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Data Visualization

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Assignment 1

Perception in Visualization Summary

This article summarizes the theories in psychophysics. The theories include four theories pre-attentive processing, post-attentive vision, feature hierarchies and post blindness. Lastly it describes the studies on the use of perception in visualization. In reading the section on psychophysics, I became very confused. I understand the concept on time consuming search but the way it was demonstrated had me re-reading the paragraphs many times. I am looking forward to more clarification in class. In regards to the perception in visualization, color texture and motion are the most salient.

Principles of Data Visualization Summary

We as humans are hard wired to visualize information. That is why data visualization is so important: it tells a story that directly appeals to people. The greatest difference between numbers and visuals is the speed it takes to tell the story the data wants to portray. Graphical excellence is the “greatest number of ideas in shortest time with least ink in smallest place.” In other words, visualizations accomplish the two broad goals of explanatory and exploratory in the least amount of time for the reviewer.

Preattentive attributes are what catch people’s eyes. The attributes include orientation, line length and width, size, shape, curvature, added marks, enclosure, color and spatial position. What people take out of these attributes are the analytical patterns such as high, low and between, clusters, gaps, steep, gradual, etc. Next is the gestalt principles which that our mind organizes individual elements into groups based on proximity, similarity, enclosure, continuity, etc. The slide then moves to a bubble graph which depicts mentions of Google, Microsoft and Apple across and applies the preattentive attributes, analytical patterns, gestalt principles. The bubbles help illustrate which mentions regarding to the future gave more mentions to certain companies because of the abnormal size of some of the bubbles.