesitation in trying to determine the exhibition they were viewing, if they couldn’t recall the name. Some mentioned that they needed a bit more information to differentiate between floors and exhibitions. Besides organization of information, and more clues in determining exhibitions, stop numbers, and corresponding artworks, most participants noted that they expected some of the navigation links to perform differently. At times, the links were overlooked; as users scroll through pages, the visibility of the links is diminished as content (especially artwork thumbnails) behind it is more vibrant and prominent.

RESULTS & RECOMMENDATIONS

The inspection and close analysis of the participants' observed actions and feedback during and after the tasks illuminated some areas that can be modified to increase Audio Guide users' satisfaction with the product.

The most prominent findings and recommendations are listed below, followed by in-depth summaries:

- 1. Finding 1:** Legibility of text causes participants to rely on artwork thumbnails ([see page 18](#)).
 - Recommendation: Move stop number, artist's name, artwork title, and date created on their own lines to increase legibility and create more space to increase the size of thumbnail images.
- 2. Finding 2:** Participant's took time to learn and connect the symbols with the actions of the top navigation links and bottom level audio player ([see page 20](#)).
 - Recommendation: Refine shapes used in navigation and increase contrast to distinguish from content.
- 3. Finding 3:** Participants rely on prior knowledge of the exhibitions on display to find the correct link on the floors and exhibitions menu list ([see page 23](#)).
 - Recommendation: Incorporate filter by and search by functions (Filter by Exhibition, Filter by Floor, Search by Stop Number).

RESULTS & RECOMMENDATIONS

Finding 1: Legibility of text causes participants to rely on artwork thumbnails

Participants did not readily correlate audio stop numbers with the corresponding audio guide. Visitors don't tend to follow the order of the stop numbers, mainly due to each exhibition hall varying the order of the stop numbers (they are not generally in chronological order like in the application). In addition, participants tended to dismiss the stop number, artwork and artist information, because the audio guide lists the stop number first, in contrast to the stop number displayed at the bottom of the artwork tag (see Figure 12).

“The artist name is now the first thing that you can read, and then the second is the name of the painting, and maybe there is something [they can do] to make more clear the difference between those.”

The prominence of the thumbnail that depicts the artwork allows participants to determine the audio associated with it visually. For example, one participant reported that the thumbnail is more prominent and impacting than the text (stop number, name of artist, name of painting). The thumbnail is high-quality and vibrant in color. They are able to determine the corresponding artwork with the audio guide with a sense of immediacy.

RESULTS & RECOMMENDATIONS

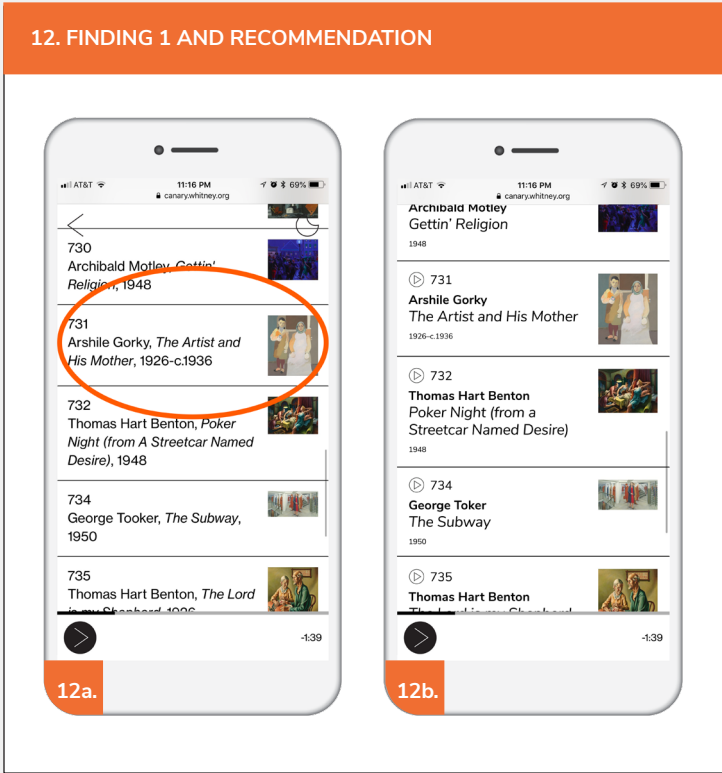
RECOMMENDATION

To relieve the reliance of the viewer on the thumbnail images within the stop list menu, it is recommended to move each item (stop number, artist's name, artwork title, date created) on its own line. The improvement of legibility would allow the size of thumbnail images to be increased. Furthermore, a bold style can be applied to the font used to display the artwork title; this will create more contrast and increase legibility between the artist's name and the artwork title. See Figure 12 for a detailed description.

FIGURE 12

Figure 12a. is the current view. Notice that the text is all the same size and there are no breaks between artist name, artwork title, and artwork created date.

Figure 12b. is an exploration of the proposed recommendation. Besides the name, title, and date breaking onto new lines, there is an additional font style (bold) in use. The artwork title has also increased in font size.



RESULTS & RECOMMENDATIONS

Finding 2: Participant's took time to learn and connect the symbols with the actions of the top navigation links and bottom level audio player

When listening to stops, very few users were able to correlate the 'close' (X), 'forward' (>), and 'back' (<) navigation links in a comprehensive manner. Through closer observation, it became more apparent that the close and the back navigation links tended to be interpreted differently than their intended actions by participants. Participants assumed that the back navigation link would deliver them to the page that lists the floors and corresponding exhibitions. Most users attempted to go from the artwork stops list to the floors category screen by using the back navigation link. Eventually, participants discovered the functionality of the close (X) link, though not all participants used these actions properly.

