

Artract

Design Paper

I. Team Members

Name	Department Affiliation	Role
Ari Vogel	Course 6: Electrical Engineering/Computer Science	Developer, Researcher
Dohyun Bae	Course 3: Material Science	UX, Product Manager
Nick Nigam	Course 15: Management Science	Strategy, Project Manager

II. Concept Overview

Interaction with art is generally limited to the physical space in a museum. There currently are no seamless ways to bridge the connection and create interaction after a visiting an exhibition. If a person visits an art museum and sees a piece that resonates with him/her, it is hard to remember that piece weeks or years later.

Our solution is to augment the ephemeral experience of viewing art in a museum by providing a mobile tool that will allow users to save art pieces, which they connect with at a museum, to a digital vault. Not only would this tool allow the user to revisit art pieces in their digital vault, but it would also allow them to document their interaction with such art pieces (by adding photos/annotations), gain new insights about the artist/art piece, connect with users with similar art tastes on the platform, curate a digital gallery of art pieces stored in their vault which they could share using social media, and get notifications/recommendations for other exhibitions they might enjoy based on the art stored in their vault.

We hope to partner with the Museum of Fine Arts in Boston to pilot our app and test its proof of concept.

III. Background Research

The idea for our project stemmed from our class visit to the MFA, where we met with Kristen Gresh, photography curator at the MFA. Kristen gave us insights into the curation process and walked us through the development of an exhibit called "*She Who Tells a Story*". We then carried out museum related experiments where we undertook a brainstorming exercise, and studied spaces, object placement and visitor interactions with exhibits. Through this process we began to ask the questions as to how we could extend the average person's interaction with art to the bring the interest outside of the museum/gallery, and how can we help users remember art they enjoyed, and have a way to interact with it weeks, months or years later? This led to our proposed solution outlined above. However, to validate the idea, we decided to conduct user interviews.

User Interviews

It was important for us to interview many different users to gain a better understanding of the core problems we are addressing and to gain a deeper understanding as to how the users currently interact with art/museum exhibitions. Therefore, we decided to interview over 20 customers at the Museum of Fine Arts, all who are part of our target market by virtue of being museum visitors. We prepared interview questions to make sure we collected similar data for all interviews, but also allowed for more subjective data and anecdotes. We designed our questions to learn more about the problem and pain points, as well as the current solution to this problem. Toward the end of our interviews, we described our solution and asked product specific questions including mobile usage, potential concerns, desired features and more.

Questions Asked

1. How often do you visit museums and art exhibits?
2. What are your demographics and your experiences with art generally?
3. What do you use your smartphone for?
4. How do you find out about exhibitions and how do you decide which to go view?
5. Do you augment your viewing with audio guides, reading blurbs, background reading etc.?
6. How do you keep track of artists or pieces of art you discover at exhibitions?
7. After you visit an exhibition, does your interaction stop there or continue in other ways?
8. Do you purchase art?

We would then describe our solution and proposed features before asking the following:

1. Is this something that would interest you?
2. What features would use / like to see implemented? Are there any you think you would not use?
3. Are there any other features you think would be useful?
4. Any other comments?

Demographics

For all of our interviews, we targeted users visiting the Museum of Fine Arts in Boston, MA on a Sunday. Although we predict our target user to be under 40 and a prolific user of technology and mobile apps, we nevertheless decided to interview across a range of demographics. We spoke to everyone from art/music students in their early twenties, to tourists visiting from abroad, to working professionals in their 20s/30s, to retirees.

Key Findings

From our interviews we learned about the typical interactions users have with exhibits before, during and after visits. Users generally appeared to learn about specific exhibits in three ways:

1. As members of the museum, they receive marketing material as to new exhibits;
2. Friends that have visited an exhibit recommend it to them; or

3. They discovered the exhibit once at the museum by looking at the guide or finding it by exploration. They decided to go to the museum either to see another exhibit (from one of two options above) or purely because they felt like visiting the museum or are regular museum visitors.

Once at an exhibit, users generally wander around in no particular order. They often do not even view every piece in an exhibit. Very few use audio guides to augment their experience but prefer to read the blurbs when they are visually attracted to a certain artwork. For about half of users, their interaction with the artwork stops there.

