## 1.Outline your project and which extensions you are building on to the template. & Coding techniques. & Extension complexity and challenges. (400 words, up to 440)

**1.1 Which template?**

Data Visualiser

**1.2 What extensions have you chosen to do?**

**a. Case promotion**

I would like to improve the presentation of previous cases(pay gap for job 2017) since the classifications of the job makes no influence to the result. I will add a slider to let the user choose the job, and do some improvement works to make each appearance more readable, such as colors for circles with different size, the clear title and the labels.

**b. Surface Temperature**

I would plan to make data visualization that mimics a line chart of pay gap for gender case. This will be a graph with year on the x-axis and temperature on the y-axis.

Rather than hard defining the minimum and maximum values of the y-axis, I will try to determine the exact maximum and minimum values by traversing the sequence. So I need to accomplish this using a simple algorithm.

Also, since the year range is so large, I would try to place x-axis values at readable fixed intervals, and fix the parameter ‘decimalPlaces’ to adapt this case since all the values of y-axis are between -1 and 1.

**c. Personal Incomes(2010-2021)**

In this case, I will simulate the case of nutrients to complete the data visualization. But the difference is that I will use a bar chart to display the salaries of civil servants at different levels in each region. Bar charts are one of the most commonly used visualization tools, but they were not included in the previous templates. I may need to store the salary status of each region in a numerical sequence, and use it to draw bar charts and labels to display specific characteristics.

I need to change the value of left margin, since the y labels are longer than the previous case’s.

**d. Civil Service median salary**

Use Bar Chart to show the median after-tax salary Civil Service employment by region and responsibility level.

Leverage charting libraries like D3.js, AnyChart, or Chart.js for simplified implementation of bar charts. These libraries abstract complex operations, offering customizable and interactive charts.

Customization of bar chart appearance is looking forward to realize, including colors, labels, and axis configurations. Customization ensures the adaptability of the chart to specific visualization requirements.

Implement interactive features, such as tooltips, zooming, or animations, to enhance user engagement. This is particularly important for conveying information effectively.