ANCIENT RELICS BROUGHT TO LIFE

VISITORS RESPOND TO
PURE LAND: INSIDE THE MOGAO
GROTTOES AT DUNHUANG

Office of Policy and Analysis
Smithsonian Institution
April 2013
Carole Neves, the former director of the Office of Policy and Analysis (OP&A), and I were walking through the Enid A. Haupt Garden two days before the exhibition, *Pure Land: Inside the Mogao Grottoes at Dunhuang*, opened. We wondered about the tent and then saw someone we knew who kindly allowed us a sneak preview. We were both blown away by the installation, the gorgeous images, the technology, and the entire experience. We applauded the Freer and Sackler Galleries of Art (FSG) for hosting such an unusual exhibition, and hoped many people would have the opportunity to visit it during its regrettably short stay.

It was a further pleasure for OP&A to be asked to study the reaction of visitors to *Pure Land*, for which I thank Julian Raby. It seems that large numbers of those who completed the survey or spoke with OP&A staff were also very appreciative. Thank you to FSG’s Jessica Duby, Theresa Esterlund, and Hillary Rothberg, who provided logistic support to the study team as it surveyed visitors.

Thanks also go to the many people at OP&A who so ably carried out the project. Claire Eckert and Maria Raviele designed the study, led the data collection and interviews, did the analysis, and co-wrote this report. Hanul Noh, Sarah Block, Donghoon Kim, Yeonjeong Kim, Kathy Ernst, and Jarrid Green all provided invaluable assistance with the data collection.

Whitney Watriss

Acting Director
Office of Policy and Analysis
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INTRODUCTION

For its 25th anniversary celebration, the Arthur M. Sackler Gallery brought an example of the next generation of museum-going experiences to the Smithsonian Institution (SI) with the American debut of the digitally recreated Mogao Grottoes. The exhibition, *Pure Land: Inside the Mogao Grottoes at Dunhuang* (from here on, *Pure Land*), presents a 360-degree, 3D panoramic projection of these caves, which are no longer open to the public. This innovative installation was created by the City University of Hong Kong (CityU) in conjunction with ALiVE, an art research initiative at CityU, and in partnership with Dunhuang Academy and the Friends of Dunhang Hong Kong. For one week (December 1-9, 2012) visitors had the opportunity to virtually experience these visually stunning caves.

Presented with such a unique opportunity to expose its audiences to the Mogao Grottoes via cutting-edge immersive technology, the Freer and Sackler Galleries of Art (FSG) contacted the Smithsonian’s Office of Policy and Analysis (OP&A) to solicit visitor feedback. FSG wanted to better understand visitors’ experiences in the installation, their thoughts on the technology used, and if any traditional museum exhibition elements might enhance this type of virtual exhibition.

To display *Pure Land*, a large tent-like temporary structure was installed outside the Sackler Gallery. Visitors could request timed tickets at the Gallery’s reception desk in the main building that granted them a 15-minute guided tour within the cave, led by an interpreter (either a *Pure Land* technician or a FSG staff/volunteer). The tours ran from 10:00 am to 5:15 pm daily and 15-20 people could enter the installation at a time.

METHODOLOGY

Visitors to *Pure Land* were asked to complete a one-page exit survey. Participation was voluntary. The scheduling of tours in 15-minute sessions throughout the day allowed OP&A to intercept all visitors after each tour, and the completion rate was 92%\(^1\). OP&A staff and interns conducted eight 90-minute survey sessions from December 3rd to 9th. All visitors were intercepted except those under the age of 12, Smithsonian staff/volunteers, and security personnel.

To elicit greater understanding of visitors’ reactions to the temporary exhibition, the study team interviewed several visitors. With the interviewees’ permission, the interviews were audio recorded, and then the recordings were transcribed. No personally identifiable information was documented. In addition to the findings from the survey, this report provides a summary of interviewees’ comments and excerpts from the interview transcripts.

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\(^1\) Visitors were also made aware by the tour guide prior to the start of the tour that they would be asked to provide feedback after their visit to the exhibition.
FINDINGS FROM THE EXIT SURVEY

VISITOR CHARACTERISTICS

Visit History

The majority of survey respondents were repeat visitors to the FSG (83% repeat, 17% first-time).

Exhibition-Specific Visitors

The majority of visitors (85%) came specifically to see the exhibition while 15% of visitors did not.

Outreach and Marketing

The majority of visitors learned about the exhibition through a Newspaper Article (43%) or through Friends and Family (32%)2.

Residence

Most visitors to Pure Land were from the United States (98%) and local to the D.C. metro area3 (70%). Given the short time frame in which the exhibition was at FSG, the preponderance of local visitors compared to non-local visitors is to be expected.

Sex

More women (63%) than men (37%) visited the exhibition.

Age

The average age of visitors to the exhibition was 58 and the median age was 60. Over half of visitors were aged 60 or older (Figure 1, next page).

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2 See Appendix B for remaining frequencies.
3 The D.C. metro area is defined as the District of Columbia, Maryland’s Prince Georges and Montgomery Counties, Alexandria, VA, and Virginia’s Fairfax and Arlington Counties.
OVERALL SATISFACTION

Visitors were asked to rate their overall satisfaction with the exhibition on a 5-point scale—Poor, Fair, Good, Excellent, Superior. Nearly 9 out of 10 visitors (85%) rated their experience in the exhibition as Excellent or Superior. Two percent of visitors rated their experience as Poor or Fair, while the rest (13%) rated their experience as Good (Figure 2, next page). Two-fifths (40%) of visitors rated their experiences Superior, which places this installation among FSG’s top exhibitions in terms of Superior ratings and well above the Smithsonian average (Figure 3, next page).
Figure 2: Overall Satisfaction Ratings

Figure 3: Superior Ratings at FSG Exhibitions and the Smithsonian Average
Nearly all visitors (96%) indicated the exhibition was a unique experience for them, and a similar number of visitors (90%) indicated that they were impressed by the exhibition. Younger visitors (29 years of age or less—5% of the visitors) were more likely than other age groups to indicate that nothing about the exhibition impressed them, while those 70 years or more (20% of visitors) were significantly more likely to indicate they were impressed (Figure 4).

Figure 4: Not Impressed vs. Impressed by the Exhibit, by Age

The satisfying experience most often selected by respondents was seeing rare, valuable, or uncommon things (77%).

Seven in ten survey respondents (72%) wrote down what impressed them about the exhibition. They were impressed by the technology (44%); the immersive experience of being in the cave where the works “came to life” (16%); having rare access to the caves (not having to travel to China or displace/harm the artifacts) (17%); the caves and artifacts themselves (6%); and the understanding they gained about the caves (4%). The comments of another 7% of visitors fell into an “Other” category. Nearly one in ten visitors (6%) wanted more of something, specifically, information, time in the cave, or details about other cave paintings and sculptures. (See Appendix C for a complete list of visitors’ open-ended responses by category.)
Visitors were asked to rate specific exhibit elements on the scale of Poor, Fair, Good, Excellent, Superior. These elements included text/written materials, 3D technology and projection, imagery/animation, content, information in texts/written materials, overall design/layout, and audio.

