

Vasari Timeline

Cultural Data Sculpting - EPFL - eM+ lab for experimental Museology

Final report

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1. Summary

Giorgio Vasari (30 July 1511 – 27 June 1574) was an Italian painter, architect, engineer, writer, and historian, best known for his "Lives of the Most Excellent Painters, Sculptors, and Architects", often simply known as "The Lives" (Italian: "Le Vite"). This work is considered the ideological foundation of art-historical writing, and basis for the biographies of several Renaissance artists including Leonardo da Vinci, Michelangelo and Raffael. Jules Michelet suggested for the first time the term Renaissance (1835), based on Vasari's text about Giotto's new manner of painting, a term adopted by historiography and still in use today.¹ "The Lives" is considered "perhaps the most famous, and even today the most-read work of the older literature of art", "some of the Italian Renaissance's most influential writing on art", and "the first important book on art history".^{2 3}

The goal of this project was to make Vasari's milestone in modern art history visually accessible with an easy-to-use interface, based on information provided by Wikipedia linked with open access artwork databases. The main feature of the interface is the chronological order of artists along a z-axis timeline in a 3D space. At the end, the user should experience a guided visual tour through the Italian Renaissance artist landscape curated by Giorgio Vasari.

¹ Wikipedia contributors, "Giorgio Vasari," Wikipedia, The Free Encyclopedia.

² Wikipedia contributors, "Lives of the Most Excellent Painters, Sculptors, and Architects," Wikipedia, The Free Encyclopedia.

³ This short description of Giorgio Vasari, his work and historical impact as it is written on Wikipedia is not only providing information about the topic of this visualisation project, it also illustrates the value of information extracted from Wikipedia.

2. Introduction to the archive chosen

The project was realised with the usage of three online databases, accessible via APIs and CSV file downloads. The baseline list of artists was provided by the Wikipedia article about "The Lives". The additional first and second layer of data described above was extracted from Wikidata. The third layer containing the artworks was served by the Metropolitan Museum of Art collection (MET) and the Rijksmuseum.

2.1. Wikipedia / Wikidata

The english Wikipedia contains an exclusive article about the "Lives" including the list of the 292 artist biographies in the original content table, all together embedded in Wikipedia syntax, providing links to their corresponding Wikidata items. From the Wiki- data database, artist's name, birth and death were extracted via API, together with the article summaries, thumbnails and URLs. The Wikidata / Wikipedia database is especially useful due to its relational database interconnectivity widely used by external databases.⁴

2.2. Metropolitan Museum of Art collection (MET)

The Metropolitan Museum of Art Open Access CSV is stored and weekly updated on GitHub. The select datasets of information for unrestricted commercial and noncommercial use in CSV-format contains 475.777 artwork rows x 54 metadata columns, including a column "Artist Wikidata URL", linking to the Wikidata items collected from Wikidata. The matching result of mapping the Wikidata items to the MET collection CSV-file delivered 1097 image URLs for MET collection open access items, mostly images of artworks.⁵

⁴ Wikipedia contributors, "Lives of the Most Excellent Painters, Sculptors, and Architects," Wikipedia, The Free Encyclopedia.

⁵ METROPOLITAN MUSEUM OF ART, The Metropolitan Museum of Art Open Access CSV, GitHub repository.

2.3. Rijksmuseum

The Rijksmuseum data service "RIJKS DATA" provides access to object metadata, bibliographic data and controlled vocabularies via API or in CSV-file format to download.⁶

For this project, the CSV-file format was sufficient and included the necessary data, namely the object number and persistent identifier, as well as creator and image URL (if available) for each object.

3. Introduction to the data visualization intention

During history classes in primary and secondary school, I developed a passion for timelines and historical narratives displayed in chronological order.

