

**J. PAUL GETTY MUSEUM**  
**SPECIAL EXHIBITION: REMBRANDT'S LATE RELIGIOUS PORTRAITS**  
**HANDHELD DEVICE STUDY**

**by**

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## **INTRODUCTION**

A study of the Rembrandt handheld device was conducted in July and August, 2005, to help J. Paul Getty Museum staff assess the usefulness, accessibility, and ease of use of the device, as well as visitor expectations for technology in the gallery and the device's impact on the gallery space. We asked users to tell us what they thought of the quality of the audio stops, images, text, and the device overall. It should be noted, however, that the content tested was not developed specifically for this device. The study was intended to measure the audience's reaction to the device, their likes and dislikes, and potentially to assist the Museum as it considers content delivery via handheld devices in the galleries.

## **ABOUT THE EXHIBITION**

This exhibition was the first devoted to the late paintings of Rembrandt Harmensz van Rijn (Dutch, 1606–1669). It was also the first to assemble a large group of his religious portraits—sixteen in all.

The exhibition was organized by the National Gallery of Art, Washington, in association with the J. Paul Getty Museum, Los Angeles. It was supported by an indemnity from the Federal Council on the Arts and the Humanities.

All sixteen paintings were displayed in one room. There was no wall text; the paintings were identified by supertitles. The Rembrandt handheld device was provided free-of-charge to gallery visitors. There was no accompanying audioguide, but there were printed materials.

## **STUDY METHODOLOGY**

The Rembrandt handheld device study was primarily qualitative in nature, employing comment cards, surveys, gallery shadowing studies, and focus groups to measure audience response. Over 58,000 handhelds were checked-out during the exhibition and 3,256 comment cards were collected as visitors exited the Rembrandt special exhibitions gallery. 381 Rembrandt handheld surveys were taken outside the special exhibitions gallery, giving us a 95% confidence level and a margin of error of +/- 5%. The focus group studies were conducted in four tetrads for a total of 16 respondents. Gallery shadowing studies were conducted with the same 16 respondents as the focus groups and these individuals were shadowed in the gallery by Getty staff.

Complementary to the study is a set of quantitative data collected as handheld devices were checked in and out by visitor services. Measurements like number of devices in use at a given time, total number used, total time of use, average time per use, and high and low usage dates and times are all available but are not included in this report.

This study also references a Museum survey conducted by Nahmias research during the same period as the Rembrandt handheld study. Nahmias research collected over 1,000 surveys in the Museum entrance hall for a margin of error of +/- 3% and a confidence level of 95%. The Rembrandt handheld and Museum survey questions were coordinated so that the data collected in each of these studies could be compared.

Visitors participating in the gallery shadowing and the focus groups checked out the devices the same way non-participants did; the instructions from visitor services and the checkout process were part of the gallery shadowing test.

## **REPORTING**

Through consultation with Museum staff formative questions were devised to guide this study. Those questions are listed below in Principal Findings, followed first by the evaluator's discussion of the study

results and then by supporting data from each of the study techniques (where appropriate) noted in Study Methodology above.

The survey results can be cross-tabulated to show an additional level of detail not presented in this report. Cross-tabulated survey data is available to by contacting the author.

## **SUMMARY OF FINDINGS**

The response to the Rembrandt handheld device was overwhelmingly positive. Users found the device easy to use, thought it required little training, gave high marks to the content, and were very pleased with the experience with only a few exceptions. A majority of users liked the audio content, but complained about the lack of audio stops for every painting (there were only 7 stops).

The focus group respondents were unanimous in their preference for navigating by image rather than number entry. They said the small thumbnail images on the navigation grid were easily recognized and allowed them to move through the gallery quickly. They especially liked the way the handheld enabled them to navigate from any point in the room without having to stand close to a painting to read the audio stop number.

Comment cards and focus groups showed that few users were interested in the zoom or enlarge feature, but they did think that the images on the device helped them enjoy the art. The comment cards showed that text, image-based navigation, and zoom or enlarge were not selected by a majority of respondents as being the thing they liked about the handheld device; the audio was the most popular feature.

When asked to show their level of agreement with the statement "This exhibition helped me learn more about Rembrandt's late religious paintings," the responses of handheld users and non-users were nearly identical. Handheld users were more likely to strongly agree with the statement "The supplemental information in this exhibition helped me better understand and enjoy Rembrandt's late religious paintings." In our discussions with focus group participants we learned that all content presented in the gallery was considered "supplemental information." From the data presented below we can not conclude that users of the Rembrandt Handheld learned more from the exhibition than non-users.

High percentages of survey respondents thought the quality of the content on the Rembrandt handheld (general quality, text, images and audio) was what they would expect from the Getty.

## **PRINCIPAL FINDINGS**

### **DEMOGRAPHICS**

The Rembrandt handheld survey asked visitors demographic questions that allow a comparison between three populations: Rembrandt Exhibition attendees who used the handheld device, Rembrandt Exhibition attendees who did not use the device, and the general population of Getty visitors for the month of August.

With a margin of error of +/- 5% for the survey data, three measurements show an important statistical difference between the populations noted above: respondents visiting with family members, friends, and/or children.

Rembrandt handheld users were more likely to be visiting with family members (61.6% vs. 48.2% for non-users), and less likely to be visiting with friends (26.4% vs. 39.1% for non-users).

Rembrandt handheld users were more likely to be visiting with children than non-users, but visitors with children were a minority for both groups. 26.6% of handheld users were accompanied by children vs. 13.8% for non-users. Only 19% of the general Museum population visited with children.

Rembrandt handheld users were less likely to visit alone (5.7%) than the general museum population (9%).

*Male and Female handheld users and non users:*

|        | Rembrandt Handheld Gallery Survey |                    | All Museum Survey |
|--------|-----------------------------------|--------------------|-------------------|
|        | Handheld users                    | Handheld non users |                   |
| Male   | 46%                               | 46%                | 43%               |
| Female | 54%                               | 54%                | 57%               |

*Who did you come to the Getty with today?*

|                          | Rembrandt Handheld Gallery Survey |                    | All Museum Survey |
|--------------------------|-----------------------------------|--------------------|-------------------|
|                          | Handheld users                    | Handheld non users |                   |
| Alone                    | 5.7%                              | 10.2%              | 9%                |
| Family members/relatives | 61.6%                             | 48.2%              | 57%               |
| Friends                  | 26.4%                             | 39.1%              | 28%               |
| Out-of-town guests       | 8.2%                              | 6.1%               | 8%                |
| Tour group               | 5%                                | 1.5%               | 4%                |

*Are any children under 18 years of age with you today?*

|     | Rembrandt Handheld Gallery Survey |                    | All Museum Survey |
|-----|-----------------------------------|--------------------|-------------------|
|     | Handheld users                    | Handheld non users |                   |
| Yes | 26.6%                             | 13.8%              | 19%               |
| No  | 73.4%                             | 86.2%              | 81%               |

## EVALUATION OBJECTIVES

Evaluation objectives are listed below in *italics* as formative questions; each question is followed by a discussion of study results and data from the study tools that were used to answer the question.

