FINAL PROJECT: MONETIZATION STRATEGY ANALYSIS AND REVENUE PREDICTION FOR SPACE BROTHERS MOBILE GAME

INTRODUCTION

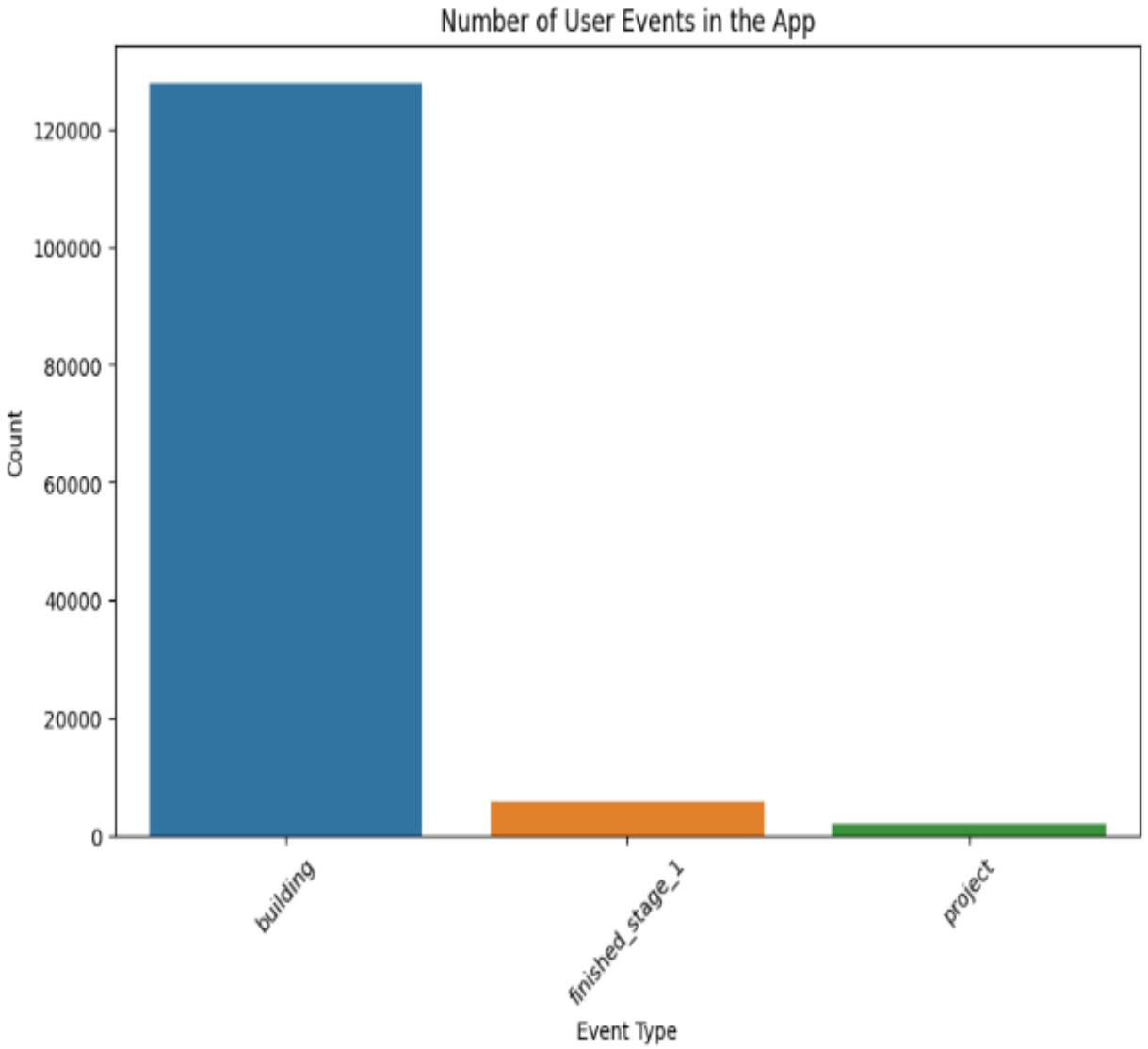
- The mobile gaming industry has become a significant segment of the global entertainment market, with monetization strategies playing a crucial role in the success and sustainability of mobile games. This project focuses on the Space Brothers mobile game, where players create their own space programs and aim to colonize the galaxy.

