Milestone 2 - Team Vizhack

Olena Zavertiaieva, Ekaterina Sedykh, Yuhan Bi

1 Project Goal

This project aims to create a comprehensive and interactive data visualization that highlights the global and regional trends in smoking tobacco prevalence from 1990 to 2019 while also showcasing the health implications associated with tobacco use. By leveraging high-quality, tobacco-centric datasets published by the Institute for Health Metrics and Evaluation (IHME), we plan to provide insights into the differences in smoking tobacco prevalence across genders, age groups, and countries.

2 Sketches of Visulization

2.1 Multi-line Chart

For each sex (male, female, combined), it will show tobacco usage based on the country for each year, meaning each line will represent a separate country and we will be able to track the time dependency.

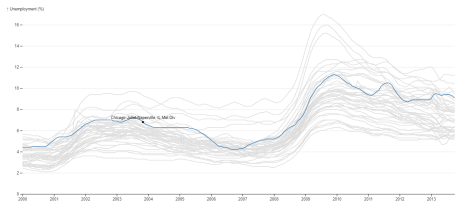

Figure 1: Multi-line chart example

2.2 Bar Chart Race

At first glance, it may be similar to a multi-line chart as here it will also be separated by country and year (just more interactive), but visualizing 200 countries in a bar chart will be a lot and hard to comprehend. We want to select some region (in data we have for example a super-region called "high income") and select countries only in that region. This can show us some better patterns considering income or geographical location for tobacco smoking.

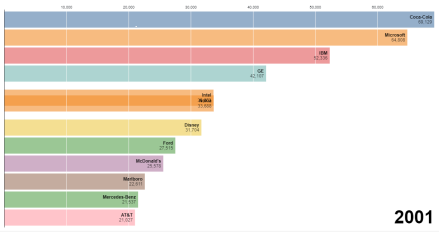

Figure 2: Bar chart race example

2.3 Map Visualization

The map displays divided geographical countries or regions that are coloured in relation to daily smoking prevalence.

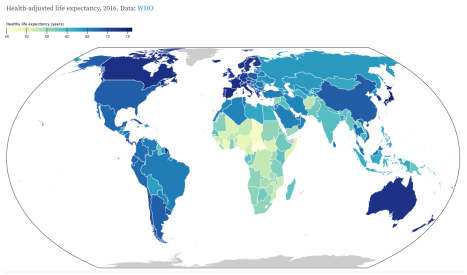

Figure 3: Choropleth world map

2.4 Zoomable Sunburst

The Sunburst diagram contains two hierarchies to zoom in and zoom out: super-regions and sub-regional countries. The size of represents the number of daily smokers. For now this is a possible visualization since it requires a lot of data processing.

Figure 4: Zoomable burst example

3 Tools and Lectures

Our primary focus lies on lectures covering HTML, CSS, JavaScript and D3.js. We will also refer to lectures covering interactions to create a useful animated website. For the map visualization, we will refer to lecture 8. We will also consider some information from the lecture about colors so the perception of the data will be enhanced by them and will be appropriate. Additionally, we must ensure that our visualizations are not overly congested, making them difficult to comprehend.

4 Extra Ideas

By clicking one specific country, a detailed page displays the tobacco prevalence by age and gender in one year using the violin chart and by year across all ages using the line chart.

For now, we have decided to not use dataset about tobacco chewing, but possibly later we can come up with ideas how to incorporate it into our project.