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Analysis of Google Play Store Apps Data Using Tableau Data Visualization Application

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This research aims to enhance understanding of big data management and processing. One of the challenges faced is the complexity and large volume of data, which requires effective tools and techniques for analysis and visualization. The objective of this study is to analyze Google Play Store app data based on categories and ratings, and to visualize the results using Tableau. The research method employs a quantitative approach with a framework that includes problem formulation, data collection from the Google Play Store Apps database obtained from kaggle.com, data processing, and analysis using Tableau. The results of the study indicate that the use of data visualization in the form of management graphics, such as horizontal bars and treemaps, is highly effective in identifying the comparison of the number of applications based on categories and ratings. These visualizations facilitate understanding the distribution and trends of applications on the Google Play Store. In conclusion, this research demonstrates that data visualization with Tableau can optimize big data processing and provide valuable insights into the distribution of app categories and ratings on the Google Play Store. These findings underscore the importance of using visualization tools in big data analysis to enhance understanding and improve decision-making.

Keywords: visualization, big data, tableau, worksheets

INTRODUCTION

The urgency of this study stems from the growing need to manage and analyze large volumes of data, commonly referred to as big data. Big data, characterized by its significant volume, complexity, and rapid generation, cannot be processed using simple methods and requires advanced techniques and technologies to extract valuable insights (Nurhaya, 2022). This research focuses on utilizing Tableau software for visualizing big data, specifically the Google Play Store Apps database obtained from kaggle.com.

Visualization is a powerful communication tool that helps explain concepts through images, animations, or diagrams that can be explored, calculated, and analyzed (Hayadi, 2017). Effective data visualization transforms complex datasets into comprehensible visual formats, facilitating better decision-making and insight extraction. Previous studies have highlighted the importance of visualization in managing big data, yet there is a gap in the literature concerning the specific application of Tableau for analyzing app data from the Google Play Store.

The novelty of this research lies in its application of Tableau to analyze and visualize the Google Play Store Apps dataset. Tableau is renowned for its ability to manage and analyze datasets, aiding decision-making through visual data representations (Ariandi & Rahma Puteri, 2022). Despite its recognized utility, the application of Tableau to the specific context of Google Play Store data analysis is relatively unexplored, presenting a unique opportunity to contribute to the existing body of knowledge.

The research objectives are to analyze Google Play Store app data based on categories and ratings and to visualize these results using Tableau. The study aims to demonstrate how visualization

tools like Tableau can optimize data processing and provide valuable insights into app distributions and trends. By employing techniques such as horizontal bar and treemap visualizations, this research seeks to offer a comprehensive understanding of the distribution and ratings of applications on the Google Play Store.

In summary, this study addresses the critical need for advanced data visualization in big data analysis, leveraging Tableau to bridge the gap in existing research. The findings are expected to underscore the significance of visualization tools in enhancing data comprehension and supporting effective decision-making in the context of large datasets..

METHODS

In this study, the author employs a quantitative method. The quantitative method is a research approach based on positivist principles, focusing on specific numerical data that is measured and analyzed using statistical tools to draw conclusions related to the research problem. The data used in this research is Google Play Store app data obtained from kaggle.com.

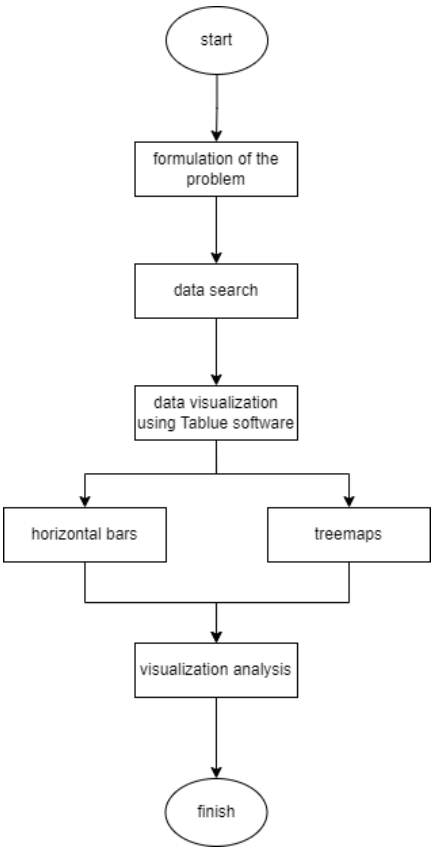

Figure 1. Research Framework

RESULTS AND DISCUSSION

Data Collection

The author sourced the "Google Play Store Apps" data from kaggle.com. This data was then observed with the aim of generating accurate information. Additionally, the author searched for and reviewed journals and articles relevant to the research title to better understand the research subject.

