

Wines in France - Milestone 2

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I. INTRODUCTION

The world of wine is large and complicated. Amateur wine lovers that want to learn more about wine are not interested in small details, but rather in the big picture. Everyone that drinks wine on a regular basis has most likely come across wines from France. We therefore want to visualize good quality wines in France in a simple and informative way that provides a user with the big picture.

II. DESIGN

We want to create an interactive web visualization that guides a user through the information that is available. We will therefore have four web pages that the user must click through, encouraging the user to interact with the information. This way, we can also gradually introduce the user to the topic at hand. We start with a simple overview with very basic information, then we move on to a view with more detailed information, and finally all of the data is accessible to the user and the user can choose to play around with the data however they like. At all times, information regarding where the data is from is available. In the following sections, a detailed description of each of the four pages is described. In Figure 1, sketches show the preliminary appearance of each page.

A. Overview page

The first time that a user lands on our web page, a map of France and its provinces are shown. The provinces that we provide wine data on are filled with a color and the provinces that are without data are white. By hovering over the provinces, the user will be able to see the province name.

When clicking on one of the colored provinces, the province will be zoomed in on and some general information on that province will appear next to the map. The information will include the regions that are part of the province, the average price of wines from the province and how many varieties that are grown there.

B. Varieties page

When navigating to the next page, new information regarding the varieties in each province, is visible and accessible. The map has changed appearance and has dots in each colored province that represent one variety each. So if a province grows four types of wine varieties, it will have four dots in it.

Now, when clicking on one of the provinces, new information is shown compared to what was shown on the previous page. The same idea applies, with a zoomed in image of the chosen province appearing. However, the information

appearing next to this image is now a list of the varieties in the chosen province, and next to each variety, one can see what specific region in the province, that grows the variety.

C. Search page

When navigating to the third page, the user is met with a way to explore all of the data on their own. It will be possible to select a province, and get all of its information at once. It will also be possible to search for a wine variety and get all of the provinces that grow this wine. Furthermore, the user will be able to explore the different pricing of the wine types and the different wineries that we have in the dataset.

D. Data page

To conclude the story, the user is able to return to the starting page or navigate to a new page regarding the data that is being used. On the page informing about the data, we will for example explain that the used wine data is only of wines rated 8/10 or higher. We will also link to Wine Enthusiast's website such that the user can explore the wines further if he/she is interested.

III. TOOLS

A. Front-End

There are many tools that are relevant for this project. The outline of our web page is created using HTML, CSS and developing further a template from Bootstrap Temple. To visualize France and its provinces, we are using SVG, D3.js and TopoJSON. The interactions between the user and the web page, as well as the animations, are handled using JavaScript and D3.js.

B. Back-End

We have decided to use FireBase for hosting our data in a NoSQL database. The benefit of using a database compared to a CSV file is that we only send the data that is relevant at the given time. When working directly with the 50MB CSV file, the website freezes up the user's browser because the whole file has to be downloaded. With FireBase, we can choose to retrieve only the data relevant to the province the user is viewing.

The database contains a tree with all the wines, grouped by the province they are from. Additionally, we have a tree containing just the names of the regions for quicker loading of the map at the cost of normalization.

