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: *Bar Chart*

Refined Chart type: *Histogram*

How to read it and what to look for (Refined Chart type): *The display is formed by a combination of lines and point markers to indicate (through position and length), typically, five different statistical measures. Three of the statistical values are common to all plots: the first quartile (25th percentile), the second quartile (or median) and the third quartile (75th percentile) values. These are displayed with a box (effectively a wide bar) positioned and sized according to the first and third quartile values with a marker indicating the median. The remaining two statistical values vary in definition: usually the minimum and maximum values or the 10th and 90th percentiles. These statistical values are represented by extending a line beyond the bottom and top of the main box to join with a point marker indicating the appropriate position. These are the whiskers. A single plot will be produced for each relevant, discrete category grouping.*

Figure Caption: *This graph shows the distribution of attack stats amongst the different elemental types of Pokémon.*

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

**Figure 2**

Original Chart type: *Bar Chart*

Refined Chart type: *Histogram*

How to read it and what to look for (Refined Chart type): *The display is formed by a combination of lines and point markers to indicate (through position and length), typically, five different statistical measures. Three of the statistical values are common to all plots: the first quartile (25th percentile), the second quartile (or median) and the third quartile (75th percentile) values. These are displayed with a box (effectively a wide bar) positioned and sized according to the first and third quartile values with a marker indicating the median. The remaining two statistical values vary in definition: usually the minimum and maximum values or the 10th and 90th percentiles. These statistical values are represented by extending a line beyond the bottom and top of the main box to join with a point marker indicating the appropriate position. These are the whiskers. A single plot will be produced for each relevant, discrete category grouping.*

Figure Caption: *This graph shows the distribution of attack stats amongst the different elemental types of Pokémon.*

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

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

***Complete the Refine Activity Worksheet***

<https://tinyurl.com/Refine-Activity-Worksheet>

Upload your PDF responses to the Refine Activity Worksheet: **LastnameFirstInitial\_RefineWorksheet.pdf**