Data Analysis report

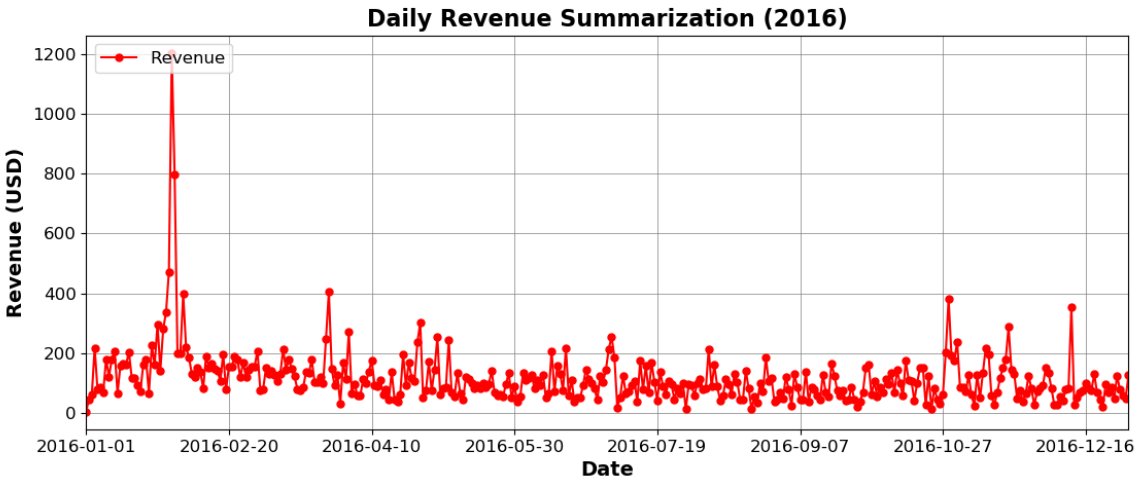
Author: Borna Jamali
Subject: This report presents the results of our analysis of the sample data from the mobile game.

Introduction

Welcome to my data analysis report on the sample data from the mobile game. In this report, I will present my findings on the trends in revenue and daily active users, as well as the proportion of lifetime revenue generated in the first week and the comparison of lifetime value (LTV) between January and December. The data were analysed with python & SQLite.

Warmup task finding trends in revenue and daily active users.

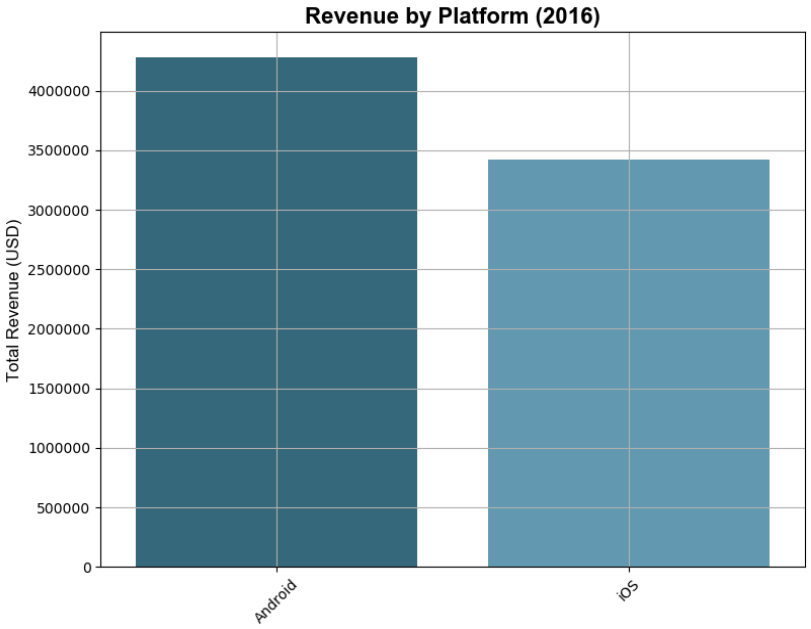
Fig. 1



In the first figure, we analyzed the daily revenue of the mobile game over the course of a year. The figure shows how revenue changed on a daily basis. We can see that there are some days with higher spikes, indicating an increase in in-app purchases by players. This figure provides an overview of the game's revenue performance on a day-to-day basis based on the available data.

