Assignment: Designing a Multipage Streamlit App with Project Management Elements

Due Date: 16 September 2025

Objective

In this assignment, you will apply the skills you've acquired in creating a multipage Streamlit application using Google BigQuery as the backend database. This time, you will analyze a dataset of your choice from Kaggle. In addition to developing the application, you will practice project management by maintaining a detailed log/diary of your meetings and planning sessions.

Assignment Overview

1. **Dataset Selection:**
   - Choose a dataset from Kaggle that interests you. The dataset should be substantial enough to allow for meaningful analysis but manageable within the timeframe.
   - Make sure the dataset is publicly available and accessible to all team members.
2. **Streamlit Application Requirements:**
   - **Multipage Structure:** Your application should consist of multiple pages, each focusing on different aspects of the data analysis.
   - **UI Elements:** Incorporate a variety of Streamlit UI elements (e.g., dropdowns, sliders, text inputs) to allow users to interact with the data.
   - **Graphs and Visualizations:** Use Plotly to create at least three different types of visualizations (e.g., line charts, bar charts, scatter plots) that help in analyzing the dataset.
   - **Data Querying:** Utilize Google BigQuery for querying the dataset. Each page should include at least one query to filter or manipulate the data.
   - **Query Testing:** All SQL queries used in the Streamlit code must first be tested and verified in Google BigQuery before being implemented in the application.
3. **Project Management Requirements:**
   - **Log/Diary:** Maintain a log or diary documenting all meetings and planning sessions. For each entry, include:
     - **Date/Time:** When the meeting or session took place.
     - **Attendees:** Who was present and who was absent.
     - **Discussion Points:** What was discussed during the meeting.
     - **Decisions Made:** What decisions were made, and who is responsible for specific tasks.
     - **Next Steps:** What the team plans to do next.
4. **Presentation and Report:**
   - **Presentation:** Prepare a 10-minute presentation to showcase your application. Highlight the key features, visualizations, and insights gained from the data.
   - **Report:** Submit a written report (4-6 pages) that includes:
     - An introduction to the dataset and the purpose of your analysis.

- A description of the Streamlit application, including the structure of each page and the functionalities provided.
- Screenshots of the application and visualizations.
- A summary of the project management log, including challenges faced and how they were overcome.

5. **Policy regarding the use of chatbots:**

   You are allowed to use ChatGPT, Google AI Studio, Grok or Claude as your coding assistant(s) and for data analysis. You must however, clearly indicate in your report (see below) where these chatbots assisted you.

6. **Plagiarism and citations:**

   Avoid plagiarism by clearly citing all relevant sources in your report.

Assessment Criteria

- **Technical Implementation (40%)**: Functionality, code quality, and how well the Streamlit app meets the requirements.
- **Data Analysis (30%)**: Quality of the data analysis, insights gained, and how well the visualizations support the findings.
- **Project Management (10%)**: Completeness and detail of the log/diary, adherence to project timelines, and overall teamwork.
- **Presentation and Report (20%)**: Clarity, organization, and professionalism in both the presentation and written report.

Submission Details

- **Submission Format:** Submit the Streamlit app code, the project management log/diary, and the written report via the course management system.

Tips for Success

- Start by exploring Kaggle datasets to find one that excites you.
- Plan regular meetings and keep the log updated after each session.
- Test all SQL queries in Google BigQuery before implementing them in your Streamlit app.
- Divide tasks based on each member's strengths but ensure collaboration throughout the project.
- Test your Streamlit app thoroughly to ensure all features work as expected.