Almost 4 out of 10 visitors did not see or use the text/written material available for the exhibition (Figure 5). Informational brochures were available on a table outside the projection area; visitors may not have noticed this prior to viewing the exhibition due to the amount of time between tours, the volume of visitors in the waiting area, and the dim lighting. Similar ratings were given for the information provided in the texts.

Figure 5: Ratings for Text/Written Materials

The majority of respondents rated the 3D technology/360° projection as Excellent or Superior (Figure 6, next page). Exhibition-specific visitors were significantly more likely than general visitors to rate the 3D technology/360° projection Superior (Figure 7, next page). Those who indicated that attending the exhibition was not a unique experience were more likely to rate the 3D technology Poor/Fair/Good. Only visitors who identified the exhibition as a unique experience rated the 3D technology/360° projection Superior (Figure 8, page 8).
Figure 6: Overall Ratings of 3D Technology/360° Projection

Figure 7: General vs. Exhibition-Specific Respondent Ratings of 3D Technology/360° Projection
The majority of respondents rated the amount of imagery/animation within the exhibition as Excellent or Superior (Figure 9, next page). As with the rating of 3D technology/360° projection, those who did not find the exhibition to be unique were more likely to rate the imagery/animation Poor/Fair/Good than were visitors who indicated the exhibition was a unique experience; only visitors who found the exhibition to be unique rated the imagery/animation as Superior (Figure 10, next page).
Figure 9: Ratings for the Amount of Imagery/Animation

Figure 10: Not Unique vs. Unique Experience Ratings of Imagery/Animation
Almost three-quarters (73%) of visitors to the exhibition rated the content/subject matter as Excellent or Superior (Figure 11). There were no significant findings related to exhibition-specific visitors versus general visitors or for those who found the exhibition to be a unique experience.

Figure 11: Ratings for Content/Subject Matter

More than a half of the respondents (57%) indicated that the audio for the exhibition was Excellent or Superior (Figure 12, next page). The majority of respondents who did not find the exhibition to be unique rated the audio elements as Poor/Fair/Good, while respondents who did find the exhibition to be unique were more likely to rate the audio as Poor/Fair/Good or Excellent rather than Superior (Figure 13, next page).
The majority of visitors to the exhibition rated its overall design/layout as Excellent or Superior (72%; Figure 14, next page). Visitors who indicated that the experience was not unique were far more likely to provide a rating of Poor/Fair/Good than Excellent or Superior (Figure 15, next page).
Figure 14: Ratings for Overall Design/Layout

Figure 15: Ratings for the Overall Design/Layout by Not Unique vs. Unique Experience
The majority of respondents indicated they would be Interested or Very Interested in viewing other installations like *Pure Land* (Figure 16).

**Figure 16: Interest in Installations Similar to *Pure Land***

![Interest in Installations](image)

Most respondents also indicated that their experiences would be enhanced through the presence of objects and artifacts from the site or surrounding area (51%; Figure 17).

**Figure 17: Enhancements to Visitor Experiences***

![Enhancements to Visitor Experiences](image)
One-fifth of visitors suggested other elements that would have enhanced their experience (these visitors marked “Other” on the survey and wrote comments). More information was requested most frequently. While 37% marked More Written Information on the survey, the comments made by visitors clarified the type of information they would like (e.g., information about the Silk Road) and the mode they would like it in (e.g., introductory video, audio guide, lecture). A number of commenters said they would have been more satisfied if the guide had been more knowledgeable about the topic and able to answer questions beyond the script he or she was reading. More time to experience the cave was visitors’ second most frequent request. For these visitors, 15 minutes were not long enough. Some visitors wanted to experience more details of the cave and to see these details with greater clarity. These visitors wanted higher resolution images as well as the remote control to be more precise. Some visitors wanted to be able to sit down. The rest of the comments fell into an “Other” category. For a complete list of respondents’ comments see Appendix C.
The OP&A study team conducted several open-ended interviews with visitors to *Pure Land* as they were exiting the installation. Interviewees were randomly chosen and participated voluntarily. The interviewers asked the visitors to talk about their experiences in *Pure Land*, and subsequent questions built upon the interviewees’ answers. The main categories into which their answers fell are visualized in Figure 18. Experts from the interview transcripts are presented according to the key categories.

**Figure 18. Visitor Comments by Topic**
EXPERIENCES

“It was fantastic. It was a very unique experience and I am very impressed with the technology.”

“We would come back, absolutely. It was a lot to absorb in just one visit. I was thinking while I was inside that there is so much detail and so much to take in.”

“The magnifier jumped around and wasn’t as orchestrated to the talk as it could have been, and maybe that could be addressed.”

“In some cases it was disconcerting to me, because it was going here, and my eyes were going here—looking at this and then looking at that—it kept going around. It was searching; I think that is what was going on and it was missing a couple times. At least that is what I felt.”

“I haven’t had a 3D [experience] in a long time, and felt that my eyes weren’t following fast enough.”

“This was my first time experiencing 3D. I don’t go to the movies in 3D. […] I think you need to get accustomed to it. It was my first time. There were kids who were trying to grab it, so that was really fun. We didn’t know that it was going to be 3D. We just read that it was going to be a Buddhist cave. I thought we were going to see another exhibit. When we got to the Museum, they told us we have to get a ticket. It was like, “Oh wow.” So it was a surprise to us.”

“What’s the deal with the 3D glasses? The technology is like, ’Wow.’ It was tremendously clear and sharp, and the high definition photography contributed to that. The glasses were remarkable.”

“[Interviewer: Have you had an experience like this before?] No, not really. This was new.”

“It was a great experience, thank you.”

“It was fun.”

IMPRESSIONS

“I thought it was groundbreaking, I mean, in [what it means for] preservation. It was completely exciting.”

“It was wonderful. It is something that we will probably never get a chance to see otherwise.”

“There is a lot of detail. It is just fascinating.”

“It is magical. It is beautiful to be able to see the caves, and the technology is quite amazing. It is like being in the World’s Fair.”
“It is beautiful.”

“The fact that you can do this; to be able to see what it looked like originally, without harming the original paintings is amazing. It is amazing to bring [the images and artworks in the cave] to life like that. It is live; it is really living, as opposed to [seeing] just a painting on the wall.”

“I certainly hope they do [the same thing for] other caves. [If they do,] We’ll be back.”

“It reminded me of the Herzog documentary about a cave recently discovered in France.”

“I loved the dancers. That was wonderful. I loved seeing the faces of the Buddhas. We both loved the bodhisattvas, where the wind was flying in their scarves; that was really quite adorable. [...] It looked like magic flying carpets, but they were animals.”

------------------------- ENHANCEMENTS -------------------------

“I would like to read up about it beforehand because I do not have a knowledge base about this.”

“I loved it. I thought it was really interesting. In short, I would have liked more information, but overall it was a very pleasant experience. [Interviewer: What type of information do you want?] I felt that I didn’t learn enough about the caves. I didn’t understand why this particular cave was the focus. I would like something that I can take away, like a sheet with information about it.”

