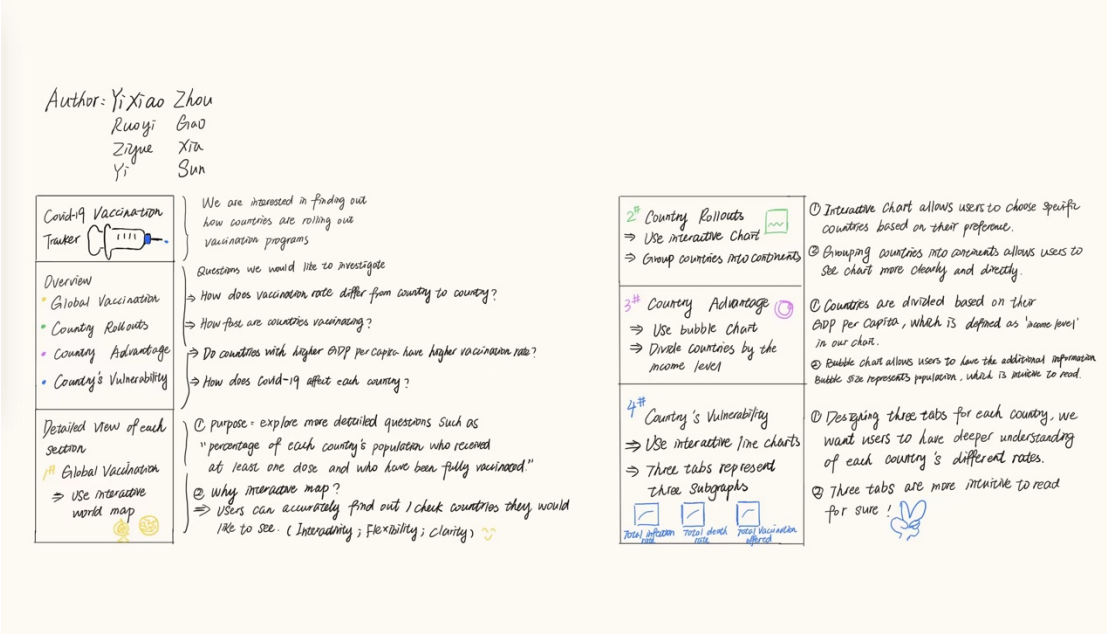
Final Project Process Book

Group AB – Covid-19 Vaccination
Yixiao Zhou, Ruoyi Gao, Ziyue Xia, Yi Sun



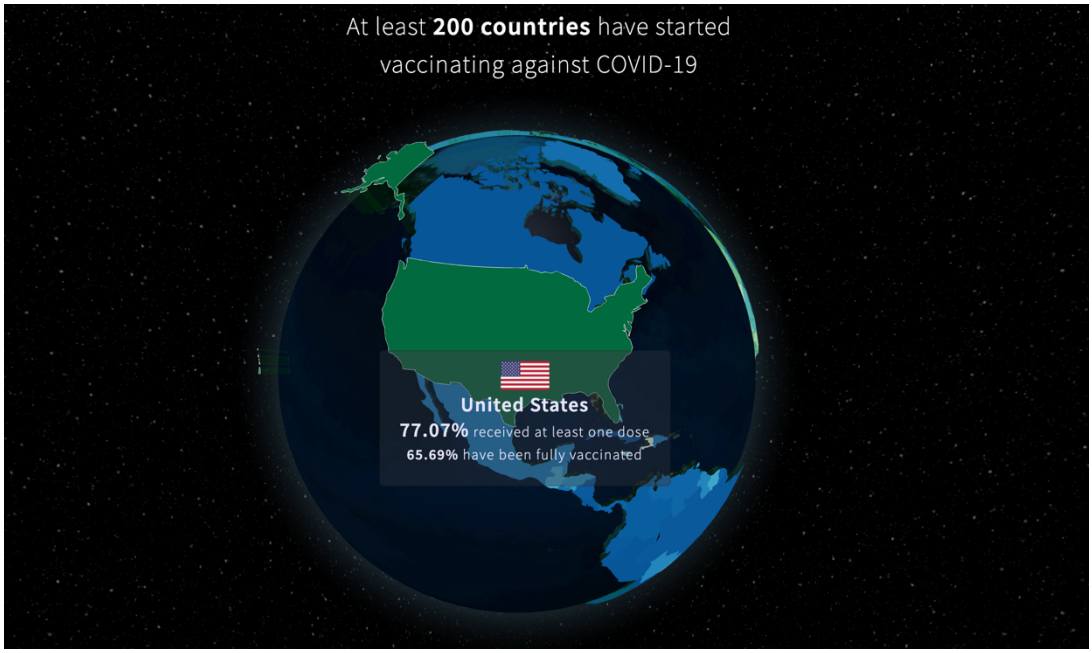
Part 1: **Global Vaccination**

Data Source:

The most recent figures are from Our World in Data. The shapefile of the world is from natural earth vector.

Visualization:

To project the data on a nice globe, it needs to be in the shape of a shapefile. globe.gl uses geojson as file types, so we downloaded a shapefile of the world in this format, added my variables and saved it again as geojson. The next step is to load this data into Javascript and make the visualization. To make the code work (loading D3.js and globe.gl), we also imported globe.js to this page. Finally, to complete the looks of the visualization, we added the css file of the website to contour the "choropleth globe" and tooltip.



