

visitor experience  
**mathaf arab museum of modern art**

Carnegie Mellon University Qatar  
Spring 2015

Aisha Al-Missned | Alya Al-Thani | Noora Al-Khater | Rawan Al-Marri

# executive summary

## INTRODUCTION

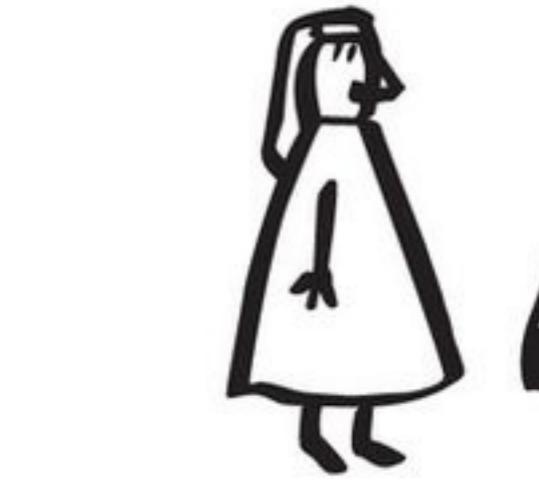
For this service design, our team looked for ways to improve the visitor's experience at Mathaf. We want to integrate technology to enhance the learning experience in Mathaf. We propose several technology related solutions to be implemented that will benefit visitors to help them access more information about the paintings and the corresponding artists. In addition, we also propose to improve Mathaf's way finding of the entire building.

## RESEARCH

We have conducted several research methods, from surveys to literature reviews, and each has its own unique results that helped us conclude and our proposals for this project.

## CONCLUSION

We have proposed technology related solutions in order to adjust to the current trends of convenience that most visitors seek in services around them. A responding mobile application that acts as a digital navigator and helps visitors navigate around, get more information, be involved with the action and offer more chances to interact with Mathaf.



# TABLE OF CONTENTS

**07** definition

**15** exploratory research

**33** design leap

**41** realization and evaluation

**53** delivery

PHASE ONE

DEFINITION

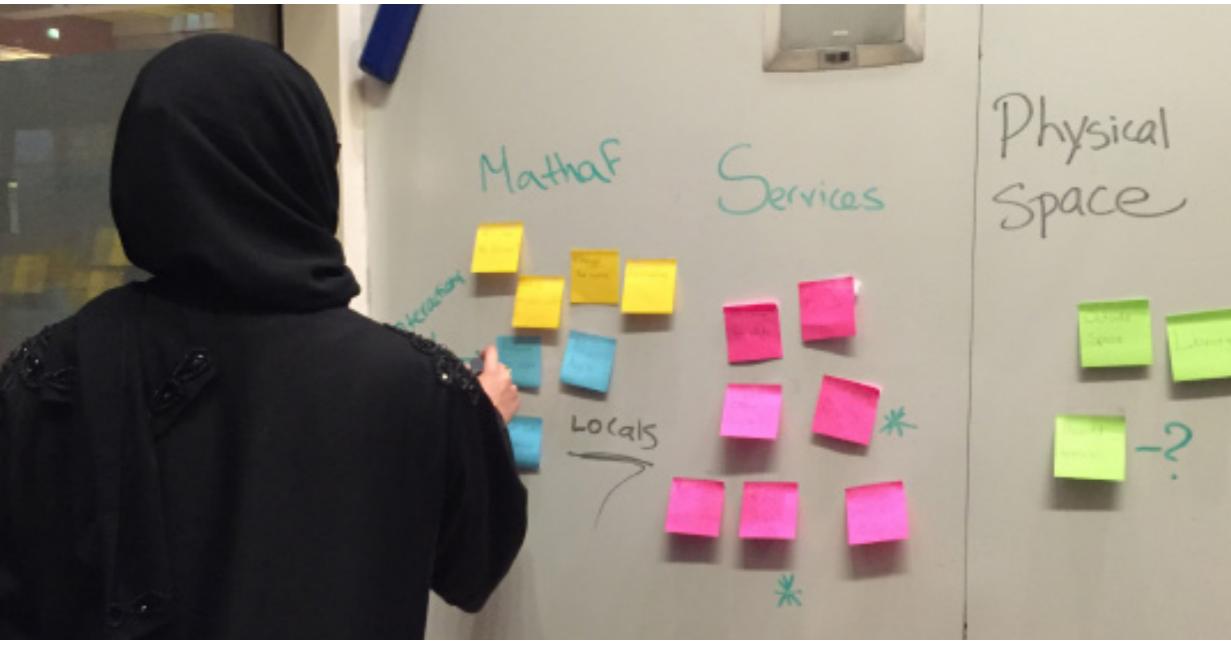
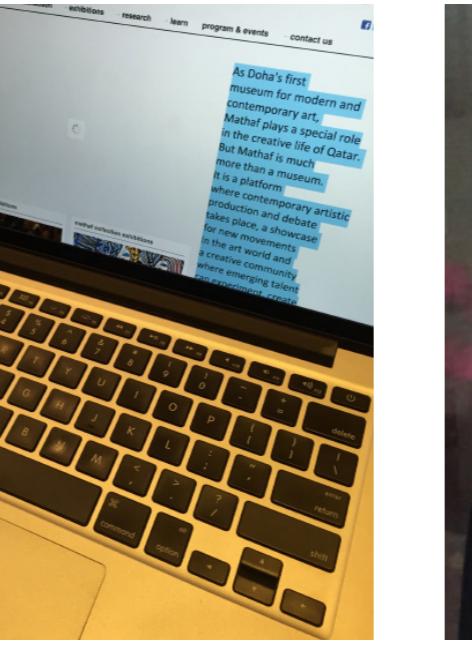
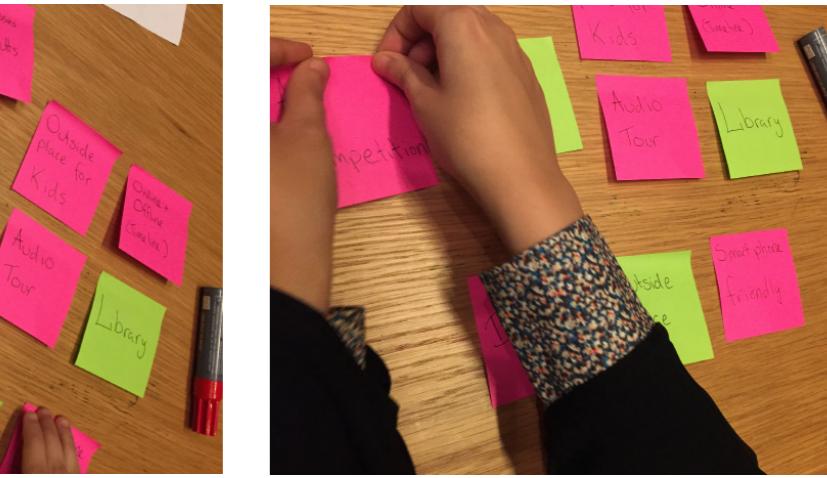
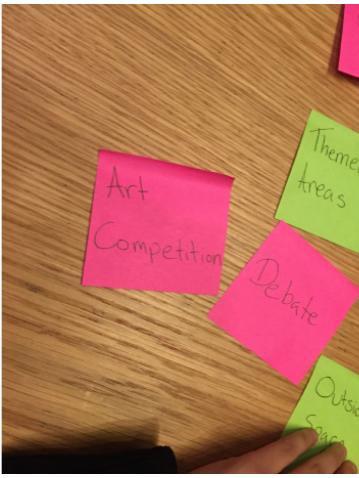
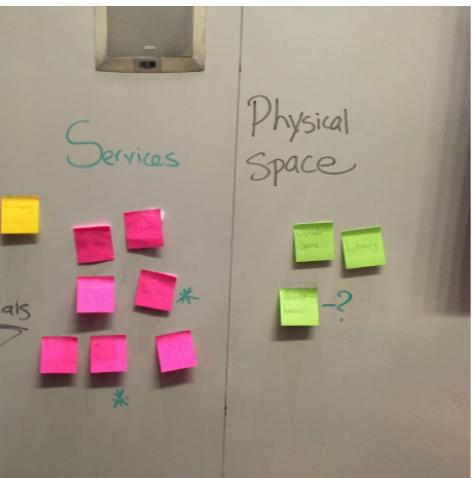
# brainstorming

Our team visited Mathaf and looked at what services they offer, what physical spaces they incorporated, and the stakeholders involved.

While brainstorming, we noted our observations as well as made some suggestions for Mathaf.

We also researched more about Mathaf by going through their website and learning about what they stand for and what they represent. We learned more about their services and events such as their workshops from their website.

One thing that stood out is the fact that these services that were offered were not promoted as much as they could be. This inspired us to elaborate more on our affinity diagram.



