Capstone Project-1
Play Store App Review Analysis

By

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Let us draw some insights:

- **Business Problem**
- **Objective**
- **Analysing the datasets**
  - **EDA on Play Store Apps Data**
    - **Data Cleaning**
    - **Data Manipulation**
    - **Univariate Analysis**
    - **Bivariate Analysis**
  - **Analysis on User Reviews Data**
- **Answering Key Business Questions**
- **Conclusion**
- **Q&A**

Business Problem Overview

Android apps have almost **70%** of the market share in the whole app market pushing back the IOS and other platforms. It comes with the huge potential to drive massive profits to the developers if users appreciate it. The Play Store apps data has enormous potential to drive app-making businesses to success. Hence, It is important for the developers to get the useful insights regarding the user preferences.

Objective

➢ Understanding the Paid and Free app markets in the play store data.

➢ Finding the most popular and downloaded app categories.

➢ Looking into the correlation between variables.

➢ Demystifying the top paid apps and the analysing their prices and revenue.

➢ Diving deep into the user ratings and comparing across the categories.

➢ Understanding the preferences of the users and suggesting what works well in paid and free app markets.

Data Summary

The play store reviews dataset consists of **13** columns and **10841** rows. These columns in the dataset gives different information about each app,

1. App (Name of the app)
2. Category
3. Ratings
4. Reviews
5. Size
6. Installs
7. Type
8. Price
9. Content Rating
10. Genres
11. Last Updated
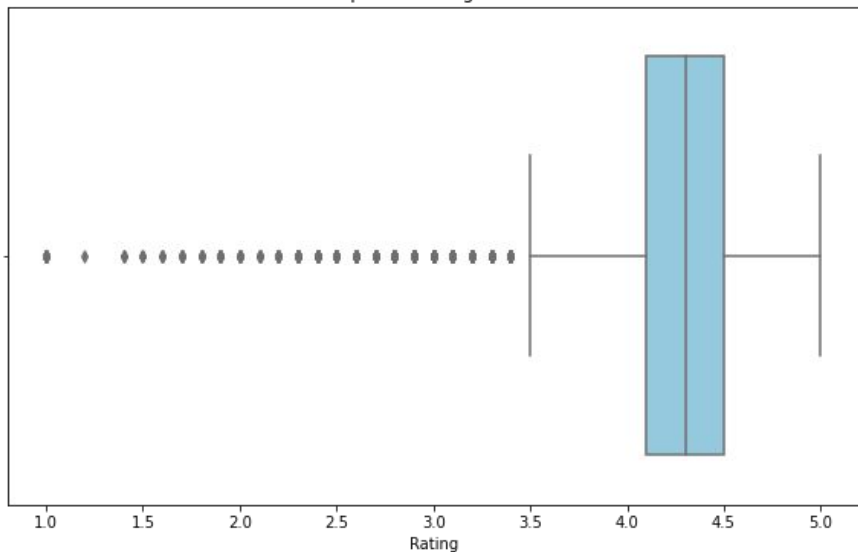12. Current Ver
13. Android Ver

Data Manipulation

During the analysis, we have created three new columns to dive deep into the paid apps market. Hence the two columns created were,