“The music was a little bit much; it was distracting and loud over [the tour guide]. More time to ask questions would be good; we had a very short amount of time to ask questions. I know there is a time schedule, but it would be nice to have a little bit more time for questions.”

“Do more [virtual site installations].”

“Do all the caves. Physical objects, of course, would be great. [Include] the actual thing to enhance the virtual.”

“It would have been great to see others [caves, and] to be able to see the differences in texture and style. So it is an ongoing process, and it would be fun to come back and see another cave.”

“Of course, it could be longer—I [would like to] spend more time in the cave. I was prepared to be in there for at least another 15 minutes [than we were].”

“I guess you could have [an educational] cart and provide more detail. If you haven’t heard about these particular caves, [you need] more background, [but it] depends on the site that you are featuring.”
“Were they really Pure Land Buddhists? I want more information about Pure Land Buddhism.”

“I think it would be wonderful if at some point everyone were able to have his or her own [remote controls] so that you could look at the art that interests you most. For example, the left side with the Buddhist statues, while that hasn’t been animated yet, it would be wonderful, and at some point each participant could have their own individual experience as well as a group experience, so you could actually focus on the part of the cave that interests you. Like walking through a museum and stopping at what interests you.”

“I liked it. I wish there was more detail and I was able to see a little more. I would have liked to spend more time.”

“I thought that there would be a lot of screens or something like that, or a re-creation of the cave, and so this is better, actually, because you can go in and out with magnification. However, I think a little bit more time would be more satisfying.”

“I also thought [the images that were being magnified] could be a bit bigger because I felt that I was leaning in to see, and how can you lean in when it is a 3D image? So the resolution should be higher and bigger.”

BENEFITS

“My chances of visiting China are slim to none. Not that I would be able to get in to the cave [even if I did visit China]. This is a way to spread the word [about the contents of the cave], I mean, how many people are aware that this [site] exists?”

“Wow. It was spectacular. It is wonderful technology. I can imagine [it being used to bring to life] all sorts of places that people can’t go anymore because of the damage that we do, for example, just by breathing.”

“A facility like that would be useful for all kinds of presentations—it doesn’t have to be a fixed piece.”

“There was an exhibit at the New York University that I tried to get to, but Hurricane Sandy got in the way. The exhibit was also [about] a 3D Buddhist cave. There is a wealth of opportunity to use this technology to bring [knowledge about the sites] to the West. It is just great. It is fantastic. [Interviewer: Why do you think it is important to create these types of immersive environments?] There is unrest [in countries like China], and you don’t know if [cultural heritage sites] will be preserved, so it’s capturing it for posterity.”

“You can’t get to these countries. It is becoming more and more difficult. It is expensive. It can be dangerous. You don’t know what the world is going to be [in the future], so it is a wonderful way to see art. It was very moving to see the sculpture in the lobby by Ai Wei Wei [a Chinese contemporary artist] because he has had a hard life.”
“[Interviewer: Do you think that the museum should invest resources into installations such as this?] I think so because the more we expose these ancient relics to light, photography, and so on, the more they will deteriorate. This technology is a great tool to preserve them and to show them to the world without having to remove them from their context. In this case, you couldn’t remove them because they are paintings, but artifacts and so on, more people can see them.”

“Obviously, if you can’t travel to [the cave], it opens up an amazing piece of World heritage to a bigger audience than could ever see it in person.”

“I think for a younger generation it is important because they are not educated to go to museums. Maybe they do in DC, but not in other cities. I think this is a wonderful way to get a younger generation to learn about history and culture that they can probably eventually be able to get on their phones. It is a way to really access and keep the continuity of learning. [...] Particularly because people are interested in Buddhism now. That brings [to life] some of the antiquities; [they can be experienced] in a more visceral way.”

ADDITIONAL COMMENTS

“I am going to go online and tell everyone to visit before Sunday [when the installation closes].”

“I am hopeful that this technology will be employed for other sites so that other people will be able to experience the art of the World.”

“We are destroying the planet through our curiosity.”

HOW DID YOU HEAR ABOUT IT?

“I wouldn’t have known about this installation if my husband [who is a Smithsonian employee] hadn’t told me about it.”

“I heard about it through the newspaper.”

“The Weekend Section [of the newspaper]. We always come to the Sackler Gallery. It is one of our favorite parts of the Smithsonian. So, it was like ‘Oh, great.’”

“Through my friend who lives in the area. I am visiting today. She saw an article about it in the newspaper.”
For some visitors, their visit to *Pure Land* was a teaser. It introduced them to the technology capabilities and the contents of the cave, and while they enjoyed what they saw, they left wanting more. More written materials and other contextual information would better satisfy visitors who attend similar future exhibitions. The fact is, there was information available (brochures; business cards, and a one page handout) on a table outside the entrance to the cave, but they were not offered before entering the tent and in the hurried process of exiting many visitors did not see them. Almost a third of visitors did not see or use the written information that was available. Of those who did, nearly equal percentages of respondents (46% and 44% respectively) rated the amount of text and information in the texts as Poor/Fair/Good (see Figure 5, page 7). Clearly, visitors want more information. This point is again supported by the written comments on the survey forms that indicated a desire for more contextual information or guides with more knowledge about the subject matter, as well as the 37% of respondents indicating More Written Information would enhance their experience. Information could come in a variety of forms: introductory video, pamphlets, text panels, and a map/information on where in the Gallery to see objects from a similar time period/location. Viewing real objects from the site or area surrounding it would help provide context (Figure 17, page 12). Visitors’ experiences would have benefited from a longer stay in the installation (many visitors thought 15-minutes was too short).

The guide’s ability to manipulate the space via remote control and to relay information to visitors greatly affected their experiences. From the survey responses, it appears that the quality of the presentations varied. Some visitors found their guides to be very well-informed (likely the *Pure Land* technician who traveled with the installation), whereas others found that the guides were not adequately acquainted with the material (likely the FSG volunteers). For future exhibits, it may be desirable to provide guides with information that goes beyond the script so that they feel more confident to answer some of the common questions that visitors might have, or be able to direct visitors to resources where they can find the answers themselves.

Visitors 29 years of age and younger (representing 5% of the total visitors) were least likely to be impressed with the exhibit, indicating that for them it was not a unique experience. This suggests that younger visitors have had more exposure than older visitors to 3D environments and entertainment (e.g., 3D feature films). The interviews support this: a few interviewees in their 50s to 70s said that *Pure Land* was their first experience with 3D technology.

At the start of the study, there was concern that the 3D visualizations would make some visitors feel dizzy or give them headaches. A few visitors did have negative reactions to the 3D environment; however, more visitors were impressed by the technology than not.

