COM-480 Data Visualization: Milestone 2

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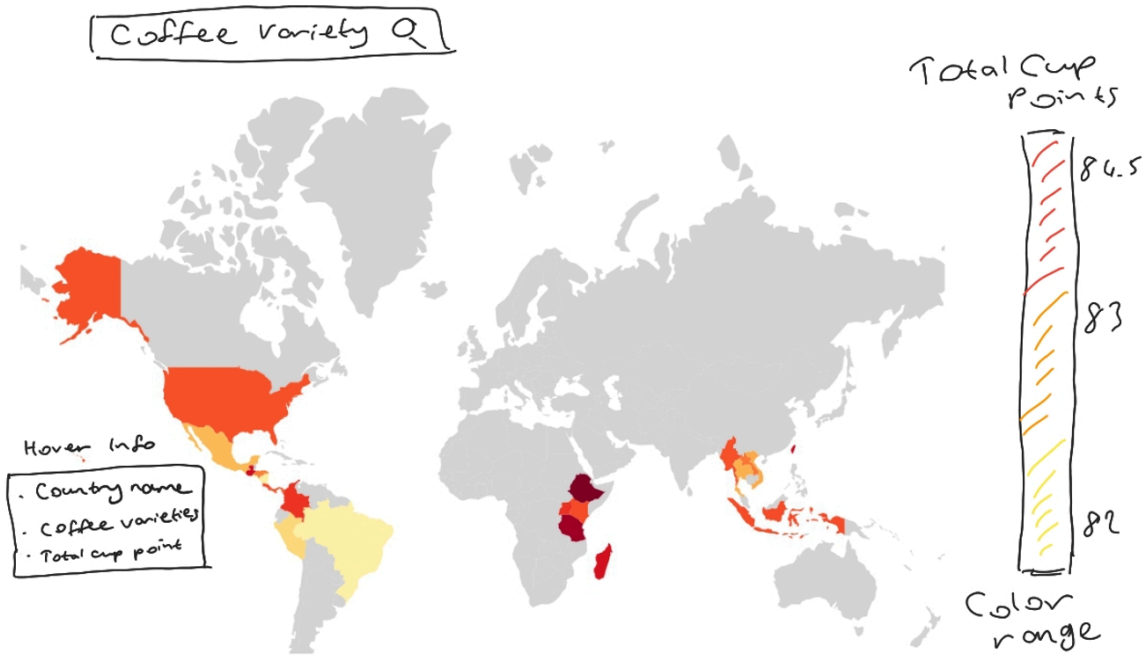
Introduction

The main purpose of our project is to provide a platform for coffee enthusiasts to discover various information about coffee and coffee drinkers, and its significance to programmers like ourselves, assisting them in finding their ideal coffee variety based on their preferred tastes and aromas.

We have identified 4 core visualizations that would help us achieve this goal. Our story starts with coffee. We show where different coffee varieties come from in the world in our first visualization. Secondly, we showcase taste profiles of these different coffee varieties. Afterwards, we switch to the coffee drinkers habits and give an insight on their daily relations with coffee with two separate visualizations. One will showcase coffee habits of people from all ages and different demographics in a pyramid. The other visualization will be a special section just for coders and their coffee habits shown in a parallel coordinate map.

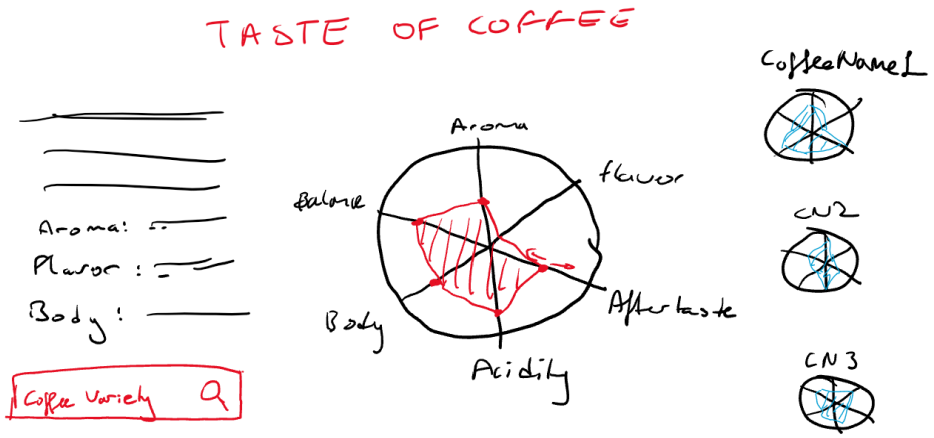
Visualization 1: Coffee Varieties in a World Map



To introduce different coffee varieties, we wanted to start by visualizing the countries producing them. Therefore, in this section, we will create an interactive world map where each coffee producing country can be hovered over to see the different varieties produced there. We will also include a search bar to filter the coffee varieties we want to show on the map. It will be possible to select all the varieties or a combination of them. The coloring of the countries will be based on the “total cup points” to show the average quality of their coffee varieties. There will be a legend showing the corresponding points for the color range.

