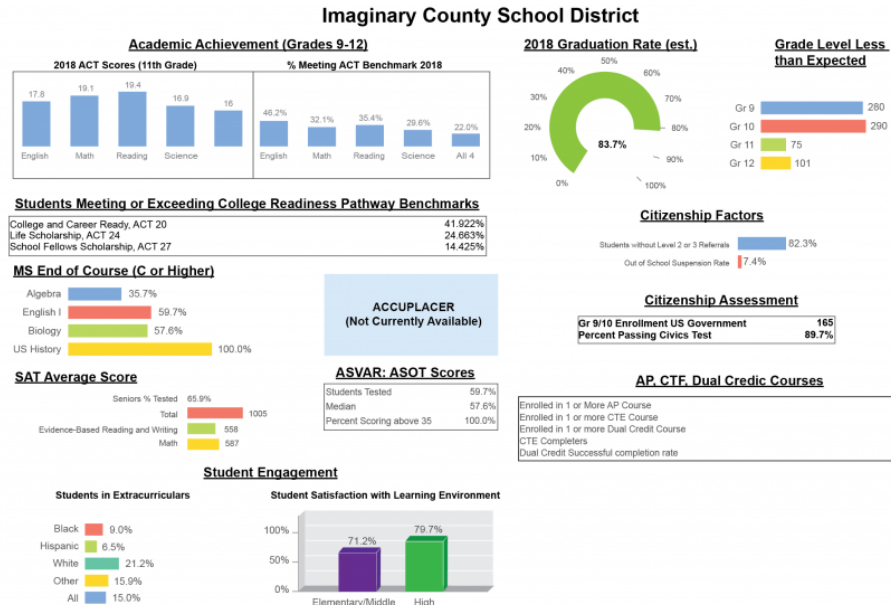# CS171-HW4

Zane Wolf

2. Design Critique

There doesn't appear to be one over-arching Alignment scheme when it comes to titles (which you can find both center- and left-aligned), but all the graphs are designed to be center-aligned. However, this poses problems when badly-designed axes force closer Proximity between two separate sections (e.g. SAT Average Score and ASVAR: ASOT Scores) than there should be. Likewise, the center-only alignment of the graphs and irregular proximity to titles causes the Student Engagement section to look completely askew. They employed Contrast for bar-chart colors, but again they are lacking a homogenous coloring scheme. It would have been better to use color to separate all the different sections, for example, and then change saturation for the bars. With regards to repetition, I'm having a hard time finding consistent patterns of anything, really. There is no use of similarity, and enclosure is used for all tables and two bar charts, but not the other graphs. I don't see any use of connection, closure, or continuity. With regards to the Data-Ink Ratio, I think for the most part it is okay with three glaring exceptions. The first is the 3D graph at the bottom center, which wastes ink on generating the 3D-ness of this graph. The second is for ACCUPLACER holder square, which is a lot of ink to convey literally no information. And the third is the 2018 Graduation Rate estimation....pie chart, which ultimately shows one single number: 83.7%. Somewhat of a smaller issue is the 5 significant digits in the Benchmarks table - rounding to one decimal point would have been sufficient and consistent with other tables. Given the simplicity of the graphs, I don't believe the Lie Factor is an issue here. But with regards to clarity and easiness of extracting information - it good be better. The lack of axes and units leaves me guessing what is being plotted for several things - they seem to jump between plotting raw numbers and percentages randomly, and I can't tell why.

4. Bonus Task II

This past week I began climbing at my local gym for the first time, and so here I present the data I collected: how many climbing routes I climbed (denoted by number of peaks), the difficulty of the climb (denoted by the color/layer of the geometric mountain landscape), how many of those climbs were on lead (denoted by the bushier trees [lead is a flavor of climbing where you clip the rope in as you go, versus having the rope anchored above you as in toprope climbing]), and the number of falls I took (denoted by the stars). The data-to-ink ratio is horrendous, but contrast is there in spades. And to improve the clarity of this data, the legend contains the number of peaks (since my free-hand drawing skills leave something to be desired). The Marks of this graph include the lines comprising the mountain landscape, trees, and legend, and channels include color hue, shape, and title/angle.

To provide some context: The Yosemite Decimal System is a way of rating the steepness of the mountain. Zero is flat land, while 4s might be a hands-needed scramble and 5s are mountains steep enough to warrant the use of the rope. Therefore, climbing routes tend to be confined to a 5.something decimal, and this is where the rating system shifts from 'steepness' to 'difficulty'. For example, a 5.8 might be 'overhung' (so, think an 'acute' wall, where the rock face is leaning towards you and is therefore *incredibly* steep) but have larger/more handholds than a 5.11 on a wall that is less steep (if the wall is leaning away from you, we call this 'slab') but has very few/incredibly small features onto which to hold. Additionally, this difficulty system is exponential in nature. The difference between a 5.7 and a 5.8 is negligible, between a 5.8 and a 5.9 a bit less so, and so on.