### ***Was the visitor response to the Rembrandt handheld generally positive?***

#### Discussion

The response to the Rembrandt handheld device was overwhelmingly positive. Users found the device easy to use, thought it required little training, gave high marks to the content, and were very pleased with the experience with only a few exceptions. A majority of users liked the audio content, but complained about the lack of audio stops for every painting (there were only 7 stops).

#### Comment Cards

Responses below are shown as a percentage of the 3,256 respondents who filled out comment cards. 95% of comment card respondents said they would use the device again, 81% said it “helped [them] enjoy the exhibition,” and 70% said it was “easy to use.” One important complaint about the device stood out from the rest in the comment card tally and in each of the other study data sets: 62% of comment card respondents didn’t like the fact that “there wasn’t audio for every painting.” Although the device was free about half of the users said they would pay for the device if the price was somewhere between \$1 and \$3.

The comment cards showed no significant user-reported problems with the device. In response to the question, “Did you have any problems with the device?” 76% gave no answer.

| What did you like about the Rembrandt handheld?    | No. Responses | % Of Total |
|--|---------------|------------|
| It helped me enjoy the exhibition/art              | 2627          | 81%        |
| It was easy to use                                 | 2280          | 70%        |
| I liked the images                                 | 1244          | 38%        |
| I liked the enlarge/zoom feature                   | 870           | 27%        |
| I liked the audio content                          | 2260          | 69%        |
| I liked the text                                   | 1360          | 42%        |
| Other  | 219           | 7%         |
| No answer checked                                  | 71            | 2%         |
| What didn't you like about the Rembrandt handheld? |               |            |
| There wasn't audio for every painting              | 2028          | 62%        |
| It wasn't necessary for the exhibition             | 84            | 3%         |
| It wasn't easy to use                              | 140           | 4%         |
| I didn't like the images                           | 42            | 1%         |
| I didn't like the enlarge/zoom feature             | 126           | 4%         |
| I didn't like the audio                            | 87            | 3%         |
| I didn't like the text                             | 124           | 4%         |
| Other  | 340           | 10%        |
| No answer checked                                  | 799           | 25%        |
| Did you have any problems with the device?         |               |            |
| Strap/headphone tangle                             | 182           | 6%         |
| Unclear how to use it                              | 228           | 7%         |
| Text/icons hard to read                            | 50            | 2%         |
| Touch screen hard to use                           | 75            | 2%         |
| Buttons on handheld didn't work                    | 74            | 2%         |
| Audio not working                                  | 36            | 1%         |
| Audio too loud/not loud enough                     | 60            | 2%         |
| Other  | 222           | 7%         |
| No answer checked                                  | 2484          | 76%        |
| Would you use the handheld device again?           |               |            |
| Yes  | 3080          | 95%        |
| No   | 117           | 4%         |
| Would you pay to use the Rembrandt handheld?       |               |            |
| Yes  | 1765          | 54%        |
| No   | 1341          | 41%        |
| How much?  |               |            |
| \$1.00   | 742           | 23%        |
| \$3.00 or less                                     | 785           | 24%        |

|  |                |     |    |
|--|----------------|-----|----|
|  | \$5.00 or less | 242 | 7% |
|  | More           | 15  | 0% |

#### Survey Data

Of the respondents who had used handhelds at other museums (82 out of 381) 93% said the ease of use was the same or better than other handhelds they have used. It's important to note that focus group respondents reported that "handheld" meant *any* handheld device, including audioguides.

92% said the quality of the audio content was the same or better than other handhelds they have used.

83% said the depth of information was the same or better than other handhelds they have used.

93% either agreed or agreed strongly with the statement "I thought the Rembrandt handheld was easy to use."

*"If you have used other museum handhelds, how did the Rembrandt handheld compare?"*

|                          |        |      |             |
|--------------------------|--------|------|-------------|
|                          | Better | Same | Not as good |
| Ease of use              | 60%    | 33%  | 9%          |
| Quality of audio content | 39%    | 53%  | 8%          |
| Depth of information     | 31%    | 52%  | 17%         |

*"I thought the Rembrandt handheld device was easy to use."*

| Scale             | % Respondents | Cumulative total % |
|-------------------|---------------|--------------------|
| Strongly agree    | 50%           | 50%                |
| Agree             | 43%           | 93%                |
| Neutral           | 3.5%          | 96.5%              |
| Disagree          | 2.8%          | 99.3%              |
| Strongly disagree | .7%           | 100%               |

*"Was there anything the device did that you wished it didn't do?"*

This question required a written response. 7 out of 18 responses to this question contained usable data (the other 11 simply stated they liked the device). Only one respondent mentioned image display.

#### Focus Group Discussions

The focus group respondents complained about the lack of audio stops for every painting but 15 out of 16 were generally pleased with the Rembrandt handheld and said they would use a device like this again.

One respondent, Zarintaj, was unable to access any of the audio stops and said, "I didn't know they were there." She had listened to the gallery overview but was confused by the first few paintings she accessed because they all lacked audio. She assumed it didn't work for any painting. Another respondent thought the device had "programming errors" because the audio didn't work for every painting. He thought the inactive state of the audio button represented a technical difficulty.

David Perlmutter: "It met my expectations but I wanted more audio information."

Zarintaj: "I thought the device was simple to use but I didn't know how to make the audio stops work." (She was quickly frustrated by the "grayed out" audio button and gave up.)

David Greene: "At times I thought the device was broken when I would push on an audio screen and not hear any audio."

Karl: "The content was exactly what I expected."

Malina: "I didn't expect to find text information. I wasn't looking for it but I was really happy it was there."

### ***Were there any significant usability issues with the device?***

#### Discussion

Potential usability problems were investigated using two study methods, the comment cards and gallery shadowing. Comment card data is listed above and as has been noted already 76% of respondents indicated no usability problem in their responses.

Sixteen respondents were shadowed in the gallery while they used the Rembrandt handheld device for the first time. They were given very general tasks to perform and asked to use the device as if they were visiting the gallery on their own time. They were encouraged not to think of the sessions as a test, but to use the device in a way that seemed natural to their own museum-visiting habits.

