RijksViz

Team Members:

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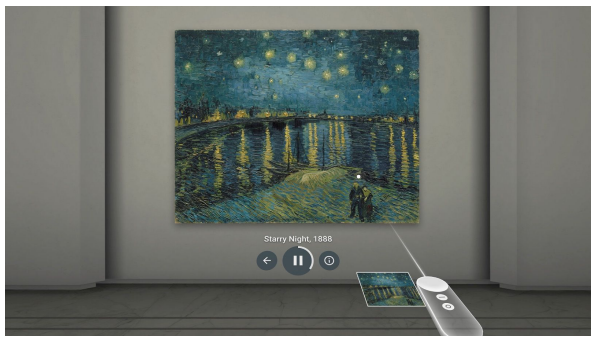
Repository: https://github.com/Bierro/rijksviz

Background and Motivation:

Art is of immeasurable cultural value to society. We are inspired by the recent trend of the digitization of art, spearheaded by such initiatives such as Google Arts and Culture, and hope to utilize this newfound information to dream up novel visualizations for a modern audience.



Furthermore, there have been recent attacks on the institution of art, evidenced by the proposed wholesale deprecation of funding to the National Endowment for the Arts and Humanities, and other similar organizations, by President Trump.

Project Objectives:

Provide the primary questions you are trying to answer with your visualization. What would you like to learn and accomplish? List the benefits.

- What does a collection of paintings tells us about the museum?
- What does the aggregation of metadata about paintings tells us about the whole collection?
- Can data from paintings of one specific painter tell us something about this painter's life and style?

- Is there a way to explore a collection in a more creative and interactive way than anything that has been done previously?
- Can these visualizations provide value to a user before their visit or even an incentive for users to visit who had not originally intended to?
- Can these visualizations add value to a user's museum experience either during or after their visit?

Data:

We plan to use the Rijksmuseum API (https://www.rijksmuseum.nl/en/api). This JSON-based service will provide us with access to nearly 600,000 unique art pieces and their characteristics including, but not limited to, dimensions, materials, artist, date created, and style.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    {
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        "web": "https://www.rijksmuseum.nl/en/collection/SK-A-4050"
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      "hasImage": true,
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```


Data Processing:

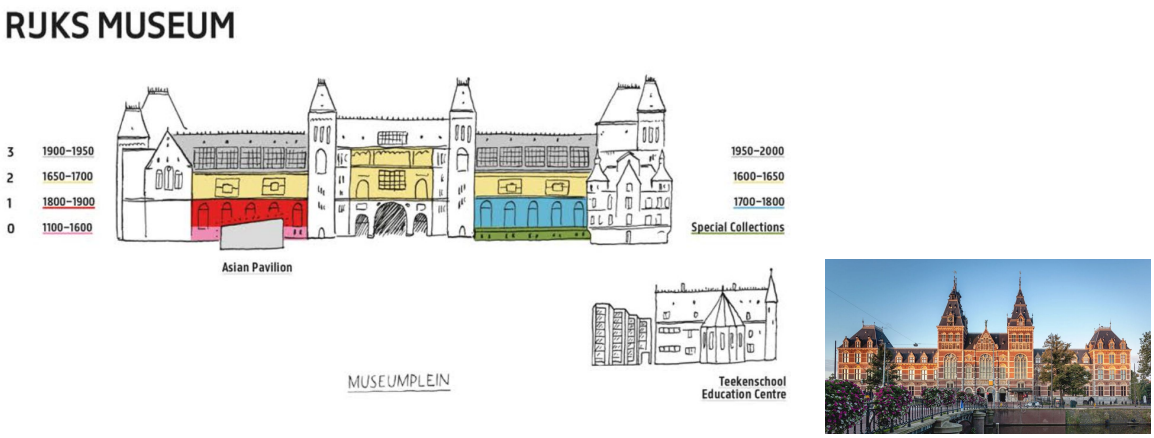
From our first experiments with the RijskMuseum API, it doesn't seem like the data they provide needs to be extensively cleaned. According to what we want to show exactly, we might however decide to reduce the data we would use to subsets of what the API can provide, to focus for example on painting only, on a specific artist, or on a specific era.

