

Data Science Capstone Project

Google Play Store App Data Analysis



Assignment-4

User Orientation Document

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1. Introduction and Purpose

This user document serves as a guide to navigate the Google Play Store App Dashboard created using Power BI. It is intended for data analysts, business users, and stakeholders to explore insights on app performance, user ratings, sentiment analysis, and revenue trends derived from the Google Play dataset.

2. Structure and Organization - Layout

The dashboards are structured into six main tabs, each providing visual insights on key metrics:

- The main dashboard focuses on the overall app performance with average size in megabytes, average rating, and price. It also shows the number of apps based on category, subcategory-genre, distribution of apps based on free or paid, and content rating.

Detail dashboards based on each of the above app performance metrics follow with the number of installs per app with filters and slicers for category, rating, genre, and content rating. There are more dashboards based on ratings, price, reviews, prize, size, and user sentiment analysis.

Interactive elements like slicers, filters, and KPI cards enhance the user experience.

3. Dashboard Features and Components

- Bar Charts: Show top app categories by installs.
- Pie Charts: Display user sentiment distribution (positive, neutral, negative).
- Line Graphs: Visualize temporal trends in reviews.
- KPI Cards: Show key metrics such as average rating, total installs, total reviews.
- Slicers and Filters: Enable dynamic views based on genre, category, sentiment, and price.

4. Step-by-Step Navigation

4.1 Open Dashboard

1. Open the DataScience project updated.pbix file using Power BI Desktop.
2. Wait for the visuals to load.

4.2 Main Dashboard Overview



Category	Details
Total Number of Apps	9,660
Average App Rating	3.54
Total Price Sum	11K (currency not specified)
Average App Size	19.86 MB

App Distribution insights

Metric	Top Categories
Number of Apps by Category	Family (1.8K), Games (1K), Tools (0.8K), Business (0.4K), Medical (0.4K), Productivity (0.4K), Lifestyle (0.4K)
Number of Apps by Genre	Tools, Entertainment, Education, Business, Medical, Productivity, Lifestyle, Sports

App Distribution Insights

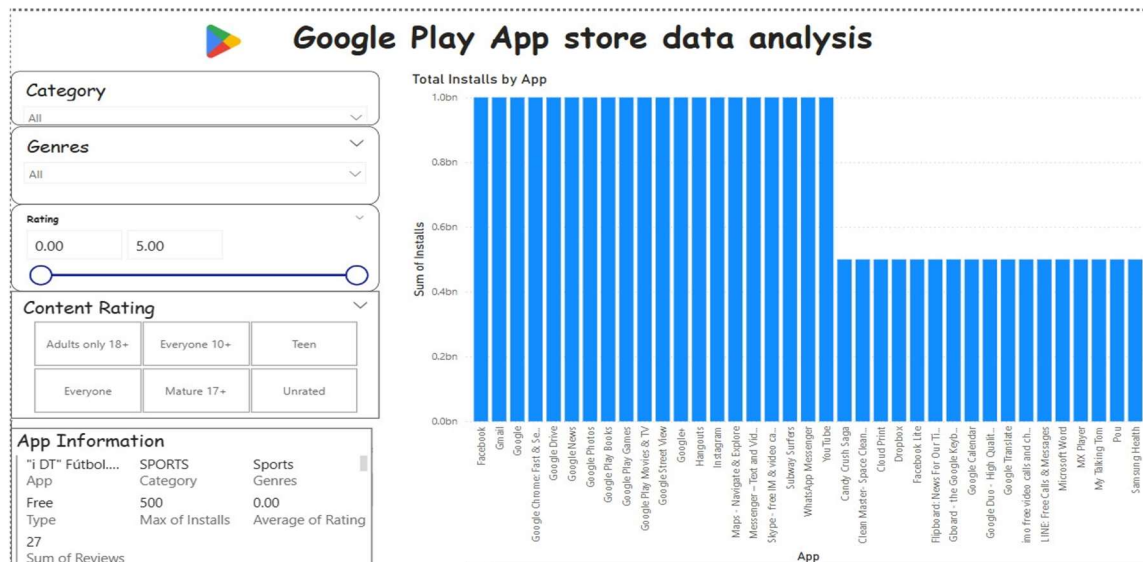
Content Rating & App Type Distribution

Metric	Values
Content Rating Distribution	Everyone (81.82%), Teen (10.72%), Mature 17+ (3.33%)
App Type Distribution	Free (92.17%), Paid (7.83%)

Dashboard Functionalities

Feature	Description
Bar Charts	Shows number of apps per category
Pie Charts	Displays app type (Free vs Paid) and content rating distribution
Filters & Slicers	Allows selection based on category, sentiment type, pricing options
Drill-Through Analysis	Enables deeper exploration of app metrics