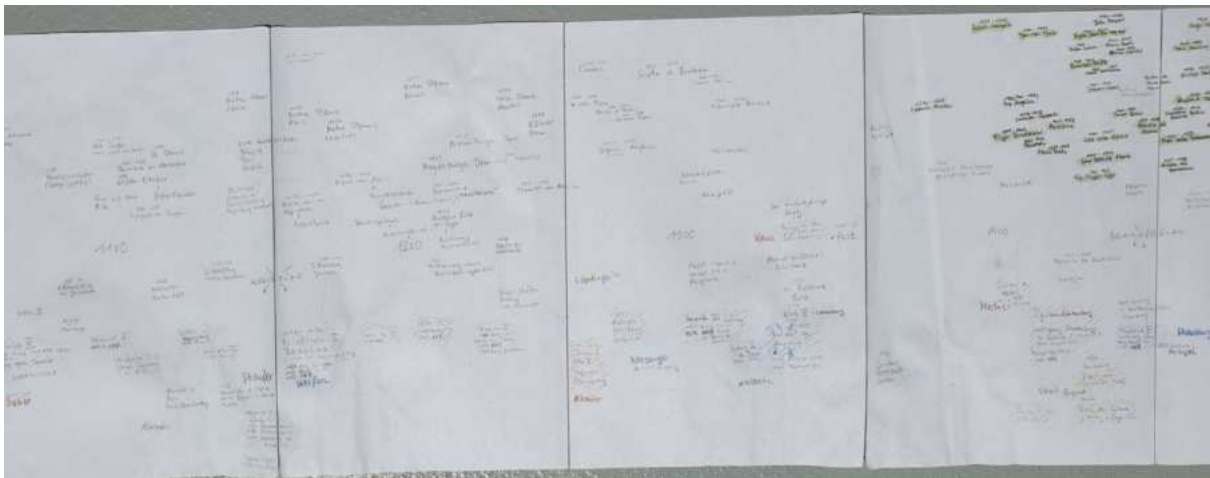


Figure 1: Manually pencil-drawn timeline for memorising and general orientation in the narrative of history

Since joining university in the field of art history, the value of visual information chronologically ordered has increased significantly. Figure 1 shows one of the numerous manually drawn timelines along Bachelor class topics, which I made for memorising and orientation purposes. History of art can be seen as an ongoing evolution, happening in a chronological order of events, inventions, artists, scholars and masterpieces, just to name a

⁶ Rijksmuseum, Download - RijksData with Rijksmuseum data services.

few of the endless list of components. This structure is important, since future events cannot influence past events. It is a key aspect of historical research, and is easier to appreciate when information is presented in its consecutive order.

In summary, the timeline-visualisation should provide easy-to-use access to information chronologically ordered, combined with a pleasant display of artworks, so that the evolution of art in northern Italy from the middle ages to Renaissance could be experienced as a visual tour in 3D space curated by Giorgio Vasari. The main goal is to visualize the timespan covered in Vasari's "Lives", namely from 1240 till 1600, to make the evolution of paintings tangible. It also serves as an example of using virtual spaces to uncover patterns and arrangements in art history datasets, in this instance spatialisation of time series data on a linear axis.