Overall, 3D, immersive environments interested FSG visitors; 79% were very interested in coming back for more (Figure 16, page 12).
APPENDIX A: SURVEY FORM

Freer Sackler Galleries
Pure Land: Inside the Mogao Grottoes at Dunhuang

Is this your first visit to this museum, the Freer Sackler Galleries?
○ No  ○ Yes

Please rate your overall experience in this installation, Pure Land.
○ Poor  ○ Fair  ○ Good  ○ Excellent  ○ Superior

Which of the following experiences did you find especially satisfying in this installation, Pure Land? [Mark one or more]
○ Being exposed to different cultures
○ Being moved by beauty
○ Connecting with my heritage
○ Connecting with the emotional experiences of others
○ Enriching my understanding
○ Reflecting on the meaning of what I saw
○ Gaining information/knowledge
○ Seeing rare, valuable, or uncommon things
○ Being exposed to innovative technology
○ None of these

Where did you find out about this installation? [Mark one or more]
○ Visiting the museum today
○ Friends / Family / Colleagues
○ Poster / Billboard / Ad
○ Newspaper article
○ Social media (Facebook, Twitter, etc.)
○ Internet
○ Other: ________________

Was visiting this installation a unique experience for you?
○ No  ○ Yes

Which of the following would have enhanced your visit in this exhibition? [Mark one or more]
○ Maps
○ Ability to navigate on my own
○ More written information
○ Viewing physical objects from the caves or similar sites
○ Other: ________________

Today, did you come to this museum specifically to see this installation, Pure Land?
○ No  ○ Yes

What impressed you the most about this installation?
○ Nothing  ○ I was impressed that...

How interested would you be in viewing more installations like this?

<table>
<thead>
<tr>
<th>Not interested</th>
<th>Somewhat interested</th>
<th>Interested</th>
<th>Very interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Do you live in the United States or another country?
○ United States, specify zip code: __________
○ Another country, specify: ________________

What is your age?

Are you male or female?
○ Male  ○ Female

Please rate each of these exhibition features.

<table>
<thead>
<tr>
<th>Did you see/use</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of text/written materials</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>3D technology/360-degree projection</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Imagery/animation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>Content/subject matter</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Information in texts/written materials</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Overall design/layout</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Audio

Audio

If you have any other comments or suggestions, please let us know on the back of this form.

□ 1 □ 2 □ 3 □ 4 □ C □ R □ L □
APPENDIX B: FREQUENCIES

<table>
<thead>
<tr>
<th>Is this your first visit to this museum?</th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>No (Repeat visitor)</td>
<td>NA</td>
<td>NA</td>
<td>83%</td>
</tr>
<tr>
<td>Yes (First time visitor)</td>
<td>NA</td>
<td>NA</td>
<td>17%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Please rate your overall experience in this installation</th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Fair</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
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<tr>
<td>Good</td>
<td>7%</td>
<td>14%</td>
<td>13%</td>
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<tr>
<td>Excellent</td>
<td>52%</td>
<td>43%</td>
<td>45%</td>
</tr>
<tr>
<td>Superior</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Which of the following experiences did you find especially satisfying in this installation?*</th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being exposed to different cultures</td>
<td>50%</td>
<td>52%</td>
<td>52%</td>
</tr>
<tr>
<td>Being moved by beauty</td>
<td>40%</td>
<td>50%</td>
<td>49%</td>
</tr>
<tr>
<td>Connecting with my heritage</td>
<td>5%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Connecting with the emotional experiences of others</td>
<td>9%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Enriching my understanding</td>
<td>47%</td>
<td>59%</td>
<td>57%</td>
</tr>
<tr>
<td>Reflecting on the meaning of what I saw</td>
<td>21%</td>
<td>25%</td>
<td>24%</td>
</tr>
<tr>
<td>Gaining information/knowledge</td>
<td>57%</td>
<td>63%</td>
<td>62%</td>
</tr>
<tr>
<td>Seeing rare, valuable, or uncommon things</td>
<td>71%</td>
<td>79%</td>
<td>78%</td>
</tr>
<tr>
<td>Being exposed to innovative technology</td>
<td>53%</td>
<td>73%</td>
<td>70%</td>
</tr>
<tr>
<td>None of these</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Did you come to this museum specifically to see this installation?</th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>24%</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>Yes</td>
<td>76%</td>
<td>86%</td>
<td>85%</td>
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<table>
<thead>
<tr>
<th>What impressed you the most about this installation?</th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
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<tbody>
<tr>
<td>Nothing</td>
<td>15%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>I was impressed by...</td>
<td>85%</td>
<td>90%</td>
<td>90%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Please rate your experience with the following in the museum today.</th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of text/written materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didn’t see/use</td>
<td>39%</td>
<td>36%</td>
<td>36%</td>
</tr>
<tr>
<td>Poor</td>
<td>2%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Fair</td>
<td>22%</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>Good</td>
<td>13%</td>
<td>25%</td>
<td>23%</td>
</tr>
<tr>
<td>Excellent</td>
<td>19%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Superior</td>
<td>6%</td>
<td>5%</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3D technology/360-degree projection</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Didn’t see/use</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Poor</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Fair</td>
<td>0%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Good</td>
<td>9%</td>
<td>13%</td>
<td>12%</td>
</tr>
<tr>
<td>Excellent</td>
<td>45%</td>
<td>35%</td>
<td>37%</td>
</tr>
<tr>
<td>Superior</td>
<td>47%</td>
<td>48%</td>
<td>48%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Imagery/animation</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Didn’t see/use</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Poor</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Fair</td>
<td>0%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Content/subject matter</td>
<td>Didn’t see/use</td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Good</td>
<td>12%</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>Excellent</td>
<td>49%</td>
<td>36%</td>
<td>38%</td>
</tr>
<tr>
<td>Superior</td>
<td>39%</td>
<td>42%</td>
<td>42%</td>
</tr>
<tr>
<td>Information in texts/written materials</td>
<td>Didn’t see/use</td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>38%</td>
<td>5%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>34%</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>35%</td>
<td>5%</td>
<td>14%</td>
</tr>
<tr>
<td>Overall design/layout</td>
<td>Didn’t see/use</td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>Audio</td>
<td>Didn’t see/use</td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>9%</td>
<td>5%</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>4%</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>6%</td>
<td>3%</td>
<td>9%</td>
</tr>
</tbody>
</table>

**Where did you find out about this installation?**

- Visiting the museum today: First Visit (22%), Second Visit (9%), All visitors (10%)
- Friends/Family/Colleagues: First Visit (43%), Second Visit (35%), All visitors (32%)
- Poster/Billboard/Ad: First Visit (0%), Second Visit (2%), All visitors (1%)
- Newspaper article: First Visit (28%), Second Visit (53%), All visitors (43%)
- Social media (Facebook, Twitter, etc.): First Visit (0%), Second Visit (2%), All visitors (2%)
- Internet: First Visit (9%), Second Visit (8%), All visitors (7%)
- Other: First Visit (3%), Second Visit (7%), All visitors (6%)

**Was visiting this installation a unique experience for you?**

- No: First Visit (2%), Second Visit (4%), All visitors (4%)
- Yes: First Visit (98%), Second Visit (96%), All visitors (96%)