1. Price_in_$
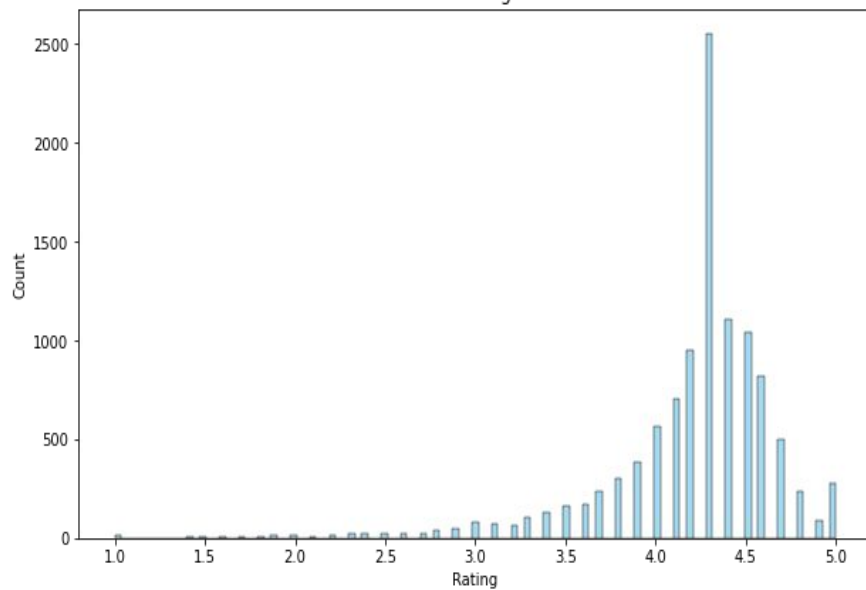2. Estimated_Base_Revenue_in_$
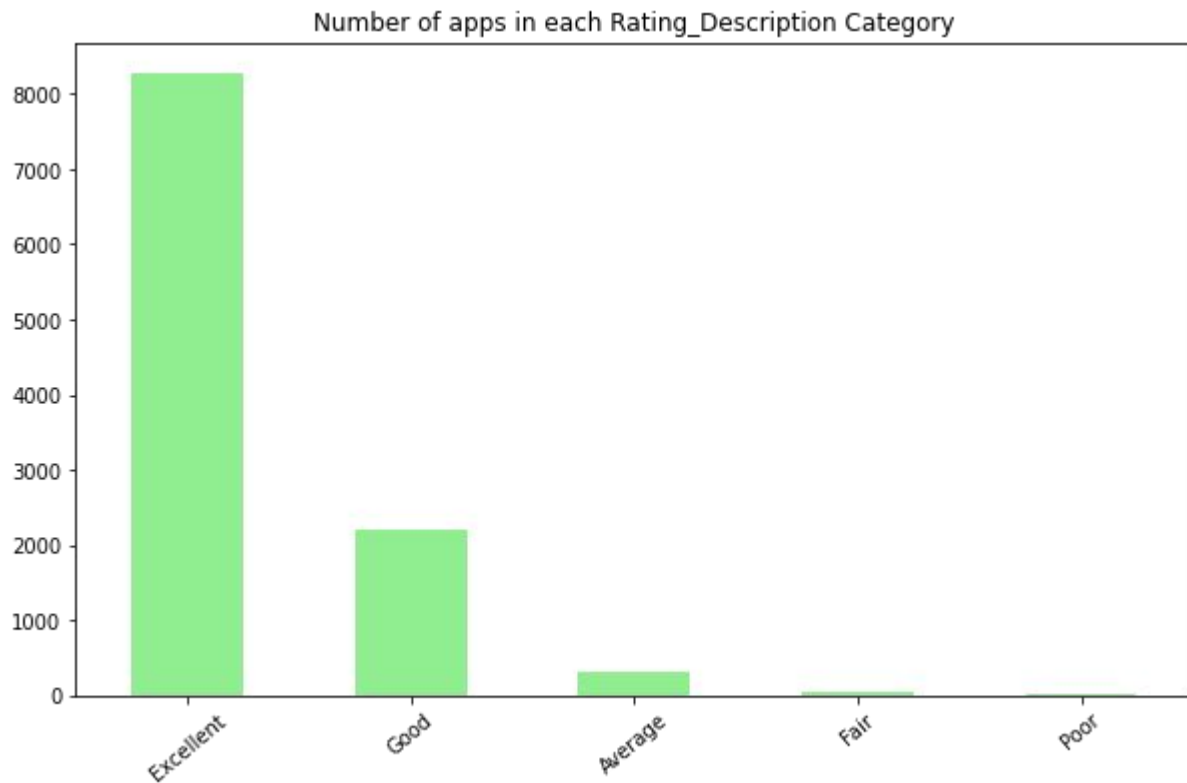3. Rating_Description