For the other half, they like to keep track of the artwork to learn out more about the artist/artwork, to recommend it to friends, or as a means of documenting/diarizing their experience (for personal or social media). For these users, current methods of tracking the artwork are either by writing down the artist/artwork name and using google later in the day, or taking a photo (using a camera or smartphone) of both the artwork and blurb to revert to afterwards. After doing further research in their own time after a visit, they often then relegate the entire interaction to memory. A few mentioned that they would store the information found by bookmarking pages on Google, adding notes to a scrapbook like 'Evernote', or simply by recommending it to friends through a medium that gets saved (such as email or Facebook messages etc).

Validation and Identification of Technologies

For users that liked to track artwork and artists, they unanimously believed they would use our solution and in fact were very keen for us to develop it. A few even asked us if they could join our mailing list so that we could notify them of the product once it was available. When asking about which features they would use the most, the two that they valued most were the ability to 'store' artists/artwork in the digital vault, and the ability to get notifications recommending them of further exhibits they might like due to the art they had favorite in the past. These two features will therefore be our core value proposition.

Other features users approved of were the ability to (i) take your own photo of an artwork and store that along with the official page on our app that a user favorites; (ii) create scrapbooks, virtual galleries etc. of visits or curated art from their stored collection, and share such scrapbooks with friends, family and further. These are features we will look to build in after creating the MVP with the two core features outlined above.

Influences

Over the course of the semester we read many papers, and a few of these heavily influenced the way in which we thought about the problem. First was the curation section of *Digital_Humanities*^[2]. In this section of the book, the idea of collections was explored. The primary goal of Artract is to give users the ability to collect the art they have seen and keep track of it. One particular distinction the authors make between collection and curation is that curation, "is to filter, organize, craft, and ultimately, care for a story..." (Burdick 34). This description of curation as caring for a story lead us to further explore the idea of organizing art by museum visit, and giving the users a generated journey overview at the end of a journey, as described later in this paper.

Another influence on the creation of the journey overview comes from Lev Manovich's writing in *The*

Language of New Media. Manovich writes that, “many new media objects do not tell stories... Instead they are a collections of individual items.” (Manovich 218). This helps to understand the intended role of Artrtract. Aside from the journey overview feature which creates a story of a single visit, the goal of Artrtract is to be a personal database for the average museum visitor. Manovich continues by saying that databases and data structures are passive, while algorithms may take this data and tell a story. In our application, this algorithm may be a recommendation engine which helps users find more art they may be interested in, or the user may be the algorithm, and create their own story by curating the art they have stored in their vault.

IV. Project Development and Process

Roles

Given that our team has a diverse set of backgrounds and focus at MIT, we have assigned roles to each member that utilize our various strengths. Ari, who is studying Electrical Engineering/Computer Science, has the developer skills to understand the enabling technologies that will allow our product to work as well as how we can best utilize existing off the shelf solutions. Dohyun is studying Material Science but also has a strong passion for product design and UX. He is therefore best suited to creating the digital prototypes that will be our proof of concept and allow us to test our design ideas and concepts. Nick, who is pursuing an MBA and previously practiced as a lawyer, has the project management and strategy skills to lead the endeavour and understand what will make our solution a viable product that people will want to use.

Development Steps

Development of our mobile solution started with the team taking the time, without each other’s influence, to draw out paper prototypes of how we envisaged various screens of the app would look. We then shared our prototypes with each other and were relieved to discover that our ideas for the app were similar in nature and that we had drawn almost identical layouts for certain screens. We discussed our ideas further and decided to park prototyping until we did more research.

