

## Design Critique 7 – Bart Quaink – 11121424

### Introduction

The source of the to be critiqued visualization(s) is: [Track National Unemployment, Job Gains and Job Losses](#) by [Andrew van Dam](#) and [Renee Lightner](#). The webpage is a collections of several visualizations displaying information about the unemployment factor in the US. By looking critically at each visualization I will not only critique each separate visualization but by doing so, will also be critiquing the entirety of the visualizations as a whole.

### Winners and Losers: Job Gains and Losses (including detailed view of Nov. 2015)

Oh boy, where to start.. There are a lot of good things about this visualization, but also quite a large amount of bad ones. The good ones are mostly part of the first instance of the visualization, *overview*. At first glance, even while not paying that much attention to the legend, it's really obvious what's going on and what this graph wants to show us: the growth or decline in jobs in certain fields. Because of the dots and lack of information showing exactly what the dots represent, it's not hard to come to the conclusion that there is a certain amount of interactivity implemented in this visualization. Hovering over the dots proves this theory. There is interactivity implemented. But first of all, the overall visualization.

Let's break the visualization down, starting with some of the basic stuff, the *graphic design principles*: contrast, colouring, repetition and alignment. *Contrast* and *colouring* is used highly in the graph, the two are used intertwined because the author has chosen to use a colouring scheme which uses contrasting colours. Two, well actually three sets of colour schemes are used. One for negative values, one for positive values from .0-.75% and one for anything over .75%. I agree with most of the colouring scheme, using a red contrast for negative values and green for positive ones. Not using white in the middle of the colouring scheme is also a positive. But then, using blue for anything over .75% doesn't really make that much sense to me. The legend doesn't show what the maximum and the minimum value is. The rest of the legend uses steps of .25%, not showing what the highest and lowest value is can give me a bad interpretation of exactly how much of a growth or loss a certain field has if it falls in one of the two categories. Another problem I have with the colouring scheme is the fact that they included the minimum value in the colouring scheme of red but then didn't do the same thing for the maximum value. From 0 till the lowest value a graduate red contrasting scheme is used but if you go the opposite way suddenly they discarded a perfectly good opportunity to use a green colour for the maximum value but decided to use blue instead. This really stands out to me and doesn't make that much sense. I personally would've changed it to keep in in tone with the rest of the colours, just a darker contrast of green.

Then secondly, *repetition* and *alignment*. I decided to discuss both these two together because in the interactivity of the graph they basically work together. By interacting with the graph you'll see all the dots that are part of the same field. I would've liked to have the dots that are part of the same field stand out more while selection a field, now they just become black. The rest of the dots are still there and because of the small scale it's hard to actually see a trend that's been going on in the data. Which makes it harder to draw a conclusion out of the dataset. My solution? Fade out the rest of data and add a line to connect all the dots. On this way the repetition is still present, the alignment of the data and the dots is still visible and by adding a line, so basically creating a line graph, it's really easy to see what the trend of a job field is.

Thirdly, the interactivity given in the graph/table of the detailed view. This greatly improves the clearness of the graph discussed earlier. Having the ability to sort and re-order the chart gives a better grasp of how the data is sorted and how the different job fields compare to each other.

The data to ink ratio is pretty good, the scales are divided equally and clearly. Bold move moving the x-axis on the top instead of the bottom, but it works out well. Overall the visualization is pretty well made, I would've added some extra elements to the interactivity to make the message of the graphic a bit clearer. The use of visual encodings is done really well, the position and placement of the dots basically represent the length of a bar chart.

And speaking of bar charts, the second visualization of the data is in fact a bar chart. This bar chart does not only function as a tool to visualize data, but also as probably the most important interactive piece of the whole page. The bar chart sorts the values and data of the different sectors on of the desired columns: *Sector size*, *Monthly change (total and pct.)*, *Months rising* and *Months falling*.

Clicking one of these columns will affect the sorting of the first visualization. The chart itself gives the viewer an insight about the different job market aspect of a certain sector. It even does a way better job at this than the first visualization. Not only is it easier to spot a trend in the job growth of each sector, it even shows more data with less data ink used. The biggest loss compared to the bubble graph is that it won't show us the timescale, it lacks a x-axis.