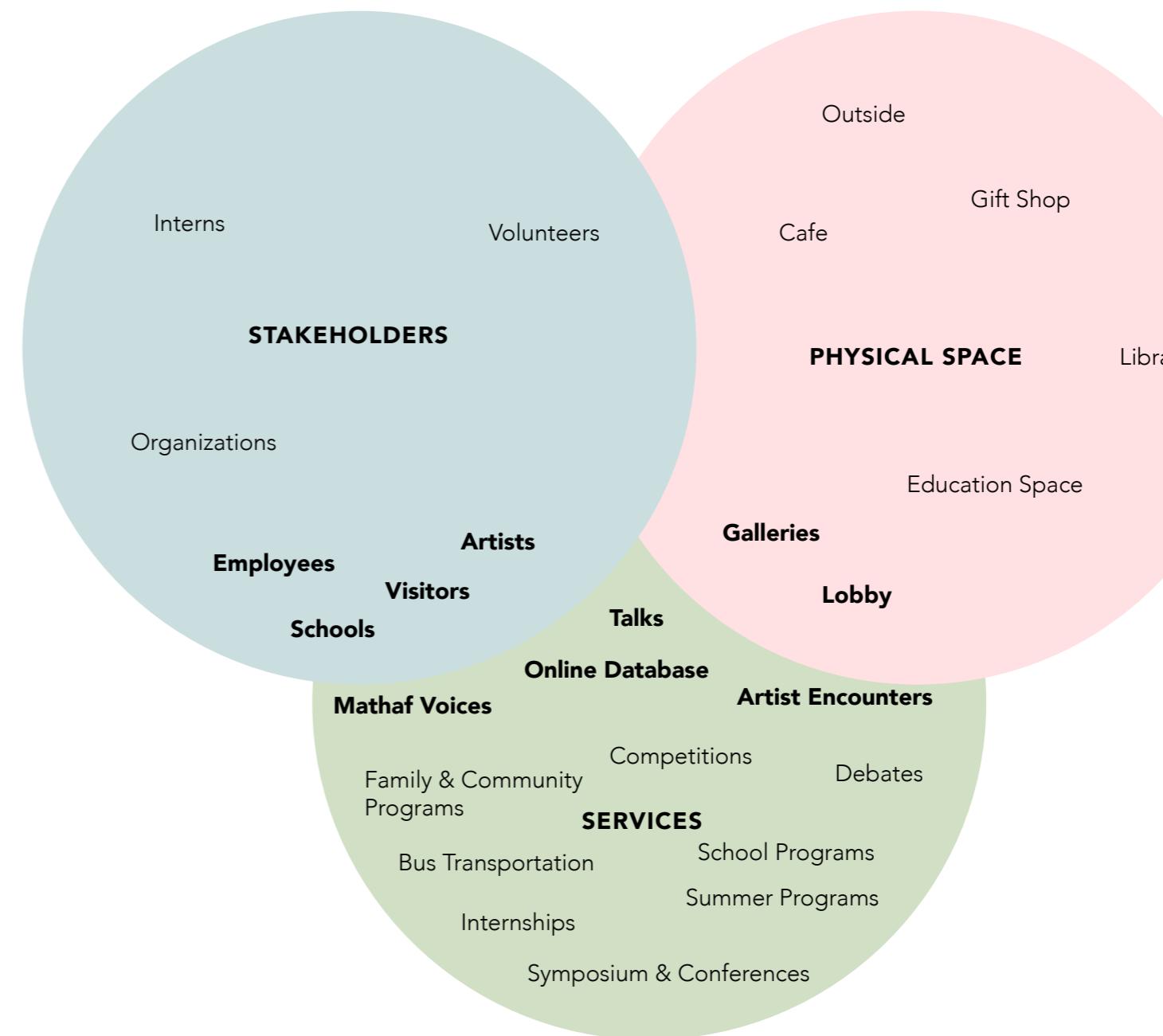
# territory map

We created a territory map that emphasized on the areas of our focus.

For the stakeholders, we are focusing on visitors, artists, schools and employees. These will benefit the most since we are focusing on promoting services, artwork, artists and with that enhancing the overall visitor experience.

For the physical spaces, we are focusing on the lobby and the galleries. We plan to improve way finding in these areas.

For the services, we are focusing on expanding Mathaf voices tour, promoting talks & artist encounters and providing an accessible database of the artwork to be used through mobile devices.



# hunt statement

We are going to research how visitors interact with the physical space & art so we can enhance their experience



## PHASE TWO

## EXPLORATORY RESEARCH





# literature reviews

## SUMMARY

We analyzed books and journal publications that helped to give us a deeper understanding of museums procedures & visitor's interactions with museums.

The literature review revealed to us the importance of museum & how it can be an educational experience for the visitors when it is designed to help engaged & simulate the visitors. Furthermore, the use of technology like QR codes and robot tour guides can help enhance the visitor's experience so that they can learn & get the most out of their visit.

## DEWEY ON MUSEUM

Dewey argues that museums are an important and integral part of our education and the design of the museum is important in fostering visitors learning experience. He believes that museums should be designed to encourage discussion, challenge the learner, make connections, and give guidance for an application in the world outside the museum. Finally, Dewey emphasizes the continuity of the experience and that the "educative value of experiences should be judged by its capacity to enable the learner to have future educative experiences" (Hein, 2004).

## ROBOTIC TOUR GUIDES

Robots as tour guides have been used and studied for a long time. **Minerva** is an example of a mobile robot designed by a team from Carnegie Mellon University and University of Bonn. It first operated in 1998 as an interactive museum tour guide for the Smithsonian National Museum of American History. The **Minerva** was successful in educating and entertaining many visitors at the museum (Thrun, 1999). Recent use of robots as tour guides have also shown to be successful among visitors. The National Museum of Australia have created a robot tour which can give virtual tours to people around the world using panoramic cameras. Users can use their laptops to control what they see in the museum, display some digital content about a artifact, and ask questions all using the robot (Fulton, 2012). The use of Robot as tour guides has shown to enhance and excite the users/visitors, especially those visitors who find it difficult to find Mathaf a virtual robot would allow them to enjoy the art pieces from any place.

## THE USE OF QR CODES

Manchester Art Gallery worked on a project called Decoding Art which used technology to give people a walking tour of 20 of the city's public monuments. The application of Quick Response (QR) codes were placed next to the monument and people walking by can use their mobile phones to learn more about the monument. Once the user scans the code with a QR code reader, the user is then directed to a page on a website which contains more information about the piece they are looking at. The use of QR codes has been very successful and many museums are now using technology as a tool to help guide users through the museum (Kelly, 2011). This kind of technology would work very well in any museum as it would eliminate the need to look through a paper brochure and information can easily be updated.



# online research

## SUMMARY

As part of our exploratory research we looked at comments on TripAdvisor from people who had visited Mathaf. We looked at both the positive and negative comments to get an idea on what is working and what is not working for Mathaf.

We saw that there was a lot of positive reviews, especially with the artwork collection and the tour guides. The negative reviews were mainly concerned about empty space and the location of the building.

Reviewed 24 February 2015

## MODERN ART ON THE OUTSKIRTS

*"This museum is right out of the city and has a permanent exhibition of Arabic art from the last 100 years or so. Slightly odd location in the middle of lots of building work, very quiet inside. Interesting exhibits and they give out a little booklet with pictures of all the art inside. **It would have been useful to have a bit more background on the artists as we are not from the area.**"*

## NOT A GREAT MUSEUM

*"It took me longer to find it than to visit it. Construction all around and no directional signage. This is probably why few people in Doha seem to know it. Signage inside also poor. Reasonable collection of artwork **but plenty of empty space.** It would be interesting to visit it again in few years when the surrounding construction has been completed."*

Reviewed 23 January 2015

## WHAT A TRIP!

*"amazing museum, pity it was so empty! **we got to be shown around by a guide** and loved it! lots of fun an quite an amazing experience. this is a must do."*

Reviewed 8 December 2013

## IMMACULATE

*"The sterility of this museum was a bit lost on me, but maybe it's to highlight the art. I very much enjoyed my tour, but **I was a bit off put by the multitude of security guards. We had a tour guide that asked us how certain pieces made us feel...I enjoyed hearing the stories but wanted to spend more time alone, reading and absorbing.** The art is beautiful and different, I didn't see any theme to any of the individual rooms, but I liked how clean and quiet it was. A lot of the space was empty, but I think they are still renovating it from being a school."*

Reviewed 8 March 2015



# surveys

We conducted a total of 13 surveys of the visitors. They helped us recognize their experience in depth and understand their needs and interests of the Mathaf. Conducting these surveys assisted us with evidence for the proposals.

Before setting up the questions for the survey, we had a basic idea of our target which is way finding and the voices tour offered by the museum. A lot of people either dislike tours because they like to take their time, or didn't hear about it.

## CONCLUSION

Overall the visitors had a fairly pleasant visit and believe they would love to visit Mathaf again. However, those who would like to visit again have mentioned that they would like to see more variety in their experience which includes temporary exhibitions and workshops. Many visitors wanted to know more details about the artwork and would have preferred some sort of tour guide to give them more information about the art pieces.



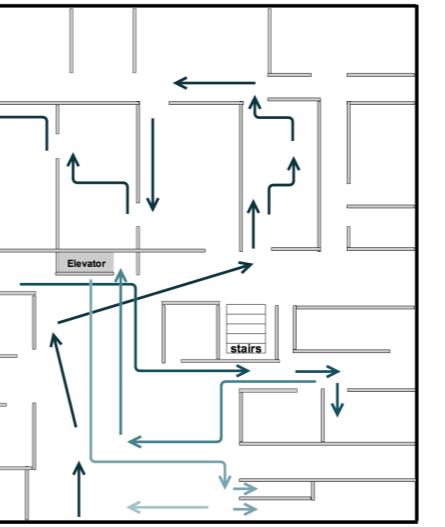


# behavioral mapping

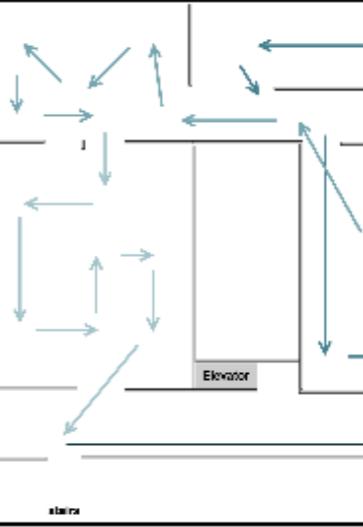
While shadowing the visitors at Mathaf, we observed their behavior and paths across the exhibition and gallery at Mathaf. Their pathway was illustrated in the behavioral maps that we created to carry out this study. The behavioral maps helped us to understand how the visitors move across the galleries and what facilitates or inhibits their way finding technique. From illustrating the behavioral maps and based on the comments we observed, it is evident that the way finding in Mathaf is not clear.

## CONCLUSION

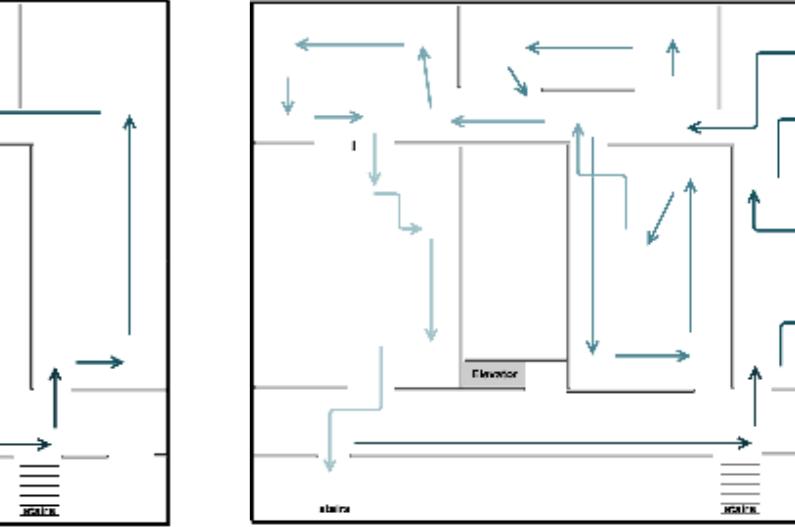
We found visitors mostly facing confusion when trying to move from one room to another. Where we noticed all the visitors we shadowed interacted with at least one wrong pathway and had to take instructions from the security guard regarding where they should go next. This helped to demonstrate the poor way finding methods used at Mathaf and the confusions the visitor's face when trying to move from one room to another.