Part 2: **Country Rollouts**

Data Source:

The daily figures are from Our World in Data. The regions are defined by The World Bank. Not all countries report vaccinations daily, so daily figures are estimated whenever a country reports the total number of vaccinations they have administered.

Visualization:

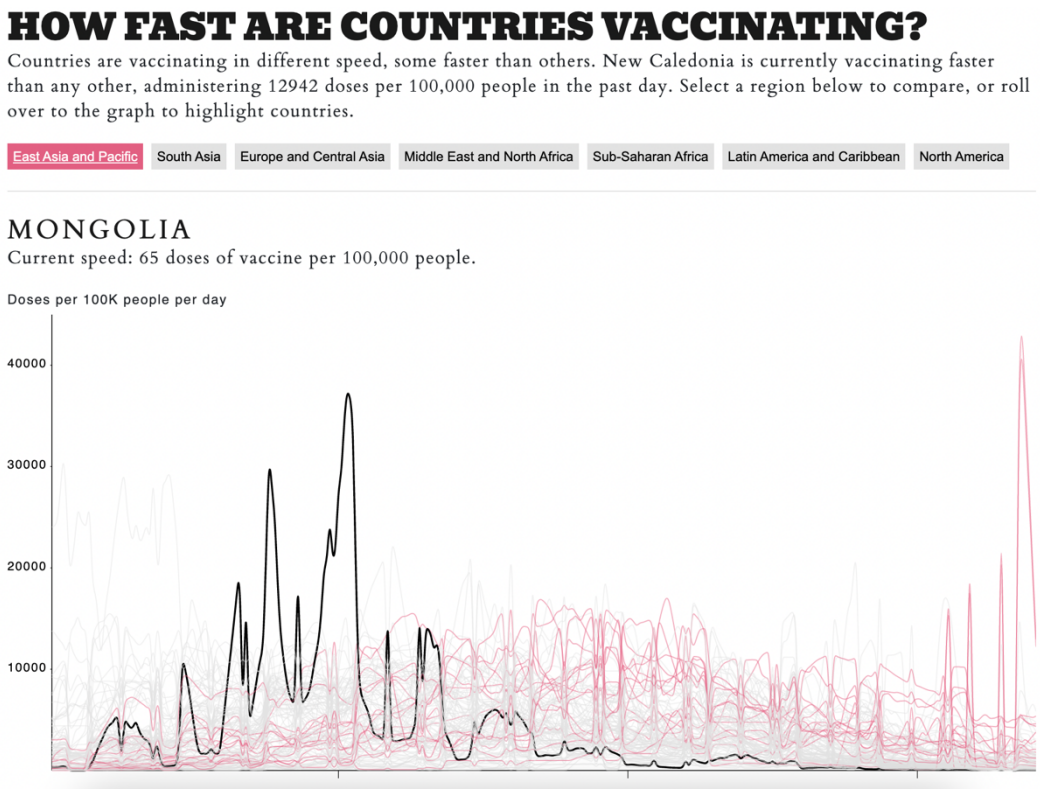
We used an interactive time series chart with filters to visualize how fast are countries vaccinating. First, we load the CSV files in JavaScript, one with country regions (for filters) and the other with daily vaccination count. CSV data was parsed and stored in countries. The first two columns of each row are the country name and country code. The rest is vaccination count for every day, so the vaccination number is stored in values and the former is stored in an associative array, countryCodes, so that we can easily look up full country names by country code.