The **Median** rating is **4.3**

8000+ Apps Got Excellent Rating

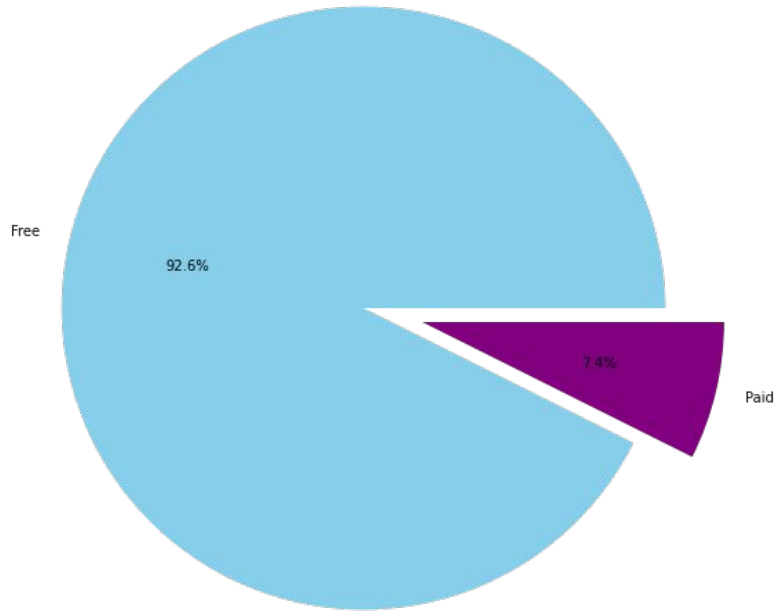Number of apps in each Rating_Description Category

Observation:
- 8000+ apps got 4+ ratings
- 2200+ apps got ratings between 3-4

92.6% Android apps are available for Free

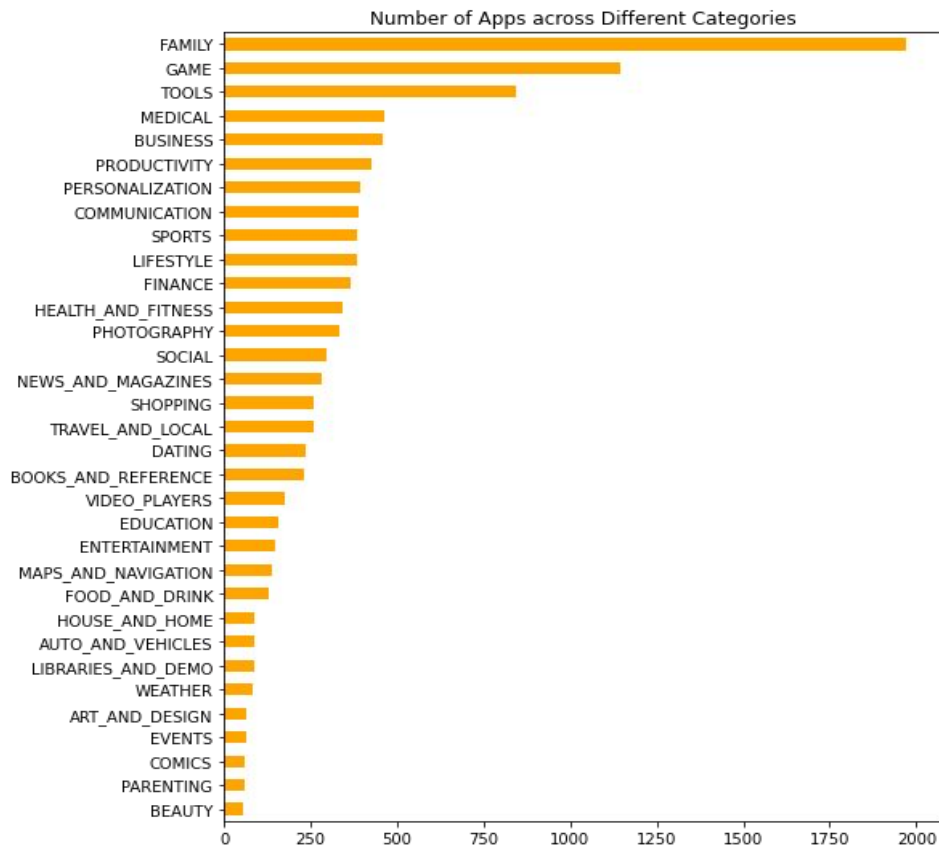Percent of Free Vs Paid Apps in Play store