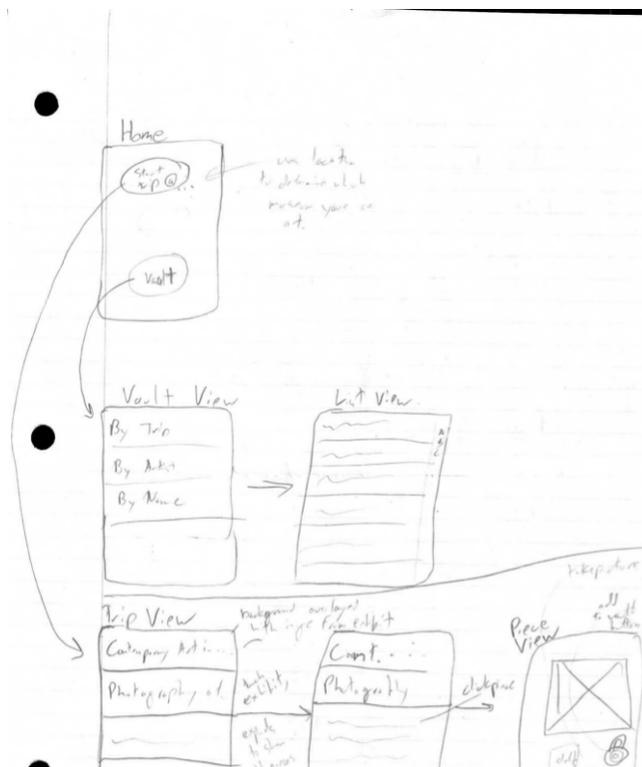
As exploration into pre-existing applications and websites was conducted, two large projects stood out: the Google Art Project and Artsy. The Google Art Project was an undertaking done in partnership with museums around the world with the intent for them “to display more of its diverse heritage online, making it accessible to all.” Many of its features are aimed towards displaying large collections, sorted by each museum, where users can view extremely high quality images. Users are able to zoom in closely, compare two artworks and even curate a gallery of saved works. One feature of the Google Art Project we want Artrtract to be able to do was the ability to recommend other artworks. However, Artrtract’s recommendation would also take into consideration the geographical space, putting an emphasis on recommending other exhibits and pieces that are able to be viewed physically nearby.

Artsy was another project we found with similar ideas. Artsy however focuses upon buying and selling of art, featuring art that is for sale and individual galleries and shows, not those in museums. Artsy does allow the “following” of artists, which is something we want to be able to do with Artrtract. However, ultimately with Artrtract, we want to focus upon making a personal collection for the museum-goer, not those buying art

installations. A combination of this research as well as user interviews at the Museum of Fine Arts allowed us to move on to focus on our digital prototypes.

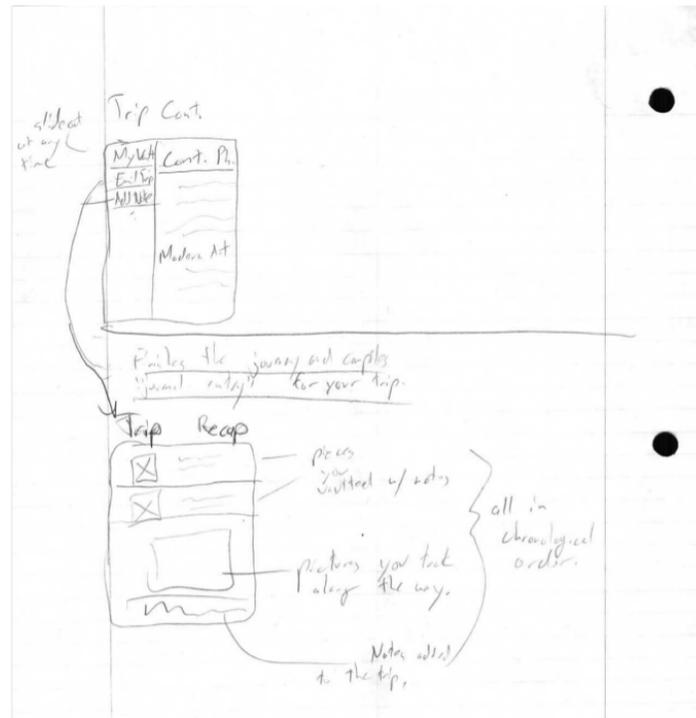
We have become confident about the two core features to focus on with our digital (static) prototypes: (i) the ability to store a piece of art that a user connects with in their digital vault; and (ii) the ability for the user to receive notifications/recommendations of exhibitions based on the pieces stored in their vault. The idea is to make the app as non-intrusive as possible and allow the user to use it as an aid rather than overshadow the physical experience of being in the museum.

After conducting user interviews at the MFA, we gained a better idea of how users would like to interact with an application within the museum. So, with the above insights in mind, multiple rough paper prototypes with screens transitions were created. After evaluating the benefits of these designs, a single paper prototype was created by integrating the best parts of each of these initial prototypes. Below is a scanned copy of this paper prototype. Each screen that the user may interact with is shown, along with how a user may get from one screen to another.



