CGT 270 Data Visualization Fall 2021

Module II

Week 5

**Lab 5: Critique & Refine**

The goal of this lab is to critique and refine visualizations you created in Lab 4: Filter & Represent using your **Tableau Training Data**. In this lab you will perform a self-critique of the two visualizations you created last week and refine each of the visualizations.

**Part I**

Load each visualization to the website below, then perform your self-critique/assessment

<https://stephanieevergreen.com/rate-your-visualization/>

For each visualization you will rate all 24 checkpoints in about 5 minutes or less (per visualization). At the end, you’ll see your visual’s total score, along with a list of the checkpoints where you rocked it and places where you could improve. **Save your scores for each visualization (Print to PDF) and upload it with your assignment.**

By the end of Part I you should be able to

|  |  |
| --- | --- |
| Remember | *Recall* [visualization principles](https://data.ucop.edu/support-training/tableau-files/goodenoughtogreat.pdf). |
| Understand | *Discuss* [data visualization best practices.](https://www.dataplusscience.com/files/visual-analysis-guidebook.pdf) |
| Apply | *Examine* visualization solution(s) for insight. |
| Evaluate | *Assess* data visualization products for impact & effectiveness of visualization(s). |
| Analysis | *Distinguish*between the question being asked and the visual solution provided; does the visualization address/answer the question(s) . |
| Create | *Propose* and make recommendations for improvement. |

**Part II**

You will need the Andy Kirk Book.

By the end of Part II, you should be able to:

|  |  |
| --- | --- |
| Remember | *Describe* what happens in the **refine** stage. |
| Understand | **Describe** what stages are impacted by the **refine** stage and how. |
| Apply | **Implement** some method(s) or technique(s) to make the visualization better. |
| Evaluate | **Evaluate** the advantages and disadvantages of the changes made. |
| Analysis | **Explain** the rationale for the features that were refined. |
| Create | **Generate, produce and/or**improve the visualization. [Tips to improve your data visualization design.](https://www.columnfivemedia.com/25-tips-to-upgrade-your-data-visualization-design/) | |

The Andy Kirk Book (Data Visualization Handbook for Data Driven Design) contains a gallery of visualization chart types (CHRTS) located in Chapter 6: Data Representation). Each chart type in the gallery includes: representation description, an example, how to read it and what to look for, presentation tips and variations and alternative chart types.

Locate the chart type you chose to represent your data as part of the Filter & Represent Lab (Week 4) in in the gallery of visualization chart types. For each of the visualizations you created in the Filter & Represent Lab (Week 4) locate the variations and alternatives section on the gallery page and choose one of the variations and/or alternative chart type to represent the refined version of your visualization.

For example, if you created a bar chart, find out what variations and alternative chart types are recommended. Using the same data, you used in the Filter and Represent lab, create a new visualization using one of the variation or alternative chart types.

You must use data visualization best practices (see **Data Visualization Check list**).

Perform a self-assessment of the newly created visualizations (see Part I).

**WHAT TO TURN IN**

Part I: Critique

1. Self-assessment of the two visualizations you created in the Filter & Represent Lab (Week 4); saved in PDF format
   1. LastnameFirstInitial\_Fig1SelfAssessmentScore.pdf
   2. LastnameFirstInitial\_Fig2SelfAssessmentScore.pdf

Part II: Refine

Make sure you use data visualization best practices (See Data Visualization Check list).

**Figure 1**

Original Chart type: *Box-And-Whisker Plot*

Refined Chart type: *Box-And-Whisker Plot*

How to read it and what to look for (Refined Chart type): It shows the five statistical measures of: 25th percentile, median, 75th percentile, and 90th percentile and 10th percentile, or minimum and maximum. The 10th and 90th percentiles are marked by the ends of the ‘whiskers’ on the box. The Box ends show the 2th and 75th percentiles, while the line in the middle of the box shows median. Each box shows a different value.

Figure Caption:This is a box and whisker chart that shows all the data of: Attack, Defense, HP, Special Attack, Special Defense, and Speed values in my data set. These values are used by the Pokémon video game to calculate the results in the game when the Pokémon acts or is interacted with. I also modified the data set to only include these values and the Pokémon names and number. Through this visualization, you can find the median, maximum, and minimum values of each of the six types of data presented.

Export the refined visualization as an image, save as LastnameFirstInitial\_Fig1Refined.jpg

**Figure 2**

Original Chart type: Bar Chart

Refined Chart type: Proportional Symbol Chart

How to read it and what to look for (Refined Chart type): Shows quantitative values for different categories of items. The chart uses shapes with their size to represent the value that category holds. Works best with a wide range of values.

Figure Caption: This is a Proportional symbol chart made to show the frequency at which different types of evolution in the game Pokémon occur. These are: Happiness (evolves dependent on happiness value), Level (evolves dependent on level), Other (evolves dependent on other factors), Stone (evolves dependent on evolutionary items, normally stones), Trade (evolves dependent on being traded to another person), and Mixed (uses multiple conditions to evolve.

Export the refined visualization as an image, save as LastnameFirstInitial\_Fig2Refined.jpg

**(PNG files WILL NOT be graded)**

***(add an additional page if needed)***