Free

92.6%

7.4%

Paid

Observation:

Google runs android for free as their business model involves running targeted ads in the user's devices. So the scope for paid apps in android market is not significant

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Top Categories in the App Market

Number of Apps across Different Categories

Observation:

- The Category **"Family"** tops the list with nearly **2000** apps
- **"Beauty"** category is the least prominent one with close to just 50 apps.
- Categories like **Gaming** and **Tools** also have significant user base.
- Art and Design, Events, Comics and Parenting were some of the low performing categories.

80.4% apps have No Age restriction to use.
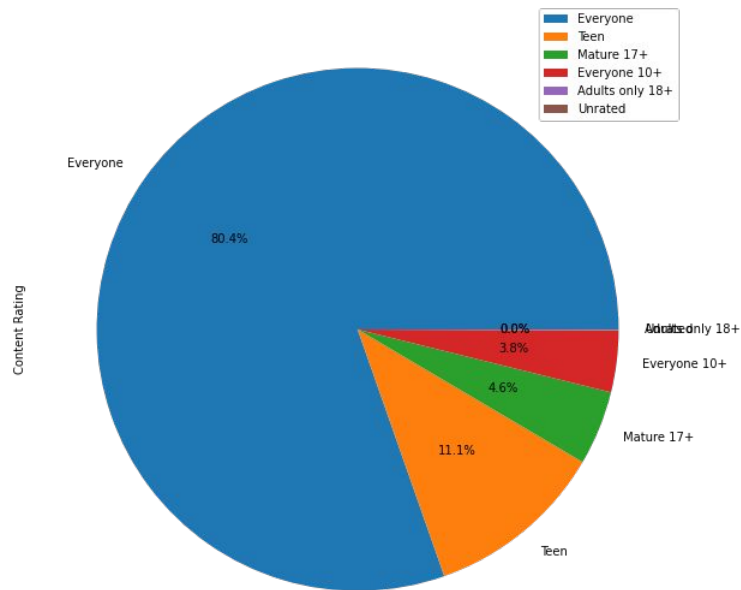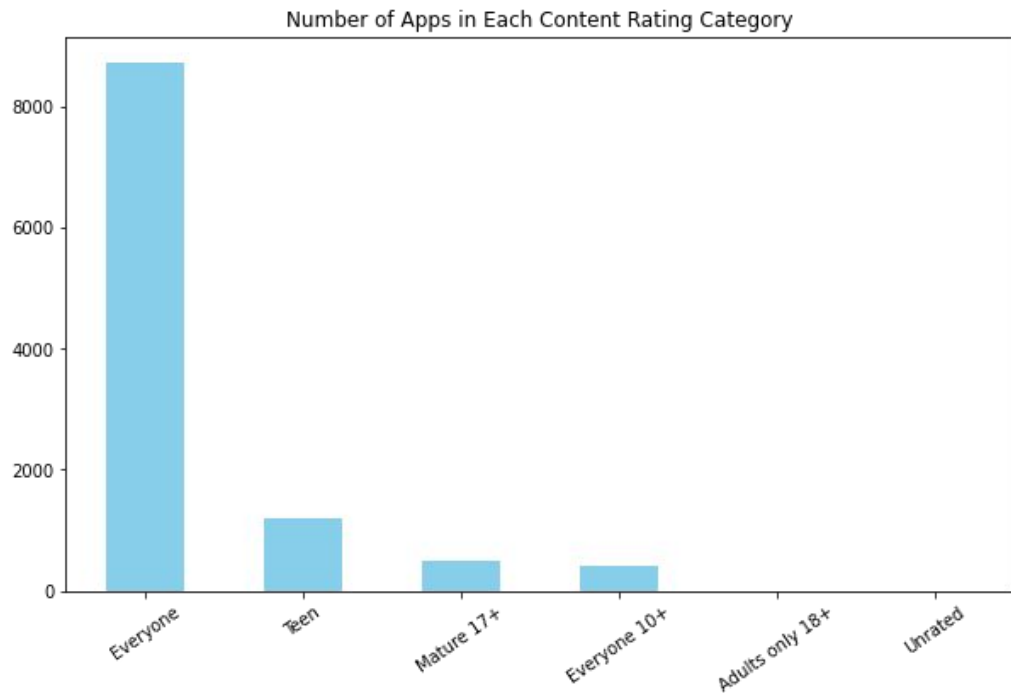
Reviews Influence Revenue by **90%** !!

