1 Messaging

Coffee is one of the most beloved beverages in the world, but it only grows in very limited climates. Since coffee is so extremely popular, however, many countries import a truly astounding amount of it. Using publicly available data gathered from the International Coffee Organization (ICO), this visualization shows how the import and consumption of coffee has drastically grown over the 30 year period 1990 – 2019, demonstrated per major importing country, *especially* in the United States of America.

2 Narrative Structure

This narrative visualization is in the form of an interactive slideshow. The user is able to navigate forward and backward between years, and the ability to drill-down for more detailed data, specifically the net coffee consumption per country per year, is available at every year (scene) by clicking on the bars corresponding to the countries. There are instructions to do this at the top of the webpage. This additional information is useful because it demonstrates not only the consumption and imports per country at the same time (not available otherwise), but also their difference.

3 Visual Structure

Each scene is a distinct histogram with a rectangle corresponding to the imports or consumption of coffee, in kg, per country for a fixed year. The heights of the rectangles smoothly transition between data values when the year is changed, as well as when switching between imports and consumption for the same year. In addition, the y-axis transitions to the appropriate scale at the same time that the rectangles' heights do. Keeping the individual countries' bars in the same location between scenes leads to visual consistency, where the user can see how the different countries' stats vary over time with respect to the maximum, which it turns out is always the United States, both for consumption and for imports. The histogram is always titled, and instructions to use tooltips appear at the top of the webpage, so it is very difficult for the user to get confused while using this visualization. The tooltips dynamically update with the dataset parameter (see Parameters) so that they show different information in one of two templates depending on that parameter.

4 Scenes

The scenes in this visualization correspond to years, and the scenes are ordered by year, because the message of the visualization is about the growth of coffee imports and consumption over time. For each year, the user is able to smoothly transition between a histogram demonstrating coffee imports or consumption,

and the user can also transition between years using the buttons at the bottom of the screen (see Triggers).

5 Annotations

Annotations follow the following template:

year : narrative information

Where 'year' is the year corresponding to the current scene, and 'text' provides interesting details about one or several countries' coffee habits at that time. Annotations are in the form of a box styled similarly to the tooltips, for visual consistency. They appear at select years in the visualization. Those years are:

$$1994, 1999, 2000, 2004, 2008, 2013$$

6 Parameters

There are two significant parameters in this visualization: Year, which determines the scene, and dataset, which determines which dataset (imports or consumption) is presently displayed in that scene. The year parameter also determines which annotations are showing, because annotations are used in this visualization to demonstrate data about scenes which are determined by year. These two parameters fully determine what the user sees on their screen at any given time, with the exception of whether any drilled-down details are present.

7 Triggers

Triggers are used to alter parameters. At the bottom of the histogram, there are buttons for the next year and the previous year, which increment and decrement the year parameter, respectively. On the backend, these user interface actions trigger two functions:

```
change_year()
```

and

```
change_data()
```

The former function rebuilds the dataset in memory per year, which is then used to construct the histogram in that year's scene, and the latter switches between the two available datasets for additional interactivity. Both of these functions alter the histogram itself (see Parameters section).

8 Source

The csv files used in this visualization are available at this Kaggle dataset, which itself was gathered from the International Coffee Organization.