Map 1: First Floor



Map 2: Second Floor



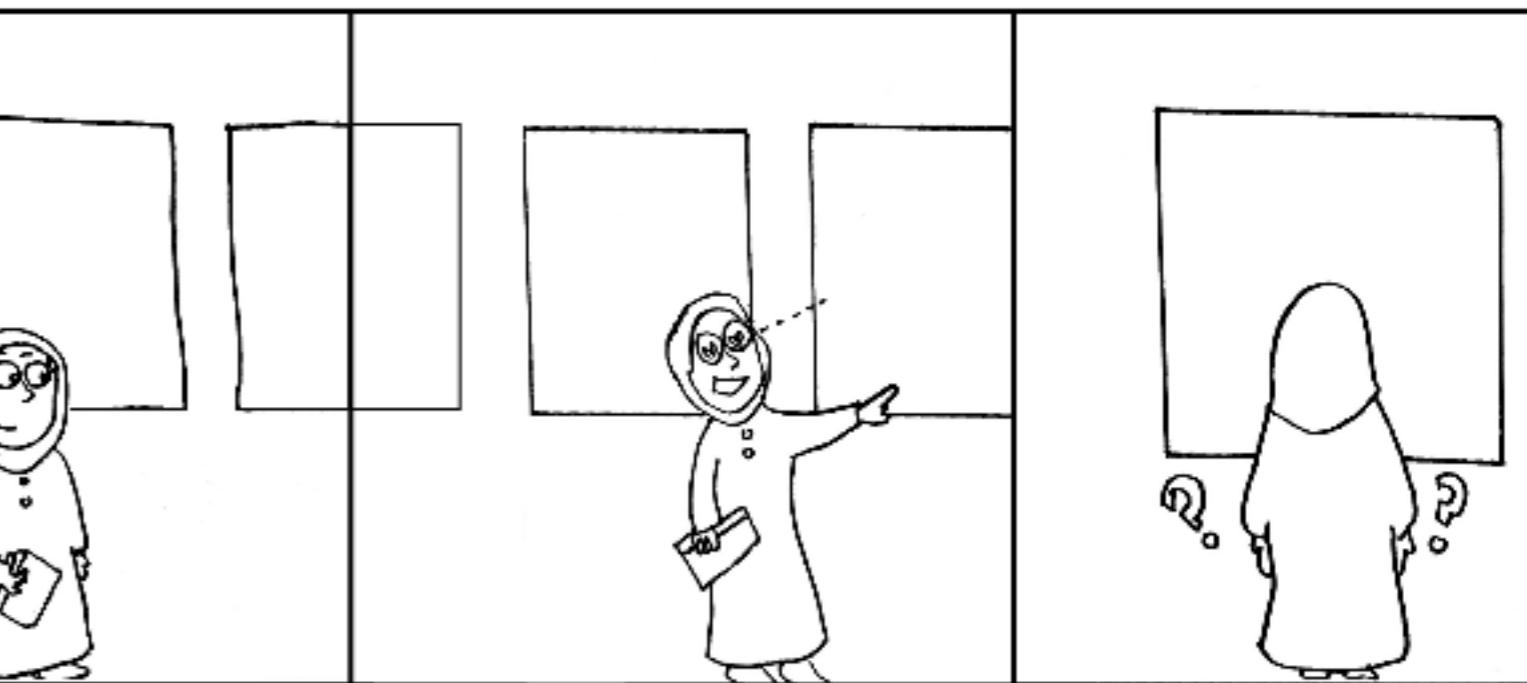
Map 3: Second Floor



# fly-on-the wall observations

We carried some fly-on-the wall observations across the Mathaf which emphasized some of the main issues visitors are facing. These observations have helped to inspire some of the main components in our proposals. The main 2 observations that have captured our attention and inspired us to create storyboards to illustrate them were the invisible door issue and unnoticeable/undetailed gallery labels.

While observing the visitors at the galleries we noticed a girl admiring a painting and talking to her friend about it and telling her how she wished to know more about it. This observation have helped to highlight 2 issues. The first being the fact that she didn't notice the brief information in the label beside the painting. Second the information would not have been enough for her interest.



## CONCLUSION

Conducting those fly-on-the wall observations helped to highlight some issues the visitors were facing in the museum. The main ones that we thought were common was the need for more details as well as difficulty in way finding in the museum and gallery itself. In turn these observations helped inspire our storyboards.



# interviews

## VISITORS

We carried several interviews to get an idea of the current experience that Mathaf offers: visitors, staff and authority employees.

We interviewed several visitors and found out that there is lack of information about the art and are left unsatisfied. They were also confused as to where to start, where to go next; they didn't know how the Mathaf system worked.

## MATHAF STAFF

We interviewed the staff that work at the reception in order to find out more information about Mathaf. We found out that most visitors ignore the brochures and physical books offered near the reception area.

## QMA EMPLOYEE

We conducted a short interview with one of the employees working at Qatar Museum Authority. We asked her about our idea of using a technology to enhance the visitor's experience and we got an overall positive response about it.

أكتب أفكالك و ذكرياتك حول مجموعة متحف الفنون!

Leave us your thoughts and memories  
of Mathaf's Permanent Collection!

# our scope

## MODERN ART

Based on our research we are aiming to promote the idea of modern art among the community and visitors to help them understand modern art and know how to interpret it. Thus, we would like to enhance the visitor's experience by making the museum and its content more accessible through creating a mobile application, a label to accommodate it as well as way finding guide.

We would like to enhance their overall experience by helping them engage with the art and the process behind it.

We are looking for ways to improve the visitor's experience at Mathaf through the use of technology.

We propose to implement a mobile application that will help visitors to access more information about the paintings and artists.



PHASE THREE

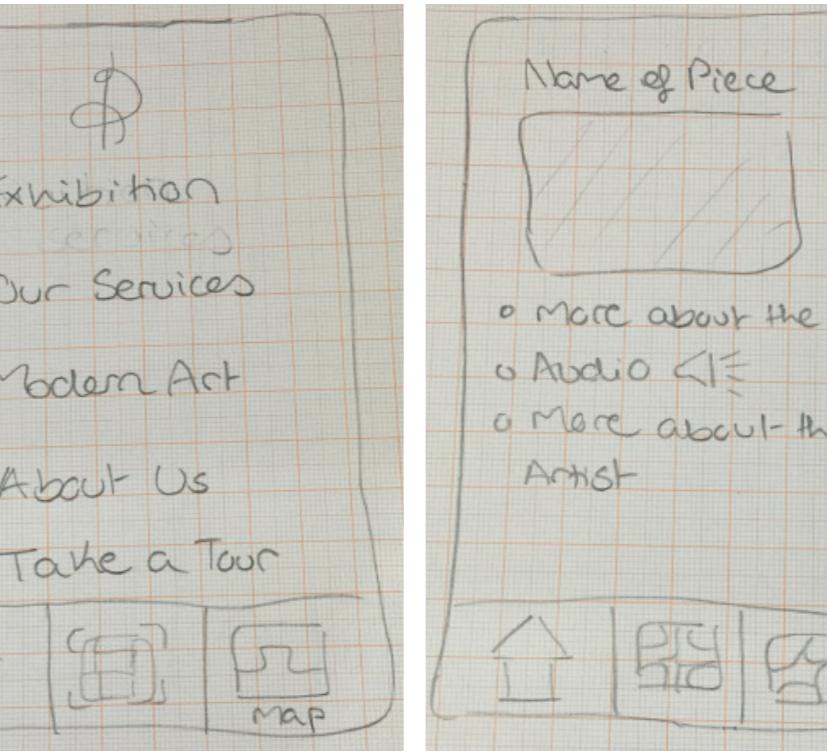
DESIGN LEAP



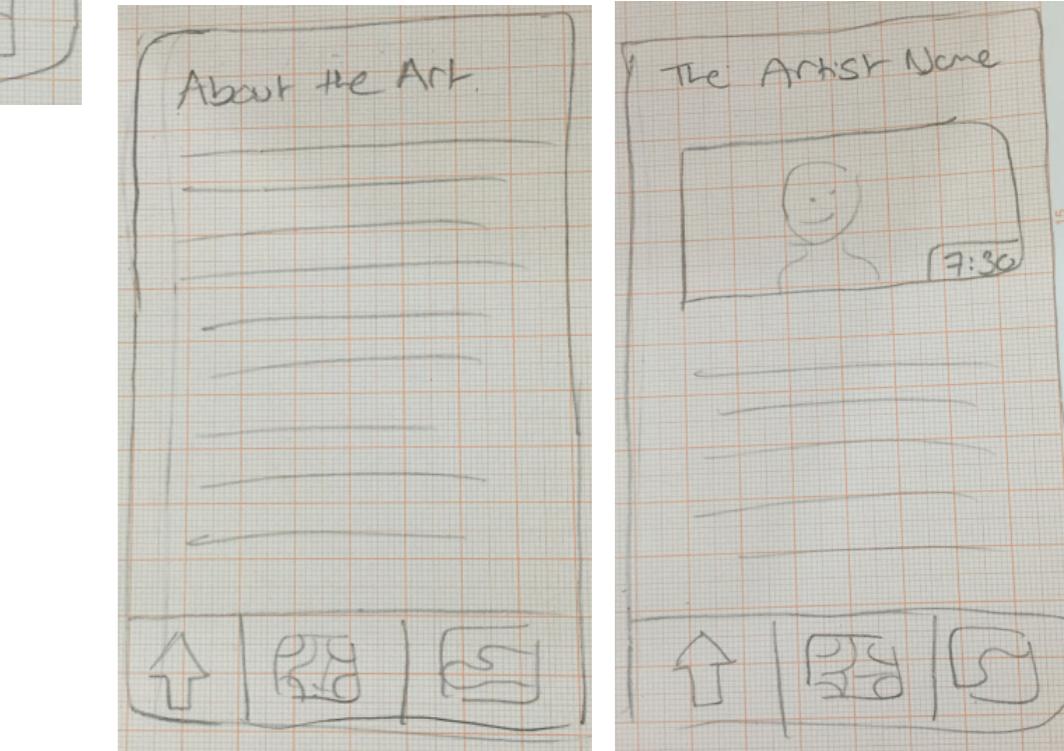
# application design process

We made a couple of iterations of the application design. For the co-design we mostly focused on seeking feedback on the homepage and artwork information page. Our users helped us to decide on the options for the main menu and the arrangement of the information of the artwork.

We also sought feedback on the final iterations and the most common feedback was that the application was straightforward and simple which helped to prove that our application will be user friendly.



Sketches of the mobile application homepage with menu options & information about an art piece with options.



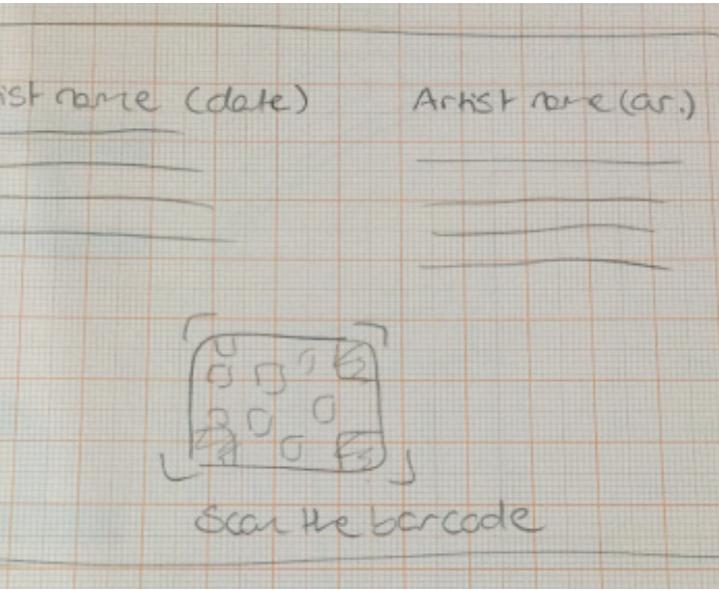
Sketches of the mobile application artwork page and information about the artist.