**Which of the following would have enhanced your visit in this exhibition?**

- Maps: First Visit (21%), Second Visit (31%), All visitors (30%)
- Ability to navigate on my own: First Visit (27%), Second Visit (36%), All visitors (35%)
- More written information: First Visit (29%), Second Visit (38%), All visitors (37%)
- Viewing physical objects from the caves or similar sites: First Visit (46%), Second Visit (52%), All visitors (51%)
- Other: First Visit (11%), Second Visit (24%), All visitors (21%)

**How interested would you be in viewing more installations like this?**

- Not interested: First Visit (0%), Second Visit (2%), All visitors (1%)
- Somewhat interested: First Visit (3%), Second Visit (3%), All visitors (3%)
- Interested: First Visit (27%), Second Visit (15%), All visitors (17%)
<table>
<thead>
<tr>
<th>Very interested</th>
<th>70%</th>
<th>80%</th>
<th>79%</th>
</tr>
</thead>
</table>

### Where do you live?

<table>
<thead>
<tr>
<th></th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>92%</td>
<td>99%</td>
<td>98%</td>
</tr>
<tr>
<td>Another country</td>
<td>8%*</td>
<td>1%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Local: 51% 74% 70%
Non local: 49% 26% 30%

### Are you male or female?

<table>
<thead>
<tr>
<th></th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>41%</td>
<td>36%</td>
<td>37%</td>
</tr>
<tr>
<td>Female</td>
<td>59%</td>
<td>63%</td>
<td>63%</td>
</tr>
</tbody>
</table>

### What is your age?

<table>
<thead>
<tr>
<th></th>
<th>First Visit</th>
<th>Repeat Visit</th>
<th>All visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 years or less</td>
<td>16%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>30-49</td>
<td>25%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>50-59</td>
<td>16%</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>60-69</td>
<td>30%</td>
<td>37%</td>
<td>36%</td>
</tr>
<tr>
<td>70 years or more</td>
<td>13%</td>
<td>21%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Mean: 52 59 58
Median: 58 61 60

* Totals may be more than 100% since respondents could choose multiple choices
APPENDIX C: OPEN-ENDED SURVEY RESPONSES

WHAT VISITORS WERE IMPRESSED BY

Below are visitors written responses to the survey question:

_What impressed you the most?_

_I was impressed that..._ 

Note: some comments are included into more than one category.

TECHNOLOGY

**Technology** (Technology by itself was mentioned 16 times)

- Amazing cave art. Opportunity to view closely. 3D added to the experience as did the animation. It would be great to [see] other sites E.g., Lascaux, Egypt, etc.
- 3D display
- 3D installation
- 3D live
- 3D pictures
- 3D presentation
- 3D technology
- 3D technology to see thing clearer then real life and the immersive experience
- 3D virtual reality was used. I could learn about ancient Chinese culture
- 3D. Up-close is stunning. I have seen caves
- Able to inspect different heights and parts of the cave paintings close-up and at a distance
- Amazing digital technology
- At the amazing technology that brings this rare experience to life
- Beautiful music and animation as well as the wall painting itself.
- Beauty & technology
- Colors and images
- Connection of cave paintings with technology.
- Could zoom in and see it so clearly
detailed and innovative. 3D definition was poor
- Digital
- Digital can be anywhere
- Enhanced cultural experience with advanced technology
- Excellent presentation
- Excellent presentation of rare opportunity
- Experience of being in the cave. Would like this experience enhanced. Animations were not too helpful. It was hard to see the incredible details in the mural although the animations helped to realize this rich detail. Color enhancement was great. Animations were distracting. Colors on some scale were good so [it made me feel like I was] in the cave
- Extraordinary, but a bit too short
- Good use of technology
HD imaging. Display of period musical instruments (should zoom in more on how they are played); opportunity to add digital color. Would like to see sculpture in HD.

How technology can bring a distant and endangered cultural treasure to our doorstep I could see what is not available otherwise and the technology I might never see these caves otherwise, without the technology. The beauty. Knowing an Eastern culture was so sophisticated (we've been so oriented to the West). I see the potential of the technology and thought this was an excellent choice of subject matter to try this out. Looking forward to seeing a more advanced version, when it's smoother I thought the technology was really innovative impressive, great way to experience [the cave]. Wished it was longer Incredible age and condition of the caves. Amazing that it was hidden. Beauty of painting. Technology! To reveal a new way that I can experience the inside of the cave itself. Ingenious presentation but only an introduction!

Ingenious presentation, 3D images integration of so much technology into the presentation It conveys the cave well plus allowed for a detailed look at actual original colors. Animation helpful to experience music and dance aspects.

It is great that the museum is using new technology to let people experience the art and archaeology of a place they will probably never visit It is highlighting and emphasizing images along with instrumentation It was in 3D I've been there in person. Seeing it digitally re-created in the colors that it was originally painted and with details in 3D was special Level of technology. Sophistication of the painted murals. Magnifying mode integrated with animation and video Modern technology could non-invasively recreate the past new technology can help us understand and bring to life [artifacts] of the past centuries new use of technology will make these kinds of site available. Is Lascaux next? Outstanding digitization outstanding technology Parts of the cave were animated so that we could see it as it was meant to be viewed back then Restoration of the site with 3D technology Rich Chinese religious culture & heritage. Great technology. See the paintings like antiquity meaning + technology Short + nice/ impressive So much detail could be magnified and brought to life. The sculptures of the Bodhisattvas could be seen in 3D. Would have been nice to develop this part more in talk Staff was so professional & knowledgeable / 3D + technology = amazing Such an innovative way to expose so many people to the treasure in the caves Such beauty can be conveyed in such an innovative way. Technical advance to capture beauty Technological complexity and experience richness of culture. Technology + ability to view antiquity without leaving "footprints" at the site Technology and heritage technology and history Technology and the existence of these caves that I was unaware of Technology and the vividness with restoration technology beauty and variety.
Technology bringing things alive
Technology can be used to protect fragile sites while making them available to the public
Technology can bring us close to heritage sites
Technology enabled us to see a treasure
technology extremely clever/ Highly realistic images
Technology for zooming in
technology is fantastic
Technology made for a magical experience
Technology of presentation. History of caves.
technology permits an enriched visit, i.e. showing original paint colors of the Buddhas and the 3D musical instruments
Technology used to enrich an authentic experience
Technology, cave itself.
Technology. Beauty. Unusual presentation. I would highly recommend to my friends and tourists. Put in on trip advisor
technology-details, animation, 3D model
That technology can bring something this precious to anyone
the 3D aspect + the ability to see the sculptures in their original color. The music enhanced the exhibit. It was a wonderful experience. I would have liked to stay longer.
The 3D concept was a unique way to view the cave. I wish more time was taken to our map. The caves and offer a more in depth look at the cave system rather than spend a lot of time animating dance and instruments
The 3D effect which made the experience more realistic and the sounds of the musical instrument
The 3D experience brought it to life
The 3D graphics + animation, also the recreation of what the cave may have looked like
The 3D installation exist to present ancient Buddhist artwork in a digitally sophisticated way
The 3D representation was so awesome. Best 15 minutes ever!
The 3D technology was used to capture such a gem in all its intricacy
The 3D was so realistic
The amazing innovative technology, that provides us with better visual understanding and viewing of the cave!
The beauty and technology.
the beauty from China could be recreated in more vivid colors
the beauty of the frescos and technology allowing us to appreciate it
The Buddhist culture of the Tang Dynasty was so devout and capable of art. The innovative technology.
the cave is filled with paintings. The beauty of the paintings and especially the technology that made these experiences so beautiful
The caves themselves but also the technology of the installation
The caves were so embellished and technology gave me a chance to see and understand
The clarity/the animation/the colors/were vivid
The colors
The detail of the Photography
The digital edge tech brought far-away art visit to your face. Great!
The digital enhance the arts
The Digital remote way/ great love the 3D view
The digital technology could show the actual colors of the murals
The digital way of expression which reflect the beauty
The experience of being in the cave was thankfully created by digital technology. The high tech aspects. The immersive experience was great as was the ability to zoom in or details, I liked the demo of the original color. The intersection of past beauty and modern technology. The modern technology was so awesome.