Data Processing

The data used in this research was obtained from kaggle.com. The data from this source was provided in a .csv format. Below is an overview of the Google Play Store Apps data:

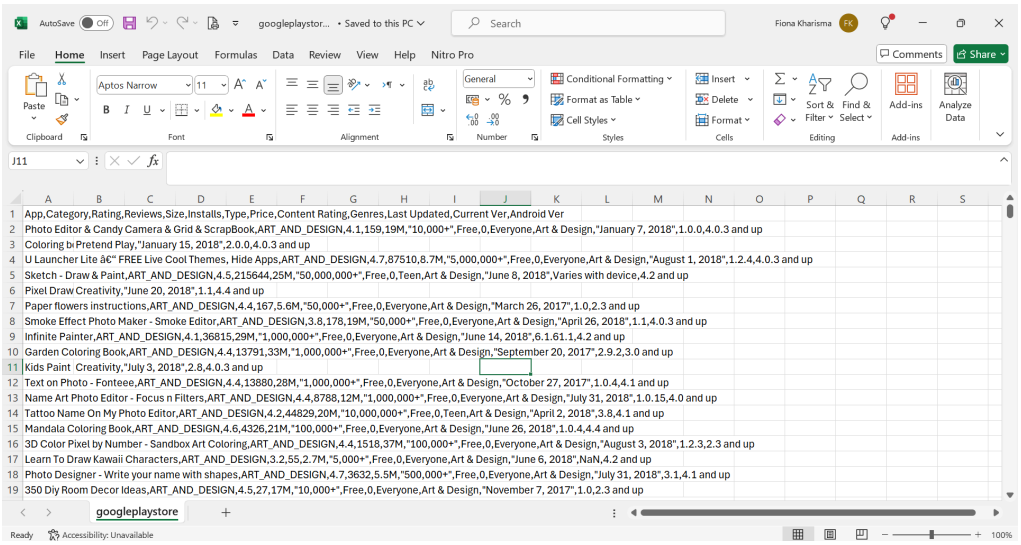

Figure 2. Google Play Store Apps Data

Then import the data into the software so that it appears in the Source Data Sheet, as in the image below:

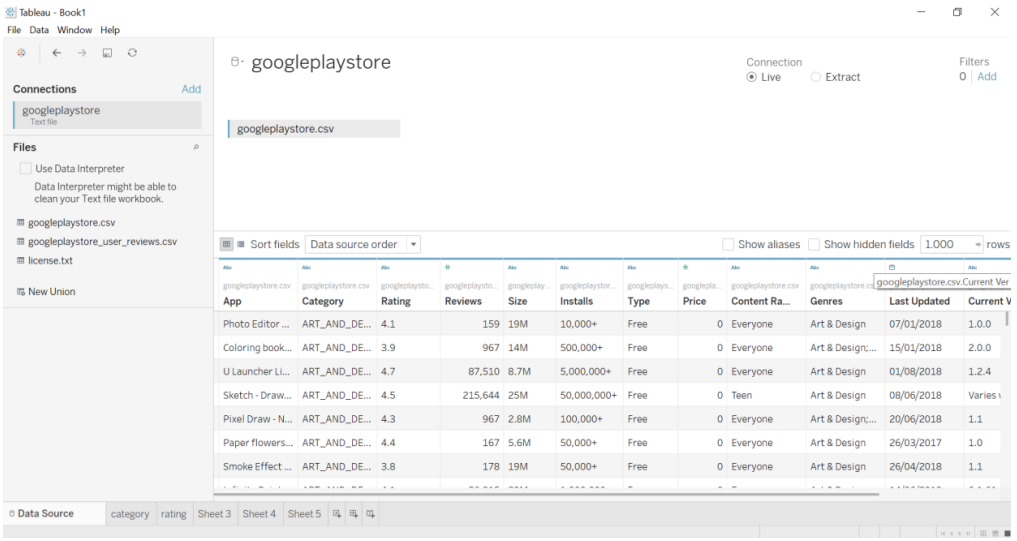

Figure 3. Data Source

Visualization Tools

The author conducted research on Google Play Store Apps data using Tableau, a tool that helps visualize data in graphical form. In this study, various charts were used by combining data on the number of Google Play Apps with Category Apps, and data on Google Play Apps with Ratings, to illustrate the comparison of category and rating values.