This shows the paper prototype created. The top screen is the home screen of the application. The next row shows how the user will interact with past art by going through their vault, and sorting in a variety of ways. The last row shows the process of using the application in a museum. The first screen shows a list of available exhibits. The user will click into an application he or she is visiting, and a list of art pieces in this exhibit will be expanded as seen in the second screen. Lastly, the user finds the art piece he or she is looking

for and clicks on the title, bringing up the third screen with information about the art piece, and buttons to add notes and archive the art piece.



These two screens show how a user concludes his or her visit to an art museum with Artract. A slide out menu seen in the top screen contains a ‘end journey’ button which then compiles all the interactions the user has had throughout the day into an overview. This gives the user a diary of what the user looked at over the course of the day, along with any pictures he or she took and notes the user may have written about the art pieces.

V. Enabling Technologies

Artract leverages technologies including web servers, web scrapers and recommendation algorithms to create an immersive museum experience for the user. In order to interface with museums, and deliver accurate content to the mobile application, a simple RESTful server will be utilized to store the data about museums, exhibits and art pieces. Each participating museum will be given a URL, to which they can post all data about their exhibits in JSON or XML. JSON and XML were chosen because many software tools can export data in these formats, so this may require little work on the museum’s end to export data from their systems, and send it to our server.

While partnerships with museums to provide the most information possible, we foresee problems with gaining a wide variety of partners to initially launch the application. So, a import.io will be utilized to gain accurate information for a few key museums to give Artract some traction.

In order to create a recommendation system, Artract first needs some data on what users actually like. So, after enough data has been generated by users archiving pieces in the mobile app, a recommendation system

can be implemented to help users discover more art. To get a useful recommendation system running quickly, we will use mortardata (www.mortordata.com), which helps quickly create effective machine learning systems.

VI. Journey Map

The Artract project is ultimately a design project, devising a possible way the app would function as a whole, from the interaction of the artwork, to the user to the application and back. Our team wanted to simplify the interactions for the user, to the two core points mentioned before: storing artwork seen on a journey to a digital vault and to gain recommendations for other art events nearby. By having a simple no-frills interface, museum-goers across generations will be easily able to use Artract.

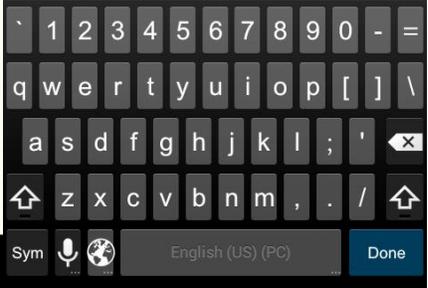
Showcased below are a couple of potential screens on what Artract would look like, and how they would connect. After selecting “Start a Journey” from the main menu, users will be able to choose a gallery or museum they are currently attending, where they then can search up the collection to find the piece they are currently viewing. From there, users can read up more on the artist and piece while also having the ability to add notes, take their own pictures or simply add it to their current journey. This process will continue until the user is finished, at which point Artract will seamlessly make a scrollable diary of their notes and pictures in order of cataloguing for the user to review and save.

If the user wishes to see recommendations from the main menu, recommendations based on aforementioned technologies will be brought up, with location in mind. This allows users to keep up to date on interesting exhibitions nearby as well as expand their art horizon after each and every journey.



Claude Monet
Impression, Sunrise
(1872)

Oscar-Claude Monet (14 Nov. 1840 – 5 Dec 1926) was a founder of French Impressionist painting, and the most consistent and prolific practitioner of the movement's philosophy of expressing one's perceptions before nature, especially as applied to plein-air landscape painting. The term