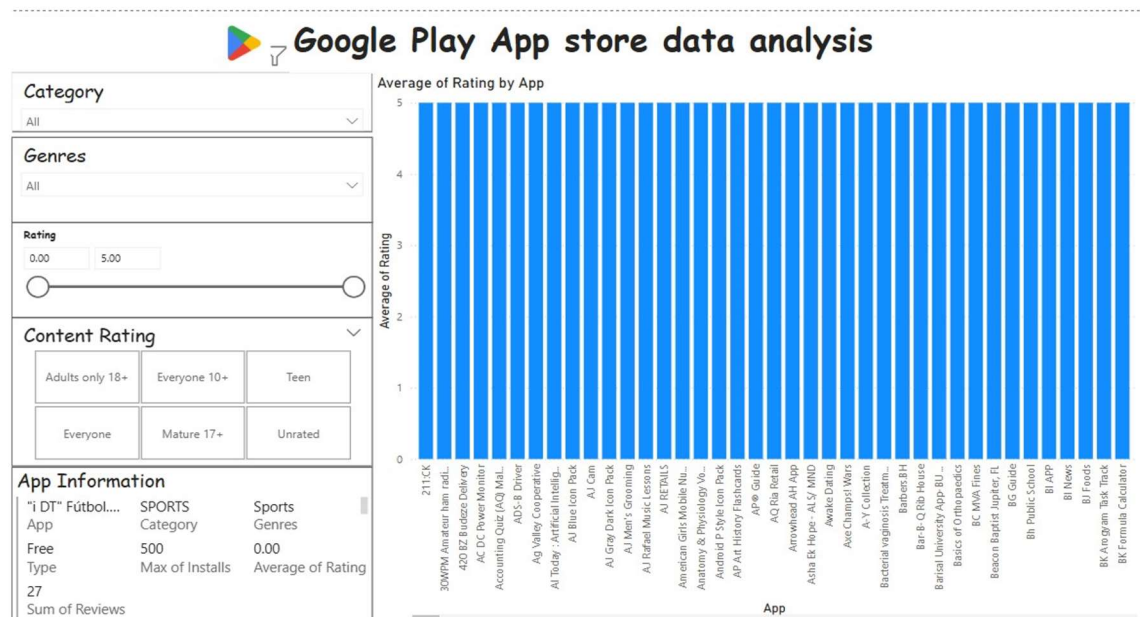
4.3 Dashboard App Installs- Overview



Dashboard Features

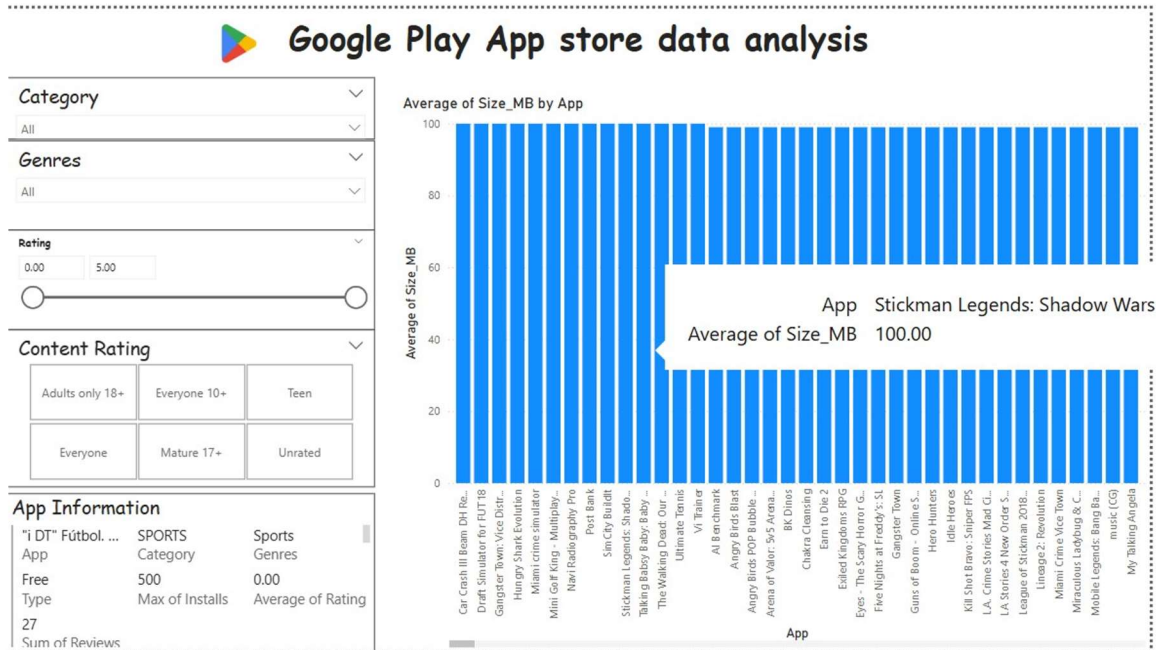
Feature	Description
Total Installs by App	Popular apps such as Facebook, Gmail, Instagram, YouTube, Google Drive
Filters & Slicers	Category, Genre, Rating, Content Rating
App Information Panel	Displays details for the selected app
Total Installs Chart	Shows the highest installed apps in the Google Play Store