#### Usability (gallery shadowing) Results

Receiving high marks from the users were the general ease-of-use of the handheld and the image grid as a navigation strategy. When asked in the focus group discussion not one user of the sixteen interviewed for this study preferred traditional audio guides to handhelds. It should be noted, however, that this study did not include a side-by-side comparison between audioguides and handhelds.

The most important usability problem was caused by the small number of audio stops (there were only seven) combined with the poor or absent messaging about audio. The screen showed a gray "play" button when audio was not available, but few understood the meaning of the gray button and instead wondered why it wasn't working.

The text and the audio couldn't be used together. Users liked to browse text and audio before committing their attention to either, and if a user first selected audio and then tried to read the text the audio stopped and was reset to the beginning. All of the users who experienced this problem found it very frustrating. More than any other usability issue it drew their attention away from the art while they tried to understand why they couldn't read (or browse the text) and listen at the same time. Because the text was not a transcript of the audio users said they wanted to browse it first before committing to reading it.

A third, less significant usability issue was the text scrolling. Users complained that the text scrolling made it difficult to read. They wanted to page down instead.

Comments illustrating these points and others are given below.

Karl: "The text scrolling was really difficult, even annoying. You can't read and listen at the same time, and the audio goes back to the beginning. There's no indication of how long the audio will go on. Don't "ghost" the audio buttons if there's no stop, that's just torture, just remove them entirely. And, put icons on the "grid" page for audio."

Susan: "I wanted to be able to pause the audio while I read the text."

James: " I wanted only two sources of information not three. There was the pamphlet, and the text on the handheld, and the audio... that's too many "focus points" in the exhibition."

Jill: "I started to think it was too heavy."

David Perlmutter: "I couldn't seem to locate the volume control. Maybe put it on the device itself rather than the headset wire."

Megan: "I thought the navigation was easy."

Julie: "I didn't think the navigation was difficult, but I thought it should have a bar like Real Player to show how much audio was left."

John: "I prefer the touch screen to entering numbers."

Malina: "Why didn't the audio have FF, REW, and PAUSE?"

***How did the Rembrandt handheld affect visitor engagement with the art? Did users and non-users have the same quality experience?***

Discussion

To answer this question we relied on gallery shadowing, the focus group discussions and the survey questions. It was observed that handheld users quickly adapted the device to their own objectives, moving through the gallery in their own chosen sequence. They typically listened to the entire audio stop for each painting. Most of the focus group respondents scanned the text information, but three reported reading everything.

There were times when respondents were distracted from the paintings by their need to manipulate the device and in most cases this was reported as being no different from using an audioguide. One user said, "you either type in numbers (audioguide) or tap images on a screen (handheld), I don't really think one is more distracting than the other." But in a few situations usability problems with the handheld user interface briefly interfered with user engagement with the art. This happened when users tried to switch from audio to text and back again. They wanted to read and listen to audio at the same time, and couldn't understand why the device wouldn't save their place.

Survey Results

In the survey we asked users and non-users to show their level of agreement with the statement "I found the presence of the Rembrandt handheld devices in the gallery (they look like palm pilots in a red rubber case) to be distracting." 20.8% of the respondents agreed or strongly agreed with this statement, and 53.5% either disagreed or strongly disagreed. 25.7% selected "neutral." This gave a cumulative total of 79.2% of special exhibitions gallery visitors who were either neutral or disagreed to some degree with the statement above and found that the devices did not interfere with their gallery experience.

Handheld users were asked to show their level of agreement with the statement "My experience in the gallery today was better with the Rembrandt handheld device than it would have been without it." 88.6% either agreed or strongly agreed with this statement.

*"I found the presence of the Rembrandt handheld devices in the gallery (they look like palm pilots in a red rubber case) to be distracting."*

| Scale             | % Respondents | Cumulative total % |
|-------------------|---------------|--------------------|
| Strongly agree    | 6.3%          | 6.3%               |
| Agree             | 14.5%         | 20.8%              |
| Neutral           | 25.7%         | 46.5%              |
| Disagree          | 22.4%         | 68.9%              |
| Strongly disagree | 31.1%         | 100%               |

*"My experience in the gallery today was better with the Rembrandt handheld device than it would have been without it."*

| Scale             | % Respondents | Cumulative total % |
|-------------------|---------------|--------------------|
| Strongly agree    | 48.6%         | 48.6%              |
| Agree             | 40%           | 88.6%              |
| Neutral           | 8.6%          | 97.2%              |
| Disagree          | 2.1%          | 99.3%              |
| Strongly disagree | .7%           | 100%               |

**Which do visitors prefer, a device like the Rembrandt handheld or traditional audioguides?**

Discussion

All focus group respondents had past experience with audio-guides allowing us to question them about their preferences between the two devices. Survey and comment card questions about text and images were designed in part to query users about the differences between audioguides and handheld devices, but can't be considered a substitute for a direct question about their preferences.

The focus group respondents were unanimous in their preference for navigating by image rather than number entry. They said the small thumbnail images on the navigation grid were easily recognized and allowed them to move through the gallery quickly. They especially liked the way the handheld enabled them to navigate from any point in the room without having to stand close to a painting to read the audio stop number.

Comment cards and focus groups showed that few users were interested in the zoom or enlarge feature. Only two focus group respondents out of 16, or 12.5%, liked zoom or enlarge; 27% of the comment card respondents said they liked this feature. But one focus group respondent said he thought the zoom or enlarge feature helped him see details in the painting he wouldn't otherwise have noticed.

It was clear from the survey that users had positive reactions to the key handheld feature that made the device different from traditional audioguides. 84.7% said the images helped them enjoy the art. Only 6.8% thought the images interfered with their enjoyment of the art. But the comment cards showed that text, image-based navigation, and zoom or enlarge were not selected by a majority of respondents as being the thing they liked about the handheld device; the audio was the most popular feature (results given above). This can be interpreted to mean that although users found the images useful for navigation, the most valuable content was the audio.

Survey

"Which of the following best describe the way you felt about the images on the Rembrandt handheld?"

|   | Users and non-users combined |
|---|------------------------------|
| They interfered with my enjoyment of the art. | 6.8%                         |
| They helped me enjoy the art.                 | 84.7%                        |
| Other   | 8.5%                         |

**What were the expectations for technology in the gallery, and were there additional features or content that users felt were missing from the Rembrandt handheld?**

Discussion

The survey asked, "What were your expectations for technology in the Rembrandt gallery?" A surprisingly high 44.6% of gallery visitors expected to find no technology at all.

