Supported user tasks:

- My family and I are planning a vacation in Houston, Seattle, or New York. We would like to know the average temperature for each month in the respective cities so we can determine what would be the most convenient time to visit each city.

- As a climatologist, I am interested in analyzing the trends in temperature across three different towns in the Pacific Northwest, South, and East coast. Also, observe temporal trends in 2014-2015.

- I just got hired as a consultant in 2016, and I will be working from three different cities this year (Seattle, Houston, NY). I would like to know what the average temperatures were in 2014-2015 so I know what clothes to include in my luggage.

Design Overview:

Cross-city actual temperarature averages per month
Missing data is not plotted
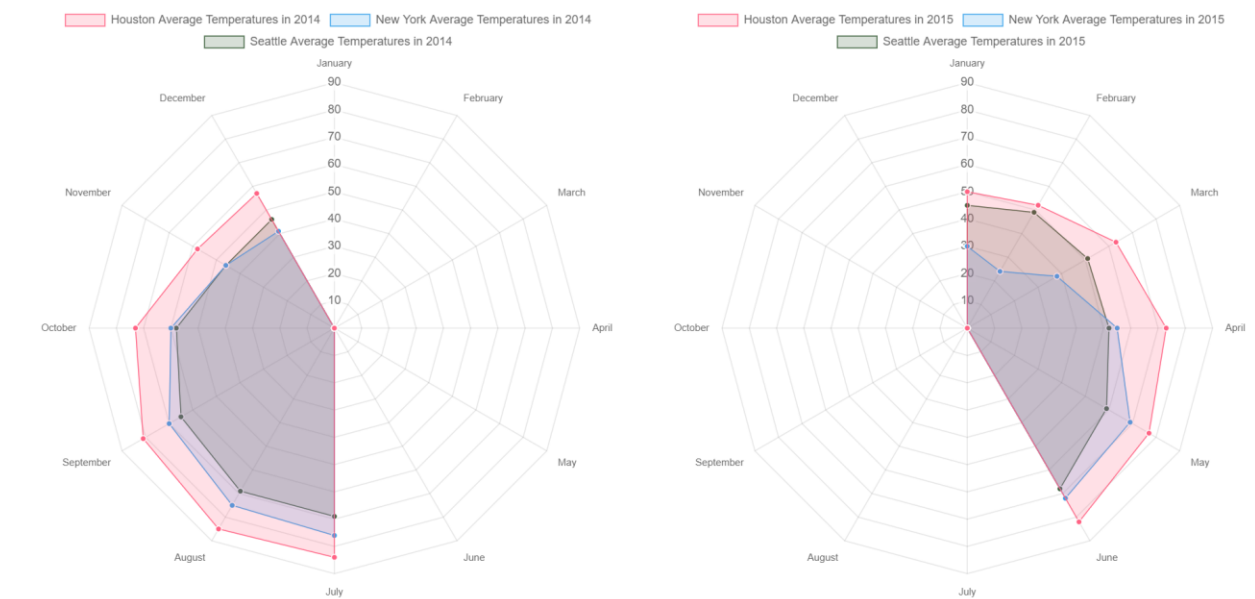
The visualization was made using weather history data scraped from Wunderground to the cities Houston, New York, and Seattle. There was quite a bit of data processing applied to the original dataset. First, I segregated the data into two new dataframes: one for 2014 and the other for 2015. Then focusing on each year, I computed the average actual temperature for each month. I repeated this step for each city, and in the end, plotted the points on the canvas. While I was working with the data, it was made apparent that the dataset did not account for all the months in the year. For 2014, I only had 6/12 months (June, July, August, September, October, and December). In 2015, I still only had 6/12 (January, February, March, April, May and June). The datasets for 2014 and 2015 did not have months in common so it was not possible to compare the same months for both years. This absence In data is explicitly communicated through the subtitle.

Moving on to the design principles applied. The contrast in color is optimal across the visualization, thus everything element is clear and legible. Also, the size and boldness of the title contrast highly with the subtitle and labels. Furthermore, there is consistency and repetition too because I used the same fonts, graphics, icons, etc.., and the spacing is good because related items like the title and subtitle are really close to each other but also distant from the charts. All labels are accurate and informative. Overplotting is avoided so every data point is easy to observe. In addition, the user can readily understand that there is missing data thanks to the discontinuity (and the reference in the subtitle).