- The game's monetization strategy is still in the planning stages, with an initial focus on displaying advertisements to generate revenue. This project aims to analyze user behavior, identify key events that lead to in-app purchases, and develop a monetization model that optimizes revenue from advertisements.

GOALS

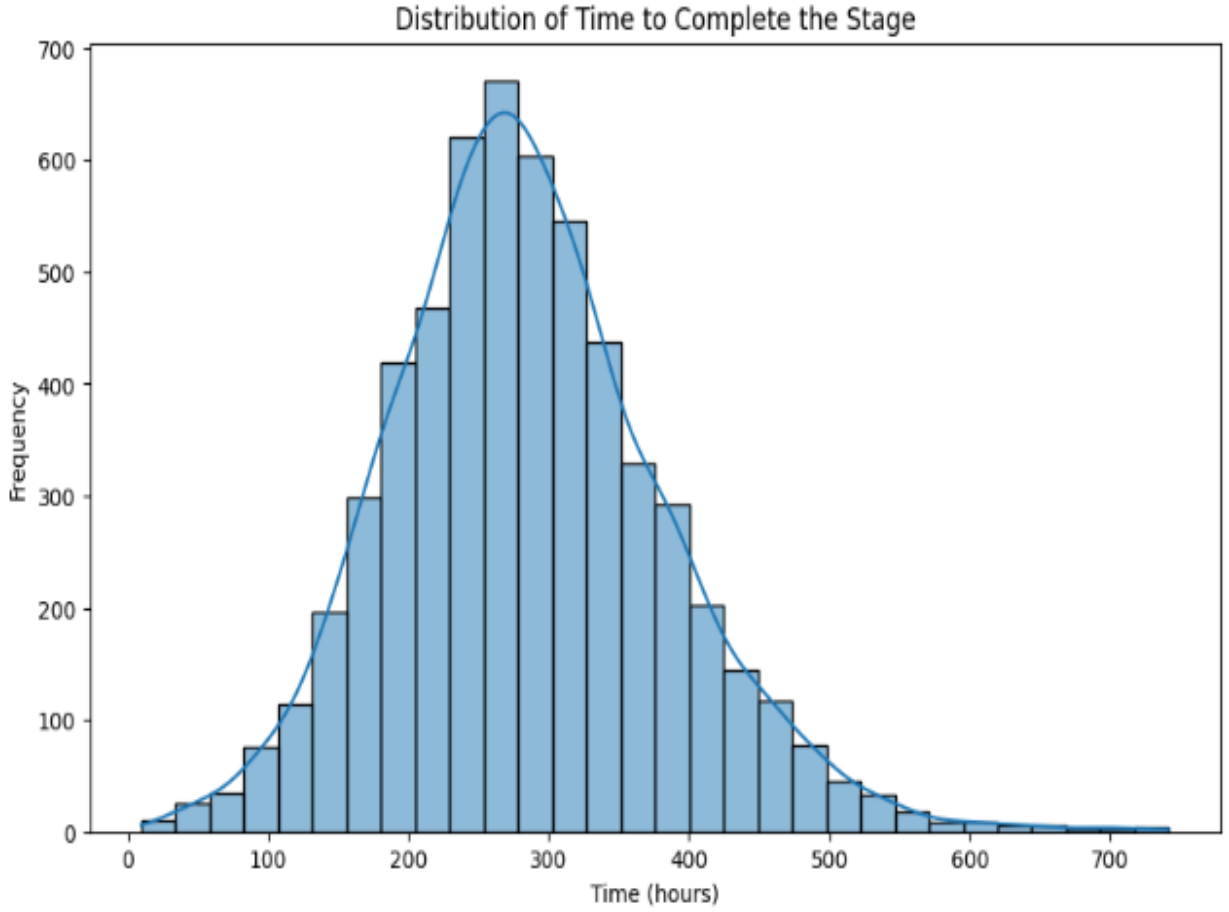
- Conduct an exploratory data analysis (EDA) to understand user behavior and event distribution.
- Develop a monetization model that predicts revenue from advertisements based on user events.
- Analyze potential revenue from different user groups (those who complete the stage and those who do not).
- Formulate and test statistical hypotheses regarding user behavior and monetization.
- Provide detailed conclusions and recommendations for optimizing the game's monetization strategy.

