Information Visualization
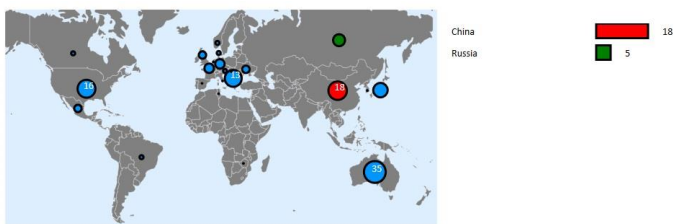## CHECKPOINT IV: First Prototype

G01-A

1. Layout

As shown in the first prototype, we created 3 tabs for html. One with the standings of the countries regarding their medals, one to compare the amount of medals of countries that the user chooses, and the last one with the coefficient medal/population for each country. We also made fields to set attributes like a range of years, the sport we want to filter and the medals that the user will want to know information of. In the Standings tab and in the Coefficient tab we have a "Search Country" box that has the function to locate a country in the rank and in the map, by changing its colour. In the Compare tab, there are two search boxes for the two countries we choose.
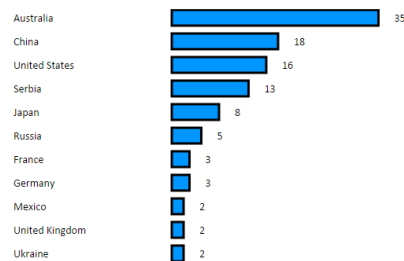
Standings Tab

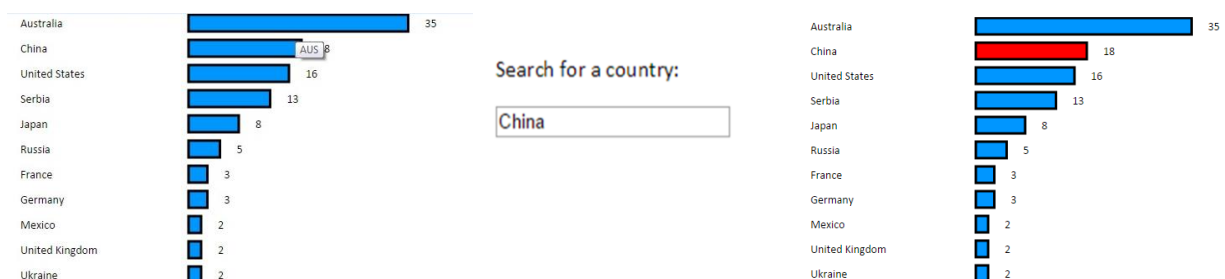Standings Comparison Tab

Coefficient Tab

2. Implemented Idioms

For the Standings tab and the Coefficient tab, we made a Bar Chart with each country presented on a ranking. The countries names are in the left, and in the centre, the bars that with a length that specifies the amount of medals or coefficient medals/population that country had under the specified conditions. We also put that amount or coefficient after the bars in a text label, for ease of reading. In the end, we have something like this:
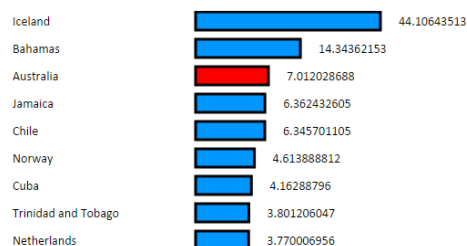

When the user hovers with the mouse over a bar of a country, it will present them the NOC code of the country. Also, in the search box that we referenced in the first paragraph, when a user looks for a country, the colour of that country's bar changes, to be able to distinguish it from the rest of the countries.
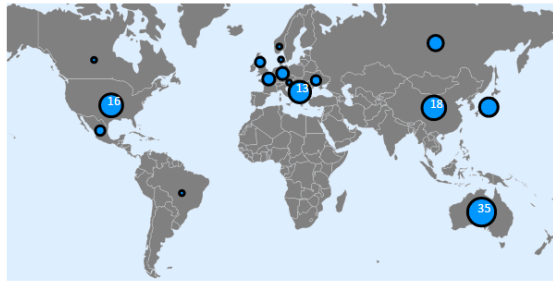

In the Compare Tab, we write the names of countries in the two text boxes, and then the colour of the selected countries' bars will change. Only the bars of the two countries we selected will appear on the right side of the visualization.
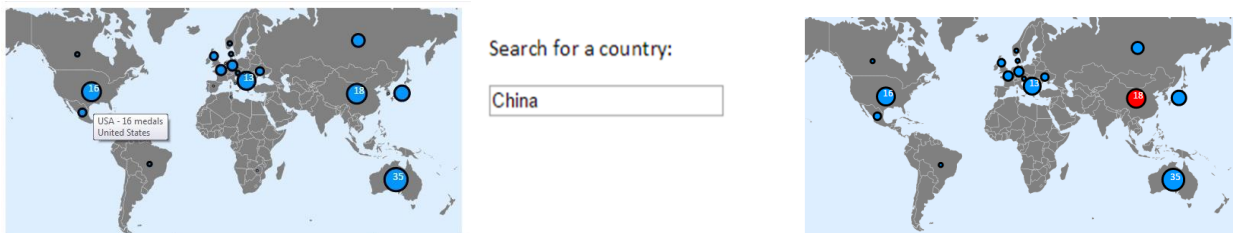

In the Coefficient Tab, we had some interactivity with the second idiom. When we clicked on the bar of a country, the bar changed his colour, and then something will append also in the second idiom.

Our second idiom is a bubble chart over a world map. We reference the location of the country on the map, and the size of bubbles represents the amount of medals or coefficient medal/population in the correspondent countries. The bigger the amount of medals or their coefficient, the bigger the bubbles will be; this way. For countries with more than 10 medals we have a bubble big enough to include a label that showing the amount of medals; this does not apply to the coefficient tab, though, since the coefficients aren't integers, and some have a big amount of decimal places.
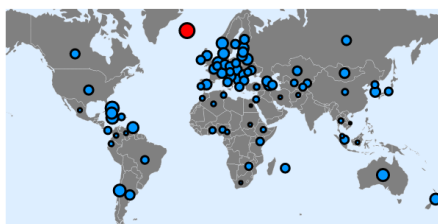
Like in the first idiom, if the user hovers over a circle, some information from that country will appear, including the NOC code of the country and the number of medals or the coefficient that country achieved, as well as its full name. Also, if the user searches for a country, the bubble of the country will change the colour to highlight the country in the map.

In the Compare Tab, we write the countries in the text boxes presented, and then the colour of the selected countries' bubbles will change. This way, we can make a rough comparison of the amount of medals of the countries we selected, by simply observing their bubbles' sizes.

We also feature interactions between the two idioms in the Coefficient and Standings tabs. When we click on a bar, both that bar and the country's bubble will be highlighted in a different colour. The same will happen if we click on a country's bubble.

Last but not least, we allow the user to zoom over the map and pan around it, by using the mouse scroll or dragging the map around. The bubbles will stay over their country, but their size on the screen will remain the same, so it doesn't flood the map, similarly to how pinpoints work in Google Maps.