**Movie Rental Data Analysis Project #2**

**Introduction**

In this project you will continue to combine your previous training in Python and SQL along with new Tableau tools to create a final product for your portfolio. The Tableau objectives below are part review and part introduction to new features and concepts.

**Tableau Learning Objectives with Review(Modules 5-7)**

|  |  |
| --- | --- |
| Hide data or create aliases | Explore Marks Card features |
| Create Groups, Parameters, and Sets | Create folders and custom hierarchies |
| Employ dashboard best practices | Additional dashboard formatting and working with objects |
| Create a data visualization story | Change number formats |
| Calculated fields with built-in functions | Identify discrete and continuous variables |
| Create dual axis/blended axis | Work with filters |
| Add labels | Know the difference between measure values vs measure names |
| Change chart colors from the default | Date and Time Fields |

**Definitions – No new definitions**

**Project Objective**

You are in a new role at movie streaming company called Sakila. Upper management would like to understand company rental sales performance. You will need to build KPI metrics. Think of questions to ask about the data beyond data quality. Consider the customer, staff performance, film sales and popularity, and actor popularity. Think of other attributes in the data that can be applied.

**Project Tasks**

**Methodology**

**Ask Questions to Build Your Data Model.**

1. Make a list of 7-10 business questions to ask.
2. You may need to create more than 1 data model
3. Use descriptive statistics to help explain your findings. Consider the distribution of the data.
4. Submit the list of questions in place of Module 5 challenge.

**Github**

1. Create a new repository called ‘Movie Rental Data Analysis’
2. Save all of your files in your repository

**SQL and Python**

1. You should have new copy of the sqlite-sakila database in DBeaver.
2. Once you’ve created the database build your data model(s) in SQL. Make sure to include the following:
   * 1. Actors and their films
     2. Customer information and rentals
     3. Store and employee information
3. Connect to the database from Python to import your model.
4. Use the questions to build your analysis of the data in Python
5. Double check your numbers in SQL.
6. Create 2 custom functions in Python:
   * 1. Pass the total rental payments or sales per sales associate and return a value of “Above Average”, “Average”, “Below Average”, or “No Sales”
7. Build 2-3 charts in Python.
8. Export data to Excel or a CSV file
9. Submit your Python code with charts and CSV file or your Github Repository link in Module 6

**Tableau**

1. Create a new Tableau workbook, named ‘Movie Rental Analysis’.
2. Connect your data file then save your workbook. This will force you to log in. Make sure to save your work periodically or you will lose everything!
3. Confirm that all columns appear in the Data Source
4. **Data Cleaning**
   * 1. Think about where you can use a calculated field
     2. Are there any values that need to be replaced? How can you do this?
     3. Think of where you can apply a filter
5. **Preliminary Dashboard Charts** (You can change this. It’s designed to get you started.)
   * 1. Create the following worksheets:
        1. A bubble chart
        2. A line chart (with dual axis)
        3. A map
        4. A scatterplot
           1. Use different marks
        5. 2 Worksheets:
           1. Total rentals only. Name the worksheet ‘Total Rentals’.
           2. Total payments only. Name the worksheet ‘Total Rental Sales’
6. **Dashboard Design**
   * 1. Use PowerPoint or some other design tool to plan your dashboard layouts before building. Explore the Tableau Public Gallery for ideas. You can also change the measures and charts if you want. Think about the color scheme you want to use. Use this site to help, <https://www.toptal.com/designers/colourcode>.
     2. Create a Dashboard
        + 1. Adjust the width to 1200
          2. Delete the container
          3. Drag text object to center of the dashboard

Change the object to ‘floating’

Change font type

Increase the font size to 60

Change the background color

Change text color

Make the bold

* + - * 1. Use your mock-up to build your dashboard. Make sure you:

Include filters that updates all of the data in the dashboard when an item is selected

Publish your final dashboard to your Tableau Public site

* + 1. Submit the link to your dashboard in Module 7.