The movements of images. The musical instrument and music. The paintings themselves. Viewing what is rarely seen. The presentation highlighted the things I was most interested in. The real life experience. Quality of 3D. The recreation of the paintings and the unit of music, wonderful. The technology & heritage.

The technology & the art/meaning of an old culture. The technology brings these ancient, otherwise unobservable, pieces to life. The technology captured relics/animation. The technology enhanced any prior visit to the caves. The technology is beyond amazing--will now Google to learn more. The technology is coming along so fast. I have visited __ caves in ______.

The technology is fantastic application exist all through museum at least world cultural seats; Egyptian tombs, cave paintings in France, petroglyph displays.. Literally endless. The technology is outstanding and allows the public to "see" the caves without destroying them. The technology is so amazing. The technology made it possible to see/enjoy what would only be accessible by flashlight. It made it come alive! The technology make the art cave alive.

The technology to show the details of the painting. The technology was able to capture the visual experience of the cave with such apparent fidelity. The technology was astonishing! World love to see nice caves. The technology was excellent. The technology, showing the detail in images that otherwise would be difficult to make out. The technology. It lacked in narrative regarding time, place, material used in painting dyes, religious and cultural meaning of Buddha's etc.

The use of 3D animation was really great. The use of technology to see distant or inaccessible artifacts. The exposure to the cave and other caves throughout the Silk Road will help us understand China, Pakistan, and Afghanistan, etc. The visualization. The way technology enhanced my understanding of what I was seeing. There was such a high quality of restoration of the images to their original state. They were able to to show the musical instrument in 3D.

This exhibit offered the opportunity to view the caves in "the original setting" and not as separate pieces as typical exhibits. Clarity and enhancement of images, "animations" also good. This represents the wave of the future for seeing not only physical sites, but 3D views of museum collections on individual computers.

This technology works so well. Use of technology. Use of technology to view artifacts that you cannot normally see. Vivid presentation loved animation.
What 3D can do
With the technology making this possible
With the technology that the curator know/too much about the caves
Zoom experience to see close up
Zooming in of details

IMMERSIVE ENVIRONMENT
The 3D aspect + the ability to see the sculptures in their original color. The music enhanced the exhibit. It was a wonderful experience. I would have liked to stay longer.
The cave was discovered and the 3D could give us an idea of what it was like. Unfortunately the images were not sharp with the glasses and guide was no help.
How realistic all was. I felt like being there. Too short, loved to have more on statues
3D technology to see thing clearer then real life and the immersive experience
At the amazing technology that brings this rare experience to life
It conveys the cave well plus allowed for a detailed look at actual original colors. Animation helpful to experience music and dance aspects.
technology bringing things alive
Technology made for a magical experience
technology permits an enriched visit, i.e. showing original paint colors of the Buddhas and the 3D musical instruments
Technology used to enrich an authentic experience
technology-details, animation, 3D model
The 3D effect which made the experience more realistic and the sounds of the musical instrument
The 3D experience brought it to life
The 3D graphics + animation, also the recreation of what the cave many have looked like
The experience of being in the cave was thankfully created by digital technology
The immersive experience was great as was the ability to zoom in or details, I liked the demo of the original color
The real life experience. Quality of 3D
The technology captured relics(animation
The technology make the art cave alive
The technology was able to capture the visual experience of the cave with such apparent fidelity
Being in a tent the light and acoustics were great. Bringing these caves to my backyard
High tech actually makes it possible for something this old to come to life
I was at Dunhuang and this is 150% more than I saw at the site
To bring ancient (good) story to life itself that going to cave itself
The visual experience and information about the cave
To see images of sacral culture/music was very fitting/Guide ruined the atmosphere
3D cave setting to feel as if I was in the cave
3D holograms re-coloring. Animating the musical instruments and incense burners
3D modeling of specific elements of the music
Ability to bring out detail and add extra music and visual instruments
Animation to bring things alive
Art was digitized truly to reflect the magnificence of Dunhuang
Astonished by the beauty of the images almost like experiencing visit to another world
Bringing it to life
By the way you brought the exhibit to life through the music and dance and enhancement. Things the
music and dancing and enhancement and the images to look as they would have originally

Details
Experience
I felt like I was in the cave
I felt like I was really there. My kids ages 7+8 loved it too! They even danced along with the music
I had no idea of the existence of this cave complex- bringing it to real-life experience was wonderful
I saw more in this exhibit than the real thing. I went to Dunhuang about 5 years ago
I was such a complete experience
integrity of cave 220 was brought alive
it revealed so much in its reality setting
It's presence.
multimedia makes it all come alive
musical instruments
reconstruction of image
recreation of the music with original color of the painting
The ability to make clear what world otherwise just have been described
The experience was very powerful +authentic-felt like I was actually in the cave
The feeling of being in the cave is mesmerizing. The music added to the sense of timeless calm
the feelings of being in a cave was able to be recreated. The images came to life--almost too quickly
The movements up to the ceiling and down to the floor
the pure land was illuminated
The virtual experience was very life like
The wonder of the caves
These beautiful Buddha images were able to be seen 3D-I felt as if I were actually in the caves
they could recreate the dance and instruments
up close, making the cave so vibrant
We had been to these caves in mid 1990s and we're able to visit air caves. These recalled the experience
you could set the original
you felt part of the cave and can imagine through it