BUILDING HAS THE HIGHEST NUMBER OF USER EVENTS IN THE APP



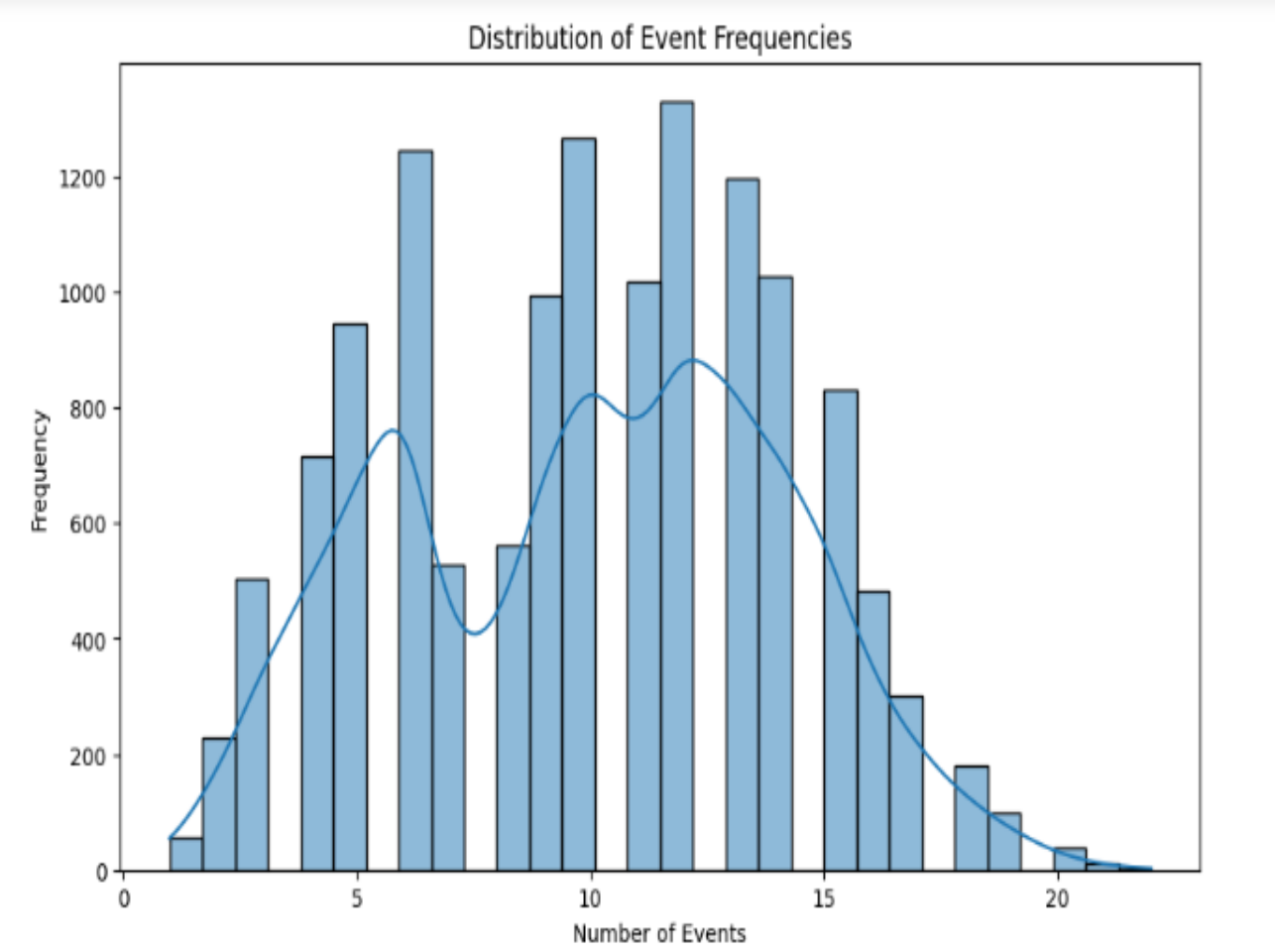
- The analysis highlights that building activities are the most popular among users, suggesting a strong engagement in this aspect of the game
- The significant drop-off in the number of users completing the first stage indicates a potential area for improvement to help more users progress further in the game.
- The relatively low engagement in project activities suggests that these might need further investigation to understand how to make them more appealing or accessible to users.