Correlation Analysis between the Numerical Variables in the paid apps dataset

Observations:

- In the paid app market, we can observe a strong correlation between **Reviews** and **Installs** of **0.87**, Also, **estimated revenue** is very highly correlated with the **reviews** with a correlation coefficient of **0.9**
- Similarly Estimated revenue and Installs are **78%** correlated.
- It indicates that user reviews play a significant role in the growth of a paid apps.

22% of the reviews are Negative.

Apps with Different Sentiment
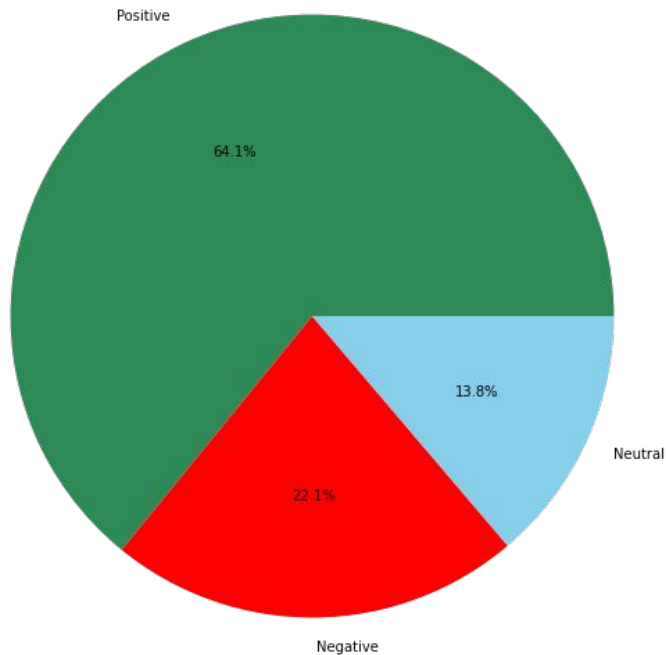
Observation:

- It is good to see that **64%** apps reviews got completely positive reviews and **13.8%** neutral reviews.
- Around **22.1%** apps god serious issues with them and probably the developers should look into these negative reviews.

What does these Negative reviews contain?

Let us answer these Key Questions:

Which Category has the Highest Installs among Paid and Free apps?