The survey also asked, "Was there anything else you wanted the device to do?" There were 34 written responses to this question. Not one written response asked for additional functionality or technology. The largest group of written responses, 16/34, asked for "more audio stops."

The same question was asked of the focus groups. Two of the four focus groups were very creative about other functionality the device might offer. They suggested connection to a kiosk for more information, the ability to email information to your home computer, and tours of everything at the Getty. The discussion followed a "brainstorming" format, with respondents being encouraged to fully pursue their ideas and build on what other members of the group were saying. But when they were asked if these new features were things they thought would be "nice to have" or if they thought these were features the device "needed to have," none of the respondents thought the new features they envisioned were necessities. They all liked the device as it was. The two remaining focus groups had the same opportunity to suggest features but without prompting from the moderator they only suggested "more audio stops." The moderator then asked them what they thought of features like the ones the previous two groups had suggested and they were noncommittal.

It was clear from the focus group discussions that few of the features handheld devices can have (location sensing, streaming content, etc) are considered necessities. The one suggestion that respondents made emphatically, and which was repeated in each focus group, was the request for more audio content for the Rembrandt exhibition.

Survey

*"What were your expectations about technology in the Rembrandt exhibition?"*

|   | % Respondents | Cumulative total % |
|---|---------------|--------------------|
| I expected a device like the Rembrandt handheld.      | 26.9%         | 26.9%              |
| I expected a device with audio only, not with images. | 23.8%         | 50.7%              |
| I expected computer kiosks.                           | 2.3%          | 53%                |
| I expected no technology in the gallery at all.       | 44.6%         | 97.6%              |
| Other   | 2.3%          | 100                |

The most common answer to the survey question "Was there anything else you wanted the device to do?" was "more audio stops" (16 out of 44 written responses), followed by, "no, nothing else" (6 out of 44 written responses).

In response to the question "Was there anything the device did that you wished it didn't do?" the majority of respondents (11 out of 18) wrote "no" or simply indicated that they liked the device as-is. Only one respondent wrote that he didn't want to read, and only one wrote that the images were not necessary.

Focus Groups

David Greene: "It should have some type of display or text that tells you when a certain image doesn't have audio content. That way we could spend less time looking for the audio segments."

James: "I'd like to see a button for each type of audio track – one button for art critics, one button for biographical information on the artist, another button to hear the conservator speak..."

Megan: "I wanted to hear more audio content on the history of the paintings."

John: "I don't think it needs any other functionality, but I would like to have Sister Wendy, or somebody as good as she is, do the narration. I didn't use the overview at all. Also, I wanted more history about the people in the paintings. I used the images for navigation; otherwise I didn't care about the quality. I didn't

want to read in a gallery, I just wanted to see the art. I thought it would be a really good idea to have text headings and different types of text content. Zoom was annoying. What's the point if the real thing is there? Looking up one painting made me want to look up another because it was so easy to do."

James: "It would be great if it could send an e-mail out automatically which would link to the Getty's website. And, I think you should make the threads of narrative more organized. For example to listen to the artist's history you push one button. To listen to an art critic you would have another button. That way the listener would have more control over the audio content for each painting. And, I think a zoom function wasn't necessary."

Susan: "If it had a bookmarking feature [prompted by the moderator] that would really only be useful for art students."

Julie: "I think I'd just like the Web site to have all the same information."

Malina: "I just want the FF, REW, and PAUSE buttons, that's all."

David: "I expected something that didn't have any images."

Jill: "I expected to find an audio-only device in the museum."

John: "I didn't expect anything. I've been to many museums that don't offer anything at all."

Julie: "This was a major exhibition, so I expected something like this [Rembrandt handheld]."

Malina: "I expected something similar to the handheld, but I thought it would work in other galleries, too. I wanted to hear more audio on the Rembrandt School that was featured at the end of the exhibition. Also wanted a date/ location intro."

### ***What did visitors think about the quality of the content on the Rembrandt handheld?***

#### Discussion

The survey asked four questions about the quality of the content on the Rembrandt handheld (general quality, text, images and audio). 97.7% were either neutral, or agreed with the statement "The quality of the Rembrandt handheld in general was what I would expect from the Getty." 96.4% were either neutral, or agreed with the statement, "The quality of the audio content on the Rembrandt handheld device was what I would expect from the Getty." 97.8% were either neutral, or agreed with the statement, "The quality of the text information on the Rembrandt handheld device was what I would expect from the Getty." And 84.7% thought the images on the Rembrandt handheld helped them enjoy the art.

The focus group respondents were equally positive about the content offered on the Rembrandt handheld, but the discussion format allowed them to make further suggestions. Typically, they wanted more audio stops.

#### Survey

*"The quality of the Rembrandt handheld in general was what I would expect from the Getty."*

|                   | Handheld users | Cumulative % |
|-------------------|----------------|--------------|
| Strongly agree    | 30.4%          | 30.4%        |
| Agree             | 60.1%          | 90.5%        |
| Neutral           | 7.2%           | 97.7%        |
| Disagree          | 1.4%           | 99.1%        |
| Strongly disagree | .9%            | 100%         |

*“The quality of the audio content on the Rembrandt handheld device was what I would expect from the Getty.”*

|                   | Handheld users | Cumulative % |
|-------------------|----------------|--------------|
| Strongly agree    | 33.8%          | 33.8         |
| Agree             | 54.7%          | 88.5%        |
| Neutral           | 7.9%           | 96.4%        |
| Disagree          | 2.2%           | 98.6%        |
| Strongly disagree | 1.4%           | 100%         |

*“The quality of the text information on the Rembrandt handheld device was what I would expect from the Getty.”*

|                   | Handheld users | Cumulative % |
|-------------------|----------------|--------------|
| Strongly agree    | 27%            | 27%          |
| Agree             | 56.2%          | 83.2%        |
| Neutral           | 14.6%          | 97.8%        |
| Disagree          | 1.5%           | 99.3%        |
| Strongly disagree | .7%            | 100%         |

*“Which of the following best describes the way you felt about the images on the Rembrandt handheld?”*

|   | Handheld users | Cumulative % |
|---|----------------|--------------|
| They interfered with my enjoyment of the art. | 6.8%           | 6.8%         |
| They helped me enjoy the art.                 | 84.7%          | 91.5%        |
| Other   | 8.5%           | 100%         |

#### Focus Group Discussions

Susan: “I thought having images was helpful because images on the screen were so clear. I enjoyed the narratives on interpretation and curatorial discussions but wanted to hear more information on the history of the paintings. I thought that the quality of audio was high but I wanted more factual, biographical information on the artist and the featured works.”