Then we used a for loop to iterate through each country. The loop that iterates

through the values gets the data in the right format. The for loop draws an actual line by appending a SVG path that uses line.

After having a time series chart that looks like a bowl of spaghetti, we added interaction to make this chart useful, namely the functionality to highlight by region and mouse over individual lines for more details about the corresponding country. When people click on the region buttons, we want corresponding countries to highlight. With some jQuery, we specified a call to showRegion() function when the buttons are clicked and all paths in that region (based on CSS file) are given an additional "highlight" class.

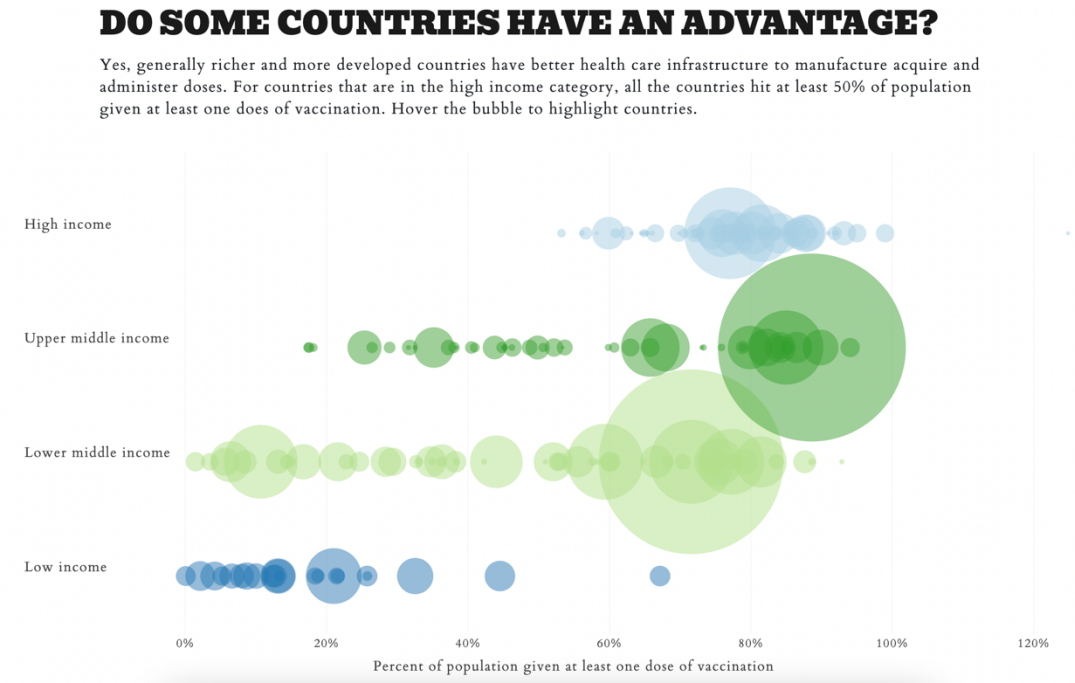
Similarly, we added a class to a path when mousing over a country and change the blurb on top.



Part 3: **Country Advantage**

Data Source: The latest first dose and population figures are from Our World in Data. Income classification is from The World Bank.

Visualization: The variable we used for this graph includes the population, the income classification, and the percentage of population given at least one dose of vaccination for each country. We used python to concatenate two data sets. Then, we used a bubble chart to visualize the relationship between country's income and number of people getting vaccinated.



Part 4: Country ‘s Vulnerability

Data Source: The number of confirmed infection cases and deaths from COVID-19 are from Our World in Data.

Visualization: The variable we used for this graph includes the percentage of population given at least one dose of vaccination, the confirmed death and infections for each country. We used a line chart to visualize the trend of each case in 2022. Then we used a dropdown menu to control the rendering of plots since we have plenty of country options and we don't want to list them all.