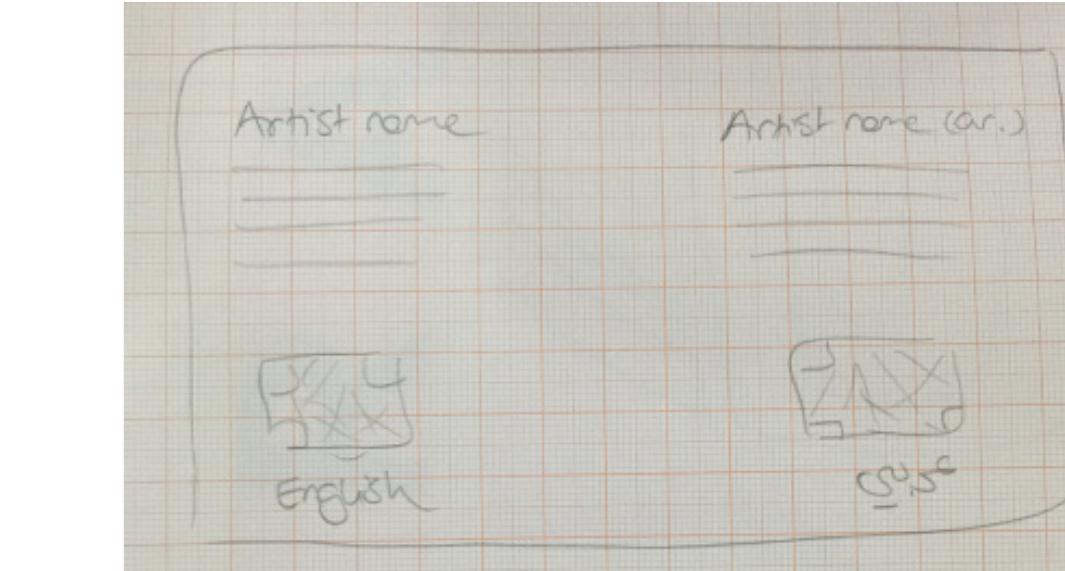
# label design process

According to our research, labels were not clear to many of the first time visitors, so in order to improve upon it we asked participants to help co-design the label. The label has to stand out to the visitors however, should be simple to not take away from the art work.

The users we tested liked the idea of having the label with two QR codes to allow both arabic and english speakers to scan the code and access more information in their language.



First iteration of the label design



Final iteration of the label design with two QR codes for the languages

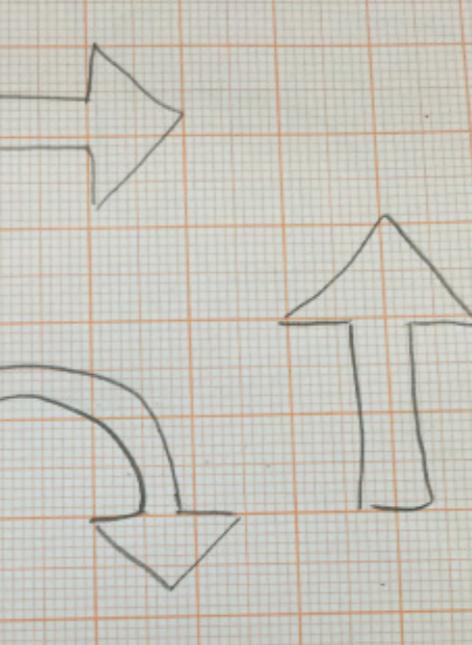
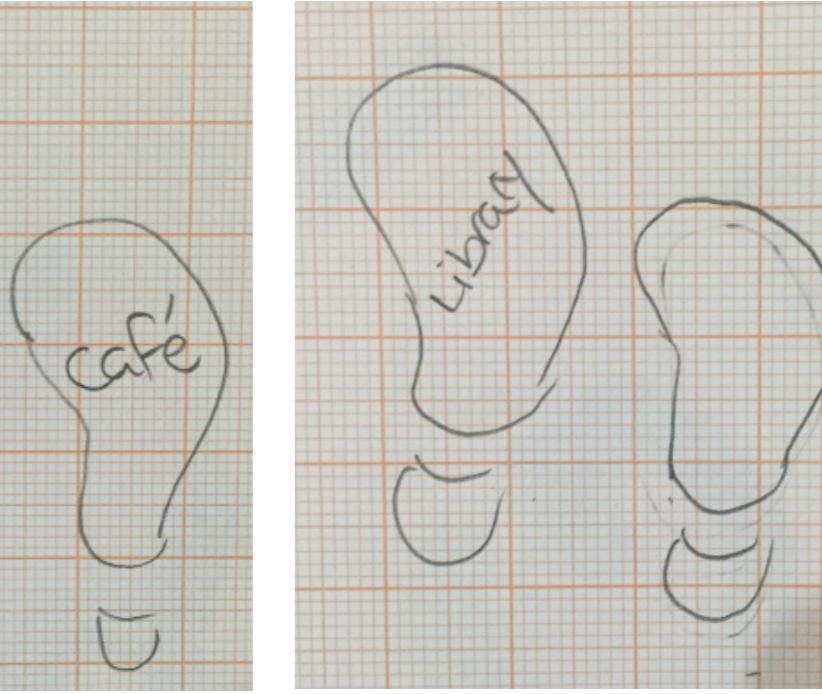


# way finding design process

We had 2 main sketches for the footprints. The first indicated the name of the place on both feet, whereas the other one only indicated it on the left foot.

After seeking feedback it was evident that the users preferred having the label once to simplify the footprint and avoid repetitiveness.

Sketches of the footprints to be used in other areas of the building.



Sketches of the intersection arrows that will be used in the galleries.

## PHASE FOUR

## REALIZATION AND EVALUATION



# mobile application

We are proposing a mobile application to improve visitor's experience. The mobile application will be functional with two main languages: english & arabic. The application will contain 3 main tabs: a menu page, a responsive map of the floors and a QR scanner.

In addition, it will help the visitor know more about modern art in general and have a voice in what they think modern art means and help them learn more.

The application will offer detailed information about the collections and current exhibitions at Mathaf with an opportunity to find out more about the artwork in text or audio format.

It will also offer the visitor a chance to subscribe to information and updates in terms of events, new exhibitions, etc via email or SMS.

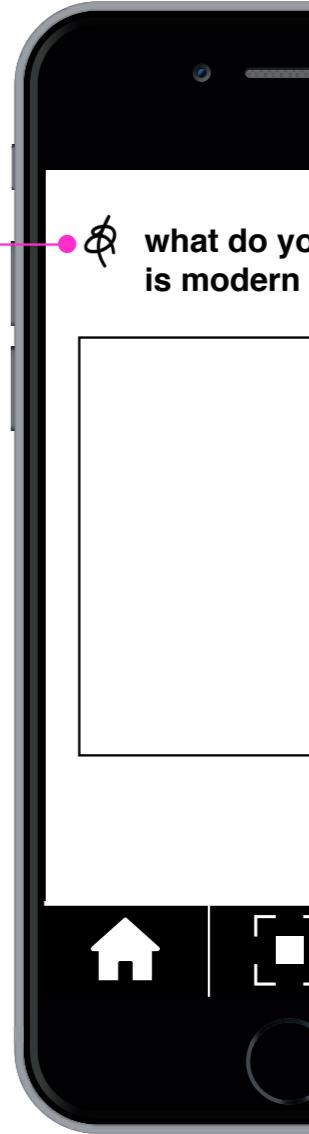
The application can be downloaded from the visitors own device if they choose to, however devices will be provided for those who do not carry it with them. Our research suggests the majority prefer to use their own devices, so as a start 20 devices can be offered if needed to the visitors. The visitors can use the Wi-Fi provided in the Mathaf in order to use the app. In order to maintain all the implementations of the app, it would be best to have a digital content manager in order to supervise the implementation of the system.