But then again, is that really that big of a loss? There is a column in the chart that basically replaces the biggest purpose of the y-axis. The *Monthly change* column. The idea of the y-axis in the original graph is to give us an insight about the differences over time of all the job sectors. And what does the *Monthly change* show us? *Exactly*, it gives us an insight of the changes in the job sector. The only thing is missing is that it's not showing us the growth or decline of each specific month. But as explained earlier, because of the position and placement of the selected bubbles in the graph and the lack of a line to visualize the actual growth over time, leaving this behind is not that big of a deal. In fact, I don't think anyone would've noticed.

The colouring of the chart is done really well. First thing noticeable is that not all of the data is represented with a certain colour scheme. Thinking about why certain parts of the data are not represented with colours, thus implying there is a scale and a certain relation between the data, makes it clear why the author decided to not use a colouring scheme for the rest of data. The only parts that are being visualized with a colouring scheme are the ones that are not in direct relation to each other, and do not perceive a false message. This is not the same as a *lie factor*. If the author decided to colour scheme the whole chart, the visualization would've lost its legitimacy. The monthly change in total jobs are not in relation to each other. In contrast, the monthly change in percentage is, it compares the size of the job field, which is also in relation to the other sectors (and thus also has a colouring scheme). By doing so, the largest sectors will probably have the biggest change in job change in total, but by adding a percentile scale it makes it possible to actually compare it to the other sectors.

The saturation of the colours is something I'm a bit undecided about. Even though it shows a difference in the growth of the job sectors, they don't stand out that much to me. Except that construction is the biggest growing sector. By just a small margin that is. I'm undecided about the fact that there are only 3 colours to show the difference in growth for about 17 sectors. And all of these colours are shown in the top 5 of monthly change. The same thing applies for the sector size, which is even a weirder choice of colour. Instead of choosing its own colouring scheme, the author decided to link the colouring scheme to that of the Monthly change in pct. When sorting by sector size, the monthly change pct. is already shown right next to it, which would make it a bit obsolete to use the same colouring scheme for the sector size as well. Comparing position is one of the easiest ways of interpreting data, which this is. Link the sector size to the colour right next to it, that's not that hard.

### **Jobs Come, Jobs Go: National Unemployment**

A time scale showing the growth of the unemployment rate is shown. Data for each month, over a timescale of over 60 years is shown. Easy to understand, and easy to read. By aligning the data on such a way that both the y- and x-axis are showing a timescale, it's easy to compare months and the years with one another. A linear timescale is kind of hard to read, because we're not used to read from left to bottom, instead of standard left to right.

The contrasting colours are kind of perceiving a lie. A scale from green to red implies there is a middle ground, which there isn't. The data starts at less than 2%, up until more than 11% unemployment rate. So the tipping point is somewhere around 6-7%, which has no meaning whatsoever. Thus green implies something good, and red something really bad. The graph is showing unemployment rate, which is something bad either way. The colour scheme is not necessarily that bad, but it conveys a portrayed message. And not a good one.

Next, a simple line graph. Easy recognizable, not difficult to read and interpret, and shows us the general image of data over time, making it easy to read the data in a linear scale. There is not much bad to say about the key aspect of the line graph itself: the line and the graph. But the background data could've been a bit clearer. I can't see contrasts that well so it took quite a time to recognize why there was a big RECESSION in the top left of the graph. A clearer way to show when exactly recessions were starting and ending would've been a bit more helpful, showing the time period of recessions on the y-axis for example. But then again, when you can see it, the one thing the authors want us to conclude about this graph is easily visible: unemployment rates drastically rise during recessions.

The interactivity between the two graphs is quite good as well, selecting a month and year on either of the graphs highlights the same period on both the graphs. This makes the other graph easier to understand as well due to the fact that it's easier to see what time period you're reading the data from.

Another interactivity between these graphs is adjusting the charts by selecting an unemployment rate. The best way to play with the copious amount of data lying beneath. Simple clickable buttons gives us the option to filter out the whole data to the desired age, gender, ethnic or education group.

After filtering, the desired data is updated on the line graph. The graph clearly shows us the desired data to be compared. The interactivity even shows the data in comparison to the rest of the group. The selected group is updated as a thick, blue line. To make the line of the selected group bold wasn't necessary. It just makes the details in the line harder to read. The contrast between blue, black, and the unselected groups as grey is already clearly visible, so there was no need to bold the selected line.

**Overall**, there are a lot of things good about the whole visualization, but also quite some things wrong. For conveying the message, and informing the reader about the unemployment rates in the US, this visualization is doing a good job. For easy understanding and getting to conclusions, there are some things that could've been added or improved to make the interpretation of the data even easier. But for the general public, and the intention of making an easy to understand visualization, it's doing a pretty good job.

Sources:

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