**Questions**

**Find a visualization not discussed in class or used in a homework and answer the following questions pertaining to that visualization. Attach the visualization as a screenshot in your submission.**

<http://xkcd.com/1127/large/>

1. Consider Bertin’s characterization of visual variables (position, size, shape, value, color, orientation, and texture). Pick 2 of Bertin’s visual variables, and discuss them in relation to your visualization.

**Color**

The xkcd visualization, in terms of color, without taking into account value, is limited to red (Republican Party) and blue (Democratic Party).

**Selective:** Color would be considered selective in this visualization as it is easy to determine the different parties based on their color.

**Associative:** The color in the Congress visualization is associative since it is possible to group the Republican and Democratic parties based on their color. This is possible even with the two visualizations of the House and the Senate.

**Quantitative:** There are no numerical values associated with the colors in this visualization.

**Order:** The color is not ordered in this visualization – red does not come before blue and vice versa. The rainbow scale discussed in the reading also does not apply to this visualization.

**Length:** Bertin discusses limiting the number of color values to six or seven to allow the colors to retain their selectiveness even though it is theoretically possible to have an infinite length of colors. The xkcd visualization is limited to only two colors.

**Value**

The xkcd visualization of the United States Congress uses color values to show the ideological makeup of the Congress at a given moment in time. The values range from dark, to medium, to light blue for the Democratic Party representing Far Left, Left and Center Left. On the Republican side the color values range from dark, to medium to light red representing the Far Right, Right and Center Right.

**Selective:** The values in this visualization would be considered selective as the colors are ‘selectable’ based on their value. It is easy to distinguish between the different values of blue and red and gain meaning from that change (i.e. a partisan shift right or left).

**Associative:** Again this visualization would be considered associative in terms of value. The different groupings of ideology can be seen by darkness or lightness of either the blue or red.

**Quantitative:** No numerical information can be gained from the different color values in this visualization.

**Order:** The values in this visualization would be considered ordered – going from the most liberal to the center to the most right ideology.

**Length:** Bertin says that the value length is theoretically infinite, but practically limited. In this visualization there are only a total of six different values; three for blue and three for red.

1. Munzner proposed a nested model for visualization design and validation. Discuss/validate your visualization with respect to domain problem characterization and data/operation abstraction design.
2. Based on Cleveland and McGill’s results, does your visualization embody good practices (i.e. can people accurately perform the tasks based on the encodings?)
3. Do you agree that visualization is a functional art? Explain.
4. Ask yourself what the designer is trying to convey and think of three to four possible tasks this visualization should help you with. Does the visualization achieve any of your tasks? (To view an example, see Albert Cairo, pages 26-28.)