Analytics Ascend 2024

User Interaction Data Analysis

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Introduction

The goal of this case study is to analyze user interaction data from a platform to derive actionable insights, identify trends, and recommend strategies for enhancing User Engagement , Retention ,Revenue Generation

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Dataset Overview

- **Demographics** (e.g., Age, Gender)

- **Activity Data** (e.g., Last Activity Date, Total Wager)

- **Financial Transactions** (e.g., Total Deposit, Total Withdrawal)

- **Game Participation** (e.g., Total Game Count)

Data Exploration

User Registration Trends: A look into the registration patterns, focusing on dates and user device preferences. an

Device Usage Distribution: Examined user preferences across mobile, desktop, and tablet platforms.

User Registration Trend

Device Usage Distribution
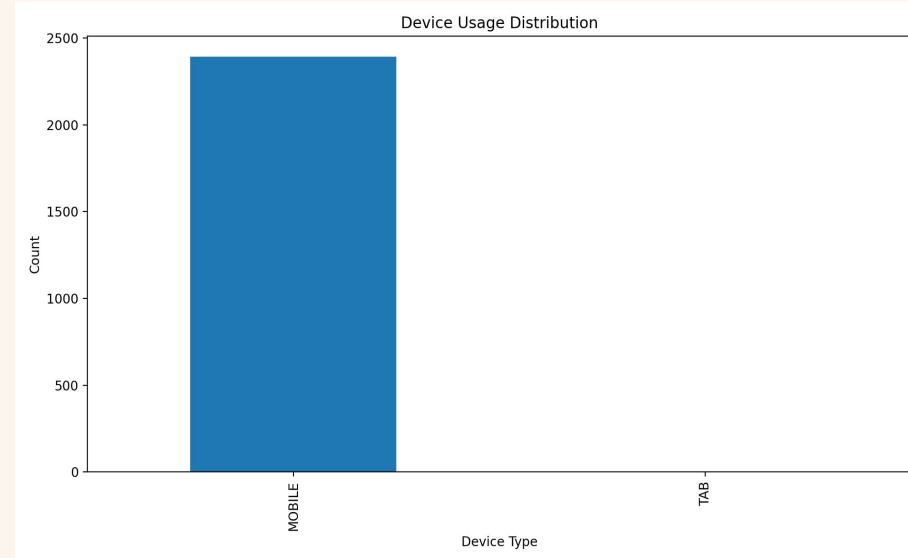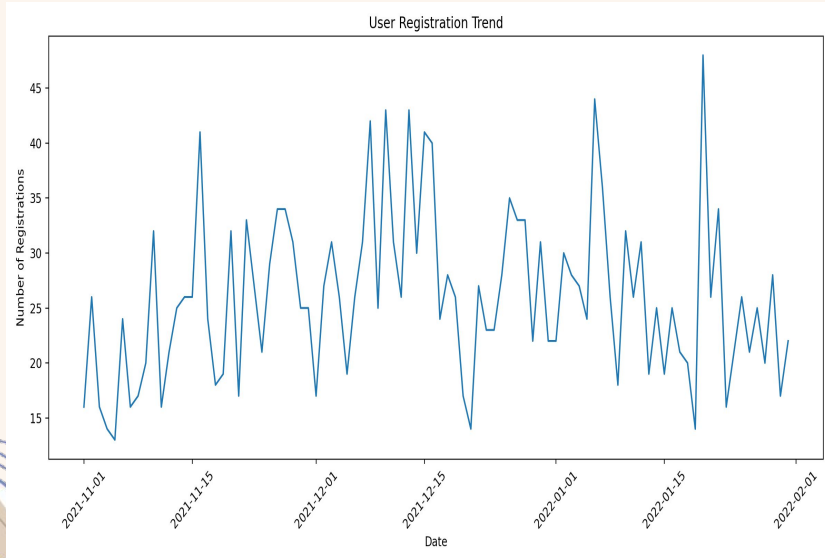
**Game Type Popularity**: Identified the most frequently played games.

