Information Visualization
CHECKPOINT IV: First Prototype

G01-A

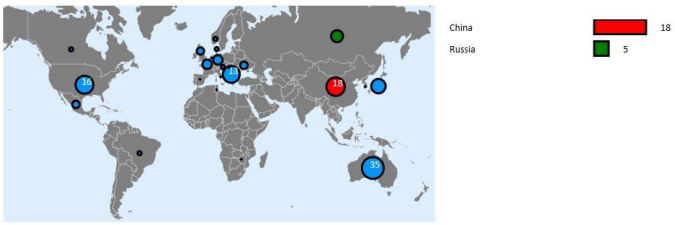
Changes: Added pictures of our input methods and improved the overall text quality.

1. Layout

As shown in the first prototype, we created three tabs for our visualization. The first tab shows the standings of the countries regarding their medals. The second tab allows us to compare the amount of medals of a couple of countries a user specifies. The last tab displays the coefficient medal/population for each country. 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, we use a timeline with sliders, a checkbox for each medal and a dropdown menu for the sports. In the Standings tab and in the Coefficient tab we have a search box to locate a country in the rank and in the map, also changing its colour. In the Standings Compare tab, there are two search boxes for the two countries we choose.

Standings Tab

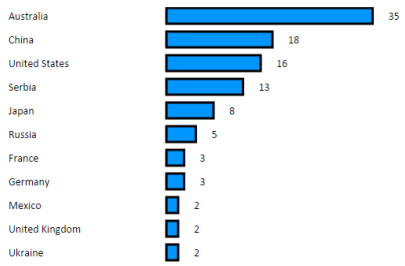
Standings Comparison Tab

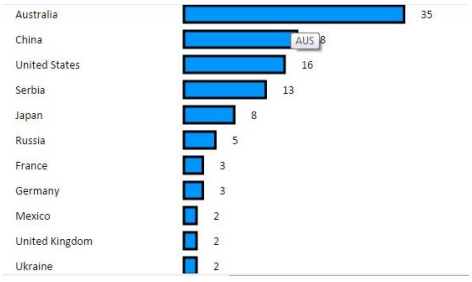


Coefficient Tab

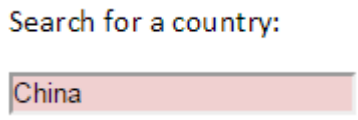
2. Implemented Idioms

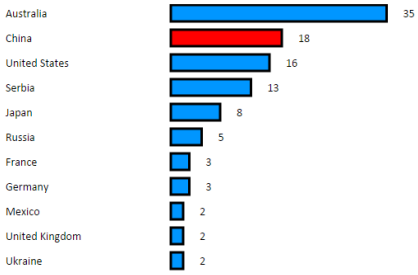
For the Standings tab and the Coefficient tab, we made a bar chart with all the countries displayed as a ranking, from best to worst (regarding medals or the coefficient). The country names are in a label on the left, and in the center are the bars with a length encoding the amount of medals or coefficient medals that country had under the specified conditions (in a square root scale, for readability). We also put that amount or coefficient after the bars in a text label to the right of the bar, for ease of reading. The result:



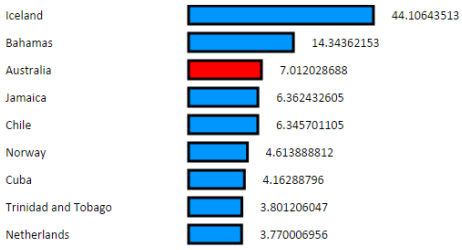


When the user hovers over a bar of a country, it will present them the NOC code of the country. In the search box mentioned earlier, when a user looks for a country, the colour of that country's bar changes, to highlight it from the rest of the countries.