“Maybe the play button could be a little bit more visible.”

All participants noted that the 'play' button should resemble typical audio play symbols. Most participants noted that it does not resemble a typical play button; they expect a color or different shape. When at the Stops list page, the symbol used to indicate the 'forward' navigation link (>) in the top navigation is repeated in the play button in the audio guide player menu at the bottom. Besides distinguishing navigation links more prominently, the top menu navigation needs distinction from the content.

RESULTS & RECOMMENDATIONS

“It could mean ‘forward’. I think, possibly, if you put the word ‘play,’ it would be more helpful.”

RECOMMENDATION

Close the open side of the audio ‘play’ button (>) to form a triangular shape. The considerable amount of space left unused in the player menu, allows for the addition of a label that reads “PLAY.” This will provide users with immediate insight into what action the button will perform when they touch it. Enclose the ‘close’ button to resemble ‘close’ buttons used on desktop websites and applications (‘x’ enclosed in a circle). This will also add definition to the obscure symbol (x) and establish hierarchy in relation to the Forward and Back buttons. The Forward and Back buttons are functionally correlated to each other, but do not relate to the action of the Close button.

The top navigation also requires contrast from the content. In this case, the proposed solution is a background that contrasts with the content and adds depth to the navigation links.

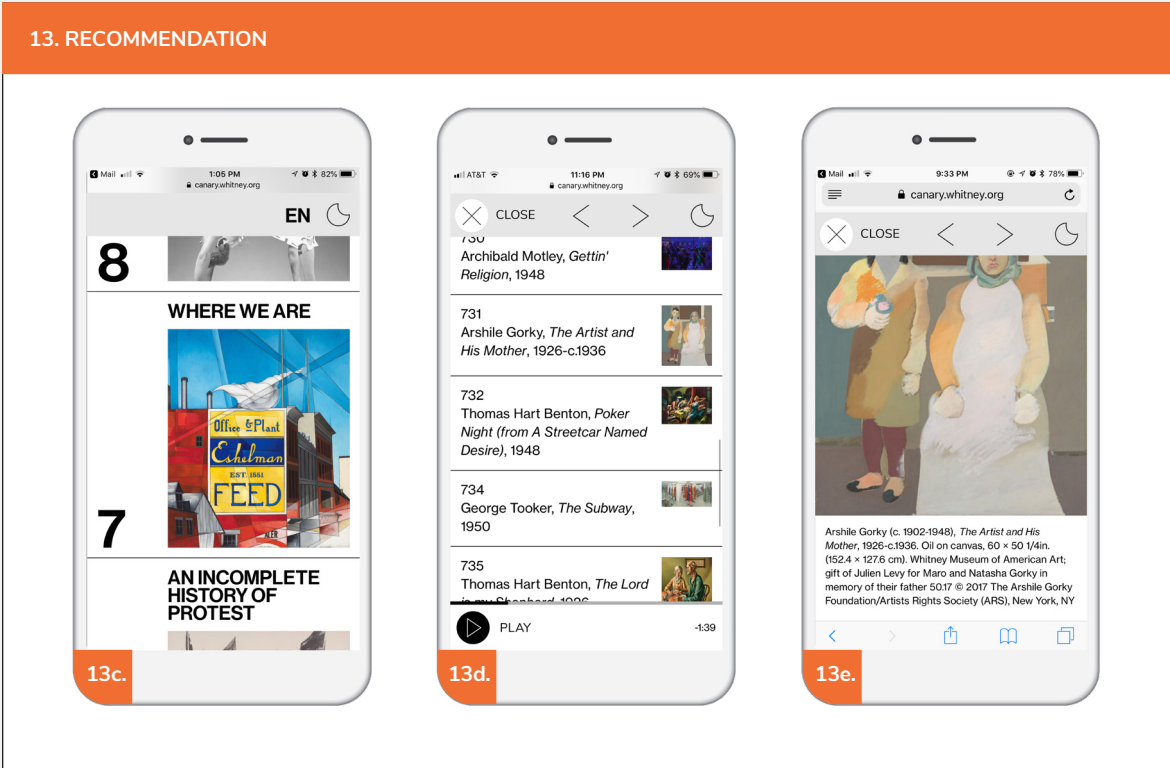
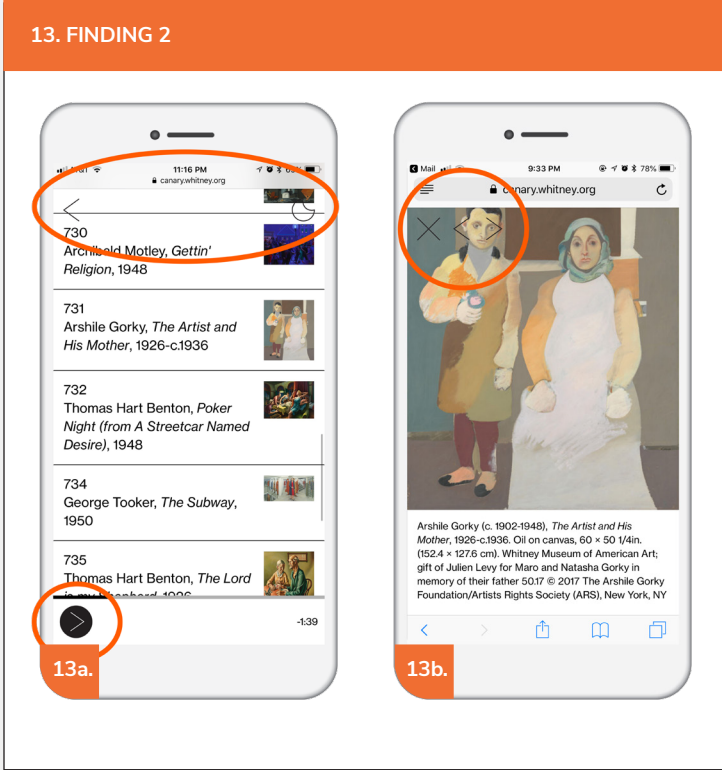
Figure 13 provides a visual breakdown of the findings and recommendations for this instance.

