

CIS 5270: Project-1: Tableau Project Instructions

Submission due: March 26th, 2023

Team size: Up to 3 members in one team. (i.e. Maximum of Total of 3 members). You can also choose to work by yourself.

Note: If for any reason you are unable to submit on Canvas, please email your Final Project document within the timeline to my email: sbalan@calstatela.edu

If working in a team, only 1 team member needs to submit on Canvas. All the team members names have to be listed on the Cover Page of the project document.

Section G [Reflection] is an individual submission from each team member and must not be part of your Project document. In the Reflection document, add your name as well as the project topic and the team members you worked with. Please add team member information on Page 2. Page 1 must only have your name and the Project topic you worked on.

Document Format/Layout:

- Please use 1 inch margin, Times 12, and double space (**Note:** Any additional margins & spacing will be considered as sloppy writing).
- List your Project title and name(s) on a separate cover page (Cover page is Page 1 of your document-This will not be counted toward the total length of the project document).
- There is no fixed length for the total number of pages for the final Project document except for the part of Introduction and Story-Telling--See instructions below. However, your final Project document should contain all required information as per instructions given below).

Helpful Resources to find Data sets:

Preferably select a project with a Business theme.

1. <http://www.data.gov/>

Over 97,000 datasets in multiple formats incl. CSV or XLS and includes API links for developers option.

2. **City of Chicago Data Portal**

<https://data.cityofchicago.org/>

3. Kaggle

www.kaggle.com

(free registration required to view data)

4. City Forward

http://cityforward.org/wps/wcm/connect/CityForward_en_US/City+Forward/Home

This is a repository of data from cities around the world. Data comes from vetted sources such as: City of Edmonton Traffic and Collision Reports, Australian Bureau of Statistics, Illinois State Police, etc.

Project Submission Instructions:

A. Introduction

This section should introduce your project topic and the motivation to work on the project. Minimum length on the Introduction section – 1.5 pages double spaced, Times 12, 1-inch margin.

B. Data Description

Finalize Data Sets and List down the URL's for all Data Sets.

Minimum Data set size: 400 rows, 14-15 “usable” columns containing a mix of dimensions and measures.

Describe the details of your data set(s). Data description should be described in a tabular format. The table should contain columns:

- field name
- data description

The table should contain all the fields (minimum 14 fields) you use for your project. You can search for more than one “related” data set on the same topic - Make sure to specify all details of your data sets.

C. Data Cleaning

List down the steps you took to approach cleaning the data set and/or checking to see if your data set was clean. Check the ‘Data Cleaning’ document posted on Canvas. List **at**

least 5 (any 5) different categories of data cleaning examples and how you applied it to your project data set.

For example: missing values, splitting columns if necessary, combining columns, and other such. **Note:** Deleting columns and rows will not be included as a data cleaning category.

Show screenshots of both pre-cleaning and post-cleaning for each data cleaning category. *{You do not have to show the screenshot of the entire data set. Screenshot of part of the data set will do.}*

Submission Instructions for Part-C

For each of the 5 data cleaning categories, you will submit the following:

- 1)** Data category name (Example: Missing Value)
- 2)** Pre-cleaning screenshot of the data set *{You do not have to show the screenshot of the entire data set. Screenshot of part of the data set as relevant/applicable to the data cleaning will do.}*
- 3)** and the resulting Post-cleaning screenshot of the data set *{You do not have to show the screenshot of the entire data set. Screenshot of part of the data set as relevant/applicable to the data cleaning will do.}*
- 4)** Explain each category to describe what you performed in each category of data cleaning.

D. Data Visualizations

You will have a minimum of 5 analysis questions for your project data set. (Make sure you use the appropriate chart type. For example, for categories, you would use bar chart and so on...).

Note: If you show 5 simple bar charts for all 5 analysis questions, large number of points will be deducted. Apply as many Tableau techniques learned in class.

Note: Your data visualizations should look visually appealing to a general audience.

Submission Instructions for Part D-

Type the Analysis Question and paste the screenshot of the corresponding Data visualization created in Tableau below the question. Explain in detail the insights from each data visualization. Your explanation should show that you understand how to interpret the information from the data visualization.

Also, clearly indicate in your explanation for each visualization--which of the 7 categories below you applied for each visualization—Lack of this information or ambiguous information provided will have points deducted.

At a minimum, your Tableau visualizations should display any 7 of the following learned in class. You can apply other Tableau techniques as well – from the below list, a minimum of 7 have to be applied – throughout the 5 visualizations.

1. Geographic maps
2. Dates
3. Rank
4. Histogram
5. Groups
6. Scatter plot
7. Dual Axis Chart
8. Forecast Trend Lines
9. Calculated fields
10. Reference line
11. Box & Whisker plot

E. Dashboard

A dashboard containing exactly 4 different charts (for the whole data set as a whole, and not for each analysis question). You may repeat/re-use 3 visualizations from the 5 analysis questions.

The one other additional visualization used for the dashboard should be different from those used for the 5 analysis questions. **Explain the insights from the one additional visual.**

For the one other additional visualization, at a minimum, your Tableau visualizations should display any of the following learned in class: **[clearly indicate in your explanation for each visualization--which of the categories below you applied for each visualization—Lack of this information or ambiguous information provided will have points deducted.]**

1. Geographic maps
2. Dates
3. Rank
4. Histogram
5. Groups
6. Scatter plot

7. Dual Axis Chart
8. Forecast Trend Lines
9. Calculated fields
10. Reference line
11. Box & Whisker plot

F. Story telling:

Create a story line. A minimum of 2.5-page writing for the Story-Telling section (Times 12, double space, 1-inch margin). Mention all interesting findings from your data set. Connect the write-up of your Story-Telling to at least 3 different articles and cite them.

In addition, add the screenshot(s) of ALL the Story-telling captions - You will have **5 different Caption-points for Story-Telling** (Note: You can re-use any of the visualizations from points C and D to create the Story-Telling captions).

Note: The screenshots of the Storytelling caption do not count as part of the 2.5 page write-up for this section.

Please see the following link for reference on how to cite:

<https://owl.english.purdue.edu/owl/section/2/>

(You can use MLA or APA style of citation)

G. Reflection:

This section is an **individual section – and needs a separate submission from each team member**. Your Reflection must contain a minimum of 3-page writing (Times 12, Double space, 1-inch margin) on what you learned from this project.

Points of consideration to include in this section:

- challenges faced in the project (please do not talk about another team member being a challenge).
- what you learned from the project
- how you plan to apply this for future
- interesting takeaways from the project (do not repeat what you already wrote in the Project document).
- anything you would have done differently.
- 2 citations/references at minimum.

Note: Each team member must submit section “G” separately on Canvas.

In the Reflection document, add your name as well as the project topic and the team members you worked with. Please add team member information on Page 2. Page 1 must only have your name and the Project topic you worked on.