## STARTING THE APPLICATION

Mathaf Application

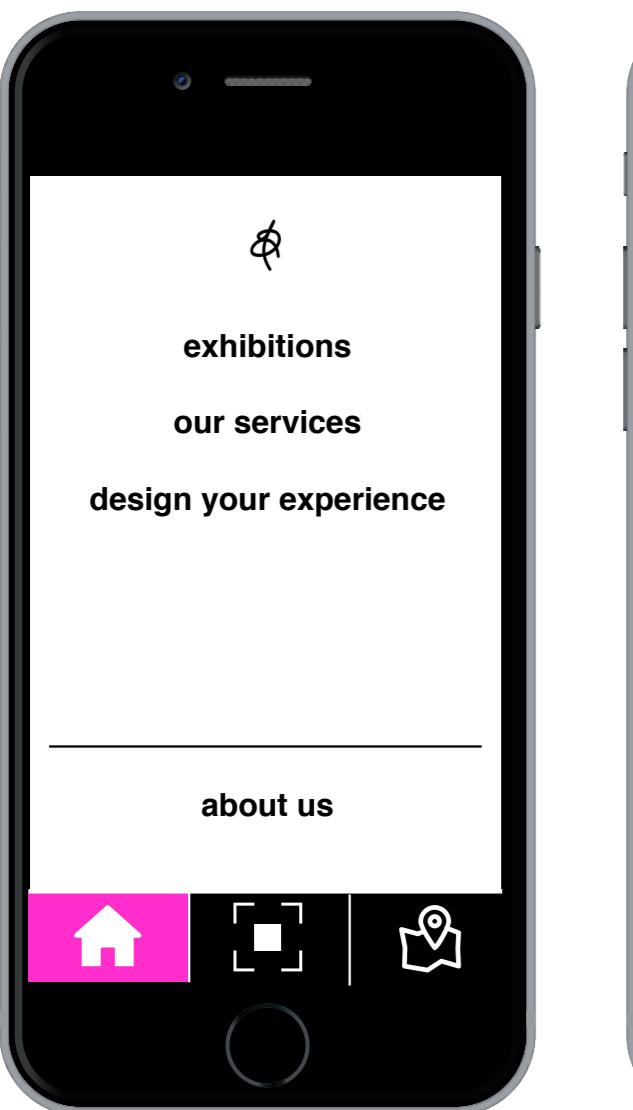


Prompt Question

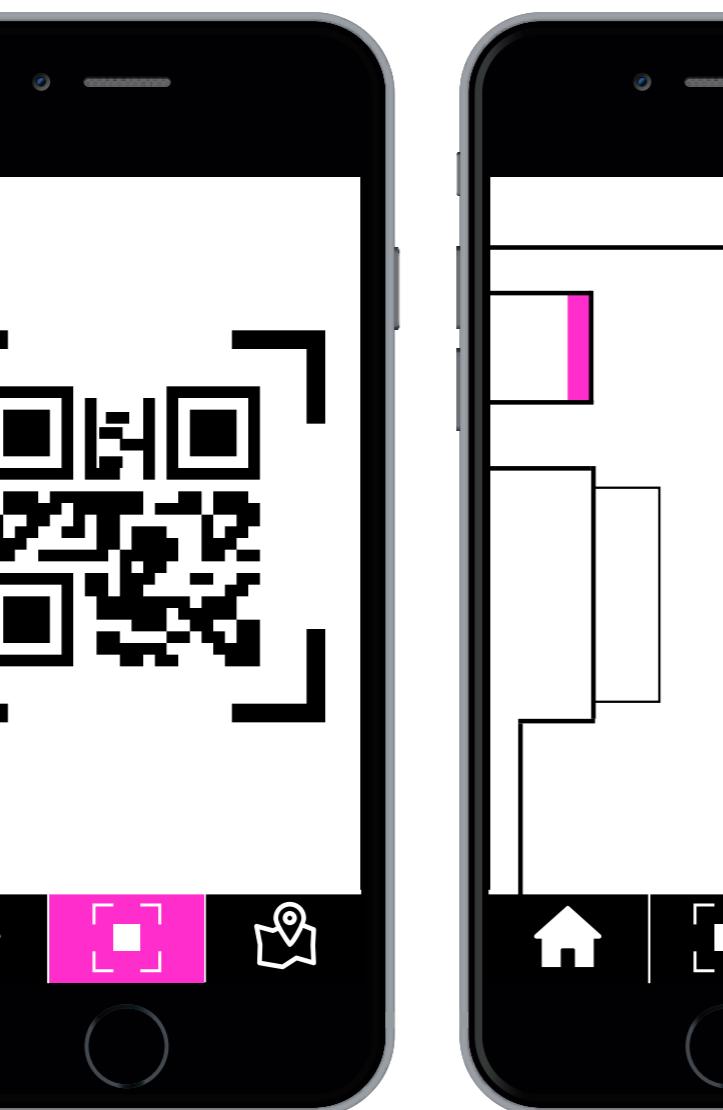


## 3 MAIN TABS

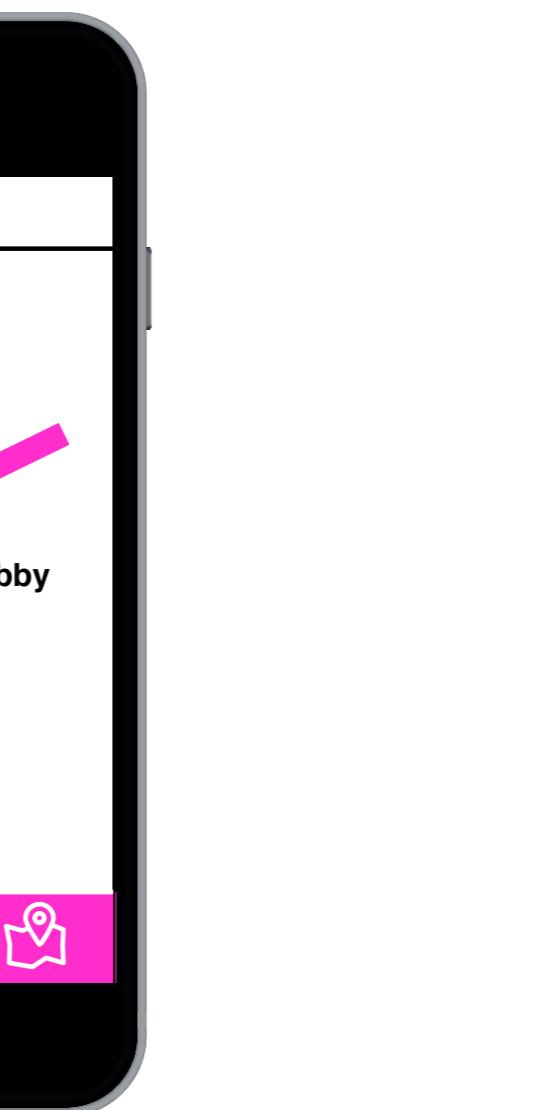
Menu



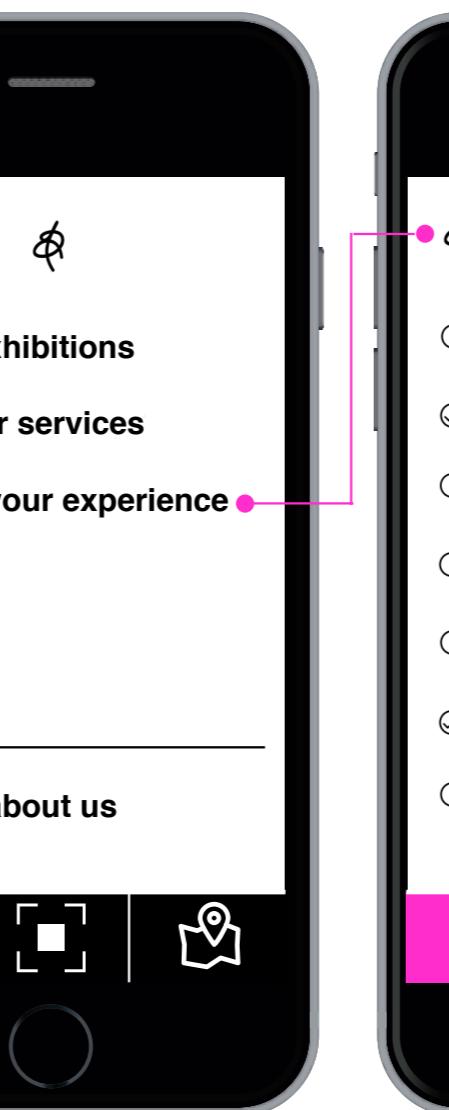
Scan QR Code



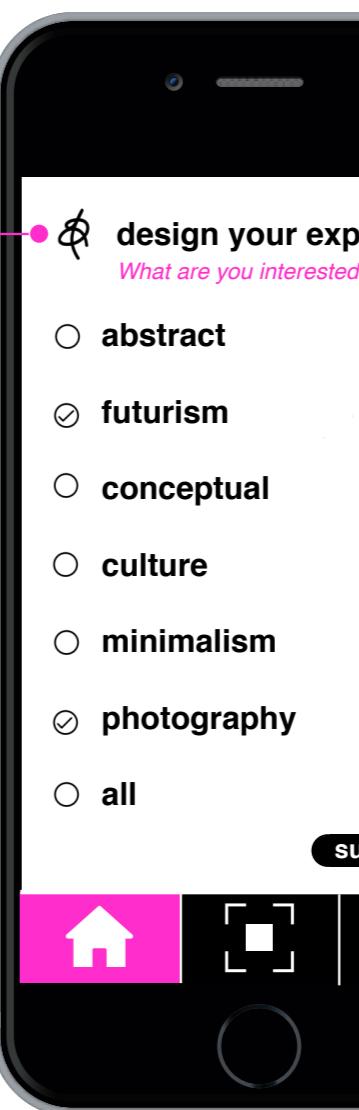
Map



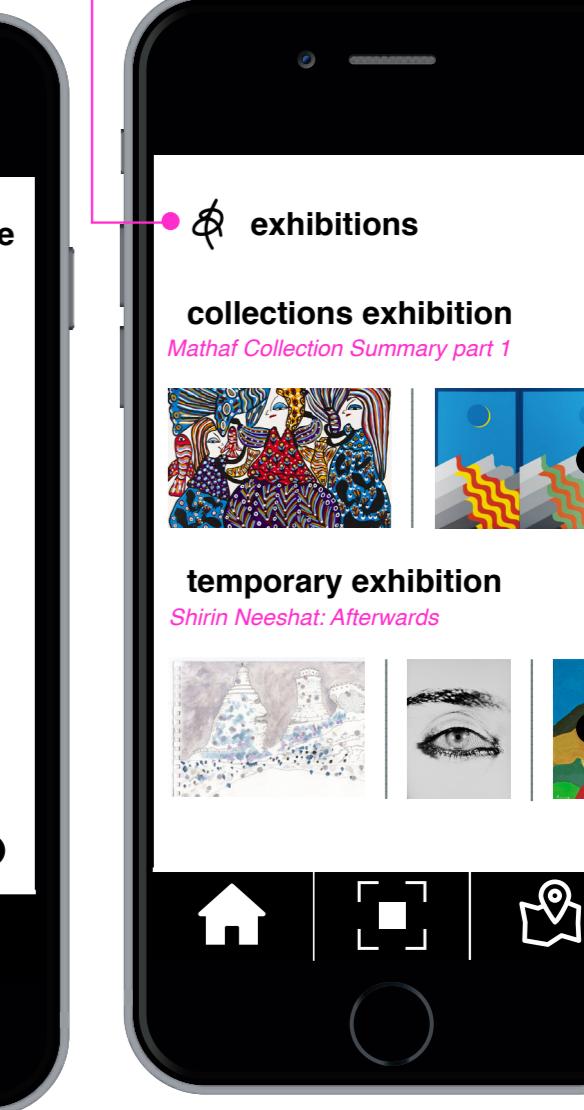
Menu



Design Your Own Experience

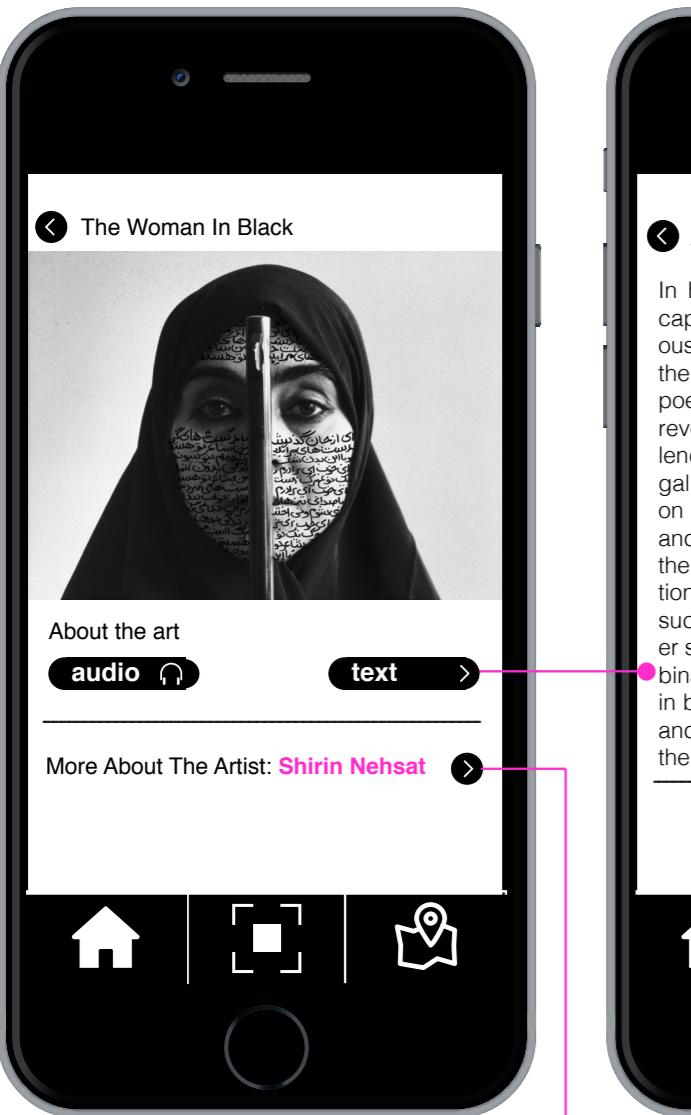


Exhibitions Page

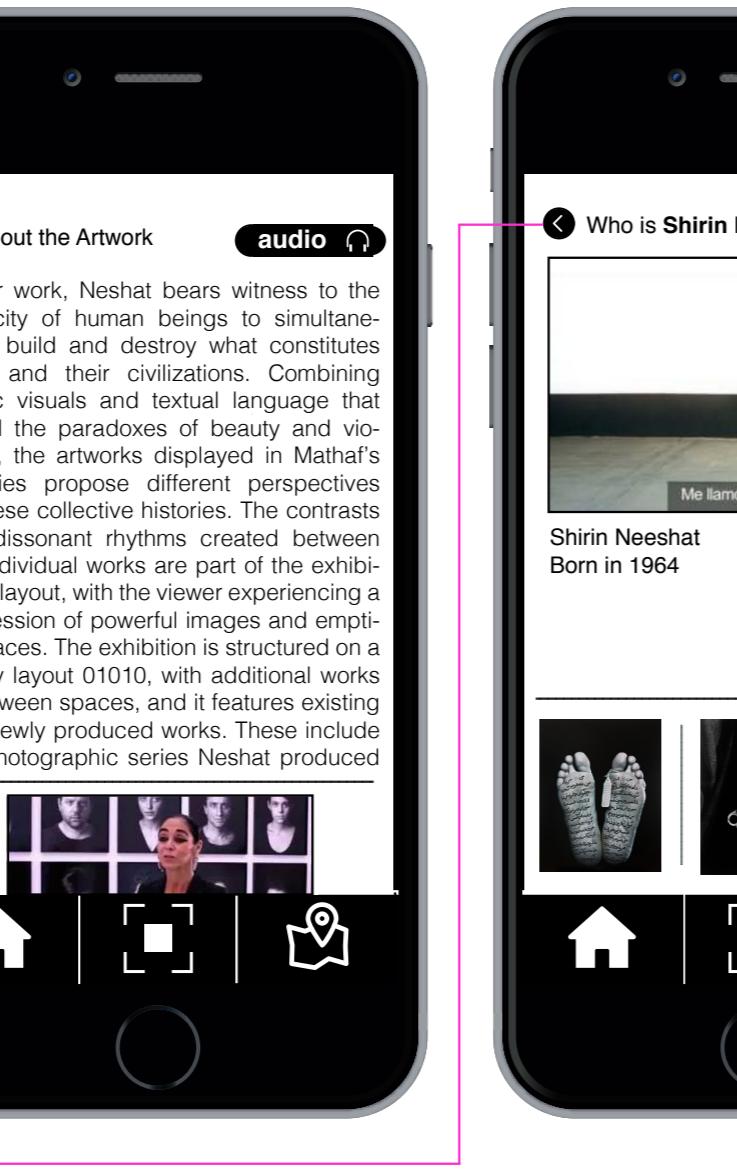


# ART/ARTIST INFORMATION

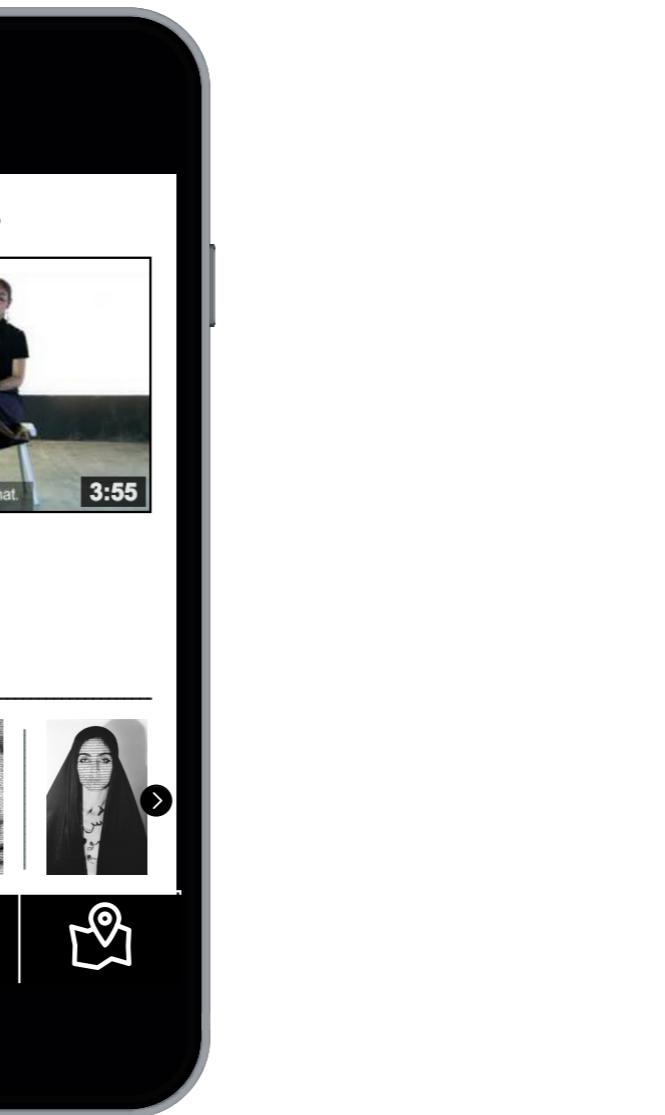
Art Information



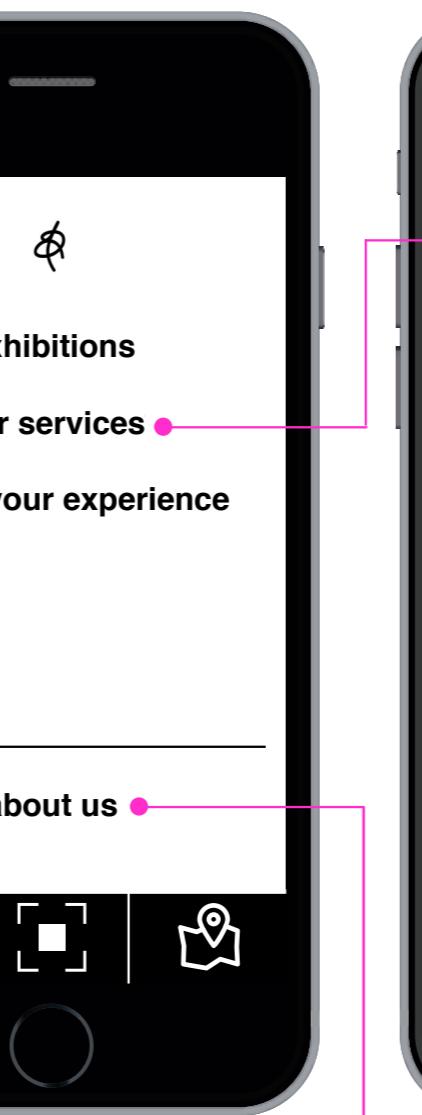