MAJORITY OF USERS COMPLETE THE STAGE WITHIN A REASONABLE TIME FRAME OF AROUND 250-300 HOURS.



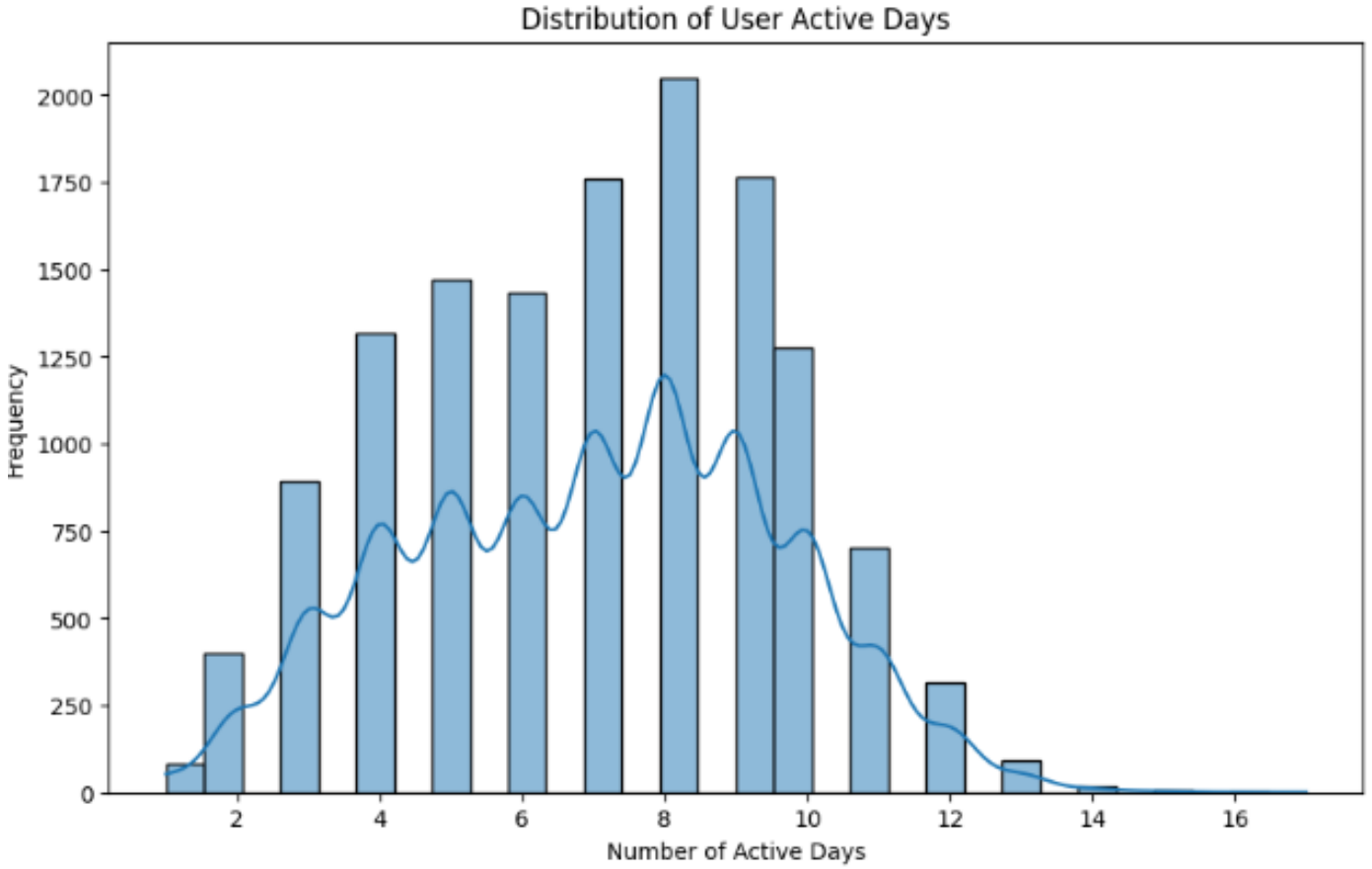
- The majority of users complete the stage within a reasonable time frame of around 250-300 hours. This indicates that the stage is appropriately challenging for most users.
- The normal distribution suggests a balanced difficulty level, as most users fall within the central range of completion times.
- The long tail indicates that a subset of users might be facing challenges or engaging with the game at a different pace. These users might benefit from additional support or in-game assistance to help them progress more smoothly.

