September 13, 2012

Dear Matthew Bloch, Shan Carter and Alan McLean,

I am writing this letter to express my appreciation and suggestions regarding the visualization titled "Mapping America: Every City, Every Block" (http://projects.nytimes.com/census/2010/explorer) provided in the New York Times.

Firstly, I would like to congratulate your team for succinctly representing such a huge amount of data. The visualization was easy to understand and intuitive to browse. I especially appreciated the use of colored dots and the idea that the number of people represented by each dot decreases as the user zooms in. This enabled representation at each zooming level without cluttering the map.

However, I have a few suggestions about the visualization:

**Addressing color-vision deficiency:**
The use of colors was very helpful in giving a broad overview but I think that the visualization could be made more friendly for color-vision deficient people if choice of red-green combination (the most common color deficiency) could be avoided such as in the ‘Racial/Ethnic distribution’ map. Many maps use varying shades of same color, which can be hard for people with even milder color-vision deficiency. It could be better instead to use colors with high contrasts, as in the ‘Household income distribution’ map.

**Completeness and details-on-demand:**
It was nice that hovering over the map provides appropriate statistics for the ‘census tract’ or ‘county’ (depending on the zooming level). For completeness, these statistics could be provided at country and state levels too.

Following the "details-on-demand" paradigm, I think that the default state of visualization should be the map of complete USA, instead of a map of NYC, with statistics provided at the national level. Finer details at state, county and census tract level should be provided on zooming in.

**Interactivity:**
Using filters can make the visualization more fun to play with. For instance, the topic ‘Race and Ethnicity’ could contain only the map titled ‘Racial/ethnic distribution’ and the remaining maps representing individual races could be presented on request using a filter.

**Preserving geographical context:**
I noticed that the county boundaries and names show only when zoomed out. Mentioning county boundaries and names at all zooming levels would keep the user ‘oriented’.
I also noticed that searching an address takes the user to the appropriate location but does not mark the exact location. This results in the user getting lost in the map. Assuming that the visualization is based on Google maps, this feature would be easy to add.

**Shareability:**
I also noticed that the URL for all maps and zooming levels is the same, and hence not shareable.

**Error Handling:**
The search box handles some errors but could be made more robust by printing suitable error message for invalid searches such as ‘123456789’ and ‘@@@@@’.

**Consistency:**
It was reasonable to represent insufficient data regions with white patches. While hovering the cursor over them presented this fact, it should be included in the legend for sake of consistency.

Overall, I found the visualization to be extremely informative and hope my suggestions might help in designing future visualizations. Please feel free to email me.

Thanks,

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