RESULTS & RECOMMENDATIONS

FIGURE 13

Figure 13a. and 13. represent the current views in the stops menu list and the artwork page. Notice the upper level navigations blend in with the content. The play symbol (see Figure 13a.) also resembles the forward button too closely.

Figures 13c., 13d. and 13e. are explorations of the proposed recommendation. Enclosing the play button symbol and adding the label 'PLAY' provide the users with better clues. Adding a background to the upper level navigation links provides contrast to distinguish the actions from the content.



RESULTS & RECOMMENDATIONS

Finding 3: Participants rely on prior knowledge of the exhibitions on display to find the correct link on the floors and exhibitions menu list

In searching for information on an exhibition from the floors category screen, participants were observed to rely on their own technical/technological experience and general knowledge about art, artists, and artworks. When a user is able to connect one exhibition name with the corresponding floor number/category, they are then able to determine, through deduction, that the other floor number/category labels are listed along with the name of the exhibition that corresponds with it.

“Grant Wood is a current exhibition ... but there’s nothing to tell you that, but the signs outside.”

For example, a participant reported that they specifically came to see Grant Wood’s exhibition. As they looked at the Floor category screen, they were able to find the thumbnail of Grant Wood’s American Gothic. After finding the thumbnail, they noticed the label “Floor 5”, then finally the name of the exhibition below that label. Despite only partially recalling the title of the exhibit, it became clear that the floor number labels correspond with the name of the exhibition on that menu.

“I am just trying to figure out which floor is temporary, which is not. I assume that they give me the sign of it.”

RESULTS & RECOMMENDATIONS

Furthermore, some participants stated that they needed an option that could quickly locate a specific painting. Though there is no specific search function that allows users to do this. The result is, as mentioned before, participants rely heavily on matching the thumbnail with the artwork to determine questions like what floor they are on, what exhibition they are viewing, or which stop they are attempting to find.

“I was trying to use the number to figure it out. I don’t think they’re labeled in that way.”

RECOMMENDATION

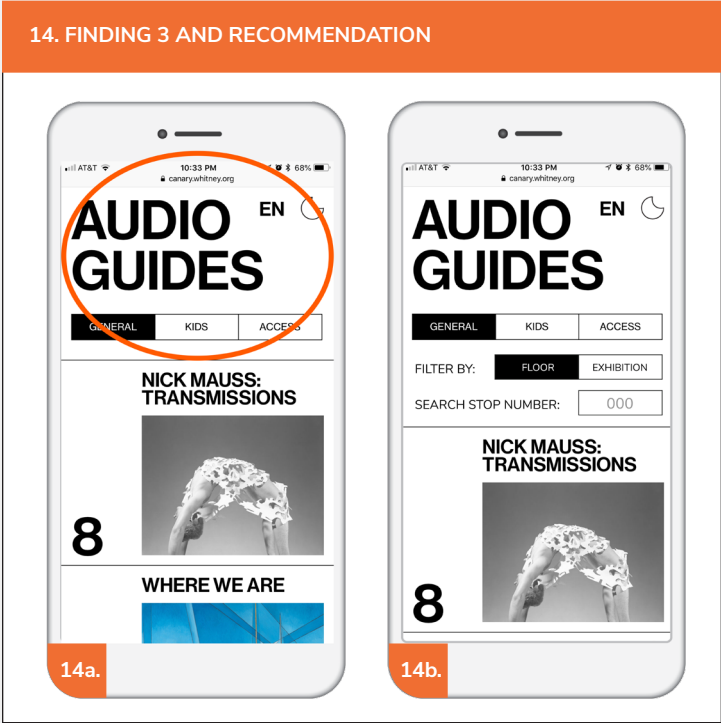
A particular menu that allows Audio Guide users to filter artwork into categories. For example, they could be categorized and searched by Exhibition, Floor and Stop number.

FIGURE 14

Current setting of information (figure 14a) in contrast with recommended update.

The proposed recommendation is to add search features (figure 14b). Audio Guide users can filter their menu by floor (as it is now) or by exhibition. The filter by exhibition menu can display more information about the exhibition.

Adding a Search Stop Number feature can alleviate users from searching the different categories.

