Dear New York Times Designers,

I am writing this letter to congratulate you on your excellent interactive visualization of Olympic results (http://london2012.nytimes.com/results) and to suggest some improvements on it.

I found your interactive visualization easy to use, informative and responsive. To get overall medal results of a country, users simply move over a bubble indicating the name of that country or click on the bubble if they would like to obtain more detailed information about its performance that is listed underneath the map. In my opinion, these Overview First, Zoom and Filter, then Details-on-Demand features are undoubtedly the most useful features. In addition, thanks to the time bar on the top, Olympic results over periods since 1896 are presented in a very succinct way which provides users with an access to the vast data of 116 years yet without any data overwhelming. With such a huge amount of data, I believe that you have succeeded in creating an effective, responsive and interactive visualization which attracts users to explore.

There are, however, still some limitations which I am trying to group into some general categories as below. I also would like to make some improvements based on the “Eight golden rules of interface design” proposed by Dr. Ben Shneiderman, which I hope they will help you improve your future work.

1. Inconsistency

There is an inconsistent presentation of the data in the visualization. On the medal count table on the right side which will be referred in this letter as “the right table”, users can see where a certain country rank in Olympic 2012 while they can’t obtain the same information for other years because the countries are not numbered according to their rankings even though they are still listed in the descending order of total medals. Numbering countries according to their rankings is very important as it allows users to locate exactly where a country ranks at the first glimpse. Therefore, I would suggest for all other Olympic periods, countries should be numbered according to their ranking as they are in 2012 Olympic.

2. Lack of shortcuts for frequent or expert users

With the existing structure, users have limited options to explore information. Currently, to find a specific country’s detailed results at a specific Olympic period, users have only one option being “move over or click on the corresponding bubble on the map”. This limitation is referred as the bubble routine, which may bring boredom and inconvenience to expert users in some scenarios as follows:

- Admittedly, this routine is easy to look up “top” countries with the high number of medals because their bubbles are huge and their names are more visible. However, if users want to look for other countries which have only a few medals, it is more difficult as the bubbles are much smaller and the names are not noticeable on the map. Consequently, users have to move across bubbles to do “test and check”, which is inefficient especially when users are looking up a set of countries. Thus, I suggest a search feature (like the one in http://www.nytimes.com/interactive/2012/05/13/business/student-debt-at-colleges-and-universities.html) or a filter function to be in place, which helps users narrow down the list. For example, a filter/search function allows users to input a country’s name or a continent’s and the corresponding bubble will be highlighted.
- The second problem is that as users are moving further down on the web page, if they want to learn about a particular country on the spot, the only choice is to scroll back to the bubble map and follow the above bubble routine, which is very inconvenient. Thus, I would like to suggest “hyperlink solution” that displays all the information about a country once users click on the name of that country at any location on the screen.
- The similar problem happens when users would like to learn about a specific sport in the detailed information table underneath the map which will be referred in this letter as “the left table”. They have to skim and scan through the very long table until they get the necessary information. A similar search feature as the one mentioned above will help to solve this issue.

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I believe that if these problems are fixed with the suggested features, users will enjoy exploring the visualization more which in turn supports internal locus of control as suggested by the “Eight rules”.

3. High demand on short-term load

The visualization seems to require a lot of short-term load. To make a comparison between 2 interested countries, one possibility is to retrieve information about each, memorize and make comparison. Another possibility is to open 2 browser windows for the two countries. This is doable for two countries, but certainly troublesome if the comparison involves more countries. Therefore, I would like to suggest implementing a necessary feature which allows users to select more than one country (i.e. bubbles) at the same time and the corresponding positions of the selected countries in the right table will be highlighted with different colors. This feature will reduce the short-term load since information of many countries can be displayed simultaneously on the screen.

4. Failure to strictly follow “Visual Information Seeking mantra”

Some information will be presented more effectively by following the principle: Overview First, Zoom and Filter, then Details-on-Demand developed by Prof. Shneiderman.

- When users look at the results of a specific Olympic period, the first thing users would like to see is general information about that Olympic period such as number of participating countries in general and in each particular continent, number of medals by type, and number of sports. However, the current visualization does not provide this information. These types of information provide users with a quick snapshot of an Olympic period and attract them to learn more about that period.
- The length of the left table can be shortened with Prof. Shneiderman’s principle. Instead of listing all sub-categories in every sport, the visualization can only show the general information about each sport and has a collapse/extend feature like this (http://www.nytimes.com/interactive/2011/08/24/technology/steve-jobs-patents.html) to view all of that sport’s sub categories if users want. This function certainly condenses the table and allows users to jump between sports much quicker.

5. Minor issues

- When a bubble of a country is clicked, the corresponding position of the country in the right table should be automatically highlighted. This will help users to immediately know where the country rank and how far ahead or behind the country is as compared to other countries.
- Currently, the number of medals earned by a country only appears when users click or move over the corresponding bubble. This information disappears when users move away from the bubble. It is better that the number of medals by types should be listed in the detailed table underneath the bubble map (i.e. under the first vertical line) even when the readers move away from a certain bubble.

Again, congratulation and thank you for the great work. I hope I can see more of your excellent work in the future.

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