KYC Status Distribution: Assessed the proportion of verified vs. unverified users.
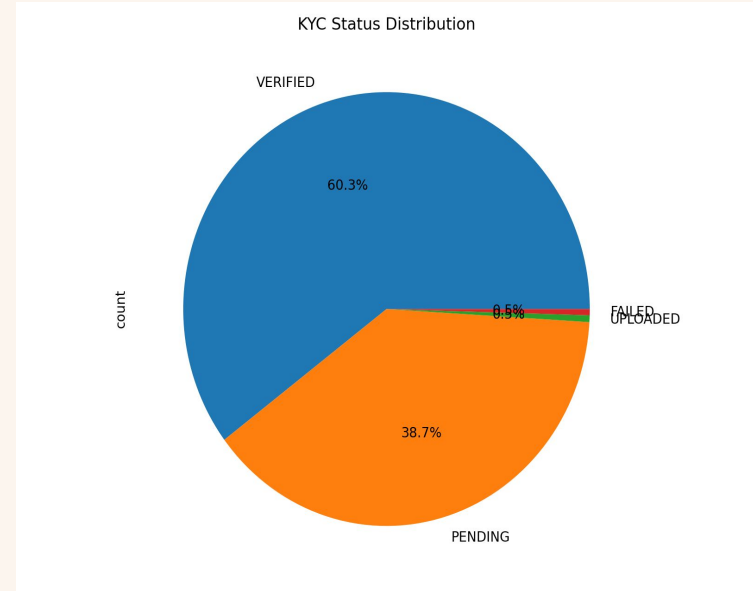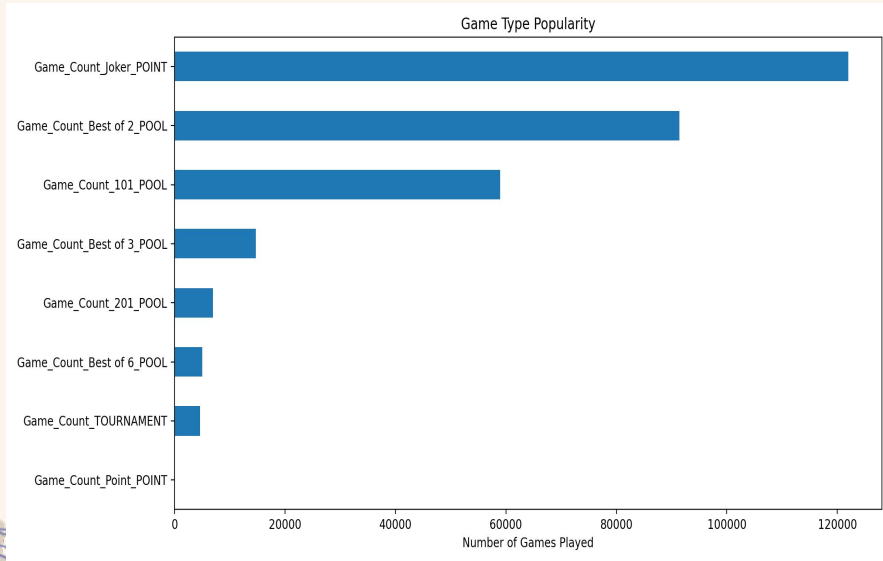
Correlation Matrix: Explored relationships among key metrics such as deposits, wagers, and game counts.

Gender-based Metrics: Compared deposits, wagers, and winnings between male and female users.

Age Distribution: Analyzed the demographic spread of user ages.

Age Distribution of Users

Average Metrics by Gender

Correlation Matrix of Key Metrics
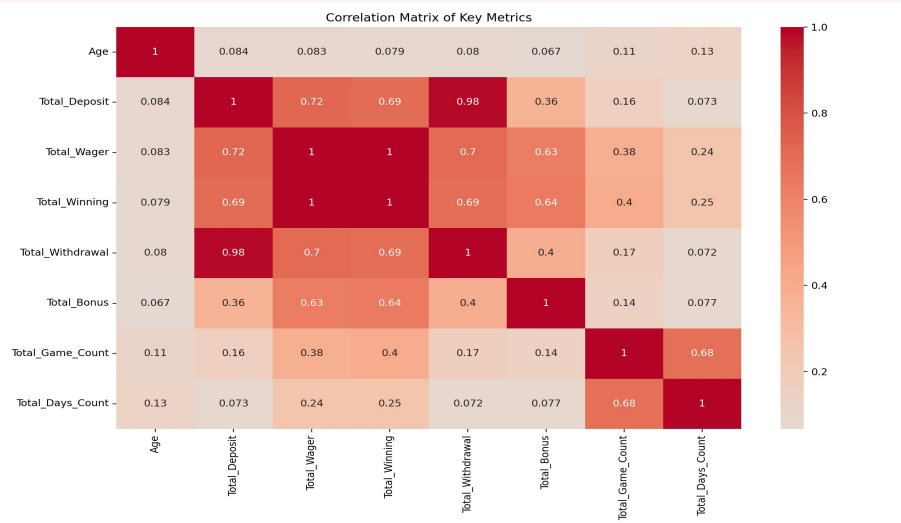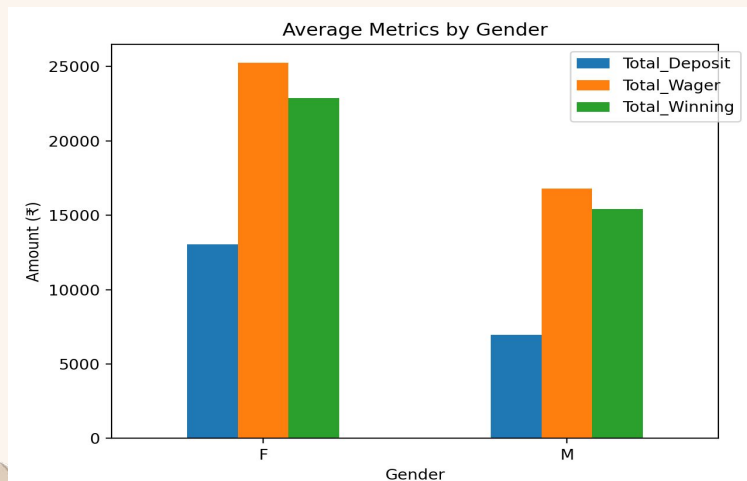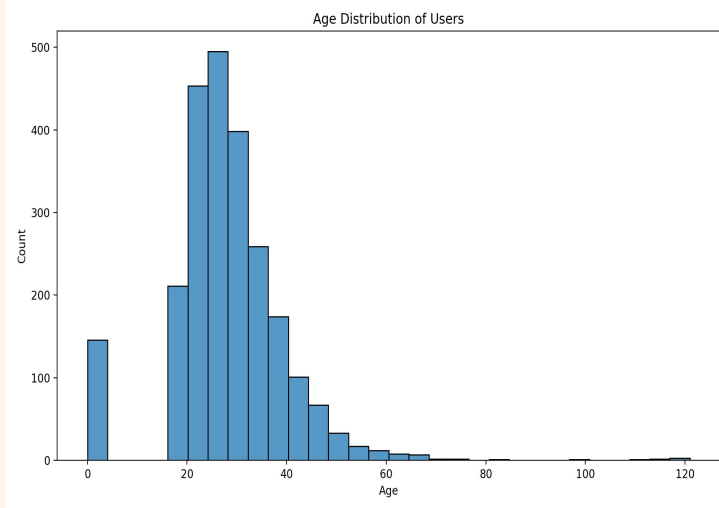
Key Metrics