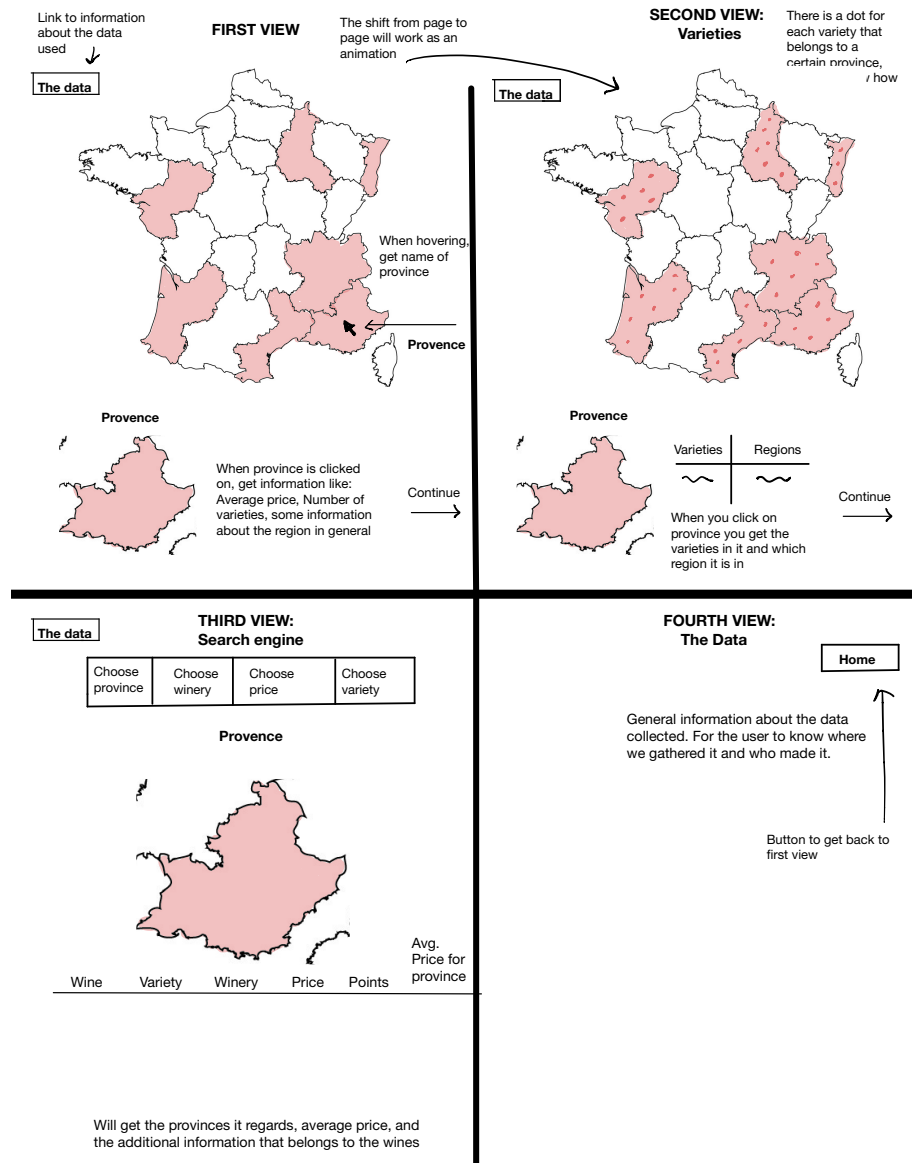


Fig. 1. Sketches of the four data visualization views

IV. RELEVANT LECTURES

Most of the tools described above, are mentioned in the course's lecture material. Lectures 1 (HTML, CSS & SVG), 2, 3 (JavaScript), 4 (D3.js, data), 5 (interactions) and 8 (maps) are our main focus. Lecture 6 however, is also relevant for us, as we will need to think about our color choices in regards to how the user will perceive them and to make sure that our choices are suitable for color blindness. We also have to make sure that our visualizations aren't too cluttered in a way that make them hard to understand. This topic is covered in Lecture 7.

V. PAST MILESTONE 2

Since the data story has been structured in a way that we have four separate pages, it will be easy for us to work in parallel. Of course, a lot of code will be possible to reuse.

If time permits, we would like to also implement a data visualization where we scatter plot the points vs. price for all of the wines in our dataset. This is a nice visualization as it is possible to see that higher points are often correlated with a higher price (we plotted this in Milestone 1). When hovering over a dot in the scatter plot, it would then be possible to see information about the wine representing the dot, such as its region, variety, name and winery. This visualization would be a nice complement to our data story.

Furthermore, we would also like to expand our data. Some of the provinces in the dataset are named as "France Other", etc. If we have time, we would like to look up the regions stored in the province and place the data under the correct Province. This could give us the possibility to visualize more provinces.