MOST USERS PERFORM BETWEEN 5 TO 15 EVENTS,



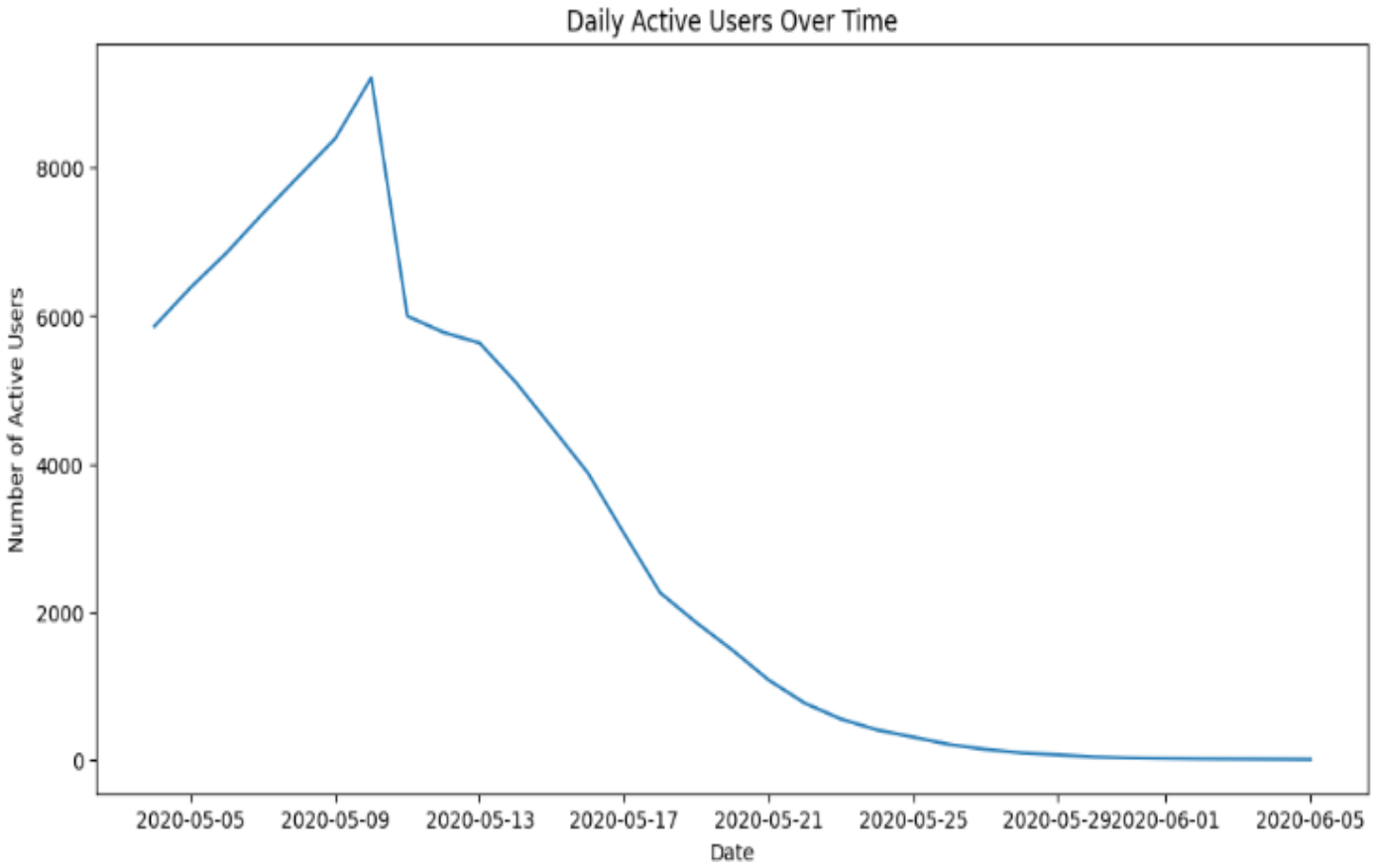
- The bimodal distribution suggests the existence of two main user segments: those with moderate engagement and those with higher engagement.
- Most users perform between 5 to 15 events, indicating a typical engagement pattern for the app.
- A small number of highly engaged users perform more than 20 events, representing a valuable user segment for targeted retention efforts