Total Users:2393

Active Users (with wagers):2362

Conversion Rate: 98.70%

Average Revenue per User: ₹7305.25

Total Deposits: ₹17481471.00

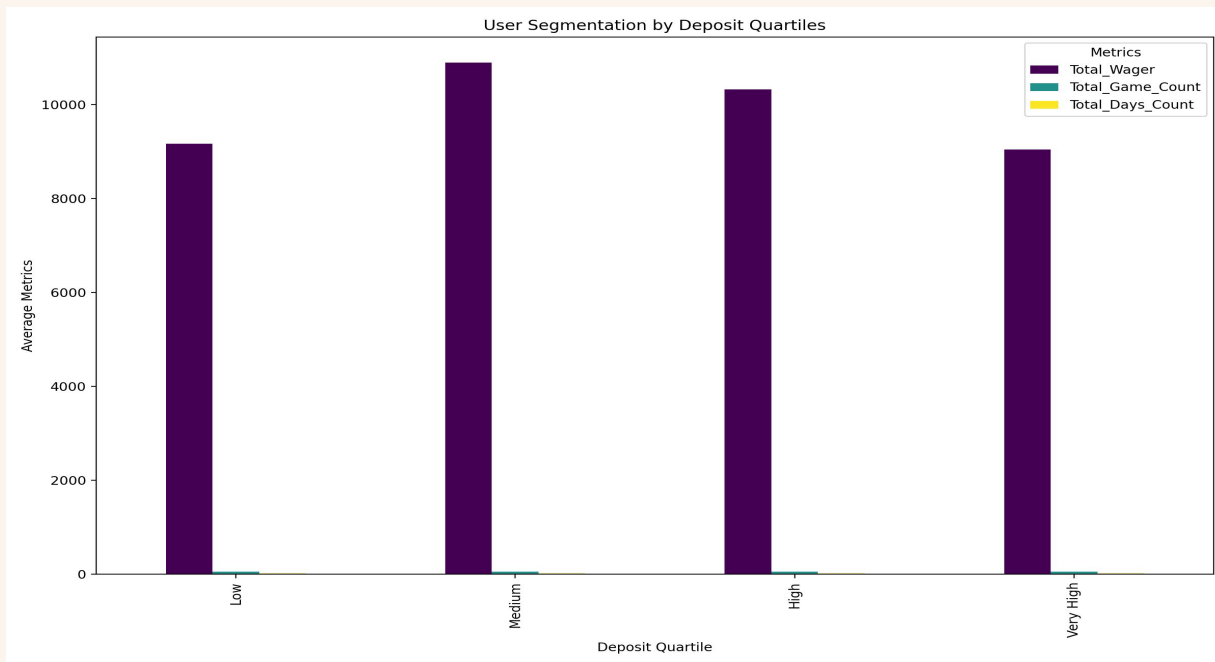Total Wagers: ₹41341517.05

Total Winnings: ₹37957054.46

Average Games per User:
126.93355620559967

|	Days_Since_Registration
count	2393.0
mean	11.8633514417
std	18.8536689908
min	0.0
25%	0.0
50%	2.0
75%	16.0
max	93.0

Segmentation

Categorized users into quartiles based on their total deposit amounts: Low, Medium, High, and Very High.