Another rich source of data lies in the web images of the collection pieces themselves. We then might break down the images (available in links provided in the JSON) pixel by pixel to study the color used in a composition.

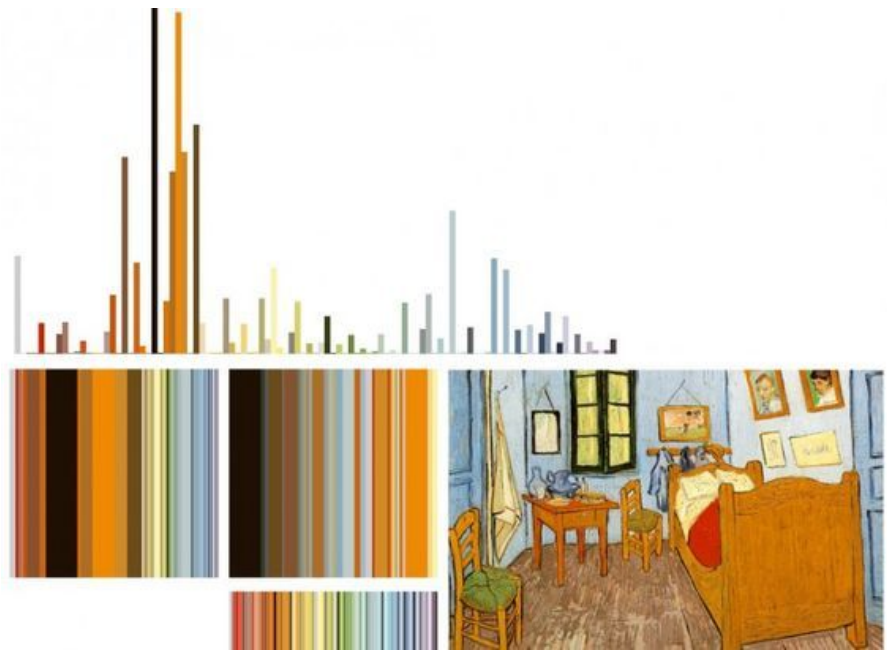
Visualization Design Features:

We have discussed a variety of approaches and listed a few of our more promising ideas:

1. We will start with a brief introduction of the museum. Wikipedia lists the number of visitors the museum has hosted over the last 20+ years. Users could also potentially explore different wings of the museum and could be directed there by clicking on different portions of an image of the museum.

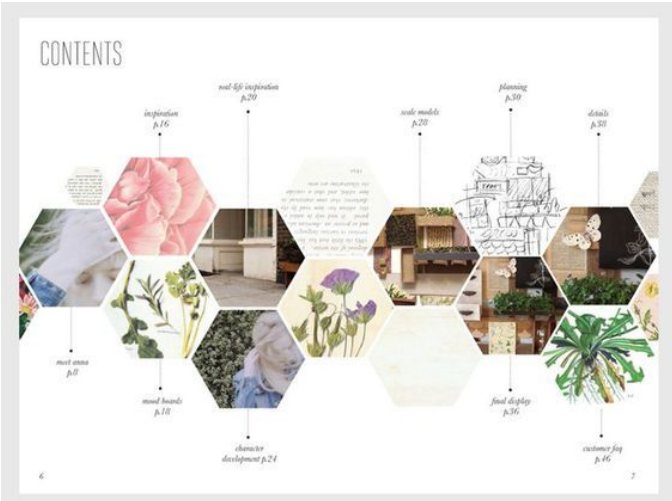


2. *Interactive color wheels.* Inspired by "Colors in Art" (http://gianordoli.com/projects.html#colors-in-art), a project created by the information designer Gabriel Gianordoli, we discussed featuring a color wheel made up of all of the colors present in the Rijksmuseum art pieces that we chose to focus on. (We would create these color wheels by analyzing the color of each individual pixel in the JPEG.)