MAJORITY OF USERS ENGAGE WITH THE APP ON A WEEKLY BASIS, RETURNING TO THE SERVICE FOR ABOUT 6-8 DAYS



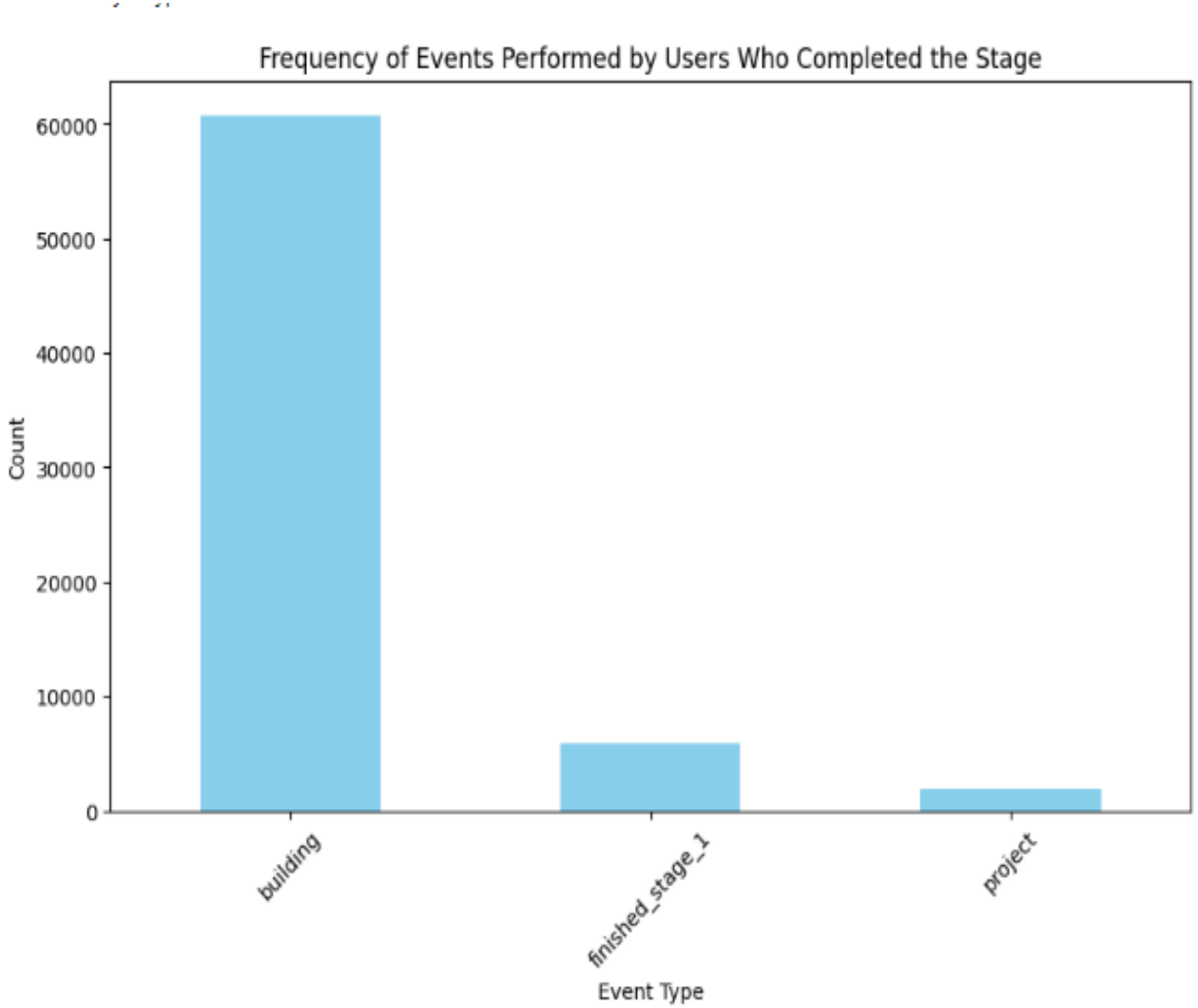
- The majority of users engage with the app on a weekly basis, returning to the service for about 6-8 days within the observed period.
- The normal distribution suggests a balanced engagement pattern, with most users having a moderate level of return frequency.
- The decline in users returning after 10 active days highlights a potential area for improving long-term engagement and retention.

