

# Data Analytics

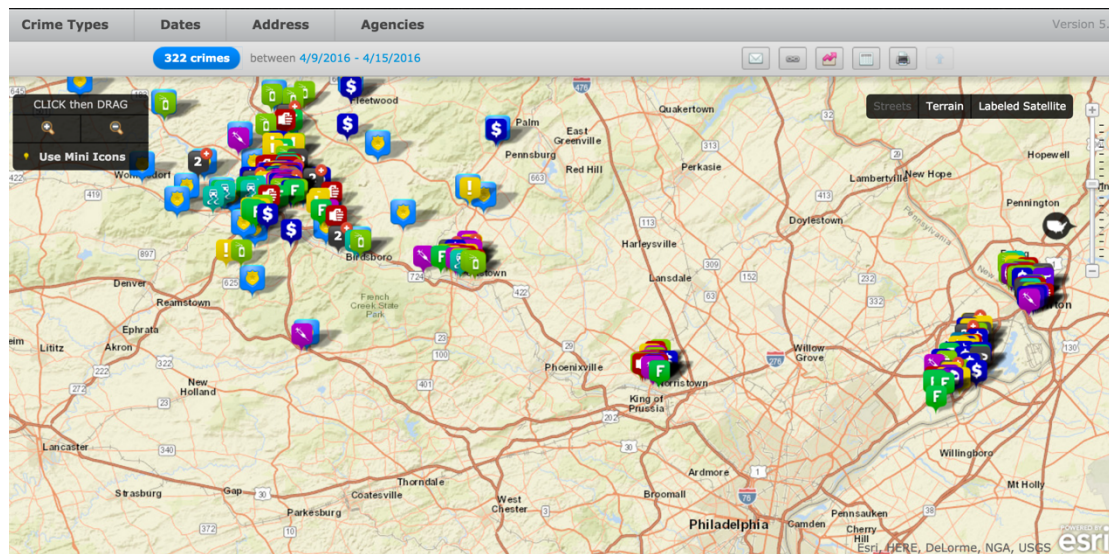
## **Assignment 9**

### **Data visualization**

#### **Group members:**

- Nanxun Xie
- Yifan Zhao

## 1. Crime Mapping



Link:

<http://www.crimemapping.com/map.aspx?aid=61a64832-70d7-40c9-a765-a4ae91df1383>

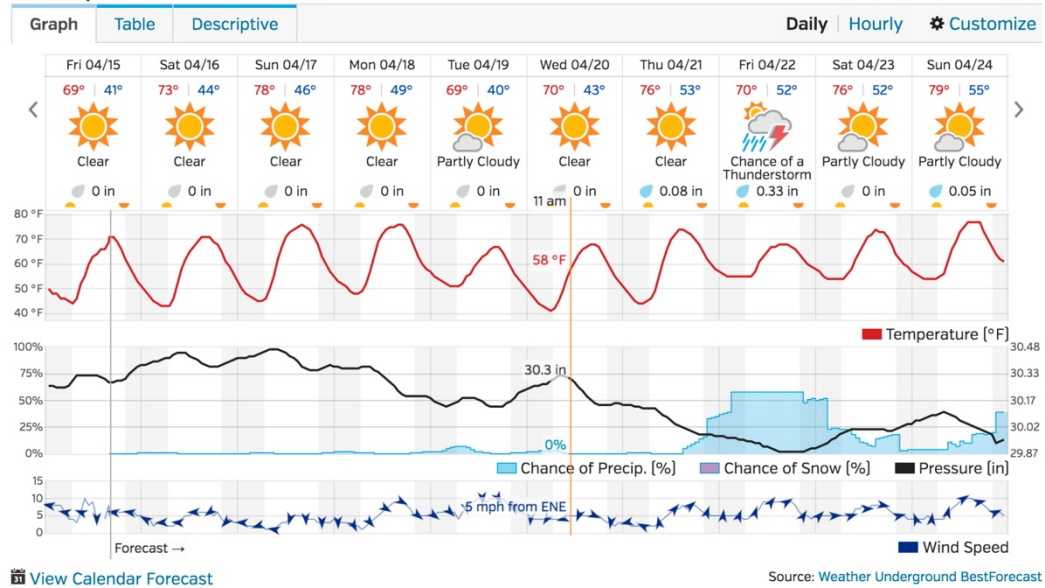
This is a map which can reflect the crime rate of cities in U.S.A. Viewer can choose the time period and type the address to find out whether there is a crime near him or her. According to the Tufte's design principles, this data visualization has some good attributes. To be specific, when viewer click on those icons with different colors and symbols, he or she can know the crime types and details. In addition, viewer can easily know where is relatively safe and which place has relatively high crime rate from this map.

However, although this crime map provides a good graphical display for summarizing and reasoning about quantitative information, it still needs some improvements.