Megan: “I wanted to know more about the provenance and current location of each painting. This information was also posted on the “plaques” next to the painting but at times it was too difficult to read if it was too crowded.”

David Perlmutter: “I thought the quality of audio was very good, but more information would have been better. I used the zoom because I really liked the pictures.”

David Greene: “I thought the audio and the text overlapped. I wasn’t sure why the text was available if it repeated itself.”

Zrintaj: “I just wanted to hear more audio on the paintings. I did think the quality of audio could have been better.... I didn’t use the zoom feature because I preferred the actual painting.”

Bob: “I felt that there was too much information available with both the brochure and the audio. But I thought this device was more effective than one where you enter numbers because there are no pictures or symbols in an audio-only device.”

Cori: “I lost track of what I was reading while looking up at the painting and then at the device again. And I found myself at a ‘dead end’ on each audio segment because there was no link or option to connect to

the next audio segment without taking the time to find the grid and then proceed from that point. But I think that if it's a visual reference on your handheld it's easier to see. Going through crowds of people to get a number for your device is distracting, so the grid feature was an improvement over the way audio guides function."

Hector: "I didn't think the quality of the content was that good. I didn't like the quality of content of the audio. I thought the voices were monotonous. But the images were fine."

Karl: "I like having an "expert" perspective. A couple of different audio options would be great, and I wanted basic background info on paintings first in audio. I expected the overview to guide me through the entire exhibition. And there should be a couple of categories of text, not just one. As far as ease-of-use goes, just solve the text issues and this will be much better than audioguides."

Julie: "The explanation of swords and martyrdom was an example of detail I liked. I thought the images were so small that they were more like shapes, but I never really had difficulty finding a painting. I liked the audio stops but I wanted more. The grid was nice. The more you zoom, the less you get."

Malina: "More audio was definitely needed. What about the school of Rembrandt painting, and the comparison of two works? The text was too general. I tried to scan the text but I wasn't able to because it was just one big block of information. I would rather just have the text in the brochure, and only audio on the device. I wasn't a fan of zoom at all. I really liked this device more than the audioguides because I don't like navigating by numbers, I like to use the images."

Jill: "I would have liked to listen to the audio then read later. I used the zoom function and liked it because it was helpful when I wasn't able to get closer to the painting. Putting the painting on a bigger screen would be nice for art students but it's not necessary. The navigation grid was effective because it was an improvement over the way audio guides function."

***Did Rembrandt handheld users learn more from the exhibition than non-users?***

Discussion

When asked to show their level of agreement with the statement "This exhibition helped me learn more about Rembrandt's late religious paintings," the responses of handheld users and non-users were nearly identical. Handheld users were more likely to strongly agree with the statement "The supplemental information in this exhibition helped me better understand and enjoy Rembrandt's late religious paintings," 40.7% to 29.1%. In our discussions with focus group participants we learned that all content presented in the gallery was considered "supplemental information." From the data presented below we can not conclude that users of the Rembrandt Handheld learned more from the exhibition than non-users.

Survey

*"This exhibition helped me learn more about Rembrandt's late religious paintings."*

|                   | Handheld users | Non users |
|-------------------|----------------|-----------|
| Strongly agree    | 42.3%          | 35.9%     |
| Agree             | 46.6%          | 50%       |
| Neutral           | 8%             | 12.6%     |
| Disagree          | .6%            | .5%       |
| Strongly disagree | 2.5%           | 1%        |

*"The supplemental information in this exhibition helped me better understand and enjoy Rembrandt's late religious paintings."*

|  | Handheld users | Non users |
|--|----------------|-----------|
|--|----------------|-----------|

|                   |       |       |
|-------------------|-------|-------|
| Strongly agree    | 40.7% | 29.1% |
| Agree             | 51.2% | 54.1% |
| Neutral           | 4.3%  | 12.8% |
| Disagree          | 1.2%  | 3.1%  |
| Strongly disagree | 2.5%  | 1%    |

## APPENDIX

### SURVEY RESULTS

#### *Discussion*

Survey studies work best for establishing a level of confidence and a degree of certainty about the opinions of a large population. In the case of the Rembrandt handheld, the population is the total number of visitors to the Rembrandt exhibition. We surveyed both the visitors who used the handheld and the visitors who didn't. We also compared subjective impressions of the exhibition between these two populations. Did the visitors who used the handheld have a better experience than those who didn't? Did the handheld in any way interfere with their experience? Would they pay to use the device? Would they prefer to have a standard audio guide? All survey questions and responses are listed below.

#### *Objectives:*

A Confidence Level of 95%  
And a Confidence Interval of +/- 5%

#### *Complete Survey Results*

Is this your first visit to the Getty Center?

|     | Response Total |     |
|-----|----------------|-----|
| Yes | 194            | 51% |
| No  | 186            | 49% |

|                         |     |
|-------------------------|-----|
| Total Respondents       | 380 |
| (skipped this question) | 2   |

| Your last visit was | Written response<br>Response Total |  |
|---------------------|------------------------------------|--|
| Month               | 126                                |  |
| Year                | 157                                |  |

|                         |     |
|-------------------------|-----|
| Total Respondents       | 158 |
| (skipped this question) | 223 |

| You are | Response Total |     |
|---------|----------------|-----|
| Male    | 174            | 46% |
| Female  | 204            | 54% |

|                         |     |
|-------------------------|-----|
| Total Respondents       | 378 |
| (skipped this question) | 4   |

Your age Written response

|                         |     |
|-------------------------|-----|
| Total Respondents       | 275 |
| (skipped this question) | 106 |

Who did you come to the Getty with today?

|                          | Response Total |       |
|--------------------------|----------------|-------|
| Alone                    | 29             | 7.8%  |
| Family members/relatives | 206            | 55.1% |
| Friends                  | 123            | 32.9% |
| Out-of-town guests       | 25             | 6.7%  |
| Tour group               | 12             | 3.2%  |
| Total Respondents        | 374            |       |
| (skipped this question)  | 7              |       |

Are any children under 18 years of age with you today?

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Yes                     | 72             | 19.4% |
| No                      | 299            | 80.6% |
| How many?               | 58             | 15.6% |
| Total Respondents       | 371            |       |
| (skipped this question) | 10             |       |

Are you currently enrolled as a student in a college or university?

