Dear Jeremy White, Andrew Martin, Andrew Lehren and Archie Tse,

I am writing this letter to give feedback of the information visualization website: “Student Debt at Colleges and Universities Across the Nation” whose link is http://www.nytimes.com/interactive/2012/05/13/business/student-debt-at-colleges-and-universities.html. Aiming at users from the education community, this visualization effectively conveys the information by various interaction techniques, such as animation, chart and map. Overall, the visualization is attractive, especially the animation to simulate the change of the debt versus cost with respect to the change of years which I like most. Although not smooth, the animation provides users with a clear sense of how the debt changes. Another part which adds point to the visualization is the powerful filter, by which users select the information they are interested in based on five filtering conditions. Moreover, the search bar has the functionality of searching suggestion which significantly improve the user experience by facilitating the users’ input.

The data is separated as public universities and private universities which can be easily differentiated. Generally, I feel comfortable with the window placement and colors used in the chart. Two complementary ways (chart and map) to show the information also provides additional insight.

However, I believe that there are still some parts which negatively affect the user experience or could be improved to include more useful and interesting features.

The most important issue in the current implementation is that it does not support filters with combined multiple conditions. For example, the visualization does not present the desirable results
if I would like to find all public universities with enrollment size less than 10000. Instead, it only
works when I choose public universities or universities with enrollment size 5001-10000 separately. It
even cannot handle the condition of finding all the universities with less than 10000 enrollment size.
With this deficiency, the current implementation is not able to perform complex queries combining
multiple conditions, which greatly limits the range of exploration.

Secondly, I am surprised that I could not use my mouse’s scroll wheel to zoom in and zoom out the
map and chart; instead, I have to click the small button on the top right, which is a little inconvenient.
In particular, it becomes even harder if I need to pinpoint a small dot in the chart because I would
easily lose my sight on it as my attention is distracted by the zoom-in button, given a huge amount
of dots in this small chart. To improve the usability, my suggestion is to include some functionalities
for users to conveniently locate a small point in the chart/map, just like Google map which we can
use our mouse’s scroll wheel to zoom in and zoom out.

Another problem is that the animation only works for chart perspective. Since there is no detailed
instruction on the animation except for a play button which exists all the time no matter which
perspective I choose, I would be somewhat confused about why the animation does not work for the
map perspective. Since it is difficulty to show the change of debt versus cost in the map perspective,
as an alternative way, the animation may show the change of enrollment size of all universities, which
provides more information to users.

Moreover, there are a few minor issues that can be improved. Here I list some. First, the font is
too small, especially that in the pop-up figure showing the detailed information of a specific dot. On
a laptop with small screen, my eyes could not capture any important keywords on the first sight.
Second, it may not be a good idea to use a single black circle to enclose the highlighted dot. To better
show this distinct dot, a totally different color or a blinking spot to emphasize the dot would be more
appropriate. Finally, it would be more friendly to explain which kind of input value is valid when
users try to input their own data, rather than simply modifying the invalid input to the boundary
of the range of acceptable values.

Hope my feedback would help you make this visualization better.

Thanks much,

Yours sincerely,
Fan Yang