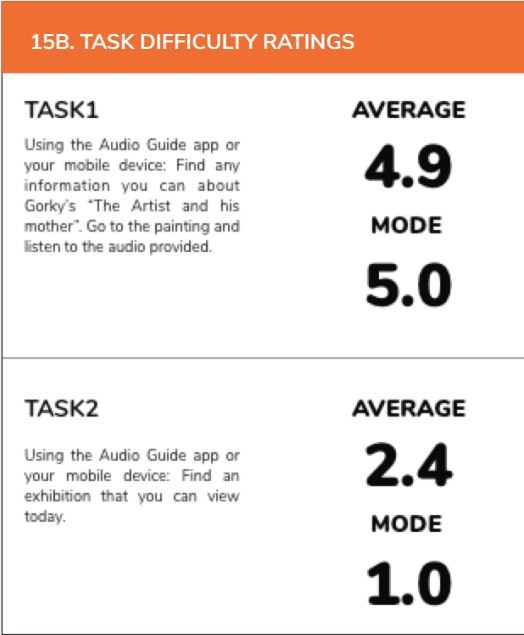
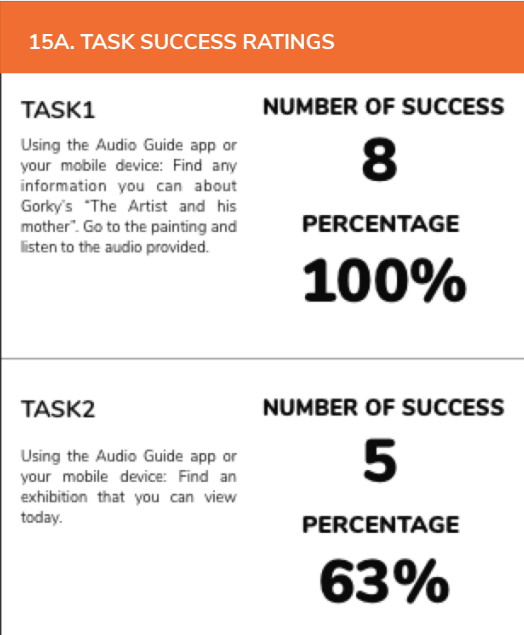


RESULTS & RECOMMENDATIONS

Test Results

The following is a results summary of the user test, based specifically on the Task Scenarios (see Figure 15 for Task Ratings):

- 5 participants were visually observed to be using Audio Guides
- 3 participants were not using Audio Guides
- 8 participants performed the task scenarios on an iPhone
- 8 participants completed Task Scenario 1 with ease
- 6 participants completed Task Scenario 2 and reported that they may need more information
- 2 participants did not complete it Task Scenario 2



TASK RATINGS

Figure 15a. presents the success rates from of the Task Scenarios. Figure 15b. presents the difficulty rating modes and averages.

CONCLUSION

The Whitney's Audio Guide is another symbol of their excellent efforts to promote their culture, art content and critical thinking. Innovation has always been a hallmark of The Whitney Museum of American Art always, since its beginnings. It is dedicated to showcase of American art and provides a deeper understanding about the artist's vision. This is accomplished by offering an audio guide that allows for a deeper connection between the visitors and the artworks.

The solutions are only a few based on the visual design choices and the introduction of special functions to the Audio Guide. These recommendations may help to further support the participants' desire to find specific content and search for particular artworks. It is imperative that some of the findings and recommendations presented in this report be considered along with additional research methods. Further analysis is required by conducting different user-testing evaluations with the goal to deliver a seamless, digital experience.

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APPENDIX

APPENDIX A. CONSENT FORM

Consent Form

Thank you for offering to help us with usability test for Whitney Audio Guide System. Please check the boxes below to confirm that you agree with each statement:

I volunteer to participate in a research project conducted by Pratt Institute UX team on behalf of Whitney Museum of American Art in New York. I understand that the project is designed to gather information about academic work of faculty on campus. I will be one of approximately 8 people being interviewed for this test.

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

I understand that my responses will be kept strictly confidential. I understand that my name will not be linked with the test materials, and will not be identified or identifiable in the report or reports that result from the test.

Privacy: I agree for this interview/observation to be sound recorded. I understand that the audio recording made of this interview will be used only for analysis, from which I would not be personally identified. It will be used only for academic purposes via presentation, report or website developed as a result of the research. I understand that no other use will be made of the recording without my written permission, and that no one outside the UX team will be allowed access to the original recording.

I agree that my anonymised data will be kept for future research purposes such as publications related to this study after the completion of the study.

I agree to take part in this interview.

Name of participant

Date

Signature

Principal Researcher

Date

Signature

APPENDIX

APPENDIX B. MODERATOR & TESTER SCRIPT

Setting

The Whitney Museum's *Where We Are* exhibition on the 7th floor. Preferably, the benches near or around Arshile Gorky's *The Artist and His Mother* painting.

Context

A group of two usability experts will approach museum visitors that are visibly observed to be using Audio Guide devices. A speaker will approach an individual (or group) and perform the tests. Meanwhile, a moderator keeps notes, records audio, and handles devices (iPad for post-test questionnaires and museum devices).

Goal

The goal is to test 8 participants total. Users will be provided a device and/or they may access the PWA [and perform the tasks] on their own mobile device. The post-test questionnaires are optional.

Script

[Speaker approaches a visitor in a welcoming manner]

Hello / Good morning.

My name is / I am _____ (interviewer/speaker) and this is _____ (moderator).

We are students at Pratt Institute. We are conducting research to analyze the Whitney Museum's audio guide app for a Usability Theory and Practice project. Your feedback can help to enhance and directly impact the visitor experience at the Whitney. We would greatly appreciate your thoughts. It will only take about 20 minutes and all the information will be very useful.

