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**Project Portfolio**

**Google Play Store Case Study**

**Project Title:**

Exploring App Performance Metrics on Google Play Store: A Visualization Project

**Problem Statement:**

The Google Play Store team needs to develop a feature to enhance visibility for promising apps. Understanding which app characteristics correlate with higher performance metrics (e.g., ratings, installs) is crucial for making informed decisions.

**Project Description:**

**Objective:**

To analyse and visualize app performance metrics from the Google Play Store dataset using various visualization techniques in Python.

**Scope:**

* Clean and preprocess data to ensure accuracy.
* Explore relationships between app features (size, price, installs) and performance metrics (ratings).
* Utilize advanced visualization tools to uncover insights.
* Create interactive graphs to facilitate deeper exploration.

**Deliverables:**

* Cleaned dataset ready for analysis.
* Visualizations demonstrating relationships between variables.
* Interactive plots using Plotly for dynamic exploration.
* Documentation outlining findings and insights.

**Methodology:**

**Tools and Technologies Used:**

* Python (Pandas, NumPy, Seaborn, Matplotlib, Plotly), Jupyter Lab.

**Process:**

* **Data Cleaning and Preparation:**
  + Addressed missing values and outliers using Pandas and Seaborn.
* **Exploratory Data Analysis (EDA):**
  + Utilized Seaborn for visualizing distributions (histograms) and outliers (boxplots).
  + Explored correlations using heat maps and pair plots.
* **Advanced Visualizations:**
  + Implemented Seaborn for statistical visualizations (scatter plots, bar charts).
  + Integrated Plotly for interactive visualizations (scatter plots with hover functionality).

**Role and Responsibilities:**

**Role:** Data Analyst and Visualization Specialist (Individual Project)

**Responsibilities:**

* Cleaned and prepared the dataset for analysis.
* Conducted exploratory analysis to identify trends and relationships.
* Created visualizations to communicate findings effectively.

**Challenges and Solutions**

**Challenges Faced:**

* Handling missing data and outliers effectively.
* Ensuring interactive and informative visualizations.

**Solutions Implemented:**

* Employed robust data cleaning techniques to maintain data integrity.
* Leveraged advanced visualization libraries like Seaborn and Plotly for detailed analysis and interactivity.

**Conclusion and Learnings:**

**Summary:**

Through this project, I gained proficiency in data cleaning, exploratory data analysis, and advanced visualization techniques using Python. The project successfully demonstrated how visualizations can uncover insights and support decision-making processes.

**Learning Experience:**

* Acquired skills in using Seaborn and Plotly for visualizing complex datasets.
* Enhanced understanding of the importance of data preparation and visualization in deriving meaningful insights.

**Link for the file:** <https://drive.google.com/drive/folders/1Mrtr3boxjP0sCPIwwo2CYrYHDilPut6L?usp=sharing>