1. Horizontal bar

   To create a horizontal bar chart, the Google Play Apps data was visualized based on the total ratings given by users for all Google Play apps in 2019. This is shown in Figure 4:

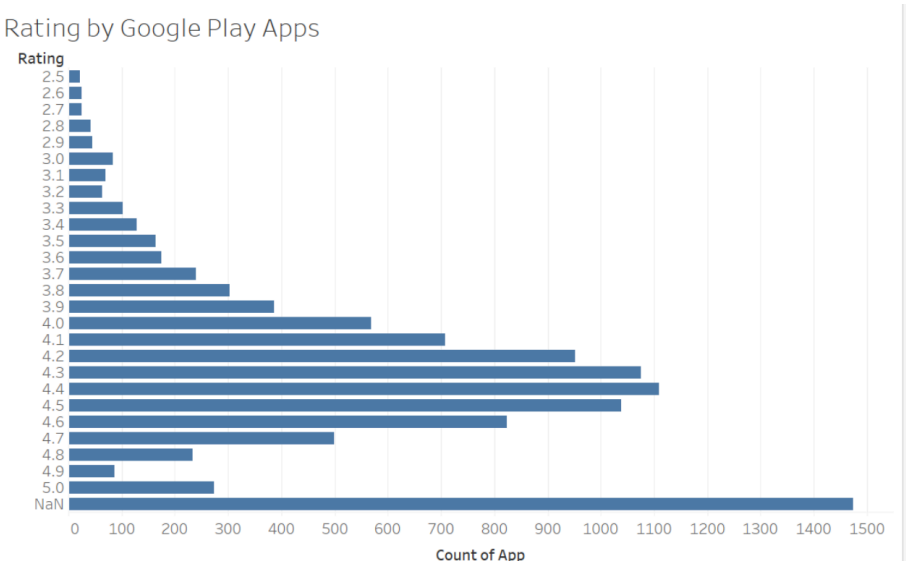

Figure 4. Horizontal Bar Rating

The horizontal bar chart was created to compare the ratings given by users to the applications. From this graph, it can be observed that many users did not rate the applications, while the lowest number of ratings were given by users who rated the applications at 2.5, 2.6, and 2.7.

2. Treemaps

To create treemaps, the Google Play Apps data was visualized based on the number of application categories. This can be seen in Figure 5:

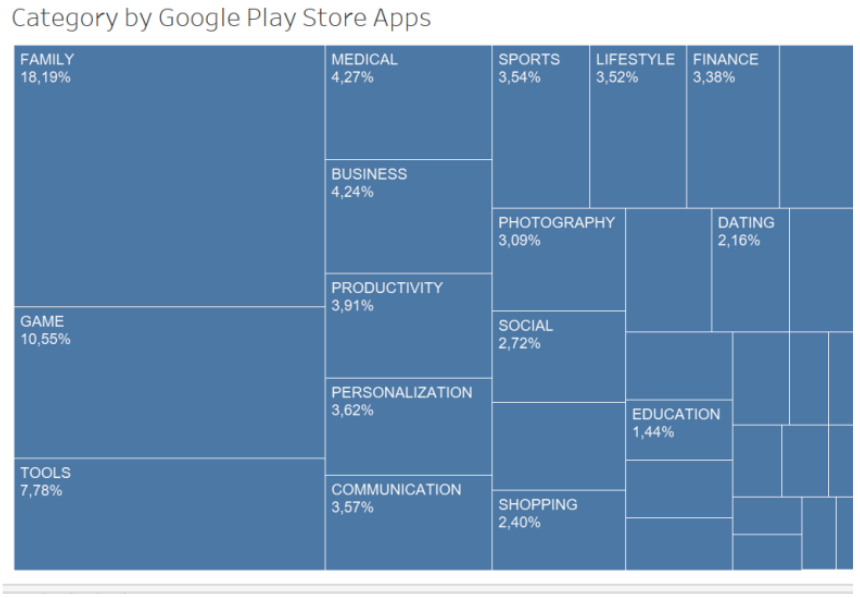

Figure 5. Treemaps Category

In Figure 5, the treemaps above show the distribution of application categories in 2019. The "family" category accounts for 18.19%, "game" for 10.55%, "tools" for 7.78%, "medical" for 4.27%, "business" for 4.24%, "productivity" for 3.81%, "personalization" for 3.82%, "communication" for 3.57%, "sports" for 3.54%, "photography" for 3.09%, "social" for 2.72%, "shopping" for 2.40%, "lifestyle" for 3.52%, "education" for 1.44%, "finance" for 3.38%, and "dating" for 2.16%. Empty boxes indicate categories that can be revealed by hovering the cursor over the desired box, as shown in Figure 6:

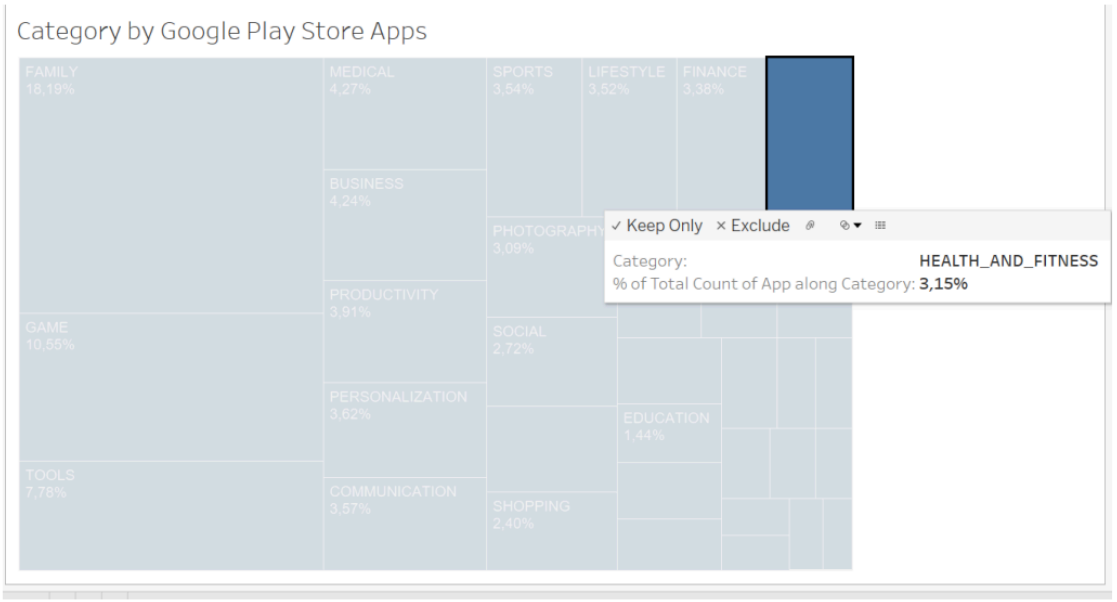

Figure 6. Move the cursor to Treemaps Category

For categories not immediately visible, hovering the cursor over the respective boxes will reveal their information. These categories include:

- "health_and_fitness" at 3.15%
- "travel_and_local" at 2.38%
- "books_and_reference" at 2.13%
- "video_players" at 1.61%
- "food_and_drink" at 1.17%
- "house_and_home" at 0.81%
- "auto_and_vehicles" at 0.78%
- "news_and_magazines" at 2.61%
- "libraries_and_demo" at 0.78%
- "weather" at 0.76%
- "art_and_design" at 0.60%
- "entertainment" at 1.37%
- "maps_and_navigation" at 1.26%
- "beauty" at 0.49%
- "events" at 0.59%
- "comics" at 0.55%
- "parenting" at 0.55%

CONCLUSION

Based on the results of Google Play Store Apps data analysis with the Tableau data visualization application, it can be concluded that the data analysis can make it easier to find out the comparison of the number of categories and ratings for an application on the Google Play Store by using horizontal bars and treemaps.

REFERENCES

Ariandi, M., & Rahma Puteri, S. (2022). Analisis Visualisasi Data Kecamatan Kertapati menggunakan Tableau Public. *Jurnal Jupiter*, *14*(2), 366–373.

Hayadi, B. (2017). Visual Konsep Umum Sistem Pakar Berbasis Multimedia. *Riau Jurnal of Computer Jurnal*, *3*(1), 17–22.

Nurhaya. (2022). *PEMODELAN K- MEANS ALGORITMA DAN BIG DATA ANALYSIS (PEMETAAN DATA MUSTAHIQ)*. Pascal Books. https://books.google.co.id/books?id=%5C_bJmEAAAQBAJ