User Segmentation by Deposit Quartiles

Data Visualization

Activity Decay: Histogram displaying the distribution of user activity based on the number of days active.

Bonus Impact Deposits vs. Winnings : Scatter plot showing the relationship between total deposits and total winnings, colored by verification status.
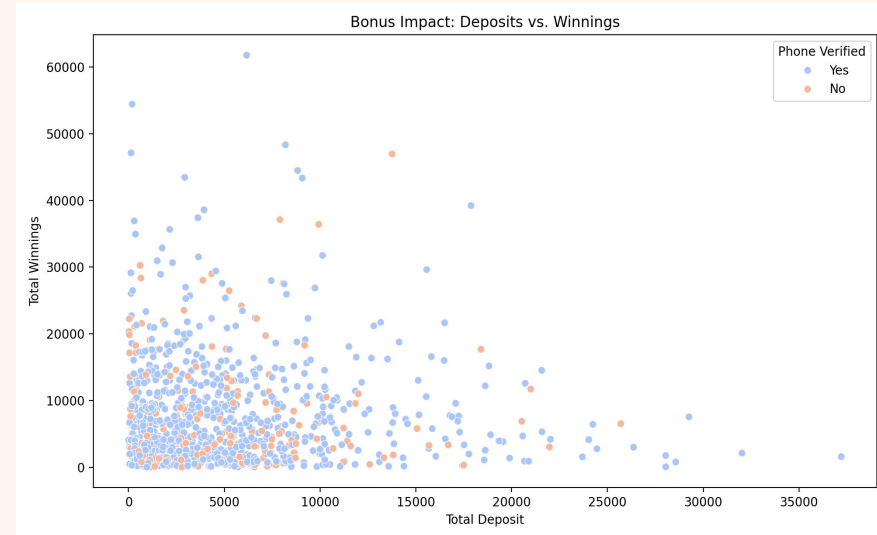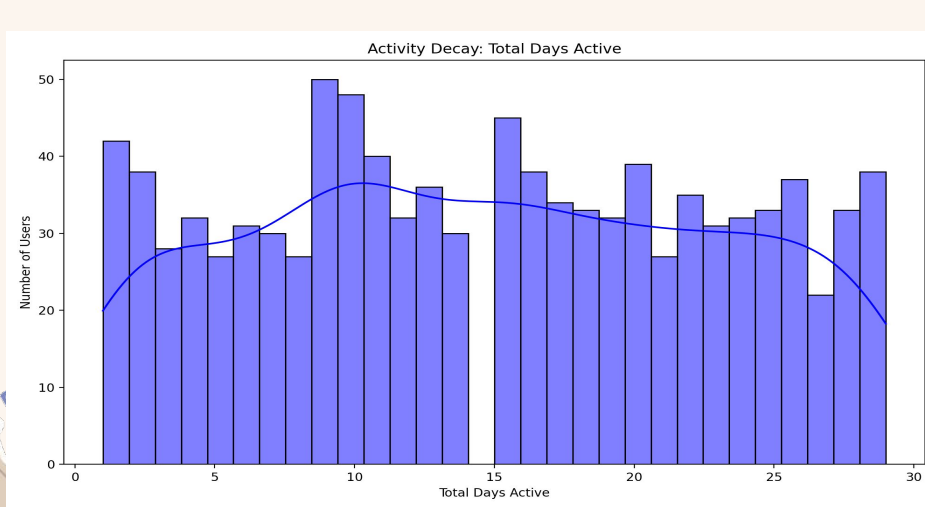
Engagement by App Version: Bar chart comparing user engagement metrics (total games played, days active) across different app versions.

RFM Analysis Frequency vs. Monetary : Scatter plot analyzing users based on their frequency (total games played) and monetary value (total deposit).
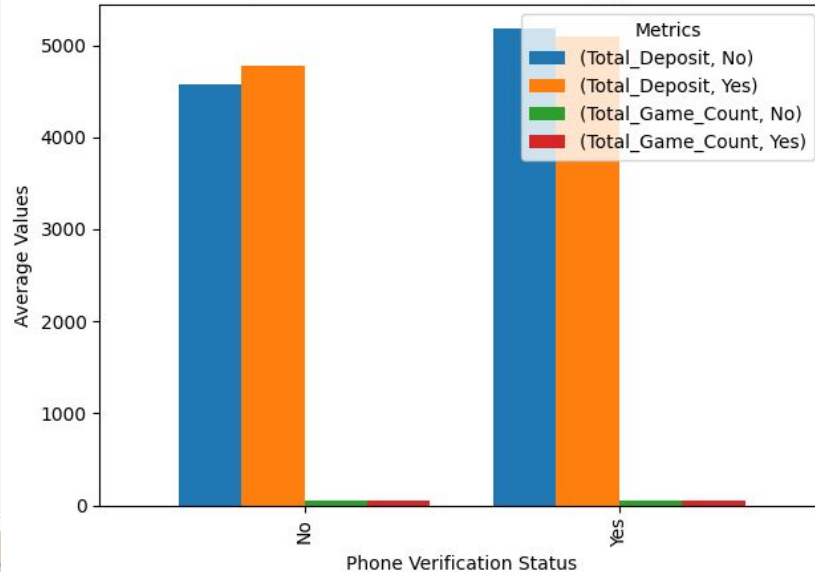