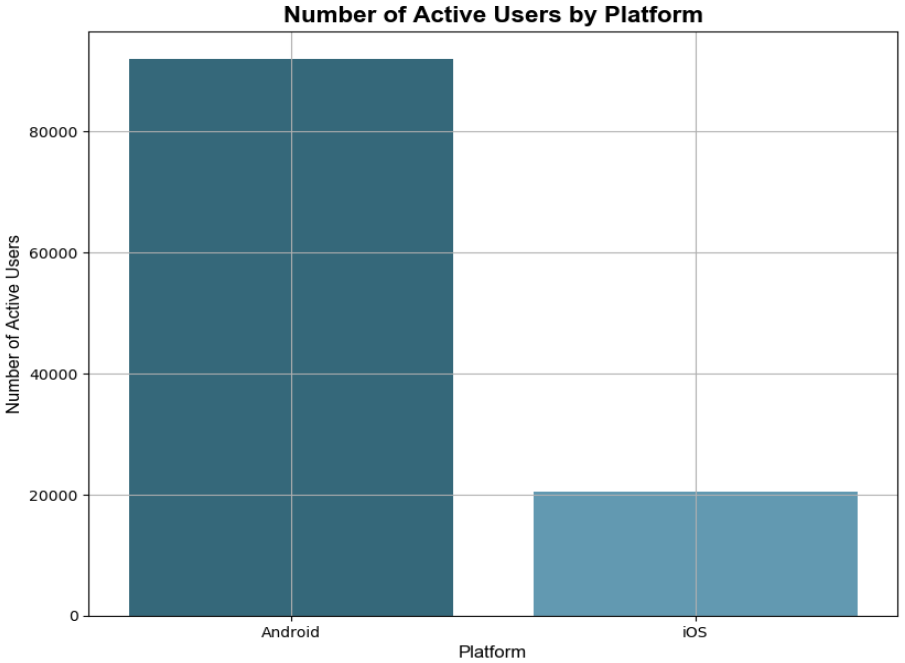
Next, to compare the performance of the iOS and Android platforms, I analyzed the revenue and active user data by platform. My goal was to determine if there were any significant differences between the two platforms and to understand how they contribute to the overall success of the game.