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Yes                     | 100            | 26.5% |
| No                      | 277            | 73.5% |
| Total Respondents       | 377            |       |
| (skipped this question) | 5              |       |

If you live in the United States what is your zip code?

|                         |     |
|-------------------------|-----|
| Total Respondents       | 336 |
| (skipped this question) | 45  |

If you do not live in the United States what country do you live in? Written response

|                         |     |
|-------------------------|-----|
| Total Respondents       | 41  |
| (skipped this question) | 340 |

Your highest level of education?

|                               | Response Total |       |
|-------------------------------|----------------|-------|
| Some Middle/High School       | 14             | 3.7%  |
| High School Graduate          | 25             | 6.6%  |
| Some College/Associate Degree | 78             | 20.7% |
| College Graduate              | 106            | 28.1% |
| Some Graduate Work            | 32             | 8.5%  |
| Graduate Degree               | 122            | 32.4% |
| Total Respondents             | 377            |       |
| (skipped this question)       | 5              |       |

What is the primary language spoken in your home?

|                         | Response Total |       |
|-------------------------|----------------|-------|
| English                 | 301            | 78.8% |
| Spanish                 | 14             | 3.7%  |
| German                  | 7              | 1.8%  |
| French                  | 9              | 2.4%  |
| Chinese                 | 12             | 3.1%  |
| Japanese                | 9              | 2.4%  |
| Korean                  | 8              | 2.1%  |
| Other (please specify)  | 22             | 5.8%  |
| Total Respondents       | 382            |       |
| (skipped this question) | 0              |       |

Have you ever gone to the Getty's web site? ([www.getty.edu](http://www.getty.edu))

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Yes                     | 160            | 42.2% |
| No                      | 219            | 57.8% |
| Total Respondents       | 379            |       |
| (skipped this question) | 3              |       |

If you have visited the Getty's web site what were you looking for?

|   | Response Total |       |
|---|----------------|-------|
| Museum hours                            | 117            | 63.6% |
| Methods of transportation               | 24             | 13%   |
| Information on the Rembrandt exhibition | 36             | 19.6% |
| Directions                              | 65             | 35.3% |

|  |     |       |
|--|-----|-------|
| View the art before visiting           | 29  | 15.8% |
| I haven't visited the Getty's web site | 22  | 12%   |
| Anything else?                         | 21  | 11.4% |
| Total Respondents                      | 184 |       |
| (skipped this question)                | 197 |       |

Prior to today's visit did you review information about the Rembrandt exhibition on the Getty's website?

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Yes                     | 58             | 15.9% |
| No                      | 307            | 84.1% |
| Total Respondents       | 365            |       |
| (skipped this question) | 17             |       |

Do you think you'll look for more information about Rembrandt on line after your visit today?

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Yes                     | 201            | 55.7% |
| No                      | 160            | 44.3% |
| Total Respondents       | 361            |       |
| (skipped this question) | 21             |       |

Was your reason for visiting Rembrandt today informed by any of the following?

|   | Response Total |       |
|---|----------------|-------|
| Relative, friend, co-worker, neighbor                       | 120            | 50.4% |
| Travel information (i.e. guidebooks, concierge, tour group) | 23             | 9.7%  |
| Listing or story in newspaper                               | 44             | 18.5% |
| Other (please specify)                                      | 63             | 26.5% |
| Total Respondents   | 238            |       |
| (skipped this question)                                     | 143            |       |

Was your reason for visiting Rembrandt today informed by stories or ads in any of the following?

|   | Response Total |       |
|---|----------------|-------|
| LA Magazine                                 | 15             | 14.2% |
| The Daily News                              | 10             | 9.4%  |
| Impacto/La Opinion/Hoy                      | 4              | 3.8%  |
| Radio Station                               | 8              | 7.5%  |
| Street banners/Other outdoor signage        | 32             | 30.2% |
| Getty web site                              | 35             | 33%   |
| School, University, club or community group | 12             | 11.3% |

|                          |     |       |
|--------------------------|-----|-------|
| Getty e-newsletter       | 6   | 5.7%  |
| Getty newsletter Re:View | 11  | 10.4% |
| Total Respondents        | 106 |       |
| (skipped this question)  | 275 |       |

This exhibition helped me to learn more about Rembrandt's late religious paintings.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly Disagree       | 6              | 1.6%  |
| Disagree                | 2              | .5%   |
| Neither/not sure        | 40             | 10.6% |
| Agree                   | 184            | 48.7% |
| Strongly Agree          | 146            | 38.6% |
| Total Respondents       | 378            |       |
| (skipped this question) | 4              |       |

The supplemental information presented in this exhibition helped me to better understand and enjoy Rembrandt's late religious paintings.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly Disagree       | 6              | 1.6%  |
| Disagree                | 8              | 2.1%  |
| Neither/not sure        | 33             | 8.8%  |
| Agree                   | 198            | 52.8% |
| Strongly Agree          | 130            | 34.7% |
| Total Respondents       | 375            |       |
| (skipped this question) | 7              |       |

Did you read one of the Rembrandt exhibition brochures while you were visiting the exhibition?

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Yes, nearly all of it   | 111            | 29.5% |
| Yes, some of it         | 169            | 44.9% |
| No, not at all          | 96             | 25.5% |
| Total Respondents       | 376            |       |
| (skipped this question) | 6              |       |

I found the presence of the Rembrandt handheld devices in the gallery (they look like palm pilots in a red rubber case) to be distracting.

|                   | Response Total |       |
|-------------------|----------------|-------|
| Strongly Disagree | 103            | 31.1% |
| Disagree          | 74             | 22.4% |

|                         |     |       |
|-------------------------|-----|-------|
| Neither/not sure        | 85  | 25.7% |
| Agree                   | 48  | 14.5% |
| Strongly Agree          | 21  | 6.3%  |
| Total Respondents       | 331 |       |
| (skipped this question) | 51  |       |

Did you use the Rembrandt handheld device (it looks like a palm pilot in an red rubber case) during your visit?

|   | Response Total |       |
|---|----------------|-------|
| Yes I used the Rembrandt handheld device        | 163            | 44.9% |
| No, I did not use the Rembrandt handheld device | 200            | 55.1% |
| Total Respondents                               | 363            |       |
| (skipped this question)                         | 19             |       |

Which of the following describe the way you used the device? (check all that apply)

|   | Response Total |       |
|---|----------------|-------|
| I read the text   | 110            | 78.6% |
| I listened to the audio stops for individual paintings          | 112            | 80%   |
| I listened to the audio exhibition overview                     | 101            | 72.1% |
| I used the device to help me find the paintings I wanted to see | 14             | 10%   |
| I used the enlarge feature to make image bigger                 | 38             | 27.1% |
| I shared the device with someone                                | 8              | 5.7%  |
| I checked it out, but didn't really use it.                     | 4              | 2.9%  |
| Total Respondents   | 140            |       |
| (skipped this question)   | 241            |       |