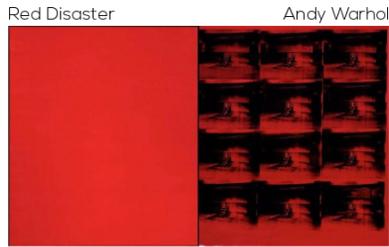


Alfred Sisley



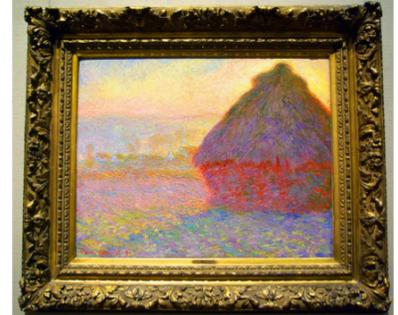
© The Museum of Fine Arts in Boston

MFA Journey: April 29th, 2014



Grainstacks (Sunset) Claude Monet

Grainstacks (Sunset) Claude Monet

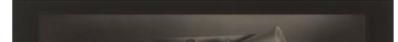


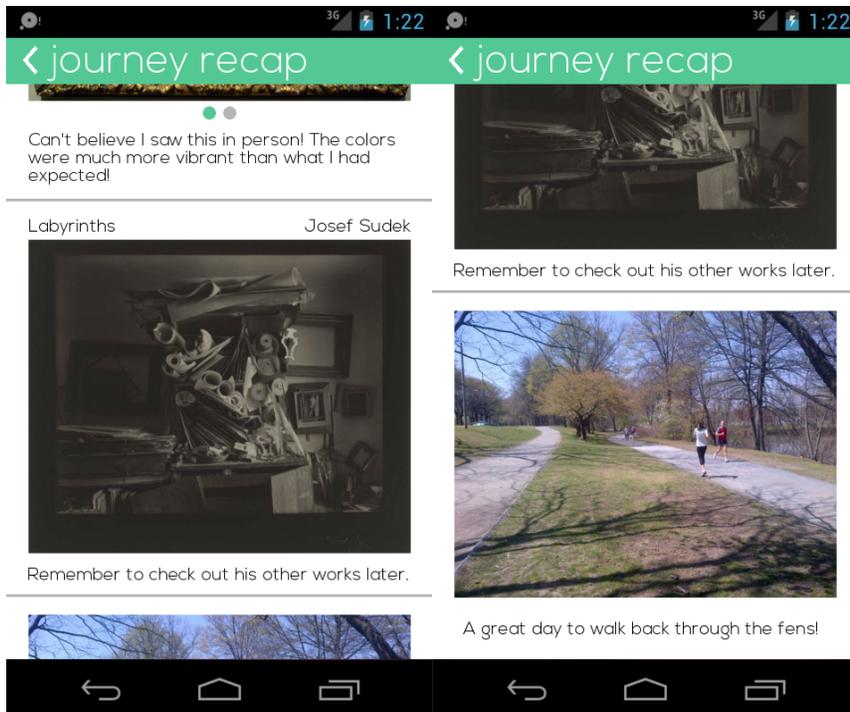
Can't believe I saw this in person! The colors were much more vibrant than what I had expected!

Currently at the ICA:



Labyrinths Josef Sudek





VII. Future Direction

In the first instance, as we have only designed digital prototypes of our solution, we will need to create a beta version of the minimal viable product to actually implement it. Once that is complete, we envisage having the Museum of Fine Arts in Boston pilot our app with a few of its exhibitions. During that pilot, we would work with the MFA so that exhibitions will be preloaded to the app by us.

Following this pilot, if the MFA were to scale the project and include other exhibitions, or if other institutions wanted to utilize our solution, we would need to implement a feature whereby such institution(s) could easily upload exhibition data to the platform. We want this to be as easy a process as possible in order to avoid having to individually partner with institutions. This will allow the solution to have a ‘network effect’ and spread quickly and globally. Therefore, for institutions that are computer literate, we will provide them with the ability to upload exhibit data using JSON. For those that are not, we will provide a web portal interface where they can upload/drag and drop photos of each individual art piece in an exhibit along with a blurb about the artist/art.

We will also begin to include the additional features above the minimal viable product. For example, once we gain user data, we will be able to build a better recommendation engine that can be tuned in house. Moreover, we will begin to offer the solution on multiple platforms and devices.

By this stage, we will not need to establish partnerships with museums. Nevertheless, we will continue to partner with them (i) as a means of marketing the product and gaining additional users; and (ii) to understand what other features might be useful to both sides of the platform. With respect to the latter, to avoid having a bloated product, we will continue to iterate our product and implement such additional features provided there is a large enough demand.

VIII. Works Cited

Burdick, Anne. "Enhanced Critical Curation." *Digital Humanities*. Cambridge, MA: MIT, 2012.
Google Cultural Institute. Google. 2013. (<http://www.google.com/culturalinstitute/about/>)
Manovic, Lev. "The Database." *The Language of New Media*. Cambridge, MA: MIT, 2002. 218-43

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