Fig. 2



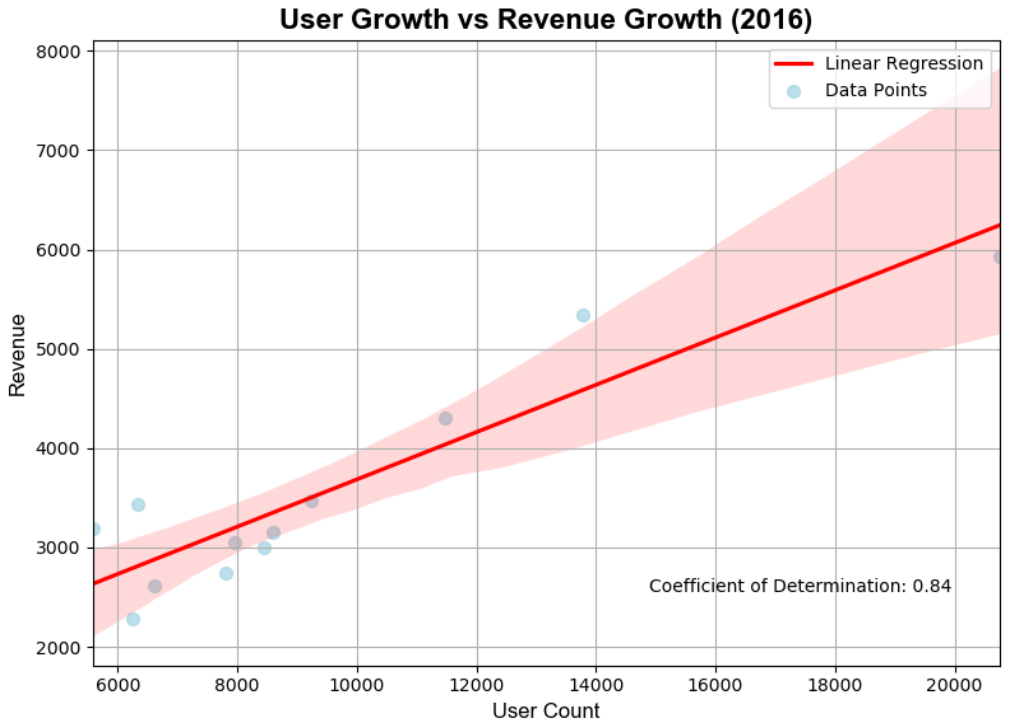
As shown in Figure **2**, the Android platform generates slightly more revenue than iOS. However, as seen in Figure **3**, there are significantly more active users on Android. This trend may be worth further investigation to understand the underlying cause, although additional data may be needed to fully understand the differences between the two platforms. Overall, our analysis suggests that both iOS and Android are essential for the success of the game, and it may be beneficial to focus on increasing user engagement and revenue on both platforms.

Fig. 3



After analyzing the two platforms I wanted to investigate if there is a correlation between user growth and revenue so I analyzed the data for user growth as in the number of active users and revenue growth as in total revenue for each month of the year 2016.

Fig. 4



As Fig. **4** shows there is clearly a positive correlation. This tells us that the more users we can obtain the more revenue can be made. The data points in the figure are the number of active users and the revenue for each month in the year 2016. The coefficient of the determination is 0.84 indicating a strong linear relationship between the number of active users and the revenue. This means that as the number of active users increases, the revenue is likely to increase as well.

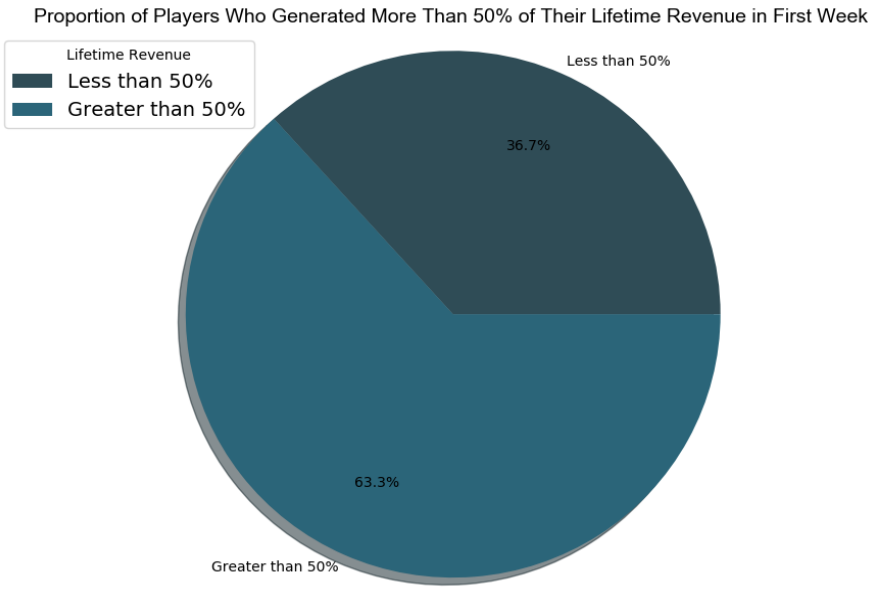
Task 1.