I learned more from this exhibition by using the Rembrandt handheld than I would have without it.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly Disagree       | 1              | .7%   |
| Disagree                | 4              | 2.8%  |
| Neither/not sure        | 6              | 4.3%  |
| Agree                   | 53             | 37.6% |
| Strongly Agree          | 77             | 54.6% |
| Total Respondents       | 141            |       |
| (skipped this question) | 241            |       |

I thought the Rembrandt handheld device was easy to use.

|                   | Response Total |     |
|-------------------|----------------|-----|
| Strongly Disagree | 1              | .7% |

|                         |     |      |
|-------------------------|-----|------|
| Disagree                | 4   | 2.8% |
| Neither/not sure        | 5   | 3.5% |
| Agree                   | 61  | 43%  |
| Strongly Agree          | 71  | 50%  |
| Total Respondents       | 142 |      |
| (skipped this question) | 240 |      |

Have you ever used a museum handheld other than the Rembrandt handheld device?

|                         |                |       |
|-------------------------|----------------|-------|
|                         | Response Total |       |
| Yes                     | 77             | 54.2% |
| No                      | 65             | 45.8% |
| Total Respondents       | 142            |       |
| (skipped this question) | 240            |       |

If you have used other museum handhelds how did the Rembrandt handheld device compare? (check all that apply or leave blank if you have not used another museum handheld)

|                          |        |      |             |                |
|--------------------------|--------|------|-------------|----------------|
|                          | Better | Same | Not as good | Response total |
| Ease of use              | 60%    | 33%  | 9%          | 82             |
| Quality of audio content | 39%    | 53%  | 8%          | 77             |
| Depth of information     | 31%    | 52%  | 17%         | 77             |
| Total Respondents        | 82     |      |             |                |
| (skipped this question)  | 299    |      |             |                |

Please check the response below that most closely describes your experience with devices like the Rembrandt handheld.

|                             |                |       |
|-----------------------------|----------------|-------|
|                             | Response Total |       |
| I'm an expert.              | 6              | 4.3%  |
| I am an experienced user.   | 27             | 19.3% |
| I've used them a few times. | 56             | 40%   |
| I'm a first time user.      | 51             | 36.4% |
| Total Respondents           | 140            |       |
| (skipped this question)     | 242            |       |

What were your expectations about technology in the Rembrandt exhibition?

|   |                |       |
|---|----------------|-------|
|   | Response Total |       |
| I expected a device like the Rembrandt handheld.    | 35             | 26.9% |
| I expected a device with audio only not with images | 31             | 23.8% |
| I expected computer kiosks.                         | 3              | 2.3%  |

|   |     |       |
|---|-----|-------|
| I expected no technology in the gallery at all. | 58  | 44.6% |
| Other (please specify)                          | 3   | 2.3%  |
| Total Respondents                               | 130 |       |
| (skipped this question)                         | 252 |       |

My experience in the gallery today was better with the Rembrandt handheld device than it would have been without it.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly disagree       | 1              | .7%   |
| Disagree                | 3              | 2.1%  |
| Neither/not sure        | 12             | 8.6%  |
| Agree                   | 56             | 40%   |
| Strongly agree          | 68             | 48.6% |
| Total Respondents       | 140            |       |
| (skipped this question) | 242            |       |

The quality of the audio content on the Rembrandt handheld was what I would expect from the Getty.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly disagree       | 2              | 1.4%  |
| Disagree                | 3              | 2.2%  |
| Neither/not sure        | 11             | 7.9%  |
| Agree                   | 76             | 54.7% |
| Strongly agree          | 47             | 33.8% |
| Total Respondents       | 139            |       |
| (skipped this question) | 243            |       |

The quality of the text information on the Rembrandt handheld was what I would expect from the Getty.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly disagree       | 1              | .7%   |
| Disagree                | 2              | 1.5%  |
| Neither/not sure        | 20             | 14.6% |
| Agree                   | 77             | 56.2% |
| Strongly agree          | 37             | 27%   |
| Total Respondents       | 137            |       |
| (skipped this question) | 245            |       |

The quality of the Rembrandt handheld in general was what I would expect from the Getty.

|                         | Response Total |       |
|-------------------------|----------------|-------|
| Strongly disagree       | 1              | .7%   |
| Disagree                | 2              | 1.4%  |
| Neither/not sure        | 10             | 7.2%  |
| Agree                   | 83             | 60.1% |
| Strongly agree          | 42             | 30.4% |
| Total Respondents       | 138            |       |
| (skipped this question) | 244            |       |

Thinking only about the text information on the handheld which of the following best describes your experience?

|  | Response Total |       |
|--|----------------|-------|
| I thought there wasn't enough to read on the handheld.             | 47             | 35.6% |
| I thought there was just the right amount to read on the handheld. | 70             | 53%   |
| I thought there was too much to read on the handheld.              | 1              | .8%   |
| I'm not interested in reading on a handheld device like this one.  | 14             | 10.6% |
| Total Respondents  | 132            |       |
| (skipped this question)  | 250            |       |

Which of the following describe the way you felt about the images on the Rembrandt handheld?

|  | Response Total |       |
|--|----------------|-------|
| They interfered with my enjoyment of the art | 8              | 6.8%  |
| They helped me enjoy the art                 | 100            | 84.7% |
| Other (please specify)                       | 10             | 8.5%  |
| Total Respondents                            | 118            |       |
| (skipped this question)                      | 264            |       |

Was there anything else that you wanted the device to do?

|                         |     |
|-------------------------|-----|
| Total Respondents       | 44  |
| (skipped this question) | 337 |

Was there anything the device did that you wished it didn't do?

|                         | Written response |
|-------------------------|------------------|
| Total Respondents       | 18               |
| (skipped this question) | 363              |

Are there additional comments you'd like to make about the exhibition?

Total Respondents  
(skipped this question)

Written response  
52  
329

## GALLERY OBSERVATION NOTES

David Perlmutter

Once he received his device he walked towards the entrance of the exhibition hall and was staring down at the device. When David entered the gallery he went to the very center of the main exhibition hall. From this point he looked all around at the paintings, then looked at his device. He played the gallery overview first, then he started with the first painting on the left. He read text on the handheld and tapped images on the “grid”. He listened to the audio and then walked to another painting. He was confused by the lack of audio for every painting, but quickly adapted. He said the “ghosted” audio button didn’t mean that audio wasn’t available, it just seemed “broken.” When he didn’t find an audio match for the painting he would stop and search for it on his handheld. He also checked the wall text. David quickly changed the strategy he used to navigate the room; he went from following the paintings in order clockwise, to looking around the room for the least crowded painting and then accessing its content on the handheld. He commented that he could use the device however he wanted, “I don’t have to follow the order, and that works for me.”