Art Information 2



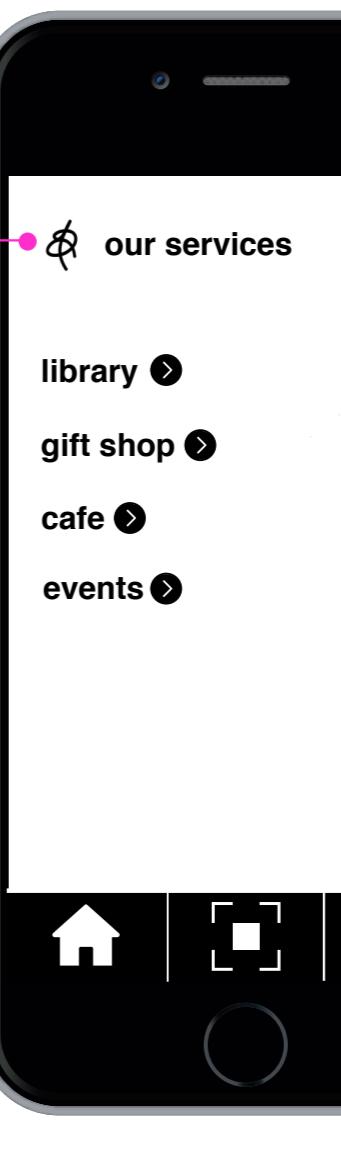
Artist Information



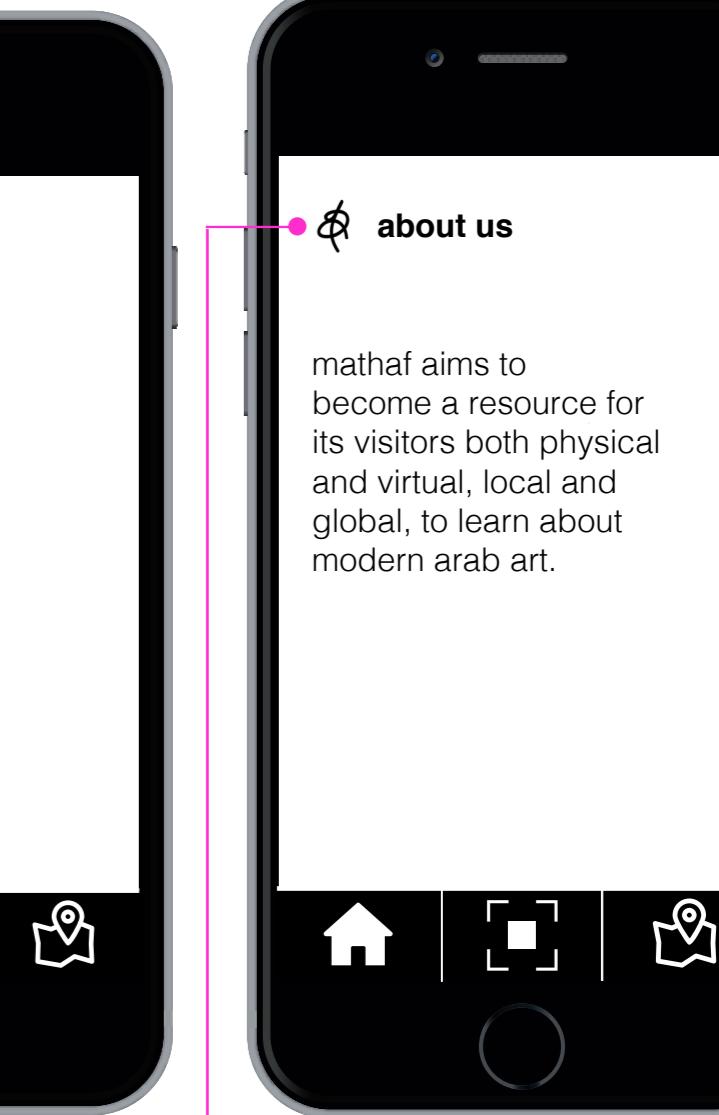
Menu



Services Page



About Us Page





# label redesign

Mathaf will benefit from a label redesign. That is because we noticed from our observations some visitors not noticing the label due to its size. Therefore we are proposing a bigger font for the label's text to make the label clearer to the visitor. Also since we are proposing an application to enrich the visitor's experience; we are adding a barcode to the labels to allow the users to scan the label and view more details about the specified piece of art.