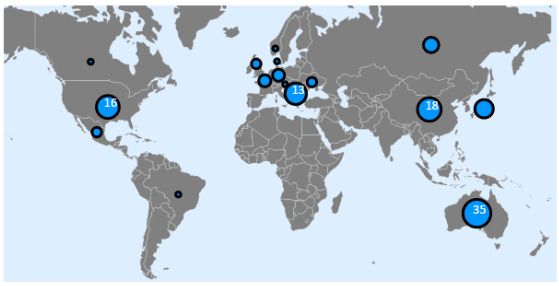




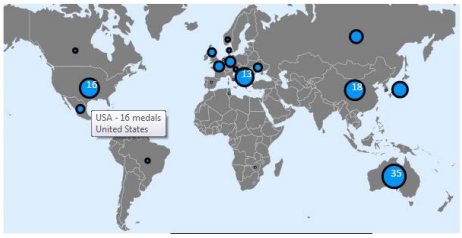
In the Compare tab, we write the names of countries in the two text boxes, and the colour of the bars will match the selected countries. Only the bars of the two countries we selected will appear on the right side of the visualization.

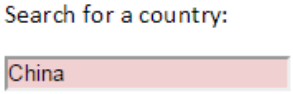


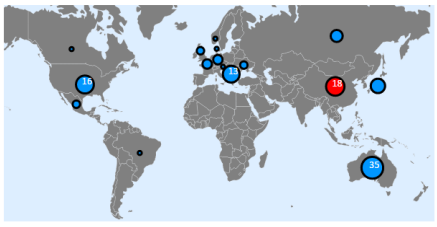
Our second idiom is a bubble chart over a world map. Each bubble's location on the map corresponds to its country's coordinates. The size of the bubbles encodes the amount of medals or the coefficient, increasing logarithmically. For countries with more than a certain amount of medals we have a bubble big enough to include a label showing the amount of medals. Since the coefficients aren't integers, some have a big amount of decimal places, and truncating them to fit the bubbles would make us lose information, so the bubbles have no coefficient label.



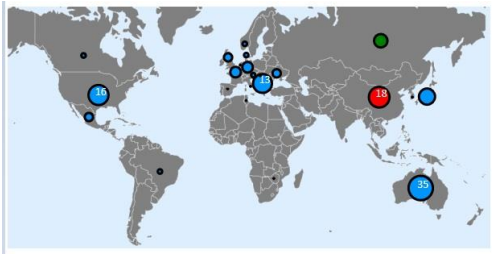
Like in the first idiom, if the user hovers over a circle, a tooltip will popup, including the NOC code of the country and the number of medals or the coefficient that country achieved, as well as its full name. Also, if the user searches for a country, the bubble of the country will change the colour to highlight the country in the map.



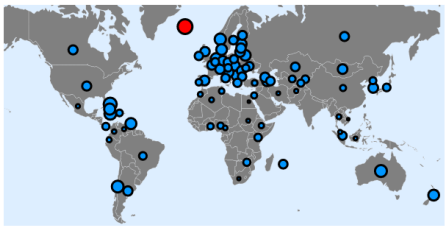




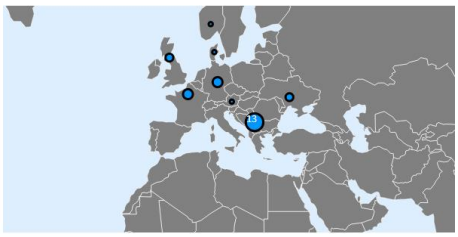
In the Compare Tab, we write the countries in the search boxes presented, and the colour of the selected countries' bubbles will change to different colours. This way, we can make a rough comparison of the amount of medals of the countries we selected by seeing the sizes of the bubbles.



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.



We also allow the user to zoom over the map and pan around it, by using the mouse scroll/double-click or dragging the map around. The bubbles will stay over their country, but their size on the screen will remain the same (semantic zoom), so it doesn't flood the map, similarly to how pinpoints work in Google Maps.



As seen before, the colour of the search box matches the colour of the highlighted country, for ease of understanding.

The input of the medals, sports and years is made above the idioms. In the Standings and Comparison tabs, the timeline has two limits, whereas in the Coefficient tab it only has possibility for one value (since the population changes over the years making an interval of years not work).