UNIQUE EXPERIENCE

The cave was discovered and the 3D could give us an idea of what it was like. Unfortunately the images were not sharp with the glasses and guide was no help
Being in a tent the light and acoustics were great. Bringing these caves to my backyard
High tech actually makes it possible for something this old to come to life
I was at Dunhuang and this is 150% more than I saw at the site
To bring ancient (good) story to life itself that going to cave itself
The technology is fantastic application exist all through museum at least world cultural seats; Egyptian tombs, cave paintings in France, petroglyph displays.. Literally endless
I was able to experience something I would never experience otherwise -I did not like all the animations- It took away from the beauty of the paintings.
I might never see these caves otherwise, without the technology. The beauty. Knowing an Eastern culture was so sophisticated (we've been so oriented to the West).
Incredible age and condition of the caves. Amazing that it was hidden. Beauty of painting. Technology! To reveal a new way that I can experience the inside of the cave itself.
The use of technology to see distant or inaccessible artifacts. The exposure to the cave and other
caves throughout the Silk Road will help us understand China, Pakistan, and Afghanistan, etc. The musical instrument and music. The paintings themselves. Viewing what is rarely seen. The caves were so embellished and technology gave me a chance to see and understand. Able to inspect different heights and parts of the cave paintings close-up and at a distance. Excellent presentation of rare opportunity. It is great that the museum is using new technology to let people experience the art and archaeology of a place they will probably never visit. How technology can bring a distant and endangered cultural treasure to our doorstep. I could see what is not available otherwise and the technology. Modern technology could non-invasively recreate the past. New technology can help us understand and bring to life [artifacts] of the past centuries. New use of technology will make these kinds of site available. Is Lascaux next? See the paintings like antiquity meaning + technology. Such an innovative way to expose so many people to the treasure in the caves. Technology / The cave are rare and remote and I’m impressed the Sackler brought such a special and unique experience that may not have been as well known to the general public. Technology + ability to view antiquity without leaving "footprints" at the site. Technology can be used to protect fragile sites while making them available to the public. Technology can bring us close to heritage sites. Technology enabled us to see a treasure. That technology can bring something this precious to anyone. The digital edge tech brought far-away art visit to your face. Great! The technology brings these ancient, otherwise unobservable, pieces to life. The technology enhanced any prior visit to the caves. The technology is outstanding and allows the public to "see" the caves without destroying them. The technology made it possible to see/enjoy what would only be accessible by flashlight. It made it come alive! The technology, showing the detail in images that otherwise would be difficult to make out. This exhibit offered the opportunity to view the caves in "the original setting" and not as separate pieces as typical exhibits. Clarity and enhancement of images, "animations" also good. This represents the wave of the future for seeing not only physical sites, but 3D views of museum collections on individual computers. Use of technology to view artifacts that you cannot normally see. With the technology making this possible. Experience of actually being there also knowledge of our museum guide. It let us access historical art that we could not ever see if we went to China. They were able to re-create and give us a better understanding of the symbols. Amazing to see something I will never get to see in person. Being able to see such a fragile cave without damaging it. Everything impressed. Fantastic way to "see" such an incredible piece of history. I could experience the caves. I got to Dunhuang finally. I've seen many books but never got such a good feel for the caves. I got to experience a culture landmark that I couldn't otherwise visit. I was able to see cave that is not open to public. It made possible to see something that I wouldn't, the cave to see. It was a unique experience. It was an amazing opportunity to see something beautiful and utterly different from another world. Opportunity to see and appreciate cultural artifacts otherwise not easily or at all accessible.
such beauty can be turned into an actual experience so far away from its origin
That the cave is not for public access and this is the only one exposure at their time
The technology can be used to see these caves in a very different way
The use to technology to present animation view of something I would otherwise never enter inside
The visitor could know something in detail that you could not see if you visited the original place/ Art work.
There is now a way to experience a fantastic site even if it is not possible to access it in real time space
This is the next best thing to actually going to China
Unique chance to see a fascinating art work from a distant culture and location
unique opportunity to see a world treasure
We could be exposed to a cave in a region of the world most of us will probably not visit
We could see a cave that is normally closed I've been to the real cave
Without having to travel there I was alive to experience the exquisite beauty of cave. The idea of seeing it without any negative harm to the paintings (sustainability idea)
You could bring the Ancient to the present to show a wide audience

THE ARTIFACTS

Amazing cave art. Opportunity to view closely. 3D added to the experience as did the animation. It would be great to [see] other sites E.g., Lascaux, Egypt, etc.
I might never see these caves otherwise, without the technology. The beauty. Knowing an Eastern culture was so sophisticated (we've been so oriented to the West).
Incredible age and condition of the caves. Amazing that it was hidden. Beauty of painting.
Technology! To reveal a new way that I can experience the inside of the cave itself.
The use of technology to see distant or inaccessible artifacts. The exposure to the cave and other caves throughout the Silk Road will help us understand China, Pakistan, and Afghanistan, etc.
The musical instrument and music. The paintings themselves. Viewing what is rarely seen
Beautiful music and animation as well as the wall painting itself.
Connection of cave paintings with technology.
Level of technology. Sophistication of the painted murals.
Such beauty can be conveyed in such an innovative way.
Technological complexity and experience richness of culture.
technology & variety of art.
technology beauty and variety.
Technology, cave itself.
The beauty and technology.
the beauty of the frescos and technology allowing us to appreciate it
The Buddhist culture of the Tang Dynasty was so devout and capable of art. The innovative technology.
The cave is filled with paintings. The beauty of the paintings and especially the technology that made these experiences so beautiful
The caves themselves but also the technology of the installation
The intersection of past beauty and modern technology
Age of the artworks
Paintings
Paintings
The beauty of the caves
Buddhist monks built murals in caves over 1,000 years ago. Amazing job!

UNDERSTANDING

The caves were so embellished and technology gave me a chance to see and understand
Experience of actually being there also knowledge of our museum guide
it let us access historical art that we could not ever see if we went to China
They were able to re-create and give us a better understanding of the symbols
The visual experience and information about the cave
3D virtual reality was used. I could learn about ancient Chinese culture
Staff was so professional & knowledgeable / 3D + technology = amazing
Technology of presentation. History of caves.
Technology and heritage
technology and history
The amazing innovative technology, that provides us with better visual understanding and viewing of
the cave!
The technology & the art/meaning of an old culture
the technology & heritage
The way technology enhanced my understanding of what I was seeing
Knowing that these caves
there was so much intricate design and superior knowledge of human feelings expressed

WANTED MORE

Amazing cave art. Opportunity to view closely. 3D added to the experience as did the animation. It
would be great to [see] other sites E.g., Lascaux, Egypt, etc.
The 3D aspect + the ability to see the sculptures in their original color. The music enhanced the
exhibit. It was a wonderful experience. I would have liked to stay longer.
The technology is fantastic application exist all through museum at least world cultural seats; Egyptian
tombs, cave paintings in France, petroglyph displays.. Literally endless
Detailed and innovative. 3D definition was poor
Experience of being in the cave. Would like this experience enhanced. Animations were not too
helpful.. It was hard to see the incredible details in the mural although the animations helped to
realize this rich detail. Color enhancement was great. Animations were distracting. Colors on some
scale were good so [it made me feel like I was] in the cave
Extraordinary, but a bit too short
HD imaging. Display of period musical instruments (should zoom in more on how they are played);
opportunity to add digital color. Would like to see sculpture in HD.
I see the potential of the technology and thought this was an excellent choice of subject matter to try
this out. Looking forward to seeing a more advanced version, when it’s smoother
Impressive, great way to experience [the cave]. Wished it was longer
Ingenious presentation but only an introduction!
So much detail could be magnified and brought to life. The sculptures of the Bodhisattvas could be
seen in 3D. Would have been nice to develop this part more in talk
The 3D concept was a unique way to view the cave. I wish more time was taken to our map . The
caves and offer a more in depth look at the cave system rather than spend a lot of time animating
dance and instruments
The technology is beyond amazing--will now Google to learn more
The technology was astonishing! World love to see nice caves
The technology. It lacked in narrative regarding time, place, material used in painting dyes, religious and cultural meaning of Buddha's etc.
The cave was discovered and the 3D could give us an idea of what it was like. Unfortunately the images were not sharp with the glasses and guide was no help
How realistic all was. I felt like being there. Too short, loved to have more on statues
I was able to experience something I would never experience otherwise - I did not like all the animations- It took away from the beauty of the paintings.
Chinese Dance by 2 women- problem was not enough info on symbols so was a bit "Disney" in nature - Tech not used to reveal meanings
Great effort was expended for such a short presentation. I felt there must have been more which wasn't shown
I hope you do the Lascaux caves in France!
I wish it had lasted longer. Depicting and exploring more details
That it was not listed on the internet so it was an extra treat. I do wish there was more information explaining the purpose of these caves, description of religious figures
Too short but groundbreaking