Firstly, the icons are too big to recognize them easily. Based on the design principle, it should present many numbers or symbols in a small space. The icons in this current design covered the city name and the road. Then, the icon design can be replaced by different-colored small pins and define these colors as different crime types. According to this way, the data will be not so dense as this current design.

## 2. 10-Day Weather Forecast

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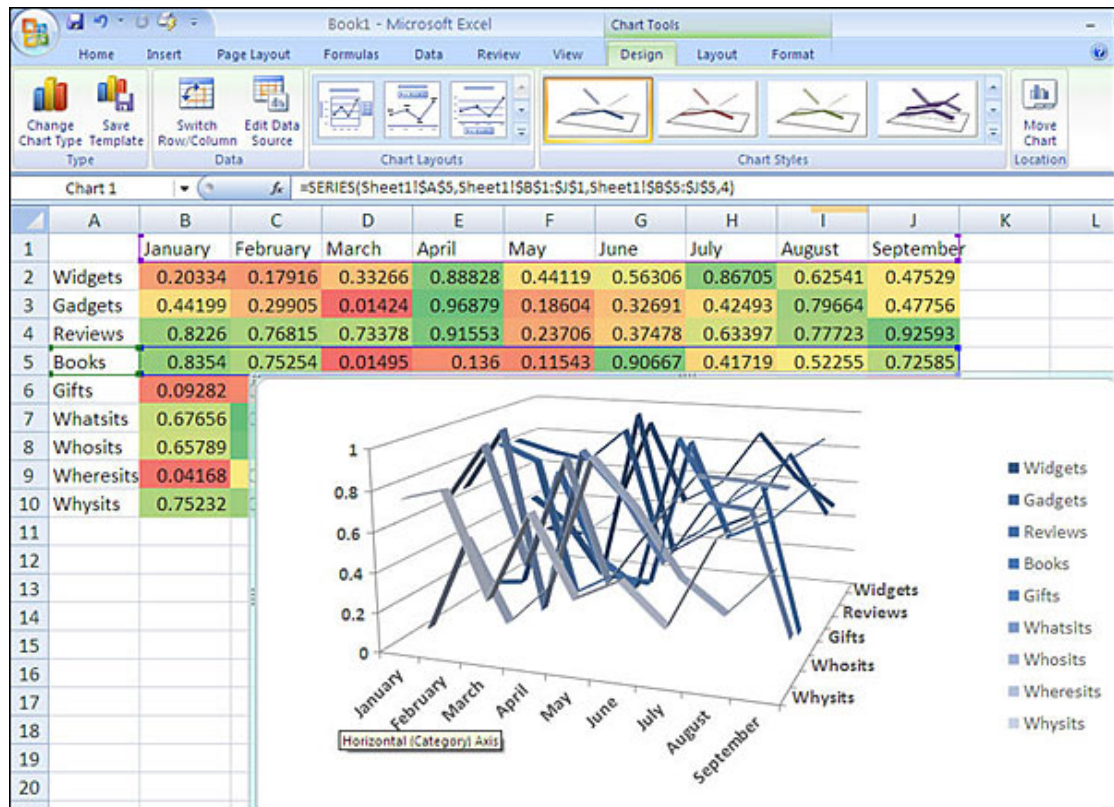


Link:

<https://www.wunderground.com/q/zmw:15272.1.99999?sp=KPAPITTS171&MR=1>

This is an examples of graphical visualization of complex data. It combines icons, numbers with lines to present different useful information efficiently. Furthermore, the graph reveals the data at several levels of detail, from a broad overview to the fine structure. For instance, it provides the trend curve of the temperature and the pressure value at a glance. When viewer hovers the mouse over the red line or the black line, it shows the exact temperature and the pressure. Also, the graph presents many numbers in a small place and gives viewer the greatest number of information in the shortest time, leaving a good impression on the viewer. From my perspective, there is only one part of this graph needs to be improved. The font size of date is a little small for the viewer, which will take relatively more time to find out the exact date they want to know.

### 3. A 3-D junk chart under months and items



Link: <http://bengarvey.com/2010/08/22/chart-junk/>

This is an examples of a 3-dimension chart of complex data, actually it is a junk chart. It not only shows from Jan. to Sep., but also covers totally nine items. From my opinion, in this kind of 3-D performance, these nine lines crossed over in the chart is inefficient for users to understand thoroughly. Unlike 2-D space, which users can directly and clearly find out the change scale of certain item in every point in both x-axis and y-axis, 3-D space is presented in a little bit messy way in this chart situation. Besides, all these lines are intersected in this chart make users also can not compare their differences horizontally and vertically. So as far as I am concerned, I think this kind of junk chart may be presented in a clear 2-D space chart instead, and make every line and point easy to catch.