Highest Installed Category among Free apps

Category

GAME   35064924450

Highest Installed Category among Paid apps

Category

FAMILY   31271814

Observations:

- Obviously as anticipated we have **Gaming** category with a whooping 35B+ installs across the category.
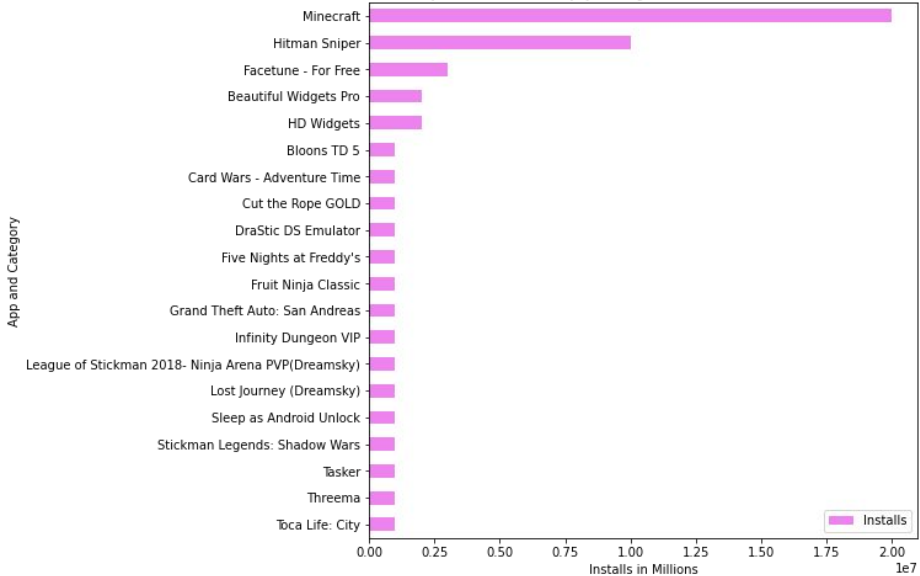- On the other hand paid apps has **Family** Category with 31M+ downloads

Which apps has the highest installs among paid and free?