4. Concept map and sketches

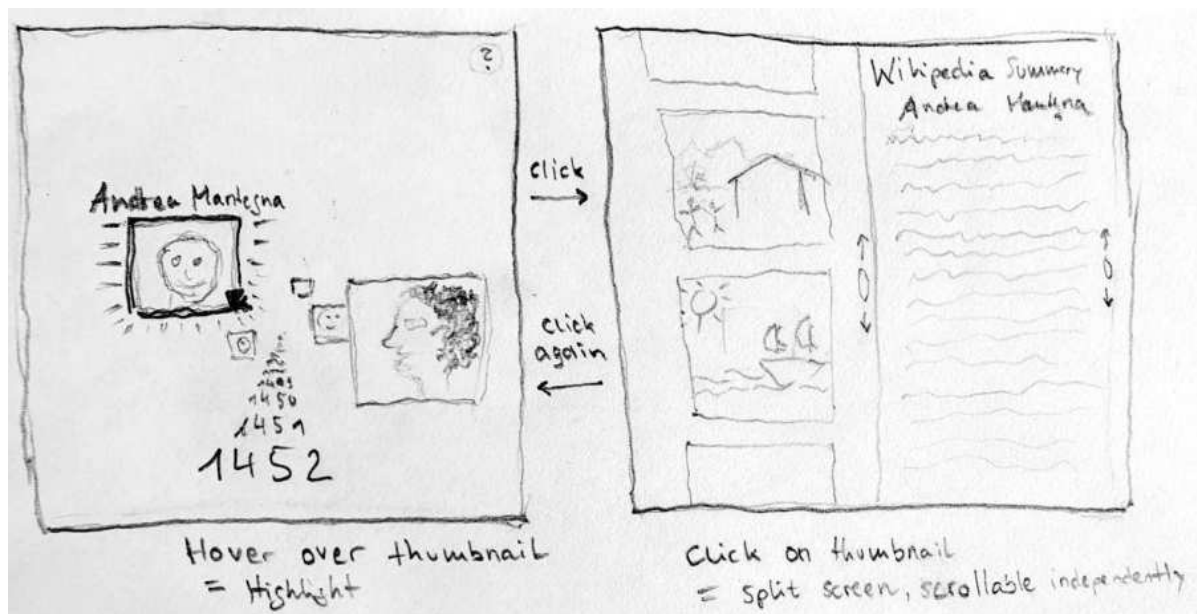


Figure 2: First draft of the Vasari timeline visualisation

Figure 2 shows a first draft of the layout and the intended easy-to-use navigation. The scrolling through time applies along the z-axis, while the x- and y-axis remain stable and provoke the experience of diving through time. The timeline space contains a thumbnail representation per artist accordingly placed along the timeline depending on the artist's lifespan. By clicking on the artist's thumbnail, some basic life data and summarised, readable information about the artists appear together with the aggregated artist's artworks.

The final visualisation was slightly refined by dividing the right screen of figure 2 into two separate layers. Displaying artworks and Wikipedia summary in parallel did not provide additional value and was therefore resigned. The clear focus on reading the summary or looking at artworks also supports intuitive usability.

5. Intended audience

The potential target audience is diverse and includes art historians and non-art historians⁷. On the one hand, it might be interesting for art historians and Vasari experts to explore Giorgio Vasari's selection of artists in a new way. For this group of users, the fact that the artworks themselves are not selected by their fame or importance, but by their availability in the Rijksmuseum and MET collection datasets is significant. This yields a data driven collection of artworks not following a coherent curation besides the selection of artists by Vasari. Clicking on the icon of Michelangelo, for instance, is showing a row of drawings and sketches normally unseen while searching for artworks made by Michelangelo.

On the other hand, the timeline could be a useful tool to orient yourself in Vasari's art historiography, regardless of the level of knowledge. It might even provide a pleasant visual diving through art history experience for people not yet deeply interested in art.

⁷ In all honesty - the intended audience is myself.

6. Visual storyboard

I focused on intuitive navigation and therefore the complexity has to be reduced to three layers, accessible via the three elementary navigation functions “scroll”, “hover over” and “click”. The three layers are the following: the timeline screen, artist basic information and the artwork screen.

The initial position of the user in the timeline (Figure 3) is at the beginning, namely the year 1242. At the starting point, no additional information gets displayed. By scrolling, the user will discover the movement through time along the z-axis immediately. While hovering over the question mark symbol on the upper right, a small description box appears (Figure 4). While hovering over an artist thumbnail, the information “name (birth - death)” gets displayed on the upper left corner, together with the Wikipedia summary in the foreground, while blurring the background (Figure 5).

A click (double-click or right click) leads to the artworks, which appear in a row, scrollable along the y-axis. Another click will return to the timeline. For maximising the intuitive navigation, right-click or double click produce the same results.

The navigation was adapted for touchscreens and the click-operation replaced with swipe-operations. Following the same procedure, the direction of swiping doesn't matter, the result is the same: switching between timeline and artwork screen.