Engagement by App Version

RFM Analysis: Frequency vs. Monetary
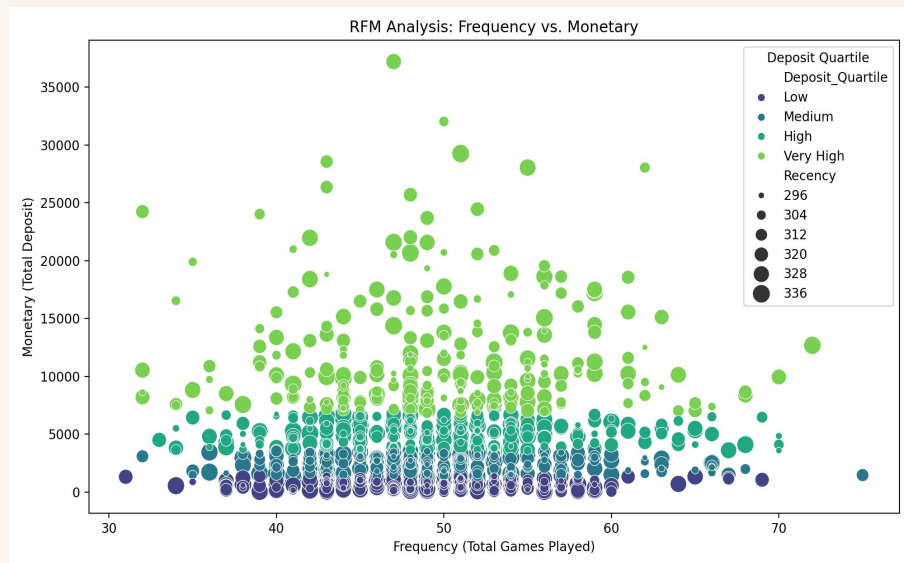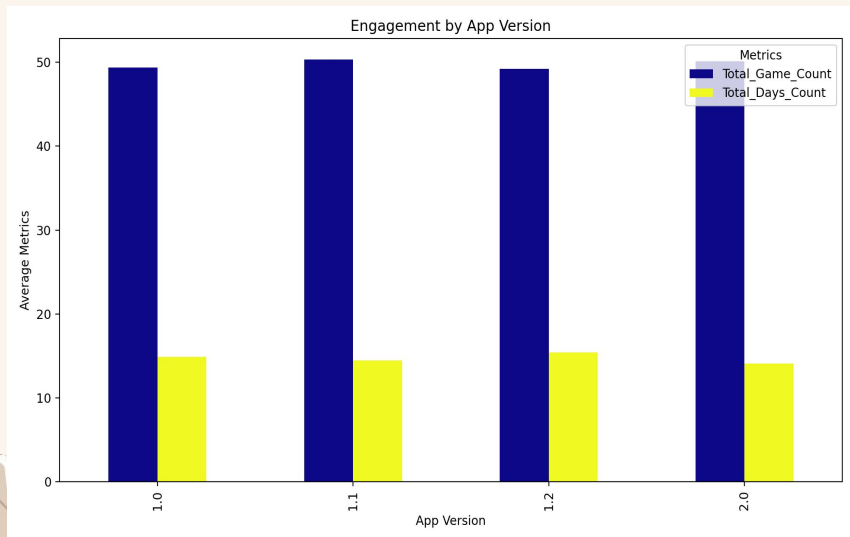
Predictive Modeling