This is the new label design that we propose. We decided to keep Mathaf's theme color of black and white for the text and added the two barcodes for the two languages supported.

**Dia Azzawi (b.1939)**

*Victim's Rose (Tryptich)*

2010

acrylic on canvas

180 x 330cm

ضياء العزاوي ١٩٣٩

زهرة الضحية ثلاثية

٢٠١٠

اكرييليك على قماش

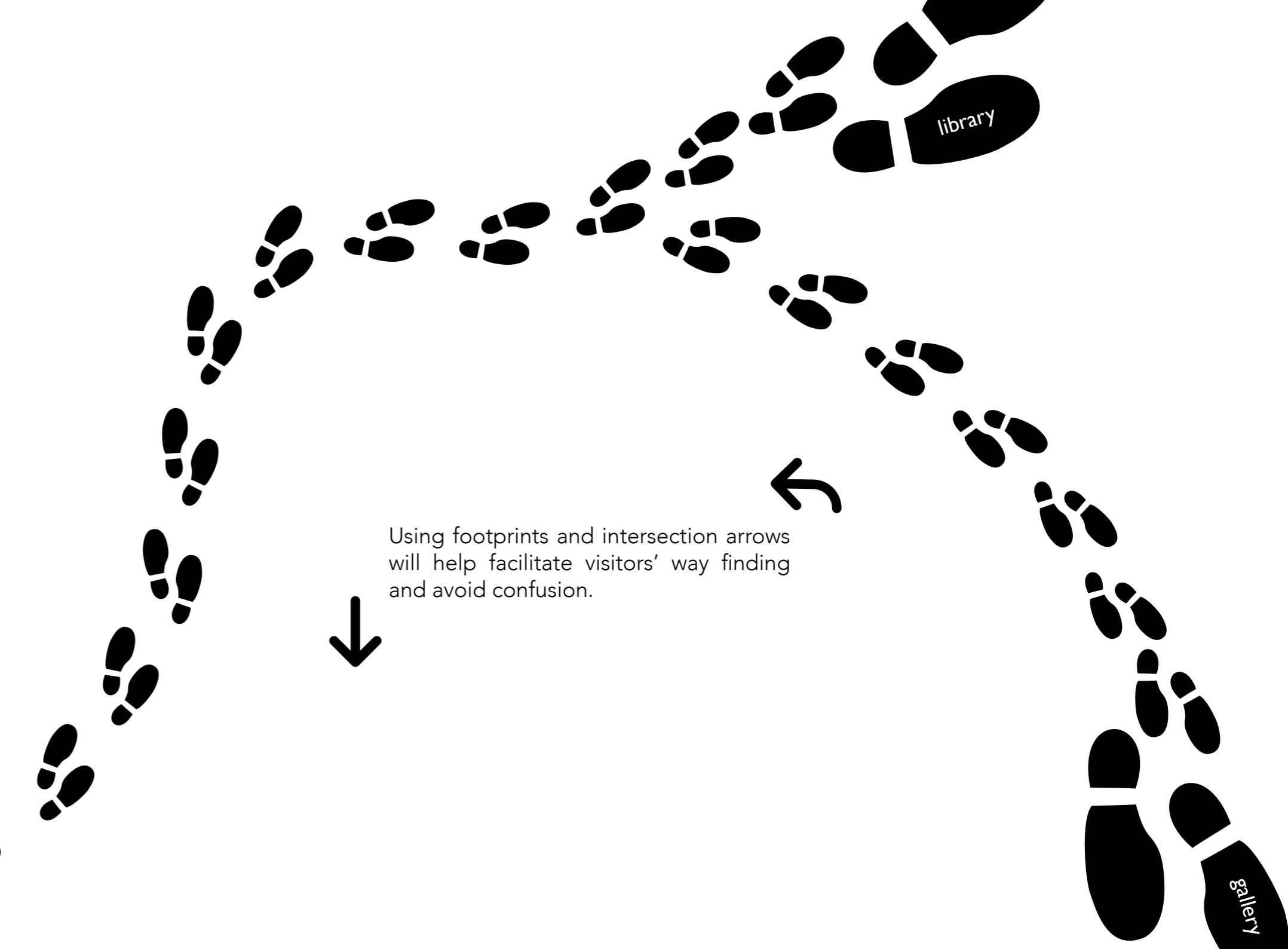
١٨٠ X ٣٣٠ سم





# way finding

We propose that Mathaf uses footprints on the floor to direct the visitors at the museum. The footprints could be labeled according to the different places at Mathaf, such as the reception, cafe, gift shop, library and so on. Mathaf can represent those labels in different ways; either by simply sticking them on the floor, digitally projecting the labels on the floor, or make them sensory and turn on when sensing a person coming near the area. This will help to easily guide the visitors alone through the museum and even familiarise them with the variety of services offered at Mathaf.



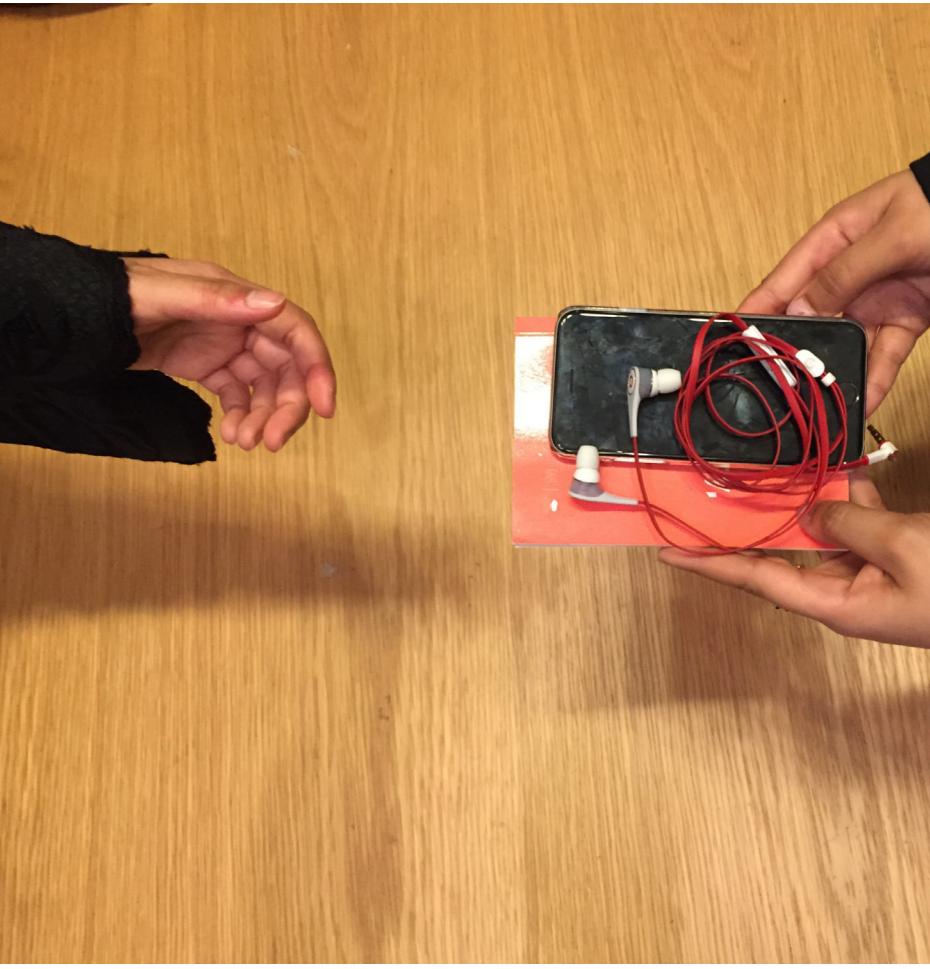
PHASE FIVE

DELIVERY

# delivery process

We did a run through with the delivery process to demonstrate how our proposal will be carried out if implemented. We will demonstrate the process in five main steps. It will start from when the visitors enters the museum till they are accessing the artworks information.

It will cover the three main proposals from way finding, to the label, and then finally accessing the application on their device.