Would you like to participate? **[Wait for response]**

[Participant declines]

No worries at all, please excuse me / Thank you for your time. Enjoy your visit!

[Participant asks for more information]

I will be here to guide you through a couple of tasks (about 10 minutes each). The purpose is to analyze the audio guide system that the museum provides. And all the feedback you provide remains confidential. If there is anything that you need to make this experience more comfortable, don't hesitate to let me know. We are only gathering feedback from eight participants, so your input is important.

May I continue? **[Wait for response]**

[Participant declines]

No worries at all, please excuse me / Thank you for your time. Enjoy your visit!

APPENDIX

APPENDIX B. MODERATOR & TESTER SCRIPT (CONTINUED)

[Participant agrees: Introduce consent form]

The first thing I'd like you to do is walk through what we'll be doing and review this consent form with you. This consent form explains that we will be using all the data for our research, but will never link any personal information to it. To make sure that we gather as much information as possible, we will also be recording your voice, but all information will be confidential. And if there are any questions that you don't feel comfortable answering, we can skip them at any time.

[Hand participant the Consent Form]

[Participant agrees: Have them sign Consent Form and begin note taking and audio recording].

[Participant agrees, but declines audio recording: Have them sign Consent Form and take paper notes].

Alright, thanks for signing the Consent Form. I would like you to speak freely about what's on your mind and how your experience is going as you use the application. Don't forget that the purpose here is to analyze the audio guide app. We are not testing you.

Do you have any questions so far?

Can we start? Ok!

--

[During tasks]

The interviewer and moderator should make sure that the user is comfortable. Offer them a break if they need one. If there are any moments that the user is silent, they must be engaged in conversations. Ask questions like, "what's on your mind?", "what do you think about this specific feature?", "what are your initial reactions to a certain aspect?".

[Participant completes the tasks: Begin post-test questions]

Thank you for all of that feedback. Now that you have completed the tasks, I just have a few questions for you.

1. Why do you use Audio Guides?
 - a. What helps you determine which device to use (mobile or the Whitney's device)?
 - b. Why? Are there other factors that would go into that decision, like if they were able to borrow headphones or a charging unit?
2. What do you think about the type of information on the app?
 - a. Do you think the information provided is enough to meet your needs/expectations during your visit?
 - b. Is there any more information that would be helpful during your visit?
3. Overall, what do you think of Whitney Museum Audio Guide system?

APPENDIX

APPENDIX C. TASK SCENARIOS 1 AND 2 WITH RATINGS EVALUATION FORM

Task Scenario 1

Using the Audio Guide app or your mobile device: Find any information you can about Gorky's "The Artist and his mother". Go to the painting and listen to the audio provided.

Task Scenario 2

Using the Audio Guide app or your mobile device: Find an exhibition that you can view today.

Task Scenario Success and Difficulty Ratings Evaluation Form

After each task, record participants completion and let them rate the difficulty of task.

1. Did you Complete the Task?

Yes No

2. Rate the difficulty of the task

- 0 - Very Difficult
- 1 - Difficult
- 2 - Somewhat Difficult
- 3 - Somewhat Easy
- 4 - Easy
- 5 - Very Easy

APPENDIX

APPENDIX D. LIST OF FINDINGS WITH PARTICIPANT FEEDBACK

| LIST OF FINDINGS WITH PARTICIPANT FEEDBACK | | | |
|--|---|--------------|--|
| FINDING ID | FINDING | USABILITY ID | PARTICIPANT FEEDBACK |
| 1 | In searching for information on an Exhibition from the Floors category screen, participants were observed to rely on their own technical/ technological experience and general knowledge about art, artists, and artworks | 1, 4 | “Grant Wood is a current exhibition... but there’s nothing to tell you that but the signs outside.” (from Task 2) |
| 2 | The prominence of the thumbnail that depicts an artwork from one artist in the Floors menu acts as a guide to users that are able to recognize that particular artwork | 1, 2, 4 | “The artist name is now the first thing that you can read, and then the second is the name of the painting, and maybe there is something [they can do] to make more clear the difference between those.” (from Task 1) |
| 3 | When listening to stops, very few users were able to correlate the Close (X), Forward (>), and Back (<) buttons in a comprehensive manner | 2, 3 | “I figured it would go back to the main screen.” (from Task 2) “I have no idea. Perhaps up here? I suppose the X?” (from Task 2) |
| 4 | When at the Stops list page, the symbol used to indicate the Forward button (>) in the top navigation is repeated in the Play button in the audio guide player menu at the bottom | 4 | “So there is a little summary of the painting, there is no audio this one? I just have to press here right?” (from Task 1) “It was confusing because you have the same signs (referring to the top of the page with the back and forward signs), but this one is black. I would recommend a little cleaner, maybe red, well that might also make you think that you’re going to stop or record something, so no, maybe green or maybe a text play.” (from Task 1) |

APPENDIX

APPENDIX D. LIST OF FINDINGS WITH PARTICIPANT FEEDBACK (CONTINUED)