INITIAL INCREASE AND PEAK IN DAILY ACTIVE USERS (DAU) SUGGEST THAT THE APP WAS SUCCESSFUL IN ATTRACTING USERS,



- The initial increase and peak in DAU suggest that the app was successful in attracting users, possibly due to a marketing campaign, new feature release, or other engagement efforts.
- The subsequent decline indicates potential retention issues, where users did not continue to engage with the app over time.
- The stabilization at a lower level suggests that while some users continue to use the app, a significant number of users have dropped off.

EVENTS THAT ARE PERFORMED THE MOST OFTEN BY USERS WHO BUY GAME ITEMS ARE "BUILDING"



- Building Events:

- Inference: Users frequently engaged in building activities are likely to be more involved and may have a higher likelihood of making in-game purchases to enhance their building capabilities.

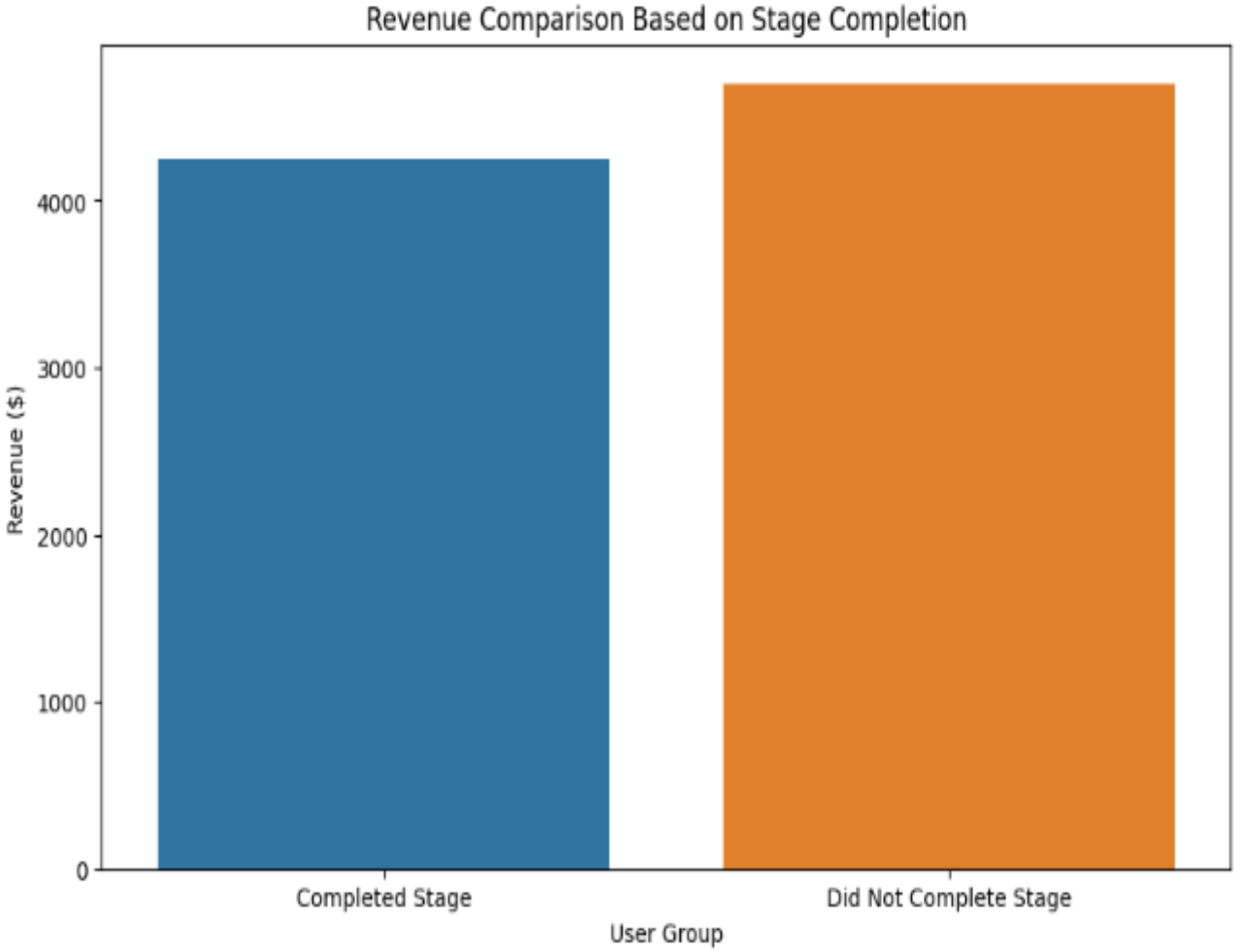
- Finished Stage 1:

- Inference: Completing significant milestones like finished_stage_1 indicates high user engagement. Users reaching such milestones are likely committed to the game and may be more inclined to spend money to progress further.

- Project Events:

- Inference: Although less frequent, project events may involve complex or high-value tasks. Users participating in projects might be more willing to purchase special tools or resources to complete these tasks efficiently.

REVENUE FROM USERS WHO DID NOT COMPLETE THE STAGE HIT HIGHER COMPARED TO THOSE REVENUE FROM USERS WHO COMPLETE THE STAGE



- 1. Revenue from Users Who Completed the Stage:

- Total Revenue: $4,255.02
- Interpretation: Users who completed the stage contributed significantly to the total ad revenue. Their engagement and progression through the game likely led to more ad impressions and higher revenue.

- 2. Revenue from Users Who Did Not Complete the Stage:

- Total Revenue: $4,701.97
- Interpretation: Surprisingly, users who did not complete the stage contributed slightly more to the total ad revenue compared to those who completed the stage. This could be due to a larger number of users in this category or more frequent interactions before dropping off.

CONCLUSION

- The exploratory data analysis and funnel analysis revealed key insights into user behavior and engagement, identifying drop-off points and varying activity levels among user clusters.
- Monetization modeling estimated potential ad revenue at $8956.99 and emphasized optimal ad timing to balance revenue and user experience, while churn rate analysis showed a low churn rate of 0.32%.
- Hypothesis testing indicated no significant difference in completion times based on the method used, but higher event activity correlated with increased user retention.

RECOMMENDATIONS

- To boost user engagement, introduce new interactive elements and incentives for event completion.
- Optimize ad placement by strategically showing ads after certain events and continuously adjust based on feedback and data.
- Implement personalized retention strategies, monitor user behavior, and address drop-off points to enhance user experience and revenue.