Figure 3: Default starting point of the Vasari Timeline, on the upper left the actual position in the timeline is shown, “name (birth-death)” is missing (0 - 0), cause no artist is on focus yet



Figure 4: Hovering over “?” icon displays project description and navigation



Figure 5: Hovering over an artist thumbnail displays name (birth-death) on the upper left and the corresponding Wikipedia summary on the right, the rest gets blurred

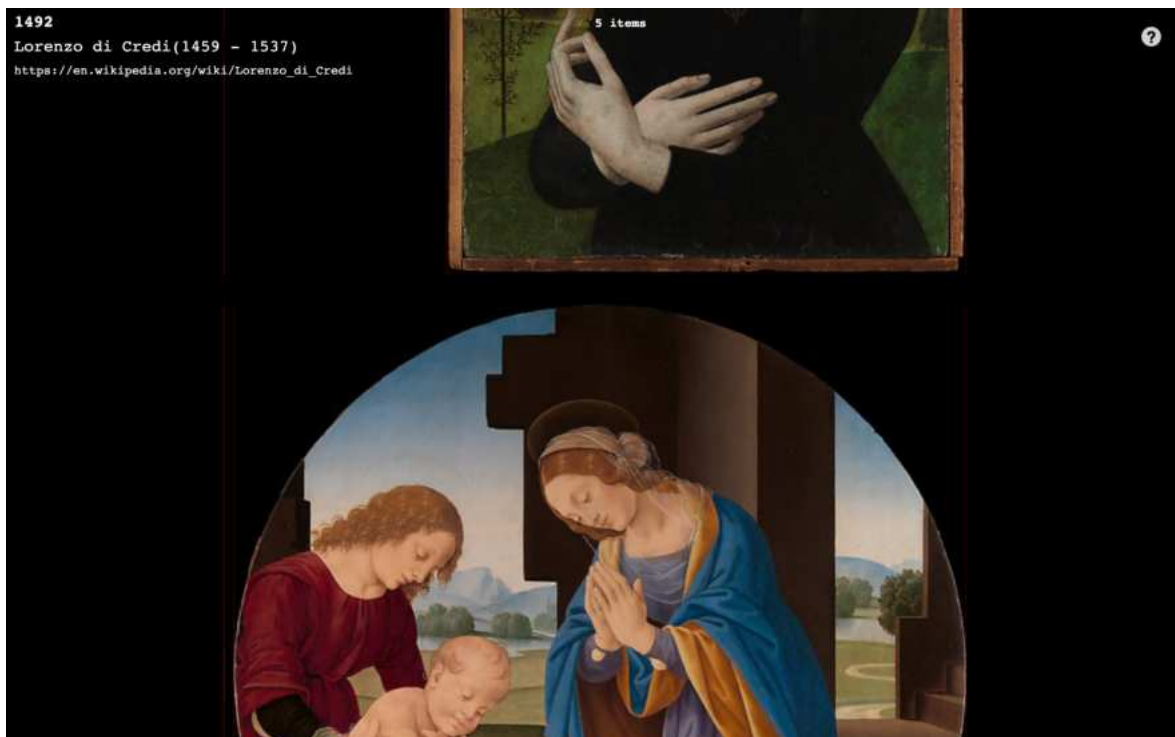


Figure 6: Right-click or double-click lead to the artworks and back to the timeline (equivalent for touchscreens: swipe up or down or left or right), scrollable along the y-axis, the number of artworks displayed on top.

7. Technical processing / harvesting of data

As already described in chapter 2 about the archives chosen, the Wikipedia article of “The Lives” provided Vasari’s full list of 292 artist biographies as it is equal to the table of content of “The Lives”. From this perfect starting point, the links to the Wikipedia articles of each artist could be extracted, together with the corresponding Wikidata items and their unique Wikipedia identifier (Q-ID). In total, Wikipedia provided the summaries, the link to the Wikipedia article, the artist names and life dates.