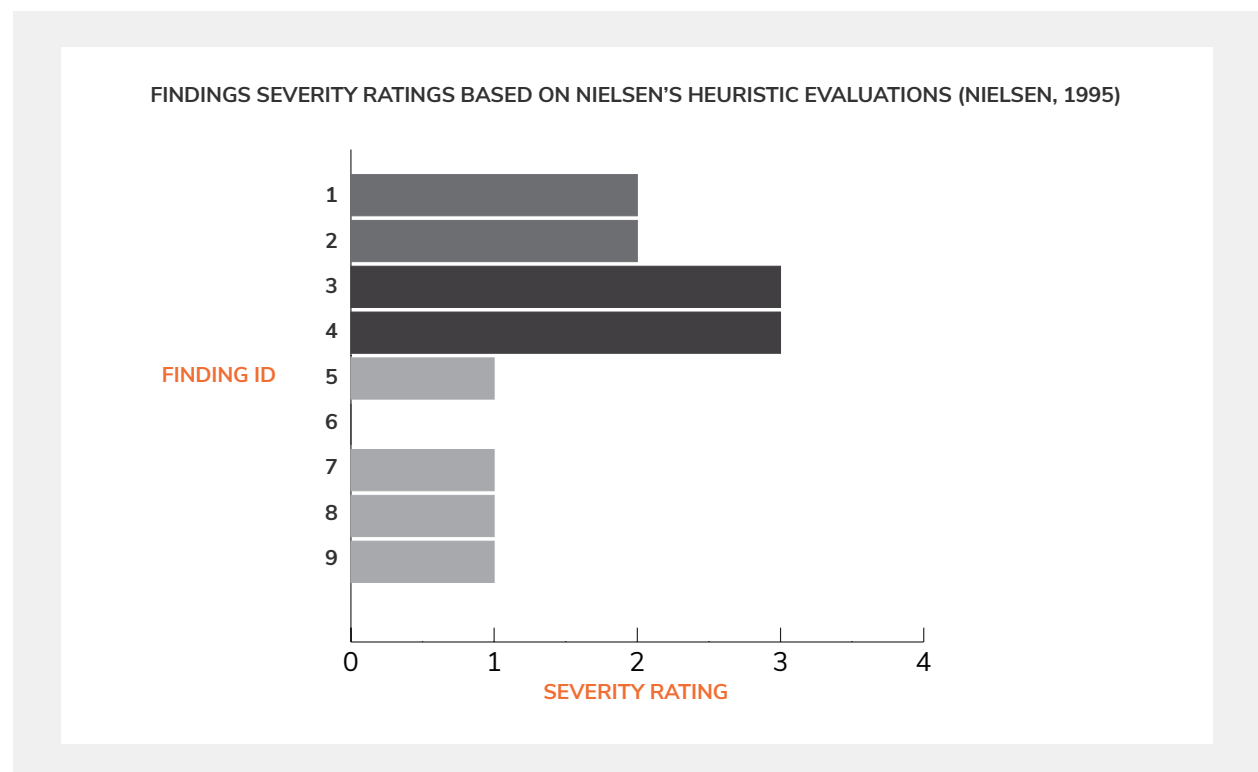
| LIST OF FINDINGS WITH PARTICIPANT FEEDBACK | | | |
|--|--|--------------|---|
| FINDING ID | FINDING | USABILITY ID | PARTICIPANT FEEDBACK |
| 5 | KIDS and ACCESS categories were not accessed | 3 | “What is this? Access? I’m not quite sure what it means (because it showed floor 7 and floor 5), I understand the floor 7 because it’s where we are, but what does this guide have to do with it?” (from Task 2) |
| 6 | Users claimed that the high quality visuals, the larger display, and relatively quick response from the application are highly desirable | 1, 4 | <p>“I liked that there’s two people talking, so it felt more like a conversation than the dryness of a normal lecture you often hear in audio guides.” (from Task 1)</p> <p>“This is cool, because now I can see images, and on [the regular audio guide], I could not see that...it’s really clear.” (from Task 1)</p> |
| 7 | The needs of tourists are different when compared to those that have more time to spend on Audio Guides | 1, 2, 4 | “I think they probably could make it easier — I mean, just an asterisk that said, This is permanent, This is current.” (from Task 2) |
| 8 | Almost all of our users were able to successfully complete the first task, but only one user eventually figured through the stop numbers (usually they use thumbnails) | 1, 4 | “It is one of the main exhibitions, the painting is very iconic and since I already knew which floor that exhibition was on (floor 5) for me it was kind of easy, maybe if I didn’t know in which floor the exhibition was on, I don’t know how I would respond.” (from Task 2) |
| 9 | The process that many users visit is to see the picture first, and then use the audio guide to find the picture’s profile audio | 1, 4 | “I think that it is very straight forward, I want to see Grant Wood so I would just click here. Oh I was looking for this painting American Gothic, it’s very easy.” (from Task 2) |

APPENDIX

APPENDIX D. LIST OF FINDINGS WITH PARTICIPANT FEEDBACK (CONTINUED)

| USABILITY CATEGORY KEY | | |
|--------------------------|----|---|
| USABILITY CATEGORY | ID | DEFINITION |
| Information Architecture | 1 | The structural design of shared information environments; organization and labeling to support usability and findability ¹ |
| Visual Design | 2 | “Considers a variety of principles, including unity, Gestalt properties, space, hierarchy, balance, contrast, scale, dominance, and similarity” ² |
| Navigation | 3 | Consistent and informative navigation helps to ensure that users are able to identify where they are, where the content they need is, and what the easiest way to get to that content is ³ |
| Content | 4 | Information (practical, functional, tactical) ⁴ |

Citations: 1. (Lynch and Horton, n.d.), 2. (Interaction-design.org, n.d.), 3. (Doss, 2002), 4. (Odden, 2017)



APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK

Task Scenarios Participant Feedback Questionnaire

1. Why do you use Audio Guides?
 - a. What helps you determine which device to use (mobile or the Whitney's device)?
 - b. Why? Are there other factors that would go into that decision, like if they were able to borrow headphones or a charging unit?
2. What do you think about the type of information on the app?
 - a. Do you think the information provided is enough to meet your needs/expectations during your visit?
 - b. Is there any more information that would be helpful during your visit?
3. Overall, what do you think of Whitney Museum Audio Guide?
 - a. What do you want to see more of from the application? Please elaborate.
 - b. Is there anything you found confusing? Or especially clear?
4. Anything else you'd like to say about the Audio Guide app?

| PARTICIPANT 1 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use museum's device; battery life is primary concern. |
| 2. What do you think about the type of information on the app? | The introductions provided when you choose a specific floor are important (they provide enough information to introduce the visitor to the exhibit). |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | The navigation and play button shapes are misleading. Mentioned the Play button can be made more prominent through incorporation of color (reference to YouTube). |
| 4. Anything else you'd like to say about the Audio Guide app? | The thumbnails next to Floor categories and stops are important. Specifically, the visitor responded immediately to it (before even reading text/copy). The depictions of iconic paintings act as both the primary and visual guide. They also withstand the user's desire to scroll past the text. |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 2 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use museum's device; wants a device that is already "set up" with the particular audio guide application and is "ready to use". Expressed that they do not consider themselves adept to mobile device technology. |
| 2. What do you think about the type of information on the app? | Did not express opinion about additional features or content. They did attempt to discover the "Access" menu and category. Once in the Access list, they eventually felt frustrated, because they were not able to determine what information is in the Access category. They expected to see more information to guide them in that category, and they were confused that only two floors appeared in that page. |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | The navigation and play button shapes are misleading. This participant experienced difficulty determining how the navigation buttons performed. They attempted to use the "<" menu button to return to the Floors menu. They were not able to determine that the "x" menu button is used to close the stops list and return to the Floors menu. |
| 4. Anything else you'd like to say about the Audio Guide app? | The thumbnails next to Floor categories and stops are important. Specifically, the visitor responded immediately to it (before even reading text/copy). The depictions of iconic paintings act as both the primary and visual guide. They also withstand the user's desire to scroll past the text. |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 3 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use museum's device; managing personal notifications/multitasking is primary concern. Believes if they use their own device, they will become distracted by messages and pop-ups from other applications. They like that the museum's device is just for that - listening to the guides. |
| 2. What do you think about the type of information on the app? | The visual design and typography system guides the user. Specifically noted how stops are separated by the lines. |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | The system moves fast; finds it relatively faster compared to the museum's existing guide. User was able to navigate it with proficiency and intuitive acclimation. |
| 4. Anything else you'd like to say about the Audio Guide app? | Mentioned the Play button can be made more prominent through incorporation of color (reference to YouTube). |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 4 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use museum's device; battery life is primary concern. |
| 2. What do you think about the type of information on the app? | Is able to connect that additional information and content is useful for Access visitors. The additional copy translation is useful in general. |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | Mentioned the ">" Forward button in the Top Navigation matches the ">" Play button in the bottom audio player. |
| 4. Anything else you'd like to say about the Audio Guide app? | The thumbnails next to Floor categories and stops are important. Specifically, the visitor responded immediately to it (before even reading text/copy). The depictions of iconic paintings act as both the primary and visual guide. They also withstand the user's desire to scroll past the text. |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 5 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use own device, but used museum device (they did not bring their own headphones). |
| 2. What do you think about the type of information on the app? | Likes the Audio Guide's audio clips because of their unique format and sensitivity. E.g. an African American commenting on an African American painting; the use of two speakers (more vivid). |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | Can tell what is a current exhibition, from the poster outside (first floor), but not on this prototype. |
| 4. Anything else you'd like to say about the Audio Guide app? | Does not believe he would charge his phone at the museum. The audio guide gets to decide what paintings user should look at, and that's kind of a disadvantage for him. Gave the suggestion of separating user groups by using "the 30-minute guide to the Whitney" to show significant works. He admits that before he come here, he Google searched: 'What are the most famous paintings in the Whitney?' |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 6 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use own device. It's flexible and easy to find her friends at the same time (she can multi-task on her phone: listen to Audio Guide and text message her friends). |
| 2. What do you think about the type of information on the app? | Participant does not know the meaning of stop numbers. There are no signs and instructions to help them find the number on the Audio Guide (besides scrolling). They were not readily able to match the stop numbers to the information sticker. The Audio Guide does not show a map with location guide. |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | Participant did not know where to find the exhibition. They attempted to find a category on the first page, but only found three options: General/ Kids/ Access. User was not able to determine that the exhibitions are listed in General. |
| 4. Anything else you'd like to say about the Audio Guide app? | Participant suggested that they would like to use a search bar function to find by stop number or exhibition. |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 7 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use own device (noted that the headphones provided by the museum do not fit their version of iPhone). |
| 2. What do you think about the type of information on the app? | Not familiar on how a stop number guides them to the artwork. They mentioned that the stop number needs more description or instruction so they can correlate it to the specific artwork. |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | Does not understand the terminology of General/ Kids/ Access. |
| 4. Anything else you'd like to say about the Audio Guide app? | Participant suggested a menu in the general page; they expected a separation in current and permanent exhibitions. |