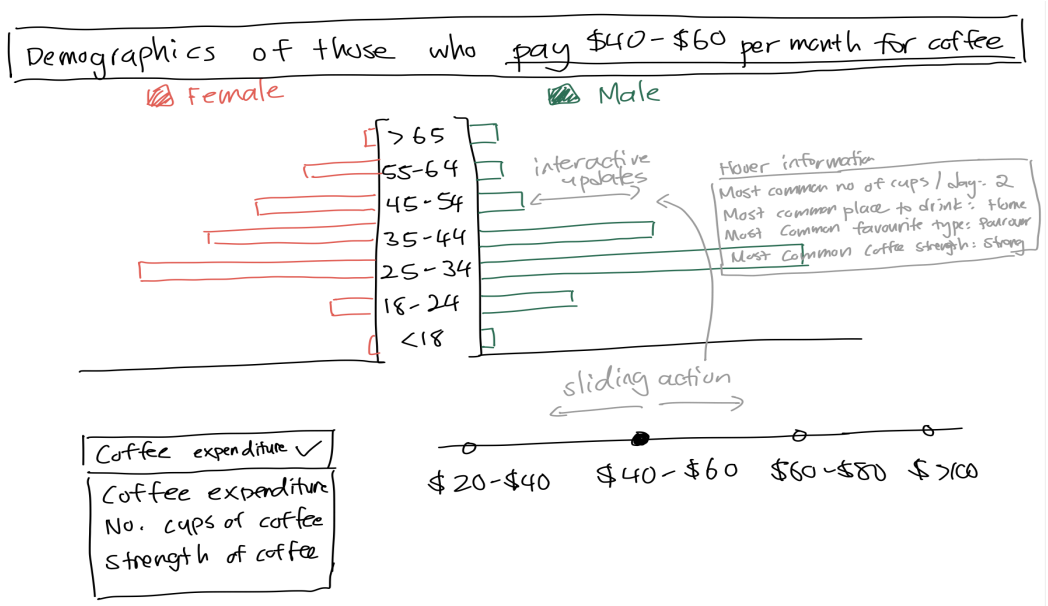
Visualization 2: Coffee Tastes in a Radar Chart

In this section, there will be in total four different radar charts that showcase taste profiles of coffee; one will be interactive, the other three will not. The interactive chart is for the user to select the taste profile they might like by changing the values on the chart. The three non-interactive charts show the taste profile of three coffee varieties that have the closest profile of that of the interactive chart. Hence, modifying the values on the interactive chart will also modify the profiles shown in the other three. In addition, we will put a search bar in which users can look up an available coffee variety to see its taste profile directly on the interactive chart.



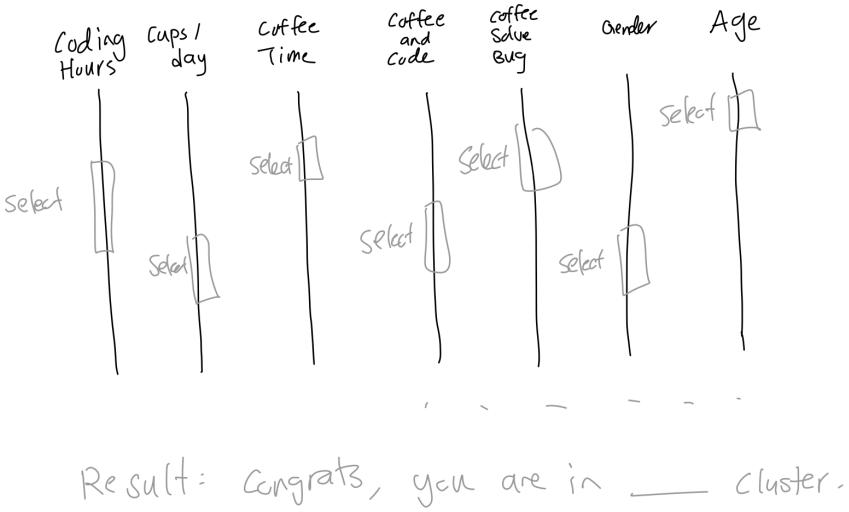
Visualization 3: Coffee Drinking Habits By Demographic in a Population Pyramid

In this section, we provide insights into coffee drinkers' habits through an interactive population pyramid graph. Users can select filters like "Coffee expenditure," "No. cups of coffee," or "Strength of Coffee" from a dropdown menu. They can then adjust a sliding bar to select specific values for the chosen filter, updating the graph accordingly. Finally, hovering over demographic segments reveals detailed coffee drinking habits. This allows users to explore population distributions based on their selected filters, uncovering patterns that may challenge or confirm their coffee stereotypes.



Visualization 4: Coffee Choice & Habits of Coders in Parallel Coordinates Graph

This section is dedicated to coders and their coffee habits. It features a parallel coordinate graph showing each coder's coffee consumption based on various characteristics. The graph will be interactive, allowing coders to select ranges and discover their cluster type: "Coding Joe/Jane", "Enough Sleep Coder", "Under-represented Coders", "Coffee-Powered Coder", and "Veteran Coder", identified through PCA in our exploratory data analysis.



Extra Visualizations

We have two possible extra visualizations that can be added to the website. The first one is a color chart of different coffee beans. The second one is an innovative coffee recipes section that shows ingredients and mixing ratio of a selection of coffee-cocktails on a glass.

Tools To Be Used

Website hosting is done with Github Pages. React.js is used to structure the frontend. Tools specifically used to create visualizations: d3-geo (world map), react-chartjs-2.js (radar charts), D3 Population Pyramid package, Plotly.js (Parallel Coordinates), and D3.js (a variety of visualizations).

Lectures To Be Used

For learning the basics of D3 and its interactivity features, we used Lectures 4 and 5. For creating the world map, we will get help from Lecture 8. Lecture 11 on tabular data will be used to help us create the radar charts and parallel coordinates. To color the visualizations effectively, we will look at Lecture 6. Finally, for the overall storytelling of our website, we will focus on Lecture 12.