With the Wikidata items, the search for the artists as creators of artworks in the MET collection was easy to achieve, because the MET csv file contains a column also linking to the Wikipedia articles. As a result, 1097 matching artworks were downloaded from the MET collection.

For the Rijksmuseum collection, the search for the artists was done manually by searching for the artist names and selecting the results. As a result, 190 artwork images were downloaded from the Rijksmuseum collection.

All data extraction steps were done with the Python library BeautifulSoup. For processing the images, the Python library PIL was used. The notebooks made for this task are available at the project’s GitHub repository.⁸

The images collected were uploaded to Cloudinary, for easy accessibility and adjustments via the Cloudinary API.⁹

⁸ Anna_S0phia, Cultural_Data_Sculpting, GitHub repository, https://github.com/Anna-S0phia/Cultural_Data_Sculpting.

⁹ Cloudinary: provides cloud-based image and video management services. It enables users to upload, store, manage, manipulate, and deliver images and video for websites and apps

8. Cables software description of features used

After harvesting all data needed and adding the clouldinary image URLs, the complete dataset was stored in a single metadata json file and accessed in Cables via the AjaxRequest-Op.

The next step in cables was the declaration of a 3D space, where the z-axis is scrollable and represents the timeline. The artist icons were arranged along the timeline. The artist z-position was defined by $(\text{birth} + \text{death}) / 2$ and the x- and y-position randomly assigned in between the border of a limited tunnel.

To make the artist's thumbnails reacting on cursor contact and clickable in 3D was done with the CastRay Op. The CastRay Op delivers the state “hit by cursor” = false/true and the index of the item which got hit by cursor. With this index, the metadata could be extracted from the metadata array.

The stable elements, like the help sign on the upper right, name(birth-death) on the upper left and the Wikipedia summaries were implemented with Div-Ops, which takes HTML code with adjustable CSS parameters as inputs.

9. Further Development

The project goal was to make Vasari’s milestone of modern art history visually accessible by displaying the artists listed by Vasari in 3D space along a timeline, in company with textual basic information about the artists and images of their artworks.

Due to the scope of this semester project, several features were not implemented, even though their value is obvious.

First, the implementation of the metadata for every single artwork including link to collection source displayed besides the artwork would enrich the content without making the interface too complex.

Second, the implementation of each artist's biography written by Vasari in the original old-italian version in the metadata array, so that they could be displayed in parallel to or instead of the Wikipedia summary. This approach could also be enlarged by displaying not only the original Italian version. "The Lives" were translated in many languages (e.g. english, french, spanish, german) and some of them are already old enough to be accessible copyright free. The different translations could be displayed besides each other for detailed text translation comparison, or implemented as a classical switch between languages, where the actual layout could stay the same.

The visualisation, like it is in the actual state, could also be adopted for art historical literature in general. There are several figures called "the German Vasari" (Joachim von Sandrart) or the "Netherland Vasari" (Karel van Mander), who followed the role model of "The Vite" and wrote similar books for their national art history.

Right now, the timeline is limited to Vasari's "Lives" and to the field of art history. Both limits could be overcome, the field displayed is layerwise enlargeable (+ philosophy, + technique, + politics, . . .).

Another interesting direction worth exploring could be the option to switch between timelines. Every topic dependent timeline is crossing another timeline on some important milestone event (e.g. invention of printing press), which could be described as timeline knots.

For not losing the intuitive navigation while enlarging the data, it might be important to keep the intuitive navigation with a reduced number of layers (3-5 max), at least for the home computer or smartphone version.

As a final thought, this concept could be adapted for large scale installations in public spaces such as galleries and museums. With the addition of large displays, high resolution scans and appropriate user interaction techniques, this could be a very engaging way for researchers and the public to experience art history. Whethers at small or large scales, I hope to build a tool for intuitive visual navigation through cultural open data information landscapes.

10. References

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12. Credits & Acknowledgements

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