Top 20 Free Apps by Number of Installs
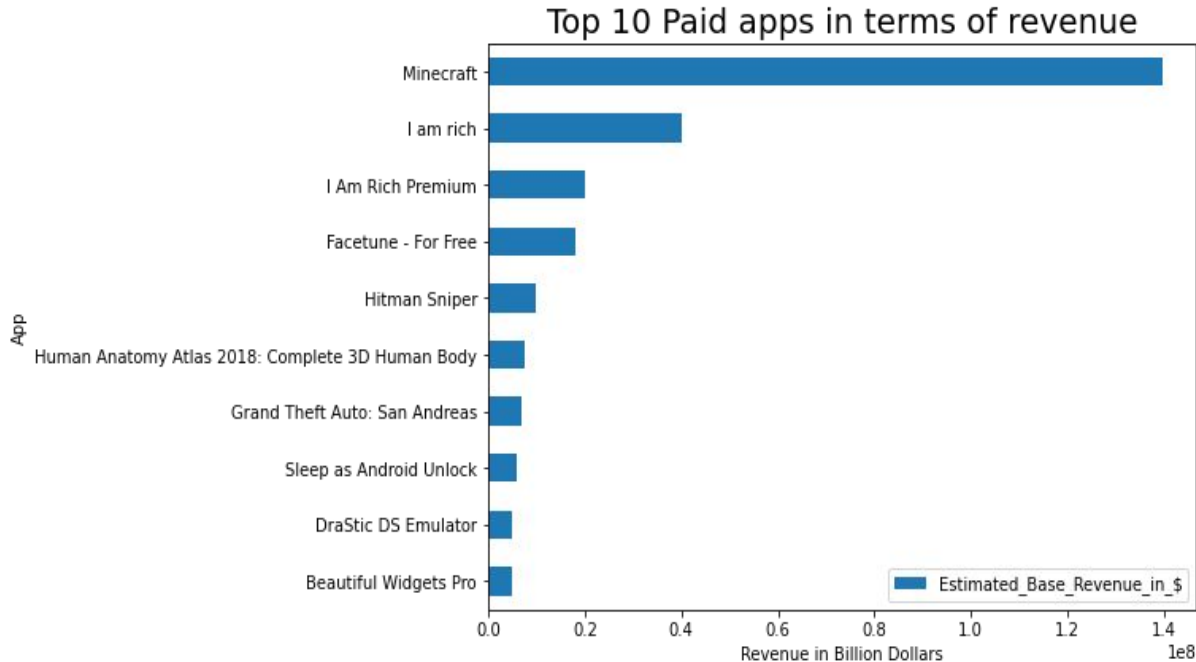

Top 20 Paid Apps by Number of Installs
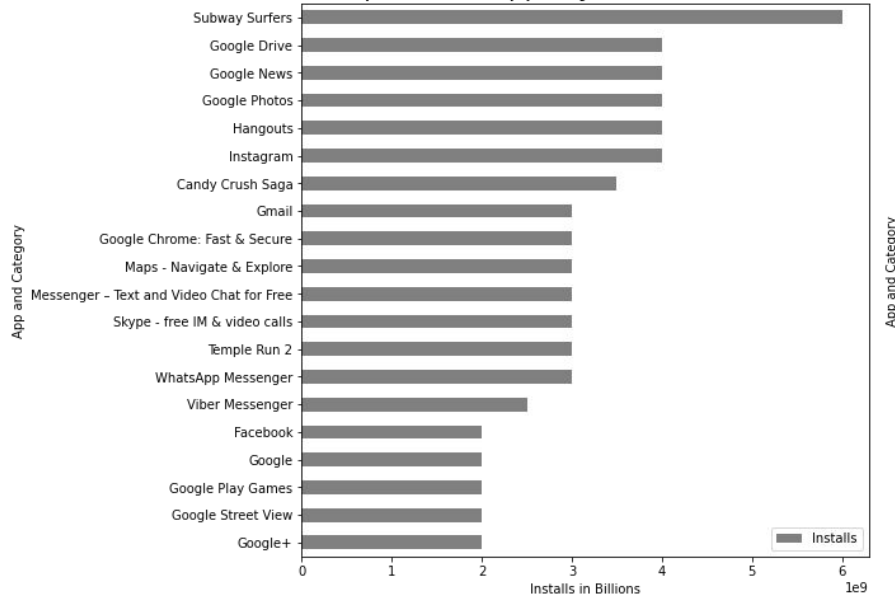
Google and **FaceBook** ecosystem dominating the free app market along with some popular games

Minecraft game has 2 Million + installs in the paid app market making it the most downloaded paid app.

Which are the top 10 profitable paid apps?

Top 10 Paid apps in terms of revenue

Observation:

Minecraft has highest revenue with **1.4 B dollars**.

Next comes **I am rich** with total revenue of **400M dollars**

Also there are other gaming apps in the top 10 list.

Find the most popular apps in the market, Infer some reasons for popularity.

Reviews of top 10 apps in billions

Observations:

- The **FaceBook ecosystem** which is the social media giant containing Instagram, Facebook, Whatsapp and Messenger beats the Google apps in terms of user reviews.
- Next comes few popular apps like Subway Surfers, Candy Crush, Clash of Clans, 8 Ball pool and Clash Royale.

Conclusion:

1. Free apps dominate the android market with a share of **92.6%** . So developers can tap this huge user base if they managed to release their apps for free.

2. In the paid app market, **0.99$ to 2.99$** is accepted well, So anyone trying to launch a paid app can pick a price in this range.

3. Tech giants like Facebook and Google hold the top position when it comes to the number of installs. On the other hand Facebook being a social media platform disrupted the android market with **Instagram**, **Whatsapp** in its family. These popular apps though available for free but make huge money by running targeted ads.

4. Paid app market is highly influenced by the user reviews as we have seen 87% correlation between reviews and Installs and **90%** correlation between reviews and Estimated revenue.

5. **Minecraft** managed to get lots of users even being a paid app. It is observed that users pay for games more than any other apps.

Thank You