Feb 03, 2011

Letters to the Editor of the Graphics Department
The New York Times
620 Eighth Avenue
New York, NY 10018

Dear Shan Carter and Amanda Cox,

I am Xi (Stephen) Chen, a PhD student in Computer Science in the University of Maryland, College Park. I have been interested in the interactive and visualized news in the New York Times for a while. Your work makes news more tangible and interesting. Recently I have read your visualization report on “Obama’s 2011 Budget Proposal: How It’s Spent (http://www.nytimes.com/interactive/2010/02/01/us/budget.html)”, and I have some feedback on it.

This report is a visualization of Obama’s 2011 Budget Proposal, which is very important for every American since everyone has paid the tax and has the right to know where the money goes. However, since the proposal is mostly composed of words and numbers, it seems tedious and hard for audience to understand. Therefore, the authors cleverly use the visualization form of “Treemap” to illustrate amount of budget spent on different fields and areas. The blobs in the Treemap represent the hierarchical relationship. The size of the rectangle blobs to represent the amount of money in each item of the budget. The authors not only use the size but also utilize the color to show the increasing/decreasing rates of the budget in each field compared with that of 2010. The green color represents a growing trend while the red color shows that the budget has decreased compared with last year. Moreover, when the mouse moves onto one of the blobs, it will pop up a text box indicating the specific area which the blob representing, and showing its budget in both 2011 and 2010, with the increasing/decreasing rate of year 2011 compared to that in 2010. The author also kindly provides three buttons, enabling viewing in full screen, hiding the mandatory spending, and to show the budget in 2010 only.

The advantage of visualizing with size makes readers easier not only to have a perceivable concept of how large these numbers are but also enable them to compare the budget amount intended to spend on different realms and within each field. The big blobs in this graph representing each big area and the smaller blobs within them as the sub-area. From this graph, we can see that “National defense” and “Social security” occupies the largest proportion.

With such interactive and clear representation, however, there may be some information which needs to be shown more explicitly in this visualization.
First, the zooming interaction is provided by not in a very natural way. Users just need a click to zoom in from the normal perspective, but when zooming out it requires users to click the “Zoom Out” button on the up-rightmost. Moreover, the zooming function of the middle scroll in the mouse is not provided. Since this Treemap just has two levels of hierarchy, I suggest the designers to consider using left or right clicking to zoom out. And also the zooming using scrolling should be developed to provide users a more intuitive way of controlling.

Second, although the visualization offers intuitive comparisons between adjacent blobs within each area, it does not enable comparison across areas. Some important issues, like “which (sub)area increases/decreases fastest among all the areas” cannot be determined until a global comparison is conducted. In this graph it’s hard for users to compared the size and color of two separate blobs, and users need to move the pointer around all the blobs to find the blob which grows the fastest. Here I suggest the editor may make this Treemap into 3D; the new dimension is showing the growing rate.

Third, I think some of the blobs are so small that it only contains several pixels even after zooming in. It’s hard for users to point to it. I suggest the editor should provide a third level of zooming in so that the users can comfortably checkout those areas.

![Income security $567 billion](image)

**Figure 1** The blobs at the right bottom corner are too small
One last tiny problem is that the heading titles for some main areas are not shown fully or not shown at all because of the small size of the blobs. For example the item “Allowances” cannot be seen until zooming in.

Figure 2 "Allowances" is not shown in the original graph

In total, this news report gives readers not only an intuitive visualization of the tedious numbers in Obama’s proposal, but also reveals a great deal of insights of it because of the use of colored Treemap. It will provide more useful information if it can improve some of the functions I discuss above.

Best regards,

Xi Chen
PhD. Student, Dept. of Computer Science, University of Maryland, College Park
chenxistephen@gmail.com
UID: 110972167