- **Behavioral Forecasting**: Used historical data to forecast future user behavior, including deposit patterns and game participation.
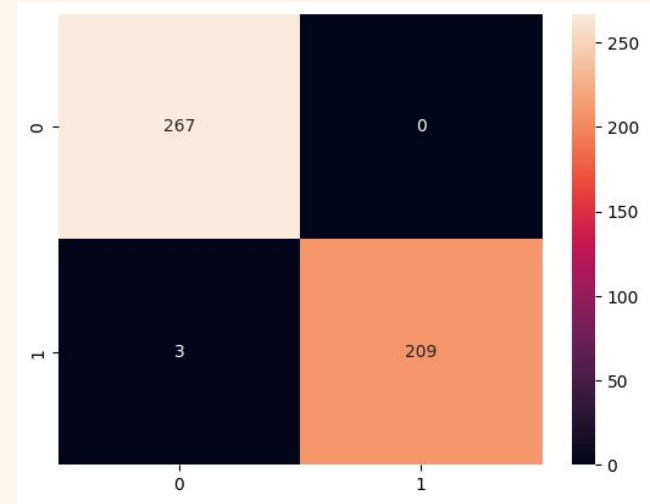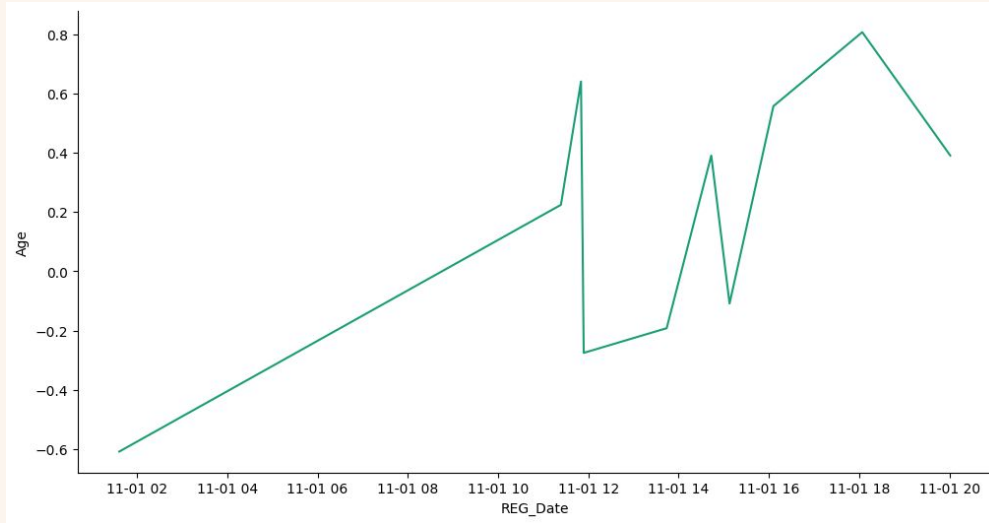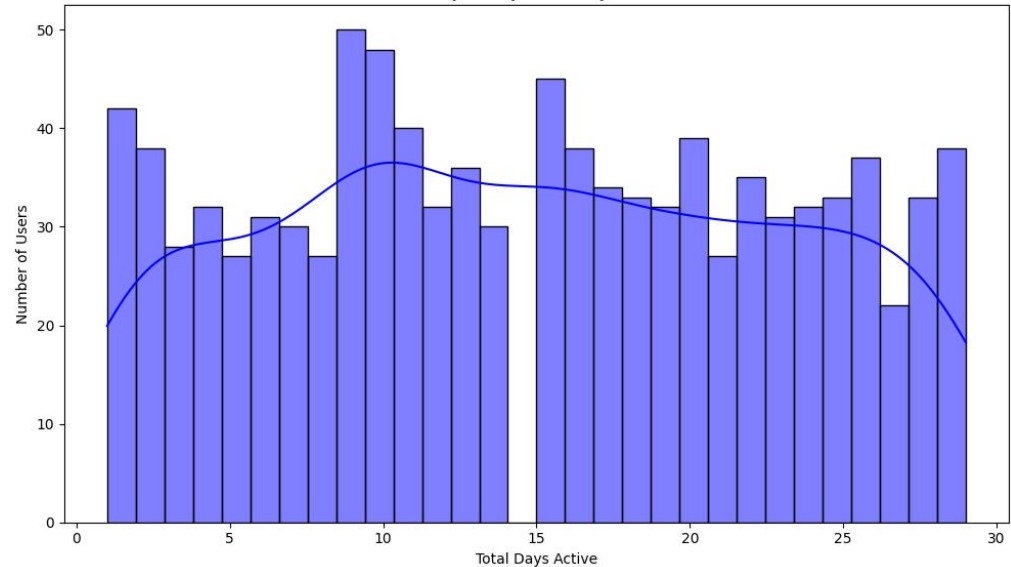
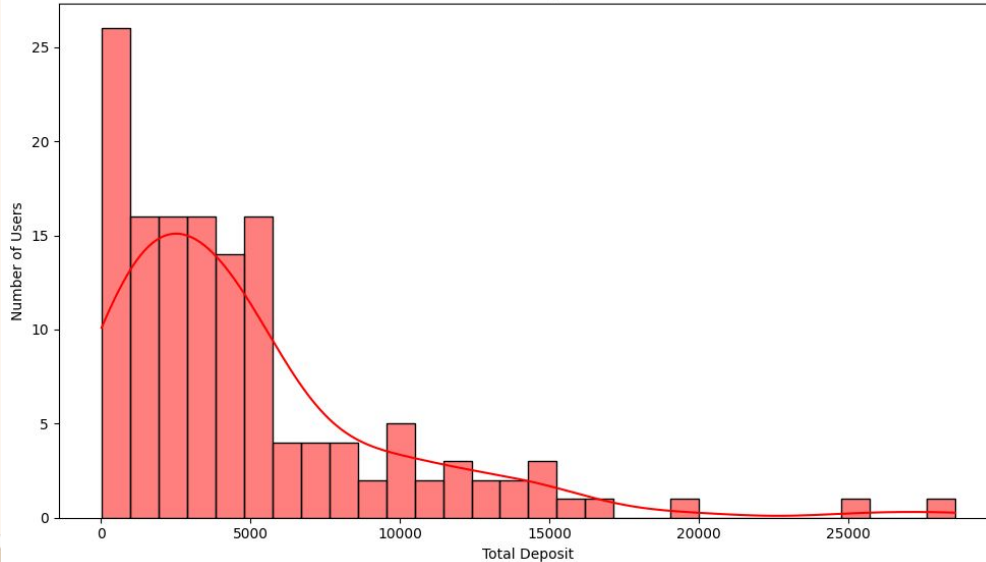- **Lifetime Value Prediction**: Estimated the potential revenue from