Data Visualization and interactive Dashboard

Crossfilter

In the data visualization field, there is multiple options to create an interactive dashboard. We opted in the first place to use Crossfilters and D3 with HTML and JavaScript.

Crossfilter is a multi-dimensional dataset. Crossfilter is defined under the crossfilter namespace. It uses semantic versioning.

Starting coding the cross filter, the first issue we faced is dimensioning the data. We need Multiple dimensions for the data to be interactive. Unfortunately, the type of data that we have can only be displayed in one dimension: Covid cases by places and date and total vaccination.

Graphical user interface, text, application

Description automatically generated

The second major issue is time. The time frame to learn a new concept and use it in a short period was a challenge.

Crossfilter is a great opportunity to create an interactive HTML dashboard. Using D3 to present and manage the data.

Javascript Document for Crossfilter link

Plotly

Plotly was very helpful to create visualization and graph the data. We used with Javascrip and we created some onclick event in the HTML page to make it interactive. Link HTML

Great opportunity is offered by Plotly to create animated graphs. Plotly.Express. Link jupiterNotebook

ConvasJs

ConvasJs is great library in JavaScript to create animated and complicated graphs. Fist challenge we had is the data format didn’t help to plot an animated graph using ConvasJs. Also, this library is paid and need a license for a professional use. Link ConvasJsTest.html file

Tableau

Using tableau was a great alternative to create a dashboard to filter the plots offered to the user. We used Embed Code offered in tableau public to insert in our dashboard tab.

Chart

Description automatically generated

Conclusion

Combining all these technologies was a great opportunity to test and use them together. We have an HTML page with 3 Tabs

1. Home uses Plotly and javascript to filter the data
2. Map : interactive map with API and Leaflet that shows the top safest places to visit with hotel information
3. Dashboard : offers extras analytics for the user with tableau