OTHER

Experience of actually being there also knowledge of our museum guide
Staff was so professional & knowledgeable / 3D + technology = amazing
The speaker guide was so knowledgeable and attentive
there was so much intricate design and superior knowledge of human feelings expressed
The cave was discovered and the 3D could give us an idea of what it was like. Unfortunately the images were not sharp with the glasses and guide was no help
To see images of sacral culture/music was very fitting/ Guide ruined the atmosphere
Technology and the existence of these caves that I was unaware of
Additional exhibit space for museum
All
Everything
I could see this for free in a small and comfortable group and via an efficient not chaotic process
Interesting presentation
It exists at all
It is available
It is here
It reminds me of Egyptian caves
It was done at all
It was fascinating + interesting to see
It worked so well
Presentation
Remarkable, unbelievable
The 3D glasses did not make my headache
The Chinese government allowed it to travel
The Chinese government would support this exhibit
MARKETING AND OUTREACH

Where did you find out about the exhibition?

Visitors’ written responses:

- Brochure
- Channel + WRC TV
- Email from Freer/Sackler
- Email from Museum
- Email volunteer
- F/S listserv
- Front door sign
- I am a docent at Freer/Sackler
- Intro to Buddhism Professor at GU
- Mom
- National Museum of Natural History
- National Museum of Natural History
- Museum Website
- Newspaper article in the Washington Post
- Over heard somebody talking about an exploding tree
- Pre-timed non-same day reservations
- SI staff email
- Smithsonian Calendar of Event
- Visiting Sackler prior of today
- Volunteer at the Sackler
- Walking through Haupt garden
ENHANCEMENTS

INFORMATION

After exiting the cave, have someone knowledgeable about the cave available to answer questions
A longer presentation (30 min). It was excellent but too fast. There was not enough time for additional questions and description.
A short film or talk on the cave and the Silk Road
A website
Access to more information
Being informed that the tour includes only one cave
Better guide. She couldn't answer any of the question
Better Q&A
Film with overview
handout to direct me to similar/related objects as the museum
Having a guide who was better informed (our guide read a script)
History
I wish you had more info on the area's social/economic life and the details of painting techniques (materials, bunch, water/oil)
I would like to see it available through the internet on my home computer
If time permitted, other views, also other pictures of other caves (not in 3D) as a supplement to the exhibit
Introduction and longer viewing
Lecture
Longer talk by more knowledgeable docent (docent was reading from the text but didn't know much more beyond the text)
Longer time viewing and a take home postcard of the cave
Longer time/viewing another cave
Longer tour, more info
More background info
More caves
More caves
More context in the presentation [I want to understand] aristocratic culture
More contextual explanation of what the caves represent and how they were used and viewed, etc.
More digitization of caves
More in-depth information by guide
More info on iconography particularly 7 medicine Buddhas
More knowledgeable guide
More knowledgeable guide and more time to see the paintings / 15 minutes it not enough
More music, more context Buddhist thought
More on the sculpture
More part of cave available
More time, a little more info
More time-more presentation
Photographs of caves
prerecorded interactive guide (like audio guide)
Presenters not good or knowledgeable enough. Took away a lot of the exhibit.
Some other images from site to compare
Q&A period while in the theater would have been welcome and useful
The guide could not answer all question
The guide has little knowledge to help enhance the experience
The guide seemed very unhelpful; unable to answer questions
The exhibit presenter needs to be knowledgeable about the subject matter. How can she not know
what medium was in the creation of this incredible art!
Would ultimately like it to be more in depth with more info, but I realized this is a prototype
Would have liked to have the written info before hand
Zoom out so have a sense of overall cave ceiling to floor

TIME

A longer presentation (30 min). It was excellent but too fast. There was not enough time for additional
questions and description.
Introduction and longer viewing
Longer time viewing and a take home postcard of the cave
Longer time/viewing another cave
Longer tour, more info
More knowledgeable guide and more time to see the paintings / 15 minutes it not enough
More time, a little more info
More time-more presentation
Facial expressions more time needed
I wish it was longer
It could be a longer and expanded exhibit
Longer
Longer exhibition and magnifying glasses with a greater diameter
Longer presentation
Longer presentation
Longer time
Longer time inside
Longer time to experience exhibit
More time
More time
More time
More time
More time
More time
More time
More time
More time inside
More time to appreciate the painting
More time, less moving around
Slow down a bit
Too short
**DETAIL AND/OR CLARITY**

Facial expressions more time needed
Longer exhibition and the magnifying glasses could have a greater diameter
Better 3D images. I could not really see the images well. Very blurry! Only able to see image better when specifically focused on by narrator.
Better control of remote
Better definition
Higher resolution
More details more zooming in around the cave
More time with each image-guide an adjustment just to understand each
Sharper viewing of the painting
Slower so we could focus more on each photo

**SEATING**

Chairs (I sat on the floor- it was tiring)
Seats
Sitting down

**OTHER**

Music
Better presentation
Guide hard to hear and did not seem to know or have any interest in material
More
my own RX eyeglasses-I'm near sighted
The projection was a little brighter with the dark glasses
Visiting yesterday
Bring it back to have a longer run of the showing so that more people can see it. The timed tickets should be available via the internet

**OTHER COMMENTS**

*If you have any other comments or suggestions, please let us know on the back of this form*

Bring more!
Entertaining purpose same cave
Fabulous!
I get dizzy with 3D
Good presentation from guide. I would like more.
Have visited Buddhist temples in Thailand and Indonesia but not this rare!
introductory view could have been much slower
it seem to go too fast
Please keep up the good work and continue to develop use of this technology so that other UNESCO
World Heritage sites can be 'visited' in the same way! This was a marvelous 15 minutes
Presenter should be have a microphone. Excellent
Speaker was not loud enough with background music
The technology. And I had no idea the caves existed
What a wonderful concept. While the immersive exhibit is fantastic, the next step might be to make
content available for 3D devices along with narration or written comments via the internet
I would love to be able to have seen more caves