4.4 Dashboard App Rating- Overview



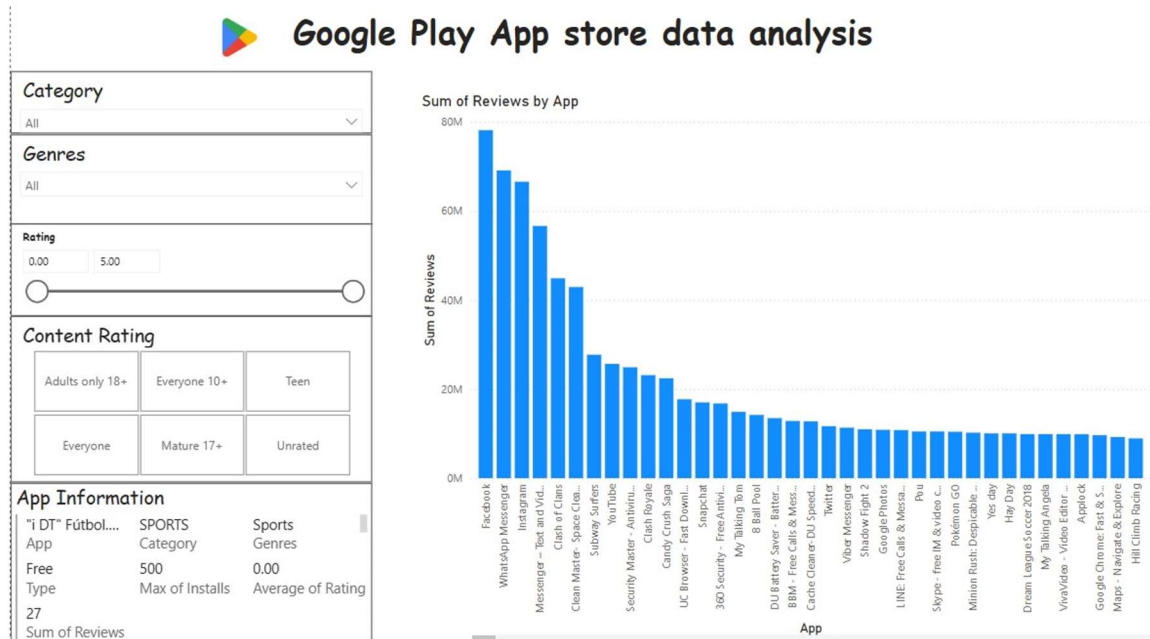
Feature	Description
Filters & Slicers	Allows filtering by category, genre, rating, and content rating
App Information Panel	Displays details about the selected app, including category, installs, and reviews
Average Rating Display	Shows the overall rating for selected apps
Total Installs Chart	Highlights the highest-installed apps in the Google Play Store
Bar Chart	Compares the average rating of various apps