James

After he picked up his device, James walked into the gallery corridor and immediately grabbed a brochure. He began by reading the brochure AND listening to the gallery overview at the same time. He then briefly read the overview on the gallery wall. When he entered the exhibition he looked at his handheld as if he was trying to figure something out, turning it over in his hands. He said he was looking for the volume control. He found the volume control but only after 10 to 15 seconds of searching. He began with the first painting on the left, then quickly changed his mind and crossed to the other side of the gallery. He said he didn’t want to be in the crowd that had formed in front of this first painting. James skipped certain paintings and navigated through the gallery on his own instead of following the order of paintings in the exhibition hall and on the device. He said that his strategy was to look around the room for a painting that “inspired” him, and then use the device to learn more about it. He had a tendency to get a little too close to the art and at one point he was asked by the security guard to step away from a painting. He said he wasn’t interested in the “enlarge” feature in spite of his desire to see the works up close. He would read the brochure at certain paintings and then listen to the audio, but he didn’t read the handheld text.

Bob

Bob started the exhibition at the first painting on the left. He tapped the image on the screen and then listened to the audio. After he listened to the first audio stop he browsed the image grid to find the next painting. Bob followed the order of the paintings on the wall, and didn’t do much navigating on his own. About halfway through the room he started skipping paintings that didn’t seem to catch his interest. Bob was pretty thorough and read the text at every painting he viewed. Throughout the exercise he never understood why the “play” button didn’t work at every painting, and wasn’t at all happy with the explanation we gave him at the end of the session. He wanted to know why the button was there if there was no audio for the painting.

### Cori

After receiving her handheld Cori read the wall text at the exhibition entrance while listening to the exhibition overview. She entered the gallery and viewed the first painting on the left. She spent a lot of time looking back and forth between the painting and the device, alternately reading, listening and looking at the painting. She began the exhibition by following the paintings in order, but she eventually broke from the clockwise direction and began to chose what she wanted to see. She used the thumbnail image grid to select paintings. After the session she said that she was frustrated by her inability to tell which paintings had audio stops before she selected them from the grid. She also reported frustration with the device's inability to play audio and let her read at the same time. This was particularly frustrating for her since the audio stops couldn't be paused, and every time she tried to read something she had to go back to the beginning of the audio stop.

### Hector

Once he received the handheld he began staring at the device trying to configure how it would work. He started immediately at painting #1 and read the text for this painting. At the next painting, he looked down at the device more than he looked at the painting. Throughout the exhibit he used the zoom feature, read the text and listened to the audio. Hector started in a clockwise direction and I'm not sure if he finished that way.

### Julie

Once she received the device, she entered the corridor and stopped to read the introduction to the exhibition. After reading this she entered the main exhibit room and began the tour with painting #1. At first, she read the text on the handheld. She then listened to the audio and looked at the painting. Julie preferred to read the text for all paintings that contained text. She would combine the text with the audio and viewing the actual paintings. Julie preferred this method of studying the artwork to just the audio. After she toured the main gallery once, she returned to the first few paintings and sat down with the device. At that point she took more time to enjoy while using the handheld. She also used the grid frequently.

### Molina

After receiving the handheld she walked to the introduction of text on the wall and read the wall. She then started with painting #1 and immediately went to the audio function of the device. Molina started the exhibit in a clockwise direction then proceeded to travel through the exhibit at her own pace. She also visited the next exhibit room and continued to wear the handheld device throughout this exhibit.

### Julissa

Started by standing in the middle of the gallery for a moment. Tried to select "Man in Red Cap." Was looking up and down a lot from the device to the painting. Began reading right away. Went back to the first painting in the gallery, and used the grid. She then tried to sit in the center of the gallery and just look and listen from a distance, but other people were getting in her way. Went back to selecting individual paintings from the grid. Read quite a bit, didn't navigate in order. Did not notice the second room.

### David

Started with the first painting. Looked at the art far more than the device. Tried to use the old GG buttons. Read at Christ. Used the zoom feature but didn't linger, just looked quickly and moved on. David didn't see the second room, and had to be prompted to enter it. Said he wanted to read something before going in because he was not sure what was in the other room.

#### Zarintaj

Began by standing at the wall and reading the overview. Entered the gallery and turned to the right. Moved from picture to picture in her own chosen order, not the gallery order. Had trouble tapping the play audio button, then realized the audio was not available for the painting. She looked for a painting to inspire her, then she looked for the text. Returned to the wall text at the entrance and read. She finished much earlier than the others, and said "The tape is just going over and over the same material." It turned out that she never listened to a single audio stop, she just listened to the overview multiple times.

#### Susan

Also began by standing at the wall reading the overview. Entered the gallery and turned to the right. She read, used the grid of paintings, found the one she wanted and accessed the information. She read a lot. Walked up close to the paintings to check the wall text. She didn't use the enlarge. She went through the gallery almost entirely in reverse.

#### Jill

Began by discussing the device with Meghan. They were the first respondents to do this. They both seemed a bit confused. Went left to the first painting, listened to the overview. Used the grid right from the start. Also tried to use the GG buttons. Got the hang of going through the gallery in order. Asked the moderator why the device "stopped working" on certain paintings and was asked to solve this herself. She returned to Visitor Services and was told that not every painting had an audio stop. She didn't have the same text scrolling problem that the others did. She didn't see the second room. Just waited for the others to finish at the gallery exit.

#### Meghan

Discussed the device with Jill before starting. Listened to the overview first, then read at the gallery entrance. Turned left to start. Listened and let the device hang from her neck. Had no trouble reading and scrolling through the text. Navigated easily with the grid. Found the second room without prompting.

#### John

Began by turning left and removing his headphones! Said he wanted to listen first, then remove the headphones because he found them uncomfortable. He wandered, looking at canvasses and ignoring the device. Stopped in front of "Virgin of Sorrows" and used device. He read and listened, and moved from picture to picture on his own. He spent most of his time with the headphones off. Read at only a few paintings (Apostle Paul was one). Moved straight to the second room without prompting. After the second room, he returned to the main gallery.

#### Karl

Began by turning left. Paged through the text, turned the device over looking for something (said later he was looking for volume control). Zoomed, but didn't find it interesting. He only used

zoom once. Shook his head in dissatisfaction. Reported later the problem was with the text interrupting the sound, and the inability to pause or fast forward the audio. Went to the second room without prompting.