Definition for **LTV**:

- Lifetime revenue is an important metric that measures how much profit your customers will generate over the course of their engagement with the company. It can be calculated by the average revenue per user multiplied by a user's average lifespan, which is the length of time a user remains engaged with the product/service. It helps to predict future revenue and identify opportunities for growth.

The goal of the task was to determine the percentage of a player's lifetime revenue that was generated during their first week in the game. To do this, I ran two queries: one to retrieve each player's lifetime revenue and another to get their revenue from the first week.

Fig. 5

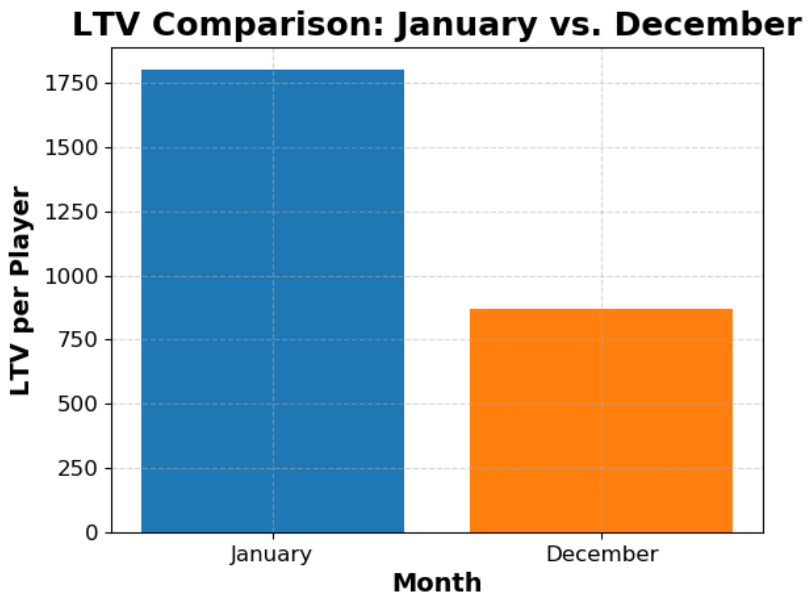


The results of the analysis indicated that a significant proportion of a player's lifetime revenue is generated during their first week in the game. Specifically, about 69% of lifetime revenue was generated on average during the first week, and about 63% of players generated more than 50% of their lifetime revenue in the first week. This information suggests that we may want to focus on retaining players beyond the first week or invest in player acquisition efforts to bring in more players. The data also supports the idea that there is a positive correlation between the number of users and revenue, as shown in Figure 4.

The second part of the problem involved determining whether the lifetime value (LTV) of players had decreased from January to December based on a sample of data. To do this, I followed these steps:

1. Calculated the LTV of players at the end of December by summing up the total amount of in-app purchases made by each player and dividing it by the number of players.
2. Calculated the LTV of players at the beginning of January using the same method.
3. Compared the two results to see if the LTV had decreased from January to December.

Fig. 6



According to Figure **6**, the lifetime value (LTV) of players has decreased from January to December. This decline in LTV may be an indication of a decline in the game's performance or popularity. In order to address this issue, it is important to investigate the root cause of the decline in LTV. This could involve analyzing data on player behaviour, in-app purchase patterns, and market trends, as well as testing changes to the game's monetization strategy and/or making changes to the game itself to increase player engagement and retention.

Outro

In conclusion, this data analysis report has been a great journey of uncovering key insights and trends of the mobile game's performance. We've looked at the revenue, active users, lifetime revenue generated in the first week and even compared the lifetime value between January and December. The data was analyzed using Python and SQLite, and it all led to uncovering valuable information that can be used to make strategic decisions to improve the game and drive growth. I hope you found this report informative and useful. Thanks for taking the time to read it!