users over their lifetime, helping prioritize high-value customers.
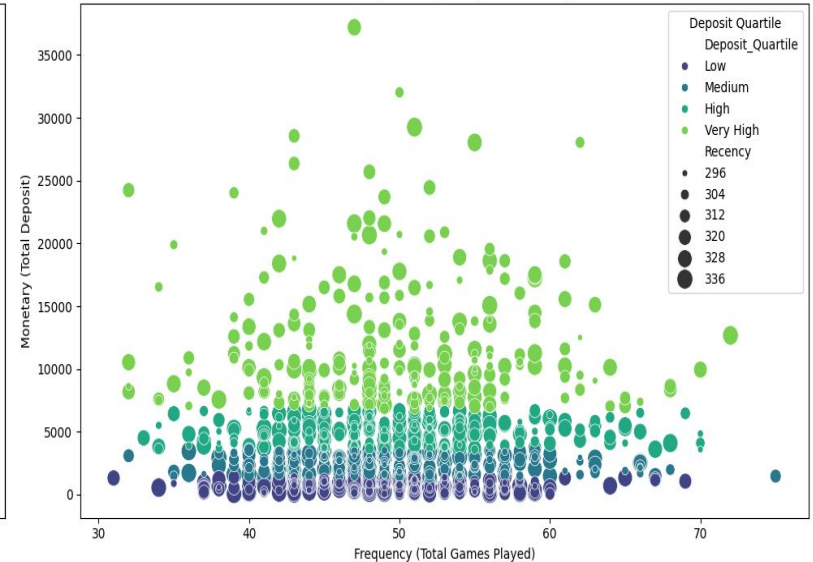
- **Churn Prediction**: Developed a model to predict users likely to stop engaging with the platform, allowing for proactive retention strategies.
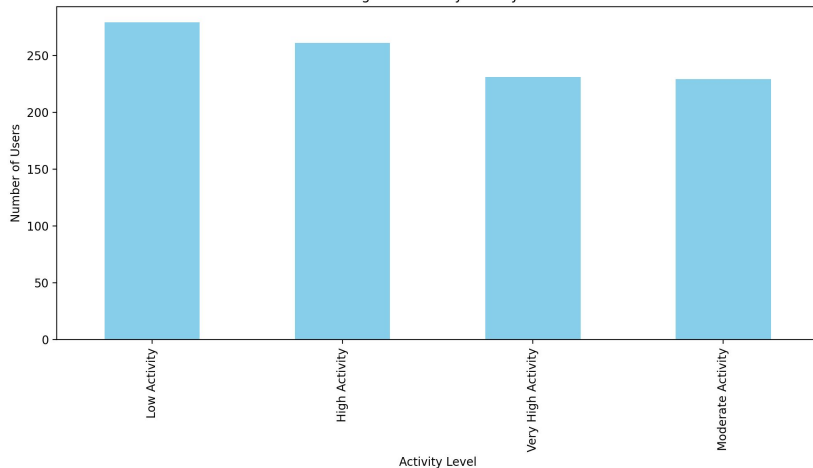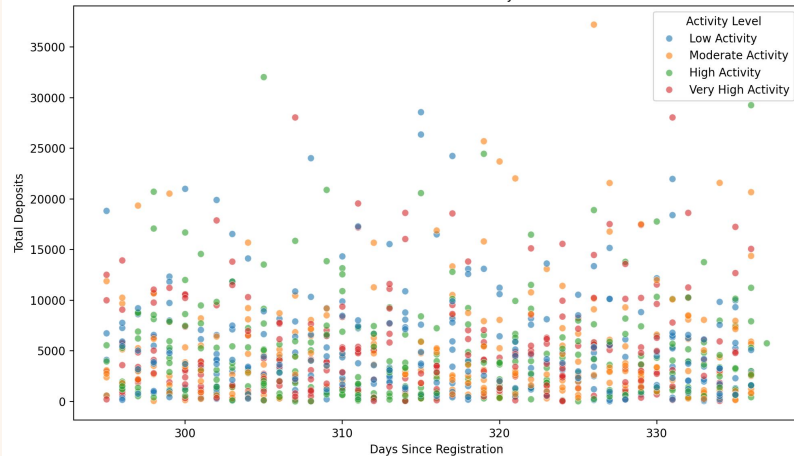
Insights and Recommendations