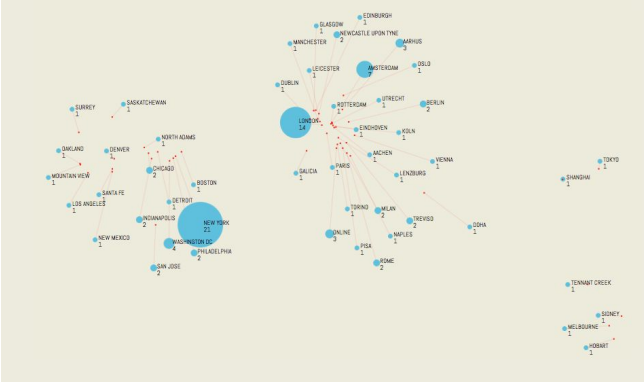


Upon hovering over a portion of the wheel, we would present an image of the art dominated by that color. This would empower users to explore the art. We could also reveal color scheme differences across different groups of artwork. For example, we could show different color wheels for different artists, time periods, or artistic styles. We also are talking about presenting the colors in creative ways beyond color wheels, like animated diamond clusters.

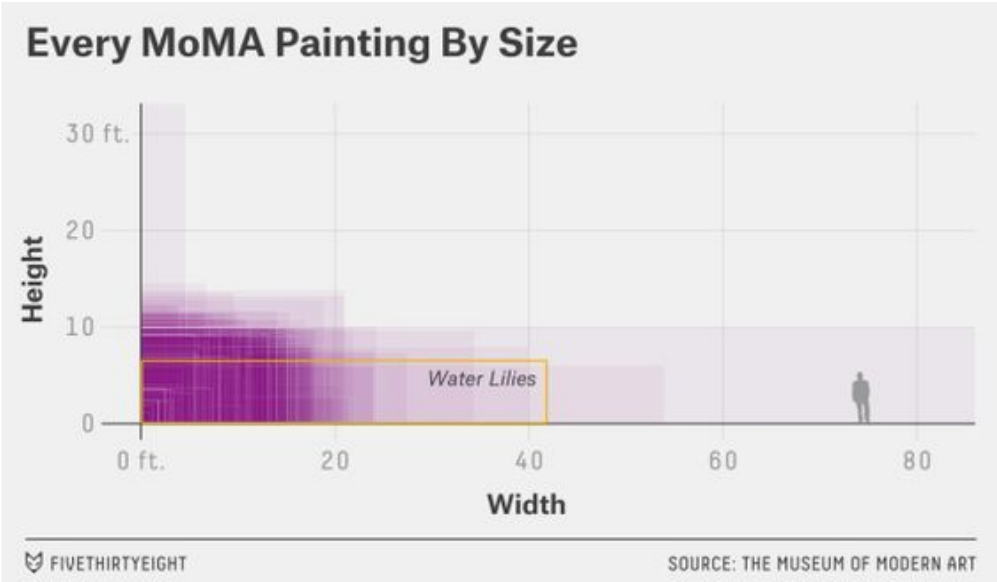
3. *Timeline of artist's work.* To explore how the work of an artist can evolve or change over time, it could be illuminating to order their work in chronologically. Continuing with the color exploration methods discussed above, we could display the art from different years based on gradient rectangles of the colors used. Stark differences in color schemes could be an interesting way to identify turning points in the artist's life.



4. *Connected graph based on keywords.* It may be interesting to show connections between artists and art pieces based on themes identified in the API's provided keywords.



5. *Artwork dimensions.* A simple graph with an x-axis representing width and a y-axis representing height could show trends in artwork size and interesting outliers, as FiveThirtyEight did for the MoMA.

