Introduction

For the final project, you will create an **explanatory** data visualization from a data set that communicates a clear finding or that highlights relationships or patterns in a data set. Your work should be a reflection of the theory and practice of data visualization, and your final deliverable will be a write up along with a Tableau Public workbook.

We will provide some options of data sets to explore; however, you may choose to explore an entirely different data set. You should be aware that finding your own data set and cleaning it using Python, R, or some other language can take considerable time and effort. This can add as much as a day, a week, or even months to your project so embark on the adventure to find and clean a data set if you are truly prepared with data wrangling skills.

You have three options for this project. You should pick an option based on your prior experience with data munging and exploratory data analysis. The option you choose will not affect the evaluation of the project.

- **Option 1:** Select one of the beginner data sets, which already has a summary of findings, from the **Data Set Options** document. Then, create a visualization that communicates the findings.
- **Option 2:** Select one of the intermediate data sets from the **Data Set Options** document. You will investigate the data set to share a story or message about the data and then create a suitable visualization.
- **Option 3:** Find a data set, investigate it, and share your findings in a visualization. Your final graphic should primarily be explanatory, but it may also contain exploratory components. You can find a list of recommended websites to find data sets in the **Data Set Options** document. You should be aware that finding your own data set, cleaning the data set, and analyzing it (using R, iPython Notebook, or another tool) can take considerable time and effort. This can lengthen the time you spend on your project by days, weeks, or even months. Choose the option only if you feel prepared for a challenge!

Now, on to the details!

Step One - Choose a Data Set

programming and working with data. The data set you choose will not increase or decrease your chances of passing this project.

Step Two - Get Organized

Eventually you'll want to submit your project and share it. To do so, you need to create a zip folder that includes the following:

- **Write-up:** PDF or Markdown file that includes links to your Tableau Public workbooks, published online, and a write-up with four sections. See **HERE** if you need help publishing your Tableau Public Workbook.
    - **Summary:** in no more than 4 sentences, briefly introduce your data visualization and add any context that can help readers understand it
    - **Design:** explain any design choices you made including changes to the visualization after collecting feedback
    - **Feedback:** include all feedback you received from others on your visualization from the first sketch to the final visualization
    - **Resources:** list any sources you consulted to create your visualization
- **Data Files**
    - the final data set used to create the visualization (usually .csv, .tsv, or .json file)
    - a codebook or other files related to the data set (description, readme, license)

Step Three - Find a Data Story

Explore your data set and craft a message or story around your data! Think about the overall message you want to convey and think about the comparison(s) or relationship(s) you want your readers to see. Remember that you will ultimately need to create a visualization that is explanatory, helping lead a reader to identify one or more key insights into the dataset. Feel free to use whatever visualization and data analysis tools you feel comfortable with using at this point in the process.

Step Four - Create Your Visualization

First, sketch ideas for your visualization. Once you settle on a sketch, explain any design choices in that sketch, such as chart type, visual encodings, and layout, in the *Design* section of the write-up. Then, create your visualization using Tableau. The visualization must include animation, interaction, or both. See the **Project Rubric** for more information.

There are many ways to get feedback, and more feedback is generally better! Here are some options.

- Share your visualization with others in person and have them think aloud as they read and explore the graphic so you can document what stands out to them and how they interpret the graphic.
- Share a link to your project in the Data Analyst Nanodegree Slack and ask others to share constructive criticisms. Be sure to offer advice to others who are seeking feedback too!

You might need to ask specific questions to prompt the reader. Here are some questions to help you. You can, of course, ask others.

- What do you notice in the visualization?
- What questions do you have about the data?
- What relationships do you notice?
- What do you think is the main takeaway from this visualization?
- Is there something you don't understand in the graphic?

Step Six - Document Feedback and Improve the Visualization

For each person that gives you feedback, add the person's feedback to your write-up file in the *Feedback* section. As you improve and iterate on your visualization, update the visualization **AND** describe any changes in the *Design* section of the write-up.

You should save multiple versions of your data visualization after you make changes to it. Remember to save related files with similar numbers.

When should you save your files? You should save your files whenever you have a working version of your data visualization. If you get feedback and make changes, then create a new file and save the file as another version.

Your goal is to build evidence that you have shared your visualization, received feedback, and responded to that feedback. **You need to submit an initial version of your data visualization and the final version with the corresponding write-up.**

Step Seven - Review

improve your project!

NEXT