APPENDIX

APPENDIX E. POST-TASK SCENARIOS PARTICIPANT FEEDBACK (CONTINUED)

| PARTICIPANT 8 | |
|--|---|
| QUESTION | FEEDBACK |
| 1. Why do you use Audio Guides? | Prefers to use own device, because it's familiar. Also mentioned that they feel it is a smart thing that the museum provides temporary devices, because they don't always have headphones of their own. |
| 2. What do you think about the type of information on the app? | Participant mentioned they would like some instructions on how to navigate the exhibition rooms. They were a bit uncertain on how to follow the stop numbers in the rooms. |
| 3. Overall, what do you think of Whitney Museum Audio Guide? | Participant mentioned they would like a way to search by artwork. |
| 4. Anything else you'd like to say about the Audio Guide app? | They suggested a map to help visitors navigate a gallery. |

APPENDIX

APPENDIX F. POST-SESSION SURVEY

Whitney Museum Post-Session Survey

Welcome to our museum survey!

Thank you for agreeing to take part. This survey is intended to gain your thoughts and opinions regarding art museums in New York City.

It is usually completed in 3–5 minutes. All answers are completely confidential.

**ALSO, does anyone know how to get this text out of the introduction and above the e-mail address field?

* Required

[RESTATEMENT OF CONFIDENTIALITY] *

I understand that my responses will remain completely confidential.

Page 1 of 2

[NEXT](#)

Never submit passwords through Google Forms.

APPENDIX

APPENDIX F. POST-SESSION SURVEY (CONTINUED)

Whitney Museum Post-Session Survey

Whitney Museum Post-Session Survey

User profile

Have you studied art or do you work in the museum sector?

Your answer

What is your main reason for visiting the Whitney Museum?

- To learn about art
- To have an enjoyable and inspiring experience
- To attend an event
- Other:

Rate your knowledge of the Whitney Museum.

- I know a lot about the Whitney Museum's past and present.
- I know some about the Whitney Museum.
- I want to know more about the Whitney Museum.

How do you keep up to date about current or upcoming exhibitions?

- Information at the ticketing desk and/or exhibition board
- Audio Guide at Museum
- Museum website
- Social Media
- Word of mouth
- Other:

Do you live in New York City?

- Yes
- No

How long have you lived in New York City?

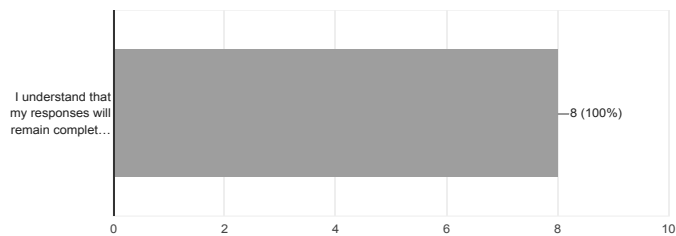
- Less than one year
- 1–4 years
- 5 years or more
- I was born in New York City and have lived here since.

APPENDIX

APPENDIX G. POST-SESSION SURVEY RESPONSES

[RESTATEMENT OF CONFIDENTIALITY]

8 responses



Whitney Museum Post-Session Survey

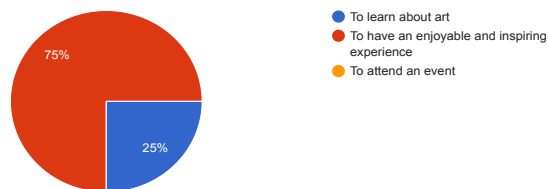
Have you studied art or do you work in the museum sector?

6 responses

No (6)

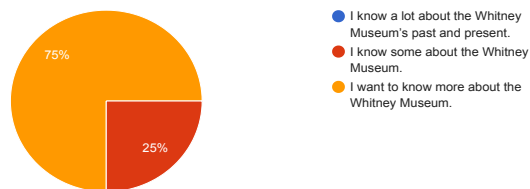
What is your main reason for visiting the Whitney Museum?

8 responses



Rate your knowledge of the Whitney Museum.

8 responses

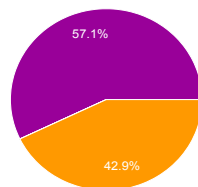


APPENDIX

APPENDIX G. POST-SESSION SURVEY RESPONSES (CONTINUED)

How do you keep up to date about current or upcoming exhibitions?

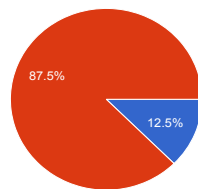
7 responses



- Information at the ticketing desk and/or exhibition board
- Audio Guide at Museum
- Museum website
- Social Media
- Word of mouth

Do you live in New York City?

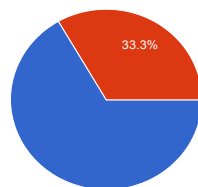
8 responses



- Yes
- No

How long have you lived in New York City?

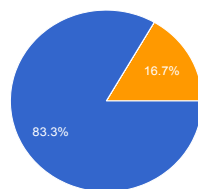
3 responses



- Less than one year
- 1-4 years
- 5 years or more
- I was born in New York City and have lived here since.

How many times have you visited the Whitney Museum in the past year?

6 responses



- I have not visited the Whitney Museum in the past year.
- 1-2 times
- 3-6 times
- 7-11 times
- 12 or more times

APPENDIX

APPENDIX G. POST-SESSION SURVEY RESPONSES (CONTINUED)