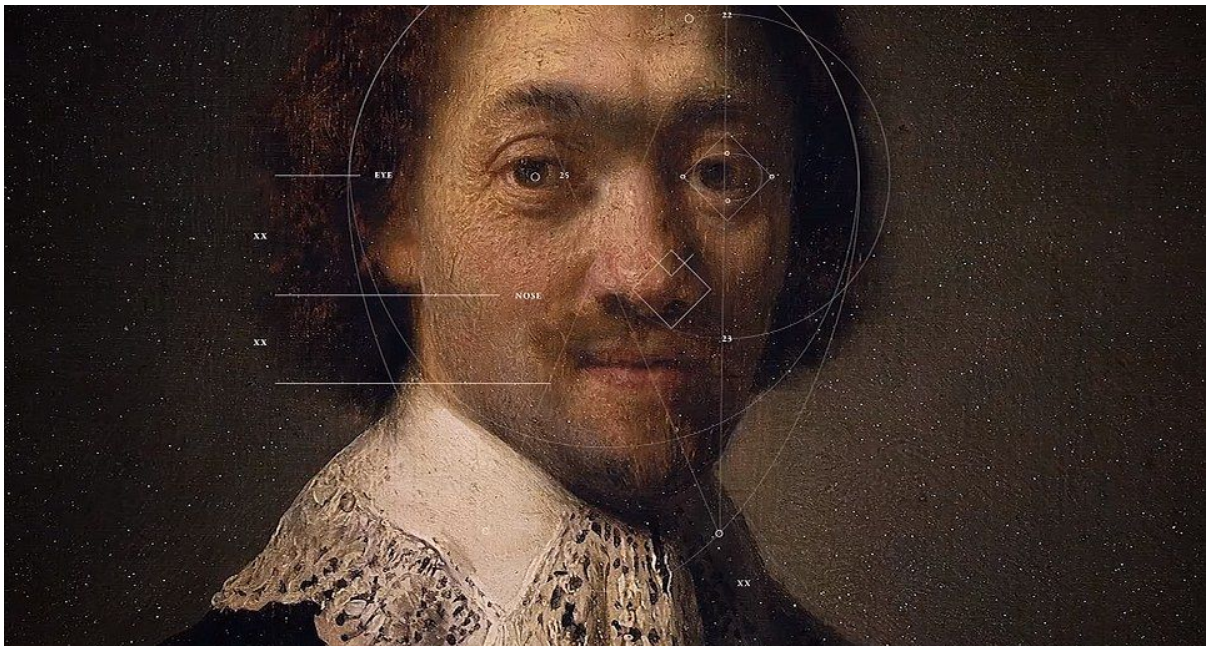


We would ensure both axes were scaled in the same way, so ratios would be consistent with the real paintings. We also discussed incorporating color in addition to capacity, to provide another dimension.

Possible Features:

1. We are interested in exploring facial recognition in the museum's paintings. We were inspired by a project that examined the entire collection of Rembrandt's work and used machine learning algorithms to analyze the contents of each painting pixel by pixel. (https://www.nextrembrandt.com/). This data was then used to create "The Next Rembrandt." While we wouldn't hope to create something at this level, perhaps simply using facial recognition to identify people's faces in the museum's collection would be a desirable capability. The data

could be presented as a collection of these cropped faces. Collecting them by era could be an interesting approach.



2. These visualizations don't have to be limited to one museum. We could explore ways to clean the data of other museums to make their pieces compatible, too. *[Noted after class presentation: Adam recommends looking into Art Tracks, a project by the Carnegie Museum of Art that uses a different approach to reach similar goals (http://www.museumprovenance.org/pages/team/).]*

Project Schedule:

Date	Due
Wed, March 29th	Revised Sketches and Feature List
Wed, April 5th	Initial Page/View (single) Build
Mon, April 10th	Revised Single Web Page (Project Milestone)
Mon, April 24th	Multiple Page/View Build
Wed, May 3rd	Final Project