4.5 Dashboard App size- Overview



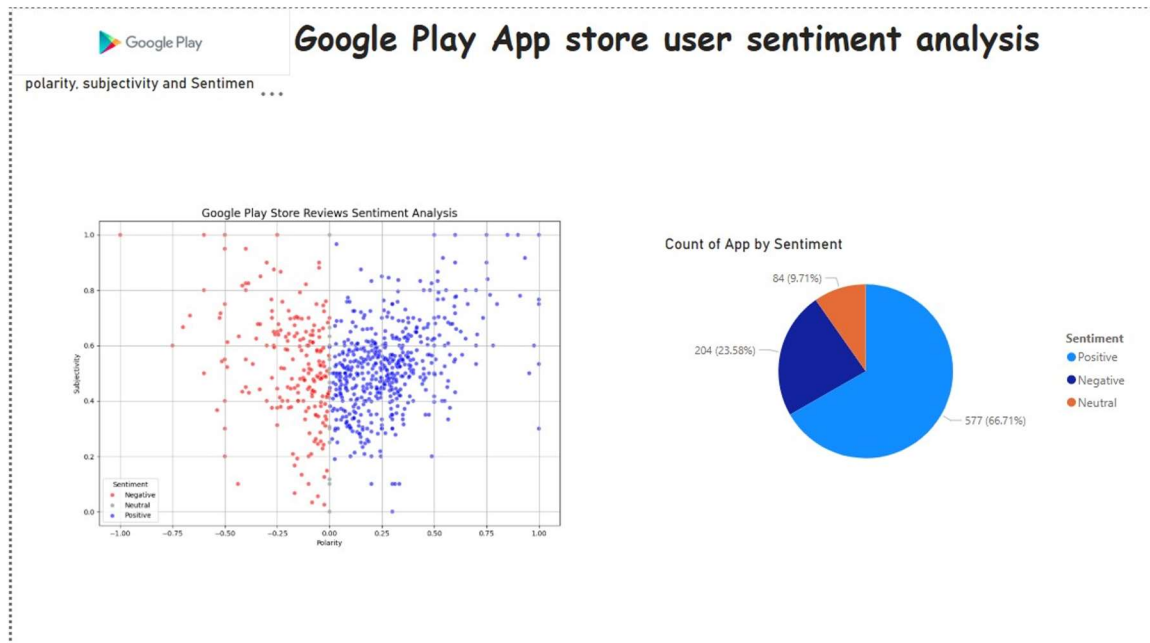
Component	Description
Filters & Slicers	Allows filtering by category, genre, rating, and content rating
App Information Panel	Displays details about the selected app, including category, installs, reviews, and rating
Bar Chart	Shows the average size (MB) for different apps, highlighting Stickman Legends: Shadow Wars at 100MB
Max Installs & Reviews	Lists installs and reviews per app, enabling comparative analysis
Interactive Elements	Users can refine data using dropdowns and sliders for deeper insight

4.7 Dashboard App reviews comparison



Component	Description
Filters & Slicers	Category, Genre, Rating, Content Rating selections
App Information Panel	Displays app name, category, type, installs, and reviews
Bar Chart: Sum of Reviews by App	Shows total user reviews across apps, with Facebook leading at the top
Top Reviewed Apps	Facebook, WhatsApp Messenger, Instagram, Messenger, YouTube, Clash of Clans, Subway Surfers, Candy Crush Saga, Security Master
Interactive Elements	Users can refine app selections using dropdowns and sliders

4.8 Dashboard App User sentiment analysis



Component	Description
Scatter Plot	Displays user sentiment using polarity (x-axis) and subjectivity (y-axis).
Polarity Range	Sentiment varies from -1.00 (Negative) to 1.00 (Positive).
Subjectivity Range	Values range from 0.0 (Objective) to 1.0 (Subjective).
Sentiment Types	Negative (red), Neutral (orange), Positive (blue).
Pie Chart: Sentiment Distribution	<ul style="list-style-type: none"> - Positive (66.71%, 577 apps) - Neutral (9.71%, 84 apps) - Negative (23.58%, 204 apps)

5. Interactivity & User Functionality

- Use the slicers to filter data by category, genre, rating content rating, or sentiment.
- Hover over visuals for detailed tooltips and data labels.
- Use bookmarks for quick navigation across dashboard tabs.
- Use search filters to locate specific apps or genres.

DAX Formulas:

DAX Formulas

NegativeReviewsByCategory =

```
CALCULATE(
    COUNTROWS(dim_User_Sentiment ),
    dim_User_Sentiment [Sentiment] = "Negative",
    ALLEXCEPT(dim_category , dim_category [Category])
)
```

PositiveReviewsByCategory =

```
CALCULATE(
    COUNTROWS(dim_User_Sentiment ),
    dim_User_Sentiment [Sentiment] = "Positive",
    ALLEXCEPT(dim_category , dim_category [Category])
)
```

TopPositiveCategory =

```
CALCULATE(
    COUNTROWS(dim_User_Sentiment ),
    dim_User_Sentiment [Sentiment] = "Positive")
```

TotalInstallsPerYear =

```
CALCULATE(
    SUM(fact_app_stats[Installs]),
    ALLEXCEPT(dim_date, dim_date[Year])
)
```

AvgAppRatingPerYear =

```
CALCULATE(
    AVERAGE(fact_app_stats[Rating]),
    ALLEXCEPT(dim_date, dim_date[Year])
)
```

6. FAQ & Troubleshooting

****Q: Why is a visual not loading?****

A: Ensure all data sources are correctly loaded and the system meets hardware requirements.

****Q: How do I reset the dashboard filters?****

A: Click on the 'Reset Filters' bookmark or manually clear all slicers.

****Q: Where do I see the original data?****

A: Navigate to Power BI's 'Data' tab to view imported tables.

****Q: What if I need to export visuals?****

A: Use 'File > Export > PDF' or right-click on a visual to copy it as an image.