Laboratory Activities 01: Looker Studio

https://github.com/kaopanboonyuen/LookerStudio101
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(10 Points) Data Visualization and Insight Generation Using Looker Studio

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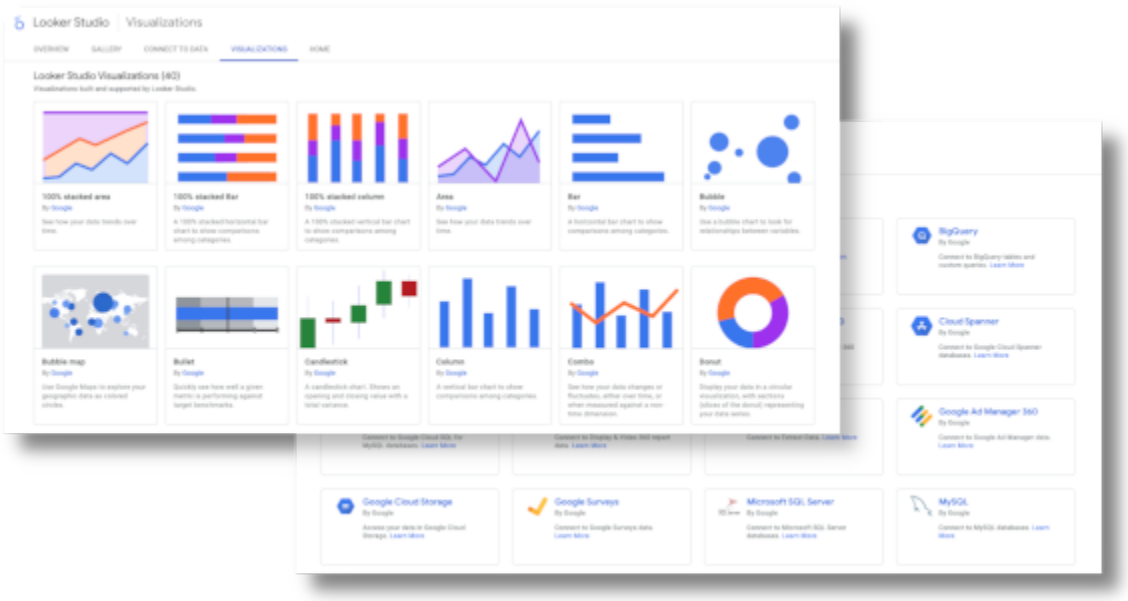
Motivation:

In today's data-driven world, the ability to analyze and visualize data is crucial. This assignment aims to enhance your data analysis skills by working with real-world datasets. You will learn how to extract meaningful insights from raw data and present them visually using Looker Studio. This experience will prepare you to handle and interpret data in various professional settings.

Assignment Objectives:

- To develop skills in data extraction, cleaning, and preparation.
- To formulate inquiry-based questions that drive data analysis.
- To utilize Looker Studio for creating insightful data visualizations.
- To interpret and present data insights effectively.



Objective:

You will select a publicly available dataset or use your own data (such as your YouTube channel analytics, store's customer information from platforms like Shopee, Lazada, or Alibaba) to analyze. You will develop at least five inquiry-based questions related to the dataset and use Looker Studio to visualize the answers to these questions.

Assignment Problem:

1. Dataset Selection:
    - Choose a dataset from one of the following sources:
        - Kaggle Datasets
        - UCI Machine Learning Repository
        - Thai Government Open Data
    - Alternatively, use your own data for extra points (e.g., YouTube analytics, store's customer data from Shopee, Lazada, Alibaba).
2. Data Analysis and Visualization:
    - Extract, clean, and prepare your chosen dataset.
    - Formulate a minimum of five inquiry-based questions related to the dataset.
    - Use Looker Studio to create visualizations that answer your questions.
    - Provide a brief interpretation of each visualization.

(Sample) Inquiry-Based Questions:

Below are examples of inquiry-based questions. You should tailor your questions to suit your chosen dataset.

1. General Sales Data (if using store data):
    - What are the sales trends over the past year?
    - Which product categories have the highest sales?
    - What is the geographical distribution of our customers?
    - How do sales vary by day of the week?
    - What is the customer retention rate over time?
2. YouTube Channel Analytics:
    - What are the viewership trends over the past year?
    - Which videos have the highest engagement rates (likes, comments, shares)?
    - What is the demographic breakdown of our audience?
    - How do watch times vary by content type?
    - What are the peak hours for video views?
3. Publicly Available Dataset Example (e.g., a dataset on housing prices):

- What are the trends in housing prices over the past decade?
- How do housing prices vary by location?
- What are the key factors influencing housing prices?
- What is the distribution of housing prices in different neighborhoods?
- How do housing prices correlate with socioeconomic factors?

Submission Requirements:

1. Dataset Documentation:
   - Provide a brief description of the dataset you chose.
   - Explain any data cleaning or preprocessing steps you performed.
2. Inquiry-Based Questions:
   - List the five questions you formulated.
   - Provide a rationale for why these questions are relevant to your dataset.
3. Visualizations and Insights:
   - Create a Looker Studio report with visualizations answering each of your questions.
   - Include a brief interpretation of each visualization, explaining the insights gained.
4. Report Submission:
   - Submit the Looker Studio report link.
   - Provide a PDF document with the dataset documentation, inquiry-based questions, and interpretations of the visualizations.

Special Points:

- Extra points will be awarded for using your own data.
- Creativity and depth of analysis will be considered in the evaluation.

Good luck and happy analyzing!