Key Insights:

- Desktop users show slightly higher engagement metrics

- Users are fairly evenly distributed across activity levels, suggesting a healthy user base distribution

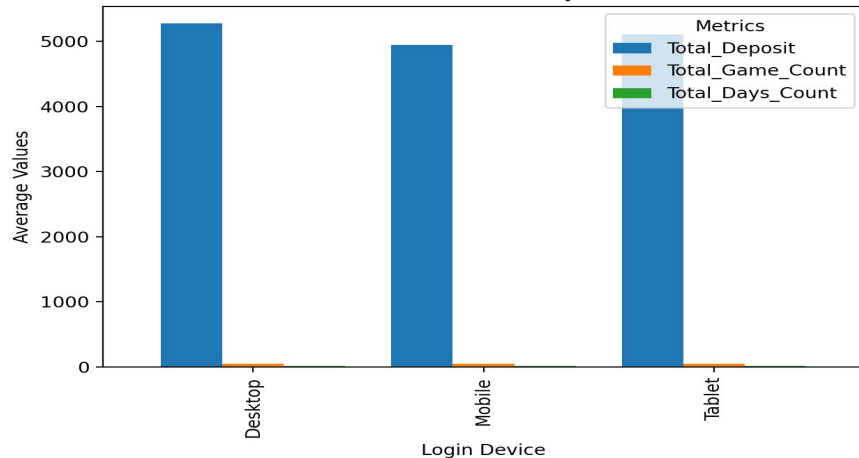- Shows the relationship between user tenure and total deposits across different activity levels

- Very High Activity users show the highest average deposits
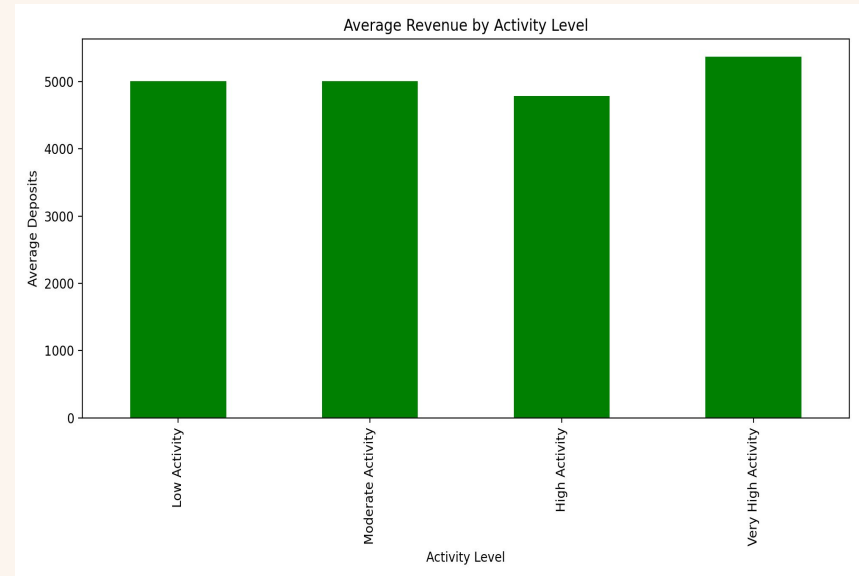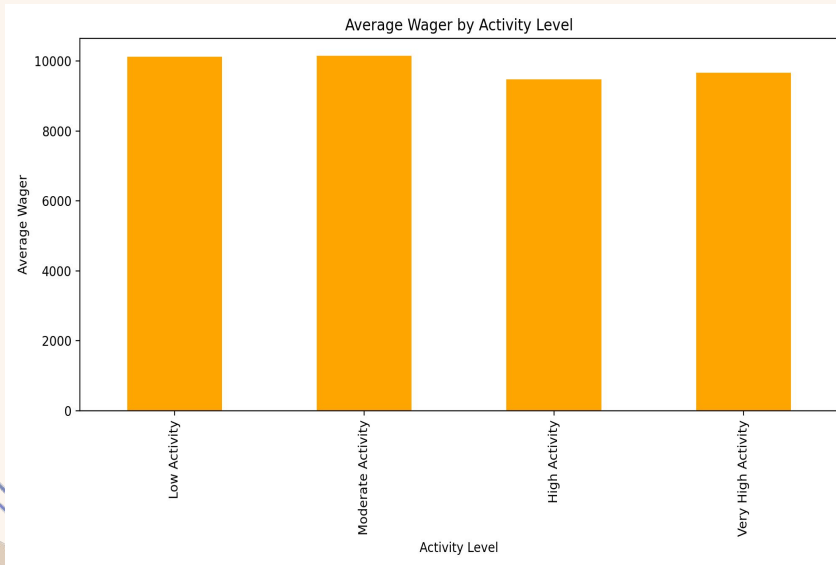- There's a strong correlation between activity level and wagering behavior

Conclusion

The analysis reveals that understanding user behavior through data-driven insights is key to enhancing platform engagement, retention, and revenue.

Thank you!

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