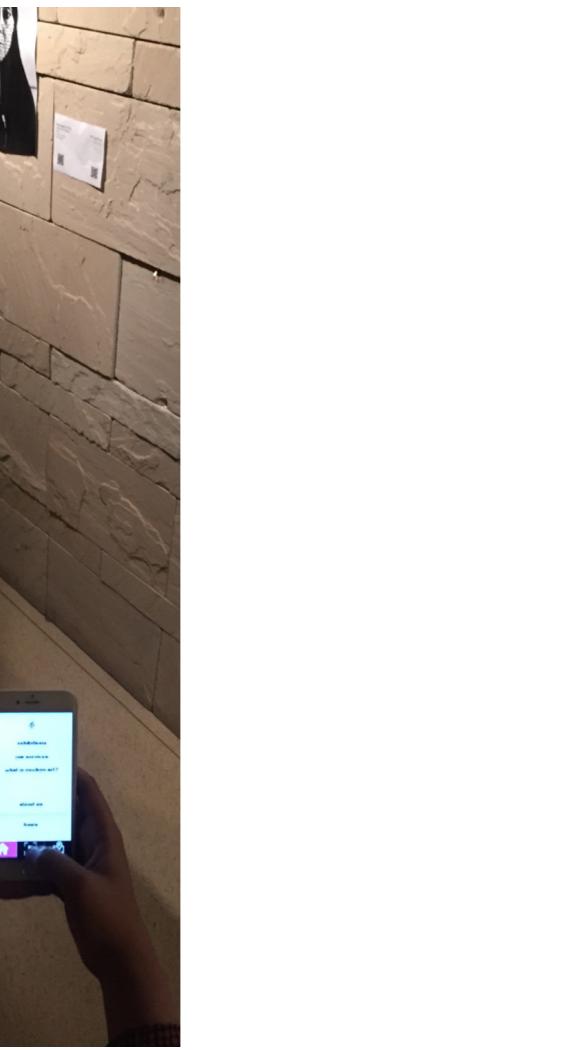


## Step 1

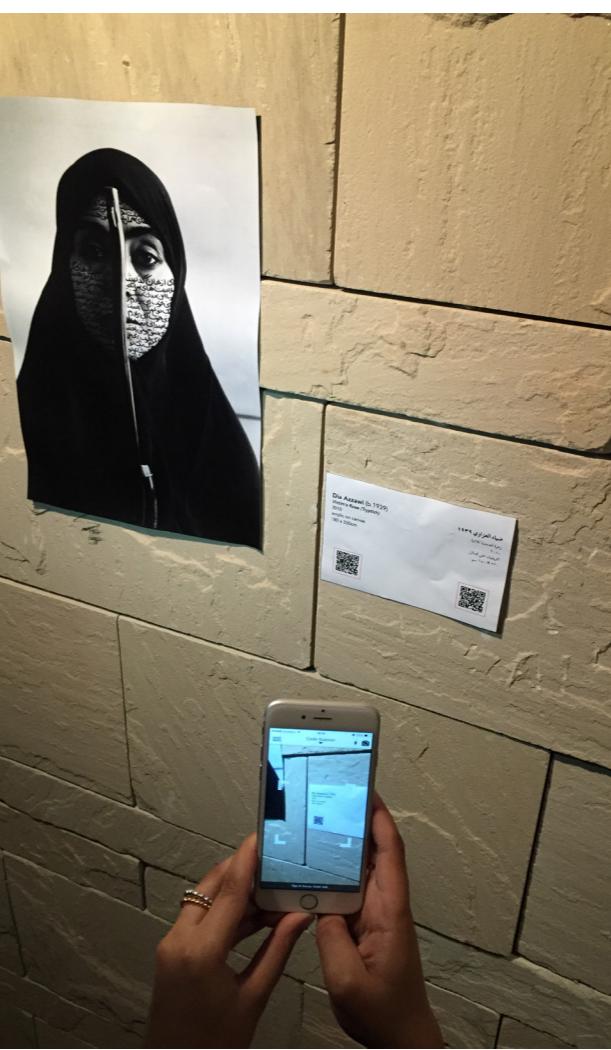
Handing the tools to the visitor:  
Device (App) / Headphones

**Step 2**

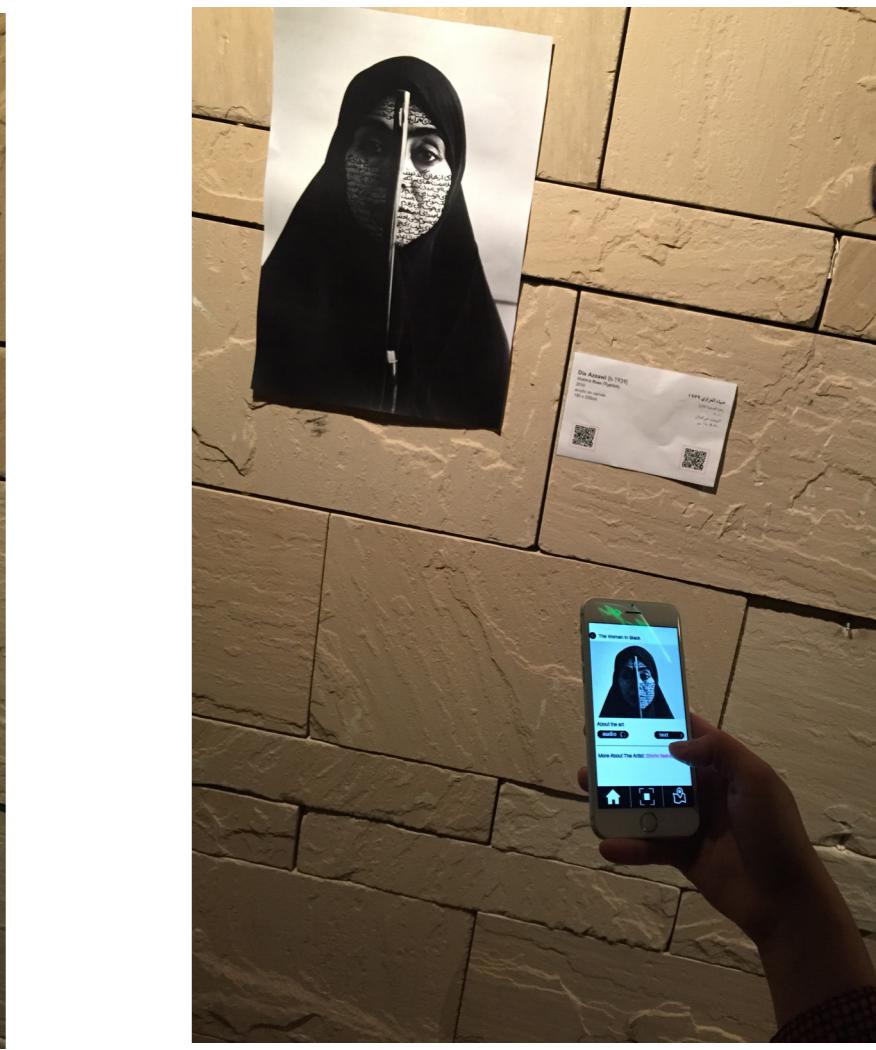
The visitor follows the pathway around the galleries

**Step 3**

The visitor opening the application

**Step 4**

The visitor scans the artwork

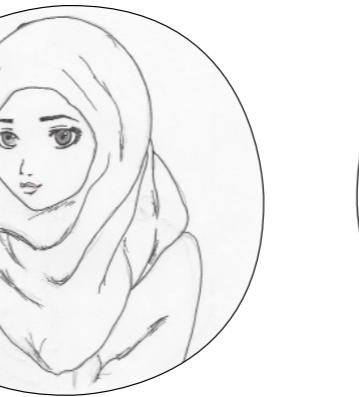
**Step 5**

The visitor finds out more about the artwork

# acknowledgment

We would like to thank our clients Grace Murray and Maral Bedoyan for inspiring us and answering all our questions. Also, we would like to thank our advisor Professor Alex Cheek who has guided us and helped us throughout the whole process.

# e team



# AL-THANI

I am Information  
student at  
Carnegie Mellon  
University in Qatar,  
double minoring in  
Information Systems and  
Administration. My  
current area of interest  
is in Information  
Systems. I also enjoy  
reading and writing  
and drawing.



# HA AL-MISSNEI

is an Information  
ms student at  
egie Mellon  
iversity in Qatar.  
njoys visiting  
ums when she is  
lling and exploring  
cultures. She has  
or in History  
opes to one day  
e a masters in  
n.



NOORA

Noora is an Information systems student at Carnegie Mellon University in Qatar. Her content area is design which allowed her to take various design courses such as Document Design, and Design for Type. Noora enjoys traveling with her family.



RAWAN AL-MA

Rawan is an Informatics Systems student at Carnegie Mellon University in Qatar with a content area in Applied Informatics. She has an interest in the design field and is looking to pursue her masters in the UK.

# APPENDIX

# References

- Fulton, A. (2012, May 22). Robot to Deliver Virtual Museum Tours. *The Sydney Morning Herald*. Retrieved March 21, 2015.
- Hein, G. (2004). John Dewey and Museum Education. *Curator: The Museum Journal*, 413-427. Retrieved March 17, 2015.
- Hein, G. (1998). Introduction. In *Learning in the Museum*. London: Routledge.
- Kelly, B. (2011, January 10). Decoding Art: Delivering interpretation about public artworks to mobiles. Retrieved March 21, 2015.
- Thrun, S., Bennewitz, M., Burgard, W., Cremers, A. B., Dellaert, F., Fox & Schulz, D. (1999). MINERVA: A second-generation museum tour-guide robot. In *Robotics and automation, 1999. Proceedings. 1999 IEEE international conference on* (Vol. 3). IEEE.

# Interview with Qatar Museum Authority

## **What can you tell me about Mathaf Modern Museum of Arab Arts?**

Arab Museum of Modern Art opened in 2010 as part of Qatar Museum Authorities. They opened in Education City in a former school building, which was renovated by the French architect Jean-Francois Bodin. The art collection there was first taken from Sheikh Hassan bin Mohamed bin Ali Al Thani after which the museum started to collect and display artworks from local artist as well as Arab artist from other countries. Although, the museum is small they have a large collection and host many exhibitions by well-known Arab artists.

Mathaf has a lot of potential to grow as a modern museum in Qatar. However, the biggest problem were having with Mathaf is that we are not getting as much visitors as we hoped to get. If you compare it to MIA (Museum of Islamic Art), Mathaf is a much smaller building and it is located far off from Doha and is surrounded by lots of construction. At MIA we get lots of visitors from all over the place not just because of its location or large building but because MIA has a park which many families enjoy coming with their children after a visit in the museum.

### **What suggestions can you give to improve the visitors experience at the museum?**

I think that Mathaf is already doing a good job with the visitor's experience. However, it would be good to have tour guides as an option for the visitors.

If there was a mobile application to help you tour the museum and explain the art work would you use it?

Yes, that sounds like a wonderful idea. You should do one for MIA also! I think that a lot of people will like it.

### **Do you think that visitors of Mathaf Modern Museum of Arab Arts would use it?**

Yes absolutely. What's interesting about modern art is that unlike historical artifacts, the story behind the artwork usually comes from the artist. And while people can make their own stories behind a painting its nice to also know about the artist point of view.

### **What if the application can only be used on a borrowed device from the museum and not on the visitor's personal phone? Do you think that people would still use it?**

Uhm... if you think about it most museums usually provide an audio guide to when you purchase a ticket so I don't see it becoming an issue for people. However, if the application is on the app store I don't see why people can't use their own device.

# **Survey Questions**

### **Is this your first visit to Mathaf: MoMA?**

Out of the 13 people, 61.5% said that it was their first time at the museum. We were able to understand from them the first impression they had when it comes to their experience. The insight we got from them will be better than those who have visited before, and know how to get around.

### **If yes, why haven't you visited, Mathaf before?**

For those 61.5% who said yes to the first question, have equally divided response to why they haven't visited Mathaf before among 3 of the options. The 4 options they were presented with included 'Did not have time', 'Did not know about it', 'Not interested at the time' and 'Other'. No one chose the 'Not interested at the time' option, with 33.3% equally distributed among the other 3 options.

### **Would you visit Mathaf again?**

This question has given us the most insight on the Mathaf experience with 84.6% responded Yes to visiting the Mathaf again. Those who said No and Maybe each have around 7.7% out of the 13 who took the survey. This shows that there is room for improvement for the Mathaf experience.

1. Is this your first visit to Mathaf: MoMA?

Yes

No

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

61.5%

61.5%

38.5%

38.5%

