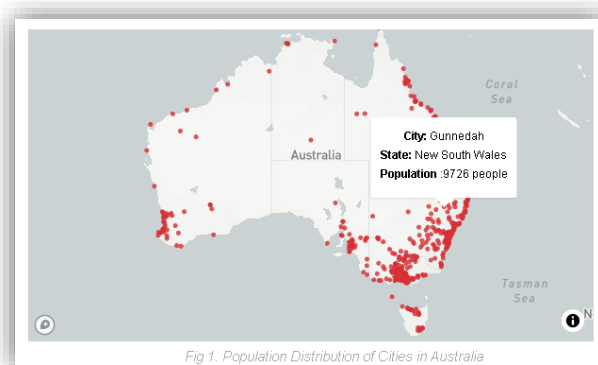# Australia population and area of states visualization

Design Summery

Overview

To discover the most popular area in Australia that Australian people prefer to staying, I created 3 charts to show the population and area information of Australia states and cities. Map chart shows the distribution of cities in Australia and their populations by states. Bar chart shows the total population of each state. The polar chart shows the area of each state. The dataset was from World Cities Database held by NASA, and the website has been attached in Appendix 1. It contains Australia city's latitude, longitude, state and populations.
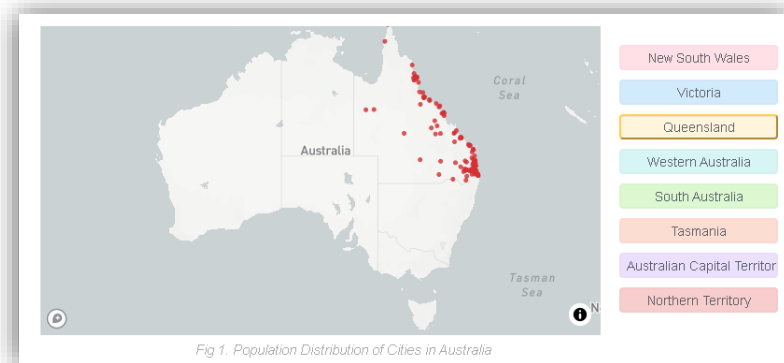
Map Design

    1.   City points information pop-up

Fig 1. Population Distribution of Cities in Australia

I would like to know the distribution of populations in Australia, so I visualized cities positions based on their longitude and latitude in the map. I also created a pop-up function on city points to show the information of the city's name, the located state and the city's population.

    2.   Cities points by states

Fig 1. Population Distribution of Cities in Australia

In the map right side, I make 8 buttons of 8 states to show the cities in each state area. For example, when the mouse hover above the button "Queensland", the map will only show the cities points in state Queensland. And when the mouse out of button, the map is restored to show all cities.

Bar Chart Design

    1.   Fly to the corresponding state area on the map.

When you click one of the bars, it will interact with map to fly to the corresponding state area. For example, when you click the bar of "Victoria", the map fill fly to Victoria state and zoom out the area.

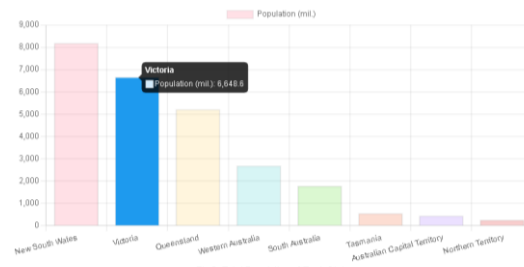Fig 1. Population Distribution of Cities in Australia

Fig 2. Total Population of Each State

2. Highlight the corresponding state area on polar chart

When clicking the bars, it will also interact with polar chart that, polar chart will highlight the corresponding state area as red and make others grey.
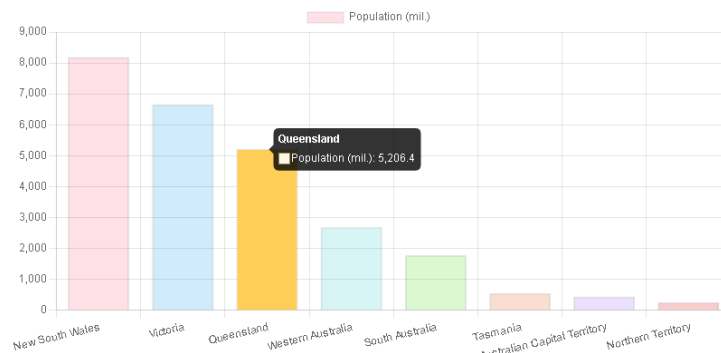

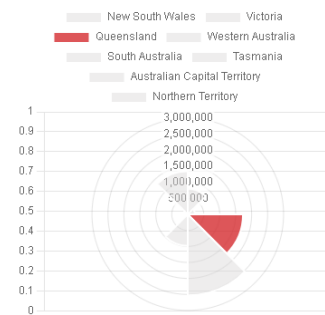Fig 2. Total Population of Each State

Fig 3. Area of Each State

Polar Chart Design

Besides above interactions, you can click blank space in page to restore the polar chart.

Appendix

[1] Simplemaps.com. 2021. Australia Cities Database | Simplemaps.com. [online] Available at: <https://simplemaps.com/data/au-cities.> [Accessed 19 September 2021].
[2] Mapbox. 2021. Display a popup on hover | Mapbox GL JS. [online] Available at: <https://docs.mapbox.com/mapbox-gl-js/example/popup-on-hover/> [Accessed 19 September 2021].
[3] Chartjs.org. 2021. Polar Area Chart | Chart.js. [online] Available at: <https://www.chartjs.org/docs/next/charts/polar.html> [Accessed 19 September 2021].
[4] Australian Bureau of Statistics. 2021. National, state and territory population, March 2021. [online] Available at: <https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release#national> [Accessed 19 September 2021].
[5] Chartjs.org. 2021. Bar Chart | Chart.js. [online] Available at: <https://www.chartjs.org/docs/next/charts/bar.html> [Accessed 19 September 2021].